ETSI EN 302 217-4 V2.2.1 (2025-07)

EUROPEAN STANDARD

Fixed Radio Systems;
Characteristics and requirements
for point-to-point equipment and antennas;
Part 4: Antennas

Reference
REN/ATTM-0456

Keywords
antenna, DFRS, DRRS, FWS, point-to-point, radio, regulation, transmission

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 - APE 7112B
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° w061004871

Contents

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The declarations pertaining to these essential IPRs, if any, are 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 IPR online database.

Pursuant to the ETSI Directives including the ETSI IPR Policy, no investigation regarding the essentiality of IPRs, 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.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™**, **LTE™** and **5G™** logo are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners. **GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Access, Terminals, Transmission and Multiplexing (ATTM).

The present document is part 4 of a multi-part deliverable covering the Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas. Full details of the entire series can be found in part 1 [2].

National transposition dates	
Date of adoption of this EN:	2 July 2025
Date of latest announcement of this EN (doa):	31 October 2025
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 April 2026
Date of withdrawal of any conflicting National Standard (dow):	30 April 2026

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.

1 Scope

The present document defines the characteristics and requirements of antennas for point-to-point radio equipment operating in the frequency range from 1 GHz to 174,8 GHz falling within the scope (see note) of ETSI EN 302 217-2 [i.2].

For technical commonalities that range is here divided into sub-ranges as follows:

Range 0: 1 GHz to 3 GHz;

Range 1: 3 GHz to 14 GHz;

Range 2: 14 GHz to 20 GHz;

Range 3: 20 GHz to 24 GHz;

Range 4: 24 GHz to 30 GHz;

Range 5: 30 GHz to 47 GHz;

Range 6: 47 GHz to 71 GHz;

Range 7: 71 GHz to 86 GHz;

Range 8: 92 GHz to 114,25 GHz;

Range 9: 130 GHz to 174,8 GHz.

The present document is applicable to fixed radio equipment with *integral* (see note) or *dedicated antennas*.

NOTE: For information, ETSI EN 302 217-2 [i.2] includes in its scope only the use of *detachable integral antennas*; *undetachable integral antennas* are not considered due to the present lack of radiated test procedures for the radio equipment parameters.

The present document also applies to *stand-alone antennas*, placed separately on the market. In this case the present document is to be used by radio equipment manufacturers to provide guidance as to the information for the user, as required by article 10 paragraph 8 of Directive 2014/53/EU [i.1], regarding the antenna characteristics required so as the radio equipment, supplied without antenna, can operate as intended in its *technical documentation*.

The present document is applicable to fixed beam antennas, as well as to "*self-alignment tracking*" antenna, with limited tracking range, so that all requirements in the present document are respected throughout the *tracking angle* indicated in the *technical documentation*.

The main body of the present document specifies the characteristics that define the various antenna classes, whilst the annexes provide additional information that is useful to both antenna manufacturers and user/installers.

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 in the ETSI docbox.

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