

**TSG-RAN Meeting #11
Palm Springs, CA, U.S.A., 13-16 March 2001**

RP-010166

Title: Agreed CRs to WI "RANimp-Nbsync"

Source: TSG-RAN WG3

Agenda item: 5.3.3

Tdoc_Num	Specification	CR_Num	Revision_Num	CR_Subject	CR_Category	WG_Status	Cur_Ver_Num	New_Ver_Num	Workitem
R3-010933	25.402	016	1	Introduction of Cell Synchronisation for TDD	B	agreed	3.4.0	4.0.0	RANimp-Nbsync
R3-010697	25.402	017		Sync Port signal Extension	B	agreed	3.4.0	4.0.0	RANimp-Nbsync
R3-011073	25.433	360	3	Introduction of NBAP Cell Synchronisation function for TDD	B	agreed	3.4.1	4.0.0	RANimp-Nbsync
R3-010934	25.433	361	1	NBAP Procedure modifications due to cell synchronisation	B	agreed	3.4.1	4.0.0	RANimp-Nbsync

CHANGE REQUEST

⌘ **25.402 CR 16** ⌘ re **1** ⌘ Current version: **3.4.0** ⌘

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Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Introduction of Cell Synchronisation for TDD		
Source:	⌘ R-WG3		
Work item code:	⌘ RANimp-Nbsync	Date:	⌘ February 2001
Category:	⌘ B	Release:	⌘ REL-4
	<i>Use one of the following categories:</i> F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ Introduction of Cell Synchronisation function for work item: Node B synchronisation for TDD
Summary of change:	⌘ New sections are added describing the cell synchronisation mechanism via the air interface. Rev 1: - Indicated that Node B synchronisation is an optional procedure - Performance for Synchronisation Adjustment in Initial State clarified
Consequences if not approved:	⌘ Node B cell sync mechanism not clear <u>Backward compatibility:</u> This CR is backward compatible.

Clauses affected:	⌘ 2, 6.1.2, 6.1.2.2	
Other specs affected:	⌘ <input checked="" type="checkbox"/> Other core specifications	⌘ 25.433 CR360r1, CR361r1 25.402 CR017
	<input type="checkbox"/> Test specifications	
	<input type="checkbox"/> O&M Specifications	
Other comments:	⌘	

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- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- For this Release 1999 document, references to 3G documents are for Release 1999 versions (version 3.x.y).

- [1] 3GPP TS 25.401: "UTRAN Overall Description".
- [2] 3GPP TS 25.423: "UTRAN I_{ur} Interface RNSAP Signalling".
- [3] 3GPP TS 25.433: "UTRAN I_{ub} Interface NBAP Signalling".
- [4] 3GPP TS 25.435: "UTRAN I_{ub} Interface User Plane Protocols for COMMON TRANSPORT CHANNEL Data Streams".
- [5] 3GPP TS 25.427: "I_{ub}/I_{ur} Interface User Plane Protocol for DCH Data Streams".
- [6] EIA 422-A-78: "Electrical characteristics of balanced voltage digital interface circuits".
- [7] 3GPP TS 25.411: "UTRAN I_u Interface Layer 1".
- [8] 3GPP TS 25.421: "UTRAN I_{ur} Interface Layer 1".
- [9] 3GPP TS 25.431: "UTRAN I_{ub} Interface Layer 1".
- [10] 3GPP TS 25.104: "UTRA (BS) FDD; Radio transmission and Reception".
- [11] 3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".
- [12] 3GPP TS25.223: "Spreading and modulation (TDD)".
- [13] 3GPP TS25.215: "Physical layer - Measurements (FDD)".
- [14] 3GPP TS25.225: " Physical layer - Measurements (TDD)".
- [15] 3GPP TS25.123: "Requirements for Support of Radio Resource Management".
- [16] [3GPP TS25.105: "UTRA \(BS\) TDD; Radio transmission and Reception"](#)

6.1.2 Inter Node B Node Synchronisation

In the FDD mode Inter Node B Node Synchronisation could be reached via the RNC-Node B Node Synchronisation in order to determine inter Node B timing reference relations.

This could be used to determine Inter-cell relationships (considering T_{cell}) which can be used in the neighbour cell lists in order to speed up and simplify cell search done by UE at handover.

In TDD Inter Node B Node Synchronisation is used to achieve a common timing reference among Node B's (see Figure 5), that allows to support Intercell Synchronisation.

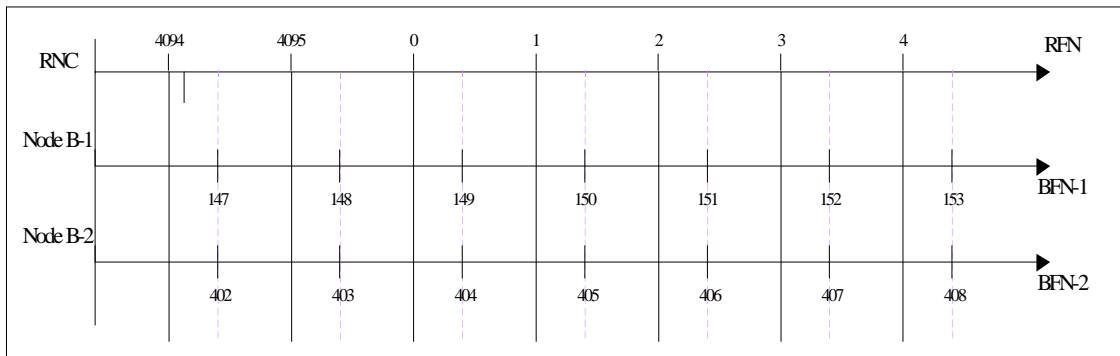


Figure 1: Synchronisation of BFNs through TDD Inter Node B Synchronisation

In TDD Inter Node B Node Synchronisation may be achieved via a standardised synchronisation port (see subclause 6.1.2.1) that allows to synchronise the Node B to an external reference.

[An other option to achieve the Inter Node B Node Synchronisation in a TDD system is the synchronisation of cells or Node Bs via the air interface \(see subclause 6.1.2.2\).](#)

6.1.2.1 TDD Node B Synchronisation Ports

This subclause defines the Node B input and an output synchronisation ports that can be used for Inter Node B Node Synchronisation. These synchronisation ports are optional.

The input synchronisation port (SYNC IN) allows the Node B to be synchronised to an external reference (e.g. GPS), while the output synchronisation port (SYNC OUT) allows the Node B to synchronise directly another Node B (see Figure 6).

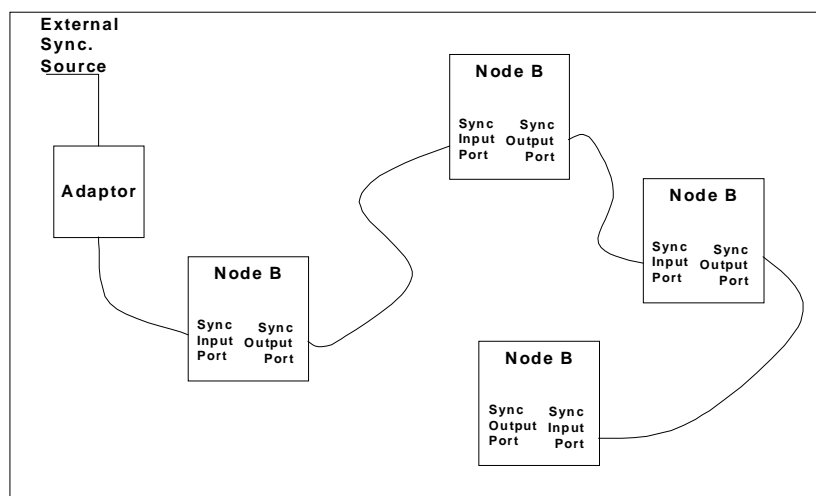


Figure 6: Usage of Synchronisation Ports

This allows connecting Node B's in a daisy chain configuration, so that a single external reference is enough and all remaining nodes B can be synchronised (e.g. in case of indoor operation).

The Node B starts the synchronisation to the external reference when a valid input synchronisation signal is detected at the input synchronisation port.

If a valid synchronisation signal is detected, the Node B regenerates that signal at its output synchronisation port.

The electrical characteristics of the synchronisation ports shall conform to RS422 [6] (output synchronisation port: subclause 4.1; input synchronisation port: subclause 4.2).

The synchronisation signal (illustrated in Figure 7) is a 100 Hz signal having positive pulses of width between $5\ \mu\text{s}$ and $1\ \text{ms}$, except when $\text{SFN mod } 256 = 0$ (every 256th pulse), which has a pulse width between $2\ \text{ms}$ and $5\ \text{ms}$. This signal establishes the $10\ \text{ms}$ frame interval and the $2.56\ \text{s}$ multiframe interval. The start of all frames in the cell of the node B is defined by the falling edge of the pulse. The required accuracy for the phase difference between the start of the $10\ \text{ms}$ frame interval and the falling edge of the synchronisation pulses is defined in [15].

The start of the 256 frame period is defined by the falling edge of the pulse corresponding to the frames where $\text{SFN mod } 256 = 0$ (i.e. of width between $2\ \text{ms}$ and $5\ \text{ms}$).

The synchronisation signal at the input port shall have frequency accuracy better than the one of the Node B.

The relative phase difference of the synchronisation signals at the input port of any Node B in the synchronised area shall not exceed $2.5\ \mu\text{s}$.

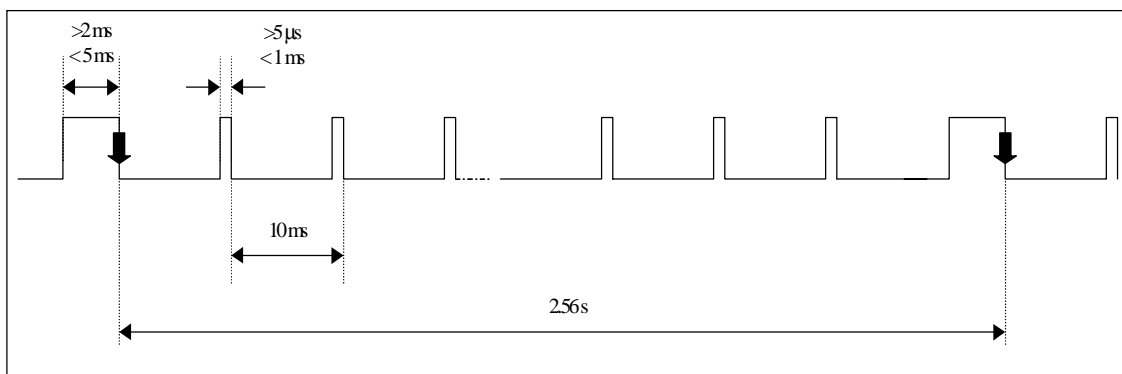


Figure 7: Synchronisation signal

Synchronisation by a GPS receiver

The signal transmitted by a Global Positioning System (GPS) satellite indicates the GPS time that provides an absolute time reference. This makes the GPS receiver suitable for Inter Node B Node Synchronisation.

Inter Node B Node Synchronisation is achieved by relating the synchronisation signal (at the input synchronisation port) to the GPS signal. Since the period of this signal is $2.56\ \text{s}$, this implies that every 6400 frames the start of a 256 frame period coincides with an integer GPS second, i.e. a multiframe shall start when $\text{GPS time mod } 64 = 0$.

6.1.2.2 TDD Inter Node B Node Synchronisation procedure

~~Void.~~

The Node B synchronisation procedure is an optional procedure based on transmissions of cell synchronisation bursts in predetermined PRACH time slots according to an RNC schedule. Such soundings between neighbouring cells facilitate timing offset measurements by the cells. The measured timing offset values are reported to the RNC for processing. The RNC generates cell timing updates that are transmitted to the Node B and cells for implementation.

The synchronisation procedure has two phases, the initial phase and the steady-state phase. The procedure for late entrant cells is slightly different and is described separately.

For synchronisation via the air interface it has to be considered that as long as a cell is not synchronised the cell may interfere the neighbouring cells. This applies especially in case of late entrant cells where first the new cell has to be setup before the synchronisation procedure starts. By this Cell Setup procedure the SCH is already transmitting. The

RNC shall therefore disable the downlink time slots on Cell Setup procedure by means of the *Time slot Status* IE. When the cell synchronisation has been performed the downlink time slots shall be enabled by means of the Cell Reconfiguration procedure.

6.1.2.2.1 Initial Synchronisation

The procedure for initial synchronisation is used to bring cells of an RNS area into synchronisation at network start up. No traffic is supported during this phase.

- 1) There should be at least one cell in each RNC area (i.e. in the RNS) which is synchronised by an external reference (e.g. GPS receiver). The cells with reference timing shall initialise their SFN counter so that the frame with SFN=0 starts on January 6, 1980 at 00:00:00.
- 2) The RNC has to be informed at which of the cells the external reference clock is connected. Therefore, a 'Reference Clock availability' indicator is added within the RESOURCE STATUS INDICATION message that is sent from the Node B to the RNC when a Local Cell becomes existing at the Node B.
- 3) At Cell Setup a 'Reference SFN offset' may be given to the cells where the reference clock is connected in order to separate the synchronisation bursts from different RNC areas.
- 4) The RNC has to retrieve the reference time from the cells with the reference clock. For the reference time retrieval the DL Transport Channels Synchronisation procedure on the PCH frame protocol (see [4]) shall be used. The Node B shall consider the SFN derived from the synchronisation port and the Reference SFN offset given by the RNC.
- 5) Now the RNC proceeds by updating the timing of all the remaining cells in the RNS, instructing them to adjust their clocks. Therefore, first the DL Transport Channels Synchronisation procedure on the PCH frame protocol shall be performed in order to determine the deviation from the reference SFN. The RNC then sends an CELL SYNCHRONISATION ADJUSTMENT message to all the cells for SFN update, apart from the one(s) containing the reference clock. The cells shall adjust SFN and frame timing accordingly.
- 6) For the sync procedure it is useful to know which cells can "hear" each other. Therefore, all cells are instructed to transmit their cell sync bursts in turn one after the other. The same cell sync burst code and code offset is used by all cells.
- 7) Each cell shall listen for transmissions from other cells. Each cell shall report the timing and received SIR of successfully detected cell sync bursts to the RNC.
- 8) Upon reception of a CELL SYNCHRONISATION ADJUSTMENT message the cell shall adjust its timing accordingly. The timing adjustment shall be completed before the CELL SYNCHRONISATION ADJUSTMENT RESPONSE message is sent. It shall be implemented by adjusting the timing and/or tuning the clock frequency.
- 9) Steps 6 to 8 are repeated as often as necessary in order to reach the minimum synchronisation accuracy defined in [16]. This serves the purpose to bring the network into tight synchronisation. The SIR value within the cell sync burst reports is used by the RNC to define the schedule for the steady-state phase. I.e. to define when which cells transmit a cell sync burst and when which cell sync bursts shall be received. Cells which are sufficiently separated can be allowed to send the same cell sync burst at the same time. Cells which are not sufficiently separated have to use different cell sync codes and code offsets for distinctions.

6.1.2.2.2 Steady-State Phase

The steady-state phase allows to reach and/or maintain the required synchronisation accuracy. With the start of the steady-state phase traffic is supported in a cell. The steady-state phase starts with the Cell Synchronisation

Reconfiguration procedure (see [3]) which defines the synchronisation schedule. I.e. each cell gets the information when to transmit a cell sync burst and when the individual cell sync bursts from the neighbouring cells shall be measured.

For definition of the SFN when the cell shall transmit or receive cell sync bursts, the SFN period is divided into cycles that have the same schedule. Within each cycle the Frame numbers for the cell sync bursts are calculated by the number of repetitions per cycle and by an offset. Code and code offset are used to identify the individual cell sync bursts.

1. The cell shall transmit a cell sync burst and measure cell sync bursts from neighbouring cells according to the informations given in the CELL SYNCHRONISATION RECONFIGURATION REQUEST message. Reception times for all relevant codes and code offsets shall be reported to the RNC with the CELL SYNCHRONISATION REPORT message.
2. Upon determination of an error in timing, the RNC adjusts the cell timing by means of the CELL SYNCHRONISATION ADJUSTMENT message. The timing adjustment shall be started at the beginning of the frame with the SFN given in the command. It shall be completed by the next cell sync slot. Timing adjustments shall be implemented via gradual steps at the beginning of a frame. The whole adjustment shall be implemented with maximum stepsize of one sample per frame.
3. Step 1 and 2 continue indefinitely

6.1.2.2.3 Late-Entrant Cells

The scheme for introducing new cells into a synchronised RNS is as follows:

1. Late entrant cells (new cells being added without referene clock) or cells recovering from unavailability shall first be roughly synchronised. Therefore, first the DL Transport Channels Synchronisation procedure on the PCH frame protocol shall be performed in order to determine the deviation from the reference SFN. The RNC then sends an CELL SYNCHRONISATION ADJUSTMENT message to the late-entrant cells for SFN update.
2. In addition or instead of a regular schedule a single common cell sync burst is transmitted in parallel by cells which are synchronised in the system and which are preferrably the ones surrounding the late-entrant cell. The single cell sync burst is initiated by means of the CELL SYNCHRONISATION INITIATION REQUEST message to the surrounding cells.
3. The late entrant cell shall correlate against the cell sync burst according to the measurement information within the CELL SYNCHRONISATION INITIATION REQUEST message. The reception window shall be +/- 3 frames around the SFN frame given in the measurement information. The late entrant cell shall take the earliest reception as the timing of the system and adjusts its own timing and SFN number accordingly.
4. Thereafter, the late entrant cell shall start regular measurements after the reception of a CELL SYNCHRONISATION RECONFIGURATION REQUESTmessage and it shall report the timing of the measured cell sync bursts to the RNC. In turn, the late entrant cell receives its own schedules for sync transmissions and receptions and enters the steady-state phase.

CR-Form-v3
CHANGE REQUEST
⌘ 25.402 CR 017 ⌘ rev ⌘ Current version: 3.4.0 ⌘

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Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title: ⌘ Synchronisation port signal extension		
Source: ⌘ R-WG3		
Work item code: ⌘ RANimp-NBsync Date: ⌘ Feb 2001		
Category: ⌘ B Release: ⌘ REL-4		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> Use <u>one</u> of the following categories: F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900. </td> <td style="width: 50%; vertical-align: top;"> Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5) </td> </tr> </table>	Use <u>one</u> of the following categories: F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)
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Reason for change: ⌘	The synchronisation port signal of Release 4 shall include a 4096 frames marker for full SFN synchronisation to an external reference clock. This is required for those TDD cells which serve as "reference cells" in the "Node B synchronisation via radio interface" procedure.
Summary of change: ⌘	The synchronisation port signal specification is enhanced, to include the 4096 frames marker. In addition, a chapter on "backward compatibility" is included which discusses the mixed version scenarios, when the synch port signal and the Node B belong to different Releases.
Consequences if not approved: ⌘	The "Node B synchronisation via radio interface for TDD" specification would be incomplete since it would not be specified how SFN synchronisation to an external reference can be achieved for the "reference cells". Backward compatibility to Release 99 is provided: The extended synch port signal is also suitable for feeding a R99 Node B.

Clauses affected: ⌘	6.1.2.1
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
Other comments: ⌘	

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

6.1.2 Inter Node B Node Synchronisation

< Unchanged text omitted here. >

6.1.2.1 TDD Node B Synchronisation Ports

This subclause defines the Node B input and an output synchronisation ports that can be used for Inter Node B Node Synchronisation. These synchronisation ports are optional.

The input synchronisation port (SYNC IN) allows the Node B to be synchronised to an external reference (e.g. GPS), while the output synchronisation port (SYNC OUT) allows the Node B to synchronise directly another Node B (see Figure 6).

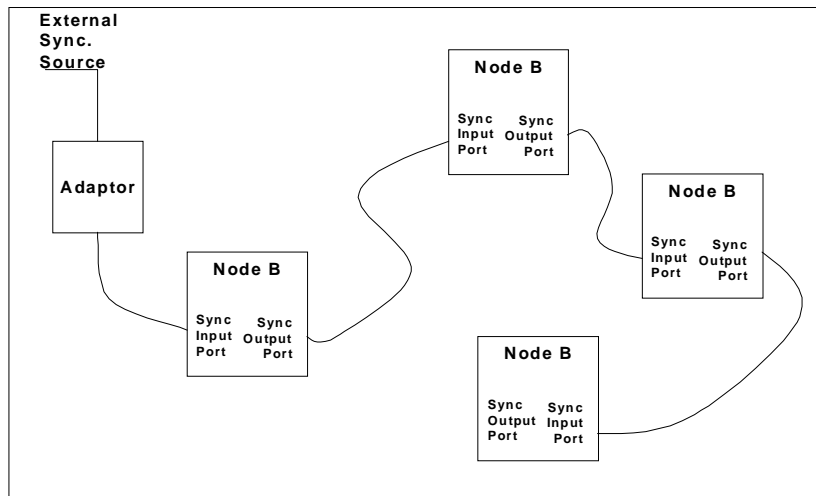


Figure 6: Usage of Synchronisation Ports

This allows connecting Node B's in a daisy chain configuration, so that a single external reference is enough and all remaining nodes B can be synchronised (e.g. in case of indoor operation).

The Node B starts the synchronisation to the external reference when a valid input synchronisation signal is detected at the input synchronisation port.

If a valid synchronisation signal is detected, the Node B regenerates that signal at its output synchronisation port.

The electrical characteristics of the synchronisation ports shall conform to RS422 [6] (output synchronisation port: subclause 4.1; input synchronisation port: subclause 4.2).

The synchronisation signal (illustrated in Figure 7a) is a 100 Hz signal having positive pulses of width between 5 μs and 1 ms, with the following exceptions:

- except when (SFN mod 256 = 0) ~~(every 256th pulse)~~ AND NOT (SFN mod 4096 = 0), the pulse shall have a width between 2 ms and 3 ms;
- when SFN mod 4096 = 0, the pulse shall have a width between 4 ms and 5 ms. ~~which has a pulse width between 2 ms and 5 ms.~~

This signal establishes the 10 ms frame interval, and the 2.56 s multiframe interval, and the 4096 frames SFN period. The start of all frames in the cell of the node B is defined by the falling edge of the pulse. The required accuracy for the phase difference between the start of the 10ms frame interval and the falling edge of the synchronisation pulses is defined in [15].

The start of the 256 frame period is defined by the falling edge of the pulse corresponding to the frames where SFN mod 256 = 0 (i.e. of width between 2 ms and 3 ms, or between 4 ms and 5 ms, respectively.

The start of the 4096 frame period is defined by the falling edge of the pulse corresponding to the frames where $SFN \bmod 4096 = 0$ (i.e. of width between 4 ms and 5 ms).

The synchronisation signal at the input port shall have frequency accuracy better than the one of the Node B.

The relative phase difference of the synchronisation signals at the input port of any Node B in the synchronised area shall not exceed 2.5 μ s.

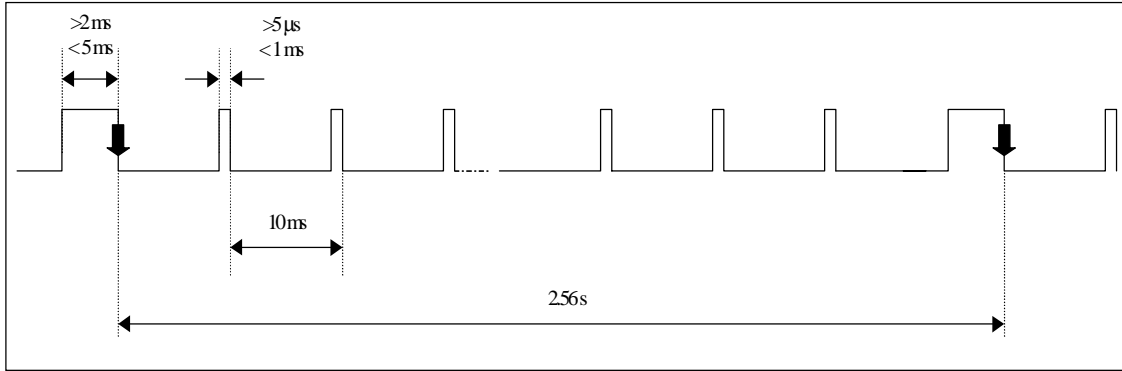


Figure 7: Synchronisation signal with 256 frames markers (Release 99)

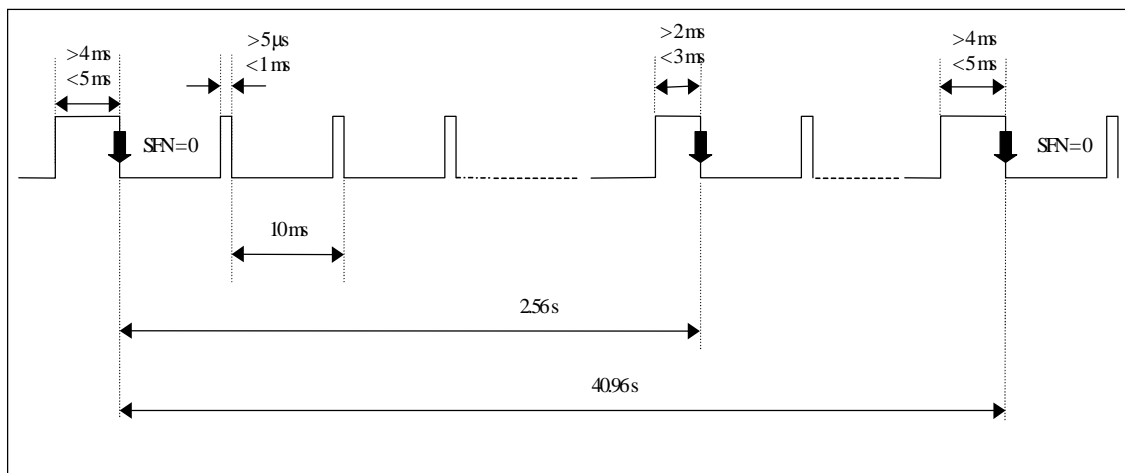


Figure 7a: Synchronisation signal with 256 and 4096 frames markers (Release 4)

Synchronisation by a GPS receiver

The signal transmitted by a Global Positioning System (GPS) satellite indicates the GPS time that provides an absolute time reference. This makes the GPS receiver suitable for Inter Node B Node Synchronisation.

Inter Node B Node Synchronisation is achieved by relating the synchronisation signal (at the input synchronisation port) to the GPS signal. Since the period of this signal is 2.56 s, this implies that every 6400 frames the start of a 256 frame period coincides with an integer GPS second, i.e. a multiframe shall start when $GPS \text{ time} \bmod 64 = 0$.

In general, at each start of a GPS second indicating the GPS time in seconds, the associated full SFN (the 12 bits value) can be derived as: $SFN = (GPS \text{ time} * 100) \bmod 4096$. If the synchronisation port signal shall be derived from GPS, the special pulses for the 256 frames period and the 4096 frames period shall be present in the synch port signal when $SFN \bmod 256 = 0$ or $SFN \bmod 4096 = 0$, respectively, where the SFN in these equations is linked to the GPS time by the said equation.

Backward compatibility to Release 99

The Release 4 synchronisation port definition is backward compatible with the R99 synch port in the following sense: It is possible to feed a Release 99 Node B with the Rel.4 synchronisation port signal. This results from the fact that the Rel.4 synch port pulses defined for $SFN \bmod 256 = 0$ and those defined for $SFN \bmod 4096 = 0$ both meet the pulse width tolerance defined for $SFN \bmod 256 = 0$ in Release 99. So the Rel.99 Node B will recognise these two classes of

Release 4 pulses as valid Release 99 pulses for definition of the 256 frames multiframe start. The Rel.99 Node B will, however, ignore the differences between the 256 frames period pulse and the 4096 frames period pulse: The result is the 256 frames multiframe synchronisation as specified for Release 99.

The opposite scenario, however, i.e. connecting a Release 99 synchronisation port signal (without the 4096 frames marker) to a Release 4 Node B, shall be excluded. This would cause confusion for the "synchronisation via radio interface" procedure. The TDD cells in Rel.4 shall be either "reference" cells where the SFN is fully synchronised to an external reference, or they shall be "non-reference" without any external, local frame clock reference.

6.1.2.2 TDD Inter Node B Node Synchronisation procedure

Void.

CHANGE REQUEST

⌘ **25.433 CR 360** ⌘ re **3** ⌘ Current version: **3.4.1** ⌘

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Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Introduction of NBAP Cell Synchronisation function for TDD		
Source:	⌘ <u>R-WG3</u>		
Work item code:	⌘ RANimp-Nbsync	Date:	⌘ February 2001
Category:	⌘ B	Release:	⌘ Rel-4
	<i>Use one of the following categories:</i> F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification)		<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		

Reason for change:	⌘ Introduction of NBAP Cell Synchronisation function for work item: Node B synchronisation for TDD
Summary of change:	⌘ Cell synchronisation function added including mapping to Elementary Procedures Introduction of cell synchronisation procedures for Cell Sync Burst transmission and measurements on cell sync bursts Introduction of Cell Synchronisation Adjustment timing procedure Rev 1: Synchronisation Adjustment procedure renamed to Cell Synchronisation Adjustment Unspecified and semantic error causes removed from typical cause list Messages tagged to TDD Editorial corrections in section 8.2.xB.2 Definition of Measurement accuracy requirements (Reference added) Tabular format changed of Cell Synchronisation Reconfiguration Request and aligned with ASN.1 IE definition of <i>Cell Sync Burst Availability Indicator</i> IE deleted Cause value 'Cell Sync Burst Measurement Temporary not Available' removed Range of CSB Transmission/Measurement Ids modified New procedures added in compatible way in ASN.1 ID numbers allocated from NBAP rapporteur Rev 2: Correction of ASN.1 within Cell Synchronisation Reconfiguration procedure Rev 3: Criticality of Cell Synchronisation Reconfiguration procedure corrected
Consequences if not approved:	⌘ Node B synchronisation not feasible <u>Backward compatibility:</u> The changes for Node B synchronisation are backward compatible.

Clauses affected:	⌘													
Other specs affected:	⌘	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td>Other core specifications</td> <td>⌘</td> <td>25.402 CR 016r1, CR017 25.433 CR361r1</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Test specifications</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td>O&M Specifications</td> <td></td> <td></td> </tr> </table>	<input checked="" type="checkbox"/>	Other core specifications	⌘	25.402 CR 016r1, CR017 25.433 CR361r1	<input type="checkbox"/>	Test specifications			<input type="checkbox"/>	O&M Specifications		
<input checked="" type="checkbox"/>	Other core specifications	⌘	25.402 CR 016r1, CR017 25.433 CR361r1											
<input type="checkbox"/>	Test specifications													
<input type="checkbox"/>	O&M Specifications													
Other comments:	⌘													

How to create CRs using this form:

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- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

- [1] 3GPP TS 25.401: "UTRAN Overall Description".
- [2] 3GPP TS 25.426: "UTRAN I_{ur} and I_{ub} Interface Data Transport & Transport Signalling for DCH Data Streams".
- [3] CCITT Recommendation X.731 (01/92): "Information Technology – Open Systems Interconnection – Systems Management: State Management function".
- [4] 3GPP TS 25.215: "Physical layer – Measurements (FDD)".
- [5] 3GPP TS 25.225: "Physical layer – Measurements (TDD)".
- [6] 3GPP TS 25.430: "UTRAN Iub General Aspect and Principle".
- [7] 3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".
- [8] 3GPP TS 25.212: "Multiplexing and channel coding (FDD)".
- [9] 3GPP TS 25.213: "Spreading and modulation (FDD)".
- [10] 3GPP TS 25.214: "Physical layer procedures (FDD)".
- [11] X.691, (12/97) "Information technology - ASN.1 encoding rules - Specification of Packed Encoding Rules (PER)".
- [12] X.680, (12/97) "Information Technology - Abstract Syntax Notation One (ASN.1):Specification of basic notation".
- [13] X.681, (12/97) "Information Technology - Abstract Syntax Notation One (ASN.1): Information object specification"
- [14] 3GPP TS 25.104: "UTRA (BS) FDD; Radio Transmission and Reception".
- [15] 3GPP TS 25.105: "UTRA (BS) TDD; Radio Transmission and Reception".
- [16] 3GPP TS25.427: "UTRAN Iur/Iub Interface User Plane Protocol for DCH Data Stream"
- [17] 3GPP TS25.402: "Synchronisation in UTRAN Stage2"
- [18] 3GPP TS25.331: "RRC Protocol Specification"
- [19] 3GPP TS25.221: "Physical channels and mapping of transport channels onto physical channels[TDD]"
- [20] 3GPP TS25.223: "Spreading and modulation (TDD)"
- [21] 3GPP TS25.224: "Physical Layer Procedures (TDD)"
- [22] 3GPP TS 25.133 (V3.3): "Requirements for support of Radio Resource management (FDD)"
- [23] 3GPP TS 25.123 (V4.03.3): " Requirements for support of Radio Resource management (TDD)"

- [24] 3GPP TS 25.435: "UTRAN Iub Interface: User Plane Protocols for Common Transport Channel Data Streams".
- [25] 3GPP TS 25.302: "Services Provided by the Physical Layer".
- [26] 3GPP TR 25.921: "Guidelines and Principles for Protocol Description and Error Handling".

7 Functions of NBAP

The NBAP protocol has the following functions:

- Cell Configuration Management. This function gives the CRNC the possibility to manage the cell configuration information in a Node B.
- Common Transport Channel Management. This function gives the CRNC the possibility to manage the configuration of Common Transport Channels in a Node B.
- System Information Management. This function gives the CRNC the ability to manage the scheduling of System Information to be broadcast in a cell.
- Resource Event Management. This function gives the Node B the ability to inform the CRNC about the status of Node B resources.
- Configuration Alignment. This function gives the CRNC and the Node B the possibility to verify and enforce that both nodes has the same information on the configuration of the radio resources.
- Measurements on Common Resources. This function allows the CRNC to initiate measurements in the Node B. The function also allows the Node B to report the result of the measurements.
- Radio Link Management. This function allows the CRNC to manage radio links using dedicated resources in a Node B.

Radio Link Supervision. This function allows the CRNC to report failures and restorations of a Radio Link.

- Compressed Mode Control [FDD]. This function allows the CRNC to control the usage of compressed mode in a Node B.
- Measurements on Dedicated Resources. This function allows the CRNC to initiate measurements in the Node B. The function also allows the Node B to report the result of the measurements.
- DL Power Drifting Correction [FDD]. This function allows the CRNC to adjust the DL power level of one or more Radio Links in order to avoid DL power drifting between the Radio Links.
- Reporting of General Error Situations. This function allows reporting of general error situations, for which function specific error messages have not been defined.
- Physical Shared Channel Management [TDD]. This function allows the CRNC to manage physical resources in the Node B belonging to Shared Channels (USCH/DSCH).
- DL Power Timeslot Correction [TDD]. This function enables the Node B to apply an individual offset to the transmission power in each timeslot according to the downlink interference level at the UE.
- Cell Synchronisation [TDD]. This function allows the synchronisation of cells or Node Bs via the air interface.

The mapping between the above functions and NBAP elementary procedures is shown in the table below.

Table 1: Mapping between functions and NBAP elementary procedures

Function	Elementary Procedure(s)
Cell Configuration Management	a) Cell Setup b) Cell Reconfiguration c) Cell Deletion
Common Transport Channel Management	a) Common Transport Channel Setup b) Common Transport Channel Reconfiguration c) Common Transport Channel Deletion
System Information Management	System Information Update
Resource Event Management	a) Block Resource b) Unblock Resource c) Resource Status Indication
Configuration Alignment	a) Audit Required b) Audit c) Reset
Measurements on Common Resources	a) Common Measurement Initiation b) Common Measurement Reporting c) Common Measurement Termination d) Common Measurement Failure
Radio Link Management.	a) RL Setup b) RL Addition c) RL Deletion d) Unsynchronised RL Reconfiguration e) Synchronised RL Reconfiguration Preparation f) Synchronised RL Reconfiguration Commit g) Synchronised RL Reconfiguration Cancellation h) Radio Link Pre-emption
Radio Link Supervision.	a) RL Failure b) RL Restoration
Compressed Mode Control [FDD]	a) Radio Link Setup b) Radio Link Addition c) Compressed Mode Command d) Unsynchronised Radio Link Reconfiguration e) Synchronised Radio Link Reconfiguration Preparation f) Synchronised Radio Link Reconfiguration Commit g) Synchronised Radio Link Reconfiguration Cancellation
Measurements on Dedicated Resources	a) Dedicated Measurement Initiation b) Dedicated Measurement Reporting c) Dedicated Measurement Termination d) Dedicated Measurement Failure
DL Power Drifting Correction [FDD]	Downlink Power Control
Reporting of General Error Situations	Error Indication
Physical Shared Channel Management [TDD]	Physical Shared Channel Reconfiguration
DL Power Timeslot Correction [TDD]	Downlink Power Timeslot Control
<u>Cell Synchronisation [TDD]</u>	<u>a) Cell Synchronisation Initiation</u> <u>b) Cell Synchronisation Reconfiguration</u> <u>c) Cell Synchronisation Reporting</u> <u>d) Cell Synchronisation Termination</u> <u>e) Cell Synchronisation Failure</u> <u>f) Cell Synchronisation Adjustment</u>

8 NBAP Procedures

8.1 Elementary Procedures

NBAP procedures are divided into common procedures and dedicated procedures.

- NBAP common procedures are procedures that request initiation of a UE context for a specific UE in Node B or are not related to a specific UE. NBAP common procedures also incorporate logical O&M [1] procedures.
- NBAP dedicated procedures are procedures that are related to a specific UE context in Node B. This UE context is identified by a UE context identity.

The two types of procedures may be carried on separate signalling links.

In the following tables, all EPs are divided into Class 1 and Class 2 EPs:

Table 1: Class 1

Elementary Procedure	Message	Successful Outcome	Unsuccessful Outcome	
		Response message	Response message	Timer
Cell Setup	CELL SETUP REQUEST	CELL SETUP RESPONSE	CELL SETUP FAILURE	
Cell Reconfiguration	CELL RECONFIGURATION REQUEST	CELL RECONFIGURATION RESPONSE	CELL RECONFIGURATION FAILURE	
Cell Deletion	CELL DELETION REQUEST	CELL DELETION RESPONSE		
Common Transport Channel Setup	COMMON TRANSPORT CHANNEL SETUP REQUEST	COMMON TRANSPORT CHANNEL SETUP RESPONSE	COMMON TRANSPORT CHANNEL SETUP FAILURE	
Common Transport Channel Reconfiguration	COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST	COMMON TRANSPORT CHANNEL RECONFIGURATION RESPONSE	COMMON TRANSPORT CHANNEL RECONFIGURATION FAILURE	
Common Transport Channel Deletion	COMMON TRANSPORT CHANNEL DELETION REQUEST	COMMON TRANSPORT CHANNEL DELETION RESPONSE		
Physical Shared Channel Reconfigure [TDD]	PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST	PHYSICAL SHARED CHANNEL RECONFIGURATION RESPONSE	PHYSICAL SHARED CHANNEL RECONFIGURATION FAILURE	
Audit	AUDIT REQUEST	AUDIT RESPONSE	AUDIT FAILURE	
Block Resource	BLOCK RESOURCE REQUEST	BLOCK RESOURCE RESPONSE	BLOCK RESOURCE FAILURE	
Radio Link Setup	RADIO LINK SETUP REQUEST	RADIO LINK SETUP RESPONSE	RADIO LINK SETUP FAILURE	
System Information Update	SYSTEM INFORMATION UPDATE REQUEST	SYSTEM INFORMATION UPDATE RESPONSE	SYSTEM INFORMATION UPDATE FAILURE	
Common Measurement Initiation	COMMON MEASUREMENT INITIATION REQUEST	COMMON MEASUREMENT INITIATION RESPONSE	COMMON MEASUREMENT INITIATION FAILURE	
Radio Link Addition	RADIO LINK ADDITION REQUEST	RADIO LINK ADDITION RESPONSE	RADIO LINK ADDITION FAILURE	
Radio Link Deletion	RADIO LINK DELETION REQUEST	RADIO LINK DELETION RESPONSE		
Synchronised Radio Link Reconfiguration Preparation	RADIO LINK RECONFIGURATION PREPARE	RADIO LINK RECONFIGURATION READY	RADIO LINK RECONFIGURATION FAILURE	
Unsynchronised Radio Link Reconfiguration	RADIO LINK RECONFIGURATION REQUEST	RADIO LINK RECONFIGURATION RESPONSE	RADIO LINK RECONFIGURATION FAILURE	
Dedicated Measurement Initiation	DEDICATED MEASUREMENT INITIATION REQUEST	DEDICATED MEASUREMENT INITIATION RESPONSE	DEDICATED MEASUREMENT INITIATION FAILURE	
Reset	RESET REQUEST	RESET RESPONSE		
<u>Cell Synchronisation Initiation [TDD]</u>	<u>CELL SYNCHRONISATION INITIATION REQUEST</u>	<u>CELL SYNCHRONISATION INITIATION RESPONSE</u>	<u>CELL SYNCHRONISATION INITIATION FAILURE</u>	
<u>Cell Synchronisation Reconfiguration [TDD]</u>	<u>CELL SYNCHRONISATION RECONFIGURATION REQUEST</u>	<u>CELL SYNCHRONISATION RECONFIGURATION RESPONSE</u>	<u>CELL SYNCHRONISATION RECONFIGURATION FAILURE</u>	

Elementary Procedure	Message	Successful Outcome	Unsuccessful Outcome	
		Response message	Response message	Timer
<u>Cell Synchronisation Adjustment [TDD]</u>	<u>CELL SYNCHRONISATION ADJUSTMENT REQUEST</u>	<u>CELL SYNCHRONISATION ADJUSTMENT RESPONSE</u>	<u>CELL SYNCHRONISATION ADJUSTMENT FAILURE</u>	

Table 2: Class 2

Elementary Procedure	Message
Resource Status Indication	RESOURCE STATUS INDICATION
Audit Required	AUDIT REQUIRED INDICATION
Common Measurement Reporting	COMMON MEASUREMENT REPORT
Common Measurement Termination	COMMON MEASUREMENT TERMINATION REQUEST
Common Measurement Failure	COMMON MEASUREMENT FAILURE INDICATION
Synchronised Radio Link Reconfiguration Commit	RADIO LINK RECONFIGURATION COMMIT
Synchronised Radio Link Reconfiguration Cancellation	RADIO LINK RECONFIGURATION CANCELLATION
Radio Link Failure	RADIO LINK FAILURE INDICATION
Radio Link Restoration	RADIO LINK RESTORE INDICATION
Dedicated Measurement Reporting	DEDICATED MEASUREMENT REPORT
Dedicated Measurement Termination	DEDICATED MEASUREMENT TERMINATION REQUEST
Dedicated Measurement Failure	DEDICATED MEASUREMENT FAILURE INDICATION
Downlink Power Control [FDD]	DL POWER CONTROL REQUEST
Compressed Mode Command [FDD]	COMPRESSED MODE COMMAND
Unblock Resource	UNBLOCK RESOURCE INDICATION
Error Indication	ERROR INDICATION
Downlink Power Timeslot Control [TDD]	DL POWER TIMESLOT CONTROL REQUEST
Radio Link Pre-emption	RADIO LINK PREEMPTION REQUIRED INDICATION
<u>Cell Synchronisation Reporting [TDD]</u>	<u>CELL SYNCHRONISATION REPORT</u>
<u>Cell Synchronisation Termination [TDD]</u>	<u>CELL SYNCHRONISATION TERMINATION REQUEST</u>
<u>Cell Synchronisation Failure [TDD]</u>	<u>CELL SYNCHRONISATION FAILURE INDICATION</u>

8.2.xA Cell Synchronisation Initiation [TDD]

8.2.xA.1 General

This procedure is used by a CRNC to request the transmission of cell sync bursts and/or to start measurements on cell sync bursts in a Node B.

8.2.xA.2 Successful Operation

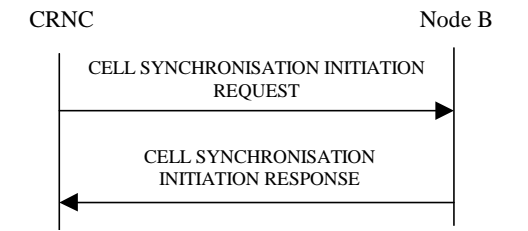


Figure 1: Cell Synchronisation Initiation procedure: Successful Operation

The procedure is initiated with a CELL SYNCHRONISATION INITIATION REQUEST message sent from the CRNC to the Node B using the Node B control port.

Upon reception, the Node B shall initiate the requested transmission according to the parameters given in the request and start the measurement on cell sync bursts if requested.

Cell Sync Burst Transmission Initiation

When the Cell Sync Burst Transmission Initiation Information is present, the Node B shall configure the transmission of the cell sync burst according to the parameters given in the CELL SYNCHRONISATION INITIATION REQUEST message. The *SFN* IE indicates the frame number when the cell shall start transmitting cell sync bursts.

Cell Sync Burst Measurement characteristics

When the Cell Sync Burst Measurement Initiation Information is present, the Node B shall initiate measurements on the indicated cell sync burst.

In case the *SFN* IE is present, the Node B shall after measurement of the indicated cell sync burst adjust the frame number of the indicated cell according to the *SFN* of the CELL SYNCHRONISATION INITIATION REQUEST message. This adjustment shall only apply to the late entrant cell at the late entrant phase.

Synchronisation Report characteristics

The *Synchronisation Report Characteristics* IE indicates how the reporting of the cell sync burst measurement shall be performed. Whenever the Cell Synchronisation Initiation procedure is initiated, only the 'Frame related' report characteristic type shall apply.

If the *Synchronisation Report characteristics type* IE is set to 'Frame related', the Node B shall report the result of the cell sync burst measurement after every measured frame.

Response message

If the Node B was able to initiate the cell sync burst transmission and/or measurement requested by the CRNC it shall respond with the CELL SYNCHRONISATION INITIATION RESPONSE message sent over the Node B control port.

8.2.xA.3 Unsuccessful Operation

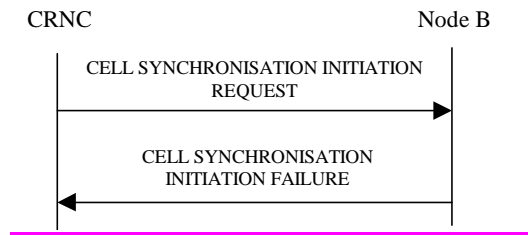


Figure 2: Cell Synchronisation Initiation procedure: Unsuccessful Operation

If the requested transmission or measurement on cell sync bursts cannot be initiated, the Node B shall send a CELL SYNCHRONISATION INITIATION FAILURE message over the Node B control port. The message shall include the Cause IE set to an appropriate value.

Typical cause values are as follows:

Radio Network Layer Cause

- Unknown C-ID.
- Cell Synchronisation not supported
- Power level not supported
- Measurement Temporarily not Available

Miscellaneous Cause

- O&M Intervention
- HW failure

8.2.xA.4 Abnormal Conditions

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8.2.xB Cell Synchronisation Reconfiguration [TDD]

8.2.xB.1 General

This procedure is used by a CRNC to reconfigure the transmission of cell sync bursts and/or to reconfigure measurements on cell sync bursts in a Node B.

8.2.xB.2 Successful Operation

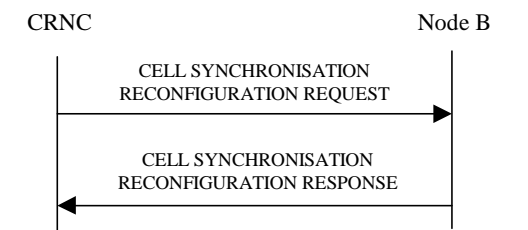


Figure 3: Cell Synchronisation Reconfiguration procedure: Successful Operation

The procedure is initiated with a CELL SYNCHRONISATION RECONFIGURATION REQUEST message sent from the CRNC to the Node B using the Node B control port.

Upon reception, the Node B shall reconfigure the cell sync burst transmission and/or measurements according to the parameters given in the request.

Cell Sync Burst Schedule

Within the CELL SYNCHRONISATION RECONFIGURATION REQUEST message first the schedule for the steady state phase is fixed. I.e. the number of cycles per SFN period is defined with the same schedule. For each cycle the number of repetitions is defined according to following equations:

Cycle length: $4096 / \text{value of the IE 'Number of cycles per SFN period'}$

Repetition period: $\text{Cycle length} / \text{value of IE 'Number of repetitions per cycle period'}$

Cell Sync Frame number is calculated by:

$$\text{SFN} = \text{floor}((k-1) * \text{Cycle length} + (i-1) * \text{Repetition period})$$

$$k = \{1, 2, 4, \dots \text{Number of cycle per SFN period}\}$$

$$i = \{1, 2, 3, \dots \text{Cell Sync Frame number within cycle period}\}$$

Cell Sync Burst Transmission Reconfiguration

When the Cell Sync Burst Transmission Reconfiguration Information is present, the Node B shall reconfigure the transmission of the cell sync burst according to the parameters given in the CELL SYNCHRONISATION RECONFIGURATION REQUEST message.

If the CELL SYNCHRONISATION RECONFIGURATION REQUEST message includes the *Cell Sync Burst Code IE* the Node B shall reconfigure the synchronisation code in the cell according to the *Cell Sync Burst Code IE* value.

If the CELL SYNCHRONISATION RECONFIGURATION REQUEST message includes the *Cell Sync Burst Code shift IE* the Node B shall reconfigure the synchronisation code shift in the cell according to the *Cell Sync Burst Code shift IE* value.

If the CELL SYNCHRONISATION RECONFIGURATION REQUEST message includes the *DL transmission Power IE* the Node B shall reconfigure the DL transmission power of the cell sync burst in the cell according to the *DL transmission Power IE* value.

Cell Sync Burst Measurement Reconfiguration

When the Cell Sync Burst Measurement Reconfiguration Information is present, the Node B shall reconfigure the cell sync burst measurements according the parameters given in the message.

If the CELL SYNCHRONISATION RECONFIGURATION REQUEST message includes the Cell Sync Burst Measurement Information the measurements shall apply on the individual cell sync bursts on the requested Sync Frame number.

If the *Synchronisation Report Type IE* is provided, the measurement reporting shall apply according the parameter given in the message.

Synchronisation Report characteristics

The *Synchronisation Report Characteristics IE* indicates how the reporting of the cell sync burst measurement shall be performed.

If the *Synchronisation Report characteristics type IE* is set to 'Frame related', the Node B shall report the result of the cell sync burst measurement after every measured frame.

If the *Synchronisation Report characteristics type IE* is set to 'SFN period related', the Node B shall report the result of the cell sync burst measurements after every SFN period.

If the *Synchronisation Report characteristics type IE* is set to 'Cycle length related', the Node B shall report the result of the cell sync burst measurements after every cycle length within the SFN period.

If the *Synchronisation Report characteristics type IE* is set to 'Threshold exceeding', the Node B shall report the result of the cell sync burst measurement when the cell sync burst timing rises or falls more than the requested threshold value compared to the arrival time in synchronised state which is represented by the *Cell Sync Burst Arrival Time IE*.

Response message

If the Node B was able to reconfigure the cell sync burst transmission and/or measurement requested by the CRNC it shall respond with the CELL SYNCHRONISATION RECONFIGURATION RESPONSE message sent over the Node B control port.

8.2.xB.3 Unsuccessful Operation

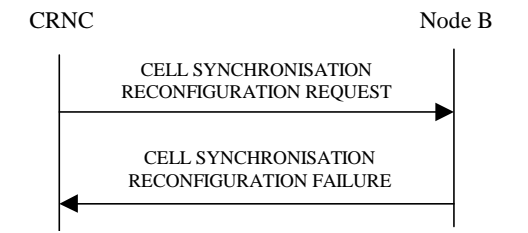


Figure 4: Cell Synchronisation Reconfiguration procedure: Unsuccessful Operation

If the Node B cannot reconfigure the requested transmission or measurement on cell sync burst, the CELL SYNCHRONISATION RECONFIGURATION FAILURE message shall be sent to the CRNC. The message shall include the *Cause IE* set to an appropriate value.

Typical cause values are as follows:

Radio Network Layer Cause

- Unknown C-ID.
- Cell Synchronisation not supported
- Power level not supported
- Measurement Temporarily not Available

Miscellaneous Cause

- O&M Intervention
- HW failure

8.2.xB.4 Abnormal Conditions

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8.2.xC Cell Synchronisation Reporting [TDD]

8.2.xC.1 General

This procedure is used by a Node B to report the result of cell sync burst measurements requested by the CRNC with the Cell Synchronisation Initiation or Cell Synchronisation Reconfiguration procedure.

8.2.xC.2 Successful Operation

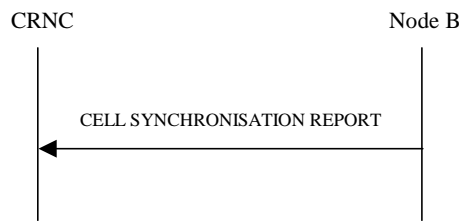


Figure 5: Cell Synchronisation Reporting procedure: Successful Operation

If the requested synchronisation measurement reporting criteria are met, the Node B shall initiate a Cell Synchronisation Reporting procedure. The CELL SYNCHRONISATION REPORT message shall use the Node B control port.

In the steady state phase when several cell sync bursts shall be measured per Sync Frame number, the sequence of the reported measured values shall be the same as defined in the Cell Synchronisation Reconfiguration procedure.

If the achieved measurement accuracy does not fulfil the given accuracy requirement **defined in [23]**, the Cell Sync Burst not available shall be reported.

8.2.xC.3 Abnormal Conditions

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8.2.xD Cell Synchronisation Termination [TDD]

8.2.xD.1 General

This procedure is used by the CRNC to terminate a cell sync burst transmission or measurement previously requested by the Cell Synchronisation Initiation procedure or Cell Synchronisation Reconfiguration procedure.

8.2.xD.2 Successful Operation



Figure 6: Cell Synchronisation Termination procedure: Successful Operation

This procedure is initiated with a CELL SYNCHRONISATION TERMINATION REQUEST message, sent from the CRNC to the Node B using the Node B control port.

Upon reception, the Node B shall terminate transmission of cell sync bursts or reporting of cell sync burst measurements corresponding to the CSB Transmission Id or CSB Measurement Id.

8.2.xD.3 Abnormal Conditions

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8.2.xE Cell Synchronisation Failure [TDD]

8.2.xE.1 General

This procedure is used by the Node B to notify the CRNC that a synchronisation burst transmission or synchronisation measurement procedure can no longer be supported.

8.2.xE.2 Successful Operation

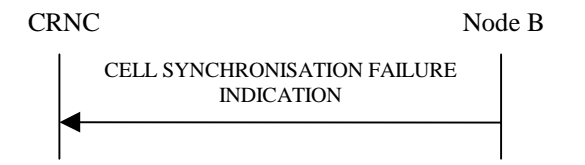


Figure 7: Cell Synchronisation Failure procedure: Successful Operation

This procedure is initiated with a CELL SYNCHRONISATION FAILURE INDICATION message, sent from the Node B to the CRNC using the Node B control port, to inform the CRNC that a previously requested transmission or measurement on cell sync bursts can no longer be supported.

8.2.xE.3 Abnormal Conditions

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8.2.xF Cell Synchronisation Adjustment [TDD]

8.2.xF.1 General

The purpose of Cell Synchronisation Adjustment procedure is to allow the CRNC to adjust the timing of the radio transmission of a cell within a Node B for time alignment.

8.2.xF.2 Successful Operation

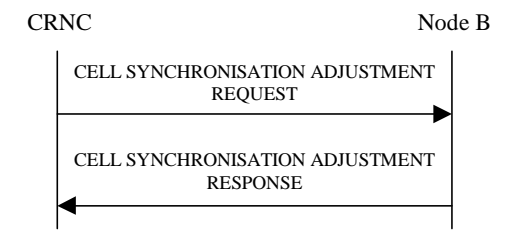


Figure 1: Cell Synchronisation Adjustment – Successful Case

This procedure is initiated with a CELL SYNCHRONISATION ADJUSTMENT REQUEST message sent by the CRNC to the Node B using the Node B control port.

Upon reception, the Node B adjusts its timing according to the parameters given in the message.

If the CELL SYNCHRONISATION ADJUSTMENT REQUEST message includes the *Frame Adjustment value IE* the Node B shall apply the frame adjustment in the cell according to the *Frame Adjustment value IE* value.

If the CELL SYNCHRONISATION ADJUSTMENT REQUEST message includes the *Timing Adjustment value IE* the Node B shall apply the timing adjustment in the cell according to the *Timing Adjustment value IE* value.

If the CELL SYNCHRONISATION ADJUSTMENT REQUEST message includes the *DL Transmission Power IE* the Node B shall apply the transmission power of the cell sync burst according to the *DL Transmission Power IE* value.

If the CELL SYNCHRONISATION ADJUSTMENT REQUEST message includes the *SFN IE* the Node B shall apply the synchronisation adjustment starting with the SFN number indicated in the message.

When the cell synchronisation adjustment is successfully done by the Node B the Node B shall respond with a CELL SYNCHRONISATION ADJUSTMENT RESPONSE message.

8.2.xF.3 Unsuccessful Operation

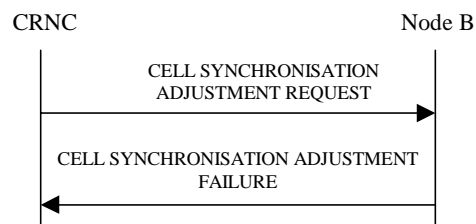


Figure 2: Cell Synchronisation Adjustment – Unsuccessful Case

If the Node B cannot perform the indicated cell synchronisation adjustment due to hardware failure or other problem it shall send the CELL SYNCHRONISATION ADJUSTMENT FAILURE as a response.

Typical cause values are as follows:

Radio Network Layer Cause

- Unknown C-ID.
- Cell Synchronisation Adjustment not supported
- Power level not supported

Miscellaneous Cause

- O&M Intervention
- HW failure

8.2.xF.4 Abnormal Conditions

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9.1.xA CELL SYNCHRONISATION INITIATION REQUEST [TDD]

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
Message Discriminator	<u>M</u>		<u>9.2.1.45</u>		<u>=</u>	
Message Type	<u>M</u>		<u>9.2.1.46</u>		<u>YES</u>	<u>reject</u>
Transaction ID	<u>M</u>		<u>9.2.1.62</u>		<u>=</u>	
C-ID	<u>M</u>		<u>9.2.1.9</u>		<u>YES</u>	<u>reject</u>
Time Slot	<u>M</u>		<u>9.2.3.23</u>		<u>YES</u>	<u>reject</u>
Cell Sync Burst Transmission Initiation Information		<u>0..1</u>			<u>GLOBAL</u>	<u>reject</u>
>CSB Transmission ID	<u>M</u>		<u>9.2.3.xI1</u>			
>SFN	<u>M</u>		<u>9.2.1.53A</u>		<u>=</u>	
>Cell Sync Burst Code	<u>M</u>		<u>9.2.3.xB</u>		<u>=</u>	
>Cell Sync Burst Code shift	<u>M</u>		<u>9.2.3.xC</u>			
>Cell Sync Burst Repetition Period	<u>M</u>		<u>9.2.3.xE</u>		<u>=</u>	
>Initial DL transmission Power	<u>M</u>		<u>DL Power 9.2.1.21</u>		<u>=</u>	
Cell Sync Burst Measurement Initiation Information		<u>0..1</u>			<u>GLOBAL</u>	<u>reject</u>
>CSB Measurement ID	<u>M</u>		<u>9.2.3.xD</u>			
>Cell Sync Burst Code	<u>M</u>		<u>9.2.3.xB</u>		<u>=</u>	
>Cell Sync Burst Code shift	<u>M</u>		<u>9.2.3.xC</u>			
>Synchronisation Report Type	<u>M</u>		<u>9.2.3.xN</u>		<u>=</u>	
>SFN	<u>O</u>		<u>9.2.1.53A</u>		<u>=</u>	
>Synchronisation Report Characteristics	<u>M</u>		<u>9.2.3.xM</u>		<u>=</u>	

9.1.xB CELL SYNCHRONISATION INITIATION RESPONSE [TDD]

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
Message Discriminator	<u>M</u>		<u>9.2.1.45</u>		<u>=</u>	
Message Type	<u>M</u>		<u>9.2.1.46</u>		<u>YES</u>	<u>reject</u>
Transaction ID	<u>M</u>		<u>9.2.1.62</u>		<u>=</u>	
Criticality Diagnostics	<u>O</u>		<u>9.2.1.17</u>		<u>YES</u>	<u>ignore</u>

9.1.xC CELL SYNCHRONISATION INITIATION FAILURE [TDD]

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Discriminator</u>	<u>M</u>		<u>9.2.1.45</u>		<u>=</u>	
<u>Message Type</u>	<u>M</u>		<u>9.2.1.46</u>		<u>YES</u>	<u>reject</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.62</u>		<u>=</u>	
<u>Cause</u>	<u>M</u>		<u>9.2.1.6</u>		<u>YES</u>	<u>Ignore</u>
<u>Criticality Diagnostics</u>	<u>O</u>		<u>9.2.1.17</u>		<u>YES</u>	<u>Ignore</u>

9.1.xD CELL SYNCHRONISATION RECONFIGURATION REQUEST [TDD]

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
Message Discriminator	<u>M</u>		<u>9.2.1.45</u>		=	
Message Type	<u>M</u>		<u>9.2.1.46</u>		<u>YES</u>	<u>reject</u>
Transaction ID	<u>M</u>		<u>9.2.1.62</u>		=	
C-ID	<u>M</u>		<u>9.2.1.9</u>		<u>YES</u>	<u>reject</u>
Time Slot	<u>M</u>		<u>9.2.3.23</u>		<u>YES</u>	<u>reject</u>
Number of cycles per SFN period	<u>M</u>		<u>9.2.3.xK</u>		<u>YES</u>	<u>reject</u>
Number of repetitions per cycle period	<u>M</u>		<u>9.2.3.xK1</u>		<u>YES</u>	<u>reject</u>
<u>Cell Sync Burst Transmission Reconfiguration Information</u>	<u>M</u>	<u>0..<maxnoofCellSyncBursts></u>	<u>M</u>	<u>M</u>	<u>Global</u>	<u>reject</u>
>CSB Transmission ID	<u>M</u>		<u>9.2.3.xI1</u>		=	
>Sync Frame number to transmit	<u>M</u>		<u>Sync Frame number 9.2.3.xL</u>		=	
>Cell Sync Burst Code	<u>O</u>		<u>9.2.3.xB</u>		=	
>Cell Sync Burst Code shift	<u>O</u>		<u>9.2.3.xC</u>		=	
>DL transmission Power	<u>O</u>		<u>DL Power 9.2.1.21</u>		=	
<u>Cell Sync Burst Measurement Reconfiguration Information</u>		<u>0..1</u>			<u>GLOBAL</u>	<u>reject</u>
>Cell Sync Burst Measurement Information		<u>1..<maxnoofCellSyncBursts></u>			=	
>>Sync Frame number to receive	<u>M</u>		<u>Sync Frame number 9.2.3.xL</u>		=	
>>Cell Sync Burst Information		<u>1..<maxnoofreceptionsperSyncFrame></u>			=	
>>>CSB Measurement ID	<u>M</u>		<u>9.2.3.xD</u>		=	
>>>Cell Sync Burst Code	<u>M</u>		<u>9.2.3.xB</u>		=	
>>>Cell Sync Burst Code shift	<u>M</u>		<u>9.2.3.xC</u>		=	
>Synchronisation Report Type	<u>O</u>		<u>9.2.3.xN</u>		=	
>Synchronisation Report Characteristics	<u>O</u>		<u>9.2.3.xM</u>		=	

<u>Range bound</u>	<u>Explanation</u>
<u>maxnoofCellSyncBursts</u>	Maximum number of cell sync bursts per cycle
<u>maxnoofreceptionsperSyncFrame</u>	Maximum number of cell sync burst receptions per Sync Frame

9.1.xE CELL SYNCHRONISATION RECONFIGURATION RESPONSE [TDD]

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
Message Discriminator	M		9.2.1.45		=	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		=	
Criticality Diagnostics	O		9.2.1.17		YES	ignore

9.1.xF CELL SYNCHRONISATION RECONFIGURATION FAILURE [TDD]

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
Message Discriminator	M		9.2.1.45		=	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		=	
Cause	M		9.2.1.6		YES	ignore
Criticality Diagnostics	O		9.2.1.17		YES	ignore

9.1.xG CELL SYNCHRONISATION REPORT [TDD]

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
Message Discriminator	M		9.2.1.45		=	
Message Type	M		9.2.1.46		YES	ignore
Transaction ID	M		9.2.1.62		=	
<u>Cell Synchronisation Information</u>		1.. <maxCellin NodeB >			EACH	ignore
>C-ID	M		9.2.1.9		=	
>CHOICE <i>Synchronisation Report Type</i>					=	
>> <i>Initial Phase or Steady-State Phase</i>					=	
>>> <u>Cell Sync Burst Measured Information</u>		1.. <maxnoof CellSyncB ursts>			=	
>>>>SFN	M		9.2.1.53A		=	
>>>> <u>Cell Sync Burst Information</u>		1..<maxno ofreception sperSyncF rame>			=	
>>>>>CHOICE <i>Cell Sync Burst Availability Indicator</i>	M				=	

>>>>>Cell Sync Burst Available					=	
>>>>>>Cell Sync Burst Timing	M		9.2.3.xH		=	
>>>>>>Cell Sync Burst SIR	M		9.2.3.xF		=	
>>>>>>Cell Sync Burst not Available			NULL		=	
>>Late-Entrant Cell			NULL		=	

Range bound	Explanation
maxCellinNodeB	Maximum number of Cells in a Node B
maxnoofCellSyncBursts	Maximum number of cell sync bursts per cycle
maxnoofreceptionsperSyncFrame	Maximum number of cell sync burst receptions per Sync Frame

9.1.xH CELL SYNCHRONISATION TERMINATION REQUEST [TDD]

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		=	
Message Type	M		9.2.1.46		YES	ignore
Transaction ID	M		9.2.1.62		=	
C-ID	M		9.2.1.9		YES	ignore
CSB Transmission ID	O		9.2.3.I1		YES	ignore
CSB Measurement ID	O		9.2.3.xD		YES	ignore

9.1.xI CELL SYNCHRONISATION FAILURE INDICATION [TDD]

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		=	
Message Type	M		9.2.1.46		YES	ignore
Transaction ID	M		9.2.1.62		=	
C-ID	M		9.2.1.9		YES	ignore
CSB Transmission ID	O		9.2.3.I1		YES	ignore
CSB Measurement ID	O		9.2.3.xD		YES	ignore
Cause	M		9.2.1.6		YES	ignore

9.1.xJ CELL SYNCHRONISATION ADJUSTMENT REQUEST [TDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		=	
Message Type	M		9.2.1.46		YES	ignore
Transaction ID	M		9.2.1.62		=	

Cell Adjustment Information		1..<maxCellinNodeB>			EACH	ignore
>C-ID	M		9.2.1.9		=	
>Frame Adjustment value	O		9.2.3.xJ		=	
>Timing Adjustment value	O		9.2.3.xO		=	
>DL Transmission Power	O		9.2.1.21		=	
>SFN	O		9.2.1.53A		=	

Range bound	Explanation
MaxCellinNodeB	Maximum number of Cells in a Node B

9.1.xK CELL SYNCHRONISATION ADJUSTMENT RESPONSE [TDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		=	
Message Type	M		9.2.1.46		YES	ignore
Transaction ID	M		9.2.1.62		=	
Criticality Diagnostics	O		9.2.1.17		YES	Ignore

9.1.xL CELL SYNCHRONISATION ADJUSTMENT FAILURE [TDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		=	
Message Type	M		9.2.1.46		YES	ignore
Transaction ID	M		9.2.1.62		=	
CHOICE <i>cause level</i>	M				YES	ignore
>General					=	
>>Cause	M		9.2.1.6		=	
>Cell specific					=	
>>Unsuccessful Cell Information Response		1..<maxCellinNodeB>			EACH	ignore
>>>C-ID	M		9.2.1.9		=	
>>>Cause	M		9.2.1.6		=	
Criticality Diagnostics	O		9.2.1.17		YES	Ignore

Range bound	Explanation
MaxCellinNodeB	Maximum number of Cells in a Node B

9.2.1.6 Cause

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CHOICE Cause group				
>Radio Network Layer				
>Radio Network Layer Cause	M		Enumerated (unknown C-ID, Cell not available, Power level not supported, DL radio resources not available, UL radio resources not available, RL Already Activated/allocated, Node B Resources Unavailable, Measurement not supported for the object, Combining Resources not available, Requested configuration not supported, Synchronization failure, Priority transport channel established, SIB Origination in Node B not Supported, Requested Tx Diversity Mode not supported, Unspecified, BCCH scheduling error, Measurement Temporarily not Available, Invalid CM Setting, Reconfiguration CFN not elapsed, Number of DL codes not supported, S-CPICH not supported, Combining not supported, UL SF not supported, DL SF not supported, Common Transport Channel Type not supported, Dedicated Transport Channel Type not supported, Downlink Shared Channel Type not supported, Uplink Shared Channel Type not supported, CM not supported, Tx diversity no longer supported, Unknown Local Cell ID, <u>Cell Synchronisation not supported,</u> <u>Cell Synchronisation Adjustment not supported)</u>	
>Transport Layer				
>Transport Layer Cause	M		Enumerated (Transport resource unavailable, Unspecified, ...)	
>Protocol				

>Protocol Cause			Enumerated (Transfer syntax error, Abstract syntax error (reject), Abstract syntax error (ignore and notify), Message not compatible with receiver state, Semantic error, Unspecified, Abstract syntax error (falsely constructed message), ...)
>Misc			
>Miscellaneous Cause	M		Enumerated (Control processing overload Hardware failure, O&M intervention, Not enough user plane processing resources, Unspecified, ...)

The meaning of the different cause values is described in the following table. In general, "not supported" cause values indicate that the concerning capability is missing. On the other hand, "not available" cause values indicate that the concerning capability is present, but insufficient resources were available to perform the requested action.

Radio Network Layer cause	Meaning
BCCH scheduling error	The Node B has detected an illegal BCCH schedule update (see 8.2.16.3)
Cell not Available,	The concerning cell or local cell is not available
Cell Synchronisation not supported	The concerning cell(s) do not support Cell Synchronisation
Combining not supported	The Node B does not support RL combining for the concerning cells
Combining Resources Not Available	The value of the received <i>Diversity Control Field</i> IE was set to 'Must', but the Node B cannot perform the requested combining
CM not supported	The concerning cell(s) do not support Compressed Mode
Common Transport Channel Type not supported	The concerning cell(s) do not support the RACH and/or FACH and/or CPCH Common Transport Channel Type
Dedicated Transport Channel Type not supported	The concerning cell(s) do not support the Dedicated Transport Channel Type
DL Radio Resources not Available	The Node B does not have sufficient DL radio resources available
DL SF not supported	The concerning cell(s) do not support the requested DL SF
DL Shared Channel Type not supported	The concerning cell(s) do not support the Downlink Shared Channel Type
Invalid CM Settings	The concerning cell(s) consider the requested Compressed Mode settings invalid
Measurement not Supported For The Object	At least one of the concerning cell(s) does not support the requested measurement on the concerning object type
Measurement Temporarily not Available	The Node B can temporarily not provide the requested measurement value
Node B resources unavailable	The Node B does not have sufficient resources available
Number of DL codes not supported	The concerning cell(s) do not support the requested number of DL codes
Power Level not Supported	A DL power level was requested which the concerning cell(s) do not support
Priority transport channel established	The CRNC cannot perform the requested blocking since a transport channel with a high priority is present
Reconfiguration CFN not elapsed	The requested action cannot be performed due to that a COMMIT message was received previously, but the concerning CFN has not yet elapsed
Requested Configuration not Supported	The concerning cell(s) do not support the requested configuration i.e. power levels, Transport Formats, physical channel parameters,.....
Requested Tx Diversity mode not supported	The concerning cell(s) do not support the requested transmit diversity mode

RL already Activated/ allocated	The Node B has already allocated an RL with the requested RL-id for this UE context
S-CPICH not supported	The concerning cell(s) do not support S-CPICH
SIB origination in Node B not supported	The Node B does not support the origination of the requested SIB for the concerning cell
Synchronisation Failure	Loss of UL Uu synchronisation
<u>Cell Synchronisation Adjustment not supported</u>	<u>The concerning cell(s) do not support Cell Synchronisation Adjustment</u>
Tx diversity no longer supported	Tx diversity can no longer be supported in the concerning cell.
UL Radio Resources not Available	The Node B does not have sufficient UL radio resources available
UL SF not supported	The concerning cell(s) do not support the requested UL SF
UL Shared Channel Type not supported	The concerning cell(s) do not support the Uplink Shared Channel Type
Unknown C-ID	The Node B is not aware of a cell with the provided C-ID
Unknown Local Cell ID	The Node B is not aware of a local cell with the provided Local Cell ID
Unspecified	Sent when none of the above cause values applies but still the cause is Radio Network layer related

Transport Network Layer cause	Meaning
Transport resource unavailable	The required transport resources are not available
Unspecified	Sent when none of the above cause values applies but still the cause is Transport Network layer related

Protocol cause	Meaning
Abstract Syntax Error (Reject)	The received message included an abstract syntax error and the concerning criticality indicated “reject” (see subclause 10.3)
Abstract Syntax Error (Ignore and Notify)	The received message included an abstract syntax error and the concerning criticality indicated “ignore and notify” (see subclause 10.3)
Abstract syntax error (falsely constructed message)	The received message contained IEs or IE groups in wrong order or with too many occurrences (see subclause 10.3)
Message not Compatible with Receiver State	The received message was not compatible with the receiver state (see subclause 10.4)
Semantic Error	The received message included a semantic error (see subclause 10.4)
Transfer Syntax Error	The received message included a transfer syntax error (see section 10.2)
Unspecified	Sent when none of the above cause values applies but still the cause is protocol related

Miscellaneous cause	Meaning
Control Processing Overload	Node B control processing overload
Hardware Failure	Node B hardware failure
Not enough User Plane Processing Resources	Node B has insufficient user plane processing resources available
O&M Intervention	Operation and Maintenance intervention related to Node B equipment
Unspecified	Sent when none of the above cause values applies and the cause is not related to any of the categories Radio Network Layer, Transport Network Layer or Protocol.

9.2.1.46 Message Type

The Message Type uniquely identifies the message being sent.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type				
>Procedure ID	M	1		
>>Procedure Code	M		ENUMERATED (COMMON TRANSPORT CHANNEL SETUP, COMMON TRANSPORT CHANNEL RECONFIGURATION, COMMON TRANSPORT CHANNEL DELETION, BLOCK RESOURCE, UNBLOCK RESOURCE, AUDIT REQUIRED, AUDIT, COMMON MEASUREMENT INITIATION, COMMON MEASUREMENT REPORTING, COMMON MEASUREMENT TERMINATION, COMMON MEASUREMENT FAILURE, CELL SETUP, CELL RECONFIGURATION, CELL DELETION, RESOURCE STATUS INDICATION, SYSTEM INFORMATION UPDATE, RL SETUP, RL ADDITION, SYNCHRONISED RL RECONFIGURATION PREPARATION, SYNCHRONISED RL RECONFIGURATION COMMIT, SYNCHRONISED RL RECONFIGURATION CANCELLATION, UNSYNCHRONISED RL RECONFIGURATION, RL DELETION, DL POWER CONTROL, DL POWER TIMESLOT CONTROL, DEDICATED MEASUREMENT INITIATION, DEDICATED MEASUREMENT REPORTING, DEDICATED MEASUREMENT TERMINATION, DEDICATED MEASUREMENT FAILURE, RL FAILURE, RL RESTORATION, COMPRESSED MODE COMMAND, ERROR INDICATION, PHYSICAL SHARED CHANNEL RECONFIGURATION, RESET,2 <u>CELL SYNCHRONISATION INITIATION,</u> <u>CELL SYNCHRONISATION RECONFIGURATION,</u> <u>CELL SYNCHRONISATION REPORTING,</u> <u>CELL SYNCHRONISATION TERMINATION,</u> <u>CELL SYNCHRONISATION FAILURE,</u> <u>CELL SYNCHRONISATION ADJUSTMENT)</u>	
>>Ddmode	M		ENUMERATED (FDD, TDD, Common, ...)	Common = common to FDD and TDD.
>Type of Message	M		ENUMERATED (Initiating Message, Successful Outcome, Unsuccessful Outcome, Outcome)	

9.2.3.xB Cell Sync Burst Code

The *Cell Sync Burst Code* IE indicates which Code is used for a given Cell Sync Burst.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Cell Sync Burst Code</u>			INTEGER (0..7,...)	

9.2.3.xC Cell Sync Burst Code Shift

The *Cell Sync Burst Code Shift* IE indicates the number of code shifts used for a given Cell Sync Burst.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Cell Sync Burst Code Shift</u>			INTEGER (0..7)	

9.2.3.xD CSB Measurement ID

The *Cell Sync Burst Measurement ID* IE uniquely identifies any cell sync burst measurement per Node B - control port.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>CSB Measurement ID</u>			Integer(0.. 65535)	

9.2.3.xE Cell Sync Burst Repetition Period

The *Cell Sync Burst Repetition Period* IE represents the number of consecutive Radio Frames after which the cell sync burst transmission/measurement is repeated. This means that if the Time Slot K is assigned to the cell sync burst transmission/measurements in the Radio Frame J , the cell sync burst transmission/measurement is also in all the Radio Frames $J+n*Repetition\ Period$.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Cell Sync Burst Repetition Period</u>			INTEGER (0..4095)	

9.2.3.xF Cell Sync Burst SIR

Indicates the Signal to Interference Ratio of the cell sync burst measurement according definition in [5].

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Cell Sync Burst SIR</u>			INTEGER (0..31)	According to mapping in [23]

9.2.3.xH Cell Sync Burst Timing

The *Cell sync burst timing* IE defines the time of start (defined by the first detected path in time) of the cell sync burst of a neighbouring cell see [5].

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Cell Sync Burst Timing</u>			CHOICE INTEGER (0..255) or INTEGER (0..1048575)	According to mapping in [23]

9.2.3.xI Cell Sync Burst Timing Threshold

The *Cell Sync Burst Timing Threshold* IE defines the threshold that shall trigger a Cell Synchronisation Report message.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Cell Sync Burst Timing Threshold</u>			INTEGER (0..254)	0: 0 chips 1: 0.125 chips 2: 0.250 chips ... 254: 31.75 chips

9.2.3.xI1 CSB Transmission ID

The *Cell Sync Burst Transmisson ID* IE uniquely identifies any cell sync burst transmission per Node B-control port.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>CSB Transmission ID</u>			Integer(0.. 65535)	

9.2.3.xJ Frame Adjustment value

The *Frame Adjustment value* IE represents the frame number correction within the initial synchronisation phase.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Frame Adjustment value</u>			INTEGER (0..4095)	$SFN_{new} = (SFN_{old} + \text{Frame Adjustment value}) \bmod 4096$

9.2.3.xK Number of cycles per SFN period

The *Number of cycles per SFN period* IE indicates the number of repetitions per SFN period where the same schedule shall apply.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Number of cycles per SFN period</u>			ENUMERAT ED (1, 2, 4, 8, ...)	

9.2.3.xK1 Number of repetitions per cycle period

The *Number of repetitions per cycle period* IE indicates the number of Sync frames per Cycle Length where the cell sync bursts shall be transmitted or the cell sync bursts from the neighbouring cells shall be measured.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Number of repetitions per cycle period</u>			<u>INTEGER</u> (2..10)	

9.2.3.xL Sync Frame number

The *Sync Frame Number* IE indicates the number of the Sync frame per Cycle Length where the cell sync bursts shall be transmitted or the cell sync bursts from the neighbouring cells shall be measured.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Sync Frame number</u>			<u>INTEGER</u> (1..10)	

9.2.3.xM Synchronisation Report Characteristics

The *Synchronisation Report Characteristics* IE defines how the reporting on measured cell sync bursts shall be performed

Different methods shall apply for the measured cell sync burst reports. In the initial phase and for the measurement on late-entrant cells an immediate report after the measured frame is expected.

In the steady-state phase measurement reports may be given after every measured frame, after every SFN period, after every cycle length or only when the requested threshold is exceeded.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Synchronisation Report Characteristics</u>				
<u>>Synchronisation Report characteristics type</u>	<u>M</u>		<u>ENUMERATED</u> (Frame related, SFN period related, Cycle length related, Threshold exceeding, ...)	
<u>>Threshold exceeding</u>	<u>C-Threshold exceeding</u>			<u>Applies only to the Steady State Phase</u>
<u>>>Cell Sync Burst Threshold Information</u>		<u>1..<maxnoofCellSyncBursts></u>		
<u>>>>Sync Frame number to receive</u>	<u>M</u>		<u>Sync Frame number</u> 9.2.3.xL	
<u>>>>Cell Sync Burst Information</u>		<u>1..<maxnoofreceptionsperSyncFrame></u>		
<u>>>>>Cell Sync Burst Code</u>	<u>M</u>			

>>>>Cell Sync Burst Code shift	M		9.2.3.xC	
>>>>Cell Sync Burst Arrival Time	O		Cell Sync Burst Timing 9.2.3.xH	
>>>>Cell Sync Burst Timing Threshold	O		9.2.3.xI	

Range bound	Explanation
maxnoofCellSyncBursts	Maximum number of cell sync burst per cycle
maxnoofreceptionsperSyncFrame	Maximum number of cell sync burst receptions per Sync Frame

9.2.3.xN Synchronisation Report Type

The *Synchronisation Report Type* IE represents the individual types of synchronisation reports that shall apply within the individual synchronisation phases. (see [17]).

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Synchronisation Report Type			ENUMERATED (Initial Phase, Steady-State Phase, Late-Entrant Cell, ...)	

9.2.3.xO Timing Adjustment value

The *Timing Adjustment value* IE indicates the timing correction within a Frame. Type 1 is used for the initial phase of Node B synchronisation. Type 2 is used for the steady-state phase of Node B synchronisation.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Timing Adjustment value			CHOICE INTEGER (0..255) or INTEGER (0..1048575)	According to mapping in [23]

9.3.2 Elementary Procedure Definitions

```
-- *****
--
-- Elementary Procedure definitions
--
-- *****

NBAP-PDU-Descriptions {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-PDU-Descriptions (0) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- IE parameter types from other modules.
--
-- *****

IMPORTS
    Criticality,
    ProcedureID,
    MessageDiscriminator,
    TransactionID
FROM NBAP-CommonDataTypes

    CommonTransportChannelSetupRequestFDD,
    CommonTransportChannelSetupRequestTDD,
    CommonTransportChannelSetupResponse,
    CommonTransportChannelSetupFailure,
    CommonTransportChannelReconfigurationRequestFDD,
    CommonTransportChannelReconfigurationRequestTDD,
    CommonTransportChannelReconfigurationResponse,
    CommonTransportChannelReconfigurationFailure,
    CommonTransportChannelDeletionRequest,
    CommonTransportChannelDeletionResponse,
    BlockResourceRequest,
    BlockResourceResponse,
    BlockResourceFailure,
    UnblockResourceIndication,
    AuditFailure,
    AuditRequiredIndication,
    AuditRequest,
    AuditResponse,
    CommonMeasurementInitiationRequest,
    CommonMeasurementInitiationResponse,
    CommonMeasurementInitiationFailure,
    CommonMeasurementReport,
```

CommonMeasurementTerminationRequest,
CommonMeasurementFailureIndication,
CellSetupRequestFDD,
CellSetupRequestTDD,
CellSetupResponse,
CellSetupFailure,
CellReconfigurationRequestFDD,
CellReconfigurationRequestTDD,
CellReconfigurationResponse,
CellReconfigurationFailure,
CellDeletionRequest,
CellDeletionResponse,
ResourceStatusIndication,
SystemInformationUpdateRequest,
SystemInformationUpdateResponse,
SystemInformationUpdateFailure,
ResetRequest,
ResetResponse,
RadioLinkPreemptionRequiredIndication,
RadioLinkSetupRequestFDD,
RadioLinkSetupRequestTDD,
RadioLinkSetupResponseFDD,
RadioLinkSetupResponseTDD,
RadioLinkSetupFailureFDD,
RadioLinkSetupFailureTDD,
RadioLinkAdditionRequestFDD,
RadioLinkAdditionRequestTDD,
RadioLinkAdditionResponseFDD,
RadioLinkAdditionResponseTDD,
RadioLinkAdditionFailureFDD,
RadioLinkAdditionFailureTDD,
RadioLinkReconfigurationPrepareFDD,
RadioLinkReconfigurationPrepareTDD,
RadioLinkReconfigurationReady,
RadioLinkReconfigurationFailure,
RadioLinkReconfigurationCommit,
RadioLinkReconfigurationCancel,
RadioLinkReconfigurationRequestFDD,
RadioLinkReconfigurationRequestTDD,
RadioLinkReconfigurationResponse,
RadioLinkDeletionRequest,
RadioLinkDeletionResponse,
DL-PowerControlRequest,
DL-PowerTimeslotControlRequest,
DedicatedMeasurementInitiationRequest,
DedicatedMeasurementInitiationResponse,
DedicatedMeasurementInitiationFailure,
DedicatedMeasurementReport,
DedicatedMeasurementTerminationRequest,
DedicatedMeasurementFailureIndication,
RadioLinkFailureIndication,
RadioLinkRestoreIndication,
CompressedModeCommand,

ErrorIndication,
PrivateMessage,
PhysicalSharedChannelReconfigurationRequestTDD,
PhysicalSharedChannelReconfigurationResponseTDD,
PhysicalSharedChannelReconfigurationFailureTDD,
CellSynchronisationInitiationRequestTDD,
CellSynchronisationInitiationResponseTDD,
CellSynchronisationInitiationFailureTDD,
CellSynchronisationReconfigurationRequestTDD,
CellSynchronisationReconfigurationResponseTDD,
CellSynchronisationReconfigurationFailureTDD,
CellSynchronisationAdjustmentRequestTDD,
CellSynchronisationAdjustmentResponseTDD,
CellSynchronisationAdjustmentFailureTDD,
CellSynchronisationReportTDD,
CellSynchronisationTerminationRequestTDD,
CellSynchronisationFailureIndicationTDD

FROM NBAP-PDU-Contents

id-audit,
id-auditRequired,
id-blockResource,
id-cellDeletion,
id-cellReconfiguration,
id-cellSetup,
id-cellSynchronisationInitiation,
id-cellSynchronisationReconfiguration,
id-cellSynchronisationReporting,
id-cellSynchronisationTermination,
id-cellSynchronisationFailure,
id-commonMeasurementFailure,
id-commonMeasurementInitiation,
id-commonMeasurementReport,
id-commonMeasurementTermination,
id-commonTransportChannelDelete,
id-commonTransportChannelReconfigure,
id-commonTransportChannelSetup,
id-compressedModeCommand,
id-dedicatedMeasurementFailure,
id-dedicatedMeasurementInitiation,
id-dedicatedMeasurementReport,
id-dedicatedMeasurementTermination,
id-downlinkPowerControl,
id-downlinkPowerTimeslotControl,
id-errorIndicationForDedicated,
id-errorIndicationForCommon,
id-physicalSharedChannelReconfiguration,
id-privateMessageForDedicated,
id-privateMessageForCommon,
id-radioLinkAddition,
id-radioLinkDeletion,
id-radioLinkFailure,
id-radioLinkPreemption,

```

    id-radioLinkRestoration,
    id-radioLinkSetup,
    id-reset,
    id-resourceStatusIndication,
    id-synchronisationAdjustment,
    id-synchronisedRadioLinkReconfigurationCancellation,
    id-synchronisedRadioLinkReconfigurationCommit,
    id-synchronisedRadioLinkReconfigurationPreparation,
    id-systemInformationUpdate,
    id-unblockResource,
    id-unSynchronisedRadioLinkReconfiguration
FROM NBAP-Constants;

-- *****
--
-- Interface Elementary Procedure Class
--
-- *****

NBAP-ELEMENTARY-PROCEDURE ::= CLASS {
    &InitiatingMessage          ,
    &SuccessfulOutcome          OPTIONAL,
    &UnsuccessfulOutcome        OPTIONAL,
    &Outcome                    OPTIONAL,
    &messageDiscriminator        MessageDiscriminator,
    &procedureID                 ProcedureID    UNIQUE,
    &criticality                  Criticality    DEFAULT ignore
}

WITH SYNTAX {
    INITIATING MESSAGE          &InitiatingMessage
    [SUCCESSFUL OUTCOME         &SuccessfulOutcome]
    [UNSUCCESSFUL OUTCOME       &UnsuccessfulOutcome]
    [OUTCOME                    &Outcome]
    MESSAGE DISCRIMINATOR       &messageDiscriminator
    PROCEDURE ID                 &procedureID
    [CRITICALITY                &criticality]
}

-- *****
--
-- Interface PDU Definition
--
-- *****

NBAP-PDU ::= CHOICE {
    initiatingMessage          InitiatingMessage,
    succesfulOutcome           SuccessfulOutcome,
    unsuccessfulOutcome         UnsuccessfulOutcome,
    outcome                    Outcome,
    ...
}

```

```

InitiatingMessage ::= SEQUENCE {
    procedureID          NBAP-ELEMENTARY-PROCEDURE.&procedureID   ( {NBAP-ELEMENTARY-PROCEDURES} ),
    criticality          NBAP-ELEMENTARY-PROCEDURE.&criticality   ( {NBAP-ELEMENTARY-PROCEDURES} { @procedureID } ),
    messageDiscriminator NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator ( {NBAP-ELEMENTARY-PROCEDURES} { @procedureID } ),
    transactionID       TransactionID,
    value               NBAP-ELEMENTARY-PROCEDURE.&InitiatingMessage ( {NBAP-ELEMENTARY-PROCEDURES} { @procedureID } )
}

SuccessfulOutcome ::= SEQUENCE {
    procedureID          NBAP-ELEMENTARY-PROCEDURE.&procedureID   ( {NBAP-ELEMENTARY-PROCEDURES} ),
    criticality          NBAP-ELEMENTARY-PROCEDURE.&criticality   ( {NBAP-ELEMENTARY-PROCEDURES} { @procedureID } ),
    messageDiscriminator NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator ( {NBAP-ELEMENTARY-PROCEDURES} { @procedureID } ),
    transactionID       TransactionID,
    value               NBAP-ELEMENTARY-PROCEDURE.&SuccessfulOutcome ( {NBAP-ELEMENTARY-PROCEDURES} { @procedureID } )
}

UnsuccessfulOutcome ::= SEQUENCE {
    procedureID          NBAP-ELEMENTARY-PROCEDURE.&procedureID   ( {NBAP-ELEMENTARY-PROCEDURES} ),
    criticality          NBAP-ELEMENTARY-PROCEDURE.&criticality   ( {NBAP-ELEMENTARY-PROCEDURES} { @procedureID } ),
    messageDiscriminator NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator ( {NBAP-ELEMENTARY-PROCEDURES} { @procedureID } ),
    transactionID       TransactionID,
    value               NBAP-ELEMENTARY-PROCEDURE.&UnsuccessfulOutcome ( {NBAP-ELEMENTARY-PROCEDURES} { @procedureID } )
}

Outcome ::= SEQUENCE {
    procedureID          NBAP-ELEMENTARY-PROCEDURE.&procedureID   ( {NBAP-ELEMENTARY-PROCEDURES} ),
    criticality          NBAP-ELEMENTARY-PROCEDURE.&criticality   ( {NBAP-ELEMENTARY-PROCEDURES} { @procedureID } ),
    messageDiscriminator NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator ( {NBAP-ELEMENTARY-PROCEDURES} { @procedureID } ),
    transactionID       TransactionID,
    value               NBAP-ELEMENTARY-PROCEDURE.&Outcome   ( {NBAP-ELEMENTARY-PROCEDURES} { @procedureID } )
}

-- *****
--
-- Interface Elementary Procedure List
--
-- *****

NBAP-ELEMENTARY-PROCEDURES NBAP-ELEMENTARY-PROCEDURE ::= {
    NBAP-ELEMENTARY-PROCEDURES-CLASS-1      |
    NBAP-ELEMENTARY-PROCEDURES-CLASS-2      ,
    ...
}

NBAP-ELEMENTARY-PROCEDURES-CLASS-1 NBAP-ELEMENTARY-PROCEDURE ::= {
    cellSetupFDD
    cellSetupTDD
    cellReconfigurationFDD
    cellReconfigurationTDD
    cellDeletion
    commonTransportChannelSetupFDD
    commonTransportChannelSetupTDD
    commonTransportChannelReconfigureFDD

```



```

commonTransportChannelReconfigureTDD
commonTransportChannelDelete
audit
blockResource
radioLinkSetupFDD
radioLinkSetupTDD
systemInformationUpdate
commonMeasurementInitiation
radioLinkAdditionFDD
radioLinkAdditionTDD
radioLinkDeletion
reset
synchronisedRadioLinkReconfigurationPreparationFDD
synchronisedRadioLinkReconfigurationPreparationTDD
unsynchronisedRadioLinkReconfigurationFDD
unsynchronisedRadioLinkReconfigurationTDD
dedicatedMeasurementInitiation
physicalSharedChannelReconfiguration
...
cellSynchronisationInitiationTDD
cellSynchronisationReconfigurationTDD
cellSynchronisationAdjustmentTDD
}

```

```

NBAP-ELEMENTARY-PROCEDURES-CLASS-2 NBAP-ELEMENTARY-PROCEDURE ::= {
resourceStatusIndication
auditRequired
commonMeasurementReport
commonMeasurementTermination
commonMeasurementFailure
synchronisedRadioLinkReconfigurationCommit
synchronisedRadioLinkReconfigurationCancellation
radioLinkFailure
radioLinkPreemption
radioLinkRestoration
dedicatedMeasurementReport
dedicatedMeasurementTermination
dedicatedMeasurementFailure
downlinkPowerControlFDD
downlinkPowerTimeslotControl
compressedModeCommand
unblockResource
errorIndicationForDedicated
errorIndicationForCommon
privateMessageForDedicated
privateMessageForCommon
...
cellSynchronisationReportingTDD
cellSynchronisationTerminationTDD
cellSynchronisationFailureTDD
}

```

-- *****

```
--
-- Interface Elementary Procedures
--
-- *****

-- Class 1

-- *** CellSetup (FDD) ***
cellSetupFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellSetupRequestFDD
    SUCCESSFUL OUTCOME      CellSetupResponse
    UNSUCCESSFUL OUTCOME    CellSetupFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellSetup, ddMode fdd }
    CRITICALITY             reject
}

-- *** CellSetup (TDD) ***
cellSetupTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellSetupRequestTDD
    SUCCESSFUL OUTCOME      CellSetupResponse
    UNSUCCESSFUL OUTCOME    CellSetupFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellSetup, ddMode tdd }
    CRITICALITY             reject
}

-- *** CellReconfiguration(FDD) ***
cellReconfigurationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellReconfigurationRequestFDD
    SUCCESSFUL OUTCOME      CellReconfigurationResponse
    UNSUCCESSFUL OUTCOME    CellReconfigurationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellReconfiguration, ddMode fdd }
    CRITICALITY             reject
}

-- *** CellReconfiguration(TDD) ***
cellReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellReconfigurationRequestTDD
    SUCCESSFUL OUTCOME      CellReconfigurationResponse
    UNSUCCESSFUL OUTCOME    CellReconfigurationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellReconfiguration, ddMode tdd }
    CRITICALITY             reject
}

-- *** CellDeletion ***
cellDeletion NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellDeletionRequest
    SUCCESSFUL OUTCOME      CellDeletionResponse
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellDeletion, ddMode common }
}
```

```

    CRITICALITY          reject
  }

-- *** CommonTransportChannelSetup (FDD) ***
commonTransportChannelSetupFDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    CommonTransportChannelSetupRequestFDD
  SUCCESSFUL OUTCOME    CommonTransportChannelSetupResponse
  UNSUCCESSFUL OUTCOME CommonTransportChannelSetupFailure
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID          { procedureCode id-commonTransportChannelSetup, ddMode fdd }
  CRITICALITY          reject
}

-- *** CommonTransportChannelSetup (TDD) ***
commonTransportChannelSetupTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    CommonTransportChannelSetupRequestTDD
  SUCCESSFUL OUTCOME    CommonTransportChannelSetupResponse
  UNSUCCESSFUL OUTCOME CommonTransportChannelSetupFailure
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID          { procedureCode id-commonTransportChannelSetup, ddMode tdd }
  CRITICALITY          reject
}

-- *** CommonTransportChannelReconfigure (FDD) ***
commonTransportChannelReconfigureFDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    CommonTransportChannelReconfigurationRequestFDD
  SUCCESSFUL OUTCOME    CommonTransportChannelReconfigurationResponse
  UNSUCCESSFUL OUTCOME CommonTransportChannelReconfigurationFailure
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID          { procedureCode id-commonTransportChannelReconfigure, ddMode fdd }
  CRITICALITY          reject
}

-- *** CommonTransportChannelReconfigure (TDD) ***
commonTransportChannelReconfigureTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    CommonTransportChannelReconfigurationRequestTDD
  SUCCESSFUL OUTCOME    CommonTransportChannelReconfigurationResponse
  UNSUCCESSFUL OUTCOME CommonTransportChannelReconfigurationFailure
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID          { procedureCode id-commonTransportChannelReconfigure, ddMode tdd }
  CRITICALITY          reject
}

-- *** CommonTransportChannelDelete ***
commonTransportChannelDelete NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    CommonTransportChannelDeletionRequest
  SUCCESSFUL OUTCOME    CommonTransportChannelDeletionResponse
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID          { procedureCode id-commonTransportChannelDelete, ddMode common }
  CRITICALITY          reject
}

-- *** Audit ***

```

```
audit NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      AuditRequest
    SUCCESSFUL OUTCOME      AuditResponse
    UNSUCCESSFUL OUTCOME    AuditFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-audit, ddMode common }
    CRITICALITY             reject
}

-- *** BlockResourceRequest ***
blockResource NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      BlockResourceRequest
    SUCCESSFUL OUTCOME      BlockResourceResponse
    UNSUCCESSFUL OUTCOME    BlockResourceFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-blockResource, ddMode common }
    CRITICALITY             reject
}

-- *** RadioLinkSetup (FDD) ***
radioLinkSetupFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkSetupRequestFDD
    SUCCESSFUL OUTCOME      RadioLinkSetupResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkSetupFailureFDD
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-radioLinkSetup, ddMode fdd }
    CRITICALITY             reject
}

-- *** RadioLinkSetup (TDD) ***
radioLinkSetupTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkSetupRequestTDD
    SUCCESSFUL OUTCOME      RadioLinkSetupResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkSetupFailureTDD
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-radioLinkSetup, ddMode tdd }
    CRITICALITY             reject
}

-- *** SystemInformationUpdate ***
systemInformationUpdate NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      SystemInformationUpdateRequest
    SUCCESSFUL OUTCOME      SystemInformationUpdateResponse
    UNSUCCESSFUL OUTCOME    SystemInformationUpdateFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-systemInformationUpdate, ddMode common }
    CRITICALITY             reject
}

-- *** Reset ***
reset NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      ResetRequest
}
```

```
SUCCESSFUL OUTCOME      ResetResponse
MESSAGE DISCRIMINATOR    common
PROCEDURE ID             { procedureCode id-reset, ddMode common }
CRITICALITY              reject
}

-- *** CommonMeasurementInitiation ***
commonMeasurementInitiation NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      CommonMeasurementInitiationRequest
  SUCCESSFUL OUTCOME      CommonMeasurementInitiationResponse
  UNSUCCESSFUL OUTCOME    CommonMeasurementInitiationFailure
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-commonMeasurementInitiation, ddMode common }
  CRITICALITY             reject
}

-- *** RadioLinkAddition (FDD) ***
radioLinkAdditionFDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkAdditionRequestFDD
  SUCCESSFUL OUTCOME      RadioLinkAdditionResponseFDD
  UNSUCCESSFUL OUTCOME    RadioLinkAdditionFailureFDD
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-radioLinkAddition, ddMode fdd }
  CRITICALITY             reject
}

-- *** RadioLinkAddition (TDD) ***
radioLinkAdditionTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkAdditionRequestTDD
  SUCCESSFUL OUTCOME      RadioLinkAdditionResponseTDD
  UNSUCCESSFUL OUTCOME    RadioLinkAdditionFailureTDD
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-radioLinkAddition, ddMode tdd }
  CRITICALITY             reject
}

-- *** RadioLinkDeletion ***
radioLinkDeletion NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkDeletionRequest
  SUCCESSFUL OUTCOME      RadioLinkDeletionResponse
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-radioLinkDeletion, ddMode common }
  CRITICALITY             reject
}

-- *** SynchronisedRadioLinkReconfigurationPreparation (FDD) ***
synchronisedRadioLinkReconfigurationPreparationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkReconfigurationPrepareFDD
  SUCCESSFUL OUTCOME      RadioLinkReconfigurationReady
  UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
  MESSAGE DISCRIMINATOR   dedicated
}
```

```
    PROCEDURE ID          { procedureCode id-synchronisedRadioLinkReconfigurationPreparation, ddMode fdd }
    CRITICALITY          reject
}

-- *** SynchronisedRadioLinkReconfigurationPreparation (TDD) ***
synchronisedRadioLinkReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE    RadioLinkReconfigurationPrepareTDD
    SUCCESSFUL OUTCOME    RadioLinkReconfigurationReady
    UNSUCCESSFUL OUTCOME  RadioLinkReconfigurationFailure
    MESSAGE DISCRIMINATOR dedicated
    PROCEDURE ID          { procedureCode id-synchronisedRadioLinkReconfigurationPreparation, ddMode tdd }
    CRITICALITY          reject
}

-- *** UnSynchronisedRadioLinkReconfiguration (FDD) ***
unSynchronisedRadioLinkReconfigurationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE    RadioLinkReconfigurationRequestFDD
    SUCCESSFUL OUTCOME    RadioLinkReconfigurationResponse
    UNSUCCESSFUL OUTCOME  RadioLinkReconfigurationFailure
    MESSAGE DISCRIMINATOR dedicated
    PROCEDURE ID          { procedureCode id-unSynchronisedRadioLinkReconfiguration, ddMode fdd }
    CRITICALITY          reject
}

-- *** UnSynchronisedRadioLinkReconfiguration (TDD) ***
unSynchronisedRadioLinkReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE    RadioLinkReconfigurationRequestTDD
    SUCCESSFUL OUTCOME    RadioLinkReconfigurationResponse
    UNSUCCESSFUL OUTCOME  RadioLinkReconfigurationFailure
    MESSAGE DISCRIMINATOR dedicated
    PROCEDURE ID          { procedureCode id-unSynchronisedRadioLinkReconfiguration, ddMode tdd }
    CRITICALITY          reject
}

-- *** DedicatedMeasurementInitiation ***
dedicatedMeasurementInitiation NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE    DedicatedMeasurementInitiationRequest
    SUCCESSFUL OUTCOME    DedicatedMeasurementInitiationResponse
    UNSUCCESSFUL OUTCOME  DedicatedMeasurementInitiationFailure
    MESSAGE DISCRIMINATOR dedicated
    PROCEDURE ID          { procedureCode id-dedicatedMeasurementInitiation, ddMode common }
    CRITICALITY          reject
}

-- *** PhysicalSharedChannelReconfiguration (TDD only) ***
physicalSharedChannelReconfiguration NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE    PhysicalSharedChannelReconfigurationRequestTDD
    SUCCESSFUL OUTCOME    PhysicalSharedChannelReconfigurationResponseTDD
    UNSUCCESSFUL OUTCOME  PhysicalSharedChannelReconfigurationFailureTDD
    MESSAGE DISCRIMINATOR dedicated
    PROCEDURE ID          { procedureCode id-physicalSharedChannelReconfiguration, ddMode tdd }
    CRITICALITY          reject
}
```

```

-- *** CellSynchronisationInitiation (TDD only) ***
cellSynchronisationInitiationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE CellSynchronisationInitiationRequestTDD
  SUCCESSFUL OUTCOME CellSynchronisationInitiationResponseTDD
  UNSUCCESSFUL OUTCOME CellSynchronisationInitiationFailureTDD
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID { procedureCode id-cellSynchronisationInitiation, ddMode tdd }
  CRITICALITY reject
}

-- *** CellSynchronisationReconfiguration (TDD only) ***
cellSynchronisationReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE CellSynchronisationReconfigurationRequestTDD
  SUCCESSFUL OUTCOME CellSynchronisationReconfigurationResponseTDD
  UNSUCCESSFUL OUTCOME CellSynchronisationReconfigurationFailureTDD
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID { procedureCode id-cellSynchronisationReconfiguration, ddMode tdd }
  CRITICALITY reject
}

-- *** CellSynchronisationAdjustment (TDD only) ***
cellSynchronisationAdjustmentTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE CellSynchronisationAdjustmentRequestTDD
  SUCCESSFUL OUTCOME CellSynchronisationAdjustmentResponseTDD
  UNSUCCESSFUL OUTCOME CellSynchronisationAdjustmentFailureTDD
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID { procedureCode id-cellSynchronisationAdjustment, ddMode tdd }
  CRITICALITY reject
}

-- Class 2

-- *** ResourceStatusIndication ***
resourceStatusIndication NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE ResourceStatusIndication
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID { procedureCode id-resourceStatusIndication, ddMode common }
  CRITICALITY ignore
}

-- *** AuditRequired ***
auditRequired NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE AuditRequiredIndication
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID { procedureCode id-auditRequired, ddMode common }
  CRITICALITY ignore
}

-- *** CommonMeasurementReport ***
commonMeasurementReport NBAP-ELEMENTARY-PROCEDURE ::= {

```

```
INITIATING MESSAGE      CommonMeasurementReport
MESSAGE DISCRIMINATOR   common
PROCEDURE ID            { procedureCode id-commonMeasurementReport, ddMode common }
CRITICALITY             ignore
}

-- *** CommonMeasurementTermination ***
commonMeasurementTermination NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      CommonMeasurementTerminationRequest
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-commonMeasurementTermination, ddMode common }
  CRITICALITY             ignore
}

-- *** CommonMeasurementFailure ***
commonMeasurementFailure NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      CommonMeasurementFailureIndication
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-commonMeasurementFailure, ddMode common }
  CRITICALITY             ignore
}

-- *** SynchronisedRadioLinkReconfirurationCommit ***
synchronisedRadioLinkReconfigurationCommit NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkReconfigurationCommit
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-synchronisedRadioLinkReconfigurationCommit, ddMode common }
  CRITICALITY             ignore
}

-- *** SynchronisedRadioReconfigurationCancellation ***
synchronisedRadioLinkReconfigurationCancellation NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkReconfigurationCancel
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-synchronisedRadioLinkReconfigurationCancellation, ddMode common }
  CRITICALITY             ignore
}

-- *** RadioLinkFailure ***
radioLinkFailure NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkFailureIndication
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-radioLinkFailure, ddMode common }
  CRITICALITY             ignore
}

-- *** RadioLinkPreemption ***
radioLinkPreemption NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkPreemptionRequiredIndication
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-radioLinkPreemption, ddMode common }
  CRITICALITY             ignore
}
```



```
-- *** RadioLinkRestoration ***
radioLinkRestoration NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkRestoreIndication
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-radioLinkRestoration, ddMode common }
    CRITICALITY             ignore
}

-- *** DedicatedMeasurementReport ***
dedicatedMeasurementReport NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      DedicatedMeasurementReport
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-dedicatedMeasurementReport, ddMode common }
    CRITICALITY             ignore
}

-- *** DedicatedMeasurementTermination ***
dedicatedMeasurementTermination NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      DedicatedMeasurementTerminationRequest
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-dedicatedMeasurementTermination, ddMode common }
    CRITICALITY             ignore
}

-- *** DedicatedMeasurementFailure ***
dedicatedMeasurementFailure NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      DedicatedMeasurementFailureIndication
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-dedicatedMeasurementFailure, ddMode common }
    CRITICALITY             ignore
}

-- *** DLPowerControl (FDD only) ***
downlinkPowerControlFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      DL-PowerControlRequest
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-downlinkPowerControl, ddMode fdd }
    CRITICALITY             ignore
}

-- *** DLPowerTimeslotControl (TDD only) ***
downlinkPowerTimeslotControl NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      DL-PowerTimeslotControlRequest
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-downlinkPowerTimeslotControl, ddMode tdd }
    CRITICALITY             ignore
}

-- *** CompressedModeCommand (FDD only) ***
compressedModeCommand NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CompressedModeCommand
    MESSAGE DISCRIMINATOR   dedicated
}
```

```

PROCEDURE ID          { procedureCode id-compressedModeCommand, ddMode fdd }
CRITICALITY          ignore
}

-- *** UnblockResourceIndication ***
unblockResource NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    UnblockResourceIndication
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID          { procedureCode id-unblockResource, ddMode common }
  CRITICALITY          ignore
}

-- *** ErrorIndication for Dedicated procedures ***
errorIndicationForDedicated NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    ErrorIndication
  MESSAGE DISCRIMINATOR dedicated
  PROCEDURE ID          { procedureCode id-errorIndicationForDedicated, ddMode common }
  CRITICALITY          ignore
}

-- *** ErrorIndication for Common procedures ***
errorIndicationForCommon NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    ErrorIndication
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID          { procedureCode id-errorIndicationForCommon, ddMode common }
  CRITICALITY          ignore
}

-- *** CellSynchronisationReporting (TDD only) ***
cellSynchronisationReportingTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    CellSynchronisationReportTDD
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID          { procedureCode id-cellSynchronisationReporting, ddMode tdd }
  CRITICALITY          ignore
}

-- *** CellSynchronisationTermination (TDD only) ***
cellSynchronisationTerminationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    CellSynchronisationTerminationRequestTDD
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID          { procedureCode id-cellSynchronisationTermination, ddMode tdd }
  CRITICALITY          ignore
}

-- *** CellSynchronisationFailure (TDD only) ***
cellSynchronisationFailureTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    CellSynchronisationFailureIndicationTDD
  MESSAGE DISCRIMINATOR common
  PROCEDURE ID          { procedureCode id-cellSynchronisationFailure, ddMode tdd }
  CRITICALITY          ignore
}

```

```

-- *** PrivateMessage for Dedicated procedures ***
privateMessageForDedicated NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      PrivateMessage
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-privateMessageForDedicated, ddMode common }
  CRITICALITY             ignore
}

-- *** PrivateMessage for Common procedures ***
privateMessageForCommon NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      PrivateMessage
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-privateMessageForCommon, ddMode common }
  CRITICALITY             ignore
}

END

```

9.3.3 PDU Definitions

```

-- *****
--
-- PDU definitions for NBAP.
--
-- *****
NBAP-PDU-Contents {
  itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
  umts-Access (20) modules (3) nbap (2) version1 (1) nbap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- IE parameter types from other modules.
--
-- *****

IMPORTS
  Active-Pattern-Sequence-Information,
  AddorDeleteIndicator,
  AICH-Power,
  AICH-TransmissionTiming,
  AllocationRetentionPriority,
  APPreambleSignature,
  APSubChannelNumber,
  AvailabilityStatus,
  BCCH-ModificationTime,
  BindingID,

```

BlockingPriorityIndicator,
BlockSTTD-Indicator,
Cause,
CCTrCH-ID,
CDSubChannelNumbers,
CellParameterID,
CellSyncBurstAvailabilityIndicator,
CellSyncBurstCode,
CellSyncBurstCodeShift,
CellSyncBurstRepetitionPeriod,
CellSyncBurstSIR,
CellSyncBurstTiming,
CellSyncBurstTimingThreshold,
CFN,
Channel-Assignment-Indication,
ChipOffset,
C-ID,
ClosedloopTimingadjustmentmode,
CommonChannelsCapacityConsumptionLaw,
Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD,
CommonMeasurementType,
CommonMeasurementValue,
CommonMeasurementValueInformation,
CommonPhysicalChannelID,
Common-PhysicalChannel-Status-Information,
Common-TransportChannel-Status-Information,
CommonTransportChannelID,
CommonTransportChannel-InformationResponse,
CommunicationControlPortID,
ConfigurationGenerationID,
ConstantValue,
CriticalityDiagnostics,
CPCH-Allowed-Total-Rate,
CPCHScramblingCodeNumber,
CPCH-UL-DPCCH-SlotFormat,
CRNC-CommunicationContextID,
CSBMeasurementID,
CSBTransmissionID,
DCH-FDD-Information,
DCH-InformationResponse,
DCH-ID,
FDD-DCHs-to-Modify,
TDD-DCHs-to-Modify,
DCH-TDD-Information,
DedicatedChannelsCapacityConsumptionLaw,
DedicatedMeasurementType,
DedicatedMeasurementValue,
DedicatedMeasurementValueInformation,
DiversityControlField,
DiversityMode,
DL-DPCH-SlotFormat,
DL-or-Global-CapacityCredit,
DL-Power,

DLPowerAveragingWindowSize,
DL-ScramblingCode,
DL-TimeslotISCP,
DL-Timeslot-Information,
DL-TimeslotISCPInfo,
DL-TPC-Pattern01Count,
DPCH-ID,
DSCH-ID,
DSCH-FDD-Information,
DSCH-InformationResponse,
DSCH-TDD-Information,
End-Of-Audit-Sequence-Indicator,
FDD-DL-ChannelisationCodeNumber,
FDD-DL-CodeInformation,
FDD-S-CCPCH-Offset,
FDD-TPC-DownlinkStepSize,
FirstRLS-Indicator,
FNReportingIndicator,
FrameAdjustmentValue,
FrameHandlingPriority,
FrameOffset,
IB-OC-ID,
IB-SG-DATA,
IB-SG-POS,
IB-SG-REP,
IB-Type,
IndicationType,
InnerLoopDLPCStatus,
LimitedPowerIncrease,
Local-Cell-ID,
MaximumDL-PowerCapability,
MaximumTransmissionPower,
Max-Number-of-PCPCHes,
MaxNrOfUL-DPDCHs,
MaxPRACH-MidambleShifts,
MeasurementFilterCoefficient,
MeasurementID,
MidambleShiftAndBurstType,
MinimumDL-PowerCapability,
MinSpreadingFactor,
MinUL-ChannelisationCodeLength,
MultiplexingPosition,
NEOT,
NCyclesPerSFNperiod,
NFmax,
NRepetitionsPerCyclePeriod,
N-INSYNC-IND,
N-OUTSYNC-IND,
NodeB-CommunicationContextID,
NStartMessage,
PagingIndicatorLength,
PayloadCRC-PresenceIndicator,
PCCPCH-Power,

PCP-Length,
PDSCH-CodeMapping,
PDSCHSet-ID,
PDSCH-ID,
PICH-Mode,
PICH-Power,
PowerAdjustmentType,
PowerOffset,
PowerRaiseLimit,
PRACH-Midamble,
PreambleSignatures,
PreambleThreshold,
PrimaryCPICH-Power,
PrimaryScramblingCode,
PropagationDelay,
SCH-TimeSlot,
PunctureLimit,
PUSCHSet-ID,
PUSCH-ID,
QE-Selector,
RACH-SlotFormat,
RACH-SubChannelNumbers,
RepetitionLength,
RepetitionPeriod,
ReportCharacteristics,
ResourceOperationalState,
RL-Set-ID,
RL-ID,
Received-total-wide-band-power-Value,
AdjustmentPeriod,
ScaledAdjustmentRatio,
MaxAdjustmentStep,
ScramblingCodeNumber,
SecondaryCCPCH-SlotFormat,
Segment-Type,
S-FieldLength,
SFN,
ShutdownTimer,
SIB-Originator,
SSDT-Cell-Identity,
SSDT-CellID-Length,
SSDT-Indication,
Start-Of-Audit-Sequence-Indicator,
STTD-Indicator,
SSDT-SupportIndicator,
SyncCase,
SyncFrameNumber,
SynchronisationReportCharacteristics,
SynchronisationReportType,
T-Cell,
T-RLFFAILURE,
TDD-ChannelisationCode,
TDD-DPCHOffset,

TDD-TPC-DownlinkStepSize,
 TDD-PhysicalChannelOffset,
 TFCI2-BearerInformationResponse,
 TFCI-Coding,
 TFCI-Presence,
 TFCI-SignallingMode,
 TFCS,
 TimeSlot,
 TimeSlotDirection,
 TimeSlotStatus,
TimingAdjustmentValue,
 TimingAdvanceApplied,
 ToAWE,
 ToAWS,
 TransmissionDiversityApplied,
 TransmitDiversityIndicator,
 TransmissionGapPatternSequenceCodeInformation,
 Transmission-Gap-Pattern-Sequence-Information,
 TransportBearerRequestIndicator,
 TransportFormatSet,
 TransportLayerAddress,
 TSTD-Indicator,
 UARFCN,
 USCH-Information,
 USCH-InformationResponse,
 UL-CapacityCredit,
 UL-DPCCH-SlotFormat,
 UL-SIR,
 UL-FP-Mode,
 UL-PhysCH-SF-Variation,
 UL-ScramblingCode,
 UL-Timeslot-Information,
 UL-TimeSlot-ISCP-Info,
 UL-TimeslotISCP-Value,
 UL-TimeslotISCP-Value-IncrDecrThres,
 USCH-ID

FROM NBAP-IEs

PrivateIE-Container{},
 ProtocolExtensionContainer{},
 ProtocolIE-Container{},
 ProtocolIE-Single-Container{},
 ProtocolIE-ContainerList{},
 NBAP-PRIVATE-IES,
 NBAP-PROTOCOL-IES,
 NBAP-PROTOCOL-EXTENSION

FROM NBAP-Containers

id-Active-Pattern-Sequence-Information,
 id-AdjustmentRatio,
 id-AICH-Information,

id-AICH-ParametersListIE-CTCH-ReconfRqstFDD,
id-AP-AICH-Information,
id-AP-AICH-ParametersListIE-CTCH-ReconfRqstFDD,
id-BCH-Information,
id-BCCH-ModificationTime,
id-BlockingPriorityIndicator,
id-Cause,
id-CauseLevel-PSCH-ReconfFailureTDD,
id-CauseLevel-RL-AdditionFailureFDD,
id-CauseLevel-RL-AdditionFailureTDD,
id-CauseLevel-RL-ReconfFailure,
id-CauseLevel-RL-SetupFailureFDD,
id-CauseLevel-RL-SetupFailureTDD,
id-CauseLevel-SyncAdjustmntFailureTDD,
id-CCP-InformationItem-AuditRsp,
id-CCP-InformationList-AuditRsp,
id-CCP-InformationItem-ResourceStatusInd,
id-CDCA-ICH-Information,
id-CDCA-ICH-ParametersListIE-CTCH-ReconfRqstFDD,
id-CellAdjustmentInfo-SyncAdjustmntRqstTDD,
id-Cell-InformationItem-AuditRsp,
id-Cell-InformationItem-ResourceStatusInd,
id-Cell-InformationList-AuditRsp,
id-CellParameterID,
id-CellSyncBurstTransInit-CellSyncInitiationRqstTDD,
id-CellSyncBurstMeasureInit-CellSyncInitiationRqstTDD,
id-CellSyncBurstTransReconfiguration-CellSyncReconfRqstTDD,
id-CellSyncBurstTransReconfInfo-CellSyncReconfRqstTDD,
id-CellSyncBurstMeasReconfiguration-CellSyncReconfRqstTDD,
id-CellSyncBurstMeasInfoList-CellSyncReconfRqstTDD,
id-CellSyncBurstInfoList-CellSyncReconfRqstTDD,
id-CellSyncInfo-CellSyncReprtTDD,
id-CFN,
id-CFNReportingIndicator,
id-C-ID,
id-Closed-Loop-Timing-Adjustment-Mode,
id-CommonMeasurementObjectType-CM-Rprt,
id-CommonMeasurementObjectType-CM-Rqst,
id-CommonMeasurementObjectType-CM-Rsp,
id-CommonMeasurementType,
id-CommonPhysicalChannelID,
id-CommonPhysicalChannelType-CTCH-ReconfRqstFDD,
id-CommonPhysicalChannelType-CTCH-SetupRqstFDD,
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD,
id-CommonTransportChannelType-CTCH-ReconfRqstTDD,
id-CommunicationContextInfoItem-Reset,
id-CommunicationControlPortID,
id-CommunicationControlPortInfoItem-Reset,
id-Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD,
id-ConfigurationGenerationID,
id-CPCH-Information,
id-CPCH-Parameters-CTCH-SetupRsp,
id-CPCH-ParametersListIE-CTCH-ReconfRqstFDD,

id-CRNC-CommunicationContextID,
id-CriticalityDiagnostics,
id-CSBTransmissionID,
id-CSBMeasurementID,
id-DCHs-to-Add-FDD,
id-DCHs-to-Add-TDD,
id-DCH-AddList-RL-ReconfPrepTDD,
id-DCH-DeleteList-RL-ReconfPrepFDD,
id-DCH-DeleteList-RL-ReconfPrepTDD,
id-DCH-DeleteList-RL-ReconfRqstFDD,
id-DCH-DeleteList-RL-ReconfRqstTDD,
id-DCH-FDD-Information,
id-DCH-TDD-Information,
id-DCH-InformationResponse,
id-FDD-DCHs-to-Modify,
id-TDD-DCHs-to-Modify,
id-DedicatedMeasurementObjectType-DM-Rprt,
id-DedicatedMeasurementObjectType-DM-Rqst,
id-DedicatedMeasurementObjectType-DM-Rsp,
id-DedicatedMeasurementType,
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD,
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD,
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD,
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
id-DL-DPCH-InformationAddListIE-RL-ReconfPrepTDD,
id-DL-DPCH-InformationDeleteListIE-RL-ReconfPrepTDD,
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD,
id-DL-DPCH-InformationList-RL-SetupRqstTDD,
id-DL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD,
id-DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD,
id-DL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD,
id-DL-DPCH-Information-RL-ReconfPrepFDD,
id-DL-DPCH-Information-RL-ReconfRqstFDD,
id-DL-DPCH-Information-RL-SetupRqstFDD,
id-DL-ReferencePowerInformationItem-DL-PC-Rqst,
id-DLReferencePower,
id-DLReferencePowerList-DL-PC-Rqst,
id-DL-TPC-Pattern01Count,
id-DPCHConstant,
id-DSCH-AddItem-RL-ReconfPrepFDD,
id-DSCH-AddItem-RL-ReconfRqstFDD,
id-DSCHs-to-Add-FDD,
id-DSCH-DeleteItem-RL-ReconfPrepFDD,
id-DSCH-DeleteItem-RL-ReconfRqstFDD,
id-DSCH-DeleteList-RL-ReconfPrepFDD,
id-DSCH-ID,
id-DSCHs-to-Add-TDD,

id-DSCH-Information-DeleteList-RL-ReconfPrepTDD,
 id-DSCH-Information-ModifyList-RL-ReconfPrepTDD,
 id-DSCH-InformationResponse,
 id-DSCH-FDD-Information,
 id-DSCH-TDD-Information,
 id-DSCH-ModifyItem-RL-ReconfPrepFDD,
 id-DSCH-ModifyItem-RL-ReconfRqstFDD,
 id-DSCH-ModifyList-RL-ReconfPrepFDD,
 id-End-Of-Audit-Sequence-Indicator,
 id-FACH-Information,
 id-FACHItem-CTCH-SetupRsp,
 id-FACH-ParametersList-CTCH-ReconfRqstTDD,
 id-FACH-ParametersList-CTCH-SetupRsp,
 id-FACH-ParametersListIE-CTCH-ReconfRqstFDD,
 id-FACH-ParametersListIE-CTCH-SetupRqstFDD,
 id-FACH-ParametersListIE-CTCH-SetupRqstTDD,
 id-IndicationType-ResourceStatusInd,
 id-InnerLoopDLPCStatus,
id-IntStdPhCellSyncInfoItem-CellSyncReprtTDD,
id-LateEntranceCellSyncInfoItem-CellSyncReprtTDD,
 id-Limited-power-increase-information-Cell-SetupRqstFDD,
 id-Local-Cell-ID,
 id-Local-Cell-Group-InformationItem-AuditRsp,
 id-Local-Cell-Group-InformationItem-ResourceStatusInd,
 id-Local-Cell-Group-InformationItem2-ResourceStatusInd,
 id-Local-Cell-Group-InformationList-AuditRsp,
 id-Local-Cell-InformationItem-AuditRsp,
 id-Local-Cell-InformationItem-ResourceStatusInd,
 id-Local-Cell-InformationItem2-ResourceStatusInd,
 id-Local-Cell-InformationList-AuditRsp,
 id-AdjustmentPeriod,
 id-MaxAdjustmentStep,
 id-MaximumTransmissionPower,
 id-MeasurementFilterCoefficient,
 id-MeasurementID,
 id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst,
id-NCyclesPerSFNperiod,
 id-NodeB-CommunicationContextID,
id-NrepetitionsPerCyclePeriod,
 id-P-CCPCH-Information,
 id-P-CPICH-Information,
 id-P-SCH-Information,
 id-PCCPCH-Information-Cell-ReconfRqstTDD,
 id-PCCPCH-Information-Cell-SetupRqstTDD,
 id-PCH-Parameters-CTCH-ReconfRqstTDD,
 id-PCH-Parameters-CTCH-SetupRsp,
 id-PCH-ParametersItem-CTCH-ReconfRqstFDD,
 id-PCH-ParametersItem-CTCH-SetupRqstFDD,
 id-PCH-ParametersItem-CTCH-SetupRqstTDD,
 id-PCH-Information,
 id-PCPCH-Information,
 id-PCPCH-ParametersList-CTCH-ReconfRqstFDD,
 id-PICH-ParametersItem-CTCH-ReconfRqstFDD,

id-PD,
id-PDSCH-Information-AddListIE-PSCH-ReconfRqst,
id-PDSCH-Information-ModifyListIE-PSCH-ReconfRqst,
id-PDSCHSets-AddList-PSCH-ReconfRqst,
id-PDSCHSets-DeleteList-PSCH-ReconfRqst,
id-PDSCHSets-ModifyList-PSCH-ReconfRqst,
id-PICH-Information,
id-PICH-Parameters-CTCH-ReconfRqstTDD,
id-PICH-ParametersItem-CTCH-SetupRqstTDD,
id-PowerAdjustmentType,
id-PRACH-Information,
id-PRACHConstant,
id-PRACH-ParametersItem-CTCH-SetupRqstTDD,
id-PRACH-ParametersListIE-CTCH-ReconfRqstFDD,
id-PrimaryCCPCH-Information-Cell-ReconfRqstFDD,
id-PrimaryCCPCH-Information-Cell-SetupRqstFDD,
id-PrimaryCPICH-Information-Cell-ReconfRqstFDD,
id-PrimaryCPICH-Information-Cell-SetupRqstFDD,
id-PrimarySCH-Information-Cell-ReconfRqstFDD,
id-PrimarySCH-Information-Cell-SetupRqstFDD,
id-PrimaryScramblingCode,
id-ProcedureScopeType-DL-PC-Rqst,
id-SCH-Information-Cell-ReconfRqstTDD,
id-SCH-Information-Cell-SetupRqstTDD,
id-PUSCH-Information-AddListIE-PSCH-ReconfRqst,
id-PUSCH-Information-ModifyListIE-PSCH-ReconfRqst,
id-PUSCHConstant,
id-PUSCHSets-AddList-PSCH-ReconfRqst,
id-PUSCHSets-DeleteList-PSCH-ReconfRqst,
id-PUSCHSets-ModifyList-PSCH-ReconfRqst,
id-RACH-Information,
id-RACHItem-CTCH-SetupRsp,
id-RACH-Parameters-CTCH-SetupRsp,
id-RACH-ParametersItem-CTCH-SetupRqstFDD,
id-RACH-ParameterItem-CTCH-SetupRqstTDD,
id-ReportCharacteristics,
id-Reporting-Object-RL-FailureInd,
id-Reporting-Object-RL-RestoreInd,
id-ResetIndicator,
id-RL-ID,
id-RL-InformationItem-DM-Rprt,
id-RL-InformationItem-DM-Rqst,
id-RL-InformationItem-DM-Rsp,
id-RL-InformationItem-RL-AdditionRqstFDD,
id-RL-informationItem-RL-DeletionRqst,
id-RL-InformationItem-RL-FailureInd,
id-RL-InformationItem-RL-PreemptRequiredInd,
id-RL-InformationItem-RL-ReconfPrepFDD,
id-RL-InformationItem-RL-ReconfRqstFDD,
id-RL-InformationItem-RL-RestoreInd,
id-RL-InformationItem-RL-SetupRqstFDD,
id-RL-InformationList-RL-AdditionRqstFDD,
id-RL-informationList-RL-DeletionRqst,

id-RL-InformationList-RL-PreemptRequiredInd,
id-RL-InformationList-RL-ReconfPrepFDD,
id-RL-InformationList-RL-ReconfRqstFDD,
id-RL-InformationList-RL-SetupRqstFDD,
id-RL-InformationResponseItem-RL-AdditionRspFDD,
id-RL-InformationResponseItem-RL-ReconfReady,
id-RL-InformationResponseItem-RL-ReconfRsp,
id-RL-InformationResponseItem-RL-SetupRspFDD,
id-RL-InformationResponseList-RL-AdditionRspFDD,
id-RL-InformationResponseList-RL-ReconfReady,
id-RL-InformationResponseList-RL-ReconfRsp,
id-RL-InformationResponseList-RL-SetupRspFDD,
id-RL-InformationResponse-RL-AdditionRspTDD,
id-RL-InformationResponse-RL-SetupRspTDD,
id-RL-Information-RL-AdditionRqstTDD,
id-RL-Information-RL-ReconfRqstTDD,
id-RL-Information-RL-ReconfPrepTDD,
id-RL-Information-RL-SetupRqstTDD,
id-RL-ReconfigurationFailureItem-RL-ReconfFailure,
id-RL-Set-InformationItem-DM-Rprt,
id-RL-Set-InformationItem-DM-Rsp,
id-RL-Set-InformationItem-RL-FailureInd,
id-RL-Set-InformationItem-RL-RestoreInd,
id-S-CCPCH-Information,
id-S-CPICH-Information,
id-SCH-Information,
id-S-SCH-Information,
id-Secondary-CCPCHListIE-CTCH-ReconfRqstTDD,
id-Secondary-CCPCH-parameterListIE-CTCH-SetupRqstTDD,
id-Secondary-CCPCH-Parameters-CTCH-ReconfRqstTDD,
id-SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD,
id-SecondaryCPICH-InformationItem-Cell-SetupRqstFDD,
id-SecondaryCPICH-InformationList-Cell-ReconfRqstFDD,
id-SecondaryCPICH-InformationList-Cell-SetupRqstFDD,
id-SecondarySCH-Information-Cell-ReconfRqstFDD,
id-SecondarySCH-Information-Cell-SetupRqstFDD,
id-SegmentInformationListIE-SystemInfoUpdate,
id-SFN,
id-SFNReportingIndicator,
id-ShutdownTimer,
id-Start-Of-Audit-Sequence-Indicator,
id-Successful-RL-InformationRespItem-RL-AdditionFailureFDD,
id-Successful-RL-InformationRespItem-RL-SetupFailureFDD,
id-Successful-RL-InformationRespList-RL-AdditionFailureFDD,
id-Successful-RL-InformationRespList-RL-SetupFailureFDD,
id-Synchronisation-Configuration-Cell-ReconfRqst,
id-Synchronisation-Configuration-Cell-SetupRqst,
id-SyncCase,
id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH,
id-SyncFrameNumber,
id-SynchronisationReportType,
id-SynchronisationReportCharacteristics,
id-T-Cell,

id-TFCI2-Bearer-Information-RL-SetupRqstFDD,
id-TFCI2-BearerInformationResponse,
id-TFCI2-BearerSpecificInformation-RL-ReconfPrepFDD,
id-Transmission-Gap-Pattern-Sequence-Information,
id-TimeSlotConfigurationList-Cell-ReconfRqstTDD,
id-TimeSlotConfigurationList-Cell-SetupRqstTDD,
id-TimeslotISCPInfoList-DL-PC-RqstTDD,
id-TimingAdvanceApplied,
id-TransmissionDiversityApplied,
id-UARFCNforNt,
id-UARFCNforNd,
id-UARFCNforNu,
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD,
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
id-UL-DPCH-InformationAddListIE-RL-ReconfPrepTDD,
id-UL-DPCH-InformationItem-RL-AdditionRqstTDD,
id-UL-DPCH-InformationList-RL-SetupRqstTDD,
id-UL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD,
id-UL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD,
id-UL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD,
id-UL-DPCH-Information-RL-ReconfPrepFDD,
id-UL-DPCH-Information-RL-ReconfRqstFDD,
id-UL-DPCH-Information-RL-SetupRqstFDD,
id-Unsuccessful-cell-InformationRespItem-SyncAdjustmntFailureTDD,
id-Unsuccessful-PDSCHSetItem-PSCH-ReconfFailureTDD,
id-Unsuccessful-PUSCHSetItem-PSCH-ReconfFailureTDD,
id-Unsuccessful-RL-InformationRespItem-RL-AdditionFailureFDD,
id-Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD,
id-Unsuccessful-RL-InformationRespList-RL-AdditionFailureFDD,
id-Unsuccessful-RL-InformationRespList-RL-SetupFailureFDD,
id-Unsuccessful-RL-InformationResp-RL-AdditionFailureTDD,
id-Unsuccessful-RL-InformationResp-RL-SetupFailureTDD,
id-USCH-Information-Add,
id-USCH-Information-AddList-RL-ReconfRqstTDD,
id-USCH-Information-DeleteList-RL-ReconfPrepTDD,
id-USCH-Information-DeleteList-RL-ReconfRqstTDD,
id-USCH-Information-ModifyList-RL-ReconfPrepTDD,
id-USCH-Information-ModifyList-RL-ReconfRqstTDD,
id-USCH-InformationResponse,
id-USCH-Information,

maxNrOfCCTrCHs,
maxNrOfCodes,
maxNrOfCPCHs,
maxNrOfDCHs,

```

maxNrOfDLCodes,
maxNrOfDLTSSs,
maxNrOfDPCHs,
maxNrOfDSCHs,
maxNrOfFACHs,
maxNrOfRLs,
maxNrOfRLSets,
maxNrOfPCPCHs,
maxNrOfPDSCHs,
maxNrOfPUSCHs,
maxNrOfPDSCHSets,
maxNrOfPUSCHSets,
maxNrOfSCCPCHs,
maxNrOfULTSSs,
maxNrOfUSCHs,
maxAPSigNum,
maxCPCHCell,
maxFACHCell,
maxNoofLen,
maxRACHCell,
maxPCPCHCell,
maxPRACHCell,
maxSCCPCHCell,
maxSCPICHCell,
maxCellinNodeB,
maxCCPinNodeB,
maxCommunicationContext,
maxLocalCellinNodeB,
maxNrOfSlotFormatsPRACH,
maxIB,
maxIBSEG

```

FROM NBAP-Constants;

•
•
•
Partly omitted
•
•
•

```

-- *****
--
-- CELL SYNCHRONISATION INITIATION REQUEST TDD
--
-- *****

```

```

CellSynchronisationInitiationRequestTDD ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{CellSynchronisationInitiationRequestTDD-IEs}},
    protocolExtensions  ProtocolExtensionContainer {{CellSynchronisationInitiationRequestTDD-Extensions}} OPTIONAL,

```

```

    ...
}

CellSynchronisationInitiationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CellSynchronisationInitiationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID CRITICALITY reject TYPE C-ID PRESENCE mandatory }|
    { ID id-timeSlot CRITICALITY reject TYPE TimeSlot PRESENCE mandatory }|
    { ID id-CellSyncBurstTransInit-CellSyncInitiationRqstTDD CRITICALITY reject TYPE CellSyncBurstTransInit-CellSyncInitiationRqstTDD
      PRESENCE optional }|
    { ID id-CellSyncBurstMeasureInit-CellSyncInitiationRqstTDD CRITICALITY reject TYPE CellSyncBurstMeasureInit-
      CellSyncInitiationRqstTDD PRESENCE optional },
    ...
}

CellSyncBurstTransInit-CellSyncInitiationRqstTDD ::= SEQUENCE {
    cSBTransmissionID CSBTransmissionID,
    sfn SFN,
    cellSyncBurstCode CellSyncBurstCode,
    cellSyncBurstCodeShift CellSyncBurstCodeShift,
    cellSyncBurstRepetitionPeriod CellSyncBurstRepetitionPeriod,
    initialDLTransPower DL-Power,
    iE-Extensions ProtocolExtensionContainer { { CellSyncBurstTransInit-CellSyncInitiationRqstTDD-ExtIEs } } OPTIONAL,
    ...
}

CellSyncBurstTransInit-CellSyncInitiationRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CellSyncBurstMeasureInit-CellSyncInitiationRqstTDD ::= SEQUENCE {
    cSBMeasurementID CSBMeasurementID,
    cellSyncBurstCode CellSyncBurstCode,
    cellSyncBurstCodeShift CellSyncBurstCodeShift,
    synchronisationReportType SynchronisationReportType,
    sfn SFN OPTIONAL,
    synchronisationReportCharacteristics SynchronisationReportCharacteristics,
    iE-Extensions ProtocolExtensionContainer { { CellSyncBurstMeasureInit-CellSyncInitiationRqstTDD-ExtIEs } } OPTIONAL,
    ...
}

CellSyncBurstMeasureInit-CellSyncInitiationRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- CELL SYNCHRONISATION INITIATION RESPONSE TDD
--
-- *****

```

```

CellSynchronisationInitiationResponseTDD ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container  {{CellSynchronisationInitiationResponseTDD-IEs}},
  protocolExtensions  ProtocolExtensionContainer  {{CellSynchronisationInitiationResponseTDD-Extensions}}  OPTIONAL,
  ...
}

CellSynchronisationInitiationResponseTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

CellSynchronisationResponseTDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID      id-CriticalityDiagnostics          CRITICALITY  ignore      TYPE      CriticalityDiagnostics          PRESENCE
  optional },
  ...
}

-- *****
--
-- CELL SYNCHRONISATION INITIATION FAILURE TDD
--
-- *****

CellSynchronisationInitiationFailureTDD ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container  {{CellSynchronisationInitiationFailureTDD-IEs}},
  protocolExtensions  ProtocolExtensionContainer  {{CellSynchronisationInitiationFailureTDD-Extensions}}  OPTIONAL,
  ...
}

CellSynchronisationInitiationFailureTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

CellSynchronisationInitiationFailureTDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID      id-Cause          CRITICALITY  ignore      TYPE      Cause          PRESENCE mandatory }|
  { ID      id-CriticalityDiagnostics          CRITICALITY  ignore      TYPE      CriticalityDiagnostics          PRESENCE optional },
  ...
}

-- *****
--
-- CELL SYNCHRONISATION RECONFIGURATION REQUEST TDD
--
-- *****

CellSynchronisationReconfigurationRequestTDD ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container  {{CellSynchronisationReconfigurationRequestTDD-IEs}},
  protocolExtensions  ProtocolExtensionContainer  {{CellSynchronisationReconfigurationRequestTDD-Extensions}}  OPTIONAL,
  ...
}

CellSynchronisationReconfigurationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```



```

}

CellSynchronisationReconfigurationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-C-ID CRITICALITY reject TYPE C-ID PRESENCE mandatory } |
  { ID id-timeSlot CRITICALITY reject TYPE TimeSlot PRESENCE mandatory } |
  { ID id-NCyclesPerSFNperiod CRITICALITY reject TYPE NCyclesPerSFNperiod PRESENCE mandatory } |
  { ID id-NRepetitionsPerCyclePeriod CRITICALITY reject TYPE NRepetitionsPerCyclePeriod PRESENCE mandatory } |
  { ID id-CellSyncBurstTransReconfInfo-CellSyncReconfRqstTDD CRITICALITY reject TYPE CellSyncBurstTransReconfInfo-
CellSyncReconfRqstTDD PRESENCE optional } |
  { ID id-CellSyncBurstMeasReconfiguration-CellSyncReconfRqstTDD CRITICALITY reject TYPE CellSyncBurstMeasReconfiguration-
CellSyncReconfRqstTDD PRESENCE optional } ,
  ...
}

CellSyncBurstTransReconfInfo-CellSyncReconfRqstTDD ::= SEQUENCE (SIZE (1.. maxNrOfCellSyncBursts)) OF CellSyncBurstTransInfoItem-
CellSyncReconfRqstTDD

CellSyncBurstTransInfoItem-CellSyncReconfRqstTDD ::= SEQUENCE {
  cSBTransmissionID CSBTransmissionID,
  syncFrameNumberToTransmit SyncFrameNumber,
  cellSyncBurstCode CellSyncBurstCode OPTIONAL,
  cellSyncBurstCodeShift CellSyncBurstCodeShift OPTIONAL,
  dlTransPower DL-Power OPTIONAL,
  iE-Extensions ProtocolExtensionContainer { { CellSyncBurstTransInfoItem-CellSyncReconfRqstTDD-ExtIEs } }
  OPTIONAL,
  ...
}

CellSyncBurstTransInfoItem-CellSyncReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

CellSyncBurstMeasReconfiguration-CellSyncReconfRqstTDD ::= ProtocolIE-Single-Container { { CellSyncBurstMeasInfo-CellSyncReconfRqstTDD } }

CellSyncBurstMeasInfo-CellSyncReconfRqstTDD NBAP-PROTOCOL-IES ::= {
  { ID id-CellSyncBurstMeasInfoList-CellSyncReconfRqstTDD CRITICALITY reject TYPE CellSyncBurstMeasInfoList-CellSyncReconfRqstTDD PRESENCE
  mandatory } ,
  { ID id-SynchronisationReportType CRITICALITY reject TYPE SynchronisationReportType PRESENCE optional } ,
  { ID id-SynchronisationReportCharacteristics CRITICALITY reject TYPE SynchronisationReportCharacteristics PRESENCE optional } ,
  ...
}

CellSyncBurstMeasInfoList-CellSyncReconfRqstTDD ::= SEQUENCE (SIZE (1.. maxNrOfCellSyncBursts)) OF ProtocolIE-Single-Container { {
CellSyncBurstMeasInfoItem-CellSyncReconfRqstTDD } }

CellSyncBurstMeasInfoItem-CellSyncReconfRqstTDD NBAP-PROTOCOL-IES ::= {
  { ID id-SyncFrameNumber CRITICALITY reject TYPE SyncFrameNumber PRESENCE mandatory } |
  { ID id-CellSyncBurstInfoList-CellSyncReconfRqstTDD CRITICALITY reject TYPE CellSyncBurstInfoList-CellSyncReconfRqstTDD PRESENCE mandatory } ,
  { ID id-SynchronisationReportType CRITICALITY reject TYPE SynchronisationReportType PRESENCE optional } |
  { ID id-SynchronisationReportCharacteristics CRITICALITY reject TYPE SynchronisationReportCharacteristics PRESENCE optional } ,
  ...
}

```

CellSyncBurstInfoList-CellSyncReconfRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfReceivePerSyncFrame)) OF CellSyncBurstMeasInfoItem-CellSyncReconfRqstTDD

```
CellSyncBurstMeasInfoItem-CellSyncReconfRqstTDD ::= SEQUENCE {
  cSBMeasurementID          CSBMeasurementID,
  cellSyncBurstCode         CellSyncBurstCode,
  cellSyncBurstCodeShift   CellSyncBurstCodeShift,
  iE-Extensions             ProtocolExtensionContainer { { CellSyncBurstMeasInfo-CellSyncReconfRqstTDD-ExtIEs } } OPTIONAL,
  ...
}
```

CellSyncBurstMeasInfo-CellSyncReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {

```
...
}
```

```
-- *****
--
-- CELL SYNCHRONISATION RECONFIGURATION RESPONSE TDD
--
-- *****
```

```
CellSynchronisationReconfigurationResponseTDD ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container  {{{CellSynchronisationReconfigurationResponseTDD-IEs}}},
  protocolExtensions   ProtocolExtensionContainer  {{{CellSynchronisationReconfigurationResponseTDD-Extensions}}} OPTIONAL,
  ...
}
```

CellSynchronisationReconfigurationResponseTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {

```
...
}
```

```
CellSynchronisationResponseTDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID      id-CriticalityDiagnostics          CRITICALITY   ignore      TYPE      CriticalityDiagnostics      PRESENCE optional },
  ...
}
```

```
-- *****
--
-- CELL SYNCHRONISATION RECONFIGURATION FAILURE TDD
--
-- *****
```

```
CellSynchronisationReconfigurationFailureTDD ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container  {{{CellSynchronisationReconfigurationFailureTDD-IEs}}},
  protocolExtensions   ProtocolExtensionContainer  {{{CellSynchronisationReconfigurationFailureTDD-Extensions}}} OPTIONAL,
  ...
}
```

CellSynchronisationReconfigurationFailureTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {

```
...
}
```

CellSynchronisationReconfigurationFailureTDD-IEs NBAP-PROTOCOL-IES ::= {

```

    { ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE mandatory }|
    { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },
    ...
}

-- *****
--
-- CELL SYNCHRONISATION ADJUSTMENT REQUEST TDD
--
-- *****

CellSynchronisationAdjustmentRequestTDD ::= SEQUENCE {
    protocolIEs ProtocolIE-Container {{CellSynchronisationAdjustmentRequestTDD-IEs}},
    protocolExtensions ProtocolExtensionContainer {{CellSynchronisationAdjustmentRequestTDD-Extensions}} OPTIONAL,
    ...
}

CellSynchronisationAdjustmentRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CellSynchronisationAdjustmentRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID CRITICALITY reject TYPE C-ID PRESENCE mandatory }|
    { ID id-timeSlot CRITICALITY reject TYPE TimeSlot PRESENCE mandatory }|
    { ID id-CellAdjustmentInfo-SyncAdjustmntRqstTDD CRITICALITY reject TYPE CellAdjustmentInfo-SyncAdjustmntRqstTDD PRESENCE mandatory },
    ...
}

CellAdjustmentInfo-SyncAdjustmentRqstTDD ::= SEQUENCE (SIZE (1..maxCellinNodeB)) OF ProtocolIE-Single-Container {{ CellAdjustmentInfoItem-SyncAdjustmntRqstTDD }}

CellAdjustmentInfoItem-SyncAdjustmentRqstTDD NBAP-PROTOCOL-IES ::= SEQUENCE {
    c-ID C-ID,
    frameAdjustmentValue FrameAdjustmentValue OPTIONAL,
    timingAdjustmentValue TimingAdjustmentValue OPTIONAL,
    dlTransPower DL-Power OPTIONAL,
    sfn SFN OPTIONAL,
    iE-Extensions ProtocolExtensionContainer { { CellAdjustmentInfoItem-SyncAdjustmntRqstTDD-ExtIEs } } OPTIONAL,
    ...
}

CellAdjustmentInfoItem-SyncAdjustmntRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- CELL SYNCHRONISATION ADJUSTMENT RESPONSE TDD
--
-- *****

CellSynchronisationAdjustmentResponseTDD ::= SEQUENCE {

```

```

    protocolIEs          ProtocolIE-Container    {{CellSynchronisationAdjustmentResponseTDD-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{CellSynchronisationAdjustmentResponseTDD-Extensions}} OPTIONAL,
    ...
}

CellSynchronisationAdjustmentResponseTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CellSynchronisationAdjustmentResponseTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID      id-CriticalityDiagnostics          CRITICALITY ignore          TYPE      CriticalityDiagnostics          PRESENCE optional },
    ...
}

-- *****
--
-- CELL SYNCHRONISATION ADJUSTMENT FAILURE TDD
--
-- *****

CellSynchronisationAdjustmentFailureTDD ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{CellSynchronisationAdjustmentFailureTDD-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{CellSynchronisationAdjustmentFailureTDD-Extensions}} OPTIONAL,
    ...
}

CellSynchronisationAdjustmentFailureTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CellSynchronisationAdjustmentFailureTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID      id-CauseLevel-SyncAdjustmntFailureTDD  CRITICALITY ignore          TYPE      CauseLevel-SyncAdjustmntFailureTDD  PRESENCE mandatory }|
    { ID      id-CriticalityDiagnostics              CRITICALITY ignore          TYPE      CriticalityDiagnostics              PRESENCE optional },
    ...
}

CauseLevel-SyncAdjustmntFailureTDD ::= CHOICE {
    generalCause          GeneralCauseList-SyncAdjustmntFailureTDD,
    cellSpecificCause     CellSpecificCauseList-SyncAdjustmntFailureTDD,
    ...
}

GeneralCauseList-SyncAdjustmntFailureTDD ::= SEQUENCE {
    cause                 Cause,
    iE-Extensions         ProtocolExtensionContainer { { GeneralCauseList-SyncAdjustmntFailureTDD-ExtIEs } } OPTIONAL,
    ...
}

GeneralCauseList-SyncAdjustmntFailureTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

CellSpecificCauseList-SyncAdjustmntFailureTDD ::= SEQUENCE {
    unsuccessful-cell-InformationRespList-SyncAdjustmntFailureTDD
        Unsuccessful-cell-InformationRespList-SyncAdjustmntFailureTDD,
    iE-Extensions
        ProtocolExtensionContainer { { CellSpecificCauseList-SyncAdjustmntFailureTDD-ExtIEs} }
        OPTIONAL,
    ...
}

CellSpecificCauseList-SyncAdjustmntFailureTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Unsuccessful-cell-InformationRespList-SyncAdjustmntFailureTDD ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container {{ Unsuccessful-
cell-InformationRespItemIE-SyncAdjustmntFailureTDD }}

Unsuccessful-cell-InformationRespItemIE-SyncAdjustmntFailureTDD NBAP-PROTOCOL-IES ::= {
    { ID id-Unsuccessful-cell-InformationRespItem-SyncAdjustmntFailureTDD CRITICALITY ignore TYPE Unsuccessful-cell-
InformationRespItem-SyncAdjustmntFailureTDD PRESENCE mandatory},
    ...
}

Unsuccessful-cell-InformationRespItem-SyncAdjustmntFailureTDD ::= SEQUENCE {
    c-ID C-ID,
    cause Cause,
    iE-Extensions
        ProtocolExtensionContainer { { Unsuccessful-cell-InformationRespItem-SyncAdjustmntFailureTDD-ExtIEs} }
        OPTIONAL,
    ...
}

Unsuccessful-cell-InformationRespItem-SyncAdjustmntFailureTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- CELL SYNCHRONISATION TERMINATION REQUEST TDD
--
-- *****

CellSynchronisationTerminationRequestTDD ::= SEQUENCE {
    protocolIEs ProtocolIE-Container {{CellSynchronisationTerminationRequestTDD-IEs}},
    protocolExtensions ProtocolExtensionContainer {{CellSynchronisationTerminationRequestTDD-Extensions}} OPTIONAL,
    ...
}

CellSynchronisationTerminationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CellSynchronisationTerminationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID CRITICALITY ignore TYPE C-ID PRESENCE mandatory }}

```

```

{ ID id-CSBTransmissionID CRITICALITY ignore TYPE CSBTransmissionID PRESENCE optional }|
{ ID id-CSBMeasurementID CRITICALITY ignore TYPE CSBMeasurementID PRESENCE optional },
...
}

-- *****
--
-- CELL SYNCHRONISATION FAILURE INDICATION TDD
--
-- *****

CellSynchronisationFailureIndicationTDD ::= SEQUENCE {
    protocolIEs ProtocolIE-Container {{CellSynchronisationFailureIndicationTDD-IEs}},
    protocolExtensions ProtocolExtensionContainer {{CellSynchronisationFailureIndicationTDD-Extensions}} OPTIONAL,
    ...
}

CellSynchronisationFailureIndicationTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CellSynchronisationFailureIndicationTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID CRITICALITY ignore TYPE C-ID PRESENCE mandatory }|
    { ID id-CSBTransmissionID CRITICALITY ignore TYPE CSBTransmissionID PRESENCE optional }|
    { ID id-CSBMeasurementID CRITICALITY ignore TYPE CSBMeasurementID PRESENCE optional }|
    { ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE mandatory },
    ...
}

-- *****
--
-- CELL SYNCHRONISATION REPORT TDD
--
-- *****

CellSynchronisationReportTDD ::= SEQUENCE {
    protocolIEs ProtocolIE-Container {{CellSynchronisationReportTDD-IEs}},
    protocolExtensions ProtocolExtensionContainer {{CellSynchronisationReportTDD-Extensions}} OPTIONAL,
    ...
}

CellSynchronisationReportTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CellSynchronisationReportTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CellSyncInfo-CellSyncReprtTDD CRITICALITY ignore TYPE CellSyncInfo-CellSyncReprtTDD PRESENCE mandatory },
    ...
}

```

```

CellSyncInfo-CellSyncReprtTDD ::= SEQUENCE (SIZE (1..maxCellinNodeB)) OF ProtocolIE-Single-Container {{ CellSyncInfoItemIE-CellSyncReprtTDD }}

CellSyncInfoItemIE-CellSyncReprtTDD NBAP-PROTOCOL-IES ::= {
  { ID id-C-ID CRITICALITY ignore TYPE C-ID PRESENCE mandatory} |
  { ID id-IntStdPhCellSyncInfoItem-CellSyncReprtTDD CRITICALITY ignore TYPE IntStdPhCellSyncInfoItem-CellSyncReprtTDD PRESENCE optional},
  { ID id-LateEntranceCellSyncInfoItem-CellSyncReprtTDD CRITICALITY ignore TYPE NULL PRESENCE optional},
  ...
}

IntStdPhCellSyncInfoItem-CellSyncReprtTDD ::= SEQUENCE (SIZE (1.. maxNrOfCellSyncBursts)) OF CellSyncBurstMeasInfoItem-CellSyncReprtTDD

CellSyncBurstMeasInfoItem-CellSyncReprtTDD ::= SEQUENCE {
  sFN SFN,
  cellSyncBurstInfo-CellSyncReprtTDD SEQUENCE (SIZE (1..maxNrOfReceptsPerSyncFrame)) OF CellSyncBurstInfo-CellSyncReprtTDD,
  ...
}

CellSyncBurstInfo-CellSyncReprtTDD ::= CHOICE {
  cellSyncBurstAvailable CellSyncBurstAvailable-CellSyncReprtTDD,
  cellSyncBurstNotAvailable NULL,
  ...
}

CellSyncBurstAvailable-CellSyncReprtTDD ::= SEQUENCE {
  cellSyncBurstTiming CellSyncBurstTiming,
  cellSyncBurstSIR CellSyncBurstSIR,
  ...
}

```

9.3.4 Information Elements Definitions

```

--*****
--
-- Information Element Definitions
--
--*****

NBAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS
    maxNrOfTFCs,
    maxNrOfErrors,
    maxCTFC,
    maxNrOfTFs,
    maxTTI-count,
    maxRateMatching,
    maxCodeNrComp-1,
    maxNrOfCellSyncBursts,
    maxNrOfCodeGroups,
    maxNrOfReceptsPerSyncFrame,
    maxNrOfTFCIGroups,
    maxNrOfTFCI1Combs,
    maxNrOfTFCI2Combs,
    maxNrOfTFCI2Combs-1,
    maxNrOfSF,
    maxTGPS,
    maxNrOfUSCHs,
    maxNrOfULTSs,
    maxNrOfDPCHs,
    maxNrOfCodes,
    maxNrOfDSCHs,
    maxNrOfDLTSS,
    maxNrOfDCHs

FROM NBAP-Constants

    Criticality,
    ProcedureID,
    ProtocolIE-ID,
    TransactionID,
    TriggeringMessage

FROM NBAP-CommonDataTypes

    NBAP-PROTOCOL-IES,
    ProtocolExtensionContainer{ },

```



```

    ProtocolIE-Single-Container{} ,
    NBAP-PROTOCOL-EXTENSION
FROM NBAP-Containers;

-- =====
-- A
-- =====

Acknowledged-PCPCH-access-preambles ::= INTEGER (0..15,...)

Acknowledged-PRACH-preambles-Value ::= INTEGER(0..240,...)
-- The number of L1 acknowledged random access tries per every 20 ms period.

AddorDeleteIndicator ::= ENUMERATED {
    add,
    delete
}

Active-Pattern-Sequence-Information ::= SEQUENCE {
    cmConfigurationChangeCFN          CFN,
    transmission-Gap-Pattern-Sequence-Status    Transmission-Gap-Pattern-Sequence-Status-List    OPTIONAL,
    iE-Extensions                      ProtocolExtensionContainer { {Active-Pattern-Sequence-Information-ExtIEs} } OPTIONAL,
    ...
}

Active-Pattern-Sequence-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Transmission-Gap-Pattern-Sequence-Status-List ::= SEQUENCE (SIZE (0..maxTGPS)) OF
    SEQUENCE {
        tGPSID          TGPSID,
        tGPRC           TGPRC,
        tGCFN           GCFN,
        iE-Extensions  ProtocolExtensionContainer { { Transmission-Gap-Pattern-Sequence-Status-List-ExtIEs } } OPTIONAL,
        ...
    }

Transmission-Gap-Pattern-Sequence-Status-List-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

AICH-Power ::= INTEGER (-22..5)
-- Offset in dB.

AICH-TransmissionTiming ::= ENUMERATED {
    v0,

```

```
    v1
  }

AllocationRetentionPriority ::= SEQUENCE {
    priorityLevel          PriorityLevel,
    pre-emptionCapability  Pre-emptionCapability,
    pre-emptionVulnerability Pre-emptionVulnerability,
    iE-Extensions         ProtocolExtensionContainer { {AllocationRetentionPriority-ExtIEs} } OPTIONAL,
    ...
}

AllocationRetentionPriority-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

APPreambleSignature ::= INTEGER (0..15)

APSubChannelNumber ::= INTEGER (0..11)

AvailabilityStatus ::= ENUMERATED {
    empty,
    in-test,
    failed,
    power-off,
    off-line,
    off-duty,
    dependency,
    degraded,
    not-installed,
    log-full,
    ...
}

-- =====
-- B
-- =====

BCCH-ModificationTime ::= INTEGER (0..511)
-- Time = BCCH-ModificationTime * 8
-- Range 0 to 4088, step 8
-- All SFN values in which MIB may be mapped are allowed

BindingID ::= OCTET STRING (SIZE (1..4, ...))

BetaCD ::= INTEGER (0..15)

BlockingPriorityIndicator ::= ENUMERATED {
    high,
    normal,
    low,
    ...
}
-- High priority: Block resource immediately.
```

```
-- Normal priority: Block resource when idle or upon timer expiry.  
-- Low priority: Block resource when idle.
```

```
BlockSTTD-Indicator ::= ENUMERATED {  
    active,  
    inactive  
}
```

```
-- =====  
-- C  
-- =====
```

```
Cause ::= CHOICE {  
    radioNetwork          CauseRadioNetwork,  
    transport             CauseTransport,  
    protocol              CauseProtocol,  
    misc                  CauseMisc,  
    ...  
}
```

```
CauseMisc ::= ENUMERATED {  
    control-processing-overload,  
    hardware-failure,  
    oam-intervention,  
    not-enough-user-plane-processing-resources,  
    unspecified,  
    ...  
}
```

```
CauseProtocol ::= ENUMERATED {  
    transfer-syntax-error,  
    abstract-syntax-error-reject,  
    abstract-syntax-error-ignore-and-notify,  
    message-not-compatible-with-receiver-state,  
    semantic-error,  
    unspecified,  
    abstract-syntax-error-falsely-constructed-message,  
    ...  
}
```

```
CauseRadioNetwork ::= ENUMERATED {  
    unknown-C-ID,  
    cell-not-available,  
    power-level-not-supported,  
    dl-radio-resources-not-available,  
    ul-radio-resources-not-available,  
    rl-already-ActivatedOrAllocated,  
    nodeB-Resources-unavailable,  
    measurement-not-supported-for-the-object,  
    combining-resources-not-available,  
    requested-configuration-not-supported,  
    synchronisation-failure,  
    priority-transport-channel-established,
```

```

sIB-Origination-in-Node-B-not-Supported,
requested-tx-diversity-mode-not-supported,
unspecified,
bCCH-scheduling-error,
measurement-temporarily-not-available,
invalid-CM-settings,
reconfiguration-CFN-not-elapsed,
number-of-DL-codes-not-supported,
s-cipch-not-supported,
combining-not-supported,
ul-sf-not-supported,
dl-SF-not-supported,
common-transport-channel-type-not-supported,
dedicated-transport-channel-type-not-supported,
downlink-shared-channel-type-not-supported,
uplink-shared-channel-type-not-supported,
cm-not-supported,
tx-diversity-no-longer-supported,
unknown-Local-Cell-ID,

```

```

...
cell-synchronisation-not-supported,
synchronisation-adjustment-not-supported
}

```

```

CauseTransport ::= ENUMERATED {
    transport-resource-unavailable,
    unspecified,
    ...
}

```

```

CCTrCH-ID ::= INTEGER (0..15)

```

```

CDSubChannelNumbers ::= BIT STRING (SIZE (12))

```

```

CellParameterID ::= INTEGER (0..127,...)

```

```

CellSyncBurstAvailabilityIndicator ::= ENUMERATED {
    cellSyncBurstAvailable,
    cellSyncBurstNotAvailable
}

```

```

CellSyncBurstCode ::= INTEGER(0..7, ...)

```

```

CellSyncBurstCodeShift ::= INTEGER(0..7)

```

```

CellSyncBurstRepetitionPeriod ::= INTEGER (0..4095)

```

```

CellSyncBurstSIR ::= INTEGER (0..31)

```

```

CellSyncBurstTiming ::= CHOICE {
    initialPhase          INTEGER (0..1048575),
    steadyStatePhase     INTEGER (0..255)
}

```

CellSyncBurstTimingThreshold ::= INTEGER(0..254)

CFN ::= INTEGER (0..255)

```
Channel-Assignment-Indication ::= ENUMERATED {
    cA-Active,
    cA-Inactive
}
```

ChipOffset ::= INTEGER (0..38399)
-- Unit Chip

C-ID ::= INTEGER (0..65535)

```
Closedlooptimingadjustmentmode ::= ENUMERATED {
    adj-1-slot,
    adj-2-slot,
    ...
}
```

```
CommonChannelsCapacityConsumptionLaw ::= SEQUENCE (SIZE(1..maxNrOfSF)) OF
SEQUENCE {
    dl-Cost      INTEGER (0..65535),
    ul-Cost      INTEGER (0..65535),
    iE-Extensions ProtocolExtensionContainer { { CommonChannelsCapacityConsumptionLaw-ExtIEs } } OPTIONAL,
    ...
}
```

```
CommonChannelsCapacityConsumptionLaw-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
CommonMeasurementType ::= ENUMERATED {
    received-total-wide-band-power,
    transmitted-carrier-power,
    acknowledged-prach-preambles,
    ul-timeslot-iscp,
    acknowledged-PCPCH-access-preambles,
    detected-PCPCH-access-preambles,
    ...
}
```

```
CommonMeasurementValue ::= CHOICE {
    transmitted-carrier-power          Transmitted-Carrier-Power-Value,
    received-total-wide-band-power     Received-total-wide-band-power-Value,
    acknowledged-prach-preambles       Acknowledged-PRACH-preambles-Value,
    ul-TimeslotISCP                    UL-TimeslotISCP-Value,
    acknowledged-PCPCH-access-preambles Acknowledged-PCPCH-access-preambles,
    detected-PCPCH-access-preambles     Detected-PCPCH-access-preambles,
    ...
}
```

```

CommonMeasurementValueInformation ::= CHOICE {
    measurementAvailable      CommonMeasurementAvailable,
    measurementnotAvailable   CommonMeasurementnotAvailable
}

CommonMeasurementAvailable ::= SEQUENCE {
    commonmeasurementValue    CommonMeasurementValue,
    ie-Extensions              ProtocolExtensionContainer { { CommonMeasurementAvailableItem-ExtIEs} }    OPTIONAL,
    ...
}

CommonMeasurementAvailableItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CommonMeasurementnotAvailable ::= NULL

CommonPhysicalChannelID ::= INTEGER (0..255)

Common-PhysicalChannel-Status-Information ::= SEQUENCE {
    commonPhysicalChannelID    CommonPhysicalChannelID,
    resourceOperationalState   ResourceOperationalState,
    availabilityStatus         AvailabilityStatus,
    ie-Extensions              ProtocolExtensionContainer { { Common-PhysicalChannel-Status-Information-ExtIEs} }    OPTIONAL,
    ...
}

Common-PhysicalChannel-Status-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CommonTransportChannelID ::= INTEGER (0..255)

Common-TransportChannel-Status-Information ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    resourceOperationalState   ResourceOperationalState,
    availabilityStatus         AvailabilityStatus,
    ie-Extensions              ProtocolExtensionContainer { { Common-TransportChannel-Status-Information-ExtIEs} }    OPTIONAL,
    ...
}

Common-TransportChannel-Status-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CommunicationControlPortID ::= INTEGER (0..65535)

Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD ::= ENUMERATED {

```

```

    on,
    off
}
-- on=deactivate

ConfigurationGenerationID ::= INTEGER (0..255)
-- Value '0' means "No configuration"

ConstantValue ::= INTEGER (-10..10,...)
-- -10 dB - +10 dB
-- unit dB
-- step 1 dB

CPCH-Allowed-Total-Rate ::= ENUMERATED {
    v15,
    v30,
    v60,
    v120,
    v240,
    v480,
    v960,
    v1920,
    v2880,
    v3840,
    v4800,
    v5760,
    ...
}

CPCHScramblingCodeNumber ::= INTEGER (0..79)

CPCH-UL-DPCCH-SlotFormat ::= INTEGER (0..2,...)

CriticalityDiagnostics ::= SEQUENCE {
    procedureID          ProcedureID          OPTIONAL,
    triggeringMessage    TriggeringMessage    OPTIONAL,
    procedureCriticality Criticality          OPTIONAL,
    transactionID       TransactionID        OPTIONAL,
    iEsCriticalityDiagnostics CriticalityDiagnostics-IE-List OPTIONAL,
    iE-Extensions       ProtocolExtensionContainer { {CriticalityDiagnostics-ExtIEs} } OPTIONAL,
    ...
}

CriticalityDiagnostics-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1..maxNrOfErrors)) OF
SEQUENCE {
    iECriticality    Criticality,
    iE-ID           ProtocolIE-ID,
    repetitionNumber RepetitionNumber    OPTIONAL,

```

```

        iE-Extensions      ProtocolExtensionContainer { {CriticalityDiagnostics-IE-List-ExtIEs} }
    }
}

CriticalityDiagnostics-IE-List-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CRNC-CommunicationContextID ::= INTEGER (0..1048575)

CSBMeasurementID ::= INTEGER (0..65535)
CSBTransmissionID ::= INTEGER (0..65535)

-- =====
-- D
-- =====

DCH-ID ::= INTEGER (0..255)

DCH-FDD-Information ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-FDD-InformationItem

DCH-FDD-InformationItem ::= SEQUENCE {
    payloadCRC-PresenceIndicator      PayloadCRC-PresenceIndicator,
    ul-FP-Mode                        UL-FP-Mode,
    toAWS                             ToAWS,
    toAWE                             ToAWE,
    dCH-SpecificInformationList       DCH-Specific-FDD-InformationList,
    iE-Extensions                    ProtocolExtensionContainer { { DCH-FDD-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

DCH-FDD-InformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-Specific-FDD-InformationList ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-Specific-FDD-Item

DCH-Specific-FDD-Item ::= SEQUENCE {
    dCH-ID                            DCH-ID,
    ul-TransportFormatSet             TransportFormatSet,
    dl-TransportFormatSet             TransportFormatSet,
    allocationRetentionPriority        AllocationRetentionPriority,
    frameHandlingPriority             FrameHandlingPriority,
    qE-Selector                       QE-Selector,
    iE-Extensions                    ProtocolExtensionContainer { { DCH-Specific-FDD-Item-ExtIEs} } OPTIONAL,
    ...
}

DCH-Specific-FDD-Item-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```


DCH-InformationResponse ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem

```
DCH-InformationResponseItem ::= SEQUENCE {
    dCH-ID                DCH-ID,
    bindingID             BindingID                OPTIONAL,
    transportLayerAddress TransportLayerAddress    OPTIONAL,
    iE-Extensions         ProtocolExtensionContainer { { DCH-InformationResponseItem-ExtIEs} }    OPTIONAL,
    ...
}
```

```
DCH-InformationResponseItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

DCH-TDD-Information ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-TDD-InformationItem

```
DCH-TDD-InformationItem ::= SEQUENCE {
    payloadCRC-PresenceIndicator PayloadCRC-PresenceIndicator,
    ul-FP-Mode                 UL-FP-Mode,
    toAWS                      ToAWS,
    toAWE                      ToAWE,
    dCH-SpecificInformationList DCH-Specific-TDD-InformationList,
    iE-Extensions             ProtocolExtensionContainer { { DCH-TDD-InformationItem-ExtIEs} }    OPTIONAL,
    ...
}
```

```
DCH-TDD-InformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

DCH-Specific-TDD-InformationList ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-Specific-TDD-Item

```
DCH-Specific-TDD-Item ::= SEQUENCE {
    dCH-ID                DCH-ID,
    ul-CCTrCH-ID         CCTrCH-ID,
    dl-CCTrCH-ID         CCTrCH-ID,
    ul-TransportFormatSet TransportFormatSet,
    dl-TransportFormatSet TransportFormatSet,
    allocationRetentionPriority AllocationRetentionPriority,
    frameHandlingPriority FrameHandlingPriority    OPTIONAL,
    qE-Selector          QE-Selector            OPTIONAL,
    -- This IE is present only if DCH is part of set of Coordinated DCHs
    iE-Extensions         ProtocolExtensionContainer { { DCH-Specific-TDD-Item-ExtIEs} }    OPTIONAL,
    ...
}
```

```
DCH-Specific-TDD-Item-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

FDD-DCHs-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF FDD-DCHs-to-ModifyItem

```

FDD-DCHs-to-ModifyItem ::= SEQUENCE {
    ul-FP-Mode          OPTIONAL,
    toAWS               ToAWS          OPTIONAL,
    toAWE               ToAWE          OPTIONAL,
    transportBearerRequestIndicator TransportBearerRequestIndicator,
    dCH-SpecificInformationList DCH-ModifySpecificInformation-TDD,
    iE-Extensions       ProtocolExtensionContainer { { FDD-DCHs-to-ModifyItem-ExtIEs } } OPTIONAL,
    ...
}

FDD-DCHs-to-ModifyItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-ModifySpecificInformation-FDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-ModifySpecificItem-FDD

DCH-ModifySpecificItem-FDD ::= SEQUENCE {
    dCH-ID              DCH-ID,
    ul-TransportFormatSet TransportFormatSet          OPTIONAL,
    dl-TransportFormatSet TransportFormatSet          OPTIONAL,
    allocationRetentionPriority AllocationRetentionPriority OPTIONAL,
    frameHandlingPriority FrameHandlingPriority        OPTIONAL,
    iE-Extensions       ProtocolExtensionContainer { { DCH-ModifySpecificItem-FDD-ExtIEs } } OPTIONAL,
    ...
}

DCH-ModifySpecificItem-FDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-DCHs-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-ModifyItem-TDD

DCH-ModifyItem-TDD ::= SEQUENCE {
    ul-FP-Mode          UL-FP-Mode          OPTIONAL,
    toAWS               ToAWS               OPTIONAL,
    toAWE               ToAWE               OPTIONAL,
    transportBearerRequestIndicator TransportBearerRequestIndicator,
    dCH-SpecificInformationList DCH-ModifySpecificInformation-TDD,
    iE-Extensions       ProtocolExtensionContainer { { TDD-DCHs-to-ModifyItem-ExtIEs } } OPTIONAL,
    ...
}

TDD-DCHs-to-ModifyItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-ModifySpecificInformation-TDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-ModifySpecificItem-TDD

DCH-ModifySpecificItem-TDD ::= SEQUENCE {
    dCH-ID              DCH-ID,
    ul-CCTrCH-ID        CCTrCH-ID          OPTIONAL,
    dl-CCTrCH-ID        CCTrCH-ID          OPTIONAL,
}

```

```

    ul-TransportFormatSet      TransportFormatSet      OPTIONAL,
    dl-TransportFormatSet      TransportFormatSet      OPTIONAL,
    allocationRetentionPriority AllocationRetentionPriority OPTIONAL,
    frameHandlingPriority      FrameHandlingPriority  OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { DCH-ModifySpecificItem-TDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-ModifySpecificItem-TDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedChannelsCapacityConsumptionLaw ::= SEQUENCE ( SIZE(1..maxNrOfSF) ) OF
SEQUENCE {
    dl-Cost-RLS      INTEGER (0..65535),
    dl-Cost-RL       INTEGER (0..65535),
    ul-Cost-RLS      INTEGER (0..65535),
    ul-Cost-RL       INTEGER (0..65535),
    iE-Extensions    ProtocolExtensionContainer { { DedicatedChannelsCapacityConsumptionLaw-ExtIEs } } OPTIONAL,
    ...
}

DedicatedChannelsCapacityConsumptionLaw-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementType ::= ENUMERATED {
    sir,
    sir-error,
    transmitted-code-power,
    rscp,
    rx-timing-deviation,
    round-trip-time,
    ...
}

DedicatedMeasurementValue ::= CHOICE {
    sIR-Value          SIR-Value,
    sIR-ErrorValue     SIR-Error-Value,
    transmittedCodePowerValue Transmitted-Code-Power-Value,
    rSCP               RSCP-Value,
    rxTimingDeviationValue Rx-Timing-Deviation-Value,
    roundTripTime      Round-Trip-Time-Value,
    ...
}

DedicatedMeasurementValueInformation ::= CHOICE {
    measurementAvailable      DedicatedMeasurementAvailable,
    measurementnotAvailable   DedicatedMeasurementnotAvailable
}

```

```
DedicatedMeasurementAvailable ::= SEQUENCE {
    dedicatedmeasurementValue    DedicatedMeasurementValue,
    cFN                          CFN                      OPTIONAL,
    ie-Extensions                ProtocolExtensionContainer { { DedicatedMeasurementAvailableItem-ExtIEs} }    OPTIONAL,
    ...
}
```

```
DedicatedMeasurementAvailableItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
DedicatedMeasurementnotAvailable ::= NULL
```

```
Detected-PCPCH-access-preambles ::= INTEGER (0..240,...)
```

```
DeltaSIR ::= INTEGER (0..30)
-- Unit dB, Step 0.1 dB, Range 0..3 dB.
```

```
DiversityControlField ::= ENUMERATED {
    may,
    must,
    must-not,
    ...
}
```

```
DiversityMode ::= ENUMERATED {
    none,
    sTTD,
    closed-loop-mode1,
    closed-loop-mode2,
    ...
}
```

```
DL-DPCH-SlotFormat ::= INTEGER (0..16,...)
```

```
DL-Timeslot-Information ::= SEQUENCE (SIZE (1.. maxNrOfDLTSs)) OF DL-Timeslot-InformationItem
```

```
DL-Timeslot-InformationItem ::= SEQUENCE {
    timeSlot                    TimeSlot,
    midambleShiftAndBurstType   MidambleShiftAndBurstType,
    tFCI-Presence               TFCI-Presence,
    dL-Code-Information         TDD-DL-Code-Information,
    iE-Extensions              ProtocolExtensionContainer { { DL-Timeslot-InformationItem-ExtIEs} }    OPTIONAL,
    ...
}
```

```
DL-Timeslot-InformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```

DL-FrameType ::= ENUMERATED {
    typeA,
    typeB,
    ...
}

DL-or-Global-CapacityCredit ::= INTEGER (0..65535)

DL-Power ::= INTEGER (-350..150)
-- DL-Power = power * 10
-- If Power <=-35 DL-Power shall be set to -350
-- if Power >=15 DL-Power shall be set to 150
-- Unit dB, Range -35dB .. +15dB, Step +0.1dB

DLPowerAveragingWindowSize ::= INTEGER (1..60)

DL-ScramblingCode ::= INTEGER (0..15)
-- 0= Primary scrambling code of the cell, 1..15= Secondary scrambling code --

DL-TimeslotISCP ::= INTEGER (0..91)

DL-TimeslotISCPInfo ::= SEQUENCE (SIZE (1..maxNrOfDLTSS)) OF DL-TimeslotISCPInfoItem

DL-TimeslotISCPInfoItem ::= SEQUENCE {
    timeSlot                TimeSlot,
    dL-TimeslotISCP          DL-TimeslotISCP,
    iE-Extensions            ProtocolExtensionContainer { {DL-TimeslotISCPInfoItem-ExtIEs} } OPTIONAL,
    ...
}

DL-TimeslotISCPInfoItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-TPC-Pattern01Count ::= INTEGER (0..30,...)

Downlink-Compressed-Mode-Method ::= ENUMERATED {
    puncturing,
    sFdiv2,
    higher-layer-scheduling,
    ...
}

DPCH-ID ::= INTEGER (0..239)

DSCH-ID ::= INTEGER (0..255)

DSCH-InformationResponse ::= SEQUENCE (SIZE (1..maxNrOfDSCHs)) OF DSCH-InformationResponseItem

DSCH-InformationResponseItem ::= SEQUENCE {

```

```

    dSCH-ID
    bindingID
    transportLayerAddress
    iE-Extensions
    ...
}

DSCH-InformationResponseItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-FDD-Information ::= SEQUENCE (SIZE (1..maxNrOfDSCHs)) OF DSCH-FDD-InformationItem

DSCH-FDD-InformationItem ::= SEQUENCE {
    dSCH-ID
    transportFormatSet
    allocationRetentionPriority
    frameHandlingPriority
    toAWS
    toAWE
    iE-Extensions
    ...
    DSCH-ID,
    TransportFormatSet,
    AllocationRetentionPriority,
    FrameHandlingPriority,
    ToAWS,
    ToAWE,
    ProtocolExtensionContainer { { DSCH-FDD-InformationItem-ExtIEs } } OPTIONAL,
}

DSCH-FDD-InformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-TDD-Information ::= SEQUENCE (SIZE (1..maxNrOfDSCHs)) OF DSCH-TDD-InformationItem

DSCH-TDD-InformationItem ::= SEQUENCE {
    dSCH-ID
    cCTrCH-ID
    transportFormatSet
    allocationRetentionPriority
    frameHandlingPriority
    toAWS
    toAWE
    iE-Extensions
    ...
    DSCH-ID,
    CCTrCH-ID,
    TransportFormatSet,
    AllocationRetentionPriority,
    FrameHandlingPriority,
    ToAWS,
    ToAWE,
    ProtocolExtensionContainer { { DSCH-TDD-InformationItem-ExtIEs } } OPTIONAL,
}

DSCH-TDD-InformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- =====
-- E
-- =====

End-Of-Audit-Sequence-Indicator ::= ENUMERATED {
    end-of-audit-sequence,

```

```

    not-end-of-audit-sequence
  }

-- =====
-- F
-- =====

FDD-DL-ChannelisationCodeNumber ::= INTEGER(0.. 511)
-- According to the mapping in [9]. The maximum value is equal to the DL spreading factor -1--

FDD-DL-CodeInformation ::= SEQUENCE (SIZE (1..maxNrOfCodes)) OF FDD-DL-CodeInformationItem

FDD-DL-CodeInformationItem ::= SEQUENCE {
    dl-ScramblingCode                DL-ScramblingCode,
    fdd-DL-ChannelisationCodeNumber  FDD-DL-ChannelisationCodeNumber,
    transmissionGapPatternSequenceCodeInformation  TransmissionGapPatternSequenceCodeInformation  OPTIONAL,
    iE-Extensions                    ProtocolExtensionContainer { { FDD-DL-CodeInformationItem-ExtIEs} } OPTIONAL,
    ...
}

FDD-DL-CodeInformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

FDD-S-CCPCH-Offset ::= INTEGER (0..149)
-- 0: 0 chip, 1: 256 chip, 2: 512 chip, .. ,149: 38144 chip [7] --

FDD-TPC-DownlinkStepSize ::= ENUMERATED {
    step-size0-5,
    step-size1,
    step-size1-5,
    step-size2,
    ...
}

FirstRLS-Indicator ::= ENUMERATED {
    first-RLS,
    not-first-RLS,
    ...
}

FNReportingIndicator ::= ENUMERATED {
    fN-reporting-required,
    fN-reporting-not-required
}

FrameHandlingPriority ::= INTEGER (0..15)
-- 0=lower priority, 15=higher priority --

FrameAdjustmentValue ::= INTEGER(0..4095)

```

FrameOffset ::= INTEGER (0..255)

```
-- =====  
-- G  
-- =====
```

GapLength ::= INTEGER (1..14)

-- Unit slot

GapDuration ::= INTEGER (1..144,...)

-- Unit frame

```
-- =====  
-- H  
-- =====
```

```
-- =====  
-- I  
-- =====
```

IB-OC-ID ::= INTEGER (1..16)

IB-SG-DATA ::= BIT STRING

-- Contains SIB data fixed" or "SIB data variable" in segment as encoded in ref.[18].

IB-SG-POS ::= INTEGER (0..4094)

-- Only even positions allowed

IB-SG-REP ::= ENUMERATED {rep4, rep8, rep16, rep32, rep64, rep128, rep256, rep512, rep1024, rep2048, rep4096}

IB-Type ::= ENUMERATED {

- mib,
- sb1,
- sb2,
- sib1,
- sib2,
- sIB3,
- sIB4,
- sIB5,
- sIB6,
- sIB7,
- sIB8,
- sIB9,
- sIB10,
- sIB11,
- sib12,
- sIB13,
- sIB13dot1,
- sIB13dot2,
- sIB13dot3,
- sIB13dot4,
- sIB14,


```
sIB15,  
sIB15dot1,  
sIB15dot2,  
sIB15dot3,  
sIB16,  
...  
}  
  
IndicationType ::= ENUMERATED {  
    noFailure,  
    serviceImpacting,  
    ...  
}  
  
InnerLoopDLPCStatus ::= ENUMERATED {  
    active,  
    inactive  
}  
  
-- =====  
-- J  
-- =====  
  
-- =====  
-- K  
-- =====  
  
-- =====  
-- L  
-- =====  
  
Local-Cell-ID ::= INTEGER (0..268435455)  
  
-- =====  
-- M  
-- =====  
  
MaximumDL-PowerCapability ::= INTEGER(0..500)  
-- Unit dBm, Range 0dBm .. 50dBm, Step +0.1dB  
  
MaximumTransmissionPower ::= INTEGER(0..500)  
-- Unit dBm, Range 0dBm .. 50dBm, Step +0.1dB  
  
MaxNrOfUL-DPDCHs ::= INTEGER (1..6)  
  
Max-Number-of-PCPCHes ::= INTEGER (1..64,...)  
  
MaxPRACH-MidambleShifts ::= ENUMERATED {  
    shift4,  
    shift8,  
    ...  
}
```

```
MeasurementAvailabilityIndicator ::= ENUMERATED {
    measurementAvailable,
    measurementnotAvailable
}

MeasurementFilterCoefficient ::= ENUMERATED {k0, k1, k2, k3, k4, k5, k6, k7, k8, k9, k11, k13, k15, k17, k19,...}
-- Measurement Filter Coefficient to be used for measurement

MeasurementID ::= INTEGER (0..1048575)

MidambleShiftAndBurstType ::= CHOICE {
    type1 CHOICE {
        defaultMidamble NULL,
        commonMidamble NULL,
        ueSpecificMidamble MidambleShiftLong,
        ...
    },
    type2 CHOICE {
        defaultMidamble NULL,
        commonMidamble NULL,
        ueSpecificMidamble MidambleShiftShort,
        ...
    },
    type3 CHOICE {
        defaultMidamble NULL,
        ueSpecificMidamble MidambleShiftLong,
        ...
    },
    ...
}

MidambleShiftLong ::= INTEGER (0..15)

MidambleShiftShort ::= INTEGER (0..5)

MinimumDL-PowerCapability ::= INTEGER(0..800)
-- Unit dBm, Range -30dBm .. 50dBm, Step +0.1dB

MinSpreadingFactor ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32,
    v64,
    v128,
    v256,
    v512
}

MinUL-ChannelisationCodeLength ::= ENUMERATED {
    v4,
    v8,
    v16,
```

```

    v32,
    v64,
    v128,
    v256,
    ...
}

MultiplexingPosition ::= ENUMERATED {
    fixed,
    flexible
}

-- =====
-- N
-- =====

NCyclesPerSFNperiod ::= ENUMERATED {
    v1,
    v2,
    v4,
    v8,
    ...
}

NEOT ::= INTEGER (0..8)

NFmax ::= INTEGER (1..64,...)

NRepetitionsPerCyclePeriod ::= INTEGER (2..10)

N-INSYNC-IND ::= INTEGER (1..256)

N-OUTSYNC-IND ::= INTEGER (1..256)

NodeB-CommunicationContextID ::= INTEGER (0..1048575)

NStartMessage ::= INTEGER (1..8)

-- =====
-- O
-- =====

-- =====
-- P
-- =====

PagingIndicatorLength ::= ENUMERATED {
    v2,
    v4,
    v8,
    ...
}

```

```

PayloadCRC-PresenceIndicator ::= ENUMERATED {
    cRC-Included,
    cRC-NotIncluded,
    ...
}

```

```

PCCPCH-Power ::= INTEGER (-150..400,...)
-- PCCPCH-power = power * 10
-- If power <= -15 PCCPCH shall be set to -150
-- If power >= 40 PCCPCH shall be set to 400
-- Unit dBm, Range -15dBm .. +40 dBm, Step +0.1dBm

```

```

PCP-Length ::= ENUMERATED{
    v0,
    v8
}

```

```

PDSCH-CodeMapping ::= SEQUENCE {
    dl-ScramblingCode          DL-ScramblingCode,
    signallingMethod          CHOICE {
        code-Range            PDSCH-CodeMapping-PDSCH-CodeMappingInformationList,
        tFCI-Range            PDSCH-CodeMapping-DSCH-MappingInformationList,
        explicit               PDSCH-CodeMapping-PDSCH-CodeInformationList,
        ...
    },
    iE-Extensions              ProtocolExtensionContainer { { PDSCH-CodeMapping-ExtIEs } } OPTIONAL,
    ...
}

```

```

PDSCH-CodeMapping-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

PDSCH-CodeMapping-CodeNumberComp ::= INTEGER (0..maxCodeNrComp-1)

```

```

PDSCH-CodeMapping-SpreadingFactor ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32,
    v64,
    v128,
    v256,
    ...
}

```

```

PDSCH-CodeMapping-PDSCH-CodeMappingInformationList ::= SEQUENCE (SIZE (1..maxNrOfCodeGroups)) OF
SEQUENCE {
    spreadingFactor            PDSCH-CodeMapping-SpreadingFactor,
    multi-CodeInfo            PDSCH-Multi-CodeInfo,
    start-CodeNumber          PDSCH-CodeMapping-CodeNumberComp,
    stop-CodeNumber           PDSCH-CodeMapping-CodeNumberComp,
    iE-Extensions              ProtocolExtensionContainer { { PDSCH-CodeMapping-PDSCH-CodeMappingInformationList-ExtIEs } } OPTIONAL,
}

```

```

}
...
}
PDSCH-CodeMapping-PDSCH-CodeMappingInformationList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}
PDSCH-CodeMapping-DSCH-MappingInformationList ::= SEQUENCE (SIZE (1..maxNrOfTFCIGroups)) OF
SEQUENCE {
maxTFCI-field2-Value          PDSCH-CodeMapping-MaxTFCI-Field2-Value,
spreadingFactor              PDSCH-CodeMapping-SpreadingFactor,
multi-CodeInfo               PDSCH-Multi-CodeInfo,
codeNumber                   PDSCH-CodeMapping-CodeNumberComp,
iE-Extensions                ProtocolExtensionContainer { { PDSCH-CodeMapping-DSCH-MappingInformationList-ExtIEs} } OPTIONAL,
...
}
PDSCH-CodeMapping-DSCH-MappingInformationList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}
PDSCH-CodeMapping-MaxTFCI-Field2-Value ::= INTEGER (1..1023)
PDSCH-CodeMapping-PDSCH-CodeInformationList ::= SEQUENCE (SIZE (1..maxNrOfTFCI2Combs)) OF
SEQUENCE {
spreadingFactor              PDSCH-CodeMapping-SpreadingFactor,
multi-CodeInfo               PDSCH-Multi-CodeInfo,
codeNumber                   PDSCH-CodeMapping-CodeNumberComp,
iE-Extensions                ProtocolExtensionContainer { { PDSCH-CodeMapping-PDSCH-CodeInformationList-ExtIEs} } OPTIONAL,
...
}
PDSCH-CodeMapping-PDSCH-CodeInformationList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}
PDSCH-Multi-CodeInfo ::= INTEGER (1..16)
PDSCH-ID ::= INTEGER (0..255)
PDSCHSet-ID ::= INTEGER (0..255)
PICH-Mode ::= ENUMERATED {
v18,
v36,
v72,
v144,
...
}
PICH-Power ::= INTEGER (-10..5)
-- Unit dB, Range -10dB .. +5dB, Step +1dB

```

```
PowerAdjustmentType ::= ENUMERATED {
    none,
    common,
    individual
}

PowerOffset ::= INTEGER (0..24)
-- PowerOffset = offset * 0.25
-- Unit dB, Range 0dB .. +6dB, Step +0.25dB

PowerRaiseLimit ::= INTEGER (0..10)

PRACH-Midamble ::= ENUMERATED {
    inverted,
    direct,
    ...
}

PreambleSignatures ::= BIT STRING (SIZE (16))
-- Bit 0=P0, Bit 1=P1, .. ,Bit 15=P15 [9] --

PreambleThreshold ::= INTEGER (0..72)
-- 0= -36.0dB, 1= -35.5dB, ... , 72= 0.0dB

Pre-emptionCapability ::= ENUMERATED {
    shall-not-trigger-pre-emption,
    may-trigger-pre-emption
}

Pre-emptionVulnerability ::= ENUMERATED {
    not-pre-emptable,
    pre-emptable
}

PrimaryCPICH-Power ::= INTEGER(-100..500)
-- step 0.1 (Range -10.0..50.0) Unit is dBm

PrimaryScramblingCode ::= INTEGER (0..511)

PriorityLevel ::= INTEGER (0..15)
-- 0 = spare, 1 = highest priority, ...14 = lowest priority and 15 = no priority

PropagationDelay ::= INTEGER (0..255)
-- Unit: chips, step size 3 chips
-- example: 0 = 0chip, 1 = 3chips

SCH-TimeSlot ::= INTEGER (0..6)

PunctureLimit ::= INTEGER (0..15)
-- 0: 40%; 1: 44%; ... 14: 96%; 15: 100%

PUSCH-ID ::= INTEGER (0..255)
```

PUSCHSet-ID ::= INTEGER (0..255)

```
-- =====  
-- Q  
-- =====
```

QE-Selector ::= ENUMERATED {
 selected,
 non-selected
}

```
-- =====  
-- R  
-- =====
```

RACH-SlotFormat ::= ENUMERATED {
 v0,
 v1,
 v2,
 v3,
 ...
}

RACH-SubChannelNumbers ::= BIT STRING (SIZE (12))

-- Bit 0=Sub Channel Number 0, Bit 1=Sub Channel Number 1, ..., Bit 11=Sub Channel Number 11

RepetitionLength ::= INTEGER (1..63)

RepetitionPeriod ::= ENUMERATED {
 v1,
 v2,
 v4,
 v8,
 v16,
 v32,
 v64,
 ...
}

RepetitionNumber ::= INTEGER (1..256)

RefTFCNumber ::= INTEGER (0..3)

ReportCharacteristics ::= CHOICE {
 onDemand NULL,
 periodic ReportCharacteristicsType-ReportPeriodicity,
 event-a ReportCharacteristicsType-EventA,
 event-b ReportCharacteristicsType-EventB,
 event-c ReportCharacteristicsType-EventC,
 event-d ReportCharacteristicsType-EventD,
 event-e ReportCharacteristicsType-EventE,
 event-f ReportCharacteristicsType-EventF,
 ...

```

}

ReportCharacteristicsType-EventA ::= SEQUENCE {
    measurementThreshold      ReportCharacteristicsType-MeasurementThreshold,
    measurementHysteresisTime ReportCharacteristicsType-ScaledMeasurementHysteresisTime OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { { ReportCharacteristicsType-EventA-ExtIEs } } OPTIONAL,
    ...
}

ReportCharacteristicsType-EventA-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

ReportCharacteristicsType-EventB ::= SEQUENCE {
    measurementThreshold      ReportCharacteristicsType-MeasurementThreshold,
    measurementHysteresisTime ReportCharacteristicsType-ScaledMeasurementHysteresisTime OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { { ReportCharacteristicsType-EventB-ExtIEs } } OPTIONAL,
    ...
}

ReportCharacteristicsType-EventB-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

ReportCharacteristicsType-EventC ::= SEQUENCE {
    measurementIncreaseThreshold ReportCharacteristicsType-MeasurementIncreaseDecreaseThreshold,
    measurementChangeTime       ReportCharacteristicsType-ScaledMeasurementChangeTime,
    iE-Extensions               ProtocolExtensionContainer { { ReportCharacteristicsType-EventC-ExtIEs } } OPTIONAL,
    ...
}

ReportCharacteristicsType-EventC-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

ReportCharacteristicsType-EventD ::= SEQUENCE {
    measurementDecreaseThreshold ReportCharacteristicsType-MeasurementIncreaseDecreaseThreshold,
    measurementChangeTime       ReportCharacteristicsType-ScaledMeasurementChangeTime,
    iE-Extensions               ProtocolExtensionContainer { { ReportCharacteristicsType-EventD-ExtIEs } } OPTIONAL,
    ...
}

ReportCharacteristicsType-EventD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

ReportCharacteristicsType-EventE ::= SEQUENCE {
    measurementThreshold1      ReportCharacteristicsType-MeasurementThreshold,
    measurementThreshold2      ReportCharacteristicsType-MeasurementThreshold OPTIONAL,
    measurementHysteresisTime  ReportCharacteristicsType-ScaledMeasurementHysteresisTime OPTIONAL,
    reportPeriodicity          ReportCharacteristicsType-ReportPeriodicity OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { ReportCharacteristicsType-EventE-ExtIEs } } OPTIONAL,
    ...
}

```



```

}

ReportCharacteristicsType-EventE-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

ReportCharacteristicsType-EventF ::= SEQUENCE {
  measurementThreshold1      ReportCharacteristicsType-MeasurementThreshold,
  measurementThreshold2      ReportCharacteristicsType-MeasurementThreshold      OPTIONAL,
  measurementHysteresisTime   ReportCharacteristicsType-ScaledMeasurementHysteresisTime  OPTIONAL,
  reportPeriodicity           ReportCharacteristicsType-ReportPeriodicity      OPTIONAL,
  iE-Extensions               ProtocolExtensionContainer { { ReportCharacteristicsType-EventF-ExtIEs } }  OPTIONAL,
  ...
}

ReportCharacteristicsType-EventF-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

ReportCharacteristicsType-MeasurementIncreaseDecreaseThreshold ::= CHOICE {
  received-total-wide-band-power      Received-total-wide-band-power-Value-IncrDecrThres,
  transmitted-carrier-power            Transmitted-Carrier-Power-Value,
  acknowledged-prach-preambles        Acknowledged-PRACH-preambles-Value,
  uL-TimeslotISCP                      UL-TimeslotISCP-Value-IncrDecrThres,
  sir                                  SIR-Value-IncrDecrThres,
  sir-error                            SIR-Error-Value-IncrDecrThres,
  transmitted-code-power               Transmitted-Code-Power-Value-IncrDecrThres,
  rscp                                  RSCP-Value-IncrDecrThres,
  round-trip-time                      Round-Trip-Time-IncrDecrThres,
  acknowledged-PCPCH-access-preambles Acknowledged-PCPCH-access-preambles,
  detected-PCPCH-access-preambles      Detected-PCPCH-access-preambles,
  ...
}

ReportCharacteristicsType-MeasurementThreshold ::= CHOICE {
  received-total-wide-band-power      Received-total-wide-band-power-Value,
  transmitted-carrier-power            Transmitted-Carrier-Power-Value,
  acknowledged-prach-preambles        Acknowledged-PRACH-preambles-Value,
  uL-TimeslotISCP                      UL-TimeslotISCP-Value,
  sir                                  SIR-Value,
  sir-error                            SIR-Error-Value,
  transmitted-code-power               Transmitted-Code-Power-Value,
  rscp                                  RSCP-Value,
  rx-timing-deviation                 Rx-Timing-Deviation-Value,
  round-trip-time                      Round-Trip-Time-Value,
  acknowledged-PCPCH-access-preambles Acknowledged-PCPCH-access-preambles,
  detected-PCPCH-access-preambles      Detected-PCPCH-access-preambles,
  ...
}

ReportCharacteristicsType-ScaledMeasurementChangeTime ::= CHOICE {
  msec                                MeasurementChangeTime-Scaledmsec,
  ...
}

```

```

}

MeasurementChangeTime-Scaledmsec ::= INTEGER (1..6000,...)
-- MeasurementChangeTime-Scaledmsec = Time * 10
-- Unit ms, Range 10ms .. 60000ms(1min), Step 10ms

ReportCharacteristicsType-ScaledMeasurementHysteresisTime ::= CHOICE {
    msec                MeasurementHysteresisTime-Scaledmsec,
    ...
}

MeasurementHysteresisTime-Scaledmsec ::= INTEGER (1..6000,...)
-- MeasurementHysteresisTime-Scaledmsec = Time * 10
-- Unit ms, Range 10ms .. 60000ms(1min), Step 10ms

ReportCharacteristicsType-ReportPeriodicity ::= CHOICE {
    msec                ReportPeriodicity-Scaledmsec,
    min                 ReportPeriodicity-Scaledmin,
    ...
}

ReportPeriodicity-Scaledmsec ::= INTEGER (1..6000,...)
-- ReportPeriodicity-msec = ReportPeriodicity * 10
-- Unit ms, Range 10ms .. 60000ms(1min), Step 10ms

ReportPeriodicity-Scaledmin ::= INTEGER (1..60,...)
-- Unit min, Range 1min .. 60min(hour), Step 1min

ResourceOperationalState ::= ENUMERATED {
    enabled,
    disabled
}

CommonTransportChannel-InformationResponse ::= SEQUENCE {
    commonTransportChannelID      CommonTransportChannelID,
    bindingID                     BindingID OPTIONAL,
    transportLayerAddress         TransportLayerAddress OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { { CommonTransportChannel-InformationResponse-ExtIEs } } OPTIONAL,
    ...
}

CommonTransportChannel-InformationResponse-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

LimitedPowerIncrease ::= ENUMERATED {
    used,
    not-used
}

RL-ID ::= INTEGER (0..31)

RL-Set-ID ::= INTEGER (0..31)

```

```
Round-Trip-Time-IncrDecrThres ::= INTEGER(0..32766)

Round-Trip-Time-Value ::= INTEGER(0..32767)
-- According to mapping in [22]

RSCP-Value ::= INTEGER (0..81)
-- According to mapping in [23]

RSCP-Value-IncrDecrThres ::= INTEGER (0..80)

Received-total-wide-band-power-Value ::= INTEGER(0..621)
-- According to mapping in [22]/[23]

Received-total-wide-band-power-Value-IncrDecrThres ::= INTEGER (0..620)

Rx-Timing-Deviation-Value ::= INTEGER (0..2047)

-- =====
-- S
-- =====

AdjustmentPeriod          ::= INTEGER(1..256)
-- Unit Frame

ScaledAdjustmentRatio     ::= INTEGER(0..100)
-- AdjustmentRatio = ScaledAdjustmentRatio / 100

MaxAdjustmentStep        ::= INTEGER(1..10)
-- Unit Slot

ScramblingCodeNumber ::= INTEGER (0..15)

SecondaryCCPCH-SlotFormat ::= INTEGER(0..17,...)

Segment-Type ::= ENUMERATED {
    first-segment,
    first-segment-short,
    subsequent-segment,
    last-segment,
    last-segment-short,
    complete-SIB,
    complete-SIB-short,
    ...
}

S-FieldLength ::= ENUMERATED {
    v1,
    v2,
    ...
}

SFN ::= INTEGER (0..4095)
```

```
ShutdownTimer ::= INTEGER (1..3600)
-- Unit sec

SIB-Originator ::= ENUMERATED {
    nodeB,
    cRNC,
    ...
}

SIR-Error-Value ::= INTEGER (0..125)

SIR-Error-Value-IncrDecrThres ::= INTEGER (0..124)

SIR-Value ::= INTEGER (0..63)
-- According to mapping in [22]/[23]

SIR-Value-IncrDecrThres ::= INTEGER (0..62)

SSDT-Cell-Identity ::= ENUMERATED {a, b, c, d, e, f, g, h}

SSDT-CellID-Length ::= ENUMERATED {
    short,
    medium,
    long
}

SSDT-Indication ::= ENUMERATED {
    ssdt-active-in-the-UE,
    ssdt-not-active-in-the-UE
}

Start-Of-Audit-Sequence-Indicator ::= ENUMERATED {
    start-of-audit-sequence,
    not-start-of-audit-sequence
}

STTD-Indicator ::= ENUMERATED {
    active,
    inactive,
    ...
}

SSDT-SupportIndicator ::= ENUMERATED {
    sSDT-Supported,
    sSDT-not-supported
}

SyncCase ::= INTEGER (1..2,...)

SyncFrameNumber ::= INTEGER (1..10)
```

```

SynchronisationReportCharacteristics ::= SEQUENCE {
    synchronisationReportCharacteristicsType SynchronisationReportCharacteristicsType,
    synchronisationReportCharactThreExc SynchronisationReportCharactThreExc OPTIONAL
    -- This IE shall only be included if the value of synchronisationReportCharacteristicsType is thresholdExceeding.
}

SynchronisationReportCharactThreExc ::= SEQUENCE (SIZE (1..maxNrOfCellSyncBursts)) OF SynchronisationReportCharactThreInfoItem

SynchronisationReportCharactThreInfoItem ::= SEQUENCE {
    syncFrameNumber SyncFrameNumber,
    cellSyncBurstInformation SEQUENCE (SIZE (1.. maxNrOfReceptsPerSyncFrame)) OF SynchronisationReportCharactCellSyncBurstInfoItem,
    iE-Extensions ProtocolExtensionContainer { { SynchronisationReportCharactThreInfoItem-ExtIEs } } OPTIONAL,
    ...
}

SynchronisationReportCharactThreInfoItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

SynchronisationReportCharactCellSyncBurstInfoItem ::= SEQUENCE {
    cellSyncBurstCode CellSyncBurstCode,
    cellSyncBurstCodeShift CellSyncBurstCodeShift,
    cellSyncBurstTiming CellSyncBurstTiming OPTIONAL,
    cellSyncBurstTimingThreshold CellSyncBurstTimingThreshold OPTIONAL,
    iE-Extensions ProtocolExtensionContainer { { SynchronisationReportCharactCellSyncBurstInfoItem-ExtIEs } } OPTIONAL,
    ...
}

SynchronisationReportCharactCellSyncBurstInfoItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

SynchronisationReportCharacteristicsType ::= ENUMERATED {
    frameRelated,
    sFNperiodRelated,
    cycleLengthRelated,
    thresholdExceeding,
    ...
}

SynchronisationReportType ::= ENUMERATED {
    initialPhase,
    steadyStatePhase,
    lateEntrantCell,
    ...
}

-- =====
-- T
-- =====

T-Cell ::= ENUMERATED {
    v0,

```

```
v1,  
v2,  
v3,  
v4,  
v5,  
v6,  
v7,  
v8,  
v9  
}  
  
T-RLFFAILURE ::= INTEGER (0..255)  
-- Unit seconds, Range 0s .. 25.5s, Step 0.1s  
  
TDD-ChannelisationCode ::= ENUMERATED {  
  chCode1div1,  
  chCode2div1,  
  chCode2div2,  
  chCode4div1,  
  chCode4div2,  
  chCode4div3,  
  chCode4div4,  
  chCode8div1,  
  chCode8div2,  
  chCode8div3,  
  chCode8div4,  
  chCode8div5,  
  chCode8div6,  
  chCode8div7,  
  chCode8div8,  
  chCode16div1,  
  chCode16div2,  
  chCode16div3,  
  chCode16div4,  
  chCode16div5,  
  chCode16div6,  
  chCode16div7,  
  chCode16div8,  
  chCode16div9,  
  chCode16div10,  
  chCode16div11,  
  chCode16div12,  
  chCode16div13,  
  chCode16div14,  
  chCode16div15,  
  chCode16div16,  
  ...  
}  
  
TDD-DL-Code-Information ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF TDD-DL-Code-InformationItem  
  
TDD-DL-Code-InformationItem ::= SEQUENCE {  
  DPCH-ID,  
  DPCH-ID,
```

```

    tdd-ChannelisationCode      TDD-ChannelisationCode,
    iE-Extensions               ProtocolExtensionContainer { { TDD-DL-Code-InformationItem-ExtIEs } } OPTIONAL,
    ...
}

TDD-DL-Code-InformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-DPCHOffset ::= CHOICE {
    initialOffset      INTEGER (0..255),
    noinitialOffset    INTEGER (0..63)
}

TDD-PhysicalChannelOffset ::= INTEGER (0..63)

TDD-TPC-DownlinkStepSize ::= ENUMERATED {
    step-size1,
    step-size2,
    step-size3,
    ...
}

TransportFormatCombination-Beta ::= CHOICE {
    signalledGainFactors      SEQUENCE {
        gainFactor            CHOICE {
            fdd                SEQUENCE {
                betaC          BetaCD,
                betaD          BetaCD,
                iE-Extensions  ProtocolExtensionContainer { { GainFactorFDD-ExtIEs } } OPTIONAL,
                ...
            },
            tdd                BetaCD,
            ...
        },
        refTFCNumber          RefTFCNumber OPTIONAL,
        iE-Extensions        ProtocolExtensionContainer { { SignalledGainFactors-ExtIEs } } OPTIONAL,
        ...
    },
    computedGainFactors      RefTFCNumber,
    ...
}

GainFactorFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

SignalledGainFactors-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-UL-Code-Information ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF TDD-UL-Code-InformationItem

```

```

TDD-UL-Code-InformationItem ::= SEQUENCE {
    dPCH-ID
    tdd-ChannelisationCode
    iE-Extensions
    ...
}

TDD-UL-Code-InformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCI-Coding ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32,
    ...
}

TFCI-Presence ::= ENUMERATED {
    present,
    not-present
}

TFCI-SignallingMode ::= SEQUENCE {
    tFCI-SignallingOption      TFCI-SignallingMode-TFCI-SignallingOption,
    splitType                  TFCI-SignallingMode-SplitType              OPTIONAL,
    -- This IE is only present if TFCI signalling option is split --
    lengthOfTFCI2              TFCI-SignallingMode-LengthOfTFCI2          OPTIONAL,
    -- This IE is only present if split type is logical --
    iE-Extensions              ProtocolExtensionContainer { { TFCI-SignallingMode-ExtIEs } }  OPTIONAL,
    ...
}

TFCI-SignallingMode-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCI-SignallingMode-LengthOfTFCI2 ::= INTEGER (1..10)

TFCI-SignallingMode-SplitType ::= ENUMERATED {
    hard,
    logical
}

TFCI-SignallingMode-TFCI-SignallingOption ::= ENUMERATED {
    normal,
    split
}

TFCI2-BearerInformationResponse ::= SEQUENCE {
    bindingID
    transportLayerAddress
    BindingID,
    TransportLayerAddress,

```



```

    iE-Extensions
    ...
}
ProtocolExtensionContainer { { TFCI2-BearerInformationResponse-ExtIEs } } OPTIONAL,

TFCI2-BearerInformationResponse-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TGD ::= INTEGER (0|15..269)
-- 0 = Undefined, only one transmission gap in the transmission gap pattern sequence

TGPRC ::= INTEGER (0..63)
-- 0 = infinity

TGPSID ::= INTEGER (1.. maxTGPS)

TGSN ::= INTEGER (0..14)

TimeSlot ::= INTEGER (0..14)

TimeSlotDirection ::= ENUMERATED {
    ul,
    dl,
    ...
}

TimeSlotStatus ::= ENUMERATED {
    active,
    not-active,
    ...
}

TimingAdjustmentValue ::= CHOICE {
    initialPhase INTEGER (0..255),
    steadyStatePhase INTEGER (0..1048575)
}

TimingAdvanceApplied ::= ENUMERATED {
    yes,
    no
}

ToAWE ::= INTEGER (0..2559)
-- Unit ms

ToAWS ::= INTEGER (0..1279)
-- Unit ms

Transmission-Gap-Pattern-Sequence-Information ::= SEQUENCE (SIZE (1..maxTGPS)) OF

```

```

SEQUENCE {
    tGPSID          TGPSID,
    tGSN            TGSN,
    tGL1            GapLength,
    tGL2            GapLength  OPTIONAL,
    tGD             TGD,
    tGPL1           GapDuration,
    tGPL2           GapDuration OPTIONAL,
    uL-DL-mode      UL-DL-mode,
    downlink-Compressed-Mode-Method  Downlink-Compressed-Mode-Method  OPTIONAL,
    -- This IE is only present if the value of the UL/DL mode IE is "DL only" or "UL/DL"
    uplink-Compressed-Mode-Method     Uplink-Compressed-Mode-Method     OPTIONAL,
    -- This IE is only present if the value of the UL/DL mode IE is "UL only" or "UL/DL"
    dL-FrameType      DL-FrameType,
    delta-SIR1         DeltaSIR,
    delta-SIR-after1   DeltaSIR,
    delta-SIR2         DeltaSIR  OPTIONAL,
    delta-SIR-after2   DeltaSIR  OPTIONAL,
    iE-Extensions      ProtocolExtensionContainer { {Transmission-Gap-Pattern-Sequence-Information-ExtIEs} } OPTIONAL,
    ...
}

```

```

Transmission-Gap-Pattern-Sequence-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

TransmissionGapPatternSequenceCodeInformation ::= ENUMERATED{
    code-change,
    nocode-change
}

```

```

Transmitted-Carrier-Power-Value ::= INTEGER(0..100)
-- According to mapping in [4]/[5]

```

```

Transmitted-Code-Power-Value ::= INTEGER (0..127)
-- According to mapping in [4]/[5]

```

```

Transmitted-Code-Power-Value-IncrDecrThres ::= INTEGER (0..112,...)

```

```

TransmissionDiversityApplied ::= BOOLEAN
-- true: applied, false: not applied

```

```

TransmitDiversityIndicator ::= ENUMERATED {

```

```

    active,
    inactive
}

TFCS ::= SEQUENCE {
    tFCSvalues          CHOICE {
        no-Split-in-TFCI      TFCs-TFCSList,
        split-in-TFCI         SEQUENCE {
            transportFormatCombination-DCH  TFCs-DCHList,
            signallingMethod                 CHOICE {
                tFCI-Range                 TFCs-MappingOnDSCHList,
                explicit                    TFCs-DSCHList,
                ...
            },
            iE-Extensions                 ProtocolExtensionContainer { { Split-in-TFCI-ExtIEs } } OPTIONAL,
            ...
        },
        ...
    },
    ...
},
iE-Extensions          ProtocolExtensionContainer { { TFCS-ExtIEs } } OPTIONAL,
...
}

Split-in-TFCI-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-TFCSList ::= SEQUENCE (SIZE (1..maxNrOfTFCS)) OF
    SEQUENCE {
        cTFC                TFCs-CTFC,
        tFC-Beta            TransportFormatCombination-Beta OPTIONAL,
        iE-Extensions       ProtocolExtensionContainer { { TFCS-TFCSList-ExtIEs } } OPTIONAL,
        ...
    }

TFCS-TFCSList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-CTFC ::= CHOICE {
    ctfc2bit                INTEGER (0..3),
    ctfc4bit                INTEGER (0..15),
    ctfc6bit                INTEGER (0..63),
    ctfc8bit                INTEGER (0..255),
    ctfc12bit              INTEGER (0..4095),
    ctfc16bit              INTEGER (0..65535),
    ctfcmaxbit             INTEGER (0..maxCTFC)
}

```

```

TFCS-DCHList ::= SEQUENCE (SIZE (1..maxNrOfTFCICombs)) OF
  SEQUENCE {
    cTFC                TFCS-CTFC,
    iE-Extensions       ProtocolExtensionContainer { { TFCS-DCHList-ExtIEs} }    OPTIONAL,
    ...
  }

TFCS-DCHList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

TFCS-MapingOnDSCHList ::= SEQUENCE (SIZE (1..maxNrOfTFCIGroups)) OF
  SEQUENCE {
    maxTFCI-field2-Value    TFCS-MaxTFCI-field2-Value,
    cTFC-DSCH              TFCS-CTFC,
    iE-Extensions          ProtocolExtensionContainer { { TFCS-MapingOnDSCHList-ExtIEs} }    OPTIONAL,
    ...
  }

TFCS-MapingOnDSCHList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

TFCS-MaxTFCI-field2-Value ::= INTEGER (1..maxNrOfTFCI2Combs-1)

TFCS-DSCHList ::= SEQUENCE (SIZE (1..maxNrOfTFCI2Combs)) OF
  SEQUENCE {
    cTFC-DSCH              TFCS-CTFC,
    iE-Extensions          ProtocolExtensionContainer { { TFCS-DSCHList-ExtIEs} }    OPTIONAL,
    ...
  }

TFCS-DSCHList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

TransportBearerRequestIndicator ::= ENUMERATED {
  bearerRequested,
  bearerNotRequested,
  ...
}

TransportFormatSet ::= SEQUENCE {
  dynamicParts             TransportFormatSet-DynamicPartList,
  semi-staticPart         TransportFormatSet-Semi-staticPart,
  iE-Extensions           ProtocolExtensionContainer { { TransportFormatSet-ExtIEs} }    OPTIONAL,
  ...
}

TransportFormatSet-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

TransportFormatSet-DynamicPartList ::= SEQUENCE (SIZE (1..maxNrOfTFs)) OF
  SEQUENCE {
    nrOfTransportBlocks      TransportFormatSet-NrOfTransportBlocks,
    transportBlockSize      TransportFormatSet-TransportBlockSize     OPTIONAL,
    -- This IE is only present if "Number of Transport Blocks" is greater than 0
    mode                    TransportFormatSet-ModeDP,
    iE-Extensions          ProtocolExtensionContainer { { TransportFormatSet-DynamicPartList-ExtIEs } } OPTIONAL,
    ...
  }

TransportFormatSet-DynamicPartList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

TDD-TransportFormatSet-ModeDP ::= SEQUENCE {
  transmissionTimeIntervalInformation  TransmissionTimeIntervalInformation     OPTIONAL,
  -- This IE is mandatory if the "Transmission Time Interval" of the "Semi-static Transport Format Information" is "dynamic". Otherwise it is
  absent.
  iE-Extensions          ProtocolExtensionContainer { {TDD-TransportFormatSet-ModeDP-ExtIEs} } OPTIONAL,
  ...
}

TDD-TransportFormatSet-ModeDP-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

TransmissionTimeIntervalInformation ::= SEQUENCE (SIZE (1..maxTTI-count)) OF
  SEQUENCE {
    transmissionTimeInterval      TransportFormatSet-TransmissionTimeIntervalDynamic,
    iE-Extensions                ProtocolExtensionContainer { { TransmissionTimeIntervalInformation-ExtIEs } } OPTIONAL,
    ...
  }

TransmissionTimeIntervalInformation-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

TransportFormatSet-Semi-staticPart ::= SEQUENCE {
  transmissionTimeInterval      TransportFormatSet-TransmissionTimeIntervalSemiStatic,
  channelCoding                 TransportFormatSet-ChannelCodingType,
  codingRate                    TransportFormatSet-CodingRate                 OPTIONAL,
  -- This IE is only present if channelCoding is 'convolutional' or 'turbo'
  rateMatchingAttribute         TransportFormatSet-RateMatchingAttribute,
  CRC-Size                      TransportFormatSet-CRC-Size,
  mode                          TransportFormatSet-ModeSSP,
  iE-Extensions                ProtocolExtensionContainer { { TransportFormatSet-Semi-staticPart-ExtIEs } } OPTIONAL,
  ...
}

TransportFormatSet-Semi-staticPart-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```
TransportFormatSet-ChannelCodingType ::= ENUMERATED {
    no-coding,
    convolutional-coding,
    turbo-coding,
    ...
}

TransportFormatSet-CodingRate ::= ENUMERATED {
    half,
    third,
    ...
}

TransportFormatSet-CRC-Size ::= ENUMERATED {
    v0,
    v8,
    v12,
    v16,
    v24,
    ...
}

TransportFormatSet-ModeDP ::= CHOICE {
    tdd                TDD-TransportFormatSet-ModeDP,
    notApplicable     NULL,
    ...
}

TransportFormatSet-ModeSSP ::= CHOICE {
    tdd                TransportFormatSet-SecondInterleavingMode,
    notApplicable     NULL,
    ...
}

TransportFormatSet-NrOfTransportBlocks ::= INTEGER (0..512)

TransportFormatSet-RateMatchingAttribute ::= INTEGER (1..maxRateMatching)

TransportFormatSet-SecondInterleavingMode ::= ENUMERATED {
    frame-related,
    timeSlot-related,
    ...
}

TransportFormatSet-TransmissionTimeIntervalDynamic ::= ENUMERATED {
    msec-10,
    msec-20,
    msec-40,
    msec-80,
    ...
}

TransportFormatSet-TransmissionTimeIntervalSemiStatic ::= ENUMERATED {
```

```

    msec-10,
    msec-20,
    msec-40,
    msec-80,
    dynamic,
    ...
}

TransportFormatSet-TransportBlockSize ::= INTEGER (0..5000)

TransportLayerAddress ::= BIT STRING (SIZE (1..160, ...))

TSTD-Indicator ::= ENUMERATED {
    active,
    inactive
}

-- =====
-- U
-- =====

UARFCN ::= INTEGER (0..16383, ...)
-- corresponds to 1885.2MHz .. 2024.8MHz

UL-CapacityCredit ::= INTEGER (0..65535)

UL-DL-mode ::= ENUMERATED {
    ul-only,
    dl-only,
    both-ul-and-dl
}

Uplink-Compressed-Mode-Method ::= ENUMERATED {
    sFdiv2,
    higher-layer-scheduling,
    ...
}

UL-Timeslot-Information ::= SEQUENCE (SIZE (1..maxNrOfULTSs)) OF UL-Timeslot-InformationItem

UL-Timeslot-InformationItem ::= SEQUENCE {
    timeSlot                TimeSlot,
    midambleShiftAndBurstType MidambleShiftAndBurstType,
    tFCI-Presence           TFCI-Presence,
    uL-Code-InformationList TDD-UL-Code-Information,
    iE-Extensions          ProtocolExtensionContainer { { UL-Timeslot-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

UL-Timeslot-InformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {

```

```

    ...
}

UL-DPCCH-SlotFormat ::= INTEGER (0..5,...)

UL-SIR ::= INTEGER (-82..173)
-- According to mapping in [16]

UL-FP-Mode ::= ENUMERATED {
    normal,
    silent,
    ...
}

UL-PhysCH-SF-Variation ::= ENUMERATED {
    sf-variation-supported,
    sf-variation-not-supported
}

UL-ScramblingCode ::= SEQUENCE {
    uL-ScramblingCodeNumber      UL-ScramblingCodeNumber,
    uL-ScramblingCodeLength      UL-ScramblingCodeLength,
    iE-Extensions                ProtocolExtensionContainer { { UL-ScramblingCode-ExtIEs } } OPTIONAL,
    ...
}

UL-ScramblingCode-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-ScramblingCodeNumber ::= INTEGER (0..16777215)

UL-ScramblingCodeLength ::= ENUMERATED {
    short,
    long
}

UL-TimeSlot-ISCP-Info ::= SEQUENCE (SIZE (1..maxNrOfULTSs)) OF UL-TimeSlot-ISCP-InfoItem

UL-TimeSlot-ISCP-InfoItem ::= SEQUENCE {
    timeSlot                TimeSlot,
    iSCP                    UL-TimeslotISCP-Value,
    iE-Extensions           ProtocolExtensionContainer { { UL-TimeSlot-ISCP-InfoItem-ExtIEs } } OPTIONAL,
    ...
}

UL-TimeSlot-ISCP-InfoItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-Information ::= SEQUENCE (SIZE (1..maxNrOfUSCHs)) OF USCH-InformationItem

USCH-InformationItem ::= SEQUENCE {

```


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```

    uSCH-ID
    cCTrCH-ID
    transportFormatSet
    allocationRetentionPriority
    iE-Extensions
    ...
}

USCH-InformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-InformationResponse ::= SEQUENCE (SIZE (1..maxNrOfUSCHs)) OF USCH-InformationResponseItem

USCH-InformationResponseItem ::= SEQUENCE {
    uSCH-ID
    bindingID
    transportLayerAddress
    iE-Extensions
    ...
}

USCH-InformationResponseItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-TimeslotISCP-Value ::= INTEGER (0..81)
-- According to mapping in [23]

UL-TimeslotISCP-Value-IncrDecrThres ::= INTEGER (0..80)

USCH-ID ::= INTEGER (0..255)

-- =====
-- V
-- =====

-- =====
-- W
-- =====

-- =====
-- X
-- =====

-- =====
-- Y
-- =====

-- =====
-- Z
-- =====

```

END

9.3.6 Constant Definitions

```

-- *****
--
-- Constant definitions
--
-- *****

NBAP-Constants {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-Constants (4)}

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    ProcedureCode,
    ProtocolIE-ID
FROM NBAP-CommonDataTypes;

-- *****
--
-- Elementary Procedures
--
-- *****

id-audit                               ProcedureCode ::= 0
id-auditRequired                       ProcedureCode ::= 1
id-blockResource                       ProcedureCode ::= 2
id-cellDeletion                        ProcedureCode ::= 3
id-cellReconfiguration                 ProcedureCode ::= 4
id-cellSetup                           ProcedureCode ::= 5
id-cellSynchronisationInitiation       ProcedureCode ::= 39
id-cellSynchronisationReconfiguration   ProcedureCode ::= 40
id-cellSynchronisationReporting         ProcedureCode ::= 41
id-cellSynchronisationTermination       ProcedureCode ::= 42
id-cellSynchronisationFailure           ProcedureCode ::= 43
id-commonMeasurementFailure             ProcedureCode ::= 6
id-commonMeasurementInitiation          ProcedureCode ::= 7
id-commonMeasurementReport              ProcedureCode ::= 8
id-commonMeasurementTermination         ProcedureCode ::= 9
id-commonTransportChannelDelete         ProcedureCode ::= 10
id-commonTransportChannelReconfigure    ProcedureCode ::= 11
id-commonTransportChannelSetup          ProcedureCode ::= 12
id-compressedModeCommand                ProcedureCode ::= 14
id-dedicatedMeasurementFailure          ProcedureCode ::= 16
id-dedicatedMeasurementInitiation       ProcedureCode ::= 17
id-dedicatedMeasurementReport           ProcedureCode ::= 18
id-dedicatedMeasurementTermination      ProcedureCode ::= 19
id-downlinkPowerControl                 ProcedureCode ::= 20
id-downlinkPowerTimeslotControl         ProcedureCode ::= 38
id-errorIndicationForCommon             ProcedureCode ::= 35
id-errorIndicationForDedicated          ProcedureCode ::= 21
id-physicalSharedChannelReconfiguration ProcedureCode ::= 37
id-privateMessageForCommon              ProcedureCode ::= 36
id-privateMessageForDedicated           ProcedureCode ::= 22
id-radioLinkAddition                   ProcedureCode ::= 23
id-radioLinkDeletion                   ProcedureCode ::= 24
id-radioLinkFailure                    ProcedureCode ::= 25
id-radioLinkPreemption                  ProcedureCode ::= 39
id-radioLinkRestoration                 ProcedureCode ::= 26
id-radioLinkSetup                       ProcedureCode ::= 27
id-reset                                ProcedureCode ::= 13
id-resourceStatusIndication              ProcedureCode ::= 28
id-cellSynchronisationAdjustment        ProcedureCode ::= 44
id-synchronisedRadioLinkReconfigurationCancellation ProcedureCode ::= 29
id-synchronisedRadioLinkReconfigurationCommit ProcedureCode ::= 30
id-synchronisedRadioLinkReconfigurationPreparation ProcedureCode ::= 31
id-systemInformationUpdate               ProcedureCode ::= 32
id-unblockResource                      ProcedureCode ::= 33
id-unSynchronisedRadioLinkReconfiguration ProcedureCode ::= 34

-- *****
--
-- Lists
--

```

-- *****

```

maxNrOfCodes                INTEGER ::= 10
maxNrOfDLTSs                INTEGER ::= 15
maxNrOfDLCodes              INTEGER ::= 8
maxNrOfErrors                INTEGER ::= 256
maxNrOfTFs                   INTEGER ::= 32
maxNrOfTFCs                  INTEGER ::= 1024
maxNrOfRLs                   INTEGER ::= 16
maxNrOfRLSets                INTEGER ::= maxNrOfRLs
maxNrOfDPCHs                 INTEGER ::= 240
maxNrOfSCCPCHs               INTEGER ::= 8
maxNrOfCPCHs                 INTEGER ::= 4
maxNrOfPCPCHs                INTEGER ::= 64
maxNrOfDCHs                  INTEGER ::= 128
maxNrOfDSCHs                 INTEGER ::= 32
maxNrOfFACHs                 INTEGER ::= 8
maxNrOfCCTrCHs               INTEGER ::= 16
maxNrOfPDSCHs                INTEGER ::= 256
maxNrOfPUSCHs                INTEGER ::= 256
maxNrOfPDSCHSets            INTEGER ::= 256
maxNrOfPUSCHSets            INTEGER ::= 256
maxNrOfULTSs                 INTEGER ::= 15
maxNrOfUSCHs                 INTEGER ::= 32
maxAPSigNum                  INTEGER ::= 16
maxNrOfSlotFormatsPRACH      INTEGER ::= 8
maxCellInNodeB               INTEGER ::= 256
maxCCPinNodeB                INTEGER ::= 256
maxCPCHCell                   INTEGER ::= maxNrOfCPCHs
maxCTFC                       INTEGER ::= 16777215
maxLocalCellInNodeB          INTEGER ::= maxCellInNodeB
maxNoofLen                    INTEGER ::= 7
maxRACHCell                   INTEGER ::= maxPRACHCell
maxPRACHCell                  INTEGER ::= 16
maxPCPCHCell                  INTEGER ::= 64
maxSCCPCHCell                 INTEGER ::= 32
maxSCPICHCell                 INTEGER ::= 32
maxTTI-count                  INTEGER ::= 4
maxIBSEG                      INTEGER ::= 16
maxIB                          INTEGER ::= 64
maxFACHCell                   INTEGER ::= 256 -- maxNrOfFACHs * maxSCCPCHCell
maxRateMatching               INTEGER ::= 256
maxCodeNrComp-1               INTEGER ::= 256
maxNrOfCellSyncBursts        INTEGER ::= 10
maxNrOfCodeGroups             INTEGER ::= 256
maxNrOfReceptsPerSyncFrame    INTEGER ::= 16
maxNrOfTFCIGroups             INTEGER ::= 256
maxNrOfTFCI1Combs             INTEGER ::= 512
maxNrOfTFCI2Combs             INTEGER ::= 1024
maxNrOfTFCI2Combs-1           INTEGER ::= 1023
maxNrOfSF                      INTEGER ::= 8
maxTGPS                        INTEGER ::= 6
maxCommunicationContext        INTEGER ::= 1048575

```

-- *****

-- IEs

-- *****

```

id-AICH-Information           ProtocolIE-ID ::= 0
id-AICH-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 1
id-BCH-Information           ProtocolIE-ID ::= 7
id-BCH-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 8
id-BCCH-ModificationTime     ProtocolIE-ID ::= 9
id-BlockingPriorityIndicator   ProtocolIE-ID ::= 10
id-Cause                      ProtocolIE-ID ::= 13
id-CCP-InformationItem-AuditRsp ProtocolIE-ID ::= 14
id-CCP-InformationList-AuditRsp ProtocolIE-ID ::= 15
id-CCP-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 16
id-Cell-InformationItem-AuditRsp ProtocolIE-ID ::= 17
id-Cell-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 18
id-Cell-InformationList-AuditRsp ProtocolIE-ID ::= 19
id-CellParameterID           ProtocolIE-ID ::= 23
id-CFN                         ProtocolIE-ID ::= 24
id-C-ID                       ProtocolIE-ID ::= 25
id-CommonMeasurementObjectType-CM-Rprt ProtocolIE-ID ::= 31
id-CommonMeasurementObjectType-CM-Rqst ProtocolIE-ID ::= 32

```

id-CommonMeasurementObjectType-CM-Rsp	ProtocolIE-ID ::= 33
id-CommonMeasurementType	ProtocolIE-ID ::= 34
id-CommonPhysicalChannelID	ProtocolIE-ID ::= 35
id-CommonPhysicalChannelType-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 36
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 37
id-CommonTransportChannelType-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 38
id-CommunicationControlPortID	ProtocolIE-ID ::= 40
id-ConfigurationGenerationID	ProtocolIE-ID ::= 43
id-CRNC-CommunicationContextID	ProtocolIE-ID ::= 44
id-CriticalityDiagnostics	ProtocolIE-ID ::= 45
id-DCHs-to-Add-FDD	ProtocolIE-ID ::= 48
id-DCH-AddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 49
id-DCHs-to-Add-TDD	ProtocolIE-ID ::= 50
id-DCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 52
id-DCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 53
id-DCH-DeleteList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 54
id-DCH-DeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 55
id-DCH-FDD-Information	ProtocolIE-ID ::= 56
id-DCH-TDD-Information	ProtocolIE-ID ::= 57
id-DCH-InformationResponse	ProtocolIE-ID ::= 59
id-FDD-DCHs-to-Modify	ProtocolIE-ID ::= 62
id-TDD-DCHs-to-Modify	ProtocolIE-ID ::= 63
id-DCH-ModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 65
id-DedicatedMeasurementObjectType-DM-Rprt	ProtocolIE-ID ::= 67
id-DedicatedMeasurementObjectType-DM-Rqst	ProtocolIE-ID ::= 68
id-DedicatedMeasurementObjectType-DM-Rsp	ProtocolIE-ID ::= 69
id-DedicatedMeasurementType	ProtocolIE-ID ::= 70
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 72
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD	ProtocolIE-ID ::= 73
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 76
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD	ProtocolIE-ID ::= 77
id-DL-DPCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 79
id-DL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 81
id-DL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 82
id-DL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 83
id-DL-ReferencePowerInformationItem-DL-PC-Rqst	ProtocolIE-ID ::= 84
id-DLReferencePower	ProtocolIE-ID ::= 85
id-DLReferencePowerList-DL-PC-Rqst	ProtocolIE-ID ::= 86
id-DSCH-AddItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 87
id-DSCH-AddItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 88
id-DSCHs-to-Add-FDD	ProtocolIE-ID ::= 89
id-DSCH-DeleteItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 91
id-DSCH-DeleteItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 92
id-DSCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 93
id-DSCH-ID	ProtocolIE-ID ::= 95
id-DSCHs-to-Add-TDD	ProtocolIE-ID ::= 96
id-DSCH-Information-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 98
id-DSCH-Information-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 100
id-DSCH-InformationResponse	ProtocolIE-ID ::= 105
id-DSCH-FDD-Information	ProtocolIE-ID ::= 106
id-DSCH-TDD-Information	ProtocolIE-ID ::= 107
id-DSCH-ModifyItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 108
id-DSCH-ModifyItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 109
id-DSCH-ModifyList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 112
id-End-Of-Audit-Sequence-Indicator	ProtocolIE-ID ::= 113
id-FACH-Information	ProtocolIE-ID ::= 116
id-FACH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 117
id-FACHItem-CTCH-SetupRsp	ProtocolIE-ID ::= 118
id-FACH-ParametersList-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 120
id-FACH-ParametersListIE-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 121
id-FACH-ParametersListIE-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 122
id-IndicationType-ResourceStatusInd	ProtocolIE-ID ::= 123
id-Local-Cell-ID	ProtocolIE-ID ::= 124
id-Local-Cell-Group-InformationItem-AuditRsp	ProtocolIE-ID ::= 2
id-Local-Cell-Group-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 3
id-Local-Cell-Group-InformationItem2-ResourceStatusInd	ProtocolIE-ID ::= 4
id-Local-Cell-Group-InformationList-AuditRsp	ProtocolIE-ID ::= 5
id-Local-Cell-InformationItem-AuditRsp	ProtocolIE-ID ::= 125
id-Local-Cell-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 126
id-Local-Cell-InformationItem2-ResourceStatusInd	ProtocolIE-ID ::= 127
id-Local-Cell-InformationList-AuditRsp	ProtocolIE-ID ::= 128
id-AdjustmentPeriod	ProtocolIE-ID ::= 129
id-MaxAdjustmentStep	ProtocolIE-ID ::= 130
id-MaximumTransmissionPower	ProtocolIE-ID ::= 131
id-MeasurementFilterCoefficient	ProtocolIE-ID ::= 132
id-MeasurementID	ProtocolIE-ID ::= 133
id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst	ProtocolIE-ID ::= 134
id-NodeB-CommunicationContextID	ProtocolIE-ID ::= 143

id-P-CCPCH-Information	ProtocolIE-ID ::= 144
id-P-CCPCH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 145
id-P-CPICH-Information	ProtocolIE-ID ::= 146
id-P-CPICH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 147
id-P-SCH-Information	ProtocolIE-ID ::= 148
id-PCCPCH-Information-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 150
id-PCCPCH-Information-Cell-SetupRqstTDD	ProtocolIE-ID ::= 151
id-PCH-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 155
id-PCH-ParametersItem-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 156
id-PCH-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 157
id-PCH-Information	ProtocolIE-ID ::= 158
id-PD	ProtocolIE-ID ::= 160
id-PDSCH-Information-AddListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 161
id-PDSCH-Information-ModifyListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 162
id-PDSCHSets-AddList-PSCH-ReconfRqst	ProtocolIE-ID ::= 163
id-PDSCHSets-DeleteList-PSCH-ReconfRqst	ProtocolIE-ID ::= 164
id-PDSCHSets-ModifyList-PSCH-ReconfRqst	ProtocolIE-ID ::= 165
id-PICH-Information	ProtocolIE-ID ::= 166
id-PICH-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 168
id-PowerAdjustmentType	ProtocolIE-ID ::= 169
id-PRACH-Information	ProtocolIE-ID ::= 170
id-PrimaryCCPCH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 175
id-PrimaryCCPCH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 176
id-PrimaryCPICH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 177
id-PrimaryCPICH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 178
id-PrimarySCH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 179
id-PrimarySCH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 180
id-PrimaryScramblingCode	ProtocolIE-ID ::= 181
id-ProcedureScopeType-DL-PC-Rqst	ProtocolIE-ID ::= 182
id-SCH-Information-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 183
id-SCH-Information-Cell-SetupRqstTDD	ProtocolIE-ID ::= 184
id-PUSCH-Information-AddListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 185
id-PUSCH-Information-ModifyListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 186
id-PUSCHSets-AddList-PSCH-ReconfRqst	ProtocolIE-ID ::= 187
id-PUSCHSets-DeleteList-PSCH-ReconfRqst	ProtocolIE-ID ::= 188
id-PUSCHSets-ModifyList-PSCH-ReconfRqst	ProtocolIE-ID ::= 189
id-RACH-Information	ProtocolIE-ID ::= 190
id-RACHItem-CTCH-SetupRsp	ProtocolIE-ID ::= 192
id-RACH-ParametersItem-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 196
id-RACH-ParameterItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 197
id-ReportCharacteristics	ProtocolIE-ID ::= 198
id-Reporting-Object-RL-FailureInd	ProtocolIE-ID ::= 199
id-Reporting-Object-RL-RestoreInd	ProtocolIE-ID ::= 200
id-RL-ID	ProtocolIE-ID ::= 201
id-RL-InformationItem-DM-Rprt	ProtocolIE-ID ::= 202
id-RL-InformationItem-DM-Rqst	ProtocolIE-ID ::= 203
id-RL-InformationItem-DM-Rsp	ProtocolIE-ID ::= 204
id-RL-InformationItem-RL-AdditionRqstFDD	ProtocolIE-ID ::= 205
id-RL-informationItem-RL-DeletionRqst	ProtocolIE-ID ::= 206
id-RL-InformationItem-RL-FailureInd	ProtocolIE-ID ::= 207
id-RL-InformationItem-RL-PreemptRequiredInd	ProtocolIE-ID ::= 286
id-RL-InformationItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 208
id-RL-InformationItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 209
id-RL-InformationItem-RL-RestoreInd	ProtocolIE-ID ::= 210
id-RL-InformationItem-RL-SetupRqstFDD	ProtocolIE-ID ::= 211
id-RL-InformationList-RL-AdditionRqstFDD	ProtocolIE-ID ::= 212
id-RL-informationList-RL-DeletionRqst	ProtocolIE-ID ::= 213
id-RL-InformationList-RL-PreemptRequiredInd	ProtocolIE-ID ::= 237
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id-RL-InformationList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 215
id-RL-InformationList-RL-SetupRqstFDD	ProtocolIE-ID ::= 216
id-RL-InformationResponseItem-RL-AdditionRspFDD	ProtocolIE-ID ::= 217
id-RL-InformationResponseItem-RL-ReconfReady	ProtocolIE-ID ::= 218
id-RL-InformationResponseItem-RL-ReconfRsp	ProtocolIE-ID ::= 219
id-RL-InformationResponseItem-RL-SetupRspFDD	ProtocolIE-ID ::= 220
id-RL-InformationResponseList-RL-AdditionRspFDD	ProtocolIE-ID ::= 221
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id-RL-InformationResponse-RL-SetupRspTDD	ProtocolIE-ID ::= 226
id-RL-Information-RL-AdditionRqstTDD	ProtocolIE-ID ::= 227
id-RL-Information-RL-ReconfRqstTDD	ProtocolIE-ID ::= 228
id-RL-Information-RL-ReconfPrepTDD	ProtocolIE-ID ::= 229
id-RL-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 230
id-RL-ReconfigurationFailureItem-RL-ReconfFailure	ProtocolIE-ID ::= 236
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id-RL-Set-InformationItem-DM-Rsp	ProtocolIE-ID ::= 240

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id-RL-Set-InformationItem-RL-RestoreInd	ProtocolIE-ID ::= 242
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id-S-CPICH-Information	ProtocolIE-ID ::= 249
id-SCH-Information	ProtocolIE-ID ::= 251
id-S-SCH-Information	ProtocolIE-ID ::= 253
id-Secondary-CCPCHListIE-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 257
id-Secondary-CCPCH-parameterListIE-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 258
id-Secondary-CCPCH-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 259
id-SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 260
id-SecondaryCPICH-InformationItem-Cell-SetupRqstFDD	ProtocolIE-ID ::= 261
id-SecondaryCPICH-InformationList-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 262
id-SecondaryCPICH-InformationList-Cell-SetupRqstFDD	ProtocolIE-ID ::= 263
id-SecondarySCH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 264
id-SecondarySCH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 265
id-SegmentInformationListIE-SystemInfoUpdate	ProtocolIE-ID ::= 266
id-SFN	ProtocolIE-ID ::= 268
id-ShutdownTimer	ProtocolIE-ID ::= 269
id-Start-Of-Audit-Sequence-Indicator	ProtocolIE-ID ::= 114
id-Successful-RL-InformationRespItem-RL-AdditionFailureFDD	ProtocolIE-ID ::= 270
id-Successful-RL-InformationRespItem-RL-SetupFailureFDD	ProtocolIE-ID ::= 271
id-Successful-RL-InformationRespList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 272
id-Successful-RL-InformationRespList-RL-SetupFailureFDD	ProtocolIE-ID ::= 273
id-SyncCase	ProtocolIE-ID ::= 274
id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH	ProtocolIE-ID ::= 275
id-T-Cell	ProtocolIE-ID ::= 276
id-TimeSlotConfigurationList-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 277
id-TimeSlotConfigurationList-Cell-SetupRqstTDD	ProtocolIE-ID ::= 278
id-TransmissionDiversityApplied	ProtocolIE-ID ::= 279
id-UARFCNforNt	ProtocolIE-ID ::= 280
id-UARFCNforNd	ProtocolIE-ID ::= 281
id-UARFCNforNu	ProtocolIE-ID ::= 282
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 284
id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD	ProtocolIE-ID ::= 285
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id-UL-DPCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 291
id-UL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 293
id-UL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 294
id-UL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 295
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id-USCH-Information-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 306
id-USCH-Information-ModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 307
id-USCH-InformationResponse	ProtocolIE-ID ::= 309
id-USCH-Information	ProtocolIE-ID ::= 310
id-Active-Pattern-Sequence-Information	ProtocolIE-ID ::= 315
id-AICH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 316
id-AdjustmentRatio	ProtocolIE-ID ::= 317
id-AP-AICH-Information	ProtocolIE-ID ::= 320
id-AP-AICH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 322
id-FACH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 323
id-CauseLevel-PSCH-ReconfFailureTDD	ProtocolIE-ID ::= 324
id-CauseLevel-RL-AdditionFailureFDD	ProtocolIE-ID ::= 325
id-CauseLevel-RL-AdditionFailureTDD	ProtocolIE-ID ::= 326
id-CauseLevel-RL-ReconfFailure	ProtocolIE-ID ::= 327
id-CauseLevel-RL-SetupFailureFDD	ProtocolIE-ID ::= 328
id-CauseLevel-RL-SetupFailureTDD	ProtocolIE-ID ::= 329
id-CDCA-ICH-Information	ProtocolIE-ID ::= 330
id-CDCA-ICH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 332
id-Closed-Loop-Timing-Adjustment-Mode	ProtocolIE-ID ::= 333
id-CommonPhysicalChannelType-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 334
id-Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD	ProtocolIE-ID ::= 335
id-CPCH-Information	ProtocolIE-ID ::= 336
id-CPCH-Parameters-CTCH-SetupRsp	ProtocolIE-ID ::= 342
id-CPCH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 343
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id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 347
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 348
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 349

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id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 351
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 352
id-DL-DPCH-InformationAddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 353
id-DL-DPCH-InformationDeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 354
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id-DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 356
id-DL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 357
id-DL-TPC-Pattern01Count	ProtocolIE-ID ::= 358
id-DPCHConstant	ProtocolIE-ID ::= 359
id-FACH-ParametersList-CTCH-SetupRsp	ProtocolIE-ID ::= 362
id-Limited-power-increase-information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 369
id-PCH-Parameters-CTCH-SetupRsp	ProtocolIE-ID ::= 374
id-PCH-ParametersItem-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 375
id-PCPCH-Information	ProtocolIE-ID ::= 376
id-PCPCH-ParametersList-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 379
id-PICH-ParametersItem-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 380
id-PRACHConstant	ProtocolIE-ID ::= 381
id-PRACH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 383
id-PUSCHConstant	ProtocolIE-ID ::= 384
id-RACH-Parameters-CTCH-SetupRsp	ProtocolIE-ID ::= 385
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id-Synchronisation-Configuration-Cell-SetupRqst	ProtocolIE-ID ::= 394
id-Transmission-Gap-Pattern-Sequence-Information	ProtocolIE-ID ::= 395
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 396
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 397
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 398
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 399
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 400
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id-UL-DPCH-InformationAddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 403
id-UL-DPCH-InformationDeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 404
id-UL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 405
id-UL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 406
id-UL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 407
id-Unsuccessful-PDSCHSetItem-PSCH-ReconfFailureTDD	ProtocolIE-ID ::= 408
id-Unsuccessful-PUSCHSetItem-PSCH-ReconfFailureTDD	ProtocolIE-ID ::= 409
id-CommunicationContextInfoItem-Reset	ProtocolIE-ID ::= 412
id-CommunicationControlPortInfoItem-Reset	ProtocolIE-ID ::= 414
id-ResetIndicator	ProtocolIE-ID ::= 416
id-TFCI2-Bearer-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 417
id-TFCI2-BearerSpecificInformation-RL-ReconfPrepFDD	ProtocolIE-ID ::= 418
id-TFCI2-BearerInformationResponse	ProtocolIE-ID ::= 419
id-TimingAdvanceApplied	ProtocolIE-ID ::= 287
id-CFNReportingIndicator	ProtocolIE-ID ::= 6
id-SFNReportingIndicator	ProtocolIE-ID ::= 11
id-InnerLoopDLPCStatus	ProtocolIE-ID ::= 12
id-TimeslotISCPInfoList-DL-PC-RqstTDD	ProtocolIE-ID ::= 283
id-PICH-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 167
id-PRACH-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 20
id-CauseLevel-SyncAdjustmntFailureTDD	ProtocolIE-ID ::= 420
id-CellAdjustmentInfo-SyncAdjustmntRqstTDD	ProtocolIE-ID ::= 421
id-CellSyncBurstTransInit-CellSyncInitiationRqstTDD	ProtocolIE-ID ::= 422
id-CellSyncBurstMeasureInit-CellSyncInitiationRqstTDD	ProtocolIE-ID ::= 423
id-CellSyncBurstTransReconfiguration-CellSyncReconfRqstTDD	ProtocolIE-ID ::= 424
id-CellSyncBurstMeasReconfiguration-CellSyncReconfRqstTDD	ProtocolIE-ID ::= 425
id-CellSyncBurstTransInfoList-CellSyncReconfRqstTDD	ProtocolIE-ID ::= 426
id-CellSyncBurstMeasInfoList-CellSyncReconfRqstTDD	ProtocolIE-ID ::= 427
id-CellSyncBurstTransReconfInfo-CellSyncReconfRqstTDD	ProtocolIE-ID ::= 428
id-CellSyncInfo-CellSyncReprtTDD	ProtocolIE-ID ::= 429
id-CSBTransmissionID	ProtocolIE-ID ::= 430
id-CSBMeasurementID	ProtocolIE-ID ::= 431
id-IntStdPhCellSyncInfoItem-CellSyncReprtTDD	ProtocolIE-ID ::= 432
id-NCyclesPerSFNperiod	ProtocolIE-ID ::= 433
id-NRepetitionsPerCyclePeriod	ProtocolIE-ID ::= 434
id-SyncFrameNumber	ProtocolIE-ID ::= 437
id-SynchronisationReportType	ProtocolIE-ID ::= 438
id-SynchronisationReportCharacteristics	ProtocolIE-ID ::= 439
id-Unsuccessful-cell-InformationRespItem-SyncAdjustmntFailureTDD	ProtocolIE-ID ::= 440
id-LateEntranceCellSyncInfoItem-CellSyncReprtTDD	ProtocolIE-ID ::= 119

END

CR-Form-v3

CHANGE REQUEST

⌘ **25.433 CR 361** ⌘ re **1** ⌘ Current version: **3.4.1** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ NBAP Procedure modifications due to cell synchronisation		
Source:	⌘ R-WG3		
Work item code:	⌘ RANimp-Nbsync	Date:	⌘ February 2001
Category:	⌘ B	Release:	⌘ Rel-4
	<p>Use <u>one</u> of the following categories:</p> <p>F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)</p>

Reason for change:	⌘ Procedure modifications for work item: Node B synchronisation for TDD		
Summary of change:	⌘ Following procedures have to be modified: Resource Status Indication/Audit procedure: A Reference Clock availability IE is added for the indication of the presence and operation of an external connected Reference Clock. Within Cell Setup procedure a Reference SFN offset IE is added in order to separate the reference SFN between RNS's. Rev 1: Criticality corrected Added Ies within common procedures are tagged to 'TDD only' within semantic description ID numbers have been allocated from rapporteur		
Consequences if not approved:	⌘ Node B synchronisation not feasible <u>Backward compatibility:</u> Backward compatibility to Release 99 is provided		

Clauses affected:	⌘ 8.2.7, 8.2.12, 8.2.15, 9.1.17, 9.1.24.2, 9.1.32, 9.2.3.x, 9.3.3, 9.3.4, 9.3.6		
Other specs affected:	⌘ <input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	25.402 CR016r1, CR017 25.433 CR360r1
Other comments:	⌘		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

8.2.7 Audit

8.2.7.1 General

This procedure is executed by the CRNC to perform an audit of the configuration and status of the logical resources in the Node B. A complete audit of a Node B is performed by one or more Audit procedures, together performing an audit sequence. The audit may cause the CRNC to re-sync the Node B to the status of logical resources known by the CRNC, that the Node B can support.

8.2.7.2 Successful Operation

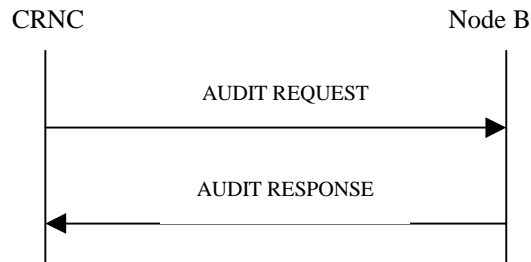


Figure 10: Audit procedure, Successful Operation

The procedure is initiated with an AUDIT REQUEST message sent from the CRNC to the Node B.

If the *Start of Audit Sequence* IE in the AUDIT REQUEST message is set to “start of audit sequence” a new audit sequence is started, any ongoing audit sequence shall be aborted and the Node B shall provide (part of the) audit information. If the *Start of Audit Sequence* IE is set to “not start of audit sequence”, the Node B shall provide (part of) the remaining audit information not already provided during this audit sequence.

If the information provided in the AUDIT RESPONSE message completes the audit sequence, the Node B shall set the *End Of AuditSequence Indicator* IE in the AUDIT RESPONSE message to “End of Audit Sequence”. If not all audit information has been provided yet as part of the ongoing audit sequence, the Node B shall set the *End Of AuditSequence Indicator* IE in the AUDIT RESPONSE message to “Not End of Audit Sequence”.

Information Provided In One Audit Sequence.

The Node B shall include one *Local Cell Information* IE group for each local cell present in the Node B. The Node B shall include the *Maximum DL Power Capability* IE and the *Minimum DL Power Capability* IE when any of those values are known by the Node B.

[TDD - The Node B shall include the *Reference Clock availability* IE to indicate the availability of a Reference clock connected to the Local cell.]

If Node B internal resources are pooled for a group of cells, the Node B shall include one *Local Cell Group Information* IE containing Node B internal resource capacity and consumption laws per group of cells. If the “UL Capacity Credit” IE is not present, then the internal resource capabilities of the Node B are modelled as shared resources between Uplink and Downlink.

The Node B shall include for each local cell present in the node B the Node B internal resource capability and consumption laws within the “Local Cell Information IE group”. If the “UL Capacity Credit” IE is not present, then the internal resource capabilities of the local cell are modelled as shared resources between Uplink and Downlink. If the Local Cell utilises Node B internal resource capabilities that are pooled for several Local Cell(s), the *Local Cell Group ID* IE shall contain the identity of the used Local Cell Group.

The Node B shall include one *Cell Information* IE group for each cell in the Node B and information about all common transport channels and all common physical channels for each cell. If a *Configuration Generation ID* IE for a cell can not be trusted, the Node B shall set this *Configuration Generation ID* IE = ‘0’.

The Node B shall also include one *Communication Control Port Information* IE group for each communication control port in the Node B.

8.2.7.3 Unsuccessful Operation

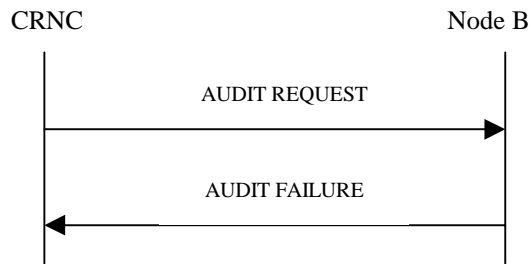


Figure 10A: Audit procedure, Unsuccessful Operation

If the Node B receives the AUDIT REQUEST message with the *Start of Audit Sequence* IE set to "not start of audit sequence" and there is no ongoing audit sequence, the Node B shall send the AUDIT FAILURE message with the appropriate cause value.

Typical cause values for the AUDIT FAILURE message are:

Protocol Causes:

- Message not Compatible with Receiver State

8.2.7.4 Abnormal Conditions

-

8.2.12 Cell Setup

8.2.12.1 General

This procedure is used to set up a cell in Node B. The CRNC takes the cell, identified via the *C-ID* IE, into service and uses the resources in Node B identified via the *Local Cell ID* IE.

8.2.12.2 Successful Operation

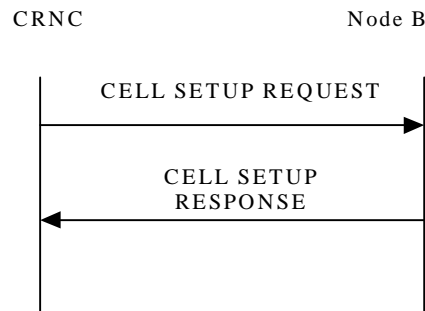


Figure 11: Cell Setup procedure: Successful Operation

The procedure is initiated with a CELL SETUP REQUEST message sent from CRNC to Node B. Upon Reception, the Node B shall reserve the necessary resources and configure the new cell according to the parameters given in the message.

[FDD - If the CELL SETUP REQUEST message includes one or more *Secondary CPICH Information* IE group the Node B shall configure and activate the Secondary CPICH(s) in the cell according to received configuration data.]

The *Maximum Transmission Power* IE value shall be stored in the Node B and at any instance of time the total maximum output power in the cell shall not be above this value.

[FDD - If the *Closed Loop Timing Adjustment Mode* IE is included in the CELL SETUP REQUEST message, the value shall be stored in the Node B and applied when closed loop Feed-Back mode diversity is used on DPCH.]

[TDD - If the *Reference SFN offset* IE is included in the CELL SETUP REQUEST message, Node B where a reference clock is connected shall consider the SFN derived from the synchronisation port and the reference offset for reference time setting. All other Node B shall ignore the *Reference SFN offset* IE if included.]

When the cell is successfully configured the Node B shall store the *Configuration Generation ID* IE value and send a CELL SETUP RESPONSE message as a response.

[FDD- When the cell is successfully configured CPICH(s), Primary SCH, Secondary SCH, Primary CCPCH and BCH exist.][TDD- When the cell is successfully configured SCH, Primary CCPCH and BCH exist and the switching-points for the TDD frame structure are defined.] The cell and the channels shall be set to state Enabled [6].

8.2.12.3 Unsuccessful Operation

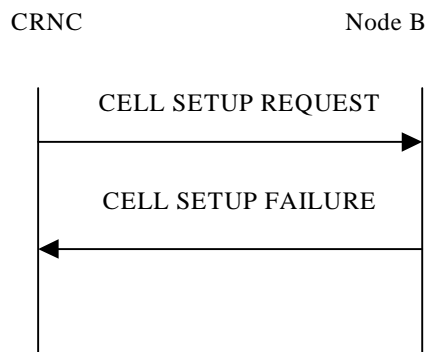


Figure 12: Cell Setup procedure: Unsuccessful Operation

If the state of the cell already is Enabled or Disabled [6] when the CELL SETUP REQUEST message is received in Node B, it shall reject the configuration of the cell and all channels in the CELL SETUP REQUEST message with the *Cause* IE set to "Message not compatible with receiver state".

If the Node B cannot set up the cell according to the information given in CELL SETUP REQUEST message the CELL SETUP FAILURE message shall be sent to CRNC.

In this case the cell is Non Existing in Node B. The Configuration Generation ID shall not be changed in Node B.

The *Cause* IE shall be set to an appropriate value.

Typical cause values are as follows:

Radio Network Layer Cause

- S-CPICH not supported
- Requested Tx Diversity Mode not supported
- Unknown Local Cell ID
- Power level not supported
- Node B Resources unavailable

Protocol Cause

- Semantic error

Miscellaneous Cause

- O&M Intervention
- Unspecified
- Control processing overload
- HW failure

8.2.12.4 Abnormal Conditions

-

8.2.15 Resource Status Indication

8.2.15.1 General

This procedure is used in the following cases:

1. When a Local Cell becomes Existing at the Node B, it shall be made available to the RNC
2. When a Local Cell is to be deleted in Node B, i.e. become Not Existing, the Local Cell shall be withdrawn from the CRNC
3. When the capabilities of the Local Cell change at the Node B
4. When a cell has changed its capability and/or its resource operational state at Node B
5. When common physical channels and/or common transport channels have changed their capabilities at a Node B
6. When a communication control port changed its resource operational state at the Node B
7. When a Local Cell Group has changed its resource capability at the Node B

Each of the above cases shall trigger a Resource Status Indication procedure and the RESOURCE STATUS INDICATION message shall contain the logical resources affected for that case and the cause value when applicable.

8.2.15.2 Successful Operation



Figure 21: Resource Status Indication procedure: Successful Operation

The procedure is initiated with a RESOURCE STATUS INDICATION message sent from the Node B to CRNC.

Local Cell Becomes Existing:

When a Local Cell becomes Existing at the Node B, the Node B shall make it available to the CRNC by sending a RESOURCE STATUS INDICATION message with the *Indication Type* IE set equal to "No Failure", the *Local Cell ID* IE and the *Add/Delete Indicator* IE set equal to 'Add'.

When the capacity credits and consumption laws are shared between several Local Cells, the Node B includes the *Local Cell Group ID* IE for the Local Cell. If the Local Cell Group is not already reported in a previous RESOURCE STATUS INDICATION message, the Node B shall include the capacity credits and the consumption laws in the *Local Cell Group Information* IE.

If the *Local Cell* IE contains both the "DL or Global Capacity Credit" and the "UL Capacity Credit" then the internal resource capabilities of the Local Cell are modelled independently in the Uplink and Downlink direction. If the "UL Capacity Credit" IE is not present, then the internal resource capabilities of the Local Cell are modelled as shared resources between Uplink and Downlink. If the *Local Cell Group Information* IE contains both the "DL or Global Capacity Credit" and the "UL Capacity Credit" then the internal resource capabilities of the Local Cell Group are modelled independently in the Uplink and Downlink direction. If the "UL Capacity Credit" IE is not present, then the internal resource capabilities of the Local Cell Group are modelled as shared resources between Uplink and Downlink.

[TDD - The Node B shall include the *Reference Clock availability* IE within the *Local Cell* IE to indicate the availability of a Reference clock connected to the Local Cell, when a Local Cell is made available to the CRNC.]

Local Cell Deletion:

When a Local Cell is to be deleted in Node B, i.e. become Not Existing, the Node B shall withdraw the Local Cell from the CRNC by sending a RESOURCE STATUS INDICATION message with the *Indication Type* IE set equal to "No

Failure”, the *Local Cell ID* IE and the *Add/Delete Indicator* IE set equal to 'Delete'. The Node B shall not withdraw a previously configured cell at the Node B that the CRNC had configured using the Cell Setup procedure, until the CRNC has deleted that cell at the Node B using the Cell Delete procedure.

Capability Change of a Local Cell:

When the capabilities of a Local Cell changes at the Node B, the Node B shall report the new capability by sending a RESOURCE STATUS INDICATION message with the *Indication Type* IE set equal to “Service Impacting” and the Local Cell ID. The Node B shall include the *Minimum DL Power Capability* IE when it is known by the Node B. If the DL power capability has changed, the new capability shall be indicated in the *DL Power Capability* IE. If the DL capability for supporting the minimum spreading factor has changed, the new capability shall be indicated in the *Minimum Spreading Factor* IE. [TDD - If the availability of the Reference clock connected to a Local Cell has changed, the new availability condition shall be indicated in the Reference Clock availability IE.] The *Cause* IE in the RESOURCE STATUS INDICATION message shall be set to the appropriate value. If the internal resource capabilities of the Local Cell are affected, it shall be reported in the following way: If the internal resource capabilities of the Local Cell are modelled as shared resources between Uplink and Downlink, the new capacity shall be reported in the DL or Global Capacity Credit IE. If the internal resource capabilities of the Local Cell are modelled independently in the Uplink and Downlink direction, then the DL or Global Capacity Credit IE and the UL Capacity Credit IE shall be present in the RESOURCE STATUS INDICATION. If the maximum DL power capability of the Local Cell is affected, this shall be reported using the *Maximum DL Power Capability* IE.

Capability Change of a Cell:

When the capabilities and/or resource operational state of a cell changes at the Node B, the Node B shall report the new capability and/or resource operational state by sending a RESOURCE STATUS INDICATION message with the *Indication Type* IE set equal to “Service Impacting”, the *C-ID* IE, the *Resource Operational State* IE and the *Availability Status* IE. The *Cause* IE in the RESOURCE STATUS INDICATION message shall be set to the appropriate value.

Capability Change of a Common Physical Channel and/or Common Transport Channel:

The Node B shall not delete any common or dedicated channels, due to the cell being "Disabled". For all affected common and dedicated channels, the Node B shall report the impact to the CRNC with the relevant procedures.

When the capabilities and/or resource operational state of common physical channels and/or common transport channels have changed, the Node B shall report the new capability and/or resource operational state by sending a RESOURCE STATUS INDICATION message with the *Indication Type* IE set equal to “Service Impacting”, the *Resource Operational State* IE and the *Availability Status* IE set to appropriate values for the affected channel(s). The *Cause* IE in the RESOURCE STATUS INDICATION message shall be set to the appropriate value.

When a power value for a common physical channel and/or a common transport channel becomes beyond the supported power value range due to a change in capability in Node Bs, it shall be reported to the CRNC in the RESOURCE STATUS INDICATION message, with the *Resource Operational State* IE set to “Enabled”, the *Availability Status* IE set to “Degraded” and the *Cause* IE set to “Power level not supported”. Affected channels shall use the nearest power value that is supported.

Capability Change of a Communication Control Port:

When the resource operational state of a communication control port has changed, the Node B shall report the new resource operational state by sending a RESOURCE STATUS INDICATION message with the *Indication Type* IE set equal to “Service Impacting” and the *Communication Control Port ID* IE. The *Cause* IE in the RESOURCE STATUS INDICATION message shall be set to the appropriate value.

Capability Change of a Local Cell Group:

When the resource capabilities of a Local Cell Group change at the Node B, the Node B shall report the new capability by sending a RESOURCE STATUS INDICATION message with the *Indication Type* IE set equal to “Service Impacting” and the *Local Cell Group Information* IE reporting the change. The *Cause* IE in the RESOURCE STATUS INDICATION message shall be set to an appropriate value. If the RESOURCE STATUS INDICATION message contains both the "DL or Global Capacity Credit" and the "UL Capacity Credit" then the internal resource capabilities of the Node B are modelled independently in the Uplink and Downlink direction. If the "UL Capacity Credit" IE is not present, then the internal resource capabilities of the Node B are modelled as shared resources between Uplink and Downlink.

General:

When the RESOURCE STATUS INDICATION is used to report an error, only one cause value for all reported objects can be sent in one message. When the RESOURCE STATUS INDICATION is used to clear errors, only all errors for one object can be cleared per message. It is not possible to clear one out of several errors for one object.

8.2.15.3 Abnormal Conditions

-

9.1.17 AUDIT RESPONSE

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
End Of Audit Sequence Indicator	M		9.2.1.29A		YES	ignore
Cell Information		0.. <maxCellin NodeB >			EACH	ignore
>C-ID	M		9.2.1.9		–	
>Configuration Generation ID	M		9.2.1.16		–	
>Resource Operational State	M		9.2.1.52		–	
>Availability Status	M		9.2.1.2		–	
>Local Cell ID	M		9.2.1.38	The local cell that the cell is configured on	–	
>Primary SCH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>Secondary SCH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>Primary CPICH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>Secondary CPICH Information		0..<maxSC PICHCell>			EACH	ignore
>>Secondary CPICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>Primary CCPCH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>BCH Information	O		Common Transport Channel Status Information 9.2.1.13A		YES	ignore

>Secondary CCPCH Information		<i>0..<maxSC CPCHCell></i>			EACH	ignore
>>Secondary CCPCH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>PCH Information	O		Common Transport Channel Status Information 9.2.1.14B		YES	ignore
>PICH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>FACH Information		<i>0..<maxFA CHCell></i>			EACH	ignore
>>FACH Individual Information	M		Common Transport Channel Status Information 9.2.1.14B		–	
>PRACH Information		<i>0..<maxPR ACHCell></i>			EACH	ignore
>>PRACH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>RACH Information		<i>0..<maxRA CHCell></i>			EACH	ignore
>>RACH Individual Information	M		Common Transport Channel Status Information 9.2.1.14B		–	
>AICH Information		<i>0..<maxRA CHCell></i>			EACH	ignore
>>AICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>PCPCH Information		<i>0..<maxPC PCHCell></i>			EACH	ignore
>>PCPCH Individual Information	M		Common Physical Channel Status Information		–	

			9.2.1.13A			
>CPCH Information		<i>0..<maxCP CHCell></i>			EACH	ignore
>>CPCH Individual Information	M		Common Transport Channel Status Information 9.2.1.14B		–	
>AP-AICH Information		<i>0..<maxCP CHCell></i>			EACH	ignore
>>AP-AICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>CD/CA-ICH Information		<i>0..<maxCP CHCell></i>			EACH	ignore
>>CD/CA-ICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>SCH Information	O		Common Physical Channel Status Information 9.2.1.13A	TDD Sync Channel	YES	ignore
Communication Control Port Information		<i>0.. <maxCCPi nNodeB></i>			EACH	ignore
>Communication Control Port ID	M		9.2.1.15		–	
>Resource Operational State	M		9.2.1.52		–	
>Availability Status	M		9.2.1.2		–	
Local Cell Information		<i>0.. <maxLocal CellinNode B></i>			EACH	ignore
>Local Cell ID	M		9.2.1.38		–	
>DL or Global Capacity Credit	M		9.2.1.20B		–	
>UL Capacity Credit	O		9.2.1.65A		–	
>Common Channels Capacity Consumption Law	M		9.2.1.9A		–	
>Dedicated Channels Capacity Consumption Law	M		9.2.1.20A		–	
>Maximum DL Power Capability	O		9.2.1.39		–	
>Minimum Spreading Factor	O		9.2.1.47		–	
>Minimum DL Power Capability	O		9.2.1.46A		–	

>Local Cell Group ID	O		9.2.1.37A		–	
>Reference Clock availability	<u>O</u>		9.2.3.x	TDD only	-YES	ignore
Local Cell Group Information		0.. <maxLocalCellinNodeB>			EACH	ignore
>Local Cell Group ID	M		9.2.1.37A		–	
>DL or Global Capacity Credit	M		9.2.1.20B		–	
>UL Capacity Credit	O		9.2.1.65A		–	
>Common Channels Capacity Consumption Law	M		9.2.1.9A		–	
>Dedicated Channels Capacity Consumption Law	M		9.2.1.20A		–	
Criticality Diagnostics	O		9.2.1.17		YES	ignore

Range bound	Explanation
MaxCellinNodeB	Maximum number of Cell that can be configured in Node B
MaxCCPinNodeB	Maximum number of communication control ports that can exist in the Node B
MaxCPCHCell	Maximum number of CPCHes that can be defined in a Cell
MaxLocalCellinNodeB	Maximum number of Local Cells that can exist in the Node B
MaxPCPCHCell	Maximum number of PCPCHes that can be defined in a Cell
MaxSCPICHCell	Maximum number of Secondary CPICH that can be defined in a Cell.
MaxSCCPCHCell	Maximum number of Secondary CCPCH that can be defined in a Cell.
MaxFACHCell	Maximum number of FACHes that can be defined in a Cell

9.1.24 CELL SETUP REQUEST

9.1.24.1 FDD Message

9.1.24.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
Local Cell ID	M		9.2.1.38		YES	reject
C-ID	M		9.2.1.9		YES	reject
Configuration Generation Id	M		9.2.1.16		YES	reject
UARFCN	M		9.2.1.65	Corresponds to Nt [15]	YES	reject
Cell Parameter ID	M		9.2.3.4		YES	reject
Maximum Transmission Power	M		9.2.1.40		YES	reject
Transmission Diversity Applied	M		9.2.3.26	On DCHs	YES	reject
Sync Case	M		9.2.3.18		YES	reject
Synchronisation Configuration		1			YES	reject
>N_INSYNC_IND	M		9.2.1.47A		–	
>N_OUTSYNC_IND	M		9.2.1.47B		–	
>T_RLFAILURE	M		9.2.1.56A		–	
DPCH Constant Value	M		Constant Value		YES	reject
PUSCH Constant Value	M		Constant Value		YES	reject
PRACH Constant Value	M		Constant Value		YES	reject
Timing Advance Applied	M		9.2.3.22A		YES	reject
SCH Information		1			YES	reject
>Common physical channel ID	M		9.2.1.13		–	
>CHOICE Sync Case	M				YES	reject
>>Case 1					–	
>>>Time Slot	M		9.2.3.23		–	
>>Case 2					–	
>>>SCH Time Slot	M		9.2.3.17		–	
>SCH Power	M		DL Power 9.2.1.21		–	
>TSTD Indicator	M		9.2.1.64		–	
PCCPCH Information		1			YES	reject
>Common physical channel ID	M		9.2.1.13		–	
>TDD Physical Channel Offset	M		9.2.3.20		–	
>Repetition Period	M		9.2.3.16		–	
>Repetition Length	M		9.2.3.15		–	
>PCCPCH Power	M		9.2.3.9		–	
>Block STTD Indicator	M		9.2.3.1		–	
Time Slot Configuration		1 .. 15			GLOBAL	reject
>Time Slot	M		9.2.3.23		–	
>Time Slot Status	M		9.2.3.25		–	
>Time Slot Direction	M		9.2.3.24		–	
Reference SFN offset	O		9.2.3.x		YES	ignore

9.1.32 RESOURCE STATUS INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	ignore
Transaction ID	M		9.2.1.62		–	
Indication Type	M		9.2.1.36		YES	ignore
CHOICE <i>Indication Type</i>	M				YES	ignore
> <i>No Failure</i>					–	
>>Local Cell Information		1.. <max LocalCellin NodeB >			EACH	ignore
>>>Local Cell ID	M		9.2.1.38		–	
>>>Add/Delete Indicator	M		9.2.1.1		–	
>>>DL or Global Capacity Credit	C-add		9.2.1.20B		–	
>>>UL Capacity Credit	O		9.2.1.65A		–	
>>>Common Channels Capacity Consumption Law	C-add		9.2.1.9A		–	
>>>Dedicated Channels Capacity Consumption Law	C-add		9.2.1.20A		–	
>>>Maximum DL Power Capability	C-add		9.2.1.39		–	
>>>Minimum Spreading Factor	C-add		9.2.1.47		–	
>>>Minimum DL Power Capability	C-add		9.2.1.46A		–	
>>>Reference Clock availability	C-add		9.2.3.x	TDD only	–YES	ignore
>>>Local Cell Group ID	O		9.2.1.37A		–	
>>Local Cell Group Information		0.. <maxLocal CellinNode B>			EACH	ignore
>>>Local Cell Group ID	M		9.2.1.37A		–	
>>>DL or Global Capacity Credit	M		9.2.1.20B		–	
>>>UL Capacity Credit	O		9.2.1.65A		–	
>>>Common Channels Capacity Consumption Law	M		9.2.1.9A		–	
>>>Dedicated Channels Capacity Consumption Law	M		9.2.1.20A		–	
> <i>Service Impacting</i>					–	
>>Local Cell Information		0.. <maxLocal CellinNode B>			EACH	ignore
>>>Local Cell ID	M		9.2.1.38		–	
>>>DL or Global Capacity Credit	O		9.2.1.20B		–	
>>>UL Capacity Credit	O		9.2.1.65A		–	

>>>Common Channels Capacity Consumption Law	O		9.2.2.3		-	
>>>Dedicated Channels Capacity Consumption Law	O		9.2.2.6		-	
>>>Maximum DL Power Capability	O		9.2.1.39		-	
>>>Minimum Spreading Factor	O		9.2.1.47		-	
>>>Minimum DL Power Capability	O		9.2.1.46A		-	
>>>Reference Clock availability	<u>O</u>		<u>9.2.3.x</u>	<u>TDD only</u>	<u>-YES</u>	<u>ignore</u>
>>Local Cell Group Information		0.. <maxLocalCellinNodeB>			EACH	ignore
>>>Local Cell Group ID	M		9.2.1.37A		-	
>>>DL or Global Capacity Credit	O		9.2.2.12		-	
>>>UL Capacity Credit	O		9.2.2.60		-	
>>>Common Channels Capacity Consumption Law	O		9.2.2.3		-	
>>>Dedicated Channels Capacity Consumption Law	O		9.2.2.6		-	
>>Communication Control Port Information		0.. <maxCCPInNodeB>			EACH	ignore
>>>Communication Control Port ID	M		9.2.1.15		-	
>>>Resource Operational State	M		9.2.1.52		-	
>>>Availability Status	M		9.2.1.2		-	
>>Cell Information		0.. <maxCellinNodeB>			EACH	ignore
>>>C-ID	M		9.2.1.9		-	
>>>Resource Operational State	O		9.2.1.52		-	
>>>Availability Status	O		9.2.1.2		-	
>>>Primary SCH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>>>Secondary SCH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>>>Primary CPICH Information	O		Common Physical Channel Status Information		YES	ignore

			9.2.1.13A			
>>>Secondary CPICH Information		<i>0..<maxSC PICHCell></i>			EACH	ignore
>>>>Secondary CPICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>Primary CCPCH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>>>BCH Information	O		Common Transport Channel Status Information 9.2.1.14B		YES	ignore
>>>>Secondary CCPCH Information		<i>0..<maxSC CPCHCell ></i>			EACH	ignore
>>>>Secondary CCPCH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>PCH Information	O		Common Transport Channel Status Information 9.2.1.14B		YES	ignore
>>>PICH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>>>FACH Information		<i>0..<maxFAC HCell></i>			EACH	ignore
>>>>FACH Individual Information	M		Common Transport Channel Status Information 9.2.1.14B		–	
>>>>PRACH Information		<i>0..<maxPR ACHCell></i>			EACH	ignore
>>>>PRACH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>RACH Information		<i>0..<maxPRA CHCell></i>			EACH	ignore
>>>>RACH Individual Information	M		Common Transport Channel Status Information		–	

			9.2.1.14B			
>>>AICH Information		0.. <maxPRA CHCell>			EACH	ignore
>>>>AICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		-	
>>>PCPCH Information		0..<maxPC PCHCell>			EACH	ignore
>>>>PCPCH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		-	
>>>CPCH Information		0.. <maxCPC HCell>			EACH	ignore
>>>>CPCH Individual Information	M		Common Transport Channel Status Information 9.2.1.14B		-	
>>>AP-AICH Information		0.. <maxCPC HCell>			EACH	ignore
>>>>AP-AICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		-	
>>>CD/CA-ICH Information		0.. <maxCPC HCell>			EACH	ignore
>>>>CD/CA-ICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		-	
>>>>SCH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
Cause	O		9.2.1.6		YES	ignore

Condition	Explanation
C-add	This IE is present only if "Add/Delete Indicator" equals to add

Range bound	Explanation
<i>MaxLocalCellinNodeB</i>	Maximum number of Local Cells that can exist in the Node B
<i>MaxCellinNodeB</i>	Maximum number of C ID that can be configured in Node B
<i>MaxCPCHCell</i>	Maximum number of CPCHes that can be defined in a Cell
<i>MaxSCPICHCell</i>	Maximum number of Secondary CPICH that can be defined in a Cell.
<i>MaxSCCPCHCell</i>	Maximum number of Secondary CCPCH that can be defined in a Cell.
<i>MaxFACHCell</i>	Maximum number of FACHes that can be defined in a Cell
<i>MaxPCPCHCell</i>	Maximum number of PCPCHes that can be defined in a Cell
<i>MaxPRACHCell</i>	Maximum number of PRACHes and AICHes that can be defined in a Cell
<i>MaxCCPinNodeB</i>	Maximum number of communication control ports that can exist in the Node B

9.2.3.x Reference Clock availability

The *Reference Clock availability* IE is used to indicate the presence and operating of a Reference Clock connected to a TDD cell for cell synchronisation purpose.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Reference Clock availability</u>			ENUMERATED(Available, Not Available)	

9.2.3.x Reference SFN offset

The *Reference SFN offset* IE indicates the number of frames the reference SFN shall be shifted compared to the SFN derived from the synchronisation port.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Reference SFN offset</u>			INTEGER(0..255)	

9.3.3 PDU Definitions

```

-- *****
--
-- PDU definitions for NBAP.
--
-- *****

NBAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- IE parameter types from other modules.
--
-- *****

IMPORTS
  Active-Pattern-Sequence-Information,
  AddorDeleteIndicator,
  AICH-Power,
  AICH-TransmissionTiming,
  AllocationRetentionPriority,
  APPreambleSignature,
  APSubChannelNumber,
  AvailabilityStatus,
  BCCH-ModificationTime,
  BindingID,
  BlockingPriorityIndicator,
  BlockSTTD-Indicator,
  Cause,
  CCTrCH-ID,
  CDSubChannelNumbers,
  CellParameterID,
  CFN,
  Channel-Assignment-Indication,
  ChipOffset,
  C-ID,
  Closedlooptimingadjustmentmode,
  CommonChannelsCapacityConsumptionLaw,
  Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD,
  CommonMeasurementType,
  CommonMeasurementValue,
  CommonMeasurementValueInformation,
  CommonPhysicalChannelID,
  Common-PhysicalChannel-Status-Information,
  Common-TransportChannel-Status-Information,
  CommonTransportChannelID,
  CommonTransportChannel-InformationResponse,
  CommunicationControlPortID,
  ConfigurationGenerationID,
  ConstantValue,
  CriticalityDiagnostics,
  CPCH-Allowed-Total-Rate,
  CPCHScramblingCodeNumber,
  CPCH-UL-DPCCH-SlotFormat,
  CRNC-CommunicationContextID,
  DCH-FDD-Information,
  DCH-InformationResponse,
  DCH-ID,
  FDD-DCHs-to-Modify,
  TDD-DCHs-to-Modify,
  DCH-TDD-Information,
  DedicatedChannelsCapacityConsumptionLaw,
  DedicatedMeasurementType,
  DedicatedMeasurementValue,
  DedicatedMeasurementValueInformation,
  DiversityControlField,
  DiversityMode,
  DL-DPCH-SlotFormat,
  DL-or-Global-CapacityCredit,
  DL-Power,

```

DLPowerAveragingWindowSize,
 DL-ScramblingCode,
 DL-TimeslotISCP,
 DL-Timeslot-Information,
 DL-TimeslotISCPInfo,
 DL-TPC-Pattern01Count,
 DPCH-ID,
 DSCH-ID,
 DSCH-FDD-Information,
 DSCH-InformationResponse,
 DSCH-TDD-Information,
 End-Of-Audit-Sequence-Indicator,
 FDD-DL-ChannelisationCodeNumber,
 FDD-DL-CodeInformation,
 FDD-S-CCPCH-Offset,
 FDD-TPC-DownlinkStepSize,
 FirstRLS-Indicator,
 FNReportingIndicator,
 FrameHandlingPriority,
 FrameOffset,
 IB-OC-ID,
 IB-SG-DATA,
 IB-SG-POS,
 IB-SG-REP,
 IB-Type,
 IndicationType,
 InnerLoopDLPCStatus,
 LimitedPowerIncrease,
 Local-Cell-ID,
 MaximumDL-PowerCapability,
 MaximumTransmissionPower,
 Max-Number-of-PCPCHes,
 MaxNrOfUL-DPDCHs,
 MaxPRACH-MidambleShifts,
 MeasurementFilterCoefficient,
 MeasurementID,
 MidambleShiftAndBurstType,
 MinimumDL-PowerCapability,
 MinSpreadingFactor,
 MinUL-ChannelisationCodeLength,
 MultiplexingPosition,
 NEOT,
 NFmax,
 N-INSYNC-IND,
 N-OUTSYNC-IND,
 NodeB-CommunicationContextID,
 NStartMessage,
 PagingIndicatorLength,
 PayloadCRC-PresenceIndicator,
 PCCPCH-Power,
 PCP-Length,
 PDSCH-CodeMapping,
 PDSCHSet-ID,
 PDSCH-ID,
 PICH-Mode,
 PICH-Power,
 PowerAdjustmentType,
 PowerOffset,
 PowerRaiseLimit,
 PRACH-Midamble,
 PreambleSignatures,
 PreambleThreshold,
 PrimaryCPICH-Power,
 PrimaryScramblingCode,
 PropagationDelay,
 SCH-TimeSlot,
 PunctureLimit,
 PUSCHSet-ID,
 PUSCH-ID,
 QE-Selector,
 RACH-SlotFormat,
 RACH-SubChannelNumbers,
ReferenceClockAvailability,
ReferenceSFNoffset,
 RepetitionLength,
 RepetitionPeriod,
 ReportCharacteristics,
 ResourceOperationalState,

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RL-Set-ID,
RL-ID,
Received-total-wide-band-power-Value,
AdjustmentPeriod,
ScaledAdjustmentRatio,
MaxAdjustmentStep,
ScramblingCodeNumber,
SecondaryCCPCH-SlotFormat,
Segment-Type,
S-FieldLength,
SFN,
ShutdownTimer,
SIB-Originator,
SSDT-Cell-Identity,
SSDT-CellID-Length,
SSDT-Indication,
Start-Of-Audit-Sequence-Indicator,
STTD-Indicator,
SSDT-SupportIndicator,
SyncCase,
T-Cell,
T-RLFAILURE,
TDD-ChannelisationCode,
TDD-DPCHOffset,
TDD-TPC-DownlinkStepSize,
TDD-PhysicalChannelOffset,
TFCI2-BearerInformationResponse,
TFCI-Coding,
TFCI-Presence,
TFCI-SignallingMode,
TFCS,
TimeSlot,
TimeSlotDirection,
TimeSlotStatus,
TimingAdvanceApplied,
ToAWE,
ToAWS,
TransmissionDiversityApplied,
TransmitDiversityIndicator,
TransmissionGapPatternSequenceCodeInformation,
Transmission-Gap-Pattern-Sequence-Information,
TransportBearerRequestIndicator,
TransportFormatSet,
TransportLayerAddress,
TSTD-Indicator,
UARFCN,
USCH-Information,
USCH-InformationResponse,
UL-CapacityCredit,
UL-DPCCH-SlotFormat,
UL-SIR,
UL-FP-Mode,
UL-PhysCH-SF-Variation,
UL-ScramblingCode,
UL-Timeslot-Information,
UL-TimeSlot-ISCP-Info,
UL-TimeslotISCP-Value,
UL-TimeslotISCP-Value-IncrDecrThres,
USCH-ID
FROM NBAP-IEs

PrivateIE-Container{},
ProtocolExtensionContainer{},
ProtocolIE-Container{},
ProtocolIE-Single-Container{},
ProtocolIE-ContainerList{},
NBAP-PRIVATE-IES,
NBAP-PROTOCOL-IES,
NBAP-PROTOCOL-EXTENSION
FROM NBAP-Containers

id-Active-Pattern-Sequence-Information,
id-AdjustmentRatio,
id-AICH-Information,
id-AICH-ParametersListIE-CTCH-ReconfRqstFDD,
id-AP-AICH-Information,
id-AP-AICH-ParametersListIE-CTCH-ReconfRqstFDD,
id-BCH-Information,

```


id-BCCH-ModificationTime,
id-BlockingPriorityIndicator,
id-Cause,
id-CauseLevel-PSCH-ReconfFailureTDD,
id-CauseLevel-RL-AdditionFailureFDD,
id-CauseLevel-RL-AdditionFailureTDD,
id-CauseLevel-RL-ReconfFailure,
id-CauseLevel-RL-SetupFailureFDD,
id-CauseLevel-RL-SetupFailureTDD,
id-CCP-InformationItem-AuditRsp,
id-CCP-InformationList-AuditRsp,
id-CCP-InformationItem-ResourceStatusInd,
id-CDCA-ICH-Information,
id-CDCA-ICH-ParametersListIE-CTCH-ReconfRqstFDD,
id-Cell-InformationItem-AuditRsp,
id-Cell-InformationItem-ResourceStatusInd,
id-Cell-InformationList-AuditRsp,
id-CellParameterID,
id-CFN,
id-CFNReportingIndicator,
id-C-ID,
id-Closed-Loop-Timing-Adjustment-Mode,
id-CommonMeasurementObjectType-CM-Rprt,
id-CommonMeasurementObjectType-CM-Rqst,
id-CommonMeasurementObjectType-CM-Rsp,
id-CommonMeasurementType,
id-CommonPhysicalChannelID,
id-CommonPhysicalChannelType-CTCH-ReconfRqstFDD,
id-CommonPhysicalChannelType-CTCH-SetupRqstFDD,
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD,
id-CommonTransportChannelType-CTCH-ReconfRqstTDD,
id-CommunicationContextInfoItem-Reset,
id-CommunicationControlPortID,
id-CommunicationControlPortInfoItem-Reset,
id-Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD,
id-ConfigurationGenerationID,
id-CPCH-Information,
id-CPCH-Parameters-CTCH-SetupRsp,
id-CPCH-ParametersListIE-CTCH-ReconfRqstFDD,
id-CRNC-CommunicationContextID,
id-CriticalityDiagnostics,
id-DCHs-to-Add-FDD,
id-DCHs-to-Add-TDD,
id-DCH-AddList-RL-ReconfPrepTDD,
id-DCH-DeleteList-RL-ReconfPrepFDD,
id-DCH-DeleteList-RL-ReconfPrepTDD,
id-DCH-DeleteList-RL-ReconfRqstFDD,
id-DCH-DeleteList-RL-ReconfRqstTDD,
id-DCH-FDD-Information,
id-DCH-TDD-Information,
id-DCH-InformationResponse,
id-FDD-DCHs-to-Modify,
id-TDD-DCHs-to-Modify,
id-DedicatedMeasurementObjectType-DM-Rprt,
id-DedicatedMeasurementObjectType-DM-Rqst,
id-DedicatedMeasurementObjectType-DM-Rsp,
id-DedicatedMeasurementType,
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD,
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD,
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD,
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
id-DL-DPCH-InformationAddListIE-RL-ReconfPrepTDD,
id-DL-DPCH-InformationDeleteListIE-RL-ReconfPrepTDD,
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD,
id-DL-DPCH-InformationList-RL-SetupRqstTDD,
id-DL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD,
id-DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD,
id-DL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD,
id-DL-DPCH-Information-RL-ReconfPrepFDD,
id-DL-DPCH-Information-RL-ReconfRqstFDD,
id-DL-DPCH-Information-RL-SetupRqstFDD,
id-DL-ReferencePowerInformationItem-DL-PC-Rqst,

id-DLReferencePower,
 id-DLReferencePowerList-DL-PC-Rqst,
 id-DL-TPC-Pattern01Count,
 id-DPCHConstant,
 id-DSCH-AddItem-RL-ReconfPrepFDD,
 id-DSCH-AddItem-RL-ReconfRqstFDD,
 id-DSCHs-to-Add-FDD,
 id-DSCH-DeleteItem-RL-ReconfPrepFDD,
 id-DSCH-DeleteItem-RL-ReconfRqstFDD,
 id-DSCH-DeleteList-RL-ReconfPrepFDD,
 id-DSCH-ID,
 id-DSCHs-to-Add-TDD,
 id-DSCH-Information-DeleteList-RL-ReconfPrepTDD,
 id-DSCH-Information-ModifyList-RL-ReconfPrepTDD,
 id-DSCH-InformationResponse,
 id-DSCH-FDD-Information,
 id-DSCH-TDD-Information,
 id-DSCH-ModifyItem-RL-ReconfPrepFDD,
 id-DSCH-ModifyItem-RL-ReconfRqstFDD,
 id-DSCH-ModifyList-RL-ReconfPrepFDD,
 id-End-Of-Audit-Sequence-Indicator,
 id-FACH-Information,
 id-FACHItem-CTCH-SetupRsp,
 id-FACH-ParametersList-CTCH-ReconfRqstTDD,
 id-FACH-ParametersList-CTCH-SetupRsp,
 id-FACH-ParametersListIE-CTCH-ReconfRqstFDD,
 id-FACH-ParametersListIE-CTCH-SetupRqstFDD,
 id-FACH-ParametersListIE-CTCH-SetupRqstTDD,
 id-IndicationType-ResourceStatusInd,
 id-InnerLoopDLPCStatus,
 id-Limited-power-increase-information-Cell-SetupRqstFDD,
 id-Local-Cell-ID,
 id-Local-Cell-Group-InformationItem-AuditRsp,
 id-Local-Cell-Group-InformationItem-ResourceStatusInd,
 id-Local-Cell-Group-InformationItem2-ResourceStatusInd,
 id-Local-Cell-Group-InformationList-AuditRsp,
 id-Local-Cell-InformationItem-AuditRsp,
 id-Local-Cell-InformationItem-ResourceStatusInd,
 id-Local-Cell-InformationItem2-ResourceStatusInd,
 id-Local-Cell-InformationList-AuditRsp,
 id-AdjustmentPeriod,
 id-MaxAdjustmentStep,
 id-MaximumTransmissionPower,
 id-MeasurementFilterCoefficient,
 id-MeasurementID,
 id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst,
 id-NodeB-CommunicationContextID,
 id-P-CCPCH-Information,
 id-P-CPICH-Information,
 id-P-SCH-Information,
 id-PCCPCH-Information-Cell-ReconfRqstTDD,
 id-PCCPCH-Information-Cell-SetupRqstTDD,
 id-PCH-Parameters-CTCH-ReconfRqstTDD,
 id-PCH-Parameters-CTCH-SetupRsp,
 id-PCH-ParametersItem-CTCH-ReconfRqstFDD,
 id-PCH-ParametersItem-CTCH-SetupRqstFDD,
 id-PCH-ParametersItem-CTCH-SetupRqstTDD,
 id-PCH-Information,
 id-PCPCH-Information,
 id-PCPCH-ParametersList-CTCH-ReconfRqstFDD,
 id-PICH-ParametersItem-CTCH-ReconfRqstFDD,
 id-PD,
 id-PDSCH-Information-AddListIE-PSCH-ReconfRqst,
 id-PDSCH-Information-ModifyListIE-PSCH-ReconfRqst,
 id-PDSCHSets-AddList-PSCH-ReconfRqst,
 id-PDSCHSets-DeleteList-PSCH-ReconfRqst,
 id-PDSCHSets-ModifyList-PSCH-ReconfRqst,
 id-PICH-Information,
 id-PICH-Parameters-CTCH-ReconfRqstTDD,
 id-PICH-ParametersItem-CTCH-SetupRqstTDD,
 id-PowerAdjustmentType,
 id-PRACH-Information,
 id-PRACHConstant,
 id-PRACH-ParametersItem-CTCH-SetupRqstTDD,
 id-PRACH-ParametersListIE-CTCH-ReconfRqstFDD,
 id-PrimaryCCPCH-Information-Cell-ReconfRqstFDD,
 id-PrimaryCCPCH-Information-Cell-SetupRqstFDD,
 id-PrimaryCPICH-Information-Cell-ReconfRqstFDD,

id-PrimaryCPICH-Information-Cell-SetupRqstFDD,
 id-PrimarySCH-Information-Cell-ReconfRqstFDD,
 id-PrimarySCH-Information-Cell-SetupRqstFDD,
 id-PrimaryScramblingCode,
 id-ProcedureScopeType-DL-PC-Rqst,
 id-SCH-Information-Cell-ReconfRqstTDD,
 id-SCH-Information-Cell-SetupRqstTDD,
 id-PUSCH-Information-AddListIE-PSCH-ReconfRqst,
 id-PUSCH-Information-ModifyListIE-PSCH-ReconfRqst,
 id-PUSCHConstant,
 id-PUSCHSets-AddList-PSCH-ReconfRqst,
 id-PUSCHSets-DeleteList-PSCH-ReconfRqst,
 id-PUSCHSets-ModifyList-PSCH-ReconfRqst,
 id-RACH-Information,
 id-RACHItem-CTCH-SetupRsp,
 id-RACH-Parameters-CTCH-SetupRsp,
 id-RACH-ParametersItem-CTCH-SetupRqstFDD,
 id-RACH-ParameterItem-CTCH-SetupRqstTDD,
id-ReferenceClockAvailability,
id-ReferenceSFNOffset,
 id-ReportCharacteristics,
 id-Reporting-Object-RL-FailureInd,
 id-Reporting-Object-RL-RestoreInd,
 id-ResetIndicator,
 id-RL-ID,
 id-RL-InformationItem-DM-Rprt,
 id-RL-InformationItem-DM-Rqst,
 id-RL-InformationItem-DM-Rsp,
 id-RL-InformationItem-RL-AdditionRqstFDD,
 id-RL-informationItem-RL-DeletionRqst,
 id-RL-InformationItem-RL-FailureInd,
 id-RL-InformationItem-RL-PreemptRequiredInd,
 id-RL-InformationItem-RL-ReconfPrepFDD,
 id-RL-InformationItem-RL-ReconfRqstFDD,
 id-RL-InformationItem-RL-RestoreInd,
 id-RL-InformationItem-RL-SetupRqstFDD,
 id-RL-InformationList-RL-AdditionRqstFDD,
 id-RL-informationList-RL-DeletionRqst,
 id-RL-InformationList-RL-PreemptRequiredInd,
 id-RL-InformationList-RL-ReconfPrepFDD,
 id-RL-InformationList-RL-ReconfRqstFDD,
 id-RL-InformationList-RL-SetupRqstFDD,
 id-RL-InformationResponseItem-RL-AdditionRspFDD,
 id-RL-InformationResponseItem-RL-ReconfReady,
 id-RL-InformationResponseItem-RL-ReconfRsp,
 id-RL-InformationResponseItem-RL-SetupRspFDD,
 id-RL-InformationResponseList-RL-AdditionRspFDD,
 id-RL-InformationResponseList-RL-ReconfReady,
 id-RL-InformationResponseList-RL-ReconfRsp,
 id-RL-InformationResponseList-RL-SetupRspFDD,
 id-RL-InformationResponse-RL-AdditionRspTDD,
 id-RL-InformationResponse-RL-SetupRspTDD,
 id-RL-Information-RL-AdditionRqstTDD,
 id-RL-Information-RL-ReconfRqstTDD,
 id-RL-Information-RL-ReconfPrepTDD,
 id-RL-Information-RL-SetupRqstTDD,
 id-RL-ReconfigurationFailureItem-RL-ReconfFailure,
 id-RL-Set-InformationItem-DM-Rprt,
 id-RL-Set-InformationItem-DM-Rsp,
 id-RL-Set-InformationItem-RL-FailureInd,
 id-RL-Set-InformationItem-RL-RestoreInd,
 id-S-CCPCH-Information,
 id-S-CPICH-Information,
 id-SCH-Information,
 id-S-SCH-Information,
 id-Secondary-CCPCHListIE-CTCH-ReconfRqstTDD,
 id-Secondary-CCPCH-parameterListIE-CTCH-SetupRqstTDD,
 id-Secondary-CCPCH-Parameters-CTCH-ReconfRqstTDD,
 id-SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD,
 id-SecondaryCPICH-InformationItem-Cell-SetupRqstFDD,
 id-SecondaryCPICH-InformationList-Cell-ReconfRqstFDD,
 id-SecondaryCPICH-InformationList-Cell-SetupRqstFDD,
 id-SecondarySCH-Information-Cell-ReconfRqstFDD,
 id-SecondarySCH-Information-Cell-SetupRqstFDD,
 id-SegmentInformationListIE-SystemInfoUpdate,
 id-SFN,
 id-SFNReportingIndicator,
 id-ShutdownTimer,

id-Start-Of-Audit-Sequence-Indicator,
 id-Successful-RL-InformationRespItem-RL-AdditionFailureFDD,
 id-Successful-RL-InformationRespItem-RL-SetupFailureFDD,
 id-Successful-RL-InformationRespList-RL-AdditionFailureFDD,
 id-Successful-RL-InformationRespList-RL-SetupFailureFDD,
 id-Synchronisation-Configuration-Cell-ReconfRqst,
 id-Synchronisation-Configuration-Cell-SetupRqst,
 id-SyncCase,
 id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH,
 id-T-Cell,
 id-TFICI2-Bearer-Information-RL-SetupRqstFDD,
 id-TFICI2-BearerInformationResponse,
 id-TFICI2-BearerSpecificInformation-RL-ReconfPrepFDD,
 id-Transmission-Gap-Pattern-Sequence-Information,
 id-TimeSlotConfigurationList-Cell-ReconfRqstTDD,
 id-TimeSlotConfigurationList-Cell-SetupRqstTDD,
 id-TimeslotISCPInfoList-DL-PC-RqstTDD,
 id-TimingAdvanceApplied,
 id-TransmissionDiversityApplied,
 id-UARFCNforNt,
 id-UARFCNforNd,
 id-UARFCNforNu,
 id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
 id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
 id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
 id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
 id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,
 id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD,
 id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,
 id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
 id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
 id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
 id-UL-DPCH-InformationAddList-IE-RL-ReconfPrepTDD,
 id-UL-DPCH-InformationItem-RL-AdditionRqstTDD,
 id-UL-DPCH-InformationList-RL-SetupRqstTDD,
 id-UL-DPCH-InformationModify-AddList-IE-RL-ReconfPrepTDD,
 id-UL-DPCH-InformationModify-DeleteList-IE-RL-ReconfPrepTDD,
 id-UL-DPCH-InformationModify-ModifyList-IE-RL-ReconfPrepTDD,
 id-UL-DPCH-Information-RL-ReconfPrepFDD,
 id-UL-DPCH-Information-RL-ReconfRqstFDD,
 id-UL-DPCH-Information-RL-SetupRqstFDD,
 id-Unsuccessful-PDSCHSetItem-PSCH-ReconfFailureTDD,
 id-Unsuccessful-PUSCHSetItem-PSCH-ReconfFailureTDD,
 id-Unsuccessful-RL-InformationRespItem-RL-AdditionFailureFDD,
 id-Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD,
 id-Unsuccessful-RL-InformationRespList-RL-AdditionFailureFDD,
 id-Unsuccessful-RL-InformationRespList-RL-SetupFailureFDD,
 id-Unsuccessful-RL-InformationResp-RL-AdditionFailureTDD,
 id-Unsuccessful-RL-InformationResp-RL-SetupFailureTDD,
 id-USCH-Information-Add,
 id-USCH-Information-AddList-RL-ReconfRqstTDD,
 id-USCH-Information-DeleteList-RL-ReconfPrepTDD,
 id-USCH-Information-DeleteList-RL-ReconfRqstTDD,
 id-USCH-Information-ModifyList-RL-ReconfPrepTDD,
 id-USCH-Information-ModifyList-RL-ReconfRqstTDD,
 id-USCH-InformationResponse,
 id-USCH-Information,

maxNrOfCCTrCHs,
 maxNrOfCodes,
 maxNrOfCPCHs,
 maxNrOfDCHs,
 maxNrOfDLCodes,
 maxNrOfDLTSSs,
 maxNrOfDPCHs,
 maxNrOfDSCHs,
 maxNrOfFACHs,
 maxNrOfRLs,
 maxNrOfRLSets,
 maxNrOfPCPCHs,
 maxNrOfPDSCHs,
 maxNrOfPUSCHs,
 maxNrOfPDSCHSets,
 maxNrOfPUSCHSets,
 maxNrOfSCCPCHs,
 maxNrOfULTSSs,
 maxNrOfUSCHs,
 maxAPSigNum,

```

maxCPCHCell,
maxFACHCell,
maxNoofLen,
maxRACHCell,
maxPCPCHCell,
maxPRACHCell,
maxSCCPCHCell,
maxSCPICHCell,
maxCellinNodeB,
maxCCPinNodeB,
maxCommunicationContext,
maxLocalCellinNodeB,
maxNrOfSlotFormatsPRACH,
maxIB,
maxIBSEG
FROM NBAP-Constants;

```

***** TEXT SKIPPED *****

```

-- *****
--
-- AUDIT RESPONSE
--
-- *****

```

```

AuditResponse ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{AuditResponse-IEs}},
    protocolExtensions  ProtocolExtensionContainer {{AuditResponse-Extensions}}
    OPTIONAL,
    ...
}

```

```

AuditResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-End-Of-Audit-Sequence-Indicator          CRITICALITY ignore TYPE End-Of-
Audit-Sequence-Indicator PRESENCE mandatory }|
    { ID id-Cell-InformationList-AuditRsp          CRITICALITY ignore TYPE
Cell-InformationList-AuditRsp PRESENCE optional }|
    { ID id-CCP-InformationList-AuditRsp          CRITICALITY ignore TYPE CCP-
InformationList-AuditRsp PRESENCE optional }|
    -- CCP (Communication Control Port) --
    { ID id-Local-Cell-InformationList-AuditRsp    CRITICALITY ignore TYPE
Local-Cell-InformationList-AuditRsp PRESENCE optional }|
    { ID id-Local-Cell-Group-InformationList-AuditRsp CRITICALITY ignore TYPE
Local-Cell-Group-InformationList-AuditRsp PRESENCE optional }|
    { ID id-CriticalityDiagnostics                CRITICALITY ignore TYPE
CriticalityDiagnostics PRESENCE optional },
    ...
}

```

```

AuditResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

Cell-InformationList-AuditRsp ::= SEQUENCE (SIZE (1..maxCellinNodeB)) OF ProtocolIE-Single-Container
{{ Cell-InformationItemIE-AuditRsp}}

```

```

Cell-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
    { ID id-Cell-InformationItem-AuditRsp          CRITICALITY ignore TYPE Cell-
InformationItem-AuditRsp PRESENCE optional }
}

```

```

Cell-InformationItem-AuditRsp ::= SEQUENCE {
    c-ID                      C-ID,
    configurationGenerationID ConfigurationGenerationID,
    resourceOperationalState  ResourceOperationalState,
    availabilityStatus        AvailabilityStatus,
    local-Cell-ID             Local-Cell-ID,
    primary-SCH-Information   P-SCH-Information-AuditRsp          OPTIONAL,
    secondary-SCH-Information S-SCH-Information-AuditRsp          OPTIONAL,
    primary-CPICH-Information P-CPICH-Information-AuditRsp        OPTIONAL,
    secondary-CPICH-InformationList S-CPICH-InformationList-AuditRsp  OPTIONAL,
    primary-CCPCH-Information P-CCPCH-Information-AuditRsp        OPTIONAL,
    bCH-Information           BCH-Information-AuditRsp          OPTIONAL,
    secondary-CCPCH-InformationList S-CCPCH-InformationList-AuditRsp  OPTIONAL,
    pCH-Information           PCH-Information-AuditRsp          OPTIONAL,
    pICH-Information          PICH-Information-AuditRsp          OPTIONAL,
}

```

```

    FACH-InformationList          FACH-InformationList-AuditRsp          OPTIONAL,
    PRACH-InformationList         PRACH-InformationList-AuditRsp         OPTIONAL,
    RACH-InformationList          RACH-InformationList-AuditRsp         OPTIONAL,
    AICH-InformationList          AICH-InformationList-AuditRsp         OPTIONAL,
    PCPCH-InformationList         PCPCH-InformationList-AuditRsp        OPTIONAL,
    CPCH-InformationList          CPCH-InformationList-AuditRsp         OPTIONAL,
    AP-AICH-InformationList       AP-AICH-InformationList-AuditRsp      OPTIONAL,
    CDCA-ICH-InformationList      CDCA-ICH-InformationList-AuditRsp     OPTIONAL,
    SCH-Information               SCH-Information-AuditRsp              OPTIONAL,
    IE-Extensions                 ProtocolExtensionContainer { { Cell-InformationItem-
AuditRsp-ExtIEs } }                OPTIONAL,
    ...
}

Cell-InformationItem-AuditRsp-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

P-SCH-Information-AuditRsp ::= ProtocolIE-Single-Container {{ P-SCH-InformationIE-AuditRsp }}

P-SCH-InformationIE-AuditRsp NBAP-PROTOCOL-IES ::= {
    { ID id-P-SCH-Information    CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information
    PRESENCE    mandatory }
}

S-SCH-Information-AuditRsp ::= ProtocolIE-Single-Container {{ S-SCH-InformationIE-AuditRsp }}

S-SCH-InformationIE-AuditRsp NBAP-PROTOCOL-IES ::= {
    { ID id-S-SCH-Information    CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information
    PRESENCE    mandatory }
}

P-CPICH-Information-AuditRsp ::= ProtocolIE-Single-Container {{ P-CPICH-InformationIE-AuditRsp }}

P-CPICH-InformationIE-AuditRsp NBAP-PROTOCOL-IES ::= {
    { ID id-P-CPICH-Information  CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information
    PRESENCE    mandatory }
}

S-CPICH-InformationList-AuditRsp ::= SEQUENCE (SIZE (1..maxSCPICHCell)) OF ProtocolIE-Single-
Container {{ S-CPICH-InformationItemIE-AuditRsp }}

S-CPICH-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
    { ID id-S-CPICH-Information  CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-
Information    PRESENCE mandatory }
}

P-CCPCH-Information-AuditRsp ::= ProtocolIE-Single-Container {{ P-CCPCH-InformationIE-AuditRsp }}

P-CCPCH-InformationIE-AuditRsp NBAP-PROTOCOL-IES ::= {
    { ID id-P-CCPCH-Information  CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-
Information    PRESENCE mandatory }
}

BCH-Information-AuditRsp ::= ProtocolIE-Single-Container {{ BCH-InformationIE-AuditRsp }}

BCH-InformationIE-AuditRsp NBAP-PROTOCOL-IES ::= {
    { ID id-BCH-Information      CRITICALITY ignore    TYPE Common-TransportChannel-Status-Information
    PRESENCE mandatory }
}

S-CCPCH-InformationList-AuditRsp ::= SEQUENCE (SIZE (1..maxSCCPCHCell)) OF ProtocolIE-Single-
Container {{ S-CCPCH-InformationItemIE-AuditRsp }}

S-CCPCH-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
    { ID id-S-CCPCH-Information  CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-
Information    PRESENCE mandatory }
}

PCH-Information-AuditRsp ::= ProtocolIE-Single-Container {{ PCH-InformationIE-AuditRsp }}

PCH-InformationIE-AuditRsp NBAP-PROTOCOL-IES ::= {
    { ID id-PCH-Information      CRITICALITY ignore    TYPE Common-TransportChannel-Status-Information
    PRESENCE mandatory }
}

PICH-Information-AuditRsp ::= ProtocolIE-Single-Container {{ PICH-InformationIE-AuditRsp }}

PICH-InformationIE-AuditRsp NBAP-PROTOCOL-IES ::= {

```

```

    { ID id-PICH-Information    CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information
      PRESENCE mandatory }
  }

FACH-InformationList-AuditRsp ::= SEQUENCE (SIZE (1..maxFACHCell)) OF ProtocolIE-Single-Container {{
FACH-InformationItemIE-AuditRsp }}

FACH-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
  { ID id-FACH-Information    CRITICALITY ignore    TYPE Common-TransportChannel-Status-Information
    PRESENCE mandatory }
}

PRACH-InformationList-AuditRsp ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF ProtocolIE-Single-Container
{{ PRACH-InformationItemIE-AuditRsp }}

PRACH-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
  { ID id-PRACH-Information    CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information
    PRESENCE mandatory }
}

RACH-InformationList-AuditRsp ::= SEQUENCE (SIZE (1..maxRACHCell)) OF ProtocolIE-Single-Container {{
RACH-InformationItemIE-AuditRsp }}

RACH-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
  { ID id-RACH-Information    CRITICALITY ignore    TYPE Common-TransportChannel-Status-Information
    PRESENCE mandatory }
}

AICH-InformationList-AuditRsp ::= SEQUENCE (SIZE (1..maxRACHCell)) OF ProtocolIE-Single-Container {{
AICH-InformationItemIE-AuditRsp }}

AICH-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
  { ID id-AICH-Information    CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information
    PRESENCE mandatory }
}

PCPCH-InformationList-AuditRsp ::= SEQUENCE (SIZE (1..maxPCPCHCell)) OF ProtocolIE-Single-Container
{{ PCPCH-InformationItemIE-AuditRsp }}

PCPCH-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
  { ID id-PCPCH-Information    CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information
    PRESENCE optional }
}

CPCH-InformationList-AuditRsp ::= SEQUENCE (SIZE (1..maxCPCHCell)) OF ProtocolIE-Single-Container {{
CPCH-InformationItemIE-AuditRsp }}

CPCH-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
  { ID id-CPCH-Information    CRITICALITY ignore    TYPE Common-TransportChannel-Status-Information
    PRESENCE optional }
}

AP-AICH-InformationList-AuditRsp ::= SEQUENCE (SIZE (1..maxCPCHCell)) OF ProtocolIE-Single-Container
{{ AP-AICH-InformationItemIE-AuditRsp }}

AP-AICH-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
  { ID id-AP-AICH-Information    CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-
Information    PRESENCE mandatory }
}

CDCA-ICH-InformationList-AuditRsp ::= SEQUENCE (SIZE (1..maxCPCHCell)) OF ProtocolIE-Single-
Container {{ CDCA-ICH-InformationItemIE-AuditRsp }}

CDCA-ICH-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
  { ID id-CDCA-ICH-Information    CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-
Information    PRESENCE mandatory }
}

SCH-Information-AuditRsp ::= ProtocolIE-Single-Container {{ SCH-InformationIE-AuditRsp }}

SCH-InformationIE-AuditRsp NBAP-PROTOCOL-IES ::= {
  { ID id-SCH-Information    CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information
    PRESENCE mandatory }
}

CCP-InformationList-AuditRsp ::=SEQUENCE (SIZE (1..maxCCPInNodeB)) OF ProtocolIE-Single-Container {{
CCP-InformationItemIE-AuditRsp }}

```

```

CCP-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
  { ID id-CCP-InformationItem-AuditRsp      CRITICALITY   ignore      TYPE      CCP-
InformationItem-AuditRsp                    PRESENCE       mandatory}
}

CCP-InformationItem-AuditRsp ::= SEQUENCE {
  communicationControlPortID      CommunicationControlPortID,
  resourceOperationalState         ResourceOperationalState,
  availabilityStatus               AvailabilityStatus,
  iE-Extensions                    ProtocolExtensionContainer  {{ CCP-InformationItem-AuditRsp-
ExtIEs }}          OPTIONAL,
  ...
}

CCP-InformationItem-AuditRsp-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

Local-Cell-InformationList-AuditRsp ::=SEQUENCE (SIZE (1..maxLocalCellinNodeB)) OF ProtocolIE-
Single-Container {{ Local-Cell-InformationItemIE-AuditRsp }}

Local-Cell-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
  { ID      id-Local-Cell-InformationItem-AuditRsp      CRITICALITY   ignore      TYPE
Local-Cell-InformationItem-AuditRsp      PRESENCE       mandatory}
}

Local-Cell-InformationItem-AuditRsp ::= SEQUENCE {
  local-Cell-ID                    Local-Cell-ID,
  dl-or-global-capacityCredit       DL-or-Global-CapacityCredit,
  ul-capacityCredit                 UL-CapacityCredit          OPTIONAL,
  commonChannelsCapacityConsumptionLaw  CommonChannelsCapacityConsumptionLaw,
  dedicatedChannelsCapacityConsumptionLaw  DedicatedChannelsCapacityConsumptionLaw,
  maximumDL-PowerCapability           MaximumDL-PowerCapability   OPTIONAL,
  minSpreadingFactor                 MinSpreadingFactor         OPTIONAL,
  minimumDL-PowerCapability           MinimumDL-PowerCapability   OPTIONAL,
  local-Cell-Group-ID               Local-Cell-ID              OPTIONAL,
  iE-Extensions                    ProtocolExtensionContainer  {{ Local-Cell-
InformationItem-AuditRsp-ExtIEs}}          OPTIONAL,
  ...
}

Local-Cell-InformationItem-AuditRsp-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  .....
  { ID      id-ReferenceClockAvailability      CRITICALITY   ignore      EXTENSION
ReferenceClockAvailability      PRESENCE       optional },
  .....
}

Local-Cell-Group-InformationList-AuditRsp ::= SEQUENCE (SIZE (1..maxLocalCellinNodeB)) OF
ProtocolIE-Single-Container {{ Local-Cell-Group-InformationItemIE-AuditRsp }}

Local-Cell-Group-InformationItemIE-AuditRsp NBAP-PROTOCOL-IES ::= {
  { ID      id-Local-Cell-Group-InformationItem-AuditRsp      CRITICALITY   ignore
TYPE      Local-Cell-Group-InformationItem-AuditRsp      PRESENCE       mandatory}
}

Local-Cell-Group-InformationItem-AuditRsp ::= SEQUENCE {
  local-Cell-Group-ID              Local-Cell-ID,
  dl-or-global-capacityCredit       DL-or-Global-CapacityCredit,
  ul-capacityCredit                 UL-CapacityCredit          OPTIONAL,
  commonChannelsCapacityConsumptionLaw  CommonChannelsCapacityConsumptionLaw,
  dedicatedChannelsCapacityConsumptionLaw  DedicatedChannelsCapacityConsumptionLaw,
  iE-Extensions                    ProtocolExtensionContainer  {{ Local-Cell-Group-
InformationItem-AuditRsp-ExtIEs}}          OPTIONAL,
  ...
}

Local-Cell-Group-InformationItem-AuditRsp-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- CELL SETUP REQUEST TDD
--

```



```

-- *****

CellSetupRequestTDD ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{CellSetupRequestTDD-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{CellSetupRequestTDD-Extensions}}
    OPTIONAL,
    ...
}

CellSetupRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID      id-Local-Cell-ID
      Local-Cell-ID          PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-C-ID
      C-ID                   PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-ConfigurationGenerationID
      ConfigurationGenerationID PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-UARFCNforNt
      UARFCN                 PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-CellParameterID
      CellParameterID        PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-MaximumTransmissionPower
      MaximumTransmissionPower PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-TransmissionDiversityApplied
      TransmissionDiversityApplied PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-SyncCase
      SyncCase                PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-Synchronisation-Configuration-Cell-SetupRqst
      Synchronisation-Configuration-Cell-SetupRqst PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-DPCHConstant
      ConstantValue          PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-PUSCHConstant
      ConstantValue          PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-PRACHConstant
      ConstantValue          PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-TimingAdvanceApplied
      TimingAdvanceApplied   PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-SCH-Information-Cell-SetupRqstTDD
      SCH-Information-Cell-SetupRqstTDD           PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-PCCPCH-Information-Cell-SetupRqstTDD
      PCCPCH-Information-Cell-SetupRqstTDD        PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    { ID      id-TimeSlotConfigurationList-Cell-SetupRqstTDD
      TimeSlotConfigurationList-Cell-SetupRqstTDD PRESENCE    CRITICALITY    mandatory } | reject    TYPE
    ...
}

CellSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
    { ID      id-ReferenceSFNoffset          CRITICALITY    ignore          EXTENSION ReferenceSFNoffset
      PRESENCE    optional },
    ...
}

SCH-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    syncCaseIndicator            SyncCaseIndicator-Cell-SetupRqstTDD-PSCH,
    sCH-Power                    DL-Power,
    tSTD-Indicator               TSTD-Indicator,
    iE-Extensions                ProtocolExtensionContainer { { SCH-Information-Cell-
SetupRqstTDD-ExtIEs } }        OPTIONAL,
    ...
}

SCH-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

SyncCaseIndicator-Cell-SetupRqstTDD-PSCH ::= ProtocolIE-Single-Container {{ SyncCaseIndicatorIE-
Cell-SetupRqstTDD-PSCH }}

SyncCaseIndicatorIE-Cell-SetupRqstTDD-PSCH NBAP-PROTOCOL-IES ::= {
    { ID      id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH CRITICALITY reject    TYPE
      SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH PRESENCE mandatory }
}

SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH ::= CHOICE {
    case1          Case1-Cell-SetupRqstTDD,
    case2          Case2-Cell-SetupRqstTDD,
}

```

```

}
...
}
Case1-Cell-SetupRqstTDD ::= SEQUENCE {
    timeSlot                TimeSlot,
    iE-Extensions           ProtocolExtensionContainer { { Case1Item-Cell-SetupRqstTDD-
ExtIEs} } OPTIONAL,
    ...
}
Case1Item-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
Case2-Cell-SetupRqstTDD ::= SEQUENCE {
    sCH-TimeSlot            SCH-TimeSlot,
    iE-Extensions           ProtocolExtensionContainer { { Case2Item-Cell-SetupRqstTDD-
ExtIEs} } OPTIONAL,
    ...
}
Case2Item-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PCCPCH-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID CommonPhysicalChannelID,
    tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset,
    repetitionPeriod         RepetitionPeriod,
    repetitionLength         RepetitionLength,
    pCCPCH-Power             PCCPCH-Power,
    blockSTTD-Indicator      BlockSTTD-Indicator,
    iE-Extensions           ProtocolExtensionContainer { { PCCPCH-Information-Cell-
SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}
PCCPCH-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
TimeSlotConfigurationList-Cell-SetupRqstTDD ::= SEQUENCE (SIZE (1..15)) OF
TimeSlotConfigurationItem-Cell-SetupRqstTDD
TimeSlotConfigurationItem-Cell-SetupRqstTDD ::= SEQUENCE {
    timeSlot                TimeSlot,
    timeSlotStatus          TimeSlotStatus,
    timeSlotDirection       TimeSlotDirection,
    iE-Extensions           ProtocolExtensionContainer { {
TimeSlotConfigurationItem-Cell-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}
TimeSlotConfigurationItem-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- RESOURCE STATUS INDICATION
--
-- *****

ResourceStatusIndication ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container  {{ResourceStatusIndication-IEs}},
    protocolExtensions      ProtocolExtensionContainer {{ResourceStatusIndication-Extensions}}
    OPTIONAL,
    ...
}
ResourceStatusIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID      id-IndicationType-ResourceStatusInd          CRITICALITY  ignore          TYPE
    IndicationType-ResourceStatusInd          PRESENCE      mandatory    }|

```

```

    { ID id-Cause          CRITICALITY ignore TYPE
    Cause                  PRESENCE optional },
    ...
}

ResourceStatusIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

IndicationType-ResourceStatusInd ::= CHOICE {
    no-Failure              No-Failure-ResourceStatusInd,
    serviceImpacting        ServiceImpacting-ResourceStatusInd,
    ...
}

No-Failure-ResourceStatusInd ::= SEQUENCE {
    local-Cell-InformationList Local-Cell-InformationList-ResourceStatusInd,
    local-Cell-Group-InformationList Local-Cell-Group-InformationList-ResourceStatusInd
    OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { No-FailureItem-
ResourceStatusInd-ExtIEs} } OPTIONAL,
    ...
}

No-FailureItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Local-Cell-InformationList-ResourceStatusInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF
ProtocolIE-Single-Container { { Local-Cell-InformationItemIE-ResourceStatusInd } }

Local-Cell-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Local-Cell-InformationItem-ResourceStatusInd CRITICALITY ignore TYPE Local-Cell-
InformationItem-ResourceStatusInd PRESENCE mandatory }
}

Local-Cell-InformationItem-ResourceStatusInd ::= SEQUENCE {
    local-CellID              Local-Cell-ID,
    addorDeleteIndicator      AddorDeleteIndicator,
    dl-or-global-capacityCredit DL-or-Global-CapacityCredit OPTIONAL,
    -- This IE is present only if "AddorDeleteIndicator" equals add
    ul-capacityCredit          UL-CapacityCredit OPTIONAL,
    commonChannelsCapacityConsumptionLaw CommonChannelsCapacityConsumptionLaw OPTIONAL,
    -- This IE is present only if "AddorDeleteIndicator" equals add
    dedicatedChannelsCapacityConsumptionLaw DedicatedChannelsCapacityConsumptionLaw
    OPTIONAL,
    -- This IE is present only if "AddorDeleteIndicator" equals add
    maximumDL-PowerCapability MaximumDL-PowerCapability OPTIONAL,
    -- This IE is present only if "AddorDeleteIndicator" equals add
    minSpreadingFactor        MinSpreadingFactor OPTIONAL,
    -- This IE is present only if "AddorDeleteIndicator" equals add
    minimumDL-PowerCapability MinimumDL-PowerCapability OPTIONAL,
    -- This IE is present only if "AddorDeleteIndicator" equals add
    local-Cell-Group-ID        Local-Cell-ID OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { Local-Cell-
InformationItem-ResourceStatusInd-ExtIEs} } OPTIONAL,
    ...
}

Local-Cell-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Local-Cell-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
    { ID id-ReferenceClockAvailability CRITICALITY ignore EXTENSION
    ReferenceClockAvailability PRESENCE optional },
    -- This IE is present only if "AddorDeleteIndicator" equals add and the Local Cell is related to
    a TDD cell
    ...
}

Local-Cell-Group-InformationList-ResourceStatusInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF
ProtocolIE-Single-Container { { Local-Cell-Group-InformationItemIE-ResourceStatusInd } }

Local-Cell-Group-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Local-Cell-Group-InformationItem-ResourceStatusInd CRITICALITY ignore TYPE Local-Cell-
Group-InformationItem-ResourceStatusInd PRESENCE mandatory }
}

Local-Cell-Group-InformationItem-ResourceStatusInd ::= SEQUENCE {
    local-Cell-Group-ID        Local-Cell-ID,

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```

dl-or-global-capacityCredit          DL-or-Global-CapacityCredit,
ul-capacityCredit                    UL-CapacityCredit          OPTIONAL,
commonChannelsCapacityConsumptionLaw CommonChannelsCapacityConsumptionLaw,
dedicatedChannelsCapacityConsumptionLaw DedicatedChannelsCapacityConsumptionLaw,
iE-Extensions                        ProtocolExtensionContainer { { Local-Cell-Group-
InformationItem-ResourceStatusInd-ExtIEs } } OPTIONAL,
...
}

Local-Cell-Group-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

ServiceImpacting-ResourceStatusInd ::= SEQUENCE {
local-Cell-InformationList           Local-Cell-InformationList2-ResourceStatusInd
OPTIONAL,
local-Cell-Group-InformationList     Local-Cell-Group-InformationList2-ResourceStatusInd
OPTIONAL,
cCP-InformationList                 CCP-InformationList-ResourceStatusInd
OPTIONAL,
cell-InformationList                 Cell-InformationList-ResourceStatusInd
OPTIONAL,
iE-Extensions                        ProtocolExtensionContainer { { ServiceImpactingItem-
ResourceStatusInd-ExtIEs } }      OPTIONAL,
...
}

ServiceImpactingItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

Local-Cell-InformationList2-ResourceStatusInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF
ProtocolIE-Single-Container {{ Local-Cell-InformationItemIE2-ResourceStatusInd }}

Local-Cell-InformationItemIE2-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
{ ID id-Local-Cell-InformationItem2-ResourceStatusInd CRITICALITY ignore TYPE Local-Cell-
InformationItem2-ResourceStatusInd PRESENCE mandatory }
}

Local-Cell-InformationItem2-ResourceStatusInd ::= SEQUENCE {
local-Cell-ID                       Local-Cell-ID,
dl-or-global-capacityCredit          DL-or-Global-CapacityCredit          OPTIONAL,
ul-capacityCredit                    UL-CapacityCredit                    OPTIONAL,
commonChannelsCapacityConsumptionLaw CommonChannelsCapacityConsumptionLaw OPTIONAL,
dedicatedChannelsCapacityConsumptionLaw DedicatedChannelsCapacityConsumptionLaw OPTIONAL,
maximum-DL-PowerCapability           MaximumDL-PowerCapability           OPTIONAL,
minSpreadingFactor                   MinSpreadingFactor                 OPTIONAL,
minimumDL-PowerCapability             MinimumDL-PowerCapability           OPTIONAL,
iE-Extensions                        ProtocolExtensionContainer { { Local-Cell-
InformationItem2-ResourceStatusInd-ExtIEs } }      OPTIONAL,
...
}

Local-Cell-InformationItem2-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

```

```

{ ID id-ReferenceClockAvailability CRITICALITY ignore EXTENSION
ReferenceClockAvailability PRESENCE optional },
...
}

Local-Cell-Group-InformationList2-ResourceStatusInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF
ProtocolIE-Single-Container {{ Local-Cell-Group-InformationItemIE2-ResourceStatusInd }}

Local-Cell-Group-InformationItemIE2-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
{ ID id-Local-Cell-Group-InformationItem2-ResourceStatusInd CRITICALITY ignore TYPE Local-
Cell-Group-InformationItem2-ResourceStatusInd PRESENCE mandatory }
}

Local-Cell-Group-InformationItem2-ResourceStatusInd ::= SEQUENCE {
local-Cell-Group-ID                 Local-Cell-ID,
dl-or-global-capacityCredit          DL-or-Global-CapacityCredit          OPTIONAL,
ul-capacityCredit                    UL-CapacityCredit                    OPTIONAL,
commonChannelsCapacityConsumptionLaw CommonChannelsCapacityConsumptionLaw OPTIONAL,
dedicatedChannelsCapacityConsumptionLaw DedicatedChannelsCapacityConsumptionLaw OPTIONAL,
iE-Extensions                        ProtocolExtensionContainer { { Local-Cell-Group-
InformationItem2-ResourceStatusInd-ExtIEs } }      OPTIONAL,
...
}

```

```

Local-Cell-Group-InformationItem2-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCP-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCCPInNodeB)) OF ProtocolIE-Single-
Container {{ CCP-InformationItemIE-ResourceStatusInd }}

CCP-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-CCP-InformationItem-ResourceStatusInd    CRITICALITY ignore    TYPE CCP-InformationItem-
ResourceStatusInd          PRESENCE mandatory }
}

CCP-InformationItem-ResourceStatusInd ::= SEQUENCE {
    communicationControlPortID      CommunicationControlPortID,
    resourceOperationalState         ResourceOperationalState,
    availabilityStatus               AvailabilityStatus,
    iE-Extensions                    ProtocolExtensionContainer { { CCP-InformationItem-
ResourceStatusInd-ExtIEs } }      OPTIONAL,
    ...
}

CCP-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Cell-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCellInNodeB)) OF ProtocolIE-Single-
Container {{ Cell-InformationItemIE-ResourceStatusInd }}

Cell-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Cell-InformationItem-ResourceStatusInd    CRITICALITY ignore    TYPE Cell-InformationItem-
ResourceStatusInd          PRESENCE mandatory }
}

Cell-InformationItem-ResourceStatusInd ::= SEQUENCE {
    c-ID                               C-ID,
    resourceOperationalState           ResourceOperationalState
    OPTIONAL,
    availabilityStatus                 AvailabilityStatus
    OPTIONAL,
    primary-SCH-Information             P-SCH-Information-ResourceStatusInd
    OPTIONAL,
    secondary-SCH-Information           S-SCH-Information-ResourceStatusInd
    OPTIONAL,
    primary-CPICH-Information           P-CPICH-Information-ResourceStatusInd
    OPTIONAL,
    secondary-CPICH-Information         S-CPICH-InformationList-ResourceStatusInd
    OPTIONAL,
    primary-CCPCH-Information           P-CCPCH-Information-ResourceStatusInd
    OPTIONAL,
    bCH-Information                    BCH-Information-ResourceStatusInd
    OPTIONAL,
    secondary-CCPCH-InformationList     S-CCPCH-InformationList-ResourceStatusInd
    OPTIONAL,
    pCH-Information                    PCH-Information-ResourceStatusInd
    OPTIONAL,
    pICH-Information                    PICH-Information-ResourceStatusInd
    OPTIONAL,
    fACH-InformationList                FACH-InformationList-ResourceStatusInd
    OPTIONAL,
    pRACH-InformationList               PRACH-InformationList-ResourceStatusInd
    OPTIONAL,
    rACH-InformationList                RACH-InformationList-ResourceStatusInd
    OPTIONAL,
    aICH-InformationList                AICH-InformationList-ResourceStatusInd
    OPTIONAL,
    pCPCH-InformationList               PCPCH-InformationList-ResourceStatusInd
    OPTIONAL,
    cPCH-InformationList               CPCH-InformationList-ResourceStatusInd
    OPTIONAL,
    aP-AICH-InformationList             AP-AICH-InformationList-ResourceStatusInd
    OPTIONAL,
    cDCA-ICH-InformationList            CDCA-ICH-InformationList-ResourceStatusInd
    OPTIONAL,
    sCH-Information                    SCH-Information-ResourceStatusInd
    OPTIONAL,
    iE-Extensions                      ProtocolExtensionContainer { { Cell-InformationItem-
ResourceStatusInd-ExtIEs } }      OPTIONAL,

```

```

}
...
}
Cell-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
}
...
}
P-SCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ P-SCH-InformationIE-
ResourceStatusInd }}
P-SCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-P-SCH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information
    PRESENCE mandatory }
}
S-SCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ S-SCH-InformationIE-
ResourceStatusInd }}
S-SCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-S-SCH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information
    PRESENCE mandatory }
}
P-CPICH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ P-CPICH-InformationIE-
ResourceStatusInd }}
P-CPICH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-P-CPICH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-
Information    PRESENCE mandatory }
}
S-CPICH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxSCPICHCell)) OF ProtocolIE-
Single-Container {{ S-CPICH-InformationItemIE-ResourceStatusInd }}
S-CPICH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-S-CPICH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-
Information    PRESENCE mandatory }
}
P-CCPCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ P-CCPCH-InformationIE-
ResourceStatusInd }}
P-CCPCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-P-CCPCH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-
Information    PRESENCE mandatory }
}
BCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ BCH-InformationIE-
ResourceStatusInd }}
BCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-BCH-Information  CRITICALITY ignore  TYPE Common-TransportChannel-Status-Information
    PRESENCE mandatory }
}
S-CCPCH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxSCCPCHCell)) OF ProtocolIE-
Single-Container {{ S-CCPCH-InformationItemIE-ResourceStatusInd }}
S-CCPCH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-S-CCPCH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-
Information    PRESENCE mandatory }
}
PCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ PCH-InformationIE-
ResourceStatusInd }}
PCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-PCH-Information  CRITICALITY ignore  TYPE Common-TransportChannel-Status-Information
    PRESENCE mandatory }
}
PICH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ PICH-InformationIE-
ResourceStatusInd }}
PICH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-PICH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information
    PRESENCE mandatory }
}

```

```

FACH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxFACHCell)) OF ProtocolIE-Single-
Container {{ FACH-InformationItemIE-ResourceStatusInd }}

FACH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-FACH-Information  CRITICALITY ignore  TYPE Common-TransportChannel-Status-Information
    PRESENCE mandatory }
}

PRACH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF ProtocolIE-Single-
Container {{ PRACH-InformationItemIE-ResourceStatusInd }}

PRACH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-PRACH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information
    PRESENCE mandatory }
}

RACH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF ProtocolIE-Single-
Container {{ RACH-InformationItemIE-ResourceStatusInd }}

RACH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-RACH-Information  CRITICALITY ignore  TYPE Common-TransportChannel-Status-Information
    PRESENCE mandatory }
}

AICH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF ProtocolIE-Single-
Container {{ AICH-InformationItemIE-ResourceStatusInd }}

AICH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-AICH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information
    PRESENCE mandatory }
}

PCPCH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxPCPCHCell)) OF ProtocolIE-Single-
Container {{ PCPCH-InformationItemIE-ResourceStatusInd }}

PCPCH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-PCPCH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information
    PRESENCE optional }
}

CPCH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCPCHCell)) OF ProtocolIE-Single-
Container {{ CPCH-InformationItemIE-ResourceStatusInd }}

CPCH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-CPCH-Information  CRITICALITY ignore  TYPE Common-TransportChannel-Status-Information
    PRESENCE optional }
}

AP-AICH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCPCHCell)) OF ProtocolIE-Single-
Container {{ AP-AICH-InformationItemIE-ResourceStatusInd }}

AP-AICH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-AP-AICH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-
Information  PRESENCE optional }
}

CDCA-ICH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCPCHCell)) OF ProtocolIE-
Single-Container {{ CDCA-ICH-InformationItemIE-ResourceStatusInd }}

CDCA-ICH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-CDCA-ICH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-
Information  PRESENCE optional }
}

SCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ SCH-InformationIE-
ResourceStatusInd }}

SCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
  { ID id-SCH-Information  CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information
    PRESENCE mandatory }
}

```

9.3.4 Information Elements Definitions

```

--*****
--
-- Information Element Definitions
--
--*****

NBAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS
    maxNrOfTFCs,
    maxNrOfErrors,
    maxCTFC,
    maxNrOfTFs,
    maxTTI-count,
    maxRateMatching,
    maxCodeNrComp-1,
    maxNrOfCodeGroups,
    maxNrOfTFCIGroups,
    maxNrOfTFCI1Combs,
    maxNrOfTFCI2Combs,
    maxNrOfTFCI2Combs-1,
    maxNrOfSF,
    maxTGPS,
    maxNrOfUSCHs,
    maxNrOfULTSs,
    maxNrOfDPCHs,
    maxNrOfCodes,
    maxNrOfDSCHs,
    maxNrOfDLTSs,
    maxNrOfDCHs

FROM NBAP-Constants

    Criticality,
    ProcedureID,
    ProtocolIE-ID,
    TransactionID,
    TriggeringMessage
FROM NBAP-CommonDataTypes

    NBAP-PROTOCOL-IES,
    ProtocolExtensionContainer{},
    ProtocolIE-Single-Container{},
    NBAP-PROTOCOL-EXTENSION
FROM NBAP-Containers;

-- =====
-- A
-- =====

***** TEXT SKIPPED *****

-- =====
-- R
-- =====

RACH-SlotFormat ::= ENUMERATED {
    v0,
    v1,
    v2,
    v3,
    ...
}

RACH-SubChannelNumbers ::= BIT STRING (SIZE (12))
-- Bit 0=Sub Channel Number 0, Bit 1=Sub Channel Number 1, .., Bit 11=Sub Channel Number 11

ReferenceClockAvailability ::= ENUMERATED {
    available,
    notAvailable
}

```



```
| }
```

```
| ReferenceSFNoffset ::= INTEGER {0..255}
```

```
RepetitionLength ::= INTEGER (1..63)
```

9.3.6 Constant Definitions

```

-- *****
--
-- Constant definitions
--
-- *****

NBAP-Constants {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-Constants (4)}

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    ProcedureCode,
    ProtocolIE-ID
FROM NBAP-CommonDataTypes;

-- *****
--
-- Elementary Procedures
--
-- *****

id-audit                               ProcedureCode ::= 0
id-auditRequired                       ProcedureCode ::= 1
id-blockResource                       ProcedureCode ::= 2
id-cellDeletion                        ProcedureCode ::= 3
id-cellReconfiguration                 ProcedureCode ::= 4
id-cellSetup                           ProcedureCode ::= 5
id-commonMeasurementFailure            ProcedureCode ::= 6
id-commonMeasurementInitiation         ProcedureCode ::= 7
id-commonMeasurementReport             ProcedureCode ::= 8
id-commonMeasurementTermination        ProcedureCode ::= 9
id-commonTransportChannelDelete        ProcedureCode ::= 10
id-commonTransportChannelReconfigure   ProcedureCode ::= 11
id-commonTransportChannelSetup         ProcedureCode ::= 12
id-compressedModeCommand               ProcedureCode ::= 14
id-dedicatedMeasurementFailure         ProcedureCode ::= 16
id-dedicatedMeasurementInitiation      ProcedureCode ::= 17
id-dedicatedMeasurementReport          ProcedureCode ::= 18
id-dedicatedMeasurementTermination     ProcedureCode ::= 19
id-downlinkPowerControl                ProcedureCode ::= 20
id-downlinkPowerTimeslotControl        ProcedureCode ::= 38
id-errorIndicationForCommon            ProcedureCode ::= 35
id-errorIndicationForDedicated         ProcedureCode ::= 21
id-physicalSharedChannelReconfiguration ProcedureCode ::= 37
id-privateMessageForCommon             ProcedureCode ::= 36
id-privateMessageForDedicated          ProcedureCode ::= 22
id-radioLinkAddition                   ProcedureCode ::= 23
id-radioLinkDeletion                   ProcedureCode ::= 24
id-radioLinkFailure                    ProcedureCode ::= 25
id-radioLinkPreemption                  ProcedureCode ::= 39
id-radioLinkRestoration                 ProcedureCode ::= 26
id-radioLinkSetup                       ProcedureCode ::= 27
id-reset                                ProcedureCode ::= 13
id-resourceStatusIndication             ProcedureCode ::= 28
id-synchronisedRadioLinkReconfiguration Cancellation ProcedureCode ::= 29
id-synchronisedRadioLinkReconfiguration Commit      ProcedureCode ::= 30
id-synchronisedRadioLinkReconfiguration Preparation ProcedureCode ::= 31
id-systemInformationUpdate              ProcedureCode ::= 32
id-unblockResource                      ProcedureCode ::= 33
id-unSynchronisedRadioLinkReconfiguration ProcedureCode ::= 34

-- *****
--
-- Lists
--
-- *****

maxNrOfCodes           INTEGER ::= 10
maxNrOfDLTSS           INTEGER ::= 15
maxNrOfDLCodes         INTEGER ::= 8
maxNrOfErrors          INTEGER ::= 256

```

```

maxNrOfTFs                INTEGER ::= 32
maxNrOfTFCs               INTEGER ::= 1024
maxNrOfRFLs               INTEGER ::= 16
maxNrOfRFLSets            INTEGER ::= maxNrOfRFLs
maxNrOfDPCHs              INTEGER ::= 240
maxNrOfSCCPCHs            INTEGER ::= 8
maxNrOfCPCHs              INTEGER ::= 4
maxNrOfPCPCHs             INTEGER ::= 64
maxNrOfDCHs               INTEGER ::= 128
maxNrOfDSCHs              INTEGER ::= 32
maxNrOfFACHs              INTEGER ::= 8
maxNrOfCCTrCHs           INTEGER ::= 16
maxNrOfPDSCHs             INTEGER ::= 256
maxNrOfPUSCHs             INTEGER ::= 256
maxNrOfPDSCHSets          INTEGER ::= 256
maxNrOfPUSCHSets          INTEGER ::= 256
maxNrOfULTS               INTEGER ::= 15
maxNrOfUSCHs              INTEGER ::= 32
maxAPSigNum               INTEGER ::= 16
maxNrOfSlotFormatsPRACH  INTEGER ::= 8
maxCellInNodeB            INTEGER ::= 256
maxCCPinNodeB             INTEGER ::= 256
maxCPCHCell               INTEGER ::= maxNrOfCPCHs
maxCTFC                   INTEGER ::= 16777215
maxLocalCellInNodeB      INTEGER ::= maxCellInNodeB
maxNoofLen                INTEGER ::= 7
maxRACHCell               INTEGER ::= maxPRACHCell
maxPRACHCell              INTEGER ::= 16
maxPCPCHCell              INTEGER ::= 64
maxSCCPCHCell             INTEGER ::= 32
maxSCPICHCell             INTEGER ::= 32
maxTTI-count              INTEGER ::= 4
maxIBSEG                  INTEGER ::= 16
maxIB                      INTEGER ::= 64
maxFACHCell               INTEGER ::= 256 -- maxNrOfFACHs * maxSCCPCHCell
maxRateMatching           INTEGER ::= 256
maxCodeNrComp-1           INTEGER ::= 256
maxNrOfCodeGroups         INTEGER ::= 256
maxNrOfTFCIGroups         INTEGER ::= 256
maxNrOfTFCI1Combs         INTEGER ::= 512
maxNrOfTFCI2Combs         INTEGER ::= 1024
maxNrOfTFCI2Combs-1      INTEGER ::= 1023
maxNrOfSF                  INTEGER ::= 8
maxTGPS                   INTEGER ::= 6
maxCommunicationContext   INTEGER ::= 1048575

-- *****
--
-- IEs
--
-- *****

id-AICH-Information                ProtocolIE-ID ::= 0
id-AICH-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 1
id-BCH-Information                ProtocolIE-ID ::= 7
id-BCH-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 8
id-BCCH-ModificationTime          ProtocolIE-ID ::= 9
id-BlockingPriorityIndicator       ProtocolIE-ID ::= 10
id-Cause                           ProtocolIE-ID ::= 13
id-CCP-InformationItem-AuditRsp    ProtocolIE-ID ::= 14
id-CCP-InformationList-AuditRsp   ProtocolIE-ID ::= 15
id-CCP-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 16
id-Cell-InformationItem-AuditRsp   ProtocolIE-ID ::= 17
id-Cell-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 18
id-Cell-InformationList-AuditRsp   ProtocolIE-ID ::= 19
id-CellParameterID                ProtocolIE-ID ::= 23
id-CFN                             ProtocolIE-ID ::= 24
id-C-ID                            ProtocolIE-ID ::= 25
id-CommonMeasurementObjectType-CM-Rprt ProtocolIE-ID ::= 31
id-CommonMeasurementObjectType-CM-Rqst ProtocolIE-ID ::= 32
id-CommonMeasurementObjectType-CM-Rsp ProtocolIE-ID ::= 33
id-CommonMeasurementType           ProtocolIE-ID ::= 34
id-CommonPhysicalChannelID         ProtocolIE-ID ::= 35
id-CommonPhysicalChannelType-CTCH-SetupRqstFDD ProtocolIE-ID ::= 36
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD ProtocolIE-ID ::= 37
id-CommonTransportChannelType-CTCH-ReconfRqstTDD ProtocolIE-ID ::= 38
id-CommunicationControlPortID      ProtocolIE-ID ::= 40
id-ConfigurationGenerationID       ProtocolIE-ID ::= 43

```

id-CRNC-CommunicationContextID	ProtocolIE-ID ::= 44
id-CriticalityDiagnostics	ProtocolIE-ID ::= 45
id-DCHs-to-Add-FDD	ProtocolIE-ID ::= 48
id-DCH-AddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 49
id-DCHs-to-Add-TDD	ProtocolIE-ID ::= 50
id-DCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 52
id-DCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 53
id-DCH-DeleteList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 54
id-DCH-DeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 55
id-DCH-FDD-Information	ProtocolIE-ID ::= 56
id-DCH-TDD-Information	ProtocolIE-ID ::= 57
id-DCH-InformationResponse	ProtocolIE-ID ::= 59
id-FDD-DCHs-to-Modify	ProtocolIE-ID ::= 62
id-TDD-DCHs-to-Modify	ProtocolIE-ID ::= 63
id-DCH-ModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 65
id-DedicatedMeasurementObjectType-DM-Rprt	ProtocolIE-ID ::= 67
id-DedicatedMeasurementObjectType-DM-Rqst	ProtocolIE-ID ::= 68
id-DedicatedMeasurementObjectType-DM-Rsp	ProtocolIE-ID ::= 69
id-DedicatedMeasurementType	ProtocolIE-ID ::= 70
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 72
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD	ProtocolIE-ID ::= 73
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 76
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD	ProtocolIE-ID ::= 77
id-DL-DPCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 79
id-DL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 81
id-DL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 82
id-DL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 83
id-DL-ReferencePowerInformationItem-DL-PC-Rqst	ProtocolIE-ID ::= 84
id-DLReferencePower	ProtocolIE-ID ::= 85
id-DLReferencePowerList-DL-PC-Rqst	ProtocolIE-ID ::= 86
id-DSCH-AddItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 87
id-DSCH-AddItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 88
id-DSCHs-to-Add-FDD	ProtocolIE-ID ::= 89
id-DSCH-DeleteItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 91
id-DSCH-DeleteItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 92
id-DSCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 93
id-DSCH-ID	ProtocolIE-ID ::= 95
id-DSCHs-to-Add-TDD	ProtocolIE-ID ::= 96
id-DSCH-Information-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 98
id-DSCH-Information-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 100
id-DSCH-InformationResponse	ProtocolIE-ID ::= 105
id-DSCH-FDD-Information	ProtocolIE-ID ::= 106
id-DSCH-TDD-Information	ProtocolIE-ID ::= 107
id-DSCH-ModifyItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 108
id-DSCH-ModifyItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 109
id-DSCH-ModifyList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 112
id-End-Of-Audit-Sequence-Indicator	ProtocolIE-ID ::= 113
id-FACH-Information	ProtocolIE-ID ::= 116
id-FACH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 117
id-FACHItem-CTCH-SetupRsp	ProtocolIE-ID ::= 118
id-FACH-ParametersList-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 120
id-FACH-ParametersListIE-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 121
id-FACH-ParametersListIE-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 122
id-IndicationType-ResourceStatusInd	ProtocolIE-ID ::= 123
id-Local-Cell-ID	ProtocolIE-ID ::= 124
id-Local-Cell-Group-InformationItem-AuditRsp	ProtocolIE-ID ::= 2
id-Local-Cell-Group-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 3
id-Local-Cell-Group-InformationItem2-ResourceStatusInd	ProtocolIE-ID ::= 4
id-Local-Cell-Group-InformationList-AuditRsp	ProtocolIE-ID ::= 5
id-Local-Cell-InformationItem-AuditRsp	ProtocolIE-ID ::= 125
id-Local-Cell-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 126
id-Local-Cell-InformationItem2-ResourceStatusInd	ProtocolIE-ID ::= 127
id-Local-Cell-InformationList-AuditRsp	ProtocolIE-ID ::= 128
id-AdjustmentPeriod	ProtocolIE-ID ::= 129
id-MaxAdjustmentStep	ProtocolIE-ID ::= 130
id-MaximumTransmissionPower	ProtocolIE-ID ::= 131
id-MeasurementFilterCoefficient	ProtocolIE-ID ::= 132
id-MeasurementID	ProtocolIE-ID ::= 133
id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst	ProtocolIE-ID ::= 134
id-NodeB-CommunicationContextID	ProtocolIE-ID ::= 143
id-P-CCPCH-Information	ProtocolIE-ID ::= 144
id-P-CCPCH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 145
id-P-CPICH-Information	ProtocolIE-ID ::= 146
id-P-CPICH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 147
id-P-SCH-Information	ProtocolIE-ID ::= 148
id-PCCPCH-Information-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 150
id-PCCPCH-Information-Cell-SetupRqstTDD	ProtocolIE-ID ::= 151
id-PCH-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 155

id-PCH-ParametersItem-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 156
id-PCH-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 157
id-PCH-Information	ProtocolIE-ID ::= 158
id-PD	ProtocolIE-ID ::= 160
id-PDSCH-Information-AddListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 161
id-PDSCH-Information-ModifyListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 162
id-PDSCHSets-AddList-PSCH-ReconfRqst	ProtocolIE-ID ::= 163
id-PDSCHSets-DeleteList-PSCH-ReconfRqst	ProtocolIE-ID ::= 164
id-PDSCHSets-ModifyList-PSCH-ReconfRqst	ProtocolIE-ID ::= 165
id-PICH-Information	ProtocolIE-ID ::= 166
id-PICH-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 168
id-PowerAdjustmentType	ProtocolIE-ID ::= 169
id-PRACH-Information	ProtocolIE-ID ::= 170
id-PrimaryCCPCH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 175
id-PrimaryCCPCH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 176
id-PrimaryCPICH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 177
id-PrimaryCPICH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 178
id-PrimarySCH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 179
id-PrimarySCH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 180
id-PrimaryScramblingCode	ProtocolIE-ID ::= 181
id-ProcedureScopeType-DL-PC-Rqst	ProtocolIE-ID ::= 182
id-SCH-Information-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 183
id-SCH-Information-Cell-SetupRqstTDD	ProtocolIE-ID ::= 184
id-PUSCH-Information-AddListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 185
id-PUSCH-Information-ModifyListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 186
id-PUSCHSets-AddList-PSCH-ReconfRqst	ProtocolIE-ID ::= 187
id-PUSCHSets-DeleteList-PSCH-ReconfRqst	ProtocolIE-ID ::= 188
id-PUSCHSets-ModifyList-PSCH-ReconfRqst	ProtocolIE-ID ::= 189
id-RACH-Information	ProtocolIE-ID ::= 190
id-RACHItem-CTCH-SetupRsp	ProtocolIE-ID ::= 192
id-RACH-ParametersItem-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 196
id-RACH-ParameterItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 197
id-ReportCharacteristics	ProtocolIE-ID ::= 198
id-Reporting-Object-RL-FailureInd	ProtocolIE-ID ::= 199
id-Reporting-Object-RL-RestoreInd	ProtocolIE-ID ::= 200
id-RL-ID	ProtocolIE-ID ::= 201
id-RL-InformationItem-DM-Rprt	ProtocolIE-ID ::= 202
id-RL-InformationItem-DM-Rqst	ProtocolIE-ID ::= 203
id-RL-InformationItem-DM-Rsp	ProtocolIE-ID ::= 204
id-RL-InformationItem-RL-AdditionRqstFDD	ProtocolIE-ID ::= 205
id-RL-informationItem-RL-DeletionRqst	ProtocolIE-ID ::= 206
id-RL-InformationItem-RL-FailureInd	ProtocolIE-ID ::= 207
id-RL-InformationItem-RL-PreemptRequiredInd	ProtocolIE-ID ::= 286
id-RL-InformationItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 208
id-RL-InformationItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 209
id-RL-InformationItem-RL-RestoreInd	ProtocolIE-ID ::= 210
id-RL-InformationItem-RL-SetupRqstFDD	ProtocolIE-ID ::= 211
id-RL-InformationList-RL-AdditionRqstFDD	ProtocolIE-ID ::= 212
id-RL-informationList-RL-DeletionRqst	ProtocolIE-ID ::= 213
id-RL-InformationList-RL-PreemptRequiredInd	ProtocolIE-ID ::= 237
id-RL-InformationList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 214
id-RL-InformationList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 215
id-RL-InformationList-RL-SetupRqstFDD	ProtocolIE-ID ::= 216
id-RL-InformationResponseItem-RL-AdditionRspFDD	ProtocolIE-ID ::= 217
id-RL-InformationResponseItem-RL-ReconfReady	ProtocolIE-ID ::= 218
id-RL-InformationResponseItem-RL-ReconfRsp	ProtocolIE-ID ::= 219
id-RL-InformationResponseItem-RL-SetupRspFDD	ProtocolIE-ID ::= 220
id-RL-InformationResponseList-RL-AdditionRspFDD	ProtocolIE-ID ::= 221
id-RL-InformationResponseList-RL-ReconfReady	ProtocolIE-ID ::= 222
id-RL-InformationResponseList-RL-ReconfRsp	ProtocolIE-ID ::= 223
id-RL-InformationResponseList-RL-SetupRspFDD	ProtocolIE-ID ::= 224
id-RL-InformationResponse-RL-AdditionRspTDD	ProtocolIE-ID ::= 225
id-RL-InformationResponse-RL-SetupRspTDD	ProtocolIE-ID ::= 226
id-RL-Information-RL-AdditionRqstTDD	ProtocolIE-ID ::= 227
id-RL-Information-RL-ReconfRqstTDD	ProtocolIE-ID ::= 228
id-RL-Information-RL-ReconfPrepTDD	ProtocolIE-ID ::= 229
id-RL-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 230
id-RL-ReconfigurationFailureItem-RL-ReconfFailure	ProtocolIE-ID ::= 236
id-RL-Set-InformationItem-DM-Rprt	ProtocolIE-ID ::= 238
id-RL-Set-InformationItem-DM-Rsp	ProtocolIE-ID ::= 240
id-RL-Set-InformationItem-RL-FailureInd	ProtocolIE-ID ::= 241
id-RL-Set-InformationItem-RL-RestoreInd	ProtocolIE-ID ::= 242
id-S-CCPCH-Information	ProtocolIE-ID ::= 247
id-S-CPICH-Information	ProtocolIE-ID ::= 249
id-SCH-Information	ProtocolIE-ID ::= 251
id-S-SCH-Information	ProtocolIE-ID ::= 253
id-Secondary-CCPCHListIE-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 257
id-Secondary-CCPCH-parameterListIE-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 258

id-Secondary-CCPCH-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 259
id-SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 260
id-SecondaryCPICH-InformationItem-Cell-SetupRqstFDD	ProtocolIE-ID ::= 261
id-SecondaryCPICH-InformationList-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 262
id-SecondaryCPICH-InformationList-Cell-SetupRqstFDD	ProtocolIE-ID ::= 263
id-SecondarySCH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 264
id-SecondarySCH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 265
id-SegmentInformationListIE-SystemInfoUpdate	ProtocolIE-ID ::= 266
id-SFN	ProtocolIE-ID ::= 268
id-ShutdownTimer	ProtocolIE-ID ::= 269
id-Start-Of-Audit-Sequence-Indicator	ProtocolIE-ID ::= 114
id-Successful-RL-InformationRespItem-RL-AdditionFailureFDD	ProtocolIE-ID ::= 270
id-Successful-RL-InformationRespItem-RL-SetupFailureFDD	ProtocolIE-ID ::= 271
id-Successful-RL-InformationRespList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 272
id-Successful-RL-InformationRespList-RL-SetupFailureFDD	ProtocolIE-ID ::= 273
id-SyncCase	ProtocolIE-ID ::= 274
id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH	ProtocolIE-ID ::= 275
id-T-Cell	ProtocolIE-ID ::= 276
id-TimeSlotConfigurationList-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 277
id-TimeSlotConfigurationList-Cell-SetupRqstTDD	ProtocolIE-ID ::= 278
id-TransmissionDiversityApplied	ProtocolIE-ID ::= 279
id-UARFCNforNt	ProtocolIE-ID ::= 280
id-UARFCNforNd	ProtocolIE-ID ::= 281
id-UARFCNforNu	ProtocolIE-ID ::= 282
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 284
id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD	ProtocolIE-ID ::= 285
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 288
id-UL-DPCH-InformationItem-RL-AdditionRqstTDD	ProtocolIE-ID ::= 289
id-UL-DPCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 291
id-UL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 293
id-UL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 294
id-UL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 295
id-Unsuccessful-RL-InformationRespItem-RL-AdditionFailureFDD	ProtocolIE-ID ::= 296
id-Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD	ProtocolIE-ID ::= 297
id-Unsuccessful-RL-InformationRespList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 298
id-Unsuccessful-RL-InformationRespList-RL-SetupFailureFDD	ProtocolIE-ID ::= 299
id-Unsuccessful-RL-InformationResp-RL-AdditionFailureTDD	ProtocolIE-ID ::= 300
id-Unsuccessful-RL-InformationResp-RL-SetupFailureTDD	ProtocolIE-ID ::= 301
id-USCH-Information-Add	ProtocolIE-ID ::= 302
id-USCH-Information-AddList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 303
id-USCH-Information-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 304
id-USCH-Information-DeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 305
id-USCH-Information-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 306
id-USCH-Information-ModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 307
id-USCH-InformationResponse	ProtocolIE-ID ::= 309
id-USCH-Information	ProtocolIE-ID ::= 310
id-Active-Pattern-Sequence-Information	ProtocolIE-ID ::= 315
id-AICH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 316
id-AdjustmentRatio	ProtocolIE-ID ::= 317
id-AP-AICH-Information	ProtocolIE-ID ::= 320
id-AP-AICH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 322
id-FACH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 323
id-CauseLevel-PSCH-ReconfFailureTDD	ProtocolIE-ID ::= 324
id-CauseLevel-RL-AdditionFailureFDD	ProtocolIE-ID ::= 325
id-CauseLevel-RL-AdditionFailureTDD	ProtocolIE-ID ::= 326
id-CauseLevel-RL-ReconfFailure	ProtocolIE-ID ::= 327
id-CauseLevel-RL-SetupFailureFDD	ProtocolIE-ID ::= 328
id-CauseLevel-RL-SetupFailureTDD	ProtocolIE-ID ::= 329
id-CDCA-ICH-Information	ProtocolIE-ID ::= 330
id-CDCA-ICH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 332
id-Closed-Loop-Timing-Adjustment-Mode	ProtocolIE-ID ::= 333
id-CommonPhysicalChannelType-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 334
id-Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD	ProtocolIE-ID ::= 335
id-CPCH-Information	ProtocolIE-ID ::= 336
id-CPCH-Parameters-CTCH-SetupRsp	ProtocolIE-ID ::= 342
id-CPCH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 343
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 346
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 347
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 348
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 349
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 350
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 351
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 352
id-DL-DPCH-InformationAddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 353
id-DL-DPCH-InformationDeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 354
id-DL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 355
id-DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 356
id-DL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 357

id-DL-TPC-Pattern01Count	ProtocolIE-ID ::= 358
id-DPCHConstant	ProtocolIE-ID ::= 359
id-FACH-ParametersList-CTCH-SetupRsp	ProtocolIE-ID ::= 362
id-Limited-power-increase-information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 369
id-PCH-Parameters-CTCH-SetupRsp	ProtocolIE-ID ::= 374
id-PCH-ParametersItem-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 375
id-PCPCH-Information	ProtocolIE-ID ::= 376
id-PCPCH-ParametersList-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 379
id-PICH-ParametersItem-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 380
id-PRACHConstant	ProtocolIE-ID ::= 381
id-PRACH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 383
id-PUSCHConstant	ProtocolIE-ID ::= 384
id-RACH-Parameters-CTCH-SetupRsp	ProtocolIE-ID ::= 385
id-Synchronisation-Configuration-Cell-ReconfRqst	ProtocolIE-ID ::= 393
id-Synchronisation-Configuration-Cell-SetupRqst	ProtocolIE-ID ::= 394
id-Transmission-Gap-Pattern-Sequence-Information	ProtocolIE-ID ::= 395
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 396
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 397
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 398
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 399
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 400
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 401
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 402
id-UL-DPCH-InformationAddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 403
id-UL-DPCH-InformationDeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 404
id-UL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 405
id-UL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 406
id-UL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 407
id-Unsuccessful-PDSCHSetItem-PSCH-ReconfFailureTDD	ProtocolIE-ID ::= 408
id-Unsuccessful-PUSCHSetItem-PSCH-ReconfFailureTDD	ProtocolIE-ID ::= 409
id-CommunicationContextInfoItem-Reset	ProtocolIE-ID ::= 412
id-CommunicationControlPortInfoItem-Reset	ProtocolIE-ID ::= 414
id-ResetIndicator	ProtocolIE-ID ::= 416
id-TFCI2-Bearer-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 417
id-TFCI2-BearerSpecificInformation-RL-ReconfPrepFDD	ProtocolIE-ID ::= 418
id-TFCI2-BearerInformationResponse	ProtocolIE-ID ::= 419
id-TimingAdvanceApplied	ProtocolIE-ID ::= 287
id-CFNReportingIndicator	ProtocolIE-ID ::= 6
id-SFNReportingIndicator	ProtocolIE-ID ::= 11
id-InnerLoopDLPCStatus	ProtocolIE-ID ::= 12
id-TimeslotISCPInfoList-DL-PC-RqstTDD	ProtocolIE-ID ::= 283
id-PICH-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 167
id-PRACH-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 20
<u>id-ReferenceClockAvailability</u>	<u>ProtocolIE-ID ::= 435</u>
<u>id-ReferenceSFNOffset</u>	<u>ProtocolIE-ID ::= 436</u>

END