

| | | |
|------------|--|---|
| STN | Bunkové siete IMT. Harmonizovaná norma vzťahujúca sa na základné požiadavky podľa článku 3.2 smernice 2014/53/EÚ. Časť 11: Opakovače CDMA s priamym rozprestrením (UTRA FDD). | STN EN 301 908-11 V11.1.1 87 1908 |
|------------|--|---|

IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 11: CDMA Direct Spread (UTRA FDD) Repeaters

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/17

Obsahuje: EN 301 908-11 V11.1.1:2016

124126

Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, 2017
Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

ETSI EN 301 908-11 V11.1.1 (2016-05)



HARMONISED EUROPEAN STANDARD

**IMT cellular networks;
Harmonised Standard covering the essential requirements
of article 3.2 of the Directive 2014/53/EU;
Part 11: CDMA Direct Spread (UTRA FDD) Repeaters**

Reference

REN/MSG-TFES-11-11-RED

Keywords

3G, 3GPP, cellular, digital, IMT, IMT-2000,
mobile, radio, regulation, repeater, testing,
UMTS, UTRA, WCDMA**ETSI**

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important noticeThe present document can be downloaded from:
<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at
<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:
<https://portal.etsi.org/People/CommiteeSupportStaff.aspx>

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2016.
All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.
GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Contents

| | |
|--|----|
| Intellectual Property Rights | 5 |
| Foreword..... | 5 |
| Modal verbs terminology..... | 5 |
| Introduction | 5 |
| 1 Scope | 6 |
| 2 References | 6 |
| 2.1 Normative references | 6 |
| 2.2 Informative references..... | 7 |
| 3 Definitions, symbols and abbreviations | 7 |
| 3.1 Definitions | 7 |
| 3.2 Symbols..... | 8 |
| 3.3 Abbreviations | 8 |
| 4 Technical requirements specifications | 9 |
| 4.1 Environmental profile..... | 9 |
| 4.2 Conformance requirements | 9 |
| 4.2.1 Introduction..... | 9 |
| 4.2.2 Operating band unwanted emissions | 10 |
| 4.2.2.1 Definition | 10 |
| 4.2.2.2 Limit..... | 10 |
| 4.2.2.2.1 General operating band unwanted emission requirements | 10 |
| 4.2.2.2.2 Operating band emission mask requirements | 11 |
| 4.2.2.2.3 Protection of the BS receiver in the operating band | 12 |
| 4.2.2.2.4 Co-existence with services in adjacent frequency bands | 12 |
| 4.2.2.2.5 Protection of DTT..... | 13 |
| 4.2.2.2.6 Limits for operation in Band 32 | 13 |
| 4.2.2.3 Conformance | 14 |
| 4.2.3 Spurious emissions | 14 |
| 4.2.3.1 Definition | 14 |
| 4.2.3.2 Limit..... | 14 |
| 4.2.3.2.0 General | 14 |
| 4.2.3.2.1 Spurious emissions | 15 |
| 4.2.3.2.2 Co-existence with other systems | 15 |
| 4.2.3.3 Conformance..... | 16 |
| 4.2.4 Maximum output power..... | 16 |
| 4.2.4.1 Definition | 16 |
| 4.2.4.2 Limit..... | 17 |
| 4.2.4.3 Conformance..... | 17 |
| 4.2.5 Input intermodulation | 17 |
| 4.2.5.1 Definition | 17 |
| 4.2.5.2 Limit..... | 17 |
| 4.2.5.2.1 General input intermodulation requirement..... | 17 |
| 4.2.5.2.2 Co-existence with other systems | 18 |
| 4.2.5.3 Conformance..... | 19 |
| 4.2.6 Out of band gain | 19 |
| 4.2.6.1 Definition | 19 |
| 4.2.6.2 Limits | 19 |
| 4.2.6.3 Conformance..... | 20 |
| 4.2.7 Adjacent Channel Rejection Ratio..... | 20 |
| 4.2.7.1 Definition | 20 |
| 4.2.7.2 Limit..... | 20 |
| 4.2.7.3 Conformance..... | 20 |
| 4.2.8 Output intermodulation..... | 20 |
| 4.2.8.1 Definition | 20 |
| 4.2.8.2 Limit..... | 21 |

| | | |
|-------------------------------|---|-----------|
| 4.2.8.3 | Conformance | 21 |
| 5 | Testing for compliance with technical requirements..... | 21 |
| 5.1 | Environmental conditions for testing | 21 |
| 5.2 | Interpretation of the measurement results | 21 |
| 5.3 | Essential radio test suites..... | 23 |
| 5.3.0 | Introduction..... | 23 |
| 5.3.1 | Operating band unwanted emission | 23 |
| 5.3.1.1 | Initial conditions | 23 |
| 5.3.1.2 | Procedures | 23 |
| 5.3.1.3 | Test requirement | 23 |
| 5.3.2 | Spurious emissions | 24 |
| 5.3.2.1 | Initial conditions | 24 |
| 5.3.2.2 | Procedure | 24 |
| 5.3.2.3 | Test requirement | 24 |
| 5.3.3 | Maximum output power..... | 24 |
| 5.3.3.1 | Initial conditions | 24 |
| 5.3.3.2 | Procedure | 25 |
| 5.3.3.3 | Test requirement | 25 |
| 5.3.4 | Input intermodulation | 25 |
| 5.3.4.1 | Initial conditions | 25 |
| 5.3.4.2 | Procedures..... | 25 |
| 5.3.4.3 | Test requirement | 25 |
| 5.3.5 | Out of band gain | 25 |
| 5.3.5.1 | Initial conditions | 25 |
| 5.3.5.2 | Procedure | 26 |
| 5.3.5.3 | Test requirement | 26 |
| 5.3.6 | Adjacent Channel Rejection Ratio..... | 26 |
| 5.3.6.1 | Initial conditions | 26 |
| 5.3.6.2 | Procedures..... | 26 |
| 5.3.6.3 | Test requirement | 26 |
| 5.3.7 | Output intermodulation..... | 27 |
| 5.3.7.1 | Initial conditions | 27 |
| 5.3.7.2 | Procedures..... | 27 |
| 5.3.7.3 | Test requirement | 27 |
| Annex A (normative): | Relationship between the present document and the essential requirements of Directive 2014/53/EU | 28 |
| Annex B (normative): | Repeater configurations | 29 |
| B.1 | Power supply | 29 |
| B.2 | Power supply options | 29 |
| B.3 | Combining of Repeaters..... | 29 |
| Annex C (informative): | Environmental profile specification | 30 |
| Annex D (informative): | Bibliography..... | 31 |
| History | | 32 |

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This Harmonised European Standard (EN) has been produced by ETSI Technical Committee Mobile Standards Group (MSG).

For non EU countries the present document may be used for regulatory (Type Approval) purposes.

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.10] to provide one voluntary 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 and repealing Directive 1999/5/EC [i.1].

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.

The present document is part 11 of a multi-part deliverable. Full details of the entire series can be found in part 1 [i.3].

| National transposition dates | |
|--|-----------------|
| Date of adoption of this EN: | 20 April 2016 |
| Date of latest announcement of this EN (doa): | 31 July 2016 |
| Date of latest publication of new National Standard or endorsement of this EN (dop/e): | 31 January 2017 |
| Date of withdrawal of any conflicting National Standard (dow): | 31 January 2018 |

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

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.1]. The present document is produced following the guidance in ETSI EG 203 336 [i.2] as applicable.

1 Scope

The present document applies to the following equipment types:

- 1) Repeaters for IMT-2000 CDMA Direct Spread (UTRA FDD)

This radio equipment type is capable of operating in all or any part of the frequency bands given in table 1-1.

Table 1-1: UTRA Repeater operating bands

| UTRA FDD Band | Direction of transmission | UTRA Repeater operating bands |
|-----------------|---------------------------|-------------------------------|
| I | Downlink | 2 110 MHz to 2 170 MHz |
| | Uplink | 1 920 MHz to 1 980 MHz |
| III | Downlink | 1 805 MHz to 1 880 MHz |
| | Uplink | 1 710 MHz to 1 785 MHz |
| VII | Downlink | 2 620 MHz to 2 690 MHz |
| | Uplink | 2 500 MHz to 2 570 MHz |
| VIII | Downlink | 925 MHz to 960 MHz |
| | Uplink | 880 MHz to 915 MHz |
| XV | Downlink | 2 600 MHz to 2 620 MHz |
| | Uplink | 1 900 MHz to 1 920 MHz |
| XVI | Downlink | 2 585 MHz to 2 600 MHz |
| | Uplink | 2 010 MHz to 2 025 MHz |
| XX | Downlink | 791 MHz to 821 MHz |
| | Uplink | 832 MHz to 862 MHz |
| XXII | Downlink | 3 510 MHz to 3 590 MHz |
| | Uplink | 3 410 MHz to 3 490 MHz |
| XXXII (note) | Downlink | 1 452 MHz to 1 492 MHz |
| | Uplink | N/A |

NOTE: The down link frequency(ies) of this band are paired with the uplink frequency(ies) of the other FDD band (external) of the dual band configuration.

The present document covers requirements for UTRA FDD Repeater for Releases 4, 5, 6, 7, 8, 9, 10 and 11. This includes the requirements for Repeater operating bands from 3GPP Release 12. In addition, the present document covers requirements for UTRA Repeater in the operating bands specified in ETSI TS 102 735 [i.9].

The present document contains requirements to demonstrate that Radio equipment both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference.

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 referenced document (including any amendments) applies.

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

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

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

- [1] ETSI TS 125 143 (V11.1.0) (02-2013): "Universal Mobile Telecommunications System (UMTS); UTRA repeater conformance testing (3GPP TS 25.143 version 11.1.0 Release 11)".
- [2] IEC 60068-2-1 (2007): "Environmental testing - Part 2-1: Tests - Test A: Cold".
- [3] IEC 60068-2-2 (2007): "Environmental testing - Part 2-2: Tests - Test B: Dry heat".

- [4] ETSI TS 125 141 (V11.12.0) (01-2016): "Universal Mobile Telecommunications System (UMTS); Base Station (BS) conformance testing (FDD) (3GPP TS 25.141 version 11.12.0 Release 11)".

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 referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

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] 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.2] ETSI EG 203 336 (V1.1.1) (08-2015): "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".
- [i.3] ETSI EN 301 908-1 (V11.1.1): "IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 1: Introduction and common requirements".
- [i.4] ETSI TR 100 028 (all parts) (V1.4.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".
- [i.5] ETSI TS 136 104 (V11.14.0) (01-2016): "LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) radio transmission and reception (3GPP TS 36.104 version 11.14.0 Release 11)".
- [i.6] Recommendation ITU-R SM.329-12 (09-2012): "Unwanted emissions in the spurious domain".
- [i.7] ETSI EN 301 908-15 (V11.1.1): "IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 15: Evolved Universal Terrestrial Radio Access (E-UTRA FDD) Repeaters".
- [i.8] ETSI TS 125 104 (V11.12.0) (01-2016): "Universal Mobile Telecommunications System (UMTS); Base Station (BS) radio transmission and reception (FDD) (3GPP TS 25.104 version 11.12.0 Release 11)".
- [i.9] ETSI TS 102 735 (V7.1.0) (01-2010): "Universal Mobile Telecommunications System (UMTS); Band-specific requirements for UMTS Frequency Division Duplex (FDD) operation in the bands 1 900 MHz to 1 920 MHz paired with 2 600 MHz to 2 620 MHz and 2 010 MHz to 2 025 MHz paired with 2 585 MHz to 2 600 MHz".
- [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.

koniec náhľadu – text ďalej pokračuje v platenej verzii STN