TSG-RAN Meeting #17 Biarritz, France, 3 - 6 September 2002

Title: Agreed and linked CRs (Release'99 and Rel-4/Rel-5 category A) on SFN-

SFN type 1 measurement to TS 25.331, 25.215 and 25.225

Source: TSG-RAN WG2

Agenda item: 7.2.6

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Versio	V
R2-022392	agreed	25.331	1573	1	R99	Problems with "SFN-SFN observed time difference"	F	3.11.0	3
R2-022416	agreed	25.331	1574	1	Rel-4	Problems with "SFN-SFN observed time difference"	Α	4.5.0	4
R2-022417	agreed	25.331	1575	1	Rel-5	Problems with "SFN-SFN observed time difference"	Α	5.1.0	5
R1-02-1080	agreed	25.215	126	-	R99	Correction of UE SFN-SFN type 1 measurement	F	3.10.0	3
R1-02-1080	agreed	25.215	127	-	Rel-4	Correction of UE SFN-SFN type 1 measurement	Α	4.4.0	4
R1-02-1080	agreed	25.215	128	-	Rel-5	Correction of UE SFN-SFN type 1 measurement	Α	5.0.0	5
R1-02-1113	agreed	25.225	059	-		Correction of UE SFN-SFN type 1 measurement for TDD	F	3.10.0	3
R1-02-1113	agreed	25.225	060	-		Correction of UE SFN-SFN type 1 measurement for TDD	Α	4.4.0	4
R1-02-1113	agreed	25.225	061	-		Correction of UE SFN-SFN type 1 measurement for TDD	А	5.1.0	5

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Proposed	change				pps#		_				s Netwo	ork X	Core	Network	
Title:	*				SFN-SF	N typ	e 1 mea	sure	ment						
Source:	ж	TS	G-RAN	WG2											
Work item	code: ₩	TE									Date: 3	200	2-08-14	4	
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Other com	ments:	ж													

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

- 1) Fill out the above form. The symbols above marked \$\mathbb{X}\$ 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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

5.1.9 SFN-SFN observed time difference

Definition	<u>Type 1:</u>
	The SFN-SFN observed time difference to cell is defined as: OFF×38400+ T _m , where:
	T _m = T _{RxSFNj} - T _{RxSFNi} , given in chip units with the range [0, 1,, 38399] chips
	T _{RxSFNj} is the time at the beginning of a received neighbouring P-CCPCH frame from cell j.
	T _{RXSFNi} is time at the beginning of the neighbouring P-CCPCH frame from cell i received most
	recent in time before the time instant T _{RXSFNj} in the UE. If the next neighbouring P-CCPCH frame
	is received exactly at T_{RXSFNj} ; then $T_{RXSFNj} = T_{RXSFNi}$ (which leads to $T_m = 0$).
	and
	OFF=(SFN _i - SFN _j) mod 256, given in number of frames with the range [0, 1,, 255] frames
	SFN _j is the system frame number for downlink P-CCPCH frame from cell j in the UE at the time
	T _{RxSFNj} .
	SFN _i is the system frame number for the P-CCPCH frame from cell i received in the UE at the
	time T _{RXSFNi} .
	The reference point for the SFN-SFN observed time difference type 1 shall be the antenna connector of the UE.
	<u>Type 2:</u>
	The relative timing difference between cell j and cell i, defined as T _{CPICHRxj} - T _{CPICHRxi} , where: T _{CPICHRxi} is the time when the UE receives one Primary CPICH slot from cell j
	T _{CPICHRxi} is the time when the UE receives the Primary CPICH slot from cell i that is closest in
	time to the Primary CPICH slot received from cell j.
	The reference point for the SFN-SFN observed time difference type 2 shall be the antenna
	connector of the UE.
Applicable for	Type 1: Idle, URA_PCH intra, CELL_PCH intra, CELL_FACH intra, CELL_DCH intra
	Type 2:
	URA_PCH intra, URA_PCH inter,
	CELL_PCH intra, CELL_PCH inter,
	CELL_FACH inter
	CELL_DCH intra, CELL_DCH inter

		CHANG	E REQ	UES ⁻	Т		CR-Form-v7				
*	25.215	CR <mark>127</mark>	≋ rev	- #	Current vers	4.4.0	¥				
For HELP on using this form, see bottom of this page or look at the pop-up text over the % symbols. Proposed change affects: UICC apps% ME X Radio Access Network X Core Network											
Title: #	Correction	of UE SFN-SFN ty	ype 1 meas	suremen	t						
Source: #	TSG-RAN V	NG2									
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Work item code: ₩	TEI				Date: ₩	2002-08-14					
Category: #					Release: ₩						
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		anations of the abov	e categories	s can	Rel-4	(Release 4)					
	be found in 30	GPP <u>TR 21.900</u> .			Rel-5	(Release 5)					
					Rel-6	(Release 6)					
Reason for change	due to	has removed the reporting problen irement in cell DC	ns. Furtheri								
Summary of chang	ge: 郑 <mark>UE SF</mark>	N-SFN type 1 me	easurement	is remo	ved for cell DC	CH state.					
Consequences if not approved:		surement is defin rmore, there seer									
Clauses affected:	第 5.1.9										
	YN										
Other specs	ж <mark>х</mark> (Other core specific	cations	第 25.	.331						
affected:		Test specifications									
		O&M Specification									
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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/specs/CR.htm. Below is a brief summary:

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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.

5.1.9 SFN-SFN observed time difference

Definition	<u>Type 1:</u>
	The SFN-SFN observed time difference to cell is defined as: OFF×38400+ T _m , where:
	T _m = T _{RxSFNj} - T _{RxSFNi} , given in chip units with the range [0, 1,, 38399] chips
	T _{RxSFNj} is the time at the beginning of a received neighbouring P-CCPCH frame from cell j.
	T _{RxSFNi} is time at the beginning of the neighbouring P-CCPCH frame from cell i received most
	recent in time before the time instant T _{RxSFNj} in the UE. If the next neighbouring P-CCPCH frame
	is received exactly at T_{RxSFNj} then $T_{RxSFNj} = T_{RxSFNi}$ (which leads to $T_m = 0$).
	and
	OFF=(SFN _i - SFN _j) mod 256, given in number of frames with the range [0, 1,, 255] frames
	SFN _j is the system frame number for downlink P-CCPCH frame from cell j in the UE at the time
	T _{RxSFNj} .
	SFN _i is the system frame number for the P-CCPCH frame from cell i received in the UE at the
	time T _{RXSFNi} .
	The reference point for the SFN-SFN observed time difference type 1 shall be the antenna connector of the UE.
	Type 2:
	The relative timing difference between cell j and cell i, defined as T _{CPICHRxi} , - T _{CPICHRxi} , where: T _{CPICHRxi} is the time when the UE receives one Primary CPICH slot from cell j
	T _{CPICHRxi} is the time when the UE receives the Primary CPICH slot from cell i that is closest in
	time to the Primary CPICH slot received from cell j.
	The reference point for the SFN-SFN observed time difference type 2 shall be the antenna
	connector of the UE.
Applicable for	Type 1: Idle, URA_PCH intra, CELL_PCH intra, CELL_FACH intra, CELL_DCH intra
	<u>Type 2:</u>
	URA_PCH intra, URA_PCH inter,
	CELL_PCH intra, CELL_PCH inter,
	CELL_FACH intra, CELL_FACH inter
	CELL_DCH intra, CELL_DCH inter

CHANGE REQUEST												
*	25.215 CR 128 # rev - #	Current version: 5.0.0 **										
For HELP on u	sing this form, see bottom of this page or look at the	ne pop-up text over the % symbols.										
Title: 業 Source: 業	Correction of UE SFN-SFN type 1 measurement TSG-RAN WG1											
Work item code: ₩	TEI	<i>Date:</i>										
Category: ₩	Wse one of the following categories: F (correction) A (corresponds to a correction in an earlier releas 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.	Release: # Rel-5 Use one of the following releases: 2 (GSM Phase 2) se) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)										
Reason for change	RAN2 has removed the UE SFN-SFN type of due to reporting problems. Furthermore, the measurement in cell DCH state.											
Summary of chang	e: # UE SFN-SFN type 1 measurement is remov	ved for cell DCH state.										
Consequences if not approved:	A measurement is defined although there is Furthermore, there seems to be no benefit f state.											
Clauses affected:	第 5.1.9											
Other specs affected:	Y N X Other core specifications Test specifications O&M Specifications	331										
Other comments:	x											

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.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
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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.

5.1.9 SFN-SFN observed time difference

Definition	<u>Type 1:</u>
	The SFN-SFN observed time difference to cell is defined as: OFF×38400+ T _m , where:
	T _m = T _{RxSFNj} - T _{RxSFNi} , given in chip units with the range [0, 1,, 38399] chips
	T _{RxSFNj} is the time at the beginning of a received neighbouring P-CCPCH frame from cell j.
	T _{RxSFNi} is time at the beginning of the neighbouring P-CCPCH frame from cell i received most
	recent in time before the time instant T _{RxSFNj} in the UE. If the next neighbouring P-CCPCH frame
	is received exactly at T_{RxSFNj} then $T_{RxSFNj} = T_{RxSFNi}$ (which leads to $T_m = 0$).
	and
	OFF=(SFN _i - SFN _j) mod 256, given in number of frames with the range [0, 1,, 255] frames
	SFN _j is the system frame number for downlink P-CCPCH frame from cell j in the UE at the time
	T _{RxSFNj} .
	SFN _i is the system frame number for the P-CCPCH frame from cell i received in the UE at the
	time T _{RXSFNi} .
	The reference point for the SFN-SFN observed time difference type 1 shall be the antenna connector of the UE.
	Type 2:
	The relative timing difference between cell j and cell i, defined as T _{CPICHRxi} , - T _{CPICHRxi} , where: T _{CPICHRxi} is the time when the UE receives one Primary CPICH slot from cell j
	T _{CPICHRxi} is the time when the UE receives the Primary CPICH slot from cell i that is closest in
	time to the Primary CPICH slot received from cell j.
	The reference point for the SFN-SFN observed time difference type 2 shall be the antenna
	connector of the UE.
Applicable for	Type 1: Idle, URA_PCH intra, CELL_PCH intra, CELL_FACH intra, CELL_DCH intra
	<u>Type 2:</u>
	URA_PCH intra, URA_PCH inter,
	CELL_PCH intra, CELL_PCH inter,
	CELL_FACH intra, CELL_FACH inter
	CELL_DCH intra, CELL_DCH inter

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5.1.10 SFN-SFN observed time difference

The refere										
	ence point for the SFN-SFN observed time difference type 1 and 2 shall be the antenna of the UE.									
Type 1: SFN-SFN observed time difference = OFF×38400 + T _m in chips, where:										
T _m =	T _{RxSFNi} - T _{RxSFNk} , given in chip units with the range [0, 1,, 38399] chips									
T _{RxSFNi} =	time of start (defined by the first detected path in time) of the received frame SFN_i of the serving TDD cell i.									
T _{RxSFNk} =	time of start (defined by the first detected path in time) of the received frame SFN $_k$ of the target UTRA cell k received most recently in time before the time instant T_{RxSFNi} in the UE. If this frame SFN $_k$ of the target UTRA cell is received exactly at T_{RxSFNi} then $T_{RxSFNi} = T_{RxSFNi}$ (which leads to $T_m = 0$).									
OFF =	(SFN _i - SFN _k) mod 256, given in number of frames with the range $[0,1,,255]$ frames									
SFNi =	system frame number for downlink frame from serving TDD cell i in the UE at the time $T_{\text{RxSFNi}}. \label{eq:rxsfni}$									
SFNk =	system frame number for downlink frame from target UTRA cell k received in the UE at the time T_{RxSFNk} .(for FDD: the P-CCPCH frame)									
	ence point for the SFN-SFN observed time difference type 1 shall be the antenna of the UE.									
Type 2: SFN-SFN observed time difference = T_{RxTSk} - T_{RxTSi} , in chips, where										
T _{RxTSi} :	time of start (defined by the first detected path in time) of a timeslot received from the serving TDD cell i.									
T _{RxTSk} :	time of start (defined by the first detected path in time) of a timeslot received from the target UTRA cell k that is closest in time to the start of the timeslot of the serving TDD cell i.									
connector	ence point for the SFN-SFN observed time difference type 2 shall be the antenna of the UE.									
Type 2:	ELL_FACH intra , CELL_DCH intra									
URA_PCH intra, URA_PCH inter, CELL_PCH intra, CELL_PCH inter, CELL_FACH intra, CELL_FACH inter, CELL_DCH intra, CELL_DCH inter										
	Type 1: SFN-SFN Tm = TRXSFNi = TRXSFNi = OFF = SFNi = SFNk = The reference connector Type 2: SFN-SFN TRXTSi: TRXTSi: The reference connector Type 1: O Type 2: Idle, URA_PCH CELL_PC CELL_FA									

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Title: ₩	Coi	rrectio	n of UI	E SFN-SF	-N typ	e 1 mea	surer	nent	for TDD				
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	be to	und in	3GPP	TR 21.900	<u>.</u>				Rei Rei	٠,	Releas Releas	,	
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Reason for change	e: #			removed orting pro									
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not approved:		Ther	e is no	benefit f	or this	measur	emer	nt se	<u>en in cell</u>	DCH s	tate.		
Clauses affected:	ж	5.1.1	0										
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Other specs	¥	X	Othe	r core spe	ecificat	tions	¥	25.3	331				
affected:		Х	Test	specificat	tions								
		X	U&M	Specifica	ations								
Other comments:	ж												

5.1.10 SFN-SFN observed time difference

Definition	two cells (observed time difference is the time difference of the reception times of frames from (serving and target) measured in the UE and expressed in chips. It is distinguished by . Type 2 applies if the serving and the target cell have the same frame timing.							
	The reference point for the SFN-SFN observed time difference type 1 and 2 shall be the antenna connector of the UE.								
	Type 1:								
	SFN-SFN	observed time difference = $\begin{cases} OFF \times 12800 + T_m \ in \ chips & for \ 1.28 \ Mcps \ TDD \\ OFF \times 38400 + T_m \ in \ chips & for \ 3.84 \ Mcps \ TDD \end{cases}$							
	where:								
	T _m =	T _{RxSFNi} - T _{RxSFNk} , given in chip units							
		with the range $\begin{cases} [0,1,,12799] \text{ chips} & for 1.28 \ Mcps \ TDD \\ [0,1,,38399] \text{chips} & for 3.84 \ Mcps \ TDD \end{cases}$							
	T _{RxSFNi} =	time of start (defined by the first detected path in time) of the received frame SFN _i of the serving TDD cell i.							
	T _{RxSFNk} =	time of start (defined by the first detected path in time) of the received frame SFN _k of the target UTRA cell k received most recently in time before the time instant T_{RxSFNi} in the UE. If this frame SFN _k of the target UTRA cell is received exactly at T_{RxSFNi} then $T_{RxSFNk} = T_{RxSFNi}$ (which leads to $T_{m} = 0$).							
	OFF =	(SFN $_i$ - SFN $_k$) mod 256, given in number of frames with the range [0, 1,, 255] frames							
	SFNi =	system frame number for downlink frame from serving TDD cell i in the UE at the time T_{RxSFNi} .							
	SFNk =	system frame number for downlink frame from target UTRA cell k received in the UE at the time T_{RXSFNk} .(for FDD: the P-CCPCH frame)							
	The reference point for the SFN-SFN observed time difference type 1 shall be the antenna connector of the UE.								
	Type 2: SFN-SFN	observed time difference = T_{RxTSi} - T_{RxTSi} , in chips, where							
	T _{RxTSi} :	time of start (defined by the first detected path in time) of a timeslot received from the serving TDD cell i.							
	T _{RxTSk} :	time of start (defined by the first detected path in time) of a timeslot received from the target UTRA cell k that is closest in time to the start of the timeslot of the serving TDD cell i.							
	connector	ence point for the SFN-SFN observed time difference type 2 shall be the antenna of the UE.							
Applicable for	Type 1: C Type 2:	CELL_FACH intra , CELL_DCH intra							
	Idle,								
		Hintra, URA_PCH inter,							
		CH intra, CELL_PCH inter, CH intra, CELL_FACH inter,							
		CH intra, CELL_DCH inter							

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Title: ♯	Co	rrectio	n of UI	E SFN-SF	-N typ	e 1 mea	asure	ment	for TDI)			
Source: #	TS	G-RAN	WG1										
Work item code: ₩	TE	l							Da	ate: ೫	200	02-08-20	
Category: Ж	Α								Relea	se: #	Re	l-5	
				owing cate	gories	:			Use	<u>one</u> of	the fo	llowing re	
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		B (add	dition of	f feature),			<i></i>	oioao		97		ase 1997	
				modificatio		eature)				98		ease 1998	
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				TR 21.900		categori	JS Car			el-5		ease 5)	
									R	el-6	(Rele	ease 6)	
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not approved:		Ther	e is no	benefit f	or this	measu	reme	nt se	en in ce	ell DCF	I stat	e.	
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		YN											
Other specs	\mathfrak{H}	X	Othe	r core spe	ecifica	itions	\mathfrak{H}	25.3	331				
affected:		X		specificat									
		X	U&M	Specifica	ations								
Other comments:	ж												
Carci Comments.	00												

5.1.10 SFN-SFN observed time difference

Definition	SFN-SFN observed time difference is the time difference of the reception times of frames f two cells (serving and target) measured in the UE and expressed in chips. It is distinguished two types. Type 2 applies if the serving and the target cell have the same frame timing.								
	The reference point for the SFN-SFN observed time difference type 1 and 2 shall be the antenna connector of the UE.								
	Type 1:								
	SFN-SFN observed time difference = $\begin{cases} OFF \times 12800 + T_m \ in \ chips \end{cases} for 1.28 \ Mcps \ TDD \\ OFF \times 38400 + T_m \ in \ chips \end{cases} for 3.84 \ Mcps \ TDD$								
	where:								
	$T_m = T_{RxSFNi} - T_{RxSFNk}$, given in chip units								
	with the range $\begin{cases} [0,1,,12799] \text{ chips} & for 1.28 \ Mcps \ TDD \\ [0,1,,38399] \text{chips} & for 3.84 \ Mcps \ TDD \end{cases}$								
	T _{RxSFNi} = time of start (defined by the first detected path in time) of the received frame SF the serving TDD cell i.	FN₁ of							
	T_{RxSFNk} = time of start (defined by the first detected path in time) of the received frame SF the target UTRA cell k received most recently in time before the time instant T_R the UE. If this frame SFN _k of the target UTRA cell is received exactly at T_{RxSFNi} T_{RxSFNk} = T_{RxSFNi} (which leads to T_m =0).	_{xSFNi} in							
	OFF = $(SFN_i$ - $SFN_k)$ mod 256, given in number of frames with the range [0, 1,, 255] frames	I							
	SFNi = system frame number for downlink frame from serving TDD cell i in the UE at the T _{RxSFNi} .	ne time							
	SFNk = system frame number for downlink frame from target UTRA cell k received in the at the time T _{RXSFNk} .(for FDD: the P-CCPCH frame)	ne UE							
	The reference point for the SFN-SFN observed time difference type 1 shall be the antenna connector of the UE.								
	Type 2: SFN-SFN observed time difference = T_{RxTSk} - T_{RxTSi} , in chips, where								
	T _{RxTSi} : time of start (defined by the first detected path in time) of a timeslot received from serving TDD cell i.	om the							
	T _{RxTSk} : time of start (defined by the first detected path in time) of a timeslot received fro target UTRA cell k that is closest in time to the start of the timeslot of the servin cell i.								
	The reference point for the SFN-SFN observed time difference type 2 shall be the antenna connector of the UE.	l							
Applicable for	Type 1: CELL_FACH intra, CELL_DCH intra Type 2:								
	ldle,								
	URA_PCH intra, URA_PCH inter,								
	CELL_PCH intra, CELL_PCH inter, CELL_FACH intra, CELL_FACH inter,								
	CELL_DCH intra, CELL_DCH inter								

3GPP TSG-RAN WG2 Meeting #31 Arlanda, Sweden, 19th – 23rd August 2002

Tdoc R2-022392

	CHANGE REQUEST	CR-Form-v5
*	25.331 CR 1573 # rev 1 #	Current version: 3.11.0 ^{\$\mathref{x}}
For <u>HELP</u> of	n using this form, see bottom of this page or look at the	e pop-up text over the \ symbols.
Proposed chang	ge affects: 第 (U)SIM ME/UE X Radio Acc	cess Network X Core Network
Title:	策 Correction of SFN-SFN Measurement	
Source:	₩ TSG-RAN WG2	
Work item code	:₩ <mark>TEI</mark>	Date: 第 June 16, 2002
Category:	# F Use one of the following categories: F (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.	Release: # R99 Use one of the following releases: 2 (GSM Phase 2) 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:

Currently, TS 25.331 states that UE shall report "SFN-SFN observed time difference" measurement in message MEASUREMENT REPORT for Intra- and Inter-frequency measurements, in case this has been requested by UTRAN (by setting IE "SFN-SFN observed time difference reporting indicator" to TRUE in a MEASUREMENT CONTROL message)

However, TS 25.331 does not specify the details for this reporting. Specification of 'reference cell' for the measurement is missing. Especially, when the Active Set contains more than one cell, this opens up for different interpretations, resulting in different UE implementations.

It should be noted that this is not a problem for "SFN-SFN observed time difference" measurement (Type 2)" as defined for UP Measurements.

Furthermore, from a functional point of view, UE report of "SFN-SFN observed time difference" measurement in Intra-and Inter-frequency measurement report is not needed. In state Cell_DCH, "SFN-CFN observed time difference" measurement reporting serves the purpose for UE-UTRAN radio link synchronisation at handover. Therefore, it is proposed to remove SFN-SFN observed time difference from Intra- and Inter-frequency measurements.

Summary of change:
Section 8.6.7.7: Text on "SFN-SFN observed time difference" measurement has been deleted

Section 10.3.7.3: IE "SFN-SFN observed time difference" deleted

Section 10.3.7.5: IE "SFN-SFN observed time difference reporting indicator" deleted.

Section 11.3: "Dummy" introduced in ASN.1

14.1.6: "SFN-SFN observed time difference" deleted as report quantity in intra-frequency measurements.

14.2.0c: "SFN-SFN observed time difference" deleted as report quantity in intra-frequency

measurements.

Unused ASN.1 type ReferenceSFN is removed.

Impact analysis:

Impacted functionality: Intra- and Inter-frequency measurement reporting

Clarification:

Removal of functionality that is currently not specified.

No impact on UE, since functionality is removed.

No impact to the UTRAN since the UTRAN cannot currently assume a specific UE behaviour for SFN-SFN observed time difference measurement reporting in intraand- inter-frequency measurements.

Interoperability:

Isolated impact: the impact is isolated; only the corrected functionality is affected

Consequences if not approved:

★ Since UE behaviour is not specified, UTRAN can anyway not utilise the SFN-SFN observed time difference measurement in Intra-and Inter-frequency measurements. Incomplete requirements on UE behaviour will remain in specifications.

Clauses affected:	8.6.7.7 , 10.3.7.3, 10.3.7.5, 11.3		
Other specs affected:	X Other core specifications Test specifications O&M Specifications	Ж	TS 25.215
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://ftp.3gpp.org/specs/. For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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

8.6.7.7 Cell Reporting Quantities

If the IE "Cell Reporting Quantities" is received by the UE, the UE shall store the content of the IE "Cell Reporting Quantities" to the variable MEASUREMENT IDENTITY.

The UE shall include measured results in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantities", except for the following cases:

If the IE "Cell Identity" is set to TRUE, the UE shall in this version of the specification:

1> treat the IE as if the IE "Cell Identity" is set to FALSE.

If the IE "Cell synchronisation information reporting indicator" is set to TRUE, the UE shall:

- 1> include the IE "Cell synchronisation information" in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantities":
 - 2> if the measurement is performed on another frequency; or
 - 2> if the IE "Read SFN indicator" included in the IE "Cell info" of the measured cell is set to FALSE:
 - 3> the UE may omit the information group "COUNT-C-SFN frame difference" in the IE "Cell synchronisation information".
 - 2> if the measurement is performed on the same frequency and no RLC Transparent Mode COUNT-C exists in the UE:
 - 3> set the IE "COUNT-C-SFN high" to 0.
 - 2> otherwise:
 - 3> include the information group "COUNT-C-SFN frame difference" with IE "COUNT-C-SFN high" set to:

COUNT-C-SFN high = (((SFN - (COUNT-C mod 4096)) mod 4096) div 256) * 256;

- 3> if RLC Transparent Mode COUNT-Cs exist in both CN domains:
 - 4> use the COUNT-C of CS domain in this measurement.

If the IE "Proposed TGSN Reporting required" is set to TRUE, the UE shall:

- 1> if compressed mode was used to monitor a TDD cell and the variable TGSN_REPORTED is set to FALSE:
 - 2> report the IE "Proposed TGSN" indicating the TGSN that suits best to the measured cell;
 - 2> set the variable TGSN_REPORTED to TRUE.
- 1> otherwise
 - 2> omit the IE "Proposed TGSN".

If the IE "SFN SFN observed time difference reporting indicator" is set to "type 1" and the IE "Read SFN indicator" included in the IE "Cell info" of the measured cell is set to FALSE, the UE shall:

1> set the SFN SFN observed time difference type 1 for that cell to a value in the range (0..38399) (i.e. the UE shall assume that the SFN of the measured cell differs less than a frame with respect to the reference cell).

10.3.7.3 Cell measured results

Includes non-frequency related measured results for a cell.

Information Element/Group name			Type and reference	Semantics description
Cell Identity	OP		Cell Identity 10.3.2.2	
SFN-SFN observed time difference	OP		SFN-SFN observed time difference 10.3.7.63	
Cell synchronisation information	OP		Cell synchronisati on information 10.3.7.6	
CHOICE mode >FDD	MP			
>>Primary CPICH info	MP		Primary CPICH info 10.3.6.60	
>>CPICH Ec/N0	OP		Integer(049	According to CPICH_Ec/No in [19] and [20]. Fourteen spare values are needed.
>>CPICH RSCP	OP		Integer(091	According to CPICH_RSCP in [19] and [20]. Thirty-six spare values are needed.
>>Pathloss	OP		Integer(461 58)	In dB. Fifteen spare values are needed.
>TDD				
>>Cell parameters Id	MP		Cell parameters Id 10.3.6.9	
>>Proposed TGSN	OP		Integer (014)	Proposal for the next TGSN
>>Primary CCPCH RSCP	OP		Primary CCPCH RSCP info 10.3.7.54	
>>Pathloss	OP		Integer(461 58)	In dB. Fifteen spare values are needed.
>>Timeslot list	OP	1 to < maxTS>		
>>>Timeslot ISCP	MP		Timeslot ISCP Info 10.3.7.65	The UE shall report the Timeslot ISCP in the same order as indicated in the cell info

10.3.7.5 Cell reporting quantities

Includes non-frequency related cell reporting quantities.

For all boolean types TRUE means inclusion in the report is requested.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
SFN-SFN observed time	MP		Enumerated(
difference reporting indicator			No report,	_
			type 1, type 2)	
Cell synchronisation information	MP		Boolean	
reporting indicator				
Cell Identity reporting indicator	MP		Boolean	
CHOICE mode	MP			
>FDD				
>>CPICH Ec/N0 reporting	MP		Boolean	
indicator				
>>CPICH RSCP reporting	MP		Boolean	
indicator				
>>Pathloss reporting indicator	MP		Boolean	
>TDD				
>>Timeslot ISCP reporting	MP		Boolean	
indicator				
>>Proposed TGSN Reporting	MP		Boolean	
required				
>>Primary CCPCH RSCP	MP		Boolean	
reporting indicator				
>>Pathloss reporting indicator	MP		Boolean	

11.3 Information element definitions

```
CellMeasuredResults ::=
                                 SEQUENCE {
                                    CellIdentity
   cellIdentity
                                                                     OPTIONAL,
   -- dummy is not used in this version of the specification, it should
   -- not be sent and if received it should be ignored.
   sfn SFN ObsTimeDifferencedummy
                                       SFN-SFN-ObsTimeDifference
                                                                         OPTIONAL,
   cellSynchronisationInfo
                                 CellSynchronisationInfo OPTIONAL,
                                 CHOICE {
   modeSpecificInfo
                                        SEQUENCE {
       fdd
          primaryCPICH-Info
                                            PrimaryCPICH-Info,
                                            CPICH-EC-NO
          cpich-Ec-N0
                                                                     OPTIONAL,
                                            CPICH-RSCP
          cpich-RSCP
                                                                     OPTIONAL,
          pathloss
                                            Pathloss
                                                                    OPTIONAL
       tdd
                                        SEQUENCE {
          cellParametersID
                                           CellParametersID,
                                                                   OPTIONAL,
          proposedTGSN
                                            TGSN
          primaryCCPCH-RSCP
                                           PrimaryCCPCH-RSCP
          pathloss
                                            Pathloss
                                                                     OPTIONAL,
                                                              OPTIONAL
          timeslotISCP-List
                                           TimeslotISCP-List
       }
   }
}
```

```
CellReportingQuantities ::=
                                         SEQUENCE {
    -- dummy is not used in this version of the specification, it should
-- be ignored by the receiver

sfn-SFN-OTD-Typedummy

SFN-SFN-OTD-Type,
    cellIdentity-reportingIndicator
                                                                BOOLEAN,
    cellSynchronisationInfoReportingIndicator
                                                                BOOLEAN,
    modeSpecificInfo
                                             CHOICE {
         fdd
                                                  SEQUENCE {
             cpich-Ec-N0-reportingIndicator
                                                                              BOOLEAN,
             {\tt cpich-RSCP-reportingIndicator}
                                                                              BOOLEAN,
             pathloss-reportingIndicator
                                                                          BOOLEAN
         },
tdd
                                                  SEQUENCE {
             timeslotISCP-reportingIndicator
                                                                          BOOLEAN,
             proposedTGSN-ReportingRequired
                                                                          BOOLEAN,
             primaryCCPCH-RSCP-reportingIndicator
                                                                             BOOLEAN,
             pathloss-reportingIndicator
                                                                          BOOLEAN
}
```

ReferenceSFN ::= INTEGER (0..4095)

Tdoc R2-022416

3GPP TSG-RAN WG2 Meeting #31 Arlanda, Sweden, 19th – 23rd August 2002

			C	HAN	GE RI	EQ	UE	ST				CR-Form-v5
*		25.331	CR	1574	жr	ev	1	ж	Current vers	ion:	4.5.0	X
For <u>HELP</u> (on us	sing this for	m, see	bottom o	f this pag	e or	look a	at the	e pop-up text	over	the ₩ syr	mbols.
Proposed chan	ge a	affects: ♯	(U)S	SIM	ME/UE	X	Radi	o Ac	cess Network	X	Core Ne	etwork
Title:	ж	Correction	n of SFI	N-SFN M	easurem	ent						
Source:	Ж	TSG-RAN	WG2									
Work item code	e:#	TEI							Date: ♯	Jun	e 16, 200)2
Category:		A (cor B (add C (fun	rection) respond: dition of t ctional n torial mo planatior	is to a corre feature), nodification odification) ns of the al	ection in a	e)		lease	Release: ₩ Use <u>one</u> of 2 e) R96 R97 R98 R99 REL-4 REL-5	the for (GSM (Rele (Rele (Rele (Rele (Rele	=	

Reason for change:

Currently, TS 25.331 states that UE shall report "SFN-SFN observed time difference" measurement in message MEASUREMENT REPORT for Intra- and Inter-frequency measurements, in case this has been requested by UTRAN (by setting IE "SFN-SFN observed time difference reporting indicator" to TRUE in a MEASUREMENT CONTROL message)

However, TS 25.331 does not specify the details for this reporting. Specification of 'reference cell' for the measurement is missing. Especially, when the Active Set contains more than one cell, this opens up for different interpretations, resulting in different UE implementations.

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Summary of change:
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Section 10.3.7.5: IE "SFN-SFN observed time difference reporting indicator" deleted.

Section 11.3: "Dummy" introduced in ASN.1

14.1.6: "SFN-SFN observed time difference" deleted as report quantity in intra-frequency measurements.

14.2.0c: "SFN-SFN observed time difference" deleted as report quantity in intra-frequency

measurements.

Unused ASN.1 type ReferenceSFN is removed.

Impact analysis:

Impacted functionality: Intra- and Inter-frequency measurement reporting

Clarification

Removal of functionality that is currently not specified.

No impact on UE, since functionality is removed.

No impact to the UTRAN since the UTRAN cannot currently assume a specific UE behaviour for SFN-SFN observed time difference measurement reporting in intraand- inter-frequency measurements.

Interoperability:

Isolated impact: the impact is isolated; only the corrected functionality is affected

Consequences if not approved:

★ Since UE behaviour is not specified, UTRAN can anyway not utilise the SFN-SFN observed time difference measurement in Intra-and Inter-frequency measurements. Incomplete requirements on UE behaviour will remain in specifications.

Clauses affected: \$\mathbb{\ma

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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

8.6.7.7 Cell Reporting Quantities

If the IE "Cell Reporting Quantities" is received by the UE, the UE shall store the content of the IE "Cell Reporting Quantities" to the variable MEASUREMENT_IDENTITY.

The UE shall include measured results in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantities", except for the following cases:

If the IE "Cell Identity" is set to TRUE, the UE shall in this version of the specification:

1> treat the IE as if the IE "Cell Identity" is set to FALSE.

If the IE "Cell synchronisation information reporting indicator" is set to TRUE, the UE shall:

- 1> include the IE "Cell synchronisation information" in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantities":
 - 2> if the measurement is performed on another frequency; or
 - 2> if the IE "Read SFN indicator" included in the IE "Cell info" of the measured cell is set to FALSE:
 - 3> the UE may omit the information group "COUNT-C-SFN frame difference" in the IE "Cell synchronisation information".
 - 2> if the measurement is performed on the same frequency and no RLC Transparent Mode COUNT-C exists in the UE:
 - 3> set the IE "COUNT-C-SFN high" to 0.
 - 2> otherwise:
 - 3> include the information group "COUNT-C-SFN frame difference" with IE "COUNT-C-SFN high" set to:

COUNT-C-SFN high = (((SFN - (COUNT-C mod 4096)) mod 4096) div 256) * 256;

- 3> if RLC Transparent Mode COUNT-Cs exist in both CN domains:
 - 4> use the COUNT-C of CS domain in this measurement.

If the IE "Proposed TGSN Reporting required" is set to TRUE, the UE shall:

- 1> if compressed mode was used to monitor a TDD cell and the variable TGSN_REPORTED is set to FALSE:
 - 2> report the IE "Proposed TGSN" indicating the TGSN that suits best to the measured cell;
 - 2> set the variable TGSN_REPORTED to TRUE.
- 1> otherwise
 - 2> omit the IE "Proposed TGSN".

If the IE "SFN SFN observed time difference reporting indicator" is set to "type 1" and the IE "Read SFN indicator" included in the IE "Cell info" of the measured cell is set to FALSE, the UE shall:

1> set the SFN SFN observed time difference type 1 for that cell to a value in the range (0..38399) (i.e. the UE shall assume that the SFN of the measured cell differs less than a frame with respect to the reference cell).

10.3.7.3 Cell measured results

Includes non-frequency related measured results for a cell.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Cell Identity	OP		Cell Identity 10.3.2.2	
SFN-SFN observed time difference	OP		SFN-SFN observed time difference 10.3.7.63	
Cell synchronisation information	OP		Cell synchronisati on information 10.3.7.6	
CHOICE mode	MP			
>FDD >>Primary CPICH info	MP		Primary CPICH info 10.3.6.60	
>>CPICH Ec/N0	OP		Integer(049	According to CPICH_Ec/No in [19] and [20]. Fourteen spare values are needed.
>>CPICH RSCP	OP		Integer(091	According to CPICH_RSCP in [19] and [20]. Thirty-six spare values are needed.
>>Pathloss	OP		Integer(461 58)	In dB. Fifteen spare values are needed.
>TDD				
>>Cell parameters Id	MP		Cell parameters Id 10.3.6.9	
>>Proposed TGSN	OP		Integer (014)	Proposal for the next TGSN
>>Primary CCPCH RSCP	OP		Primary CCPCH RSCP info 10.3.7.54	
>>Pathloss	OP		Integer(461 58)	In dB. Fifteen spare values are needed.
>>Timeslot list	OP	1 to < maxTS>		
>>>Timeslot ISCP	MP		Timeslot ISCP Info 10.3.7.65	The UE shall report the Timeslot ISCP in the same order as indicated in the cell info

10.3.7.5 Cell reporting quantities

Includes non-frequency related cell reporting quantities.

For all boolean types TRUE means inclusion in the report is requested.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
SFN-SFN observed time	MP		Enumerated(
difference reporting indicator			No report.	
			type 1, type	
Cell synchronisation information	MP		Boolean	
reporting indicator				
Cell Identity reporting indicator	MP		Boolean	
CHOICE mode	MP			
>FDD				
>>CPICH Ec/N0 reporting	MP		Boolean	
indicator				
>>CPICH RSCP reporting	MP		Boolean	
indicator				
>>Pathloss reporting indicator	MP		Boolean	
>TDD				
>>Timeslot ISCP reporting indicator	MP		Boolean	
	MP		Boolean	
>>Proposed TGSN Reporting required	IVIE		Boolean	
>>Primary CCPCH RSCP	MP		Boolean	
reporting indicator				
>>Pathloss reporting indicator	MP		Boolean	

11.3 Information element definitions

```
CellMeasuredResults ::=
                                  SEQUENCE {
                                      CellIdentity
   cellIdentity
                                                                         OPTIONAL,
   -- dummy is not used in this version of the specification, it should
   -- not be sent and if received it should be ignored.
   sfn SFN ObsTimeDifferencedummy
                                         SFN-SFN-ObsTimeDifference
                                                                             OPTIONAL,
   cellSynchronisationInfo
                                  CellSynchronisationInfo OPTIONAL,
                                     CHOICE {
SEQUENCE {
   modeSpecificInfo
       fdd
           primaryCPICH-Info
                                              PrimaryCPICH-Info,
                                              CPICH-Ec-N0
           cpich-Ec-N0
                                                                         OPTIONAL,
           cpich-RSCP
                                              CPICH-RSCP
                                                                         OPTIONAL,
           pathloss
                                              Pathloss
                                                                         OPTIONAL
       tdd
                                          SEQUENCE {
           cellParametersID
                                              CellParametersID,
           proposedTGSN
                                                                        OPTIONAL,
                                              TGSN
           primaryCCPCH-RSCP
                                              PrimaryCCPCH-RSCP
                                                                         OPTIONAL,
           pathloss
                                              Pathloss
                                                                         OPTIONAL,
           timeslotISCP-List
                                              TimeslotISCP-List
                                                                         OPTIONAL
       }
   }
}
```

```
CellReportingQuantities ::=
                                   SEQUENCE {
   -- dummy is not used in this version of the specification, it should
-- be ignored by the receiver

sfn-SFN-OTD-Typedummy
SFN-SFN-OTD-Type,
    cellIdentity-reportingIndicator
                                                               BOOLEAN,
    cellSynchronisationInfoReportingIndicator
                                                               BOOLEAN,
    modeSpecificInfo
                                            CHOICE {
         fdd
                                                 SEQUENCE {
             cpich-Ec-N0-reportingIndicator
                                                                            BOOLEAN,
             cpich-RSCP-reportingIndicator
                                                                            BOOLEAN,
             pathloss-reportingIndicator
                                                                        BOOLEAN
         },
tdd
                                                 SEQUENCE {
                                                                        BOOLEAN,
             timeslotISCP-reportingIndicator
             proposedTGSN-ReportingRequired
                                                                        BOOLEAN,
             primaryCCPCH-RSCP-reportingIndicator
                                                                            BOOLEAN,
             pathloss-reportingIndicator
                                                                        BOOLEAN
```

ReferenceSFN ::= INTEGER (0..4095)

Tdoc R2-022417

3GPP TSG-RAN WG2 Meeting #31 Arlanda, Sweden, 19th – 23rd August 2002

CHANGE REQUEST										CR-Form-v5	
*		25.331	CR 157	75	⊭ rev	1	¥	Current vers	ion:	5.1.0	¥
For <u>HELP</u> or			_	<u></u>							
Proposed chang	je a	affects: ♯	(U)SIM	ME/	UE X	Rad	io Ac	cess Network	(X	Core Ne	etwork
Title:	Ж	Correction	of SFN-SF	N Measu	rement						
Source:	¥	TSG-RAN	WG2								
Work item code:	ж	TEI						Date: ₩	Jun	e 16, 200	2
Category:	#	Use one of a F (correct form) A (correct form) B (add form) C (fund) D (edial form) Detailed exp	the following orection) responds to a dition of feature ctional modificational modifications of the second control of the second con	a correction re), cation of fe ation) the above (n in an ea eature)			Release: # Use <u>one</u> of 2 e) R96 R97 R98 R99 REL-4 REL-5	the for (GSM (Relea (Relea (Relea (Relea (Relea	-	eases:

Reason for change:

Currently, TS 25.331 states that UE shall report "SFN-SFN observed time difference" measurement in message MEASUREMENT REPORT for Intra- and Inter-frequency measurements, in case this has been requested by UTRAN (by setting IE "SFN-SFN observed time difference reporting indicator" to TRUE in a MEASUREMENT CONTROL message)

However, TS 25.331 does not specify the details for this reporting. Specification of 'reference cell' for the measurement is missing. Especially, when the Active Set contains more than one cell, this opens up for different interpretations, resulting in different UE implementations.

It should be noted that this is not a problem for "SFN-SFN observed time difference" measurement (Type 2)" as defined for UP Measurements.

Furthermore, from a functional point of view, UE report of "SFN-SFN observed time difference" measurement in Intra-and Inter-frequency measurement report is not needed. In state Cell_DCH, "SFN-CFN observed time difference" measurement reporting serves the purpose for UE-UTRAN radio link synchronisation at handover. Therefore, it is proposed to remove SFN-SFN observed time difference from Intra- and Inter-frequency measurements.

Summary of change:
Section 8.6.7.7: Text on "SFN-SFN observed time difference" measurement has been deleted

Section 10.3.7.3: IE "SFN-SFN observed time difference" deleted

Section 10.3.7.5: IE "SFN-SFN observed time difference reporting indicator" deleted.

Section 11.3: "Dummy" introduced in ASN.1

14.1.6: "SFN-SFN observed time difference" deleted as report quantity in intra-frequency measurements.

14.2.0c: "SFN-SFN observed time difference" deleted as report quantity in intra-frequency

measurements.

Unused ASN.1 type ReferenceSFN is removed.

Impact analysis:

Impacted functionality: Intra- and Inter-frequency measurement reporting

Clarification

Removal of functionality that is currently not specified.

No impact on UE, since functionality is removed.

No impact to the UTRAN since the UTRAN cannot currently assume a specific UE behaviour for SFN-SFN observed time difference measurement reporting in intraand- inter-frequency measurements.

Interoperability:

Isolated impact: the impact is isolated; only the corrected functionality is affected

Consequences if not approved:

★ Since UE behaviour is not specified, UTRAN can anyway not utilise the SFN-SFN observed time difference measurement in Intra-and Inter-frequency measurements. Incomplete requirements on UE behaviour will remain in specifications.

Clauses affected: \$\mathbb{\ma

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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

8.6.7.7 Cell Reporting Quantities

If the IE "Cell Reporting Quantities" is received by the UE, the UE shall store the content of the IE "Cell Reporting Quantities" to the variable MEASUREMENT_IDENTITY.

The UE shall include measured results in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantities", except for the following cases:

If the IE "Cell Identity" is set to TRUE, the UE shall in this version of the specification:

1> treat the IE as if the IE "Cell Identity" is set to FALSE.

If the IE "Cell synchronisation information reporting indicator" is set to TRUE, the UE shall:

- 1> include the IE "Cell synchronisation information" in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantities":
 - 2> if the measurement is performed on another frequency; or
 - 2> if the IE "Read SFN indicator" included in the IE "Cell info" of the measured cell is set to FALSE:
 - 3> the UE may omit the information group "COUNT-C-SFN frame difference" in the IE "Cell synchronisation information".
 - 2> if the measurement is performed on the same frequency and no RLC Transparent Mode COUNT-C exists in the UE:
 - 3> set the IE "COUNT-C-SFN high" to 0.
 - 2> otherwise:
 - 3> include the information group "COUNT-C-SFN frame difference" with IE "COUNT-C-SFN high" set to:

COUNT-C-SFN high = (((SFN - (COUNT-C mod 4096)) mod 4096) div 256) * 256;

- 3> if RLC Transparent Mode COUNT-Cs exist in both CN domains:
 - 4> use the COUNT-C of CS domain in this measurement.

If the IE "Proposed TGSN Reporting required" is set to TRUE, the UE shall:

- 1> if compressed mode was used to monitor a TDD cell and the variable TGSN_REPORTED is set to FALSE:
 - 2> report the IE "Proposed TGSN" indicating the TGSN that suits best to the measured cell;
 - 2> set the variable TGSN_REPORTED to TRUE.
- 1> otherwise
 - 2> omit the IE "Proposed TGSN".

If the IE "SFN SFN observed time difference reporting indicator" is set to "type 1" and the IE "Read SFN indicator" included in the IE "Cell info" of the measured cell is set to FALSE, the UE shall:

1> set the SFN SFN observed time difference type 1 for that cell to a value in the range (0..38399) (i.e. the UE shall assume that the SFN of the measured cell differs less than a frame with respect to the reference cell).

10.3.7.3 Cell measured results

Includes non-frequency related measured results for a cell.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Cell Identity	OP		Cell Identity 10.3.2.2	
SFN-SFN observed time difference	OP		SFN-SFN observed time difference 10.3.7.63	
Cell synchronisation information	OP		Cell synchronisati on information 10.3.7.6	
CHOICE mode	MP			
>FDD >>Primary CPICH info	MP		Primary CPICH info 10.3.6.60	
>>CPICH Ec/N0	OP		Integer(049	According to CPICH_Ec/No in [19] and [20]. Fourteen spare values are needed.
>>CPICH RSCP	OP		Integer(091	According to CPICH_RSCP in [19] and [20]. Thirty-six spare values are needed.
>>Pathloss	OP		Integer(461 58)	In dB. Fifteen spare values are needed.
>TDD				
>>Cell parameters Id	MP		Cell parameters Id 10.3.6.9	
>>Proposed TGSN	OP		Integer (014)	Proposal for the next TGSN
>>Primary CCPCH RSCP	OP		Primary CCPCH RSCP info 10.3.7.54	
>>Pathloss	OP		Integer(461 58)	In dB. Fifteen spare values are needed.
>>Timeslot list	OP	1 to < maxTS>		
>>>Timeslot ISCP	MP		Timeslot ISCP Info 10.3.7.65	The UE shall report the Timeslot ISCP in the same order as indicated in the cell info

10.3.7.5 Cell reporting quantities

Includes non-frequency related cell reporting quantities.

For all boolean types TRUE means inclusion in the report is requested.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
SFN-SFN observed time	MP		Enumerated(
difference reporting indicator			No report,	
			type 1, type	
Cell synchronisation information	MP		Boolean	
reporting indicator				
Cell Identity reporting indicator	MP		Boolean	
CHOICE mode	MP			
>FDD				
>>CPICH Ec/N0 reporting	MP		Boolean	
indicator				
>>CPICH RSCP reporting	MP		Boolean	
indicator				
>>Pathloss reporting indicator	MP		Boolean	
>TDD				
>>Timeslot ISCP reporting	MP		Boolean	
indicator				
>>Proposed TGSN Reporting	MP		Boolean	
required				
>>Primary CCPCH RSCP	MP		Boolean	
reporting indicator				
>>Pathloss reporting indicator	MP		Boolean	

11.3 Information element definitions

```
CellMeasuredResults ::=
                                  SEQUENCE {
                                      CellIdentity
   cellIdentity
                                                                         OPTIONAL,
   -- dummy is not used in this version of the specification, it should
   -- not be sent and if received it should be ignored.
   sfn SFN ObsTimeDifferencedummy
                                         SFN-SFN-ObsTimeDifference
                                                                             OPTIONAL,
   cellSynchronisationInfo
                                  CellSynchronisationInfo OPTIONAL,
                                     CHOICE {
SEQUENCE {
   modeSpecificInfo
       fdd
           primaryCPICH-Info
                                              PrimaryCPICH-Info,
                                              CPICH-Ec-N0
           cpich-Ec-N0
                                                                         OPTIONAL,
           cpich-RSCP
                                              CPICH-RSCP
                                                                         OPTIONAL,
           pathloss
                                              Pathloss
                                                                         OPTIONAL
       tdd
                                          SEQUENCE {
           cellParametersID
                                              CellParametersID,
           proposedTGSN
                                                                        OPTIONAL,
                                              TGSN
           primaryCCPCH-RSCP
                                              PrimaryCCPCH-RSCP
                                                                         OPTIONAL,
           pathloss
                                              Pathloss
                                                                         OPTIONAL,
           timeslotISCP-List
                                              TimeslotISCP-List
                                                                         OPTIONAL
       }
   }
}
```

```
CellReportingQuantities ::=
                                    SEQUENCE {
    -- dummy is not used in this version of the specification, it should
-- be ignored by the receiver

sfn-SFN-OTD-Typedummy

SFN-SFN-OTD-Type,
    cellIdentity-reportingIndicator
                                                                BOOLEAN,
    {\tt cellSynchronisationInfoReportingIndicator}
                                                                BOOLEAN,
    modeSpecificInfo
                                             CHOICE {
         fdd
                                                  SEQUENCE {
             cpich-Ec-N0-reportingIndicator
                                                                              BOOLEAN,
             cpich-RSCP-reportingIndicator
                                                                              BOOLEAN,
             pathloss-reportingIndicator
                                                                         BOOLEAN
         },
tdd
                                                  SEQUENCE {
                                                                         BOOLEAN,
             timeslotISCP-reportingIndicator
             proposedTGSN-ReportingRequired
                                                                         BOOLEAN,
             primaryCCPCH-RSCP-reportingIndicator
                                                                             BOOLEAN,
             pathloss-reportingIndicator
                                                                         BOOLEAN
}
```

ReferenceSFN ::= INTEGER (0..4095)

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