TYPE APPROVAL GUIDELINES
(ISSUED PURSUANT TO THE TYPE APPROVAL REGULATIONS 2007)

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1. Introduction

These Guidelines are to be read in conjunction with the Type Approval Regulations 2007 (the "Regulations"). These Guidelines are dated [*insert date of issue*].

2. Definitions

All terms used in the Guidelines have the meanings defined in the Nigerian Communications Act 2003 (the "Act") and the Regulations.

3. Application of the Guidelines

The Guidelines apply to all Equipment Holders. The Guidelines are intended to identify the procedures to be followed before communications equipment (also referred to as "products") is used or supplied.

4. How to apply for Type Approval

(a) An application for Type Approval must be made using the Commission's standard type approval application form, available from the Commission on request.

(b) One application may cover a range of related products, provided that the application clearly identifies the distinct products and the compliance of each product is supported by the appropriate test results and other supporting documentation.

(c) Recognized manufacturing brand names, product names and model numbers will be separately identified in the list of approved communications equipment to be maintained by the Commission pursuant to Regulation 5.

(d) An application for Type Approval must be accompanied by a Declaration of Conformity in the form set out in Appendix 1 to these Guidelines.

(e) Other information to be submitted with the application is described in the following sections of these Guidelines.

(f) An application that is complete will normally be processed within one (1) month of its receipt by the Commission.

(g) The Commission may reject any applications that are not complete, or that are submitted by persons who are in contravention of any regulations, decisions, directions or orders issued by the Commission or any other requirements under the Act.

(h) Following approval, the Commission will make a corresponding entry in the list of approved communications equipment to be maintained by the Commission pursuant to Regulation 5.

5. Fees

Fees are payable by the applicant at the time of submission of the type approval application. Fees may also be payable on grant of type approval. An initial schedule of fees for the different types of equipment is set out in Appendix 3 to these Guidelines. The fee schedule may be updated by the Commission from time to time, with the current fee schedule posted on the Commission's website.

6. Test Results

(a) A Declaration of Conformity must be supported by suitable test results. The Commission will accept test results from any laboratory included in the list to be maintained by the Commission pursuant to Regulation 7. This list will be maintained and updated in consultation with the Working Group on Equipment Standards.

(b) If tests are to be performed by a laboratory or other accreditation body other than one identified by the Commission, then the credentials of the body must be presented for prior Commission approval.

7. Type Approval for Changes to Equipment

(a) If a change to any communications equipment introduces additional kinds of physical network interface, uses additional radio frequencies, alters manufacturing brand name, product name, model number or function or otherwise changes compliance with the Declaration of Conformity, then a new application for Type Approval must be made.

(b) Product changes that may affect compliance with the Type Approval Standards identified in the Declaration of Conformity must be tested and assessed by the Equipment Holder. A record of the changes, test results, and assessment of their impact must be maintained in the supporting documentation.

8. Declaration of Conformity

(a) A Declaration of Conformity (DoC) is a document that is normally prepared by the manufacturer or supplier (wherever located) on company letterhead or stationery, signed by an authorized representative of that company, confirming that the product complies with the product standards identified in the DoC.

(b) Any DoC submitted pursuant to these Guidelines must be prepared and maintained in accordance with ISO/IEC 17050-1:2004 (available from the ISO website).

(c) As set out in the ISO standard, the following is the information that must be included in a DoC:

- Unique identification of the DoC;
- The name and contact address of the issuer of the DoC;
- The identification of the object of the DoC (e.g. name, type, date of production or model number of the product, description of a process, management system, person or body, and/or other relevant supplementary information);

- The statement of conformity;
- A complete and clear list of product standards or other specified requirements, as well as the selected options, if applicable;
- The date and place of issue of the declaration of conformity;
- The signature (or equivalent sign of validation), name and function of the authorized person(s) acting on behalf of the issuer;
- Any limitation on the validity of the DoC;
- The name and address of any conformity assessment body involved (e.g. testing or calibration laboratory, inspection body, certification body);
- Reference to relevant conformity assessment reports, and the date of the reports;
- Reference to the existence of associated supporting documentation such as that described in ISO/IEC 17050-2:2004.

(d) In addition to submitting a DoC confirming that the equipment complies with identified standards, the applicant must satisfy himself and represent that the DoC is authentic and properly applies to the equipment that is the subject of the application.

(e) A Declaration of Conformity shall be in the form set out in Appendix 1 to these Guidelines.

9. Supporting Documentation

(a) The supporting documentation is the complete dossier of information that describes in detail the products and the basis on which they are declared to meet the technical requirements and standards applicable for Nigeria. The Commission may require submission of the supporting documentation at any time during its review of the application. If required, the supporting documentation shall be submitted within ten (10) days or within such other time period as is identified by the Commission.

(b) In cases where the supporting documentation is required, the Commission may nonetheless rely on the Declaration of Conformity to determine approval, with a subsequent review of the documentation conducted by the Commission as part of its post-approval surveillance process.

(c) The supporting documentation must comply with the format and other requirements of ISO/IEC 17050-2:2004 (with the exception of clause 5.2(a) of the ISO/IEC standard). The supporting documentation must have a unique identification number or other unique identifier which is cross-referenced in the DoC. The following notes are intended to clarify application of Section 5 of the ISO/IEC standard.

In relation to 5.1 a) of ISO/IEC 17050-2:2004:

- a brief technical description of the equipment including an explanation of the intended use of the equipment as presented to the user and any installation specific information relevant to compliance;

- identification of the communications networks concerned and any intentional radio spectrum usage;

- identification of software and firmware that may affect any network interface or have an effect on radio frequency emissions;

- if the equipment is an interface card or module for installation in host equipment, the description must make give sufficient information for compatible hosts to be determined; and

- where more than one model is covered, details of the relationships between the models and the rationale for including them.

User manuals or other information supplied with the equipment may provide a source for at least some of these information requirements.

In relation to 5.1 b) of ISO/IEC 17050-2:2004:

- circuit diagrams and PCB layouts for those parts of the equipment which have a direct impact on compliance with the technical requirements. For example: network interface circuits and radio interfaces (antennas or connection points for antennas); audio components in live speech equipment; line signalling; ports for connecting other equipment; power supplies and all network affecting elements.

- parts lists in so far as they are relevant to the above. Components which are critical to compliance should be identified and fully specified with suitable tolerances. Care should be taken to ensure that alternative sources of supply are also evaluated; and

- photographs of both the interior assembly and exterior of the product sufficient to permit a person to determine that a product is the same as that submitted for Type Approval.

In relation to 5.1 c) of ISO/IEC 17050-2:2004:

- identification of all applicable Type Approval Standards and any other technical specifications that apply, and the related test results;

- test reports or test data and details of test methods where these are not specified in the specifications; and

- justification for any cases where tests have not been performed. For example, several models might be covered by an application; or reliance might be placed on a similar product for which data is held in another file (which file must be cross-referenced).

(d) The supporting documentation may be submitted electronically provided clear legible paper copies of the whole dossier or extracts from it are also produced on request.

(e) The supporting documentation must be kept available for inspection by the Commission for at least 5 years after the last product of the relevant type has been supplied or used in Nigeria.

10. Labelling

(a) All type approved equipment must be marked with a durable label as shown in Appendix 2. The label should be located close to the model identification. The label may also be helpful on the packaging and in user information, but it is not mandatory in these places except as provided in paragraph (b) below.

(b) Where for reasons of size or other design features the product itself cannot be marked, the applicant must include the label in documentation accompanying each product sold.

11. Product Investigation

(a) It is a violation of the Act to supply communications equipment which is not type approved or which does not meet applicable technical requirements or Standards.

(b) The Commission may at any time investigate products, including requiring the supplier of a type approved product to make all or part of the supporting documentation available. Such investigation may result from a complaint, a report of interference, visual inspection of products in a retail outlet, inappropriate advertising or simply random selection.

(c) Where an initial examination is inconclusive or unsatisfactory, additional information may be requested and one or more product samples may be required for testing at a laboratory nominated by the Commission. The holder of the Type Approval will be responsible for all laboratory or other charges incurred.

(d) Where it is found that a product does not conform to the applicable Standards, the Commission will issue appropriate directions, including directions as to whether or not the product in question is to be removed from service or commercial distribution, or such other actions as may be required by the Commission.

Appendix 1 – Specimen Pro-forma Declaration of Conformity

Reference:	

I/We

(name of manufacturer/supplier)

Of

(address including postcode)

declare under my/our sole responsibility that the product(s)

(product description including brand name, type or model and any supplementary information such as lot, batch or serial number identification)

to which this declaration relates, is/are in conformity with the following standards:

(include all applicable Standards, including those identified by the Commission and any other relevant ITU-T, CCIR or other international standards that the product meets)

and that I/we have examined the technical basis for this declaration which is based on test reports and/or certificates issued by

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Supporting documentation relevant to this declaration has been compiled under the reference number given above and will be made available as required.

Signature: _____ **Date:** _____

(for and on behalf of manufacturer/supplier)

NOTE: For information on how to complete this declaration and prepare the supporting documentation, please refer to ISO/IEC 17050–1:2004 Conformity assessment – Supplier's declaration of conformity Part 1: General requirements and ISO/IEC 17050–2:2004 Conformity assessment – Supplier's declaration of conformity Part 2: Supporting documentation.

Appendix 2 – Label

All communications equipment that has been type approved must be labelled with a label approved by the Commission. An example of an acceptable label is shown below.

Connection and use of this communications equipment is permitted by the Nigerian Communications Commission

- The characters shall appear in black print against a white background.
- No character shall be less than 2mm in height.
- The characters may differ in font from those in the example above.
- The label may differ in width, height and number of lines from the example above.
- Placement of the label shall be in accordance with Section 10 of the Type Approval Guidelines.

On revocation of a Type Approval, all products in the supply chain shall be disposed of or modified in accordance with any directions issued by the Commission.

Appendix 3 – Fees

[*The fees table should be filled in by the Commission, for each major equipment category, after consultation with the Working Group on Equipment Standards. We note that the Commission's standard type approval form identifies an application fee of N 1,000.00.*]

Equipment Type	Application Fee (non refundable)	Approval Fee
1.		
2.		
3.		
4.		
5.		

SCHEDULE 1: TYPE APPROVAL STANDARDS

Part A – Choice of Standards

The Type Approval Standards in the tables that follow are based on international standards from:

- The International Electrotechnical Commission (IEC) and its International Special Committee on Radio Interference (CISPR).
- The European Committee for Electrotechnical Standardization (CENELEC).
- The European Telecommunications Standards Institute (ETSI).

Nigeria is an associate member of IEC through the Standards Organisation of Nigeria (SON) and could become an associate member of CENELEC and ETSI.

These standards have been chosen because:

- They represent international practices as developed in many countries.
- Nigeria adopts practices predominantly like those adopted in Europe (for example, by being in ITU World Region 1 for spectrum allocation and by using GSM very extensively).
- The ETSI standards incorporate a layered structure that allows different concerns (such as electromagnetic compatibility and physical interoperability) to be analysed separately.
- The ETSI standards, and all the supporting technical reports, are free and easily obtained (for example, from http://pda.etsi.org/pda/queryform.asp).

The Type Approval Standards are grouped under headings according to the main kinds of equipment to which they relate. Some standards relate to so many kinds of equipment that they are collected under their own heading. These groupings are intended for convenience. Equipment Holders should ensure consider and demonstrate conformity with all of the Type Approval Standards applicable to their equipment (not just with those standards grouped by kinds of equipment).

The initial version of the Type Approval Standards excludes equipment specifically for:

- Services (such as broadcasting) that are currently outside the scope of the Commission's authority under the Act.
- Services (such as Public Access Mobile Radio and Integrated Services Digital Networks) that are thought unlikely to be provided in Nigeria.
- Services (such as analogue mobile telephony) that are obsolescent in Nigeria.

The initial version of the Type Approval Standards includes more than one standard for certain types of equipment. For example, for equipment for third generation mobile services several standards for physical interoperability are listed as even the modulation schemes have yet to be decided.

In some of the other standards, too, there are options, only some of which are likely to be pertinent to Nigeria.

Joint work by the Commission and the Working Group on Equipment Standards will be needed to remove standards from or add standards to the initial version of the Type Approval Standards as implementation options become clearer.

For some of the standards, possible alternatives are mentioned that are generally regarded as no longer current now but that might be relevant to older equipment.

The Type Approval Standards are classified according to whether they deal mainly with safety, electromagnetic compatibility or physical interoperability (which can cover optical, electrical or radio systems). Most of the standards deal with physical interoperability. Extending the standards to address logical interoperability (which could include signalling and media flows) might produce very many more, with very many options to be considered and determined.

The individually identified standards are not dated. In general, Equipment Holders should refer to the most recent editions of the standards and watch for subsequent amendments.

Part B – Tables of Standards

Table 1 – All Relevant Equipment

Standard Number	Standard Title	Emphasis	Comment
EN 50360/ CENELEC 50360	Product standard to demonstrate the compliance of mobile phones with the basic restrictions related to human exposure to electromagnetic fields (300 MHz-3 GHz)	Safety	
EN 50361/ CENELEC 50361	Basic standard for the measurement of specific absorption rate related to human exposure to electromagnetic fields from mobile phones (300 MHz-3 GHz)	Safety	
EN 50364/ CENELEC 50364	Limitation of human exposure to electromagnetic fields from devices operating in the frequency range 0 Hz to 10 GHz, used in Electronic Article Surveillance (EAS), Radio Frequency Identification (RFID) and similar applications	Safety	
EN 50371/ CENELEC 50371	Generic standard to demonstrate the compliance of low power electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (10 MHz-300 GHz)– General public	Safety	
EN 50385/ CENELEC 50385	Product Standard to Demonstrate the Compliances of Radio Base Stations and Fixed Terminal Stations for Wireless Telecommunication Systems with the Basic Restrictions or the Reference Levels Related to Human Exposure to Radio Frequency Electromagnetic Fields (110 MHz - 40 GHz)– General Public	Safety	
EN 50392/ CENELEC 50392	Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz-300 GHz)	Safety	
EN 60215/ IEC 60215	Safety requirements for radio transmitting equipment	Safety	
EN 60825-1/ IEC 60825-1	Safety of laser products Part 1: Equipment classification, requirements and user's guide	Safety	
EN 60825-2/ IEC 60825-2	Safety of laser products Part 2: Safety of optical fibre communication systems	Safety	
EN 60950/ IEC 60950	Safety of information technology equipment	Safety	
EN 61204-7/ IEC 61204-7	Low voltage power supplies, d.c. output– Part 7: Safety requirements	Safety	
EN 62040-1-1/ IEC 62040-1-1	Uninterruptible power systems (UPS)– Part 1: General and safety requirements for UPS used in operator access areas	Safety	
EN 62040-1-2/ IEC 62040-1-2	Uninterruptible power systems (UPS)– Part 1: General and safety requirements for UPS used in restricted access locations	Safety	
EN 55011/ CISPR 11	Industrial, scientific and medical (ISM) radio-frequency equipment– Electromagnetic disturbance characteristics– Limits and methods of measurement	Electromagnetic compatibility	
EN 55022/ CISPR 22	Information technology equipment– Radio disturbance characteristics– Limits and methods of measurement	Electromagnetic compatibility	

Standard Number	Standard Title	Emphasis	Comment
EN 55024/ CISPR 24	Information technology equipment– Immunity characteristics– Limits and methods of measurement	Electromagnetic compatibility	
EN 61000-3-2/ IEC 61000-3-2	Part 3-2: Limits– Limits for harmonic current emissions (equipment input current up to and including 16 A per phase)	Electromagnetic compatibility	
EN 61000-3-3/ IEC 61000-3-3	Part 3-3: Limits– Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16A per phase and not subject to conditional connection	Electromagnetic compatibility	
EN 61000-3-8/ IEC 61000-3-8	Part 3-8: Limits– Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems – Emission levels, frequency bands and electromagnetic disturbance levels	Electromagnetic compatibility	
EN 61000-3-11/ IEC 61000-3-11	Part 3-11: Limits– Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems – Equipment with rated current <= 75 A and subject to conditional connection	Electromagnetic compatibility	
EN 61000-6-1/ IEC 61000-6-1	Part 6-1: Generic standards– Immunity standard for residential, commercial and light-industrial environments	Electromagnetic compatibility	
EN 61000-6-2/ IEC 61000-6-2	Part 6-2: Generic standards– Immunity standard for industrial environments	Electromagnetic compatibility	
EN 61000-6-3/ IEC 61000-6-3	Part 6-3: Generic standards– Emission standard for residential, commercial and light-industrial environments	Electromagnetic compatibility	
EN 61000-6-4/ IEC 61000-6-4	Part 6-4: Generic standards– Emission standard for industrial environments	Electromagnetic compatibility	
EN 61204-3/ IEC 61204-3	Low voltage power supplies, d.c. output– Part 3: Electromagnetic compatibility (EMC)	Electromagnetic compatibility	
EN 62040-2/ IEC 62040-2	Uninterruptible power systems (UPS)– Part 2: Electromagnetic compatibility (EMC) requirements	Electromagnetic compatibility	
ETSI EN 300 386	Electromagnetic compatibility and Radio spectrum Matters (ERM); Telecommunication network equipment; Electro Magnetic Compatibility (EMC) requirements	Electromagnetic compatibility	
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	Electromagnetic compatibility	
ETSI EN 301 489-4	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 4: Specific conditions for fixed radio links and ancillary equipment and services	Electromagnetic compatibility	

Table 2 – Analogue Wireline Telephony Equipment

Standard Number	Standard Title	Emphasis	Comment
ETSI TS 103 021–1	Access and Terminals (AT); Harmonized basic attachment requirements for Terminals for connection to analogue interfaces of the Telephone Networks (General aspects)	Physical interoperability	ETSI TBR 021 may be an alternative

Standard Number	Standard Title	Emphasis	Comment
ETSI TS 103 021–2	Access and Terminals (AT); Harmonized basic attachment requirements for Terminals for connection to analogue interfaces of the Telephone Networks (Basic transmission and protecting the network from harm)	Physical interoperability	ETSI TBR 021 may be an alternative
ETSI TS 103 021–3	Access and Terminals (AT); Harmonized basic attachment requirements for Terminals for connection to analogue interfaces of the Telephone Networks (Basic Interworking with public network)	Physical interoperability	ETSI TBR 021 may be an alternative
ETSI ES 201 187	2-wire analogue voice band interfaces – Loop Disconnect (LD) dialling specific requirements	Physical interoperability	
ETSI ES 201 235-1	Access and terminals (AT) specification of Dual-Tone Multi Frequency (DTMF) Transmitters and receivers; Part 1 General	Physical interoperability	
ETSI ES 201 235-2	Access and terminals (AT) specification of Dual-Tone Multi Frequency (DTMF) Transmitters and receivers; Part 2 Transmitters	Physical interoperability	
ETSI ES 201 235-3	Access and terminals (AT) specification of Dual-Tone Multi Frequency (DTMF) Transmitters and receivers; Part 3 Receivers	Physical interoperability	
ETSI ES 201 235-4	Access and terminals (AT) specification of Dual-Tone Multi Frequency (DTMF) Transmitters and receivers; Part 4 Receivers for use in Terminal Equipment for end-to-end signalling.	Physical interoperability	
ETSI ES 201 970	Access and Terminals (AT); Public Switched Telephone Network (PSTN); Harmonized specification of physical and electrical characteristics at a 2-wire analogue presented Network Termination Point (NTP)	Physical interoperability	This considers the network equipment interface
ETSI I-ETS 300 677	Public Switched Telephone Network (PSTN); Requirements for handset telephony	Physical interoperability	
ETSI EN 300 001	Attachments to Public Switched Telephone Network (PSTN); general requirements for equipment connected to an analogue subscriber interface in the PSTN	Physical interoperability	
ETSI EN 300 659-1	Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Subscriber line protocol over the local loop for display (and related) services; Part 1: On-hook data transmission	Physical interoperability	
ETSI EN 300 659-2	Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Subscriber line protocol over the local loop for display (and related) services; Part 2: Off-hook data transmission	Physical interoperability	
ETSI EN 300 778-1	Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Protocol over the local loop for display and related services; Terminal equipment requirements; Part 1: On-hook data transmission	Physical interoperability	
ETSI EN 300 778-2	Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Protocol over the local loop for display and related services; Terminal equipment requirements; Part 2: Off-hook data transmission	Physical interoperability	

Table 3 – Digital Subscriber Loop Equipment

Standard Number	Standard Title	Emphasis	Comment
ETSI TS 101 952-1-1	Access network xDSL transmission filters; Part 1: ADSL splitters for European deployment; Sub-part 1: Specification of the low pass part of ADSL/POTS splitters	Physical interoperability	
ETSI TS 101 952-1-2	Access network xDSL transmission filters; Part 1: ADSL splitters for European deployment; Sub-part 2: Specification of the high pass part of ADSL/POTS splitters	Physical interoperability	
ETSI ES 202 913	Access and Terminals (AT); POTS requirements applicable to ADSL modems when connected to an analogue presented PSTN line	Physical interoperability	

Table 4 – Wireless Short Range Equipment

Standard Number	Standard Title	Emphasis	Comment
ETSI EN 301 489-3	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz	Electromagnetic compatibility	
ETSI EN 300 220-3	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1000 MHz frequency range with power levels ranging up to 500 mW; Part 3: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 300 330-2	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 300 440-2	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive	Physical interoperability	

Table 5 – Wireless Local Area Equipment

Standard Number	Standard Title	Emphasis	Comment
ETSI EN 301 489-17	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment	Electromagnetic compatibility	
ETSI EN 300 328-2	Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 893	Broadband Radio Access Networks (BRAN); 5 GHz High Performance RLAN; Harmonised EN covering essential requirements of article 3.2 of the R&TTE directive	Physical interoperability	

Table 6 – Wireless Local Loop Equipment

Standard Number	Standard Title	Emphasis	Comment
ETSI EN 301 489-6	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 6: Specific conditions for Digital Enhanced Cordless Telecommunications (DECT) equipment	Electromagnetic compatibility	
ETSI EN 301 406	Digital Enhanced Cordless Telecommunications (DECT); Harmonised EN for Digital Enhanced Cordless Telecommunications (DECT) covering essential requirements under Article 3(2) of the R&TTE directive	Physical interoperability	
ETSI EN 301 449	Electromagnetic compatibility and Radio spectrum Matters (ERM); Harmonized EN for CDMA spread spectrum base stations operating in the 450 MHz cellular band (CDMA 450) and 410, 450 and 870 MHz PAMR bands (CDMA-PAMR) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 526	Electromagnetic compatibility and Radio spectrum Matters (ERM); Harmonized EN for CDMA spread spectrum mobile stations operating in the 450 MHz cellular band (CDMA 450) and 410, 450 and 870 MHz PAMR bands (CDMA-PAMR) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 753	Fixed Radio Systems; Multipoint equipment and antennas; Generic harmonized standard for multipoint digital fixed radio systems and antennas covering the essential requirements under article 3.2 of the Directive 1999/5/EC	Physical interoperability	
ETSI EN 302 326-2	Fixed Radio Systems; Multipoint Equipment and Antennas; Part 2: Harmonised EN covering the essential requirements of Article 3.2 of the R&TTE Directive for Digital Multipoint Radio Equipment	Physical interoperability	
ETSI EN 302 326-3	Fixed Radio Systems; Multipoint Equipment and Antennas; Part 3: Harmonised EN covering the essential requirements of Article 3.2 of the R&TTE Directive for Multipoint Radio Antennas	Physical interoperability	
ETSI EN 302 426	Electromagnetic compatibility and Radio spectrum Matters (ERM); Harmonized EN for CDMA spread spectrum Repeaters operating in the 450 MHz cellular band (CDMA450) and the 410 MHz, 450 MHz and 870 MHz PAMR bands (CDMA-PAMR) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	

Table 7 – Wireless Long Distance Equipment

Standard Number	Standard Title	Emphasis	Comment
ETSI EN 302 217-2-2	Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas; Part 2-2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive for digital systems operating in frequency bands where frequency co-ordination is applied	Physical interoperability	
ETSI EN 302 217-3	Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas; Part 3: Harmonized EN covering essential requirements of Article 3.2 of R&TTE Directive for equipment operating in frequency bands where no frequency co-ordination is applied	Physical interoperability	

Standard Number	Standard Title	Emphasis	Comment
ETSI EN 302 217-4-2	Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas; Part 4-2: Harmonized EN covering essential requirements of Article 3.2 of R&TTE Directive for antennas	Physical interoperability	

Table 8 – Fixed Satellite Connection Equipment

Standard Number	Standard Title	Emphasis	Comment
ETSI EN 301 489-12	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 12: Specific conditions for Very Small Aperture Terminal, Satellite Interactive Earth Stations operated in the frequency ranges between 4 GHz and 30 GHz in the Fixed Satellite Service (FSS)	Electromagnetic compatibility	
ETSI EN 301 360	Satellite Earth stations and Systems (SES); Harmonised EN for Satellite Interactive Terminal (SIT) and Satellite User Terminals (SUT) transmitting towards satellites in geostationary orbit in the 27.5 – 29.5 GHz frequency bands covering essential requirements under article 3.2 of the R&TTE directive	Physical interoperability	
ETSI EN 301 428	Satellite Earth stations and Systems (SES); Harmonised EN for Very Small Aperture Terminal (VSAT); Transmit-only, transmit/receive or receive-only satellite earth stations operating in the 11/12/14 GHz frequency bands covering essential requirements under article 3(2) of the R&TTE directive	Physical interoperability	
ETSI EN 301 430	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	Physical interoperability	
ETSI EN 301 443	Satellite Earth stations and Systems (SES); Harmonised EN for Very Small Aperture Terminal (VSAT); Transmit-only, transmit-and-receive, receive-only satellite earth stations operating in the 4GHz and 6GHz frequency bands covering essential requirements under article 3.2 of the R&TTE directive	Physical interoperability	
ETSI EN 301 459	Satellite Earth stations and Systems (SES); Harmonised EN for Satellite Interactive Terminal (SIT) and Satellite User Terminals (SUT) transmitting towards satellites in geostationary orbit in the 29.5 – 30.0 GHz frequency bands covering essential requirements under article 3.2 of the R&TTE directive	Physical interoperability	

Table 9 – Mobile Satellite Connection Equipment

Standard Number	Standard Title	Emphasis	Comment
ETSI EN 301 489-19	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 communications	Electromagnetic compatibility	

Standard Number	Standard Title	Emphasis	Comment
ETSI EN 301 489-20	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)	Electromagnetic compatibility	
ETSI EN 301 426	Satellite earth stations and Systems (SES); Harmonised EN for low data rate land mobile satellite earth stations (LMES) operating in the 1.5/1.6 GHz frequency bands covering essential requirements under Article 3(2) of the R&TTE directive	Physical interoperability	
ETSI EN 301 427	Satellite Earth stations and Systems (SES); Harmonised EN for low data rate land mobile satellite earth stations (LMES) operating in the 11/12/14 GHz frequency bands covering essential requirements under Article 3(2) of the R&TTE directive	Physical interoperability	
ETSI EN 301 442	Satellite Earth stations and Systems (SES); Harmonised EN for Mobile Earth Stations (MES), 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	Physical interoperability	
ETSI EN 301 444	Satellite Earth stations and Systems (SES); Harmonised 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 under article 3.2 of the R&TTE directive	Physical interoperability	
ETSI EN 301 681	Satellite Earth stations and Systems (SES); Harmonised EN for Mobile Earth Stations (MES) 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 essential requirements under article 3(2) of the R&TTE directive	Physical interoperability	
ETSI EN 301 721	Satellite earth stations and systems (SES); Harmonised EN for mobile earth stations (MES) providing low bit rate data communications (LBRDC) using low earth orbiting (LEO) satellites operating below 1GHz covering essential requirements under Article 3(2) of the R&TTE directive	Physical interoperability	

Table 10 – Second Generation Mobile Telephony Equipment

Standard Number	Standard Title	Emphasis	Comment
ETSI EN 301 489-7	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)	Electromagnetic compatibility	
ETSI EN 301 489-8	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 8: Specific conditions for GSM base stations	Electromagnetic compatibility	
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	Physical interoperability	

Standard Number	Standard Title	Emphasis	Comment
ETSI EN 301 511	Global system for mobile communications (GSM); Harmonised standard for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements under Article 3(2) of the R&TTE directive	Physical interoperability	

Table 11 – Third Generation Mobile Telephony Equipment

Standard Number	Standard Title	Emphasis	Comment
ETSI TS 125 113	Universal Mobile Telecommunications Systems (UMTS); Base station and repeater ElectroMagnetic Compatibility (EMC)	Electromagnetic compatibility	
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	Electromagnetic compatibility	
ETSI EN 301 489-24	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 24: Specific conditions for IMT-2000 CDMA Direct Spread (UTRA) for Mobile and portable (UE) radio and ancillary equipment	Electromagnetic compatibility	
ETSI EN 301 489-25	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 25: Specific conditions for IMT-2000 CDMA Multi-carrier Mobile Stations and ancillary equipment	Electromagnetic compatibility	
ETSI EN 301 489-26	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 26: Specific conditions for IMT-2000 CDMA Multi-carrier Base Stations and ancillary equipment	Electromagnetic compatibility	
ETSI EN 301 908-1	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS) and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 1: Harmonized EN for IMT-2000, introduction and common requirements, covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 908-2	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 2: Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (UE) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 908-3	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS) and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 3: Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (BS) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 908-4	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS) and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 4: Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (UE) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	

ETSI EN 301 908-5	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS) and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 5: Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (BS and Repeaters) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 908-6	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 6: Harmonized EN for IMT-2000, CDMA TDD (UTRA TDD) (UE) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 908-7	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 7: Harmonized EN for IMT-2000, CDMA TDD (UTRA TDD) (BS) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 908-8	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 8: Harmonized EN for IMT-2000, CDMA Direct Spread TDMA Single-Carrier (UWC 136) (UE) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 908-9	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 9: Harmonized EN for IMT-2000, CDMA Direct Spread TDMA Single-Carrier (UWC 136) (BS) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 908-10	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 10: Harmonized EN for IMT-2000, FDMA/TDMA (DECT) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 908-11	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 11: Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (Repeaters) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	
ETSI EN 301 908-12	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 12: Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (Repeater) covering essential requirements of article 3.2 of the R&TTE Directive	Physical interoperability	

Table 12 – Analogue Leased Line Equipment

Standard Number	Standard Title	Emphasis	Comment
ETSI ES 203 021-1	Access and Terminals (AT); Harmonized basic attachment requirements for Terminals for connection to analogue interfaces of the Telephone Networks; Update of the technical contents of TBR 021, EN 301 437, TBR 015, TBR 017; Part 1: General aspects	Physical interoperability	
ETSI ES 203 021-2	Access and Terminals (AT); Harmonized basic attachment requirements for Terminals for connection to analogue interfaces of the Telephone Networks; Update of the technical contents of TBR 021, EN 301 437, TBR 015, TBR 017; Part 2: Basic transmission and protection of the network from harm	Physical interoperability	
ETSI ES 203 021-3	Access and Terminals (AT); Harmonized basic attachment requirements for Terminals for connection to analogue interfaces of the Telephone Networks; Update of the technical contents of TBR 021, EN 301 437, TBR 015, TBR 017; Part 3: Basic Interworking with the Public Telephone Networks	Physical interoperability	

Table 13 – Digital Leased Line Equipment

Standard Number	Standard Title	Emphasis	Comment
ETSI EN 300 248	Access and Terminals (AT); 2 048 kbit/s digital unstructured leased line (D2048U); Terminal equipment interface	Physical interoperability	ETSI TBR 012 may be an alternative
ETSI EN 300 288	Access and Terminals (AT); 64 kbit/s digital unrestricted leased line with octet integrity (D64U); Network interface presentation	Physical interoperability	This considers the network equipment interface
ETSI EN 300 290	Access and Terminals (AT); 64 kbit/s digital unrestricted leased line with octet integrity (D64U); Terminal equipment interface	Physical interoperability	ETSI TBR 014 may be an alternative
ETSI EN 300 418	Access and Terminals (AT); 2 048 kbit/s digital unstructured and structured leased lines (D2048U and D2048S); Network interface presentation	Physical interoperability	This considers the network equipment interface
ETSI EN 300 420	Access and Terminals (AT); 2 048 kbit/s digital unstructured leased line (D2048S); Terminal equipment interface	Physical interoperability	ETSI TBR 013 may be an alternative
ETSI EN 300 686	Access and Terminals (AT); 34 Mbit/s and 140 Mbit/s digital leased lines (D34U, D34S, D140U, D140S); Network interface presentation	Physical interoperability	This considers the network equipment interface
ETSI EN 300 689	Access and Terminals (AT); 34Mbit/s digital leased line (D34U and D34S); Terminal equipment interface	Physical interoperability	ETSI TBR 024 may be an alternative