RP-030035

Title CRs (Rel-4 and Rel-5/Rel-6 Category A) to TS 25.104 & TS 25.141 on

"Correction to external equipment definition"

Source TSG RAN WG4

Agenda Item 8.4.4

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-020141	25.104	180		F	Rel-4	4.6.0	Correction to external equipment definition	TEI4
R4-020142	25.104	181		Α	Rel-5	5.5.0	Correction to external equipment definition	TEI4
R4-020143	25.104	182		Α	Rel-6	6.0.0	Correction to external equipment definition	TEI4
R4-020148	25.105	148		F	Rel-4	4.6.0	Correction to external equipment definition	TEI4
R4-020149	25.105	149		Α	Rel-5	5.3.0	Correction to external equipment definition	TEI4
R4-020144	25.141	286		F	Rel-4	4.7.0	Correction to external equipment definition	TEI4
R4-020145	25.141	287		Α	Rel-5	5.5.0	Correction to external equipment definition	TEI4
R4-020146	25.141	288		Α	Rel-6	6.0.0	Correction to external equipment definition	TEI4
R4-020150	25.142	163		F	Rel-4	4.7.0	Correction to external equipment definition	TEI4
R4-020151	25.142	164		Α	Rel-5	5.3.0	Correction to external equipment definition	TEI4

R4-030141

iviauriu, Spa		11 - 22	I CDI	uai y, 200	<i>,</i> 5							
			(CHANGE	D		TO:	-				CR-Form-v7
				JIANGL	. NL	_QUL	_0 1					
*		25.104	CR	180	жrе	ev	æ	Curr	ent vers	ion:	4.6.0	¥
- 4515												
For <u>HELP</u> or	า นร	sing this to	rm, see	bottom of this	s page	e or look	at th	ie pop	-up text	over	the # syl	nbols.
Dramanad abana		eff a state	LIICC -	n n a 90	N 41	- 🗔 Da	مائم ۸		Maturam	ı. V	l Cara Na	A a wl .
Proposed chang	je a	птестѕ:	UICC a	ррѕњ	IVII	E Ra	idio A	ccess	networ	K A	Core Ne	etwork
T'41-	0.0	0				Carre						
Title:	Ж	Correction	n to ext	ernal equipme	ent de	efinition						
Source:	æ	RAN WO	64									
Work item code:	· #	TEI4						L	Date: ₩	05/	03/2003	
0-1	00	_						D. /	00	- D - I		
Category:	Ж		: 4h - f - 11 -						ease: #			
			rrection)	wing categories	S.						llowing rel	eases.
				ds to a correctio	n in a	n parlipr i	ومام				/I Phase 2) ase 1996)	
				feature),	ii iii ai	i carner i	Cicas				ase 1990) ase 1997)	
				nodification of f	eature	(د					ase 1997) ase 1998)	
					catare	•/					ase 1999) ase 1999)	
D (editorial modification)R99 (Release 1999)Detailed explanations of the above categories canRel-4 (Release 4)												
be found in 3GPP TR 21.900. Rel-5 (Release 5)												
Rel-6 (Release 6)												
Reason for chan	ge.			on of external								
				ns 25.104, 25.								
	cations but it i	is not	defined	in cu	irrent 3	3GPP sp	pecific	cations. T	herefore			

it is proposed to align external equipment definition between all related specifications.

Sections 6.1 and 7.1 in 25.104 are defining the external equipment and test ports A and B. To align specifications the term diplexer can be removed from FDD specifications. The actual definition " any external apparatus " already covers all posibilities including diplexers. The part in the definition " ... such as a TX amplifier... " can be interpreted as an example of external device and the figure illustrates a sample configuration as well.

Summary of change: ₩

The definition of external equipment is specified generic in order to include all types of external equipment.

- term diplexer is removed from the text
- in figures 6.1 and 7.1 the term "external diplexer" is replaced by "external device"

Consequences if not approved:

Specifications are not harmonised. There exist differences (diplexer) between the "FDD specs" 25.104/25.141 and the "TDD specs" 25.105/25.142.

Isolated impact analysis:

This change does not impact Node-B implementation or Node-B – UE interworking as it harmonise the external equipment definition.

Clauses affected: **第 6.1; 7.1**

	YN					
Other specs affected:	 X X X D&M Specifications X O&M Specifications 					
Other comments:	# The CR is linked to					
	 25.105 CRs 148 for Rel4, 149 for Rel5 25.142 CRs 163 for Rel4, 164 for Rel5 25.141 CRs 286 for Rel4, 287 for Rel5, 288 for Rel6 					
	- Equivalent CRs in other Releases: CR181 cat. A to 25.104 v5.5.0, CR182					

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:

cat. A to 25.104 v6.0.0

- 1) Fill out the above form. The symbols above marked \(\mathcal{H} \) 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.

5.4.2 Channel raster

The channel raster is 200 kHz, which means that the center frequency must be an integer multiple of 200 kHz.

5.4.3 Channel number

The carrier frequency is designated by the UTRA Absolute Radio Frequency Channel Number (UARFCN). The value of the UARFCN in the IMT2000 band is defined as follows:

Table 5.1: UTRA Absolute Radio Frequency Channel Number

Uplink	$N_u = 5 * F_{uplink}$	$\begin{array}{l} 0.0 \text{ MHz} \leq F_{uplink} \leq 3276.6 \text{ MHz} \\ \text{where } F_{uplink} \text{ is the uplink frequency in MHz} \end{array}$
Downlink	N _d = 5 * F _{downlink}	$\begin{array}{l} 0.0 \text{ MHz} \leq F_{\text{downlink}} \leq 3276.6 \text{ MHz} \\ \text{where } F_{\text{downlink}} \text{ is the downlink frequency in MHz} \end{array}$

Table 5.1A: UARFCN definition (Band b, region 2, Additional Channels)

Uplink	$N_u = 5 * ((F_{uplink} - 100khz) - 1850)$	1852.5, 1857.5, 1862.5, 1867.5, 1872.5, 1877.5, 1882.5, 1887.5, 1892.5, 1897.5, 1902.5, 1907.5
Downlink	$N_d = 5 * ((F_{downlink} - 100khz) - 1850)$	1932.5, 1937.5, 1942.5, 1947.5, 1952.5, 1957.5, 1962.5, 1967.5, 1972.5, 1977.5, 1982.5, 1987.5

6 Transmitter characteristics

6.1 General

Unless otherwise stated, the transmitter characteristics are specified at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a TX amplifier, a diplexer, a filter or the combination of such devices is used, requirements apply at the far end antenna connector (port B).

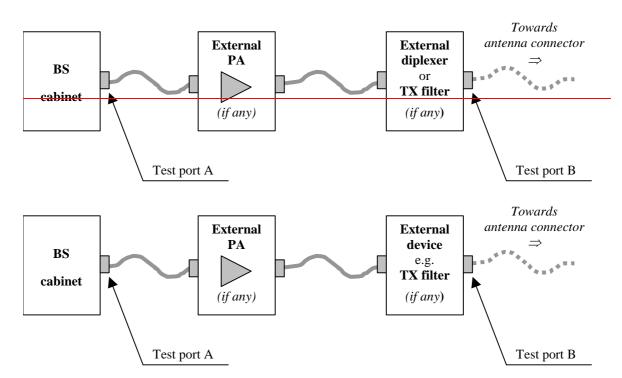


Figure 6.1: Transmitter test ports

--- next changed section ---

$$RC_{0}(t) = \frac{\sin\left(\pi \frac{t}{T_{c}}(1-\alpha)\right) + 4\alpha \frac{t}{T_{c}}\cos\left(\pi \frac{t}{T_{c}}(1+\alpha)\right)}{\pi \frac{t}{T_{c}}\left(1 - \left(4\alpha \frac{t}{T_{c}}\right)^{2}\right)}$$

Where the roll-off factor $\alpha = 0.22$ and the chip duration:

$$T_c = \frac{1}{chiprate} \approx 0.26042 \mu s$$

6.8.2 Error Vector Magnitude

The Error Vector Magnitude is a measure of the difference between the reference waveform and the measured waveform. This difference is called the error vector. Both waveforms pass through a matched Root Raised Cosine filter with bandwidth 3.84 MHz and roll-off α =0.22. Both waveforms are then further modified by selecting the frequency, absolute phase, absolute amplitude and chip clock timing so as to minimise the error vector. The EVM result is defined as the square root of the ratio of the mean error vector power to the mean reference power expressed as a %. The measurement interval is one timeslot as defined by the C-PICH (when present) otherwise the measurement interval is one timeslot starting with the beginning of the SCH. The requirement is valid over the total power dynamic range as specified in subclause 6.4.3.

6.8.2.1 Minimum requirement

The Error Vector Magnitude shall not be worse than 17.5 %.

6.8.3 Peak code Domain error

The Peak Code Domain Error is computed by projecting the power of the error vector (as defined in 6.8.2) onto the code domain at a specified spreading factor. The Code Domain Error for every code in the domain is defined as the ratio of the mean power of the projection onto that code, to the mean power of the composite reference waveform. This ratio is expressed in dB. The Peak Code Domain Error is defined as the maximum value for the Code Domain Error for all codes. The measurement interval is one timeslot as defined by the C-PICH (when present) otherwise the measurement interval is one timeslot starting with the beginning of the SCH.

6.8.3.1 Minimum requirement

The peak code domain error shall not exceed -33 dB at spreading factor 256.

7 Receiver characteristics

7.1 General

The requirements in Section 7 assume that the receiver is not equipped with diversity. For receivers with diversity, the requirements apply to each antenna connector separately, with the other one(s) terminated or disabled .The requirements are otherwise unchanged.

Unless otherwise stated, the receiver characteristics are specified at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a RX amplifier, a diplexer, a filter or the combination of such devices is used, requirements apply at the far end antenna connector (port B).

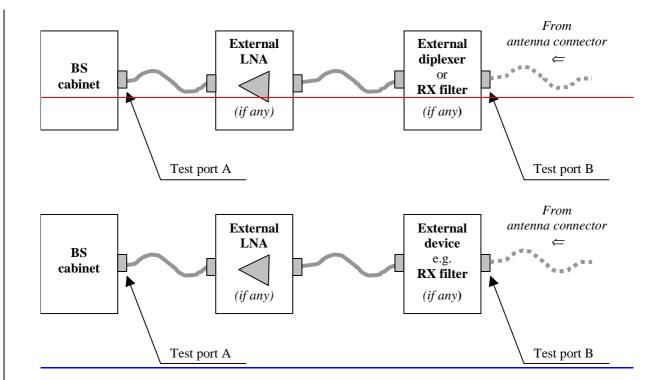


Figure 7.1: Receiver test ports

R4-030142

Madrid, Spain 17 - 22 February, 2003

				, ·									
			C	HANGE	E RE	ΕQI	JE:	ST					CR-Form-v7
*	2	5.104	CR ′	181	жrе	€V		ж	Currer	nt vers	ion:	5.5.0	Ħ
For <u>HELP</u> on	usin	g this fo	rm, see	bottom of thi	is page	e or lo	ook a	at the	е рор-и	p text	over	the 光 syl	mbols.
Proposed change affects: UICC apps第 ME Radio Access Network X Core Network										etwork			
Title:	₩ C	Correctio	n to exte	ernal equipm	ent de	efinitio	on						
Source:	¥ F	RAN WG	:1										
Jource.	100	CAIV VVO	· 										
Work item code:	₩ T	El4							Da	nte: ૠ	05/	03/2003	
Category:	H A	1							Relea	se: #	Re	l-5	
	De	F (cor A (cor B (add C (fur D (edd	rrection) rresponds dition of f actional m itorial mo planation	nodification of dification) s of the above	on in ai	e)		lease	2 R: R: R: R: R: R:	96 97 98 99 el-4	(GSN (Rele (Rele (Rele (Rele (Rele (Rele	ollowing relative to the control of	
D		00 TI	1.0.10.	(1		•						LTDD
Reason for chang	ge:	ж Ine	definitio	n of external							twee	n רטט an	מ וטט

The definition of external equipment is not harmonised between FDD and TDD specifications 25.104, 25.105, 25.141 and 25.142. The term diplexer is used in FDD specifications but it is not defined in current 3GPP specifications. Therefore it is proposed to align external equipment definition between all related specifications.

Sections 6.1 and 7.1 in 25.104 are defining the external equipment and test ports A and B. To align specifications the term diplexer can be removed from FDD specifications. The actual definition " any external apparatus " already covers all posibilities including diplexers. The part in the definition " ... such as a TX amplifier... " can be interpreted as an example of external device and the figure illustrates a sample configuration as well.

Summary of change: ₩

The definition of external equipment is specified generic in order to include all types of external equipment.

- term diplexer is removed from the text
- in figures 6.1 and 7.1 the term "external diplexer" is replaced by "external device"

Consequences if not approved:

Specifications are not harmonised. There exist differences (diplexer) between the "FDD specs" 25.104/25.141 and the "TDD specs" 25.105/25.142.

Isolated impact analysis:

This change does not impact Node-B implementation or Node-B – UE interworking as it harmonise the external equipment definition.

Clauses affected: # 6.1; 7.1

	YN
Other specs # affected:	X Other core specifications % 25.141 X O&M Specifications
Other comments: #	The CR is linked to - 25.105 CRs 148 for Rel4, 149 for Rel5
	 25.142 CRs 163 for Rel4, 164 for Rel5 25.141 CRs 286 for Rel4, 287 for Rel5, 288 for Rel6 Equivalent CRs in other Releases: CR180 cat. F to 25.104 v4.6.0, CR182

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:

cat. A to 25.104 v6.0.0

- 1) Fill out the above form. The symbols above marked \(\mathcal{H} \) 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.

5.4.3 Channel number

The carrier frequency is designated by the UTRA Absolute Radio Frequency Channel Number (UARFCN). The UARFCN values are defined as follows:

Table 5.1: UTRA Absolute Radio Frequency Channel Number

	UARFCN	Carrier frequency [MHz]
Uplink	$N_u = 5 * F_{uplink}$	$0.0 \text{ MHz} \le F_{\text{uplink}} \le 3276.6 \text{ MHz}$
		where F _{uplink} is the uplink frequency in MHz
Downlink	$N_d = 5 * F_{downlink}$	$0.0 \text{ MHz} \le F_{\text{downlink}} \le 3276.6 \text{ MHz}$
		where F _{downlink} is the downlink frequency in MHz

Table 5.1A: UARFCN definition (Band II additional channels)

	UARFCN	Carrier frequency [MHz]
Uplink	$N_u = 5 * (F_{uplink} - 1850.1 \text{ MHz})$	F _{uplink} = 1852.5, 1857.5, 1862.5, 1867.5,
	,	1872.5, 1877.5, 1882.5, 1887.5, 1892.5,
		1897.5, 1902.5, 1907.5
Downlink	$N_u = 5 * (F_{downlink} - 1850.1 \text{ MHz})$	F _{downlink} = 1932.5, 1937.5, 1942.5, 1947.5,
		1952.5, 1957.5, 1962.5, 1967.5, 1972.5,
		1977.5, 1982.5, 1987.5

6 Transmitter characteristics

6.1 General

Unless otherwise stated, the requirements in Section 6 assume that the transmitter is not equipped with diversity. For transmitters with diversity, the requirements apply to each antenna connector separately, with the other one terminated or disabled .The requirements are otherwise unchanged.

Unless otherwise stated, the transmitter characteristics are specified at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a TX amplifier, a diplexer, a filter or the combination of such devices is used, requirements apply at the far end antenna connector (port B).

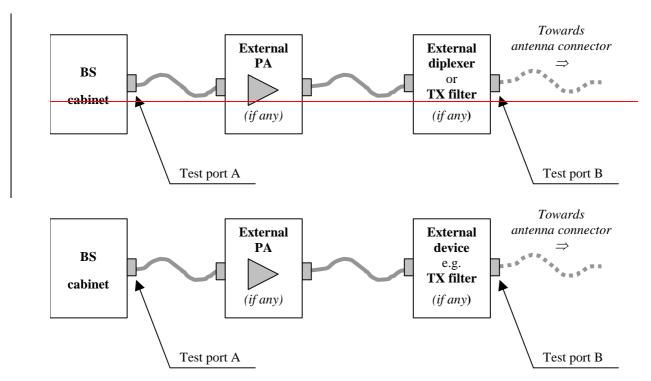


Figure 6.1: Transmitter test ports

--- next changed section ---

The Error Vector Magnitude shall not be worse than 12.5 % when the base station is transmitting a composite signal that includes 16QAM modulation.

6.8.3 Peak code Domain error

The Peak Code Domain Error is computed by projecting the power of the error vector (as defined in 6.8.2) onto the code domain at a specified spreading factor. The Code Domain Error for every code in the domain is defined as the ratio of the mean power of the projection onto that code, to the mean power of the composite reference waveform. This ratio is expressed in dB. The Peak Code Domain Error is defined as the maximum value for the Code Domain Error for all codes. The measurement interval is one timeslot as defined by the C-PICH (when present) otherwise the measurement interval is one timeslot starting with the beginning of the SCH.

6.8.3.1 Minimum requirement

The peak code domain error shall not exceed -33 dB at spreading factor 256.

6.8.4 Time alignment error in Tx Diversity

In Tx Diversity, signals are transmitted from two antennas. These signals shall be aligned. The time alignment error in Tx Diversity is specified as the delay between the signals from the two diversity antennas at the antenna ports.

6.8.4.1 Minimum Requirement

The time alignment error in Tx Diversity shall not exceed ¼ T_c.

7 Receiver characteristics

7.1 General

The requirements in Section 7 assume that the receiver is not equipped with diversity. For receivers with diversity, the requirements apply to each antenna connector separately, with the other one(s) terminated or disabled .The requirements are otherwise unchanged.

Unless otherwise stated, the receiver characteristics are specified at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a RX amplifier, a diplexer, a filter or the combination of such devices is used, requirements apply at the far end antenna connector (port B).

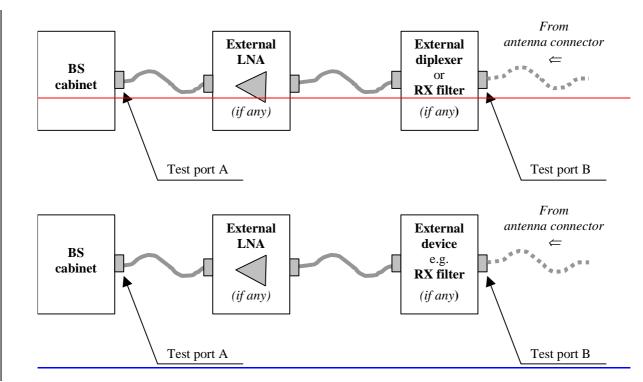


Figure 7.1: Receiver test ports

R4-030143

waaria, Spai	n 1	<i>(</i> - 2	z Febr	uary, 20	03						
			C	HANG	E REC	UE	ST				CR-Form-v7
黑	2	5.10	4 CR	182	≋rev		\mathfrak{H}	Current vers	sion:	6.0.0	#
For <u>HELP</u> on					nis page oi					·	
	Proposed change affects: UICC apps ME Radio Access Network X Core Network										
Title:	₩ C	orrect	ion to ext	ernal equipn	nent defini	ition					
Source:	₩ R	AN W	G4								
Godi Go.	00 1	., ., .,	0 1								
Work item code:	₩ T	El4						Date: ₩	05/0	03/2003	
Category:	₩ A							Release: #	Rel	-6	
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) P (editorial modification) D (editorial modification) Detailed explanations of the above categories can rel-4 (Release 4) be found in 3GPP TR 21.900. Rel-6 (Release 6)							llowing rele 1 Phase 2) ase 1996) ase 1997) ase 1998) ase 1999) ase 4)	eases:			
December of the		10 T!	£ 'C -		a La anada a a a		4		. 4	- FDD at	-1 TDD
Reason for chan	ge: 8	spo FD it is	ecification D specifi	on of externants 25.104, 29 cations but it is a light extends a light expressions.	5.105, 25. t is not de	141 aı fined i	nd 25 n cur	.142. The te rent 3GPP s	rm dip	olexer is u cations. Ti	sed in

Sections 6.1 and 7.1 in 25.104 are defining the external equipment and test ports A and B. To align specifications the term diplexer can be removed from FDD specifications. The actual definition " any external apparatus " already covers all posibilities including diplexers. The part in the definition " ... such as a TX amplifier... " can be interpreted as an example of external device and the figure illustrates a sample configuration as well.

Summary of change: ₩

The definition of external equipment is specified generic in order to include all types of external equipment.

- term diplexer is removed from the text
- in figures 6.1 and 7.1 the term "external diplexer" is replaced by "external device"

Consequences if not approved:

Specifications are not harmonised. There exist differences (diplexer) between the "FDD specs" 25.104/25.141 and the "TDD specs" 25.105/25.142.

Isolated impact analysis:

This change does not impact Node-B implementation or Node-B – UE interworking as it harmonise the external equipment definition.

Clauses affected: **第 6.1; 7.1**

	YN							
Other specs affected:	X Other core specifications X Test specifications O&M Specifications							
Other comments:	₩ The CR is linked to							
other comments.	- 25.105 CRs 148 for Rel4, 149 for Rel5 - 25.142 CRs 163 for Rel4, 164 for Rel5							
	- 25.141 CRs 286 for Rel4, 287 for Rel5, 288 for Rel6 - Equivalent CRs in other Releases: CR180 cat. F to 25.104 v4.6.0, CR181							

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:

cat. A to 25.104 v5.5.0

- 1) Fill out the above form. The symbols above marked \(\mathcal{H} \) 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.

5.4.3 Channel number

The carrier frequency is designated by the UTRA Absolute Radio Frequency Channel Number (UARFCN). The UARFCN values are defined as follows:

Table 5.1: UTRA Absolute Radio Frequency Channel Number

	UARFCN	Carrier frequency [MHz]
Uplink	$N_u = 5 * F_{uplink}$	$0.0 \text{ MHz} \le F_{\text{uplink}} \le 3276.6 \text{ MHz}$
		where F _{uplink} is the uplink frequency in MHz
Downlink	$N_d = 5 * F_{downlink}$	$0.0 \text{ MHz} \le F_{\text{downlink}} \le 3276.6 \text{ MHz}$
		where F _{downlink} is the downlink frequency in MHz

Table 5.1A: UARFCN definition (Band II additional channels)

	UARFCN	Carrier frequency [MHz]
Uplink	$N_u = 5 * (F_{uplink} - 1850.1 \text{ MHz})$	$F_{uplink} = 1852.5, 1857.5, 1862.5, 1867.5,$
		1872.5, 1877.5, 1882.5, 1887.5, 1892.5,
		1897.5, 1902.5, 1907.5
Downlink	$N_u = 5 * (F_{downlink} - 1850.1 \text{ MHz})$	F _{downlink} = 1932.5, 1937.5, 1942.5, 1947.5,
		1952.5, 1957.5, 1962.5, 1967.5, 1972.5,
		1977.5, 1982.5, 1987.5

6 Transmitter characteristics

6.1 General

Unless otherwise stated, the requirements in Section 6 assume that the transmitter is not equipped with diversity. For transmitters with diversity, the requirements apply to each antenna connector separately, with the other one terminated or disabled .The requirements are otherwise unchanged.

Unless otherwise stated, the transmitter characteristics are specified at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a TX amplifier, a diplexer, a filter or the combination of such devices is used, requirements apply at the far end antenna connector (port B).

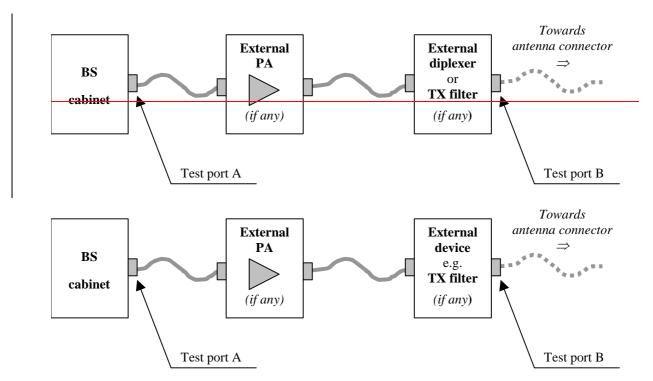


Figure 6.1: Transmitter test ports

--- next changed section ---

The Error Vector Magnitude shall not be worse than 12.5 % when the base station is transmitting a composite signal that includes 16QAM modulation.

6.8.3 Peak code Domain error

The Peak Code Domain Error is computed by projecting the power of the error vector (as defined in 6.8.2) onto the code domain at a specified spreading factor. The Code Domain Error for every code in the domain is defined as the ratio of the mean power of the projection onto that code, to the mean power of the composite reference waveform. This ratio is expressed in dB. The Peak Code Domain Error is defined as the maximum value for the Code Domain Error for all codes. The measurement interval is one timeslot as defined by the C-PICH (when present) otherwise the measurement interval is one timeslot starting with the beginning of the SCH.

6.8.3.1 Minimum requirement

The peak code domain error shall not exceed -33 dB at spreading factor 256.

6.8.4 Time alignment error in Tx Diversity

In Tx Diversity, signals are transmitted from two antennas. These signals shall be aligned. The time alignment error in Tx Diversity is specified as the delay between the signals from the two diversity antennas at the antenna ports.

6.8.4.1 Minimum Requirement

The time alignment error in Tx Diversity shall not exceed ¼ T_c.

7 Receiver characteristics

7.1 General

The requirements in Section 7 assume that the receiver is not equipped with diversity. For receivers with diversity, the requirements apply to each antenna connector separately, with the other one(s) terminated or disabled .The requirements are otherwise unchanged.

Unless otherwise stated, the receiver characteristics are specified at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a RX amplifier, a diplexer, a filter or the combination of such devices is used, requirements apply at the far end antenna connector (port B).

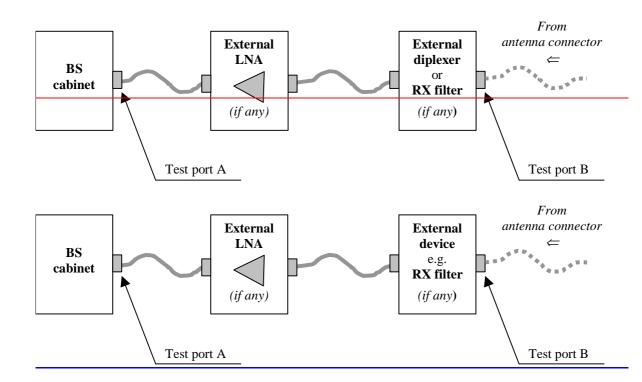


Figure 7.1: Receiver test ports

R4-030148

Madrid, Spain 17 - 22 February, 2003

			Cł	IANC	3E RI	EQL	JES	ST				CR-Form-v7
*	25	105	CR 1	48	жr	ev	Ó	\mathfrak{H}	Current v	ersion:	4.6.0	¥
For <u>HELP</u> on u	sing t	his for	m, see be	ottom of	this pag	e or lo	ok a	t the	pop-up te	ext ove	er the ♯ sy	mbols.
Proposed change	affec	<i>ts:</i> L	IICC app	s#	M	E	Radio	o Ac	cess Netv	work 🔀	Core No	etwork
Title: ₩	Coi	rection	to exter	nal equi _l	pment d	efinitio	n					
Source: #	RA	N WG4	1									
Work item code: 第	TEI	4							Date:	* # O	5/03/2003	
Category:	Deta	F (corre A (corre B (add C (fund D (edite iled exp	he following ection) esponds a sition of feational modifications anations BGPP TR	o a corre ature), dification fication) of the ab	ection in a	re)		ease,	2	of the (GS) (Re (Re (Re (Re (Re (Re	el-4 following rel M Phase 2) lease 1996) lease 1997) lease 1999) lease 4) lease 5)	
Reason for change	e: X	A and possi	d B. The ble exter	actual de nal devi	efinition ces but t	" any e the figu	exter ures	nal a	apparatus external	" alrea	oment and ady covers to externa on of test p	all al
Summary of chang	ge:₩								ied gener ce" in figu		der to inclu and 7.1.	de all
Consequences if not approved:	\mathfrak{H}	Requ result		may be	tested a	at the i	ncor	rect	port leadi	ng to ir	nconsisten	test
		This		oes not	impact I				entation of ment defi		e-B – UE	
Clauses affected:	æ	6.1; 7	7.1									
Other specs affected:	¥	Y N X X	Other co Test spe O&M Sp	ecificatio	ns	s i		CR 1	63 to 25.	142		
Other comments:	Ж								R 286 to 2 tt. A to 25		5.3.0	

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 \(\mathcal{H} \) 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.

6 Transmitter characteristics

6.1 General

Unless otherwise stated the transmitter characteristics are specified at the antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a TX amplifier, a filter or the combination of such devices is used, requirements apply at the far end antenna connector. (port B).

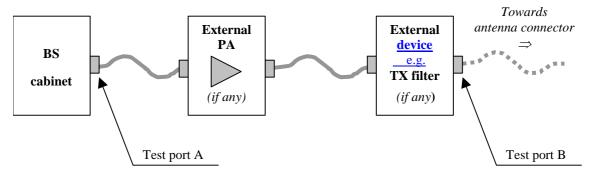


Figure 6.0: Transmitter test ports

--- next changed section ---

7 Receiver characteristics

7.1 General

The requirements in this clause 7 assume that the receiver is not equipped with diversity. For receivers with diversity, the requirements apply to each antenna connector separately, with the other one(s) terminated or disabled .The requirements are otherwise unchanged.

Unless otherwise stated, the receiver characteristics are specified at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a RX amplifier, a filter or the combination of such devices is used, requirements apply at the far end antenna connector (port B).

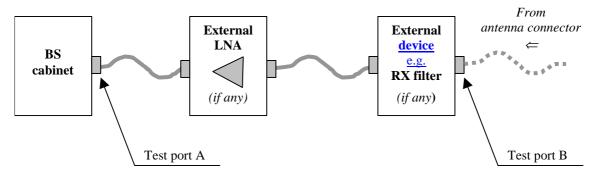


Figure 7.1: Receiver test ports

R4-030149

Madrid, Spain 17 - 22 February, 2003

			CH	IANG	ERE	QUE	ST	•			CR-Form-v7
	25.	105	CR 14	.9	жrev	/	¥	Current ver	sion:	5.3.0	æ
For <mark>HELP</mark> on u	ısing t	his for	m, see bo	ttom of th	is page	or look	at th	e pop-up tex	t over	the ¥ syr	mbols.
Proposed change	affec	<i>ts:</i> (JICC apps	#	ME	Ra	dio A	ccess Netwo	ork X	Core Ne	etwork
Title: #	Cor	rection	n to extern	al equipm	nent defi	nition					
Source: #	RA	N WG	4								
Work item code: ₩	TEI	4						Date: 3	€ 05/	/03/2003	
Category: 第	Use of	F (corr A (corr B (add C (fund D (edia iled exp	the following rection) responds to dition of feat to discount modifications of the discount modified and the discount modi	o a correction a correction of ication) of the above	on in an			2	of the for (GSN) (Relea (Relea (Relea (Relea (Relea	I-5 ollowing rela M Phase 2) ease 1996) ease 1997) ease 1999) ease 4) ease 5) ease 6)	eases:
Reason for change	e: Ж	A an	d B. The a	ctual defination	nition " a s but the	any ext e figure	ernal s limi	the external apparatus " it external de mbiguous de	alread evices	dy covers to externa	all all
Summary of chang	ge: ૠ							ified generic vice" in figure			de all
Consequences if not approved:	*	port Isola This	leading to ted impa change de	inconsiste ct analysi pes not im	ent test i i <u>s:</u> ipact No	results. de-B ir	mpler	ments may b mentation or pment defini	Node		ncorrect
Clauses affected:	¥	6.1;	7.1								
Other specs affected:	¥	Y N X X	Test spe	re specific cifications ecification	;	¥	CR	164 to 25.14	12		
Other comments:	Ж							R 287 to 25. at. F to 25.1		6.0	

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 \(\mathcal{H} \) 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.

6 Transmitter characteristics

6.1 General

Unless otherwise stated the transmitter characteristics are specified at the antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a TX amplifier, a filter or the combination of such devices is used, requirements apply at the far end antenna connector (port B).

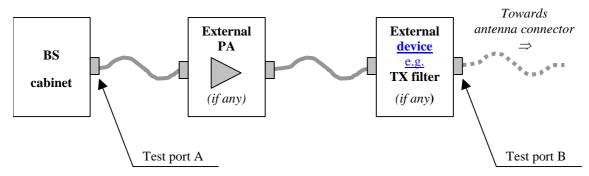


Figure 6.0: Transmitter test ports

--- next changed section ---

7 Receiver characteristics

7.1 General

The requirements in this clause 7 assume that the receiver is not equipped with diversity. For receivers with diversity, the requirements apply to each antenna connector separately, with the other one(s) terminated or disabled .The requirements are otherwise unchanged.

Unless otherwise stated, the receiver characteristics are specified at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a RX amplifier, a filter or the combination of such devices is used, requirements apply at the far end antenna connector (port B).

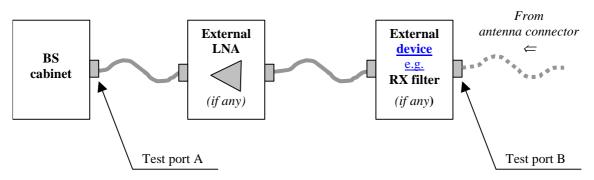


Figure 7.1: Receiver test ports

R4-030144

Madrid, Spain 17 - 22 February, 2003

		(CHANGE	REQ	UE	ST				CR-Forn
×	25.141	CR	286	жrev		¥	Current vers	sion:	4.7.0	ж
For <u>HELP</u> on t	using this fo	orm, see	bottom of this	page or	look a	at the	e pop-up text	over	the 光 syi	mbols.
Proposed change	affects:	UICC a	pps#	ME	Radi	io A	ccess Netwo	rk X	Core Ne	etwork
itle: អ	Correction	on to ex	ternal equipme	ent definiti	ion					
Source: #	RAN WO	34								
, ou o c	1000	J-1								
Vork item code: ₩	TEI4						Date: ∺	05/	03/2003	
Category: ೫	F (cc A (cc B (ac C (fu D (ec	orrection) orrespond ddition of nctional ditorial m xplanatio	ds to a correction feature), modification of feodification) ns of the above	n in an ear eature)		lease	Release: 第 Use <u>one</u> of 2 e) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6	the fo (GSM (Rele (Rele (Rele (Rele (Rele (Rele		eases:
Reason for chang	e: # The	e definiti	on of external	eauipmer	nt is no	ot ha			•	d TDD

specifications 25.104, 25.105, 25.141 and 25.142. The term diplexer is used in FDD specifications but it is not defined in current 3GPP specifications. Therefore it is proposed to align external equipment definition between all related specifications.

Sections 6.1 and 7.1 in 25.141 are defining the external equipment and test ports A and B. To align specifications the term diplexer can be removed from FDD specifications. The actual definition " any external apparatus " already covers all posibilities including diplexers. The part in the definition " ... such as a TX amplifier... " can be interpreted as an example of external device and the figure illustrates a sample configuration as well.

Summary of change: ₩

The definition of external equipment is specified generic in order to include all types of external equipment.

- term diplexer is removed from the text
- in figures 6.1 and 7.1 the term "external diplexer" is replaced by "external device"

Consequences if not approved:

Specifications are not harmonised. There exist differences (diplexer) between the "FDD specs" 25.104/25.141 and the "TDD specs" 25.105/25.142.

Isolated impact analysis:

This change does not impact Node-B implementation or Node-B – UE interworking as it harmonise the external equipment definition.

Clauses affected: # 6.1; 7.1

Other specs affected:	Y N X Other core specifications 第 25.104 Test specifications O&M Specifications
Other comments:	# The CR is linked to

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 \$\mathbb{H}\$ 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.

This subclause describes the steps necessary to perform the test and provides further details of the test definition like point of access (e.g. antenna port), domain (e.g. frequency-span), range, weighting (e.g. bandwidth), and algorithms (e.g. averaging).

X.5 Test Requirement

This subclause defines the pass/fail criteria for the equipment under test. See subclause 4.3 Interpretation of measurement results.

6 Transmitter

6.1 General

Unless otherwise stated, all tests in this clause shall be performed at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a TX amplifier, a diplexer, a filter or the combination of such devices is used, the tests according to subclauses 4.6.2 and/or 4.6.4, depending on the device added, shall be performed to ensure that the requirements are met at test port B.

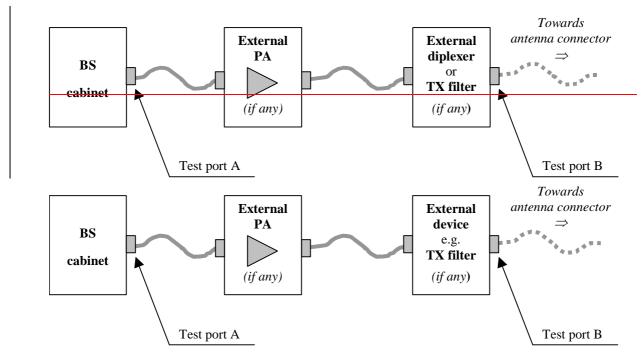


Figure 6.1: Transmitter test ports

Power levels are expressed in dBm.

--- next changed section ---

measurement interval is one timeslot as defined by the C-PICH (when present), otherwise the measurement interval is one timeslot starting with the beginning of the SCH. See Annex E of this specification for further details.

6.7.2.2 Minimum requirement

The peak code domain error shall not exceed -33 dB at spreading factor 256.

The normative reference for this requirement is in TS 25.104[1] subclause 6.8.3.

6.7.2.3 Test Purpose

It is the purpose of this test to discover and limit inter-code cross-talk.

6.7.2.4 Method of test

6.7.2.4.1 Initial conditions

Test environment: normal: see subclause 4.4.1.

RF channels to be tested: B, M and T; see subclause 4.8

- 1) Connect the measurement equipment to the BS antenna connector as shown in Figure B.2 annex B.
- 2) Channel configuration defined in subclause 6.1.1.3 Test model 3 shall be used.
- 3) Set BS frequency.
- 4) Start BS transmission at maximum output power.

6.7.2.4.2 Procedure

1) Measure Peak code domain error according to annex E.

6.7.2.5 Test requirement

The peak code domain error shall not exceed -32 dB at spreading factor 256.

OTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in subclause 4.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in Annex F.

7 Receiver characteristics

7.1 General

Unless otherwise stated, all tests in this clause shall be performed at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a RX amplifier, a diplexer, a filter or the combination of such devices is used, the tests according to subclauses 4.6.2 and/or 4.6.4, depending on the device added, shall be performed to ensure that the requirements are met at test port B.

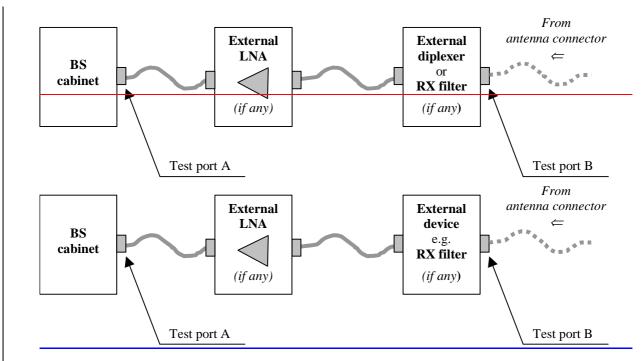


Figure 7.1: Receiver test ports

R4-030145

Madrid, Spain 17 - 22 February, 2003

•											CR-Form-
			(CHANG	ER	EQUE	ST	•			
器	2	25.141	CR	287	жre	ev	Ħ	Current vers	ion:	5.5.0	ж
For <u>HELP</u> on	usii	ng this for	m, see	e bottom of	this pag	e or look	at th	e pop-up text	over th	ne Ж syr	nbols.
roposed change	e afi	fects: l	JICC a	apps#	М	E Rac	dio A	ccess Networ	k X	Core Ne	etwork
itle:	#	Correction	n to ex	ternal equip	ment de	efinition					
ource:	H _	RAN WG	4								
Vork item code:	Ħ.	TEI4						Date: ₩	05/03	3/2003	
Category:	D	F (corr A (corr B (add C (fund D (edii etailed exp	rection) respon lition of ctional forial m	ds to a correct feature), modification on so of the about TR 21.900.	ction in a	e)	elease	e) R96 R97 R98 R99 Rel-4	(GSM F (Releas (Releas (Releas	owing rele Phase 2) se 1996) se 1997) se 1998) se 1999) se 4) se 5)	eases:
Reason for chang	η Δ ,	₩ The	definiti	on of extern	nal equir	ment is r	not h	armonised be	tween	FDD an	d TDD
reason for chang	ye.	spec FDD it is p spec	ificatic specif propos ificatic	ons 25.104, fications but ed to align ends.	25.105, it is not external	25.141 a defined i equipme	nd 29 n cui nt de	5.142. The ter rrent 3GPP sp finition betwe	m diple becifica en all r	exer is u itions. T elated	ised in herefore

Summary of change: ₩

The definition of external equipment is specified generic in order to include all types of external equipment.

A and B. To align specifications the term diplexer can be removed from FDD specifications. The actual definition " any external apparatus " already covers all posibilities including diplexers. The part in the definition " ... such as a TX amplifier... " can be interpreted as an example of external device and the figure

- term diplexer is removed from the text

illustrates a sample configuration as well.

- in figures 6.1 and 7.1 the term "external diplexer" is replaced by "external device"

Consequences if not approved:

Specifications are not harmonised. There exist differences (diplexer) between the "FDD specs" 25.104/25.141 and the "TDD specs" 25.105/25.142.

Isolated impact analysis:

This change does not impact Node-B implementation or Node-B – UE interworking as it harmonise the external equipment definition.

Clauses affected: # 6.1; 7.1

Other specs affected:	Y N X Other core specifications
Other comments:	# The CR is linked to

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 \$\mathbb{H}\$ 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 Format and interpretation of tests

Each test in the following clauses has a standard format:

X Title

All tests are applicable to all equipment within the scope of the present document, unless otherwise stated.

X.1 Definition and applicability

This subclause gives the general definition of the parameter under consideration and specifies whether the test is applicable to all equipment or only to a certain subset.

X.2 Minimum Requirement

This subclause is an informative copy of the Minimum Requirement defined by the core specification.

In addition, this subclause contains the reference to the subclause to the 3GPP reference (or core) specification which defines the Minimum Requirement.

X.3 Test purpose

This subclause defines the purpose of the test.

X.4 Method of test

X.4.1 Initial conditions

This subclause defines the initial conditions for each test, including the test environment, the RF channels to be tested and the basic measurement set-up.

X.4.2 Procedure

This subclause describes the steps necessary to perform the test and provides further details of the test definition like point of access (e.g. antenna port), domain (e.g. frequency-span), range, weighting (e.g. bandwidth), and algorithms (e.g. averaging).

X.5 Test Requirement

This subclause defines the pass/fail criteria for the equipment under test. See subclause 4.3 Interpretation of measurement results.

6 Transmitter

6.1 General

Unless otherwise stated, all tests in this clause shall be performed at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a TX amplifier, a diplexer, a filter or the combination of such devices is used, the tests according to subclauses 4.6.2 and/or 4.6.4, depending on the device added, shall be performed to ensure that the requirements are met at test port B.

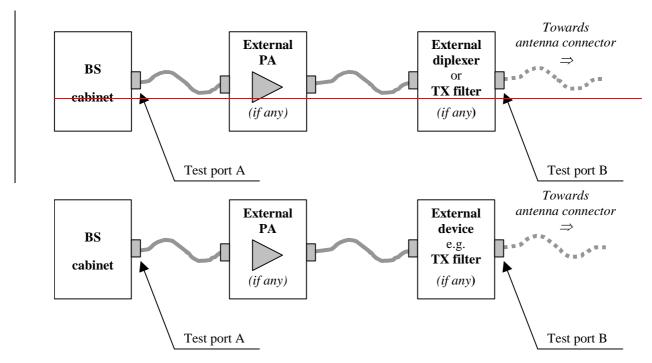


Figure 6.1: Transmitter test ports

Power levels are expressed in dBm.

--- next changed section ---

RF channels to be tested: B, M and T; see subclause 4.8

- 1) Connect the measurement equipment to the BS antenna connector as shown in Figure B.2 annex B.
- 2) Channel configuration defined in subclause 6.1.1.3 Test model 3 shall be used.
- 3) Set BS frequency.
- 4) Start BS transmission at maximum output power.

6.7.2.4.2 Procedure

1) Measure Peak code domain error according to annex E.

6.7.2.5 Test requirement

The peak code domain error shall not exceed -32 dB at spreading factor 256.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in subclause 4.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in Annex F.

7 Receiver characteristics

7.1 General

Unless otherwise stated, all tests in this clause shall be performed at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a RX amplifier, a diplexer, a filter or the combination of such devices is used, the tests according to subclauses 4.6.2 and/or 4.6.4, depending on the device added, shall be performed to ensure that the requirements are met at test port B.

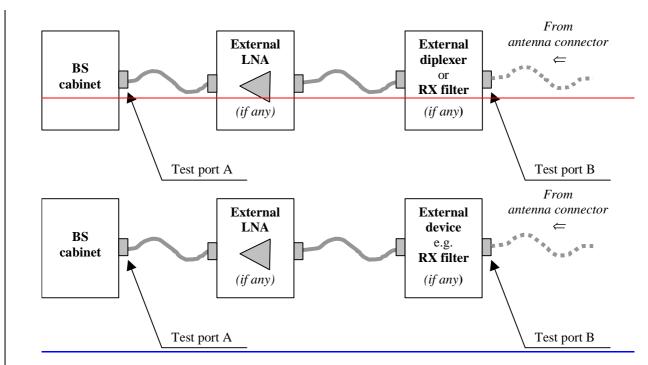


Figure 7.1: Receiver test ports

3GPP TSG RAN WG4 (Radio) Meeting #26

R4-030146

Madrid, Spain 17 - 22 February, 2003												
CHANGE REQUEST												
×		25.141	CR	288	ж re\	V	¥	Current vers	sion:	6.0.0	¥	
		Ū	·	_	, 0					_		
Proposed chan	ge a	affects:	UICC a	apps器 <mark></mark>	ME	Rac	dio A	ccess Netwo	rk X	Core Ne	etwork	
Title:	\mathbb{H}	Correction	on to ex	ternal equipm	ent defi	inition						
_			_									
Source:	\mathfrak{H}	RAN W	34									
Work item code	:: X	TEI4						Date: ₩	05/	/03/2003		
Category:	\mathbb{H}	Α						Release: %	Re	el-6		
Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature)								2	(GSI (Rele (Rele	M Phase 2) ease 1996) ease 1997)		
					•			R99				
Detailed explanations of the above categories can Rel-4 (Release 4) be found in 3GPP TR 21.900. Rel-5 (Release 5)												
			CHANGE REQUEST I CR 288 # rev # Current version: 6.0.0 # orm, see bottom of this page or look at the pop-up text over the # symbols. UICC apps# ME Radio Access Network Core Network on to external equipment definition G4 Date: # 05/03/2003 Release: # Rel-6 Use one of the following releases: 2 (GSM Phase 2) Orresponds to a correction in an earlier release) R96 (Release 1996) ddition of feature), R97 (Release 1997) intotional modification of feature) Difficorial modification of feature) R98 (Release 1998) (Release 1999) explanations of the above categories can Rel-4 (Release 4)									
Reason for cha	nge	spe FDI	cification D specif	ns 25.104, 25 ications but it	.105, 29 is not d	5.141 ar lefined i	nd 25 n cur	5.142. The te rrent 3GPP s	rm di pecifi	iplexer is ι ications. T	used in	

specifications.

Sections 6.1 and 7.1 in 25.141 are defining the external equipment and test ports A and B. To align specifications the term diplexer can be removed from FDD specifications. The actual definition " any external apparatus " already covers all posibilities including diplexers. The part in the definition " ... such as a TX amplifier... " can be interpreted as an example of external device and the figure illustrates a sample configuration as well.

Summary of change: ₩

The definition of external equipment is specified generic in order to include all types of external equipment.

- term diplexer is removed from the text
- in figures 6.1 and 7.1 the term "external diplexer" is replaced by "external device"

Consequences if not approved:

Specifications are not harmonised. There exist differences (diplexer) between the "FDD specs" 25.104/25.141 and the "TDD specs" 25.105/25.142.

Isolated impact analysis:

This change does not impact Node-B implementation or Node-B – UE interworking as it harmonise the external equipment definition.

Clauses affected: **3 6.1**; 7.1

Other specs affected:	Y N X Other core specifications
Other comments:	# The CR is linked to - 25.105 CRs 148 for Rel4, 149 for Rel5 - 25.142 CRs 163 for Rel4, 164 for Rel5 - 25.104 CRs 180 for Rel4, 181 for Rel5, 182 for Rel6 - Equivalent CRs in other Releases: CR286 cat. F to 25.141 v4.7.0, CR287 cat. A to 25.141 v5.5.0

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 \$\mathbb{H}\$ 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.

When a test is performed by a test laboratory, the UARFCNs to be used for RF channels B, M and T shall be specified by the laboratory. The laboratory may consult with operators, the manufacturer or other bodies.

When a test is performed by a manufacturer, the UARFCNs to be used for RF channels B, M and T may be specified by an operator.

5 Format and interpretation of tests

Each test in the following clauses has a standard format:

X Title

All tests are applicable to all equipment within the scope of the present document, unless otherwise stated.

X.1 Definition and applicability

This subclause gives the general definition of the parameter under consideration and specifies whether the test is applicable to all equipment or only to a certain subset.

X.2 Minimum Requirement

This subclause is an informative copy of the Minimum Requirement defined by the core specification.

In addition, this subclause contains the reference to the subclause to the 3GPP reference (or core) specification which defines the Minimum Requirement.

X.3 Test purpose

This subclause defines the purpose of the test.

X.4 Method of test

X.4.1 Initial conditions

This subclause defines the initial conditions for each test, including the test environment, the RF channels to be tested and the basic measurement set-up.

X.4.2 Procedure

This subclause describes the steps necessary to perform the test and provides further details of the test definition like point of access (e.g. antenna port), domain (e.g. frequency-span), range, weighting (e.g. bandwidth), and algorithms (e.g. averaging).

X.5 Test Requirement

This subclause defines the pass/fail criteria for the equipment under test. See subclause 4.3 Interpretation of measurement results.

6 Transmitter

6.1 General

Unless otherwise stated, all tests in this clause shall be performed at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a TX amplifier, a diplexer, a filter or the combination of such devices is used, the tests according to subclauses 4.6.2 and/or 4.6.4, depending on the device added, shall be performed to ensure that the requirements are met at test port B.

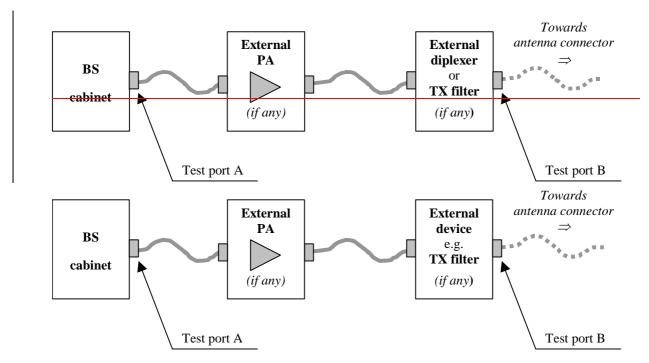


Figure 6.1: Transmitter test ports

Power levels are expressed in dBm.

--- next changed section ---

- 1) Connect both base station RF antenna ports to the measurement equipment according to figure B.6.
- 2) Set the base station to transmit Test Model 1 according to subclause 6.1.1.1 using TX diversity.
- 3) Set BS frequency.

6.7.3.4.2 Procedure

- 1) Start BS transmission at Pmax.
- 2) Measure the time alignment error between the CPICH on the main antenna port and the CPICH on the diversity antenna port.

6.7.3.5 Test Requirement

The time alignment error shall be less than $0.35\ T_{\rm c}$.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in subclause 4.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in Annex F.

7 Receiver characteristics

7.1 General

Unless otherwise stated, all tests in this clause shall be performed at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a RX amplifier, a diplexer, a filter or the combination of such devices is used, the tests according to subclauses 4.6.2 and/or 4.6.4, depending on the device added, shall be performed to ensure that the requirements are met at test port B.

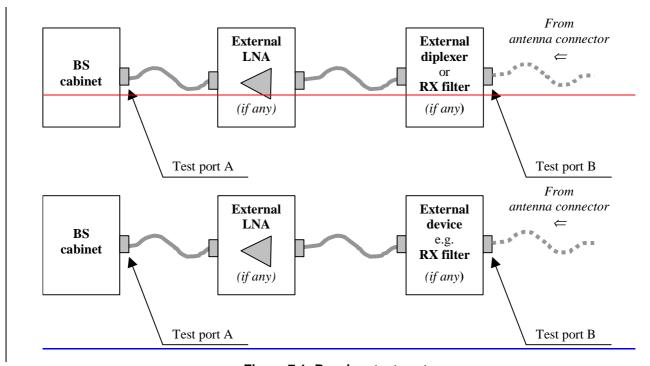


Figure 7.1: Receiver test ports

3GPP TSG RAN WG4 (Radio) Meeting #26

R4-030150

Madrid, Spain 17 - 22 February, 2003

CHANGE REQUEST											CR-Form-v7		
X	25	.142	CR	163	:	≋ rev		Ж	Curren	it vers	ion:	4.7.0	¥
For <u>HELP</u> on	using i	this for	m, see	bottom (of this	page or	look	at the	e pop-u	p text	over	the ₩ sy	mbols.
Proposed change	affec	<i>ts:</i> (JICC ap	ps# <mark> </mark>		ME	Rad	dio A	ccess N	letwor	rk X	Core N	etwork
Title:	€ Co	rrectio	n to exte	ernal equ	uipmei	nt defini	tion						
Source:	€ RA	N WG	4										
Work item code: 3	€ TE	l4							Da	te: ೫	05/	03/2003	
Category: 3	€ F								Releas	se: Ж	Rel	-4	
	Deta	F (core A (core B (add C (fun D (edi iled exp	rection) respond dition of t ctional n torial mo olanatior	wing cate s to a cor feature), nodification dification is of the a R 21.900	rection on of fe) above o	in an ea		elease	2 P) R9 R9 R9 R9 R6	one of 96 97 98 99 el-4 el-5 el-6	(GSM (Rele (Rele (Rele (Rele (Rele	llowing re 1 Phase 2 ase 1996 ase 1997 ase 1998 ase 1999 ase 4) ase 5) ase 6))))
Reason for chang	ie: ૠ	A an poss	d B. Th	e actual ernal de	definit vices l	tion " an but the f	y exte	ernal s limi	appara it extern	tus " a al dev	alreac /ices	nent and ly covers to extern n of test	al
Summary of chan	ge: ૠ			n of exte ernal equ								er to incluand 7.1.	ude all
Consequences if not approved:	ж			ns are no to incon					nents m	ay be	teste	ed at the	incorrect
		This	change	does not as it spe	ot impa	act Node						B – UE	
Clauses affected:	Φ.	6.1;	7 1										
Other specs affected:	# #	Y N X X	Other	core spe		tions	¥						
Other comments:	¥		CR is liı	Specifications Specifications Red to (CR 18								25.141.

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 \(\mathcal{H} \) 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.

6 Transmitter characteristics

6.1 General

Unless otherwise stated, all measurements shall be made at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a TX amplifier, a filter or the combination of such devices is used, the tests according to subclauses 5.14.4 shall be performed to ensure that the requirements are met at test port B.

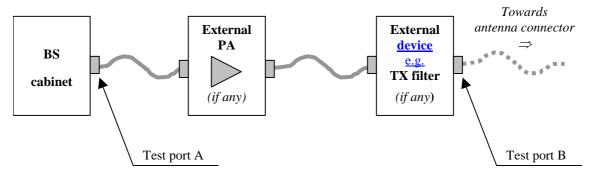


Figure 6.0: Transmitter test ports

--- next changed section ---

7 Receiver characteristics

7.1 General

All tests unless otherwise stated in this subclause shall be conducted on Base Station Systems fitted with a full complement of Transceivers for the configuration. The manufacturer shall provide appropriate logical or physical test access to perform all tests in this subclause. Measurements shall include any RX multicoupler.

The tests in clause 7 assume that the receiver is not equipped with diversity. Unless otherwise stated, the tests for receiver with diversity shall be performed by applying the specified signals to one of the receiver inputs, and terminating or disabling the other(s). The tests and requirements are otherwise unchanged.

In all the relevant subclauses in this clause all Bit Error Ratio (BER), Residual BER (RBER) and Frame Erasure Ratio (FER) measurements shall be carried out according to the general rules for statistical testing.

Unless detailed the receiver characteristic are specified at each antenna connector of the BS.

Unless otherwise stated, all tests in this clause shall be performed at the BS antenna connector (test port A). If any external apparatus such as a RX amplifier, a filter or the combination of such devices is used, the tests according to subclause 5.14.4 shall be performed to ensure that the requirements are met at test port B.

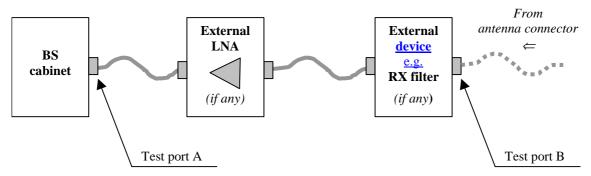


Figure 7.1: Receiver test ports

3GPP TSG RAN WG4 (Radio) Meeting #26

R4-030151

Madrid, Spain 17 - 22 February, 2003

CHANGE REQUEST												CR	-Form-v7	
X	25.	142	CR	164	жr	ev		Ж	Currer	nt vers	sion:	5.3.0	æ	
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the % symbols.												ols.		
Proposed change	affec	<i>ts:</i> (JICC ap	ops# 🗾	l N	ИЕ <mark>—</mark>	Rad	dio Ad	ccess N	letwo	rk X	Core N	letw	ork
Title: #	Correction to external equipment definition													
Source: #	RA	RAN WG4												
Work item code: ₩	TEI	4							Da	ate: ೫	05/	03/2003		
Category: # A 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: # Rel-5 Use one of the following release) 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)										?) 5) 7) 8)	es:			
Reason for change: Sections 6.1 and 7.1 in 25.142 are defining the external equipment and test A and B. The actual definition " any external apparatus " already covers all possible external devices but the figures limit external devices to external amplifiers and filters only. This leads to an ambiguous definition of test ports														
Summary of chang	ge: ૠ		The definition of external equipment is specified generic in order to including types of external equipment as "external device" in figures 6.0 and 7.1.									ude	all	
Consequences if not approved:	\mathfrak{H}			ns are no to incons				uirem	nents m	nay be	e teste	ed at the	inco	rrect
		This	change	pact ana does no as it spe	t impact							-B – UE		
Clauses affected:	Ж	6.1; 7	7.1											
Other specs affected:	*	Y N X X X	Test s	core spe pecificati Specifica	ons	ıs	¥							
Other comments:	\mathfrak{H}			nked to C CRs in otl									to 25	5.141.

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 \(\mathcal{H} \) 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.

6 Transmitter characteristics

6.1 General

Unless otherwise stated, all measurements shall be made at the BS antenna connector (test port A) with a full complement of transceivers for the configuration in normal operating conditions. If any external apparatus such as a TX amplifier, a filter or the combination of such devices is used, the tests according to subclauses 5.14.4 shall be performed to ensure that the requirements are met at test port B.

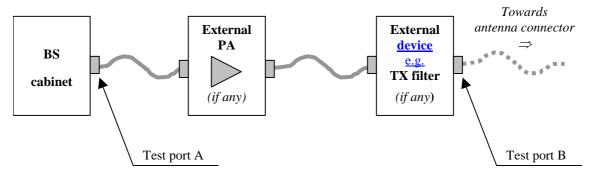


Figure 6.1: Transmitter test ports

--- next changed section ---

7 Receiver characteristics

7.1 General

All tests unless otherwise stated in this subclause shall be conducted on Base Station Systems fitted with a full complement of Transceivers for the configuration. The manufacturer shall provide appropriate logical or physical test access to perform all tests in this subclause. Measurements shall include any RX multicoupler.

The tests in clause 7 assume that the receiver is not equipped with diversity. Unless otherwise stated,, the tests for receiver with diversity shall may be performed by applying the specified signals to one of the receiver inputs, and terminating or disabling the other(s). The tests and requirements are otherwise unchanged.

In all the relevant subclauses in this clause all Bit Error Ratio (BER), Residual BER (RBER) and Frame Erasure Ratio (FER) measurements shall be carried out according to the general rules for statistical testing.

Unless detailed the receiver characteristic are specified at each antenna connector of the BS.

Unless otherwise stated, all tests in this clause shall be performed at the BS antenna connector (test port A). If any external apparatus such as a RX amplifier, a filter or the combination of such devices is used, the tests according to subclauses 5.14.4 shall be performed to ensure that the requirements are met at test port B.

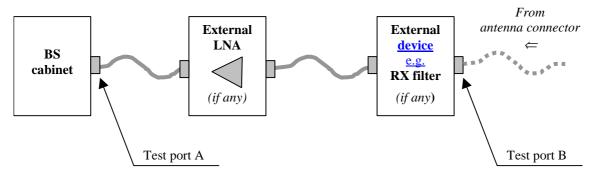


Figure 7.1: Receiver test ports