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Electromagnetic compatibility and Radio spectrum Matters (ERM); Using the EN 301 489 series of EMC standards

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Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

Modal verbs terminology

In the present document "**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).

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Introduction

The ETSI EN 301 489 series [i.2] of EMC standards have been produced by ETSI to enable manufacturers of radio products to be able to use the harmonised standards route to demonstrate compliance with article 3.1(b) of the Directive 2014/53/EU [i.37] (RE Directive). The present document is designed to assist the manufacturer to apply these standards in a consistent manner and also understand the various changes between the different versions of each individual part of the ETSI EN 301 489 series [i.2].

The present document should reduce the number of revisions to the ETSI EN 301 489 series [i.2] of harmonised standards where these revisions are simply to add new examples of equipment covered into the annex A of the individual parts.

Earlier editions of the present document, i.e. with version numbers v.1.x.y, relate to previous regulatory regimes, specifically Directive 1999/5/EC [i.1] (R&TTE Directive).

1 Scope

The present document is intended to provide guidance on the use of the ETSI EN 301 489 series [i.2] of harmonised EMC standards produced by ETSI ERM.

Specifically this guidance covers selection of which part that is to be selected for use in conjunction with ETSI EN 301 489-1 [i.2] to provide the necessary requirements to enable the user to demonstrate compliance with article 3.1(b) of the Directive 2014/53/EU [i.37] (RE Directive). The aim of this is to increase consistency of application.

In addition the present document also details the differences between the individual versions of each part of the ETSI EN 301 489 series [i.2] to assist the reader in reaching a decision on the impact of the different versions on their particular product.

In the interest of maintaining the document as up to date as possible the present document starts with those versions of the ETSI EN 301 489 series [i.2] cited in the Official Journal of the European Union (OJEU) on the 08th June 2017.

2 References

2.1 Normative references

Normative references are not applicable in the present document.

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 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).

[i.2] ETSI EN 301 489 (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services".

[i.3] Commission Directive 2004/104/EC of 14 October 2004 adapting to technical progress Council Directive 72/245/EEC relating to the radio interference (electromagnetic compatibility) of vehicles and amending Directive 70/156/EEC on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers.

[i.4] CENELEC EN 55022: "Information technology equipment - Radio disturbance characteristics - Limits and methods of measurements".

[i.5] ETSI EN 300 676: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Ground-based VHF hand-held, mobile and fixed radio transmitters, receivers and transceivers for the VHF aeronautical mobile service using amplitude modulation; Technical characteristics and methods of measurement".

[i.6] ETSI TS 125 104: "Universal Mobile Telecommunications System (UMTS); Base Station (BS) radio transmission and reception (FDD) (3GPP TS 25.104)".

[i.7] ETSI TS 125 105: "Universal Mobile Telecommunications System (UMTS); Base Station (BS) radio transmission and reception (TDD) (3GPP TS 25.105)".

[i.8] ETSI TS 125 106: "Universal Mobile Telecommunications System (UMTS); UTRA repeater radio transmission and reception (3GPP TS 25.106)".

[i.9] ETSI TS 136 104: "LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) radio transmission and reception (3GPP TS 36.104)".

[i.10] ETSI TS 136 141: "LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) conformance testing (3GPP TS 36.141)".

[i.11] ETSI TS 136 106: "LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); FDD repeater radio transmission and reception (3GPP TS 36.106)".

[i.12] ETSI TS 136 143: "LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); FDD repeater conformance testing (3GPP TS 36.143)".

[i.13] ETSI TS 125 101: "Universal Mobile Telecommunications System (UMTS); User Equipment (UE) radio transmission and reception (FDD) (3GPP TS 25.101)".

[i.14] ETSI TS 125 102: "Universal Mobile Telecommunications System (UMTS); User Equipment (UE) radio transmission and reception (TDD) (3GPP TS 25.102)".

[i.15] ETSI TS 136 101: "LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception (3GPP TS 36.101)".

[i.16] ETSI EN 301 839-1 (V1.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio equipment in the frequency range 402 MHz to 405 MHz for Ultra Low Power Active Medical Implants and Accessories; Part 1: Technical characteristics, including electromagnetic compatibility requirements, and test methods".

[i.17] ETSI EN 301 839-2 (V1.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio equipment in the frequency range 402 MHz to 405 MHz for Ultra Low Power Active Medical Implants and Accessories; Part 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive".

[i.18] ERC Recommendation 70-03: "Relating to the use of Short Range Devices (SRD)".

[i.19] ETSI EN 302 537-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Ultra Low Power Medical Data Service Systems operating in the frequency range 401 MHz to 402 MHz and 405 MHz to 406 MHz; Part 1: Technical characteristics and test methods".

[i.20] ETSI EN 302 537-2: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Ultra Low Power Medical Data Service Systems operating in the frequency range 401 MHz to 402 MHz and 405 MHz to 406 MHz; Part 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive".

[i.21] ETSI EN 302 195-1 (V1.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio equipment in the frequency range 9 kHz to 315 kHz for Ultra Low Power Active Medical Implants (ULP-AMI) and accessories; Part 1: Technical characteristics and test methods".

[i.22] ETSI EN 302 195-2 (V1.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio equipment in the frequency range 9 kHz to 315 kHz for Ultra Low Power Active Medical Implants (ULP-AMI) and accessories; Part 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive".

[i.23] CENELEC EN 62684: "Interoperability specifications of common external power supply (EPS) for use with data-enabled mobile telephones".

[i.24] Void.

[i.25] Void.

[i.26] Void.

[i.27] CENELEC EN 55024: "Information technology equipment - Immunity characteristics - Limits and methods of measurement".

[i.28] Void.

[i.29] M/455 EN Standardisation mandate to CEN, CENELEC and ETSI on a common Charging Capability for Mobile Telephones.

[i.30] ETSI EN 300 422-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; Part 1: Technical characteristics and methods of measurement".

[i.31] ETSI EN 301 357-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Cordless audio devices in the range 25 MHz to 2 000 MHz; Part 1: Technical characteristics and test methods".

[i.32] ETSI EN 300 454-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Wide band audio links; Part 1: Technical characteristics and test methods".

[i.33] Void.

[i.34] Void.

[i.35] Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast).

[i.36] ETSI EN 301 559-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Low Power Active Medical Implants (LP-AMI) operating in the frequency range 2 483,5 MHz to 2 500 MHz; Part 1: Technical characteristics and test methods".

[i.37] 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, (OJ L153, 22.5.2014, p62).

[i.38] ISO 7637-2 (2004): "Road vehicles - Electrical disturbances from conduction and coupling - Part 2: Electrical transient conduction along supply lines only".

[i.39] CISPR 25 (2nd Edition 2002) and COR1 (2004): "Radio disturbance characteristics for the protection of receivers used on board vehicles, boats, and on devices - Limits and methods of measurement".

[i.40] UNECE Regulation No. 10 Uniform provisions concerning the approval of vehicles with regard to electromagnetic compatibility.

[i.41] CENELEC EN 61000-6-3: "Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments".

3 Definition of terms, symbols and abbreviations

3.1 Terms

Void.

3.2 Symbols

Void.

3.3 Abbreviations

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

AM	Amplitude Modulation
BS	Base Station
BSS	Base Station System
CB	Citizens Band
CCMF	Centralised Control and Monitoring Functions
CDMA	Code Division Multiple Access
DC	Direct Current
DCS	Digital Cellular System
DECT	Digital Enhanced Cordless Telecommunications
DSB	Double Side Band
EC	European Commission
EDGE	Enhanced Data for GSM Evolution
EMC	Electromagnetic Compatibility
EMCD	EMC Directive
ENAP	EN Approvals Process
EPS	External Power Supply
ERP	Effective Radiated Power
EST	Earth Station on Trains
EU	European Union
EUT	Equipment Under Test
E-UTRA	Evolved Universal Terrestrial Radio Access
FDD	Frequency Division Duplex
FS	Fixed Service
FSS	Fixed Satellite Service
GFSK	Gaussian Frequency Shift Key
GNSS	Global Navigation Satellite System
GPRS	General Packet Radio Service
GSM	Global System for Mobile communication
IEM	In Ear Monitor
ISM	Industrial, Scientific and Medical
LAN	Local Area Network
LMSS	Land Mobile Satellite Service
LNB	Low Noise Block
MEDS	Medical Data Service
MES	Mobile Earth Station
MSS	Mobile Satellite Service
NCF	Network Control Facilities
NMT	Nordic Mobile Telephone
OJEU	Official Journal of the European Union
PABX	Private Automatic Branch Exchange
PCN	Personal Communications Network
PMR	Private Mobile Radio
RF	Radio Frequency
RFID	Radio Frequency Identification Device
ROMES	Receive Only Mobile Earth Station
RTMS	Radio Telephone Mobile System (Italy)
SMS	Short Message Service
SNG	Satellite News Gathering
SRD	Short Range Device
TACS	Total Access Communication System
TCAM	Telecommunication Conformity Assessment and Market surveillance committee
TDD	Time Division Duplex
TES	Transportable Earth Station
TETRA	TErrestrial Trunked RAdio
TTE	Telecommunications Terminal Equipment
TTED	Telecommunications Terminal Equipment Directive
TV	Television

UE	User Equipment
UMTS	Universal Mobile Telecommunication System
UNECE	United Nations Economic Commission for Europe
UTRA	Universal Terrestrial Radio Access
UWB	Ultra WideBand
VDL	Very High Frequency Digital Link
VHF	Very High Frequency

4 Overview of the ETSI EN 301 489 series

The ETSI EN 301 489 series [i.2] of EMC standards was developed to replace the previous range of EMC standards by bringing together all of the requirements into one standard, ETSI EN 301 489-1 [i.2]. However, recognizing that radio systems contain differences in intentional operating frequencies and may require different test set-ups and diagnostics owing to the use of different modulation schemes, etc., part 2 onwards were produced to contain the individual differences that were present in the different technologies covered by this series. Over time the number of extra parts has exploded to the situation that exists today. One of the consequences of the increasing number of extra parts is the risk of an inconsistent approach to the selection of which part is to be used alongside part 1 for a given type of product.

The original way that the ETSI EN 301 489 [i.2] series was designed to be used was that ETSI EN 301 489-1 [i.2] is used either on its own or in conjunction with the appropriate part from 2 onwards. As the part 2 onwards contains deltas to the requirements within ETSI EN 301 489-1 [i.2] both standards would have been quoted in any test documentation, and subsequent declaration of conformity, as the full test suite for any given product can only be realized by using the combination of both parts; e.g. a test report for a WiFi device would refer to ETSI EN 301 489-1 [i.2] and ETSI EN 301 489-17 [i.2].

However, with the move from Directive 1999/5/EC [i.1] to Directive 2014/53/EU [i.37] and changes to the assessment process for candidate harmonised standards by the European Commission, the above approach was deemed no longer acceptable. Therefore, the way in which the series is used has evolved to take on the concerns of the European Commission, whilst retaining the consistency in approach achieved by the original format. ETSI EN 301 489-1 [i.2] still contains all of the test requirements and levels for the demonstrating compliance and these are intended to be referred to by the various product specific sub-parts of the ETSI EN 301 489 series [i.2], unless there is a justifiable need to diverge.

Product specific test set-ups and performance criteria are still found in the relevant sub-parts as with the original formulation. For example, a test report for a WiFi device would reference to ETSI EN 301 489-17 [i.2] only as ETSI EN 301 489-17 [i.2] refers directly to the required clauses of ETSI EN 301 489-1 [i.2].

Guidance on the applicability of each of the sub-parts was originally intended to be covered by the examples in an annex of each of the sub-parts. However, with the rapid evolution of technology this approach has increasingly meant that every time a new technology or product is required to be included in this annex, a revision of a harmonised standard would take place. As revising harmonised standards is both time consuming in its actual process and the consequence of a revision is felt by all manufacturers whether they benefit or not from the revision in terms of cost of changing compliance documentation. Although annex A was always intended to contain only examples and thus be indicative rather than normative, this has not always been the way these standards have been viewed.

5 Individual parts of the ETSI EN 301 489 series

5.1 ETSI EN 301 489-1 Common technical requirements

5.1.1 Introduction

As previously mentioned, ETSI EN 301 489-1 [i.2] contains all the technical requirements, limits and test methods required to demonstrate compliance with article 3.1(b) of the Directive 2014/53/EU [i.37] (RE Directive).

It is possible to use ETSI EN 301 489-1 [i.2] on its own without the use of an additional part where none of the additional parts apply to the radio system under assessment. However, where a product specific part is available, this should be used in preference to ETSI EN 301 489-1 [i.2].

5.1.2 ETSI EN 301 489-1 V2.1.1

V2.1.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

The main technical difference in this edition compared with earlier editions, is the extension of the radiated immunity test range from an upper limit of 2 700 MHz to 6 000 MHz together with testing in the 1 000 MHz to 1 400 MHz range.

Other differences include a new method of calculating exclusion bands in order to reduce the size of these as a result of concerns over their misuse and a general update to referencing newer editions of the basic standards.

It should be noted that dated references to standards dealing with automotive EMC, i.e. CISPR25 [i.39] and ISO 7637-2 [i.38], are older versions in order to maintain consistency with UNECE Reg10 [i.40]. This approach has been agreed with the European Commission.

5.1.3 ETSI EN 301 489-1 V2.2.0

V2.2.0 is an interim version that was produced in response to comments received on V2.1.1. This version passed its ENAP procedure but further comments were received from the European Commission over the issue of manufacturers defined performance criteria.

This version has not been formally published, but is publically available from the link below, as a result of completing its ENAP procedure. It is also referenced in a number of other parts within the ETSI EN 301 489 series [i.2].

ETSI EN 301 489-1 V2.2.0 can be downloaded following the link:
https://www.etsi.org/deliver/etsi_en/301400_301499/30148901/02.02.00_20/en_30148901v020200a.pdf.

There were no technical changes from V2.1.1.

5.1.4 ETSI EN 301 489-1 V2.2.1

V2.2.1 has been successfully assessed by the HAS consultant and is now undergoing ENAP with the intention to be sent for citation by the EC in the OJEU. It should be noted that this version is no longer intended to be offered for citation under Directive 2014/30/EU [i.35] EMCD as all forms of radio equipment now fall within the scope of the Directive 2014/53/EU [i.37] RE Directive.

Technical changes since V2.1.1 and V2.2.0 are:

- removal of manufacturers defined performance criteria which have been replaced by clear pass/fail criteria;
- adoption of "class A" limits for DC power ports in clause 8.3, which is justified as this aligns with the requirements in the generic emissions standard CENELEC EN 61000-6-3 [i.41];
- clarification of location of test support equipment during testing in clause 4.2.

5.2 ETSI EN 301 489-2 Specific conditions for radio paging equipment

5.2.1 Introduction

Part 2 of the ETSI EN 301 489 series [i.2] is intended to cover all paging equipment whether it be base station transmitting equipment or user terminal. It is also intended to cover all forms of paging regardless of the modulation and data schemes employed.

5.2.2 ETSI EN 301 489-2 V2.1.1

V2.1.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.3 ETSI EN 301 489-3 Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz

5.3.1 Introduction

Part 3 of the ETSI EN 301 489 series [i.2] is intended to cover all generic short range devices operating over the frequency range of 9 KHz to 246 GHz that are not covered by another part of the ETSI EN 301 489 series [i.2].

Part 3 is also applicable to all types of RFID equipment irrespective of operating frequency.

5.3.2 ETSI EN 301 489-3 V2.1.1

V2.1.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard, with the exception of the extension of the upper end of the frequency range for radiated immunity requirements which remained at 2 700MHz.

5.3.3 ETSI EN 301 489-3 V2.2.1

It is intended that V2.2.1 will extend the upper end of the frequency range for radiated immunity testing from 2 700 MHz to 6 000 MHz. In addition performance criteria will be defined in absolute terms as opposed to relying upon manufacturers declared parameters.

5.4 ETSI EN 301 489-4 Specific conditions for fixed radio links and ancillary equipment

5.4.1 Introduction

Part 4 of the ETSI EN 301 489 series [i.2] is intended to cover all fixed link equipment whether it is operating in a point to point or point to multipoint configuration. Although annex A does separate out equipment into different frequency bands, the standard itself is designed to be used for all frequency bands where this type of equipment may be deployed regardless as to whether the band is listed in annex A or not.

5.4.2 ETSI EN 301 489-4 V3.2.1

V3.2.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.4.3 ETSI EN 301 489-4 V3.3.1

V3.3.1 has been successfully assessed by the HAS consultant.

It will be submitted for ENAP with the intention to be sent for citation by the EC in the OJEU.

5.5 ETSI EN 301 489-5 Specific conditions for Private land Mobile Radio (PMR) and ancillary equipment (speech and non-speech)

5.5.1 Introduction

Part 5 of the ETSI EN 301 489 series [i.2] is intended to cover all private land mobile radio equipment regardless of its modulation scheme. Prior to the application of Directive 2014/53/EU [i.37] the present document excluded TETRA equipment which used ETSI EN 301 489-18 [i.2]. However, TETRA is now also covered by part 5 of the ETSI EN 301 489 series [i.2].

5.5.2 ETSI EN 301 489-5 V2.2.1

V2.2.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.6 ETSI EN 301 489-6 Specific conditions for Digital Enhanced Cordless Telecommunications (DECT) equipment

5.6.1 Introduction

Part 6 of the ETSI EN 301 489 series [i.2] is intended to cover all DECT equipment. This includes domestic handsets and base stations, cordless PABX base stations and public access base stations.

5.6.2 ETSI EN 301 489-6 V2.2.1

V2.2.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.7 ETSI EN 301 489-7 Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)

Part 7 of the ETSI EN 301 489 series [i.2] covered all GSM user terminal equipment regardless of the frequency of operation and the services and applications supported by an individual terminal.

It should also be noted that GSM 1800 equipment was originally known as DCS 1800.

Part 7 was originally intended to cover GSM handsets operating in either voice call or SMS transmission. Part 7 should also be used when assessing the impact of enhanced data services such as GPRS and EDGE.

However, in order to reduce the number of standards used during assessment of these devices, all cellular client devices are now covered by part 52 of the ETSI EN 301 489 series [i.2], regardless of the signalling technology employed.

5.8 ETSI EN 301 489-8 Specific conditions for GSM base stations

Part 8 of the ETSI EN 301 489 series [i.2] is intended to cover all GSM base station, repeaters and ancillary RF amplifiers equipment regardless of their operating frequency.

Part 8 was originally intended to cover GSM base stations operating in either voice call or SMS transmission. Part 8 should also be used when assessing the impact of enhanced data services such as GPRS and EDGE.

However, in order to reduce the number of standards used during assessment of these devices, all cellular base station equipment are now covered by part 50 of the ETSI EN 301 489 series [i.2], regardless of the signalling technology employed.

5.9 ETSI EN 301 489-9 Specific conditions for wireless microphones, similar Radio Frequency (RF) audio link equipment, cordless audio and in-ear monitoring devices

5.9.1 Introduction

Part 9 of the ETSI EN 301 489 series [i.2] is intended to cover both analogue and digital equipment in the 30 MHz to 3 000 MHz range, it includes:

- All Radio Microphone equipment;
- Hearing Aids;
- Assistive listening Devices;
- In Ear Monitors(IEM);
- Band II micro transmitters;
- Tour Guide Systems;
- Cordless Audio;
- Audio links (up to 25 W).

Applicable harmonised radio standards are ETSI EN 300 422-1 [i.30], ETSI EN 301 357-1 [i.31] and ETSI EN 300 454-1 [i.32].

Equipment may be body worn, hand held, in vehicle or stand alone. However, it should be noted that equipment employing infrared transmission are outside of the scope of ETSI EN 301 489-9 [i.2].

5.9.2 ETSI EN 301 489-9 V2.1.1

V2.1.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.10 ETSI EN 301 489-10 Specific conditions for first (CT1 and CT1+) and second generation cordless telephone (CT2) equipment

Part 10 of the ETSI EN 301 489 series [i.2] covered all analogue cordless telephone equipment regardless of operating frequency used. This covers both domestic handsets and base stations as well cordless PABX base stations. It should also be noted that in some countries some of these analogue systems were known as CT0. However these also fall within the scope of part 10 of the ETSI EN 301 489 series [i.2].

Part 10 also covers all CT2 equipment including domestic handsets and base stations, cordless PABX base stations, public access base stations and stand-alone handsets.

As this technology is no longer being placed upon the EU market, no edition of the present document has been produced for use under Directive 2014/53/EU [i.37].

5.11 ETSI EN 301 489-11 Specific conditions for terrestrial sound broadcasting service transmitters

Part 11 of the ETSI EN 301 489 series [i.2] is intended to cover all sound broadcasting transmitters, employing either analogue or digital forms of modulation regardless of their frequency of operation. This type of equipment is now within the scope of part 53 of the ETSI EN 301 489 series [i.2].

5.12 ETSI EN 301 489-12 Specific conditions for Very Small Aperture Terminal, Satellite Interactive Earth Stations operated in the frequency ranges between 4 GHz and 30 GHz in the Fixed Satellite Service (FSS)

5.12.1 Introduction

Part 12 of the ETSI EN 301 489 series [i.2] applies to the following satellite Earth Stations.

Transmit only and Transmit and receive Ku band VSATs operating as part of a satellite network (e.g. star, meshed or point to point) used for the distribution and/or exchange of information between users, operating in the exclusive part of the Ku-band allocated to the Fixed Satellite Services (FSS), 14,00 GHz to 14,25 GHz (Earth-Space), 12,50 GHz to 12,75 GHz (Space-Earth), and/or in the shared parts of the Ku-band, allocated to the FSS and Fixed Services (FS), 14,25 GHz to 14,50 GHz (Earth-Space) and/or 10,70 GHz to 11,70 GHz (Space-Earth). In such a network a Centralized Control and Monitoring Functions (CCMF) is responsible for the monitoring and control of VSATs.

Receive-only Ku band VSATs operating as part of a satellite network (e.g. star, meshed or point to point) used for the distribution of information, operating in the exclusive space-to-earth part of the Ku-band allocated to the Fixed Satellite Service (FSS), 12,50 GHz to 12,75 GHz (Space-Earth), and/or in the shared parts of the Ku-band, allocated to the FSS and Fixed Service (FS), 10,70 GHz to 11,70 GHz (Space-Earth).

Transmit only and Transmit and receive C band VSATs operating as part of a satellite network (e.g. star, meshed or point to point) used for the distribution and/or exchange of information between users, operating in the exclusive part of the C-band allocated to the Fixed Services (FS) and to the Fixed Satellite Services (FSS), 5,850 GHz to 6,425 GHz (Earth-Space), 3,625 GHz to 4,200 GHz (Space-Earth). In such a network a Centralized Control and Monitoring Function (CCMF) is responsible for the monitoring and control of VSATs.

Receive-only C band VSATs operating as part of a satellite network (e.g. star, meshed or point to point) used for the distribution of information, operating in the exclusive part of the C-band allocated to the Fixed Services (FS) and to the Fixed Satellite Services (FSS) 3,625 GHz to 4,200 GHz (Space-Earth).

NOTE 1: The above VSATs comprise both the "outdoor unit", usually composed of the antenna subsystem and associated power amplifier and Low Noise Block (LNB), and the "indoor unit" composed of the remaining part of the communication chain, including the cable between these two units.

Satellite News Gathering (SNG) Ku band Transportable Earth Stations (TESs) which can be either an unforeseen or pre-planned activity. The SNG TES is capable of transmitting television signals and associated audio or programme audio only towards a satellite positioned on the geostationary orbit, operating in the exclusive part of the Ku-band allocated to the Fixed Satellite Services (FSS), 12,75 GHz to 13,25 GHz (Earth-Space), 13,75 GHz to 14,50 GHz (Earth-Space), 10,70 GHz to 11,70 GHz (Space-Earth), and/or 12,50 GHz to 12,75 GHz (Space-Earth). Frequencies could be selected from through the entire frequency range or be restricted to a range completely enclosed within those bands. These bands are partly shared between FSS and Fixed Service (FS). The modulation method may be either analogue or digital. Such transmissions are point-to-point or point-to-multipoint but not for general broadcast reception. A Transportable Earth Station (TES) is an earth station that can be relocated at any time to a different fixed operating location but is not intended to operate during the relocation period. The TES can be either vehicle mounted or packed for transportation. The TESs considered in the present document are those designed to operate whilst stationary. This earth station should include a capability to receive from the satellite for antenna pointing purposes and to monitor its own transmission where the satellite transmission beam permits. The receive equipment could also be used in the process of the two-way communication to control and co-ordinate operation. These SNG TESs comprise both the antenna sub-system and the associated transmit and receive sub-systems.

Satellite Interactive Terminals (SITs), with reception in frequency ranges from 10,70 GHz to 11,70 GHz and from 12,50 GHz to 12,75 GHz as well as the Broadcast Satellite Service (BSS) frequency range from 11,70 GHz to 12,50 GHz, whilst transmission is in the frequency band 29,5 GHz to 30,0 GHz. These SITs are used for reception of audio-visual signals as well as data and for providing a return channel for interactive services via satellite. In such a network a Network Control Facility (NCF) is responsible for the monitoring and control of the transmit functions of the SITs.

Satellite User Terminals (SUTs) that receive in the frequency band 19,70 GHz to 20,20 GHz and/or transmit in the frequency bands 27,5 GHz to 29,5 GHz or 29,5 GHz to 30,0 GHz. In such a network a Network Control Facility (NCF) is responsible for the monitoring and control of the transmit functions of the SITs.

NOTE 2: The equipment considered in the above comprises both the outdoor unit, usually composed of the antenna subsystem and associated upconverter, power amplifier and Low Noise Block (LNB) downconverter, and the indoor unit, usually composed of receive and transmit logic as well as the modulator, including the cable between these two units.

Satellite Earth Station on Trains (EST) used mainly for transmission and reception of data signals, with the following characteristics:

- The EST is comprised of all the equipment, electrical and mechanical, from the antenna itself to the interface with other communications equipment on a train (usually referred to as the terrestrial interface).
- The EST transmits on single carrier in the frequency range 14,00 GHz to 14,25 GHz, which is a portion of a band allocated to the Fixed Satellite Services (FSS) (Earth to space).
- The EST receives in one or more frequencies within the range from 10,70 GHz to 12,75 GHz in bands allocated to the Fixed Satellite Services (FSS) (space to Earth) or the Broadcast Satellite Service (BSS) (space to-Earth), depending on the ITU Region where the EST is located.
- The EST operates in a railway environment and, therefore, may be subject to occasional disturbances and interruptions in the satellite link.
- The EST is operating as part of a satellite network (e.g. star, mesh or point to point) used for the distribution and/or exchange of information.

5.12.2 ETSI EN 301 489-12 V3.1.1

V3.1.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.13 ETSI EN 301 489-13 Specific conditions for Citizens' Band (CB) radio and ancillary equipment (speech and non-speech)

5.13.1 Introduction

Part 13 of the ETSI EN 301 489 series [i.2] is intended to cover all CB equipment regardless of the operating frequency of the equipment and modulation schemes employed.

5.13.2 ETSI EN 301 489-13 V2.1.1

V2.1.1 is currently in drafting.

5.14 ETSI EN 301 489-14 Specific conditions for analogue and digital terrestrial TV broadcasting service transmitters

Part 14 of the ETSI EN 301 489 series [i.2] is intended to cover all terrestrial television broadcasting transmitters, employing either analogue or digital forms of modulation regardless of their frequency of operation. This type of equipment is now within the scope of part 53 of the ETSI EN 301 489 series [i.2].

5.15 ETSI EN 301 489-15 Specific conditions for commercially available amateur radio equipment

5.15.1 Introduction

Part 15 of the ETSI EN 301 489 series [i.2] is intended to cover all commercially available amateur radio equipment regardless of the operating frequency and modulation schemes employed.

5.15.2 ETSI EN 301 489-15 V2.2.1

V2.2.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.16 ETSI EN 301 489-16 Specific conditions for analogue cellular radio communications equipment, mobile and portable

Part 16 of the ETSI EN 301 489 series [i.2] is intended to cover all analogue cellular user terminal equipment regardless of the frequency of operation and modulation schemes employed. This means that ETSI EN 301 489-16 [i.2] is applicable to TACS, NMT, RC-2000, C-450 and RTMS products.

As this technology is no longer being placed upon the EU market, no edition of the present document has been produced for use under Directive 2014/53/EU [i.37].

5.17 ETSI EN 301 489-17 Specific conditions for Broadband Data Transmission Systems

5.17.1 Introduction

Part 17 of the ETSI EN 301 489 series [i.2] was originally developed to cover wireless LAN equipment operating in the 2,45 GHz and 5 GHz bands. This was then expanded to cover other wireless broadband systems such as HomeRF and Bluetooth® that also operated in the 2,45 GHz band. Equipment covered includes both access point (base station) and client devices including transceivers embedded within other devices such as personal computers.

5.17.2 ETSI EN 301 489-17 V3.2.1

V3.2.1 is currently in drafting.

5.18 ETSI EN 301 489-18 Specific conditions for Terrestrial Trunked Radio (TETRA) equipment

Part 18 of the ETSI EN 301 489 series [i.2] is intended to cover all TETRA equipment whether it be a base station transmitting equipment, a repeater or a user terminal.

However, in order to reduce the number of standards used during assessment of these devices, all private mobile radio equipment is now covered by part 5 of the ETSI EN 301 489 series [i.2], regardless of the signalling technology employed.

5.19 ETSI EN 301 489-19 Specific conditions for Receive Only Mobile Earth Stations (ROMES) operating in the 1,5 GHz band providing data communications

5.19.1 Introduction

Part 19 of the ETSI EN 301 489 series [i.2] applies to ROMES which operate in the Land Mobile Satellite Service (LMSS) space to earth bands at 1 525 MHz to 1 544 MHz and 1 555 MHz to 1 559 MHz. These ROMES operate as part of a satellite system providing one way data communications.

5.19.2 ETSI EN 301 489-19 V2.1.1

V2.1.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

This version also introduced EMC requirement for GNSS receivers.

5.19.3 ETSI EN 301 489-19 V2.2.1

V2.2.1 is currently in drafting.

5.20 ETSI EN 301 489-20 Specific conditions for Mobile Earth Stations (MES) used in the Mobile Satellite Services (MSS)

5.20.1 Introduction

Part 20 of the ETSI EN 301 489 series [i.2] applies to Mobile Earth Stations (MESs), with both transmit and receive capabilities for operation in a Satellite Personal Communication Network (S-PCN).

MES equipment may be handheld, portable or vehicle mounted. Unless otherwise stated, ETSI EN 301 489-20 [i.2] only applies to the MES component of a multi-mode terminal.

The Mobile Satellite Service (MSS) frequency bands within which the MESs operate are:

- MESs transmit 1 610 MHz to 1 626,5 MHz.
- MESs receive 1 613,8 MHz to 1 626,5 MHz and 2 483,5 MHz to 2 500 MHz.

5.20.2 ETSI EN 301 489-20 V2.1.1

V2.1.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.21 ETSI EN 301 489-21

Part 21 of the ETSI EN 301 489 series [i.2] is currently unused.

5.22 ETSI EN 301 489-22 Specific conditions for ground based VHF aeronautical mobile and fixed radio equipment

5.22.1 Introduction

Part 22 of the ETSI EN 301 489 series [i.2] applies to ground base station, ground mobile and hand held/portable aeronautical VHF radio communications and associated ancillary equipment, as defined in ETSI EN 300 676 [i.5].

Ground based aeronautical VHF radio communications equipment within the scope of part 22 is characterized by the following operating conditions:

a) operating in the frequency range 118 MHz to 136,975 MHz, at 8,33 kHz or 25 kHz channel spacing;

b) using DSB AM, GFSK or D8PSK modulation; and comprises ground base station, mobile, and hand held/portable applications.

Part 22 also covers EMC requirements for VDL Mode 2 and VDL Mode 4 ground base station radio equipment.

5.22.2 ETSI EN 301 489-22 V2.1.1

V2.1.1 is currently in drafting.

5.23 ETSI EN 301 489-23 Specific conditions for IMT-2000 CDMA, Direct Spread (UTRA and E-UTRA) Base Station (BS) radio, repeater and ancillary equipment

Part 23 of the ETSI EN 301 489 series [i.2] applies to 3rd Generation Partnership Project (UTRA) base station and repeater equipment intended for use in UTRA networks. In addition it also applies to base station and repeater equipment for Evolved Universal Terrestrial Radio Access (E-UTRA) networks.

Definitions for UTRA base station equipment within the scope of part 23 are found in the following functional radio specifications:

- ETSI TS 125 104 [i.6];
- ETSI TS 125 105 [i.7];
- ETSI TS 125 106 [i.8].

Definitions for E-UTRA base station equipment within the scope of part 23 are found in the following functional radio specifications:

- base stations of E-UTRA meeting the requirements of ETSI TS 136 104 [i.9], with conformance demonstrated by compliance to ETSI TS 136 141 [i.10];
- repeaters of E-UTRA meeting the requirements of ETSI TS 136 106 [i.11], with conformance demonstrated by compliance to ETSI TS 136 143 [i.12].

However, in order to reduce the number of standards used during assessment of these devices, all cellular base station equipment are now covered by part 50 of the ETSI EN 301 489 series [i.2], regardless of the signalling technology employed.

5.24 ETSI EN 301 489-24 Specific conditions for IMT-2000 CDMA Direct Spread (UTRA and E-UTRA) for Mobile and portable (UE) radio and ancillary equipment

Part 24 of the ETSI EN 301 489 series [i.2] applied to 3rd Generation Partnership Project UTRA and E-UTRA digital cellular mobile and portable radio equipment. Definitions for mobile and portable radio and associated ancillary equipment within the scope of part 24 are found in the following functional radio specifications:

- ETSI TS 125 101 [i.13];
- ETSI TS 125 102 [i.14];
- ETSI TS 136 101 [i.15].

However, in order to reduce the number of standards used during assessment of these devices, all cellular client devices are now covered by part 52 of the ETSI EN 301 489 series [i.2], regardless of the signalling technology employed.

5.25 ETSI EN 301 489-25 Specific conditions for CDMA 1x spread spectrum Mobile Stations and ancillary equipment

Part 25 of the ETSI EN 301 489 series [i.2] was intended to cover all CDMA 1x spread spectrum mobile stations and related ancillary equipment, regardless of which band class the equipment operates in.

However, in order to reduce the number of standards used during assessment of these devices, all cellular client devices are now covered by part 52 of the ETSI EN 301 489 series [i.2], regardless of the signalling technology employed.

5.26 ETSI EN 301 489-26 Specific conditions for CDMA 1x spread spectrum Base Stations, repeaters and ancillary equipment

Part 26 of the ETSI EN 301 489 series [i.2] was intended to cover all CDMA 1x spread spectrum base stations, repeaters and related ancillary equipment, regardless of which band class the equipment operates in.

Part 26 is superseded by part 50 of the ETSI EN 301 489 series [i.2].

However, in order to reduce the number of standards used during assessment of these devices, all cellular base station equipment are now covered by part 50 of the ETSI EN 301 489 series [i.2], regardless of the signalling technology employed.

5.27 ETSI EN 301 489-27 Specific conditions for Ultra Low Power Active Medical Implants (ULP-AMI) and related peripheral devices (ULP-AMI-P)

5.27.1 Introduction

Part 27 of the ETSI EN 301 489 series [i.2] applies to ULP-AMI and ULP-AMI-P devices with RF power levels ranging up to 25 μW ERP and intended for operation in the frequency range 402 MHz to 405 MHz in accordance with the provisions of annex 12, band (a), to CEPT/ERC/REC 70-03 [i.18]. Definitions of such ULP-AMI and ULP-AMI-P radio equipment are found in the following functional radio standards:

- ETSI EN 301 839-1 [i.16];
- ETSI EN 301 839-2 [i.17].

5.27.2 ETSI EN 301 489-27 V2.2.1

V2.2.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.28 ETSI EN 301 489-28 Specific conditions for wireless digital video links

5.28.1 Introduction

Part 28 of the ETSI EN 301 489 series [i.2] applies to wireless digital video link equipment. Such equipment is categorized as follows to further aid the EMC assessment of various individual pieces of equipment.

The categories of equipment covered, are as follows:

Category 1: This category of equipment is typically used by Broadcasters and Programme makers that require the highest video contribution quality and or minimum processing delay times to allow both real time inserts into programmes and easy accurate editing. This category of equipment normally operate on licensed frequencies e.g. 2,5 GHz, 3,5 GHz, 5 GHz, 7 GHz and 12 GHz bands.

Category 2: This category of equipment is typically used by Professional and Business users and has quality requirements similar to category 1, but the users are less concerned with delay issues, that affect the broadcaster and can therefore operate within a reduced spectrum mask, than category 1 equipment.

Category 3: This category of equipment is typically used by civil and industrial users, emergency services, Automobile Associations, and the utilities, etc., who need good quality available from digital based systems and who operate on licensed frequencies.

Category 4: This category of equipment is typically used in Industrial applications (e.g. industrial security), operating either in ISM bands or on frequencies specifically allocated for the purpose.

Category 5: This category of equipment is typically used by consumers, hobbyists and amateur users. Its 5 MHz mask can be subdivided into 2 × 2,5 for two way visual communication and is primarily intended for indoor use.

5.28.2 ETSI EN 301 489-28 V2.1.1

V2.1.1 is currently in drafting.

5.29 ETSI EN 301 489-29 Specific conditions for Medical Data Service Devices (MEDS) operating in the 401 MHz to 402 MHz and 405 MHz to 406 MHz bands

5.29.1 Introduction

Part 29 of the ETSI EN 301 489 series [i.2] is intended to cover ULP-AMI, ULP-AMD, ULP-BWD, ULP-AMD-P and ULP-AMI-P devices with RF power levels ranging up to 25 µW ERP and intended for operation in the frequency range 401 MHz to 402 MHz and 405 MHz to 406 MHz in accordance with the provisions of annex 12, band b) and band c), to ERC Recommendation 70-03 [i.18]. Definitions of such ULP-AMI, ULP-AMD, ULP-BWD, ULP-AMD-P and ULP-AMI-P radio devices are found in the following functional radio standards:

- ETSI EN 302 537-1 [i.19]
- ETSI EN 302 537-2 [i.20]

5.29.2 ETSI EN 301 489-29 V2.2.1

V2.2.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.30 ETSI EN 301 489-30

Part 30 of the ETSI EN 301 489 series [i.2] is currently unused.

5.31 ETSI EN 301 489-31 Specific conditions for equipment in the 9 kHz to 315 kHz band for Ultra Low Power Active Medical Implants (ULP-AMI) and related peripheral devices (ULP-AMI-P)

5.31.1 Introduction

Part 31 of the ETSI EN 301 489 series [i.2] applies to ULP-AMI and ULP-AMI-P with field strength levels ranging up to 30 dBμA/m at 10 meters and intended for operation in the frequency range 9 kHz to 315 kHz in accordance with the provisions of annex 12, band (b), to ERC Recommendation 70-03 [i.18]. Applications include but are not limited to pacemakers, defibrillators, nerve stimulators, insulin pumps, etc. Definitions pertaining to this radio equipment are found in the following functional radio standards:

- ETSI EN 302 195-1 [i.21];
- ETSI EN 302 195-2 [i.22].

5.31.2 ETSI EN 301 489-31 V2.2.1

V2.2.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.32 ETSI EN 301 489-32 Specific conditions for Ground and Wall Probing Radar applications

Under the previous regulatory regime part 32 of the ETSI EN 301 489 series [i.2] covered all ground and wall probing radar equipment under the previous regulatory regime. However, this equipment now falls within the scope of part 33 of the ETSI EN 301 489 series [i.2].

5.33 ETSI EN 301 489-33 Specific conditions for Ultra Wide Band (UWB) devices

5.33.1 Introduction

Part 33 of the ETSI EN 301 489 series [i.2] is intended to cover impulse, modified impulse and RF carrier based UWB communication technologies.

Part 33 of the ETSI EN 301 489 series [i.2] applies to fixed (indoor only), mobile or portable applications, e.g.:

- stand-alone radio equipment with or without its own control provisions;

- plug-in radio devices intended for use with, or within, a variety of host systems, e.g. personal computers, hand-held terminals, etc.;
- plug-in radio devices intended for use within combined equipment, e.g. cable modems, set-top boxes, access points, etc.;
- combined equipment or a combination of a plug-in radio device and a specific type of host equipment;
- equipment for use in road and rail vehicles.

Part 33 also applies to all ground and wall probing radar equipment that was covered by part 32 under the previous regulatory regime.

5.33.2 ETSI EN 301 489-33 V2.2.1

V2.2.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.34 ETSI EN 301 489-34 Specific conditions for External Power Supply (EPS) for mobile phones

5.34.1 Introduction

Part 34 of the ETSI EN 301 489 series [i.2] is intended to cover the requirements for the common external power supply (EPS) for use with data-enabled mobile telephones as described in CENELEC EN 62684 [i.23] and EU Mandate M/455 [i.29]. Interoperability for products within the scope of part 34 is covered by CENELEC EN 62684 [i.23]. An EPS not intended to support CENELEC EN 62684 [i.23] should meet the EMC requirements of CENELEC EN 55022 [i.4], CENELEC EN 55024 [i.27], ETSI EN 301 489-1 [i.2].

The EPS supplied for test (EUT) should be identified by the supplier as intended to support EU Mandate M/455 [i.29] regarding Harmonisation of a Charging Capability for Mobile Phones.

Prior to EU Mandate M/455 [i.29] and the associated MoU of Manufacturers (given in EU Mandate M/455 [i.29]) EMC assessment was achieved by one of the following options:

- External Power Supply (used as Charger/Power Adaptor for mobile phones):
  - Under R&TTED using ETSI EN 301 489-1 [i.2] and a combination of parts 7, 17 and 24 (and/or other applicable standards in this series).
  - Under EMCD using CENELEC EN 55022 [i.4] and CENELEC EN 55024 [i.27].
- Mobile Phone:
  - Under R&TTED using ETSI EN 301 489-1 [i.2] and a combination of -7, -17, -24.

EMC Compliance Assessment post EU Mandate M/455 [i.29] may be achieved by one of the following options:

- Products which do not comply with the CENELEC EN 62684 [i.23] and EU Mandate M/455 [i.29]:
  - As prior to the CENELEC EN 62684 [i.23].
- External Power Supply intended to comply with the CENELEC EN 62684 [i.23]:
  - R&TTED or EMCD using ETSI EN 301 489-1 [i.2] and ETSI EN 301 489-34 [i.2].

- Mobile Phone intended to comply with the EU Mandate M/455 [i.29] MoU:
  - R&TTED using ETSI EN 301 489-1 [i.2] and a combination of -7, -17, -24 (and/or other applicable standards in this series). This is the same as for a Mobile phone NOT intended to comply with the EU Mandate M/455 [i.29] MoU.

NOTE 1: A Mobile Phone intended to comply with the EU Mandate M/455 [i.29] MoU should be interoperable with an EPS meeting CENELEC EN 62684 [i.23].

NOTE 2: Meeting the MoU agreement is a voluntary commitment.

5.34.2 ETSI EN 301 489-34 V2.1.1

V2.1.1 was intended to be cited under article 6 of Directive 2014/30/EU [i.35] (EMC Directive) following the outcome of a TCAM debate as to which Directive the present document falls under. However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.35 ETSI EN 301 489-35 Specific requirements for Low Power Active Medical Implants (LP-AMI) operating in the 2 483,5 MHz to 2 500 MHz bands

5.35.1 Introduction

Part 35 of the ETSI EN 301 489 series [i.2] is for Low Power Active Medical Implants (LP-AMI) and associated Peripherals (LP-AMI-P) operating in the band 2 483,5 MHz to 2 500 MHz. The applicable product standard is ETSI EN 301 559 [i.36]: this differs from the similar application in the 400 MHz range by virtue of offering greater bandwidth.

5.35.2 ETSI EN 301 489-35 V2.2.1

V2.2.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.36 ETSI EN 301 489-50 Specific conditions for Cellular Communication Base Station (BS), repeater and ancillary equipment

5.36.1 Introduction

Part 50 replaced parts 8, 23, 26 and the clause of part 4 dealing with WiMAX™ base stations bringing together all digital cellular technology base station and repeater EMC requirements into a single part of the ETSI EN 301 489 series [i.2].

5.36.2 ETSI EN 301 489-50 V2.2.1

V2.2.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.37 ETSI EN 301 489-51 Specific conditions for Automotive, Ground based Vehicles and Surveillance Radar Devices using 24,05 GHz to 24,25 GHz, 24,05 GHz to 24,5 GHz, 76 GHz to 77 GHz and 77 GHz to 81 GHz;

5.37.1 Introduction

Part 51 of the ETSI EN 301 489 series [i.2] contains the EMC requirements for automotive, ground based vehicles and surveillance radar devices operating in the 24,05 GHz to 24,25 GHz, 24,05 GHz to 24,5 GHz, 76 GHz to 77 GHz and 77 GHz to 81 GHz bands.

5.36.2 ETSI EN 301 489-51 V2.2.1

V2.2.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.38 ETSI EN 301 489-52 Specific conditions for Cellular Communication Mobile and portable radio and ancillary equipment

5.38.1 Introduction

Part 52 of the ETSI EN 301 489 series [i.2] replaces parts 7, 24, and 25 from the previous regime bringing together all digital cellular technology mobile and portable radio EMC requirements into a single part of the ETSI EN 301 489 series [i.2].

5.38.2 ETSI EN 301 489-52 V1.1.1

V1.1.1 is currently in drafting.

5.39 ETSI EN 301 489-53 Specific conditions for terrestrial sound broadcasting and digital TV broadcasting service transmitters and associated ancillary equipment

5.39.1 Introduction

Part 53 of the ETSI EN 301 489 series [i.2] replaces parts 11 and 14 from the previous regime bringing together all broadcast transmitter EMC requirements into a single part of the ETSI EN 301 489 series [i.2].

5.39.2 ETSI EN 301 489-53 V1.1.1

V1.1.1 was intended to be cited under article 3.1(b) of Directive 2014/53/EU [i.37] (RE Directive). However, comments were received that the original structure of the ETSI EN 301 489 series [i.2] could be clearer and an issue was raised regarding the concept of manufacturers supplied performance criteria. As a consequence, this edition, although published by ETSI was not offered for citation in the OJEU.

This version references ETSI EN 301 489-1 V2.2.0 [i.2] and thus carried over the technical changes introduced by that standard.

5.40 ETSI EN 301 489-54 Specific conditions for ground based aeronautical and meteorological radars

5.40.1 Introduction

Part 54 of the ETSI EN 301 489 series [i.2] covers ground based aeronautical and meteorological radars.

5.40.2 ETSI EN 301 489-54 V1.1.1

V1.1.1 is currently in drafting.

History

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