TSG RAN Meeting #23 **RP-040038**
Phoenix, US, 10 - 12 March 2004

Title **CRs (Rel-5 and Rel-6 Category A) to TR25.942, TR25.945, TS34.124 & TR34.926 for "Correction of references to ITU recommendations"**
Source **TSG RAN WG4**
Agenda Item **7.5.5**

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-040037	25.942	012		F	Rel-5	5.1.0	Correction of references to ITU recommendations	TEI5
R4-040041	25.942	013		A	Rel-6	6.1.0	Correction of references to ITU recommendations	TEI5
R4-040038	25.945	002		F	Rel-5	5.0.0	Correction of references to ITU recommendations	TEI5
R4-040039	34.124	015		F	Rel-5	5.3.0	Correction of references to ITU recommendations	TEI5
R4-040040	34.926	001		F	Rel-5	5.0.0	Correction of references to ITU recommendations	TEI5

3GPP TSG RAN WG4 (Radio) Meeting #30 **R4-040037**

Munich, Germany 9 - 13 February 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.942** **CR** **012** ⌘ **rev** ⌘ Current version: **5.1.0** ⌘

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Proposed change affects: (U)SIM ☐ ISIM ☐ ME/UE ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	Correction of references to ITU recommendations
Source:	⌘	RAN WG4
Work item code:	⌘	TEI5
Date:	⌘	23/02/2004
Category:	⌘	**F**
Release:	⌘	Rel-5

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F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
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Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change:	⌘	ITU recommendation SM329 was updated and renamed. Previous versions currently referenced in the technical report are superseeded and cannot longer used as reference.
Summary of change:	⌘	References to SM329 are corrected.
Consequences if not approved:	⌘	References will remain incorrect. **Isolated impact analysis:** The CR has no impact on Node-B or UE implementation as it corrects external references only.

Clauses affected:	⌘	2, 14.1.2.2.5, 14.2.1

Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	Equivalent CRs in other Releases: CR013 cat. A to 25.942 v6.1.0

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[1] 3GPP TS 25.101: "Universal Mobile Telecommunications System (UMTS); UE Radio Transmission and Reception (FDD)".

[2] 3GPP TS 25.102: "Universal Mobile Telecommunications System (UMTS); UTRA (UE) TDD; Radio Transmission and Reception".

[3] 3GPP TS 25.104: "Universal Mobile Telecommunications System (UMTS); UTRA (BS) FDD; Radio transmission and Reception".

[4] 3GPP TS 25.105:"Universal Mobile Telecommunications System (UMTS); UTRA (BS) TDD; Radio transmission and Reception".

[5] Tdoc SMG2 UMTS L1 5/98: "UTRA system simulations for the multi-operator case", Oslo, Norway, 1-2 April 1998.

[6] Tdoc SMG2 UMTS L1 100, 101/98 (1998): "Adjacent Channel Interference in UTRA system, revision 1".

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[8] Tdoc SMG2 UMTS L1 694/98: "The relationship between downlink ACS and uplink ACP in UTRA system", Espoo Finland, 14-18 December 1998.

[9] ETSI TR 101 112 (V3.1.0): "Universal Mobile Telecommunications System (UMTS); Selection procedures for the choice of radio transmission technologies of the UMTS (UMTS 30.03 version 3.1.0)".

[10] Pizarrosa, M., Jimenez, J. (eds.): "Common Basis for Evaluation of ATDMA and CODIT System Concepts", MPLA/TDE/SIG5/DS/P/001/b1, September 95.

[11] Concept Group Alpha - Wideband Direct-Sequence CDMA, Evaluation document (Draft 1.0), Part 3: Detailed simulation results and parameters, ETSI SMG2#23, Bad Salzdetfurth, Germany, October 1-3, 1997.

[12] TSG RAN WG4 TR 25.942 V 2.0.0 (1999) "RF System Scenarios"

[13] TSG RAN WG4#3 Tdoc 96/99: "TDD/FDD co-existence - summary of results", Siemens

[14] TSG RAN WG4#6 Tdoc 419/99: "Simulation results on FDD/TDD co-existence including real receive filter and C/I based power control", Siemens.

[15] TSG RAN WG4#7 Tdoc 568/99: "Interference of FDD MS (macro) to TDD (micro)", Siemens.

[16] ETSI TR 101 112 (V3.2.0): "Universal Mobile Telecommunications System (UMTS); Selection procedures for the choice of radio transmission technologies of the UMTS".

[17] Evaluation Report for ETSI UMTS Terrestrial Radio Access (UTRA) ITU-R RTT Candidate (September 1998), Attachment 5.

[18] J.E. Berg: "A Recursive Model For Street Microcell Path Loss Calculations", International Symposium on Personal Indoor and Mobile indoor Communications (PIMRC) '95, p 140 - 143, Toronto.

[19] SMG2 UMTS L1 Tdoc 679/98: "Coupling Loss analysis for UTRA - additional results", Siemens.

[20] TSG RAN WG4#8 Tdoc 653/99: "Summary of results on FDD/TDD and TDD/TDD co-existence", Siemens.

[21] Siemens: "UTRA TDD Link Level and System Level Simulation Results for ITU Submission", SMG2 UMTS-ITU, Tdoc S298W61 (September 1998).

[22] TSG R4#6(99) 364: "ACIR simulation results for TDD mode: speech in UpLink and in DownLink" (July 1999).

[23] ETSI STC SMG2 UMTS L1#9, Tdoc 679/98:"Coupling Loss Analysis for UTRA - additional results".

[24] ITU-R Recommendation P.452-8: "Prediction procedure for the evaluation of microwave interference between stations on the surface of the Earth at frequencies above about 0,7 GHz".

[25] TSGR4#8(99)623: "Call admission criterion in UpLink for TDD mode".

[26] SMG2 UMTS-ITU, Tdoc S298W61: "UTRA TDD Link Level and System Level Simulation Results for ITU Submission" (September 1998).

[27] TS 25.942 V0.1.3 (1999-05), par.8.1: "RF System Scenarios", Alcatel, Ericsson, Nokia, NTT DoCoMo and Motorola: UL and DL ACIR simulations results.

[28] 3GPP TAG RAN WG4 Tdoc 631/99: "Antenna-to-Antenna Isolation Measurements".

[29] ETSI/STC SMG2 Tdoc 48/93: "Practical Measurement of Antenna Coupling Loss".

[30] Tdoc R4-99677: "Comments on Modulation Accuracy and Code Domain Power," Motorola.

[31] UMTS 30.03

[32] ITU-R Recommendation SM.329: "Unwanted emissions in the spurious domain".

3 Definitions, symbols and abbreviations

--- next changed section ---

14.1.2.2.5 Frequency range

In ITU-R specification SM329 [32], the frequency limit between out of band emissions and spurious emissions is defined as 250 % of the necessary bandwidth. Applying this to UMTS with a 5 MHz necessary bandwidth lead to 12,5 MHz offset from the carrier frequency.

For low output power base station, the level at offset below 12,5 MHz (defined by the spectrum mask) are lower than the level of spurious emissions Category A as defined in ITU-R Recommendation SM.329 ~~7~~ [32].

To ensure that the transition between spectrum mask specification and spurious emissions specification keeps the requirements monotonous, it was decided to extend this 12,5 MHz offset up to the edge of the UMTS band.

As a result, the level of unwanted emissions at offset greater than 12,5 MHz from the carrier is always lower than or equal to the level of Category A spurious emissions (-13 dBm/1 MHz).

14.2 Spurious Emissions

14.2.1 Mandatory requirements

Two categories of spurious emissions are defined:

- Category A (clause 6.6.3.1.1) is directly transposed from ITU-R Recommendation SM.329~~-7~~ [32];
- Category B (clause 6.6.3.1.2): the levels are derived from ITU-R Recommendation SM.329~~-7~~ [32] but the transition bandwidth definitions were modified to allow more protection outside the UMTS band as explained below.

ITU-R Recommendation SM.329~~-7~~ [32] Category B would allow a transition bandwidth from 12,5 MHz (250 % necessary bandwidth NB) to 60 MHz (12 x NB) where the Category A level is still applicable. This transition bandwidth was reduced in UMTS spurious emissions specification to ensure that the Category B value is reached at offset greater than 10MHz from the edges of the bandwidth allocated for UMTS services. This will ease co-existence between adjacent services.

14.2.2 Regional requirements

--- next changed section ---

3GPP TSG RAN WG4 (Radio) Meeting #30 **R4-040041**

Munich, Germany 9 - 13 February 2004

CR-Form-v7

CHANGE REQUEST

⌘ **25.942** **CR** **013** ⌘ **rev** ⌘ Current version: **6.1.0** ⌘

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Proposed change affects: (U)SIM ☐ ISIM ☐ ME/UE ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	Correction of references to ITU recommendations
Source:	⌘	RAN WG4
Work item code:	⌘	TEI5
Date:	⌘	23/02/2004
Category:	⌘	**A**
Release:	⌘	Rel-6

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Clauses affected:	⌘	2, 14.1.2.2.5, 14.2.1

Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	Equivalent CRs in other Releases: CR012 cat. F to 25.942 v5.1.0

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14.2.2 Regional requirements

--- next changed section ---

3GPP TSG RAN WG4 (Radio) Meeting #30 **R4-040038**

Munich, Germany 9 - 13 February 2004

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CHANGE REQUEST

⌘ **25.945** **CR** **002** ⌘ **rev** ⌘ Current version: **5.0.0** ⌘

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Clauses affected:	⌘	2, 5.2.6.3, 6.2.6.3.1.2, 6.2.6.3.1.2.1, G.1.3.1.2

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Other comments: ⌘

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[1] 3GPP TS 25.102: "UE Radio transmission and reception (TDD)".

[3] 3GPP TS 25.105: "BS Radio transmission and reception (TDD)".

[4] 3GPP TS 25.123: "RF parameters in support of RRM (TDD)".

[5] 3GPP TS 25.142: "Base Station conformance testing (TDD)".

[6] 3GPP TS 25.113: "Base Station EMC".

[7] 3GPP TR 25.942: "RF System scenarios".

[8] 3GPP TS 25.922: "Radio Resource Management Strategies".

[9] 3GPP TS 25.331: "Radio Resource Control (RRC) Protocol Specification".

[10] 3GPP TR 25.928: "1.28 Mcps UTRA TDD Physical Layer".

[11] 3GPP TS 25.214: "Physical layer procedures (FDD)".

[12] 3GPP TS 45.010: "Radio subsystem synchronization".

[13] 3GPP TS 25.225: "Physical layer; Measurements (TDD)".

[14] 3GPP TS 25.215: "Physical layer; Measurements (FDD)".

[15] 3GPP TS 25.306: "UE Radio Access capabilities".

[16] ITU-R recommendation SM.329~~-8~~: "~~Spurious emissions~~Unwanted emissions in the spurious domain".

[17] 3GPP RAN WG4 meeting #6, tdoc R4-990393: " FDD UE Blocking Requirement".

[18] 3GPP RAN WG4 meeting#7, tdoc R4-990457: " Blocking characteristics, Spurious response, Intermodulation characteristics for UE TDD".

[19] 3GPP RAN WG4 meeting#6, tdoc R4-990431: " Revised FDD UE Blocking Requirement".

3 Abbreviations

--- next changed section ---

5.2.6.3 Spurious emissions

Spurious emissions are emissions which are caused by unwanted transmitter effects such as harmonics emission, parasitic emission, intermodulation products and frequency conversion products, but exclude out of band emissions.

The frequency boundary and the detailed transitions of the limits between the requirement for out band emissions and spectrum emissions are based on ITU-R Recommendations SM.329~~-8~~ [16].

5.2.6.3.1 Minimum Requirement

--- next changed section ---

6.2.6.3.1.2 Spurious emissions (Category B)

The following requirements shall be met in cases where Category B limits for spurious emissions, as defined in ITU-R Recommendation SM.329~~-7~~[16], are applied.

6.2.6.3.1.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table 6.8 BS Mandatory spurious emissions limits, Category B

Band	Maximum Level	Measurement Bandwidth	Note
9kHz – 150kHz	- 36 dBm	1 kHz	~~Bandwidth as in ITU SM.329-7, s4.1~~Note 1
150kHz – 30MHz	- 36 dBm	10 kHz	~~Bandwidth as in ITU SM.329-7, s4.1~~Note 1
30MHz – 1GHz	- 36 dBm	100 kHz	~~Bandwidth as in ITU SM.329-7, s4.1~~Note 1
1GHz ↔ Fc1 – 19.2 MHz or Fl - 3.2 MHz *whichever is the higher*	- 30 dBm	1 MHz	~~Bandwidth as in ITU SM.329-7, s4.1~~Note 1
Fc1 - 19.2 MHz or Fl - 3.2MHz *whichever is the higher* ↔ Fc1 - 16 MHz or Fl - 3.2 MHz *whichever is the higher*	- 25 dBm	1 MHz	~~Specification in accordance with ITU-R SM.329-7, s4.1~~Note 2
Fc1 - 16 MHz or Fl - 3.2 MHz *whichever is the higher* ↔ Fc2 + 16 MHz or Fu + 3.2 MHz *whichever is the lower*	- 15 dBm	1 MHz	~~Specification in accordance with ITU-R SM.329-7, s4.1~~Note 2
Fc2 + 16 MHz or Fu + 3.2 MHz *whichever is the lower* ↔ Fc2 + 19.2MHz or Fu + 3.2MHz *whichever is the lower*	- 25 dBm	1 MHz	~~Specification in accordance with ITU-R SM.329-7, s4.1~~Note 2
Fc2 + 19.2 MHz or Fu + 3.2 MHz *whichever is the lower* ↔ 12,5 GHz	- 30 dBm	1 MHz	~~Bandwidth as in ITU-R SM.329-7, s4.1. Upper frequency as in ITU-R SM.329-7, s2.6~~Note 3
NOTE 1: Bandwidth as in ITU-R SM.329 [16], s4.1 NOTE 2: Specification in accordance with ITU-R SM.329 [16], s4.3 and Annex 7 NOTE 3: Bandwidth as in ITU-R SM.329 [16], s4.3 and Annex 7. Upper frequency as in ITU-R SM.329 [1], s2.5 table 1			

Fc1: Center frequency of emission of the first carrier transmitted by the BS

Fc2: Center frequency of emission of the last carrier transmitted by the BS

Fl: Lower frequency of the band in which TDD operates

Fu: Upper frequency of the band in which TDD operates

6.2.6.3.2 Co-existence with GSM 900

--- next changed section ---

G.1.3.1.2 Test method

a) Common with 3.84 Mcps TDD option.

b) The BS shall transmit with maximum power declared by the manufacturer with all transmitters active. Set the base station to transmit a signal as stated in Table 8.3.2-1 of TR25.945.

c) The received power shall be measured over the frequency range 30 MHz to 12.75 GHz, excluding 4MHz below the first carrier frequency to 4 MHz above the last carrier frequency used. The measurement bandwidth shall be 100 kHz between 30 MHz and 1 GHz and 1 MHz above 1 GHz as given in ITU-R SM.329~~-7~~[16]. The video bandwidth shall be approximately three times the resolution bandwidth. If this video bandwidth is not available on the measuring receiver, it shall be the maximum available and at least 1 MHz. At each frequency at which a component is detected, the maximum effective radiated power of that component shall be determined, as described in step a).

G.1.3.1.2.1 Explanation difference

--- next changed section ---

CR-Form-v7

CHANGE REQUEST

⌘ **34.124** **CR** **015** ⌘ **rev** ⌘ Current version: **5.3.0** ⌘

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Proposed change affects: (U)SIM ☐ ISIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction of references to ITU recommendations
Source:	⌘	RAN WG4
Work item code:	⌘	TEI5
Date:	⌘	23/02/2004
Category:	⌘	**F**
Release:	⌘	Rel-5

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.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	ITU recommendation SM329 was updated and renamed. Previous versions currently referenced in the specification are superseeded and cannot longer used as reference.
Summary of change:	⌘	References to SM329 are corrected.
Consequences if not approved:	⌘	References will remain incorrect. **Isolated impact analysis:** The CR has no impact on Node-B or UE implementation as it corrects external references only.

Clauses affected:	⌘	2, 3.1, 7.1, 8.2.2, 8.2.3,

Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

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:

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.

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- for a specific reference, subsequent revisions do not apply;
- for a non-specific reference, subsequent revisions do apply. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document.*

[1] 3GPP TS 25.113: "3rd Generation Partnership Project; Technical Specification Group (TSG) RAN WG4; Base station EMC".

[2] 3GPP TS 34.121: "3rd Generation Partnership Project; Technical Specification Group (TSG) T WG1; Terminal Conformance Specification; Radio transmission and reception (FDD)".

[3] 3GPP TS 34.122: "3rd Generation Partnership Project; Technical Specification Group (TSG) T WG1; Terminal Conformance Specification; Radio transmission and reception (TDD)".

[4] IEC 61000-6-1 (1997): "Electromagnetic compatibility (EMC) – Part 6: Generic standards - Section 1: Immunity standard for residential, commercial and light-industrial environments".

[5] IEC 61000-6-3 (1996): "Electromagnetic compatibility (EMC) – Part 6: Generic standards - Section 3: Emission standard for residential, commercial and light-industrial environments.

[6] ISO 7637-1 (1990): "Road vehicles - Electrical disturbance by conduction and coupling - Part 1: Passenger cars and light commercial vehicles with nominal 12 V supply voltage - Electrical transient conduction along supply lines only".

[7] ISO 7637-2 (1990): "Road vehicles - Electrical disturbance by conduction and coupling - Part 2: Commercial vehicles with nominal 24 V supply voltage - Electrical transient conduction along supply lines only".

[8] 3GPP TR 25.990; 3rd Generation Partnership Project; Technical Specification Group Radio Access Network (RAN); Vocabulary
3GPP TR 21 905: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Vocabulary for 3GPP specifications".

[9] IEC 60050(161): "International Electrotechnical Vocabulary - Chapter 161: Electromagnetic compatibility".

[10] 3GPP TS 34.108: "3rd Generation Partnership Project (3GPP); Technical Specification Group (TSG) Terminal; Common test environments for user equipment (UE). Conformance Testing".

[11] ITU-R Recommendation SM.329~~-9~~: "~~Spurious emissions~~Unwanted emissions in the spurious domain".

[12] 3GPP TS 25.101: "3rd Generation Partnership Project (3GPP); Technical Specification Group (TSG) RAN WG4; UTRA (UE) FDD; Radio transmission and Reception".

[13] 3GPP TS 25.102: "3rd Generation Partnership Project (3GPP); Technical Specification Group (TSG) RAN WG4; UTRA (UE) TDD; Radio transmission and Reception".

[14] IEC CISPR publication 22;: "Information technology equipment; Radio disturbance characteristics – Limits and methods of measurement".

[15] 3GPP TS 34.109: "3rd Generation Partnership Project (3GPP); Technical Specification Group (TSG) Terminal. Terminal Logical Test Interface; Special conformance testing functions".

[16] IEC CISPR publication 16-1; "Specification for radio disturbance and immunity measuring apparatus and methods".

[17] IEC 61000-3-2; (2000): "Electromagnetic compatibility; Part 3 - Limits; section 2 – Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)"; Am.1 (1997-09)".

[18] IEC 61000-3-3; (19952): "Electromagnetic compatibility; Part 3 - Limits; section 2 – Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current ≤ 16 A"

[19] IEC 61000-4-2: "Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – section 2: Electrostatic discharge immunity test – Basic EMC publication".

[20] IEC 61000-4-3: "Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – section 3: Radiated, radio-frequency electromagnetic field immunity test".

[21] IEC 61000-4-4: "Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – section 4: Electrical fast transient/burst immunity test – Basic EMC publication".

[22] IEC 61000-4-5: "Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – section 5: Surge immunity test".

[23] IEC 61000-4-6: "Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – section 6: immunity to conducted disturbances induced by radio frequency fields".

[24] IEC 61000-4-11: "Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – section 11:Voltage dips, short interruptions, and voltage variations immunity test".

[25] ETR 027 (1991): "Radio Equipment and Systems (RES); Methods of measurement for private mobile radio equipment".

[26] ITU-T Recommendation P.64: "Telephone transmission quality, Telephone installations, Local line networks, Objective electro-acoustical measurements. Determination of sensitivity/frequency characteristics of local telephone systems".

[27] ITU-T Recommendation P.76: "Telephone transmission quality, Measurements related to speech loudness, Determination of loudness ratings; Fundamental principles, Annex A".

[28] ITU-R Recommendation SM.1539 (2001): "Variation of the boundary between the out-of-band and spurious domains required for the application of Recommendations ITU-R SM.1541 and ITU-R SM.329".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply.

Ancillary equipment: Equipment (apparatus), used in connection with a user equipment (UE) is considered as an ancillary equipment (apparatus) if:

- the equipment is intended for use in conjunction with a UE to provide additional operational and/or control features to the UE, (e.g. to extend control to another position or location); and
- the equipment cannot be used on a stand alone basis to provide user functions independently of a UE; and
- the UE to which it is connected, is capable of providing some intended operation such as transmitting and/or receiving without the ancillary equipment (i.e. it is not a sub-unit of the main equipment essential to the main equipment basic functions).

BLER (BLock Error Ratio): BLER is block error ratio. The BLER calculation shall be based on evaluating the CRC on each transport block .

Camped on a cell: The UE is in idle mode and has completed the cell selection/reselection process and has chosen a cell. The UE monitors system information and (in most cases) paging information. Note that the services may be limited, and that the PLMN may not be aware of the existence of the UE within the chosen cell.

Continuous phenomena (continuous disturbance): Electromagnetic disturbance, the effects of which on a particular device or equipment cannot be resolved into a succession of distinct effects (IEC 60050-161 [9]).

Data application ancillary: ancillary which provides send and/or receive data access to UMTS services via UE

Enclosure port: physical boundary of the apparatus through which electromagnetic fields may radiate or impinge. In the case of integral antenna equipment, this port is inseparable from the antenna port.

End- User data: Manufacturer defined data patterns for data transfer testing. Represents EUT´s typical user application (eg. photo, video, textfile, message) in its characteristics.

Idle mode: Idle mode is the state of User Equipment (UE) when switched on but with no Radio Resource Control (RRC) connection.

Integral antenna: antenna designed to be connected directly to the equipment with or without the use of an external connector and considered to be part of the equipment. An integral antenna may be fitted internally or externally to the equipment.

Average power: The average transmitter output power obtained over any specified time interval, including periods with no transmission, when the transmit time slots are at the maximum power setting.

Necessary bandwidth: For a given class of emission, the width of the frequency band which is just sufficient to ensure the transmission of information at the rate and with the quality required under specified conditions.

Out of band emissions: Emission on a frequency or frequencies immediately outside the necessary bandwidth, which results from, the modulation process, but excluding spurious emissions.

NOTE: Any unwanted emission which falls at frequencies separated from the centre frequency of the emission by less than 250% of the necessary bandwidth of the emission will generally be considered out-of-band emission.

Port: particular interface, of the specified equipment (apparatus), with the electromagnetic environment. For example, any connection point on an equipment intended for connection of cables to or from that equipment is considered as a port (see figure 1).

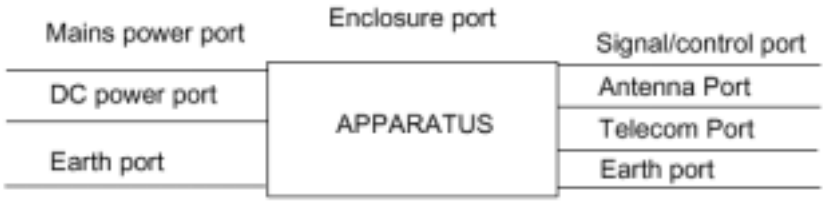

Figure 1: Examples of ports

Spurious emission from ITU-R SM 329~~-9~~ [11]: Emission on a frequency, or frequencies, which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products but exclude out-of-band emissions.

~~NOTE: For the purpose of this Recommendation all emissions, including intermodulation products, conversion products and parasitic emissions, which fall at frequencies separated from the centre frequency of the emission by 250% or more of the necessary bandwidth of the emission will generally be considered spurious emissions.~~

Telecommunication port: ports which are intended to be connected to telecommunication networks (e.g. public switched telecommunication networks, integrated services digital networks), local area networks (e.g. Ethernet, Token Ring) and similar networks (see CISPR 22 [14]).

Transient phenomena: Pertaining to or designating a phenomena or a quantity which varies between two consecutive steady states during a time interval short compared with the time-scale of interest (IEC 60050-161 [9])

Traffic mode: is the state of User Equipment (UE) when switched on and with Radio Resource Control (RRC) connection established.

Universal mobile telecommunications system (UMTS): The telecommunications system, incorporating mobile cellular and other functionality, that is the subject of specifications produced by 3GPP

User equipment (UE): is a "Mobile Station" (MS) which is an entity capable of accessing a set of UMTS services via one or more radio interfaces. This entity may be stationary or in motion within the UMTS service area while accessing the UMTS services, and may simultaneously serve one or more users.

3.2 Abbreviations

--- next changed section ---

7.1 Emission

Table 1: Emission applicability

		Equipment test requirement				
Phenomenon	**Application**	**Equipment connected to fixed AC or DC power installations**	**Equipment connected to vehicular DC supplies**	**Equipment powered by integral battery**	**Reference subclause in the present document**	**Reference Standard**
Radiated emission	Enclosure	applicable	applicable	applicable	8.2	ITU-R SM.329~~-9~~ [11] TS25.101 [12]
Conducted emission	DC power input/output port	applicable	applicable	not applicable	8.3	CISPR 22 [14], CISPR 16-1 [16]
Conducted emission	AC mains input/output port	applicable	not applicable	not applicable	8.4	CISPR 22 [14],
Harmonic current emissions	AC mains input port	applicable	not applicable	not applicable	8.5	IEC 61000-3-2 [17]
Voltage fluctuations and flicker	AC mains input port	applicable	not applicable	not applicable	8.6	IEC 61000-3-3 [18]

--- next changed section ---

8.2 Radiated Emission

This test is applicable to radio communications equipment and ancillary equipment.

This test shall be performed on the radio equipment and/or a representative configuration of the ancillary equipment.

8.2.1 Definition

This test assesses the ability of radio equipment and ancillary equipment to limit unwanted emissions from the enclosure port.

8.2.2 Test method

Whenever possible the site shall be a fully anechoic chamber (FAC) simulating the free-space conditions. EUT shall be placed on a non-conducting support. Average power of any spurious components shall be detected by the test antenna and measuring receiver (e.g. a spectrum analyser).

At each frequency at which a component is detected, the EUT shall be rotated to obtain maximum response, and the effective radiated power (e.r.p.) of that component determined by a substitution measurement, which shall be the reference method. The measurement shall be repeated with the test antenna in the orthogonal polarization plane.

NOTE: Effective radiated power e.r.p. refers to the radiation of a half wave tuned dipole instead of an isotropic antenna. There is a constant difference of 2.15 dB between e.i.r.p. and e.r.p.

e.r.p. (dBm) = e.i.r.p. (dBm) – 2.15 Ref. ITU-R SM. 329~~-9~~ ANNEX 1 [11]

Measurements are made with a tuned dipole antenna or a reference antenna with a known gain referenced to an isotropic antenna.

If a different test site or method is used, this shall be stated in the test report. The results shall be converted to the reference method values and the validity of the conversion shall be demonstrated.

8.2.3 Limits

The references for these requirements are ITU-R SM 329~~-9~~ [11], SM.1539 [28] and TS 25.101 subclauses 6.6.3.1. and 7.9.1. [12] and TS 25.102 subclauses 6.6.3 and 7.9 [13] respectively.

8.2.3.1 FDD and 3,84 Mcps TDD option

The frequency boundary and reference bandwidths for the detailed transitions of the limits between the requirements for out of band emissions and spurious emissions are based on ITU-R SM 329~~-9~~ [11].

These requirements are only applicable for frequencies in the spurious domain.

Table 3: Radiated Spurious emissions requirements

Frequency	Minimum requirement (e.r.p.)/ Reference Bandwidth Idle mode	Minimum requirement (e.r.p.) / Reference Bandwidth Traffic mode
30 MHz ≤ f < 1000 MHz	-57dBm / 100 kHz	-36 dBm / 100 kHz
1 GHz ≤ f < 12.75 GHz	-47dBm / 1MHz	-30 dBm / 1 MHz
fc – 12.5 MHz < f < fc + 12.5 MHz	Not defined	Not defined

NOTE: fc is the centre frequency of the TCH. The frequency range fc ± 12.5 MHz are covered by the "Out of Band" emission requirements of TS 34.121[2] and TS 34.122 [3].

8.2.3.2 1,28 Mcps TDD option

The frequency boundary and reference bandwidths for the detailed transitions of the limits between the requirements for out of band emissions and spurious emissions are based on ITU-R SM 329~~-9~~ [11].

These requirements are only applicable for frequencies, which are greater than 4 MHz away from the UE centre carrier frequency

Table 3.1: Radiated Spurious emissions requirements

Frequency	Minimum requirement (e.r.p.)/ Reference Bandwidth Idle mode	Minimum requirement (e.r.p.) / Reference Bandwidth Traffic mode
30 MHz ≤ f < 1000 MHz	-57dBm / 100 kHz	-36 dBm / 100 kHz
1 GHz ≤ f < 12.75 GHz fc – 4 MHz < f < fc + 4 MHz	-47dBm / 1MHz Not defined	-30 dBm / 1 MHz Not defined

NOTE: fc is the centre frequency of the TCH. The frequency range fc ± 4 MHz are covered by the "Out of Band" emission requirements of TS 34.122 [3].

8.2.4 Interpretation of the measurement results

The interpretation of the results recorded in a test report for the radiated emission measurements described in the present document shall be as follows:

- the measured value related to the corresponding limit will be used to decide whether an equipment meets the requirements of the present document;
- the value of the measurement uncertainty for the measurement of each parameter shall be included in the test report;
- the recorded value of the measurement uncertainty shall be, for each measurement, equal to or lower than the figure in table 3B.

Table 3B specifies the Maximum measurement uncertainty of the Test System. The Test System shall enable the equipment under test to be measured with an uncertainty not exceeding the specified values. All tolerances and uncertainties are absolute values, and are valid for a confidence level of 95 %, unless otherwise stated.

A confidence level of 95% is the measurement uncertainty tolerance interval for a specific measurement that contains 95% of the performance of a population of test equipment.

Table 3B: Maximum measurement uncertainty

Parameter	Uncertainty
Effective radiated RF power between 30 MHz and 180 MHz	±6 dB
Effective radiated RF power between 180 MHz and 12,75 GHz	±3 dB

NOTE: If the Test System for a test is known to have a measurement uncertainty greater than that specified in table 3B, this equipment can still be used, provided that an adjustment is made follows:

Any additional uncertainty in the Test System over and above that specified in table 3B is used to tighten the Test Requirements - making the test harder to pass. This procedure will ensure that a Test System not compliant with table 3B does not increase the probability of passing an EUT that would otherwise have failed a test if a Test System compliant with table 3B had been used.

8.3 Conducted emission DC power input/output port

3GPP TSG RAN WG4 (Radio) Meeting #30 **R4-040040**

Munich, Germany 9 - 13 February 2004

CR-Form-v7

CHANGE REQUEST

⌘ **34.926** **CR** **001** ⌘**rev** ⌘ Current version: **5.0.0** ⌘

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Proposed change affects: (U)SIM ☐ ISIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction of references to ITU recommendations
Source:	⌘	RAN WG4
Work item code:	⌘	TEI5
Date:	⌘	23/02/2004
Category:	⌘	**F**
Release:	⌘	Rel-5

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A *(corresponds to a correction in an earlier release)*
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Reason for change:	⌘	ITU recommendation SM329 was updated and renamed. Previous versions currently referenced in the technical report are superseeded and cannot longer used as reference.
Summary of change:	⌘	References to SM329 are corrected.
Consequences if not approved:	⌘	References will remain incorrect. **Isolated impact analysis:** The CR has no impact on Node-B or UE implementation as it corrects external references only.

Clauses affected:	⌘	2, 3.1

Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

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[1] IEC 61000-6-1 (1997): "Electromagnetic compatibility (EMC) – Part 6: Generic standards - Section 1: Immunity standard for residential, commercial and light-industrial environments".

[2] IEC 61000-6-3 (1996): "Electromagnetic compatibility (EMC) – Part 6: Generic standards - Section 3: Emission standard for residential, commercial and light-industrial environments.

[3] ISO 7637-1 (1990): "Road vehicles - Electrical disturbance by conduction and coupling - Part 1: Passenger cars and light commercial vehicles with nominal 12 V supply voltage - Electrical transient conduction along supply lines only".

[4] ISO 7637-2 (1990): "Road vehicles - Electrical disturbance by conduction and coupling - Part 2: Commercial vehicles with nominal 24 V supply voltage - Electrical transient conduction along supply lines only".

[5] RECOMMENDATION ITU-R SM.329~~-8 (2000)~~; "~~SPURIOUS EMISSIONS~~Unwanted emissions in the spurious domain"

[6] IEC CISPR publication 22; 3rd edition (1997-11); "Information technology equipment; Radio disturbance characteristics – Limits and methods of measurement"

[7] IEC CISPR publication 16-1; (1993); Radio disturbance and immunity measuring apparatus"; Am.1 (1997); "Specification for radio disturbance and immunity measuring apparatus and methods"

[8] IEC 61000-3-2; (1995-03); "Electromagnetic compatibility; Part 3 - Limits; section 2 – Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)"; Am.1 (1997-09)

[9] IEC 61000-3-3; (1994-12); "Electromagnetic compatibility; Part 3 - Limits; section 2 – Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current ≤ 16 A"

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[13] IEC 61000-4-5; "Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – section 5: Surge immunity test"

[14] IEC 61000-4-6; "Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – section 6: immunity to conducted disturbances induced by radio frequency fields"

[15] IEC 61000-4-11; "Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – section 11:Voltage dips, short interruptions, and voltage variations immunity test"

[16] EN 300 607 - 1; Digital cellular telecommunications system (Phase 2); Mobile Station (MS) conformance specification; Part 1: Conformance specification (GSM 11.10-1 version 4.24.0)

[17] EN 55022; "Information technology equipment; Radio disturbance characteristics – Limits and methods of measurement"

[18] ARIB STD-T57 ; "ELECTROMAGNETIC COMPATIBILITY (EMC) FOR RADIO EQUIPMENT Edition 2.0 " ARIB STANDARD

[19] RCR STD-27 ; "PERSONAL DIGITAL CELLULAR TELECOMMUNICATION SYSTEM Edition H " ARIB STANDARD

[20] FCC CFR 47 part 15; RADIO FREQUENCY DEVICES, Code of Federal Regulations Title 47, Volume 1, Parts 0 to 19

[21] CWTS TS C404; China Wireless Telecommunication Standard (CWTS); Working Group 1 (WG1); UE and BTS EMC

[22] ETSI EN 301 489; Electromagnetic compatibility and Radio Spectrum Matters /ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services;
Part 1: "Common technical requirements";
Part 7: "Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)";.
Part 8: "Specific conditions for GSM base stations";
Part 18: "Specific conditions for Terrestrial Trunked Radio (TETRA)"
Part 23: " Specific conditions for 3rd Generation Partnership project (UMTS) Base station radio and ancillary equipment
Part 24: " Specific conditions for 3rd Generation Partnership project (UMTS) for Mobile and potable (UE) radio and ancillary equipment

3 Definitions and abbreviations

3.1 Definitions

Ancillary equipment: Equipment (apparatus), used in connection with a user equipment (UE) is considered as an ancillary equipment (apparatus) if:

- the equipment is intended for use in conjunction with a UE to provide additional operational and/or control features to the UE, (e.g. to extend control to another position or location); and
- the equipment cannot be used on a stand alone basis to provide user functions independently of a UE; and
- the UE to which it is connected, is capable of providing some intended operation such as transmitting and/or receiving without the ancillary equipment (i.e. it is not a sub-unit of the main equipment essential to the main equipment basic functions).

Idle mode: Idle mode is the state of User Equipment (UE) when switched on but with no Radio Resource Control (RRC) connection.

Port: particular interface, of the specified equipment (apparatus), with the electromagnetic environment. For example, any connection point on an equipment intended for connection of cables to or from that equipment is considered as a port (see figure 1).

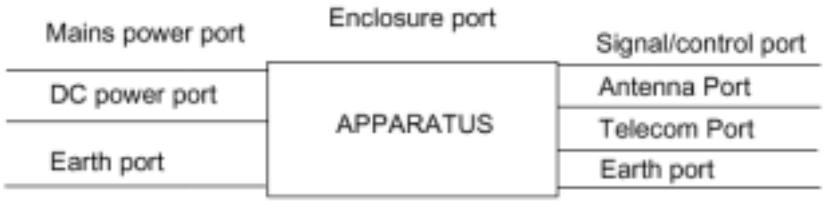

Figure 1: Examples of ports

Spurious emission from ITU-R SM 329~~-8~~ [5]

Emission on a frequency, or frequencies, which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products but exclude out-of-band emissions.

NOTE 1 – ~~For the purpose of this Recommendation all emissions, including intermodulation products, conversion products and parasitic emissions, which fall at frequencies separated from the centre frequency of the emission by 250% or more of the necessary bandwidth of the emission will generally be considered spurious emissions.~~ For multi-channel or multi-carrier transmitters/transponders, where several carriers may be transmitted simultaneously from a final output amplifier or an active antenna, the centre frequency of the emission is taken to be the centre of the –3dB bandwidth of the transmitter or transponder.

Telecommunication port

ports which are intended to be connected to telecommunication networks (e.g. public switched telecommunication networks, integrated services digital networks), local area networks (e.g. Ethernet, Token Ring) and similar networks (see CISPR 22).

Transient phenomena

Pertaining to or designating a phenomena or a quantity which varies between two consecutive steady states during a time interval short compared with the time-scale of interest (IEC 60050-161).