



Exploration & Production

GENERAL SPECIFICATION

TELECOMMUNICATIONS

GS EP TEL 121

Point to Multipoint radio network

02	10/2009	Wireless technology - WiMax
01	10/2008	Standards update and correction
00	09/2006	First issue
Rev.	Date	Notes



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1. Scope

This general specification identifies the general rules to be complied with for the installation of Point to multi Point radio network.

The verbal forms used to indicate levels of requirement are specified in [ISO/IEC Directives, Part 2 \(edition 5: 2004\)](#) and [Characteristics of good requirements](#), INCOSE symposium 1996.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

This specification refers to the regulations, codes and standards as detailed hereafter.

The latest revision of these documents, in force at the time of contract signature, shall apply, even if this specification refers to an earlier issue.

The order of precedence of reference documents shall be the following:

- Laws, codes and rules of the country where the project takes place
- COMPANY specifications
- Rules and regulations set down by bodies recognized by the United Nations Organization (U.N.O.)
- Briefs, reports, recommendations and publications issued by international and European consultative committees such as: ITU, IEC, CENELEC.

Standards

Reference	Title
1999/5/EC (art. 3.2) (R&TTE directive)	Directive on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity
IEEE 802.11a	Wireless LAN Medium Access Control and physical Layer specifications: High Speed Physical layer in the 5 GHz Band
IEEE 802.16a	Air Interface for Fixed Broadband Wireless Access Systems - Medium Access Control Modifications and Additional Physical Layer Specifications for 2-11 GHz
ETSI EN 300 385	Electromagnetic compatibility and radio spectrum matters (ERM); Electromagnetic compatibility (EMC) standard for fixed radio links and ancillary equipment
ETSI EN 302 326-1	Fixed Radio Systems Multipoint Equipment and Antennas
ETSI ET 101 506	Fixed Radio Systems; Generic definitions, terminology and applicability of essential requirements under the article 3.2 of 99/05/EC Directive to Fixed Radio Systems
ETSI ET 101 683	Broadband Radio Access Networks (BRAN) Hiperlan type 2, System Overview. Rival of 802.11a

Reference	Title
IEC 60487	Methods of measurement for equipment used in terrestrial radio-relay systems. Standard attached to the Technical Committee 102 was disbanded in Dec 2008, but that does not seem to have affected the status of the publications that remain currently valid.
IEC 60950-1	Information technology equipment - Safety
ISO/IEC Directives, Part 2	Rules for the structure and drafting of International Standards
ITU-T G.826	End-to-end error performance parameters and objectives for international, constant bit-rate digital paths and connections
UTE NF C15-100	(1991) Electric Installation low voltage - Rules

Professional Documents

Reference	Title
Not applicable	

Regulations

Reference	Title
ATEX Directive 94/9/EC	Directive of the European parliament and the council on the approximation of the laws of the member states concerning equipment and protective systems intended for use in potentially explosive atmospheres
ITU RR	ITU Radio Regulations

Codes

Reference	Title
Not applicable	

Other documents

Reference	Title
Characteristics of good requirements	Requirements Working Group of the International Council on Systems Engineering (INCOSE symposium 1996)



Total General Specifications

Reference	Title
GS EP SAF 216	Area classification
GS EP TEL 410	Installation rules
GS EP TEL 700	Telecommunications Engineering services
GS EP TEL 710	Telecom equipment numbering

3. Point to multi Point Network

Point-to-Multipoint telecommunications is most typically used for voice and data exchanges in wireless via Gigahertz radio frequencies. A central antenna or antenna array broadcast to several receiving antennas.

Point to multipoint network should be used for four types of network:

- Offshore/onshore oil & gas production network
- Residential network
- Fixed urban network
- Nomad network.

All the equipment shall be in compliance with:

- [ETSI ET 101 506](#) V1.2.1 (2008-05) Fixed Radio System - Generic Definitions
- [ETSI ET 101 683](#) Hiperlan2
- [ETSI EN 302 326-1](#) V1.2.2 (2007-06) - Multipoint radio Systems
- [IEC 60950-1](#) (Second edition 2005) Information technology equipment - Safety
- And the [directive 1999/5/EC \(art. 3.2\) \(R&TTE directive\)](#).

3.1 Hazardous areas

The hazardous area classification for the site is done by the safety. All Telecom equipment installed (satellite dish, radios, microwave, cables...), that shall used a protection suitable for the relevant zones, certified by [ATEX](#) shall be applied.

All equipment shall be suitable for use in hazardous areas according to the General Specifications [GS EP SAF 216](#).