

अनिवार्य आवश्यकताएँ

संख्या : TEC13752108

Essential Requirements

ER No. : TEC13752108

DSL Equipments

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Telecommunication Engineering Centre

Government of India

Khurshid Lal Bhawan, Janpath, New Delhi-110001, INDIA

Essential Requirements for:

DSL Equipments

Certification Scheme: **GCS**

Product Fee Group: **B**

This ER covers all types of DSL Equipment

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. DSL NT Modem
2. DSLAM COT
3. OMSAN

1. Variant 1 : DSL NT Modem

1.1 Parameters Linked with Product Variant

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

1.1.6	Immunity to Radiated RF	TEC EMI EMC Standard EN/IEC:61000-4-3. Annex-B
1.1.7	Immunity to RF Field Induced Conducted Disturbance	TEC EMI EMC Standard EN/IEC:61000-4-6. Annex-B
1.1.8	Immunity to Surges	TEC EMI EMC Standard EN/IEC:61000-4-5. Annex-B
1.1.9	IT Equipment Safety	IS 13252-1 or IEC:60950-1 or IEC 62368-1. Annex-A1
1.1.10	Over Voltage and over Current Protection on 2W	K.21. Annex-D

1.2 Interface 1 : 10 BASE-T Ethernet

S.No.	Parameter Name	Standard Name
1.2.1	Link Speed	IEEE 802.3 Annex-H

1.3 Interface 2 : 2 Wire

S.No.	Parameter Name	Standard Name
1.3.1	Idle State Current for 2 wire Int	ETSI EN 300 001 ETSI TBR-21 Cl. 4.4.1. Annex-D
1.3.2	Insulation Test for 2 wire Int	ETSI EN 300 001. Annex-D
1.3.3	Longitudinal Conversion Loss for 2W Int	Q.552 Cl. 2.2.2. Annex-D
1.3.4	Maximum Loop Current for 2W Int	ETSI EN 300 001 ETSI TBR-21 Cl.4.4.3. Annex-D
1.3.5	Return Loss for 2W Int	Q.552 Cl. 2.2.1.2. Annex-D

1.4 Interface 3 : Fast Ethernet Electrical

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

1.5 Interface 4 : G.FAST

S.No.	Parameter Name	Standard Name
1.5.1	Impulse Noise Protection for G.FAST Int	Annex-J1
1.5.2	Insulation Test for G.FAST Int	Annex-J1

1.5.3	Loop Resistance for G.FAST IntSLx	EN 300 001. Annex-J1
1.5.4	PPPoE for G.FAST Int	RFC 2516. Annex-J1
1.5.5	Profiles for G.FAST Int	G.9700. Annex-J1
1.5.6	PVC Support for G.FAST Int	Annex-J1
1.5.7	Throughput Test for G.FAST Int	Annex-J1
1.5.8	VPI-VCI Support for G.FAST Int	Annex-J1

1.6 Interface 5 : G.HN

S.No.	Parameter Name	Standard Name
1.6.1	Profiles for G.HN Int	G.9960 Cl. 6. Annex-J1
1.6.2	PSD for G.HN	G.9964. Annex-J1

1.7 Interface 6 : Gigabit Ethernet Electrical

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

1.8 Interface 7 : RF Video

S.No.	Parameter Name	Standard Name
1.8.1	RF Video Output Bandwidth	52 + 870 MHz. - 870 MHz. Annex-J2
1.8.2	RF Video Output Level	14 dBmV. Annex-J2
1.8.3	RF Video Output Tilt	0 dB. Annex-J2

1.9 Interface 8 : VDSL

S.No.	Parameter Name	Standard Name
1.9.1	Bit Rate for VDSLx Int	G.993.1 and G993.2. Annex-J1
1.9.2	Insulation Test for 2 wire Int	ETSI EN 300 001. Annex-D
1.9.3	Line Port impedance for VDSLx Int	Annex-J1
1.9.4	Loop resistance for VDSLx	ETSI EN 300 001. Annex-J1
1.9.5	Profiles for VDSLx	G.993.2(cl 7.2). Annex-J1
1.9.6	PSD for VDSLx Int	G.993.1(cl 6.2). G.993.2(cl 7.2) Ann-A B C. Annex-J1
1.9.7	Return Loss for VDSLx	G.993.1 Cl. 6.5. Annex-J1

1.9.8	Transmitted Power At ATU-C for VDSLx Int	Annex-J1
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1.10 Interface 9 : WiFi

S.No.	Parameter Name	Standard Name
1.10.1	2.4 GHz WiFi Radio Conformance	ETSI EN 300 328 or FCC CFR47 pt 15.247 or FCC CFR47 pt 15.249. Annex-G3
1.10.2	5 GHz WiFi Radio Conformance	ETSI EN 301 893 or FCC CFR47 pt 15.407 or FCC CFR47 pt 15.249. Annex-G3
1.10.3	EIRP for Wifi Interface	Latest NFAP and GSRs issued by DoT WPC. Annex-G2
1.10.4	Frequency for WiFi equipments	DoT WPC GSR No. 45(E) 1048(E). Annex-G1

2. Variant 2 : DSLAM COT

2.1 Parameters Linked with Product Variant

S.No.	Parameter Name	Standard Name
2.1.1	Conducted And Radiated Emission - Class B	TEC EMI EMC Standard CISPR 22/32 EN55022/32. Annex-B
2.1.2	DSLAM Functional Test	Annexure J4
2.1.3	Immunity to AC Voltage Dips and Short Interruptions	TEC EMI EMC Standard EN/IEC:61000-4-11. Annex-B
2.1.4	Immunity to DC Voltage Dips and Short Interruptions	EN/IEC:61000-4-29. Annex-B
2.1.5	Immunity to Electrostatic Discharge	TEC EMI EMC Standard EN/IEC:61000-4-2. Annex-B
2.1.6	Immunity to Fast Transients (Burst)	TEC EMI EMC Standard EN/IEC:61000-4-4. Annex-B
2.1.7	Immunity to Radiated RF	TEC EMI EMC Standard EN/IEC:61000-4-3. 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	Immunity to Surges	TEC EMI EMC Standard EN/IEC:61000-4-5. Annex-B
2.1.10	IT Equipment Safety	IS 13252-1 or IEC:60950-1 or IEC 62368-1.

		Annex-A1
2.1.11	Over Voltage and over Current Protection on 2W	K.21. Annex-D

2.2 Interface 1 : 1 G Optical Ethernet

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

2.3 Interface 2 : 10 BASE-T Ethernet

S.No.	Parameter Name	Standard Name
2.3.1	Link Speed	IEEE 802.3 Annex-H

2.4 Interface 3 : 10 G Optical Ethernet

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

2.5 Interface 4 : 2 Wire

S.No.	Parameter Name	Standard Name
2.5.1	Idle State Current for 2 wire Int	ETSI EN 300 001 ETSI TBR-21 Cl. 4.4.1. Annex-D
2.5.2	Insulation Test for 2 wire Int	ETSI EN 300 001. Annex-D
2.5.3	Longitudinal Conversion Loss for 2W Int	Q.552 Cl. 2.2.2. Annex-D
2.5.4	Maximum Loop Current for 2W Int	ETSI EN 300 001 ETSI TBR-21 Cl.4.4.3. Annex-D
2.5.5	Return Loss for 2W Int	Q.552 Cl. 2.2.1.2. Annex-D

2.6 Interface 5 : ADSL

S.No.	Parameter Name	Standard Name
2.6.1	Bit Rate for ADSL Int	ANSI.T1.413-2. Annex-J1

2.6.2	Impulse Noise Protection for ADSL Int	Annex-J1
2.6.3	Insulation Test for 2 wire Int	ETSI EN 300 001. Annex-D
2.6.4	Insulation Test for ADSL Int	Annex-J1
2.6.5	Line Port impedance for ADSLx Int	Annex-J1
2.6.6	Loop resistance for ADSLx	ETSI EN 300 001. Annex-J1
2.6.7	PSD for ADSL Int	G.992.3 G992.5. Annex-J1
2.6.8	Transmitted Power At ATU-C for ADSLx Int	Annex-J1

2.7 Interface 6 : EPON

S.No.	Parameter Name	Standard Name
2.7.1	Operating Wavelength Recv for EPON Int	IEEE 802.3ah. Annex-J2
2.7.2	Operating Wavelength Trans for EPON Int	IEEE 802.3ah. Annex-J2
2.7.3	Opt Output Power for EPON Int at OLT	IEEE 802.3ah. Annex-J2
2.7.4	Opt Output Power for EPON Int at ONT	IEEE 802.3ah. Annex-J2
2.7.5	Receiver Sensitivity for EPON Int at OLT	IEEE 802.3ah. Annex-J2
2.7.6	Receiver Sensitivity for EPON Int at ONT	IEEE 802.3ah. Annex-J2

2.8 Interface 7 : Fast Ethernet Electrical

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

2.9 Interface 8 : G.FAST

S.No.	Parameter Name	Standard Name
2.9.1	Impulse Noise Protection for G.FAST Int	Annex-J1
2.9.2	Insulation Test for G.FAST Int	Annex-J1
2.9.3	Loop Resistance for G.FAST IntSLx	EN 300 001. Annex-J1
2.9.4	PPPoE for G.FAST Int	RFC 2516. Annex-J1
2.9.5	Profiles for G.FAST Int	G.9700. Annex-J1
2.9.6	PVC Support for G.FAST Int	Annex-J1
2.9.7	Throughput Test for G.FAST Int	Annex-J1
2.9.8	VPI-VCI Support for G.FAST Int	Annex-J1

2.10 Interface 9 : G.HN

S.No.	Parameter Name	Standard Name
2.10.1	Profiles for G.HN Int	G.9960 Cl. 6. Annex-J1
2.10.2	PSD for G.HN	G.9964. Annex-J1

2.11 Interface 10 : Gigabit Ethernet Electrical

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

2.12 Interface 11 : NGPON2

S.No.	Parameter Name	Standard Name
2.12.1	Operating Wavelength Recv NGPON2 Int	G.989.2. Annex-J2
2.12.2	Operating Wavelength Trans NGPON2 Int	G.989.2. Annex-J2
2.12.3	Opt Output Power NGPON2 Int at OLT	G.989.2. Annex-J2
2.12.4	Opt Output Power NGPON2 Int at ONT	G.989.2. Annex-J2
2.12.5	Protocol Test for NGPON2 Int	G.989.2 RFC 2544. Annex-J3
2.12.6	Receiver Sensitivity NGPON2 Int at OLT	G.989.2. Annex-J2
2.12.7	Receiver Sensitivity NGPON2 Int at ONT	G.989.2. Annex-J2

2.13 Interface 12 : VDSL

S.No.	Parameter Name	Standard Name
2.13.1	Bit Rate for VDSLx Int	G.993.1 and G993.2. Annex-J1
2.13.2	Insulation Test for 2 wire Int	ETSI EN 300 001. Annex-D
2.13.3	Line Port impedance for VDSLx Int	Annex-J1
2.13.4	Loop resistance for VDSLx	ETSI EN 300 001. Annex-J1
2.13.5	Profiles for VDSLx	G.993.2(cl 7.2). Annex-J1
2.13.6	PSD for VDSLx Int	G.993.1(cl 6.2). G.993.2(cl 7.2) Ann-A B C. Annex-J1
2.13.7	Return Loss for VDSLx	G.993.1 Cl. 6.5. Annex-J1
2.13.8	Transmitted Power At ATU-C for VDSLx Int	Annex-J1

2.14 Interface 13 : WDMPON

S.No.	Parameter Name	Standard Name
2.14.1	Operating Wavelength Recv WDMPON Int	G.694.1. Annex-J2
2.14.2	Operating Wavelength Trans WDMPON Int	G.694.1. Annex-J2
2.14.3	Opt Output Power WDMPON Int at OLT	G.694.1. Annex-J2
2.14.4	Opt Output Power WDMPON Int at ONT	G.694.1. Annex-J2
2.14.5	Protocol test for WDMPON Int	G.698.3. Annex-J3
2.14.6	Receiver Sensitivity WDMPON Int at OLT	G.694.1. Annex-J2
2.14.7	Receiver Sensitivity WDMPON Int at ONT	G.694.1. Annex-J2

2.15 Interface 14 : XGPON

S.No.	Parameter Name	Standard Name
2.15.1	Operating Wavelength Recv for XGPON Int	G.987.2. Annex-J2
2.15.2	Operating Wavelength Trans for XGPON Int	G.987.2. Annex-J2
2.15.3	Opt Output Power XGPON Int at OLT	G.987.2. Annex-J2
2.15.4	Opt Output Power XGPON Int at ONT	G.987.2. Annex-J2
2.15.5	Protocol test for XGPON Int	G.987.2 XGEM. Annex-J3
2.15.6	Receiver Sensitivity XGPON Int at OLT	G.987.2. Annex-J2
2.15.7	Receiver Sensitivity XGPON Int at ONT	G.987.2. Annex-J2

2.16 Interface 15 : XGSPON

S.No.	Parameter Name	Standard Name
2.16.1	Operating Wavelength Recv XGSPON Int	G.9807.1. Annex-J2
2.16.2	Operating Wavelength Trans XGSPON Int	G.9807.1. Annex-J2
2.16.3	Opt Output Power XGSPON Int at OLT	G.9807.1. Annex-J2
2.16.4	Opt Output Power XGSPON Int at ONT	G.9807.1. Annex-J2
2.16.5	Protocol Test for XGSPON Int	G.9807.1 XGEM. Annex-J3
2.16.6	Receiver Sensitivity XGSPON Int at OLT	G.9807.1. Annex-J2
2.16.7	Receiver Sensitivity XGSPON Int at ONT	G.9807.1. Annex-J2

3. Variant 3 : OMSAN

3.1 Parameters Linked with Product Variant

S.No.	Parameter Name	Standard Name
3.1.1	Conducted And Radiated Emission - Class B	TEC EMI EMC Standard CISPR 22/32 EN55022/32. Annex-B
3.1.2	Immunity to AC Voltage Dips and Short Interruptions	TEC EMI EMC Standard EN/IEC:61000-4-11. Annex-B
3.1.3	Immunity to DC Voltage Dips and Short Interruptions	EN/IEC:61000-4-29. Annex-B
3.1.4	Immunity to Electrostatic Discharge	TEC EMI EMC Standard EN/IEC:61000-4-2. 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 Radiated RF	TEC EMI EMC Standard EN/IEC:61000-4-3. 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 Surges	TEC EMI EMC Standard EN/IEC:61000-4-5. Annex-B
3.1.9	IT Equipment Safety	IS 13252-1 or IEC:60950-1 or IEC 62368-1. Annex-A1

3.2 Interface 1 : 1 G Optical Ethernet

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

3.3 Interface 2 : 10 BASE-T Ethernet

S.No.	Parameter Name	Standard Name
3.3.1	Link Speed	IEEE 802.3 Annex-H

3.4 Interface 3 : 10 G Optical Ethernet

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

3.5 Interface 4 : ADSL

S.No.	Parameter Name	Standard Name
3.5.1	Bit Rate for ADSL Int	ANSI.T1.413-2. Annex-J1
3.5.2	Impulse Noise Protection for ADSL Int	Annex-J1
3.5.3	Insulation Test for 2 wire Int	ETSI EN 300 001. Annex-D
3.5.4	Insulation Test for ADSL Int	Annex-J1
3.5.5	Line Port impedance for ADSLx Int	Annex-J1
3.5.6	Loop resistance for ADSLx	ETSI EN 300 001. Annex-J1
3.5.7	PSD for ADSL Int	G.992.3 G992.5. Annex-J1
3.5.8	Transmitted Power At ATU-C for ADSLx Int	Annex-J1

3.6 Interface 5 : EPON

S.No.	Parameter Name	Standard Name
3.6.1	Operating Wavelength Recv for EPON Int	IEEE 802.3ah. Annex-J2
3.6.2	Operating Wavelength Trans for EPON Int	IEEE 802.3ah. Annex-J2
3.6.3	Opt Output Power for EPON Int at OLT	IEEE 802.3ah. Annex-J2
3.6.4	Opt Output Power for EPON Int at ONT	IEEE 802.3ah. Annex-J2
3.6.5	Receiver Sensitivity for EPON Int at OLT	IEEE 802.3ah. Annex-J2
3.6.6	Receiver Sensitivity for EPON Int at ONT	IEEE 802.3ah. Annex-J2

3.7 Interface 6 : Fast Ethernet Electrical

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

3.8 Interface 7 : G.FAST

S.No.	Parameter Name	Standard Name
3.8.1	Impulse Noise Protection for G.FAST Int	Annex-J1
3.8.2	Insulation Test for G.FAST Int	Annex-J1

3.8.3	Loop Resistance for G.FAST IntSLx	EN 300 001. Annex-J1
3.8.4	PPPoE for G.FAST Int	RFC 2516. Annex-J1
3.8.5	Profiles for G.FAST Int	G.9700. Annex-J1
3.8.6	PVC Support for G.FAST Int	Annex-J1
3.8.7	Throughput Test for G.FAST Int	Annex-J1
3.8.8	VPI-VCI Support for G.FAST Int	Annex-J1

3.9 Interface 8 : G.HN

S.No.	Parameter Name	Standard Name
3.9.1	Profiles for G.HN Int	G.9960 Cl. 6. Annex-J1
3.9.2	PSD for G.HN	G.9964. Annex-J1

3.10 Interface 9 : Gigabit Ethernet Electrical

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

3.11 Interface 10 : NGPON2

S.No.	Parameter Name	Standard Name
3.11.1	Operating Wavelength Recv NGPON2 Int	G.989.2. Annex-J2
3.11.2	Operating Wavelength Trans NGPON2 Int	G.989.2. Annex-J2
3.11.3	Opt Output Power NGPON2 Int at OLT	G.989.2. Annex-J2
3.11.4	Opt Output Power NGPON2 Int at ONT	G.989.2. Annex-J2
3.11.5	Protocol Test for NGPON2 Int	G.989.2 RFC 2544. Annex-J3
3.11.6	Receiver Sensitivity NGPON2 Int at OLT	G.989.2. Annex-J2
3.11.7	Receiver Sensitivity NGPON2 Int at ONT	G.989.2. Annex-J2

3.12 Interface 11 : RF Video

S.No.	Parameter Name	Standard Name
3.12.1	RF Video Output Bandwidth	52 + 870 MHz. - 870 MHz. Annex-J2
3.12.2	RF Video Output Level	14 dBmV. Annex-J2
3.12.3	RF Video Output Tilt	0 dB. Annex-J2

3.13 Interface 12 : VDSL

S.No.	Parameter Name	Standard Name
3.13.1	Bit Rate for VDSLx Int	G.993.1 and G993.2. Annex-J1
3.13.2	Insulation Test for 2 wire Int	ETSI EN 300 001. Annex-D
3.13.3	Line Port impedance for VDSLx Int	Annex-J1
3.13.4	Loop resistance for VDSLx	ETSI EN 300 001. Annex-J1
3.13.5	Profiles for VDSLx	G.993.2(cl 7.2). Annex-J1
3.13.6	PSD for VDSLx Int	G.993.1(cl 6.2). G.993.2(cl 7.2) Ann-A B C. Annex-J1
3.13.7	Return Loss for VDSLx	G.993.1 Cl. 6.5. Annex-J1
3.13.8	Transmitted Power At ATU-C for VDSLx Int	Annex-J1

3.14 Interface 13 : WDMPON

S.No.	Parameter Name	Standard Name
3.14.1	Operating Wavelength Recv WDMPON Int	G.694.1. Annex-J2
3.14.2	Operating Wavelength Trans WDMPON Int	G.694.1. Annex-J2
3.14.3	Opt Output Power WDMPON Int at OLT	G.694.1. Annex-J2
3.14.4	Opt Output Power WDMPON Int at ONT	G.694.1. Annex-J2
3.14.5	Protocol test for WDMPON Int	G.698.3. Annex-J3
3.14.6	Receiver Sensitivity WDMPON Int at OLT	G.694.1. Annex-J2
3.14.7	Receiver Sensitivity WDMPON Int at ONT	G.694.1. Annex-J2

3.15 Interface 14 : XGPON

S.No.	Parameter Name	Standard Name
3.15.1	Operating Wavelength Recv for XGPON Int	G.987.2. Annex-J2
3.15.2	Operating Wavelength Trans for XGPON Int	G.987.2. Annex-J2
3.15.3	Opt Output Power XGPON Int at OLT	G.987.2. Annex-J2
3.15.4	Opt Output Power XGPON Int at ONT	G.987.2. Annex-J2
3.15.5	Protocol test for XGPON Int	G.987.2 XGEM. Annex-J3
3.15.6	Receiver Sensitivity XGPON Int at OLT	G.987.2. Annex-J2
3.15.7	Receiver Sensitivity XGPON Int at ONT	G.987.2. Annex-J2

3.16 Interface 15 : XGSPON

S.No.	Parameter Name	Standard Name
3.16.1	Operating Wavelength Recv XGSPON Int	G.9807.1. Annex-J2
3.16.2	Operating Wavelength Trans XGSPON Int	G.9807.1. Annex-J2
3.16.3	Opt Output Power XGSPON Int at OLT	G.9807.1. Annex-J2
3.16.4	Opt Output Power XGSPON Int at ONT	G.9807.1. Annex-J2
3.16.5	Protocol Test for XGSPON Int	G.9807.1 XGEM. Annex-J3
3.16.6	Receiver Sensitivity XGSPON Int at OLT	G.9807.1. Annex-J2
3.16.7	Receiver Sensitivity XGSPON Int at ONT	G.9807.1. Annex-J2