अनिवार्य आवश्यकताएँ

संख्या : TEC66492003

Essential Requirements

ER No. : TEC66492003

Media Gateway

MTCTE के तहत जारी:
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दूरसंचार अभियांत्रिकी केंद्र

भारत सरकार

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Essential Requirements for:

Media Gateway

Certification Scheme: **GCS** Product Fee Group: **C**

This ER covers all types of Media Gateways

Note: Annexures referred to in this ER are Annexures as mentioned in "Annexures to ERs" No. TEC/SD/DD/TCP-222/02/June19 as updated from time to time and available on MTCTE portal.

This product has the following variants:

1. Media Gateway
2. Line Media Gateway
3. Media Gateway for CPE

1. Variant 1 : Media Gateway

1.1 Parameters Linked with Product Variant

S.No.	Parameter Name	Standard Name
1.1.1	Immunity to AC Voltage Dips and Short Interruptions	TEC EMI EMC Standard EN/IEC:61000-4-11. Annex-B
1.1.2	Conducted And Radiated Emission - Class A	TEC EMI EMC Standard CISPR 22/32 EN55022/32. Annex-B
1.1.3	Immunity to Electrostatic Discharge	TEC EMI EMC Standard EN/IEC:61000-4-2. Annex-B
1.1.4	Immunity to Radiated RF	TEC EMI EMC Standard EN/IEC:61000-4-3. Annex-B
1.1.5	Immunity to DC Voltage Dips and Short Interruptions	EN/IEC:61000-4-29. Annex-B

1.1.6	Immunity to Fast Transients (Burst)	TEC EMI EMC Standard EN/IEC:61000-4-4. Annex-B
1.1.7	Immunity to Surges	TEC EMI EMC Standard EN/IEC:61000-4-5. Annex-B
1.1.8	Immunity to RF Field Induced Conducted Disturbance	TEC EMI EMC Standard EN/IEC:61000-4-6. Annex-B
1.1.9	IT Equipment Safety	IS 13252-1 or IEC:60950-1 or IEC 62368-1. Annex-A1
1.1.10	CCS7 MTP3 Parameters	ITU-T Q.782. Annex-D3
1.1.11	SCTP Parameters Set-A	RFC 4960. Annex-P9
1.1.12	CCS7 MTP2 Parameters	ITU-T Q.781. Annex-D3
1.1.13	IPV4 Parameters Set-A	RFC 791. Annex-P6
1.1.14	MGCP Connection Model	H.248 Cl. 6. Annex-P5
1.1.15	RTP Parameters RFC 3550 Set-B	RFC 3550. Annex-P2
1.1.16	TCP Parameters	RFC 793. Annex-P4
1.1.17	UDP Parameters	RFC 768. Annex-P5
1.1.18	DTMF Parameters Set-A	RFC 4733. Annex-P8

1.2 Interface 1 : 1 G Optical Ethernet

S.No.	Parameter Name	Standard Name
1.2.1	Average Launch power for 1 GE Opt	IEEE 802.3z Cl. 38. Annex-H
1.2.2	Receiver Sensitivity 1 GE Opt	IEEE 802.3z Cl. 38. Annex-H
1.2.3	Wavelength for 1 GE Opt	IEEE 802.3z Cl. 38. Annex-H

1.3 Interface 2 : 10 100 1000 BASE-T Ethernet

S.No.	Parameter Name	Standard Name
1.3.1	Link Speed and Autonegotiation Test GE	IEEE 802.3. Annex-H

1.4 Interface 3 : 10 G Optical Ethernet

S.No.	Parameter Name	Standard Name
1.4.1	Average Launch power for 10 GE Opt	IEEE 802.3ae Cl. 52. Annex-H
1.4.2	Receiver Sensitivity 10 GE Opt	IEEE 802.3ae Cl. 52. Annex-H
1.4.3	Wavelength for 10 GE Opt	IEEE 802.3ae Cl. 52. Annex-H

1.5 Interface 4 : 2 Mbps - E1

S.No.	Parameter Name	Standard Name
1.5.1	Nominal Bit Rate with Tolerance for 2 Mbps Int	ITU-T G.703 / ETSI TBR-4 Cl. 9.2.3. Annex-I
1.5.2	Input Jitter Tolerance for 2 Mbps Int	ITU-T G.823 / ETSI TBR-4. Annex-I
1.5.3	Input Return Loss for 2 Mbps Int	ITU-T G.703 / ETSI TBR-4 Cl. 9.3.1. Annex-I
1.5.4	Output Jitter for 2 Mbps Int	ITU-T G.823 / ETSI TBR-4. Annex-I
1.5.5	Pulse Mask for 2 Mbps Int	ITU-T G.703 / ETSI TBR-4 Cl. 9.2.1. Annex-I

1.6 Interface 5 : STM-1 Electrical

S.No.	Parameter Name	Standard Name
1.6.1	Nominal Bit Rate with Tolerance STM-1 Electrical Int	ITU-T G.703. Annex-K
1.6.2	Input Jitter Tolerance STM-1 Electrical	ITU-T G.825. Annex-K
1.6.3	Input Return Loss for STM-1 Electrical	ITU-T G.703. Annex-K
1.6.4	Output Jitter for STM-1 Electrical Int	ITU-T G.825. Annex-K
1.6.5	Pulse Mask for STM-1 Electrical Int	ITU-T G.703. Annex-K

1.7 Interface 6 : STM-1 Optical with EP

S.No.	Parameter Name	Standard Name
1.7.1	Nominal Bit Rate with Tolerance STM-1 Opt Int	ITU-T G.957. Annex-K
1.7.2	Input Jitter Tolerance for STM-1 Opt	ITU-T G.825. Annex-K
1.7.3	Mean Launched Power for STM-1 Opt Int	ITU-T G.957. Annex-K
1.7.4	Operating Wavelength Range for STM-1 Opt Int	ITU-T G.957. Annex-K
1.7.5	Output Jitter for STM-1 Opt Int	ITU-T G.783 G.825 Annex-K
1.7.6	Receiver Overload for STM-1 Opt Int	ITU-T G.957. Annex-K
1.7.7	Receiver Sensitivity for STM-1 Opt Int	ITU-T G.957. Annex-K
1.7.8	Eye Pattern for STM-1 Opt Int	ITU-T G.957. Annex-K

2. Variant 2 : Line Media Gateway

2.1 Parameters Linked with Product Variant

S.No.	Parameter Name	Standard Name
2.1.1	Immunity to AC Voltage Dips and Short Interruptions	TEC EMI EMC Standard EN/IEC:61000-4-11. Annex-B
2.1.2	Conducted And Radiated Emission - Class A	TEC EMI EMC Standard CISPR 22/32 EN55022/32. Annex-B
2.1.3	Immunity to Electrostatic Discharge	TEC EMI EMC Standard EN/IEC:61000-4-2. Annex-B
2.1.4	Immunity to Radiated RF	TEC EMI EMC Standard EN/IEC:61000-4-3. Annex-B
2.1.5	Immunity to Fast Transients (Burst)	TEC EMI EMC Standard EN/IEC:61000-4-4. Annex-B
2.1.6	Immunity to Surges	TEC EMI EMC Standard EN/IEC:61000-4-5. Annex-B
2.1.7	Immunity to DC Voltage Dips and Short Interruptions	EN/IEC:61000-4-29. Annex-B
2.1.8	Immunity to RF Field Induced Conducted Disturbance	TEC EMI EMC Standard EN/IEC:61000-4-6. Annex-B
2.1.9	IT Equipment Safety	IS 13252-1 or IEC:60950-1 or IEC 62368-1. Annex-A1
2.1.10	RTP Parameters RFC 3550 Set-B	RFC 3550. Annex-P2
2.1.11	Transmission of DTMF signalling	Q.23 Cl. 6 and 7. Annex-D
2.1.12	MGCP Connection Model	H.248 Cl. 6. Annex-P5
2.1.13	SCTP Parameters Set-A	RFC 4960. Annex-P9
2.1.14	SIP Parameters Set-B	RFC 3261. Annex-P1
2.1.15	TCP Parameters	RFC 793. Annex-P4
2.1.16	UDP Parameters	RFC 768. Annex-P5
2.1.17	DTMF Parameters Set-A	RFC 4733. Annex-P8

2.2 Interface 1 : ADSL

S.No.	Parameter Name	Standard Name
2.2.1	Insulation Test for 2 wire Int	ETSI EN 300 001. Annex-D
2.2.2	Bit Rate for ADSL Int	ANSI.T1.413-2. Annex-J1

2.2.3	Impulse Noise Protection for ADSL Int	Annex-J1
2.2.4	Insulation Test for ADSL Int	Annex-J1
2.2.5	Line Port impedance for ADSLx Int	Annex-J1
2.2.6	Loop resistance for ADSLx	ETSI EN 300 001. Annex-J1
2.2.7	PSD for ADSL Int	G.992.3 G992.5. Annex-J1
2.2.8	Transmitted Power At ATU-C for ADSLx Int	Annex-J1

2.3 Interface 2 : VDSL

S.No.	Parameter Name	Standard Name
2.3.1	Insulation Test for 2 wire Int	ETSI EN 300 001. Annex-D
2.3.2	Bit Rate for VDSLx Int	G.993.1 and G993.2. Annex-J1
2.3.3	Line Port impedance for VDSLx Int	Annex-J1
2.3.4	Loop resistance for VDSLx	ETSI EN 300 001. Annex-J1
2.3.5	Profiles for VDSLx	G.993.2(cl 7.2). Annex-J1
2.3.6	PSD for VDSLx Int	G.993.1(cl 6.2). G.993.2(cl 7.2) Ann-A B C. Annex-J1
2.3.7	Return Loss for VDSLx	G.993.1 Cl. 6.5. Annex-J1
2.3.8	Transmitted Power At ATU-C for VDSLx Int	Annex-J1

2.4 Interface 3 : 1 G Optical Ethernet

S.No.	Parameter Name	Standard Name
2.4.1	Average Launch power for 1 GE Opt	IEEE 802.3z Cl. 38. Annex-H
2.4.2	Receiver Sensitivity 1 GE Opt	IEEE 802.3z Cl. 38. Annex-H
2.4.3	Wavelength for 1 GE Opt	IEEE 802.3z Cl. 38. Annex-H

2.5 Interface 4 : 10 100 1000 BASE-T Ethernet

S.No.	Parameter Name	Standard Name
2.5.1	Link Speed and Autonegotiation Test GE	IEEE 802.3. Annex-H

2.6 Interface 5 : 2 Wire Trunk

S.No.	Parameter Name	Standard Name
2.6.1	Transmission of DTMF signalling	Q.23 Cl. 6 and 7. Annex-D

2.6.2	DC Resistance	ETSI TBR-21 Annex-D
2.6.3	Longitudinal Conversion Loss for 2W Trunk Int	Q.552 Cl 2.2.2 Annex- D
2.6.4	Current on Junction/ Trunk line	Annex-D
2.6.5	Resistance to Earth	ETSI TBR-21 Annex-D
2.6.6	Return Loss for 2 W Trunk Int	Q.552 Cl 2.2.1.2 Annex-D

2.7 Interface 6 : ISDN PRI for MGW

S.No.	Parameter Name	Standard Name
2.7.1	Input Jitter Tolerance for PRI	G.823 I.431 ETSI TBR-4. Annex-I
2.7.2	Input Return Loss for PRI	G.703 Cl. 11.3 ETSI TBR-4 Cl. 9.3.1. Annex-I
2.7.3	Output Jitter for PRI	G.823 I.431 ETSI TBR-4. Annex-I
2.7.4	Pulse Mask for PRI	G.703 Cl. 11.2 ETSI TBR-4 Cl. 9.2.1. Annex-I
2.7.5	Layer-III PRI Specification - Call Setup	Q.931. Annex-D1
2.7.6	Layer-III PRI Specification - Call Clearing	Q.931. Annex-D1
2.7.7	Nominal Bit Rate with Tolerance for ISDN PRI	G.703 Cl. 11.1 ETSI TBR-4 Cl. 9.2.3. Annex-I

2.8 Interface 7 : 2 Mbps - E1

S.No.	Parameter Name	Standard Name
2.8.1	Nominal Bit Rate with Tolerance for 2 Mbps Int	ITU-T G.703 / ETSI TBR-4 Cl. 9.2.3. Annex-I
2.8.2	Input Jitter Tolerance for 2 Mbps Int	ITU-T G.823 / ETSI TBR-4. Annex-I
2.8.3	Input Return Loss for 2 Mbps Int	ITU-T G.703 / ETSI TBR-4 Cl. 9.3.1. Annex-I
2.8.4	Output Jitter for 2 Mbps Int	ITU-T G.823 / ETSI TBR-4. Annex-I
2.8.5	Pulse Mask for 2 Mbps Int	ITU-T G.703 / ETSI TBR-4 Cl. 9.2.1. Annex-I

3. Variant 3 : Media Gateway for CPE

3.1 Parameters Linked with Product Variant

S.No.	Parameter Name	Standard Name

3.1.1	Immunity to DC Voltage Dips and Short Interruptions	EN/IEC:61000-4-29. Annex-B
3.1.2	Conducted And Radiated Emission - Class A	TEC EMI EMC Standard CISPR 22/32 EN55022/32. Annex-B
3.1.3	Immunity to Electrostatic Discharge	TEC EMI EMC Standard EN/IEC:61000-4-2. Annex-B
3.1.4	Immunity to Radiated RF	TEC EMI EMC Standard EN/IEC:61000-4-3. Annex-B
3.1.5	Immunity to Fast Transients (Burst)	TEC EMI EMC Standard EN/IEC:61000-4-4. Annex-B
3.1.6	Immunity to Surges	TEC EMI EMC Standard EN/IEC:61000-4-5. Annex-B
3.1.7	Immunity to RF Field Induced Conducted Disturbance	TEC EMI EMC Standard EN/IEC:61000-4-6. Annex-B
3.1.8	Immunity to AC Voltage Dips and Short Interruptions	TEC EMI EMC Standard EN/IEC:61000-4-11. Annex-B
3.1.9	IT Equipment Safety	IS 13252-1 or IEC:60950-1 or IEC 62368-1. Annex-A1
3.1.10	Transmission of DTMF signalling	Q.23 Cl. 6 and 7. Annex-D
3.1.11	IPV4 Parameters Set-A	RFC 791. Annex-P6

3.2 Interface 1 : 2 Wire

S.No.	Parameter Name	Standard Name
3.2.1	Idle State Current for 2 wire Int	ETSI EN 300 001 ETSI TBR-21 Cl. 4.4.1. Annex-D
3.2.2	Insulation Test for 2 wire Int	ETSI EN 300 001. Annex-D
3.2.3	Longitudinal Conversion Loss for 2W Int	Q.552 Cl. 2.2.2. Annex-D
3.2.4	Maximum Loop Current for 2W Int	ETSI EN 300 001 ETSI TBR-21 Cl.4.4.3. Annex-D
3.2.5	Return Loss for 2W Int	Q.552 Cl. 2.2.1.2. Annex-D

3.3 Interface 2 : 10 100 1000 BASE-T Ethernet

S.No.	Parameter Name	Standard Name
3.3.1	Link Speed and Autonegotiation Test GE	IEEE 802.3. Annex-H

3.4 Interface 3 : 10 100 BASE-T Ethernet

S.No.	Parameter Name	Standard Name
3.4.1	Link Speed and Autonegotiation Test FE	IEEE 802.3 Annex-H

3.5 Interface 4 : ISDN PRI for MGW

S.No.	Parameter Name	Standard Name
3.5.1	Input Jitter Tolerance for PRI	G.823 I.431 ETSI TBR-4. Annex-I
3.5.2	Input Return Loss for PRI	G.703 Cl. 11.3 ETSI TBR-4 Cl. 9.3.1. Annex-I
3.5.3	Output Jitter for PRI	G.823 I.431 ETSI TBR-4. Annex-I
3.5.4	Pulse Mask for PRI	G.703 Cl. 11.2 ETSI TBR-4 Cl. 9.2.1. Annex-I
3.5.5	Layer-III PRI Specification - Call Setup	Q.931. Annex-D1
3.5.6	Layer-III PRI Specification - Call Clearing	Q.931. Annex-D1
3.5.7	Nominal Bit Rate with Tolerance for ISDN PRI	G.703 Cl. 11.1 ETSI TBR-4 Cl. 9.2.3. Annex-I