



TECHNICAL SPECIFICATION

FOR

**RADIO MICROPHONES/IN-EAR MONITORING AND
ANCILLARY EQUIPMENT**

ISSUED BY

BOTSWANA TELECOMMUNICATIONS AUTHORITY

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Technical Specification for Radio Microphones/In-Ear Monitoring and ancillary equipment

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Scope

This specification applies to all radio microphones/in-ear monitoring and ancillary equipment to be used in Botswana.

Where terminal equipment supports more than one interface type, each interface must meet the requirements applicable to it. It may therefore be necessary to make reference to additional specifications.

Entry into force

This specification shall enter into force on 01/12/12.

Document History

Description	Status	Date
First issue of type approval guidelines	Draft	2005
Second issues of type approval guidelines	Current	2007
Third issue of type approval	Revision 1	2012

Spectrum Allocation

The following frequency bands have been allocated for use by radio microphones/in-ear monitoring and ancillary equipment in Botswana:

Radio Microphones: 42.400 – 43.600 MHz, 53.000 – 54.000 MHz, 800.000 – 814.000 MHz and 854.000 – 862.000 MHz.

In-ear monitors (IEMs) are devices used by musicians, audio engineers and audiophiles to listen to music or to hear a custom crafted mix of vocals and stage: 862.000 – 870.000 MHz

Safety and EMC requirements

The following specifications shall be applied:

TS0001: Safety and EMC requirements of radio and telecommunications terminal equipment.

Technical requirements

The following specifications shall be applied.

ETSI EN 300 220-3

Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Technical characteristics and test methods for radio equipment to be used in the 25 MHz to 1000 MHz frequency range with power levels ranging up to 500 mW; Part 3: Harmonised EN covering essential requirements under article 3.2 of the R&TTE directive

ETSI EN 300 440-1 (2009-03)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 1GHz to 40 GHz frequency range; Part 1: Technical characteristics and test methods

ETSI EN 300 422-2 (2011-08)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical characteristics and test methods for wireless microphones in the 25 MHz to 3 GHz frequency range; Part 2: Harmonised EN covering essential requirements under the R&TTE directive

ETSI EN 301 357-2

Electromagnetic compatibility and Radio spectrum Matters (ERM); Cordless audio devices in the range 25 MHz to 2 000 MHz; Part 2: Harmonised EN covering essential requirements under the R&TTE directive

ETSI EN 301 840-2

Electromagnetic compatibility and Radio spectrum Matters (ERM); Digital radio microphones operating in the CEPT harmonised band 1 785 MHz to 1 800 MHz; Part 2: Harmonised EN covering essential requirements under the R&TTE directive

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 301 489-9

Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 9 Specific conditions for wireless microphones, similar Radio Frequency (RF) audio link equipment, cordless audio and in-ear monitoring devices

Where no issue or revision number is quoted along with the title of a technical specification, the latest published version should be used.

Additional requirements

Additional requirements may exist for the use of radio microphones/in-ear monitoring and ancillary equipment. A licence must be obtained before equipment of this type can be used in Botswana. This licence will detail conditions of use and any additional requirements which must be met.

Obtaining Technical standards

ETSI technical standards may be obtained free of charge for individual use from the ETSI web site. www.etsi.org