

58.11.3 Major capabilities/options

Item	Feature	Subclause	Value/Comment	Status	Support
*MD	MDIO capability	58.2	Registers and interface supported.	O	Yes [] No []
*PCS	PCS and PMA	58.1	Clause 36 PCS and PMA supported	M	Yes [] No []
*HT	High temperature operation	58.1	XX to YY °C	O	Yes [] No []
*LT	Low temperature operation	58.1	WW to ZZ °C	O	Yes [] No []
*PX10	1000BASE-PX10-D or 1000BASE-PX10-U PMD	58.3	Device supports 10km	O/1	Yes [] No []
*PX20	1000BASE-PX20-D or 1000BASE-PX20-U PMD	58.4	Device supports 20km	O/1	Yes [] No []
*INS	Installation / Cable	58.4.1	Items marked with INS include installation practices and cable specifications not applicable to a PHY manufacturer.	O	Yes [] No []

Editors' Note: To be removed prior to final publication.
The temperature limit values of XX, YY, WW and ZZ in the above table are for discussion in the STF

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58.11.4 PICS proforma tables for Physical Medium Dependent (PMD) sublayer and base-band medium, type 1000BASE-PX10-D (PON OLT PX10), 1000BASE-PX10-U (PON ONU PX10), 1000BASE-PX20-D (PON OLT PX20) and 1000BASE-PX20-U (PON ONU PX20)

58.11.4.1 PMD functional specifications

Item	Feature	Subclause	Value/Comment	Status	Support
FS1	Transmit function	58.3.2	Conveys bits from PMD service interface to MDI	M	Yes [] No []
FS2	Transmitter optical signal	58.3.2	Higher optical power transmitted is a logic 1	M	Yes [] No []
FS3	Receive function	58.3.3	Conveys bits from MDI to PMD service interface	M	Yes [] No []
FS4	Receiver optical signal	58.3.3	Higher optical power received is a logic 1	M	Yes [] No []
FS5	Signal detect function (downstream)	58.3.4.1	Mapping to PMD service interface	M	Yes [] No []
FS6	Signal detect parameter (downstream)	58.3.4.1	Generated according to Table 58-5 and Table 58-7	M	Yes [] No []
FS8	Signal detect parameter (upstream)	58.3.4.2	Generated according to Table 58-5 and Table 58-6	M	Yes [] No []

58.11.4.2 Management functions

Item	Feature	Subclause	Value/Comment	Status	Support
MD1	Signal indicate parameter	58.1.4.4	Set to value of SIGNAL_DETECT	MD:M	Yes [] No []

58.11.4.3 PMD to MDI optical specifications for 1000BASE-PX10

Item	Feature	Subclause	Value/Comment	Status	Support
PX10: TX	1000BASE-PX10-D 1000BASE-PX10-U Transmit	58.4.1	Meets specifications in Table 58-5	PX10:M	Yes [] N/A []
PX10: SW	1000BASE-PX10-D and 1000BASE-PX10-U RMS spectral width	58.4.1	Meets specifications in Figure 58-3 and Table 58-6	PX10:M	Yes [] N/A []
PX10: RX	1000BASE-PX10-D 1000BASE-PX10-U Receive	58.4.2	Meets specifications in Table 58-7	PX10:M	Yes [] N/A []

58.11.4.4 PMD to MDI optical specifications for 1000BASE-PX20

Item	Feature	Subclause	Value/Comment	Status	Support
PX20: TX	1000BASE-PX20-D and 1000BASE-PX20-U Transmit	58.5.1	Meets specifications in Table 58-8	PX20:M	Yes [] N/A []
PX20: EYE	1000BASE-PX20-D and 1000BASE-PX20-U TX Eye	58.5.1	Meets specifications in 58.8.8 and Figure 58-5	PX20:M	Yes [] N/A []
PX20: SW	1000BASE-PX20-D and 1000BASE-PX20-U RMS spectral width	58.5.1	Meets specifications in Figure 58-4 and Figure 58-9	PX20:M	Yes [] N/A []
PX20: RX	1000BASE-PX20-D and 1000BASE-PX20-U Receive	58.5.2	Meets specifications in Figure 58-10	PX20:M	Yes [] N/A []

58.11.4.5 Optical measurement requirements

Item	Feature	Subclause	Value/Comment	Status	Support
OM1	Measurement cable	58.8	2 to 5 meters in length	M	Yes []
OM2	Wavelength and spectral width measurement	58.8.2	Measured using an optical spectrum analyzer per TIA/EIA-455-127 under modulated conditions	M	Yes []
OM3	Average optical power	58.8.3	Measured using the methods specified in TIA/EIA-455-95[B7]	M	Yes []
OM4	Extinction ratio	58.8.4	Measured using the methods specified in ANSI/TIA/EIA-526-4A-1997 [B13]	M	Yes []
OM5	OMA measurement bandwidth	58.8.6	As described in 60.7.6 *ref*	M	Yes []
OM6	RIN _x OMX	58.8.7	As described in 60.8.7 *ref*	M	Yes []
OM7	Transmit eye	58.8.8	Eye must be measured with respect to mask and using Bessel Thomson filter	M	Yes []
OM8	Transmitter and dispersion penalty measurements	58.8.9	As described in 60.8.9 *ref*	M	Yes []
OM9	Receive sensitivity measurements	58.8.10	Measured with worst case extinction ratio	M	Yes []
OM10	Receive sensitivity measurements	58.8.10	Measured at TP3 with conformance signal per 59.8.13	M	Yes []
OM11	Receive sensitivity measurements	58.8.10	Meet conditions from Table 58-7 and Table 58-10	M	Yes []

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58.11.4.6 Characteristics of the fiber optic cabling and MDI

Item	Feature	Subclause	Value/Comment	Status	Support
FO1	Fiber optic cabling	58.10	Specified in Table 58–18	INS:M	Yes []
FO4	Maximum discrete reflectance - singlemode fiber	58.10.2	Less than -26 dB	INS:M	Yes [] N/A []

58.11.4.7 Environmental specifications

Item	Feature	Subclause	Value/Comment	Status	Support
ES1	General safety	58.9.1	Conforms to IEC-60950	M	Yes []
ES2	Laser safety —IEC Class 1	58.9.2	Conform to Class 1 laser requirements defined in IEC 60825-1	M	Yes []
ES3	Documentation	58.9.2	Explicitly defines requirements and usage restrictions to meet safety certifications	M	Yes []
ES4	Operating temperature range labelling	58.9.5		M	Yes []