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Technical Specification

**Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
LTE;
User Equipment (UE) / Mobile Station (MS)
Over The Air (OTA) antenna performance;
Conformance testing
(3GPP TS 34.114 version 10.3.0 Release 10)**



Reference

RTS/TSGR-0534114va30

Keywords

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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

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Version x.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

The present document describes the test procedure for the radiated performances measurements of the 3G/2G user equipment/mobile stations (UE/MS) in active mode in both the uplink and the downlink. The FDD UE test procedure is based on the test method developed as a result of COST 273 Sub-Working Group (SWG) 2.2 members' contributions. Background work has also been made in the former COST259 project. The TDD UE test procedure is based on the test method developed as a result of CCSA TC9 WG1 members' contributions. Background work has been made in the former CCSA TC9 project.

The measurement procedure explained in this document applies to UE/MS used under the "speech mode" conditions that correspond to predefined positions for voice application when the handset is held close to the user's head. This method is also applicable to free space measurements and for testing data applications. And the other class is the laptop mounted equipment, including the wireless devices embedded into the laptop and the plug-in type device that host on the laptop.

The testing methodology applies to any single or multi-mode (GSM / UMTS / TD-SCDMA) terminals.

The radio tests considered here are:

1. The measurement of the Total Radiated Power (TRP)
2. The measurement of the Total Radiated Sensitivity (TRS)

The test procedure described in this document measures the performance of the transmitter and the receiver, including the antenna and also the effects of the user.

The major parts of this test procedure are based on the 3-D pattern measurement method. It has been considered necessary to define some items and components in the test procedure in detail, such as test channels and phantom setups, in order to make the testing in different laboratories harmonized. The procedure is, however, not limited to some specific antenna chambers or positioners.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
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- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] to [13] (void)

[14] 3GPP TS 34.114 Release 11: "User Equipment (UE) / Mobile Station (MS) Over The Air (OTA) antenna performance; Conformance testing".

3 Definitions, symbols, abbreviations and equations

Void

4 General

The requirements of the present document are provided in 3GPP TS 34.114 Release 11 [14].

5 to 6 Void

Annex A to I: Void

Annex J (informative): Change history

Meeting-1st-Level	Doc-1st-Level	CR	Rev	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level
RP-37	RP-070665	-	-	TS 34.114 for information	-	-	1.0.0	R5-072420
RP-41	RP-080612	-	-	New version of 34.114	-	1.0.0	7.0.0	R5-083817
RP-43	RP-090203	0001	-	Update of TS 34.114 from Rel-7 to Rel-8		7.0.0	8.0.0	R5-090761
RP-43	RP-090203	0002	-	Addition of Band V,VI and VIII minimum & test requirements to 34.114		8.0.0	8.1.0	R5-090412
RP-45	RP-090813	0003	-	TDD UE over the Air conformance testing methodology	-	8.1.0	8.2.0	R5-094961
RP-46	RP-091119	0004	-	Over The Air antenna performance: New informative Annex for Recommended performance	-	8.2.0	8.3.0	R5-096254
RP-47	-	-	-	Moved to v9.0.0 with no change	-	8.3.0	9.0.0	-
RP-51	RP-110166	0005	-	OTA FDD Band 4 and 5 Mid Test Channel Change	F	9.0.0	9.1.0	R5-110530
RP-51	RP-110166	0006	-	CR to 34.114 : Addition of the GSM OTA requirements and recommended values	F	9.0.0	9.1.0	R5-110926
RP-53	RP-111157	0007	-	Update on abbreviation list in section 3.2	F	9.1.0	9.2.0	R5-113442
RP-53	RP-111157	0008	-	Addition of Scope to include Laptop Equipment Free Space	F	9.2.0	10.0.0	R5-114067
RP-53	RP-111157	0009	-	Addition of DUT positioning for Laptop Equipment Free Space transmitter	F	9.2.0	10.0.0	R5-114068
RP-53	RP-111157	0010	-	Addition of DUT positioning for Laptop Equipment Free Space receiver performance	F	9.2.0	10.0.0	R5-114069
RP-54	RP-111636	0012	-	Introduction of alternative measurement procedure in TS 34.114	F	10.0.0	10.1.0	R5-115890
RP-54	RP-111636	0012	-	Added missing changes of R5-115890 from Annex B onwards.	F	10.1.0	10.1.1	R5-115890
RP-55	RP-120184	0013	-	Correction to TRP and TRS Tests	F	10.1.1	10.2.0	R5-120429
RP-56	RP-120666	0027	-	Removal of technical content in 34.114 v10.2.0 and substitution with pointer to the next Release	F	10.2.0	10.3.0	R5-121072

History

Document history		
V10.1.1	January 2012	Publication
V10.2.0	March 2012	Publication
V10.3.0	July 2012	Publication