



SLOVENSKI STANDARD
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Fixed Radio Systems; Point to Multipoint Antennas; Antennas for point-to-multipoint fixed radio systems in the 11 GHz to 60 GHz band; Part 2: 24 GHz to 30 GHz

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ETSI EN 301 215-2 V1.2.1 (2000-11)

European Standard (Telecommunications series)

**Fixed Radio Systems;
Point to Multipoint Antennas;
Antennas for point-to-multipoint fixed radio systems
in the 11 GHz to 60 GHz band;
Part 2: 24 GHz to 30 GHz**

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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

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Transmission and Multiplexing (TM).

The purpose of this multi-part standard is to define requirements for antennas in conjunction with point-to-multipoint (P-MP) systems necessary to facilitate frequency co-ordination between services in the frequency bands 11 GHz to 60 GHz. The various parts are as follows:

Part 1: "General aspects";

Part 2: "24 GHz to 30 GHz";

The present document is organized in the following way. Part 1 gives general information about the scope, normative references, definitions, classification, normative and informative electrical and mechanical characteristics. Part 1 is the framework for further parts, where distinct values of normative characteristics for a given frequency sub-band are defined. Consequently, Part 1 in combination with another part forms the EN for a given sub-band.

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National transposition dates

Date of adoption of this EN:	27 October 2000
Date of latest announcement of this EN (doa):	31 January 2001
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 July 2001
Date of withdrawal of any conflicting National Standard (dow):	31 July 2001

1 Scope

The present document specifies the essential electrical requirements for linear polarization, fixed beam antennas to be utilized with new Point-to-Multipoint (P-MP) systems EN 301 213-1 [1], including central station and terminal station applications, operating in frequency bands from 11 GHz to 60 GHz. These systems use various multiple access schemes. Electronically steerable antennas, and circularly polarized antennas are not considered in the present document.

The present document, taken together with EN 301 215-1 [3], specifies the requirements for systems operating in the frequency range 24 GHz to 30 GHz.

A regulatory authority may impose tighter requirements than the minimum values given in the present document, in order to maximize the use of the scarce spectrum resources.

For some high gain, point-to-multipoint requirements, antennas may be used having performance as per the appropriate point-to-point antenna standard. For these antennas, minimum requirements are given in EN 300 833 [2].

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [1] ETSI EN 301 213-1 (V1.1): "Fixed Radio Systems; Point-to-multipoint equipment; Point-to-multipoint digital radio systems in frequency bands in the range 24,25 GHz to 29,5 GHz using different access methods; Part 1: Basic parameters".
- [2] ETSI EN 300 833: "Fixed Radio Systems; Point to Point Antennas; Antennas for point-to-point fixed radio systems operating in the frequency band 3 GHz to 60 GHz".
- [3] ETSI EN 301 215-1 (V1.1): "Fixed Radio Systems; Point to Multipoint Antennas; Antennas for point-to-multipoint fixed radio systems in the 11 GHz to 60 GHz band; Part 1: General aspects".

3 Definitions, symbols and abbreviations

For the purposes of the present document, the definitions, symbols and abbreviations in EN 301 215-1 [3] apply.

4 Electrical characteristics

4.1 Terminal station antennas

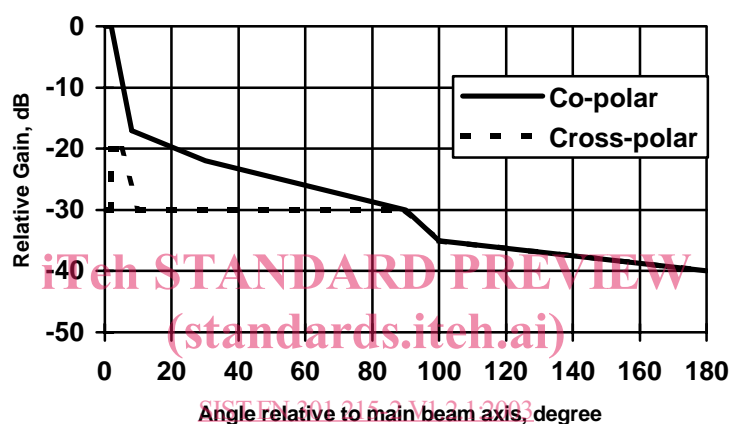
The RPEs and gain parameters apply for both horizontal and vertical linearly polarized antennas.

4.1.1 TS radiation pattern envelope

The co-polar and cross-polar radiation patterns for both azimuth and elevation, shall not exceed the RPE(s) defined in the following list:

Class TS1: table 1a, figure 1a.

The gain values defined are all relative to maximum, actual gain at the measurement frequency.



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Figure 1a: Class TS1 terminal station antenna

Table 1a: Class TS1

Angle (degree)	Co-polar (dB)	Angle (degree)	Cross-polar (dB)
0	0	0	-30
2	0	2	-30
8	-17	2	-20
30	-22	5	-20
90	-30	10	-30
100	-35	90	-30
180	-40	100	-35
		180	-40

Class TS2: table 1b, figure 1b.

The gain values defined are all relative to maximum, actual gain at the measurement frequency.

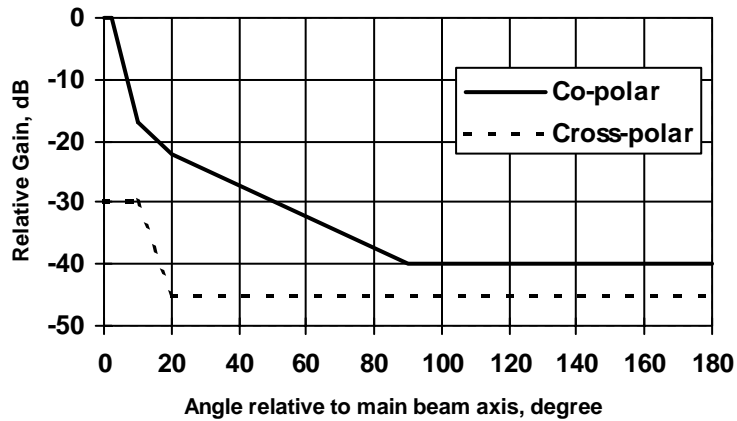


Figure 1b: Class TS2 terminal station antenna

Table 1b: Class TS2

Angle (degree)	Co-polar (dB)	Angle (degree)	Cross-polar (dB)
0	0	0	-30
2,5	0	10	-30
10	-17	20	-45
20	-22	180	-45
90	-40		
180	-40		

Class TS3: table 1c, figure 1c.

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The gain values defined are all relative to maximum, actual gain at the measurement frequency.

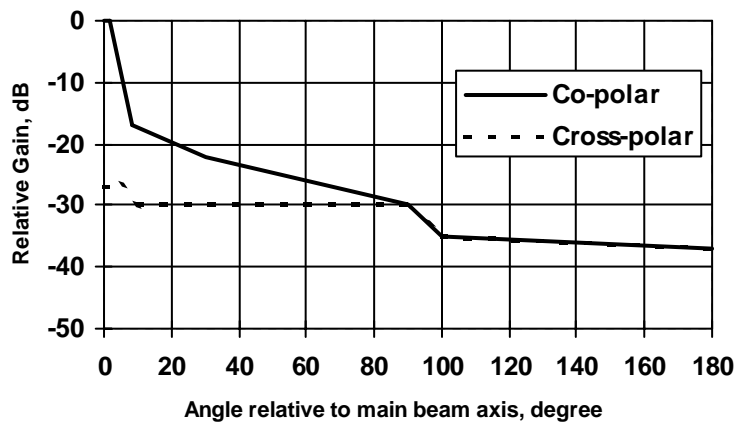


Figure 1c: Class TS3 terminal station antenna