

# 141.10 Protocol implementation conformance statement (PICS) proforma for Clause 141, Physical Medium Dependent (PMD) sublayer and medium for Nx25G-EPON passive optical networks<sup>1</sup>

## 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

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| Supplier <sup>1</sup>  |  |
| Contact point for enquiries about the PICS <sup>1</sup>  |  |
| Implementation Name(s) and Version(s) <sup>1,3</sup>   |  |
| Other information necessary for full identification—e.g., name(s) and version(s) for machines and/or operating systems; System Name(s) <sup>2</sup>  |  |
| NOTE 1—Required for all implementations.<br>NOTE 2—May be completed as appropriate in meeting the requirements for the identification.<br>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

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|---|--|
| 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 [ ]<br>(See <a href="#">Clause 21</a> ; the answer Yes means that the implementation does not conform to IEEE Std 802.3ca-201x.) |  |

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### 141.10.3 Major capabilities/options

<sup>1</sup>Copyright 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 [ ]<br>No [ ] |
| LT         | Low temperature operation                         | 141.8.4    | -40 °C to 60 °C   | O      | Yes [ ]<br>No [ ] |
| *PQG2510U2 | 25/10GBASE-PQG-U2 PHY or<br>25/10GBASE-PQG-U2 PMD | 141.6      | Maximum channel insertion loss of 24 dB, coexistence with GPON    | O/1    | Yes [ ]<br>No [ ] |
| *PQG2510D2 | 25/10GBASE-PQG-D2 PHY or<br>25/10GBASE-PQG-D2 PMD | 141.5      | Maximum channel insertion loss of 24 dB, coexistence with GPON    | O/1    | Yes [ ]<br>No [ ] |
| *PQG2510U3 | 25/10GBASE-PQG-U3 PHY or<br>25/10GBASE-PQG-U3 PMD | 141.6      | Maximum channel insertion loss of 29 dB, coexistence with GPON    | O/1    | Yes [ ]<br>No [ ] |
| *PQG2510D3 | 25/10GBASE-PQG-D3 PHY or<br>25/10GBASE-PQG-D3 PMD | 141.5      | Maximum channel insertion loss of 29 dB, coexistence with GPON    | O/1    | Yes [ ]<br>No [ ] |
| *PQX2510U2 | 25/10GBASE-PQX-U2 PHY or<br>25/10GBASE-PQX-U2 PMD | 141.6      | Maximum channel insertion loss of 24 dB, coexistence with 10G-PON | O/1    | Yes [ ]<br>No [ ] |
| *PQX2510D2 | 25/10GBASE-PQX-D2 PHY or<br>25/10GBASE-PQX-D2 PMD | 141.5      | Maximum channel insertion loss of 24 dB, coexistence with 10G-PON | O/1    | Yes [ ]<br>No [ ] |
| *PQX2510U3 | 25/10GBASE-PQX-U3 PHY or<br>25/10GBASE-PQX-U3 PMD | 141.6      | Maximum channel insertion loss of 29 dB, coexistence with 10G-PON | O/1    | Yes [ ]<br>No [ ] |
| *PQX2510D3 | 25/10GBASE-PQX-D3 PHY or<br>25/10GBASE-PQX-D3 PMD | 141.5      | Maximum channel insertion loss of 29 dB, coexistence with 10G-PON | O/1    | Yes [ ]<br>No [ ] |
| *PQG25U2   | 25GBASE-PQG-U2 PHY or<br>25GBASE-PQG-U2 PMD       | 141.6      | Maximum channel insertion loss of 24 dB, coexistence with GPON    | O/1    | Yes [ ]<br>No [ ] |
| *PQG25D2   | 25GBASE-PQG-D2 PHY or<br>25GBASE-PQG-D2 PMD       | 141.5      | Maximum channel insertion loss of 24 dB, coexistence with GPON    | O/1    | Yes [ ]<br>No [ ] |
| *PQG25U3   | 25GBASE-PQG-U3 PHY or<br>25GBASE-PQG-U3 PMD       | 141.6      | Maximum channel insertion loss of 29 dB, coexistence with GPON    | O/1    | Yes [ ]<br>No [ ] |
| *PQG25D3   | 25GBASE-PQG-D3 PHY or<br>25GBASE-PQG-D3 PMD       | 141.5      | Maximum channel insertion loss of 29 dB, coexistence with GPON    | O/1    | Yes [ ]<br>No [ ] |
| *PQX25U2   | 25GBASE-PQX-U2 PHY or<br>25GBASE-PQX-U2 PMD       | 141.6      | Maximum channel insertion loss of 24 dB, coexistence with 10G-PON | O/1    | Yes [ ]<br>No [ ] |
| *PQX25D2   | 25GBASE-PQX-D2 PHY or<br>25GBASE-PQX-D2 PMD       | 141.5      | Maximum channel insertion loss of 24 dB, coexistence with 10G-PON | O/1    | Yes [ ]<br>No [ ] |
| *PQX25U3   | 25GBASE-PQX-U3 PHY or<br>25GBASE-PQX-U3 PMD       | 141.6<br>2 | Maximum channel insertion loss of 29 dB, coexistence with 10G-PON | O/1    | Yes [ ]<br>No [ ] |

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

| 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-PON  | O/1    | Yes [ ]<br>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 [ ]<br>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 [ ]<br>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 [ ]<br>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 [ ]<br>No [ ] |
| *PQX50U2   | 50GBASE-PQX-U2 PHY or 50GBASE-PQX-U2 PMD       | 141.6     | Maximum channel insertion loss of 24 dB, coexistence with 10G-PON  | O/1    | Yes [ ]<br>No [ ] |
| *PQX50D2   | 50GBASE-PQX-D2 PHY or 50GBASE-PQX-D2 PMD       | 141.5     | Maximum channel insertion loss of 24 dB, coexistence with 10G-PON  | O/1    | Yes [ ]<br>No [ ] |
| *PQX50U3   | 50GBASE-PQX-U3 PHY or 50GBASE-PQX-U3 PMD       | 141.6     | Maximum channel insertion loss of 29 dB, coexistence with 10G-PON  | O/1    | Yes [ ]<br>No [ ] |
| *PQX50D3   | 50GBASE-PQX-D3 PHY or 50GBASE-PQX-D3 PMD       | 141.5     | Maximum channel insertion loss of 29 dB, coexistence with 10G-PON  | O/1    | Yes [ ]<br>No [ ] |
| *INS       | Installation/Cable                             | 141.9     | Items marked with INS include installation practices and cable specifications not applicable to a PHY manufacturer | O      | Yes [ ]<br>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 [ ]<br>N/A [ ] |
| PQG2510D2F2 | 25/10GBASE-PQG-D2 receiver                  | 141.5.2   | Meets specifications in Table 141–15   | PQG2510D2:M | Yes [ ]<br>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 [ ]<br>N/A [ ] |

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### 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 [ ]<br>N/A [ ] |
| PQG2510D3F2 | 25/10GBASE-PQG-D3 receiver                  | 141.5.2   | Meets specifications in Table 141–16   | PQG2510D3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX2510D2F2 | 25/10GBASE-PQX-D2 receiver                  | 141.5.2   | Meets specifications in Table 141–15   | PQX2510D2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX2510D3F2 | 25/10GBASE-PQX-D3 receiver                  | 141.5.2   | Meets specifications in Table 141–16   | PQX2510D3:M | Yes [ ]<br>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 [ ]<br>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 []<br>N/A [] |
| PQG25D2F2 | 25GBASE-PQG-D2 receiver                  | 141.5.2   | Meets specifications in Table 141–15   | PQG25D2:M | Yes []<br>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 []<br>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 []<br>N/A [] |
| PQG25D3F2 | 25GBASE-PQG-D3 receiver                  | 141.5.2   | Meets specifications in Table 141–16   | PQG25D3:M | Yes []<br>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 []<br>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 []<br>N/A [] |
| PQX25D2F2 | 25GBASE-PQX-D2 receiver                  | 141.5.2   | Meets specifications in Table 141–15   | PQX25D2:M | Yes []<br>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 []<br>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 [ ]<br>N/A [ ] |
| PQX25D3F2 | 25GBASE-PQX-D3 receiver                  | 141.5.2   | Meets specifications in Table 141–16   | PQX25D3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG5010D2F2 | 50/10GBASE-PQG-D2 receiver                  | 141.5.2   | Meets specifications in Table 141–15   | PQG5010D2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG5010D3F2 | 50/10GBASE-PQG-D3 receiver                  | 141.5.2   | Meets specifications in Table 141–16   | PQG5010D3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX5010D2F2 | 50/10GBASE-PQX-D2 receiver                  | 141.5.2   | Meets specifications in Table 141–15   | PQX5010D2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX5010D3F2 | 50/10GBASE-PQX-D3 receiver                  | 141.5.2   | Meets specifications in Table 141–16   | PQX5010D3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG5025D2F2 | 50/25GBASE-PQG-D2 receiver                  | 141.5.2   | Meets specifications in Table 141–15   | PQG5025D2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG5025D3F2 | 50/25GBASE-PQG-D3 receiver                  | 141.5.2   | Meets specifications in Table 141–16   | PQG5025D3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX5025D2F2 | 50/25GBASE-PQX-D2 receiver                  | 141.5.2   | Meets specifications in Table 141–15   | PQX5025D2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX5025D3F2 | 50/25GBASE-PQX-D3 receiver                  | 141.5.2   | Meets specifications in Table 141–16   | PQX5025D3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG50D2F2 | 50GBASE-PQG-D2 receiver                  | 141.5.2   | Meets specifications in Table 141–15   | PQG50D2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG50D3F2 | 50GBASE-PQG-D3 receiver                  | 141.5.2   | Meets specifications in Table 141–16   | PQG50D3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX50D2F2 | 50GBASE-PQX-D2 receiver                  | 141.5.2   | Meets specifications in Table 141–15   | PQX50D2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX50D3F2 | 50GBASE-PQX-D3 receiver                  | 141.5.2   | Meets specifications in Table 141–16   | PQX50D3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG2510U2F2 | 25/10GBASE-PQG-U2 receiver                  | 141.6.2   | Meets specifications in Table 141–19   | PQG2510U2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG2510U3F2 | 25/10GBASE-PQG-U3 receiver                  | 141.6.2   | Meets specifications in Table 141–20   | PQG2510U3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX2510U2F2 | 25/10GBASE-PQX-U2 receiver                  | 141.6.2   | Meets specifications in Table 141–19   | PQX2510U2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX2510U3F2 | 25/10GBASE-PQX-U3 receiver                  | 141.6.2   | Meets specifications in Table 141–20   | PQX2510U3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG25U2F2 | 25GBASE-PQG-U2 receiver                  | 141.6.2   | Meets specifications in Table 141–19   | PQG25U2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG25U3F2 | 25GBASE-PQG-U3 receiver                  | 141.6.2   | Meets specifications in Table 141–20   | PQG25U3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX25U2F2 | 25GBASE-PQX-U2 receiver                  | 141.6.2   | Meets specifications in Table 141–19   | PQX25U2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX25U3F2 | 25GBASE-PQX-U3 receiver                  | 141.6.2   | Meets specifications in Table 141–20   | PQX25U3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG5010U2F2 | 50/10GBASE-PQG-U2 receiver                  | 141.6.2   | Meets specifications in Table 141–19   | PQG5010U2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG5010U3F2 | 50/10GBASE-PQG-U3 receiver                  | 141.6.2   | Meets specifications in Table 141–20   | PQG5010U3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX5010U2F2 | 50/10GBASE-PQX-U2 receiver                  | 141.6.2   | Meets specifications in Table 141–19   | PQX5010U2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX5010U3F2 | 50/10GBASE-PQX-U3 receiver                  | 141.6.2   | Meets specifications in Table 141–20   | PQX5010U3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG5025U2F2 | 50/25GBASE-PQG-U2 receiver                  | 141.6.2   | Meets specifications in Table 141–19   | PQG5025U2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG5025U3F2 | 50/25GBASE-PQG-U3 receiver                  | 141.6.2   | Meets specifications in Table 141–20   | PQG5025U3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX5025U2F2 | 50/25GBASE-PQX-U2 receiver                  | 141.6.2   | Meets specifications in Table 141–19   | PQX5025U2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX5025U3F2 | 50/25GBASE-PQX-U3 receiver                  | 141.6.2   | Meets specifications in Table 141–20   | PQX5025U3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG50U2F2 | 50GBASE-PQG-U2 receiver                  | 141.6.2   | Meets specifications in Table 141–19   | PQG50U2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQG50U3F2 | 50GBASE-PQG-U3 receiver                  | 141.6.2   | Meets specifications in Table 141–20   | PQG50U3:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX50U2F2 | 50GBASE-PQX-U2 receiver                  | 141.6.2   | Meets specifications in Table 141–19   | PQX50U2:M | Yes [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ] |
| PQX50U3F2 | 50GBASE-PQX-U3 receiver                  | 141.6.2   | Meets specifications in Table 141–20   | PQX50U3:M | Yes [ ]<br>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 [ ]<br>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 <sub>x</sub> 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 [ ]<br>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 [ ]<br>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 [ ]<br>N/A [ ]           |
| F02  | End-to-end channel loss                          | 141.9     | Meeting the requirements of Table 75B-1 and Table 75B-2                     | INS:M  | Yes [ ]<br>N/A [ ]           |
| FO3  | Maximum discrete reflectance – single-mode fiber | 141.9.3   | Less than –26 dB  | INS:M  | Yes [ ]<br>N/A [ ]           |
| FO4  | MDI requirements                                 | 141.9.4   | Meet the interface performance specifications of IEC 61753-1, if remateable | INS:O  | Yes [ ]<br>No [ ]<br>N/A [ ] |

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**141.10.4.44 Environmental specifications**

| <b>Item</b> | <b>Feature</b>                       | <b>Subclause</b> | <b>Value/Comment</b>   | <b>Status</b> | <b>Support</b>     |
|-------------|--------------------------------------|------------------|--|---------------|--------------------|
| 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 [ ]<br>N/A [ ] |

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