

F.N. 6-12/2024-TC/TEC
Government of India
Department of Telecommunications
Telecommunication Engineering Centre
Khurshid Lal Bhawan, Janpath, New Delhi-110001
(Telecom Certification Division)

Dated: 21 Nov, 2025

Subject: Inclusion of MTCTE requirements in procurement of Telecommunication Equipment – reg.

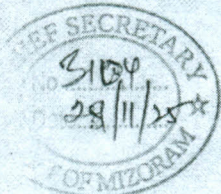
Kindly refer to D.O. No. 6-6/2021-TC/TEC dated 17.10.2023 from Secretary, DoT and subsequent letter No. 6-12/2024-TC/TEC dated 12.12.2024 from this office on the above mentioned subject. In this regard, it is informed that the **Telecommunications (Framework to Notify Standards, Conformity Assessment and Certification) Rules, 2025** has been notified by the Central Government on 16.05.2025 under the Telecommunications Act, 2023. A copy of said rules is available on MTCTE website <https://mtcte.tec.gov.in/>

2. The said rules prescribe for Mandatory Testing and Certification of Telecommunication Equipment (MTCTE). As per rule 8(2), no telecommunication equipment notified under MTCTE, shall be sold or deployed in any telecommunication network, or otherwise be used in India, unless it has a valid Certificate of Conformity Assessment as per the notified standards (Essential requirements).

3. MTCTE ensures performance, safety and protection of the users by complying with relevant national and international standards. As on date, MTCTE Certificate is mandatory for 211 telecommunication equipment including Cordless/CLIP/Landline Phone, PABX, FTTH OLT/ONT/ ONU used for broadband services, Router, LAN Switch, IP Security Equipment, WiFi Access Points & CPE, Optical Fibre, Optical Fibre Cable, VHF UHF Radio System, IoT Gateway, Tracking Device, Smart Electricity Meter etc. prior to their sale/use in India. The complete list of such notified equipment along with their mandatory certification date is available at **Annexure-A**, and on MTCTE website (<https://mtcte.tec.gov.in/phaseWiseproductsList>).

4. In pursuance to the above rules, Telecommunication Engineering Centre (TEC), the technical body under Department of Telecommunications (DoT) is administering the implementation of MTCTE. Presently, the MTCTE certificate has been issued for more than 9,400 Telecommunication equipment models. The details of MTCTE certified equipment are available on MTCTE website (<https://mtcte.tec.gov.in/certified equipments>).

5. In view of the above, it is requested that the concerned Department/Autonomous bodies/attached offices etc. may kindly be informed



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about MTCTE and inclusion of MTCTE requirements in procurement/deployment of Telecommunication Equipment as mandated by Telecommunications (Framework to Notify Standards, Conformity Assessment and Certification) Rules, 2025.

6. In case any further details or clarification in this regard is needed, Director (TC-1), TEC, New Delhi may be contacted on e-mail id: dir.ta.tec@gov.in.


(Syed Tausif Abbas)
Sr. DDG & Head, TEC

To,

Chief Secretaries of all the States/UTs

Copy to:

- i. Secretary(T), DoT
- ii. Member(T), DoT

डॉ. नीरज मिश्र, भा.प्र.से.
सचिव

DR. NEERAJ MITTAL, IAS
Secretary



सत्यमेव जयते



भारत सरकार
संचार मंत्रालय
दूरसंचार विभाग

GOVERNMENT OF INDIA
MINISTRY OF COMMUNICATIONS
DEPARTMENT OF TELECOMMUNICATIONS

DO. No. 6-6/2021-TC/TEC

17th October, 2023

Dear Chief Secretary,

This letter pertains to procurement of telecom equipment (that may be procured for projects such as Bharatnet and local state telecom/ IT projects) by the State Governments that need to be MTCTE certified. In this regard, Department of Telecommunications (DoT) has notified the Indian Telegraph (Amendment) Rules, 2017 vide Gazette Notification No G.S.R. 1131(E) dated 5th September 2017 on 'Testing and Certification of Telegraph'. The said notification mandates that *any telegraph (telecom) equipment which is used or capable of being used with Indian telecom network, shall have to undergo prior Mandatory Testing & Certification in respect of parameters as determined by the telegraph authority from time to time.* The above rules have come into force on 1st October 2018. (Copy of Gazette Notification dated 5th September 2017 is available on DoT website <https://dot.gov.in/act-rules>).

2. The objective of said mandatory testing and certification is to ensure:
- That any Telecom Equipment does not degrade performance of existing network to which it is connected;
 - Safety of the end-users;
 - Protection of users and general public by ensuring that radio frequency emissions from equipment do not exceed prescribed standards;
 - That telecom equipment complies with the relevant national and international regulatory standards and requirements and
 - Security of Telecom Network/ Systems.

3. In pursuance to above Rules, Telecommunication Engineering Centre (TEC), the technical body under Department of Telecommunications (DoT) is administrating the implementation of Mandatory Testing & Certification of Telecom Equipment (MTCTE) Scheme. The specific Telecom & Networking product covered under MTCTE scheme is notified by TEC from time to time on MTCTE website (<https://www.mtcte.tec.gov.in>) indicating certification enforcement date.

4. As on date, MTCTE certificate is mandatory for Telecom & Networking product such as Cordless/CLIP/Landline Phone, PABX, FTTH OLT/ONT/ONU used for broadband services etc. prior to their sale/use in India (Annexure-A).

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Further, from 1st January 2024, MTCTE certificate for more products (such as Router, LAN Switch, wifi Access Modems, IoT gateway, Tracking Device, Smart electricity meter, End Point Device for Environmental Monitoring, Optical Fibre, Optical Fibre Cable, Walkie-talkie etc.) will become mandatory as being connected to Telecom network/used for data transfer. The complete list of such notified Telecom product is available on MTCTE website.

Presently, the MTCTE certificate has been issued to more than 3,000 Telecom & Networking product models. The details of MTCTE certified products are available on website (<https://www.mtcte.tec.gov.in> > certified equipment).

5. In view of the above, it is requested to kindly inform about Mandatory Testing & Certification of notified Telecom equipment to IT Department and other concerned departments/Autonomous bodies/attached offices etc., so as to ensure that only MTCTE certified Telecom & Networking products are procured and connected in the Indian Telecom Network as mandated by Indian Telegraph (Amendment) Rules, 2017. Further, the regulatory requirement of obtaining MTCTE certification by OEMs/Importers before sale of notified Telecom & Networking products may also be communicated to Manufacturers/Sellers, who are supplying/selling such Telecom & Networking products.

6. In case of any further details or clarification in this regard, Director (TC-1), TEC, New Delhi may be contacted on e-mail id: dirta.tec@gov.in.

Yours sincerely

Encl: as above



(Neeraj Mittal)

All the Chief Secretaries of State Governments/ UTs

F.N. 6-12/2024-TC/TEC

Government of India

Department of Telecommunications

Telecommunication Engineering Centre

Khurshid Lal Bhawan, Janpath, New Delhi-110001

(Telecom Certification Division)

Dated: 12.12.2024

Subject: Inclusion of MTCTE in the requirements for procurement before deployment in the Indian Telecom Network

Kindly refer to D.O. No. 6-6/2021-TC/TEC dated 17.10.2024 from Secretary(T) regarding the above-mentioned. In continuation to the same, it is to kindly re-iterate that Mandatory Testing and Certification of Telecommunication Equipment ensures performance, safety and protection of the users by complying with relevant national and international standards.

2. As on date, MTCTE Certificate is mandatory for Telecom & Networking equipment such as Cordless/CLIP/Landline Phone, PABX, FTTH OLT/ONT/ ONU used for broadband services, Router, LAN Switch, WiFi Access Points & CPE, Optical Fibre, Optical Fibre Cable, VHF UHF Radio System, IoT Gateway, Tracking Device, Smart Electricity Meter etc. prior to their sale/use in India. The complete list of such notified equipment along with their mandatory certification date is available at Annexure-A, and on MTCTE website (<https://mtcte.tec.gov.in/phaseWiseproductsList>).

3. Presently, the MTCTE certificate has been issued to more than 6,700 Telecom & Networking equipment models. The details of MTCTE Certified equipment are available on MTCTE website (<https://mtcte.tec.gov.in/certified equipments>).

4. In view of the above, it is once again requested to kindly inform your concerned Department/Autonomous bodies/attached offices etc. about MTCTE and include its requirements for procurement/deployment in the Indian Telecom Network as mandated by Indian Telegraph (Amendment) Rules, 2017.

5. In case any further details or clarification in this regard is needed, Director (TC-I), TEC, New Delhi may be contacted on e-mail id: dirta.tec@gov.in.

(Tripti Saxena)

Sr. DDG & Head of TEC

To,
Chief Secretaries of all the States/UTs

Copy to:

- i. Secretary(T), DoT
- ii. Member(S), DoT

List of Telecom products notified under MTCTE along with their effective mandatory certification date

S.N.	Essential Requirement/ Product Name	Product Variant Name	MTCTE Phase	Mandatory date of certification of product under MTCTE
1.	2- Wire Telephone Equipment	2-Line Feature Phone	Phase-1	1st October, 2019
2.	2- Wire Telephone Equipment	CLIP (Calling Line Identification Presentation) Phone	Phase-1	1st October, 2019
3.	2- Wire Telephone Equipment	Coin Box Telephone	Phase-1	1st October, 2019
4.	2- Wire Telephone Equipment	Coin Box Telephone - Table Top Interface	Phase-1	1st October, 2019
5.	2- Wire Telephone Equipment	Electronic Telephone Instrument	Phase-1	1st October, 2019
6.	2- Wire Telephone Equipment	Executive Telephone Systems	Phase-1	1st October, 2019
7.	2- Wire Telephone Equipment	Key Telephone Systems	Phase-1	1st October, 2019
8.	2- Wire Telephone Equipment	Key Telephone Systems with proprietary interface	Phase-1	1st October, 2019
9.	2- Wire Telephone Equipment	NSD (National Subscriber Dialing) or ISD (International Subscriber Dialing) Payphone	Phase-1	1st October, 2019
10.	2- Wire Telephone Equipment	Terminals for connecting to PSTN (Public Switched Telephone Network)	Phase-1	1st October, 2019
11.	G3 Fax Machine	FAX machine with handset	Phase-1	1st October, 2019
12.	G3 Fax Machine	FAX machine without handset	Phase-1	1st October, 2019
13.	Modem	V.90 or V.92 or V.21 to V.34 Modem	Phase-1	1st October, 2019
14.	Cordless Telephone	Cordless Telephone	Phase-1	1st October, 2019
15.	ISDN (Integrated Services Digital Network) Customer Premises Equipment	ISDN Gateway	Phase-1	1st October, 2019
16.	ISDN (Integrated Services Digital Network) Customer Premises Equipment	ISDN NT-1 Network Termination	Phase-1	1st October, 2019
17.	ISDN (Integrated Services Digital Network) Customer Premises Equipment	ISDN Terminal	Phase-1	1st October, 2019
18.	ISDN (Integrated Services Digital Network) Customer Premises Equipment	ISDN Terminal Adapter	Phase-1	1st October, 2019
19.	ISDN (Integrated Services Digital Network) Customer Premises Equipment	Multipoint Conferencing Server	Phase-1	1st October, 2019
20.	ISDN (Integrated Services Digital Network) Customer Premises Equipment	PC card based ISDN Terminal	Phase-1	1st October, 2019
21.	Private Automatic Branch Exchange	Private Automatic Branch Exchange	Phase-1	1st October, 2019
22.	PON (Passive Optical Network) Family of Broadband Equipment	PON OLT (Optical Line Terminal)	Phase-2	1st October, 2020

3.	PON (Passive Optical Network) Family of Broadband Equipment	PON ONT (Optical Network Terminal)	Phase-2	1st October, 2020
24.	PON (Passive Optical Network) Family of Broadband Equipment	PON ONU (Optical Network Unit)	Phase-2	1st October, 2020
25.	Feedback Device	Feedback Device	Phase-2	1st October, 2020
26.	Transmission Terminal Equipment-1	Multiplexing Equipment	Phase-2	1st October, 2020
27.	Transmission Terminal Equipment-1	SDH (Synchronous Digital Hierarchy) Equipment	Phase-2	1st October, 2020
28.	Equipments Operating in 2.4 GHz and 5 GHz Band	PTP PMP Wireless Access Equipment 2.4 or 5 GHz	Phase-3	1st January, 2024
29.	Equipments Operating in 2.4 GHz and 5 GHz Band	Wifi Access Points and CPE (Customer Premises Equipment)	Phase-3	1st January, 2024
30.	Equipments Operating in 2.4 GHz and 5 GHz Band	WLAN Controller Equipment	Phase-3	1st January, 2024
31.	End Point Device for Environmental Monitoring	End Point Device for Environmental Monitoring	Phase-3	1st January, 2024
32.	Repeater for Cellular Network	GSM and WCDMA Repeater	Phase-3	1st April, 2024
33.	Repeater for Cellular Network	GSM Repeater	Phase-3	1st April, 2024
34.	Repeater for Cellular Network	GSM WCDMA and LTE Repeater	Phase-3	1st April, 2024
35.	Repeater for Cellular Network	LTE (Long Term Evolution) Repeater	Phase-3	1st April, 2024
36.	Repeater for Cellular Network	WCDMA (Wideband Code Division Multiple Access) and LTE Repeater	Phase-3	1st April, 2024
37.	Repeater for Cellular Network	WCDMA (Wideband Code Division Multiple Access) Repeater	Phase-3	1st April, 2024
38.	Base Station for Cellular Network	BTS (Base Transceiver Station) for GSM (Global System for Mobile Communication)	Phase-3	1 st August, 2024
39.	Base Station for Cellular Network	BTS with AAS (Advanced Antenna Systems)	Phase-3	1 st August, 2024
40.	Base Station for Cellular Network	BTS with MSR (Multi-Standard Radio) up to 4G	Phase-3	1 st August, 2024
41.	Base Station for Cellular Network	eNodeB for LTE (Long Term Evolution)	Phase-3	1 st August, 2024
42.	Base Station for Cellular Network	NodeB for WCDMA	Phase-3	1 st August, 2024
43.	Compact Cellular Network	BTS CCN	Phase-3	1st January, 2024
44.	Compact Cellular Network	eNodeB CCN	Phase-3	1st January, 2024
45.	Compact Cellular Network	NodeB CCN	Phase-3	1st January, 2024
46.	IoT (Internet of Things) Gateway	IoT Gateway	Phase-3	1st January, 2024
47.	Tracking Device	Asset Tracking Device	Phase-3	1st January, 2024
48.	Tracking Device	Human Tracking Device	Phase-3	1st January, 2024

49.	Tracking Device	Pet Tracking Device	Phase-3	1st January, 2024
50.	Tracking Device	Standalone tracking device for Vehicle	Phase-3	1st January, 2024
51.	Smart Electricity Meter	Smart Electricity Meter	Phase-3	1st October, 2024
52.	Mobile Radio Trunking System	MRTS Base Station - Baseband plus Radio	Phase-4	1st August, 2024
53.	Mobile Radio Trunking System	MRTS Base Station - Radio Only	Phase-4	1st August, 2024
54.	Mobile Radio Trunking System	MRTS Baseband Equipment without Radio	Phase-4	1st August, 2024
55.	Mobile Radio Trunking System	MRTS Fixed Station	Phase-4	1st August, 2024
56.	Mobile Radio Trunking System	MRTS Handheld Portable Station	Phase-4	1st August, 2024
57.	Mobile Radio Trunking System	MRTS Mobile Station	Phase-4	1st August, 2024
58.	Conferencing Equipment	Audio Conference Facility Device	Phase-4	1st January, 2024
59.	Conferencing Equipment	Multi Line Telephone System	Phase-4	1st January, 2024
60.	HF (High Frequency) Radio	HF Base Station - Baseband plus Radio	Phase-4	1st April, 2024
61.	HF (High Frequency) Radio	HF Base Station - Radio Only	Phase-4	1st April, 2024
62.	HF (High Frequency) Radio	HF Baseband Equipment without Radio	Phase-4	1st April, 2024
63.	HF (High Frequency) Radio	HF Fixed Station	Phase-4	1st April, 2024
64.	HF (High Frequency) Radio	HF Handheld Portable Stations	Phase-4	1st April, 2024
65.	HF (High Frequency) Radio	HF Mobile Stations	Phase-4	1st April, 2024
66.	VHF(Very High Frequency) UHF (Ultra High Frequency) Radio System Equipment	VHF UHF Base Station - Baseband plus Radio	Phase-4	1st August, 2024
67.	VHF(Very High Frequency) UHF (Ultra High Frequency) Radio System Equipment	VHF UHF Base Station - Radio Only	Phase-4	1st August, 2024
68.	VHF(Very High Frequency) UHF (Ultra High Frequency) Radio System Equipment	VHF UHF Baseband Equipment without Radio	Phase-4	1st August, 2024
69.	VHF(Very High Frequency) UHF (Ultra High Frequency) Radio System Equipment	VHF UHF Fixed Station	Phase-4	1st August, 2024
70.	VHF(Very High Frequency) UHF (Ultra High Frequency) Radio System Equipment	VHF UHF Handheld Portable Stations	Phase-4	1st August, 2024
71.	VHF(Very High Frequency) UHF (Ultra High Frequency) Radio System Equipment	VHF UHF Mobile Stations	Phase-4	1st August, 2024
72.	PTP (Point to Point) PMP (Point to Multi Point) Microwave Fixed Radio Systems	PTP or PMP Full Outdoor Microwave Systems	Phase-4	1st August, 2024
73.	PTP (Point to Point) PMP (Point to Multi Point) Microwave Fixed Radio Systems	PTP or PMP Split MW Indoor Unit	Phase-4	1st August, 2024

74.	PTP (Point to Point) PMP (Point to Multi Point) Microwave Fixed Radio Systems	PTP or PMP Split MW Outdoor Unit	Phase-4	1 st August, 2024
75.	PTP (Point to Point) PMP (Point to Multi Point) Microwave Fixed Radio Systems	PTP/PMP Split M W System	Phase-4	1 st August, 2024
76.	Media Gateway	Line Media Gateway	Phase-4	1st January, 2024
77.	Media Gateway	Media Gateway	Phase-4	1st January, 2024
78.	Media Gateway	Media Gateway for CPE	Phase-4	1st January, 2024
79.	Signalling Gateway	Signalling Gateway	Phase-4	1st January, 2024
80.	Session Border Controller	Session Border Controller	Phase-4	1st January, 2024
81.	Softswitch	Softswitch	Phase-4	1st January, 2024
82.	DSL(Digital Subscriber Line) Equipments	DSLAM	Phase-4	1st January, 2024
83.	DSL(Digital Subscriber Line) Equipments	DSL Modem	Phase-4	1st January, 2024
84.	Satellite Communication Equipment	Satellite Amplifier	Phase-4	1 st October, 2024
85.	Satellite Communication Equipment	Satellite Baseband Mod or Demod or Controller	Phase-4	1 st October, 2024
86.	Satellite Communication Equipment	Satellite Baseband Modem	Phase-4	1 st October, 2024
87.	Satellite Communication Equipment	Satellite Baseband Modem Controller	Phase-4	1 st October, 2024
88.	Satellite Communication Equipment	Satellite BUC (Block Up Converter)	Phase-4	1 st October, 2024
89.	Satellite Communication Equipment	Satellite IF Transreceiver	Phase-4	1 st October, 2024
90.	Satellite Communication Equipment	Satellite LNA (Low Noise Amplifier)	Phase-4	1 st October, 2024
91.	Satellite Communication Equipment	Satellite LNB(Low Noise Block downconverter)	Phase-4	1 st October, 2024
92.	Satellite Communication Equipment	Satellite Optimisation Equipment	Phase-4	1 st October, 2024
93.	Satellite Communication Equipment	Satellite Radio Frequency Transceiver	Phase-4	1 st October, 2024
94.	Satellite Communication Equipment	VSAT (Very Small Aperture Terminal) Terminals	Phase-4	1 st October, 2024
95.	LAN (Local Area Network) Switch	L2 LAN Switch	Phase-4	1 st August, 2024
96.	LAN (Local Area Network) Switch	L3 LAN Switch	Phase-4	1 st August, 2024
97.	LAN (Local Area Network) Switch	MPLS (Multiprotocol Label Switching) TP (Transport Profile) CEN (Carrier Ethernet Network)Switch	Phase-4	1 st August, 2024
98.	LAN (Local Area Network) Switch	L2 Unmanaged Switch	Phase-4	1 st August, 2024
99.	Router	BNG (Broadband Network Gateway) or BRAS (Broadband Remote Access Server) Router	Phase-4	1 st August, 2024
100.	Router	Cloud Control Capable Router	Phase-4	1 st August, 2024
101.	Router	IPV4 (Internet Protocol v4) Router	Phase-4	1 st August, 2024
102.	Router	IPV6 (Internet Protocol v6) Router	Phase-4	1 st August, 2024
103.	Router	MPLS (Multiprotocol Label Switching) Router	Phase-4	1 st August, 2024

104.	Transmission Terminal Equipment-2	DWDM (Dense wavelength-division multiplexing) Equipment	Phase-4	1st January, 2024
105.	Transmission Terminal Equipment-2	Digital Cross Connect	Phase-4	1st January, 2024
106.	IP (Internet Protocol) Security Equipment	Firewall Equipment	Phase-4	1 st August, 2024
107.	IP (Internet Protocol) Security Equipment	Intrusion Detection System Equipment	Phase-4	1 st August, 2024
108.	IP (Internet Protocol) Security Equipment	Intrusion Prevention System Equipment	Phase-4	1 st August, 2024
109.	IP (Internet Protocol) Security Equipment	Unified Threat Management Equipment	Phase-4	1 st August, 2024
110.	Precision Timing Protocol Grand Master Equipment	Precision Timing Protocol Grand Master Equipment	Phase-4	1st January, 2024
111.	Mobile Management Entity	MME with connectivity to MSC SGSN	Phase-4	1st January, 2024
112.	Mobile Management Entity	MME for LTE	Phase-4	1st January, 2024
113.	Cell Broadcast Centre	CBC for GSM	Phase-4	1st January, 2024
114.	Cell Broadcast Centre	CBC for LTE or LTE-A	Phase-4	1st January, 2024
115.	Cell Broadcast Centre	CBC For UMTS	Phase-4	1st January, 2024
116.	IP Multimedia Conferencing Equipment	IP Multimedia Conferencing Equipment	Phase-4	1st January, 2024
117.	BSC (Base Station Control) RNC (Radio Network Controller)	BSC for GSM	Phase-4	1st January, 2024
118.	BSC (Base Station Control) RNC (Radio Network Controller)	RNC for WCDMA	Phase-4	1st January, 2024
119.	SMLC (Serving Mobile Location Center) or eSMLC (Evolved Serving Mobile Location Center)	eSMLC for LTE	Phase-4	1st January, 2024
120.	SMLC (Serving Mobile Location Center) or eSMLC (Evolved Serving Mobile Location Center)	SMLC for GSM	Phase-4	1st January, 2024
121.	SMLC (Serving Mobile Location Center) or eSMLC (Evolved Serving Mobile Location Center)	SMLC for WCDMA	Phase-4	1st January, 2024
122.	SGSN (Serving GPRS Support Node) or GGSN (Gateway GPRS Support Node)	GGSN	Phase-4	1st January, 2024
123.	SGSN (Serving GPRS Support Node) or GGSN (Gateway GPRS Support Node)	SGSN For GSM	Phase-4	1st January, 2024
124.	SGSN (Serving GPRS Support Node) or GGSN (Gateway GPRS Support Node)	SGSN For LTE	Phase-4	1st January, 2024
125.	SGSN (Serving GPRS Support Node) or GGSN (Gateway GPRS Support Node)	SGSN For WCDMA	Phase-4	1st January, 2024
126.	HLR (Home Location Register) AUC (Authentication Cente) HSS (Home Subscriber Server)	HLR or AUC	Phase-4	1st January, 2024
127.	HLR (Home Location Register) AUC (Authentication Cente) HSS (Home Subscriber Server)	HSS	Phase-4	1st January, 2024
128.	MSC or MSC-S or GMSC or GMSC-S including VLR	MSC-S or GMSC-S	Phase-4	1st January, 2024
129.	MSC or MSC-S or GMSC or GMSC-S including VLR	MSC or GMSC including VLR for GSM	Phase-4	1st January, 2024
130.	MSC or MSC-S or GMSC or GMSC-S including VLR	MSC or GMSC including VLR for WCDMA	Phase-4	1st January, 2024
131.	Infiniband Switch	Infiniband Switch	Phase-4	1st January, 2024
132.	OTA (Over-The-Air) and DM (Device Manager) or FOTA	DM or FOTA	Phase-4	1st January, 2024

	(Firmware Over-The-Air)			
133.	OTA (Over-The-Air) and DM (Device Manager) or FOTA (Firmware Over-The-Air)	OTA	Phase-4	1st January, 2024
134.	SCP (Service Control Point)	SCP	Phase-4	1st January, 2024
135.	OMC(Operations and Maintenance Center) or EMS (Element Management Systems) or NMS (Network Management Systems) or OSS (Operations Support System)	NMS	Phase-4	1st January, 2024
136.	OMC(Operations and Maintenance Center) or EMS (Element Management Systems) or NMS (Network Management Systems) or OSS (Operations Support System)	OMC or EMS	Phase-4	1st January, 2024
137.	S-GW (Serving Gateway) or P-GW (Packet Data Network Gateway)	P-Gateway	Phase-4	1st January, 2024
138.	S-GW (Serving Gateway) or P-GW (Packet Data Network Gateway)	S-Gateway	Phase-4	1st January, 2024
139.	SMSC (Short Message Service Center)	SMSC	Phase-4	1st January, 2024
140.	GMLC (Gateway Mobile Location Centre)	GMLC for GSM or WCDMA	Phase-4	1st January, 2024
141.	GMLC (Gateway Mobile Location Centre)	GMLC for LTE or LTE-A	Phase-4	1st January, 2024
142.	EIR (Equipment Identity Register)	EIR for GSM or WCDMA	Phase-4	1st January, 2024
143.	EIR (Equipment Identity Register)	EIR for LTE	Phase-4	1st January, 2024
144.	Optical Fibre Cable	Hybrid Cable - Optical and Metallic	Phase-4	1st January, 2024
145.	Optical Fibre Cable	Optical Fibre Cable - ADSS on Aerial alignment	Phase-4	1st January, 2024
146.	Optical Fibre Cable	Optical Fibre Cable - ADSS along Power line	Phase-4	1st January, 2024
147.	Optical Fibre Cable	Optical Fibre Cable - Direct Buried	Phase-4	1st January, 2024
148.	Optical Fibre Cable	Optical Fibre Cable - DSA	Phase-4	1st January, 2024
149.	Optical Fibre Cable	Optical Fibre Cable - Duct	Phase-4	1st January, 2024
150.	Optical Fibre Cable	Optical Fibre Cable - In home	Phase-4	1st January, 2024
151.	Optical Fibre Cable	Optical Fibre Cable - Indoor	Phase-4	1st January, 2024
152.	Optical Fibre Cable	Optical Fibre Cable - Indoor/ Outdoor	Phase-4	1st January, 2024
153.	Optical Fibre Cable	Optical Fibre Cable - Micro-Duct	Phase-4	1st January, 2024
154.	Optical Fibre Cable	Optical Fibre Cable - Access Outdoor	Phase-4	1st January, 2024
155.	Optical Fibre Cable	Optical Ground Wire -OPGW	Phase-4	1st January, 2024
156.	SIM (Subscriber Identity Module)	CSIM (CDMA SIM)	Phase-4	1 st August, 2024
157.	SIM (Subscriber Identity Module)	eUICC - Consumer (GSMA compliance) / eSIM-Consumer	Phase-4	1 st August, 2024
158.	SIM (Subscriber Identity Module)	eUICC-M2M (GSMA compliance) / eSIM-M2M	Phase-4	1 st August, 2024
159.	SIM (Subscriber Identity Module)	eUICC -M2M (Non-GSMA compliance)	Phase-4	1 st August, 2024

160.	SIM (Subscriber Identity Module)	SIM- Pluggable form factor	Phase-4	1 st August, 2024
161.	SIM (Subscriber Identity Module)	UICC based ISIM- Pluggable form factor	Phase-4	1 st August, 2024
162.	SIM (Subscriber Identity Module)	USIM- Pluggable form factor	Phase-4	1 st August, 2024
163.	Radio Broadcast Receiver RBR	All Motor vehicle RBRs requiring external power	Phase-4	1st January, 2024
164.	Radio Broadcast Receiver RBR	All RBRs driven with inbuilt power source	Phase-4	1st January, 2024
165.	Radio Broadcast Receiver RBR	Other devices having RBR interface	Phase-4	1st January, 2024
166.	Optical Fibre - Single Mode	Optical Fibre - G.652.D	Phase-4	1st January, 2024
167.	Optical Fibre - Single Mode	Optical Fibre - G.655	Phase-4	1st January, 2024
168.	Optical Fibre - Single Mode	Optical Fibre - G.656	Phase-4	1st January, 2024
169.	Optical Fibre - Single Mode	Optical Fibre - G.657. A1	Phase-4	1st January, 2024
170.	Optical Fibre - Single Mode	Optical Fibre - G.657. A2	Phase-4	1st January, 2024
171.	Optical Fibre - Single Mode	Optical Fibre - G.657. B3	Phase-4	1st January, 2024
172.	Optical Fibre - Single Mode	Optical Fibre -G.654.D	Phase-4	1st January, 2024
173.	Optical Fibre - Single Mode	Optical Fibre -G.654.E	Phase-4	1st January, 2024
174.	Base station for cellular network for 5G	BTS with Multi Standard Radio	Phase-5	1 st October, 2024
175.	Base station for cellular network for 5G	Active Antenna System-OTA	Phase-5	1 st October, 2024
176.	Base station for cellular network for 5G	Base Station 5G NR Type 1C	Phase-5	1 st October, 2024
177.	Base station for cellular network for 5G	Base Station 5G NR Type 1H	Phase-5	1 st October, 2024
178.	Base station for cellular network for 5G	Base Station 5G NR Type 1O	Phase-5	1 st October, 2024
179.	Base station for cellular network for 5G	Base Station 5G NR Type 2O	Phase-5	1 st October, 2024
180.	Base station for cellular network for 5G	Hybrid Active Antenna System	Phase-5	1 st October, 2024
181.	5G Core	AMF (Access and Mobility Management Function)	Phase-5	1st July, 2024
182.	5G Core	AuSF (The Authentication Server Function)	Phase-5	1st July, 2024
183.	5G Core	BSF (Binding Support Function)	Phase-5	1st July, 2024
184.	5G Core	CHF (Charging Function)	Phase-5	1st July, 2024
185.	5G Core	NEF (Network Exposure Function)	Phase-5	1st July, 2024
186.	5G Core	NSSF (Network Slice Selection Function)	Phase-5	1st July, 2024
187.	5G Core	PCF (Policy Control Function)	Phase-5	1st July, 2024
188.	5G Core	SMF (Session Management Function)	Phase-5	1st July, 2024
189.	5G Core	SMSF (Short Message Service Function)	Phase-5	1st July, 2024
190.	5G Core	UDM (Unified Data Management)	Phase-5	1st July, 2024
191.	5G Core	UDR (Unified Data Repository)	Phase-5	1st July, 2024
192.	5G Core	UPF (User Plane Function)	Phase-5	1st July, 2024
193.	Hypervisor	Hypervisor	Phase-5	1 st October, 2024

194.	E-band Fixed Radio Relay System	E-Band MW Full Outdoor System	Phase-5	1st July, 2024
195.	E-band Fixed Radio Relay System	E-Band MW Outdoor System plus Indoor System	Phase-5	1st July, 2024
196.	Converged Multi service Application Access Equipment (C-MSAAE)	C-MSAAE	Phase-5	1st July, 2024
197.	IP (Internet Protocol) Terminal	SIP Terminal	Phase-5	1st October, 2024
198.	Cellular Customer Premises Equipment	Cellular Customer Premises Equipment	Phase-6	24 th August, 2025
199.	Fixed Wireless Phones	Fixed Wireless Phone with VOICE and DATA Facility	Phase-6	24 th August, 2025
200.	Fixed Wireless Phones	Fixed Wireless Phone with Voice Facility only	Phase-6	24 th August, 2025
201.	LAN Switch	Storage Area Network (SAN) Switch	Phase-6	24 th August, 2025
202.	LAN Switch	Fabric Interconnect Switch	Phase-6	24 th August, 2025
203.	IP Security Equipment	Network Security Management Equipment	Phase-6	24 th August, 2025
204.	IP Security Equipment	Network Security Analytics Equipment-Managed		24 th August, 2025
205.	IP Security Equipment	Network Security Analytics Equipment-Unmanaged	Phase-6	24 th August, 2025
206.	IP Security Equipment	Content Security Equipment	Phase-6	24 th August, 2025
207.	IP Security Equipment	DDoS Protection Equipment	Phase-6	24 th August, 2025
208.	IP Security Equipment	Malware Analysis Equipment	Phase-6	24 th August, 2025
209.	IP Security Equipment	Web Application Firewall	Phase-6	24 th August, 2025
210.	Satellite Communication Equipment	NGSO User Terminals	Phase-6	24 th August, 2025
211.	Satellite Communication Equipment	NGSO Integrated Gateway	Phase-6	24 th August, 2025