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Global System for Mobile communications (GSM);

Harmonised EN for mobile stations

in the GSM 900 and GSM 1800 bands

covering essential requirements

of article 3.2 of the Directive 2014/53/EU

**Harmonised European Standard**

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Contents

Intellectual Property Rights 6

Foreword 6

Modal verbs terminology 6

Introduction 6

1 Scope 9

2 References 9

2.1 Normative references 9

2.2 Informative references 11

3 Definitions and abbreviations 12

3.1 Definitions 12

3.2 Abbreviations 12

4 Technical requirements specifications 12

4.1 Environmental profile 13

4.2 Conformance requirements 13

4.2.0 Introduction 13

4.2.1 Transmitter - Frequency error and phase error 15

4.2.2 Transmitter - Frequency error under multipath and interference conditions 15

4.2.3 Transmitter - Frequency error and phase error in HSCSD multislot configuration 15

4.2.4 Frequency error and phase error in GPRS multislot configuration 15

4.2.5 Transmitter output power and burst timing 15

4.2.6 Transmitter - Output RF spectrum 15

4.2.7 Transmitter output power and burst timing in HSCSD multislot configurations 15

4.2.8 Transmitter - Output RF spectrum in HSCSD multislot configuration 15

4.2.9 Transmitter - Output RF spectrum for MS supporting the R-GSM or ER-GSM frequency band 15

4.2.10 Transmitter output power in GPRS multislot configuration 16

4.2.11 Output RF spectrum in GPRS multislot configuration 16

4.2.12 Conducted spurious emissions - MS allocated a channel 16

4.2.13 Conducted spurious emissions - MS in idle mode 16

4.2.14 Conducted spurious emissions for MS supporting the R-GSM or ER‑GSM frequency band - MS allocated a channel 16

4.2.15 Conducted spurious emissions for MS supporting the R-GSM or ER‑GSM frequency band - MS in idle mode 16

4.2.16 Radiated spurious emissions - MS allocated a channel 16

4.2.17 Radiated spurious emissions - MS in idle mode 16

4.2.18 Radiated spurious emissions for MS supporting the R-GSM or ER‑GSM frequency band - MS allocated a channel 16

4.2.19 Radiated spurious emissions for MS supporting the R-GSM or ER‑GSM frequency band - MS in idle mode 16

4.2.20 Receiver Blocking and spurious response - speech channels 16

4.2.21 Receiver Blocking and spurious response - speech channels for MS supporting the R-GSM or ER-GSM frequency band 16

4.2.22 Frequency error and Modulation accuracy in EGPRS Configuration 16

4.2.23 Frequency error under multipath and interference conditions in EGPRS Configuration 17

4.2.24 EGPRS Transmitter output power 17

4.2.25 Output RF spectrum in EGPRS configuration 17

4.2.26 Blocking and spurious response in EGPRS configuration 17

4.2.27 Blocking and spurious response in DLMC configuration 17

4.2.28 Intermodulation rejection - speech channels 17

4.2.29 Intermodulation rejection - control channels 17

4.2.30 Intermodulation rejection - EGPRS 17

4.2.31 AM suppression - speech channels 17

4.2.32 AM suppression - control channels 17

4.2.33 AM suppression - packet channels 17

4.2.34 Adjacent channel rejection - speech channels (TCH/FS) 17

4.2.35 Adjacent channel rejection - control channels 17

4.2.36 Adjacent channel rejection - EGPRS 17

4.2.37 Adjacent channel rejection in DLMC configuration 17

4.2.38 Reference sensitivity - TCH/FS 18

4.2.39 Reference sensitivity - FACCH/F 18

4.2.40 Minimum Input level for Reference Performance - GPRS 18

4.2.41 Minimum Input level for Reference Performance - EGPRS 18

4.2.42 Reference sensitivity - TCH/FS for MS supporting the R-GSM or ER-GSM band 18

5 Testing for compliance with technical requirements 18

5.1 Environmental conditions for testing 18

5.2 Interpretation of the measurement results 18

5.3 Essential radio test suites 19

5.3.1 Transmitter - Frequency error and phase error 19

5.3.2 Transmitter - Frequency error under multipath and interference conditions 19

5.3.3 Transmitter - Frequency error and phase error in HSCSD multislot configuration 19

5.3.4 Frequency error and phase error in GPRS multislot configuration 19

5.3.5 Transmitter output power and burst timing 19

5.3.6 Transmitter - Output RF spectrum 19

5.3.7 Transmitter output power and burst timing in HSCSD multislot configurations 19

5.3.8 Transmitter - Output RF spectrum in HSCSD multislot configuration 19

5.3.9 Transmitter - Output RF spectrum for MS supporting the R-GSM or ER-GSM frequency band 19

5.3.10 Transmitter output power in GPRS multislot configuration 19

5.3.11 Output RF spectrum in GPRS multislot configuration 19

5.3.12 Conducted spurious emissions - MS allocated a channel 19

5.3.13 Conducted spurious emissions - MS in idle mode 19

5.3.14 Conducted spurious emissions for MS supporting the R-GSM or ER-GSM frequency band - MS allocated a channel 20

5.3.15 Conducted spurious emissions for MS supporting the R-GSM or ER-GSM frequency band - MS in idle mode 20

5.3.16 Radiated spurious emissions - MS allocated a channel 20

5.3.17 Radiated spurious emissions - MS in idle mode 20

5.3.18 Radiated spurious emissions for MS supporting the R-GSM or ER-GSM frequency band - MS allocated a channel 20

5.3.19 Radiated spurious emissions for MS supporting the R-GSM or ER-GSM frequency band - MS in idle mode 20

5.3.20 Receiver Blocking and spurious response - speech channels 20

5.3.21 Receiver Blocking and spurious response - speech channels for MS supporting the R-GSM or ER-GSM frequency band 20

5.3.22 Frequency error and Modulation accuracy in EGPRS Configuration 20

5.3.23 Frequency error under multipath and interference conditions in EGPRS Configuration 20

5.3.24 EGPRS Transmitter output power 20

5.3.25 Output RF spectrum in EGPRS configuration 20

5.3.26 Blocking and spurious response in EGPRS configuration 20

5.3.27 Blocking and spurious response in DLMC configuration 21

5.3.28 Intermodulation rejection - speech channels 21

5.3.29 Intermodulation rejection - speech channels 21

5.3.30 Intermodulation rejection - EGPRS 21

5.3.31 AM suppression - speech channels 21

5.3.32 AM suppression - control channels 21

5.3.33 AM suppression - packet channels 21

5.3.34 Adjacent channel rejection - speech channels (TCH/FS) 21

5.3.35 Adjacent channel rejection - control channels 21

5.3.36 Adjacent channel rejection - EGPRS 21

5.3.37 Adjacent channel rejection in DLMC configuration 21

5.3.38 Reference sensitivity - TCH/FS 21

5.3.39 Reference sensitivity - FACCH/F 21

5.3.40 Minimum Input level for Reference Performance - GPRS 21

5.3.41 Minimum Input level for Reference Performance - EGPRS 21

5.3.42 Reference sensitivity - TCH/FS for MS supporting the R-GSM or ER-GSM band 22

Annex A (normative): Relationship between the present document and the essential requirements of Directive 2014/53/EU 23

A.1 Requirement Table 23

A.2 Type of Mobile Stations 26

A.2 Additional Information 27

Annex B (informative): Change history 28

History 29

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# Foreword

This Harmonised European Standard (EN) has been produced by ETSI Technical Committee Mobile Standards Group (MSG) and is now submitted for the combined Public Enquiry and Vote phase of the ETSI standards EN Approval Procedure.

The present document has been prepared in reply to the Commission's standardisation request Commission Implementing Decision C(2015) 5376 final of 04.08.2015 [i.10] to provide a means of conforming to the essential requirements of Directive 2014/53/EU [i.9] on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment.

Once the present document is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of the present document given in table A.1 confers, within the limits of the scope of the present document, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

|  |
| --- |
| **Proposed national transposition dates** |
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# Introduction

The present document is part of a set of standards developed by ETSI that are designed to fit in a modular structure to cover radio equipment within the scope of the Radio Equipment Directive [i.9]. The present document is produced following the guidance in ETSI EG 203 336 [i.12] as applicable.

#

# 1 Scope

The present document applies to the following radio telecommunications terminal equipment types:

- GSM mobile station.

This radio equipment type is for operation within the Digital cellular telecommunications system in the GSM 900 and/or GSM 1800 frequency bands as shown in table 1, with a channel separation of 200 kHz, utilizing constant envelope modulation and carrying traffic channels according to the Time Division Multiple Access (TDMA) principle.

Table 1: Frequency bands for GSM 900 and GSM 1800 Mobile Station system

|  |  |  |
| --- | --- | --- |
| Type | TX | RX |
| **P-GSM 900** | 890 MHz to 915 MHz | 935 MHz to 960 MHz |
| **GSM 1800** | 1 710 MHz to 1 785 MHz | 1 805 MHz to 1 880 MHz |
| **E-GSM 900** | 880 MHz to 915 MHz | 925 MHz to 960 MHz |
| **R‑GSM 900** | 876 MHz to 915 MHz | 921 MHz to 960 MHz |
| **ER-GSM 900** | 873 MHz to 915 MHz | 918 MHz to 960 MHz |

The present document is intended to cover the provisions of Directive 2014/53/EU [i.9] article 3.2, which states that “ Radio equipment shall be so constructed that it both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference “.".

The present document covers the general access requirements for terminal equipment up to and including 3GPP Rel-12. The general access requirements, applied to the terminal equipment, are for one release only. The present document does not cover the GPRS Class A mobiles and the ECSD mobiles.

For each test purpose and its corresponding conformance requirement, a reference is given to the test method in ETSI TS 151 010-1 [2]. The requirements apply at the air interface, which may be stimulated to perform the tests by additional equipment if necessary.

The measurement uncertainty is described in ETSI TS 151 010-1 [2], Annex 5.

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 Radio Equipment Directive [i.9] will apply to equipment within the scope of the present document.

NOTE 1: A list of such ENs is included on the web site <http://www.newapproach.org>.

ETSI TS 151 010-1 [2] constitutes the conformance test suite for GSM. The verification of the conformance requirements in the present document is based on the tests described in this reference. The set of requirements in ETSI TS 151 010-1 [2] and the set of requirements in the present document need not be identical.

Some requirements only apply to specific types of mobile station (e.g. data tests only apply to mobile stations with a data facility, tests that only apply to GSM 900 or only to GSM 1800 or to both). The present document indicates the specific test which should be carried out for each mobile station type.

An active accessory is covered by the present document if it modifies the terminal performance in an aspect which affects conformance to essential requirements.

NOTE 2: Only active devices are subject to the present document. Accessories may be tested with specific terminals, and either approved for use with those terminals only, or may possibly be approved for use with a wider range of terminals, depending on the nature and effect of the accessory.

# 2 References

## 2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non‑specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

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The following referenced documents are necessary for the application of the present document.

[1] Void.

[2] ETSI TS 151 010-1 (V12.2.0) (11-2014): "Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification (3GPP TS 51.010-1 version 12.2.0 Release 12)".

[3] ETSI TS 102 933-1 V2.1.1 (2015-06): “Railway Telecommunications (RT); GSM-R improved Receiver parameters; Part 1: Requirements for radio reception”

[4] ETSI TS 102 933-2 V2.1.1 (2015-06): “Railway Telecommunications (RT); GSM-R improved Receiver parameters; Part 2: Radio conformance testing”

[5] ETSI ETS 300 905 (V5.3.2) (01-1998): "Digital cellular telecommunications system (Phase 2+) (GSM); Teleservices supported by a GSM Public Land Mobile Network (PLMN)
(GSM 02.03 version 5.3.2)".

[6] ETSI TS 100 905 (V6.0.0) (01-1999): "Digital cellular telecommunications system (Phase 2+) (GSM); Teleservices supported by a GSM Public Land Mobile Network (PLMN)
(GSM 02.03 version 6.0.0 Release 1997)".

[7] ETSI TS 100 905 (V7.0.0) (08-1999): "Digital cellular telecommunications system (Phase 2+) (GSM); Teleservices supported by a GSM Public Land Mobile Network (PLMN)
(GSM 02.03 version 7.0.0 Release 1998)".

[8] ETSI TS 122 003 (V3.3.0) (07-2001): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); Circuit Teleservices supported by a Public Land Mobile Network (PLMN) (3GPP TS 22.003 version 3.3.0 Release 1999)".

[9] ETSI TS 122 003 (V4.3.0) (03-2002): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); Circuit Teleservices supported by a Public Land Mobile Network (PLMN) (3GPP TS 22.003 version 4.3.0 Release 4)".

[10] Void.

[11] Void.

[12] ETSI TS 122 060 (V3.5.0) (10-2000): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); General Packet Radio Service (GPRS); Service description; Stage 1 (3GPP TS 22.060 version 3.5.0 Release 1999)".

[13] ETSI TS 122 060 (V4.4.0) (06-2002): "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); General Packet Radio Service (GPRS); Service description; Stage 1 (3GPP TS 22.060 version 4.4.0 Release 4)".

[14] Void.

[15] Void.

[16] ETSI TS 101 349 (V8.16.0) (09-2002): "Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS); Mobile Station (MS) - Base Station System (BSS) interface; Radio Link Control/ Medium Access Control (RLC/MAC) protocol
(3GPP TS 04.60 version 8.16.0 Release 1999)".

[17] ETSI TS 144 060 (V12.3.0) (01-2015): "Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS); Mobile Station (MS) - Base Station System (BSS) interface; Radio Link Control / Medium Access Control (RLC/MAC) protocol
(3GPP TS 44.060 version 12.3.0 Release 12)".

[18] Void.

[19] ETSI TS 100 908 (V5.10.0) (10-2001): "Digital cellular telecommunications system (Phase 2+); Multiplexing and multiple access on the radio path (3GPP TS 05.02 version 5.10.0 Release 1996)".

[20] ETSI TS 100 908 (V6.10.0) (10-2001): "Digital cellular telecommunications system (Phase 2+); Multiplexing and multiple access on the radio path (3GPP TS 05.02 version 6.10.0 Release 1997)".

[21] ETSI TS 100 908 (V7.7.0) (10-2001): "Digital cellular telecommunications system (Phase 2+); Multiplexing and multiple access on the radio path (3GPP TS 05.02 version 7.7.0 Release 1998)".

[22] ETSI TS 100 908 (V8.10.0) (10-2001): "Digital cellular telecommunications system (Phase 2+); Multiplexing and multiple access on the radio path (3GPP TS 05.02 version 8.10.0 Release 1999)".

[23] ETSI TS 145 002 (V4.5.0) (11-2001): "Digital cellular telecommunications system (Phase 2+); Multiplexing and multiple access on the radio path (3GPP TS 45.002 version 4.5.0 Release 4)".

[24] Void.

[25] ETSI TS 100 910 (V5.13.0) (09-2000): "Digital cellular telecommunications system (Phase 2+) (GSM); Radio transmission and reception (3GPP TS 05.05 version 5.13.0 Release 1996)".

[26] ETSI TS 100 910 (V6.8.0) (08-2002): "Digital cellular telecommunications system (Phase 2+); Radio Transmission and Reception (3GPP TS 05.05 version 6.8.0 Release 1997)".

[27] ETSI TS 100 910 (V7.9.0) (09-2002): "Digital cellular telecommunications system (Phase 2+); Radio Transmission and Reception (3GPP TS 05.05 version 7.9.0 Release 1998)".

[28] ETSI TS 100 910 (V8.14.0) (09-2002): "Digital cellular telecommunications system (Phase 2+); Radio Transmission and Reception (3GPP TS 05.05 version 8.14.0 Release 1999)".

[29] ETSI TS 145 005 (V12.4.0) (01-2015): "Digital cellular telecommunications system (Phase 2+); Radio transmission and reception (3GPP TS 45.005 version 12.4.0 Release 12)".

[30] ETSI TR 121 905 (V12.0.0) (10-2014): "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Vocabulary for 3GPP Specifications (3GPP TR 21.905 version 12.0.0 Release 12)".

## 2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non‑specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] Void.

[i.2] Void.

[i.3] Void.

[i.4] Void.

[i.5] Void.

[i.6] Void.

[i.7] ETSI TR 100 028 (all parts) (V1.4.1) (12-2001): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".

[i.8] Void.

[i.9] Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC.

[i.10] Commission Implementing Decision C(2015) 5376 final of 4.8.2015 on a standardisation request to the European Committee for Electrotechnical Standardisation and to the European Telecommunications Standards Institute as regards radio equipment in support of Directive 2014/53/EU of the European Parliament and of the Council.

[i.11] ETSI TR 100 028-2: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics Part 2".

[i.12] ETSI EG 203 336: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Guide for the selection of technical parameters for the production of Harmonised Standards covering article 3.1(b) and article 3.2 of Directive 2014/53/EU".

# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in ETSI TR 121 905 [30] and the following apply:

**EGPRS:** any subset of the packet traffic channels PDTCH/MCS-1 to MCS-9 and related control channels

**E‑GSM:** extended GSM 900 band (includes P‑GSM band)

**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

**ER-GSM 900:** extended Railway GSM 900 band (includes R-GSM band)

**GPRS:** any subset of the packet traffic channels PDTCH/CS-1 to CS-4 and related control channels

**GSM 900:** unless otherwise specified, references to GSM 900 include P-GSM, E-GSM and R-GSM band

**GSM:** unless otherwise specified, references to GSM include GSM 400, GSM 900, ER-GSM 900 and DCS 1800

**P‑GSM:** primary GSM 900 band

**R‑GSM:** Railways GSM 900 band (includes P‑GSM band and E‑GSM band)

## 3.2 Abbreviations

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

DLMC Downlink Multi-Carrier

ECSD Enhanced Circuit Switched Data

EGPRS Enhanced GPRS

GPRS General Packet Radio Service

GSM Global System for Mobile communications

HSCSD High Speed Circuit Switched Data

MS Mobile Station which includes a GSM radio part

RF Radio Frequency

TDMA Time Division Multiple Access

# 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 required operational environmental profile.

## 4.2 Conformance requirements

### 4.2.0 Introduction

The present document contains all requirements that are needed for terminals to meet the essential requirement as defined in the Directive 2014/53/EU [i.9], article 3.2.

- The present document gives normative reference to a clause of ETSI TS 151 010-1 [2] containing the conformance requirement text and references to the base standard.

To meet the essential requirement under article 3.2 of Directive 2014/53/EU [i.9], a set of essential parameters have been identified. Table 4.2.1-1 provides a cross reference between these essential parameters and the corresponding technical requirements for equipment within the scope of the present document.

Table 4.2.1-1: Essential parameters and corresponding technical requirements and test suites

|  |  |  |
| --- | --- | --- |
| Essential parameters | Corresponding technical requirements | Corresponding test suites |
| Transmitter spectrum mask | 4.2.6 Transmitter - Output RF spectrum4.2.7 Transmitter output power and burst timing in HSCSD multislot configurations4.2.8 Transmitter - Output RF spectrum in HSCSD multislot configuration4.2.9 Transmitter - Output RF spectrum for MS supporting the R-GSM or ER-GSM frequency band4.2.11 Output RF spectrum in GPRS multislot configuration4.2.29 Output RF spectrum in EGPRS configuration | 5.3.65.3.75.3.85.3.95.3.115.3.29 |
| Transmitter unwanted emissions in the out of band domain |
| Transmitter unwanted emissions in the spurious domain | 4.2.12 Conducted spurious emissions - MS allocated a channel4.2.13 Conducted spurious emissions - MS in idle mode4.2.14 Conducted spurious emissions for MS supporting the R-GSM or ER GSM frequency band - MS allocated a channel4.2.15 Conducted spurious emissions for MS supporting the R-GSM or ER GSM frequency band - MS in idle mode4.2.16 Radiated spurious emissions - MS allocated a channel4.2.17 Radiated spurious emissions - MS in idle mode4.2.18 Radiated spurious emissions for MS supporting the R-GSM or ER GSM frequency band - MS allocated a channel4.2.19 Radiated spurious emissions for MS supporting the R-GSM or ER GSM frequency band - MS in idle mode | 5.3.125.3.135.3.145.3.155.3.165.3.175.3.185.3.19 |
| Transmitter power limits | 4.2.5 Transmitter output power and burst timing4.2.10 Transmitter output power in GPRS multislot configuration4.2.28 EGPRS Transmitter output power | 5.3.55.3.105.3.28 |
| Transmitter power accuracy |
| Transmitter frequency stability | 4.2.1 Transmitter - Frequency error and phase error4.2.2 Transmitter - Frequency error under multipath and interference conditions4.2.3 Transmitter - Frequency error and phase error in HSCSD multislot configuration4.2.4 Frequency error and phase error in GPRS multislot configuration4.2.26 Frequency error and Modulation accuracy in EGPRS Configuration4.2.27 Frequency error under multipath and interference conditions in EGPRS Configuration | 5.3.15.3.25.3.35.3.45.3.265.3.27 |
|  |  |  |
| Receiver unwanted emissions in the spurious domain | 4.2.20 Receiver Blocking and spurious response - speech channels4.2.21 Receiver Blocking and spurious response - speech channels for MS supporting the R-GSM or ER-GSM frequency band4.2.22 Improved Receiver Blocking and spurious response - speech channels for 8W MS supporting the R-GSM or ER-GSM frequency band4.2.23 Improved Receiver Blocking and spurious response - speech channels for 2W MS supporting the R-GSM or ER-GSM frequency band4.2.24 Improved Receiver Blocking and spurious response - control channels for 8W MS supporting the R-GSM or ER-GSM frequency band not supporting speech4.2.25 Improved Receiver Blocking and spurious response - control channels for 2W MS supporting the R-GSM or ER-GSM frequency band not supporting speech4.2.30 Blocking and spurious response in EGPRS configuration4.2.31 Blocking and spurious response in DLMC configuration | 5.3.205.3.215.3.225.3.235.3.245.3.255.3.305.3.31 |
| Receiver blocking |
| Receiver spurious response rejection |
| Desensitization |
| Receiver intermodulation | 4.2.32 Intermodulation rejection - speech channels4.2.33 Intermodulation rejection - speech channels4.2.34 Intermodulation rejection – EGPRS4.2.35 AM suppression - speech channels4.2.36 AM suppression - control channels4.2.37 AM suppression - packet channels | 5.3.325.3.335.3.345.3.355.3.365.3.37 |
| Receiver adjacent channel signal selectivity | 4.2.38 Adjacent channel rejection - speech channels (TCH/FS)4.2.39 Adjacent channel rejection - control channels4.2.40 Adjacent channel rejection - EGPRS4.2.41 Adjacent channel rejection in DLMC configuration | 5.3.385.3.395.3.405.3.41 |
| Receiver sensitivity | 4.2.42 Reference sensitivity - TCH/FS4.2.33 Reference sensitivity - FACCH/F4.2.44 Minimum Input level for Reference Performance - GPRS4.2.45 Minimum Input level for Reference Performance - EGPRS4.2.46 Reference sensitivity - TCH/FS for MS supporting the R-GSM or ER-GSM band | 5.3.425.3.435.3.445.3.455.3.46 |
| Antenna |

Unless otherwise stated, the transmitter and receiver characteristics are specified at the antenna connector(s) of the MS. For MS(s) with an integral antenna only, a reference antenna(s) with a gain of 0 dBi should be assumed for each antenna port(s). An MS with integral antenna(s) may be taken into account by converting these power levels into field strength requirements, assuming a 0 dBi gain antenna.

### 4.2.1 Transmitter - Frequency error and phase error

Clauses 13.1.1 and 13.1.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.2 Transmitter - Frequency error under multipath and interference conditions

Clauses 13.2.1 and 13.2.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.3 Transmitter - Frequency error and phase error in HSCSD multislot configuration

Clauses 13.6.1 and 13.6.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.4 Frequency error and phase error in GPRS multislot configuration

Clauses 13.16.1.1 and 13.16.1.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.5 Transmitter output power and burst timing

Clauses 13.3.1 and 13.3.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.6 Transmitter - Output RF spectrum

Clauses 13.4.1 and 13.4.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.7 Transmitter output power and burst timing in HSCSD multislot configurations

Clauses 13.7.1 and 13.7.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.8 Transmitter - Output RF spectrum in HSCSD multislot configuration

Clauses 13.8.1 and 13.8.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.9 Transmitter - Output RF spectrum for MS supporting the R-GSM or ER-GSM frequency band

Clauses 13.9.1 and 13.9.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.10 Transmitter output power in GPRS multislot configuration

Clauses 13.16.2.1 and 13.16.2.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.11 Output RF spectrum in GPRS multislot configuration

Clauses 13.16.3.1 and 13.16.3.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.12 Conducted spurious emissions - MS allocated a channel

Clauses 12.1.1.1 and 12.1.1.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.13 Conducted spurious emissions - MS in idle mode

Clauses 12.1.2.1 and 12.1.2.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.14 Conducted spurious emissions for MS supporting the R-GSM or ER‑GSM frequency band - MS allocated a channel

Clauses 12.3.1.1 and 12.3.1.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.15 Conducted spurious emissions for MS supporting the R-GSM or ER‑GSM frequency band - MS in idle mode

Clauses 12.3.2.1 and 12.3.2.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.16 Radiated spurious emissions - MS allocated a channel

Clauses 12.2.1.1 and 12.2.1.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.17 Radiated spurious emissions - MS in idle mode

Clauses 12.2.2.1 and 12.2.2.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.18 Radiated spurious emissions for MS supporting the R-GSM or ER‑GSM frequency band - MS allocated a channel

Clauses 12.4.1.1 and 12.4.1.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.19 Radiated spurious emissions for MS supporting the R-GSM or ER‑GSM frequency band - MS in idle mode

Clauses 12.4.2.1 and 12.4.2.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.20 Receiver Blocking and spurious response - speech channels

Clauses 14.7.1.1 and 14.7.1.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.21 Receiver Blocking and spurious response - speech channels for MS supporting the R-GSM or ER-GSM frequency band

Clauses 14.7.3.1 and 14.7.3.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.22 Improved Receiver Blocking and spurious response - speech channels for 8W MS supporting the R-GSM or ER-GSM frequency band

Clauses 4.2.1 and 4.3.1 of ETSI TS 102 933-2 [4] shall apply.

### 4.2.23 Improved Receiver Blocking and spurious response - speech channels for 2W MS supporting the R-GSM or ER-GSM frequency band

Clauses 5.2.1 and 5.3.1 of ETSI TS 102 933-2 [4] shall apply.

### 4.2.24 Improved Receiver Blocking and spurious response - control channels for 8W MS supporting the R-GSM or ER-GSM frequency band not supporting speech

Clauses 4.2.2 and 4.3.2 of ETSI TS 102 933-2 [4] shall apply.

### 4.2.25 Improved Receiver Blocking and spurious response - control channels for 2W MS supporting the R-GSM or ER-GSM frequency band not supporting speech

Clauses 5.2.2 and 5.3.2 of ETSI TS 102933-2 [4] shall apply.

### 4.2.26 Frequency error and Modulation accuracy in EGPRS Configuration

Clauses 13.17.1.1 and 13.17.1.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.27 Frequency error under multipath and interference conditions in EGPRS Configuration

Clauses 13.17.2.1 and 13.17.2.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.28 EGPRS Transmitter output power

Clauses 13.17.3.1 and 13.17.3.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.29 Output RF spectrum in EGPRS configuration

Clauses 13.17.4.1 and 13.17.4.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.30 Blocking and spurious response in EGPRS configuration

Clauses 14.18.5.1 and 14.18.5.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.31 Blocking and spurious response in DLMC configuration

Clauses 14.18.5b.1 and 14.18.5b.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.32 Intermodulation rejection - speech channels

Clause 14.6.1 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.33 Intermodulation rejection - control channels

Clause 14.6.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.34 Intermodulation rejection - EGPRS

Clause 14.18.4 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.35 AM suppression - speech channels

Clause 14.8.1 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.36 AM suppression - control channels

Clause 14.8.1 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.37 AM suppression - packet channels

Clause 14.8.3 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.38 Adjacent channel rejection - speech channels (TCH/FS)

Clause 14.5.1.1 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.39 Adjacent channel rejection - control channels

Clause 14.5.2 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.40 Adjacent channel rejection - EGPRS

Clause 14.18.3 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.41 Adjacent channel rejection in DLMC configuration

Clause 14.18.3d of ETSI TS 151 010-1 [2] shall apply.

### 4.2.42 Reference sensitivity - TCH/FS

Clause 14.2.1 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.43 Reference sensitivity - FACCH/F

Clause 14.2.3 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.44 Minimum Input level for Reference Performance - GPRS

Clause 14.16.1 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.45 Minimum Input level for Reference Performance - EGPRS

Clause 14.18.1 of ETSI TS 151 010-1 [2] shall apply.

### 4.2.46 Reference sensitivity - TCH/FS for MS supporting the R-GSM or ER-GSM band

Clause 14.2.9 of ETSI TS 151 010-1 [2] shall apply.

# 5 Testing for compliance with technical requirements

## 5.1 Environmental conditions for testing

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.

## 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 for the measurement of each parameter shall be included in the test report;
* the recorded value of the measurement uncertainty shall be, for each measurement, equal to or lower than the one specified in Annex 5 of ETSI TS 151 010-1 [2].

For the test methods, according to the present document, the measurement uncertainty figures shall be calculated and shall correspond to an expansion factor (coverage factor) k = 1,96 or k = 2 (which provide confidence levels of respectively 95 % and 95,45 % in the case where the distributions characterising the actual measurement uncertainties are normal (Gaussian)). Principles for the calculation of measurement uncertainty are contained in ETSI TR 100 028 [i.7], in particular in annex D of the ETSI TR 100 028-2 [i.11].

## 5.3 Essential radio test suites

### 5.3.1 Transmitter - Frequency error and phase error

Requirements of ETSI TS 151 010-1 [2], clause 13.1.5 shall be fulfilled.

### 5.3.2 Transmitter - Frequency error under multipath and interference conditions

Requirements of ETSI TS 151 010-1 [2], clause 13.2.5 shall be fulfilled.

### 5.3.3 Transmitter - Frequency error and phase error in HSCSD multislot configuration

Requirements of ETSI TS 151 010-1 [2], clause 13.6.5 shall be fulfilled.

### 5.3.4 Frequency error and phase error in GPRS multislot configuration

Requirements of ETSI TS 151 010-1 [2], clause 13.16.1.5 shall be fulfilled.

### 5.3.5 Transmitter output power and burst timing

Requirements of ETSI TS 151 010-1 [2], clause 13.3.5 shall be fulfilled.

### 5.3.6 Transmitter - Output RF spectrum

Requirements of ETSI TS 151 010-1 [2], clause 13.4.5 shall be fulfilled.

### 5.3.7 Transmitter output power and burst timing in HSCSD multislot configurations

Requirements of ETSI TS 151 010-1 [2], clause 13.7.5 shall be fulfilled.

### 5.3.8 Transmitter - Output RF spectrum in HSCSD multislot configuration

Requirements of ETSI TS 151 010-1 [2], clause 13.8.5 shall be fulfilled.

### 5.3.9 Transmitter - Output RF spectrum for MS supporting the R-GSM or ER-GSM frequency band

Requirements of ETSI TS 151 010-1 [2], clause 13.9.5 shall be fulfilled.

### 5.3.10 Transmitter output power in GPRS multislot configuration

Requirements of ETSI TS 151 010-1 [2], clause 13.16.2.5 shall be fulfilled.

### 5.3.11 Output RF spectrum in GPRS multislot configuration

Requirements of ETSI TS 151 010-1 [2], clause 13.16.3.5 shall be fulfilled.

### 5.3.12 Conducted spurious emissions - MS allocated a channel

Requirements of ETSI TS 151 010-1 [2], clause 12.1.1.5 shall be fulfilled.

### 5.3.13 Conducted spurious emissions - MS in idle mode

Requirements of ETSI TS 151 010-1 [2], clause 12.1.2.5 shall be fulfilled.

### 5.3.14 Conducted spurious emissions for MS supporting the R-GSM orER-GSM frequency band - MS allocated a channel

Requirements of ETSI TS 151 010-1 [2], clause 12.3.1.5 shall be fulfilled.

### 5.3.15 Conducted spurious emissions for MS supporting the R-GSM orER-GSM frequency band - MS in idle mode

Requirements of ETSI TS 151 010-1 [2], clause 12.3.2.5 shall be fulfilled.

### 5.3.16 Radiated spurious emissions - MS allocated a channel

Requirements of ETSI TS 151 010-1 [2], clause 12.2.1.5 shall be fulfilled.

### 5.3.17 Radiated spurious emissions - MS in idle mode

Requirements of ETSI TS 151 010-1 [2], clause 12.2.2.5 shall be fulfilled.

### 5.3.18 Radiated spurious emissions for MS supporting the R-GSM orER-GSM frequency band - MS allocated a channel

Requirements of ETSI TS 151 010-1 [2], clause 12.4.1.5 shall be fulfilled.

### 5.3.19 Radiated spurious emissions for MS supporting the R-GSM orER-GSM frequency band - MS in idle mode

Requirements of ETSI TS 151 010-1 [2], clause 12.4.2.5 shall be fulfilled.

### 5.3.20 Receiver Blocking and spurious response - speech channels

Requirements of ETSI TS 151 010-1 [2], clause 14.7.1.5 shall be fulfilled.

### 5.3.21 Receiver Blocking and spurious response - speech channels for MS supporting the R-GSM or ER-GSM frequency band

Requirements of ETSI TS 151 010-1 [2], clause 14.7.3.5 shall be fulfilled.

### 5.3.22 Improved Receiver Blocking and spurious response - speech channels for 8W MS supporting the R-GSM or ER-GSM frequency band

Requirements of of ETSI TS 102 933-2 [4], clauses 4.2.1 and 4.3.1 shall be fulfilled.

### 5.3.23 Improved Receiver Blocking and spurious response - speech channels for 2W MS supporting the R-GSM or ER-GSM frequency band

Requirements of ETSI TS 102 933-2 [4], clauses 5.2.1 and 5.3.1 shall be fulfilled.

### 5.3.24 Improved Receiver Blocking and spurious response - control channels for 8W MS supporting the R-GSM or ER-GSM frequency band not supporting speech

Requirements of ETSI TS 102 933-2 [4], clauses 4.2.2. and 4.3.2 shall be fulfilled.

### 5.3.25 Improved Receiver Blocking and spurious response - control channels for 2W MS supporting the R-GSM or ER-GSM frequency band not supporting speech

Requirements of ETSI TS 102 933-2 [4], clauses 5.2.2 and 5.3.2 shall be fulfilled.

### 5.3.26 Frequency error and Modulation accuracy in EGPRS Configuration

Requirements of ETSI TS 151 010-1 [2], clause 13.17.1.5 shall be fulfilled.

### 5.3.27 Frequency error under multipath and interference conditions in EGPRS Configuration

Requirements of ETSI TS 151 010-1 [2], clause 13.17.2.5 shall be fulfilled.

### 5.3.28 EGPRS Transmitter output power

Requirements of ETSI TS 151 010-1 [2], clause 13.17.3.5 shall be fulfilled.

### 5.3.29 Output RF spectrum in EGPRS configuration

Requirements of ETSI TS 151 010-1 [2], clause 13.17.4.5 shall be fulfilled.

### 5.3.30 Blocking and spurious response in EGPRS configuration

Requirements of ETSI TS 151 010-1 [2], clause 14.18.5.5 shall be fulfilled.

### 5.3.31 Blocking and spurious response in DLMC configuration

Requirements of ETSI TS 151 010-1 [2], clause 14.18.5b.5 shall be fulfilled.

### 5.3.32 Intermodulation rejection - speech channels

Requirements of ETSI TS 151 010-1 [2], clause 14.6.1.5 shall be fulfilled.

### 5.3.33 Intermodulation rejection - speech channels

Requirements of ETSI TS 151 010-1 [2], clause 14.6.1.5 shall be fulfilled.

### 5.3.34 Intermodulation rejection - EGPRS

Requirements of ETSI TS 151 010-1 [2], clause 14.18.4.5 shall be fulfilled.

### 5.3.35 AM suppression - speech channels

Requirements of ETSI TS 151 010-1 [2], clause 14.8.1.5 shall be fulfilled.

### 5.3.36 AM suppression - control channels

Requirements of ETSI TS 151 010-1 [2], clause 14.8.2.5 shall be fulfilled.

### 5.3.37 AM suppression - packet channels

Requirements of ETSI TS 151 010-1 [2], clause 14.8.3.5 shall be fulfilled.

### 5.3.38 Adjacent channel rejection - speech channels (TCH/FS)

Requirements of ETSI TS 151 010-1 [2], clause 14.5.1.1.5 shall be fulfilled.

### 5.3.39 Adjacent channel rejection - control channels

Requirements of ETSI TS 151 010-1 [2], clause 14.5.2.5 shall be fulfilled.

### 5.3.40 Adjacent channel rejection - EGPRS

Requirements of ETSI TS 151 010-1 [2], clause 14.18.3.5 shall be fulfilled.

### 5.3.41 Adjacent channel rejection in DLMC configuration

Requirements of ETSI TS 151 010-1 [2], clause 14.18.3d.5 shall be fulfilled.

### 5.3.42 Reference sensitivity - TCH/FS

Requirements of ETSI TS 151 010-1 [2], clause 14.2.1.5 shall be fulfilled.

### 5.3.43 Reference sensitivity - FACCH/F

Requirements of ETSI TS 151 010-1 [2], clause 14.2.3.5 shall be fulfilled.

### 5.3.44 Minimum Input level for Reference Performance - GPRS

Requirements of ETSI TS 151 010-1 [2], clause 14.16.1.5 shall be fulfilled.

### 5.3.45 Minimum Input level for Reference Performance - EGPRS

Requirements of ETSI TS 151 010-1 [2], clause 14.18.1.5 shall be fulfilled.

### 5.3.46 Reference sensitivity - TCH/FS for MS supporting the R-GSM or ER-GSM band

Requirements of ETSI TS 151 010-1 [2], clause 14.2.9.5 shall be fulfilled.

Annex A (normative):
Relationship between the present document and the essential requirements of Directive 2014/53/EU

# A.1 Requirement Table

The present document has been prepared in reply to the Commission's standardisation request Commission Implementing Decision C(2015) 5376 final of 04.08.2015 to provide a means of conforming to the essential requirements of Directive 2014/53/EU on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment.

Once the present document is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of the present document given in table A.1 confers, within the limits of the scope of the present document, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table A.1: Relationship between the present document and
the essential requirements of Directive 2014/53/EU

| Harmonised Standard EN 301 511The following requirements and test specifications are relevant to the presumption of conformityunder the article 3.2 of the Directive 2014/53/EU [i.9] |
| --- |
| Requirement | Requirement Conditionality |
| No | Description | Reference: Clause No | U/C | Condition |
| 1 | Transmitter - Frequency error and phase error | 4.2.1 | U |  |
| 2 | Transmitter - Frequency error under multipath and interference conditions | 4.2.2 | U |  |
| 3 | Transmitter - Frequency error and phase error in HSCSD multislot configuration | 4.2.3 | C | For all HSCSD multislot MS (as defined in table A.2) |
| 4 | Frequency error and phase error in GPRS multislot configuration | 4.2.4 | C | For all GPRS multislot MS (as defined in table A.2) |
| 5 | Transmitter output power and burst timing | 4.2.5 | U |  |
| 6 | Transmitter - Output RF spectrum | 4.2.6 | C | For all MS except R-GSM or ER-GSM MS (as defined in table A.2) |
| 7 | Transmitter output power and burst timing in HSCSD multislot configurations | 4.2.7 | C | For all HSCSD multislot MS (as defined in table A.2) |
| 8 | Transmitter - Output RF spectrum in HSCSD multislot configuration | 4.2.8 | C | For all HSCSD multislot MS (as defined in table A.2) |
| 9 | Transmitter – Output RF spectrum for MS supporting the R-GSM or ER-GSM frequency band | 4.2.9 | C | For all R-GSM or ER-GSM MS (as defined in table A.2) |
| 10 | Transmitter output power in GPRS multislot configuration | 4.2.10 | C | For all GPRS multislot MS (as defined in table A.2) |
| 11 | Output RF spectrum in GPRS multislot configuration | 4.2.11 | C | For all GPRS multislot MS (as defined in table A.2) |
| 12 | Conducted spurious emissions - MS allocated a channel | 4.2.12 | C | For all MS with a Permanent Antenna Connector except R-GSM or ER-GSM MS (as defined in tables A.2 and A.3) |
| 13 | Conducted spurious emissions - MS in idle mode | 4.2.13 | C | For all MS with a Permanent Antenna Connector except R-GSM or ER-GSM MS (as defined in tables A.2 and A.3) |
| 14 | Conducted spurious emissions for MS supporting the R-GSM or ER-GSM frequency band - MS allocated a channel | 4.2.14 | C | For all R-GSM or ER-GSM MS with a Permanent Antenna Connector (as defined in tables A.2 and A.3) |
| 15 | Conducted spurious emissions for MS supporting the R-GSM or ER-GSM frequency band - MS in idle mode | 4.2.15 | C | For all R-GSM or ER-GSM MS - with a Permanent Antenna Connector (as defined in tables A.2 and A.3) |
| 16 | Radiated spurious emissions - MS allocated a channel | 4.2.16 | C | For all MS except R-GSM or ER-GSM MS (as defined in table A.2) |
| 17 | Radiated spurious emissions - MS in idle mode | 4.2.17 | C | For all MS except R-GSM or ER-GSM MS (as defined in table A.2) |
| 18 | Radiated spurious emissions for MS supporting the R-GSM or ER-GSM frequency band - MS allocated a channel | 4.2.18 | C | For all R-GSM or ER-GSM MS (as defined in table A.2) |
| 19 | Radiated spurious emissions for MS supporting the R-GSM or ER-GSM frequency band - MS in idle mode | 4.2.19 | C | For all R-GSM or ER-GSM MS (as defined in table A.2) |
| 20 | Receiver Blocking and spurious response - speech channels | 4.2.20 | C | For all MS supporting Telephony Service except R-GSM or ER-GSM MS or Improved Receiver R-GSM MS/ER-GSM MS (as defined in tables A.2 and A.3) |
| 21 | Receiver Blocking and spurious response - speech channels for MS supporting theR-GSM or ER-GSM frequency band | 4.2.21 | C | For all R-GSM or ER-GSM MS supporting Telephony Service except Improved Receiver R-GSM MS/ER-GSM MS (as defined in tables A.2 and A.3) |
| 22 | Improved Receiver Blocking and spurious response - speech channels for 8W MS supporting the R-GSM or ER-GSM frequency band | 4.2.22 | C | For 8W Improved Receiver R-GSM MS/ER-GSM MS with a Permanent Antenna Connector supporting Telephony Service (as defined in tables A.2 and A.3). |
| 23 | Improved Receiver Blocking and spurious response - speech channels for 2W MS supporting the R-GSM or ER-GSM frequency band | 4.2.23 | C | For 2W Improved Receiver R-GSM MS/ER-GSM MS Handheld stations with Integrated Antenna supporting Telephony Service (as defined in tables A.2 and A.3). |
| 24 | Improved Receiver Blocking and spurious response - control channels for 8W MS supporting the R-GSM or ER-GSM frequency band not supporting speech | 4.2.24 | C | For 8W Improved Receiver R-GSM MS/ER-GSM MS with a Permanent Antenna Connector not supporting Telephony Service (as defined in tables A.2 and A.3). |
| 25 | Improved Receiver Blocking and spurious response - control channels for 2W MS supporting the R-GSM or ER-GSM frequency band not supporting speech | 4.2.25 | C | For 2W Improved Receiver R-GSM MS/ER-GSM MS Handheld stations with Integrated Antenna not supporting Telephony Service (as defined in tables A.2 and A.3). |
| 26 | Frequency error and Modulation accuracy in EGPRS Configuration | 4.2.26 | C | For all EGPRS 8PSK Uplink capable MS (as defined in table A.2) |
| 27 | Frequency error under multipath and interference conditions in EGPRS Configuration | 4.2.27 | C | For all EGPRS MS (as defined in table A.2) |
| 28 | EGPRS Transmitter output power | 4.2.28 | C | For all EGPRS 8PSK Uplink capable MS (as defined in table A.2) |
| 29 | Output RF spectrum in EGPRS configuration | 4.2.29 | C | For all EGPRS 8PSK Uplink capable MS (as defined in table A.2) |
| 30 | Blocking and spurious response in EGPRS configuration | 4.2.30 | C | For all EGPRS MS (as defined in table A.2) |
| 31 | Blocking and spurious response in DLMC configuration | 4.2.31 | C | For all DLMC MS (as defined in table A.2) |
| 32 | Intermodulation rejection - speech channels | 4.2.32 | C | For all MS supporting Telephony Service (as defined in table A.3) |
| 33 | Intermodulation rejection - control channels | 4.2.33 | C | For all MS not supporting Telephony Service (as defined in table A.3) |
| 34 | Intermodulation rejection - EGPRS | 4.2.34 | C | For all EGPRS MS (as defined in table A.2) |
| 35 | AM suppression - speech channels | 4.2.35 | C | For all MS supporting Telephony Service (as defined in table A.3) |
| 36 | AM suppression - control channels | 4.2.36 | C | For all MS not supporting Telephony Service (as defined in table A.3) |
| 37 | AM suppression - packet channels | 4.2.37 | C | For all EGPRS not supporting Telephony Service (as defined in tables A.2 and A.3) |
| 38 | Adjacent channel rejection - speech channels (TCH/FS) | 4.2.38 | C | For all MS supporting Telephony Service (as defined in table A.3) |
| 39 | Adjacent channel rejection - control channels | 4.2.39 | C | For all MS not supporting Telephony Service (as defined in table A.3) |
| 40 | Adjacent channel rejection - EGPRS | 4.2.40 | C | For all EGPRS MS (as defined in table A.2) |
| 41 | Adjacent channel rejection in DLMC configuration | 4.2.41 | C | For all DLMC MS (as defined in table A.2) |
| 42 | Reference sensitivity - TCH/FS | 4.2.42 | C | For all MS supporting Telephony Service except R-GSM or ER-GSM MS (as defined in tables A.2 and A.3) |
| 43 | Reference sensitivity - FACCH/F | 4.2.43 | C | For all MS supporting Telephony Service except R-GSM or ER-GSM MS (as defined in tables A.2 and A.3) |
| 44 | Minimum Input level for Reference Performance - GPRS | 4.2.44 | C | For all GPRS MS (as defined in table A.2) |
| 45 | Minimum Input level for Reference Performance - EGPRS | 4.2.45 | C | For all EGPRS MS (as defined in table A.2) |
| 46 | Reference sensitivity - TCH/FS for MS supporting the R-GSM or ER-GSM band | 4.2.46 | C | For all R-GSM or ER-GSM MS supporting Telephony Service (as defined in tables A.2 and A.3) |

**Key to columns:**

**Requirement:**

**No** A unique identifier for one row of the table which may be used to identify a requirement.

**Description** A textual reference to the requirement.

**Clause Number** Identification of clause(s) defining the requirement in the present document unless another document is referenced explicitly.

**Requirement Conditionality:**

**U/C** Indicates whether the requirement shall be unconditionally applicable (U) or is conditional upon the manufacturers claimed functionality of the equipment (C).

**Condition** Explains the conditions when the requirement shall or shall not be applicable for a requirement which is classified "conditional".

Presumption of conformity stays valid only as long as a reference to the present document is maintained in the list published in the Official Journal of the European Union. Users of the present document should consult frequently the latest list published in the Official Journal of the European Union.

NOTE 1: A list of such ENs is included on the web site <http://www.newapproach.org>.

# A.2 Type of Mobile Stations

Table A.2: Type of Mobile Station

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Item | Type of Mobile Station | Ref. | Status | Support | Mnemonic |
| 1 | HSCSD Multislot MS | ETSI TS 100 908 [19] to [22], clause B.1;ETSI TS 145 002 [23], clause B.1 | O |  | Type\_HSCSD\_Multislot |
| 2 | R-GSM MS | ETSI TS 100 910 [25] to [28], clause 2;ETSI TS 145 005 [29], clause 2 | O |  | Type\_R-GSM |
| 3 | Support of GPRS Multislot class on the uplink | ETSI TS 100 908 [20] to [22], clause B.1;ETSI TS 145 002 [23], clause B.1 | O |  | Type\_GPRS\_Multislot\_uplink |
| 4 | EGPRS | ETSI TS 122 060 [12] and [13] | O |  | Type\_EGPRS |
| 5 | EGPRS capable of 8PSK in Uplink, of all Multislot classes | ETSI TS 101 349 [16],clause 11.2.5a;ETSI TS 144 060 [17],clause 11.2.5a | O |  | Type\_EGPRS\_8PSK\_uplink |
| 6 | ER-GSM MS | ETSI TS 145 005 [29], clause 2 | O |  | Type\_ER-GSM |
| 7 | DLMC MS | ETSI TS 144 060 [17], clause 5 | O |  | Type\_DLMC |
| 8 | 8W Improved Receiver R-GSM MS/ER-GSM MS | ETSI TS 102933-1 [3], clause 4 and 5 | O |  | Type\_8W\_Improved\_Receiver |
| 9 | 2W Improved Receiver R-GSM MS/ER-GSM MS | ETSI TS 102933-1 [3], clause 4 and 6 | O |  | Type\_2W\_Improved\_Receiver |

**Key to columns:**

**No** A unique identifier for one row of the table which may be used to identify a requirement or its test specification.

**Type of Mobile station** A textual definition of the Mobile station.

**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".

C<n> Conditional number <n>. Reference is made to a Boolean expression under the table with predicates of support answers, which will resolve to either "M", "X", "N", or "O.<n>" for a specific implementation. In all cases "ELSE Not Applicable" is implied, if an ELSE expression is omitted. Expressions such a A.x/y refer to item "y" in table A.x.

N/A Not applicable.

X Excluded or Prohibited.

**Mnemonic** Mnemonic identifiers for each item.

# A.3 Additional Information

Table A.3: Additional information

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Item | Additional Information | Ref. | Status | Support | Mnemonic |
| 1 | Telephony. | ETSI ETS 300 905 [5],clause A.1.1;ETSI TS 100 905 [6] and [7], clause A.1.1;ETSI TS 122 003 [8] and [9], clause A.1.1 | O |  | TSPC\_Serv\_TS11 |
| 2 | Permanent Antenna Connector. | ETSI TS 151 010-1 [2],clauses 12.1.1 and 12.1.2 andETSI TS 102933-2 [4] clause 4.0 | O |  | TSPC\_AddInfo\_PermAntenna |
| 3 | Handheld stations with Integrated Antenna | ETSI TS 102933-2 [4] clause 5.0 | O |  | TSPC\_AddInfo\_HHIntegAntenna |

**Key to columns:**

**No** A unique identifier for one row of the table which may be used to identify a requirement or its test specification.

**Additional Information** A textual definition of the Mobile station.

**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";

C<n> Conditional number <n>. Reference is made to a Boolean expression under the table with predicates of support answers, which will resolve to either "M", "X", "N", or "O.<n>" for a specific implementation. In all cases "ELSE Not Applicable" is implied, if an ELSE expression is omitted. Expressions such a A.x/y refer to item "y" in table A.x;

N/A Not applicable;

X Excluded or Prohibited.

**Mnemonic** Mnemonic identifiers for each item.

Annex B (informative):
Change history

|  |  |  |
| --- | --- | --- |
| **Date** | **Version** | **Comments** |
| February 99 | 1.0.0 | Presented at SMG #28 for information |
| August 99 | 1.0.1 | Changes approved at SMG7 #22 |
| September 99 | 1.1.0 | Adapted to R&TTE Steering Committee HS proforma |
| January 00 | 1.1.1 | Selection of test cases for Phase 2. Addition of sections for Phase 2+. Phase 2+ test cases are for further study |
| February 00 | 1.1.5 | Editorial reorganization to comply with proforma and with latest proforma sentences by STF 149 |
| April 00 | 1.1.6 | References update and editorial modifications |
| May 00 | 1.1.7 | Edited during SMG7#25 |
| June 00 | 1.1.8 | Electronically approved by SMG7 |
| June 00 | 2.0.0 | Presented for approval at SMG #32 |
| June 00 | 7.0.0 | Approved at SMG #32 |
| December 00 | 7.0.1 | Update to Version 7.0.1 for Publication |
| September 02 | 9.0.0 | Update to Version 9.0.0 for MSG Approval. All requirements up to and includingRel-4 requirements are included |
| October 02 | 9.0.2 | Approval at MSG #5 |
| June 14 | 12.1.1\_9.1.0 |  Early draft presented at MSG#40 adding ER-GSM |
| October 14 | 12.1.1\_9.1.2 |  New draft based on latest HS skeleton presented at MSG#41 |
| December 14 | 12.1.1\_9.1.3 | New draft based on EditHelp inputs |
| April 16 | 12.5.1\_12.1.5 |  Draft for HS transposition to RED, including of Improved receiver requirements |

# History

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| --- |
| **Document history** |
| V7.0.1 | December 2000 | Publication |
| V9.0.2 | March 2003 | Publication |
| V12.0.0 | February 2015 | EN Approval Procedure AP 20150610: 2015-02-10 to 2015-06-10 |
| V12.1.1 | June 2015 | Publication |
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