Optical-Module Parameter Inquery and Alarm Configuration

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Chapter 1 Optical Module's Parameter Query and Alarms

1.1 Introduction of Optical Module's Parameters

The parameters of optical module include the light transmission power, the light reception power, the temperature, the power-supply voltage and the bias current. The five parameters have basically decided whether the optical module can work normally. If one of the five parameters is abnormal, ONU registration will be abnormal or packet loss will occur on the link.

1.2 Browsing the Parameters of Optical Module

1.2.1 Browsing the Parameters of Optical Modules on All PON Ports

The command which is used to browse all optical-module parameters is shown below:

Procedure	Purpose
show epon optical-transceiver-diagnosis	Browses all parameters of optical module including the light transmission power, the light reception power, the temperature, the power-supply voltage and the bias current.

1.2.2 Browsing the Optical-Module Parameters on a PON Port

The command which is used to browse the optical-module parameters of a certain PON port is shown below:

Note: The light transmission power, temperature, power-supply voltage and bias current are all for the PON port. The light reception power is for an ONU, that is, it is for a LLID port, so it needs to be displayed separately. Here the to-be-queried port is the PON port, so the light reception power is excluded.

Procedure	Purpose
show epon optical-transceiver-diagnosis interface *epon port*	Browses the optical-module parameters of a designated PON port, including the light transmission power, the temperature, the power-supply voltage and the bias current.

1.2.3 Browsing the Light Reception Power for an ONU on a PON Port

The command to browse the light reception power for an ONU on a PON port is shown below:

Procedure	Purpose
show epon optical-transceiver-diagnosis interface *epon port:sequence*	Browses the light reception power for an ONU on a PON port.

1.3 Setting the Optical-Module Parameter Alarm

1.3.1 Optical-Module Parameter Alarm Commands

These commands are shown below:

Procedure	Purpose
enable	Enters the EXEC mode.
config	Enters the configuration mode.
interface *epon/psg port*	Enters the PON port or the PSG port.
epon optical-transceiver {power-tx | temperature | voltage | current} {high-limit | low-limit} {enable threshold *alarm-value clear-value*| **disable}**	Sets the alarms related with the light transmission power, temperature, power-supply voltage and bias current, and these alarms' maximum and minimum values. *alarm-value*：Alarm threshold *clear-value*：Clearing the threshold
exit	Exits from the port mode.
exit	Exits from the configuration mode.
exit	Exits from the EXEC mode.

1.4 Configuration Example

1.4.1 Example of Browsing the Optical-Module Parameters

The following example shows how to browse all the optical-module parameters on all PON ports:

```
Switch_config#show epon optical-transceiver-diagnosis

 interface          Temperature(degree)          Voltage(V)          Current(mA)
TxPower(dBm)

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Epon0/1          46.2                        3.4              10.2              4.2

 interface       RxPower(dBm)

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```

```
Epon0/1:1       -4.2
Epon0/1:2       -4.2
Epon0/1:5       -4.2
Epon0/1:6       -4.2
Epon0/1:7       -4.2
Epon0/1:8       -4.2
Epon0/1:9       -4.2
Epon0/1:10      -4.2
Epon0/1:11      -4.2
Epon0/1:12      -4.2
Epon0/1:13      -4.2
Epon0/1:14      -4.2
Epon0/1:15      -4.2
Switch_config#
```

The following example shows how to browse the parameters of the optical interface on E0/1:1 onu:

```
Switch_config# show epon interface ePON 0/1:1 onu ctc optical-transceiver-diagnos
 operating temperature(degree): 56
 supply voltage(V): 3.4
 bias current(mA): 11.2
 transmitted power(DBm): 2.2
 received power(DBm): -15.8
Switch_config#
```

1.4.2 Example of Setting the OLT Optical-Module Alarm

The following example shows how to enable the light transmission power alarm on port e0/1, set the minimum and maximum values, and clear the alarm thresholds.

```
interface EPON0/1
 epon bind-onu mac fcfa.f79d.00ea 1
 epon bind-onu mac fcfa.f79d.00e6 2
```

```
 epon bind-onu mac fcfa.f79a.3026 3

epon optical-transceiver power-tx high-limit enable threshold 70 30

 epon optical-transceiver power-tx low-limit enable threshold 20 20

Switch_config_epon0/1#
```

The following example shows how to enable the temperature alarm on the PON port, set the minimum and maximum values, and clear the alarm thresholds.

```
interface EPON0/1

 epon bind-onu mac fcfa.f79d.00ea 1

 epon bind-onu mac fcfa.f79d.00e6 2

 epon bind-onu mac fcfa.f79a.3026 3

 epon optical-transceiver temperature high-limit enable threshold 500 400

 epon optical-transceiver temperature low-limit enable threshold -1280 -400

Switch_config#
```

The following example shows how to enable the voltage alarm on the PON port, set the minimum and maximum values, and clear the alarm thresholds.

```
interface EPON0/1

 epon bind-onu mac fcfa.f79d.00ea 1

 epon bind-onu mac fcfa.f79d.00e6 2

 epon bind-onu mac fcfa.f79a.3026 3

 epon optical-transceiver voltage high-limit enable threshold 30 25

 epon optical-transceiver voltage low-limit enable threshold 0 10

Switch_config_epon0/1#
```

The following example shows how to enable the current alarm on the PON port, set the minimum and maximum values, and clear the alarm thresholds.

```
interface EPON0/1

 epon bind-onu mac fcfa.f79d.00ea 1

 epon bind-onu mac fcfa.f79d.00e6 2

 epon bind-onu mac fcfa.f79a.3026 3

 epon optical-transceiver current high-limit enable threshold 1310 800

 epon optical-transceiver current low-limit enable threshold 0 60
```

Switch_config_epon0/1#