



# **TECHNICAL SPECIFICATION**

**FOR**

**MOBILE EARTH STATIONS (MES), SATELLITE NEWS  
GATHERING (SNG) AND ANCILLARY EQUIPMENT**

**ISSUED BY**

**BOTSWANA COMMUNICATIONS REGULATORY  
AUTHORITY**

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# Technical Specification for Mobile Earth Stations (MES), Satellite News Gathering (SNG) and Ancillary Equipment

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## Scope

This specification applies to all Mobile Earth Stations (MES), Satellite News Gathering (SNG) 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 15/01/2016.

## Document History

Description	Status	Date
Mobile Earth Stations (MES), Satellite News Gathering (SNG) and Ancillary Equipment	Original V1.1	11/12/2015

## Spectrum Allocation

Frequencies are assigned on an individual licence basis for all Satellite News Gathering (SNG) equipment in Botswana.

## Health, Safety, and Generic Emissions

The following universal specifications shall be applied.

**TS0001:** Health, Safety and Generic Emissions of Radio and Telecommunications Terminal Equipment.

## Technical, Spectrum and EMC Requirements

The following specifications shall be applied.

### **ETSI EN 301 426 V1.2.1**

Satellite Earth Stations and Systems (SES); Harmonized EN for Low data rate Land Mobile satellite Earth Stations (LMES) and Maritime Mobile satellite Earth Stations (MMES) not intended for distress and safety communications operating in the 1,5/1,6 GHz frequency bands covering essential requirements under article 3.2 of the R&TTE Directive

### **ETSI EN 301 427 V1.2.1**

Satellite Earth Stations and Systems (SES); Harmonized EN for Low data rate Mobile satellite Earth Stations (MESs) except aeronautical mobile satellite earth stations, operating in the 11/12/14 GHz frequency bands covering essential requirements under article 3.2 of the R&TTE directive

### **ETSI EN 301 430 V1.1.1**

Satellite Earth stations and Stations (SES); Harmonised EN for Satellite News Gathering Transportable Earth Stations (SNG TES) operating in the 11-12/13-14 GHz frequency bands covering essential requirements under Article 3.2 of the R&TTE Directive

### **ETSI EN 301 441 V1.1.1**

Satellite Earth Stations and Systems (SES); Harmonized EN for Mobile Earth Stations (MESs), including handheld earth stations, for Satellite Personal Communications Networks (S-PCN) in the 1,6/2,4 GHz bands under the Mobile Satellite Service (MSS) covering essential requirements under Article 3.2 of the R&TTE directive

### **ETSI EN 301 442 V1.2.1**

Satellite Earth Stations and Systems (SES); Harmonized EN for Mobile Earth Stations (MESs), including handheld earth stations, for Satellite Personal Communications Networks (S-PCN) in the 2,0 GHz bands under the Mobile Satellite Service (MSS) covering essential requirements under article 3.2 of the R&TTE directive

**ETSI EN 301 444 V1.2.2**

Satellite Earth Stations and Systems (SES); Harmonized EN for Land Mobile Earth Stations (LMES) operating in the 1,5 GHz and 1,6 GHz bands providing voice and/or data communications covering essential requirements of article 3.2 of the R&TTE directive

**ETSI EN 301 489-1 V1.9.2**

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

**ETSI EN 301 489-19 V1.2.1**

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 19: Specific conditions for Receive Only Mobile Earth Stations (ROMES) operating in the 1,5 GHz band providing data communication

**ETSI EN 301 489-20 V1.2.1**

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 20: Specific conditions for Mobile Earth Stations (MES) used in the Mobile Satellite Services (MSS)

**ETSI EN 301 681 V1.4.1**

Satellite Earth Stations and Systems (SES); Harmonized EN for Mobile Earth Stations (MESs) of Geostationary mobile satellite systems, including handheld earth stations, for Satellite Personal Communications Networks (S-PCN) in the 1,5/1,6 GHz bands under the Mobile Satellite Service (MSS) covering the essential requirements of article 3.2 of the R&TTE Directive

**ETSI EN 301 721 V1.2.1**

Satellite Earth Stations and Systems (SES); Harmonized EN for Mobile Earth Stations (MES) providing Low Bit Rate Data Communications (LBRDC) using Low Earth Orbiting (LEO) satellites operating below 1 GHz covering essential requirements under Article 3.2 of the R&TTE Directive

**ETSI EN 302 574-1 V1.1.1**

Satellite Earth Stations and Systems (SES); Harmonized Standard for satellite earth stations for MSS operating in the 1 980 MHz to 2 010 MHz (earth-to-space) and 2 170 MHz to 2 200 MHz (space-to-earth) frequency bands; Part 1: Complementary Ground Component (CGC) for wideband systems: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive

**ETSI EN 302 574-2 V1.1.1**

Satellite Earth Stations and Systems (SES); Harmonized Standard for satellite earth stations for MSS operating in the 1 980 MHz to 2 010 MHz (earth-to-space) and 2 170 MHz to 2 200 MHz (space-to-earth) frequency bands; Part 2: User Equipment (UE) for wideband systems: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive

**ETSI EN 302 574-3 V1.1.1**

Satellite Earth Stations and Systems (SES); Harmonized Standard for satellite earth stations for MSS operating in the 1 980 MHz to 2 010 MHz (earth-to-space) and 2 170 MHz to 2 200 MHz (space-to-earth) frequency bands; Part 3: User Equipment (UE) for narrowband systems: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive

**ETSI EN 302 977 V1.1.2**

Satellite Earth Stations and Systems (SES); Harmonized EN for Vehicle-Mounted Earth Stations (VMES) operating in the 14/12 GHz frequency bands covering the essential requirements of article 3.2 of the R&TTE directive

**ETSI EN 303 978 V1.1.2**

Satellite Earth Stations and Systems (SES); Harmonized EN for Earth Stations on Mobile Platforms (ESOMP) transmitting towards satellites in geostationary orbit in the 27,5 GHz to 30,0 GHz frequency bands covering the essential requirements of article 3.2 of the R&TTE Directive

**Important Note:** The revision numbers of the documents given in the approval standard are the minimum standards that apply. Should updated versions of these documents be published, the latest version will always apply. This also applies to documents where no revision number is currently quoted.

## **Additional Requirements**

Additional requirements may exist for the operation of Mobile Earth Stations (MES), Satellite News Gathering (SNG) 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](http://www.etsi.org)

CENELEC, IEC and CISPR standards may be obtained at cost from, or through [www.cenelec.org](http://www.cenelec.org) and from [www.iec.ch](http://www.iec.ch) respectively.