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Candidate Harmonized European Standard (Telecommunications series)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 4: Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (UE) covering essential requirements of article 3.2 of the R&TTE Directive

Reference

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Foreword

This Candidate Harmonized European Standard (Telecommunications series) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM), and is now submitted for the Vote phase of the ETSI standards Two-step Approval Procedure.

The present document has been produced by ETSI in response to a mandate from the European Commission issued under Council Directive 98/34/EC [14] (as amended) laying down a procedure for the provision of information in the field of technical standards and regulations.

The present document is intended to become a Harmonized Standard, the reference of which will be published in the Official Journal of the European Communities referencing the Directive 1999/5/EC [1] of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity ("the R&TTE Directive").

The present document is part 4 of a multi-part deliverable covering the Base Stations (BS), repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks, as identified below:

Part 1: "Harmonized EN for IMT-2000, introduction and common requirements, covering essential requirements of article 3.2 of the R&TTE Directive";

Part 2: "Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (UE) covering essential requirements of article 3.2 of the R&TTE Directive";

Part 3: "Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (BS) covering essential requirements of article 3.2 of the R&TTE Directive";

Part 4: "Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (UE) covering essential requirements of article 3.2 of the R&TTE Directive";

Part 5: "Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (BS and Repeaters) covering essential requirements of article 3.2 of the R&TTE Directive";

Part 6: "Harmonized EN for IMT-2000, CDMA TDD (UTRA TDD) (UE) covering essential requirements of article 3.2 of the R&TTE Directive";

Part 7: "Harmonized EN for IMT-2000, CDMA TDD (UTRA TDD) (BS) covering essential requirements of article 3.2 of the R&TTE Directive";

Part 8: "Harmonized EN for IMT-2000, TDMA Single-Carrier (UWC 136) (UE) covering essential requirements of article 3.2 of the R&TTE Directive";

Part 9: "Harmonized EN for IMT-2000, TDMA Single-Carrier (UWC 136) (BS) covering essential requirements of article 3.2 of the R&TTE Directive";

Part 10: "Harmonized EN for IMT-2000 FDMA/TDMA (DECT) covering essential requirements of article 3.2 of the R&TTE Directive";

Part 11: "Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (repeaters) covering essential requirements of article 3.2 of the R&TTE Directive".

Technical specifications relevant to Directive 1999/5/EC [1] are given in annex A.

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	24 months after doa

Introduction

The present document is part of a set of standards designed to fit in a modular structure to cover all radio and telecommunications terminal equipment under the R&TTE Directive [1]. Each standard is a module in the structure. The modular structure is shown in figure 1.

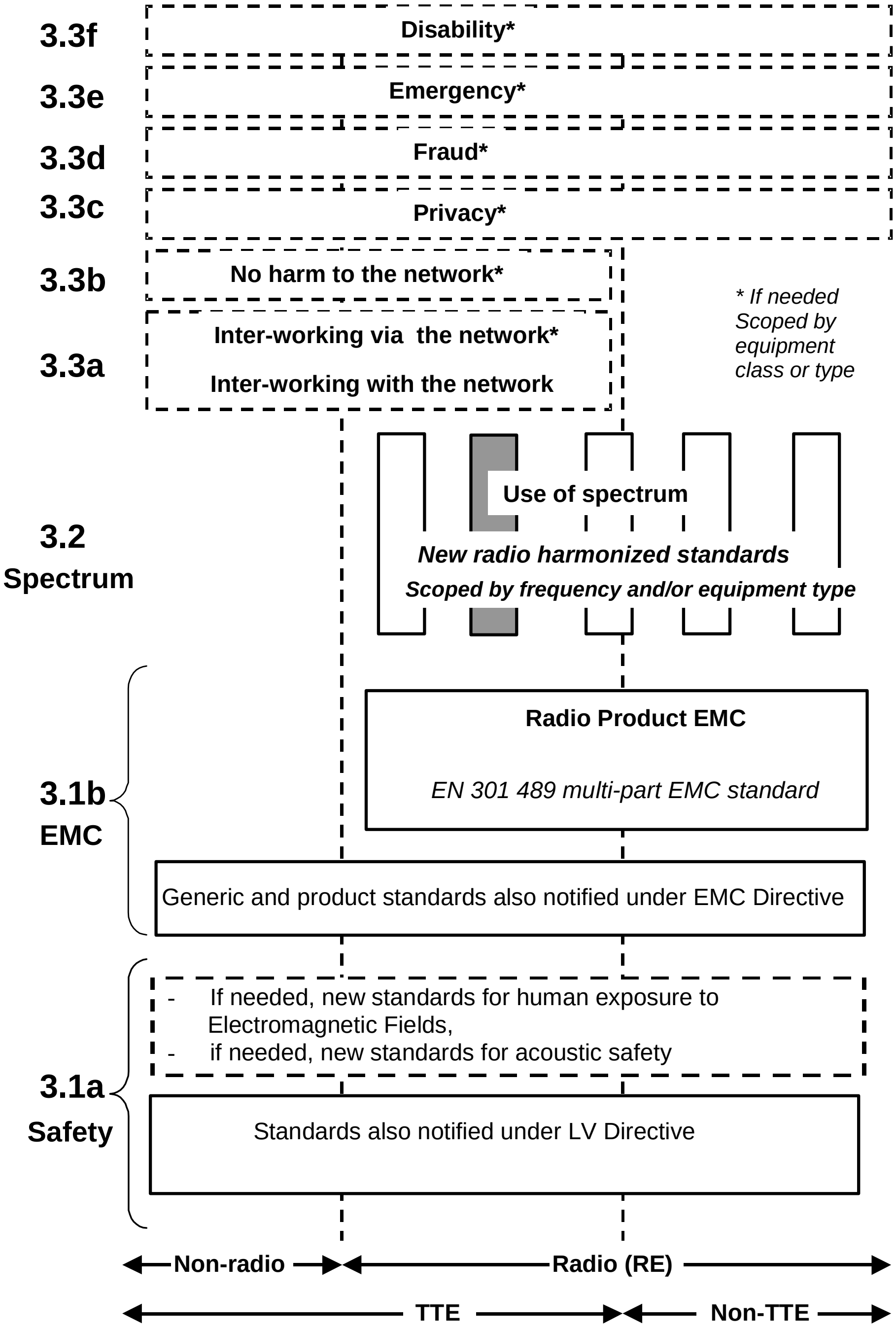

Figure 1: Modular structure for the various standards used under the R&TTE Directive

The left hand edge of the figure 1 shows the different clauses of article 3 of the R&TTE Directive [1].

For article 3.3 various horizontal boxes are shown. Dotted lines indicate that at the time of publication of the present document essential requirements in these areas have to be adopted by the Commission. If such essential requirements are adopted, and as far and as long as they are applicable, they will justify individual standards whose scope is likely to be specified by function or interface type.

The vertical boxes show the standards under article 3.2 for the use of the radio spectrum by radio equipment. The scopes of these standards are specified either by frequency (normally in the case where frequency bands are harmonized) or by radio equipment type.

For article 3.1b, figure 1 shows EN 301 489 [9], the multi-part product EMC standard for radio used under the EMC Directive [2].

For article 3.1a, figure 1 shows the existing safety standards currently used under the LV Directive [3] and new standards covering human exposure to electromagnetic fields. New standards covering acoustic safety may also be required.

The bottom of figure 1 shows the relationship of the standards to radio equipment and telecommunications terminal equipment. Particular equipment may be radio equipment, telecommunications terminal equipment or both. A radio spectrum standard will apply if it is radio equipment. An article 3.3 standard will apply as well only if the relevant essential requirement under the R&TTE Directive [1] is adopted by the Commission and if the equipment in question is covered by the scope of the corresponding standard. Thus, depending on the nature of the equipment, the essential requirements under the R&TTE Directive [1] may be covered in a set of standards.

The modularity principle has been taken because:

- It minimizes the number of standards needed. Because equipment may, in fact, have multiple interfaces and functions it is not practicable to produce a single standard for each possible combination of functions that may occur in equipment.
- It provides scope for standards to be added:
  - under article 3.2 when new frequency bands are agreed; or
  - under article 3.3 should the Commission take the necessary decisions without requiring alteration of standards that are already published.
- It clarifies, simplifies and promotes the usage of Harmonized Standards as the relevant means of conformity assessment.

The product specifications upon which all parts of EN 301 908 [15] are based differ in presentation and this is reflected in the present document.

1 Scope

The present document applies to the following radio equipment type:

- Mobile stations for IMT-2000 CDMA multi-carrier (cdma2000).

These radio equipment types are capable of operating in all or any part of the frequency bands given in table 1.

Table 1: CDMA multi-carrier mobile stations service frequency bands

Direction of transmission	CDMA multi-carrier mobile stations service frequency bands
Transmit	1 920 MHz to 1 980 MHz
Receive	2 110 MHz to 2 170 MHz

Mobile stations for IMT-2000 CDMA multi-carrier (cdma2000) may support:

1) operation in cdma2000 Spread Spectrum Systems as defined in TIA/EIA/IS-2000.2-B [5], referred to herein as operation in type 1 cdma2000 systems; or

2) operation in cdma2000 High Rate Packet Data Systems as defined in TIA/EIA/IS-856-1 [11], referred to herein as operation in type 2 cdma2000 systems; or

3) operation in both, type 1 and type 2 cdma2000 systems.

The present document is intended to cover the provisions of Directive 1999/5/EC [1] (R&TTE Directive) article 3.2, which states that "… radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of article 3 of the R&TTE Directive [1] will apply to equipment within the scope of the present document.

NOTE: A list of such ENs is included on the web site http://www.newapproach.org.

2 References

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

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

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

[1] Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity (R&TTE Directive).

[2] Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility (EMC Directive).

[3] Council Directive 73/23/EEC of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (LV Directive).

[4] ANSI/TIA-98-E (February 2003): "Recommended Minimum Performance Standards for cdma2000 Spread Spectrum Mobile Stations".

[5] TIA/EIA/IS-2000.2-B (May 2002): "Physical Layer Standard for cdma2000 Spread Spectrum Systems - Release B".

[6] ANSI/TIA-97-E (February 2003): "Recommended Minimum Performance Standards for cdma2000 Spread Spectrum Base Stations".

[7] TIA/EIA/IS-870 (2001): "Test Data Service Option (TDSO) for cdma2000 Spread Spectrum Systems".

[8] TIA/EIA/IS-871 (April 2001): "Markov Service Option (MSO) for cdma2000 Spread Spectrum Systems".

[9] ETSI EN 301 489 (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services".

[10] TIA/EIA/IS-2000.5-B (May 2002): "Upper Layer (Layer 3) Signalling Standard for cdma2000 Spread Spectrum Systems, Release B".

[11] TIA/EIA/IS-856-1 (January 2002): "cdma2000 High Rate Packet Data Air Interface Specification - Addendum 1".

[12] TIA-866 (February 2002): "Recommended Minimum Performance Standards for cdma2000 High Rate Packet Data Access Terminal".

[13] TIA/EIA/IS-890 (July 2001): "Test Application Specification (TAS) for High Rate Packet Data Air Interface".

[14] Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations.

[15] ETSI EN 301 908 (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in the R&TTE Directive [1] and the following apply:

1X: mode of operation of a mobile station or access terminal using spreading rate 1

1XDO: mode of operation of a mobile station or access terminal using spreading rate 1 in data optimized systems

3X: mode of operation of a mobile station using spreading rate 3

access attempt: sequence of one or more access probe sequences on the access channel or enhanced access channel containing the same message

NOTE: See also access probe, access probe sequence, and enhanced access probe.

access channel: reverse CDMA channel used by mobile stations for communicating to the base station

NOTE: The access channel is used for short signalling message exchanges, such as call originations, responses to pages, and registrations. The access channel is a slotted random access channel.

access channel preamble: preamble of an access probe consisting of a sequence of all-zero frames that is sent at the 4 800 bit/s rate

access network: network equipment providing data connectivity between a packet switched data network (typically the Internet) and the access terminals in type 2 cdma2000 systems

NOTE: Connectivity is typically provided at the link layer (PPP). As used in the present document it is synonymous with base station except that HRPD access network always uses spreading rate 1.

access probe: one access channel transmission consisting of a preamble and a message

NOTE: The transmission is an integer number of frames in length, and transmits one access channel message. See also access probe sequence and access attempt.

access probe sequence: sequence of one or more access probes on the access channel or enhanced access channel

NOTE: The same access channel or enhanced access channel message is transmitted in every access probe of an access attempt. See also access probe, enhanced access probe, and access attempt.

access terminal: device providing data connectivity to a user in type 2 cdma2000 systems

NOTE: An access terminal may be connected to a computing device such as a laptop personal computer or may be self-contained data device such as a personal digital assistant or may be a mobile station. Also referred to as HRPD access terminal using spreading rate 1 or UE operating in a type 2 cdma2000 system.

ACK channel: channel used by the access terminal in type 2 cdma2000 systems to inform the access network whether a data packet transmitted on the forward traffic channel has been received successfully or not

active frame: frame that contains data and therefore is enabled in terms of traffic power

additional preamble: preamble sent after the last fractional preamble on the reverse pilot channel, prior to transmitting on the enhanced access channel or on the reverse common control channel

adjacent channel leakage ratio: ratio of the on-channel transmit power to the power measured in one of the adjacent channels

bad frame: frame classified with insufficient frame quality or for radio configuration 19 600 bit/s primary traffic only, with bit errors (see also good frame)

band class: set of frequency channels and a numbering scheme for these channels

NOTE: Band classes are defined in ANSI/TIA-98-E [4], clause 3.1, and ANSI/TIA-97-E [6], clause 3.1.

band class 6: frequencies as identified in table 1 of the present document

base station: fixed station used for communicating with mobile stations

NOTE 1: For the purpose of tests in clause 5 of the present document the term base station may also apply to a base station simulator having the capabilities defined in ANSI/TIA-98-E [4], clause 6.4.3.

NOTE 2: Base stations for IMT-2000 CDMA multi-Carrier (cdma2000) may support, operation in cdma2000 spread spectrum systems as defined in TIA/EIA/IS-2000.2-B [5], referred to herein as operation in type 1 cdma2000 system, or operation in cdma2000 high rate packet data systems as defined in TIA/EIA/IS-856-1 [11], referred to herein as operation in type 2 cdma2000 systems.

basic access mode: mode used on the enhanced access channel where a mobile station transmits an enhanced access channel preamble and enhanced access data in a method similar to that used on the access channel

broadcast control channel: code channel in a forward CDMA channel used for transmission of control information from a base station to a mobile station

candidate frequency: frequency for which the base station specifies a search set, when searching on other frequencies while performing mobile-assisted handoffs

CDMA channel: set of channels transmitted from the base station and the mobile stations on a given frequency

CDMA channel number: 11-bit number corresponding to the centre of the CDMA frequency assignment

CDMA frequency assignment: 1,23 MHz segment of spectrum

NOTE: For band class 0, the channel is centred on one of the 30 kHz channels. For band classes 1, 4, 6, 7, 8 and 9, the channel is centred on one of the 50 kHz channels. For band classes 2, 3 and 10, the channel is centred on one of the 25 kHz channels. For band class 5, the channel is centred on one of the 20 kHz or 25 kHz channels.

CDMA preferred set: set of CDMA channel numbers in a CDMA system corresponding to frequency assignments that a mobile station will normally search to acquire a CDMA pilot channel

code channel: subchannel of a forward CDMA channel or reverse CDMA channel

NOTE: Each subchannel uses an orthogonal Walsh function or quasi-orthogonal function.

Code Division Multiple Access (CDMA): technique for spread-spectrum multiple-access digital communications that creates channels through the use of unique code sequences

code symbol: output of an error-correcting encoder

NOTE: Information bits are input to the encoder and code symbols are output from the encoder (see convolutional code and turbo code).

common assignment channel: forward common channel used by the base station to acknowledge a mobile station accessing the enhanced access channel, and in the case of reservation access mode, to transmit the address of a reverse common control channel and associated common power control subchannel

common power control channel: forward common channel which transmits power control bits (i.e. common power control subchannels) to multiple mobile stations

NOTE: The common power control channel is used by mobile stations operating in the power controlled access mode, reservation access mode, or designated access mode.

common power control subchannel: subchannel on the common power control channel used by the base station to control the power of a mobile station when operating in the power controlled access mode on the enhanced access channel or when operating in the reservation access mode or the designated access mode on the reverse common control channel

continuous transmission: mode of operation in which discontinuous transmission is not permitted

convolutional code: type of error-correcting code

NOTE: A code symbol can be considered as the convolution of the input data sequence with the impulse response of a generator function.

cyclic redundancy code: class of linear error detecting codes which generate parity check bits by finding the remainder of a polynomial division (see also frame quality indicator)

discontinuous transmission: mode of operation in which a base station or a mobile station switches its transmitter or a particular code channel on and off autonomously

NOTE: For the case of DTX operation on the forward dedicated control channel, the forward power control subchannel is still transmitted.

effective radiated power: product of the power supplied to the antenna and the antenna gain in a direction relative to a half-wave dipole

enhanced access channel: reverse channel used by the mobile for communicating to the base station

NOTE: The enhanced access channel operates in the basic access mode, power controlled access mode, and reservation access mode. It is used for transmission of short messages, such as signalling, response to pages, and call originations. It can also be used to transmit moderate-sized data packets.

enhanced access channel preamble: non-data-bearing portion of the enhanced access probe sent by the mobile station to assist the base station in initial acquisition and channel estimation

enhanced access data: data transmitted while in the basic access mode or power controlled access mode on the enhanced access channel or while in the reservation mode on a reverse common control channel

enhanced access header: frame containing access origination information transmitted immediately after the enhanced access channel preamble while in the power controlled access mode or reservation access mode

enhanced access probe: one enhanced access channel transmission consisting of an enhanced access channel preamble, optionally an enhanced access header and optionally enhanced access data

enhanced access probe sequence: sequence of one or more enhanced access probes on the enhanced access channel (see also enhanced access probe)

environmental profile: range of environmental conditions under which equipment within the scope of the present document is required to comply with the provisions of the present document

equivalent isotropically radiated power: product of the power supplied to the antenna and the antenna gain in a direction relative to an isotropic antenna

forward CDMA channel: CDMA channel from a base station to mobile stations

NOTE: The forward CDMA channel contains one or more code channels that are transmitted on a CDMA frequency assignment using a particular pilot PN offset.

forward common control channel: control channel used for the transmission of digital control information from a base station to one or more mobile stations

forward dedicated control channel: portion of a radio configuration 3 through 9 forward traffic channel used for the transmission of higher-level data, control information, and power control information from a base station to a mobile station

forward fundamental channel: portion of a forward traffic channel which carries a combination of higher-level data and power control information

forward MAC channel: forward channel used for medium access control in type 2 cdma2000 systems

NOTE: Forward MAC channel consists of the reverse power control channels, the DRCLock channel and the reverse activity channel.

forward pilot channel: unmodulated, direct-sequence spread spectrum signal transmitted continuously by each CDMA base station

NOTE: The pilot channel allows a mobile station to acquire the timing of the forward CDMA channel, provides a phase reference for coherent demodulation, and provides means for signal strength comparisons between base stations for determining when to handoff.

forward power control subchannel: subchannel on the forward fundamental channel or forward dedicated control channel used by the base station to control the power of a mobile station when operating on the reverse traffic channel

forward supplemental channel: portion of a radio configuration 3 through 9 forward traffic channels which operates in conjunction with a forward fundamental channel or a forward dedicated control channel in that forward traffic channel to provide higher data rate services, and on which higher-level data is transmitted

forward supplemental code channel: portion of a radio configuration 1 and 2 forward traffic channel which operates in conjunction with a forward fundamental channel in that forward traffic channel to provide higher data rate services, and on which higher-level data is transmitted

forward test application protocol: test application protocol allowing forward link performance characterizations of type 2 cdma2000 systems

NOTE: See Directive 98/34/EC [14].

forward traffic channel: one or more code channels used to transport user and signalling traffic from the base station to the mobile station

NOTE: See forward fundamental channel, forward dedicated control channel, forward supplemental channel, and forward supplemental code channel.

frame: basic timing interval in the system

NOTE: For the sync channel, a frame is 26,666... ms long. For the access channel, the paging channel, the broadcast channel, the forward supplemental code channel, and the reverse supplemental code channel, a frame is 20 ms long. For the forward supplemental channel and the reverse supplemental channel, a frame is 20 ms, 40 ms, or 80 ms long. For the enhanced access channel, the forward common control channel, and the reverse common control channel, a frame is 5 ms, 10 ms, or 20 ms long. For the forward fundamental channel, forward dedicated control channel, reverse fundamental channel, and reverse dedicated control channel, a frame is 5 ms or 20 ms long. For the common assignment channel, a frame is 5 ms long.

frame activity: ratio of the number of active frames to the total number of frames during channel operation

frame error rate: frame error rate of forward traffic channel

NOTE: The value of frame error rate may be estimated by using service option 2, 9, 32, 54, or 55 (see ANSI/TIA-98-E [4], clause 1.3).

frame quality indicator: CRC check applied to 9,6 Kbit/s and 4,8 Kbit/s traffic channel frames of radio configuration 1, to all forward traffic channel frames for radio configurations 2 through 9, to all reverse traffic channel frames for radio configurations 2 through 6, the broadcast channel, common assignment channel, enhanced access channel, and to the reverse common control channel

good frame: frame not classified as a bad frame (see also bad frame)

good message: received message is declared a good message if it is received with a correct CRC

handoff: act of transferring communication with a mobile station from one base station to another

hard handoff: handoff characterized by a temporary disconnection of the traffic channel

NOTE 1: Hard handoffs occur when the mobile station is transferred between disjoint active sets, the CDMA frequency assignment changes, the frame offset changes, or the mobile station is directed from a CDMA traffic channel to an analog voice channel.

NOTE 2: See also soft handoff.

high rate packet data: CDMA technique optimized for data communications in type 2 cdma2000 system

line impedance stabilization network: network inserted in the supply mains lead of apparatus to be tested that provides, in a given frequency range, a specified load impedance for the measurement of disturbance voltages and that may isolate the apparatus from the supply mains in that frequency range

MAC channel: See forward MAC channel.

mean input power: total received calorimetric power measured in a specified bandwidth at the antenna connector, including all internal and external signal and noise sources

mean output power: total transmitted calorimetric power measured in a specified bandwidth at the antenna connector when the transmitter is active

mobile station: station intended to be used while in motion or during halts at unspecified points

NOTE: Mobile stations include portable units (e.g. hand-held personal units), units installed in vehicles and HRPD access terminals.

mobile station class: mobile station classes define mobile station characteristics, such as slotted operation and transmission power

mobile switching centre: configuration of fixed equipment that provides cellular or PCS service

non-slotted mode: operation mode of the mobile station in which the mobile station continuously monitors the paging channel

orthogonal channel noise simulator: hardware mechanism used to simulate the users on the other orthogonal channels of a forward CDMA channel

orthogonal transmit diversity: forward link transmission method which distributes forward link channel symbols among multiple antennas and spreads the symbols with a unique Walsh or quasi-orthogonal function associated with each antenna

paging channel: code channel in a forward CDMA channel used for transmission of control information and pages from a base station to a mobile station

packet: physical layer protocol data unit

packet activity: ratio of the number of active frames to the total number of frames during channel operation in type 2 cdma2000 systems

packet error: packet error event occurs when a decoded packet's FCS does not check

physical layer: part of the communication protocol between the mobile station and the base station that is responsible for the transmission and reception of data

NOTE: The physical layer in the transmitting station is presented a frame and transforms it into an over-the-air waveform. The physical layer in the receiving station transforms the waveform back into a frame.

piece-wise linear FER Curve: FER-versus-Eb/Nt curve in which the FER vertical axis is in log scale and the Eb/Nt horizontal axis is in linear scale expressed in dB, obtained by interpolating adjacent test data samples with straight lines

piece-wise linear MER curve: MER-versus-Eb/Nt curve in which the MER vertical axis is in log scale and the Eb/Nt horizontal axis is in linear scale expressed in dB, obtained by interpolating adjacent test data samples with straight lines

pilot channel: unmodulated, direct-sequence spread spectrum signal transmitted by a CDMA base station or mobile station

NOTE: A pilot channel provides a phase reference for coherent demodulation and may provide a means for signal strength comparisons between base stations for determining when to handoff.

pilot PN sequence: pair of modified maximal length PN sequences used to spread the forward CDMA channel and the reverse CDMA channel

NOTE: Different base stations are identified by different pilot PN sequence offsets.

PN chip: one bit in the PN sequence

PN sequence: (PseudoNoise sequence) periodic binary sequence

power control bit: bit, sent in every 1,25 ms interval on the forward traffic channel, to signal the mobile station to increase or decrease its transmit power

power control group: 1,25 ms interval on the forward traffic channel and the reverse traffic channel

NOTE: See also power control bit.

power controlled access mode: mode used on the enhanced access channel where a mobile station transmits an enhanced access preamble, an enhanced access header, and enhanced access data in the enhanced access probe using closed loop power control

power up function: method by which the mobile station increases its output power to support location services

preamble: See access channel preamble, enhanced access channel preamble, reverse common control channel preamble, and reverse traffic channel preamble.

primary paging channel: default code channel (code channel 1) assigned for paging on a CDMA channel

protocol data unit: encapsulated data communicated between peer layers on the mobile station and the base station

PUF probe: one or more consecutive frames on the reverse traffic channel within which the mobile station transmits the PUF pulse

PUF pulse: portion of PUF probe which may be transmitted at elevated output power

PUF target frequency: CDMA frequency to which the base station directs a mobile station for transmitting the PUF probe

quick paging channel: uncoded, spread, and On-Off-Keying (OOK) modulated spread spectrum signal sent by a base station to inform mobile stations operating in the slotted mode during the idle state whether to receive the forward common control channel or the paging channel starting in the next forward common control channel or paging channel frame

radio configuration: set of forward traffic channel and reverse traffic channel transmission formats that are characterized by physical layer parameters such as transmission rates, modulation characteristics, and spreading rate

NOTE: Radio configurations are defined in TIA/EIA/IS-2000.2-B [5], clauses 2.1.3 and 3.1.3.

received signal quality indicator: reverse traffic channel measure of signal quality related to the received Eb/N0 (see also Eb)

reservation access mode: mode used on the enhanced access channel and reverse common control channel where a mobile station transmits an enhanced access preamble and an enhanced access header in the enhanced access probe

NOTE: The enhanced access data is transmitted on a reverse common control channel using closed loop power control.

reverse CDMA channel: CDMA channel from the mobile station to the base station

NOTE: From the base station's perspective, the reverse CDMA channel is the sum of all mobile station transmissions on a CDMA frequency assignment.

reverse common control channel: portion of a reverse CDMA channel used for the transmission of digital control information from one or more mobile stations to a base station

NOTE: The reverse common control channel can operate in a reservation access mode or designated access mode. It can be power controlled in the reservation access mode or designated access mode, and may support soft handoff in the reservation access mode.

reverse common control channel preamble: non-data bearing portion of the reverse common control channel sent by the mobile station to assist the base station in initial acquisition and channel estimation

reverse dedicated control channel: portion of a radio configuration 3 through 6 reverse traffic channel used for the transmission of higher-level data and control information from a mobile station to a base station

reverse fundamental channel: portion of a reverse traffic channel which carries higher-level data and control information from a mobile station to a base station

reverse pilot channel: unmodulated, direct-sequence spread spectrum signal transmitted continuously by a CDMA mobile station

NOTE: A reverse pilot channel provides a phase reference for coherent demodulation and may provide a means for signal strength measurement.

reverse power control subchannel: subchannel on the reverse pilot channel used by the mobile station to control the power of a base station when operating on the forward traffic channel with radio configurations 3 through 9

reverse supplemental channel: portion of a radio configuration 3 through 6 reverse traffic channel which operates in conjunction with the reverse fundamental channel or the reverse dedicated control channel in that reverse traffic channel to provide higher data rate services, and on which higher-level data is transmitted

reverse supplemental code channel: portion of a radio configuration 1 and 2 reverse traffic channel which operates in conjunction with the reverse fundamental channel in that reverse traffic channel, and (optionally) with other reverse supplemental code channels to provide higher data rate services, and on which higher-level data is transmitted

reverse test application protocol: test application protocol allowing reverse link performance characterizations in type 2 cdma2000 systems

reverse traffic channel: traffic channel on which data and signalling are transmitted from a mobile station to a base station

NOTE: The reverse traffic channel is composed of up to one reverse dedicated control channel, up to one reverse fundamental channel, zero to two reverse supplemental channels, and zero to seven reverse supplemental code channels.

reverse traffic channel preamble: non-data bearing portion of the reverse pilot channel sent by the mobile station to aid the base station in initial acquisition and channel estimation for the reverse dedicated control channel and reverse fundamental channel

RF carrier: direct-sequence spread RF channel

NOTE: For the forward CDMA channel, the number of RF carriers is equal to the spreading rate; for the reverse CDMA channel, there is one RF carrier.

service option 2: loopback service option for radio configuration 1

NOTE: See TIA/EIA/IS-870 [7].

service option 9: loopback service option for radio configuration 2

NOTE: See TIA/EIA/IS-870 [7].

service option 30: mobile station data loopback test mode for multiplex option 1 supplemental channel

NOTE: See TIA/EIA/IS-870 [7].

service option 31: mobile station data loopback test mode for multiplex option 2 supplemental channel

NOTE: See TIA/EIA/IS-870 [7].

service option 32: test data service option for radio configurations 3 through 6 on the reverse traffic channel and radio configurations 3 through 9 on the forward traffic channel

NOTE: See TIA/EIA/IS-870 [7].

service option 54: markov service option for radio configurations 1 through 6 on the reverse traffic channel and radio configurations 1 through 9 on the forward traffic channel

NOTE: See TIA/EIA/IS-871 [8].

service option 55: loopback service option for radio configurations 1 through 6 on the reverse traffic channel and radio configurations 1 through 9 on the forward traffic channel

NOTE: See TIA/EIA/IS-870 [7].

serving frequency: CDMA frequency on which a mobile station is currently communicating with one or more base stations

slotted mode: operation mode of the mobile station in which the mobile station monitors only selected slots on the paging channel

soft handoff: handoff occurring while the mobile station is in the mobile station control on the traffic channel state

NOTE: This handoff is characterized by commencing communications with a new base station on the same CDMA frequency assignment before terminating communications with the old base station (see hard handoff).

space time spreading: forward link transmission method which transmits all forward link channel symbols on multiple antennas and spreads the symbols with complementary Walsh or quasi-orthogonal functions

spreading rate: PN chip rate of the forward CDMA channel or the reverse CDMA channel, defined as a multiple of 1,2288 Mcps

spreading rate 1: spreading rate 1 is often referred to as "1X."

NOTE: A spreading rate 1 forward CDMA channel uses a single direct-sequence spread carrier with a chip rate of 1,2288 Mcps a spreading rate 1 reverse CDMA channel uses a single direct-sequence spread carrier with a chip rate of 1,2288 Mcps.

spreading rate 3: spreading rate 3 is often referred to as "3X."

NOTE: A spreading rate 3 forward CDMA channel uses three direct-sequence spread carriers (see multiple-carrier forward channel) each with a chip rate of 1,2288 Mcps. A spreading rate 3 reverse CDMA channel uses a single direct-sequence spread carrier with a chip rate of 3,6864 Mcps.

symbol: See code symbol and modulation symbol.

sync channel: code channel 32 in the forward CDMA channel, which transports the synchronization message to the mobile station

system time: time reference used by the system

NOTE: System time is synchronous to UTC time (except for leap seconds) and uses the same time origin as Global Positioning System (GPS) time. All base stations use the same system time (within a small error). Mobile stations use the same system time, offset by the propagation delay from the base station to the mobile station. See also universal coordinated time.

time reference: reference established by the mobile station that is synchronous with the earliest arriving multipath component used for demodulation

traffic channel: communication path between a mobile station and a base station used for user and signalling traffic

NOTE: The term traffic channel implies a forward traffic channel and reverse traffic channel pair (see also forward traffic channel and reverse traffic channel).

transmit diversity pilot channel: unmodulated, direct-sequence spread spectrum signal transmitted continuously by a CDMA base station to support forward link transmit diversity

NOTE: The pilot channel and the transmit diversity pilot channel provide phase references for coherent demodulation of forward link CDMA channels which employ transmit diversity.

turbo code: type of error-correcting code

NOTE: A code symbol is based on the outputs of the two recursive convolutional codes (constituent codes) of the Turbo code.

type 1 cdma2000 systems: cdma2000 spread spectrum systems

NOTE: See TIA/EIA/IS-2000.2-B [5].

type 2 cdma2000 systems: cdma2000 high rate packet data systems

NOTE: See TIA/EIA/IS-856-1 [11].

universal coordinated time: internationally agreed-upon time scale maintained by the Bureau International de l'Heure (BIH) used as the time reference by nearly all commonly available time and frequency distribution systems, e.g. WWV, WWVH, LORAN-C, Transit, Omega, and GPS

user equipment: mobile station supporting operation in cdma2000 spread spectrum systems as defined in TIA/EIA/IS-2000.2-B [5], referred to herein as operation in type 1 cdma2000 system; access terminal supporting operation in cdma2000 high rate packet data systems as defined in TIA/EIA/IS-856-1 [11], referred to herein as operation in type 2 cdma2000 system; mobile station that supports operation in type 1 and type 2 cdma2000 systems

valid power control bit: valid power control bit is sent on the forward power control subchannel in the second power control group following the corresponding reverse traffic channel power control group which was not gated off and in which the signal was estimated

NOTE: See TIA/EIA/IS-2000.2-B [5], clause 3.1.3.1.10.

walsh function: one of 2^N time orthogonal binary functions

NOTE: The functions are orthogonal after mapping "0" to 1 and "1" to -1.

3.2 Symbols

For the purposes of the present document, the following symbols apply:

$\frac{BCCH\ E_c}{I_{or}}$ ratio of the average transmit energy-per-PN chip for the broadcast control channel to the total transmit power spectral density

dBc ratio (in dB) of the sideband power of a signal, measured in a given bandwidth at a given frequency offset from the centre frequency of the same signal, to the total inband power of the signal. For CDMA, the total inband power of the signal is measured in a 1,23 MHz bandwidth around the centre frequency of the CDMA signal for a spreading rate 1 CDMA signal and in 3,69 MHz bandwidth around the centre frequency of the CDMA signal for a spreading rate 3 CDMA signal

dBm measure of power expressed in terms of its ratio (in dB) to one milliwatt

dBm/Hz measure of power spectral density. The ratio, dBm/Hz, is the power in one hertz of bandwidth, where power is expressed in units of dBm

dBW measure of power expressed in terms of its ratio (in dB) to one watt

Eb the combined energy per bit at the base station RF input port or the mobile station antenna connector

NOTE: For radio configurations 1 and 2, this is the received energy of the access channel or traffic channel. For the reverse enhanced access channel with radio configurations 3 through 6, this is the combined energy of the reverse enhanced access channel and the reverse pilot channel. For the reverse common control channel with radio configurations 3 through 6, this is the combined energy of the reverse common control channel and the reverse pilot channel. For the reverse traffic channel with radio configurations 3 through 6, this is the combined energy of the reverse traffic channel, the reverse pilot channel, and the reverse power control subchannel. See also Eb/N0.

Eb/N0. ratio in dB of the combined received energy per bit to the total received noise-plus-interference power in the received CDMA bandwidth divided by 1,23 MHz for spreading rate 1 and 3,69 MHz for spreading rate 3. See also Eb

Eb/Nt ratio in dB of the combined received energy per bit to the effective noise power spectral density

E_c average energy accumulated over one PN chip period

E_c/I_{or} ratio in dB between the energy accumulated over one PN chip period (Ec) to the total transmit power spectral density

E_c/I_o ratio in dB between the pilot energy accumulated over one PN chip period (Ec) to the total power spectral density (Io) in the received bandwidth

$\frac{FCACH\ E_c}{I_{or}}$ ratio of the average transmit energy-per-PN chip for the forward common assignment Channel to the total transmit power spectral density

$\frac{FCCCH\ E_c}{I_{or}}$ ratio of the average transmit energy-per-PN chip for the forward common control channel to the total transmit power spectral density

$\frac{FCPCCH\ E_c}{I_{or}}$ ratio of the average transmit energy-per-PN chip for the forward common power control Channel to the total transmit power spectral density

$FPC\_PRI\_CHAN_s$ Power Control Subchannel indicator set by the base station to indicate whether the mobile station is to perform the primary inner loop estimation on the received Forward Fundamental Channel or the Forward Dedicated Control Channel

GHz Gigahertz (10^9 Hertz)

I_o total received power spectral density, including signal and interference, as measured at the mobile or base station antenna connector

I_{oc} power spectral density of a band-limited white noise source (simulating interference from other cells) as measured at the mobile station antenna connector. For test cases where multiple channels or cells are specified, this power spectral density does not include power from these multiple channels or cells

I_{or} total transmit power spectral density of the forward CDMA channel at the base station antenna connector. For transmit diversity test cases, it shall be the total combined transmit power spectral density of the forward CDMA channel from both the main and transmit diversity base station antenna connectors.

$\hat{I}_{or}$ the received power spectral density of the forward CDMA channel as measured at the mobile station antenna connector

kHz kiloHertz (10^3 Hertz)

mbar millibar (10^{-3} Bar)

MHz MegaHertz (10^6 Hertz)

$N_{FTCMPRestartTx}$

protocol numeric constant that is the number of consecutive slots of non-null rate DRCs to re-enable the reverse traffic channel transmitter once it is disabled due to DRC supervision failure and equals 12 as defined in TIA/EIA/IS-890 [13] clause 8.4.8

µs. microsecond (10^{-6} second)

ms millisecond (10^{-3} second)

ns nanosecond (10^{-9} second)

N0 effective inband noise or interference power spectral density

OCNS Ec average energy-per-PN chip for the OCNS

$\frac{\text{OCNS } E_c}{I_{or}}$ ratio of the average transmit energy-per-PN chip for the OCNS to the total transmit power spectral density

Pa Pascal

Paging Ec average energy-per-PN chip for the paging channel

$\frac{\text{Paging } E_c}{I_{or}}$ ratio of the average transmit energy-per-PN chip for the paging channel to the total transmit power spectral density

Pilot E_c average energy-per-PN chip for the pilot channel

Pilot $\frac{E_c}{I_o}$ ratio of the combined pilot energy per chip, Ec, to the total received power spectral density (noise and signals), I_o, of at most K usable multipath components at the mobile station antenna connector. K is the number of demodulating elements supported by the mobile station

$\frac{\text{Pilot } E_c}{I_{or}}$ ratio of the average transmit energy-per-PN chip for the pilot channel to the total transmit power spectral density

Power Control E_c

average energy-per-PN chip for the power control subchannel.

NOTE: For the case when the power control sub-channel is assumed to be transmitted at the same power level that is used for the 9 600 bit/s or 14 400 bit/s data rate, the following equations apply:

For radio configuration 1, it is equal to $\frac{v}{11+v}\times$(total forward traffic channel energy-per-PN chip), where v equals 1 for 9 600 bit/s, v equals 2 for 4 800 bit/s, v equals 4 for 2 400 bit/s, and v equals 8 for 1 200 bit/s traffic data rate. For radio configuration 2, it is equal to $\frac{v}{23+v}\times$(total forward traffic channel energy-per-PN chip), where v equals 1 for 14 400 bit/s, v equals 2 for 7 200 bit/s, v equals 4 for 3 600 bit/s, and v equals 8 for 1 800 bit/s traffic data rate. For radio configurations 3, 4, 6, and 7, it is equal to $\frac{v}{11+v}\times$(total forward traffic channel energy-per-PN chip), where v equals 1 for 9 600 bit/s, v equals 2 for 4 800 bit/s, v equals 4 for 2 700 bit/s, and v equals 8 for 1 500 bit/s traffic data rate. For radio configurations 5, 8, and 9, it is equal to $\frac{v}{11+v}\times$(total forward traffic channel energy-per-PN chip), where v equals 1 for 14 400 bit/s, v equals 2 for 7 200 bit/s, v equals 4 for 3 600 bit/s, and v equals 8 for 1 800 bit/s traffic data rate. The total forward traffic channel is comprised of traffic data and a power control sub-channel

$\frac{\text{Power Control } E_c}{I_{or}}$

ratio of the average transmit energy-per-PN chip for the power control subchannel to the total transmit power spectral density

$\frac{\text{Quick Paging } E_c}{I_{or}}$

ratio of the average transmit energy-per-PN chip for the Quick paging channel to the total transmit power spectral density

supplemental E_c average energy-per-PN chip for one forward supplemental code channel

supplemental $\frac{E_c}{I_{or}}$

ratio of the average transmit energy-per-PN chip for one forward supplemental to the total transmit power spectral density

Sync E_c average energy-per-PN chip for the sync channel

$\frac{\text{Sync } E_c}{I_{or}}$ ratio of the average transmit energy-per-PN chip for the sync channel to the total transmit power spectral density

TFTCMDRCSupervision

protocol numeric constant equal to 240 ms as defined in TIA/EIA/IS-890 [13] at clause 8.4.8

$T_{FTCMPRestartTx}$

protocol numeric constant equal to 12 control channel cycles as defined in TIA/EIA/IS-890 [13] at clause 8.4.8

TCCMPSupervision

protocol numeric constant equal to 12 control channel cycles as defined in TIA/EIA/IS-890 [13] at clause 8.2.8

Traffic E_c average energy-per-PN chip for the forward fundamental channel.

NOTE: For the case when the power control sub-channel is assumed to be transmitted at the same power level that is used for the 9 600 bit/s or 14 400 bit/s data rate, the following equations apply:

For radio configuration 1, it is equal to $\frac{11}{11+v}$ × (total forward fundamental channel energy-per-PN chip), where v equals 1 for 9 600 bit/s, v equals 2 for 4 800 bit/s, v equals 4 for 2 400 bit/s, and v equals 8 for 1 200 bit/s traffic data rate. For radio configuration 2, it is equal to $\frac{23}{23+v}$ × (total forward fundamental channel energy-per-PN chip), where v equals 1 for 14 400 bit/s, v equals 2 for 7 200 bit/s, v equals 4 for 3 600 bit/s, and v equals 8 for 1 800 bit/s traffic data rate. The total forward fundamental channel is comprised of traffic data and a power control sub-channel. For radio configurations 3, 4, 6, and 7, it is equal to $\frac{11}{11+v}$ × (total forward traffic channel energy-per-PN chip), where v equals 1 for 9 600 bit/s, v equals 2 for 4 800 bit/s, v equals 4 for 2 700 bit/s, and v equals 8 for 1 500 bit/s traffic data rate. For radio configurations 5, 8, and 9, it is equal to $\frac{11}{11+v}$ × (total forward traffic channel energy-per-PN chip), where v equals 1 for 14 400 bit/s, v equals 2 for 7 200 bit/s, v equals 4 for 3 600 bit/s, and v equals 8 for 1 800 bit/s traffic data rate. The total forward traffic channel is comprised of traffic data and a power control sub-channel

$\frac{\text{Traffic } E_c}{I_{or}}$ ratio of the average transmit energy-per-PN chip for the forward traffic channel to the total transmit power spectral density

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ACK Channel	ACKnowledgement Channel
ACLR	Adjacent Channel Leakage Ratio
AWGN	Additive White Gaussian Noise
BCCH	Broadcast Control CHannel
bps	bits per second
CDMA	Code Division Multiple Access
CRC	Cyclic Redundancy Code
DCCH	Forward Dedicated Control Channel
DRC	Data Rate Control
DTX	Discontinuous Transmission
EACH	Enhanced Access Channel
eirp	equivalent isotropically radiated power
EMC	ElectroMagnetic Compatibility
erp	effective radiated power
FCCCH	Forward Common Control Channel
FCH	Forward Fundamental Channel
FCS	Frame Check Sequence
FER	Frame Error Rate
FTAP	Forward Test Application Protocol
HRPD	High Rate Packet Data
LV	Low Voltage
Mcps	Megachips per second (10^6 chips per second)
MER	Message Error Rate, MER = 1 - $\frac{\text{Number of good messages received}}{\text{Number of messages transmitted}}$
OCNS	Orthogonal Channel Noise Simulator
OOK	On-Off-Keying
PCH	Paging Channel
PCS	Perosnal Communication System

PER	Packet Error Rate, PER = $1 - \frac{\text{Number of good packets received}}{\text{Number of packets transmitted}}$
PN	Pseudorandom Noise
PPP	Point-to-Point Protocol
PUF	Power Up Function
R&TTE	Radio Equipment and Telecommunications Terminals Equipment
R-DCCH	Reverse Dedicated Control CHannel
RF	Radio Frequency
R-FCH	Reverse Fundamental CHannel
R-PICH	Reverse Pilot CHannel
R-SCH	Reverse Supplemental CHannel
RTAP	Reverse Test Application Protocol
SCH	Forward Supplemental CHannel
SR	Spreading Rate
UE	User Equipment
UTC	Universal Time Co-ordinated

4 Technical requirements specifications

4.1 Environmental profile

The technical requirements of the present document apply under the environmental profile for operation of the equipment, which shall be declared by the supplier. The equipment shall comply with all the technical requirements of the present document at all times when operating within the boundary limits of the declared operational environmental profile.

For guidance on how a supplier can declare the environmental profile see annex B of the present document.

4.2 Conformance requirements

4.2.1 Introduction

To meet the essential requirement under article 3.2 of the R&TTE Directive [1] for IMT-2000 User Equipment (UE) eight essential parameters in addition to those in part 1 have been identified. table 2 provides a cross-reference between these eight essential parameters and the corresponding eleven technical requirements for equipment within the scope of the present document.

To fulfil an essential parameter the compliance with all the corresponding technical requirements in table 2 must be verified.

Table 2: Cross references

Essential parameter	Corresponding technical requirements
Spectrum emissions mask	4.2.2 Conducted spurious emissions when transmitting
Conducted spurious emissions in active mode	4.2.2 Conducted spurious emissions when transmitting
Accuracy of maximum output power	4.2.3 Maximum RF output power
Prevention of harmful interference through control of power	4.2.4 Minimum controlled output power
Conducted spurious emission in idle mode	4.2.5 Conducted spurious emissions when not transmitting
Impact of interference on receiver performance	4.2.6 Receiver blocking characteristics
	4.2.7 Intermodulation spurious response attenuation
Receiver adjacent channel selectivity	4.2.8 Receiver adjacent channel selectivity
Control and Monitoring functions	4.2.5 Conducted spurious emissions when not transmitting
	4.2.9 Supervision of Paging channel or Forward Common Control Channel (see note 1)
	4.2.10 Supervision of forward traffic channel (see note 1)
	4.2.11 Supervision of Control Channel (see note 2)
	4.2.12 Supervision Procedures in Variable Rate State (see note 2)
NOTE 1: This technical requirement is only applicable for operation in type 1 cdma2000 Spread Spectrum Systems as defined in TIA/EIA/IS-2000.2-B [5]. NOTE 2: This technical requirement is only applicable for operation in type 2 cdma2000 High Rate Packet Data Systems as defined in TIA/EIA/IS-856-1 [11].	

NOTE: Mobile stations operating in type 2 cdma2000 systems as defined in TIA/EIA/IS-856-1 [11] are also termed access terminals in the present document. Access terminals as defined herein always use spreading rate 1 and are data optimized (1XDO).

4.2.2 Conducted spurious emissions when transmitting

4.2.2.1 Definition

Conducted spurious emissions are emissions at frequencies that are outside the assigned CDMA Channel, measured at the mobile station antenna connector. This test measures the spurious emissions during continuous transmission.

4.2.2.2 Limits

4.2.2.2.1 Mobile stations operating in type 1 cdma2000 systems using spreading rate 1 or operating in type 2 cdma2000 systems

When transmitting with spreading rate 1, the spurious emissions shall be less than the limits specified in table 3.

Table 3: Transmitter spurious emission limits for spreading rate 1

For |Δf| within the range	Emission limit	
1,25 MHz to 1,98 MHz	less stringent of -42 dBc/30 kHz or -54 dBm/1,23 MHz	
1,98 MHz to 2,25 MHz	less stringent of -50 dBc/30 kHz or -54 dBm/1,23 MHz	
2,25 MHz to 4,00 MHz	-(13 + 1 × (Δf - 2,25 MHz)) dBm/1 MHz	
> 4,00 MHz	-36 dBm/1 kHz; -36 dBm/10 kHz; -36 dBm/100 kHz; -30 dBm/1 MHz;	9 kHz < f < 150 kHz 150 kHz < f < 30 MHz 30 MHz < f < 1 GHz 1 GHz < f < 12,75 GHz
NOTE: All frequencies in the measurement bandwidth shall satisfy the restrictions on |Δf| where Δf = centre frequency - closer edge frequency (f) of the measurement filter.		

When transmitting with spreading rate 1, the spurious emissions shall also be less than the requirements in table 4.

Table 4: Additional transmitter spurious emission limits for spreading rate 1

Measurement frequency	Emission limit	Victim band
1 893,5 MHz to 1 919,6 MHz	-41 dBm/300 kHz	PHS
925 MHz to 935 MHz	-67 dBm/100 kHz	GSM 900
935 MHz to 960 MHz	-79 dBm/100 kHz	GSM 900
1 805 MHz to 1 880 MHz	-71 dBm/100 kHz	DCS 1 800
NOTE: Measurements apply only when the measurement frequency is at least 5,635 MHz from the CDMA centre frequency. The non-PHS band measurements are made on frequencies which are integer multiples of 200 kHz. As exceptions, up to five measurements with a level up to the spurious emission limits in table 3 are allowed.		

4.2.2.2.2 Mobile stations operating in type 1 cdma2000 systems using spreading rate 3

When transmitting with spreading rate 3, the spurious emissions shall be less than the limits specified in table 5.

Table 5: Transmitter spurious emission limits for spreading rate 3

For $|\Delta f|$ within the range	Emission limit	
2,5 MHz to 2,7 MHz	-14 dBm/30 kHz	
2,7 MHz to 3,5 MHz	$-(14 + 15 \times (\Delta f - 2{,}7\ \text{MHz}))$ dBm/30 kHz	
3,08 MHz	-33 dBc/3,84 MHz	
3,5 MHz to 7,5 MHz	$-(13 + 1 \times (\Delta f - 3{,}5\ \text{MHz}))$ dBm/1 MHz	
7,5 MHz to 8,5 MHz	$-(17 + 10 \times (\Delta f - 7{,}5\ \text{MHz}))$ dBm/1 MHz	
8,08 MHz	-43 dBc/3,84 MHz	
8,5 MHz to 12,5 MHz	-27 dBm/1 MHz	
> 12,5 MHz	-36 dBm/1 kHz; -36 dBm/10 kHz; -36 dBm/100 kHz; -30 dBm/1 MHz;	9 kHz < f < 150 kHz 150 kHz < f < 30 MHz 30 MHz < f < 1 GHz 1 GHz < f < 12,75 GHz
NOTE: All frequencies in the measurement bandwidth shall satisfy the restrictions on $|\Delta f|$ where Δf = centre frequency - closer edge frequency (f) of the measurement filter. The requirements at offsets of 3,08 MHz and 8,08 MHz are equivalent to ACLR requirements of 33 dB and 43 dB from a spreading rate 3 mobile station transmitter into a spreading rate 3 or IMT-2000 CDMA Direct Spread mobile station receiver offset by 5 MHz and 10 MHz respectively.		

A mobile station transmitting with spreading rate 3 shall also meet the requirements in table 6.

Table 6: Additional transmitter spurious emission limits for spreading rate 3

Measurement frequency	Emission limit	Victim band
1 893,5 MHz to 1 919,6 MHz	-41 dBm/300 kHz	PHS
925 MHz to 935 MHz	-67 dBm/100 kHz	GSM 900
935 MHz to 960 MHz	-79 dBm/100 kHz	GSM 900
1 805 MHz to 1 880 MHz	-71 dBm/100 kHz	DCS 1 800
NOTE: Measurements apply only when the measurement frequency is at least 12,5 MHz from the CDMA centre frequency. The non-PHS band measurements are made on frequencies which are integer multiples of 200 kHz. As exceptions, up to five measurements with a level up to the unwanted emission limits in table 5 are allowed.		

4.2.2.3 Conformance

Conformance tests described in clause 5.3.1 shall be carried out.

4.2.3 Maximum RF output power

4.2.3.1 Definition

For each reverse traffic channel radio configuration that the mobile station supports, when operating in a type 1 and/or type 2 cdma2000 system, the maximum radiated RF output power is determined by the measurement of the maximum power that the mobile station transmits as measured at the mobile station antenna connector plus the antenna gain recommended by the mobile station manufacturer. The antenna gain is determined by using the Radiated Signal Measurement Procedures (see ANSI/TIA-98-E [4], clause 2.6) and calculating the antenna gain for eirp or erp as appropriate.

4.2.3.2 Limits

For each radio configuration that the mobile station operating in a type 1 and/or type 2 cdma2000 system supports, the maximum output power of each mobile station class shall be such that the maximum radiated power for the mobile station class using the antenna gain recommended by the mobile station manufacturer is within the limits specified in table 7. The antenna gain is determined using the Radiated Signal Measurement Procedures (see ANSI/TIA-98-E [4], clause 2.6) and calculating the antenna gain for eirp or erp as appropriate.

When the mobile station is transmitting using one of the test mode channel configurations specified in table 7b, the maximum output power requirements of the mobile station specified in table 7 may be reduced by the applicable output power backoff allowance specified in table 7b.

Table 7: Effective radiated power at maximum output power

Mobile station Class	Radiating Measurement	Lower Limit	Upper Limit
Class I	eirp	28 dBm (0,63 W)	33 dBm (2,0 W)
Class II	eirp	23 dBm (0,2 W)	30 dBm (1,0 W)
Class III	eirp	18 dBm (63 mW)	27 dBm (0,5 W)
Class IV	eirp	13 dBm (20 mW)	24 dBm (0,25 W)
Class V	eirp	8 dBm (6,3 mW)	21 dBm (0,13 W)
NOTE: Applicable to mobile stations operating in type 1 and/or type 2 cdma2000 systems.			

The eirp for a Class II through Class V mobile station may drop by 2 dB at 60°C and higher.

Table 7b: Maximum output power backoff allowances

Test mode Configuration	Output Power Reduction
R-PICH + R-DCCH	2,5 dB
R-PICH + R-DCCH + R-FCH (1 500 bit/s)	2,0 dB
R-PICH + R-FCH (9600 bit/s) + R-SCH0 (9 600 bit/s)	2,0 dB
R-PICH + R-DCCH + R-SCH0 (9 600 bit/s)	1,5 dB

4.2.3.3 Conformance

Conformance tests described in clause 5.3.2 shall be carried out.

4.2.4 Minimum controlled output power

4.2.4.1 Definition

The minimum controlled output power of the mobile station is the output power, measured at the mobile station antenna connector, when both closed loop and open loop power control indicate minimum output.

4.2.4.2 Limits

With both closed loop and open loop power control set to minimum, the mean output power of the mobile station shall be:

1) Less than -50 dBm/1,23 MHz, centred at the CDMA Channel frequency, for mobile stations operating in type 1 cdma2000 systems using spreading rate 1, and for mobile stations operating in type 2 cdma2000 systems; or

2) -50 dBm/3,69 MHz, centred at the CDMA Channel frequency, for mobile stations operating in type 1 cdma2000 systems using spreading rate 3.

4.2.4.3 Conformance

Conformance tests described in clause 5.3.3 shall be carried out.

4.2.5 Conducted spurious emissions when not transmitting

4.2.5.1 Definition

Conducted spurious emissions when not transmitting are spurious emissions generated or amplified in a receiver that appear at the mobile station antenna connector.

4.2.5.2 Limits

The conducted spurious emissions when not transmitting for a mobile station operating in type 1 and/or type 2 cdma2000 systems shall be:

1) Less than -76 dBm, measured in a 1 MHz resolution bandwidth at the mobile station antenna connector, for frequencies within the mobile station receive band (see table 1).

2) Less than -61 dBm, measured in a 1 MHz resolution bandwidth at the mobile station antenna connector, for frequencies within the mobile station transmit band (see table 1).

3) Less than -57 dBm, measured in a 100 kHz resolution bandwidth at the mobile station antenna connector, for frequencies from 30 MHz to 1 GHz.

4) Less than -47 dBm, measured in a 1 MHz resolution bandwidth at the mobile station antenna connector, for all other frequencies in the range from 1 GHz to 12,75 GHz.

4.2.5.3 Conformance

Conformance tests described in clause 5.3.4 shall be carried out.

4.2.6 Receiver blocking characteristics

4.2.6.1 Definition

The receiver blocking characteristic is a measure of the receiver's ability to receive a CDMA signal at its assigned channel frequency in the presence of a single tone on frequencies other than those of the adjacent channels, without this unwanted input signal causing a degradation of the performance of the receiver beyond a specified limit.

4.2.6.2 Limits

4.2.6.2.1 Mobile station operating in type 1 cdma2000 systems

The following requirements apply independently for each supported test mode.

The FER in tests 1 through 5 as defined in clause 5.3.5.1 shall not exceed 10 % with 90 % confidence (see ANSI/TIA-98-E [4], clause 6.6). With up to a combined total between tests 6 and 7 as defined in clause 5.3.5.1 of twenty-four (24) exceptions at spurious response frequencies, the FER in tests 6 and 7 shall not exceed 10 % with 90 % confidence (see ANSI/TIA-98-E [4], clause 6.6). For each spurious response exception, the FER shall not exceed 10 % with 90 % confidence (see ANSI/TIA-98-E [4], clause 6.6) when using the alternate CW tone power as defined in clause 5.3.5.1 for interference at the one or more spurious response frequencies.

4.2.6.2.2 Mobile station operating in type 2 cdma2000 systems

The PER in Tests 1 through 5 shall not exceed 10 % with 90 % confidence (see TIA-866 [12] clause 12). With up to twenty-four (24) exceptions at spurious response frequencies, the PER in Tests 6 and 7 shall not exceed 10 % with 90 % confidence(see TIA-866 [12], clause 12). In case of such spurious response exception(s) in Tests 6 or 7, the PER shall not exceed 10 % with 90 % confidence (see TIA-866 [12], clause 12) when using the Alternate CW Tone Power for interference at the one or more spurious response frequencies.

4.2.6.3 Conformance

Conformance tests described in clause 5.3.5 shall be carried out.

4.2.7 Intermodulation spurious response attenuation

4.2.7.1 Definition

The intermodulation spurious response attenuation is a measure of a receiver's ability to receive a CDMA signal on its assigned channel frequency in the presence of two interfering CW tones. These tones are separated from the assigned channel frequency and are separated from each other such that the third order mixing of the two interfering CW tones can occur in the non-linear elements of the receiver, producing an interfering signal in the band of the desired CDMA signal.

For mobile stations operating in type 1 cdma2000 systems, the receiver performance is measured by the Frame Error Rate (FER).

For mobile stations operating in type 2 cdma2000 systems, the receiver performance is measured by the Packet Error Rate (PER).

4.2.7.2 Limits

4.2.7.2.1 Mobile station operating in type 1 cdma2000 systems

The FER in tests 1, 2 as defined in clause 5.3.6.1 shall not exceed 1,0 % with 95 % confidence (see ANSI/TIA-98-E [4], clause 6.6).

4.2.7.2.2 Mobile stations operating in type 2 cdma2000 systems

The PER in Tests 1, 2, 5, and 6as defined in clause 5.3.6.2 shall not exceed 1,0 % with 95 % confidence (see TIA-866 [12], clause 12). The PER in Tests 3 and 4 as defined in clause 5.3.6.2 should not exceed 1,0 % with 95 % confidence (see TIA-866 [12], clause 12).

4.2.7.3 Conformance

Conformance tests described in clause 5.3.6 shall be carried out.

4.2.8 Adjacent channel selectivity

4.2.8.1 Definition

Adjacent channel selectivity is a measure of the ability to receive a CDMA signal on the assigned channel frequency in the presence of another CDMA signal that is offset from the centre frequency of the assigned channel by ±2,5 MHz for spreading rate 1 or ±5 MHz for spreading rate 3.

4.2.8.2 Limits

4.2.8.2.1 Mobile station operating in type 1 cdma2000 systems

The FER in each test shall not exceed 1,0 % with 95 % confidence (see ANSI/TIA-98-E [4], clause 6.6).

4.2.8.2.2 Mobile station operating in type 2 cdma2000 systems

The PER in each test shall not exceed 1,0 % with 95 % confidence (see TIA-866 [12], clause 12).

4.2.8.3 Conformance

Conformance tests described in clause 5.3.7 shall be carried out.

4.2.9 Supervision of paging channel or Forward Common Control Channel

4.2.9.1 Definition

NOTE: Applicable to mobile station operating in type 1 cdma2000 systems.

These requirements verify mobile station supervision when in the System Access State, where the mobile station shall monitor the Paging Channel or Forward Common Control Channel at all times per clause 2.6.3.1.8 of TIA/EIA/IS-2000.5-B [10].

4.2.9.2 Limits

The mobile station shall set a timer for 1 second whenever a valid message is received on the Paging Channel or Forward Common Control Channel, whether addressed to the mobile station or not. For testing this requirement, no valid messages are sent after disabling of the Paging Channel or Forward Common Control Channel. For Test 2 as defined in clause 5.3.8, the Broadcast Control Channel is also disabled to ensure no valid messages are received, even though the supervision requirement only applies to the Forward Common Control Channel when in the System Access State.

The mobile station shall transmit access attempts as a response to the page. The mobile station shall stop transmitting access attempts between 1 second and 1,3 seconds after the paging channel or Forward Common Control Channel is disabled.

4.2.9.3 Conformance

Conformance tests described in clause 5.3.8 shall be carried out.

4.2.10 Supervision of forward traffic channel

4.2.10.1 Definition

NOTE: Applicable to mobile station operating in type 1 cdma2000 systems.

This requirement is split into three parts:

- part 1: supervision of Forward Traffic Channel is the capability that the mobile station monitoring the Forward Traffic Channel disables its transmitter after receiving a certain period with insufficient signal quality and re-enables its transmitter after receiving another certain period with sufficient signal quality;
- part 2: supervision of Forward Traffic Channel is the capability that the mobile station monitoring the Forward Traffic Channel disables its transmitter and declares a loss of the Forward Traffic Channel after receiving insufficient signal quality for a certain period of time;
- part 3: supervision of Forward Traffic Channel is the capability that the mobile station does not disable its transmitter while receiving a certain period with sufficient signal quality with power control bits only, but no data.

4.2.10.2 Limits

Test 1 in clause 5.3.9:

- the mobile station shall disable its transmitter between 12 × 0,02 s and 12 × 0,02 + 0,02 s after the forward traffic channel is disabled. The mobile station shall re-enable its transmitter between 2 × 0,02 s and 2 × 0,02 + 0,02 s after the start of the first re-enabled Forward Traffic Channel frame.

Test 2 in clause 5.3.9:

- in 85 % of the trials with 90 % confidence, the mobile station shall disable its transmitter between 5 s and 5 + 0,02 s after the first Forward Traffic Channel frame has been disabled. The mobile station shall not re-enable its transmitter.

Test 3 in clause 5.3.9:

The mobile station shall not disable its transmitter during the 2 s.

4.2.10.3 Conformance

Conformance tests described in clause 5.3.9 shall be carried out.

4.2.11 Supervision of control channel

4.2.11.1 Definition

NOTE: Applicable to mobile station operating in type 2 cdma2000 systems.

When entering the *Active State* of the Default Control Channel MAC Protocol described in TIA/EIA/IS-856-1 [11] the access terminal sets the Control Channel supervision timer for $T_{CCMPSupervision}$. If a Control Channel capsule is received while the timer is active, the timer is reset and restarted. If the timer expires the protocol returns a *SupervisionFailed* indication and disables the timer.

This Default Control Channel MAC Protocol's *SupervisionFailed* indication is received by the Default Air-Link Management Protocol of the Connection layer. Upon the reception of a *ControlChannelMAC.SupervisionFailed* indication, the Default Air-Link Management Protocol proceeds as follows:

If the access terminal is in the *Idle State* of the Default Air-Link Management Protocol, it deactivates the access channel MAC and transitions to the *Initialization State*.

If the access terminal is in the *Connected State*, of the Default Air-Link Management Protocol, it closes the current connection and transitions to the *Idle State*.

Test 1 verifies that when the access terminal is in the *Idle State* of the Default Air-Link Management Protocol, and the timer $T_{CCMPSupervision}$ expires, the access terminal stops sending access probes.

Test 2 verifies that when the access terminal is in the *Connected State* of the Default Air-Link Management Protocol and the timer $T_{CCMPSupervision}$ expires, the access terminal disables the reverse traffic channel.

4.2.11.2 Limits

Test 1:

The access terminal shall transmit access attempts as a response to the page. The access terminal shall stop transmitting access probes between $T_{CCMPSupervision} \times 0,4267$, and $T_{CCMPSupervision} \times 0,4267 + 0,04$ s after the Control Channel is disabled.

Test 2:

The access terminal shall disable the reverse traffic channel transmitter between $T_{CCMPSupervision} \times 0,4267$, and $T_{CCMPSupervision} \times 0,4267 + 0,04$ s after the Control channel is disabled.

4.2.11.3 Conformance

Conformance tests described in clause 5.3.10 shall be carried out.

4.2.12 Supervision procedures in variable rate state

4.2.12.1 Definition

NOTE: Applicable to mobile station operating in type 2 cdma2000 systems.

When in the *Variable Rate State* of the Default forward traffic channel MAC Protocol, the access terminal performs supervision on the DRC and monitors the *ForwardTrafficValid* bit as follows.

The access terminal sets the DRC supervision timer for $T_{FTCMDRCSupervision}$ when it transmits a null rate DRC. If the access terminal requests a non-null rate while the DRC supervision timer is active, the access terminal disables the timer. If the DRC supervision timer expires, the access terminal disables the reverse traffic channel transmitter and sets the reverse traffic channel Restart timer for time $T_{FTCMPRestartTx}$. If the access terminal generates consecutive non-null rate DRC values for more than $N_{FTCMPRestartTx}$ slots, the access terminal disables the reverse traffic channel Restart timer and enables the reverse traffic channel transmitter.

If the reverse traffic channel Restart timer expires, the access terminal returns a *SupervisionFailed* indication.

The access terminal monitors the bit associated with its MACIndex in the *ForwardTrafficValid* field made available by the OverheadMessages Protocol. If this bit is set to 0, the access terminal shall return a *SupervisionFailed* indication.

Test 1 verifies that the access terminal disables its transmitter when the DRC supervision timer expires.

Test 2 verifies that the access terminal disables its transmitter when its corresponding *ForwardTrafficValid* bit is set to 0.

4.2.12.2 Limits

Test 1:

The access terminal shall disable its transmitter between the time interval $T_{FTCMDRCSupervision} - 0,001667$ and $T_{FTCMDRCSupervision} + 0,04$ s after the access network received the first null DRC in the sequence of consecutive null DRC received at the access network.

Test 2:

T_1 is the time when the *QuickConfig Message*, with the *ForwardTrafficValid* bit corresponding to the access terminal set to 0, is sent. The access terminal shall disable its transmitter between the time interval T_1 and $T_1 + 0,04$ s.

4.2.12.3 Conformance

Conformance tests described in clause 5.3.11 shall be carried out.

5 Testing for compliance with technical requirements

5.1 Conditions for testing

5.1.1 Introduction

Tests defined in the present document shall be carried out at representative points within the boundary limits of the declared operational environmental profile.

Where technical performance varies subject to environmental conditions, tests shall be carried out under a sufficient variety of environmental conditions (within the boundary limits of the declared operational environmental profile) to give confidence of compliance for the affected technical requirements.

Normally it should be sufficient for all tests to be conducted using standard test conditions except where otherwise stated (see ANSI/TIA-98-E [4] or TIA-866 [12]). For a definition of standard test conditions and for guidance on the use of other test conditions to be used in order to show compliance reference can be made to annex B.

5.1.2 Standard equipment under test

5.1.2.1 Basic equipment

The equipment under test shall be assembled, and any necessary adjustments shall be made in accordance with the manufacturer's instructions for the mode of operation required. When alternative modes are available, the equipment under test shall be assembled and adjusted in accordance with the relevant instructions. A complete series of measurements shall be made for each mode of operation.

5.1.2.2 Ancillary equipment

The mobile station equipment may include ancillary equipment during tests, provided that the ancillary equipment is normally used in the operation of the equipment under test. For mobile station equipment, this may include power supplies, handsets, cradles, charging stands, control cables, and battery cables.

5.2 Interpretation of the measurement results

The interpretation of the results recorded in a test report for the 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 or the accuracy of each piece of test equipment used for the measurement of each parameter shall be included in the test report; only test equipment meeting the performance requirements for standard test equipment as defined in ANSI/TIA-98-E [4], clause 6.4 or TIA-866 [12] clause 11.4:, shall be used; the test set-up of each test shall be equivalent to the test set-up descriptions in ANSI/TIA-98-E [4], clause 6.5;
- the recorded value of the measurement uncertainty or the recorded value of the accuracy of each piece of test equipment shall be, equal to or better than the figures in ANSI/TIA-98-E [4], clause 6.44 or TIA-866 [12], clause 11.5.

5.3 Essential radio test suites

5.3.1 Conducted spurious emissions when transmitting

5.3.1.1 Test procedure for mobile stations supporting operation in type 1 cdma2000 systems

1) Connect the base station to the mobile station antenna connector as shown in ANSI/TIA-98-E [4], figure 6.5.1-4. The AWGN generator and the interference generator are not applicable in this test. Connect a spectrum analyser (or other suitable test equipment) to the mobile station antenna connector.

2) For each radio configuration that the mobile station supports, configure the base station and mobile station to operate in that radio configuration in band class 6 and perform steps 3 through 26.

3) If the mobile station supports reverse traffic channel radio configuration 1 and forward traffic channel radio configuration 1, set up a call using fundamental channel test mode 1 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 14 through 16.

4) If the mobile station supports the radio configuration 3 reverse fundamental channel and demodulation of radio configuration 3, 4, or 5, set up a call using fundamental channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 14 through 16.

5) If the mobile station supports the radio configuration 3 reverse dedicated control channel and demodulation of radio configuration 3, 4, or 5, set up a call using dedicated control channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and 100 % frame activity and perform steps 14 through 16.

6) If the mobile station supports the radio configuration 3 reverse fundamental channel, radio configuration 3 reverse dedicated control channel and demodulation of radio configuration 3, 4, or 5, set up a call using fundamental channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 1 500 bit/s fundamental channel data rate only and 9 600 bit/s dedicated control channel with 100 % frame activity, and perform steps 17 through 26.

7) If the mobile station supports the radio configuration 3 reverse fundamental channel, radio configuration 3 reverse supplemental Channel 0 and demodulation of radio configuration 3, 4, or 5, set up a call using supplemental Channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s fundamental channel and 9 600 bit/s supplemental Channel 0 data rate, and perform steps 17 through 26.

8) If the mobile station supports the radio configuration 3 reverse dedicated control channel, radio configuration 3 reverse supplemental Channel 0 and demodulation of radio configuration 3, 4, or 5, set up a call using supplemental Channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s dedicated control channel with 100 % frame activity and 9 600 bit/s supplemental Channel 0 data rate, and perform steps 17 through 26.

9) If the mobile station supports the radio configuration 5 reverse fundamental channel and demodulation of radio configuration 6, 7, 8, or 9, set up a call using fundamental channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 14 through 16.

10) If the mobile station supports the radio configuration 5 reverse dedicated control channel and demodulation of radio configuration 6, 7, 8, or 9, set up a call using dedicated control channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and 100 % frame activity and perform steps 14 through 16.

11) If the mobile station supports the radio configuration 5 reverse fundamental channel, radio configuration 5 reverse dedicated control channel and demodulation of radio configuration 6, 7, 8, or 9, set up a call using fundamental channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 1 500 bit/s fundamental channel data rate only and 9 600 bit/s dedicated control channel with 100 % frame activity, and perform steps 14 through 16.

12) If the mobile station supports the radio configuration 5 reverse fundamental channel, radio configuration 5 reverse supplemental Channel 0 and demodulation of radio configuration 6, 7, 8, or 9, set up a call using supplemental Channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s fundamental channel and 9 600 bit/s supplemental Channel 0 data rate, and perform steps 17 through 26.

13) If the mobile station supports the radio configuration 5 reverse dedicated control channel, radio configuration 5 reverse supplemental Channel 0 and demodulation of radio configuration 6, 7, 8, or 9, set up a call using supplemental Channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s dedicated control channel with 100 % frame activity and 9 600 bit/s supplemental Channel 0 data rate, and perform steps 17 through 26.

14) Set the test parameters as specified in table 8.

15) Send continuously "0" power control bits to the mobile station.

16) Measure the unwanted emission levels.

17) Set the test parameters as specified in 9.

18) Send alternating "0" and "1" power control bits to the mobile station using the smallest supported closed loop power control step size supported by the mobile station.

19) Determine the active channel configuration. If the desired channel configuration is not active, increase $\hat{I}_{or}$ by 1 dB and repeat this step until the desired channel configuration becomes active.

20) Measure the mobile station output power at the mobile station antenna connector.

21) Decrease $\hat{I}_{or}$ by 0,5 dB.

22) Determine the active channel configuration. If the active channel configuration is the desired channel configuration, measure the mobile station output power at the mobile station antenna connector.

23) Repeat steps 21 and 22 until the output power no longer increases or the desired channel configuration is no longer active.

24) Set $\hat{I}_{or}$ to the value at which the highest mobile station output power was achieved with the desired channel configuration active. Verify the desired channel configuration is active.

25) Measure the mobile station output power at the mobile station antenna connector.

26) Measure the spurious emission levels.

Table 8: Test parameters for testing spurious emissions at maximum RF output power

Parameter	Units	Value
$\hat{I}_{or}$	dBm/1,23 MHz	-104
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7,4

Table 9:Test parameters for testing spurious emissions at maximum RF output power

Parameter	Units	Value
Îor	dBm/1,23 MHz	-86
Pilot Ec/Ior	dB	-7
Traffic Ec/Ior	dB	-7,4

The results obtained shall be compared to the limits in clause 4.2.2.2 in order to prove compliance.

5.3.1.2 Test procedure for mobile stations supporting operation in type 2 cdma2000 systems

1) Set the following parameters of the *AccessParameters Message* as specified in table 10:

Table 10: Test values for parameters of the *AccessParameters Message*

Parameter	Value (Decimal)
OpenLoopAdjust	84 (-84 dB)
ProbeInitialAdjust	15 (15 dB)
ProbeNumStep	15 (15 probes/sequence)

2) Set the following fields of the *InitialConfiguration* attribute of the Default access channel MAC Protocol as specified in table 11:

Table 11: Test values for fields of the *InitialConfiguration* attribute

Parameter	Value (Decimal)
PowerStep	15 (7,5 dB/step)
ProbeSequenceMax	15 (15 sequences)

3) Connect the sector to the access terminal antenna connector as shown in TIA-866 [12], figure 11.5.1-4. The AWGN generator and the CW generator are not applicable in this test. Connect a spectrum analyzer (or other suitable test equipment) to the access terminal antenna connector.

4) Set up a test application session. Open a connection and configure the test application RTAP so that the reverse Data Channel rate corresponds to 153,6 kbit/s. Configure the test application FTAP so that the forward traffic channel data rate corresponds to the 2-slot version of 307,2 kbit/s, and the ACK Channel is transmitted at all the slots.

5) Set $\hat{I}_{or}$ to -105,5 dBm/1,23 MHz.

6) Send continuously "0" power control bits to the access terminal.

7) Measure the spurious emission levels.

The results obtained shall be compared to the limits in clause 4.2.2.2.1 in order to prove compliance.

5.3.2 Maximum RF output power

5.3.2.1 Test procedure for mobile stations supporting operation in type 1 cdma2000 systems

Test environment: standard test conditions and extreme conditions (for guidance see annex B).

1) Connect the base station to the mobile station antenna connector as shown in ANSI/TIA-98-E [4], figure 6.5.1-4. The AWGN generator and the interference generator are not applicable in this test.

2) Configure the mobile station to operate in band class 6 and perform steps 3 through 35.

3) If the mobile station supports reverse traffic channel radio configuration 1 and forward traffic channel radio configuration 1, set up a call using fundamental channel test mode 1 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 6 through 8.

4) If the mobile station supports the radio configuration 3 reverse fundamental channel and demodulation of radio configuration 3, 4, or 5, set up a call using fundamental channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 6 through 8.

5) If the mobile station supports the radio configuration 3 reverse dedicated control channel and demodulation of radio configuration 3, 4, or 5, set up a call using dedicated control channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate and 100 % frame activity and perform steps 6 through 8.

6) Set the test parameters a specified in table 12.

7) Send continuously "0" power control bits to the mobile station.

8) Measure the mobile station output power at the mobile station antenna connector.

9) If the mobile station supports the radio configuration 3 reverse fundamental channel, radio configuration 3 reverse dedicated control channel and demodulation of radio configuration 3, 4, or 5, set up a call using fundamental channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 1 500 bit/s fundamental channel data rate only and 9 600 bit/s dedicated control channel with 100 % frame activity, and perform steps 12 through 19.

10) If the mobile station supports the radio configuration 3 reverse fundamental channel, radio configuration 3 reverse supplemental Channel 0 and demodulation of radio configuration 3, 4, or 5, set up a call using supplemental Channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s fundamental channel and 9 600 bit/s supplemental Channel 0 data rate, and perform steps 12 through 19.

11) If the mobile station supports the radio configuration 3 reverse dedicated control channel, radio configuration 3 reverse supplemental Channel 0 and demodulation of radio configuration 3, 4, or 5, set up a call using supplemental Channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s dedicated control channel with 100 % frame activity and 9 600 bit/s supplemental Channel 0 data rate, and perform steps 12 through 19.

12) Set the test parameters as specified in table 13.

13) Send alternating "0" and "1" power control bits to the mobile station using the smallest supported closed loop power control step size supported by the mobile station.

14) Determine the active channel configuration. If the desired channel configuration is not active, increase $\hat{I}_{or}$ by 1 dB and repeat this step until the desired channel configuration becomes active.

15) Measure the mobile station output power at the mobile station antenna connector.

16) Decrease $\hat{I}_{or}$ by 0,5 dB.

17) Determine the active channel configuration. If the active channel configuration is the desired channel configuration, measure the mobile station output power at the mobile station antenna connector.

18) Repeat steps 16 and 17 until the output power no longer increases or the desired channel configuration is no longer active. Record the highest output power achieved with the desired channel configuration active.

19) Repeat steps 12 through 18 ten times and average the results.

20) If the mobile station supports the radio configuration 5 reverse fundamental channel and demodulation of radio configuration 6, 7, 8, or 9, set up a call using fundamental channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 22 through 24.

21) If the mobile station supports the radio configuration 5 reverse dedicated control channel and demodulation of radio configuration 6, 7, 8, or 9, set up a call using dedicated control channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and 100 % frame activity and perform steps 22 through 24.

22) Set the test parameters as specified in table 14.

23) Send continuously "0" power control bits to the mobile station.

24) Measure the mobile station output power at the mobile station antenna connector

25) If the mobile station supports the radio configuration 5 reverse fundamental channel, radio configuration 5 reverse dedicated control channel and demodulation of radio configuration 6, 7, 8, or 9, set up a call using fundamental channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 1 500 bit/s fundamental channel data rate only and 9 600 bit/s dedicated control channel with 100 % frame activity, and perform steps 28 through 35.

26) If the mobile station supports the radio configuration 5 reverse fundamental channel, radio configuration 5 reverse supplemental Channel 0 and demodulation of radio configuration 6, 7, 8, or 9, set up a call using supplemental Channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s fundamental channel and 9 600 bit/s supplemental Channel 0 data rate, and perform steps 28 through 35.

27) If the mobile station supports the radio configuration 5 reverse dedicated control channel, radio configuration 5 reverse supplemental Channel 0 and demodulation of radio configuration 6, 7, 8, or 9, set up a call using supplemental Channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s dedicated control channel with 100 % frame activity and 9 600 bit/s supplemental Channel 0 data rate, and perform steps 28 through 35.

28) Set the test parameters as specified in table 15.

29) Send alternating "0" and "1power control bits to the mobile station using the smallest supported closed loop power control step size supported by the mobile station.

30) Determine the active channel configuration. If the desired channel configuration is not active, increase Îor by 1 dB and repeat this step until the desired channel configuration becomes active.

31) Measure the mobile station output power at the mobile station antenna connector.

32) Decrease Îor by 0,5 dB.

33) Determine the active channel configuration. If the active channel configuration is the desired channel configuration, measure the mobile station output power at the mobile station antenna connector.

34) Repeat steps 32 and 33 until the output power no longer increases or the desired channel configuration is no longer active. Record the highest output power achieved with the desired channel configuration active.

35) Repeat steps 28 through 34 ten times and average the results.

Table 12: Test parameters for maximum RF output power for spreading rate 1

Parameter	Units	Value
Îor	dBm/1,23 MHz	-104
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7,4

Table 13: Test Parameters for Maximum RF Output Power for spreading rate 1

Parameter	Units	Value
Îor dBm/1,23	MHz	-86
Pilot Ec/Ior	dB	-7
Traffic Ec/Ior	dB	-7,4

Table 14: Test parameters for maximum RF output power for spreading rate 3

Parameter	Units	Value
$\hat{I}_{or}$	dBm/3,69 MHz	-99
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-10
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-12,4

Table 15: Test Parameters for Maximum RF Output Power for spreading rate 3

Parameter	Units	Value
$\hat{I}_{or}$	dBm/3,69 MHz	-81
Pilot Ec/Ior	dB	-10
Traffic Ec/I or	dB	-12,4

The results obtained shall be compared to the limits in clause 4.2.3.2 in order to prove compliance.

5.3.2.2 Test procedure for mobile stations supporting operation in type 2 cdma2000 systems

Test environment: standard test conditions and extreme conditions (for guidance see annex B).

1) Configure all of the open loop parameters to their maximum settings. Set the following parameters of the *AccessParameters Message* as specified in table 16.

Table 16: Test values for parameters of the *AccessParameters Message*

Parameter	Value (Decimal)
OpenLoopAdjust	84 (-84 dB)
ProbeInitialAdjust	15 (15 dB)
ProbeNumStep	15 (15 probes/sequence)

2) Set the following fields of the *InitialConfiguration* attribute of the Default access channel MAC Protocol as specified in table 17.

Table 17: Test values for fields of the *InitialConfiguration* attribute

Parameter	Value (Decimal)
PowerStep	15 (7,5 dB/step)
ProbeSequenceMax	15 (15 sequences)

3) Connect the sector to the access terminal antenna connector as shown in TIA-866 [12], figure 11.5.1-4. The AWGN generator and the CW generator are not applicable in this test.

4) Set up a test application session. Open a connection and configure the test application RTAP so that the reverse Data Channel rate corresponds to 153,6 kbit/s. Configure the test application FTAP so that the forward traffic channel data rate corresponds to the 2-slot version of 307,2 kbit/s, and the ACK Channel is transmitted at all the slots.

5) Set $\hat{I}_{or}$ to -105,5 dBm/1,23 MHz.

6) Send continuously "0" power control bits to the access terminal.

7) Measure the access terminal output power at the access terminal antenna connector.

The results obtained shall be compared to the limits in clause 4.2.3.2 in order to prove compliance.

5.3.3 Minimum controlled output power

5.3.3.1 Test procedure for mobile stations supporting operation in type 1 cdma2000 systems

Test environment: standard test conditions and extreme conditions (for guidance see annex B).

1) Connect the base station to the mobile station antenna connector as shown in ANSI/TIA-98-E [4], figure 6.5.1-4. The AWGN generator and the interference generator are not applicable in this test.
2) Configure the base station and mobile station to operate in band class 6 and perform steps 3 through 7.
3) If the mobile station supports demodulation of radio configuration 1, 2, 3, 4, or 5, set up a call using fundamental channel test mode 1 or 3 or dedicated control channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 5 through 7.
4) If the mobile station supports demodulation of radio configuration 6, 7, 8, or 9, set up a call using fundamental channel test mode 7 or control channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 5 through 7.
5) Set the test parameters as specified in table 18.
6) Send continuously "1" power control bits to the mobile station.
7) Measure the mobile station output power at the mobile station antenna connector.

Table 18: Test parameters for minimum controlled output power

Parameter	Units	Value
$\hat{I}_{or}$	dBm/1,23 MHz	-25
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7,4

The results obtained shall be compared to the limits in clause 4.2.4.2 in order to prove compliance.

5.3.3.2 Test procedure for mobile stations supporting operation in type 2 cdma2000 systems

1) Connect the sector to the access terminal antenna connector as shown in TIA-866 [12], figure 11.5.1-4. The AWGN generator and the CW generator are not applicable in this test.
2) Set up a test application session. Open a connection and configure the test application RTAP so that the reverse Data Channel rate corresponds to 9,6 kbit/s.
3) Set $\hat{I}_{or}$ to -25 dBm/1,23 MHz.
4) Send continuously "1" power control bits to the access terminal.
5) Measure the access terminal output power at the access terminal antenna connector.

The results obtained shall be compared to the limits in clause 4.2.4.2 in order to prove compliance.

5.3.4 Conducted spurious emissions when not transmitting

5.3.4.1 Test procedure for mobile stations supporting operation in type 1 and/or type 2 cdma2000 systems

1) Connect a spectrum analyser (or other suitable test equipment) to the mobile station antenna connector.

2) Configure the mobile station to operate in band class 6 and perform steps 3 and 4.

3) Enable the mobile station receiver for CDMA-only mode, so that the mobile station continuously cycles between the *System Determination Substate* and the *pilot channel Acquisition Substate* of the *Mobile Station Initialization State*. Since there is no forward CDMA Channel for this configuration, the mobile station should not pass the *pilot channel Acquisition Substate*.

4) Sweep the spectrum analyser over a frequency range from 30 MHz to 12,75 GHz and measure the spurious emission levels.

The results obtained shall be compared to the limits in clause 4.2.5.2 in order to prove compliance.

5.3.5 Receiver blocking characteristics

5.3.5.1 Test procedure for mobile stations supporting operation in type 1 cdma2000 systems

1) Connect the base station and an interfering CW tone to the mobile station antenna connector as shown in ANSI/TIA-98-E [4], figure 6.5.1-4.

2) For all tests, forward Link Power Control shall be disabled in the base station.

3) Configure the base station to operate in Band Class 6.

4) If the mobile station supports demodulation of radio configuration 1 or 2, set up a call using fundamental channel test mode 1 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 7 through 15.

5) If the mobile station supports demodulation of radio configuration 3, 4, or 5, set up a call using Fundamental test mode 1 or 3 or dedicated control channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 7 through 15.

6) If the mobile station supports demodulation of radio configuration 6, 7, 8, or 9, set up a call using Fundamental test mode 7 or dedicated control channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 7 through 15.

7) Set the test parameters for test 1 as specified in table 19 and perform step 15.

8) Set the test parameters for test 2 as specified in table 19 and perform step 15.

9) Set the test parameters for test 3 as specified in table 19 and perform step 15.

10) Set the test parameters for test 4 as specified in table 19 and perform step 15.

11) Set the test parameters for test 5 as specified in table 20 and perform steps 14 and 15 using the Default CW Tone Power.

12) Set the test parameters for test 6 as specified in table 20 and perform steps 14 and 15 using the Default CW Tone Power.

13) Set the test parameters for test 7 as specified in table 20 and perform steps 14 and 15 using the Default CW Tone Power.

14) Step the CW tone frequency through each inclusive range of frequencies given for the current test in table 20 at 1 MHz intervals and perform step 15.

15) Count, at the base station, the number of frames transmitted and the number of good frames received at the mobile station.

16) If spurious responses occurred in tests 6 or 7 repeat step 15 for each spurious response frequency using the Alternate CW Tone Power given in table 20.

Table 19: Test parameters for receiver blocking characteristics (in-band)

<table>
<tr><th colspan="2">Parameter</th><th>Units</th><th>Test 1</th><th>Test 2</th><th>Test 3</th><th>Test 4</th></tr>
<tr><td rowspan="2">CW Tone Offset from Carrier</td><td>SR 1</td><td>kHz</td><td>+5 000</td><td>-5 000</td><td>+7 500</td><td>-7 500</td></tr>
<tr><td>SR 3</td><td>kHz</td><td>+10 000</td><td>-10 000</td><td>+15 000</td><td>-15 000</td></tr>
<tr><td colspan="2">CW Tone Power</td><td>dBm</td><td colspan="2">-56</td><td colspan="2">-44</td></tr>
<tr><td colspan="2">$\hat{I}_{or}$</td><td>dBm/1,23 MHz</td><td colspan="4">-101</td></tr>
<tr><td colspan="2">$\frac{\text{Pilot } E_c}{I_{or}}$</td><td>dB</td><td colspan="4">-7</td></tr>
<tr><td colspan="2">$\frac{\text{Traffic } E_c}{I_{or}}$</td><td>dB</td><td colspan="4">-15,6 (SR 1)
-20,6 (SR 3)</td></tr>
<tr><td colspan="7">NOTE: For the case of a spreading rate 3 system, $\hat{I}_{or}$ is the received power on each carrier.</td></tr>
</table>

Table 20: Test parameters for receiver blocking characteristics (out-of-band)

<table>
<tr><th>Parameter</th><th>Units</th><th>Test 5</th><th>Test 6</th><th>Test 7</th></tr>
<tr><td>CW Tone Frequency</td><td>MHz</td><td>2 051 to 2 095
2 185 to 2 230</td><td>2 026 to 2 050
2 231 to 2 255</td><td>1 to 2 025
2 255 to 12 750</td></tr>
<tr><td>Default CW Tone Power</td><td>dBm</td><td>-44</td><td>-30</td><td>-15</td></tr>
<tr><td>Alternate CW Tone Power</td><td>dBm</td><td>-</td><td>-44</td><td>-44</td></tr>
<tr><td>$\hat{I}_{or}$</td><td>dBm/1,23 MHz</td><td colspan="3">-101</td></tr>
<tr><td>$\frac{\text{Pilot } E_c}{I_{or}}$</td><td>dB</td><td colspan="3">-7</td></tr>
<tr><td>$\frac{\text{Traffic } E_c}{I_{or}}$</td><td>dB</td><td colspan="3">-15,6 (SR 1)
-20,6 (SR 3)</td></tr>
<tr><td colspan="5">NOTE: For the case of a spreading rate 3 system, $\hat{I}_{or}$ is the received power on each carrier.</td></tr>
</table>

The results obtained shall be compared to the limits in clause 4.2.6.2 in order to prove compliance.

5.3.5.2 Test procedure for mobile stations supporting operation in type 2 cdma2000 systems

1) Connect the sector and an interfering CW tone to the access terminal connector as shown in TIA-866 [12], figure 11.5.1-4.

2) Configure the access network to operate in band class 6.

3) Set up a test application session. Open a connection and configure the test application FTAP so that the forward traffic channel rate corresponds to the 2-slot version of 307,2 kbit/s.

4) Set the test parameters for Test 1 as specified in table 21 and perform step 12.

5) Set the test parameters for Test 2 as specified in table 21 and perform step 11.

6) Set the test parameters for Test 3 as specified in table 21and perform step 11.

7) Set the test parameters for Test 4 as specified in table 21 and perform step 11.

8) Set the test parameters for Test 5 as specified in table 22 and perform steps 10and 11 using the Default CW Tone Power.

9) Set the test parameters for Test 6 as specified in table 22 and perform steps 10and 11 using the Default CW Tone Power.

10) Set the test parameters for Test 7 as specified in table 22 and perform steps 10 and 11 using the Default CW Tone Power.

11) Step the CW tone frequency through each inclusive range of frequencies given for the current test in table 22 at 1 MHz intervals and perform step 11.

12) From the number of packets transmitted and the number of bad packets received calculate the PER for this test.

13) If spurious responses occurred in Tests 6 or 7 repeat step 11 for each spurious response frequency using the Alternate CW Tone Power given in table 22.

Table 21: Test parameters for receiver blocking characteristics (in-band)

Parameter	Units	Test 1	Test 2	Test 3	Test 4
CW Tone Offset From Carrier	kHz	+5 000	-5 000	+7 500	-7 500
CW Tone Power	dBm	-56		-44	
$\hat{I}_{or}$	dBm/1,23 MHz	-105,5			

Table 22: Test parameters for receiver blocking characteristics (out-of-band)

Parameter	Units	Test 5	Test 6	Test 7
CW Tone Frequency	MHz	2 051 - 2 095 2 185 - 2 230	2 026 - 2 050 2 231 - 2 255	1 - 2 025 2 255 - 12 750
Default CW Tone Power	dBm	-44	-30	-15
Alternate CW Tone Power	dBm	-	-44	-44
$\hat{I}_{or}$	dBm/1,23 MHz	-105,5		

The results obtained shall be compared to the limits in clause 4.2.6.4 in order to prove compliance.

5.3.6 Intermodulation spurious response attenuation

5.3.6.1 Test procedure for mobile stations supporting operation in type 1 cdma2000 systems

1) Connect the base station and two interfering CW tones to the mobile station antenna connector as shown in ANSI/TIA-98-E [4], figure 6.5.1-4.

2) For all tests, forward traffic channel closed loop power control shall be disabled in the base station simulator.

3) Configure the base station to operate in band class 6 and perform steps 4 through 9.

4) If the mobile station supports demodulation of radio configuration 1,2,3, 4, or 5, set up a call using fundamental channel test mode 1 or 3 or dedicated control channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 6 through 8.

5) If the mobile station supports demodulation of radio configuration 6, 7, 8, or 9, set up a call using fundamental channel test mode 7 or dedicated control channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 76 through 8.

6) Set the test parameters for test 1 as specified in table 23 and perform step 8.

7) Set the test parameters for test 2 as specified in table 23 and perform step 8.

8) Count, at the base station, the number of frames transmitted and the number of good frames received at the mobile station.

Table 23: Test Parameters for intermodulation spurious response attenuation (tests 1 and 2)

Parameter		Units	Test 1	Test 2
Tone 1 Offset from Carrier	SR 1	MHz	+2,5	-2,5
	SR 3	MHz	+5	-5
Tone 1 Power	SR 1	dBm	-48	
	SR 3	dBm	-46	
Tone 2 Offset from Carrier	SR 1	MHz	+4,9	-4,9
	SR 3	MHz	+9,7	-9,7
Tone 2 Power	SR 1	dBm	-48	
	SR 3	dBm	-46	
$\hat{I}_{or}$		dBm/ 1,23 MHz	-101	
$\frac{\text{Pilot } E_c}{I_{or}}$		dB	-7	
$\frac{\text{Traffic } E_c}{I_{or}}$		dB	-15,6 (SR 1) -20,6 (SR 3)	
NOTE: For the case of a spreading rate 3 system, Îor is the received power on each carrier. When operating a spreading rate 3 system that is overlaid on a spreading rate 1 carrier, the spreading rate 1 intermodulation tests shall not apply.				

The results obtained shall be compared to the limits in clause 4.2.7.2.1 in order to prove compliance.

5.3.6.2 Test procedure for mobile stations supporting operation in type 2 cdma2000 systems

1) Connect the sector and two interfering CW tones to the access terminal antenna connector as shown in TIA-866 [12], figure 11.5.1-4.

2) Configure the access terminal to operate in band class 6 and perform steps 3 through 6.

3) Set up a test application session. Open a connection and configure the test application FTAP so that the forward traffic channel rate corresponds to the 2-slot version of 307,2 kbit/s.

4) Set the test parameters for Test 1 as specified in table 24 and perform step 6.

5) Set the test parameters for Test 2 as specified in table 24 and perform step 6.6) From the number of packets transmitted and the number of bad packets received calculate the PER for this test.

Table 24: Test Parameters for Band Class 6 Intermodulation Spurious Response Attenuation (Tests 1 and 2)

Parameter	Units	Test 1	Test 2
Tone 1 Offset from Carrier	MHz	+2,5	-2,5
Tone Power 1	dBm	-48	
Tone 2 Offset from Carrier	MHz	+4,9	-4,9
Tone Power 2	dBm	-48	
$\hat{I}_{or}$	dBm/1,23 MHz	-102,4	

The results obtained shall be compared to the limits in clause 4.2.7.2.2 in order to prove compliance.

5.3.7 Adjacent channel selectivity

5.3.7.1 Test procedure for mobile stations supporting operation in type 1 cdma2000 systems

1) Connect the base station and an interfering CDMA signal to the mobile station antenna connector as shown in ANSI/TIA-98-E [4], figure 6.5.1-4. The modulated interference shall be a signal modulated with a combination of Pilot, Sync, Paging and traffic channels as specified in table 25. The source shall be radio configuration 3 with full rate traffic channels for spreading rate 1 tests, and radio configuration 6 with full rate traffic channels for spreading rate 3 tests.

2) For all tests, forward traffic channel closed loop power control should be disabled in the base station simulator.

3) Configure the base station to operate in Band Class 6 and perform steps 4 through 9.

4) If the mobile station supports demodulation of radio configuration 1 or 2, set up a call using fundamental channel test mode 1 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 7 and 8.

5) If the mobile station supports demodulation of radio configuration 3, 4, or 5, set up a call using fundamental channel test mode 1 or 3 or dedicated control channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 7 and 8.

6) If the mobile station supports demodulation of radio configuration 6, 7, 8, or 9, set up a call using fundamental channel test mode 7 or dedicated control channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 7 and 8.

7) Set the test parameters for test 1 as specified in table 26 and perform step 9.

8) Set the test parameters for test 2 as specified in table 26 and perform step 9.

9) Count, at the base station, the number of frames transmitted and the number of good frames received at the mobile station.

Table 25: Configuration for interference source

Channel type	Number of Channels	Fraction of Power (linear)	Fraction of Power (dB)	Comments
forward Pilot	1	0,2000	-7,0	Code W_0^{128}
Sync	1	0,0471	-13,3	Code channel W_{32}^{64} ; always 1/8 rate
Paging	1	0,1882	-7,3	Code channel W_1^{64} ; full rate only
Traffic	6	0,09412	-10,3	Variable code channel assignments; full rate only
NOTE: The code channels are defined in TIA/EIA/IS-2000.2-B [5], clause 2.1.3.1.8.				

Table 26: Test parameters for adjacent channel selectivity

Parameter		Units	Tests 1	Tests 2
Adjacent CDMA Channel Offset from Carrier	SR 1	MHz	+2,5	-2,5
	SR 3	MHz	+5,0	-5,0
Interference Source, modulated source		dBm/1,23 MHz	-37 (SR 1)	
		dBm/3,69 MHz	-50 (SR 3)	
$\hat{I}_{or}$		dBm/1,23 MHz	-101	
Pilot $\frac{E_c}{I_{or}}$		dB	-7	
Traffic $\frac{E_c}{I_{or}}$		dB	-15,6 (SR 1) -20,6 (SR 3)	
NOTE: For the case of a spreading rate 3 system, $\hat{I}_{or}$ is the received power on each carrier.				

The results obtained shall be compared to the limits in clause 4.2.8.2.1 in order to prove compliance.

5.3.7.2 Test procedure for mobile stations supporting operation in type 2 cdma2000 systems

1) Connect the sector and an interfering HRPD signal to the access terminal antenna connector as shown in TIA-866 [12], figure 11.5.1-5.

2) Configure the access terminal to operate in Band Class 6 and perform steps 3 through 8.

3) Set up a test application session. Open a connection and configure the test application FTAP so that the forward traffic channel rate corresponds to the 2-slot version of 307,2 kbit/s.

4) Set the test parameters for Test 1 as specified in table 27 and perform step 6.

5) Set the test parameters for Test 2 as specified in table 27 and perform step 6.

6) From the number of packets transmitted and the number of bad packets received calculate the PER for this test.

7) Connect the sector and an interfering CDMA signal to the access terminal antenna connector as shown in TIA-866 [12], figure 11.5.1-5.

8) Repeat steps 2 through 6.

Table 27: Test Parameters for Adjacent Channel Selectivity

Parameter	Units	Test 1	Test 2
Adjacent HRPD Channel or CDMA Channel Offset from Carrier	MHz	+2,5	-2,5
Adjacent HRPD Channel or CDMA Channel Power	dBm	-37	
$\hat{I}_{or}$	DBm/1,23 MHz	-102,4	

The results obtained shall be compared to the limits in clause 4.2.8.2.2 in order to prove compliance.

5.3.8 Supervision of paging channel or Forward Common Control Channel

NOTE: Applicable to mobile station operating in type 1 cdma2000 systems.

1) Connect the base station to the mobile station antenna connector as shown in ANSI/TIA-98-E [4], figure 6.5.1-4. The AWGN generator and the interference generator are not applicable in this test.
2) Configure the mobile station to operate in band class 6 and perform steps 3 through 17.
3) Set the base station to ignore all access attempts.
4) Set the base station to disable access entry handoff, access probe handoff and access handoff.
5) Set the test parameters as specified in table 29.
6) Set the following parameters of the access parameters message to the value specified table 28.

Table 28: Access parameters message

Parameter	Value (Decimal)
NUM_STEP	15 (16 probes/sequence)
MAX_RSP_SEQ	15 (15 sequences)

7) Set the base station to send at least one valid message in every Paging Channel slot.
8) Send a page to the mobile station on the Paging Channel.
9) Wait for two seconds and disable the paging channel.
10) Monitor the mobile station output power (Test 1).
11) If the mobile station supports the Forward Common Control Channel, perform steps 12 through 17.
12) Set the test parameters as specified in table 29b.
13) Set the following parameters of the Enhanced Access Parameters Message to the value specified in table 28b.

Table 28b: Enhanced access parameters message

Parameter	Value (Decimal)
EACH_NUM_STEP	15 (16 probes/sequence)
MAX_RSP_SEQ	15 (15 sequences)

14) Set the base station to send at least one valid message in every Forward Common Control Channel slot.
15) Send a page to the mobile station on the Forward Common Control Channel.
16) Wait for two seconds and then disable both the Forward Common Control Channel and Broadcast Control Channel.
17) Monitor the mobile station output power (Test 2).

Table 29: Test parameters for supervision of paging channel

Parameter	Units	Value
$\hat{I}_{or}$	dBm/1,23 MHz	-55
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Paging } E_c}{I_{or}}$	dB	-16
PCH Data Rate	bit/s	9 600

Table 29b: Test parameters for supervision of forward common control channel

Parameter	Units	Value
$\hat{I}_{or}$	dBm/1,23 MHz	-55
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{BCCH } E_c}{I_{or}}$	dB	-15,7 (Rate = 1/4) or -15,2 (Rate = 1/2)
$\frac{\text{FCCCH } E_c}{I_{or}}$	dB	-13,0 (Rate = 1/4) or -12,6 (Rate = 1/2)
BCCH Data Rate	bit/s	9 600 (80 ms)
FCCCH Data Rate	bit/s	19 200 (20 ms)

The results obtained shall be compared to the limits in clause 4.2.9.2 in order to prove compliance.

5.3.9 Supervision of forward traffic channel

NOTE: Applicable to mobile station operating in type 1 cdma2000 systems.

This test shall be performed on the forward fundamental channel and the forward dedicated control channel if they are supported. The test shall be performed separately for each supported channel. During this test PUF, CDMA Candidate Frequency searches, Analog searches, and GPS measurements shall be disabled.

1) Connect the base station to the mobile station antenna connector as shown in ANSI/TIA-98-E [4], figure 6.5.1-4. The AWGN generator and the interference generator are not applicable in this test.

2) Configure the mobile station to operate in band class 6 and perform steps 3 through 7.

3) If the mobile station supports demodulation of radio configuration 1 or 2 and does not support demodulation of radio configuration 3, set up a call using fundamental channel test mode 1 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 8 through 15.

4) If the mobile station supports the fundamental channel and demodulation of radio configuration 3, 4, or 5, set up a call using fundamental channel test mode 1 or 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 8 through 15.

5) If the mobile station supports the dedicated control channel and demodulation of radio configuration 3, 4, or 5, set up a call using dedicated control channel test mode 3 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate and 20 ms frame length and perform steps 8 through 19.

6) If the mobile station supports the fundamental channel and demodulation of radio configuration 6, 7, 8, or 9, set up a call using fundamental channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate only and perform steps 8 through 15.

7) If the mobile station supports the dedicated control channel and demodulation of radio configuration 6, 7, 8, or 9, set up a call using dedicated control channel test mode 7 (see ANSI/TIA-98-E [4], clause 1.3) with 9 600 bit/s data rate and 20 ms frame length and perform steps 8 through 19.

8) Set the base station simulator so as to not drop a call.

9) Set the test parameters as specified in table 30. Forward traffic channel open loop power control should be effectively disabled in the base station by setting identical the outer loop setpoint values while achieving the specified test conditions.

10) Send the forward fundamental channel with 9 600 bit/s data rate only or the forward dedicated control channel with power control bits but no data (i.e. DCCH frame activity = 0 %).

11) Disable the transmission on the forward fundamental channel or the forward dedicated control channel starting at a frame boundary for exactly 12 × 0,02 s. When transmission is re-enabled, send the forward fundamental channel with 9600 bit/s data rate only or the forward dedicated control channel with 9600 bit/s data rate (i.e. DCCH frame activity = 100%).

12) Monitor the mobile station output power (test 1).

13) Set the test parameters as specified in table 30.

14) Disable and enable, on an alternating frame-by-frame basis, the transmission of the forward fundamental channel or the forward dedicated control channel frames for at least 5 s starting at the beginning of the first disabled forward traffic channel frame.

15) Monitor the mobile station output power (test 2).

16) If the mobile station supports the dedicated control channel, set up a call using the same dedicated control channel test mode used in tests 1 and 2.

17) Set the test parameters as specified in table 30.

18) Send 100 frames with power control bits only, but no data on the forward dedicated control channel (i.e. frame activity = 0 %), starting at a forward traffic channel frame boundary.

19) Monitor the mobile station output power (test 3).

Table 30: Test parameters for supervision of forward traffic channel

Parameter	Units	Value
$\hat{I}_{or}$	dBm/1,23 MHz	-75
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-16

The results obtained shall be compared to the limits in clause 4.2.10.2 in order to prove compliance.

5.3.10 Supervision of control channel

NOTE: Applicable to mobile stations operating in type 2 cdma2000 systems.

1) Connect the sector to the access terminal antenna connector as shown in TIA-866 [12], figure 11.5.1-4. The AWGN generator and the CW generator are not applicable in this test.

2) Set $\hat{I}_{or}$ to -75 dBm.

Test 1:

3) Set the access network to ignore all access attempts.

4) Set the parameter ProbeNumStep to 15 (15 probes/sequence) in the *AccessParameters Message.*

5) Send a page to the access terminal.

6) Wait for at least two seconds and disable the Control Channel right after a Control Channel capsule has been sent.

7) Monitor the access terminal's output power.

Test 2:

8) Open a connection.

9) Wait for at least two seconds and disable the Control Channel right after a Control Channel capsule has been sent.

10) Monitor the access terminal's output power.

11) The results obtained shall be compared to the limits in clause 4.2.11 in order to prove compliance.

5.3.11 Supervision procedures in variable rate state

NOTE: Applicable to mobile station operating in type 2 cdma2000 systems.

1) Connect the sector to the access terminal antenna connector as shown TIA-866 [12] figure 11.5.1-4. The AWGN generator and the CW generator are not applicable in this test.

2) Set $\hat{I}_{or}$ to -75 dBm.

3) Set DRCLength to "1" (1 slot) in the *TrafficChannelAssignment Message*.

Test 1:

4) Open a connection.

5) Wait for at least 2 seconds and disable the forward link.

6) Monitor the access terminal's output power and the access terminal's DRC values received at the access network.

Test 2:

7) Open a connection.

8) In the *QuickConfig Message* set the *ForwardTrafficValid* bit corresponding to the access terminal to 0.

9) Monitor the access terminal's output power.

The results obtained shall be compared to the limits in clause 4.2.12 in order to prove compliance.

Annex A (normative): EN Requirements Table (EN-RT)

This EN Requirements Table (EN-RT) serves a number of purposes, as follows:

- it provides a tabular summary of the requirements for this part;
- it shows the status of each EN-R, whether it is essential to implement in all circumstances (Mandatory), or whether the requirement is dependent on the supplier having chosen to support a particular optional service or functionality (Optional). In particular it enables the EN-Rs associated with a particular optional service or functionality to be grouped and identified;
- when completed in respect of a particular equipment it provides a means to undertake the static assessment of conformity with this part of the EN.

Table A.1: EN Requirements Table (EN-RT)

EN Reference		EN 301 908-4				Comment
No.	**Reference**	**EN-R (see note)**	**Status**			
1	4.2.2	Conducted spurious emissions when transmitting	M			
2	4.2.3	Maximum RF output power	M			
3	4.2.4	Minimum controlled output power	M			
4	4.2.5	Conducted spurious emissions when not transmitting	M			
5	4.2.6	Receiver blocking characteristics	M			
6	4.2.7	Intermodulation spurious response attenuation	M			
7	4.2.8	Adjacent channel selectivity	M			
8	4.2.9	Supervision of paging channel	M type 1			
9	4.2.10	Supervision of forward traffic channel	M type 1			
10	4.2.11	Supervision of control channel	M type 2			
11	4.2.12	Supervision procedures in variable rate state	M type 2			
NOTE: These EN-Rs are justified under article 3.2 of the R&TTE Directive N-R I-7 are mandatory for mobile stations operating in type 1 and/or type 2 cdma2000 systems, EN-R 8 and 9 are applicable for mobile stations operating in type 1 cdma2000 systems, and EN-R 10 and 11 are applicable for mobile stations operating in type 2 cdma2000 systems.						

Key to columns:

No: Table entry number;

Reference: Clause reference number of conformance requirement within the present document;

EN-R: Title of conformance requirement within the present document;

Status: Status of the entry as follows:

M Mandatory, shall be implemented under all circumstances;

O Optional, may be provided, but if provided shall be implemented in accordance with the requirements;

O.n This status is used for mutually exclusive or selectable options among a set. The integer "n" shall refer to a unique group of options within the EN-RT. A footnote to the EN-RT shall explicitly state what the requirement is for each numbered group. For example, "It is mandatory to support at least one of these options", or, "It is mandatory to support exactly one of these options".

Comments To be completed as required.

Annex B (informative): Environmental profile and standard test conditions

B.1 Introduction

The following clause contains a copy of the description of environmental requirements as specified in ANSI/TIA-98-E [4], clause 5, and TIA-866 [12], clause 11 and a definition of standard test conditions. This should provide some guidance on how the environmental profile can be declared for the purpose of the present document.

B.2 CDMA environmental requirements

B.2.1 Temperature and power supply voltage

B.2.1.1 Definition

The temperature and voltage ranges denote the ranges of ambient temperature and power supply input voltages over which the mobile station will operate and meet the requirements of these standards. The ambient temperature is the average temperature of the air surrounding the mobile station. The power supply voltage is the voltage applied at the input terminals of the mobile station. The manufacturer shall specify the temperature range and the power supply voltage over which the equipment is to operate. In order to provide a convenient means for the manufacturer to express the temperature range under which the mobile station conforms to these recommended minimum standards, temperature ranges designated by letters are defined in table B.1.

Table B.1: Temperature Ranges

Designator	Range
A	-40°C to +70°C
B	-30°C to +60°C
C	-20°C to +50°C
D	0°C to +45°C

B.2.1.2 Method of measurement

The mobile station shall be installed in its normal configuration (i.e., in its normal mounting arrangement fully assembled) and placed in a temperature chamber. The temperature chamber shall be stabilized at the manufacturer's highest specified operating temperature, and the mobile station shall be operated over the power supply input voltage range specified by the manufacturer or ±10 %, whichever is greater. With the mobile station operating, the temperature shall be maintained at the specified test temperature without forced circulation of air from the temperature chamber being directly applied to the mobile station. The measurements specified in clause B.2.1.3 shall then be performed.

Turn the mobile station off, stabilize the mobile station in the chamber at room temperature, and repeat the measurements specified in clause B.2.1.3.

Turn the mobile station off, stabilize the mobile station in the chamber at the coldest operating temperature specified by the manufacturer, and repeat the measurements specified in clause B.2.1.3.

The overall temperature range may be reduced to a lesser range than -30°C to +60°C if the manufacturer uses circuitry that automatically inhibits RF transmission when the temperature falls outside the lesser range specified. Measurements shall be made at the specified extremes of the manufacturer's temperature range. The manufacturer shall verify that RF transmission is inhibited outside of the specified temperature range.

B.2.1.3 Minimum standard

The mobile station equipment shall meet all of the minimum standards specified in ANSI/TIA-98-E [4], clauses 3 and 4 under the standard environmental test conditions specified in ANSI/TIA-98-E [4], clause 6.2 for all supported band classes. Over the ambient temperature and power supply ranges specified by the manufacturer, the operation of the mobile station equipment shall meet the following minimum standards for all supported band classes unless noted otherwise:

1) Receiver sensitivity and dynamic range as specified in ANSI/TIA-98-E [4], clause 3.5.1.3. The received CDMA power, $\hat{I}_{or}$, used to measure receiver sensitivity may be increased 2 dB at 60°C and higher.

2) Frequency accuracy as specified in ANSI/TIA-98-E [4], clause 4.1.3.

3) Waveform quality as specified in ANSI/TIA-98-E [4], clause 4.3.4.3.

4) Range of estimated open loop output power as specified in ANSI/TIA-98-E [4], clause 4.4.1.3. For temperatures outside of the range +15°C to +35°C, the test tolerance lower limit may be relaxed to -12,5 dB.

5) Range of closed loop correction as specified in ANSI/TIA-98-E [4], clause 4.4.4.3.

6) Maximum RF output power as specified in ANSI/TIA-98-E [4], clause 4.4.5.3. For Temperature Range Designators A and B, the eirp for a Class II through V mobile station may drop by 2 dB at 60°C and higher. These temperature range backoff allowances are in addition to the test mode configuration backoff allowances specified in ANSI/TIA-98-E [4], clause 4.4.5.3-2. These requirements do not apply other than for coldest, room and highest operating temperature test points.

7) Minimum controlled output power as specified in ANSI/TIA-98-E [4], clause 4.4.6.3.

8) Conducted spurious emissions as specified in ANSI/TIA-98-E [4], clause 4.5.1.3.

B.2.2 High humidity

B.2.2.1 Definition

The term "high humidity" denotes the relative humidity at which the mobile station will operate with the specified performance.

B.2.2.2 Method of measurement

The mobile station, after having operated normally under standard test conditions, shall be placed, inoperative (i.e. switched off), in a humidity chamber with the humidity maintained at 0,024 gm H_2O/gm Dry Air at 50°C (40 % Relative Humidity) for a period of not less than eight hours. The measurements specified in ANSI/TIA-98-E [4], clause 3.5.1 (receiver sensitivity and dynamic range) and ANSI/TIA-98-E [4], clause 4.3.2 (waveform quality) shall then be performed. No readjustment of the mobile station shall be allowed during this test.

Turn the mobile station off, stabilize the mobile station in the chamber at standard conditions within six hours, and perform the measurements specified in ANSI/TIA-98-E [4], clauses 3 and 4.

B.2.2.3 Minimum standard

The mobile station equipment shall meet the minimum standards specified in ANSI/TIA-98-E [4], clauses 3.5.1.3 and 4.3.2.3 under the high humidity conditions. Once stabilized in standard conditions, the mobile station shall meet all the minimum standards specified in ANSI/TIA-98-E [4], clauses 3 and 4.

B.2.3 Vibration stability

B.2.3.1 Definition

Vibration stability is the ability of the mobile station to maintain specified mechanical and electrical performance after being vibrated.

B.2.3.2 Method of measurement

Sinusoidal vibration at 1,5 g acceleration swept through the range of 5 Hz to 500 Hz at the rate of 0,1 octave/s shall be applied to the mobile station in three mutually perpendicular directions (sequentially) for a single sweep rising in frequency followed by a single sweep falling in frequency.

B.2.3.3 Minimum standard

The mobile station equipment shall meet all the minimum standards specified in ANSI/TIA-98-E [4], clauses 3 and 4 after being subjected to the above vibration tests.

B.2.4 Shock stability

B.2.4.1 Definition

Shock stability is the ability of the mobile station to maintain specified mechanical and electrical performance after being shocked.

B.2.4.2 Method of measurement

The mobile station shall be subjected to three test table impacts, in three mutually perpendicular directions and their negatives, for a total of 18 impacts. In all cases, the mobile station shall be secured to the test table by its normal mounting hardware. Each impact shall be a half sine wave, lasting from 7 ms to 11 ms, with at least 20 g peak acceleration.

B.2.4.3 Minimum standard

The mobile station equipment shall meet all the minimum standards specified in ANSI/TIA-98-E [4], clauses 3 and 4 and shall not suffer any mechanical damage after being subjected to the above shock tests.

B.3 Standard test conditions

B.3.1 Standard environmental test conditions

Measurements under standard atmospheric conditions should be carried out under any combination of the following conditions:

Temperature: 5°C to +35°C;

Relative humidity: 45 % to 75 %;

Air pressure: 86 000 Pa to 106 000 Pa (860 mbar to 1 060 mbar).

If desired, the results of the measurements can be corrected by calculation to the standard reference temperature of 25°C and the standard reference air pressure of 101 300 Pa (1 013 mbar).

B.3.2 Standard conditions for the primary power supply

B.3.2.1 General

The standard test voltages should be those specified by the manufacturer, or an equivalent type that duplicates the voltage, impedance, and ampere hours (if relevant for the measurement) of the recommended supply.

B.3.2.2 Standard DC test voltage from accumulator batteries

The standard (or nominal) DC test voltage specified by the manufacturer should be equal to the standard test voltage of the type of accumulator to be used, multiplied by the number of cells minus an average DC power cable loss value, that the manufacturer determines as being typical (or applicable) for a given installation. Since accumulator batteries may or may not be under charge or may be in a state of discharge when the equipment is being operated, the manufacturer should also test the equipment at anticipated voltage extremes above and below the standard voltage. The test voltages should not deviate from the stated values by more than ±2 % during a series of measurements carried out as part of a single test on the same equipment.

B.3.2.3 Standard AC voltage and frequency

For equipment that operates from the AC mains, the standard AC test voltage should be equal to the nominal voltage specified by the manufacturer. If the equipment is provided with different input taps, the one designated "nominal" should be used. The standard test frequency and the test voltage should not deviate from their nominal values by more than ±2 %.

The equipment should operate without degradation with input voltage variations of up to ±10 %, and should maintain its specified transmitter frequency stability for input voltage variations of up to ±15 %. The frequency range over which the equipment is to operate should be specified by the manufacturer.

Annex C (informative): Bibliography

- ETSI TR 100 028 (V1.3.1): "Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".
- Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations.
- TIA/EIA-126-D (2001): "Loopback Service Options (LSO) for cdma2000 Spread Spectrum Systems".
- CEPT/ERC/REC 74-01E (Siófok 1998,Nice 1999, Sesimbra 2002): "Spurious emissions".

Annex D (informative): The EN title in the official languages

Language	EN title
Danish	Elektromagnetisk kompatibilitet og radiospektrumanliggender (ERM); Basisstationer (BS), Repeaters og brugerudstyr (UE) for IMT-2000 CDMA tredje generations cellulær radionet;Part 4: Harmoniseret EN for IMT-2000, CDMA multibærebælge (CDMA2000) (UE) , der dækker de væsentlige krav i R&TTE Direktivets artikel 3.2
Dutch	Elektromagnetische compatibiliteit en radiospectrum-zaken (ERM); Basisstations (BS), Repeaters en gebruikersapparatuur (UE) voor IMT-2000 derde generatie mobiele netwerken; Deel 4: Geharmoniseerde EN voor IMT-2000, CDMA Multi-Carrier (cdma2000) (UE), welke invulling geeft aan de wezenlijke vereisten, neergelegd in artikel 3.2 van de R&TTE-richtlijn
English	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 4: Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (UE) covering essential requirements of article 3.2 of the R&TTE Directive
Finnish	Sähkömagneettinen yhteensopivuus ja radiospektriasiat (ERM); IMT-2000 kolmannen sukupolven solukkoverkon tukiasemat (BS), toistimet ja matkaviestinlaitteet (UE); Osa 4: R&TTE direktiivin artiklan 3.2 olennaiset vaatimukset toteuttava yhdenmukaistettu EN IMT-2000 CDMA monikantoaaltotekniikkaa (cdma2000) käyttäville matkaviestinlaitteille (UE)
French	Compatibilité électromagnétique et Radioélectrique (ERM); Stations de Base (BS), Répéteurs et Equipement Utilisateur (UE) pour les réseaux cellulaires de troisième génération IMT-2000; Partie 4: Norme harmonisée pour l'IMT-2000, CDMA Multi-porteuse (CDMA-2000) (UE) couvrant les exigences essentielles de l'article 3.2 de la Directive R&TTE
German	Elektromagnetische Verträglichkeit und Funkspektrumangelegenheiten (ERM); Feststationen (BS), Repeater und Einrichtungen für den Nutzer (UE) für digitale zellulare IMT-2000 Funknetze der 3. Generation, Teil 4:Harmonisierte Europäische Norm (EN) für IMT-2000, CDMA-Vielfachträger-Einrichtungen (cdma2000) für den Nutzer (UE) mit wesentlichen Anforderungen nach R&TTE-Richtlinie Artikel 3.2
Greek	Ηλεκτρομαγνητική συμβατότητα και Θέματα Ηλεκτρομαγνητικού Φάσματος (ERM); Σταθμοί Βάσης (BS), αναμεταδότες και Μηχανήματα Χρηστών (UE) για κυψελωτά δίκτυα Τρίτης Γεννιάς IMT-2000; Μερος 4: Εξαρμονισμένη τυποποίηση για IMT-2000, CDMA Multi-Carrier (cdma2000) (UE) Που καλυπτει τα αναγκαία προαπαιτούμενα του Αρθρου 3.2 της Ντιρεκτιβας R&TTE
Italian	Compatibilità elettromagnetica e problematiche di Spettro Radio (ERM); Stazioni Base (BS), Ripetitori e Terminali Mobili (UE) per le reti cellulari di terza generazione IMT-2000; Parte 4: Norma armonizzataperIMT-2000, CDMA Multi-Portante (cdma2000)) (UE) relativa ai requisiti essenziali dell''articolo 3.2 della Direttiva R&TTE
Portuguese	Assuntos de Espectro Radioeléctrico e Compatibilidade Electromagnética (ERM); Estações de Base (BS), Repetidores e equipamento de utilizador (UE) para a terceira geração de redes celulares IMT-2000; Parte 4: EN Harmonizada para o IMT-2000, Portadoras múltiplas CDMA (cdma2000) (UE), cobrindo os requisitos essenciais no âmbito do artigo 3.º, n.º 2 da Directiva R & TTE
Spanish	Compatibilidad electromagnética y espectro radio (ERM); estaciones base (BS), Repetidores y equipos de usuario (UE) de redes móviles de tercera generación IMT-2000; Parte 4: EN harmonizada que cubre los requisitos mínimos del artículo 3.2 de la directiva de R&TTE (1999/5/EC); CDMA multi portadora (cdma2000) (UE)
Swedish	Elektromagnetisk kompatibilitet och radio-spektrumfrågor (ERM); Basstationer (BS), Repeatrar och Mobilstationer (UE) för tredje generationens mobilnät IMT-2000; Del 4: Harmoniserad EN för IMT-2000, CDMA med multipla bärvågor (cdma2000) (UE) omfattande väsentliga krav enligt artikel 3.2 i R&TTE-direktivet

History

Document history				
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