



**SPECIAL REPORT**

**Intellectual Property Rights (IPRs);  
Essential, or potentially Essential, IPRs notified  
to ETSI in respect of ETSI standards**

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Reference

RSR/BOARD-00033

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Keywords

IPR

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# Intellectual Property Rights

## Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The declarations pertaining to these essential IPRs, if any, are publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org/>).

Pursuant to the ETSI Directives including the ETSI IPR Policy, no investigation regarding the essentiality of IPRs, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

## Trademarks

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# Foreword

The present document identifies IPRs, particularly patents and patent applications, which have been notified to ETSI as being Essential, or Potentially Essential, to ETSI Standards or Technical Specifications.

The present document has been prepared on the basis of information received. ETSI has not checked the validity of the information, nor the relevance of the identified patents/patent applications to the ETSI standards and cannot confirm, or deny, that the patents/patent applications are, in fact, essential, or potentially Essential. No investigation, or IPR searches, have been carried out by ETSI and therefore no guarantee can be given concerning the existence of other IPRs which are, or may become, essential.

It should also be noted that whilst ETSI members are not obliged to conduct IPR searches they are obliged to make reasonable efforts to inform ETSI of any Essential IPRs of which they become aware (see article 4 of the ETSI IPR Policy [i.1]).

The present document will be maintained by the ETSI Secretariat and further editions will be issued as, and when, necessary. Any errors in the information contained in the present document, or any additional information concerning Essential IPRs, of which readers of the present document become aware, should be notified to the ETSI Secretariat (for the attention of the Legal Service).

NOTE: The present document is also available at <https://www.etsi.org/intellectual-property-rights> [i.4].

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# Modal verbs terminology

In the present document "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

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# 1 Scope

The present document identifies IPRs, particularly patents and patent applications, which have been notified to ETSI as being Essential, or potentially Essential, to ETSI Standards or Technical Specifications.

Unless otherwise specified, all IPRs included into the present document have been notified to ETSI, with an undertaking from the owner to grant licences according to the terms and conditions of article 6.1 of the ETSI IPR Policy [i.1], Annex 6 of the ETSI Rules of Procedure [i.3].

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## 2 References

### 2.1 Normative references

Normative references are not applicable in the present document.

### 2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] ETSI IPR Policy.

NOTE: The ETSI IPR Policy can be found at <https://portal.etsi.org/Resources/ETSI-Directives>.

[i.2] ETSI Guide on IPRs.

NOTE: The ETSI Guide on IPRs is to be found at <https://portal.etsi.org/Resources/ETSI-Directives>.

[i.3] ETSI Rules of Procedure (RoP).

NOTE: The ETSI Rules of Procedure (RoP) can be found at <https://portal.etsi.org/Resources/ETSI-Directives>.

[i.4] ETSI IPR database.

NOTE: Notification to ETSI of Essential or potentially Essential IPRs should be made using the ETSI IPR database at <https://ipr.etsi.org>. Additional information can be found at <https://www.etsi.org/intellectual-property-rights>.

[i.5] Declare your IPRs to ETSI.

NOTE: A step by step explanation for filling out the above mentioned forms is to be found in the <https://www.etsi.org/intellectual-property-rights/faqs>. Additional information can be found at <https://www.etsi.org/intellectual-property-rights>.

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## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

For the purposes of the present document, the following terms apply:

The terms "ESSENTIAL", "IPR", "STANDARD" and "TECHNICAL SPECIFICATION" given below are defined in the "Definitions" annex of the ETSI IPR Policy [i.1].

**ESSENTIAL:** as applied to IPR means that it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, to make, sell, lease, otherwise dispose of, repair, use or operate EQUIPMENT or METHODS which comply with a STANDARD without infringing that IPR.

For the avoidance of doubt in exceptional cases where a STANDARD can only be implemented by technical solutions, all of which are infringements of IPRs, all such IPRs shall be considered ESSENTIAL.

NOTE: In practical terms, the existence of an Essential IPR makes it necessary to have a licence in order to exploit the standard concerned.

**IPR:** shall mean any intellectual property right conferred by statute law including applications therefore other than trademarks.

For the avoidance of doubt rights relating to get up, confidential information, trade secrets or the like are excluded from the definition of IPR.

**IPR licensing declaration:** declaration to the effect that the IPR owner declares that he is prepared to grant licences on fair, reasonable and non-discriminatory terms, in accordance with article 6.1 and comply with clause 6.1 bis of the ETSI IPR Policy

**notified:** means any IPR information of which ETSI has been formally notified by the owner of the IPR or, any IPR information of which ETSI has become aware, pursuant to the IPR Policy

**STANDARD:** shall mean any standard adopted by ETSI including options therein or amended versions and shall include European Standards (ENs), ETSI standards (ESs), Common Technical Regulations (CTRs) which are taken from ENs and including drafts of any of the foregoing, and documents made under the previous nomenclature, including ETSS, I-ETSS, parts of NETs and TBRs, the technical specifications of which are available to all MEMBERS, but not including any standards, or parts thereof, not made by ETSI.

The date on which a STANDARD is considered to be adopted by ETSI for the purposes of this POLICY shall be the date on which the technical specification of that STANDARD was available to all MEMBERS.

**TECHNICAL SPECIFICATION:** shall mean any Technical Specification (TS) adopted by ETSI including options therein or amended version including drafts, the Technical Specifications of which are available to all MEMBERS, but not including any technical specifications, or parts thereof, not made by ETSI.

The date on which a TECHNICAL SPECIFICATION is considered to be adopted by ETSI for the purposes of this POLICY shall be the date on which the technical content of that TECHNICAL SPECIFICATION was available to all MEMBERS.

**3GPP standards:** all standards issued by ETSI in relation to 3<sup>rd</sup> Generation Partnership Project (3GPP)

NOTE: From <https://portal.etsi.org/home>, click on the "3GPP" tab.

**BRAN standards:** all standards issued by ETSI Project Broadband Radio Access Networks (BRAN)

NOTE: From <https://portal.etsi.org/home>, click on the "BRAN" tab.

**DAB standards:** all standards issued by ETSI in relation to Digital Audio Broadcasting (DAB)

NOTE: See <https://www.etsi.org/technologies/broadcast>.

**DCS 1800 standards:** all standards issued by ETSI in relation to European Cellular Digital - Global System for Mobile Communication - DCS 1800 extensions

NOTE: From <https://portal.etsi.org/home>, click on the "3GPP" tab.

**DECT/GSM interworking standards:** all standards issued by ETSI in relation to interworking between DECT and GSM

**DECT standards:** all standards issued by ETSI in relation to Digital Enhanced Cordless Telephone (DECT), previously known as Digital Enhanced Cordless Telephone (DECT)

NOTE: From <https://portal.etsi.org/home>, click on the "DECT" tab.

**DTM standards:** all standards issued by ETSI in relation to Dynamic synchronous Transfer Mode (DTM)

NOTE: SPAN Technical Body has closed. See [https://portal.etsi.org/tb/closed\\_tb/span.asp](https://portal.etsi.org/tb/closed_tb/span.asp). All SPAN standards can now be found under TISPAN.

**DVB standards:** all standards issued by ETSI in relation to Digital Video Broadcasting (DVB)

NOTE: See <https://www.etsi.org/technologies/broadcast>.

**ERMES standards:** all standards issued by ETSI in relation to European Radio Messaging System (ERMES)

NOTE: From <https://portal.etsi.org/home>, click on the "ERM" tab.

**GPRS standards:** all standards issued by ETSI in relation to General Packet Radio Service (GPRS)

NOTE: From <https://portal.etsi.org/home>, click on the "3GPP" tab.

**GSM standards:** all standards issued by ETSI in relation to European Cellular Digital - Global System for Mobile Communication (GSM)

NOTE: From <https://portal.etsi.org/home>, click on the "3GPP" tab.

**HDSL standards:** all standards issued by ETSI in relation to High bit rate Digital Subscriber Line (HDSL)

NOTE: TM (TM 06) Technical Body has closed. See [https://portal.etsi.org/tb/closed\\_tb/oldtbhome.asp](https://portal.etsi.org/tb/closed_tb/oldtbhome.asp).

**HIPERLAN standards:** all standards issued by ETSI in relation to High Performance Radio Local Area Network (HIPERLAN)

**ISDN standards:** all standards issued by ETSI in relation to Integrated Services Digital Network (ISDN)

NOTE: SPAN Technical Body has closed. See [https://portal.etsi.org/tb/closed\\_tb/span.asp](https://portal.etsi.org/tb/closed_tb/span.asp).

**Lawful Interception (LI) standards:** all standards issued by ETSI in relation to Lawful Interception (LI)

NOTE: See <https://portal.etsi.org/TB-SiteMap/LI/Summary>.

**PSTN standards:** all standards issued by ETSI in relation to Public Switched Telephone Network (PSTN)

NOTE: AT Technical Body has closed. See [https://portal.etsi.org/tb/closed\\_tb/oldtbhome.asp](https://portal.etsi.org/tb/closed_tb/oldtbhome.asp).

**SDSL standards:** all standards issued by ETSI in relation to Symmetrical Digital Subscriber Line (SDSL)

NOTE: TM (TM 06) Technical Body has closed. See [https://portal.etsi.org/tb/closed\\_tb/oldtbhome.asp](https://portal.etsi.org/tb/closed_tb/oldtbhome.asp).

**STAG standards:** all standards issued by ETSI in relation to Security Techniques Advisory Group (STAG)

NOTE: SEC Technical Body has closed. See [https://portal.etsi.org/tb/closed\\_tb/oldtbhome.asp](https://portal.etsi.org/tb/closed_tb/oldtbhome.asp).

**Television systems standards:** all standards issued by ETSI in relation to TV broadcasting systems

NOTE: From <https://portal.etsi.org/home>, click on the "BROADCAST" tab.

**TETRA standards:** all standards issued by ETSI in relation to Terrestrial Trunked Radio (TETRA), previously known as Trans-European Trunked Radio (TETRA)

NOTE: See <https://www.etsi.org/technologies/tetra>.

**TFTS standards:** all standards issued by ETSI in relation to Terrestrial Flight Telecommunication System (TFTS)

NOTE: From <https://portal.etsi.org/home>, click on the "ERM" tab.

**TIPHON standards:** all standards issued by ETSI in relation to Telecommunications And Internet Protocol Harmonization Over Networks (TIPHON)

NOTE: TIPHON Technical Body has closed. See [https://portal.etsi.org/tb/closed\\_tb/tiphon.asp](https://portal.etsi.org/tb/closed_tb/tiphon.asp). All TIPHON standards can now be found under TISPAN.

**UMTS standards:** all standards issued by ETSI in relation to Universal Mobile Telecommunications System (UMTS)

NOTE: From <https://portal.etsi.org/home>, click on the "3GPP" tab.

**VDSL standards:** all standards issued by ETSI in relation to Very high speed Digital Subscriber Line (VDSL)

NOTE: TM (TM 06) Technical Body has closed. See [https://portal.etsi.org/tb/closed\\_tb/oldtbhome.asp](https://portal.etsi.org/tb/closed_tb/oldtbhome.asp).

## 3.2 Symbols

Void.

## 3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AF	AFGHANISTAN
OA	AFRICAN INTELLECTUAL PROPERTY ORGANIZATION
AP	AFRICAN REGIONAL INDUSTRIAL PROPERTY ORGANIZATION
AL	ALBANIA
DZ	ALGERIA
AS	AMERICAN SAMOA
AD	ANDORRA
AO	ANGOLA
AG	ANTIGUA AND BARBUDA
AR	ARGENTINA
AM	ARMENIA
AW	ARUBA
AU	AUSTRALIA
AT	AUSTRIA
AZ	AZERBAIJAN
BS	BAHAMAS
BH	BAHRAIN
BD	BANGLADESH
BB	BARBADOS
BY	BELARUS
BE	BELGIUM
BZ	BELIZE
BJ	BENIN
BM	BERMUDA
BT	BHUTAN
BO	BOLIVIA
BA	BOSNIA AND HERZEGOVINA
BW	BOTSWANA
BR	BRAZIL
BN	BRUNEI DARUSSALAM
BG	BULGARIA

BF	BURKINA FASO
BI	BURUNDI
KH	CAMBODIA
CM	CAMEROON
CA	CANADA
CV	CAPE VERDE
CF	CENTRAL AFRICAN REPUBLIC
TD	CHAD
CL	CHILE
CN	CHINA
CO	COLOMBIA
KM	COMOROS
CG	CONGO
GC	COOPERATION COUNCIL FOR ARAB STATES OF THE GULF
CR	COSTA RICA
CI	CÔTE D'IVOIRE
HR	CROATIA
CU	CUBA
CY	CYPRUS
CZ	CZECH REPUBLIC
DK	DENMARK
DJ	DJIBOUTI
DM	DOMINICA
DO	DOMINICAN REPUBLIC
EC	ECUADOR
EG	EGYPT
SV	EL SALVADOR
GQ	EQUATORIAL GUINEA
ER	ERITREA
EE	ESTONIA
ET	ETHIOPIA
EA	EURASIAN PATENT OFFICE
EP	EUROPEAN PATENT OFFICE
FO	FAROE ISLANDS
FJ	FIJI
FI	FINLAND
FR	FRANCE
MK	FYROM
GA	GABON
GM	GAMBIA
GE	GEORGIA
DE	GERMANY
GH	GHANA
GI	GIBRALTAR
GR	GREECE
GL	GREENLAND
GD	GRENADA
GP	GUADELOUPE
GU	GUAM
GT	GUATEMALA
GN	GUINEA
GW	GUINEA-BISSAU
GY	GUYANA
HT	HAITI
HN	HONDURAS
HK	HONG KONG
HU	HUNGARY
IS	ICELAND
IN	INDIA
ID	INDONESIA
IR	IRAN (ISLAMIC REPUBLIC OF)
IQ	IRAQ

IE	IRELAND
IL	ISRAEL
IT	ITALY
JM	JAMAICA
JP	JAPAN
JO	JORDAN
KZ	KAZAKHSTAN
KE	KENYA
KP	KOREA (DEM. PEOPLE'S REP. OF)
KR	KOREA (REPUBLIC OF)
KW	KUWAIT
KG	KYRGYZSTAN
LA	LAO PEOPLE'S DEM. REP.
LV	LATVIA
LB	LEBANON
LS	LESOTHO
LR	LIBERIA
LI	LIECHTENSTEIN
LT	LITHUANIA
LU	LUXEMBOURG
MO	MACAU
MG	MADAGASCAR
MW	MALAWI
MY	MALAYSIA
MV	MALDIVES
ML	MALI
MT	MALTA
MQ	MARTINIQUE
MR	MAURITANIA
MU	MAURITIUS
YT	MAYOTTE
MX	MEXICO
MD	MOLDOVA (REPUBLIC OF)
MC	MONACO
MN	MONGOLIA
ME	MONTENEGRO
MS	MONTSERRAT
MA	MOROCCO
MZ	MOZAMBIQUE
MM	MYANMAR
NA	NAMIBIA
NP	NEPAL
NL	NETHERLANDS
AN	NETHERLANDS ANTILLES
NC	NEW CALEDONIA
NZ	NEW ZEALAND
NI	NICARAGUA
NE	NIGER
NG	NIGERIA
NO	NORWAY
OM	OMAN
PK	PAKISTAN
PW	PALAU
PA	PANAMA
PG	PAPUA NEW GUINEA
PY	PARAGUAY
WO	PATENT COOPERATION TREATY
PE	PERU
PH	PHILIPPINES
PL	POLAND
PT	PORTUGAL
PR	PUERTO RICO

QA	QATAR
RE	RÉUNION
RO	ROMANIA
RU	RUSSIAN FEDERATION
RW	RWANDA
WS	SAMOA
SM	SAN MARINO
SA	SAUDI ARABIA
SN	SENEGAL
RS	SERBIA
SC	SEYCHELLES
SL	SIERRA LEONE
SG	SINGAPORE
SK	SLOVAKIA
SI	SLOVENIA
SO	SOMALIA
ZA	SOUTH AFRICA
ES	SPAIN
LK	SRI LANKA
SD	SUDAN
SR	SURINAME
SZ	SWAZILAND
SE	SWEDEN
CH	SWITZERLAND
SY	SYRIAN ARAB REPUBLIC
TW	TAIWAN, PROVINCE OF CHINA
TJ	TAJKISTAN
TZ	TANZANIA, UNITED REPUBLIC OF
TH	THAILAND
TL	TIMOR-LESTE
TG	TOGO
TK	TOKELAU
TO	TONGA
TT	TRINIDAD AND TOBAGO
TN	TUNISIA
TR	TURKEY
TM	TURKMENISTAN
TV	TUVALU
UG	UGANDA
UA	UKRAINE
AE	UNITED ARAB EMIRATES
GB	UNITED KINGDOM
US	UNITED STATES
UY	URUGUAY
UZ	UZBEKISTAN
VU	VANUATU
VE	VENEZUELA
VN	VIET NAM
YE	YEMEN
YU	YUGOSLAVIA
ZM	ZAMBIA
ZW	ZIMBABWE

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## 4 Notified IPRs

The Licensing Declarations given for the IPRs are contained in archive sr\_000314v023001p0.zip which accompanies the present document.

ETSI has not checked the validity of the information, nor the relevance of the identified IPRs to the Standards or Technical Specifications and cannot confirm, or deny, that the IPRs are, in fact, essential, or potentially essential. No investigation, or IPR searches, have been carried out by ETSI and therefore no guarantee can be given concerning the existence of other IPRs which are, or may become, essential.

## 4.1 Notifications

Essential, or potentially essential, IPRs in respect of which a notification followed by a Licensing Declaration has been given by the IPR owner and for which licences are available on fair, reasonable and non-discriminatory terms, in accordance with article 6.1 and comply with clause 6.1 bis of the ETSI IPR Policy [i.1], annex 6 of the ETSI Rules of Procedure [i.3]. The ETSI IPR Policy can be found at <https://portal.etsi.org/Resources/ETSI-Directives>.

NOTE: Notification to ETSI of Essential or potentially Essential IPRs should be made using the ETSI IPR database at <https://ipr.etsi.org>. Additional information can be found at <https://www.etsi.org/intellectual-property-rights> [i.4], [i.2] and [i.5].

### 4.1.1 List of Project Names used in the ETSI IPR Database

3GP-DASH; 3GP-DASH-Release-10; 3GP-DASH-Release-11; 3GPP; 3GPP 5G NR; 3GPP SAE; 3GPP-CN; 3GPP-CT; 3GPP-EUTRAN; 3GPP-GERAN; 3GPP-radio; 3GPP-Release-10; 3GPP-Release-11; 3GPP-Release-12; 3GPP-Release-13; 3GPP-Release-14; 3GPP-Release-15; 3GPP-Release-16; 3GPP-Release-17; 3GPP-Release-1997; 3GPP-Release-1998; 3GPP-Release-1999; 3GPP-Release-4; 3GPP-Release-5; 3GPP-Release-6; 3GPP-Release-7; 3GPP-Release-8; 3GPP-Release-9; 3GPP-SA; 3GPP-T; 3GPP-UTRAN; 5G; AHS Release 9; AlgUEA2; AMRWB; AMRWB+; BACKBONE; BLINK; BRAN; Broadband Access; CAMEL; CAT; CH; Cheaper Internet; CLIK; CNTRSP; CRS; CSICS; CSIterm; CTM2; DAB; DASH Release 10; DASH Release 11; DASH Release 9; DCS 1800; DECT; DECT\_CI; DECT\_CTM; DECT\_GSM-IW; DECT\_ISDN-IW; DIIS; DMR; dPMR; DRM; DTM; DTS; DVB; DVB-H; DVB-T2; E2EMSPM; e-accessibility; eANDSF; eCall\_Phase2; ECI; e-commerce; EData; EDCH; EDCHTDD; eEurope; eEurope implementation guide; eEurope2005\_Broadband; eEurope2005\_Security; EHNB; eICIC\_LTE; Electronic Signatures; EMC1; eMPS; EMTEL; ERM; ERMES; e-transport; ETSI M2M; ETSI RRS; EVS\_codec; Family SL; FGE; FLO; FS\_CNO; FS\_CoMP\_LTE; FS\_CSN; FS\_CSoPS; FS\_EHNB\_enh; FS\_Energy\_LTE; FS\_HetNet\_eMOB\_LTE; FS\_HNB\_Sec; FS\_HSDPA\_MP\_TX; FS\_iFire; FS\_IMS\_P2P; FS\_IMSconf; FS\_IS\_DASH; FS\_IVCS; FS\_LC\_MTC\_LTE; FS\_LTE\_mobRelay; FS\_LTE\_TDD\_eIMTA; FS\_M2M; FS\_MAPIM; FS\_MLTICAST-IMS; FS\_MMSC; FS\_MODALI; FS\_MTCe; FS\_NGN\_min\_drive-tests; FS\_NOVES; FS\_OAM\_LTE\_SAE; FS\_OAM-SON-HNB; FS\_PP; FS\_PWS; FS\_RAN\_LTEA; FS\_RAN-DCHS; FS\_RAN-HNB\_eNB; FS\_RAN-LTEmob; FS\_SaMOG; FS\_SM3GWLAN; FS\_SPIA\_IDC; FS\_SSO\_APS; FS\_SSO\_Int; FS\_SSO\_Int\_Sec; FS\_UM2M; FS\_VAS4SMS; FS\_vSRVCC; GAAI; GBA-IdM; GBAPush; GEM 1.0; GEM 1.2; GEM 1.2.2; GERAN; GERAN Release 6; GERAN Release 7; GERAN Release 8; GERAN Release 9; GMDSS; GMPRS; GMR; GPRS; GSM; GSM Release 4; GSM Release 6; GSM Release 7; GSM Release 98; GSM Release 99; GTT; HCI; HIPERACCESS; HIPERLAN/1; HIPERLAN/2; HIPERMAN; HNB\_HENB\_mob\_enh; Home fibering system; HSDPA; HSPA+; HTTP\_SDS; Hybrid Broadcast Broadband TV; ICSRA; IMCC; IMCC\_ATS; IMCC\_BASE; IMCC\_ISDN/DECIW; IMCC\_ISDN/GSMIW; IMCC\_ITAEGT; IMCC\_PR-1; IMS; IMS\_AGCF; IMS\_EMER\_GPRS\_EPS; IMS\_PSS\_MBMS\_US; IMS\_RP; IMSProtoc; IMS-UICC-S; IPCablecom; IPv4IMS; IRTSD-CS\_IMS; IRTSD-IMSCS; ISDN; ISM; ITS; KeyEstUTerm; L\_Band\_LTE\_ATC\_MSS; Lawful Interception; LCLS-CN; LCS; LCS\_LTE\_EPS; LCS\_LTE-NBPS; LCS-128 Pos; LibSec; LPP Release 10; LPR; LTE; LTE/EPS Release 9; LTE\_CA; LTE\_Relay; LTEimp; M2M; MBMS; MCC\_3G\_reporting; MCC\_GSM\_reporting; M-COMM; MDT\_UMTSLTE; MEDIASEC; MESS5; MHEG-5 Broadcast Profile; MHP 1.0; MHP 1.1; MHP 1.2.2; MIMO; MIW-IMS; MMB; MMB Release 1; MMS4; MOSAP; Mp; NGN; NGN5: Lawful Interception; NGN-R1; NGN-R2; NGN-R3; oneM2M Release 1; oneM2M Release 2; PCC; PLT; PNM; RANFS-Evo; RANFS-HSPA Evo; RANFS-MBMSImp; RES; SAE; SAES; SAES\_Ph2; SAES2; SDH; SDH\_NETWORK\_ELEMENTS; SDR; SEC16; SEC1-SC; SEC-IMS; SES; SFR; SIMTC; Smart Card; SMSIP; SMSMI; SON; Speech Recognition; SRD; SRSES; STAG; TD-SCDMA; TEI; TEI10; TEI4; Television systems; TETRA; TETRA\_DM; TETRA\_V+D; TFTS; TG; TIPHON; TIPHON\_R3; TISPAN; TV Anytime; TV-Anytime; UICC; UICC1; UMTS; UMTS FDD; UMTS TDD; UTRA; UTRAN; V5 Interface; VAS4SMS; WCDMA; WLAN; xDSL.

## 4.2 Void

## 4.3 Void

## History

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