



# **Type Approval Business Rules**

(Issued Pursuant to the Type Approval Regulations 2024)

**August, 2024**

**TYPE APPROVAL BUSINESS RULES**  
(ISSUED PURSUANT TO THE TYPE APPROVAL  
REGULATIONS, 2024)

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**TYPE APPROVAL BUSINESS RULES**  
(ISSUED PURSUANT TO THE TYPE APPROVAL  
REGULATIONS 2024)

**1. Introduction**

These Business Rules are to be read and applied in conjunction with the Type Approval Regulations 2024 (the “Regulations”).

**2. Definitions**

All terms used in the Business Rules have their meanings as defined in the Nigerian Communications Act, 2003 (the “Act”) and the Type Approval Regulations.

**3. Application of the Business Rules**

The Business Rules shall apply to all Equipment Holders and any person applying for Type Approval or modification or exemption from type approval. It shall also apply for equipment registration as regards the implementation of the Device Management System. The Business Rules are intended to identify the procedures to be followed before communications equipment (also referred to as “products”) are used or supplied.

**4. Amendment and Publication of the Business Rules**

These Business Rules may be reviewed, modified or updated by the Commission from time-to-time and such amendment shall be published on the Commission’s website.

**5. Type Approval Application Procedure**

- (a) An application for Type Approval must be made using the Commission’s standard typeapproval application form, which is available on the website of the Commission. An application may be submitted electronically on any platform that may be established by the Commission for that purpose.
- (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 Business Rules.
- (e) Other information to be submitted with the application is described in the following sections of these Business Rules.
- (f) An application that fulfils all necessary requirements will 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.

- (i) An application for final type approval shall be made before the expiry of the provisional type approval period, indicate the date of grant of provisional approval and comply with the requirements of Regulation 13.
- (j) A provisional type approval shall not lapse or expire while an application for final type approval is pending at the Commission.

## **6. Fees**

Fees are payable by the applicant at the time of submission of the type approval application and equipment registration. The schedule of fees for type approval of the different types of equipment shall be published on the website of the Commission and may be updated from time to time.

## **7. 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 of the Type Approval Regulations, 2024.

(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 approval of the Commission.

## **8. Type Approval for Modified Equipment and Testing**

- (1) The type approval of any particular electronic communications equipment shall be granted for an unlimited period of time, provided that no modifications have been made to the approved electronic communications equipment. The type approval modifications process shall apply where:
  - (a) a change to any communications equipment introduces additional kinds of physical network interface or uses additional radio frequencies or alters manufacturing brand name, productname, model number or function or otherwise changes compliance with the Declaration of Conformity, then a new application for Type Approval must be made.
  - (b) changes to the type approved electronic communications equipment may affect compliance with the applied standards and requirements to which it has been previously tested and validated;
  - (c) changes to the type approved electronic communications equipment may affect a network interface or have any effect on the specific essential requirements relating to safety, electromagnetic compatibility or radio frequency behaviour of the concerned electronic communications equipment;
  - (d) there is a change in the version of software and firmware used in the electronic communications equipment that affects the network and basic functionality of the electronic communications equipment as well as the information recorded in the type approval register.
- (2) An application for type approval modification certificate shall be made by completing the prescribed application Form.

- (3) The application form shall be completed, signed and stamped by the applicant for each model of equipment.
- (4) The following supporting documents shall be attached to a Type Approval Modification application form-
  - a) copy of the previous type approval certificate;
  - b) schematic diagram if different from the original equipment;
  - c) declaration of conformity by the manufacturers;
  - d) laboratory test results of the modified assembled radio telecommunications transceiver terminal equipment;
  - e) covering letter from the manufacturer explaining reasons for modifications, provided it refers to a radio component;
  - f) installation or operating manuals for specific types - optional;
  - g) In certain cases, a sample of the devices;
  - h) any other documents that are different from the previous application;
  - i) payment of the applicable fees.
- (5) Where a Type Approval Modification application is approved, the Commission shall issue a Type Approval Modification Certificate to the applicant.
- (6) 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.

## **9. 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 Business Rules 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.

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.

- (d) A Declaration of Conformity shall be in the form set out in Appendix 1 to these Business Rules.

## **10. Supporting Documentation**

- (a) The supporting documentation is the complete record 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 specified 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 shall 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 shall 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:

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

- iii. identification of software and firmware that may affect any network interface or have an effect on radio frequency emissions;
- iv. where the equipment is an interface card or module for installation in host equipment, the description must make or give sufficient information for compatible hosts to be determined; and
- v. 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:

- i. 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 signaling; ports for connecting other equipment; power supplies and all network affecting elements.
- ii. parts list 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
- iii. 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:

- i. identification of all applicable Type Approval Standards and any other technical specifications that apply, and the related test results;
  - ii. test reports or test data and details of test methods where these are not provided for in the specifications; and
  - iii. 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 all the information 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.



## **11. Labelling**

- (a) All type approved equipment shall bear the mark of the Commission as well as a durable label as shown in Appendix 2. The label should be located close to the model for identification. The label may also be on the packaging and user manual.
- (b) Where for reasons of size or other design features the product itself cannot be marked, the applicant shall include the label in the documentation, manual and or packaging accompanying each product.
- (c) Notwithstanding Paragraph 11(a) above, for devices with digital display and or with remote login capabilities, the Commission may permit the use of e-labelling on the device as an alternative to physical labeling. For other devices without digital display, the manufacturer should have the label on the device and packaging.
- (d) In the event of e-labelling being used on devices with digital display and or with remote login capabilities, the manufacturer shall also have a label on the packaging. The packaging shall include the label with model number, and other new innovative methods not limited to QR Codes among others.
- (e) All labels whether physical or electronic shall comply with requirements in Appendix 2 of this Business Rules.

## **12. 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, physical 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 chosen (recommended) by the Commission. The holder of the Type Approval shall 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 may 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.

### **13. Termination of Application**

In the event that an applicant fails to submit any or ALL the requested documents within 60 days from the date the application was submitted to the Commission, such application shall be deemed to have been abandoned and the applicant shall submit a new application to the Commission.

### **14. Return of sample**

The Commission shall retain samples of devices submitted by applicants.

### **15. Nigerian Communications Commission Device Management System**

The Nigerian Communications Commission Device Management System (NCC-DMS) is a Central Equipment Identity Register (CEIR) that keeps device records and manages device access to Mobile Networks.

- a. All Mobile Networks Operators (MNOs) shall connect to the NCC-DMS, mirror and implement all network related policies configured on the NCC-DMS.
- b. The Commission shall determine access to the portal or interface or any other means for bulk device registrations.
- c. Individuals shall register a limited number of devices to be determined by the Commission.
- d. All MNOs shall support synchronizing of their Equipment Identity Register (EIR) with the NCC-DMS.
- e. NCC-DMS shall acquire the International Mobile Equipment Identity (IMEI) of all devices latching to the communication network and synchronize with International databases of IMEI repositories.
- f. NCC-DMS shall maintain a registry of all communication devices available in the Federal Republic of Nigeria.
- g. All Type approved devices shall be registered on the NCC-DMS by the device suppliers.
- h. Payment fees for registration of devices which is distinct from the Type Approval fees shall be required for each device.
- i. The required information on each device registration shall include the sole or multiple (if applicable) IMEI number(s) of the device(s).
- j. It is an infraction to tamper with the IMEI of a device without written consent of the Original Equipment Manufacturer (OEM).

### **16. Definition of Terms**

**“E-Label”** means this is an electronic label which may be installed in products with digital display and or with remote login capabilities that are integral to the use and functioning of the device. In this case the device’s software will contain information not limited to registration, certification and model identification numbers

**“Remote Login Capabilities”** means a situation where a device can be gained accessed to from other systems remotely using remote login-tools and Connection Managers

**“QR Code”** means a quick response code which is a matrix symbology consisting of an array of nominally square modules arranged in an overall square pattern.

**Appendix 1 – Specimen Pro-forma Declaration of Conformity**

<b>Reference:</b>	
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**I/W**

**e Of**

-----  
*(Name of manufacturer/supplier)*  
-----

-----  
*(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**

-----  
-----  
-----  
**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 labeled with a label approved by the Commission. An example of **an acceptable label** is shown below.



**CERT/XXXXX/YYYY**

xxxx = the certificate number as contained in the Type Approval Certificate

yyyy= represents the year of Type Approval

- i. The characters shall appear in black print against a white background.
- ii. The characters may differ in font from those in the example above
- iii. The characters may differ in font from those in the example above
- iv. The label may differ in width, height and number of lines from the example above.
- v. Placement of the label shall be in accordance with Section 11 of the Type Approval Business Rules.

## 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 Organization 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 the Global System for Mobile communications (GSM) very extensively).
- The ETSI standards incorporate a layered structure that allows different concerns (such as electromagnetic compatibility and physical interoperability) to be analyzed separately.
- Since 1999 the Radio and Telecommunication Terminal Equipment (R&TTE) Directive 1999/5/EC complemented by the 2004 Electromagnetic Compatibility Directive and the 2006 Low Voltage Directive have been the basis for many type approval regimes.
- The technical specifications of the R&TTE framework have been widely adopted, also outside the EU countries, though the actual approval process has seen various variants outside the direct European participants
- Since 2014 the Radio Equipment Directive (RED) 2014/53/EU replaces and streamlines the process of equipment type approval from the 1999 Radio and Telecommunication Terminal Equipment (R&TTE) Directive 1999/5/EC
- To cater for the emerging field and concerns for cybersecurity, privacy and data governance issues as regards internet-connected radio equipment and wearable radio equipment, Internet of Things (IoT) devices, among others the Radio Equipment Directive (RED) – Cybersecurity Requirements in Article 3 (3) of the RED Directive was activated on February 1, 2022 and will become mandatory as from August 1, 2024 for such equipment
- Notwithstanding the above, submissions for type approval to the Commission for internet-connected radios equipment and wearable radio equipment, Internet of Things (IoT) devices among others are encouraged to insure compliance with ETSI EN 303 645 for consumer IoT products and IEC 62443 certification for industrial products pending industry agreed harmonized standards for the cybersecurity requirements
- The Current ETSI standards as used under the new RED type approval process in Europe is considered for the technical standards applied in Nigeria.

- The ETSI standards, and all the supporting technical reports, are free and easily obtained 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 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.

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

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 signaling 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 visit the website of the Commission for subsequent amendments.



## Part B – Tables of Standards

**Table 1 – All Relevant Equipment**

Standard Number	Standard Title	Emphasis
EN 50360:2017/ CENELEC 50360	Product standard to demonstrate the compliance of wireless communication devices,  with the basic restrictions and exposure limit values related to human exposure to electromagnetic fields in the frequency range from 300 MHz to 6 GHz.	Safety
EN 50361/ CENELEC 50361	Basic standard for the measurement of specific absorption rate related Safety 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
EN60215/ IEC60215	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
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 $\leq 16$ A 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 $\leq 75$ 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**

<b>Standard Number</b>	<b>Standard Title</b>	<b>Emphasis</b>	<b>Comment</b>
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
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	Physical interoperability	

	– Loop Disconnect (LD) dialing specific requirements		
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 signaling.	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**

<b>Standard Number</b>	<b>Standard Title</b>	<b>Emphasis</b>
ETSI TS 101 952-1-1	Access network xDSL transmission filters; Part 1: ADSL splitters for European deployment; Subpart 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; Subpart 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**

<b>Standard Number</b>	<b>Standard Title</b>	<b>Emphasis</b>
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 interoperability 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

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**Table 5– Wireless Local Area Equipment**

Standard Number	Standard Title	Emphasis
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 HighPerformance RLAN; Harmonized 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
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); Harmonized 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: Harmonized 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: Harmonized 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
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
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	Physical interoperability



	essential requirements of Article 3.2 of R&TTE Directive for antennas.	
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**Table 8– Fixed Satellite Connection Equipment**

Standard Number	Standard Title	Emphasis
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); Harmonized 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); harmonized 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); harmonized 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); harmonized 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); harmonized 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	Physical interoperability

	essential requirements under article 3.2 of the R&TTE Directive.	
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**Table 9– Mobile Satellite Connection Equipment**

Standard Number	Standard Title	Emphasis
ETSI EN 301 48919	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
ETSI EN 301 426	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 301 427	Satellite earth stations and Systems (SES); harmonized 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 301 442	Satellite Earth stations and Systems (SES); Harmonized 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 301 444	Satellite Earth stations and Systems (SES); Harmonized 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 301 681	Satellite Earth stations and Systems (SES); Harmonized 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); Harmonized 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
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**Table 10– Second Generation Mobile Telephony Equipment**

Standard Number	Standard Title	Emphasis
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	Harmonized 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
ETSI EN 301 511	Global system for mobile communications (GSM); Harmonized 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**

<b>Standard Number</b>	<b>Standard Title</b>	<b>Emphasis</b>
ETSI TS 125 113	Universal Mobile Telecommunications Systems (UMTS); Basestation 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	Physical interoperability

	(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.	
ETSI EN 301 908-11	<p>Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations</p> <p>(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&amp;TTE Directive.</p>	Physical interoperability
ETSI EN 301 908-12	<p>Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations</p> <p>(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&amp;TTE Directive.</p>	Physical interoperability

Table 12 – Fourth Generation Mobile Telephony Equipment

Standard Number	Standard Title	Emphasis
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), Repeaters 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 301 908-6	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), 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 301 908-11	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)	Physical interoperability

	(Repeaters) covering essential requirements of article 3.2 of the R&TTE Directive.	
ETSI EN 301 908-13	IMT cellular networks; Harmonized Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Part 13: Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE)	Physical interoperability
ETSI EN 301 908-14	IMT cellular networks; Harmonized Standard for access to radio spectrum; Part 14: Evolved Universal Terrestrial Radio Access (E-UTRA) Base Station (BS) Release 15	Physical interoperability
ETSI EN 301 908-15	IMT cellular networks; Harmonized Standard for access to radio spectrum; Part 15: Evolved Universal Terrestrial Radio Access (E-UTRA FDD) Repeaters.	Physical interoperability
ETSI EN 301 908-18	IMT cellular networks; Harmonized Standard for access to radio spectrum; Part 18: E-UTRA, UTRA and GSM/EDGE Multi-Standard Radio (MSR) Base Station (BS)	Physical interoperability



Table 13- Fifth Generation Mobile Telephony Equipment

Standard Number	Standard Title	Emphasis
ETSI TS 138 101	5G; NR; User Equipment (UE) radio transmission and reception; Part 1: Range 1 Standalone	Physical interoperability
ETSI TS 138 521	5G; NR; User Equipment (UE) conformance specification: Radio Transmission and reception; Part 1: Range 1 Standalone (3GPP TS 38.521-1 version 16.6.0 Release 16)	Physical interoperability
3GPP TS 38.101 -3	NR; User Equipment (UE) radio transmission and reception; Part 3: Range 1 and Range 2 interworking operation with other radio	Physical interoperability
3GPP TS 38.521 -3	NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 3: Range 1 and Range 2 interworking operation with other radio	Physical interoperability
		Physical interoperability

**Table 14 –Analogue Leased Line Equipment**

Standard Number	Standard Title	Emphasis
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 15 –Digital Leased Line Equipment**

<b>Standard Number</b>	<b>Standard Title</b>	<b>Emphasis</b>	<b>Comment</b>
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 012 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 012 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 012 may be an alternative



<p>ETSI EN 302 208-2</p>	<p>spectrum Matters (ERM); Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W; Part 2: Harmonized EN covering essential requirements of article 2.3 of R&amp;TTE Directive.</p>	
<p>ETSI EN 300 220-1 ETSI EN 300 220-2</p>	<p>NON-Specific SRD (Short Range Device) –  Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1 000MHz frequency range with power levels ranging up to 500 mW; Part 1: Technical characteristics and test methods. Part 2: Harmonized Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU for nonspecific radio equipment  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 (RFID for example). Part 1: Technical Characteristics and test methods. Part 2: Harmonized Standard covering the</p>	<p>Physical interoperability</p>

<p>ETSI EN 300 330-1 ETSI EN 300 330-2</p> <p>ETSI EN 300 440-1 ETSI EN 300 440-2</p>	<p>essential requirements of article 3.2 of the R&amp;TTE Directive</p> <p>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 1: Technical Characteristics and test methods. Part 2: Harmonized EN covering the essential requirement of article 3.2 of the R&amp;TTE Directive.</p> <p>Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Road Transport and Traffic Telematics (RTTT) Short range radar equipment operating in the 24 GHz range; Part 1: Technical requirements and methods of measurement.</p>	
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ETSI EN 302 288-1		
ETSI EN 302 288-2	Short Range Radar Sensor - Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Road Transport and Traffic Telematics (RTTT); Short range radar equipment operating in the 24 GHz range; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive.	Physical interoperability
ETSI EN 301 091-1/-2	(24 GHz) - (76-77 GHz) - Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices; Road Transport and Traffic Telematics (RTTT); Radar equipment operating in the 76 GHz to 77GHz range; Part 1: Technical Characteristics and test methods for radar equipment operating in the 76 GHz to 77 GHz range. Part 2: Harmonized EN Covering essential requirement of article 3.2 of the R&TTE Directive.	Physical interoperability
ETSI EN 300 328	Wide Band & Broadband Data Transmission System 2.4 GHz (2400-2483.5 MHz) 5 GHz (5150-5350 MHz) (5470-5725 MHz) (5725-5850 MHz)  Harmonized Standard for the Radio Equipment Directive (RED) for wideband data	Physical interoperability











ETSI EN 302 195	Active Medical Implants and their associated peripherals- Short Range Device (SRD); Ultra Low Power Active Medical Implants (ULP-AMI) and accessories (ULP-AMI-P) operating in the frequency range 9 KHz 315 KHz Harmonized Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU	Physical interoperability
ETSI EN 302 536	Active Medical Implants and their associated peripherals- Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Device (SRD); Radio equipment in the frequency range 315 KHz to 600 KHz;	Physical interoperability
ETSI EN 300 718	Tracking, tracing and data acquisition- Avalanche Beacons operating at 457 KHz; Transmitter –receiver systems;	Physical interoperability
ETSI EN 302 608	Railway applications - Short Range Device (SRD); Radio equipment for Eurobalise railway systems; Harmonized Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU	Physical interoperability
ETSI EN 302 609	Railway applications - Short Range Device (SRD); Radio equipment for Euroloop communication systems; Harmonized Standard for access to radio Spectrum	Physical interoperability
ETSI EN 300 330	Active Medical Implants and their associated peripherals- – Radio systems with Short Range Device (SRD) – radio devices in the frequency range 9 KHz to 25 MHz and inductive loop systems in the frequency range 9 KHz to 30 MHz (e.g., RFID)	Physical interoperability
ETSI EN 300 330	Short range radio systems RFID and EAS – Radio systems with Short Range Device (SRD) – radio devices in the frequency range 9 KHz to 25 MHz and inductive loop systems in the frequency range 9 KHz to 30 MHz (e.g., RFID)	Physical interoperability
ETSI EN 300 422	Radio microphone applications- Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical Characteristics and Test Methods of Wireless Microphones in the 25 MHz to 3 GHz Frequency Range	Physical interoperability
ETSI EN 302 510	Active Medical Implants and their associated peripherals - Short Range Devices (SRD); Ground – and Wall – Probing Radar application (GPR/WPR) imaging systems; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU	Physical interoperability

ETSI EN 301 839	Active Medical Implants and their associated peripherals - Ultra Low Power Active Medical Implants (ULP- AMI) and associated Peripherals (ULP-AMI-P) operating in the frequency range 402 MHz to 405 MHz: Harmonized Standard covering the essential requirements of article 3.2 of the Directive 2014/53.EU	Physical interoperability
ETSI EN 302 537	Active Medical Implants and their associated peripherals –  Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Ultra Low Power Medical Data Service System operating in the frequency range 4001 MHz to 402 MHz and 405 MHz to 406 MHz	Physical interoperability
ETSI EN 300 200	Transport and traffic telematics –  Short Range Devices (SRD) operating in the frequency range 25 MHz to 1000 MHz; Part 1: Technical characteristics and methods of measurement	Physical interoperability
ETSI EN 300 175	DECT applications including Cordless Telephony –  Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI);	Physical interoperability
ETSI EN 300 328.	Wideband data transmission (e.g WLAN, PMR over WLAN) -  Harmonized Standard for the Radio Equipment Directive (RED) for wideband data transmission equipment such as Wi-Fi Bluetooth radios	Physical interoperability
ETSI EN 300 761	Radio Frequency Identification (RFID) -  Electromagnetic compatibility and Radio spectrum Matters (ERM); Automatic Vehicle Identification (AVI) for railways  Short Range Devices (SRD); Radio equipment to be used in the 1GHz to 40 GHz frequency range; Harmonized Standard covering the essential requirements of article 3.2 of the	Physical interoperability

ETSI EN 300 440	Directive 2014/53/EU	
ETSI EN 301 559	Active Medical Implants - Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Low Power Active Medical Implants (LP-AMI) operating in the frequency range 2 483,5 MHz to 2 500 MHz; Part 1: Technical characteristics and test methods	Physical interoperability
EN 301 893	RLAN). Indoor only- - Harmonized Standard covering the essential Requirements of article 3.2 of Directive 2014/53/EU	Physical interoperability
EN 301 893 TPC/DFS:	Broadband Radio – Broadband Radio Access Networks (BRAN) 5 GHz high performance RLAN; Harmonized EN covering essential requirement of article 3.2 of the R&TTE Directive	Physical interoperability
ETSI EN 301 893	Access Networks (e.g. RLAN) - Harmonized Standard covering the essential Requirements of article 3.2 of Directive 2014/53/EU	Physical interoperability
ETSI EN 303 258	Tracking, tracing and data acquisition – Wireless Industrial Application (WIA); Equipment operating in the 5 727 MHz frequency range with power levels ranging up to 400 mW; Harmonized Standard for access to radio spectrum	Physical interoperability
ETSI EN 305 550	Non-specific - - Short Range Devices (SRD); Radio equipment to be used in the 40 GHz to 246 GHz frequency range; Harmonized Standard for access to radio spectrum	Physical interoperability
ETSI EN 302 567	Broadband Radio Access Networks (e.g.	Physical interoperability

	RLAN)- Multiple-Gigabit/s radio equipment operating in the 60 GHz band; Harmonized Standard for access to radio spectrum	
ETSI EN 302 729	Radio determination applications - Short Range Devices (SRD); Level Probing Radar (LPR) equipment operating in the frequency range 6 GHz to 8,5 GHz 24,05 GHz to 26,5 GHz, 57 GHz to 64 GHz, 75 GHz to 85 GHz; Harmonized Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU	Physical interoperability
ETSI EN 301 091	Railway applications and Transport and traffic telematics - -  Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices; Road Transport and Traffic Telematics (RTTT); Radar equipment operating in the 76GHz to 77Ghz range; Part 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive.	Physical interoperability