

141.10 Protocol implementation conformance statement (PICS) proforma for Clause 141, Physical Medium Dependent (PMD) sublayer and medium for Nx25G-EPON passive optical networks¹

141.10.1 Introduction

The supplier of a protocol implementation that is claimed to conform to Clause 141, Physical Medium Dependent (PMD) sublayer and medium for Nx25G-EPON passive optical networks, shall complete the following protocol implementation conformance statement (PICS) proforma.

A detailed description of the symbols used in the PICS proforma, along with instructions for completing the PICS proforma, can be found in [Clause 21](#).

141.10.2 Identification

141.10.2.1 Implementation identification

Supplier ¹	
Contact point for enquiries about the PICS ¹	
Implementation Name(s) and Version(s) ^{1,3}	
Other information necessary for full identification—e.g., name(s) and version(s) for machines and/or operating systems; System Name(s) ²	
NOTE 1—Required for all implementations. NOTE 2—May be completed as appropriate in meeting the requirements for the identification. NOTE 3—The terms Name and Version should be interpreted appropriately to correspond with a supplier's terminology (e.g., Type, Series, Model).	

141.10.2.2 Protocol summary

Identification of protocol standard	IEEE Std 802.3ca-201x, Clause 141, Physical Medium Dependent (PMD) sublayer and medium for Nx25G-EPON passive optical networks
Identification of amendments and corrigenda to this PICS proforma that have been completed as part of this PICS	
Have any Exception items been required? No [] Yes [] (See Clause 21 ; the answer Yes means that the implementation does not conform to IEEE Std 802.3ca-201x.)	

Date of Statement	
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141.10.3 Major capabilities/options

¹Copyright release for PICS proformas: Users of this standard may freely reproduce the PICS proforma in this subclause so that it can be used for its intended purpose and may further publish the completed PICS.

Item	Feature	Subclause	Value/Comment	Status	Support
HT	High temperature operation	141.8.4	-5 °C to 85 °C	O	Yes [] No []
LT	Low temperature operation	141.8.4	-40 °C to 60 °C	O	Yes [] No []
*PQG2510U2	25/10GBASE-PQG-U2 PHY or 25/10GBASE-PQG-U2 PMD	141.6	Maximum channel insertion loss of 24 dB, coexistence with GPON	O.1	Yes [] No []
*PQG2510D2	25/10GBASE-PQG-D2 PHY or 25/10GBASE-PQG-D2 PMD	141.5	Maximum channel insertion loss of 24 dB, coexistence with GPON	O.1	Yes [] No []
*PQG2510U3	25/10GBASE-PQG-U3 PHY or 25/10GBASE-PQG-U3 PMD	141.6	Maximum channel insertion loss of 29 dB, coexistence with GPON	O.1	Yes [] No []
*PQG2510D3	25/10GBASE-PQG-D3 PHY or 25/10GBASE-PQG-D3 PMD	141.5	Maximum channel insertion loss of 29 dB, coexistence with GPON	O.1	Yes [] No []
*PQX2510U2	25/10GBASE-PQX-U2 PHY or 25/10GBASE-PQX-U2 PMD	141.6	Maximum channel insertion loss of 24 dB, coexistence with 10G-EPON	O.1	Yes [] No []
*PQX2510D2	25/10GBASE-PQX-D2 PHY or 25/10GBASE-PQX-D2 PMD	141.5	Maximum channel insertion loss of 24 dB, coexistence with 10G-EPON	O.1	Yes [] No []
*PQX2510U3	25/10GBASE-PQX-U3 PHY or 25/10GBASE-PQX-U3 PMD	141.6	Maximum channel insertion loss of 29 dB, coexistence with 10G-EPON	O.1	Yes [] No []
*PQX2510D3	25/10GBASE-PQX-D3 PHY or 25/10GBASE-PQX-D3 PMD	141.5	Maximum channel insertion loss of 29 dB, coexistence with 10G-EPON	O.1	Yes [] No []
*PQG25U2	25GBASE-PQG-U2 PHY or 25GBASE-PQG-U2 PMD	141.6	Maximum channel insertion loss of 24 dB, coexistence with GPON	O.1	Yes [] No []
*PQG25D2	25GBASE-PQG-D2 PHY or 25GBASE-PQG-D2 PMD	141.5	Maximum channel insertion loss of 24 dB, coexistence with GPON	O.1	Yes [] No []
*PQG25U3	25GBASE-PQG-U3 PHY or 25GBASE-PQG-U3 PMD	141.6	Maximum channel insertion loss of 29 dB, coexistence with GPON	O.1	Yes [] No []
*PQG25D3	25GBASE-PQG-D3 PHY or 25GBASE-PQG-D3 PMD	141.5	Maximum channel insertion loss of 29 dB, coexistence with GPON	O.1	Yes [] No []
*PQX25U2	25GBASE-PQX-U2 PHY or 25GBASE-PQX-U2 PMD	141.6	Maximum channel insertion loss of 24 dB, coexistence with 10G-EPON	O.1	Yes [] No []
*PQX25D2	25GBASE-PQX-D2 PHY or 25GBASE-PQX-D2 PMD	141.5	Maximum channel insertion loss of 24 dB, coexistence with 10G-EPON	O.1	Yes [] No []
*PQX25U3	25GBASE-PQX-U3 PHY or 25GBASE-PQX-U3 PMD	141.6 2	Maximum channel insertion loss of 29 dB, coexistence with 10G-EPON	O.1	Yes [] No []

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Item	Feature	Subclause	Value/Comment	Status	Support
*PQX25D3	25GBASE-PQX-D3 PHY or 25GBASE-PQX-D3 PMD	141.5	Maximum channel insertion loss of 29 dB, coexistence with 10G-EPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQG5010U2	50/10GBASE-PQG-U2 PHY or 50/10GBASE-PQG-U2 PMD	141.6	Maximum channel insertion loss of 24 dB, coexistence with GPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQG5010D2	50/10GBASE-PQG-D2 PHY or 50/10GBASE-PQG-D2 PMD	141.5	Maximum channel insertion loss of 24 dB, coexistence with GPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQG5010U3	50/10GBASE-PQG-U3 PHY or 50/10GBASE-PQG-U3 PMD	141.6	Maximum channel insertion loss of 29 dB, coexistence with GPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQG5010D3	50/10GBASE-PQG-D3 PHY or 50/10GBASE-PQG-D3 PMD	141.5	Maximum channel insertion loss of 29 dB, coexistence with GPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQX5010U2	50/10GBASE-PQX-U2 PHY or 50/10GBASE-PQX-U2 PMD	141.6	Maximum channel insertion loss of 24 dB, coexistence with 10G-EPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQX5010D2	50/10GBASE-PQX-D2 PHY or 50/10GBASE-PQX-D2 PMD	141.5	Maximum channel insertion loss of 24 dB, coexistence with 10G-EPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQX5010U3	50/10GBASE-PQX-U3 PHY or 50/10GBASE-PQX-U3 PMD	141.6	Maximum channel insertion loss of 29 dB, coexistence with 10G-EPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQX5010D3	50/10GBASE-PQX-D3 PHY or 50/10GBASE-PQX-D3 PMD	141.5	Maximum channel insertion loss of 29 dB, coexistence with 10G-EPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQG5025U2	50/25GBASE-PQG-U2 PHY or 50/25GBASE-PQG-U2 PMD	141.6	Maximum channel insertion loss of 24 dB, coexistence with GPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQG5025D2	50/25GBASE-PQG-D2 PHY or 50/25GBASE-PQG-D2 PMD	141.5	Maximum channel insertion loss of 24 dB, coexistence with GPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQG5025U3	50/25GBASE-PQG-U3 PHY or 50/25GBASE-PQG-U3 PMD	141.6	Maximum channel insertion loss of 29 dB, coexistence with GPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQG5025D3	50/25GBASE-PQG-D3 PHY or 50/25GBASE-PQG-D3 PMD	141.5	Maximum channel insertion loss of 29 dB, coexistence with GPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQX5025U2	50/25GBASE-PQX-U2 PHY or 50/25GBASE-PQX-U2 PMD	141.6	Maximum channel insertion loss of 24 dB, coexistence with 10G-EPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQX5025D2	50/25GBASE-PQX-D2 PHY or 50/25GBASE-PQX-D2 PMD	141.5	Maximum channel insertion loss of 24 dB, coexistence with 10G-EPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>
*PQX5025U3	50/25GBASE-PQX-U3 PHY or 50/25GBASE-PQX-U3 PMD	141.6	Maximum channel insertion loss of 29 dB, coexistence with 10G-EPON	O.1	Yes [<input type="checkbox"/> No [<input type="checkbox"/>

Item	Feature	Subclause	Value/Comment	Status	Support
*PQX5025D3	50/25GBASE-PQX-D3 PHY or 50/25GBASE-PQX-D3 PMD	141.5	Maximum channel insertion loss of 29 dB, coexistence with 10G-EPON	O.1	Yes [] No []
*PQG50U2	50GBASE-PQG-U2 PHY or 50GBASE-PQG-U2 PMD	141.6	Maximum channel insertion loss of 24 dB, coexistence with GPON	O.1	Yes [] No []
*PQG50D2	50GBASE-PQG-D2 PHY or 50GBASE-PQG-D2 PMD	141.5	Maximum channel insertion loss of 24 dB, coexistence with GPON	O.1	Yes [] No []
*PQG50U3	50GBASE-PQG-U3 PHY or 50GBASE-PQG-U3 PMD	141.6	Maximum channel insertion loss of 29 dB, coexistence with GPON	O.1	Yes [] No []
*PQG50D3	50GBASE-PQG-D3 PHY or 50GBASE-PQG-D3 PMD	141.5	Maximum channel insertion loss of 29 dB, coexistence with GPON	O.1	Yes [] No []
*PQX50U2	50GBASE-PQX-U2 PHY or 50GBASE-PQX-U2 PMD	141.6	Maximum channel insertion loss of 24 dB, coexistence with 10G-EPON	O.1	Yes [] No []
*PQX50D2	50GBASE-PQX-D2 PHY or 50GBASE-PQX-D2 PMD	141.5	Maximum channel insertion loss of 24 dB, coexistence with 10G-EPON	O.1	Yes [] No []
*PQX50U3	50GBASE-PQX-U3 PHY or 50GBASE-PQX-U3 PMD	141.6	Maximum channel insertion loss of 29 dB, coexistence with 10G-EPON	O.1	Yes [] No []
*PQX50D3	50GBASE-PQX-D3 PHY or 50GBASE-PQX-D3 PMD	141.5	Maximum channel insertion loss of 29 dB, coexistence with 10G-EPON	O.1	Yes [] No []
*INS	Installation/Cable	141.9	Items marked with INS include installation practices and cable specifications not applicable to a PHY manufacturer	O	Yes [] No []

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141.10.4 PICS proforma tables for Physical Medium Dependent (PMD) sublayer and medium for passive optical networks, type 25/10GBASE-PQ, 25GBASE-PQ, 50/10GBASE-PQ, 50/25GBASE-PQ, and 50GBASE-PQ

141.10.4.1 PMD functional specifications

Item	Feature	Subclause	Value/Comment	Status	Support
FN1	Transmit function	141.3.3	Conveys bits from PMD service interface to MDI	M	Yes []
FN2	Transmitter optical signal	141.3.3	Higher optical power transmitted is a logic 1	M	Yes []
FN3	Receive function	141.3.4	Conveys bits from MDI to PMD service interface	M	Yes []
FN4	Receiver optical signal	141.3.4	Higher optical power received is a logic 1	M	Yes []
FN5	ONU signal detect function	141.3.5.1	Mapping to PMD service interface	M	Yes []
FN6	ONU signal detect parameter	141.3.5.1	Generated according to Table 141–10	M	Yes []
FN7	OLT signal detect function	141.3.5.2	Mapping to PMD service interface	O/2	Yes []
FN8	OLT signal detect function	141.3.5.2	Provided by higher layer	O/2	Yes []
FN9	OLT signal detect parameter	141.3.5.2	Generated according to Table 141–10	O	Yes []

141.10.4.2 PMD to MDI optical specifications for 25/10GBASE-PQG-D2

Item	Feature	Subclause	Value/Comment	Status	Support
PQG2510D2F1	25/10GBASE-PQG-D2 transmitter	141.5.1	Meets specifications in Table 141–13	PQG2510D2:M	Yes [] N/A []
PQG2510D2F2	25/10GBASE-PQG-D2 receiver	141.5.2	Meets specifications in Table 141–15	PQG2510D2:M	Yes [] N/A []
PQG2510D2F3	25/10GBASE-PQG-D2 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–15 then label accordingly	PQG2510D2:M	Yes [] N/A []

141.10.4.3 PMD to MDI optical specifications for 25/10GBASE-PQG-D3

Item	Feature	Subclause	Value/Comment	Status	Support
PQG2510D3F1	25/10GBASE-PQG-D3 transmitter	141.5.1	Meets specifications in Table 141–14	PQG2510D3:M	Yes [] N/A []
PQG2510D3F2	25/10GBASE-PQG-D3 receiver	141.5.2	Meets specifications in Table 141–16	PQG2510D3:M	Yes [] N/A []
PQG2510D3F3	25/10GBASE-PQG-D3 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–16 then label accordingly	PQG2510D3:M	Yes [] N/A []

141.10.4.4 PMD to MDI optical specifications for 25/10GBASE-PQX-D2

Item	Feature	Subclause	Value/Comment	Status	Support
PQX2510D2F1	25/10GBASE-PQX-D2 transmitter	141.5.1	Meets specifications in Table 141–13	PQX2510D2:M	Yes [] N/A []
PQX2510D2F2	25/10GBASE-PQX-D2 receiver	141.5.2	Meets specifications in Table 141–15	PQX2510D2:M	Yes [] N/A []
PQX2510D2F3	25/10GBASE-PQX-D2 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–15 then label accordingly	PQX2510D2:M	Yes [] N/A []

141.10.4.5 PMD to MDI optical specifications for 25/10GBASE-PQX-D3

Item	Feature	Subclause	Value/Comment	Status	Support
PQX2510D3F1	25/10GBASE-PQX-D3 transmitter	141.5.1	Meets specifications in Table 141–14	PQX2510D3:M	Yes [] N/A []
PQX2510D3F2	25/10GBASE-PQX-D3 receiver	141.5.2	Meets specifications in Table 141–16	PQX2510D3:M	Yes [] N/A []
PQX2510D3F3	25/10GBASE-PQX-D3 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–16 then label accordingly	PQX2510D3:M	Yes [] N/A []

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141.10.4.6 PMD to MDI optical specifications for 25GBASE-PQG-D2

Item	Feature	Subclause	Value/Comment	Status	Support
PQG25D2F1	25GBASE-PQG-D2 transmitter	141.5.1	Meets specifications in Table 141–13	PQG25D2:M	Yes [] N/A []
PQG25D2F2	25GBASE-PQG-D2 receiver	141.5.2	Meets specifications in Table 141–15	PQG25D2:M	Yes [] N/A []
PQG25D2F3	25GBASE-PQG-D2 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–15 then label accordingly	PQG25D2:M	Yes [] N/A []

141.10.4.7 PMD to MDI optical specifications for 25GBASE-PQG-D3

Item	Feature	Subclause	Value/Comment	Status	Support
PQG25D3F1	25GBASE-PQG-D3 transmitter	141.5.1	Meets specifications in Table 141–14	PQG25D3:M	Yes [] N/A []
PQG25D3F2	25GBASE-PQG-D3 receiver	141.5.2	Meets specifications in Table 141–16	PQG25D3:M	Yes [] N/A []
PQG25D3F3	25GBASE-PQG-D3 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–16 then label accordingly	PQG25D3:M	Yes [] N/A []

141.10.4.8 PMD to MDI optical specifications for 25GBASE-PQX-D2

Item	Feature	Subclause	Value/Comment	Status	Support
PQX25D2F1	25GBASE-PQX-D2 transmitter	141.5.1	Meets specifications in Table 141–13	PQX25D2:M	Yes [] N/A []
PQX25D2F2	25GBASE-PQX-D2 receiver	141.5.2	Meets specifications in Table 141–15	PQX25D2:M	Yes [] N/A []
PQX25D2F3	25GBASE-PQX-D2 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–15 then label accordingly	PQX25D2:M	Yes [] N/A []

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141.10.4.9 PMD to MDI optical specifications for 25GBASE-PQX-D3

Item	Feature	Subclause	Value/Comment	Status	Support
PQX25D3F1	25GBASE-PQX-D3 transmitter	141.5.1	Meets specifications in Table 141–14	PQX25D3:M	Yes [] N/A []
PQX25D3F2	25GBASE-PQX-D3 receiver	141.5.2	Meets specifications in Table 141–16	PQX25D3:M	Yes [] N/A []
PQX25D3F3	25GBASE-PQX-D3 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–16 then label accordingly	PQX25D3:M	Yes [] N/A []

141.10.4.10 PMD to MDI optical specifications for 50/10GBASE-PQG-D2

Item	Feature	Subclause	Value/Comment	Status	Support
PQG5010D2F1	50/10GBASE-PQG-D2 transmitter	141.5.1	Meets specifications in Table 141–13	PQG5010D2:M	Yes [] N/A []
PQG5010D2F2	50/10GBASE-PQG-D2 receiver	141.5.2	Meets specifications in Table 141–15	PQG5010D2:M	Yes [] N/A []
PQG5010D2F3	50/10GBASE-PQG-D2 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–15 then label accordingly	PQG5010D2:M	Yes [] N/A []

141.10.4.11 PMD to MDI optical specifications for 50/10GBASE-PQG-D3

Item	Feature	Subclause	Value/Comment	Status	Support
PQG5010D3F1	50/10GBASE-PQG-D3 transmitter	141.5.1	Meets specifications in Table 141–14	PQG5010D3:M	Yes [] N/A []
PQG5010D3F2	50/10GBASE-PQG-D3 receiver	141.5.2	Meets specifications in Table 141–16	PQG5010D3:M	Yes [] N/A []
PQG5010D3F3	50/10GBASE-PQG-D3 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–16 then label accordingly	PQG5010D3:M	Yes [] N/A []

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141.10.4.12 PMD to MDI optical specifications for 50/10GBASE-PQX-D2

Item	Feature	Subclause	Value/Comment	Status	Support
PQX5010D2F1	50/10GBASE-PQX-D2 transmitter	141.5.1	Meets specifications in Table 141–13	PQX5010D2:M	Yes [] N/A []
PQX5010D2F2	50/10GBASE-PQX-D2 receiver	141.5.2	Meets specifications in Table 141–15	PQX5010D2:M	Yes [] N/A []
PQX5010D2F3	50/10GBASE-PQX-D2 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–15 then label accordingly	PQX5010D2:M	Yes [] N/A []

141.10.4.13 PMD to MDI optical specifications for 50/10GBASE-PQX-D3

Item	Feature	Subclause	Value/Comment	Status	Support
PQX5010D3F1	50/10GBASE-PQX-D3 transmitter	141.5.1	Meets specifications in Table 141–14	PQX5010D3:M	Yes [] N/A []
PQX5010D3F2	50/10GBASE-PQX-D3 receiver	141.5.2	Meets specifications in Table 141–16	PQX5010D3:M	Yes [] N/A []
PQX5010D3F3	50/10GBASE-PQX-D3 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–16 then label accordingly	PQX5010D3:M	Yes [] N/A []

141.10.4.14 PMD to MDI optical specifications for 50/25GBASE-PQG-D2

Item	Feature	Subclause	Value/Comment	Status	Support
PQG5025D2F1	50/25GBASE-PQG-D2 transmitter	141.5.1	Meets specifications in Table 141–13	PQG5025D2:M	Yes [] N/A []
PQG5025D2F2	50/25GBASE-PQG-D2 receiver	141.5.2	Meets specifications in Table 141–15	PQG5025D2:M	Yes [] N/A []
PQG5025D2F3	50/25GBASE-PQG-D2 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–15 then label accordingly	PQG5025D2:M	Yes [] N/A []

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141.10.4.15 PMD to MDI optical specifications for 50/25GBASE-PQG-D3

Item	Feature	Subclause	Value/Comment	Status	Support
PQG5025D3F1	50/25GBASE-PQG-D3 transmitter	141.5.1	Meets specifications in Table 141–14	PQG5025D3:M	Yes [] N/A []
PQG5025D3F2	50/25GBASE-PQG-D3 receiver	141.5.2	Meets specifications in Table 141–16	PQG5025D3:M	Yes [] N/A []
PQG5025D3F3	50/25GBASE-PQG-D3 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–16 then label accordingly	PQG5025D3:M	Yes [] N/A []

141.10.4.16 PMD to MDI optical specifications for 50/25GBASE-PQX-D2

Item	Feature	Subclause	Value/Comment	Status	Support
PQX5025D2F1	50/25GBASE-PQX-D2 transmitter	141.5.1	Meets specifications in Table 141–13	PQX5025D2:M	Yes [] N/A []
PQX5025D2F2	50/25GBASE-PQX-D2 receiver	141.5.2	Meets specifications in Table 141–15	PQX5025D2:M	Yes [] N/A []
PQX5025D2F3	50/25GBASE-PQX-D2 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–15 then label accordingly	PQX5025D2:M	Yes [] N/A []

141.10.4.17 PMD to MDI optical specifications for 50/25GBASE-PQX-D3

Item	Feature	Subclause	Value/Comment	Status	Support
PQX5025D3F1	50/25GBASE-PQX-D3 transmitter	141.5.1	Meets specifications in Table 141–14	PQX5025D3:M	Yes [] N/A []
PQX5025D3F2	50/25GBASE-PQX-D3 receiver	141.5.2	Meets specifications in Table 141–16	PQX5025D3:M	Yes [] N/A []
PQX5025D3F3	50/25GBASE-PQX-D3 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–16 then label accordingly	PQX5025D3:M	Yes [] N/A []

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141.10.4.18 PMD to MDI optical specifications for 50GBASE-PQG-D2

Item	Feature	Subclause	Value/Comment	Status	Support
PQG50D2F1	50GBASE-PQG-D2 transmitter	141.5.1	Meets specifications in Table 141–13	PQG50D2:M	Yes [] N/A []
PQG50D2F2	50GBASE-PQG-D2 receiver	141.5.2	Meets specifications in Table 141–15	PQG50D2:M	Yes [] N/A []
PQG50D2F3	50GBASE-PQG-D2 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–15 then label accordingly	PQG50D2:M	Yes [] N/A []

141.10.4.19 PMD to MDI optical specifications for 50GBASE-PQG-D3

Item	Feature	Subclause	Value/Comment	Status	Support
PQG50D3F1	50GBASE-PQG-D3 transmitter	141.5.1	Meets specifications in Table 141–14	PQG50D3:M	Yes [] N/A []
PQG50D3F2	50GBASE-PQG-D3 receiver	141.5.2	Meets specifications in Table 141–16	PQG50D3:M	Yes [] N/A []
PQG50D3F3	50GBASE-PQG-D3 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–16 then label accordingly	PQG50D3:M	Yes [] N/A []

141.10.4.20 PMD to MDI optical specifications for 50GBASE-PQX-D2

Item	Feature	Subclause	Value/Comment	Status	Support
PQX50D2F1	50GBASE-PQX-D2 transmitter	141.5.1	Meets specifications in Table 141–13	PQX50D2:M	Yes [] N/A []
PQX50D2F2	50GBASE-PQX-D2 receiver	141.5.2	Meets specifications in Table 141–15	PQX50D2:M	Yes [] N/A []
PQX50D2F3	50GBASE-PQX-D2 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–15 then label accordingly	PQX50D2:M	Yes [] N/A []

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141.10.4.21 PMD to MDI optical specifications for 50GBASE-PQX-D3

Item	Feature	Subclause	Value/Comment	Status	Support
PQX50D3F1	50GBASE-PQX-D3 transmitter	141.5.1	Meets specifications in Table 141–14	PQX50D3:M	Yes [] N/A []
PQX50D3F2	50GBASE-PQX-D3 receiver	141.5.2	Meets specifications in Table 141–16	PQX50D3:M	Yes [] N/A []
PQX50D3F3	50GBASE-PQX-D3 receiver damage threshold	141.5.2	If the receiver does not meet the damage requirements in Table 141–16 then label accordingly	PQX50D3:M	Yes [] N/A []

141.10.4.22 PMD to MDI optical specifications for 25/10GBASE-PQG-U2

Item	Feature	Subclause	Value/Comment	Status	Support
PQG2510U2F1	25/10GBASE-PQG-U2 transmitter	141.6.1	Meets specifications in Table 141–17	PQG2510U2:M	Yes [] N/A []
PQG2510U2F2	25/10GBASE-PQG-U2 receiver	141.6.2	Meets specifications in Table 141–19	PQG2510U2:M	Yes [] N/A []
PQG2510U2F3	25/10GBASE-PQG-U2 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–19 then label accordingly	PQG2510U2:M	Yes [] N/A []

141.10.4.23 PMD to MDI optical specifications for 25/10GBASE-PQG-U3

Item	Feature	Subclause	Value/Comment	Status	Support
PQG2510U3F1	25/10GBASE-PQG-U3 transmitter	141.6.1	Meets specifications in Table 141–18	PQG2510U3:M	Yes [] N/A []
PQG2510U3F2	25/10GBASE-PQG-U3 receiver	141.6.2	Meets specifications in Table 141–20	PQG2510U3:M	Yes [] N/A []
PQG2510U3F3	25/10GBASE-PQG-U3 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–20 then label accordingly	PQG2510U3:M	Yes [] N/A []

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141.10.4.24 PMD to MDI optical specifications for 25/10GBASE-PQX-U2

Item	Feature	Subclause	Value/Comment	Status	Support
PQX2510U2F1	25/10GBASE-PQX-U2 transmitter	141.6.1	Meets specifications in Table 141–17	PQX2510U2:M	Yes [] N/A []
PQX2510U2F2	25/10GBASE-PQX-U2 receiver	141.6.2	Meets specifications in Table 141–19	PQX2510U2:M	Yes [] N/A []
PQX2510U2F3	25/10GBASE-PQX-U2 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–19 then label accordingly	PQX2510U2:M	Yes [] N/A []

141.10.4.25 PMD to MDI optical specifications for 25/10GBASE-PQX-U3

Item	Feature	Subclause	Value/Comment	Status	Support
PQX2510U3F1	25/10GBASE-PQX-U3 transmitter	141.6.1	Meets specifications in Table 141–18	PQX2510U3:M	Yes [] N/A []
PQX2510U3F2	25/10GBASE-PQX-U3 receiver	141.6.2	Meets specifications in Table 141–20	PQX2510U3:M	Yes [] N/A []
PQX2510U3F3	25/10GBASE-PQX-U3 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–20 then label accordingly	PQX2510U3:M	Yes [] N/A []

141.10.4.26 PMD to MDI optical specifications for 25GBASE-PQG-U2

Item	Feature	Subclause	Value/Comment	Status	Support
PQG25U2F1	25GBASE-PQG-U2 transmitter	141.6.1	Meets specifications in Table 141–17	PQG25U2:M	Yes [] N/A []
PQG25U2F2	25GBASE-PQG-U2 receiver	141.6.2	Meets specifications in Table 141–19	PQG25U2:M	Yes [] N/A []
PQG25U2F3	25GBASE-PQG-U2 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–19 then label accordingly	PQG25U2:M	Yes [] N/A []

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141.10.4.27 PMD to MDI optical specifications for 25GBASE-PQG-U3

Item	Feature	Subclause	Value/Comment	Status	Support
PQG25U3F1	25GBASE-PQG-U3 transmitter	141.6.1	Meets specifications in Table 141–18	PQG25U3:M	Yes [] N/A []
PQG25U3F2	25GBASE-PQG-U3 receiver	141.6.2	Meets specifications in Table 141–20	PQG25U3:M	Yes [] N/A []
PQG25U3F3	25GBASE-PQG-U3 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–20 then label accordingly	PQG25U3:M	Yes [] N/A []

141.10.4.28 PMD to MDI optical specifications for 25GBASE-PQX-U2

Item	Feature	Subclause	Value/Comment	Status	Support
PQX25U2F1	25GBASE-PQX-U2 transmitter	141.6.1	Meets specifications in Table 141–17	PQX25U2:M	Yes [] N/A []
PQX25U2F2	25GBASE-PQX-U2 receiver	141.6.2	Meets specifications in Table 141–19	PQX25U2:M	Yes [] N/A []
PQX25U2F3	25GBASE-PQX-U2 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–19 then label accordingly	PQX25U2:M	Yes [] N/A []

141.10.4.29 PMD to MDI optical specifications for 25GBASE-PQX-U3

Item	Feature	Subclause	Value/Comment	Status	Support
PQX25U3F1	25GBASE-PQX-U3 transmitter	141.6.1	Meets specifications in Table 141–18	PQX25U3:M	Yes [] N/A []
PQX25U3F2	25GBASE-PQX-U3 receiver	141.6.2	Meets specifications in Table 141–20	PQX25U3:M	Yes [] N/A []
PQX25U3F3	25GBASE-PQX-U3 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–20 then label accordingly	PQX25U3:M	Yes [] N/A []

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141.10.4.30 PMD to MDI optical specifications for 50/10GBASE-PQG-U2

Item	Feature	Subclause	Value/Comment	Status	Support
PQG5010U2F1	50/10GBASE-PQG-U2 transmitter	141.6.1	Meets specifications in Table 141–17	PQG5010U2:M	Yes [] N/A []
PQG5010U2F2	50/10GBASE-PQG-U2 receiver	141.6.2	Meets specifications in Table 141–19	PQG5010U2:M	Yes [] N/A []
PQG5010U2F3	50/10GBASE-PQG-U2 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–19 then label accordingly	PQG5010U2:M	Yes [] N/A []

141.10.4.31 PMD to MDI optical specifications for 50/10GBASE-PQG-U3

Item	Feature	Subclause	Value/Comment	Status	Support
PQG5010U3F1	50/10GBASE-PQG-U3 transmitter	141.6.1	Meets specifications in Table 141–18	PQG5010U3:M	Yes [] N/A []
PQG5010U3F2	50/10GBASE-PQG-U3 receiver	141.6.2	Meets specifications in Table 141–20	PQG5010U3:M	Yes [] N/A []
PQG5010U3F3	50/10GBASE-PQG-U3 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–20 then label accordingly	PQG5010U3:M	Yes [] N/A []

141.10.4.32 PMD to MDI optical specifications for 50/10GBASE-PQX-U2

Item	Feature	Subclause	Value/Comment	Status	Support
PQX5010U2F1	50/10GBASE-PQX-U2 transmitter	141.6.1	Meets specifications in Table 141–17	PQX5010U2:M	Yes [] N/A []
PQX5010U2F2	50/10GBASE-PQX-U2 receiver	141.6.2	Meets specifications in Table 141–19	PQX5010U2:M	Yes [] N/A []
PQX5010U2F3	50/10GBASE-PQX-U2 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–19 then label accordingly	PQX5010U2:M	Yes [] N/A []

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141.10.4.33 PMD to MDI optical specifications for 50/10GBASE-PQX-U3

Item	Feature	Subclause	Value/Comment	Status	Support
PQX5010U3F1	50/10GBASE-PQX-U3 transmitter	141.6.1	Meets specifications in Table 141–18	PQX5010U3:M	Yes [] N/A []
PQX5010U3F2	50/10GBASE-PQX-U3 receiver	141.6.2	Meets specifications in Table 141–20	PQX5010U3:M	Yes [] N/A []
PQX5010U3F3	50/10GBASE-PQX-U3 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–20 then label accordingly	PQX5010U3:M	Yes [] N/A []

141.10.4.34 PMD to MDI optical specifications for 50/25GBASE-PQG-U2

Item	Feature	Subclause	Value/Comment	Status	Support
PQG5025U2F1	50/25GBASE-PQG-U2 transmitter	141.6.1	Meets specifications in Table 141–17	PQG5025U2:M	Yes [] N/A []
PQG5025U2F2	50/25GBASE-PQG-U2 receiver	141.6.2	Meets specifications in Table 141–19	PQG5025U2:M	Yes [] N/A []
PQG5025U2F3	50/25GBASE-PQG-U2 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–19 then label accordingly	PQG5025U2:M	Yes [] N/A []

141.10.4.35 PMD to MDI optical specifications for 50/25GBASE-PQG-U3

Item	Feature	Subclause	Value/Comment	Status	Support
PQG5025U3F1	50/25GBASE-PQG-U3 transmitter	141.6.1	Meets specifications in Table 141–18	PQG5025U3:M	Yes [] N/A []
PQG5025U3F2	50/25GBASE-PQG-U3 receiver	141.6.2	Meets specifications in Table 141–20	PQG5025U3:M	Yes [] N/A []
PQG5025U3F3	50/25GBASE-PQG-U3 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–20 then label accordingly	PQG5025U3:M	Yes [] N/A []

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141.10.4.36 PMD to MDI optical specifications for 50/25GBASE-PQX-U2

Item	Feature	Subclause	Value/Comment	Status	Support
PQX5025U2F1	50/25GBASE-PQX-U2 transmitter	141.6.1	Meets specifications in Table 141–17	PQX5025U2:M	Yes [] N/A []
PQX5025U2F2	50/25GBASE-PQX-U2 receiver	141.6.2	Meets specifications in Table 141–19	PQX5025U2:M	Yes [] N/A []
PQX5025U2F3	50/25GBASE-PQX-U2 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–19 then label accordingly	PQX5025U2:M	Yes [] N/A []

141.10.4.37 PMD to MDI optical specifications for 50/25GBASE-PQX-U3

Item	Feature	Subclause	Value/Comment	Status	Support
PQX5025U3F1	50/25GBASE-PQX-U3 transmitter	141.6.1	Meets specifications in Table 141–18	PQX5025U3:M	Yes [] N/A []
PQX5025U3F2	50/25GBASE-PQX-U3 receiver	141.6.2	Meets specifications in Table 141–20	PQX5025U3:M	Yes [] N/A []
PQX5025U3F3	50/25GBASE-PQX-U3 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–20 then label accordingly	PQX5025U3:M	Yes [] N/A []

141.10.4.38 PMD to MDI optical specifications for 50GBASE-PQG-U2

Item	Feature	Subclause	Value/Comment	Status	Support
PQG50U2F1	50GBASE-PQG-U2 transmitter	141.6.1	Meets specifications in Table 141–17	PQG50U2:M	Yes [] N/A []
PQG50U2F2	50GBASE-PQG-U2 receiver	141.6.2	Meets specifications in Table 141–19	PQG50U2:M	Yes [] N/A []
PQG50U2F3	50GBASE-PQG-U2 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–19 then label accordingly	PQG50U2:M	Yes [] N/A []

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141.10.4.39 PMD to MDI optical specifications for 50GBASE-PQG-U3

Item	Feature	Subclause	Value/Comment	Status	Support
PQG50U3F1	50GBASE-PQG-U3 transmitter	141.6.1	Meets specifications in Table 141–18	PQG50U3:M	Yes [] N/A []
PQG50U3F2	50GBASE-PQG-U3 receiver	141.6.2	Meets specifications in Table 141–20	PQG50U3:M	Yes [] N/A []
PQG50U3F3	50GBASE-PQG-U3 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–20 then label accordingly	PQG50U3:M	Yes [] N/A []

141.10.4.40 PMD to MDI optical specifications for 50GBASE-PQX-U2

Item	Feature	Subclause	Value/Comment	Status	Support
PQX50U2F1	50GBASE-PQX-U2 transmitter	141.6.1	Meets specifications in Table 141–17	PQX50U2:M	Yes [] N/A []
PQX50U2F2	50GBASE-PQX-U2 receiver	141.6.2	Meets specifications in Table 141–19	PQX50U2:M	Yes [] N/A []
PQX50U2F3	50GBASE-PQX-U2 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–19 then label accordingly	PQX50U2:M	Yes [] N/A []

141.10.4.41 PMD to MDI optical specifications for 50GBASE-PQX-U3

Item	Feature	Subclause	Value/Comment	Status	Support
PQX50U3F1	50GBASE-PQX-U3 transmitter	141.6.1	Meets specifications in Table 141–18	PQX50U3:M	Yes [] N/A []
PQX50U3F2	50GBASE-PQX-U3 receiver	141.6.2	Meets specifications in Table 141–20	PQX50U3:M	Yes [] N/A []
PQX50U3F3	50GBASE-PQX-U3 receiver damage threshold	141.6.2	If the receiver does not meet the damage requirements in Table 141–20 then label accordingly	PQX50U3:M	Yes [] N/A []

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141.10.4.42 Definitions of optical parameters and measurement methods

Item	Feature	Subclause	Value/Comment	Status	Support
OM1	Measurement cable	141.7.1	2 m to 5 m in length	M	Yes []
OM2	Wavelength and RMS spectral width	141.7.3	Per the center wavelength and RMS spectral width definitions in TIA-455-127-A under modulated conditions.	M	Yes []
OM3	Average optical power	141.7.4	Per ANSI/EIA-455-95.	M	Yes []
OM4	Extinction ratio	141.7.5	Per IEC 61820-2-2 with minimal back reflections	M	Yes []
OM5	Optical modulation amplitude (OMA) test procedure	141.7.6		M	Yes []
OM6	RIN _x OMA	141.7.7		M	Yes []
OM7	Transmit optical waveform (transmit eye)	141.7.8		M	Yes []
OM8	Transmitter and dispersion penalty	141.7.9		M	Yes []
OM9	Receive sensitivity	141.7.10		M	Yes []
*OM10	Stressed receiver conformance test	141.7.11		O	Yes [] N/A []
OM11	Jitter measurements	141.7.12		M	Yes []
OM12	Laser On/Off timing measurement	141.7.13		M	Yes []
OM13	Receiver settling timing measurement	141.7.14		O	Yes [] No []

141.10.4.43 Characteristics of the fiber optic cabling and MDI

Item	Feature	Subclause	Value/Comment	Status	Support
FO1	Fiber optic cabling	141.9	Specified in Table 141-21	INS:M	Yes [] N/A []
F02	End-to-end channel loss	141.9	Meeting the requirements of Table 141-1 through Table 141-5	INS:M	Yes [] N/A []
FO3	Maximum discrete reflectance – single-mode fiber	141.9.3	Less than –26 dB	INS:M	Yes [] N/A []
FO4	MDI requirements	141.9.4	Meet the interface performance specifications of IEC 61753-1, if remateable	INS:O	Yes [] No [] N/A []

141.10.4.44 Environmental specifications

Item	Feature	Subclause	Value/Comment	Status	Support
ES1	General safety	141.8.1	Conforms to IEC–60950–1	M	Yes []
ES2	Laser safety —IEC Hazard Level 1	141.8.2	Conform to Hazard Level 1 laser requirements defined in IEC 60825–1 and IEC 60825–2	M	Yes []
ES3	Documentation	141.8.2	Explicitly defines requirements and usage restrictions to meet safety certifications	M	Yes []
ES4	Operating temperature range labeling	141.8.4	If required	M	Yes []

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