

# Proposed subclause 999.12 for 100G BiDi

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## **Subclause 999.12**

“Protocol implementation conformance statement (PICS) proforma for Clause 999, Physical Medium Dependent (PMD) sublayer and medium, types 100GBASE-BR10, 100GBASE-BR20, and 100GBASE-BR40”

- Protocol implementation conformance statement (PICS) is provided at the end of each clause with new capabilities
- It is a guide on how to implement “shall” statements in the standards
- 802.3dk needs PICS for Clauses 999

## 999.12 Protocol implementation conformance statement (PICS) proforma for Clause 999, Physical Medium Dependent (PMD) sublayer and medium, types 100GBASE-BR10, 100GBASE-BR20, and 100GBASE-BR40<sup>259</sup>

### 999.12.1 Introduction (Exact copy of subclause 160.12.1)

The supplier of a protocol implementation that is claimed to conform to Clause 999, Physical Medium Dependent (PMD) sublayer and medium, types 100GBASE-BR10, 100GBASE-BR20, and 100GBASE-BR40, 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.

### 999.12.2 Identification

#### 999.12.2.1 Implementation identification (Exact copy of subclause 160.12.2.1)

Supplier <sup>1</sup>	
Contact point for inquiries 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. 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)	

<sup>259</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.

**999.12.2.2 Protocol summary** (Exact copy of subclause 160.12.2.2)

Identification of protocol standard	IEEE Std 802.3dk-202x, Clause 999, Physical Medium Dependent (PMD) sublayer and medium, types 100GBASE-BR10, 100GBASE-BR20, and 100GBASE-BR40
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 <input type="checkbox"/> Yes <input type="checkbox"/> (See <a href="#">Clause 21</a> ; the answer Yes means that the implementation does not conform to IEEE Std 802.3cp-2021.)	

Date of Statement

### 999.12.3 Major capabilities/options (Exact copy of subclause 160.12.3)

Item	Feature	Subclause	Value/Comment	Status	Support
*BR10	100GBASE-BR10 PMD	999.6	Device supports requirements for 100GBASE-BR10 PHY	O.1	Yes [ ] No [ ]
*BR20	100GBASE-BR20 PMD	999.6	Device supports requirements for 100GBASE-BR20 PHY	O.1	Yes [ ] No [ ]
*BR40	100GBASE-BR40 PMD	999.6	Device supports requirements for 100GBASE-BR40 PHY	O.1	Yes [ ] No [ ]
*INS	Installation / cable	999.10	Items marked with INS include installation practices and cable specifications not applicable to a PHY manufacturer	O	Yes [ ] No [ ]
TP1	Reference point TP1 exposed and available for testing	999.5.1	This point may be made available for use by implementers to certify component conformance	O	Yes [ ] No [ ]
TP4	Reference point TP4 exposed and available for testing	999.5.1	This point may be made available for use by implementers to certify component conformance	O	Yes [ ] No [ ]
DC	Delay constraints	999.3	Device conforms to delay constraints	M	Yes [ ]
*MD	MDIO capability	999.4	Registers and interface supported	O	Yes [ ] No [ ]

## 999.12.4 PICS proforma tables for PMD sublayer and medium, types 100GBASE-BR10, 100GBASE-BR20, and 100GBASE-BR40

### 999.12.4.1 PMD functional specifications (Exact copy of subclause 160.12.4.1)

Item	Feature	Subclause	Value/Comment	Status	Support
F1	Compatible with 100GBASE-R PCS and PMA	999.1		M	Yes [ ]
F2	Integration with management functions	999.1		O	Yes [ ] No [ ]
F3	Bit error ratio	999.1.1	Meets the BER specified in 999.1.1	M	Yes [ ]
F4	Transmit function	999.5.2	Conveys bits from PMD service interface to MDI	M	Yes [ ]
F5	Mapping between optical signal and logical signal for transmitter	999.5.2	Optical power levels from lowest to highest correspond to tx_symbols zero, one, two, and three, respectively	M	Yes [ ]
F6	Receive function	999.5.3	Conveys symbols from MDI to PMD service interface	M	Yes [ ]
F7	Conversion of optical signal to electrical signal	999.5.3	For delivery to the PMD service interface	M	Yes [ ]
F8	Mapping between optical signal and logical signal for receiver	999.5.3	Optical power levels from lowest to highest correspond to rx_symbols zero, one, two, and three, respectively	M	Yes [ ]
F9	Global Signal Detect function	999.5.4	Report to the PMD service interface the message PMD:IS_SIGNAL.indication (SIGNAL_DETECT)	M	Yes [ ]
F10	Global Signal Detect behavior	999.5.4	SIGNAL_DETECT is a global indicator of the presence of an optical signal	M	Yes [ ]
F11	PMD reset function	999.5.5	Resets the PMD sublayer	MD:O	Yes [ ] No [ ] N/A [ ]
F12	ONU silent start	999.5.10	Meets the specifications defined in 999.5.10	M	Yes [ ]

**999.12.4.2 Management functions** (Exact copy of subclause 160.12.4.2)

Item	Feature	Subclause	Value/Comment	Status	Support
M1	Management register set	999.4		MD:M	Yes [ ] N/A [ ]
M2	Global transmit disable function	999.5.6	Disables the optical transmitter with the PMD_global_transmit_disable variable	M	Yes [ ]
M3	PMD_fault function	999.5.7	Sets PMD_fault to one if a local fault is detected	MD:O	Yes [ ] No [ ] N/A [ ]
M4	PMD_transmit_fault function	999.5.8	Sets PMD_transmit_fault to one if a local fault is detected	MD:O	Yes [ ] No [ ] N/A [ ]
M5	PMD_receive_fault function	999.5.9	Sets PMD_receive_fault to one if a local fault is detected	MD:O	Yes [ ] No [ ] N/A [ ]

#### 999.12.4.3 PMD to MDI optical specifications for 100GBASE-BR10

Item	Feature	Subclause	Value/Comment	Status	Support
BR101	Transmitter meets specifications in Table 999–6	999.6.1	Per the definitions in 999.7	BR10:M	Yes [ ] N/A [ ]
BR102	Receiver meets specifications in Table 999–7	999.6.2	Per the definitions in 999.7	BR10:M	Yes [ ] N/A [ ]

#### 999.12.4.4 PMD to MDI optical specifications for 100GBASE-BR20

Item	Feature	Subclause	Value/Comment	Status	Support
BR201	Transmitter meets specifications in Table 999–6	999.6.1	Per the definitions in 999.7	BR20:M	Yes [ ] N/A [ ]
BR202	Receiver meets specifications in Table 999–7	999.6.2	Per the definitions in 999.7	BR20:M	Yes [ ] N/A [ ]

#### 999.12.4.5 PMD to MDI optical specifications for 100GBASE-BR40

Item	Feature	Subclause	Value/Comment	Status	Support
BR401	Transmitter meets specifications in Table 999–6	999.6.1	Per the definitions in 999.7	BR40:M	Yes [ ] N/A [ ]
BR402	Receiver meets specifications in Table 999–7	999.6.2	Per the definitions in 999.7	BR40:M	Yes [ ] N/A [ ]

(Exact copy of subclause 160.12.4.3, 160.12.4.4 and 160.12.4.5)



#### 999.12.4.6 Optical measurement methods

Item	Feature	Subclause	Value/Comment	Status	Support
M1	General measurement	999.7	Meets the specifications defined in 999.7	M	Yes [ ]

#### 999.12.4.7 Environmental specifications

Item	Feature	Subclause	Value/Comment	Status	Support
ES1	General safety	999.8.1	Conforms to <b>J.2</b>	M	Yes [ ]
ES2	Laser safety —IEC Hazard Level 1	999.8.2	Conforms to Hazard Level 1 laser requirements defined in IEC 60825-1 and IEC 60825-2	M	Yes [ ]
ES3	Electromagnetic interference	999.8.5	Complies with applicable local and national codes for the limitation of electromagnetic interference	M	Yes [ ]

#### 999.12.4.8 Characteristics of the fiber optic cabling and MDI

Item	Feature	Subclause	Value/Comment	Status	Support
OC1	Fiber optic cabling	999.10	Meets the specifications defined in Table 999–12	INS: M	Yes [ ] N/A [ ]
OC2	Maximum discrete reflectance	999.12.2.2	Less than or equal to the value shown in Table 999–13	INS: M	Yes [ ] N/A [ ]
OC3	MDI requirements	999.10.3	Meets IEC 61753-1-1 and IEC 61753-021-2	INS: M	Yes [ ] N/A [ ]

(Exact copy of subclause 160.12.4.6, 160.12.4.7 and 160.12.4.8)

Thank You