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Foreword

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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 for UE/MS devices. The data transfer position (free space) explained in this document applies when the UE is used away from the user's head. For LME and LEE devices free space configuration without head and hand phantoms is applicable. Free space measurements are applicable to devices used in the data transfer position that consist of the laptop mounted equipment (LME) plug-in UEs and laptop embedded equipment (LEE) UEs.

The tests apply to UEs and laptops using single or multiple receive antennas. For GSM technology this is applicable to all MSs and for 3G technology this is applicable to "one antenna" UEs and "RxDiversity" UEs.

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 set-ups, 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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[1] 3GPP TR 25.914 Technical Specification 3rd Generation Partnership Project; Technical Specification Group Radio Access Networks; Measurements of Radio Performances for UMTS Terminals in Speech Mode

[2] 3GPP TS 25.101 Technical Specification 3rd Generation Partnership Project; Technical Specification Group Radio Access Networks; User Equipment (UE) radio transmission and reception (FDD)

[3] 3GPP 34.121, 3rd Generation Partnership Project; Technical Specification Group Terminals; Terminal conformance specification; Radio transmission and reception (FDD)

[4] ETSI TR 100 028, Paragraph D.1.3.6