



Technical Specification

for

GSM Base Station and Repeater Equipment

**IDA TS GSM-BS
Issue 1 Rev 1, July 2009**

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<p style="text-align: center;">NOTICE</p>
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<p style="text-align: center;">This Specification is subject to review and revision.</p>

1 General Requirements

1.1 Scope of Specification

This specification defines the minimum technical requirements for base stations and repeaters to be used in the Public Mobile Radio Communication System and services, which employ the Global System for Mobile Communications (GSM) technology.

1.2 Identification of Equipment

Base stations and repeater equipment shall be marked with the manufacturer's brand or identification mark, and the manufacturer's model or type reference. The markings required shall be legible, indelible and readily visible.

1.3 Safety and Health

1.3.1 Use of base station or repeater equipment shall comply with International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz).

1.3.2 Compliance with the above radiation safety standards does not by itself confer immunity from legal obligations and requirements imposed by national health or safety authorities. IDA may invalidate the equipment registration if so requested by the relevant authority for reasons of safety or hazards that would likely be caused to users.

2 Technical Requirements

2.1 Operating Frequencies

The base station and repeater equipment used in the GSM Cellular System shall operate within the following frequency bands and channel spacing:

Type	Transmitter	Receiver	Channel Spacing
GSM900	925 – 960 MHz	880 – 915 MHz	200 kHz
GSM1800	1805 – 1880 MHz	1710 – 1785 MHz	200 kHz

2.2 Radio Frequency (RF) Requirements

Suppliers shall demonstrate that the GSM base stations and repeater equipment have been tested and certified for operating in the frequency bands stated in clause 2.1 and conformity to one or more of the following standards:

ETSI EN 301 502

Harmonised EN for Global System for Mobile communications (GSM); Base Station and Repeater equipment covering essential requirements under article 3.2 of the R&TTE directive (GSM 13.21 version)

ETSI EN 301 087 Digital cellular telecommunications system (Phase 2 & Phase 2+); Base Station System (BSS) equipment specification; Radio aspects (GSM 11.21 version)

ETSI EN 300 609-4 Digital cellular telecommunications system (Phase 2 & Phase 2+); Base Station System (BSS) equipment specification; Part 4: Repeaters (GSM 11.21 version)

2.3 **Electromagnetic Compatibility Requirements**

Suppliers shall demonstrate that the base stations and repeater equipment have been tested and certified to meet the EMC limits and methods of measurement as specified in the following standards:

ETSI EN 301 489-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

ETSI EN 301 489-23 Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 23: Specific Conditions for IMT-2000 CDMA Direct Spread (UTRA) Base Station (BS) radio, repeater and ancillary equipment

2.4 **Electrical Safety Requirements**

Suppliers shall demonstrate that the base stations and repeater equipment have been tested and certified to meet the following safety standards:

IEC 60950/EN 60950 Safety of Information Technology equipment including electrical business equipment

IEC 60215/ EN 60215 Safety requirements for radio transmitting equipment

Annex A: Corrigendum / Addendum

Changes to IDA TS GSM-BS Issue 1, July 2005			
Page	TS Ref.	Items Changed	Effective Date
-	-	Specification has been reissued as TS GSM-BS Issue 1 Rev 1.	Jul 09
3	§ 2.1	Operating Frequencies for GSM900 has been extended from 935 – 960 MHz / 890 – 915 MHz to 925 – 960 MHz / 880 – 915 MHz.	Jul 09