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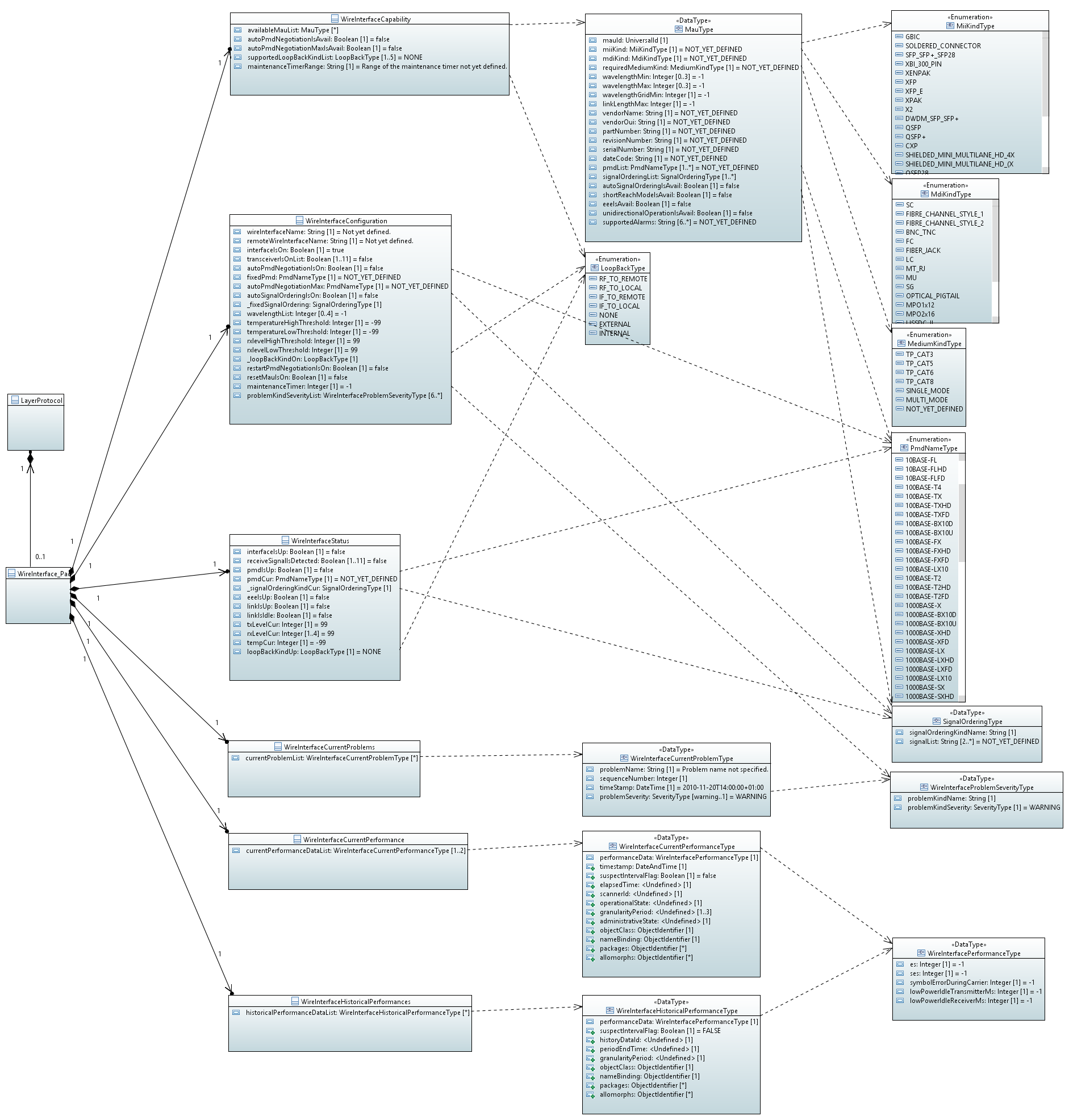
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# WireInterface\_Pac



## WireInterface\_Pac

Qualified Name: MicrowaveModel::ObjectClasses::WireInterface::WireInterface\_Pac

Applied stereotypes:

* OpenModelClass
* objectCreationNotification: YES
* objectDeletionNotification: YES
* support: MANDATORY

Table 1: Attributes for WireInterface\_Pac

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| \_layerProtocol | LayerProtocol  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NA * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | CoreModel-CoreNetworkModule-ObjectClasses:NetworkElement/\_ltpRefList/\_lpList/uuid |
| \_wirebasedinterfacecapability | WireInterfaceCapability  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NA * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | See referenced class |
| \_wirebasedinterfaceconfiguration | WireInterfaceConfiguration  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NA * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | See referenced class |
| \_wirebasedinterfacestatus | WireInterfaceStatus  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NA * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | See referenced class |
| \_wirebasedinterfacecurrentproblems | WireInterfaceCurrentProblems  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NA * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | See referenced class |
| \_wirebasedinterfacecurrentperformance | WireInterfaceCurrentPerformance  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NA * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | See referenced class |
| \_wirebasedinterfacehistoricalperformances | WireInterfaceHistoricalPerformances  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NA * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | See referenced class |

## WireInterfaceCapability

Qualified Name: MicrowaveModel::ObjectClasses::WireInterface::WireInterfaceCapability

Applied stereotypes:

* OpenModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* support: MANDATORY

Table 2: Attributes for WireInterfaceCapability

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| availableMauList | MauType  ./. | 0..\* | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | List of Medium Attachment Units (MAUs) that are available for being selected. If rate and service configuration (e.g. SFF-8079) are not supported, the MAU determined by hardware shall be described. |
| autoPmdNegotiationIsAvail | Boolean  false | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 1 = Indicates that device is supporting Auto-negotiation  Parameter |
| autoPmdNegotiationMaxIsAvail | Boolean  false | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 1 = Indicates that device is supporting definition of the maximum speed/Medium Attached Unit (MAU) automatically chosen when (autoNegotiationIsOn=1) |
| supportedLoopBackKindList | LoopBackType  NONE | 1..5 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | List of supported kinds of looping back of header information to the remote site.  802.3 45.2.1.12.1 PMA remote loopback ability |
| maintenanceTimerRange | String  Range of the maintenance timer not yet defined. | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_16\_BIT * unit: Byte * support: MANDATORY | MW IM  Available time periods for maintenance configurations (e.g. the loop back) to be described. Concrete values shall be separated by commas (e.g. '10, 60, 360'). Ranges shall be expressed as two values separated by a minus (e.g. '10-360'). |

## WireInterfaceConfiguration

Qualified Name: MicrowaveModel::ObjectClasses::WireInterface::WireInterfaceConfiguration

Applied stereotypes:

* OpenModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* support: MANDATORY

Table 3: Attributes for WireInterfaceConfiguration

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| wireInterfaceName | String  Not yet defined. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Parameter  Text field for the wire interface being named by the operator. Ideally used for entering unique numbers or names for unambiguously identifying the connection within the network |
| remoteWireInterfaceName | String  Not yet defined. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Learning from MW IM  Text field for defining the wire interface this one is connected with. Ideally used for entering unique numbers or names for unambiguously identifying the connection within the network |
| interfaceIsOn | Boolean  true | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 802.3 according 30.3.2.2.1 acPhyAdminControl  1 = Activation of the interface (it gets powered and can be managed even if the transceiver is not yet transmitting or receiving). In case there is no Medium Attachment Unit (MAU) (e.g. no SFP in the cage) SETting (interfaceIsOn=1) must be ignored and GETing must return (interfaceIsOn=0) |
| transceiverIsOnList | Boolean  false | 1..11 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 802.3 22.?.? and additionally 802.3 45.2.1.8 PMD transmit disable register (Register 1.9)  1 = Activation of the transmitter and receiver (e.g. laser) of the PHY; transceiverIsOnList[0]:total interface; transceiverIsOnList[1..10] different lanes of a multilane Medium Attachment Unit (MAU) |
| autoPmdNegotiationIsOn | Boolean  false | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Parameter  1 = Auto-negotiation is switched on |
| fixedPmd | PmdNameType  NOT\_YET\_DEFINED | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | If (autoPmdNegotiationIsOn=0) configuration of the concrete kind of Physical Medium Dependent (PMD). If (autoNegotiationIsOn=1) value of this field becomes irrelevant |
| autoPmdNegotiationMax | PmdNameType  NOT\_YET\_DEFINED | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Parameter  If (autoNegotiationIsOn=1) AND (autoNegotiationMauMaxIsAvail=1) configuration of the maximum speed/Physical Medium Dependent (PMD), which is automatically chosen by Auto-negotiation |
| autoSignalOrderingIsOn | Boolean  false | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 1 = e.g. auto-MDI-X is switched on |
| \_fixedSignalOrdering | SignalOrderingType  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | If (autoSignalOrderingIsOn=0) configuration of the concrete kind of signal ordering on the media (e.g. MDI, or MDI-X). If (autoSignalOrderingIsOn=1) value of this field becomes irrelevant |
| \_rxSyncPreference | invalid  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   Experimental | Configuration of the behaviour during the negotiation of the wire interface (master), which is sending a continuous stream of symbols for the remote site (slave) synchronizing its receiver on it  802.3 |
| shortReachModeIsOn | Boolean  false | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   Experimental | Activation of the Short Reach Mode for 10GBASE-T according to 802.3 45.2.1.64 |
| unidirectionalOperationIsOn | Boolean  false | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   Experimental | Parameter  802.3  If (autoNegotiationIsOn=1) OR manualDuplexSelection=0 (=half duplex), this bit is ignored. When autoNegotiationIsOn=0 AND manualDuplexSelection=1 (=full duplex): 1 = Enable transmit from media independent interface regardless of whether the PHY has determined that a valid link has been established, 0 = Enable transmit from media independent interface only when the PHY has determined that a valid link has been established |
| wavelengthList | Integer  -1 | 0..4 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: pm * support: MANDATORY | Wavelength of the signal of laser in pico meter; multiplicity=0..3 for 10GBASE-LX4 according to 802.3 53.5  SFF-8690 |
| temperatureHighThreshold | Integer  -99 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: LENGTH\_8\_BIT * unit: Celsius * support: MANDATORY   LikelyToChange | Threshold for alarming high temperature values.  Will move to somewhere in the Physical Segment of the Core IM |
| temperatureLowThreshold | Integer  -99 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: LENGTH\_8\_BIT * unit: Celsius * support: MANDATORY   LikelyToChange | Will move to somewhere in the Physical Segment of the Core IM  Threshold for alarming low temperature values. |
| rxlevelHighThreshold | Integer  99 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: LENGTH\_8\_BIT * unit: dBm * support: MANDATORY | Threshold for alarming high RX levels. |
| rxlevelLowThreshold | Integer  99 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: LENGTH\_8\_BIT * unit: dBm * support: MANDATORY | Threshold for alarming low RX levels. |
| \_loopBackKindOn | LoopBackType  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 802.3 according 22.2.4.1.2 Loopback  Maintenance Feature. The currently configured type of looping back of the wire interface header shall be expressed here. The received header is returned to the remote site.  Activation of local loopback mode on physical layer  Parameter |
| isolationIsOn | Boolean  false | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   Experimental | 1 = Activation of the separation of the PHY from higher network layers  802.3 |
| restartPmdNegotiationIsOn | Boolean  false | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 802.3  Restarts the auto negotiation process |
| resetMauIsOn | Boolean  false | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 802.3  Resets the entire Medium Access Unit (MAU) |
| maintenanceTimer | Integer  -1 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: no unit defined * support: MANDATORY | Time of existence of any maintenance configuration (e.g. the loop back). Valid values are defined in WireInterface::WireInterfaceCapability::maintenanceTimerRange  Parameter and MW IM |
| problemKindSeverityList | WireInterfaceProblemSeverityType  ./. | 6..\* | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Severity of the problem to be configured. |

## WireInterfaceStatus

Qualified Name: MicrowaveModel::ObjectClasses::WireInterface::WireInterfaceStatus

Applied stereotypes:

* OpenModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* support: MANDATORY

Table 4: Attributes for WireInterfaceStatus

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| interfaceIsUp | Boolean  false | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 1 = A Physical layer entity (PHY) exists (including Medium Attachment Unit (e.g. SFP) ) and it is powered and can be managed  802.3 according 30.3.2.1.7 aPhyAdminState |
| receiveSignalIsDetected | Boolean  false | 1..11 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 1 = Receiver (e.g. laser) detects signal; receiveSignalIsDetected[0]:total interface; receiveSignalIsDetected[1..10] different lanes of a multilane Medium Attachment Unit (MAU)  802.3 45.2.1.9 PMD receive signal detect |
| pmdIsUp | Boolean  false | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Inverse of 802.3 45.2.1.2.3 Fault (1.1.7)  If (interfaceIsUp=1) BUT 0 = there is a fault in either transmit or receive path |
| pmdCur | PmdNameType  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Indicates the kind of Physical Medium Dependent (PMD) currently operated at this interface |
| \_signalOrderingKindCur | SignalOrderingType  ./. | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Reference on a SignalOrderingType for expressing the currently active way of ordering the signals on the physical medium. Must contain a value as defined in TypeDefinitions::SignalOrderingType::signalOrderingKindName |
| rxSyncRole | invalid  ./. | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   Experimental | Indicates the result of the negotiation of the wire interface (master), which is sending a continuous stream of symbols for the remote site (slave) synchronizing its receiver on it |
| eeeIsUp | Boolean  false | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 1 = Energy Efficient Ethernet is supported at both ends of the link and it is activated |
| linkIsUp | Boolean  false | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 1 = (transceiverIsUp=1) AND communication is established to the remote site  Parameter |
| linkIsIdle | Boolean  false | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 1 = (linkIsUp=1) AND (eeeIsAvail=1) AND (eeeIsOn=1) AND link is currently in idle mode. If Energy Efficient Ethernet is not supported or switched off, this attribute must be 0. |
| txLevelCur | Integer  99 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: false * valueRange: no range constraint * bitLength: LENGTH\_8\_BIT * unit: dBm * support: MANDATORY | Current transmit power |
| rxLevelCur | Integer  99 | 1..4 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: false * valueRange: no range constraint * bitLength: LENGTH\_8\_BIT * unit: dBm * support: MANDATORY | Current receive power; Also used for receive signal power measured at the Medium Dependent Interface (MDI) of 10GBASE-T during training as described in 802.3 55.4.3.1 |
| tempCur | Integer  -99 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: false * valueRange: no range constraint * bitLength: LENGTH\_8\_BIT * unit: Celsius * support: MANDATORY   LikelyToChange | To be moved to CoreModel::CorePhysicalModel-Initial::EquipmentDetail::ObjectClasses::DynamicDetails::PhysicalProperties  Current temperature (in degree Celsius) inside the transceiver |
| loopBackKindUp | LoopBackType  NONE | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | The currently active (not just configured) type of looping back of the wire interface header shall be expressed here. The received header is returned to the remote site.  Paramter and MW IM |

## WireInterfaceCurrentProblems

Qualified Name: MicrowaveModel::ObjectClasses::WireInterface::WireInterfaceCurrentProblems

Applied stereotypes:

* OpenModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* support: MANDATORY

Table 5: Attributes for WireInterfaceCurrentProblems

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| currentProblemList | WireInterfaceCurrentProblemType  ./. | 0..\* | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY |  |

## WireInterfaceCurrentPerformance

Qualified Name: MicrowaveModel::ObjectClasses::WireInterface::WireInterfaceCurrentPerformance

Aggregated performance information of the air interface at a particular moment.

Applied stereotypes:

* OpenModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* support: MANDATORY

Table 6: Attributes for WireInterfaceCurrentPerformance

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| currentPerformanceDataList | WireInterfaceCurrentPerformanceType  ./. | 1..2 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | At least values of the counters, which are reset every 15 minutes, are to be provided. If available, the current values of the counters, which are reset every 24 hour, can be provided, too. |

## WireInterfaceHistoricalPerformances

Qualified Name: MicrowaveModel::ObjectClasses::WireInterface::WireInterfaceHistoricalPerformances

Aggregated performance information of the air interface for a pre-defined measurement interval.

Applied stereotypes:

* OpenModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* support: MANDATORY

Table 7: Attributes for WireInterfaceHistoricalPerformances

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| historicalPerformanceDataList | WireInterfaceHistoricalPerformanceType  ./. | 0..\* | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY |  |

# Data Types

## MauType

Qualified Name: MicrowaveModel::TypeDefinitions::MauType

Table 8: Attributes for MauType

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| mauId | UniversalId  ./. | 1 | R | OpenModelAttribute   * partOfObjectKey: 1 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Unique identifier of the Medium Attachment Unit (MAU) instance within the data about the device  802.3 according to 30.5.1.1.1 aMAUID |
| miiKind | MiiKindType  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | SFF8472\_SFF8636  Kind of Medium Independent Interface (MII) provided by this Medium Attachment Unit (MAU) (e.g. SFP, moldered port) |
| mdiKind | MdiKindType  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Kind of Medium Dependent Interface (MDI) provided by this Medium Attachment Unit (MAU) |
| requiredMediumKind | MediumKindType  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Kind of medium required for operating this Medium Attachment Unit (MAU), more like an information field |
| wavelengthMin | Integer  -1 | 0..3 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: pm * support: MANDATORY | Minimum laser wavelength in pico meter, -1 = not applicable, 0 = not known, wavelengthMax = wavelength cannot be configured; multiplicity=0..3 for 10GBASE-LX4 according to 802.3 53.5  SFF-8690 |
| wavelengthMax | Integer  -1 | 0..3 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: pm * support: MANDATORY | Maximum laser wavelength in pico meter, -1 = not applicable, 0 = not known, wavelengthMin = wavelength cannot be configured; multiplicity=0..3 for 10GBASE-LX4 according to 802.3 53.5  SFF-8690 |
| wavelengthGridMin | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: pm * support: MANDATORY | Minimum grid spacing supported by the transceiver, -1 = not applicable, 0 = not known  SFF-8690 |
| linkLengthMax | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: m * support: MANDATORY | Indicates the maximum link length that is supported by the transceiver on the medium, which is specified in the standard referenced in TypeDefinitions::phyType::phyKind. |
| vendorName | String  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   LikelyToChange | Name of the vendor of the transceiver  Will be moved to CoreModel::CorePhysicalModel-Initial::EquipmentDetail::ObjectClasses::InvariantDetails::ManufacturerProperties::manufacturerName |
| vendorOui | String  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   LikelyToChange | Will be moved to CoreModel::CorePhysicalModel-Initial::EquipmentDetail::ObjectClasses::InvariantDetails::ManufacturerProperties::manufacturerIdentifier  802.3 22.2.4.3.1 PHY Identifier; also referenced in 45.2.1.13 PMA/PMD package identifier  Describes the IEEE Company identifier of the vendor of the transceiver (1st part of 802.3 ResourceTypeID) |
| partNumber | String  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   LikelyToChange | Uniquely identifies the transceiver in the vendor's product lists  Will be moved to CoreModel::CorePhysicalModel-Initial::EquipmentDetail::ObjectClasses::InvariantDetails::EquipmentType::partTypeIdentifier  802.3 22.2.4.3.1 PHY Identifier; also referenced in 45.2.1.13 PMA/PMD package identifier as six bit model number |
| revisionNumber | String  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   LikelyToChange | 802.3 22.2.4.3.1 PHY Identifier; also referenced in 45.2.1.13 PMA/PMD package identifier as four-bit revision number  Will be moved to CoreModel::CorePhysicalModel-Initial::EquipmentDetail::ObjectClasses::InvariantDetails::EquipmentType::version  Identifies the revision number of the transceiver (3rd part of 802.3 ResourceTypeID) |
| serialNumber | String  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   LikelyToChange | Vendor's serial number for the transceiver. 0 = not applicable  Will be moved to CoreModel::CorePhysicalModel-Initial::EquipmentDetail::ObjectClasses::InvariantDetails::EquipmentInstance::serialNumber |
| dateCode | String  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   LikelyToChange | Will be moved to CoreModel::CorePhysicalModel-Initial::EquipmentDetail::ObjectClasses::InvariantDetails::EquipmentInstance::manufactureDate  Vendor's date code for the transceiver |
| pmdList | PmdNameType  NOT\_YET\_DEFINED | 1..\* | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | \*\*\* In case ordering of the signals depends on the PMD, pmdList has to be put into the datatype for the signal ordering \*\*\*  List of Physical Medium Dependent (PMD) that can be operated |
| signalOrderingList | SignalOrderingType  ./. | 1..\* | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Describes the different (e.g. MDI, MDI-X) ways of ordering the signals on the physical medium |
| autoSignalOrderingIsAvail | Boolean  false | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 1 = there is a mechanism for automatically crossing over tx and rx implemented |
| shortReachModeIsAvail | Boolean  false | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   Experimental | 1 = Indicates that Short Reach Mode for 10GBASE-T according to 802.3 45.2.1.64 is available |
| eeeIsAvail | Boolean  false | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | 1 = Indicates that Energy-Efficient Ethernet (EEE) is available at the device. |
| unidirectionalOperationIsAvail | Boolean  false | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY   Experimental | 1 = Medium Attachment Unit (MAU) able to transmit from Media Independent Interface (MII) regardless of whether the MAU has determined that a valid link has been established, 0 = MAU able to transmit from MII only when the MAU has determined that a valid link has been established  802.3 |
| supportedAlarms | String  NOT\_YET\_DEFINED | 6..\* | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | MW IM  Available alarms to be listed. Mandatory:'txFault', 'rxLos', 'tempHigh', 'tempLow', 'rxLevelHigh', 'rxLevelLow'. Optional:'vccHigh', 'vccLow', 'txBiasHigh', 'txBiasLow', 'txPowerHigh', 'txPowerLow', 'laserTempHigh', 'laserTempLow', 'tecCurrentHigh', 'tecCurrentLow'. Further alarms might be added by the device. Names are to be separated by commas. |

## WireInterfaceProblemSeverityType

Qualified Name: MicrowaveModel::TypeDefinitions::WireInterfaceProblemSeverityType

Table 9: Attributes for WireInterfaceProblemSeverityType

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| problemKindName | String  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 1 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Name of the alarm according to WireInterface::WireInterfaceCapability::supportedAlarms |
| problemKindSeverity | SeverityType  WARNING | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: YES * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Severity of this type of alarm. |

## WireInterfaceCurrentProblemType

Qualified Name: MicrowaveModel::TypeDefinitions::WireInterfaceCurrentProblemType

Table 10: Attributes for WireInterfaceCurrentProblemType

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| problemName | String  Problem name not specified. | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Name of the alarm according to WireInterface::WireInterfaceCapability::supportedAlarms |

## WireInterfacePerformanceType

Qualified Name: MicrowaveModel::TypeDefinitions::WireInterfacePerformanceType

Table 11: Attributes for WireInterfacePerformanceType

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| es | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: s * support: MANDATORY | 802.3 30.8.1.1.13 aLineESs  Number of errored seconds |
| ses | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: s * support: MANDATORY | 802.3 30.8.1.1.12 aLineSESs  Number of severely errored seconds |
| symbolErrorDuringCarrier | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: no unit defined * support: MANDATORY | Number of times when valid carrier was present and an invalid data symbol occured.  802.3 according to 30.3.2.1.5 aSymbolErrorDuringCarrier |
| lowPowerIdleTransmitterMs | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: ms * support: MANDATORY | Number of milliseconds (original counter expresses microseconds), during which the transmitter was in power save mode  802.3 similar to 30.3.2.1.8 aTransmitLPIMicroseconds |
| lowPowerIdleReceiverMs | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: ms * support: MANDATORY | Number of milliseconds (original counter expresses microseconds), during which the receiver was in power save mode  802.3 similar to 30.3.2.1.9 aReceiveLPIMicroseconds |

## WireInterfaceCurrentPerformanceType

Qualified Name: MicrowaveModel::TypeDefinitions::WireInterfaceCurrentPerformanceType

Turns performance information into current performance information by inheriting from OTN\_CurrentData.

Table 12: Attributes for WireInterfaceCurrentPerformanceType

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| performanceData | WireInterfacePerformanceType  ./. | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: false * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY |  |

## WireInterfaceHistoricalPerformanceType

Qualified Name: MicrowaveModel::TypeDefinitions::WireInterfaceHistoricalPerformanceType

Turns performance information into historical performance information by inheriting from OTN\_HistoryData.

Table 13: Attributes for WireInterfaceHistoricalPerformanceType

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| performanceData | WireInterfacePerformanceType  ./. | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY |  |

# Enumeration Types

## SeverityType

Qualified Name: MicrowaveModel::TypeDefinitions::SeverityType

According to ITU-T M.3160

Contains Enumeration Literals:

* NON\_ALARMED:
* WARNING:
* MINOR:
* MAJOR:
* CRITICAL:

## LoopBackType

Qualified Name: MicrowaveModel::TypeDefinitions::LoopBackType

Contains Enumeration Literals:

* RF\_TO\_REMOTE:
  + Returning the header information of the remote site back to the remote site on the radio interface between both outdoor units.
* RF\_TO\_LOCAL:
  + Returning the header information of the local site back to the local site on the radio interface between both outdoor units.
* IF\_TO\_REMOTE:
  + Returning the header information of the remote site back to the remote site on the intermediate frequency interface between local indoor unit and outdoor unit.
* IF\_TO\_LOCAL:
  + Returning the header information of the local site back to the local site on the intermediate frequency interface between local indoor unit and outdoor unit.
* NONE:
* IF:
  + Intermediate Frequency on the interface between indoor and outdoor unit.
    - Deprecated
* RF:
  + Radio Frequency on the interface between outdoor unit and outdoor unit at the remote site.
    - Deprecated
* NON:
  + - Deprecated
* EXTERNAL:
  + If the internal loopback test succeeds but the external loopback fails, the Medium Attachment Unit (MAU) is faulty (e.g. SFP has to be replaced)
  + Parameter
* INTERNAL:
  + If the internal loopback test fails, the Data Terminal Equipment (DTE) is faulty (e.g. board has to be replaced)
  + Parameter

## MdiKindType

Qualified Name: MicrowaveModel::TypeDefinitions::MdiKindType

Contains Enumeration Literals:

* SC:
  + Subscriber Connector
* FIBRE\_CHANNEL\_STYLE\_1:
  + Copper connector
* FIBRE\_CHANNEL\_STYLE\_2:
  + Copper connector
* BNC\_TNC:
  + Bayonet/Threaded Neill-Concelman
* FC:
  + Fibre Channel coax headers
* FIBER\_JACK:
* LC:
  + Lucent Connector
* MT\_RJ:
  + Mechanical Transfer - Registered Jack
* MU:
  + Multiple Optical
* SG:
* OPTICAL\_PIGTAIL:
* MPO1x12:
  + Multifiber Parallel Optic
* MPO2x16:
  + Multifiber Parallel Optic
* HSSDC\_II:
  + High Speed Serial Data Connector
* COPPER\_PIGTAIL:
* RJ45:
  + 8P8C, according to Clause 3 and Figures 1 through 5 of IEC 60603-7
* NO\_SEPERABLE\_CONNECTOR:
* MXC2x16:
* ST:
  + according to IEC 60874-10:1992, also often called BFOC/2.5
* NOT\_YET\_DEFINED:

## MediumKindType

Qualified Name: MicrowaveModel::TypeDefinitions::MediumKindType

Contains Enumeration Literals:

* \_to be filled:
  + - Experimental
* TP\_CAT3:
* TP\_CAT5:
* TP\_CAT6:
* TP\_CAT8:
* SINGLE\_MODE:
* MULTI\_MODE:
* NOT\_YET\_DEFINED:

## MiiKindType

Qualified Name: MicrowaveModel::TypeDefinitions::MiiKindType

Contains Enumeration Literals:

* GBIC:
* SOLDERED\_CONNECTOR:
* SFP\_SFP+\_SFP28:
* XBI\_300\_PIN:
* XENPAK:
* XFP:
* XFP\_E:
* XPAK:
* X2:
* DWDM\_SFP\_SFP+:
* QSFP:
* QSFP+:
* CXP:
* SHIELDED\_MINI\_MULTILANE\_HD\_4X:
* SHIELDED\_MINI\_MULTILANE\_HD\_(X:
* QSFP28:
* CXP2:
* CDFP\_STYLE1\_STYLE2:
* SHIELDED\_MINI\_MULTILANE\_HD\_4X\_FAN\_OUT:
* SHIELDED\_MINI\_MULTILANE\_HD\_8X\_FAN\_OUT:
* CDFP\_STYLE3:
* QSFP\_MICRO:
* QSFP\_DD:
* QSFP+\_RATE\_SELECT\_V1:
* QSFP+\_RATE\_SELECT\_V2:
* NOT\_YET\_DEFINED:

## PmdNameType

Qualified Name: MicrowaveModel::TypeDefinitions::PmdNameType

Contains Enumeration Literals:

* 2BASE-TL:
  + Ethernet First Mile (EFM) is not supported within this version of the model
  + Voice grade twisted-pair cabling Physical layer entity (PHY) as specified in 802.3 Clause 61 and 63
    - Experimental
* 10BASE5:
  + Thick coax Medium Attachment Unit (MAU) as specified in 802.3 Clause 8
* FOIRL:
  + FOIRL Medium Attachment Unit (MAU) as specified in 802.3 Clause 9.9
* 10BASE2:
  + Thin coax Medium Attachment Unit (MAU) as specified in 802.3 Clause 10
* 10BROAD36:
  + Broadband DTE Medium Attachment Unit (MAU) as specified in 802.3 Clause 11
* 10BASE-T:
  + Twisted-pair cabling Medium Attachment Unit (MAU) as specified in 802.3 Clause 14. Only to be applied when duplex mode unknown
* 10BASE-THD:
  + Twisted-pair cabling Medium Attachment Unit (MAU) as specified in 802.3 Clause 14 in half duplex mode
* 10BASE-TFD:
  + Twisted-pair cabling Medium Attachment Unit (MAU) as specified in 802.3 Clause 14 in full duplex mode
* 10PASS-TS:
  + Ethernet First Mile (EFM) is not supported within this version of the model
  + Voice grade twisted-pair cabling Physical layer entity (PHY) as specified in 802.3 Clause 61 and 62
    - Experimental
* 10BASE-FP:
  + Passive fiber Medium Attachment Unit (MAU) as specified in 802.3 Clause 16
* 10BASE-FB:
  + Synchronous fiber Medium Attachment Unit (MAU) as specified in 802.3 Clause 17
* 10BASE-FL:
  + Asynchronous fiber Medium Attachment Unit (MAU) as specified in 802.3 Clause 18. Only to be applied when duplex mode unknown
* 10BASE-FLHD:
  + Asynchronous fiber Medium Attachment Unit (MAU) as specified in 802.3 Clause 18 in half duplex mode
* 10BASE-FLFD:
  + Asynchronous fiber Medium Attachment Unit (MAU) as specified in 802.3 Clause 18 in full duplex mode
* 100BASE-T4:
  + Four-pair Category 3 twisted-pair cabling as specified in 802.3 Clause 23
* 100BASE-TX:
  + Two-pair Category 5 twisted-pair cabling as specified in 802.3 Clause 25. Only to be applied when duplex mode unknown
* 100BASE-TXHD:
  + Two-pair Category 5 twisted-pair cabling as specified in 802.3 Clause 25 in half duplex mode
* 100BASE-TXFD:
  + Two-pair Category 5 twisted-pair cabling as specified in 802.3 Clause 25 in full duplex mode
* 100BASE-BX10D:
  + One single-mode fiber Optical Line Terminal (OLT=>office side) Physical layer entity (PHY) as specified in 802.3 Clause 58
* 100BASE-BX10U:
  + One single-mode fiber Optical Network Unit (ONU=>customer side) Physical layer entity (PHY) as specified in 802.3 Clause 58
* 100BASE-FX:
  + X fiber over Physical Medium Dependent (PMD) as specified in 802.3 Clause 26. Only to be applied when duplex mode unknown
* 100BASE-FXHD:
  + X fiber over Physical Medium Dependent (PMD) as specified in 802.3 Clause 26 in half duplex mode
* 100BASE-FXFD:
  + X fiber over Physical Medium Dependent (PMD) as specified in 802.3 Clause 26 in full duplex mode
* 100BASE-LX10:
  + Two fiber Physical layer entity (PHY) as specified in 802.3 Clause 58
* 100BASE-T2:
  + Two-pair Category 3 twisted-pair cabling as specified in 802.3 Clause 32. Only to be applied when duplex mode unknown
* 100BASE-T2HD:
  + Two-pair Category 3 twisted-pair cabling as specified in 802.3 Clause 32 in half duplex mode
* 100BASE-T2FD:
  + Two-pair Category 3 twisted-pair cabling as specified in 802.3 Clause 32 in full duplex mode
* 1000BASE-X:
  + X as specified in 802.3 Clause 36 over undefined Physical Medium Dependent (PMD). Not to be configured and only to be returned when underlying PMD and duplex mode unknown
* 1000BASE-BX10D:
  + One single-mode fiber Optical Line Terminal (OLT=>office side) Physical layer entity (PHY) as specified in 802.3 Clause 59
* 1000BASE-BX10U:
  + One single-mode fiber Optical Network Unit (ONU=>customer side) Physical layer entity (PHY) as specified in 802.3 Clause 59
* 1000BASE-XHD:
  + X Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) as specified in 802.3 Clause 36 over undefined Physical Medium Dependent (PMD) in half duplex mode. Not to be configured and only to be returned when underlying PMD unknown
* 1000BASE-XFD:
  + X Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) as specified in 802.3 Clause 36 over undefined Physical Medium Dependent (PMD) in full duplex mode. Not to be configured and only to be returned when underlying PMD unknown
* 1000BASE-LX:
  + X fiber over long-wavelength laser Physical Medium Dependent (PMD) as specified in 802.3 Clause 38. Only to be applied when duplex mode unknown
* 1000BASE-LXHD:
  + X fiber over long-wavelength laser Physical Medium Dependent (PMD) as specified in 802.3 Clause 38 in half duplex mode
* 1000BASE-LXFD:
  + X fiber over long-wavelength laser Physical Medium Dependent (PMD) as specified in 802.3 Clause 38 in full duplex mode
* 1000BASE-LX10:
  + Two fiber 10km Physical layer entity (PHY) as specified in 802.3 Clause 59
* 1000BASE-PX10-D:
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
  + One single-mode fiber Optical Multipoint (OMP) Optical Line Terminal (OLT=>office side) Physical layer entity (PHY), as specified in 802.3 Clause 60, supporting a distance of at least 10 km, and a split of at least 1:16
    - Experimental
* 1000BASE-PX10-U:
  + One single-mode fiber Optical Multipoint (OMP) Optical Network Unit (ONU=>customer side) Physical layer entity (PHY), as specified in 802.3 Clause 60, supporting a distance of at least 10 km, and a split of at least 1:16
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
    - Experimental
* 1000BASE-PX20-D:
  + One single-mode fiber Optical Multipoint (OMP) Optical Line Terminal (OLT=>office side) Physical layer entity (PHY), as specified in 802.3 Clause 60, supporting a distance of at least 20 km, and a split of at least 1:16
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
    - Experimental
* 1000BASE-PX20-U:
  + One single-mode fiber Optical Multipoint (OMP) Optical Network Unit (ONU=>customer side) Physical layer entity (PHY), as specified in 802.3 Clause 60, supporting a distance of at least 20 km, and a split of at least 1:16
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
    - Experimental
* 1000BASE-PX30-D:
  + One single-mode fiber Optical Multipoint (OMP) Optical Line Terminal (OLT=>office side) Physical layer entity (PHY), as specified in 802.3 Clause 60, supporting a distance of at least 20 km, and a split of at least 1:32
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
    - Experimental
* 1000BASE-PX30-U:
  + One single-mode fiber Optical Multipoint (OMP) Optical Network Unit (ONU=>customer side) Physical layer entity (PHY), as specified in 802.3 Clause 60, supporting a distance of at least 20 km, and a split of at least 1:32
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
    - Experimental
* 1000BASE-PX40-D:
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
  + One single-mode fiber Optical Multipoint (OMP) Optical Line Terminal (OLT=>office side) Physical layer entity (PHY) as specified in 802.3 Clause 60, supporting a distance of at least 20 km, and a split of at least 1:64
    - Experimental
* 1000BASE-PX40-U:
  + One single-mode fiber Optical Multipoint (OMP) Optical Network Unit (ONU=>customer side) Physical layer entity (PHY) as specified in 802.3 Clause 60, supporting a distance of at least 20 km, and a split of at least 1:64
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
    - Experimental
* 1000BASE-SX:
  + X fiber over short-wavelength laser Physical Medium Dependent (PMD) as specified in 802.3 Clause 38. Only to be applied when duplex mode unknown
* 1000BASE-SXHD:
  + X fiber over short-wavelength laser Physical Medium Dependent (PMD) as specified in 802.3 Clause 38 in half duplex mode
* 1000BASE-SXFD:
  + X fiber over short-wavelength laser Physical Medium Dependent (PMD) as specified in 802.3 Clause 38 in full duplex mode
* 1000BASE-CX:
  + X copper over 150-Ohm balanced cable Physical Medium Dependent (PMD) as specified in 802.3 Clause 39. Only to be applied when duplex mode unknown
* 1000BASE-CXHD:
  + X copper over 150-Ohm balanced cable Physical Medium Dependent (PMD) as specified in 802.3 Clause 39 in half duplex mode
* 1000BASE-CXFD:
  + X copper over 150-Ohm balanced cable Physical Medium Dependent (PMD) as specified in 802.3 Clause 39 in full duplex mode
* 1000BASE-KX:
  + X Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over an electrical backplane Physical Medium Dependent (PMD) as specified in 802.3 Clause 70
* 1000BASE-T:
  + Four-pair Category 5 twisted-pair cabling Physical layer entity (PHY) as specified in 802.3 Clause 40. Only to be applied when duplex mode unknown
* 1000BASE-THD:
  + Four-pair Category 5 twisted-pair cabling Physical layer entity (PHY) as specified in 802.3 Clause 40 in half duplex mode
* 1000BASE-TFD:
  + Four-pair Category 5 twisted-pair cabling Physical layer entity (PHY) as specified in 802.3 Clause 40 in full duplex mode
* 10GBASE-X:
  + X Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) as specified in 802.3 Clause 48 over undefined Physical Medium Dependent (PMD). Not to be configured and only to be returned when underlying PMD unknown
* 10GBASE-LX4:
  + X fiber over 4 lane 1310nm optics as specified in 802.3 Clause 53
* 10GBASE-CX4:
  + X copper over 8 pair 100-Ohm balanced cable as specified in 802.3 Clause 54
* 10GBASE-KX4:
  + X Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over an electrical backplane Physical Medium Dependent (PMD) as specified in 802.3 Clause 71
* 10GBASE-R:
  + R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) as specified in 802.3 Clause 49 over undefined Physical Medium Dependent (PMD). Not to be configured and only to be returned when underlying PMD unknown
* 10GBASE-ER:
  + R fiber over 1550nm optics as specified in 802.3 Clause 52
* 10GBASE-LR:
  + R fiber over 1310nm optics as specified in 802.3 Clause 52
* 10GBASE-SR:
  + R fiber over 850nm optics as specified in 802.3 Clause 52
* 10GBASE-LRM:
  + R fiber over 1310 nm optics as specified in 802.3 Clause 68
* 10GBASE-KR:
  + R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over an electrical backplane Physical Medium Dependent (PMD) as specified in 802.3 Clause 72
* 10GBASE-W:
  + W Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) as specified in 802.3 Clause 49 and 50 over undefined Physical Medium Dependent (PMD). Not to be configured and only to be returned when underlying PMD unknown
  + 10GE over STM-64 (SDH) needs further investigation and is not supported within this version of the model
    - Experimental
* 10GBASE-EW:
  + W fiber over 1550nm optics as specified in 802.3 Clause 52
  + 10GE over STM-64 (SDH) needs further investigation and is not supported within this version of the model
    - Experimental
* 10GBASE-LW:
  + W fiber over 1310nm optics as specified in 802.3 Clause 52
  + 10GE over STM-64 (SDH) needs further investigation and is not supported within this version of the model
    - Experimental
* 10GBASE-SW:
  + W fiber over 850nm optics as specified in 802.3 Clause 52
  + 10GE over STM-64 (SDH) needs further investigation and is not supported within this version of the model
    - Experimental
* 10GBASE-T:
  + Four-pair twisted-pair balanced copper cabling Physical layer entity (PHY) as specified in 802.3 Clause 55
* 10/1GBASE-PRX-D1:
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
  + One single-mode fiber 10.3125 GBd continuous downstream / 1.25 GBd burst mode upstream Optical Line Terminal (OLT=>office side) Physical layer entity (PHY) as specified in 802.3 Clause 75
    - Experimental
* 10/1GBASE-PRX-D2:
  + One single-mode fiber 10.3125 GBd continuous downstream / 1.25 GBd burst mode upstream Optical Line Terminal (OLT=>office side) Physical layer entity (PHY) as specified in 802.3 Clause 75
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
    - Experimental
* 10/1GBASE-PRX-D3:
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
  + One single-mode fiber 10.3125 GBd continuous downstream / 1.25 GBd burst mode upstream Optical Line Terminal (OLT=>office side) Physical layer entity (PHY) as specified in 802.3 Clause 75
    - Experimental
* 10/1GBASE-PRX-D4:
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
  + One single-mode fiber 10.3125 GBd continuous downstream / 1.25 GBd burst mode upstream Optical Line Terminal (OLT=>office side) Physical layer entity (PHY) as specified in 802.3 Clause 75
    - Experimental
* 10/1GBASE-PRX-U1:
  + One single-mode fiber 10.3125 GBd continuous downstream / 1.25 GBd burst mode upstream Optical Network Unit (ONU=>customer side) Physical layer entity (PHY) as specified in 802.3 Clause 75
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
    - Experimental
* 10/1GBASE-PRX-U2:
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
  + One single-mode fiber 10.3125 GBd continuous downstream / 1.25 GBd burst mode upstream Optical Network Unit (ONU=>customer side) Physical layer entity (PHY) as specified in 802.3 Clause 75
    - Experimental
* 10/1GBASE-PRX-U3:
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
  + One single-mode fiber 10.3125 GBd continuous downstream / 1.25 GBd burst mode upstream Optical Network Unit (ONU=>customer side) Physical layer entity (PHY) as specified in 802.3 Clause 75
    - Experimental
* 10/1GBASE-PRX-U4:
  + Ethernet Passive Optical Networks (EPON) operating over Point-to-MultiPoint topologies are not supported within this version of the model
  + One single-mode fiber 10.3125 GBd continuous downstream / 1.25 GBd burst mode upstream Optical Network Unit (ONU=>customer side) Physical layer entity (PHY) as specified in 802.3 Clause 75
    - Experimental
* 10GBASE-PR-D1:
  + One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream Optical Line Terminal (OLT=>office side) Physical layer entity (PHY) as specified in 802.3 Clause 75
* 10GBASE-PR-D2:
  + One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream Optical Line Terminal (OLT=>office side) Physical layer entity (PHY) as specified in 802.3 Clause 75
* 10GBASE-PR-D3:
  + One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream Optical Line Terminal (OLT=>office side) Physical layer entity (PHY) as specified in 802.3 Clause 75
* 10GBASE-PR-D4:
  + One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream Optical Line Terminal (OLT=>office side) Physical layer entity (PHY) as specified in 802.3 Clause 75
* 10GBASE-PR-U1:
  + One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream Optical Network Unit (ONU=>customer side) Physical layer entity (PHY) as specified in 802.3 Clause 75
* 10GBASE-PR-U2:
  + One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream Optical Network Unit (ONU=>customer side) Physical layer entity (PHY) as specified in 802.3 Clause 75
* 10GBASE-PR-U3:
  + One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream Optical Network Unit (ONU=>customer side) Physical layer entity (PHY) as specified in 802.3 Clause 75
* 10GBASE-PR-U4:
  + One single-mode fiber 10.3125 GBd continuous downstream / burst mode upstream Optical Network Unit (ONU=>customer side) Physical layer entity (PHY) as specified in 802.3 Clause 75
* 40GBASE-R:
  + Multi-lane PCS as specified in 802.3 Clause 82 over undefined Physical Medium Attachment (PMA) and Physical Medium Dependent (PMD). Not to be configured and only to be returned when underlying PMD unknown
* 40GBASE-KR4:
  + 40GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over an electrical backplane Physical Medium Dependent (PMD) as specified in 802.3 Clause 84
* 40GBASE-CR4:
  + 40GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over 4 lane shielded copper balanced cable Physical Medium Dependent (PMD) as specified in 802.3 Clause 85
* 40GBASE-SR4:
  + 40GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over 4 lane multimode fiber Physical Medium Dependent (PMD) as specified in 802.3 Clause 86
* 4x10GBASE-SR:
  + 4 times 10GBASE-S compatible to 802.3 Clause 52 over 4 lane multimode fiber
* 40GBASE-LR4:
  + 40GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over 4 WDM lane single mode fiber Physical Medium Dependent (PMD), with long reach, as specified in 802.3 Clause 87
* 40GBASE-ER4:
  + 40GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over 4 WDM lane single mode fiber Physical Medium Dependent (PMD), with extended reach, as specified in 802.3 Clause 87
* 40GBASE-FR:
  + 40GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over single mode fiber Physical Medium Dependent (PMD) as specified in 802.3 Clause 89
* 100GBASE-R:
  + Multi-lane PCS as specified in 802.3 Clause 82 over undefined 100GBASE-R or 100GBASE-P Physical Medium Attachment (PMA) and Physical Medium Dependent (PMD). Not to be configured and only to be returned when underlying PMD unknown
* 100GBASE-CR4:
  + 100GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over 4 lane shielded copper balanced cable Physical Medium Dependent (PMD) as specified in 802.3 Clause 92
* 100GBASE-KR4:
  + 100GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over an electrical backplane Physical Medium Dependent (PMD) as specified in 802.3 Clause 93
* 100GBASE-KP4:
  + 100GBASE-P Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over an electrical backplane Physical Medium Dependent (PMD) as specified in 802.3 Clause 94
* 100GBASE-CR10:
  + 100GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over 10 lane shielded copper balanced cable Physical Medium Dependent (PMD) as specified in 802.3 Clause 85
* 100GBASE-SR4:
  + 100GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over 4 lane multimode fiber Physical Medium Dependent (PMD) as specified in 802.3 Clause 95
* 100GBASE-SR10:
  + 100GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over 10 lane multimode fiber Physical Medium Dependent (PMD) as specified in 802.3 Clause 86
* 2x40GBASE-SR:
  + 2 times 40GBASE-S compatible to 802.3 Clause 86 over 10 lane multimode fiber
* 10x10GBASE-SR:
  + 10 times 10GBASE-S compatible to 802.3 Clause 52 over 10 lane multimode fiber
* 12x10GBASE-SR:
  + 12 times 10GBASE-S compatible to 802.3 Clause 52 over 12 lane multimode fiber
* 100GBASE-LR4:
  + 100GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over 4 WDM lane single mode fiber Physical Medium Dependent (PMD), with long reach, as specified in 802.3 Clause 88
* 100GBASE-ER4:
  + 100GBASE-R Physical Coding Sublayer (PCS) and Physical Medium Attachment (PMA) over 4 WDM lane single mode fiber Physical Medium Dependent (PMD), with extended reach, as specified in 802.3 Clause 88
* NOT\_YET\_DEFINED:

# Super Classes

## MwCurrentProblem

Qualified Name: MicrowaveModel::ObjectClasses::SuperClasses::MwCurrentProblem

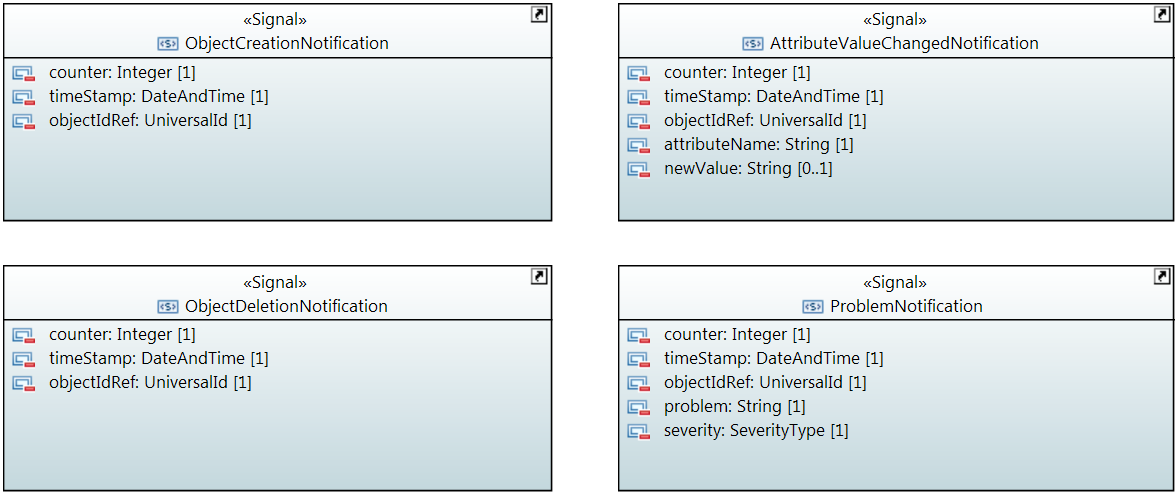
Applied stereotypes:

* OpenModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* support: MANDATORY

Table 14: Attributes for MwCurrentProblem

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| sequenceNumber | Integer  ./. | 1 | R | OpenModelAttribute   * partOfObjectKey: 1 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: no unit defined * support: MANDATORY | Unique sequence number of the current problem object. |
| timeStamp | DateTime  2010-11-20T14:00:00+01:00 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Time and date of the problem. \_format:yyyyMMddhhmmss.s[Z|{+|-}HHMm]; yyyy='0000'..'9999' year; MM='01'..'12' month; dd='01'..'31' day; hh='00'..'23' hour; mm='00'..'59' minute; ss='00'..'59' second; s='.0'..'.9'tenth of second (set to '.0' if EMS or NE cannot support this granularity); Z='Z' indicates UTC (rather than local time); {+|-}='+' or '-' delta from UTC; HH='00'..'23' time zone difference in hours; Mm='00'..'59' time zone difference in minutes. |
| problemSeverity | SeverityType  WARNING | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Severity of the alarm. |

# Notifications



## AttributeValueChangedNotification

Qualified Name: MicrowaveModel::Notifications::AttributeValueChangedNotification

To be sent when an attribute has changed and one or more controllers have to update their data.

Applied stereotypes:

* OpenModelNotification
* triggerConditionList: invalid
* support: MANDATORY

Table 15: Attributes for AttributeValueChangedNotification

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| counter | Integer  -1 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: no unit defined * support: MANDATORY | Counts attribute value changed notifications. |
| timeStamp | DateTime  2010-11-20T14:00:00+01:00 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY |  |
| objectIdRef | UniversalId  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | ID of the affected MW\_AirInterface\_Pac, MW\_AirInterfaceDiversity\_Pac, MW\_Structure\_Pac, MW\_PureEthernetStructure\_Pac, MW\_HybridMwStructure\_Pac, MW\_Container\_Pac, MW\_EthernetContainer\_Pac or MW\_TdmContainer\_Pac. |
| attributeName | String  Attribute name not specified. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Name of the attribute that has been changed. |
| newValue | String  New value not specified. | 0..1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Attribute value converted to a string (xml, json, ...) |

## ObjectCreationNotification

Qualified Name: MicrowaveModel::Notifications::ObjectCreationNotification

To be sent when a new MW\_AirInterface\_Pac, MW\_AirInterfaceDiversity\_Pac, MW\_Structure\_Pac, MW\_PureEthernetStructure\_Pac, MW\_HybridMwStructure\_Pac, MW\_Container\_Pac, MW\_EthernetContainer\_Pac or MW\_TdmContainer\_Pac has to be instancieted in the controller.

Applied stereotypes:

* OpenModelNotification
* triggerConditionList: invalid
* support: MANDATORY

Table 16: Attributes for ObjectCreationNotification

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| counter | Integer  -1 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: no unit defined * support: MANDATORY | Counts object creation notifications. |
| timeStamp | DateTime  2010-11-20T14:00:00+01:00 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY |  |
| objectIdRef | UniversalId  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | ID of the affected MW\_AirInterface\_Pac, MW\_AirInterfaceDiversity\_Pac, MW\_Structure\_Pac, MW\_PureEthernetStructure\_Pac, MW\_HybridMwStructure\_Pac, MW\_Container\_Pac, MW\_EthernetContainer\_Pac or MW\_TdmContainer\_Pac. |
| objectType | String  Type of created object not specified. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Type of Object to be chosen from the following list of values: 'MW\_AirInterface\_Pac', 'MW\_AirInterfaceDiversity\_Pac', 'MW\_Structure\_Pac', 'MW\_PureEthernetStructure\_Pac', 'MW\_HybridMwStructure\_Pac', 'MW\_Container\_Pac', 'MW\_EthernetContainer\_Pac' or 'MW\_TdmContainer\_Pac'. |

## ObjectDeletionNotification

Qualified Name: MicrowaveModel::Notifications::ObjectDeletionNotification

To be sent when a new MW\_AirInterface\_Pac, MW\_AirInterfaceDiversity\_Pac, MW\_Structure\_Pac, MW\_PureEthernetStructure\_Pac, MW\_HybridMwStructure\_Pac, MW\_Container\_Pac, MW\_EthernetContainer\_Pac or MW\_TdmContainer\_Pac instance has to be deleted in the controller.

Applied stereotypes:

* OpenModelNotification
* triggerConditionList: invalid
* support: MANDATORY

Table 17: Attributes for ObjectDeletionNotification

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| counter | Integer  -1 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: no unit defined * support: MANDATORY | Counts object deletion notifications. |
| timeStamp | DateTime  2010-11-20T14:00:00+01:00 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY |  |
| objectIdRef | UniversalId  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | ID of the affected MW\_AirInterface\_Pac, MW\_AirInterfaceDiversity\_Pac, MW\_Structure\_Pac, MW\_PureEthernetStructure\_Pac, MW\_HybridMwStructure\_Pac, MW\_Container\_Pac, MW\_EthernetContainer\_Pac or MW\_TdmContainer\_Pac. |

## ProblemNotification

Qualified Name: MicrowaveModel::Notifications::ProblemNotification

To be sent when a problem occurs at a MW\_AirInterface\_Pac, MW\_AirInterfaceDiversity\_Pac, MW\_Structure\_Pac, MW\_PureEthernetStructure\_Pac, MW\_HybridMwStructure\_Pac, MW\_Container\_Pac, MW\_EthernetContainer\_Pac or MW\_TdmContainer\_Pac.

Applied stereotypes:

* OpenModelNotification
* triggerConditionList: invalid
* support: MANDATORY

Table 18: Attributes for ProblemNotification

| **Attribute Name** | **Type DefaultValue** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| --- | --- | --- | --- | --- | --- |
| counter | Integer  -1 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: LENGTH\_32\_BIT * unit: no unit defined * support: MANDATORY | Counts problem notifications |
| timeStamp | DateTime  2010-11-20T14:00:00+01:00 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY |  |
| objectIdRef | UniversalId  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | ID of the affected MW\_AirInterface\_Pac, MW\_AirInterfaceDiversity\_Pac, MW\_Structure\_Pac, MW\_PureEthernetStructure\_Pac, MW\_HybridMwStructure\_Pac, MW\_Container\_Pac, MW\_EthernetContainer\_Pac or MW\_TdmContainer\_Pac. |
| problem | String  Problem name not specified. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Name of the problem according to AirInterface::AirInterfaceCapability::supportedAlarms or AirInterfaceDiversity::AirInterfaceDiversityCapability::supportedAlarms or Structure::StructureCapability::supportedAlarms or PureEthernetStructure::PureEthernetStructureCapability::supportedAlarms or HybridMwStructure::HybridMwStructureCapability::supportedAlarms or Container::ContainerCapability::supportedAlarms or EthernetContainer::EthernetContainerCapability::supportedAlarms or TdmContainer::TdmContainerCapability::supportedAlarms. |
| severity | SeverityType  WARNING | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * AVC: NO * isInvariant: true * valueRange: no range constraint * bitLength: NA * unit: no unit defined * support: MANDATORY | Severity of the problem according to AirInterface::AirInterfaceConfiguration::problemSeverityList, AirInterfaceDiversity::AirInterfaceDiversityConfiguration::problemSeverityList, Structure::StructureConfiguration::problemSeverityList, PureEthernetStructure::PureEthernetStructureConfiguration::problemSeverityList, HybridMwStructure::HybridMwStructureConfiguration::problemSeverityList, Container::ContainerConfiguration::problemSeverityList, EthernetContainer::EthernetContainerConfiguration::problemSeverityList or TdmContainer::TdmContainerConfiguration::problemSeverityList |