



## **Cisco Remote PHY Device Command Reference**

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# CHAPTER 1

## RPD Commands: b through t



**Note** The **test** and **set** commands on the RPD are for lab and Cisco internal use only.

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## backhaul daisy-chain

To configure the RPD to work in daisy chain mode (the default mode), use the **backhaul daisy-chain** command.

### backhaul daisy-chain

#### Command Default

None.

#### Command Modes

Privileged EXEC mode (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 8.2	This command was introduced.

#### Usage Guidelines

None.

This example shows how to configure the RPD to work in daisy chain mode.

```
R-PHY>enable
R-PHY#configure terminal
R-PHY(config)#backhaul daisy-chain
Enable daisy chain mode
Please Reload to Take effect.
R-PHY(config)#end
```

## backhaul link-redundancy

To configure the RPD to work in link redundancy mode, use the **backhaul link-redundancy** command. To restore the RPD to daisy-chain mode, use **no** form of this command.

### backhaul link-redundancy

### no backhaul link-redundancy

#### Command Default

None.

#### Command Modes

Privileged EXEC mode (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 8.2	This command was introduced.



**Usage Guidelines**

None.

This example shows how to configure the RPD to work in link redundancy mode.

```
R-PHY>enable
R-PHY#configure terminal
R-PHY(config)#backhaul link-redundancy
Enable link redundancy mode
Please Reload to Take effect.
R-PHY(config)#end
```

This example shows how to restore the RPD to daisy-chain mode.

```
R-PHY>enable
R-PHY#configure terminal
R-PHY(config)#no backhaul link-redundancy
Restore daisy chain mode
Please Reload to Take effect.
R-PHY(config)#end
```

## clear core-files

To clear all core files or a specific core file, use the **show core-files** command.

**show core-files** *core-file-name*

**Syntax Description**

*core-file-name* Core filename that you want to clear.

**Command Default**

None.

**Command Modes**

Privileged EXEC mode (#)

**Command History**

Release	Modification
Cisco 1x2 RPD Software 1.1	This command was introduced.

**Usage Guidelines**

None.

**Clear Core Files**

This example shows how to clear the core files.

```
R-PHY#show core-files info
-rw-r--r--  1 root    root          0 May  7 23:52 2.core.gz
-rw-r--r--  1 root    root          0 May  7 23:52 1.core.gz
```

```
R-PHY#clear core-files 1.core.gz
Delete core file [1.core.gz]?
Are you sure to clear core file:1.core.gz? [Confirm]
Done.
```

```
R-PHY#show core-files info
-rw-r--r--  1 root    root          0 May  7 23:52 2.core.gz

R-PHY#clear core-files
Are you sure to clear all core files? [Confirm]
Done.

R-PHY#show core-files info
No core files found.
```

## clear fault-management

To clear an RPD event in the local queue or the pending queue, use the **clear fault-management** command.

**clear fault-management** {local-queue | pending-queue}

<b>Syntax Description</b>	<b>local-queue</b> Clears RPD events in the local-queue.				
	<b>pending-queue</b> Clears RPD events in the pending-queue.				
<b>Command Default</b>	None.				
<b>Command Modes</b>	Privileged EXEC mode (#)				
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Cisco 1x2 RPD Software 1.1</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Cisco 1x2 RPD Software 1.1	This command was introduced.
Release	Modification				
Cisco 1x2 RPD Software 1.1	This command was introduced.				
<b>Usage Guidelines</b>	None.				

### Clear RPD Events in the Local-queue

This example shows how to clear RPD events in the local-queue:

```
R-PHY#clear fault-management local-queue
```

### Clear RPD Events in the Pending-queue

This example shows how to clear RPD events in the pending-queue:

```
R-PHY#clear fault-management pending-queue
```

## clear logging

To clear the RPD onboard related logs, use the **clear logging** command.



**Note** The show commands now displays information logged since the last corresponding clear command. Hence **clear logging** can be used to hide previous log contents.

```
clear logging { openrpd | seres | traceback | ikev2 | onboard { current | message |
startup_time | temperature | voltage } }
```

**Syntax Description**

**openrpd** Hides the current contents of the openrpd log.

**seres** Hides the current contents of the seres log.

**traceback** Hides the current contents of the traceback log.

**ikev2** Hides the current contents of the ikev2 log.

The following syntax options apply for the **clear logging onboard** command option.

<b>current</b>	Clears current data.
<b>message</b>	Clears OBFL error messages.
<b>startup_time</b>	Clears the startup time data.
<b>temperature</b>	Clears temperature data.
<b>voltage</b>	Clears voltage data.

**Command Default**

None.

**Command Modes**

Privileged EXEC mode (#)

**Command History**

<b>Release</b>	<b>Modification</b>
Cisco 1x2 RPD Software 1.1	Cisco 1x2 RPD Software 1.1

**Usage Guidelines**

None.

**Clear RPD Onboard Related Logs**

These examples show how to clear RPD onboard related logs.

```
R-PHY#clear logging onboard current
R-PHY#clear logging onboard message
R-PHY#clear logging onboard startup_time
R-PHY#clear logging onboard temperature
R-PHY#clear logging onboard voltage
```



**Note** All commands will support automore when required.

## clear oob statistics

To reset the OOB 55d1 upstream counter to zero, use the **clear oob statistics** command. The counter output of the **show oob 55d1 statistics** command is reset to zero.

**clear oob statistics**

### Syntax Description

This command has no arguments or keywords.

**Command Default** None.

**Command Modes** Privileged EXEC (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** Use this command to clear the upstream OOB 55d1 packet statistics.

### Example

This example shows how to reset the OOB 55d1 upstream counter to zero.

```
R-PHY#clear oob statistics
```

```
R-PHY#show oob 55d1 statistics
```

```
OOB 55-1 Upstream Packet statistics
```

```
~~~~~
```

```
Current Log level: LOG_WARNING
```

```
Run Time: 0 Mins 0 Secs
```

```
Packets Received from Demods:
```

Port	Chan	Total	Packets	Uncorrectable	Corrected	Good	UPM ID	Rep Pwr	S
0	0	0	0	0	0	0	0 0	0	-
0	1	0	0	0	0	0	0 0	0	-
0	2	0	0	0	0	0	0 0	0	-
Total		0	0	0	0	0	0  Last Pkt Status		
1	0	0	0	0	0	0	0 0	0	-
1	1	0	0	0	0	0	0 0	0	-
1	2	0	0	0	0	0	0 0	0	-
Total		0	0	0	0	0	0  Last Pkt Status		

Error packets not included in the stats above: 0

## clear provision history

To clear the RPD provision history, use the **clear provision history** command.

**clear provision history**

### Syntax Description

This command has no arguments or keywords.

### Command Default

None.

### Command Modes

Privileged EXEC mode (#)

### Command History

Release	Modification
Cisco 1x2 RPD Software 1.1	This command was introduced.

### Usage Guidelines

None.

### Clears RPD Provision History

This example shows how to clear the RPD provision history.

```
R-PHY#clear provision history
success
```

```
R-PHY#show provision history
Core-Index  Interface  IP  Mac  From-State  To-State  event  Added-By  Time
```

## clear reboot hold

To clear the RPD reboot hold information, use the **clear reboot hold** command.

**clear reboot hold**

### Syntax Description

This command has no arguments or keywords.

### Command Default

None.

### Command Modes

Privileged EXEC mode (#)

## clear startup\_capture-file

Command History	Release	Modification
	Cisco 1x2 RPD Software 1.1	This command was introduced.

**Usage Guidelines** None.

### Clears Reboot Hold Information

This example shows how to clear the RPD reboot hold information:

```
R-PHY#clear reboot hold
success
```

## clear startup\_capture-file

To clear all startup-capture files or specific startup-capture file, use the **clear startup\_capture-file startup-capture file name** command.

**clear startup\_capture-file** *startup-capture file name*

Syntax Description	
	<i>startup-capture file name</i> The startup-capture filename.

**Command Default** None.

**Command Modes** Privileged EXEC (#)

Command History	Release	Modification
	Cisco 1x2 RPD Software 1.1	This command was introduced.

**Usage Guidelines** None.

### Clear All Startup-capture Files

This example shows how to clear all startup-capture files

```
R-PHY#clear startup_capture-file
Are you sure to clear all startup_capture files? [Confirm]
Done.
```

```
R-PHY#show startup-capture-files
No startup capture file found
```

## console enable

To enable or disable the input access to the RPD console. Make sure that SSH is enabled on the RPD

**enable console**

**disable console**

---

### Syntax Description

**input** Input access to the console.

---



---

### Command Default

Access to the RPD console is disabled

---

### Command Modes

Global configuration mode

---

### Command History

Release	Modification
Cisco 1x2 RPD Software 1.1	This command was introduced.

---



---

### Usage Guidelines

After you disable the console access, you cannot enter any commands in the console. You can enable the access using SSH to the RPD.

This example shows how to enable access to the console:

```
R-PHY(config)#console enable
enable console input success
R-PHY(config)#console disable
Warning: You cannot input anything on console after this, the only way to enable is via SSH
to RPD.
Please make sure RPD is able to ssh. Are you sure to disable console input? [No/Yes]yes
disable console input success
```

## enable password

To set a password to control access to various privilege levels, use the **enable password** command in global configuration mode.

**enable password** *password*

---

### Syntax Description

*password* Assign the privileged level password.

---



---

### Command Default

No password is defined.

---

### Command Modes

Global configuration.

**ikev2 authentication enable**

Command History	Release	Modification
	Cisco 1x2 RPD Software 1.1	This command was introduced.

**Usage Guidelines** The password must contain uppercase and lowercase alphanumeric characters.

The following is an example for enabling a password:

```
R-PHY(config)#enable password lab
R-PHY(config)#end
R-PHY#exit
R-PHY>enable
Password: lab
R-PHY#
```

## ikev2 authentication enable

To enable or disable the Internet Key Exchange version 2 (IKEv2) authentication on the RPD.

**ikev2 authentication enable**

**ikev2 authentication disable**

### Syntax Description

This command has no arguments or keywords.

**Command Default** The IKEv2 authentication is disabled.

**Command Modes** Global configuration.

Command History	Release	Modification
	Cisco 1x2 RPD Software 1.1	This command was introduced.

**Usage Guidelines** None.

The following example shows how to enable/disable IKEv2 authentication:

```
R-PHY(config)#ikev2 authentication enable
New configuration only takes effect after reboot!

R-PHY(config)#ikev2 authentication disable
New configuration only takes effect after reboot!
```



# logging monitor

To limit the logs displayed on the terminal, use the **logging monitor** command. You can turn off the monitor using the **off** command.

**logging monitor**

**logging monitor off**

## Syntax Description

This command has no arguments or keywords.

**Command Default** By default, the logging monitor is turned on.

**Command Modes** Privileged EXEC mode (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

This example shows how to turn on the logging monitor:

```
R-PHY#logging monitor
```

This example shows how to turn off the logging monitor:

```
R-PHY#logging monitor off
```

# logging provision-archive

To archive the provision logs to a specific TFTP server or a specific server by SCP, use the **logging provision-archive** command.

**logging provision-archive** *<from\_date>* *<to\_date>* { **tftp** *server\_ip dir* | **local** }

**logging provision-archive** *<from\_date>* *<to\_date>* { **scp** *server\_ip user dir* | **local** }

Syntax Description		
	<i>&lt;from_date&gt;</i> <i>&lt;to_date&gt;</i>	Date-range for archiving logs.
	<i>server_ip</i>	IP address of the TFTP or the SSH server.
	<i>dir</i>	TFTP directory or the SSH user directory.
	<i>user</i>	SSH username.

---

<b>local</b>	Creates the archive file and saves it in RPD.
--------------	---

---



---

<b>Command Default</b>	None.
------------------------	-------

---



---

<b>Command Modes</b>	EXEC
----------------------	------

---



---

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

---



---

**Usage Guidelines** Specify the date-range for archiving logs using the `logging provision-archive <from_date> <to_date> [scp|tftp|local]` command. This command helps in controlling the size of the log archive.

This example shows how to archive logs within the specified date-range:

```
R-PHY#logging provision-archive 2020-07-10 2020-07-20 local
```

This example shows how to archive entire log files stored inside the RPD through TFTP:

```
R-PHY#logging provision-archive tftp 11.1.1.10 .
```

This example shows how to archive entire log files stored inside the RPD through SCP:

```
R-PHY#logging provision-archive scp 11.1.1.10 root /tftpboot/
100% 29 0.0KB/s 00:00
```

This example shows how to create the archive file and store in RPD:

```
R-PHY#logging provision-archive local
Collect tech-support info...
Please wait, archiving...
Created archive: /rpd/archive/RPD_PROV_badbad13ac3e_LOG_2019-08-28_11_59_01_898484.tar.gz
Created archive: /rpd/archive/RPD_running_log.tar.gz
Created archive: /rpd/archive/RPD_config_log.tar.gz
[Done]
```

## logging 1588-archive

To archive 1588 logs to a specific TFTP server or a specific server by SCP, use the **logging 1588-archive** command.

```
logging 1588-archive <from_date> <to_date> { tftp server_ip dir | local }
```

```
logging 1588-archive <from_date> <to_date> { scp server_ip user dir | local }
```

---

<b>Syntax Description</b>	<from_date>	Date-range for archiving logs.
	<to_date>	

---

<i>server_ip</i>	IP address of the TFTP or the SSH server.
------------------	---

---

<i>dir</i>	TFTP directory or the SSH user directory.
------------	---

---

<i>user</i>	SSH username.
<b>local</b>	Creates the archive file and saves it in RPD.

**Command Default** None.

**Command Modes** EXEC

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** Specify the date-range for archiving logs using the `logging 1588-archive <from_date> <to_date> [scp|tftp|local]` command. This command helps in controlling the size of the log archive.

This example shows how to archive logs within the specified date-range:

```
R-PHY#logging 1588-archive 2020-07-10 2020-07-20 local
```

This example shows how to configure archiving 1588 logs through TFTP:

```
R-PHY#logging 1588-archive tftp 11.1.1.10 .
Wait for archiving 1588 logs
Wait for upload archive to server. It would take 3 minutes or more.
RPD logs will be saved in
11.1.1.10:$TFTP_DIR/./RPD_1588_badbad135dcc_LOG_2019-05-08_07_03_17_579229.tar.gz
[Done]
```

This example shows how to configure archiving 1588 logs through SCP:

```
R-PHY#logging 1588-archive scp 11.1.1.10 root /tftpboot/
Wait for archiving 1588 logs
Wait for upload archive to server. It would take 3 minutes or more.
RPD logs will be saved in
root@11.1.1.10:/tftpboot/RPD_1588_badbad135dcc_LOG_2019-05-08_07_04_11_472901.tar.gz

Host '11.1.1.10' is not in the trusted hosts file.
(ssh-rsa fingerprint sha1!! 93:c8:69:a1:3b:c5:bb:eb:7a:e9:03:f7:37:a5:95:66:25:c5:c1:0f)
Do you want to continue connecting? (y/n) y
root@11.1.1.10's password:
RPD_1588_badbad135dcc_LOG_2019-05-08_07_04_11_472901.tar.gz

100% 29 0.0KB/s 00:00
```

This example shows how to create the archive file and store in RPD:

```
R-PHY#logging 1588-archive local
Please wait, archiving...
Created archive: /rpd/archive/RPD_1588_badbad13ac3e_LOG_2019-08-28_12_00_01_381305.tar.gz
Created archive: /rpd/archive/1588_running_log.tar.gz
[Done]
```

# logging corefile-archive

To archive the corefiles to a specific TFTP server or a specific server by SCP, use the **logging corefile-archive** command.

```
logging corefile-archive <from_date> <to_date> { tftp server_ip dir | local }
```

```
logging corefile-archive <from_date> <to_date> { scp server_ip user dir | local }
```

Syntax Description		
	<from_date> <to_date>	Date-range for archiving logs.
	server_ip	IP address of the TFTP or the SSH server.
	dir	TFTP directory or the SSH user directory.
	user	SSH username.
	local	Creates the archive file and saves it in RPD.

**Command Default** None.

**Command Modes** EXEC

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** Specify the date-range for archiving logs using the `logging corefile archive <from_date> <to_date> [scp|tftp|local]` command. This command helps in controlling the size of the log archive.

This example shows how to archive logs within the specified date-range:

```
R-PHY#logging corefile-archive 2020-07-10 2020-07-20 local
```

This example shows how to archive corefile through TFTP:

```
R-PHY#logging corefile-archive tftp 11.1.1.10 .
```

This example shows how to archive corefile through SCP:

```
R-PHY#logging corefile-archive scp 11.1.1.10 root /tftpboot/
                                     100% 29 0.0KB/s 00:00
```

This example shows how to create the archive file and store in RPD:

```
R-PHY#logging corefile-archive local
Please wait, archiving...
Created archive: /rpd/archive/RPD_COREFILE_badbad13ac3e_LOG_2019-08-28_12_01_06_904616.tar.gz
[Done]
```

# reboot

To reboot RPD, use the **reboot** command in EXEC mode.

**reboot** {**factory-reset** | **force** | **nv-reset** | **soft-reset**}

## Syntax Description

<b>factory-reset</b>	The device restores the factory configuration and performs a cold reboot.
<b>force</b>	Cold reboots the RPD without saving the provision log or checking the reboot hold.
<b>nv-reset</b>	The device clears the non volatile configuration and performs a cold reboot.
<b>soft-reset</b>	The device performs a soft reset.

## Command Default

None.

## Command Modes

Privileged EXEC (#)

## Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

## Usage Guidelines

None.

This example shows how to reboot the RPD by using the factory-reset option.

```
R-PHY#reboot factory-reset
Warning: This action will restore the factory configuration. Are you sure you want to do
the factory reset (yes/no)?yes
```

This example shows how to reboot the RPD by using the force option.

```
R-PHY#reboot force
```

This example shows how to reboot the RPD by using the nv-reset option.

```
R-PHY#reboot nv-reset
Warning: This action will clear the non-volatile configuration. Are you sure you want to
do the nvreset (yes/no)?yes
```

This example shows how to reboot the RPD by using the soft-reset option.

```
R-PHY#reboot soft-reset
Warning: This action will perform a soft reset. Are you sure you want to do the soft reset
(yes/no)?yes
SoftReset in 10 seconds
```

## sfp itu

To change the wavelength of the DWDM-SFP10G-C, use the **sfp itu** command.

```
sfp itu port_id channel_no
```

<b>Syntax Description</b>	<i>port_id</i>	Port ID.
	<i>channel_no</i>	Channel number should in the 1 to 96. range.

**Command Default** None.

**Command Modes** Global configuration.

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 RPD Software 1.1	This command was introduced.

**Usage Guidelines** None.

This example shows how to change the wavelength of the DWDM-SFP10G-C:

```
R-PHY(config)#sfp itu 1 1
```

## ssd control

To control the SSD process, use the **ssd control** command in privileged EXEC mode.

```
ssd control {abort | show | start}
```

<b>Syntax Description</b>	<b>abort</b>	Aborts SSD process.
	<b>show</b>	Displays SSD configuration.
	<b>start</b>	Starts SSD process.

**Command Default** None.

**Command Modes** Privileged EXEC (#)

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **ssd control abort** command:

```
R-PHY# ssd control abort
Abort SSD running successfully
```

The following is a sample output of the **ssd control show** command:

```
R-PHY# ssd control show
file path: xxx.itb.SSA
server: 11.1.1.10
transport: TFTP
```

The following is a sample output of the **ssd control start** command:

```
R-PHY# ssd control start
[179595.278505] sh (11653): drop_caches: 3
SSD process start
```

## ssd set cvc

To set the value for SSD CVC (Manufacturer's and Co-signer Code Validation Certificates) parameter, use the **ssd set cvc** command in privileged EXEC mode.

```
ssd set cvc {co-signer | manufacturer} cvc
```

<b>Syntax Description</b>	<b>co-signer</b>	Specifies the Co-signer Code Validation Certificates.
	<b>manufacturer</b>	Specifies the Manufacturer's Code Validation Certificates.
<b>Command Default</b>	None.	
<b>Command Modes</b>	Privileged EXEC (#)	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **ssd set cvc** command:

```
R-PHY# ssd set cvc manufacturer bootflash:xxx.cer
```

## ssd set server

To set SSD server parameters, use the **ssd set server** command in privileged EXEC mode.

```
ssd set server ip_address filename file_name transport {tftp | http}
```

<b>Syntax Description</b>	<b>tftp</b> Specifies the TFTP protocol.
	<b>http</b> Specifies the HTTP protocol.

**Command Default** None.

**Command Modes** Privileged EXEC (#)

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **ssd set server** command:

```
R-PHY# ssd set server 11.1.1.10 filename xxx.itb.SSA transport tftp
```

## ssh adduser

To add a new SSH account, use the **ssh adduser** command in the global configuration mode.

**ssh adduser** *new user*

**Command Default** None

**Command Modes** Global configuration (config).

<b>ssh adduser</b> <i>new user</i>	Specifies the user name.
<b>Release</b>	<b>Modification</b>
Cisco 1x2 / Compact Shelf RPD Software 6.1	This command was introduced on the Cisco Remote PHY Device.

This is an example of how to add a new SSH account.

```
R-PHY>enable
R-PHY#configure terminal
R-PHY(config)#ssh adduser <newuser>
Changing password for <newuser>
New password:
Retype password:
Password for <newuser> changed by root
R-PHY(config)#end
```



Related Commands	Command	Description
	<b>ssh delete</b>	Delete an SSH account.
	<b>ssh chpasswd</b>	Change an SSH account password.
	<b>show ssh account</b>	View SSH account details

## ssh chpasswd

To change the password of an SSH account, use the **ssh chpasswd** command in the global configuration mode.

**ssh chpasswd** *user*

**Command Default** None

**Command Modes** Global configuration (config).

<b>ssh chpasswd</b> <i>user</i>	Specifies the user name.
<b>Release</b>	<b>Modification</b>
Cisco 1x2 / Compact Shelf RPD Software 6.1	This command was introduced on the Cisco Remote PHY Device.

This is an example of how to change the password of an SSH account.

```
R-PHY>enable
R-PHY#configure terminal
R-PHY(config)#ssh adduser <newuser>
Changing password for <newuser>
New password:
Retype password:
Password for <newuser> changed by root
R-PHY(config)#end
```

Related Commands	Command	Description
	<b>ssh adduser</b>	Add an SSH account
	<b>ssh delete</b>	Delete an SSH account.
	<b>show ssh account</b>	View SSH account details

## ssh delete

To delete an SSH account, use the **ssh delete** command in the global configuration mode.

**ssh adduser** *user*

**Command Default** None

**Command Modes** Global configuration (config).

<b>ssh delete</b> <i>user</i>	Specifies the user name.
<b>Release</b>	<b>Modification</b>
Cisco 1x2 / Compact Shelf RPD Software 6.1	This command was introduced on the Cisco Remote PHY Device.

This is an example of how to delete an SSH account.

```
R-PHY>enable
R-PHY#configure terminal
R-PHY(config)#ssh delete <newuser>
Warning: Are you sure to delete this account? [No/Yes]
Yes
delete account '<newuser>' successfully
R-PHY(config)#end
```

**Related Commands**

Command	Description
<b>ssh adduser</b>	Add an SSH account.
<b>ssh chpasswd</b>	Change an SSH account password.
<b>show ssh account</b>	View SSH account details

## ssh exec-timeout

To change the EXEC timeout value of the SSH session, use the **ssh exec-timeout** command.

**ssh exec-timeout** *timeout*

**Syntax Description** *timeout* Time in minutes.

**Command Default** The default value is 180 sec.

**Command Modes** Global configuration.

Command History	Release	Modification
	Cisco 1x2 RPD Software 1.1	This command was introduced.

**Usage Guidelines** None.

### Example

This example shows how to change the SSH EXEC timeout value:

```
R-PHY(config)#ssh exec-timeout 3
Please exit session & login again to make ssh EXEC timeout valid
```

## ssh password on

To enable or disable logging in to an SSH session using an account with password. If logging in using a password is disabled, the user can only use the SSH key authentication method to log in to an RPD.

**ssh password on**

**ssh password off**

<b>Syntax Description</b>	<i>on</i> To enable logging in using a password.
	<i>off</i> To disable logging in using a password.

**Command Default** The default value is on.

**Command Modes** Global configuration.

Command History	Release	Modification
	Cisco 1x2 RPD Software 1.1	This command was introduced.

**Usage Guidelines** If you disable the password logging, the user has to use the SSH key authentication method.

The following example shows how to enable logging in using a password:

```
R-PHY(config)#ssh password on
```

The following example shows how to disable logging in using a password:

```
R-PHY(config)#ssh password off
```

## ssh pubkey

To add or delete Secure Shell public keys for SSH login authentication on the SSH server, use the following commands in global configuration mode.

**ssh pubkey add** *key\_string*

**ssh pubkey delete** *key\_string*

<b>Syntax Description</b>	<b>add</b>	To add SSH public keys for the SSH server.
	<b>delete</b>	To delete SSH public keys for the SSH server.
	<i>key_string</i>	The pubkey that you want to add or delete.

**Command Default** None.

**Command Modes** Global configuration.

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** When you use the SSH pubkeys, enable the SSH password by using the command **ssh password on**. The SSH pubkeys cannot access the RPD, if the SSH password is turned off.

This example shows how to add an SSH pubkey:

```
R-PHY(config)#ssh pubkey add ssh-rsa
AAAAB3NzaC1yc2EAAAABIwAAAQEA5tw982v/qsAm/sap4+BrMTi4ENFf4/
Z9PbDFc5cLxCdfrLTYpylSnFKoGzZekaiDAr0xejHsxMtPtx/sNKF/
e839ahVyo9bZEqHd2gothG3uGB9gMpX7v/jQp0EBg83LwFEQcidmIYaaSRS8g6+jzThhKkG1lBfv/
xafcA0DFY0eovWBEuvVLgPR3Ywy8sCXns4aAAApuWEu3Zuo5r6F0bDxWlztHfgFXi6raJXw98AHVPXB6XZsin7sUXA6dr/
dtNJUUeojRVLmF+ini2NTizQ== user@SSH_server
Pubkey added. Certificate fingerprint (MD5): 4c:a8:48:1a:cd:ce:fc:bl:a0:3c:e9:80:5e:11:5f:0f
```

This example shows how to delete an SSH pubkey:

```
R-PHY(config)#ssh pubkey del ssh-rsa
AAAAB3NzaC1yc2EAAAABIwAAAQEA5tw982v/qsAm/sap4+BrMTi4ENFf4/
Z9PbDFc5cLxCdfrLTYpylSnFKoGzZekaiDAr0xejHsxMtPtx/sNKF/
e839ahVyo9bZEqHd2gothG3uGB9gMpX7v/jQp0EBg83LwFEQcidmIYaaSRS8g6+jzThhKkG1lBfv/
xafcA0DFY0eovWBEuvVLgPR3Ywy8sCXns4aAAApuWEu3Zuo5r6F0bDxWlztHfgFXi6raJXw98AHVPXB6XZsin7sUXA6dr/
dtNJUUeojRVLmF+ini2NTizQ== user@SSH_server
find key and delete one pubkey
WARNING! No Pubkeys In System,If set 'ssh password off',will not be able to access the RPD
```

## startup-capture enable

To enable or disable capturing the start-up configuration details and configure the start-up parameters, use the following commands:

**startup-capture enable** *duration file\_num delay tcpdump\_para*

startup-capture disable

<b>Syntax Description</b>	<i>duration</i>	Capture duration in minutes.
---------------------------	-----------------	------------------------------

<i>file_num</i>	Maximum number of capture files.
<i>delay</i>	Delay, in seconds, for starting the TCP dump.
<i>tcpdump_para</i>	tcpdump parameter string.

**Command Default** None.

**Command Modes** Global configuration.

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

This example shows how to configure the RPD for capturing the startup configuration:

```
R-PHY(config)#startup-capture enable 10 5 60 -p -i any
duration 10 minutes, max_files 5, tcpdump para:-p -i any, startup_delay 60
enabled startup tcpdump, for next RPD reload
```

This example shows how to disable the capturing of the startup configuration:

```
R-PHY(config)#startup-capture disable
```

## tacacs add-key

To add the encryption key of TACACS servers, use the **tacacs add-key** command.

**tacacs add-key**

### Syntax Description

This command has no arguments or keywords.

**Command Default** None.

**Command Modes** Global configuration

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

This example shows how to add an encryption key of the TACACS server.

```
R-PHY(config)#tacacs add-key
Please add a secret key:lab
Please re-enter your secret key:lab
Add secret key successfully.
```

## tacacs add-server

To add a TACACS+ server, use the **tacacs add-server** command.

**tacacs add-server** *ip*

<b>Syntax Description</b>	<i>ip</i> IP address of the TACACS server.
---------------------------	--

<b>Command Default</b>	None.
------------------------	-------

<b>Command Modes</b>	Global configuration
----------------------	----------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

<b>Usage Guidelines</b>	None.
-------------------------	-------

This example shows how to add a TACACS+ server:

```
R-PHY(config)#tacacs add-server 10.1.1.1
Server '10.1.1.1' is configured on RPD successfully.
```

## tacacs change-key

To change the encryption key of TACACS servers, use the **tacacs change-key** command.

**tacacs change-key**

### Syntax Description

This command has no arguments or keywords.

<b>Command Default</b>	None.
------------------------	-------

<b>Command Modes</b>	Global configuration
----------------------	----------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

This example shows how to change the encryption key of TACACS servers:

```
R-PHY(config)#tacacs change-key
Please change secret key:123
Please re-enter your secret key:123
Change secret key successfully.
```

## tacacs delete-server

To delete a TACACS server, use the **tacacs delete-server** command.

**tacacs delete-server** *ip*

**Syntax Description** *ip* IP address of the TACACS server.

**Command Default** None.

**Command Modes** Global configuration.

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

This example shows how to delete a TACACS server:

```
R-PHY(config)#tacacs delete-server 10.1.1.1
Warning: This is the last TACACS server configured on RPD,
are you sure to delete this? [No/Yes]
yes
Delete server '10.1.1.1' successfully.
```

## terminal length

To set the number of lines of output to display on the terminal screen for the current session, use the **terminal length** command in privileged EXEC mode.

**terminal length** *length*

**Command Default** None.

**Command Modes** Privileged EXEC (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **terminal length** command:

```
R-PHY# terminal length 50
```





## CHAPTER 2

# RPD Commands: show a through show g

---

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# show bcm-driver

To display the OFDMA channel initialization status and channel UP or DOWN status details of the BCM driver, use the **show bcm-driver** command.

**show bcm-driver**

## Syntax Description

This command has no arguments or keywords

### Command Default

None.

### Command Modes

Privileged EXEC mode (#)

### Command History

Release	Modification
Cisco 1x2 RPD Software 1.1	This command was introduced.

### Usage Guidelines

None.

## Displays the details of the BCM Driver

This example shows how to view the details of the BCM driver:

```
R-PHY#show bcm-driver
BCM316X driver info: BCM3161 B1

SCQAM_0: INIT_COMPLETE
SCQAM_1: INIT_COMPLETE
TOP: START
OFDMA_0: Init_Complete retry:0 UP (admin: DOWN)
OFDMA_1: Init_Complete retry:0 UP (admin: DOWN)
OFDMA_2: Init_Complete retry:0 UP (admin: DOWN)
OFDMA_3: Init_Complete retry:0 UP (admin: DOWN)
DPMI: START

OFDMA Firmware Versions:
TPMI App @ 0.0.61 b62285e5c0746b69a28a5498b338605b
TPMI PM @ -None- c4d68ff86addc669680d8784ee1e76f0
DPMI @ -None- aa19704e2df88cba929dafd245dd595d
OFDMA Admin @ 0.0.31 ef4b18b87f8d9e99fb25caf31567f856
OFDMA FW @ 1.0.21 3a2502850150788d4a4926c8862cb450
OFDMA CPU/DSP @ 1.11.40, revision 49168
OFDMA CPU0 5f18f4bdab24ff01e4c49d9be0587c42
OFDMA CPU1 359fb94c6c771a6d4dabac6918d74eff
OFDMA CPU2 bb7d821b030827b126638eb39ee3b9c4
OFDMA CPU3 28007b7a07f211ab26c4d2cf34d3570e
OFDMA DSP0 fd1e0dc0a44f035043b6966ae4e9610a
```

## show bcm-register

To show the upstream triggered spectrum capture configuration, use the **show bcm-register** command.

```
show bcm-register wfft config
```

<b>Syntax Description</b>	<b>wfft</b> Wide Band Fast Fourier Transform				
<b>Command Default</b>	None.				
<b>Command Modes</b>	Privileged EXEC (#)				
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Cisco 1x2 / Compact Shelf RPD Software 6.4.1</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Cisco 1x2 / Compact Shelf RPD Software 6.4.1	This command was introduced.
Release	Modification				
Cisco 1x2 / Compact Shelf RPD Software 6.4.1	This command was introduced.				
<b>Usage Guidelines</b>	None.				

### Example

This example shows how to view the Upstream Triggered Spectrum Capture configuration.

```
R-PHY#show bcm-register wfft config
WBFFT Triger Mode   : Other
Enable UTSC        : True
Samples Num        : 4096
Session ID         : 5f20003c
PNM Dest IP        : 91.7.66.171
PNM Dest Mac       : 0050.5688.eb3d
```

## show bcm-version

To view the BCM version information, use the **show bcm-version** command.

```
show bcm-version
```

### Syntax Description

This command has no arguments or keywords.

<b>Command Default</b>	None
<b>Command Modes</b>	Privileged EXEC mode (#)

**show build-info**

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

**Example**

This example shows how to view the version of BCM:

```
R-PHY#show bcm-version
BCM316X version info: BCM3161 B1
TPMI Version: 0x3d
DPMI Version: 0x17
Upstream SC-QAM ENP Version: MIPS(0x510) Data(0x9) FFT(0x8) IMP(0x8) Request(0x5) REGPROC(0x6)
Upstream OOB Version: Firmware(0x0) DSP Interface(0x0)
```

## show build-info

To view the RPD software image version information, use the **show build-info** command.

**show build-info**

**Syntax Description**

This command has no arguments or keywords.

**Command Default** None

**Command Modes** Privileged EXEC mode (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

**Example**

This example shows how to view the software image version on the RPD:

```
R-PHY#show build-info
RPD_IMAGE_VERSION=v6.5
RPD_TYPE=RPD_hardware_certificate
RPD_BRANCH=(detached from RPD_V6_5_20190429)
OPENRPD_BRANCH=(detached from RPD_V6_5_20190429)
SERESRPD_BRANCH=(detached from RPD_V6_5_20190429)
RPD_BUILDER=rpdc-release
RPD_BUILD_TIME=1556508498
```

# show certificate

To view the chain status of a certificate, use the **show certificate status** command.

```
show certificate status { verbose }
```

## Syntax Description

<b>verbose</b>	(Optional) Shows the RPD certificate information on the time and reasons for the certificate failure
----------------	--

**Command Modes** Privileged EXEC mode (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

## Example

This example shows how to view the status of the certificates on RPD:

```
R-PHY#show certificate status
Result: Fail
Reason: Certificate chain is not complete
Detail: Root CA: Not ready, Device CA: Not ready, Device cert: Not ready
```

## Examples

To show the RPD certificate information on the time and reasons for the certificate failure, use the **show certificate status verbose** command. This example shows a valid certificate.

```
R-PHY# show certificate status ver
Root CA
notBefore=Oct 28 00:00:00 2014 GMT
notAfter=Oct 27 23:59:59 2064 GMT
Device CA
notBefore=Oct 28 00:00:00 2014 GMT
notAfter=Oct 27 23:59:59 2049 GMT
Device cert
notBefore=Aug 23 06:08:37 2017 GMT
notAfter=Aug 24 06:08:36 2037 GMT
Result: Pass
```

This example shows a certificate which is invalid.

```
R-PHY# show certificate status verbose
Root CA
notBefore=Oct 28 00:00:00 2014 GMT
notAfter=Oct 27 23:59:59 2064 GMT
Device CA
notBefore=Oct 28 00:00:00 2014 GMT
```

```

notAfter=Oct 27 23:59:59 2049 GMT
Device cert
notBefore=Aug 23 06:08:37 2017 GMT
notAfter=Aug 24 06:08:36 2037 GMT
Device cert: C = US, O = CableLabs, OU = Root CA01, CN = CableLabs Root Certification
Authority
error 9 at 2 depth lookup:certificate is not yet valid
Result: Fail
Reason: Certificate is not well chained

```

## show clock

To display the system clock, use the **show clock** command.

**show clock**

### Syntax Description

This command has no arguments or keywords.

### Command Default

None.

### Command Modes

Privileged EXEC mode (#)

### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

### Usage Guidelines

None.

### Example

This example shows how to display the system clock.

```

R-PHY#show clock
06:03:11.021 Thu May 09 2019

```

## show config-startup-capture

To view the startup-capture configuration, use the **show config-startup-capture** command.

**show config-startup-capture**

### Syntax Description

This command has no arguments or keywords.

### Command Default

None.

---

**Command Modes** Privileged EXEC mode (#)

---

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

---



---

**Usage Guidelines** None.

### Example

This example shows how to view the startup-capture configuration.

```
R-PHY#show config-startup-capture
startup tcpdump enabled
duration 6 minutes, max_files 10, tcpdump para: -p -i vbh0
```

## show console

To check whether the console port is enabled, use the **show console** command.

**show console**

### Syntax Description

This command has no arguments or keywords.

---

**Command Default** None.

---

**Command Modes** Privileged EXEC mode (#)

---

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

---



---

**Usage Guidelines** None.

### Example

This example shows how to check whether the console port is enabled or not.

```
R-PHY#show console
console is enabled
```

## show core-files

To view the core files, use the **show core-files** command.

**show core-files** {**info** | **server** | **status**}

<b>Syntax Description</b>	<b>info</b> Shows core files.
	<b>server</b> Shows information of the server, which is used for uploading the RPD core files.
	<b>status</b> Shows the status of the files being uploaded.

**Command Default** None.

**Command Modes** Privileged EXEC mode (#)

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

### Example

This example shows how to view the core files:

```
R-PHY#show core-files info
-rw-r--r-- 1 root  root          0 Feb 25 06:12 20190225.1551075165.python.6.4915.core.gz
-rw-r--r-- 1 root  root 95436800 Feb 25 06:12 20190225.1551075165.python.6.4915.core
-rw-r--r-- 1 root  root 9504602 Aug 14 2018 20180814.1534213098.python.11.4482.core.gz
-rw-r--r-- 1 root  root 9459035 Aug 12 2018 20180812.1534110510.python.4.4462.core.gz
```

### Example

This example shows how to view the information of the server, which is used for uploading the RPD core files.

```
R-PHY#show core-files server
Crash Data Server      : 11.1.1.10
Dest Path              : jiexiao/corefile/
Protocol               : tftp
```

### Example

This example shows how to view the status of the files being uploaded.

```
R-PHY#show core-files status
Idx  FileControl  FileStatus  FileName
0    other      availableForUpload  20190225.1551075165.python.6.4915.core.gz
2    other      availableForUpload  20180812.1534110510.python.4.4462.core.gz
1    other      availableForUpload  20180814.1534213098.python.11.4482.core.gz
```



# show cpu

To view the MTU information of the interface and the status of the different types of traffic received at the CPU of the RPD, use the **show cpu** command.

**show cpu** { **history** | **mtu** | **rx** }

<b>Syntax Description</b>	<b>history</b>	Shows the history of memory usage percentage in a graphical format.
	<b>mtu</b>	Shows interface MTU information.
	<b>rx</b>	Shows the status of various types of incoming traffic to the RPD.
<b>Command Default</b>	None.	
<b>Command Modes</b>	Privileged EXEC (#)	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	The <code>show cpu</code> command was introduced.
	Cisco 1x2 / Compact Shelf RPD Software 7.6	The <code>history</code> option was introduced.
<b>Usage Guidelines</b>	None	

## Example

This example shows how to view the MTU information of the interface:

```
R-PHY#show cpu mtu
interface MTU
vbh0      2350
vbh1      2350
```

## Example

This example shows how to view the status of the various types of traffic received by the RPD CPU.

```
R-PHY#show cpu rx
Policer      Green      Yellow      Red
default      3058          0           0
ARP (ucast)   5798          0           0
ARP (bcast)   0             0           0
ICMP6        536           0           0
ICMP         21886         0           0
IGMP         0             0           0
GCP          760693        0           0
SSH          0             0           0
HTTP         0             0           0
HTTPS        0             0           0
PTP          5987875       0           0
DHCP         613           0           0
```

show cpu

DHCP6	0	0	0
TOD	3	0	0
S-BFD6	0	0	0
L2TP (conn) 6	0	0	0
OOB	0	0	0
S-BFD	0	0	0
L2TP (conn)	3902	0	0

**Example**

This example shows how to view the CPU usage history:

```
R-PHY#show cpu history
433434333434434333433433433443
098182999190280999098199199018
.....
459274639755085968756307457608
43.5
43.0
42.5      *
42.0      *      *
41.5      *      *      *      *      *
41.0      *      *      *      *      *      *
40.5      *      *      *      *      *      *      *
40.0      *      *      *      *      *      *      *
39.5      **      *      *      *      *      *      *
39.0      ****      *      *      *      *      *
38.5      *****
0.....6.....1.....1.....2.....3
      0      2      8      4      0
      0      0      0      0      0
CPU usage percentage (last 300 seconds / 5 minutes)
444444444445
44423343337
.....
05031575222
60.0
58.0      *
56.0      *
54.0      *
52.0      *
50.0      *
48.0      *
46.0      *
44.0      ***      *
42.0      *****#
40.0      #####
0.....3.....6.....9.....1.....1.....1.....2.....2.....2.....3.....3.....3
      0      0      0      2      5      8      1      4      7      0      3      6
      0      0      0      0      0      0      0      0      0      0      0      0
      CPU usage percentage (last 360 minutes / 6 hours)
      * = maximum % per 5 minutes      # = average % per 5 minutes

5.0
4.5
4.0
3.5
3.0
```

```

2.5
2.0
1.5
1.0
0.5
0.0
 0...2...4...7...9...1...1...1...1...2...2...2...2...3...3
   4  8  2  6  2  4  6  9  1  4  6  8  1  3
     0  4  8  2  6  0  4  8  2  6
    CPU usage percentage (last 336 hours / 14 days)
    * = maximum % per 6 hours   # = average % per 6 hours

```

-- Example of average/max calculation from seconds to minutes

```

R-PHY#show cpu history
433334434334433344433444444345
099992091892189802089001111910
.....
441391114960141636593208479500
53.0
51.5
50.0 *
48.5 *
47.0 *
45.5 *
44.0 *
42.5 * * * * *
41.0 * * * ** *** **** **
39.5 ***** * *****
38.0 *****
 0.....6.....1.....1.....2.....3
   0      2      8      4      0
     0      0      0      0
    CPU usage percentage (last 300 seconds / 5 minutes)

 5
 7
 .
 2
61.0
59.0
57.0 *
55.0 *
53.0 *
51.0 *
49.0 *
47.0 *
45.0 *
43.0 *
41.0 #
 0.....3.....6.....9.....1.....1.....1.....2.....2.....2.....3.....3.....3
   0      0      0      2      5      8      1      4      7      0      3      6
     0      0      0      0      0      0      0      0      0      0      0      0
    CPU usage percentage (last 360 minutes / 6 hours)
    * = maximum % per 5 minutes   # = average % per 5 minutes

```

---



---

-- Example of dynamic range / step size

-- showing only seconds graph

```

    3
    1
    .
    1
36.0
35.5
35.0
34.5
34.0
33.5
33.0
32.5
32.0
31.5
31.0 *
    0.....5.....1
        0
seconds banner

```

```

    93
    .1
    5.
    01
34.5
32.0 *
29.5 *
27.0 *
24.5 *
22.0 *
19.5 *
17.0 *
14.5 *
12.0 *
 9.5 **
    0.....5.....1
        0
seconds banner

```

=====  
=====

-- Example of all three graphs being used

```

    42192
    .8..4
    9.29.
    46415
31.0
28.0 *
25.0 * *
22.0 * *
19.0 * *
16.0 * *
13.0 * *
10.0 * **
 7.0 * **
 4.0 ** **
 1.0 *****
    0.....5
seconds banner

```

```

      22222
      66666
      . . . .
      88888
30.5
29.0
27.5 ****#
26.0 ****#
24.5 **##
23.0 *###
21.5 *###
20.0 *###
18.5 *###
17.0 *###
15.5 #####
0....5
      minute banner

      222
      666
      . . .
      888
27.0 ***
26.0 ***
25.0 ***
24.0 ***
23.0 ***
22.0 ***
21.0 ***
20.0 ***
19.0 ***
18.0 ***
17.0 ***
0....5....1
      0
      hour banner

```

## show default routers

To view the details of the default router of the RPD, use the **show default routers** command.

**show default routers**

### Syntax Description

This command has no arguments or keywords.

#### Command Default

None.

#### Command Modes

Privileged EXEC mode (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

### Example

This example shows how to view the details of the default router of the RPD:

```
R-PHY#show default routers
AddType   IPAddress   EnetPortIndex   Lifetime   Preference
IPv4      11.1.6.1     1                1800      medium
```

## show dhcp

To display the Dynamic Host Configuration Protocol (DHCP) information of the RPD provision interface, use the **show dhcp** command in privileged EXEC mode.

**show dhcp**

### Syntax Description

This command has no arguments or keywords.

**Command Default** None.

**Command Modes** Privileged EXEC mode (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

### Example

This example shows how to display the DHCP information of the RPD provision interface.

```
R-PHY#show dhcp
Interface  IP-Address  Subnet-Mask
vbh0      11.1.6.100  255.255.255.0
```

Details:

```
-----
Interface:                vbh0
AddrType:                 IPv4
TimeServers:              10.1.1.1, 11.1.1.10
TimeOffset:               28800
LogServers:               11.1.1.10
CCAPCores:               11.1.6.3, 11.1.6.2
```

# show dot1x

To view the details of the 8021x authentication, use the **show dot1x** command.

**show dot1x detail**

**show dot1x summary**

<b>Syntax Description</b>	<b>detail</b> Shows detailed information about 8021x authentication.				
	<b>summary</b> Shows the basic information on 8021x authentication.				
<b>Command Default</b>	None.				
<b>Command Modes</b>	Privileged EXEC mode (#)				
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Cisco 1x2 / Compact Shelf RPD Software 2.1</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.
Release	Modification				
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.				
<b>Usage Guidelines</b>	None.				

## Example

This example shows how to display the detailed information on the 8021x authentication.

```
R-PHY#show dot1x detail
Interface      EAP_Received      Status
vbh0           False              UP

bssid=01:80:c2:00:00:03
freq=0
ssid=
id=0
mode=station
pairwise_cipher=NONE
group_cipher=NONE
key_mgmt=IEEE 802.1X (no WPA)
wpa_state=ASSOCIATED
ip_address=11.1.6.100
address=10:04:9f:c1:08:00
Supplicant PAE state=HELD
suppPortStatus=Unauthorized
EAP state=FAILURE
uuid=589a20d0-9806-56e5-998a-a97140e6a9c7
```

## Example

This example shows how to display a summary of the 8021x authentication.

```
R-PHY#show dot1x summary
Interface      EAP_Received   Status
vbh0          False          UP
```

## show downstream calibration

To display the downstream channel calibration information, use the **show downstream calibration** command.

**show downstream calibration info**

**show downstream calibration table**

Syntax Description	info
	Shows the downstream channel calibration information.

table
Shows the downstream channel calibration table.

Command Default	None.
-----------------	-------

Command Modes	Privileged EXEC mode (#)
---------------	--------------------------

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

Usage Guidelines	None.
------------------	-------

### Example

This example shows how to view the downstream channel calibration information:

```
R-PHY#show downstream calibration info
Configuration details:
  QAM channel count           : 16
  OFDM channel count         : 1
  Number of OOB channels      : 0
  Number of SC-QAM based tones : 0
  Number of leakage tones     : 0
  Number of alignment tones   : 0
  Number of 6MHz QAM channels : 16
  Number of 6MHz QAM and OFDM : 47
  Number of 6MHz QAM OOB Tones : 16
  Number of 6MHz OFDM&tone channels : 31
  UPDI_Spectrum_Portion      : 0.659574
  FQUP_Spectrum_Portion      : 0.340426
  OFDM bandwidth             : 185.0 MHz
  DOCSIS 3.1 max level       : 41.0 dBmV
  Calibration level          : 37.8
  Spectrum adjust offset     : 0.1 dB
  QAM/OFDM set level         : 32.0 dBmV
  RF attenuation             : 10.0 dB
  OOB Tone Adjust            : -0.0
  Total Pilot Tone Set Level : 0.0
  Total Alignment Tone Set Level : 0.0
```



```

Total Leakage Tone Set Level      : 0.0
Total OOB Set Level               : 0.0
vva default                       : 36269
vtt default                       : 9538
QAM calculated scalers:
  Baseline channel count          : 160
  Baseline level                  : 38.0 dBmV
  Scaled level                    : 48.0 dBmV
  Adjusted level                  : 43.4 dBmV
  Equalization factor             : -1.3 dB
  6MHz Equalized level           : 42.0 dBmV
  Mod output scale                : 13257
  Coarse output scale             : 3
  Fine output scale               : 112698
  QAM scaler                      : 38237
OFDM calculated scalers:
  Baseline channel count          : 1
  Baseline level                  : 43.7 dBmV
  Scaled level                    : 43.8 dBmV
  Adjusted level                  : 42.0 dBmV
  Equalization factor             : 0.0 dB
  6MHz Equalized level           : 42.0 dBmV
  BPSK constellation scale       : 1158 (190 MHz)
  OFDM scaler                     : 106448 (190 MHz, 4K)
  OFDM scaler                     : 73644 (190 MHz, 8K)
QAM channels:
[ 0, on] 213 MHz, 32.0 -> 32.0 dBmV {Scale=12718}
[ 1, on] 219 MHz, 32.0 -> 32.0 dBmV {Scale=12704}
[ 2, on] 225 MHz, 32.0 -> 32.0 dBmV {Scale=12645}
[ 3, on] 231 MHz, 32.0 -> 32.0 dBmV {Scale=12602}
[ 4, on] 237 MHz, 32.0 -> 32.0 dBmV {Scale=12631}
[ 5, on] 243 MHz, 32.0 -> 32.0 dBmV {Scale=12733}

OFDM channels:
[158, on] 638600 KHz (3700 50 648800 833400), 32.0 -> 32.0 dBmV {UPDI=106448, BPSK=1174}
SC-QAM based Pilot Tones:
Alignment Tones:
Leakage detection Tones:
OOB channels:

```

## Example

```

R-PHY#show downstream calibration table
Request Power Table
Channel -> Request Power:
  1 -> 62.00 dBmV
  2 -> 58.00 dBmV
  3 -> 56.00 dBmV
  4 -> 54.00 dBmV
  5 -> 53.00 dBmV
  6 -> 52.00 dBmV
  7 -> 51.00 dBmV
  8 -> 51.00 dBmV
{9 -> 46.00 dBmV
  ...
  16 -> 46.00 dBmV}
{17 -> 40.00 dBmV
  ...
  47 -> 40.00 dBmV}
{48 -> 39.00 dBmV
  ...
  57 -> 39.00 dBmV}

```

show downstream calibration

```
{58 -> 38.00 dBmV
...
69 -> 38.00 dBmV}
{70 -> 37.00 dBmV
...
83 -> 37.00 dBmV}
{84 -> 36.00 dBmV
...
101 -> 36.00 dBmV}
{102 -> 35.00 dBmV
...
124 -> 35.00 dBmV}
{125 -> 34.00 dBmV
...
150 -> 34.00 dBmV}
{151 -> 33.00 dBmV
...
160 -> 33.00 dBmV
```

VVA Table

```
VVA -> VTT:
 0 -> 0.000 dBmV
290 -> 0.003 dBmV
435 -> 0.003 dBmV
580 -> 0.005 dBmV
725 -> 0.005 dBmV
870 -> 0.008 dBmV
1015 -> 0.009 dBmV
1160 -> 0.010 dBmV
1305 -> 0.011 dBmV
...
58000 -> 17.538 dBmV
```

Frequency Offset Table

```
Reference power level = 37.83
55 MHz -> -0.60 dBmV
...
1217 MHz -> 0.00 dBmV
```

show downstream channel configuration { ds\_channel\_number}

usage: show downstream channel configuration

example:

R-PHY#show downstream channel configuration

Chan	State	Frequency	Type	Annex	Modulation	Srate	Interleave	Power	Muted
0	UP	213000000	DOCSIS	ANNEX_B	256QAM	5361	I32-J4	32	NORMAL
1	UP	219000000	DOCSIS	ANNEX_B	256QAM	5361	I32-J4	32	NORMAL
2	UP	225000000	DOCSIS	ANNEX_B	256QAM	5361	I32-J4	32	NORMAL
3	UP	231000000	DOCSIS	ANNEX_B	256QAM	5361	I32-J4	32	NORMAL

Chan	State	Type	StartFreq	Width	PlcFreq	CPrefix	RollOff	Interleave	Spacing
158	UP	OFDM	645000000	192000000	651000000	1024	128	16	50kHz
		32.0							
		NORMAL							

\*NOTE: Start frequency and channel width do not cover guardband override scenario.

R-PHY#show downstream channel configuration 1-2

Chan	State	Frequency	Type	Annex	Modulation	Srate	Interleave	Power	Muted
------	-------	-----------	------	-------	------------	-------	------------	-------	-------

```

1      UP      219000000  DOCSIS  ANNEX_B  256QAM    5361    I32-J4    32      NORMAL
2      UP      225000000  DOCSIS  ANNEX_B  256QAM    5361    I32-J4    32      NORMAL

```

\*NOTE: Start frequency and channel width do not cover guardband override scenario.

```

show downstream channel sync
usage: show downstream channel sync interval and source mac config for psp mode
example:

```

```
R-PHY#show downstream channel configuration sync
```

```

Chan Sync_Int Sync_Mac
0      10      badb.ad0a.0eba
1      10      badb.ad0a.0ebb
8      10      badb.ad0a.0eba
9      10      badb.ad0a.0ebb

```

## show downstream channel configuration

To view the downstream channel configuration, use the **show downstream channel configuration** command.

**show downstream channel configuration**

**show downstream channel configuration sync**

<b>Syntax Description</b>	<b>sync</b> Shows the downstream channel sync interval and source MAC configuration for PSP mode.				
<b>Command Default</b>	None.				
<b>Command Modes</b>	Privileged EXEC mode (#)				
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Cisco 1x2 / Compact Shelf RPD Software 2.1</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.
Release	Modification				
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.				
<b>Usage Guidelines</b>	None.				

### Example: Downstream Channel Configuration

This example shows how to view the downstream channel configuration.

```

R-PHY#show downstream channel configuration
Chan State Frequency Type Annex Modulation Rate Interleave Power Muted
0      UP      213000000  DOCSIS  ANNEX_B  256QAM    5361    I32-J4    32      NORMAL
1      UP      219000000  DOCSIS  ANNEX_B  256QAM    5361    I32-J4    32      NORMAL
2      UP      225000000  DOCSIS  ANNEX_B  256QAM    5361    I32-J4    32      NORMAL
3      UP      231000000  DOCSIS  ANNEX_B  256QAM    5361    I32-J4    32      NORMAL
4      UP      237000000  DOCSIS  ANNEX_B  256QAM    5361    I32-J4    32      NORMAL

```

**show downstream channel counter**

```

5      UP      243000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL
6      UP      249000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL
7      UP      255000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL
8      UP      261000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL
9      UP      267000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL
10     UP      273000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL
11     UP      279000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL
12     UP      285000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL
13     UP      291000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL
14     UP      297000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL
15     UP      303000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL

```

```

Chan State Type      StartFreq Width      PlcFreq  CPrefix  RollOff  Interleave Spacing
Power  Muted
158  UP      OFDM      645000000 192000000 651000000 1024     128      16        50kHz
32.0   NORMAL

```

\*NOTE: Start frequency and channel width do not cover guardband override scenario.

R-PHY#show downstream channel configuration 1-2

```

Chan State Frequency Type      Annex  Modulation Srate  Interleave Power  Muted
1      UP      219000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL
2      UP      225000000  DOCSIS  ANNEX_B  256QAM   5361   I32-J4   32     NORMAL

```

\*NOTE: Start frequency and channel width do not cover guardband override scenario.

**Example: Downstream Channel Configuration Sync**

R-PHY#show downstream channel configuration sync

```

Chan Sync_Int Sync_Mac
0      10      badb.ad0a.0eba
1      10      badb.ad0a.0ebb
8      10      badb.ad0a.0eba
9      10      badb.ad0a.0ebb

```

## show downstream channel counter

To display the downstream channel counter information, use the **show downstream channel counter** command in privileged EXEC mode.

**show downstream channel counter [dpmi | dps | tpmi]**

<b>Syntax Description</b>	<b>dpmi</b> Displays DS counters per channel from top module to downstream module.
	<b>dps</b> Displays DS counters per channel at dps module (last module before leaving RPD).
	<b>tpmi</b> Displays DS (MAC management/data) and US counters (maps) per channel incoming to RPD top module.

**Command Default** None.

**Command Modes** Privileged EXEC mode (#)

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

### Example

These examples shows how to display the downstream channel counter information:

```
R-PHY#show downstream channel counter
----- Packets counter in TPMI -----

Level      Rx-pkts      Rx-sum-pkts
Node Rcv  281517      4122087340
Depi Pkt   673         9830440

Port Chan  SessionId(dec/hex)  Rx-pkts  Rx-sum-pkts
DS_0  0      4390912  /0x00430000  69792   1762857
DS_0  1      4390913  /0x00430001  17      447
DS_0  2      4390914  /0x00430002  17      447
DS_0  3      4390915  /0x00430003  17      447
DS_0  4      4390916  /0x00430004  69792   1762858
DS_0  5      4390917  /0x00430005  17      447
DS_0  6      4390918  /0x00430006  17      447
DS_0  7      4390919  /0x00430007  17      447
DS_0  8      4390920  /0x00430008  69794   1761888
DS_0  9      4390921  /0x00430009  17      447
DS_0  10     4390922  /0x0043000A  17      447
DS_0  11     4390923  /0x0043000B  17      447
DS_0  12     4390924  /0x0043000C  17      447
DS_0  13     4390925  /0x0043000D  17      446
DS_0  14     4390926  /0x0043000E  17      446
DS_0  15     4390927  /0x0043000F  17      446
DS_0  158    272695296 /0x10410000  903     13143222
US_0  0      13893632  /0x00D40000  17422   255036768
US_0  1      13893633  /0x00D40001  17422   255035870
US_0  2      13893634  /0x00D40002  17422   254777868
US_0  3      13893635  /0x00D40003  17422   254776651

Port      Rx-pkts      Rx-sum-pkts  Drop-pkts  Drop-sum-pkts
DS_0      210709       3088227003   0           0
US_0      70048        1024833029   0           0
US_1      0            103847       0           0
```

Note: The above counters are only for live debug and might overflow

## show downstream channel counter

----- Packets counter in DPMI -----

```
Field          Pkts          Sum-pkts
Dpmi Ingress  210610       3082981415
Pkt Delete    0            0
Data Len Err  0            0
```

Chan	Flow_id	SessionId(dec/hex)	Octs	Sum-octs	SeqErr-pkts	SeqErr-sum-pkts
0	0	4390912 / 0x00430000	2130	54106	0	1
0	1	4390912 / 0x00430000	12529	331502	0	1
0	2	4390912 / 0x00430000	4519036	114108617	0	1
0	3	4390912 / 0x00430000	0	0	0	0
1	0	4390913 / 0x00430001	0	0	0	0
1	1	4390913 / 0x00430001	578	15164	0	1
1	2	4390913 / 0x00430001	0	34	0	1
1	3	4390913 / 0x00430001	0	0	0	0
2	0	4390914 / 0x00430002	0	0	0	0
2	1	4390914 / 0x00430002	578	15164	0	1
2	2	4390914 / 0x00430002	0	34	0	1
2	3	4390914 / 0x00430002	0	0	0	0
3	0	4390915 / 0x00430003	0	0	0	0
3	1	4390915 / 0x00430003	578	15164	0	1
3	2	4390915 / 0x00430003	0	34	0	1
3	3	4390915 / 0x00430003	0	0	0	0
4	0	4390916 / 0x00430004	2130	54106	0	1
4	1	4390916 / 0x00430004	12529	331502	0	1
4	2	4390916 / 0x00430004	4519036	114109385	0	1
4	3	4390916 / 0x00430004	0	0	0	0
5	0	4390917 / 0x00430005	0	0	0	0
5	1	4390917 / 0x00430005	578	15164	0	1
5	2	4390917 / 0x00430005	0	34	0	1
5	3	4390917 / 0x00430005	0	0	0	0
6	0	4390918 / 0x00430006	0	0	0	0
6	1	4390918 / 0x00430006	578	15164	0	1
6	2	4390918 / 0x00430006	0	34	0	1
6	3	4390918 / 0x00430006	0	0	0	0
7	0	4390919 / 0x00430007	0	0	0	0
7	1	4390919 / 0x00430007	578	15164	0	1
7	2	4390919 / 0x00430007	0	34	0	1
7	3	4390919 / 0x00430007	0	0	0	0
8	0	4390920 / 0x00430008	2130	55502	0	1
8	1	4390920 / 0x00430008	12653	334035	0	1
8	2	4390920 / 0x00430008	4519036	114045319	0	1
8	3	4390920 / 0x00430008	0	0	0	0
9	0	4390921 / 0x00430009	0	0	0	0
9	1	4390921 / 0x00430009	578	15164	0	1
9	2	4390921 / 0x00430009	0	34	0	1
9	3	4390921 / 0x00430009	0	0	0	0
10	0	4390922 / 0x0043000A	0	0	0	0
10	1	4390922 / 0x0043000A	578	15164	0	1
10	2	4390922 / 0x0043000A	0	34	0	1
10	3	4390922 / 0x0043000A	0	0	0	0
11	0	4390923 / 0x0043000B	0	0	0	0
11	1	4390923 / 0x0043000B	578	15164	0	1
11	2	4390923 / 0x0043000B	0	34	0	1
11	3	4390923 / 0x0043000B	0	0	0	0
12	0	4390924 / 0x0043000C	0	0	0	0
12	1	4390924 / 0x0043000C	578	15164	0	1
12	2	4390924 / 0x0043000C	0	34	0	1
12	3	4390924 / 0x0043000C	0	0	0	0
13	0	4390925 / 0x0043000D	0	0	0	0
13	1	4390925 / 0x0043000D	578	15130	0	1

```

13 2      4390925 / 0x0043000D 0      34      0      1
13 3      4390925 / 0x0043000D 0      0      0      0
14 0      4390926 / 0x0043000E 0      0      0      0
14 1      4390926 / 0x0043000E 578    15130  0      1
14 2      4390926 / 0x0043000E 0      34      0      1
14 3      4390926 / 0x0043000E 0      0      0      0
15 0      4390927 / 0x0043000F 0      0      0      0
15 1      4390927 / 0x0043000F 578    15130  0      1
15 2      4390927 / 0x0043000F 0      34      0      1
15 3      4390927 / 0x0043000F 0      0      0      0
158 0     272695296 / 0x10410000 0      64859  0      1
158 1     272695296 / 0x10410000 20245  294291636 0      1
158 2     272695296 / 0x10410000 0      374    0      1
158 3     272695296 / 0x10410000 0      0      0      1
158 0     PLC 272695296 / 0x10410000 0      0      0      1
158 1     PLC 272695296 / 0x10410000 0      0      0      1
158 2     PLC 272695296 / 0x10410000 0      0      0      1
158 3     PLC 272695296 / 0x10410000 34869  507665651 0      1

```

Note: The above counters are only for live debug and might overflow

----- Packets counter in DPS -----

Chan	Tx-packets	Tx-octets	Drop-pkts	Tx-sum-pkts	Tx-sum-octs	Drop-sum-pkts	Rate-in-Mbps
0	70757	4593872	0	1020790312	1943815742	0	1.027
0xfe							
1	18	612	0	257698	8761732	0	0.000
0xfe							
2	18	612	0	257698	8761732	0	0.000
0xfe							
3	18	612	0	257699	8761766	0	0.000
0xfe							
4	70761	4594128	0	1020794233	1943921794	0	1.027
0xfe							
5	18	612	0	257699	8761766	0	0.000
0xfe							
6	18	612	0	257699	8761766	0	0.000
0xfe							
7	18	612	0	257698	8761732	0	0.000
0xfe							
8	70770	4594764	0	1020790323	1943678097	0	1.027
0xfe							
9	18	612	0	257701	8761834	0	0.000
0xfe							
10	18	612	0	257699	8761766	0	0.000
0xfe							
11	18	612	0	257699	8761766	0	0.000
0xfe							
12	18	612	0	257697	8761698	0	0.000
0xfe							
13	18	612	0	257697	8761698	0	0.000
0xfe							
14	18	612	0	257698	8761732	0	0.000
0xfe							
15	18	612	0	257678	8761052	0	0.000
0xfe							
158	100	5433	0	5412279	294357180	0	0.004
0x1fff							

Note: The above counters are only for live debug and might overflow

## show downstream channel counter

R-PHY#show downstream channel counter dpmi

Field	Pkts	Sum-pkts
Dpmi Ingress	50675	3083032090
Pkt Delete	0	0
Data Len Err	0	0

Chan	Flow_id	SessionId(dec/hex)	Octs	Sum-octs	SeqErr-pkts	SeqErr-sum-pkts
0	0	4390912 / 0x00430000	818	54924	0	1
0	1	4390912 / 0x00430000	3685	335187	0	1
0	2	4390912 / 0x00430000	1087088	115195705	0	1
0	3	4390912 / 0x00430000	0	0	0	0
1	0	4390913 / 0x00430001	0	0	0	0
1	1	4390913 / 0x00430001	170	15334	0	1
1	2	4390913 / 0x00430001	0	34	0	1
1	3	4390913 / 0x00430001	0	0	0	0
2	0	4390914 / 0x00430002	0	0	0	0
2	1	4390914 / 0x00430002	170	15334	0	1
2	2	4390914 / 0x00430002	0	34	0	1
2	3	4390914 / 0x00430002	0	0	0	0
3	0	4390915 / 0x00430003	0	0	0	0
3	1	4390915 / 0x00430003	170	15334	0	1
3	2	4390915 / 0x00430003	0	34	0	1
3	3	4390915 / 0x00430003	0	0	0	0
4	0	4390916 / 0x00430004	818	54924	0	1
4	1	4390916 / 0x00430004	3685	335187	0	1
4	2	4390916 / 0x00430004	1087088	115196473	0	1
4	3	4390916 / 0x00430004	0	0	0	0
5	0	4390917 / 0x00430005	0	0	0	0
5	1	4390917 / 0x00430005	170	15334	0	1
5	2	4390917 / 0x00430005	0	34	0	1
5	3	4390917 / 0x00430005	0	0	0	0
6	0	4390918 / 0x00430006	0	0	0	0
6	1	4390918 / 0x00430006	170	15334	0	1
6	2	4390918 / 0x00430006	0	34	0	1
6	3	4390918 / 0x00430006	0	0	0	0
7	0	4390919 / 0x00430007	0	0	0	0
7	1	4390919 / 0x00430007	170	15334	0	1
7	2	4390919 / 0x00430007	0	34	0	1
7	3	4390919 / 0x00430007	0	0	0	0
8	0	4390920 / 0x00430008	818	56320	0	1
8	1	4390920 / 0x00430008	3685	337720	0	1
8	2	4390920 / 0x00430008	1087088	115132407	0	1
8	3	4390920 / 0x00430008	0	0	0	0
9	0	4390921 / 0x00430009	0	0	0	0
9	1	4390921 / 0x00430009	170	15334	0	1
9	2	4390921 / 0x00430009	0	34	0	1
9	3	4390921 / 0x00430009	0	0	0	0
10	0	4390922 / 0x0043000A	0	0	0	0
10	1	4390922 / 0x0043000A	170	15334	0	1
10	2	4390922 / 0x0043000A	0	34	0	1
10	3	4390922 / 0x0043000A	0	0	0	0
11	0	4390923 / 0x0043000B	0	0	0	0
11	1	4390923 / 0x0043000B	170	15334	0	1
11	2	4390923 / 0x0043000B	0	34	0	1
11	3	4390923 / 0x0043000B	0	0	0	0
12	0	4390924 / 0x0043000C	0	0	0	0
12	1	4390924 / 0x0043000C	170	15334	0	1
12	2	4390924 / 0x0043000C	0	34	0	1
12	3	4390924 / 0x0043000C	0	0	0	0
13	0	4390925 / 0x0043000D	0	0	0	0
13	1	4390925 / 0x0043000D	170	15300	0	1
13	2	4390925 / 0x0043000D	0	34	0	1
13	3	4390925 / 0x0043000D	0	0	0	0
14	0	4390926 / 0x0043000E	0	0	0	0



14	1	4390926	/ 0x0043000E	170	15300	0	1
14	2	4390926	/ 0x0043000E	0	34	0	1
14	3	4390926	/ 0x0043000E	0	0	0	0
15	0	4390927	/ 0x0043000F	0	0	0	0
15	1	4390927	/ 0x0043000F	170	15300	0	1
15	2	4390927	/ 0x0043000F	0	34	0	1
15	3	4390927	/ 0x0043000F	0	0	0	0
158	0	272695296	/ 0x10410000	0	64859	0	1
158	1	272695296	/ 0x10410000	4879	294296515	0	1
158	2	272695296	/ 0x10410000	0	374	0	1
158	3	272695296	/ 0x10410000	0	0	0	1
158	0	PLC 272695296	/ 0x10410000	0	0	0	1
158	1	PLC 272695296	/ 0x10410000	0	0	0	1
158	2	PLC 272695296	/ 0x10410000	0	0	0	1
158	3	PLC 272695296	/ 0x10410000	8274	507673925	0	1

Note: The above counters are only for live debug and might overflow

```
R-PHY#show downstream channel counter dps
Chan Tx-packets Tx-octets Drop-pkts Tx-sum-pkts Tx-sum-octs Drop-sum-pkts Rate-in-Mbps
Buffers-Avail
0 29278 1901233 0 1020819590 1945716975 0 1.027
0xfe
1 7 238 0 257705 8761970 0 0.000
0xfe
2 7 238 0 257705 8761970 0 0.000
0xfe
3 7 238 0 257706 8762004 0 0.000
0xfe
4 29278 1901233 0 1020823511 1945823027 0 1.027
0xfe
5 7 238 0 257706 8762004 0 0.000
0xfe
6 7 238 0 257706 8762004 0 0.000
0xfe
7 7 238 0 257705 8761970 0 0.000
0xfe
8 29271 1900721 0 1020819594 1945578818 0 1.027
0xfe
9 7 238 0 257708 8762072 0 0.000
0xfe
10 7 238 0 257706 8762004 0 0.000
0xfe
11 7 238 0 257706 8762004 0 0.000
0xfe
12 7 238 0 257704 8761936 0 0.000
0xfe
13 7 238 0 257704 8761936 0 0.000
0xfe
14 7 238 0 257705 8761970 0 0.000
0xfe
15 7 238 0 257685 8761290 0 0.000
0xfe
158 89 4845 0 5412431 294365451 0 0.004
0x1fff
```

Note: The above counters are only for live debug and might overflow

```
R-PHY#show downstream channel counter tpmi
Level Rx-pkts Rx-sum-pkts
```

**show downstream depi configuration**

```

Node Rcv 170713      4122258053
Depi Pkt 408        9830848

Port Chan SessionId(dec/hex) Rx-pkts Rx-sum-pkts
DS_0 0 4390912 /0x00430000 42315 1805172
DS_0 1 4390913 /0x00430001 11 458
DS_0 2 4390914 /0x00430002 11 458
DS_0 3 4390915 /0x00430003 11 458
DS_0 4 4390916 /0x00430004 42315 1805173
DS_0 5 4390917 /0x00430005 11 458
DS_0 6 4390918 /0x00430006 11 458
DS_0 7 4390919 /0x00430007 11 458
DS_0 8 4390920 /0x00430008 42316 1804204
DS_0 9 4390921 /0x00430009 11 458
DS_0 10 4390922 /0x0043000A 11 458
DS_0 11 4390923 /0x0043000B 11 458
DS_0 12 4390924 /0x0043000C 11 458
DS_0 13 4390925 /0x0043000D 11 457
DS_0 14 4390926 /0x0043000E 11 457
DS_0 15 4390927 /0x0043000F 11 457
DS_0 158 272695296 /0x10410000 547 13143769
US_0 0 13893632 /0x00D40000 10564 255047332
US_0 1 13893633 /0x00D40001 10564 255046434
US_0 2 13893634 /0x00D40002 10564 254788432
US_0 3 13893635 /0x00D40003 10564 254787215

Port Rx-pkts Rx-sum-pkts Drop-pkts Drop-sum-pkts
DS_0 128158 3088355161 0 0
US_0 42488 1024875517 0 0
US_1 12 103859 0 0

```

Note: The above counters are only for live debug and might overflow

## show downstream depi configuration

To display the downstream DEPi configuration, use the **show downstream depi configuration** command.

**show downstream depi configuration**

**show downstream depi configuration** *channel\_id*

---

**Syntax Description** *channel\_id* Displays downstream channel DEPi configuration.

---

**Command Default** None.

**Command Modes** Privileged EXEC mode (#)

---

<b>Release</b>	<b>Modification</b>
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

---

**Usage Guidelines** None.

**Example: Downstream Channel DEPi Configuration**

This example shows how to display downstream channel DEPi configuration:

```
R-PHY#show downstream depi configuration
Channel PwSubtype      SessionId(dec/hex)      SrcIp
0       PSP            4390912 /0x00430000  11.1.6.100
1       PSP            4390913 /0x00430001  11.1.6.100
2       PSP            4390914 /0x00430002  11.1.6.100
3       PSP            4390915 /0x00430003  11.1.6.100
4       PSP            4390916 /0x00430004  11.1.6.100
5       PSP            4390917 /0x00430005  11.1.6.100
6       PSP            4390918 /0x00430006  11.1.6.100
7       PSP            4390919 /0x00430007  11.1.6.100
8       PSP            4390920 /0x00430008  11.1.6.100
9       PSP            4390921 /0x00430009  11.1.6.100
10      PSP            4390922 /0x0043000A  11.1.6.100
11      PSP            4390923 /0x0043000B  11.1.6.100
12      PSP            4390924 /0x0043000C  11.1.6.100
13      PSP            4390925 /0x0043000D  11.1.6.100
14      PSP            4390926 /0x0043000E  11.1.6.100
15      PSP            4390927 /0x0043000F  11.1.6.100
158     PSP            272695296 /0x10410000  11.1.6.100
```

**Example: Downstream DEPi Configuration for a Channel**

```
R-PHY#show downstream depi configuration 0
Channel PwSubtype      SessionId(dec/hex)      SrcIp
0       PSP            4390912 /0x00430000  11.1.6.100
```

## show downstream dlm counter

To view the downstream channel configuration, use the **show downstream dlm counter** command.

```
show downstream dlm counter
```

<b>Command Default</b>	None.
------------------------	-------

<b>Command Modes</b>	Privileged EXEC mode (#)
----------------------	--------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

<b>Usage Guidelines</b>	None.
-------------------------	-------

**Example: Downstream DLM Counter**

```
R-PHY#show downstream dlm counter
DLM RX Count:      872
DLM TX Count:      872
Bad Format Drop:    0
```

```
Bad Code Field Drop: 0
Bad Session Drop: 0
```

## show downstream ofdm

To view the downstream OFDM channel profile information and PLC error interrupt details, use the **show downstream ofdm** command.

**show downstream ofdm** {**counter profile** | **db** | **interrupt**}

Syntax Description	counter profile	Shows the downstream OFDM channel profiles counter information.
	db	Shows the downstream OFDM channel profiles counter information from the RPD database.
	interrupt	Shows the downstream OFDM channel PLC error interrupt information.
Command Default	None.	
Command Modes	Privileged EXEC mode (#)	
Command History	Release	Modification
	Cisco 1x2 RPD Software 1.1	This command was introduced.
Usage Guidelines	None.	

### Example

This example shows how to view the downstream OFDM channel profiles counter information:

```
R-PHY#show downstream ofdm counter profile
OFDM Channel: 158
Profile Pkts      Sum-Pkts  Bytes      Sum-Bytes  Codewords  Sum-Codewords
0         1020393    1020393    55101222   55101222   195         695847
1          0          0          0          0          0          0
2          0          0          0          0          0          0
3          0          0          0          0          0          0
4          0          0          0          0          0          0
5          0          0          0          0          0          0
6          0          0          0          0          0          0
7          0          0          0          0          0          0
8          0          0          0          0          0          0
9          0          0          0          0          0          0
10         0          0          0          0          0          0
11         0          0          0          0          0          0
12         0          0          0          0          0          0
13         0          0          0          0          0          0
14         0          0          0          0          0          0
15         0          0          0          0          0          0

OFDM Channel: 159
```

OFDM Channel: 160

OFDM Channel: 161

OFDM Channel: 162

Note: The above counters are only for live debug and might overflow

## Example

This example shows how to view the downstream OFDM channel profiles counter information from the RPD database:

```
R-PHY#show downstream ofdm db
Channel ID  Index  Type  Port Index  OutDiscards  OutErrors  OutPackets  DiscontinuityTime
158         0      2     0         0             0          1042293     2019-09-04
16:12:41.818131
    Profile: 0 Profile_CW: 696981
    Profile: 1 Profile_CW: 0
    Profile: 2 Profile_CW: 0
    Profile: 3 Profile_CW: 0
    Profile: 4 Profile_CW: 0
    Profile: 5 Profile_CW: 0
    Profile: 6 Profile_CW: 0
    Profile: 7 Profile_CW: 0
    Profile: 8 Profile_CW: 0
    Profile: 9 Profile_CW: 0
    Profile: 10 Profile_CW: 0
    Profile: 11 Profile_CW: 0
    Profile: 12 Profile_CW: 0
    Profile: 13 Profile_CW: 0
    Profile: 14 Profile_CW: 0
    Profile: 15 Profile_CW: 0
    Plc OutDiscards  Plc OutErrors  Plc OutPackets  Plc DiscontinuityTime
0                 0              953156          2019-09-04 16:12:41.818177
operStatusDsOfdm: 1
PlcFrameTimeAlignment: 8219228673410636832
Channel ID  Index  Type  Port Index  OutDiscards  OutErrors  OutPackets  DiscontinuityTime
159         1      2     0         0             0          1038247     2019-09-04
16:12:41.833570
    Profile: 0 Profile_CW: 798899
    Profile: 1 Profile_CW: 0
    Profile: 2 Profile_CW: 0
    Profile: 3 Profile_CW: 0
    Profile: 4 Profile_CW: 0
    Profile: 5 Profile_CW: 0
    Profile: 6 Profile_CW: 0
    Profile: 7 Profile_CW: 0
    Profile: 8 Profile_CW: 0
    Profile: 9 Profile_CW: 0
    Profile: 10 Profile_CW: 0
    Profile: 11 Profile_CW: 0
    Profile: 12 Profile_CW: 0
    Profile: 13 Profile_CW: 0
    Profile: 14 Profile_CW: 0
    Profile: 15 Profile_CW: 0
    Plc OutDiscards  Plc OutErrors  Plc OutPackets  Plc DiscontinuityTime
0                 0              943863          2019-09-04 16:12:41.833699
operStatusDsOfdm: 1
```

## show downstream ofdm

```

PlcFrameTimeAlignment: 8219228673433137840
Channel ID Index Type Port Index OutDiscards OutErrors OutPackets DiscontinuityTime
160 2 2 0 0 0 0 2019-09-04
20:12:33.639701
Profile: 0 Profile_CW: 0
Profile: 1 Profile_CW: 0
Profile: 2 Profile_CW: 0
Profile: 3 Profile_CW: 0
Profile: 4 Profile_CW: 0
Profile: 5 Profile_CW: 0
Profile: 6 Profile_CW: 0
Profile: 7 Profile_CW: 0
Profile: 8 Profile_CW: 0
Profile: 9 Profile_CW: 0
Profile: 10 Profile_CW: 0
Profile: 11 Profile_CW: 0
Profile: 12 Profile_CW: 0
Profile: 13 Profile_CW: 0
Profile: 14 Profile_CW: 0
Profile: 15 Profile_CW: 0
Plc OutDiscards Plc OutErrors Plc OutPackets Plc DiscontinuityTime
0 0 0 2019-09-04 20:12:33.639701
operStatusDsOfdm: 2
PlcFrameTimeAlignment: 0
Channel ID Index Type Port Index OutDiscards OutErrors OutPackets DiscontinuityTime
161 3 2 0 0 0 0 2019-09-04
20:12:33.639701
Profile: 0 Profile_CW: 0
Profile: 1 Profile_CW: 0
Profile: 2 Profile_CW: 0
Profile: 3 Profile_CW: 0
Profile: 4 Profile_CW: 0
Profile: 5 Profile_CW: 0
Profile: 6 Profile_CW: 0
Profile: 7 Profile_CW: 0
Profile: 8 Profile_CW: 0
Profile: 9 Profile_CW: 0
Profile: 10 Profile_CW: 0
Profile: 11 Profile_CW: 0
Profile: 12 Profile_CW: 0
Profile: 13 Profile_CW: 0
Profile: 14 Profile_CW: 0
Profile: 15 Profile_CW: 0
Plc OutDiscards Plc OutErrors Plc OutPackets Plc DiscontinuityTime
0 0 0 2019-09-04 20:12:33.639701
operStatusDsOfdm: 2
PlcFrameTimeAlignment: 0
Channel ID Index Type Port Index OutDiscards OutErrors OutPackets DiscontinuityTime
162 4 2 0 0 0 0 2019-09-04
20:12:33.639701
Profile: 0 Profile_CW: 0
Profile: 1 Profile_CW: 0
Profile: 2 Profile_CW: 0
Profile: 3 Profile_CW: 0
Profile: 4 Profile_CW: 0
Profile: 5 Profile_CW: 0
Profile: 6 Profile_CW: 0
Profile: 7 Profile_CW: 0
Profile: 8 Profile_CW: 0
Profile: 9 Profile_CW: 0
Profile: 10 Profile_CW: 0

```

```

Profile: 11 Profile_CW: 0
Profile: 12 Profile_CW: 0
Profile: 13 Profile_CW: 0
Profile: 14 Profile_CW: 0
Profile: 15 Profile_CW: 0
Plc OutDiscards   Plc OutErrors   Plc OutPackets   Plc DiscontinuityTime
0                 0                 0                 2019-09-04 20:12:33.639701
operStatusDsOfdm: 2
PlcFrameTimeAlignment: 0

```

### Example

This example shows how to view the downstream OFDM channel PLC error interrupt details:

```

R-PHY#show downstream ofdm interrupt
Interrupt          Status
PLC MC msg format err  0x0
PLC EM msg format err  0x0
PLC EM msg late err   0x0
PLC FU msg format err  0x0
PLC FU msg late err   0x0
PLC TR msg format err  0x0
PLC TR msg late err   0x0

```

## show downstream ofdm configuration

To view the downstream OFDM Channel Descriptor (OCD) and Downstream Profile Descriptor (DPD) configurations, use the **show downstream ofdm configuration** command.

```
show downstream ofdm configuration {oed | dpd}
```

<b>Syntax Description</b>	<b>oed</b> Shows the downstream OFDM configuration OCD configuration.				
	<b>dpd</b> Shows the downstream OFDM configuration DPD configuration.				
<b>Command Default</b>	None.				
<b>Command Modes</b>	Privileged EXEC mode (#)				
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Cisco 1x2 RPD Software 1.1</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Cisco 1x2 RPD Software 1.1	This command was introduced.
Release	Modification				
Cisco 1x2 RPD Software 1.1	This command was introduced.				
<b>Usage Guidelines</b>	None.				

### Example

This example shows how to display both the OCD and DPD configurations:

```

R-PHY#show downstream ofdm configuration
OFDM Channel: 158

```

## show downstream ofdm configuration

```

OCD Message
  OCD fields
    DCID                : 159
    CCC                 : 2
    TLV 0 Spacing       : 50 KHz
    TLV 1 Cyclic Prefix : 1024 samples
    TLV 2 Rolloff       : 128 samples
    TLV 3 Spectrum Location : 500600000 Hz
    TLV 4 Interleave Depth : 16
    TLV 5 Subcarrier Assignment : Continuous Pilots (list)
      1638 1702 1766 1830 1894 1958 1997 2009 2020 2029
      2066 2075 2086 2098 2142 2206 2270 2334 2398 2462

    TLV 5 Subcarrier Assignment : Excluded Subcarriers (range)
      : 0 - 1605
    TLV 5 Subcarrier Assignment : Excluded Subcarriers (range)
      : 2490 - 4095
    TLV 5 Subcarrier Assignment : PLC Subcarriers (range)
      : 2044 - 2051
    TLV 6 Primary Capable      : 0 (No)

OFDM Channel: 158
DPD Message
  DPD fields
    DCID                : 159
    Profile ID          : 0
    CCC                 : 4
    TLV 5 Subcarrier Range/List : Range (continuous)
      Modulation        : 1024 (default value)
      : 0 - 4095

DPD Message
  DPD fields
    DCID                : 159
    Profile ID          : 1
    CCC                 : 4
    TLV 5 Subcarrier Range/List : Range (continuous)
      Modulation        : 4096 (default value)
      : 0 - 4095

DPD Message
  DPD fields
    DCID                : 159
    Profile ID          : 2
    CCC                 : 4
    TLV 5 Subcarrier Range/List : Range (continuous)
      Modulation        : 2048 (default value)
      : 0 - 4095

DPD Message
  DPD fields
    DCID                : 159
    Profile ID          : 255
    CCC                 : 4
    TLV 5 Subcarrier Range/List : Range (continuous)
      Modulation        : 16 (default value)
      : 0 - 4095

```

**Example**

This example shows how to display the OCD configuration:

```

R-PHY#show downstream ofdm configuration ocd
OFDM Channel: 158

```



```

OCD Message
  OCD fields
    DCID : 159
    CCC : 2
    TLV 0 Spacing : 50 KHz
    TLV 1 Cyclic Prefix : 1024 samples
    TLV 2 Rolloff : 128 samples
    TLV 3 Spectrum Location : 500600000 Hz
    TLV 4 Interleave Depth : 16
    TLV 5 Subcarrier Assignment : Continuous Pilots (list)
      1638 1702 1766 1830 1894 1958 1997 2009 2020 2029
      2066 2075 2086 2098 2142 2206 2270 2334 2398 2462

    TLV 5 Subcarrier Assignment : Excluded Subcarriers (range)
      : 0 - 1605
    TLV 5 Subcarrier Assignment : Excluded Subcarriers (range)
      : 2490 - 4095
    TLV 5 Subcarrier Assignment : PLC Subcarriers (range)
      : 2044 - 2051
    TLV 6 Primary Capable : 0 (No)

```

This example shows how to display the DPD configuration:

```

R-PHY#show downstream ofdm configuration dpd
OFDM Channel: 158
DPD Message
  DPD fields
    DCID : 159
    Profile ID : 0
    CCC : 4
    TLV 5 Subcarrier Range/List : Range (continuous)
      Modulation : 1024 (default value)
      : 0 - 4095
DPD Message
  DPD fields
    DCID : 159
    Profile ID : 1
    CCC : 4
    TLV 5 Subcarrier Range/List : Range (continuous)
      Modulation : 4096 (default value)
      : 0 - 4095
DPD Message
  DPD fields
    DCID : 159
    Profile ID : 2
    CCC : 4
    TLV 5 Subcarrier Range/List : Range (continuous)
      Modulation : 2048 (default value)
      : 0 - 4095
DPD Message
  DPD fields
    DCID : 159
    Profile ID : 255
    CCC : 4
    TLV 5 Subcarrier Range/List : Range (continuous)
      Modulation : 16 (default value)
      : 0 - 4095

```

## show downstream oob configuration

To display the downstream OOB configuration, use the **show downstream oob configuration** command.

**show downstream oob configuration** {55d1 | 55d2 | depi | ndf}

### Syntax Description

**55d1** Displays the 55D1 in OOB channel configuration.

**55d2** Displays the 55D2 in OOB channel configuration.

**depi** Displays the OOB DEPI configuration.

**ndf** Displays the NDF in OOB channel configuration.

### Command Default

None.

### Command Modes

Privileged EXEC mode (#)

### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

### Example

This example shows how to display the 55D1 in OOB channel configuration:

```
R-PHY#show downstream oob configuration 55d1
```

```
OOB 55D1 bcm configuration:
```

Chan	State	Power	Muted	Frequency	CalcuFreq	RegFreq
1:Primary	UP	-10	UnMuted	100000000	190000	190000
1:Secondary	UP	0	UnMuted	81000000	1a4000	1a4000

### Example

This example shows how to display the 55D2 in OOB channel configuration:

```
R-PHY#show downstream oob configuration 55d2
```

```
OOB 55D2 bcm configuration:
```

Chan	State	Power	Muted	Frequency	CalcuFreq	RegFreq
0	UP	1	UnMuted	94000000	fff38000	f38000

### Example

This example shows how to display the OOB DEPI configuration:

```
R-PHY#show downstream oob configuration depi
DS OOB depi 55d1 configuration:
```

```

Chan_id Session id Internal SessionId Source IP                               Group
IP
163      0x800000cb 0xff0000a3          2002::a86f:6f01
ff3a::8086:1

DS OOB depi 55d2 not configured!

```

### Example

This example shows how to display the NDF in OOB channel configuration:

```
R-PHY#show downstream oob configuration ndf
```

```

OOB NDF bcm configuration:
Chan   State   Power   Muted   Frequency   CalcuFreq   RegFreq
2      UP      0       UnMuted 70000000    ffd58000    d58000

```

## show downstream oob counter

To display the incoming traffic to the DSP modulator for all the three downstream OOB channels, use the **show downstream oob counter** command. In addition, it displays the DSP reset count.

```
show downstream oob counter {55d1 | 55d2 | ndf}
```

<b>Syntax Description</b>	<b>55d1</b>	Shows the incoming traffic to the DSP modulator for the downstream OOB-55d1 channel.
	<b>55d2</b>	Shows the incoming traffic to the DSP modulator for the downstream OOB-55d2 channel.
	<b>ndf</b>	Shows the incoming traffic to the DSP modulator for the downstream Narrowband Digital Forward (NDF) channel.
<b>Command Default</b>	None.	
<b>Command Modes</b>	Privileged EXEC mode (#)	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.
<b>Usage Guidelines</b>	If an issue occurs, where the DSP modulator is not responding, the DSP auto resets to recover the system or manually via CLI command. Hence, this command shows how many times the DSP has been reset.	

### Example

This example shows how to display the downstream counter details, when the system is configured with OOB 55d2 and NDF:

```
R-PHY#show downstream oob counter

DSOOB 55D2 counters: [update every 2 minutes]
Modulator : In Packets 136321012
INTST_rst_cnt : 1

DSOOB NDF counters: [update every 2 minutes]
Modulator           [Chan : 2] : In Packets 12348790
DPS reset           count : 0 (since last reload)
```

### Example

This example shows how to display the downstream counter details, when system is configured with OOB 55d1 and NDF:

```
R-PHY#show downstream oob counter

DSOOB 55D2 counters: [update every 2 minutes]
Modulator : In Packets 21080962
INTST_rst_cnt : 1

DSOOB NDF counters: [update every 2 minutes]
Modulator           [Chan : 2] : In Packets 1239956
DPS reset           count : 0 (since last reload)
```

### Example

This example shows how to display the downstream OOB 55-1 counter details:

```
R-PHY#show downstream oob counter 55d1

DSOOB 55D1 counters: [update every 2 minutes]
Primary Channel   : In Packets 456310017
INTST_rst_cnt : 0
Secondary Channel : In Packets 0
INTST_rst_cnt : 0
```

### Displays Downstream OOB 55-2 Counter Details

This example shows how to display the downstream OOB 55-2 counter details:

```
R-PHY#show downstream oob counter 55d2

DSOOB 55D2 counters: [update every 2 minutes]
Modulator : In Packets 136281012
INTST_rst_cnt : 1
```

### Displays Downstream NDF Counter Details

This example shows how to display the downstream NDF counter details:

```
R-PHY#show downstream oob counter ndf

DSOOB NDF counters: [update every 2 minutes]
```

```

Modulator                               [Chan : 2] : In Packets 1239956
DPS reset                                count : 0 (since last reload)

```

## show downstream port configuration

To view the downstream port configuration, use the **show downstream port configuration** command.

```
show downstream port configuration
```

### Syntax Description

This command has no arguments or keywords.

#### Command Default

None.

#### Command Modes

Privileged EXEC mode (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

#### Usage Guidelines

None.

### Example: Downstream Port Configuration

This example shows how to display the downstream port configuration:

```

R-PHY#show downstream port configuration
Admin: UP
Muted: NORMAL
BasePower: 32 dBmV

```

## show downstream port status

To view the downstream port status, you can use the **show downstream port status** command.

```
show downstream port status
```

### Syntax Description

This command has no arguments or keywords.

#### Command Default

None.

#### Command Modes

Privileged EXEC mode (#)

**show downstream scqam**

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 9.x	This command was introduced.

**Usage Guidelines** None.

**Downstream Port Configuration**

This example shows how to display the downstream port status:

```
R-PHY# show downstream port status
Port ID Port Type Oper Status
0 DS UP
```

## show downstream scqam

To display the downstream SCQAM channel counter DB, use the **show downstream scqam db** command.

**show downstream scqam db**

**Syntax Description**

This command has no arguments or keywords.

**Command Default** None.

**Command Modes** Privileged EXEC mode (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

**Example: Downstream SC QAM**

This example shows how to display the downstream SC QAM:

```
R-PHY#show downstream scqam db
Channel ID Channel Type Port Index OutDiscards OutErrors OutPackets DiscontinuityTime
0 1 0 0 0 183510024 2019-05-09
07:11:22.960000
1 1 0 0 0 183936629 2019-05-09
07:11:22.960000
2 1 0 0 0 106252 2019-05-09
07:11:22.960000
3 1 0 0 0 106285 2019-05-09
07:11:22.960000
4 1 0 0 0 102849 2019-05-09
```

```

07:11:22.960000
5          1          0          0          0          102902          2019-05-09
07:11:22.960000
6          1          0          0          0          102949          2019-05-09
07:11:22.960000
7          1          0          0          0          102850          2019-05-09
07:11:22.960000
8          1          0          0          0          183500907       2019-05-09
07:11:22.960000
9          1          0          0          0          183927878       2019-05-09
07:11:22.960000
10         1          0          0          0          92992           2019-05-09
07:11:22.960000
11         1          0          0          0          92992           2019-05-09
07:11:22.960000
12         1          0          0          0          92992           2019-05-09
07:11:22.960000
13         1          0          0          0          92992           2019-05-09
07:11:22.960000
14         1          0          0          0          92990           2019-05-09
07:11:22.960000
15         1          0          0          0          92992           2019-05-09
07:11:22.960000

```

## show environment

To display the details of the sensor and their statuses, use the **show environment** command.

**show environment all**

**show environment history** *sensor\_id*

**show environment sensor** *sensor\_id*

**show environment summary**

**show environment table** *sensor\_id*

<b>Syntax Description</b>	<b>all</b>	Shows a list of sensors and their statuses.
	<b>history</b>	Shows the sensor state change history.
	<b>summary</b>	Shows sensors summary, including the alarm information.
	<b>table</b>	Display a sensor state and threshold for alarms.
	<i>sensor_id</i>	ID of the sensor.
<b>Command Default</b>	None.	
<b>Command Modes</b>	Privileged EXEC mode (#)	

**Command History****Release****Modification**


---

Cisco 1x2 / Compact Shelf RPD Software 2.1 This command was introduced.

---

**Usage Guidelines**

None

**Example: List of Sensors and their Statuses**

This example shows how to list the sensors and their statuses.

```
R-PHY#show environment all
Sensor List: Environmental Monitoring
ID      Sensor                               State      Value
--      -
1       temp: FPGA                             NORMAL     34 Celsius
2       temp: BCM3161                           NORMAL     43 Celsius
3       temp: RF_DS                              NORMAL     48 Celsius
4       temp: Inlet_Air                          NORMAL     24 Celsius
5       temp: CPU                                NORMAL     32 Celsius
6       volt: VP5P0_SB                           NORMAL     4.927030 Volt
7       volt: VP3P5                              NORMAL     3.499980 Volt
8       volt: 3620_V                             NORMAL     1.107324 Volt
9       volt: VP12P0_RF                          NORMAL     11.935384 Volt
10      volt: VP3P3_VG                           NORMAL     3.303598 Volt
11      volt: VP12V                               NORMAL     11.902281 Volt
12      volt: VP1P4                              NORMAL     1.377696 Volt
13      volt: VP5P5                              NORMAL     5.536112 Volt
14      volt: VP2P0_FP                           NORMAL     2.007010 Volt
15      volt: VP3P3                              NORMAL     3.307962 Volt
16      volt: VP1P8                              NORMAL     1.797583 Volt
17      volt: VP3P3_CLK                          NORMAL     3.301416 Volt
18      volt: RF_PD_OU                           NORMAL     0.899420 Volt
19      volt: VP3V3_APL                          NORMAL     3.310708 Volt
20      volt: VP1P2_IO                           NORMAL     1.198793 Volt
21      volt: DB_3V3                             NORMAL     3.306407 Volt
22      volt: VP1P35                             NORMAL     1.357581 Volt
23      volt: VP3P0_BCM                           NORMAL     3.009023 Volt
24      volt: VP1P8_BCM                           NORMAL     1.791038 Volt
25      volt: VP2P5_IO                           NORMAL     2.484766 Volt
26      volt: VP1P2_FP                            NORMAL     1.194792 Volt
27      volt: VP1P0A_BC                           NORMAL     0.998244 Volt
28      volt: VP1P0A_FP                           NORMAL     0.999744 Volt
29      volt: VP1P0_BCM                           NORMAL     0.926726 Volt
30      volt: VP1P0                               NORMAL     1.009246 Volt
31      volt: VP1P0_FP                            NORMAL     1.001244 Volt
32      volt: LM5066_V                            NORMAL     12.099411 Volt
33      current: LM5066_I                         NORMAL     3.819864 Amp
34      current: VP1P0_FP                         NORMAL     2.250000 Amp
35      current: VP1P0                            NORMAL     4.062500 Amp
36      current: VP1P0_BCM                        NORMAL     7.187500 Amp
```

**Example: Sensor State Change History**

This example shows how to display the history details of the sensor's state change:

```
R-PHY#show environment history 1
<156>2019-05-08T04:41:18.929639+00:00 RPD10049FC10800 WARNING type=Temp, name=FPGA , id=1
, data=34.000000, unit=Celsius, poll=2, time=2019-05-08 04:41:18
```



```
<156>2019-05-08T05:05:50.713127+00:00 RPD10049FC10800 WARNING type=Temp, name=FPGA , id=1
, data=35.000000, unit=Celsius, poll=2, time=2019-05-08 05:05:50
```

### Example: A Sensor Summary

This example shows how to display the summary of a sensor:

```
R-PHY#show environment sensor 1
ID      Sensor                State      Value
--      -
1       temp: FPGA              NORMAL     35 Celsius
```

### Example: A Sensors Summary Including Alarm Information

```
R-PHY#show environment summary
Number of Critical alarms: 0
Number of Major alarms: 0
Number of Minor alarms: 0
```

ID	Sensor	State	Value
1	temp: FPGA	NORMAL	35 Celsius
2	temp: BCM3161	NORMAL	44 Celsius
3	temp: RF_DS	NORMAL	49 Celsius
4	temp: Inlet_Air	NORMAL	25 Celsius
5	temp: CPU	NORMAL	33 Celsius
6	volt: VP5P0_SB	NORMAL	4.946668 Volt
7	volt: VP3P5	NORMAL	3.499980 Volt
8	volt: 3620_V	NORMAL	1.093875 Volt
9	volt: VP12P0_RF	NORMAL	11.935384 Volt
10	volt: VP3P3_VG	NORMAL	3.303598 Volt
11	volt: VP12V	NORMAL	11.811884 Volt
12	volt: VP1P4	NORMAL	1.376256 Volt
13	volt: VP5P5	NORMAL	5.533116 Volt
14	volt: VP2P0_FP	NORMAL	2.007010 Volt
15	volt: VP3P3	NORMAL	3.307962 Volt
16	volt: VP1P8	NORMAL	1.797583 Volt
17	volt: VP3P3_CLK	NORMAL	3.301416 Volt
18	volt: RF_PD_OU	NORMAL	0.907422 Volt
19	volt: VP3V3_APL	NORMAL	3.309058 Volt
20	volt: VP1P2_IO	NORMAL	1.198793 Volt
21	volt: DB_3V3	NORMAL	3.306407 Volt
22	volt: VP1P35	NORMAL	1.356971 Volt
23	volt: VP3P0_BCM	NORMAL	3.009023 Volt
24	volt: VP1P8_BCM	NORMAL	1.789947 Volt
25	volt: VP2P5_IO	NORMAL	2.484766 Volt
26	volt: VP1P2_FP	NORMAL	1.194292 Volt
27	volt: VP1P0A_BC	NORMAL	0.997744 Volt
28	volt: VP1P0A_FP	NORMAL	0.999744 Volt
29	volt: VP1P0_BCM	NORMAL	0.926226 Volt
30	volt: VP1P0	NORMAL	1.009246 Volt
31	volt: VP1P0_FP	NORMAL	1.000744 Volt
32	volt: LM5066_V	NORMAL	12.077611 Volt
33	current: LM5066_I	NORMAL	3.845438 Amp
34	current: VP1P0_FP	NORMAL	2.312500 Amp
35	current: VP1P0	NORMAL	4.125000 Amp
36	current: VP1P0_BCM	NORMAL	7.125000 Amp

**Example: A Sensor State and Threshold for Alarms**

```
R-PHY#show environment table 1
sensor_id: 1
name: FPGA
type: temp
unit: Celsius
state          low          high
-----
NORMAL         N/A          84
MINOR-HIGH     85           89
MAJOR-HIGH     90           94
CRITICAL-HIGH  95           99
POWER-CYCLE-HIGH 100        N/A
poll_interval: 2
sensor_state: NORMAL
sensor_value: 35
```

## show fault-management

To display the RPD fault-management configuration details, use the **show fault-management** command.

**show fault-management** {**config** | **local-queue** | **pending-queue**}

<b>Syntax Description</b>	<b>config</b> Shows the RPD fault-management configuration from the principal core.				
	<b>local-queue</b> Shows the RPD fault-management local queue events.				
	<b>pending-queue</b> Shows the RPD fault-management pending queue events.				
<b>Command Default</b>	None.				
<b>Command Modes</b>	Privileged EXEC mode (#)				
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Cisco 1x2 / Compact Shelf RPD Software 2.1</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.
Release	Modification				
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.				
<b>Usage Guidelines</b>	None.				

**Example: RPD Fault-Management Configuration from Principal Core**

This example shows how to view the RPD fault-management configuration from the principal core.

```
R-PHY#show fault-management config
NotifyEnable:          disable
EvThrottleAdminStatus: unconstrained
EvThrottleThreshold:   5
EvThrottleInterval:   1
EvPriority:
  emergency:           LocalQueue, PendingQueue
```

```

alert:          LocalQueue, PendingQueue
critical:       LocalQueue, PendingQueue
error:          LocalQueue, PendingQueue
warning:        LocalQueue
notice:         LocalQueue
information:    LocalQueue
debug:          NoStoreInQueue

```

### Example: RPD Fault-Management Local Queue Events

This example shows how to view the RPD fault-management local queue events.

```

R-PHY#show fault-management local-queue
LastTime          FirstTime          Event          Level          Counts Text
2019-05-08 04:04:24 2019-05-08 04:04:24 66070102 notice          1      SSH Authentication
  Successful from: 11.1.6.1 admin
2019-05-08 04:04:48 2019-05-08 04:05:17 2148075527 warning          2      Rpd default
login credentials detected in use - please change password immediately
2019-05-08 04:38:07 2019-05-08 04:38:07 66070401 notice          1      SW Download
INIT - Via GCP: SW file:RPD_seres_rpd_20190507_130525_or_166.itb.sign.SSA - SW
server:11.1.1.10

```

### Example: RPD Fault-Management Pending Queue Events

This example shows how to view the RPD fault-management pending queue events.

```

R-PHY#show fault-management pending-queue
LastTime          FirstTime          Event          Level          Counts Text
2019-05-08 04:04:24 2019-05-08 04:04:24 66070102 notice          1      SSH Authentication
  Successful from: 11.1.6.1 admin
2019-05-08 04:04:48 2019-05-08 04:05:17 2148075527 warning          2      Rpd default
login credentials detected in use - please change password immediately
2019-05-08 04:38:07 2019-05-08 04:38:07 66070401 notice          1      SW Download
INIT - Via GCP: SW file:RPD_seres_rpd_20190507_130525_or_166.itb.sign.SSA - SW
server:11.1.1.10

```

## show fpga

To view the details of the field-programmable gate array (FPGA) configuration and status, use the **show fpga** command.

**show fpga version**

**show fpga video {configuration | statistics} start\_channel end\_channel**

**show fpga video filter**

**show fpga video interrupt**

### Syntax Description

<b>version</b>	Shows FPGA version.
<b>configuration</b>	Shows FPGA video configuration.
<i>start_channel / end_channel</i>	Specifies the start and end channel numbers.

<b>filter</b>	Shows the FPGA VPMi MAC/IP address filter configuration or hits counter.
<b>interrupt</b>	Shows the FPGA interrupt status.
<b>statistics</b>	Shows the FPGA video channel counter statistics.

**Command Default**

None.

**Command Modes**

Privileged EXEC mode (#)

**Command History**

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines**

None.

**Example: FPGA Version**

This example shows how to view the FPGA version.

```
R-PHY#show fpga version
FPGA Revision(0x00000000):      0x7e2a5202 (2018-10-10 8.2)
```

**Example: FPGA Video Configuration**

This example shows how to view the FPGA video configuration.

```
R-PHY#show fpga video configuration
NUMBER          start channel ID: <0-163>
R-PHY#show fpga video configuration 0
NUMBER          end channel ID: <0-163>
R-PHY#show fpga video configuration 0 0
Mode: ASYNC
```

Chan	Ready	VPMI	MPTF	TYPE	M	N	BUF	MACDA	MACSA
IPDA	IPSA	Session_ID	Session_ID				TRHD	IDX	IDX
0	FALSE	0x00000000	0x00000000	ANNEX_B_QAM64	401	812	0	---	---
---	---								

**Example: FPGA Video Filter**

This example shows how to view the FPGA video filter.

```
R-PHY#show fpga video filter
VPMI FILTER Enabled

VPMI FILTER configuration:
NO VPMI MACDA FILTER ENTRY is enabled
MACDA_FILTER_ENABLE: 0x00000000
NO VPMI MACSA FILTER ENTRY is enabled
MACSA_FILTER_ENABLE: 0x00000000
NO VPMI IPDA FILTER ENTRY is enabled
```

```

IPDA_FILTER_ENABLE: 0x00000000
NO VPMI IPSA FILTER ENTRY is enabled
IPSA_FILTER_ENABLE: 0x00000000

INDEX  MAC_DEST_ADDR      MAC_SRC_ADDR      MAC_SRC_ADDR_MASK  MAC_DA_HIT_CNT  MAC_SA_HIT_CNT
0      00:00:00:00:00:00  00:00:00:00:00:00  00:00:00:00:00:00  0                0
1      00:00:00:00:00:00  00:00:00:00:00:00  00:00:00:00:00:00  0                0
2      00:00:00:00:00:00  00:00:00:00:00:00  00:00:00:00:00:00  0                0

INDEX  IP_DEST_ADDR  IP_SRC_ADDR  IP_DA_HIT_CNT  IP_SA_HIT_CNT
0      ---          ---          0              0
1      ---          ---          0              0

```

**Example: FPGA Video Interrupt**

This example shows how to view the FPGA video interrupt status.

```

R-PHY#show fpga video interrupt
MDJT intr:
HIPRI_INT_SRC(0x08000040): 0x00000001
HIPRI_INT_MSK(0x08000044): 0x000001ff
HIPRI_INT_CHN_SRC(0x08000048): 0x00000000
LOPRI_INT_SRC(0x08000060): 0x00000000
LOPRI_INT_MSK(0x08000064): 0x00000001
LOPRI_INT_CHN_SRC(0x08000068): 0x00000000
BUF_OVFL_CHN_SRC_0(0x0800006c): 0x00000000
BUF_OVFL_CHN_SRC_1(0x08000070): 0x00000000
BUF_OVFL_CHN_SRC_2(0x08000074): 0x00000000
BUF_OVFL_CHN_SRC_3(0x08000078): 0x00000000
BUF_OVFL_CHN_SRC_4(0x0800007c): 0x00000000
INBUF_DELQ_CHN_SRC_0(0x0800009c): 0x00000000
INBUF_DELQ_CHN_SRC_1(0x080000a0): 0x00000000
INBUF_DELQ_CHN_SRC_2(0x080000a4): 0x00000000
INBUF_DELQ_CHN_SRC_3(0x080000a8): 0x00000000

```

**Example: FPGA Video Channel Statistics**

This example shows how to view the FPGA video channel counter statistics .

```

R-PHY#show fpga video statistics 0 0
CHN  IN_PKT_CNT  DEL_PKT_CNT  INS_PKT_CNT  OUT_PKT_CNT
0    0          0            0            0

```

## show gcp session

To display the GCP session overall status or GCP statistics per session, use the **show gcp session** command.

**show gcp session**

**show gcp session statistics**

**show gcp session**

<b>Syntax Description</b>	<b>statistics</b> Shows the GCP session statistics per session.
---------------------------	---

<b>Command Default</b>	None.
------------------------	-------

<b>Command Modes</b>	Privileged EXEC mode (#)
----------------------	--------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

<b>Usage Guidelines</b>	None.
-------------------------	-------

**Example: GCP Session Overall Status**

This example shows how to view the GCP session overall status:

```
R-PHY#show gcp session
GCP session information

Active sessions:
SLAVE: 11.1.6.100:None --> 11.1.6.3:8190
SLAVE: 11.1.6.100:None --> 11.1.6.2:8190

Principal session:
None

Principal candidate session
None

Non Principal sessions:
None

Failed sessions:
None
```

**Example: GCP Statistics per Session**

This example shows how to view the GCP statistics per session:

```
R-PHY#show gcp session statistics
GCP session statistics:

Session1: SLAVE: 11.1.6.100:None --> 11.1.6.3:8190
Rx:560514
RxRunt:0
RxFrag:0
RxInvalidLen:0
RxDecodeFail:0
RxDecodeFrag:0
RxSessionErr:0
RxSessionClose:0
RxNoData:274756
RxSockErr:0
RxQEmpty:0
Tx:280272
TxQEmpty:0
```

```

TxQFull:0
TxFrag:0
TxEncodeErr:0
TxEncodeFail:0
TxSessionErr:0
TxSockErr:0

Session2: SLAVE: 11.1.6.100:None --> 11.1.6.2:8190
Rx:171392
RxRunt:0
RxFrag:0
RxInvalidLen:0
RxDecodeFail:0
RxDecodeFrag:0
RxSessionErr:0
RxSessionClose:0
RxNoData:85695
RxSockErr:0
RxQEmpty:0
Tx:85701
TxQEmpty:0
TxQFull:0
TxFrag:0
TxEncodeErr:0
TxEncodeFail:0
TxSessionErr:0
TxSockErr:0

```

## show group environment

To display the information on shelf group environment, use the **show group environment** command.

```
show group environment {alarm | all | eeeprom-fanio | eeeprom-psio | eeeprom-psu | fan | power | temperature | table}
```

Syntax Description		
<b>alarm</b>		Shows shelf sensor alarms.
<b>all</b>		Shows shelf all sensor information.
<b>eeeprom-fanio</b>		Shows shelf group fanio eeeprom info.
<b>eeeprom-psio</b>		Shows shelf group psio eeeprom info.
<b>eeeprom-psu</b>		Shows shelf group psu eeeprom info.
<b>fan</b>   <b>power</b>   <b>temperature</b>		Shows shelf group fan, power, and temperature sensor status.
<b>table</b>		Shows shelf group sensor information.

**Command Default** None.

**Command Modes** Privileged EXEC mode (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.
	Cisco 1x2 / Compact Shelf RPD Software 4.1	Options to show eeprom info for shelf group fanio, psio, and psu were added.
	Cisco 1x2 / Compact Shelf RPD Software 9.x	The output of <b>eepprom-psio</b> option was updated with Compact Shelf Chassis Serial Number details.

**Usage Guidelines** All commands in the **show group** command are supported only for the shelf primary node.

### Example: Shelf Sensor Alarms

This example shows how to view the shelf sensor alarms.

```
R-PHY#show group environment alarm
EventId      Module  Level  StartTime  Duration      Text
-----
2148075525  PSU1    error  04:47:30   1 day, 20:29:30  Rpd shelf power fail
PSU1;GROUP-ID=0004.9f30.a078
```

### Example: Shelf All Sensor Information

This example shows how to view all information about the sensor.

```
R-PHY#show group environment all
---temperature---
ID  Desc                               Value(Celsius)  Test  Last Chg
60  Local Temperature Register         24          False 04:47:10
61  Remote DX1 temperature             24          False 04:47:10
62  Inlet Air U38 local                 23          False 04:47:10

---power---
ID  Desc  State  Test  Last Chg
57  PSU0  ON     False 04:47:10
58  PSU1  FAIL   False 04:47:30

---fan---
ID  Desc  State  Level  Front(rpm)  Rear(rpm)  Test  Last Chg
51  FAN1  On     1      7324         7312       False 04:47:10
52  FAN2  On     1      7397         7212       False 04:47:10
53  FAN3  On     1      7250         7338       False 04:47:10
54  FAN4  On     1      7331         7278       False 04:47:10
55  FAN5  On     1      7591         7357       False 04:47:10
```

### Example: Shelf Group FANIO EEPROM Info

This example shows how to view the shelf group FANIO EEPROM info.

```
R-PHY#show group environment eeprom-fanio
Eeprom format version: 04
Compatiblity Byte: FF
Controller Type - Type: 40
Controller Type - High Byte: 0D
Controller Type - Low Byte: 7F
Hardware Version - Type: 41
```





## show group environment

```

TAN Part Number - Length: 46
TAN Part Number: 800-104482-2
TAN Revision Number - Type: 8D
TAN Revision Number: 42 30 00 00
Product Number (PID) - Type: CB
Product Number (PID) - Length: 92
Product Number (PID): RPHY_SHELF_3X6
Version ID (VID) - Type: 89
Version ID (VID): V02
CLEI Code - Type: C6
CLEI Code - Length: 8A
CLEI Code: CAMME00BRB
Deviation Number - Type: 88
Deviation Number: 00 00 00 00
PCB Fab Version - Type: 02
PCB Fab Version: 01
PCA Serial Number - Type: C1
PCA Serial Number - Length: 8B
PCA Serial Number: CAT2222E0UX
RMA Test History - Type: 03
RMA Test History: 00
RMA Number - Type: 81
RMA Number: 00 00 00 00
RMA History - Type: 04
RMA History: 00
Manufacturing Test Data - Type: C4
Manufacturing Test Data - Length: 08
Manufacturing Test Data: 00 00 00 00 00 00 00 00
Field Diagnostic Data - Type: C5
Field Diagnostic Data - Length: 08
Field Diagnostic Data: 00 00 00 00 00 00 00 00
Asset ID - Type: CC
Asset ID - Length: A0
Asset ID: 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20
Licensing Transaction ID - Type: 8B
Licensing Transaction ID: 00 00 00 00
System MAC Address - Type: C3
System MAC Address - Length: 06
System MAC Address: 00:53:bf:f4:4b:6e
System MAC Address Block Size - Type: 43
System MAC Address Block Size: 00 01 C2 8B
Chassis Serial Number - Type Field: C2
Chassis Serial Number - Length Field: 8B
Chassis Serial Number: CAT2223E15D

```

**Example: Shelf Group PSU EEPROM Info**

This example shows how to view the shelf group PSU EEPROM info.

```

R-PHY#show group environment eeprom-psu
PSU0:  PRESENT
Block Signature: 0xABAB
Block Version: 3
Block Length: 160
Block Checksum: 6085
Seeprom Size: 65535
Block Count: 2
Fru Major Type: 0xAB01
Fru Minor Type: 0x0000
OEM String: Cisco Systems, Inc.
Product Number (PID): N55-PAC-750W
Serial Number: POG21027T2B

```

```

Part Number: 341-0503-01
Part Version: A0
MFG Deviation: 0
HW Rev Major: 0x0001
HW Rev Minor: 0x0000
Power Consumption: 0
RMA_Failure Code: 0,0,0,9
Block Signature: 0x000C
Block Version: 0
Block Length: 3
Block Checksum: 1
CLEI Code:
Version ID (VID):

PSU1:  PRESENT
Block Signature: 0xABAB
Block Version: 3
Block Length: 160
Block Checksum: 6093
Seeprom Size: 65535
Block Count: 2
Fru Major Type: 0xAB01
Fru Minor Type: 0x0000
OEM String: Cisco Systems, Inc.
Product Number (PID): N55-PAC-750W
Serial Number: POG21027T1K
Part Number: 341-0503-01
Part Version: A0
MFG Deviation: 0
HW Rev Major: 0x0001
HW Rev Minor: 0x0000
Power Consumption: 0
RMA_Failure Code: 0,0,0,9
Block Signature: 0x000C
Block Version: 0
Block Length: 3
Block Checksum: 1
CLEI Code:
Version ID (VID):

```

### Example: Shelf Group Fan, Power, and Temperature Sensor Status

This example shows how to view the shelf group fan, power, and temperature sensor status.

```

R-PHY#show group environment fan
ID Desc State Level Front (rpm) Rear (rpm) Test Last Chg
51 FAN1 On 1 7328 7310 False 04:47:10
52 FAN2 On 1 7359 7217 False 04:47:10
53 FAN3 On 1 7263 7305 False 04:47:10
54 FAN4 On 1 7380 7279 False 04:47:10
55 FAN5 On 1 7558 7363 False 04:47:10
R-PHY#show group environment power
ID Desc State Test Last Chg
57 PSU0 ON False 04:47:10
58 PSU1 FAIL False 04:47:30
R-PHY#show group environment temperature
ID Desc Value(Celsius) Test Last Chg
60 Local Temperature Register 24 False 04:47:10
61 Remote DX1 temperature 23 False 04:47:10
62 Inlet Air U38 local 24 False 04:47:10

```



# show group info

To display the shelf group information, use the **show group info** command.

**show group info**

## Syntax Description

This command has no arguments or keywords.

### Command Default

None.

### Command Modes

Privileged EXEC mode (#)

### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

### Usage Guidelines

None.

## Example: Shelf Group Information

This example shows how to display the shelf group information.

```
R-PHY#show group info
Group Id: 0004.9f30.a078
CPU Id: 0
CPLD version: 9
Primary: True
Operational: True
```

■ show group info



## CHAPTER 3

# RPD Commands: show i through show s

---

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## show if-status

To display the registered core in provision interface, use the **show if-status** command in privileged EXEC mode.

### show if-status

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show if-status** command:

```
R-PHY# show if-status
Registered Cores   Interface   IP           Status
CORE-647736382    vbh0       11.1.4.128  OK
CORE-4063521443   vbh0       11.1.4.128  OK
CORE-1868846209   vbh0       11.1.4.128  OK
CORE-2017284119   vbh0       11.1.4.128  OK
```

## show ikev2 cacerts

To display ikev2 CA certificates, use the **show ikev2 cacerts** command in privileged EXEC mode.



**show ikev2 cacerts**

<b>Command Default</b>	None.
<b>Command Modes</b>	Privileged EXEC (#)
<b>Command History</b>	

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show ikev2 cacerts** command:

```
R-PHY# show ikev2 cacerts
List of X.509 CA Certificates

  subject: "C=US, O=Cisco System, Inc., OU=Test RPD Root CA, CN=TEST RPD Root Certification Authority"
  issuer:  "C=US, O=Cisco System, Inc., OU=Test RPD Root CA, CN=TEST RPD Root Certification Authority"
  validity: not before Nov 23 02:40:24 2018, ok
           not after  Nov 10 02:40:24 2068, ok (expires in 18081 days)
  serial:  c0:c5:ba:28:48:cc:fb:65
  flags:   CA self-signed
  authkeyId: dd:a0:24:b6:0f:bf:2b:29:9d:e1:4e:c4:f8:e6:b1:cf:06:8c:1f:00
  subjkeyId: dd:a0:24:b6:0f:bf:2b:29:9d:e1:4e:c4:f8:e6:b1:cf:06:8c:1f:00
  pubkey:   RSA 4096 bits
  keyid:   a1:91:97:cb:23:69:33:77:0a:6e:6f:99:27:2b:8c:f7:7d:7e:53:4c
  subjkey: dd:a0:24:b6:0f:bf:2b:29:9d:e1:4e:c4:f8:e6:b1:cf:06:8c:1f:00
```

## show ikev2 certs

To display ikev2 certificates, use the **show ikev2 certs** command in privileged EXEC mode.

**show ikev2 certs**

<b>Command Default</b>	None.
<b>Command Modes</b>	Privileged EXEC (#)
<b>Command History</b>	

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show ikev2 certs** command:

```
R-PHY# show ikev2 certs
List of X.509 End Entity Certificates:

  subject: "C=US, O=Cisco System, Inc., CN=www.cisco.com"
  issuer:  "C=US, O=Cisco System, Inc., OU= Test RPD Service Provider CA, CN=Test RPD Service Provider Certification Authority"
```

```

serial:      fe:35:b2:86:f2:cc:a9:8c
validity:   not before Nov 23 06:07:55 2018, ok
             not after  Nov 23 06:07:55 2038, ok
pubkey:     RSA 2048 bits
keyid:      ea:c0:51:fb:80:05:16:1b:25:9a:4e:48:1f:f8:dc:8b:b8:61:b0:36
subjkey:    d6:5d:24:b7:76:d6:52:cc:54:85:7e:88:8b:2e:c5:52:78:cd:41:39
authkey:    70:09:c4:e0:97:e3:03:c2:58:a0:fa:c2:0a:d2:6c:1b:72:23:60:a4

```

## show ikev2 configuration

To display ikev2 configuration, use the **show ikev2 configuration** command in privileged EXEC mode.

### show ikev2 configuration

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show ikev2 configuration** command:

```

R-PHY# show ikev2 configuration
IKEv2 authentication is currently enabled, next boot is enabled!
Current stuff is ready.

```

## show ikev2 session

To display ikev2 session, use the **show ikev2 session** command in privileged EXEC mode.

### show ikev2 session

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show ikev2 session** command:

```

R-PHY# show ikev2 session
Local          Remote          Status

```

```

93.3.40.84      93.3.40.129    UP
93.3.40.84      93.3.40.1      UP

```

## show interface info

To display RPD interfaces information, use the **show interface info** command in privileged EXEC mode.

### show interface info

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.
Cisco 1x2 / Compact Shelf RPD Software 8.2	This command was updated to include the status of the backhaul interface.

This is a sample output of the **show interface info** command:

```

R-PHY# show interface info
eth0      Link encap:Ethernet  HWaddr 10:04:9F:B1:01:02
          inet addr:10.1.4.99  Bcast:10.1.4.255  Mask:255.255.255.0
          inet6 addr: fe80::1204:9fff:febf:102/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:123101 errors:0 dropped:0 overruns:0 frame:0
          TX packets:11415 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:16738977 (15.9 MiB)  TX bytes:1449748 (1.3 MiB)
          Memory:1ae2000-1ae2fff
vbh0      Link encap:Ethernet  HWaddr 10:04:9F:B1:01:00
          inet addr:11.1.4.128  Bcast:11.1.4.255  Mask:255.255.255.0
          inet6 addr: fe80::1204:9fff:febf:100/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:2350  Metric:1
          RX packets:7865087 errors:0 dropped:0 overruns:0 frame:0
          TX packets:4359922 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:605738729 (577.6 MiB)  TX bytes:448858411 (428.0 MiB)
vbh1      Link encap:Ethernet  HWaddr 10:04:9F:B1:01:01
          inet6 addr: fe80::1204:9fff:febf:101/64 Scope:Link
          UP BROADCAST MULTICAST  MTU:2350  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:34 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:3564 (3.4 KiB)

```

This is a sample output of the **show interface info** command with the status of the backhaul interface:

```

R-PHY#show interface info
Backhaul configured as Link Redundancy
Backhaul 0: BH-UP
Backhaul 1: BH-UP
=====

```

```

vbh0      Link encap:Ethernet  HWaddr 10:04:9F:30:11:00
          inet addr:91.7.66.206  Bcast:91.7.66.255  Mask:255.255.255.0
          inet6 addr: fe80::1204:9fff:fe30:1100/64  Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:2350  Metric:1
          RX packets:1178879  errors:0  dropped:0  overruns:0  frame:0
          TX packets:594792  errors:0  dropped:0  overruns:0  carrier:0
          collisions:0  txqueuelen:1000
          RX bytes:91654228 (87.4 MiB)  TX bytes:58392651 (55.6 MiB)

```

## show ip arp

Displays the information on Address Resolution Protocol (ARP) Tables.

### show ip arp

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

#### Command History

Release	Modification
Cisco 2x2 / Compact Shelf RPD Software 4.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show ip arp** command:

```

R-PHY# show ip arp
IPv4 ARP Table:
192.168.1.1 dev eth0 lladdr 04:18:d6:f1:27:2f STALE
10.0.0.10 dev br_cs lladdr 00:1e:c0:85:7c:d8 DELAY

```

## show ip interface

Displays the information on the IP interface status and configuration.

### show ip interface

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

#### Command History

Release	Modification
Cisco 2x2 / Compact Shelf RPD Software 4.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show ip interface** command:

```

R-PHY# show ip interface
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000

```

```

link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
inet 127.0.0.1/8 scope host lo
    valid_lft forever preferred_lft forever
inet6 ::1/128 scope host
    valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 70:70:8b:43:3e:ef brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.184/24 brd 192.168.1.255 scope global eth0
        valid_lft forever preferred_lft forever
3: sit0@NONE: <NOARP> mtu 1480 qdisc noop state DOWN group default qlen 1000
    link/sit 0.0.0.0 brd 0.0.0.0
4: mbh-e1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast master br_cs state UNKNOWN group default qlen 1000
    link/ether 70:70:8b:43:3e:f0 brd ff:ff:ff:ff:ff:ff
    inet6 fe80::7270:8bff:fe43:3ef0/64 scope link
        valid_lft forever preferred_lft forever
5: br_cs: <BROADCAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
    link/ether 70:70:8b:43:3e:f0 brd ff:ff:ff:ff:ff:ff
    inet 10.0.0.50/24 brd 10.0.0.255 scope global br_cs
        valid_lft forever preferred_lft forever
    inet6 fe80::7270:8bff:fe43:3ef0/64 scope link
        valid_lft forever preferred_lft forever

```

## show ip route

Displays the information on the IP routing table.

### show ip route

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

#### Command History

Release	Modification
Cisco 2x2 / Compact Shelf RPD Software 4.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show ip route** command:

```

R-PHY# show ip route
IPv4 Route Table:
default via 192.168.1.1 dev eth0 metric 100
10.0.0.0/24 dev br_cs proto kernel scope link src 10.0.0.50
192.168.1.0/24 dev eth0 proto kernel scope link src 192.168.1.184

IPv6 Route Table:
fe80::/64 dev mbh-e1 proto kernel metric 256 pref medium
fe80::/64 dev br_cs proto kernel metric 256 pref medium

```

## show ipv4 route

To display the RPD IPv4 route information, use the **show ipv4 route** command in privileged EXEC mode.

### show ipv4 route

<b>Command Default</b>	None.
<b>Command Modes</b>	Privileged EXEC (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show ipv4 route** command:

```
R-PHY# show ipv4 route
Kernel IP routing table
Destination      Gateway         Genmask         Flags Metric Ref    Use Iface
default          11.1.4.1       0.0.0.0         UG    0      0      0 vbh0
10.0.1.0         *              255.255.255.0   U     0      0      0 eth1
10.0.2.0         *              255.255.255.0   U     0      0      0 l2tpeth0
10.0.3.0         *              255.255.255.0   U     0      0      0 l2tpeth1
10.0.4.0         *              255.255.255.0   U     0      0      0 l2tpeth2
10.0.5.0         *              255.255.255.0   U     0      0      0 l2tpeth3
10.1.4.0         *              255.255.255.0   U     0      0      0 eth0
11.1.4.0         *              255.255.255.0   U     0      0      0 vbh0
11.1.4.1         *              255.255.255.255 UH    0      0      0 vbh0
33.33.158.158   11.1.4.4       255.255.255.255 UGH   0      0      0 vbh0
```

## show ipv6 address

To display the IPv6 address information, use the **show ipv6 address** command in privileged EXEC mode.

### show ipv6 address

<b>Command Default</b>	None.
<b>Command Modes</b>	Privileged EXEC (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show ipv6 address** command:

```
R-PHY# show ipv6 address
vbh0@eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 2350 qlen 1000
  inet6 2001:93:3:58:204:9fff:fe31:1113/64 scope global noprefixroute dynamic
    valid_lft 2591967sec preferred_lft 604767sec
  inet6 fe80::204:9fff:fe31:1113/64 scope link
    valid_lft forever preferred_lft forever
vbh1@eth1: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 2350 qlen 1000
  inet6 fe80::204:9fff:fe31:1114/64 scope link
    valid_lft forever preferred_lft forever
```

## show ipv6 route

To display the RPD IPv6 route information, use the **show ipv6 route** command in privileged EXEC mode.

### show ipv6 route

<b>Command Default</b>	None.				
<b>Command Modes</b>	Privileged EXEC (#)				
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Cisco 1x2 / Compact Shelf RPD Software 2.1</td> <td>This command was introduced on the Cisco Remote PHY Device.</td> </tr> </tbody> </table>	Release	Modification	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.
Release	Modification				
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.				

The following is a sample output of the **show ipv6 route** command:

```
R-PHY# show ipv6 route
Kernel IPv6 routing table
Destination                                     Next Hop                                     Flags
Metric Ref      Use Iface
::/0
512      0          2 vbh0
2001:10:90:3::93/128
1      2561823      0 vbh0
2001:20:1:1::33/128
0      6          0 vbh0
2001:93:3:55::1/128
0      18659      1 vbh0
2001:93:3:58::1/128
0      19094      2 vbh0
2001:93:3:58::/64
256      2          1 vbh0
fe80::/64
256      0          0 eth1
fe80::/64
256      0          0 vbh1
fe80::/64
256      0          0 l2tpeth0
fe80::/64
256      0          0 l2tpeth1
fe80::/64
256      0          0 l2tpeth2
fe80::/64
256      0          0 l2tpeth3
fe80::/64
256      0          0 vbh0
```

```

::1/128                                ::          U
0      3          1 lo
2001:93:3:58::/128                     ::          U
0      0          1 lo
2001:93:3:58:204:9fff:fe31:1113/128     ::          U
0      5326281    4 lo
fe80::/128                              ::          U
0      0          1 lo
fe80::/128                              ::          U
0      0          1 lo
fe80::/128                              ::          U
0      0          1 lo
fe80::/128                              ::          U
0      0          1 lo
fe80::/128                              ::          U
0      0          1 lo
fe80::204:9fff:fe31:1113/128            ::          U
0      11129      1 lo
fe80::204:9fff:fe31:1114/128            ::          U
0      0          1 lo
fe80::c0d:81ff:fe9e:b575/128           ::          U
0      0          1 lo
fe80::38b5:74ff:fefb:f950/128          ::          U
0      0          1 lo
fe80::8877:1ff:fec9:bae8/128           ::          U
0      0          1 lo
fe80::a430:93ff:fe98:3b97/128          ::          U
0      0          1 lo
ff02::1/128                             ::          UC
0      1          0 vbh0
ff00::/8                                 ::          U
256    0          0 eth1
ff00::/8                                 ::          U
256    0          0 vbh1
ff00::/8                                 ::          U
256    0          0 l2tpeth0
ff00::/8                                 ::          U
256    0          0 l2tpeth1
ff00::/8                                 ::          U
256    0          0 l2tpeth2
ff00::/8                                 ::          U
256    0          0 l2tpeth3
ff00::/8                                 ::          U
256    0          1 vbh0

```

## show l2tp

To display layer 2 information, use the **show l2tp** command.

**show l2tp** {multicast | session}

Syntax	Description
<b>multicast</b>	Displays IGMPv3 joint sessions.
<b>session</b>	Displays layer 2 VPN sessions.

**Command Default** None.



**Command Modes** Privileged EXEC mode (#)

**Command History**

Release	Modification
Cisco 1x2 RPD Software 1.1	This command was introduced.

**Usage Guidelines** None.

### Example: Displays IGMPv3 Joint Sessions

This example shows how to display IGMPv3 joint sessions:

```
R-PHY#show l2tp multicast
Interface  LocalIp      Grp          Src          Status  Refcnt  Last Chg
vbh0      11.1.2.102    225.225.225.0 11.1.2.2    JOINED  17      04:52:04 2019-05-08
vbh0      11.1.2.102    225.225.225.0 11.1.2.3    JOINED  17      04:52:00 2019-05-08
```

### Example: Displays Layer 2 VPN Sessions

This example shows how to display layer 2 VPN sessions:

```
R-PHY#show l2tp session
L2TP Tunnel Information Total tunnels 2 sessions 110
LocSessID RemSessID LocTunID RemTunID State Type Last Chg
00f40100 65080020 330108da 434799a8 est SPECMAN 04:52:00 2019-05-08
00b40101 65040024 330108da 434799a8 est RNG_SCQ 04:51:59 2019-05-08
00f40102 65080028 330108da 434799a8 est SPECMAN 04:51:59 2019-05-08
00b40003 6504001c 330108da 434799a8 est RNG_SCQ 04:52:00 2019-05-08
8000a104 2000a103 330108da 434799a8 est PSP_DEPI 04:52:01 2019-05-08
```

## show l2tp multicast

To display IGMPv3 join sessions, use the **show l2tp multicast** command in privileged EXEC mode.

**show l2tp multicast**

**Command Default** None.

**Command Modes** Privileged EXEC (#)

**Command History**

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show l2tp multicast** command:

```
R-PHY# show l2tp multicast
Interface  LocalIp      Grp          Src          Status  Refcnt  Last Chg
vbh0      11.1.2.102    225.225.225.0 11.1.2.2    JOINED  17      04:52:04 2019-05-08
```

## show l2tp session

```
vbh0      11.1.2.102  225.225.225.0  11.1.2.3  JOINED  17      04:52:00  2019-05-08
```

## show l2tp session

To display layer 2 vpn sessions, use the **show l2tp session** command in privileged EXEC mode.

### show l2tp session

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show l2tp session** command:

```
R-PHY# show l2tp session
L2TP Tunnel Information Total tunnels 2 sessions 110
LocSessID RemSessID LocTunID RemTunID State Type Last Chg
00f40100 65080020 330108da 434799a8 est SPECMAN 04:52:00 2019-05-08
00b40101 65040024 330108da 434799a8 est RNG_SCQ 04:51:59 2019-05-08
00f40102 65080028 330108da 434799a8 est SPECMAN 04:51:59 2019-05-08
00b40003 6504001c 330108da 434799a8 est RNG_SCQ 04:52:00 2019-05-08
8000a104 2000a103 330108da 434799a8 est PSP_DEPI 04:52:01 2019-05-08
8000a105 2000a104 330108da 434799a8 est PSP_DEPI 04:52:02 2019-05-08
8000a106 2000a105 330108da 434799a8 est PSP_DEPI 04:52:00 2019-05-08
00f40001 65080014 330108da 434799a8 est SPECMAN 04:52:01 2019-05-08
8000a108 2000a107 330108da 434799a8 est PSP_DEPI 04:52:01 2019-05-08
8000a109 2000a108 330108da 434799a8 est PSP_DEPI 04:51:59 2019-05-08
8000a10a 2000a109 330108da 434799a8 est PSP_DEPI 04:52:03 2019-05-08
8000a10b 2000a10a 330108da 434799a8 est PSP_DEPI 04:52:04 2019-05-08
8000a10c 2000a10b 330108da 434799a8 est PSP_DEPI 04:52:03 2019-05-08
8000a102 2000a101 330108da 434799a8 est PSP_DEPI 04:52:00 2019-05-08
00640100 65010020 330108da 434799a8 est UEPI_SCQAM 04:52:00 2019-05-08
8000a10f 2000a10e 330108da 434799a8 est PSP_DEPI 04:52:02 2019-05-08
8000a110 2000a10f 330108da 434799a8 est PSP_DEPI 04:52:01 2019-05-08
8000a111 2000a110 330108da 434799a8 est PSP_DEPI 04:52:01 2019-05-08
00640103 6501002c 330108da 434799a8 est UEPI_SCQAM 04:52:01 2019-05-08
00f40103 6508002c 330108da 434799a8 est SPECMAN 04:52:01 2019-05-08
01040000 65200004 330108da 434799a8 est PSP_PNM 04:52:01 2019-05-08
00d40002 65000018 330108da 434799a8 est MAP_SCQ 04:52:02 2019-05-08
00b40000 65040010 330108da 434799a8 est RNG_SCQ 04:52:04 2019-05-08
00d40001 65000014 330108da 434799a8 est MAP_SCQ 04:51:59 2019-05-08
00b40102 65040028 330108da 434799a8 est RNG_SCQ 04:52:02 2019-05-08
8000a107 2000a106 330108da 434799a8 est PSP_DEPI 04:52:03 2019-05-08
00640101 65010024 330108da 434799a8 est UEPI_SCQAM 04:51:59 2019-05-08
01040100 65200008 330108da 434799a8 est PSP_PNM 04:52:02 2019-05-08
00640003 6501001c 330108da 434799a8 est UEPI_SCQAM 04:52:04 2019-05-08
8000a109 2000a102 330108da 434799a8 est PSP_DEPI 04:52:02 2019-05-08
00f40000 65080010 330108da 434799a8 est SPECMAN 04:52:04 2019-05-08
01040001 65201004 330108da 434799a8 est PSP_PNM 04:52:01 2019-05-08
00f40101 65080024 330108da 434799a8 est SPECMAN 04:52:02 2019-05-08
00840000 65020004 330108da 434799a8 est BW_SCQAM 04:52:03 2019-05-08
```

```

00640002 65010018 330108da 434799a8 est UEPI_SCQAM 04:52:04 2019-05-08
8000a1a0 2000a19f 330108da 434799a8 est PSP_DEPI 04:52:04 2019-05-08
00f40002 65080018 330108da 434799a8 est SPECMAN 04:52:00 2019-05-08
00d40000 65000010 330108da 434799a8 est MAP_SCQ 04:52:04 2019-05-08
00d40100 65000020 330108da 434799a8 est MAP_SCQ 04:52:00 2019-05-08
00d40102 65000028 330108da 434799a8 est MAP_SCQ 04:52:00 2019-05-08
00b40002 65040018 330108da 434799a8 est RNG_SCQ 04:52:00 2019-05-08
00b40100 65040020 330108da 434799a8 est RNG_SCQ 04:52:04 2019-05-08
8000a10d 2000a10c 330108da 434799a8 est PSP_DEPI 04:52:03 2019-05-08
00640001 65010014 330108da 434799a8 est UEPI_SCQAM 04:52:01 2019-05-08
8000a10e 2000a10d 330108da 434799a8 est PSP_DEPI 04:52:04 2019-05-08
01040101 65201008 330108da 434799a8 est PSP_PNM 04:51:59 2019-05-08
00d40003 6500001c 330108da 434799a8 est MAP_SCQ 04:52:03 2019-05-08
00f40003 6508001c 330108da 434799a8 est SPECMAN 04:52:03 2019-05-08
00b40103 6504002c 330108da 434799a8 est RNG_SCQ 04:52:03 2019-05-08
00640000 65010010 330108da 434799a8 est UEPI_SCQAM 04:52:03 2019-05-08
00d40103 6500002c 330108da 434799a8 est MAP_SCQ 04:52:01 2019-05-08
00840100 65020008 330108da 434799a8 est BW_SCQAM 04:52:01 2019-05-08
00b40001 65040014 330108da 434799a8 est RNG_SCQ 04:52:01 2019-05-08
00640102 65010028 330108da 434799a8 est UEPI_SCQAM 04:52:02 2019-05-08
00d40101 65000024 330108da 434799a8 est MAP_SCQ 04:52:02 2019-05-08
01040000 45200004 1eecdlb1 5850f35b est PSP_PNM 04:51:54 2019-05-08
00b40101 45040024 1eecdlb1 5850f35b est RNG_SCQ 04:51:53 2019-05-08
00f40002 45080018 1eecdlb1 5850f35b est SPECMAN 04:51:54 2019-05-08
00d40003 4500001c 1eecdlb1 5850f35b est MAP_SCQ 04:51:54 2019-05-08
8000a104 0000a103 1eecdlb1 5850f35b est PSP_DEPI 04:51:53 2019-05-08
8000a105 0000a104 1eecdlb1 5850f35b est PSP_DEPI 04:51:55 2019-05-08
00b40000 45040010 1eecdlb1 5850f35b est RNG_SCQ 04:51:54 2019-05-08
01040001 45201004 1eecdlb1 5850f35b est PSP_PNM 04:51:54 2019-05-08
8000a108 0000a107 1eecdlb1 5850f35b est PSP_DEPI 04:51:55 2019-05-08
00640103 4501002c 1eecdlb1 5850f35b est UEPI_SCQAM 04:51:55 2019-05-08
8000a10a 0000a109 1eecdlb1 5850f35b est PSP_DEPI 04:51:55 2019-05-08
8000a10b 0000a10a 1eecdlb1 5850f35b est PSP_DEPI 04:51:54 2019-05-08
8000a10c 0000a10b 1eecdlb1 5850f35b est PSP_DEPI 04:51:54 2019-05-08
00d40102 45000028 1eecdlb1 5850f35b est MAP_SCQ 04:51:54 2019-05-08
01040100 45200008 1eecdlb1 5850f35b est PSP_PNM 04:51:54 2019-05-08
8000a10f 0000a10e 1eecdlb1 5850f35b est PSP_DEPI 04:51:54 2019-05-08
8000a110 0000a10f 1eecdlb1 5850f35b est PSP_DEPI 04:51:58 2019-05-08
8000a111 0000a110 1eecdlb1 5850f35b est PSP_DEPI 04:51:54 2019-05-08
00640003 4501001c 1eecdlb1 5850f35b est UEPI_SCQAM 04:51:53 2019-05-08
00b40103 4504002c 1eecdlb1 5850f35b est RNG_SCQ 04:51:55 2019-05-08
00640101 45010024 1eecdlb1 5850f35b est UEPI_SCQAM 04:51:59 2019-05-08
8000a102 0000a101 1eecdlb1 5850f35b est PSP_DEPI 04:51:54 2019-05-08
00840000 45020004 1eecdlb1 5850f35b est BW_SCQAM 04:51:55 2019-05-08
00d40002 45000018 1eecdlb1 5850f35b est MAP_SCQ 04:51:59 2019-05-08
00640001 45010014 1eecdlb1 5850f35b est UEPI_SCQAM 04:51:54 2019-05-08
8000a106 0000a105 1eecdlb1 5850f35b est PSP_DEPI 04:51:58 2019-05-08
00b40102 45040028 1eecdlb1 5850f35b est RNG_SCQ 04:51:55 2019-05-08
8000a107 0000a106 1eecdlb1 5850f35b est PSP_DEPI 04:52:00 2019-05-08
00640100 45010020 1eecdlb1 5850f35b est UEPI_SCQAM 04:51:55 2019-05-08
8000a103 0000a102 1eecdlb1 5850f35b est PSP_DEPI 04:51:59 2019-05-08
00d40001 45000014 1eecdlb1 5850f35b est MAP_SCQ 04:51:57 2019-05-08
00f40000 45080010 1eecdlb1 5850f35b est SPECMAN 04:52:00 2019-05-08
00f40001 45080014 1eecdlb1 5850f35b est SPECMAN 04:51:55 2019-05-08
8000a109 0000a108 1eecdlb1 5850f35b est PSP_DEPI 04:51:59 2019-05-08
00d40100 45000020 1eecdlb1 5850f35b est MAP_SCQ 04:51:58 2019-05-08
8000a1a0 0000a19f 1eecdlb1 5850f35b est PSP_DEPI 04:52:00 2019-05-08
00b40002 45040018 1eecdlb1 5850f35b est RNG_SCQ 04:51:54 2019-05-08
00d40000 45000010 1eecdlb1 5850f35b est MAP_SCQ 04:51:55 2019-05-08
00b40100 45040020 1eecdlb1 5850f35b est RNG_SCQ 04:51:54 2019-05-08
00640102 45010028 1eecdlb1 5850f35b est UEPI_SCQAM 04:51:54 2019-05-08
00640002 45010018 1eecdlb1 5850f35b est UEPI_SCQAM 04:51:55 2019-05-08
00f40100 45080020 1eecdlb1 5850f35b est SPECMAN 04:51:54 2019-05-08
8000a10d 0000a10c 1eecdlb1 5850f35b est PSP_DEPI 04:51:55 2019-05-08

```

## show l2tp tunnel

```

8000a10e 0000a10d 1eecdlb1 5850f35b est PSP_DEPI 04:51:54 2019-05-08
00d40103 4500002c 1eecdlb1 5850f35b est MAP_SCQ 04:51:55 2019-05-08
01040101 45201008 1eecdlb1 5850f35b est PSP_PNM 04:51:59 2019-05-08
00f40101 45080024 1eecdlb1 5850f35b est SPECMAN 04:51:55 2019-05-08
00b40003 4504001c 1eecdlb1 5850f35b est RNG_SCQ 04:51:55 2019-05-08
00f40003 4508001c 1eecdlb1 5850f35b est SPECMAN 04:52:00 2019-05-08
00640000 45010010 1eecdlb1 5850f35b est UEPI_SCQAM 04:51:58 2019-05-08
00f40103 4508002c 1eecdlb1 5850f35b est SPECMAN 04:51:54 2019-05-08
00840100 45020008 1eecdlb1 5850f35b est BW_SCQAM 04:51:58 2019-05-08
00b40001 45040014 1eecdlb1 5850f35b est RNG_SCQ 04:51:55 2019-05-08
00f40102 45080028 1eecdlb1 5850f35b est SPECMAN 04:51:55 2019-05-08
00d40101 45000024 1eecdlb1 5850f35b est MAP_SCQ 04:51:57 2019-05-08

```

## show l2tp tunnel

To display layer 2 vpn tunnel, use the **show l2tp tunnel** command in privileged EXEC mode.

### show l2tp tunnel

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show l2tp tunnel** command:

```

R-PHY# show l2tp tunnel
L2TP Tunnel Information Total tunnels 2 sessions 110
LocTunID  RemTunID  Remote Name      State Remote Address  Local Address  Sessn Count
330108da  434799a8  clab-cbr-S11K05 est   11.1.2.2        11.1.2.102    55
1eecdlb1  5850f35b  clab-cbr-S11K05 est   11.1.2.3        11.1.2.102    55

```

## show lldp neighbors

To display neighbor device found by LLDP, use the **show lldp neighbors** command in privileged EXEC mode.

### show lldp neighbors

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

**Command History**

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show lldp neighbors** command:

```
R-PHY# show lldp neighbors
-----
LLDP neighbors:
-----
Interface:    vbh0, via: LLDP, RID: 1, Time: 2 days, 00:04:10
  Chassis:
    ChassisID:    mac 00:de:fb:69:20:c0
    SysName:      Cloud-Leaf-B
    SysDescr:     Cisco NX-OS(tm) n6000, Software (n6000-uk9), Version 7.3(3)N1(1), Interim
version 7.3(3)N1(0.535), RELEASE SOFTWARE Copyright (c) 2002-2012, 2016-2017 by Cisco
Systems, Inc. Compiled 11/18/2017 2:00:00
    MgmtIP:       10.74.54.172
    Capability:   Bridge, on
  Port:
    PortID:       local Eth1/25
    PortDescr:    Ethernet1/25
  UnknownTLVs:
    TLV:          OUI: 00,01,42, SubType: 1, Len: 1 01
    TLV:          OUI: 00,01,42, SubType: 2, Len: 16
24,00,24,00,24,00,24,00,24,00,24,00,24,00,24,00,24,00,24,00
    TLV:          OUI: 00,01,42, SubType: 6, Len: 4 06,00,00,00
-----
```

## show lldp statistics

To display packets statistics for LLDP, use the **show lldp statistics** command in privileged EXEC mode.

**show lldp statistics****Command Default**

None.

**Command Modes**

Privileged EXEC (#)

**Command History**

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show lldp statistics** command:

```
R-PHY# show lldp statistics
-----
LLDP statistics:
-----
Interface:    vbh0
  Transmitted: 5767
  Received:    5775
```

```
Discarded:      6
Unrecognized:  4
Ageout:        0
Inserted:      1
Deleted:       0
```

---

## show logging

To display system log, use the **show logging** command in privileged EXEC mode.

```
show logging ikev2 | resetlog | secure-resetlog | seres | ds-ofdm | traceback | openrpd
{ all | info | error } | onboard { current | message | startup_time | temperature | voltage }
| last lines
```

### Syntax Description

<b>ikev2</b>	Displays the ikev2 logs.
<b>resetlog</b>	Displays the reset reason log.
<b>secure-resetlog</b>	Displays the secure factory reset reason log.
<b>seres</b>	Displays the seres log or the contents of seres/bcm316x log since last 'clear'.
<b>ds-ofdm</b>	Displays downstream OFDM logs, including detailed information about processing and error handling of DS OFDM OCD and DPD messages.  This command also displays the /tmp/d31_ocrd.log file contents.
<b>traceback</b>	Displays the traceback log, or kernel traceback log since last 'clear'.
<b>openrpd all</b>	Displays the openrpd log, or displays all contents of openrpd log since last 'clear'.
<b>openrpd info</b>	Displays only info or error messages from the openrpd log, or displays 'info' contents of openrpd log since last 'clear'.
<b>openrpd error</b>	Displays only error messages from the openrpd log or displays 'error' contents of openrpd log since last 'clear'.
<b>last</b> <i>lines</i>	Displays the <i>lines</i> number of lines from the tail of the log. Displays the whole output, if <i>lines</i> is greater than the size of the output.

The following syntax options apply for the **show logging onboard** command option.

<b>current</b>	Clears current data.
<b>message</b>	Clears OBFL error messages.
<b>startup_time</b>	Clears the startup time data.
<b>temperature</b>	Clears temperature data.
<b>voltage</b>	Clears voltage data.

**Command Default** None.

**Command Modes** Privileged EXEC (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.
	Cisco 1x2 / Compact Shelf RPD Software 8.2	The <b>ds-ofdm</b> option was introduced for this command.
	Cisco 1x2 / Compact Shelf RPD Software 8.4	The <b>last</b> filter was introduced for this command.

**Usage Guidelines** All **show logging** commands that have corresponding **clear logging** commands display only the content that is logged since the last **clear logging** command.

### Example

The following is a sample output of the **show logging ikev2** command. It displays contents of IKEv2 log since last 'clear':

```
R-PHY# show logging ikev2
Jul 25 13:33:36 00[DMN] Starting IKE charon daemon (strongSwan 5.7.2, Linux 4.1.8-rt8, aarch64)
Jul 25 13:33:36 00[CFG] loading ca certificates from '/etc/ipsec.d/cacerts'
Jul 25 13:33:36 00[CFG] loaded ca certificate "C=US, O=Cisco System, Inc., OU=Test RPD Root CA, CN=TEST RPD Root Certification Authority" from
'/etc/ipsec.d/cacerts/TEST_RPD_ROOT_CA_PEM.CRT'
Jul 25 13:33:36 00[CFG] loading aa certificates from '/etc/ipsec.d/aacerts'
Jul 25 13:33:36 00[CFG] loading oosp signer certificates from '/etc/ipsec.d/ocspcerts'
--More--
```

### Example

The following is a sample output of the **show logging resetlog** command. It displays the contents of reset reason log:

```
R-PHY# show logging resetlog
Wed May 9 22:45:56 UTC 2018:manager_main sig:143

image: 0x0001 rstreason: 0x4BFA uboot: 0x0001
-----Wed May 9 22:46:23 UTC 2018-----
Wed May 9 22:50:51 2018: Core(vbh0, None, , ) Core_id CORE-1882455092 init(dhcp) fail
--More--
```

### Example

The following is a sample output of the **show logging secure-resetlog** command. It displays the contents of reset reason log:

```
R-PHY# show logging resetlog
Secure factory reset on RPD10049fb11300
- MMC Data Sanitization at /dev/mmcb1k0
```

```

START : Mon Aug 28 18:45:21 UTC 2023
END : Mon Aug 28 20:40:23 UTC 2023
STATUS : Success

```

## 10.7 feature support for TLV67 and TLV69

### Example

The following is a sample output of the **show logging seres** command. It displays contents of seres/bcm316x log since last 'clear'.

```

R-PHY# show logging seres
<134>2019-07-25T13:34:30.696602+00:00 RPDBADBAD13AC3E INFO bcm316x_base_init: appId 1,
/usr/bin/316x_init, PID 3619, TID 3057463296
<134>2019-07-25T13:34:30.713894+00:00 RPDBADBAD13AC3E INFO bcm316x_init_data_structure:
/usr/bin/316x_init, PID 3619, TID 3057463296
<134>2019-07-25T13:34:30.714330+00:00 RPDBADBAD13AC3E INFO PID: 0x3161011
<134>2019-07-25T13:34:30.717423+00:00 RPDBADBAD13AC3E INFO
[bcm316x_ofdma_init_sid_cached_table]pid: 3619, tid: 0xe23.
<134>2019-07-25T13:34:30.717827+00:00 RPDBADBAD13AC3E INFO bcm316x_LoadFirmwareIntoRam,
prod ID 0x3161011
--More--

```

### Example

The following is a sample output of the **show logging openrpd all** command:

```

R-PHY# show logging openrpd all
<190>2019-07-26T08:24:27.569279+00:00 RPDBADBAD13AC3E INFO OOB 55D1 Demod
<190>2019-07-26T08:24:27.569568+00:00 RPDBADBAD13AC3E INFO OOB created BPF socket:4
<190>2019-07-26T08:24:27.569619+00:00 RPDBADBAD13AC3E INFO OOB 55d1 Log Level Set =
[LOG_WARNING]
<190>2019-07-26T08:25:17.622493+00:00 RPDBADBAD13AC3E INFO Set L2SW multicast linklocal
mac
<190>2019-07-26T08:25:17.622630+00:00 RPDBADBAD13AC3E INFO rpd_bcm3160 setif -t VBH0_SLL
33:33:ff:13:ac:3e
--More--

```

### Example

The following is a sample output of the **show logging openrpd info** command. It displays the openrpd system log:

```

R-PHY# show logging openrpd info<190>2019-07-26T08:24:27.569279+00:00 RPDBADBAD13AC3E INFO
OOB 55D1 Demod
<190>2019-07-26T08:24:27.569568+00:00 RPDBADBAD13AC3E INFO OOB created BPF socket:4
<190>2019-07-26T08:24:27.569619+00:00 RPDBADBAD13AC3E INFO OOB 55d1 Log Level Set =
[LOG_WARNING]
<190>2019-07-26T08:25:17.622493+00:00 RPDBADBAD13AC3E INFO Set L2SW multicast linklocal
mac
<190>2019-07-26T08:25:17.622630+00:00 RPDBADBAD13AC3E INFO rpd_bcm3160 setif -t VBH0_SLL
33:33:ff:13:ac:3e
--More--

```



### Example

The following is a sample output of the **show logging openrpd error** command:

```
R-PHY# show logging openrpd error
<187>2019-07-26T08:25:46.356233+00:00 RPDBADBAD13AC3E ERR parent cmd has not added:debug
<187>2019-07-26T08:25:46.358167+00:00 RPDBADBAD13AC3E ERR parent cmd has not added:debug
<187>2019-07-26T08:25:46.359774+00:00 RPDBADBAD13AC3E ERR parent cmd has not added:debug
<187>2019-07-26T08:25:46.361316+00:00 RPDBADBAD13AC3E ERR parent cmd has not added:debug
<187>2019-07-26T08:25:46.403186+00:00 RPDBADBAD13AC3E ERR 0x80090807:ERROR PLEASE CHANGE
RPD SSH PASSWORD IMMEDIATELY - default login credentials detected in use
--More--
```

### Example

The following is a sample output of the **show logging onboard current** command. It displays the onboard information:

```
R-PHY# show logging onboard current
Current: VP1P0_FP      34      2.312500      Amp      2019-05-08 00:12:18
Current: VP1P0         35      4.250000      Amp      2019-05-08 00:19:59
Current: VP1P0         35      4.125000      Amp      2019-05-08 00:21:31
Current: VP1P0_FP      34      2.250000      Amp      2019-05-08 00:32:11
Current: VP1P0         35      4.062500      Amp      2019-05-08 00:32:13
```

### Example

The following is a sample output of the **show logging onboard message** command:

```
R-PHY# show logging onboard message
2017-03-17 07:29:49      RPD_EMD      4      TOD sync failed, start writing oblf
log!
2017-03-29 15:41:30      RPD_EMD      4      RF DS, Location: RPD-Node, State:
MAJOR-HIGH, Reading: 90 Celsius
2017-03-29 15:41:36      RPD_EMD      4      VCXO, Location: RPD-Node, State:
MAJOR-HIGH, Reading: 90 Celsius
```

### Example

The following is a sample output of the **show logging onboard startup\_time** command:

```
R-PHY# show logging onboard startup_time
2019-05-06 05:31:51
2019-05-06 05:36:53
2019-05-08 04:41:33
```

### Example

The following is a sample output of the **show logging onboard voltage** command:

```
R-PHY# show logging onboard voltage
Volt: VP3P3_VG      10      3.290505      Volt      2019-03-18 04:16:04
```

## show logging

```

Volt: VP12V          11          12.010757          Volt          2019-03-18 04:16:06
Volt: VP1P4          12          1.380577          Volt          2019-03-18 04:16:08
Volt: VP5P5          13          5.515141          Volt          2019-03-18 04:16:10

```

**Example**

The following is a sample output of the **show logging onboard temperature** command:

```

R-PHY# show logging onboard temperature
Temp: Inlet_Air      4          21.000000          Celsius      2018-09-17 20:29:52
Temp: CPU            5          38.000000          Celsius      2018-09-17 20:29:54
Temp: FPGA           1          35.000000          Celsius      2018-09-17 20:54:21
Temp: BCM3161        2          43.000000          Celsius      2018-09-17 20:54:23
Temp: RF_DS          3          48.000000          Celsius      2018-09-17 20:54:25

```

**Example**

The **show logging** command has a filter to show a specified number of lines from the tail of the log.

The following is a sample output of **show logging resetlog | last 10** command.

```

R-PHY# show logging resetlog | last 10
[ 18.564606] 2020-08-26.053059_2567 image: 0x0004 boots remaining: 24 rstreason: Ox4BFA
last seq: 146 uboot: 0x0001 wtd_timer: 19133 ms
[ 15.964440] 2020-08-26.053057_2053 -----MMC 13.398311 ~ 15.796150, WTD
16.353000-----
[ 19.581539] 2020-08-25.141009_2568 image: 0x0004 boots remaining: 24 rstreason: Ox4BFA
last seq: 146 uboot: 0x0001 wtd_timer: 20150 ms
[ 16.994306] 2020-08-25.141007_2199 -----MMC 14.417404 ~ 16.824182, WTD
17.381000-----
[ 18.582595] 2020-08-25.133313_2566 image: 0x0004 boots remaining: 24 rstreason: Ox4BFA
last seq: 146 uboot: 0x0001 wtd_timer: 19121 ms
[ 15.984075] 2020-08-25.133311_2053 -----MMC 13.419147 ~ 15.815408, WTD
16.343000-----
[ 19.598833] 2020-08-25.114444_2567 image: 0x0004 boots remaining: 24 rstreason: Ox4BFA
last seq: 146 uboot: 0x0001 wtd_timer: 20140 ms
[ 17.007406] 2020-08-25.114442_2198 -----MMC 14.446125 ~ 16.839441, WTD
17.369000-----
[ 18.640447] 2020-08-25.093648_2566 image: 0x0004 boots remaining: 24 rstreason: Ox4BFA
last seq: 146 uboot: 0x0001 wtd_timer: 19149 ms
[ 16.040255] 2020-08-25.093646_2056 -----MMC 13.469874 ~ 15.872708, WTD
16.370000-----
R-PHY#

```

**Example**

The following is a sample output of the **show logging ds-ofdm** command with the `/tmp/d31_ocrd.log` file contents:

```

R-PHY#show logging ds-ofdm
<22>2020-12-01T06:05:59.458484+00:00 RPDBADBAD135DCC INFO Receive OCD/DPD docsis msg for
OFDM channel 158 (start=158, count=2, end=162) active = 0/0
<22>2020-12-01T06:05:59.458563+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.458577+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg +++
<22>2020-12-01T06:05:59.458591+00:00 RPDBADBAD135DCC INFO OFDM Docsis Msg
<22>2020-12-01T06:05:59.458619+00:00 RPDBADBAD135DCC INFO c2 00 00 b7 45 3f 01 e0 2f 00
00 01 ba db ad 0a
<22>2020-12-01T06:05:59.458645+00:00 RPDBADBAD135DCC INFO 0e ad 00 a5 00 00 03 05 31 00

```

```

9f 01 00 01 00 01
<22>2020-12-01T06:05:59.458671+00:00 RPDBADBAD135DCC INFO 01 04 02 01 02 03 04 26 10 43
40 04 01 10 05 71
<22>2020-12-01T06:05:59.458696+00:00 RPDBADBAD135DCC INFO 81 00 cc 01 01 01 0d 01 18 01
21 01 46 01 4f 01
<22>2020-12-01T06:05:59.458721+00:00 RPDBADBAD135DCC INFO 5a 01 66 01 90 01 dc 02 28 02
74 02 c0 03 0c 03
<22>2020-12-01T06:05:59.458746+00:00 RPDBADBAD135DCC INFO 58 03 a4 03 f0 04 3c 04 88 04
d4 05 20 05 6c 05
<22>2020-12-01T06:05:59.458771+00:00 RPDBADBAD135DCC INFO b8 06 04 06 50 06 9c 06 e8 07
34 07 80 07 cc 08
<22>2020-12-01T06:05:59.458796+00:00 RPDBADBAD135DCC INFO 18 08 64 08 b0 08 fc 09 48 09
94 09 e0 0a 2c 0a
<22>2020-12-01T06:05:59.458821+00:00 RPDBADBAD135DCC INFO 78 0a c4 0b 10 0b 5c 0b a8 0b
f4 0c 40 0c 8c 0c
<22>2020-12-01T06:05:59.458845+00:00 RPDBADBAD135DCC INFO d8 0d 24 0d 70 0d bc 0e 08 0e
54 0e a0 0e ec 0f
<22>2020-12-01T06:05:59.458870+00:00 RPDBADBAD135DCC INFO 38 05 05 10 00 00 00 a5 05 05
10 0f 5a 0f ff 05
<22>2020-12-01T06:05:59.458899+00:00 RPDBADBAD135DCC INFO 05 14 01 30 01 37 06 01 00
<22>2020-12-01T06:05:59.458922+00:00 RPDBADBAD135DCC INFO MAC Header
<22>2020-12-01T06:05:59.458938+00:00 RPDBADBAD135DCC INFO Frame
Control : 0xc2 (MAC specific, MAC msg, EHDR Off)
<22>2020-12-01T06:05:59.458951+00:00 RPDBADBAD135DCC INFO MAC Parameters
: 0x00
<22>2020-12-01T06:05:59.458964+00:00 RPDBADBAD135DCC INFO
Length : 183
<22>2020-12-01T06:05:59.458979+00:00 RPDBADBAD135DCC INFO Header Check
Sequence : 0x453f (17727)
<22>2020-12-01T06:05:59.458992+00:00 RPDBADBAD135DCC INFO MAC Management Header
<22>2020-12-01T06:05:59.459008+00:00 RPDBADBAD135DCC INFO Destination MAC
ADDR : 01e0.2f00.0001
<22>2020-12-01T06:05:59.459023+00:00 RPDBADBAD135DCC INFO Source MAC
ADDR : badb.ad0a.0ead
<22>2020-12-01T06:05:59.459037+00:00 RPDBADBAD135DCC INFO
Length : 165
<22>2020-12-01T06:05:59.459051+00:00 RPDBADBAD135DCC INFO Destination
SAP : 0
<22>2020-12-01T06:05:59.459065+00:00 RPDBADBAD135DCC INFO Source
SAP : 0
<22>2020-12-01T06:05:59.459078+00:00 RPDBADBAD135DCC INFO
Control : 3
<22>2020-12-01T06:05:59.459092+00:00 RPDBADBAD135DCC INFO
Version : 5
<22>2020-12-01T06:05:59.459154+00:00 RPDBADBAD135DCC INFO
Type : 49 (OCD)
<22>2020-12-01T06:05:59.459170+00:00 RPDBADBAD135DCC INFO Multipart
: 0 (Sequence number 0, Fragments 0)
<22>2020-12-01T06:05:59.459182+00:00 RPDBADBAD135DCC INFO OCD fields
<22>2020-12-01T06:05:59.459196+00:00 RPDBADBAD135DCC INFO
DCID : 159
<22>2020-12-01T06:05:59.459209+00:00 RPDBADBAD135DCC INFO
CCC : 1
<22>2020-12-01T06:05:59.459227+00:00 RPDBADBAD135DCC INFO TLV 0
Spacing : 50 KHz
<22>2020-12-01T06:05:59.459242+00:00 RPDBADBAD135DCC INFO TLV 1 Cyclic
Prefix : 1024 samples
<22>2020-12-01T06:05:59.459256+00:00 RPDBADBAD135DCC INFO TLV 2
Rolloff : 128 samples
<22>2020-12-01T06:05:59.459271+00:00 RPDBADBAD135DCC INFO TLV 3 Spectrum
Location : 638600000 Hz
<22>2020-12-01T06:05:59.459286+00:00 RPDBADBAD135DCC INFO TLV 4 Interleave
Depth : 16
<22>2020-12-01T06:05:59.459300+00:00 RPDBADBAD135DCC INFO TLV 5 Subcarrier Assignment

```

## show logging

```

: Continuous Pilots
<22>2020-12-01T06:05:59.459313+00:00 RPDBADBAD135DCC INFO (list)
<22>2020-12-01T06:05:59.459325+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.459346+00:00 RPDBADBAD135DCC INFO 0204 0257 0269 0280
0289 0326 0335 0346 0358 0400
<22>2020-12-01T06:05:59.459367+00:00 RPDBADBAD135DCC INFO 0476 0552 0628 0704
0780 0856 0932 1008 1084 1160
<22>2020-12-01T06:05:59.459387+00:00 RPDBADBAD135DCC INFO 1236 1312 1388 1464
1540 1616 1692 1768 1844 1920
<22>2020-12-01T06:05:59.459407+00:00 RPDBADBAD135DCC INFO 1996 2072 2148 2224
2300 2376 2452 2528 2604 2680
<22>2020-12-01T06:05:59.459427+00:00 RPDBADBAD135DCC INFO 2756 2832 2908 2984
3060 3136 3212 3288 3364 3440
<22>2020-12-01T06:05:59.459444+00:00 RPDBADBAD135DCC INFO 3516 3592 3668 3744
3820 3896
<22>2020-12-01T06:05:59.459458+00:00 RPDBADBAD135DCC INFO TLV 5 Subcarrier Assignment
: Excluded Subcarriers
<22>2020-12-01T06:05:59.459470+00:00 RPDBADBAD135DCC INFO (range)
<22>2020-12-01T06:05:59.459484+00:00 RPDBADBAD135DCC INFO
: 0000 - 0165
<22>2020-12-01T06:05:59.459498+00:00 RPDBADBAD135DCC INFO TLV 5 Subcarrier Assignment
: Excluded Subcarriers
<22>2020-12-01T06:05:59.459509+00:00 RPDBADBAD135DCC INFO (range)
<22>2020-12-01T06:05:59.459523+00:00 RPDBADBAD135DCC INFO
: 3930 - 4095
<22>2020-12-01T06:05:59.459537+00:00 RPDBADBAD135DCC INFO TLV 5 Subcarrier Assignment
: PLC Subcarriers
<22>2020-12-01T06:05:59.459549+00:00 RPDBADBAD135DCC INFO (range)
<22>2020-12-01T06:05:59.459563+00:00 RPDBADBAD135DCC INFO
: 0304 - 0311
<22>2020-12-01T06:05:59.459576+00:00 RPDBADBAD135DCC INFO TLV 6 Primary
Capable : 0 (No)
<22>2020-12-01T06:05:59.459588+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg done +++
<22>2020-12-01T06:05:59.459599+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.459611+00:00 RPDBADBAD135DCC INFO OCD packet, chan:158 dps:5
<22>2020-12-01T06:05:59.656591+00:00 RPDBADBAD135DCC INFO Ofdm_Parse_Ocd chan:158 dps:5
ccc:0 spacing:2 state OTHER old state UNKNOWN
<22>2020-12-01T06:05:59.660579+00:00 RPDBADBAD135DCC INFO Receive OCD/DPD docsis msg for
OFDM channel 158 (start=158, count=2, end=162) active = 158/0
<22>2020-12-01T06:05:59.660609+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.660625+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg +++
<22>2020-12-01T06:05:59.660639+00:00 RPDBADBAD135DCC INFO OFDM Docsis Msg
<22>2020-12-01T06:05:59.660669+00:00 RPDBADBAD135DCC INFO c2 00 00 22 61 fc 01 e0 2f 00
00 01 ba db ad 0a
<22>2020-12-01T06:05:59.660695+00:00 RPDBADBAD135DCC INFO 0e ad 00 10 00 00 03 05 32 00
9f 00 02 05 05 28
<22>2020-12-01T06:05:59.660713+00:00 RPDBADBAD135DCC INFO 00 00 0f ff
<22>2020-12-01T06:05:59.660728+00:00 RPDBADBAD135DCC INFO MAC Header
<22>2020-12-01T06:05:59.660746+00:00 RPDBADBAD135DCC INFO Frame
Control : 0xc2 (MAC specific, MAC msg, EHDR Off)
<22>2020-12-01T06:05:59.660761+00:00 RPDBADBAD135DCC INFO MAC Parameters
: 0x00
<22>2020-12-01T06:05:59.660776+00:00 RPDBADBAD135DCC INFO
Length : 34
<22>2020-12-01T06:05:59.660791+00:00 RPDBADBAD135DCC INFO Header Check
Sequence : 0x61fc (25084)
<22>2020-12-01T06:05:59.660805+00:00 RPDBADBAD135DCC INFO MAC Management Header
<22>2020-12-01T06:05:59.660821+00:00 RPDBADBAD135DCC INFO Destination MAC
ADDR : 01e0.2f00.0001
<22>2020-12-01T06:05:59.660836+00:00 RPDBADBAD135DCC INFO Source MAC
ADDR : badb.ad0a.0ead
<22>2020-12-01T06:05:59.660850+00:00 RPDBADBAD135DCC INFO
Length : 16
<22>2020-12-01T06:05:59.660866+00:00 RPDBADBAD135DCC INFO Destination

```

```

SAP : 0
<<22>2020-12-01T06:05:59.660880+00:00 RPDBADBAD135DCC INFO Source
SAP : 0
<<22>2020-12-01T06:05:59.660893+00:00 RPDBADBAD135DCC INFO
Control : 3
<<22>2020-12-01T06:05:59.660908+00:00 RPDBADBAD135DCC INFO
Version : 5
<<22>2020-12-01T06:05:59.660923+00:00 RPDBADBAD135DCC INFO
Type : 50 (DPD)
<<22>2020-12-01T06:05:59.660938+00:00 RPDBADBAD135DCC INFO Multipart
: 0 (Sequence number 0, Fragments 0)
<<22>2020-12-01T06:05:59.660951+00:00 RPDBADBAD135DCC INFO DPD fields
<<22>2020-12-01T06:05:59.660965+00:00 RPDBADBAD135DCC INFO
DCID : 159
<<22>2020-12-01T06:05:59.660978+00:00 RPDBADBAD135DCC INFO Profile
ID : 0
<<22>2020-12-01T06:05:59.660992+00:00 RPDBADBAD135DCC INFO
CCC : 2
<<22>2020-12-01T06:05:59.661007+00:00 RPDBADBAD135DCC INFO TLV 5 Subcarrier Range/List
: Range (continuous)
<<22>2020-12-01T06:05:59.661021+00:00 RPDBADBAD135DCC INFO Modulation
: 256
<<22>2020-12-01T06:05:59.661034+00:00 RPDBADBAD135DCC INFO (default value)
<<22>2020-12-01T06:05:59.661049+00:00 RPDBADBAD135DCC INFO
: 0000 - 4095
<<22>2020-12-01T06:05:59.661063+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg done +++
<<22>2020-12-01T06:05:59.661108+00:00 RPDBADBAD135DCC INFO
<<22>2020-12-01T06:05:59.661124+00:00 RPDBADBAD135DCC INFO DPD packet, chan:158 dps:5
<<22>2020-12-01T06:05:59.661173+00:00 RPDBADBAD135DCC INFO Ofdm_Parse_Dpd chan:158 dps:5
ccc:2 profile:0 state OTHER
<<22>2020-12-01T06:05:59.666003+00:00 RPDBADBAD135DCC INFO Receive OCD/DPD docsis msg for
OFDM channel 158 (start=158, count=2, end=162) active = 158/0
<<22>2020-12-01T06:05:59.666035+00:00 RPDBADBAD135DCC INFO
<<22>2020-12-01T06:05:59.666051+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg +++
<<22>2020-12-01T06:05:59.666066+00:00 RPDBADBAD135DCC INFO OFDM Docsis Msg
<<22>2020-12-01T06:05:59.666095+00:00 RPDBADBAD135DCC INFO c2 00 00 22 61 fc 01 e0 2f 00
00 01 ba db ad 0a
<<22>2020-12-01T06:05:59.666122+00:00 RPDBADBAD135DCC INFO 0e ad 00 10 00 00 03 05 32 00
9f 01 02 05 05 26
<<22>2020-12-01T06:05:59.666140+00:00 RPDBADBAD135DCC INFO 00 00 0f ff
<<22>2020-12-01T06:05:59.666154+00:00 RPDBADBAD135DCC INFO MAC Header
<<22>2020-12-01T06:05:59.666170+00:00 RPDBADBAD135DCC INFO Frame
Control : 0xc2 (MAC specific, MAC msg, EHDR Off)
<<22>2020-12-01T06:05:59.666185+00:00 RPDBADBAD135DCC INFO MAC Parameters
: 0x00
<<22>2020-12-01T06:05:59.666202+00:00 RPDBADBAD135DCC INFO
Length : 34
<<22>2020-12-01T06:05:59.666217+00:00 RPDBADBAD135DCC INFO Header Check
Sequence : 0x61fc (25084)
<<22>2020-12-01T06:05:59.666231+00:00 RPDBADBAD135DCC INFO MAC Management Header
<<22>2020-12-01T06:05:59.666248+00:00 RPDBADBAD135DCC INFO Destination MAC
ADDR : 01e0.2f00.0001
<<22>2020-12-01T06:05:59.666265+00:00 RPDBADBAD135DCC INFO Source MAC
ADDR : badb.ad0a.0ead
<<22>2020-12-01T06:05:59.666280+00:00 RPDBADBAD135DCC INFO
Length : 16
<<22>2020-12-01T06:05:59.666296+00:00 RPDBADBAD135DCC INFO Destination
SAP : 0
<<22>2020-12-01T06:05:59.666310+00:00 RPDBADBAD135DCC INFO Source
SAP : 0
<<22>2020-12-01T06:05:59.666324+00:00 RPDBADBAD135DCC INFO
Control : 3
<<22>2020-12-01T06:05:59.666338+00:00 RPDBADBAD135DCC INFO
Version : 5

```

## show logging

```

<22>2020-12-01T06:05:59.666353+00:00 RPDBADBAD135DCC INFO
Type : 50 (DPD)
<22>2020-12-01T06:05:59.666368+00:00 RPDBADBAD135DCC INFO Multipart
: 0 (Sequence number 0, Fragments 0)
<22>2020-12-01T06:05:59.666381+00:00 RPDBADBAD135DCC INFO DPD fields
<22>2020-12-01T06:05:59.666395+00:00 RPDBADBAD135DCC INFO
DCID : 159
<22>2020-12-01T06:05:59.666420+00:00 RPDBADBAD135DCC INFO Profile
ID : 1
<22>2020-12-01T06:05:59.666435+00:00 RPDBADBAD135DCC INFO
CCC : 2
<22>2020-12-01T06:05:59.666452+00:00 RPDBADBAD135DCC INFO TLV 5 Subcarrier Range/List
: Range (continuous)
<22>2020-12-01T06:05:59.666466+00:00 RPDBADBAD135DCC INFO Modulation
: 64
<22>2020-12-01T06:05:59.666480+00:00 RPDBADBAD135DCC INFO (default value)
<22>2020-12-01T06:05:59.666496+00:00 RPDBADBAD135DCC INFO
: 0000 - 4095
<22>2020-12-01T06:05:59.666509+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg done +++
<22>2020-12-01T06:05:59.666522+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.666541+00:00 RPDBADBAD135DCC INFO DPD packet, chan:158 dps:5
<22>2020-12-01T06:05:59.666573+00:00 RPDBADBAD135DCC INFO Ofdm_Parse_Dpd chan:158 dps:5
ccc:2 profile:1 state OTHER
<22>2020-12-01T06:05:59.671953+00:00 RPDBADBAD135DCC INFO Receive OCD/DPD docsis msg for
OFDM channel 158 (start=158, count=2, end=162) active = 158/0
<22>2020-12-01T06:05:59.671984+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.672001+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg +++
<22>2020-12-01T06:05:59.672018+00:00 RPDBADBAD135DCC INFO OFDM Docsis Msg
<22>2020-12-01T06:05:59.672048+00:00 RPDBADBAD135DCC INFO c2 00 00 22 61 fc 01 e0 2f 00
00 01 ba db ad 0a
<22>2020-12-01T06:05:59.672074+00:00 RPDBADBAD135DCC INFO 0e ad 00 10 00 00 03 05 32 00
9f ff 02 05 05 24
<22>2020-12-01T06:05:59.672092+00:00 RPDBADBAD135DCC INFO 00 00 0f ff
<22>2020-12-01T06:05:59.672106+00:00 RPDBADBAD135DCC INFO MAC Header
<22>2020-12-01T06:05:59.672122+00:00 RPDBADBAD135DCC INFO Frame
Control : 0xc2 (MAC specific, MAC msg, EHDR Off)
<22>2020-12-01T06:05:59.672136+00:00 RPDBADBAD135DCC INFO MAC Parameters
: 0x00
<22>2020-12-01T06:05:59.672151+00:00 RPDBADBAD135DCC INFO
Length : 34
<22>2020-12-01T06:05:59.672166+00:00 RPDBADBAD135DCC INFO Header Check
Sequence : 0x61fc (25084)
<22>2020-12-01T06:05:59.672180+00:00 RPDBADBAD135DCC INFO MAC Management Header
<22>2020-12-01T06:05:59.672196+00:00 RPDBADBAD135DCC INFO Destination MAC
ADDR : 01e0.2f00.0001
<22>2020-12-01T06:05:59.672212+00:00 RPDBADBAD135DCC INFO Source MAC
ADDR : badb.ad0a.0ead
<22>2020-12-01T06:05:59.672226+00:00 RPDBADBAD135DCC INFO
Length : 16
<22>2020-12-01T06:05:59.672240+00:00 RPDBADBAD135DCC INFO Destination
SAP : 0
<22>2020-12-01T06:05:59.672253+00:00 RPDBADBAD135DCC INFO Source
SAP : 0
<22>2020-12-01T06:05:59.672267+00:00 RPDBADBAD135DCC INFO
Control : 3
<22>2020-12-01T06:05:59.672281+00:00 RPDBADBAD135DCC INFO
Version : 5
<22>2020-12-01T06:05:59.672296+00:00 RPDBADBAD135DCC INFO
Type : 50 (DPD)
<22>2020-12-01T06:05:59.672310+00:00 RPDBADBAD135DCC INFO Multipart
: 0 (Sequence number 0, Fragments 0)
<22>2020-12-01T06:05:59.672323+00:00 RPDBADBAD135DCC INFO DPD fields
<22>2020-12-01T06:05:59.672337+00:00 RPDBADBAD135DCC INFO
DCID : 159

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<22>2020-12-01T06:05:59.672351+00:00 RPDADBAD135DCC INFO Profile
ID : 255
<22>2020-12-01T06:05:59.672365+00:00 RPDADBAD135DCC INFO
CCC : 2
<22>2020-12-01T06:05:59.672382+00:00 RPDADBAD135DCC INFO TLV 5 Subcarrier Range/List
: Range (continuous)
<22>2020-12-01T06:05:59.672395+00:00 RPDADBAD135DCC INFO Modulation
: 16
<22>2020-12-01T06:05:59.672408+00:00 RPDADBAD135DCC INFO (default value)
<22>2020-12-01T06:05:59.672423+00:00 RPDADBAD135DCC INFO
: 0000 - 4095
<22>2020-12-01T06:05:59.672436+00:00 RPDADBAD135DCC INFO +++ Validate docsis msg done +++
<22>2020-12-01T06:05:59.672448+00:00 RPDADBAD135DCC INFO
<22>2020-12-01T06:05:59.672460+00:00 RPDADBAD135DCC INFO DPD packet, chan:158 dps:5
<22>2020-12-01T06:05:59.672491+00:00 RPDADBAD135DCC INFO Ofdm_Parse_Dpd chan:158 dps:5
ccc:2 profile:255 state OTHER
<22>2020-12-01T06:05:59.677231+00:00 RPDADBAD135DCC INFO TLV63 ADMIN chan:158 dps:5
state:UP rf_mute:0 power_adjust:0 active = 158/0
<22>2020-12-01T06:05:59.677412+00:00 RPDADBAD135DCC INFO bcm316x_ds_ofdm_set_cli_cfg :
channel 158 TLV63 UP RESET
<22>2020-12-01T06:05:59.677448+00:00 RPDADBAD135DCC INFO bcm316x_ds_set_ofdm_cfg chan:158
dps:5 admin state old OTHER new UP
<22>2020-12-01T06:05:59.677481+00:00 RPDADBAD135DCC INFO bcm316x_ds_set_ofdm_cfg chan:158
dps:5 up
<22>2020-12-01T06:06:00.199473+00:00 RPDADBAD135DCC INFO OFDM channel 158 TLV63 ret 0
active 158/0
R-PHY#

root@RPDbadb135dcc:/# cat /tmp/d31_ocd.log
<22>2020-12-01T06:05:59.458484+00:00 RPDADBAD135DCC INFO Receive OCD/DPD docsis msg for
OFDM channel 158 (start=158, count=2, end=162) active = 0/0
<22>2020-12-01T06:05:59.458563+00:00 RPDADBAD135DCC INFO
<22>2020-12-01T06:05:59.458577+00:00 RPDADBAD135DCC INFO +++ Validate docsis msg +++
<22>2020-12-01T06:05:59.458591+00:00 RPDADBAD135DCC INFO OFDM Docsis Msg
<22>2020-12-01T06:05:59.458619+00:00 RPDADBAD135DCC INFO c2 00 00 b7 45 3f 01 e0 2f 00
00 01 ba db ad 0a
<22>2020-12-01T06:05:59.458645+00:00 RPDADBAD135DCC INFO 0e ad 00 a5 00 00 03 05 31 00
9f 01 00 01 00 01
<22>2020-12-01T06:05:59.458671+00:00 RPDADBAD135DCC INFO 01 04 02 01 02 03 04 26 10 43
40 04 01 10 05 71
<22>2020-12-01T06:05:59.458696+00:00 RPDADBAD135DCC INFO 81 00 cc 01 01 01 0d 01 18 01
21 01 46 01 4f 01
<22>2020-12-01T06:05:59.458721+00:00 RPDADBAD135DCC INFO 5a 01 66 01 90 01 dc 02 28 02
74 02 c0 03 0c 03
<22>2020-12-01T06:05:59.458746+00:00 RPDADBAD135DCC INFO 58 03 a4 03 f0 04 3c 04 88 04
d4 05 20 05 6c 05
<22>2020-12-01T06:05:59.458771+00:00 RPDADBAD135DCC INFO b8 06 04 06 50 06 9c 06 e8 07
34 07 80 07 cc 08
<22>2020-12-01T06:05:59.458796+00:00 RPDADBAD135DCC INFO 18 08 64 08 b0 08 fc 09 48 09
94 09 e0 0a 2c 0a
<22>2020-12-01T06:05:59.458821+00:00 RPDADBAD135DCC INFO 78 0a c4 0b 10 0b 5c 0b a8 0b
f4 0c 40 0c 8c 0c
<22>2020-12-01T06:05:59.458845+00:00 RPDADBAD135DCC INFO d8 0d 24 0d 70 0d bc 0e 08 0e
54 0e a0 0e ec 0f
<22>2020-12-01T06:05:59.458870+00:00 RPDADBAD135DCC INFO 38 05 05 10 00 00 00 a5 05 05
10 0f 5a 0f ff 05
<22>2020-12-01T06:05:59.458899+00:00 RPDADBAD135DCC INFO 05 14 01 30 01 37 06 01 00
<22>2020-12-01T06:05:59.458922+00:00 RPDADBAD135DCC INFO MAC Header
<22>2020-12-01T06:05:59.458938+00:00 RPDADBAD135DCC INFO Frame
Control : 0xc2 (MAC specific, MAC msg, EHDR Off)
<22>2020-12-01T06:05:59.458951+00:00 RPDADBAD135DCC INFO MAC Parameters
: 0x00
<22>2020-12-01T06:05:59.458964+00:00 RPDADBAD135DCC INFO

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## show logging

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Length : 183
<22>2020-12-01T06:05:59.458979+00:00 RPDBADBAD135DCC INFO          Header Check
Sequence : 0x453f (17727)
<22>2020-12-01T06:05:59.458992+00:00 RPDBADBAD135DCC INFO          MAC Management Header
<22>2020-12-01T06:05:59.459008+00:00 RPDBADBAD135DCC INFO          Destination MAC
ADDR : 01e0.2f00.0001
<22>2020-12-01T06:05:59.459023+00:00 RPDBADBAD135DCC INFO          Source MAC
ADDR : badb.ad0a.0ead
<22>2020-12-01T06:05:59.459037+00:00 RPDBADBAD135DCC INFO
Length : 165
<22>2020-12-01T06:05:59.459051+00:00 RPDBADBAD135DCC INFO          Destination
SAP : 0
<22>2020-12-01T06:05:59.459065+00:00 RPDBADBAD135DCC INFO          Source
SAP : 0
<22>2020-12-01T06:05:59.459078+00:00 RPDBADBAD135DCC INFO
Control : 3
<22>2020-12-01T06:05:59.459092+00:00 RPDBADBAD135DCC INFO
Version : 5
<22>2020-12-01T06:05:59.459154+00:00 RPDBADBAD135DCC INFO
Type : 49 (OCD)
<22>2020-12-01T06:05:59.459170+00:00 RPDBADBAD135DCC INFO          Multipart
: 0 (Sequence number 0, Fragments 0)
<22>2020-12-01T06:05:59.459182+00:00 RPDBADBAD135DCC INFO          OCD fields
<22>2020-12-01T06:05:59.459196+00:00 RPDBADBAD135DCC INFO
DCID : 159
<22>2020-12-01T06:05:59.459209+00:00 RPDBADBAD135DCC INFO
CCC : 1
<22>2020-12-01T06:05:59.459227+00:00 RPDBADBAD135DCC INFO          TLV 0
Spacing : 50 KHz
<22>2020-12-01T06:05:59.459242+00:00 RPDBADBAD135DCC INFO          TLV 1          Cyclic
Prefix : 1024 samples
<22>2020-12-01T06:05:59.459256+00:00 RPDBADBAD135DCC INFO          TLV 2
Rolloff : 128 samples
<22>2020-12-01T06:05:59.459271+00:00 RPDBADBAD135DCC INFO          TLV 3          Spectrum
Location : 638600000 Hz
<22>2020-12-01T06:05:59.459286+00:00 RPDBADBAD135DCC INFO          TLV 4          Interleave
Depth : 16
<22>2020-12-01T06:05:59.459300+00:00 RPDBADBAD135DCC INFO          TLV 5          Subcarrier Assignment
: Continuous Pilots
<22>2020-12-01T06:05:59.459313+00:00 RPDBADBAD135DCC INFO          (list)
<22>2020-12-01T06:05:59.459325+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.459346+00:00 RPDBADBAD135DCC INFO          0204 0257 0269 0280
0289 0326 0335 0346 0358 0400
<22>2020-12-01T06:05:59.459367+00:00 RPDBADBAD135DCC INFO          0476 0552 0628 0704
0780 0856 0932 1008 1084 1160
<22>2020-12-01T06:05:59.459387+00:00 RPDBADBAD135DCC INFO          1236 1312 1388 1464
1540 1616 1692 1768 1844 1920
<22>2020-12-01T06:05:59.459407+00:00 RPDBADBAD135DCC INFO          1996 2072 2148 2224
2300 2376 2452 2528 2604 2680
<22>2020-12-01T06:05:59.459427+00:00 RPDBADBAD135DCC INFO          2756 2832 2908 2984
3060 3136 3212 3288 3364 3440
<22>2020-12-01T06:05:59.459444+00:00 RPDBADBAD135DCC INFO          3516 3592 3668 3744
3820 3896
<22>2020-12-01T06:05:59.459458+00:00 RPDBADBAD135DCC INFO          TLV 5          Subcarrier Assignment
: Excluded Subcarriers
<22>2020-12-01T06:05:59.459470+00:00 RPDBADBAD135DCC INFO          (range)
<22>2020-12-01T06:05:59.459484+00:00 RPDBADBAD135DCC INFO
: 0000 - 0165
<22>2020-12-01T06:05:59.459498+00:00 RPDBADBAD135DCC INFO          TLV 5          Subcarrier Assignment
: Excluded Subcarriers
<22>2020-12-01T06:05:59.459509+00:00 RPDBADBAD135DCC INFO          (range)
<22>2020-12-01T06:05:59.459523+00:00 RPDBADBAD135DCC INFO
: 3930 - 4095
<22>2020-12-01T06:05:59.459537+00:00 RPDBADBAD135DCC INFO          TLV 5          Subcarrier Assignment

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: PLC Subcarriers
<22>2020-12-01T06:05:59.459549+00:00 RPDBADBAD135DCC INFO (range)
<22>2020-12-01T06:05:59.459563+00:00 RPDBADBAD135DCC INFO
: 0304 - 0311
<22>2020-12-01T06:05:59.459576+00:00 RPDBADBAD135DCC INFO TLV 6 Primary
Capable : 0 (No)
<22>2020-12-01T06:05:59.459588+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg done +++
<22>2020-12-01T06:05:59.459599+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.459611+00:00 RPDBADBAD135DCC INFO OCD packet, chan:158 dps:5
<22>2020-12-01T06:05:59.656591+00:00 RPDBADBAD135DCC INFO Ofdm_Parse_Ocd chan:158 dps:5
ccc:0 spacing:2 state OTHER old state UNKNOWN
<22>2020-12-01T06:05:59.660579+00:00 RPDBADBAD135DCC INFO Receive OCD/DPD docsis msg for
OFDM channel 158 (start=158, count=2, end=162) active = 158/0
<22>2020-12-01T06:05:59.660609+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.660625+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg +++
<22>2020-12-01T06:05:59.660639+00:00 RPDBADBAD135DCC INFO OFDM Docsis Msg
<22>2020-12-01T06:05:59.660669+00:00 RPDBADBAD135DCC INFO c2 00 00 22 61 fc 01 e0 2f 00
00 01 ba db ad 0a
<22>2020-12-01T06:05:59.660695+00:00 RPDBADBAD135DCC INFO 0e ad 00 10 00 00 03 05 32 00
9f 00 02 05 05 28
<22>2020-12-01T06:05:59.660713+00:00 RPDBADBAD135DCC INFO 00 00 0f ff
<22>2020-12-01T06:05:59.660728+00:00 RPDBADBAD135DCC INFO MAC Header
<22>2020-12-01T06:05:59.660746+00:00 RPDBADBAD135DCC INFO Frame
Control : 0xc2 (MAC specific, MAC msg, EHDR Off)
<22>2020-12-01T06:05:59.660761+00:00 RPDBADBAD135DCC INFO MAC Parameters
: 0x00
<22>2020-12-01T06:05:59.660776+00:00 RPDBADBAD135DCC INFO
Length : 34
<22>2020-12-01T06:05:59.660791+00:00 RPDBADBAD135DCC INFO Header Check
Sequence : 0x61fc (25084)
<22>2020-12-01T06:05:59.660805+00:00 RPDBADBAD135DCC INFO MAC Management Header
<22>2020-12-01T06:05:59.660821+00:00 RPDBADBAD135DCC INFO Destination MAC
ADDR : 01e0.2f00.0001
<22>2020-12-01T06:05:59.660836+00:00 RPDBADBAD135DCC INFO Source MAC
ADDR : badb.ad0a.0ead
<22>2020-12-01T06:05:59.660850+00:00 RPDBADBAD135DCC INFO
Length : 16
<22>2020-12-01T06:05:59.660866+00:00 RPDBADBAD135DCC INFO Destination
SAP : 0
<22>2020-12-01T06:05:59.660880+00:00 RPDBADBAD135DCC INFO Source
SAP : 0
<22>2020-12-01T06:05:59.660893+00:00 RPDBADBAD135DCC INFO
Control : 3
<22>2020-12-01T06:05:59.660908+00:00 RPDBADBAD135DCC INFO
Version : 5
<22>2020-12-01T06:05:59.660923+00:00 RPDBADBAD135DCC INFO
Type : 50 (DPD)
<22>2020-12-01T06:05:59.660938+00:00 RPDBADBAD135DCC INFO Multipart
: 0 (Sequence number 0, Fragments 0)
<22>2020-12-01T06:05:59.660951+00:00 RPDBADBAD135DCC INFO DPD fields
<22>2020-12-01T06:05:59.660965+00:00 RPDBADBAD135DCC INFO
DCID : 159
<22>2020-12-01T06:05:59.660978+00:00 RPDBADBAD135DCC INFO Profile
ID : 0
<22>2020-12-01T06:05:59.660992+00:00 RPDBADBAD135DCC INFO
CCC : 2
<22>2020-12-01T06:05:59.661007+00:00 RPDBADBAD135DCC INFO TLV 5 Subcarrier Range/List
: Range (continuous)
<22>2020-12-01T06:05:59.661021+00:00 RPDBADBAD135DCC INFO Modulation
: 256
<22>2020-12-01T06:05:59.661034+00:00 RPDBADBAD135DCC INFO (default value)
<22>2020-12-01T06:05:59.661049+00:00 RPDBADBAD135DCC INFO
: 0000 - 4095
<22>2020-12-01T06:05:59.661063+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg done +++

```

## show logging

```

<22>2020-12-01T06:05:59.661108+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.661124+00:00 RPDBADBAD135DCC INFO DPD packet, chan:158 dps:5
<22>2020-12-01T06:05:59.661173+00:00 RPDBADBAD135DCC INFO Ofdm_Parse_Dpd chan:158 dps:5
ccc:2 profile:0 state OTHER
<22>2020-12-01T06:05:59.666003+00:00 RPDBADBAD135DCC INFO Receive OCD/DPD docsis msg for
OFDM channel 158 (start=158, count=2, end=162) active = 158/0
<22>2020-12-01T06:05:59.666035+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.666051+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg +++
<22>2020-12-01T06:05:59.666066+00:00 RPDBADBAD135DCC INFO OFDM Docsis Msg
<22>2020-12-01T06:05:59.666095+00:00 RPDBADBAD135DCC INFO c2 00 00 22 61 fc 01 e0 2f 00
00 01 ba db ad 0a
<22>2020-12-01T06:05:59.666122+00:00 RPDBADBAD135DCC INFO 0e ad 00 10 00 00 03 05 32 00
9f 01 02 05 05 26
<22>2020-12-01T06:05:59.666140+00:00 RPDBADBAD135DCC INFO 00 00 0f ff
<22>2020-12-01T06:05:59.666154+00:00 RPDBADBAD135DCC INFO MAC Header
<22>2020-12-01T06:05:59.666170+00:00 RPDBADBAD135DCC INFO Frame
Control : 0xc2 (MAC specific, MAC msg, EHDR Off)
<22>2020-12-01T06:05:59.666185+00:00 RPDBADBAD135DCC INFO MAC Parameters
: 0x00
<22>2020-12-01T06:05:59.666202+00:00 RPDBADBAD135DCC INFO
Length : 34
<22>2020-12-01T06:05:59.666217+00:00 RPDBADBAD135DCC INFO Header Check
Sequence : 0x61fc (25084)
<22>2020-12-01T06:05:59.666231+00:00 RPDBADBAD135DCC INFO MAC Management Header
<22>2020-12-01T06:05:59.666248+00:00 RPDBADBAD135DCC INFO Destination MAC
ADDR : 01e0.2f00.0001
<22>2020-12-01T06:05:59.666265+00:00 RPDBADBAD135DCC INFO Source MAC
ADDR : badb.ad0a.0ead
<22>2020-12-01T06:05:59.666280+00:00 RPDBADBAD135DCC INFO
Length : 16
<22>2020-12-01T06:05:59.666296+00:00 RPDBADBAD135DCC INFO Destination
SAP : 0
<22>2020-12-01T06:05:59.666310+00:00 RPDBADBAD135DCC INFO Source
SAP : 0
<22>2020-12-01T06:05:59.666324+00:00 RPDBADBAD135DCC INFO
Control : 3
<22>2020-12-01T06:05:59.666338+00:00 RPDBADBAD135DCC INFO
Version : 5
<22>2020-12-01T06:05:59.666353+00:00 RPDBADBAD135DCC INFO
Type : 50 (DPD)
<22>2020-12-01T06:05:59.666368+00:00 RPDBADBAD135DCC INFO Multipart
: 0 (Sequence number 0, Fragments 0)
<22>2020-12-01T06:05:59.666381+00:00 RPDBADBAD135DCC INFO DPD fields
<22>2020-12-01T06:05:59.666395+00:00 RPDBADBAD135DCC INFO
DCID : 159
<22>2020-12-01T06:05:59.666420+00:00 RPDBADBAD135DCC INFO Profile
ID : 1
<22>2020-12-01T06:05:59.666435+00:00 RPDBADBAD135DCC INFO
CCC : 2
<22>2020-12-01T06:05:59.666452+00:00 RPDBADBAD135DCC INFO TLV 5 Subcarrier Range/List
: Range (continuous)
<22>2020-12-01T06:05:59.666466+00:00 RPDBADBAD135DCC INFO Modulation
: 64
<22>2020-12-01T06:05:59.666480+00:00 RPDBADBAD135DCC INFO (default value)
<22>2020-12-01T06:05:59.666496+00:00 RPDBADBAD135DCC INFO
: 0000 - 4095
<22>2020-12-01T06:05:59.666509+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg done +++
<22>2020-12-01T06:05:59.666522+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.666541+00:00 RPDBADBAD135DCC INFO DPD packet, chan:158 dps:5
<22>2020-12-01T06:05:59.666573+00:00 RPDBADBAD135DCC INFO Ofdm_Parse_Dpd chan:158 dps:5
ccc:2 profile:1 state OTHER
<22>2020-12-01T06:05:59.671953+00:00 RPDBADBAD135DCC INFO Receive OCD/DPD docsis msg for
OFDM channel 158 (start=158, count=2, end=162) active = 158/0
<22>2020-12-01T06:05:59.671984+00:00 RPDBADBAD135DCC INFO

```

```

<22>2020-12-01T06:05:59.672001+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg +++
<22>2020-12-01T06:05:59.672018+00:00 RPDBADBAD135DCC INFO OFDM Docsis Msg
<22>2020-12-01T06:05:59.672048+00:00 RPDBADBAD135DCC INFO c2 00 00 22 61 fc 01 e0 2f 00
00 01 ba db ad 0a
<22>2020-12-01T06:05:59.672074+00:00 RPDBADBAD135DCC INFO 0e ad 00 10 00 00 03 05 32 00
9f ff 02 05 05 24
<22>2020-12-01T06:05:59.672092+00:00 RPDBADBAD135DCC INFO 00 00 0f ff
<22>2020-12-01T06:05:59.672106+00:00 RPDBADBAD135DCC INFO MAC Header
<22>2020-12-01T06:05:59.672122+00:00 RPDBADBAD135DCC INFO Frame
Control : 0xc2 (MAC specific, MAC msg, EHDR Off)
<22>2020-12-01T06:05:59.672136+00:00 RPDBADBAD135DCC INFO MAC Parameters
: 0x00
<22>2020-12-01T06:05:59.672151+00:00 RPDBADBAD135DCC INFO
Length : 34
<22>2020-12-01T06:05:59.672166+00:00 RPDBADBAD135DCC INFO Header Check
Sequence : 0x61fc (25084)
<22>2020-12-01T06:05:59.672180+00:00 RPDBADBAD135DCC INFO MAC Management Header
<22>2020-12-01T06:05:59.672196+00:00 RPDBADBAD135DCC INFO Destination MAC
ADDR : 01e0.2f00.0001
<22>2020-12-01T06:05:59.672212+00:00 RPDBADBAD135DCC INFO Source MAC
ADDR : badb.ad0a.0ead
<22>2020-12-01T06:05:59.672226+00:00 RPDBADBAD135DCC INFO
Length : 16
<22>2020-12-01T06:05:59.672240+00:00 RPDBADBAD135DCC INFO Destination
SAP : 0
<22>2020-12-01T06:05:59.672253+00:00 RPDBADBAD135DCC INFO Source
SAP : 0
<22>2020-12-01T06:05:59.672267+00:00 RPDBADBAD135DCC INFO
Control : 3
<22>2020-12-01T06:05:59.672281+00:00 RPDBADBAD135DCC INFO
Version : 5
<22>2020-12-01T06:05:59.672296+00:00 RPDBADBAD135DCC INFO
Type : 50 (DPD)
<22>2020-12-01T06:05:59.672310+00:00 RPDBADBAD135DCC INFO Multipart
: 0 (Sequence number 0, Fragments 0)
<22>2020-12-01T06:05:59.672323+00:00 RPDBADBAD135DCC INFO DPD fields
<22>2020-12-01T06:05:59.672337+00:00 RPDBADBAD135DCC INFO
DCID : 159
<22>2020-12-01T06:05:59.672351+00:00 RPDBADBAD135DCC INFO Profile
ID : 255
<22>2020-12-01T06:05:59.672365+00:00 RPDBADBAD135DCC INFO
CCC : 2
<22>2020-12-01T06:05:59.672382+00:00 RPDBADBAD135DCC INFO TLV 5 Subcarrier Range/List
: Range (continuous)
<22>2020-12-01T06:05:59.672395+00:00 RPDBADBAD135DCC INFO Modulation
: 16
<22>2020-12-01T06:05:59.672408+00:00 RPDBADBAD135DCC INFO (default value)
<22>2020-12-01T06:05:59.672423+00:00 RPDBADBAD135DCC INFO
: 0000 - 4095
<22>2020-12-01T06:05:59.672436+00:00 RPDBADBAD135DCC INFO +++ Validate docsis msg done +++
<22>2020-12-01T06:05:59.672448+00:00 RPDBADBAD135DCC INFO
<22>2020-12-01T06:05:59.672460+00:00 RPDBADBAD135DCC INFO DPD packet, chan:158 dps:5
<22>2020-12-01T06:05:59.672491+00:00 RPDBADBAD135DCC INFO Ofdm_Parse_Dpd chan:158 dps:5
ccc:2 profile:255 state OTHER
<22>2020-12-01T06:05:59.677231+00:00 RPDBADBAD135DCC INFO TLV63 ADMIN chan:158 dps:5
state:UP rf_mute:0 power_adjust:0 active = 158/0
<22>2020-12-01T06:05:59.677412+00:00 RPDBADBAD135DCC INFO bcm316x_ds_ofdm_set_cli_cfg :
channel 158 TLV63 UP RESET
<22>2020-12-01T06:05:59.677448+00:00 RPDBADBAD135DCC INFO bcm316x_ds_set_ofdm_cfg chan:158
dps:5 admin state old OTHER new UP
<22>2020-12-01T06:05:59.677481+00:00 RPDBADBAD135DCC INFO bcm316x_ds_set_ofdm_cfg chan:158
dps:5 up
<22>2020-12-01T06:06:00.199473+00:00 RPDBADBAD135DCC INFO OFDM channel 158 TLV63 ret 0
active 158/0

```

```
root@RPDbadbad135dcc:/#
```



**Note** All commands support automore when required.

## show mem

To display the system-wide and per-process memory information, use the **show mem** command in privileged EXEC mode.

```
show cpu { history }
```

<b>Syntax Description</b>	<b>history</b>	Shows the history of memory usage percentage in a graphical format.
<b>Command Default</b>	None.	
<b>Command Modes</b>	Privileged EXEC (#)	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.
	Cisco 1x2 / Compact Shelf RPD Software 7.6	The <code>history</code> option was introduced.

### Example

The following is a sample output of the **show mem** command:

```
R-PHY# show mem
----- System memory -----
MemTotal:      898020 kB
MemFree:       141804 kB
MemAvailable:  209876 kB
Buffers:       2504 kB
Cached:        71884 kB
Active:        522032 kB
Inactive:      49412 kB
SwapTotal:     448508 kB
SwapFree:      448508 kB
Shmem:         1008 kB
----- Per-process memory -----
VSZ VSZRW  RSS (SHR) DETAILS
808m 219m 81520 70728 HalDriverClient
360m 96784 45152 6212 l2tp_agent
342m 135m 65332 7072 PtpHalDriverClient
278m 79048 43708 6224 rcp_agent
198m 61396 44632 6212 dhcp_agent
197m 60864 42108 6264 interface_status_agent
```



```

3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0...2...4...7...9...1...1...1...1...2...2...2...3...3
  4  8  2  6  2  4  6  9  1  4  6  8  1  3
      0  4  8  2  6  0  4  8  2  6
Memory usage percentage (last 336 hours / 14 days)
* = maximum % per 6 hours    # = average % per 6 hours

```

## show multicore config

To check the core list information configured by TLV88.1 on the RPD, use the **show multicore config** command in privileged EXEC mode.

### show multicore config

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 8.6	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show multicore config** command:

```

R-PHY# show multicore config
Index  ConfiguredCoreIp
0      11.1.1.10

```

## show ofdma

To display the Orthogonal Frequency Division Multiple Access (OFDMA) channel details, use the **show ofdma** command in privileged EXEC mode.

```
show ofdma { cw-errs | config | iuc ofdmaindex }
```

#### Syntax Description

<b>cw-errs</b>	Shows the codeword error count for the OFDMA channel, indicating channel RF quality.
<b>config</b>	Shows the configuration for the OFDMA channel.
<b>iuc</b> <i>ofdmaindex</i>	Shows the per-IUC data for codewords and MER ( <i>ofdmaIndex</i> = 0 for port 0 or 2 for port 1)

**Command Default** None.

**Command Modes** Privileged EXEC mode (#)

Command History	Release	Modification
	Cisco 1x2 RPD Software 1.1	This command was introduced.

**Usage Guidelines** None.

### Example: Displays Codeword Error Count for OFDMA Channel

This example shows how to display the codeword error count for the OFDMA channel.

```
R-PHY# show ofdma cw-errs
```

```
OFDMA_0: UP (admin UP)
  CW Count      168
  CW Errs       0
  Avg: 0.0000

OFDMA_1: DOWN (admin DOWN)
  CW Count       0
  CW Errs        0
  Avg: 0.0000

OFDMA_2: UP (admin UP)
  CW Count       0
  CW Errs        0
  Avg: 0.0000

OFDMA_3: DOWN (admin DOWN)
  CW Count       0
  CW Errs        0
  Avg: 0.0000
```

### Example: Displays Configuration for OFDMA Channel

This example shows how to display the configuration for the OFDMA channel.

```
R-PHY# show ofdma config
OFDMA Channel Configuration
RF Port                : 0
RF channel              : 0
State                  : UP
Starting Minislot      : 2568605545
Target Rx Power Adjust : 20
Enable Flow Tags       : 1
Max Req Block Enq Timeout : 0
Max Req Block Enq Number : 0
Broadcast Im Region Duration : 6
Unicast Im Region Duration : 6
UCD Message
  UCD fields
    UCID                : 16
    CCC                  : 5
    DSID                 : 0
```

## show ofdma

```

ticks per frame           : 1179
mslot per frame          : 237
Initial Ranging          : 128
TLV 24 Change Bitmask    : 0x0000
TLV 25 Timestamp Snapshot : 09 91 9c f6 96 74 87 47 c7
TLV 26 Cyclic Prefix     : 96
TLV 27 Rolloff Period    : 64 samples
TLV 28 Subcarrier Spacing : 25 KHz
TLV 29 Subcarrier Zero Freq : 7800000 Hz
TLV 32 Symbols in Frame  : 9
TLV 33 Randomization Seed : 8153946
TLV 3 Preamble String    : Preamble Superstring
    ff d7 d5 21 26 ec e5 e7 00 78 7f 63 6b 35 2e 29
    00 88 81 a5 bd 5f 72 7b 01 99 82 ee c7 e1 96 8d
    02 aa 87 33 48 22 bb 97 07 ff 89 55 d8 67 cc b9
    00 80 9b fe 68 a8 55 cb 00 18 1a c2 b9 f8 fe 5d
TLV 6 Preamble String Extension : Preamble Superstring Extension
TLV 30 Subcarrier Exclusion Band: Excluded Subcarriers
    [0000 - 0147] [3948 - 4095]
TLV 30 Subcarrier Unused Band : Unused Subcarriers
    [3940 - 3947]
TLV 23 Burst Descriptor   : IUC 3
    03 03 02 02 00 04 02 00 00 13 02 00 80
TLV 23 Burst Descriptor   : IUC 4
    04 03 02 00 c0 04 02 00 00 14 02 00 c0
TLV 23 Burst Descriptor   : IUC 13
    0d 15 02 48 ec
OFDMA Profile Table:
    IUC Bit Loading Pilot Pattern Consec Mslot
    13 16-QAM 8 236
OFDMA Channel Configuration
RF Port : 0
RF channel : 1
State : UP
Starting Minislot : 2544667129
Target Rx Power Adjust : 0
Enable Flow Tags : 1
Max Req Block Enq Timeout : 0
Max Req Block Enq Number : 0
Broadcast Im Region Duration : 6
Unicast Im Region Duration : 6
UCD Message
UCD fields
UCID : 15
CCC : 9
DSID : 0
ticks per frame : 1179
mslot per frame : 237
Initial Ranging : 34
TLV 24 Change Bitmask : 0x0000
TLV 25 Timestamp Snapshot : 09 7a c8 9f 96 74 70 55 b2
TLV 26 Cyclic Prefix : 96
TLV 27 Rolloff Period : 64 samples
TLV 28 Subcarrier Spacing : 25 KHz
TLV 29 Subcarrier Zero Freq : 104800000 Hz
TLV 32 Symbols in Frame : 9
TLV 33 Randomization Seed : 8153946
TLV 3 Preamble String : Preamble Superstring
    ff d7 d5 21 26 ec e5 e7 00 78 7f 63 6b 35 2e 29
    00 88 81 a5 bd 5f 72 7b 01 99 82 ee c7 e1 96 8d
    02 aa 87 33 48 22 bb 97 07 ff 89 55 d8 67 cc b9
    00 80 9b fe 68 a8 55 cb 00 18 1a c2 b9 f8 fe 5d
TLV 6 Preamble String Extension : Preamble Superstring Extension
TLV 30 Subcarrier Exclusion Band: Excluded Subcarriers

```



```

[0000 - 0147] [3948 - 4095]
TLV 30 Subcarrier Unused Band : Unused Subcarriers
[3940 - 3947]
TLV 23 Burst Descriptor      : IUC 3
 03 03 02 00 88 04 02 00 00 13 02 00 22
TLV 23 Burst Descriptor      : IUC 4
 04 03 02 01 f4 04 02 00 00 14 02 01 f4
TLV 23 Burst Descriptor      : IUC 5
 05 15 02 c9 ec
TLV 23 Burst Descriptor      : IUC 6
 06 15 02 b9 ec
TLV 23 Burst Descriptor      : IUC 9
 09 15 02 a9 ec
TLV 23 Burst Descriptor      : IUC 13
 0d 15 0a aa 01 7b 01 a9 30 58 96 a9 20
OFDMA Profile Table:
IUC  Bit Loading  Pilot Pattern  Consec Mslot
5    4096-QAM    9                236
6    2048-QAM    9                236
9    1024-QAM    9                236
13   1024-QAM    10               1
13   128-QAM     11               1
13   1024-QAM    9                48
13   32-QAM      8                150
13   1024-QAM    9                32

```

#### 10.4 feature DLM for OFDM support

#### Example: Displays per-IUC Data for Codewords and MER

This example shows how to display the per-IUC data for codewords and MER.

```
R-PHY# show ofdma iuc 0
```

```

IUC Counters OFDMA_0:
+-----+-----+-----+-----+-----+-----+-----+
| IUC   | Grants | No    | FEC   | FEC Post | FEC Post | MER   |
|       |        | Energy | Tot.  | Pass CWS | Fail CWS | Min/Max/Avg |
+-----+-----+-----+-----+-----+-----+-----+
1- Req 2318784576 2318784427 0 0 0 0.0/0.0/0.0
2- ReqD 0 0 0 0 0 0.0/0.0/0.0
3- InitM 3059008 3059006 2 2 0 0.0/0.0/0.0
4-SMaint 42761 0 42761 42761 0 0.0/0.0/0.0
5- Data 94 0 96 0 0 37.75/44.50/39.75
6- Data 0 0 0 0 0 0.0/0.0/0.0
9- Data 0 0 0 0 0 0.0/0.0/0.0
10- Data 0 0 0 0 0 0.0/0.0/0.0
11- Data 0 0 0 0 0 0.0/0.0/0.0
12- Data 0 0 0 0 0 0.0/0.0/0.0
13- Data 60 0 72 0 0 38.75/45.0/44.0

```

## show oob 55d1 statistics

To view the upstream statistics of OOB-55d1 channel, use the **show oob 55d1 statistics** command.

```
show oob 55d1 statistics
```

**Syntax Description**

This command has no arguments or keywords.

**Command Default**

None.

**Command Modes**

Privileged EXEC mode (#)

**Command History**

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines**

The packets are classified as Uncorrectable, Corrected, and Good and their statistics are provided for each individual OOB-55d1 upstream channel. The output also provides the details of the last received upstream packet. You can reset this command output to zero using the **clear oob statistics** command.

**Example**

This example shows how to view the OOB-55d1 statistics:

```
R-PHY#show oob 55d1 statistics
```

```
OOB 55-1 Upstream Packet statistics
```

```
~~~~~
```

```
Current Log level: LOG_WARNING
```

```
Run Time: 0 Mins 20 Secs
```

```
Packets Received from Demods:
```

Port	Chan	Total	Packets	Uncorrectable	Corrected	Good	UPM ID	Rep	Pwr	S
0	0		2	0	0		2 80	-1		G
0	1		2	0	0		2 80	-1		G
0	2		0	0	0		0 0	0		-
Total			4	0	0		4	Last Pkt Status		
1	0		0	0	0		0 0	0		-
1	1		0	0	0		0 0	0		-
1	2		0	0	0		0 0	0		-
Total			0	0	0		0	Last Pkt Status		

```
Error packets not included in the stats above: 0
```

```
Last Output Packet Dump:
```

```
-----
Source IP      : 2001::0558::ff40::0031::0000::0000::0000::0141
Destination IP : 2001::0558::ff01::0030::0000::0000::0000::0011
L2TP Session ID : 0x2710(10000)
L2TP Seq Num   : 13310
ARPD Source ID : 1
ARPD Proto Rev : 2
ARPD Seq Num   : 254
ARPD RF Port Cnt: 1
ARPD RF Port ID : 0
ARPD RF Bitmap-0: 0x0
ARPD RF Bitmap-1: 0x0
```

```

ARPD RF Bitmap-2: 0x1
ARPD Demod Power Level   : -1
ARPD Demod Packet Status : Good
ARPD Demod Time Offset   : 0

ARPD Demod Frame (Payload):
-----
 40 90 00 05 03 03 F8 27 96 03
 00 00 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00 00 00
 31 B9 31 5F

```

## show oob 55d2 restart

To display the count of 55d2 auto restarts, use the **show oob 55d2 restart** command.

**show oob 55d2 restart**

### Syntax Description

This command has no arguments or keywords.

#### Command Default

None.

#### Command Modes

Privileged EXEC mode (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

### Example

This example shows how to display the count of 55d2 auto restarts:

```

R-PHY#show oob 55d2 restart
OOB 55d2 restarted 0 times.

```

## show oob ds-mapping

To view the mapping between the RPD DS channel and the DS configuration, use the **show oob ds-mapping** command. The command also shows whether the RPD has received the PHY and the L2TP configuration.

**show oob ds-mapping**

### Syntax Description

This command has no arguments or keywords.

## show oob fpga

**Command Default** None.

**Command Modes** Privileged EXEC mode (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** The downstream configuration is pushed from the Core with various parameters including the Physical parameter (PHY) and the L2TP parameter along with the channel ID. At the RPD, the channel (RPD CHID) is allocated dynamically instead of using the channel that is configured at the Core (CBR CHID).

### Example

This example shows how to view the mapping between the RPD DS channel and the DS configuration:

```
R-PHY#show oob ds-mapping
```

RPD CHID	CBR CHID	PHY / MODE	CBR CHID	L2TP / MODE
0	0	/ 55-2	0	/ 55-2
1				
2				

## show oob fpga

To view the FPGA details of the OOB-55d1, OOB-55d2, and NDF channels for debugging, use the **show oob fpga** command.

```
show oob fpga {ndf-status | status}
```

Syntax Description	ndf-status
	Shows the FPGA register-based counter for the NDF channel configured on the RPD.
status	Shows the FPGA details of the OOB-55d1 and OOB-55d2 channels.

**Command Default** None.

**Command Modes** Privileged EXEC mode (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

### Example

This example shows how to view the FPGA details of the OOB-55d1 channel:

```

R-PHY#show oob fpga status

Run Time: 5765 mins 39 secs

OOB 55-1 Channel [163] Status from FPGA Registers
-----
OOB Status      : Enabled
OOB Channel Type: 15 [55-1]
Null Pkt Drop   : Enabled
Seq Gap Disable : Set
New Buffer Overflow Handling : Enabled

OOB Session Info
-----
OOB Session ID   : 0x8000fff1
OOB Session Ctrl : 0x80803f00
IP SA Index      : 31
IP DA Index      : 1
MAC SA Index     : 0
MAC DA Index     : 1

OOB Channel [163] Interrupts
-----
Buffer Overflow  : Not Set
Buffer Underflow : Set

OOB Channel [163] Thresholds
-----
Buffer Threshold : 1
Net Threshold    : 0
Drift Threshold  : 0
Configured Buffer Depth : 255
Current Count in Buffer : 0

OOB Channel [163] Packet Counts
-----
Packet In Count [MDJT]      : 337357702
Packet Out Count [MPTF]     : 461251379
Packet Delete Count [MDJT]  : 333284136
Packet Insert Count [MDJT]   : 0
Seq Num Gap(DSO) Count [MDJT]: 0

Configured Drop packet count : 255
Packets dropped due to overflow : 0

```

### Example

This example shows how to view the FPGA details of the OOB-55d2 channel:

```

R-PHY#show oob fpga status

Run Time: 6874 mins 43 secs

OOB 55-2 Register Dump
-----
REF 163 RESETS          (0x14002000): 0x00000000 (Decimal:0)
NORTHSIDE RESETS       (0x14002004): 0x00000000 (Decimal:0)
SOUTHSIDE RESETS       (0x14002008): 0x00000000 (Decimal:0)
IRQ                     (0x14002400): 0x00000041 (Decimal:65)
IRQ MASK                (0x14002404): 0xffffffff (Decimal:-1)
Global IRQ Mask         (0x14002408): 0xffffffff (Decimal:-1)
SERVICE CHANNEL LAST SLOT (0x14002800): 0x000003e8 (Decimal:1000)
DEFAULT RANGING INTERVAL (0x14002804): 0x00000010 (Decimal:16)

```

```

DEFAULT RANGING SLOT CONFIG          (0x14002808): 0x0000016e (Decimal:366)
DEFAULT NON RANGING SLOT CONFIG      (0x1400280c): 0x0000006e (Decimal:110)
RANDOMIZER MODE                       (0x14002810): 0x00000000 (Decimal:0)
MODULATOR ID                        (0x14002814): 0x00000000 (Decimal:0)
BASE OFFSET                          (0x14002818): 0x00001e66 (Decimal:7782)
UEPI INIT SEQ NUM                   (0x1400281c): 0x00000000 (Decimal:0)
DEPI INIT SEQ NUM                   (0x14002820): 0x00000000 (Decimal:0)
TSR DEBUG EN                        (0x14002824): 0x00000000 (Decimal:0)
PHY BUF ADJ VAL                     (0x14002828): 0x000ec000 (Decimal:966656)
PHY BUF ADJ EN                      (0x1400282c): 0x00000000 (Decimal:0)
MAX_DHCT_DISTANCE 0                 (0x14002840): 0x00000000 (Decimal:0)
MAX_DHCT_DISTANCE 1                 (0x14002844): 0x00000000 (Decimal:0)
UPSTREAM_GROUP_ID 0                 (0x14002860): 0x00000000 (Decimal:0)
UPSTREAM_GROUP_ID 1                 (0x14002864): 0x00000001 (Decimal:1)
NORTH BUFFER CELL OVERFLOW CNT      (0x14002880): 0x00000000 (Decimal:0)
NORTH BUFFER CELL UNDERFLOW CNT    (0x14002884): 0x00000000 (Decimal:0)
NORTH BUFFER OUT CELL CNT           (0x14002888): 0x51ee6297 (Decimal:1374577303)
NORTH BUFFER SLOT OVERFLOW CNT      (0x1400288c): 0x00000000 (Decimal:0)
NORTH BUFFER SLOT UNDERFLOW CNT     (0x14002890): 0x00000000 (Decimal:0)
NORTH BUFFER OUT SLOT CNT           (0x14002894): 0x00000033 (Decimal:51)
NORTH BUFFER CELL DISCARD CNT       (0x14002898): 0x00000000 (Decimal:0)
NORTH BUFFER SLOT DISCARD CNT       (0x1400289c): 0x00000000 (Decimal:0)
NORTH ENCAP ADDR CTRL               (0x14002900): 0x00000001 (Decimal:1)
NORTH ENCAP ADDR MAC SRC 0          (0x14002904): 0x900b0dc6 (Decimal:-1878323770)
NORTH ENCAP ADDR MAC SRC 1          (0x14002908): 0x00000027 (Decimal:39)
NORTH ENCAP ADDR MAC DST 0          (0x1400290c): 0x5df3f581 (Decimal:1576269185)
NORTH ENCAP ADDR MAC DST 1          (0x14002910): 0x00007872 (Decimal:30834)
NORTH ENCAP ADDR IP SRC 0           (0x14002914): 0xc08c28a3 (Decimal:-1064556381)
NORTH ENCAP ADDR IP SRC 1           (0x14002918): 0x00000000 (Decimal:0)
NORTH ENCAP ADDR IP SRC 2           (0x1400291c): 0x00000000 (Decimal:0)
NORTH ENCAP ADDR IP SRC 3           (0x14002920): 0x20020000 (Decimal:537001984)
NORTH ENCAP ADDR IP DST 0           (0x14002924): 0xac140126 (Decimal:-1407975130)
NORTH ENCAP ADDR IP DST 1           (0x14002928): 0x00000000 (Decimal:0)
NORTH ENCAP ADDR IP DST 2           (0x1400292c): 0x00000000 (Decimal:0)
NORTH ENCAP ADDR IP DST 3           (0x14002930): 0x20020000 (Decimal:537001984)
NORTH ENCAP ADDR UDP SRC            (0x14002934): 0x00000000 (Decimal:0)
NORTH ENCAP ADDR UDP DST            (0x14002938): 0x00000000 (Decimal:0)
NORTH ENCAP ADDR SESSION ID         (0x1400293c): 0x403005cd (Decimal:1076889037)
NORTH ENCAP RX FRAME CNT            (0x14002940): 0x1063fe4a (Decimal:274988618)
NORTH ENCAP TX FRAME CNT            (0x14002944): 0x1063fe4a (Decimal:274988618)
NORTH ENCAP ENC DATA OVF CNT       (0x14002948): 0x00000000 (Decimal:0)
NORTH ENCAP ENC DATA UDF CNT       (0x1400294c): 0x00000000 (Decimal:0)
NORTH ENCAP ENC CON OVF CNT         (0x14002950): 0x00000000 (Decimal:0)
NORTH ENCAP ENC CON UDF CNT         (0x14002954): 0x00000000 (Decimal:0)
NORTH ENCAP PAY OVF CNT             (0x14002980): 0x00000000 (Decimal:0)
NORTH ENCAP PAY UDF CNT             (0x14002984): 0x00000000 (Decimal:0)
NORTH ENCAP DEMUX OUT PAYLOAD CNT    (0x140029c0): 0x00000087 (Decimal:135)
NORTH ENCAP DEMUX SHORT PKT CNT     (0x140029c4): 0x00000000 (Decimal:0)
NORTH ENCAP DEMUX EOP MISS CNT      (0x140029c8): 0x00000000 (Decimal:0)
SOUTH BUFFER CELL OVERFLOW CNT      (0x14002a40): 0x00000000 (Decimal:0)
SOUTH BUFFER CELL UNDERFLOW CNT     (0x14002a44): 0x00000000 (Decimal:0)
SOUTH BUFFER OUT CELL CNT           (0x14002a48): 0x00000087 (Decimal:135)
SOUTH ENCAP ADDR CTRL               (0x14002a80): 0x00000000 (Decimal:0)
SOUTH ENCAP ADDR MAC SRC 0          (0x14002a84): 0x5df3f581 (Decimal:1576269185)
SOUTH ENCAP ADDR MAC SRC 1          (0x14002a88): 0x00007872 (Decimal:30834)
SOUTH ENCAP ADDR MAC DST 0          (0x14002a8c): 0x900b0dc6 (Decimal:-1878323770)
SOUTH ENCAP ADDR MAC DST 1          (0x14002a90): 0x00000027 (Decimal:39)
SOUTH ENCAP ADDR IP SRC 0           (0x14002a94): 0xac140126 (Decimal:-1407975130)
SOUTH ENCAP ADDR IP SRC 1           (0x14002a98): 0x00000000 (Decimal:0)
SOUTH ENCAP ADDR IP SRC 2           (0x14002a9c): 0x00000000 (Decimal:0)
SOUTH ENCAP ADDR IP SRC 3           (0x14002aa0): 0x20020000 (Decimal:537001984)
SOUTH ENCAP ADDR IP DST 0           (0x14002aa4): 0xc0a80002 (Decimal:-1062731774)
SOUTH ENCAP ADDR IP DST 1           (0x14002aa8): 0x00000000 (Decimal:0)
SOUTH ENCAP ADDR IP DST 2           (0x14002aac): 0x00000000 (Decimal:0)

```

```

SOUTH ENCAP ADDR IP DST 3      (0x14002ab0): 0x00000000 (Decimal:0)
SOUTH ENCAP ADDR UDP SRC      (0x14002ab4): 0x00000000 (Decimal:0)
SOUTH ENCAP ADDR UDP DST      (0x14002ab8): 0x00000000 (Decimal:0)
SOUTH ENCAP ADDR SESSION ID   (0x14002abc): 0xff0000a4 (Decimal:-16777052)
SOUTH ENCAP RX FRAME CNT      (0x14002b00): 0x0831ff27 (Decimal:137494311)
SOUTH ENCAP TX FRAME CNT      (0x14002b04): 0x0831ff27 (Decimal:137494311)
SOUTH ENCAP ENC DATA OVF CNT (0x14002b08): 0x00000000 (Decimal:0)
SOUTH ENCAP ENC DATA UDF CNT (0x14002b0c): 0x00000000 (Decimal:0)
SOUTH ENCAP ENC CON OVF CNT   (0x14002b10): 0x00000000 (Decimal:0)
SOUTH ENCAP ENC CON UDF CNT   (0x14002b14): 0x00000000 (Decimal:0)
SLOT SEL DISCARD CNT          (0x14002b40): 0x0000002f (Decimal:47)
RESTAMP DIFF ERR CNT          (0x14002b44): 0x00000000 (Decimal:0)
DAVIC FIFO FULL CNT           (0x14002b48): 0x00000000 (Decimal:0)
ESF FIFO FULL CNT             (0x14002b4c): 0x00000000 (Decimal:0)
MINOR VERSION                  (0x14002b50): 0x00000013 (Decimal:19)
MAJOR VERSION                  (0x14002b54): 0x00000001 (Decimal:1)
SDCP TIMESTAMP                 (0x14002b58): 0x01ba5973 (Decimal:28989811)
INPUT TIMESTAMP                (0x14002b5c): 0x01ba6afb (Decimal:28994299)
NORTH INTFC FLAGS              (0x14002c00): 0x0000000e (Decimal:14)
NORTH DECAP SESSION ID        (0x14002c04): 0x80002236 (Decimal:-2147474890)
IP SRC ADDR 0                  (0x14002c08): 0xac140126 (Decimal:-1407975130)
IP SRC ADDR 1                  (0x14002c0c): 0x00000000 (Decimal:0)
IP SRC ADDR 2                  (0x14002c10): 0x00000000 (Decimal:0)
IP SRC ADDR 3                  (0x14002c14): 0x20020000 (Decimal:537001984)
IP DST ADDR 0                  (0x14002c18): 0x90000009 (Decimal:-1879048183)
IP DST ADDR 1                  (0x14002c1c): 0x00000000 (Decimal:0)
IP DST ADDR 2                  (0x14002c20): 0x00000000 (Decimal:0)
IP DST ADDR 3                  (0x14002c24): 0xff3a0000 (Decimal:-12976128)
NORTH DECAP ETH FRAME CNT      (0x14002c40): 0x33e5ca39 (Decimal:870697529)
NORTH DECAP ETH Q FRAME CNT    (0x14002c44): 0x00000000 (Decimal:0)
NORTH DECAP ETH QQ FRAME CNT   (0x14002c48): 0x00000000 (Decimal:0)
NORTH DECAP ETH TYP IPV4 CNT   (0x14002c4c): 0x00000516d (Decimal:20845)
NORTH DECAP ETH TYP IPV6 CNT   (0x14002c50): 0x33e195c3 (Decimal:870421955)
NORTH DECAP IPV4 OPT CNT       (0x14002c54): 0x000001ada (Decimal:6874)
NORTH DECAP IP PROT UDP CNT    (0x14002c58): 0x00cfda75 (Decimal:13621877)
NORTH DECAP IP PROT L2TPV3 CNT (0x14002c5c): 0x32e4b27c (Decimal:853848700)
NORTH DECAP SESSION ID INVLD CNT (0x14002c60): 0x00000000 (Decimal:0)
NORTH DECAP RESYNC CNT         (0x14002c64): 0x00000031 (Decimal:49)
NORTH DECAP PAYLOAD CNT        (0x14002c68): 0x0831a86f (Decimal:137472111)
NORTH DECAP SEQ ERR CNT        (0x14002c6c): 0x00000051 (Decimal:81)
NORTH DECAP DISCARD CNT        (0x14002c70): 0x2bb42597 (Decimal:733226391)
NORTH DECAP VALID CNT          (0x14002c74): 0x0831a870 (Decimal:137472112)
NORTH DECAP SRC NOT DST CNT    (0x14002c78): 0x0001a52b (Decimal:107819)
NORTH DECAP DST NOT SRC CNT    (0x14002c7c): 0x00000005 (Decimal:5)
SOUTH INTFC FLAGS              (0x14003000): 0x00000002 (Decimal:2)
SOUTH DECAP SESSION ID        (0x14003044): 0x00000000 (Decimal:0)
SOUTH DECAP ETH FRAME CNT      (0x14003100): 0x01d027a6 (Decimal:30418854)
SOUTH DECAP RESERVED 1        (0x14003104): 0x00000000 (Decimal:0)
SOUTH DECAP RESERVED 2        (0x14003108): 0x00000000 (Decimal:0)
SOUTH DECAP ETH TYP IPV4 CNT   (0x1400310c): 0x00d35d13 (Decimal:13851923)
SOUTH DECAP ETH TYP IPV6 CNT   (0x14003110): 0x00000087 (Decimal:135)
SOUTH DECAP IPV4 OPT CNT       (0x14003114): 0x00000000 (Decimal:0)
SOUTH DECAP IP PROT UDP CNT    (0x14003118): 0x00d35d13 (Decimal:13851923)
SOUTH DECAP IP PROT L2TPV3 CNT (0x1400311c): 0x00000087 (Decimal:135)
SOUTH DECAP SESSION ID INVLD CNT (0x14003120): 0x01d0271f (Decimal:30418719)
SOUTH DECAP RESERVED 3        (0x14003124): 0x00000000 (Decimal:0)
SOUTH DECAP NO PAYLOAD CNT     (0x14003128): 0x01d0271d (Decimal:30418717)
SOUTH DECAP SEQ ERR CNT        (0x1400312c): 0x00000000 (Decimal:0)
SOUTH DECAP DISCARD CNT        (0x14003130): 0x01d0271f (Decimal:30418719)
SOUTH DECAP OOB 25 1 CNT       (0x14003134): 0x00000000 (Decimal:0)
SOUTH DECAP OOB 55 1 CNT       (0x14003138): 0x00000000 (Decimal:0)
SOUTH DECAP OOB 55 2 CNT       (0x1400313c): 0x00000087 (Decimal:135)
SOUTH DECAP DEMOD SEQ ERR CNT 0 (0x14003140): 0x00000000 (Decimal:0)
SOUTH DECAP DEMOD SEQ ERR CNT 1 (0x14003144): 0x00000000 (Decimal:0)

```

**show oob time sync**

```

SOUTH DECAP DEMOD SEQ ERR CNT 2 (0x14003148): 0x00000000 (Decimal:0)
SOUTH DECAP DEMOD SEQ ERR CNT 3 (0x1400314c): 0x00000000 (Decimal:0)
SOUTH DECAP DEMOD SEQ ERR CNT 4 (0x14003150): 0x00000000 (Decimal:0)
SOUTH DECAP DEMOD SEQ ERR CNT 5 (0x14003154): 0x00000000 (Decimal:0)
SOUTH DECAP DEMOD SEQ ERR CNT 6 (0x14003158): 0x00000000 (Decimal:0)
SOUTH DECAP DEMOD SEQ ERR CNT 7 (0x1400315c): 0x00000000 (Decimal:0)
SOUTH DECAP DEMOD PKT CNT 0 (0x14003160): 0x00000087 (Decimal:135)
SOUTH DECAP DEMOD PKT CNT 1 (0x14003164): 0x00000000 (Decimal:0)
SOUTH DECAP DEMOD PKT CNT 2 (0x14003168): 0x00000087 (Decimal:135)
SOUTH DECAP DEMOD PKT CNT 3 (0x1400316c): 0x00000000 (Decimal:0)
SOUTH DECAP DEMOD PKT CNT 4 (0x14003170): 0x00000087 (Decimal:135)
SOUTH DECAP DEMOD PKT CNT 5 (0x14003174): 0x00000000 (Decimal:0)
SOUTH DECAP DEMOD PKT CNT 6 (0x14003178): 0x00000087 (Decimal:135)
SOUTH DECAP DEMOD PKT CNT 7 (0x1400317c): 0x00000000 (Decimal:0)
SOUTH DECAP CELL DROP CNT (0x14003180): 0x00000000 (Decimal:0)

```

**Example**

This example shows how to view the FPGA details of the NDF channel:

```
R-PHY#show oob fpga ndf-status
```

```

+----- 2019-09-03 08:03:25.139 ----+
|   N D F           STATUS / STATISTICS   |
+-----+-----+-----+-----+
|CHANNEL ID |    160. |    161. |    162. |
|SESSION ID | [DISABLED] | [DISABLED] | 0x1 |
|(TYP) WIDTH| F 0.00 MHz| F 0.00 MHz| 6 5.12 MHz|
|OUT_RATE  | 4294967295 | 4294967295 | 5 |
|DDR_START  | 0x0 | 0x0 | 0x2200000 |
|DDR_SIZE  |    8192 |    8192 |    1428 |
|STRT_THRESH|    65535 |    65535 |    714 |
|DEPTH_CNT |    0 |    0 |    722 |
+-----+-----+-----+-----+
| -- I N G R E S S --          DELETE_CNT: 4026891513 |
+-----+-----+-----+-----+
|ING_ADD    |    0 |    0 | 3331941204 |
|ING_ADD/Sec|    0 |    0 |    10106 |
|ING_DROP  |    0 |    0 |    0 |
|ING_DSEQ  |    0 |    0 |    50681 |
|DSEQ_ERR  |    0 |    0 |    7 |
|FILL_ZERO |    0 |    0 |    0 |
+-----+-----+-----+-----+
| -- E G R E S S --          FRAME_CNT: 1670678445 |
+-----+-----+-----+-----+
|FRM_FLSHCNT|    0 |    0 |    0 |
|FRM_INSCNT |    0 |    0 |    0 |
|FRM_FRMCNT |    0 |    0 | 971924573 |
|FRMs / Sec |    0 |    0 |    68088 |
+-----+-----+-----+-----+

```

## show oob time sync

To display the timestamp values across various OOB (55-2) modules, use the **show oob time sync** command.

```
show oob time sync
```



**Syntax Description**

This command has no arguments or keywords.

**Command Default**

None.

**Command Modes**

Privileged EXEC mode (#)

**Command History**

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Example**

This example shows how to display the timestamp values across various OOB (55-2) modules:

```
R-PHY#show oob time sync
BCM TOP(32 3.0): 0xdfee2592, US OOB: 0xdfee3698 LY OOB: 0xdfee4063
BCM diff(ticks): 0x1106, (usec): 425
55-2 diff(ticks): 0x9cb, (usec): 244
```

## show provision

To display information on all the CCAP cores, use the **show provision** command in privileged EXEC mode.

**show provision {ccap-core [*index*] | gcp [ccap-identification | conn-verification ] | history | manager [history] | message-history | state }**

**Syntax Description**

<b>ccap-core</b>	Displays CCAP cores information.
<b>ccap-core <i>index</i></b>	Displays the information of a specific CCAP core.
<b>gcp</b>	Displays gcp provision information.
<b>gcp ccap-identification</b>	Displays CCAP core identification information.
<b>gcp conn-verification</b>	Displays information on the gcp connection verification parameters.
<b>history</b>	Displays information on the core provision history.
<b>manager</b>	Displays information on the provision manager state.
<b>manager history</b>	Displays information on the provision manager state change history.
<b>message-history</b>	Displays information on the provision agent state change history.
<b>state</b>	Displays the RPD provision state information.

**Command Default**

None.

**Command Modes** Privileged EXEC (#)

**Command History**

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following are sample output of the **show provision ccap-core** command:

```
R-PHY# show provision ccap-core
Core-Index  Interface  IP          Name        State  Role        Core-Mode  Initiated-By
      PTP    L2TP
0          vbh0      11.1.6.3   CCAPCORE   online Principal  Active     DHCP
      True  True
1          vbh0      11.1.6.2   CCAPCORE   online Principal  Standby   Provision_operational
      True  True
```

The following are sample output of the **show provision ccap-core index** command:

```
R-PHY# show provision ccap-core 0
Core Index          0
Core ID:             CORE-3169051674
Core IP:             11.1.6.3
Current State:      online
Core Role:           Principal
Core Mode:           Active
Initiated By:       DHCP
Core StartTime:     2019 May 09 01:22:07:468486
Remote ID:           badbad0a0ef3
Core Name:           CCAPCORE
Vendor ID:           9
```

The following are sample output of the **show provision gcp** command:

```
R-PHY# show provision gcp
Core-Index  Core-IP  Local-IP  Principal  Status
0           11.1.6.3 11.1.6.100 Yes         OK
1           11.1.6.2 11.1.6.100 Yes         OK
```

The following are sample output of the **show provision gcp ccap-identification** command:

```
R-PHY# show provision gcp ccap-identification
Index  CoreId          CoreIpAddress  IsPrincipal  CoreMode          CoreFunction
1      badbad0a0cbe   11.1.6.2       True          CoreModeBackup    221
0      badbad0a0ef3   11.1.6.3       True          CoreModeActive     223
```

The following are sample output of the **show provision gcp conn-verification** command:

```
R-PHY# show provision gcp conn-verification
CoreId          MaxGcpIdleTime  GcpRecoveryAction          GcpRecoveryActionRetry
GcpRecoveryActionDelay  GcpReconnectTimeout
badbad0a0ef3  0                GcpReconnectToTheSameCore  3                30
                30
badbad0a0cbe  0                GcpReconnectToTheSameCore  3                30
                30
```

The following are sample output of the **show provision history** command:

```
R-PHY# show provision history
Core-Index Interface IP Mac From-State To-State
event Added-By Time
None vbh0 11.1.6.3 10:04:9f:c1:08:00 none init(ipsec)
TRIGGER_Startup DHCP 2019 May 09 01:22:07:474424
None vbh0 11.1.6.3 10:04:9f:c1:08:00 init(ipsec) init(tcp)
TRIGGER_IPSEC_OK DHCP 2019 May 09 01:22:07:477947
None vbh0 11.1.6.3 10:04:9f:c1:08:00 init(tcp) init(gcp-ira)
TRIGGER_TCP_OK DHCP 2019 May 09 01:22:03:195866
None vbh0 11.1.6.3 10:04:9f:c1:08:00 init(gcp-ira) init(gcp-cfg)
TRIGGER_GCP_IRA DHCP 2019 May 09 01:22:03:314571
0 vbh0 11.1.6.3 10:04:9f:c1:08:00 init(gcp-cfg) init(gcp-cfg-cpl)
TRIGGER_GCP_CFG DHCP 2019 May 09 01:22:03:574936
0 vbh0 11.1.6.3 10:04:9f:c1:08:00 init(gcp-cfg-cpl) init(gcp-op)
TRIGGER_GCP_CFG_CPL DHCP 2019 May 09 01:22:07:296096
0 vbh0 11.1.6.3 10:04:9f:c1:08:00 init(gcp-op) online
TRIGGER_GCP_OP DHCP 2019 May 09 01:22:25:121172
None vbh0 11.1.6.2 10:04:9f:c1:08:00 none init(ipsec)
TRIGGER_Startup DHCP 2019 May 09 01:22:25:084302
None vbh0 11.1.6.2 10:04:9f:c1:08:00 init(ipsec) init(tcp)
TRIGGER_IPSEC_OK DHCP 2019 May 09 01:22:25:088141
None vbh0 11.1.6.2 10:04:9f:c1:08:00 init(tcp) init(gcp-ira)
TRIGGER_TCP_OK DHCP 2019 May 09 01:22:26:605023
None vbh0 11.1.6.2 10:04:9f:c1:08:00 init(gcp-ira) init(gcp-cfg)
TRIGGER_GCP_IRA DHCP 2019 May 09 01:22:26:753044
1 vbh0 11.1.6.2 10:04:9f:c1:08:00 init(gcp-cfg) init(gcp-cfg-cpl)
TRIGGER_GCP_CFG DHCP 2019 May 09 01:22:27:755740
1 vbh0 11.1.6.2 10:04:9f:c1:08:00 init(gcp-cfg-cpl) init(gcp-op)
TRIGGER_GCP_CFG_CPL DHCP 2019 May 09 01:22:27:832576
1 vbh0 11.1.6.2 10:04:9f:c1:08:00 init(gcp-op) online
TRIGGER_GCP_OP DHCP 2019 May 09 01:22:30:224744
```

The following are sample output of the **show provision manager** command:

```
R-PHY# show provision manager
ID State Time
MGR-1890861114 OPERATIONAL 2019 May 09 01:22:25:116812
```

The following are sample output of the **show provision manager history** command:

```
R-PHY# show provision manager history
ID From-State To-State Event Time
MGR-1890861114 none INIT Startup 2019 May 09
01:20:40:615655
MGR-1890861114 INIT PRINCIPLE_PROVISION STARTUP_TOD_OK 2019 May 09
01:22:02:078449
MGR-1890861114 PRINCIPLE_PROVISION PRINCIPAL_FOUND SEEK_PRINCIPAL_OK 2019 May 09
01:22:03:355617
MGR-1890861114 PRINCIPAL_FOUND OPERATIONAL OPERATIONAL_OK 2019 May 09
01:22:25:116812
```

The following are sample output of the **show provision message-history** command:

```
R-PHY# show provision message-history
Sequence Module Interface Status Time
0 Interface vbh0 DOWN 2019 May 08 05:05:52
1 Interface vbh0 UP 2019 May 08 05:05:52
2 802.1x vbh0 UP 2019 May 08 05:06:27
3 DHCP vbh0 UP 2019 May 08 05:07:12
4 TOD vbh0 UP 2019 May 08 05:07:16
5 GCP --- Soft-Reset 2019 May 08 05:15:35
6 TOD vbh0 DOWN 2019 May 08 05:15:35
```

```

7      Interface vbh0      DOWN      2019 May 08 05:15:49
8      Interface vbh0      UP        2019 May 08 05:15:50
9      802.1x vbh0      UP        2019 May 08 05:16:24
10     DHCP vbh0      UP        2019 May 08 05:17:09
11     TOD vbh0      UP        2019 May 08 05:17:13
12     GCP vbh0      Core-Add  2019 May 08 05:17:15
13     L2TP ---      UP        2019 May 08 05:20:31
14     GCP vbh0      Sys-Operational 2019 May 08 05:20:32

```

The following are sample output of the **show provision state** command:

```

R-PHY# show provision state
TopLevelRpdstate:      OperationalPrincipalCore
ConnectPrincipalCoreSubState: GcpConfigPrincipalCore
LocalPtpSyncStatus:   True

NetworkAuthenticationPortIndex  NetworkAuthenticationRpdState
1                                OperationalNotAuthenticated

AuxCoreIndex  AuxCoreId  AuxCoreIp  AuxCoreRPDState
1             badbad0a0cbe  11.1.6.2  OperationalAuxCore

```

## show ptp clock

To display information of the PTP clock, use the **show ptp clock** command in privileged EXEC mode.

**show ptp clock 0 { config | state | statistics }**

Syntax Description	
<b>config</b>	Displays ptp clock configuration.
<b>state</b>	Displays ptp clock run-time state information.
<b>statistics</b>	Displays ptp clock Rx/Tx packet statistics.

**Command Default** None.

**Command Modes** Privileged EXEC (#)

Command History	Release	Modification
	Cisco 1x2/ Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show ptp clock 0 config** command:

```

R-PHY# show ptp clock 0 config
Domain/Mode      : 0/OC_SLAVE
Priority 1/2/local : 128/255/128
Profile          : 001b19000100-000000 E2E
Total Ports/Streams : 1 /2
--PTP Port 1, Enet Port 0 ----
  Port local Address :0.0.0.0

```

```

Unicast   Duration :300 Sync Interval : -4
Announce  Interval : 0 Timeout       : 11
Delay-Req Intreval : -4 Pdelay-req   : -4
Priority  local   :128 COS: 6  DSCP: 47
==Stream 0 : Port 1 Master IP: 33.33.158.158
==Stream 1 : Port 1 Master IP: 11.1.6.6

```

The following is a sample output of the **show ptp clock 0 state** command:

```

R-PHY# show ptp clock 0 state
apr state       : PHASE_LOCK
clock state     : SUB_SYNC
current tod     : 22115212      Sun Sep 13 23:06:52 1970
active stream   : 1
==stream 0     :
  port id      : 0
  master ip    : 33.33.158.158
  stream state : PHASE_LOCK
  Master offset : -23
  Path delay   : 4381
  Forward delay : 4352
  Reverse delay : 4410
  Freq offset  : -272493
  1Hz offset   : 4
==stream 1     :
  port id      : 0
  master ip    : 11.1.6.6
  stream state : PHASE_LOCK
  Master offset : -19
  Path delay   : 4365
  Forward delay : 4346
  Reverse delay : 4409
  Freq offset  : -271630
  1Hz offset   : 32

```

The following is a sample output of the **show ptp clock 0 statistics** command:

```

R-PHY# show ptp clock 0 statistics
AprState 8 :
  2@0-20:18:46.016      3@0-20:17:10.010      2@0-00:18:43.056
  1@0-00:17:26.254      2@0-00:16:47.912      1@0-00:16:28.652
  0@0-00:14:04.647      4@0-00:13:45.446
ClockState 5 :
  5@0-00:17:05.662      4@0-00:17:02.453      3@0-00:16:59.064
  2@0-00:16:48.065      1@0-00:16:47.852
BstPktStrm 2 :
  1@0-00:17:20.410      0@0-00:13:43.489
SetTime 1 :
  1000000000@0-00:13:46.138
StepTime 1 :
  -12930813@0-00:16:01.138
AdjustTime 2843 :
  29@2-00:59:25.888      32@2-00:58:24.888      -39@2-00:57:23.888
  -6@2-00:56:22.888      -13@2-00:55:21.888      16@2-00:54:20.888
  47@2-00:53:19.888      104@2-00:52:18.888      95@2-00:51:17.888
streamId msgType rx rxProcessed lost tx
0 SYNC 1652794 1652666 0 0
0 DELAY REQUEST 0 0 0 1652679
0 P-DELAY REQUEST 0 0 0 0
0 P-DELAY RESPONSE 0 0 0 0
0 FOLLOW UP 0 0 0 0
0 DELAY RESPONSE 1652679 1652679 2 0
0 P-DELAY FOLLOWUP 0 0 0 0

```

## show redundancy

```

0      ANNOUNCE      103300      103296      0      0
0      SIGNALING     1077       1077       0      1077
0      MANAGEMENT    0          0          0      0
TOTAL 3409850      3409718      2      1653756
1      SYNC          1652804    1652675    0      0
1      DELAY REQUEST 0          0          0      1652678
1      P-DELAY REQUEST 0          0          0      0
1      P-DELAY RESPONSE 0          0          0      0
1      FOLLOW UP     0          0          0      0
1      DELAY RESPONSE 1652678    1652678    2      0
1      P-DELAY FOLLOWUP 0          0          0      0
1      ANNOUNCE     103301     103297     0      0
1      SIGNALING    1077       1077       0      1077
1      MANAGEMENT   0          0          0      0
TOTAL 3409860      3409727      2      1653755

```

## show redundancy

To display the RPD link redundancy information, history and status, use the **show redundancy** command in privileged EXEC mode.

**show redundancy [history | status]**

---

**Command Default**

None.

---

**Command Modes**

Privileged EXEC (#)

---

**Command History**

Release	Modification
Cisco 1x2/ Compact Shelf RPD Software 8.2	This command was introduced on the Cisco Remote PHY Device.

The following are sample outputs of the **show redundancy** command:

```

R-PHY#show redundancy
Redundant System Information : Daisy Chain
-----
Current system uptime:          1233.96 seconds
Switchovers Counter:           1
Last switchover reason:        BH 0 Down

R-PHY#show redundancy history
Mode   Reason      BH-Intf   Date                               uptime
LRED   cmd line    BH 1      Mon Apr 20 06:27:55 2020      242.587s
LRED   BH 1 Down   BH 0      Mon Apr 20 06:56:11 2020      1890.827s
LRED   BH 0 Down   BH 1      Mon Apr 20 06:57:27 2020      1966.787s

R-PHY#show redundancy status
Initial Active: BH 1
Current Active: BH 1
Last switchover: 1966.787s Mon Apr 20 06:57:27 2020

```

# show regproc

To display the information about the REGPROC buffers and events in the Bcm3161 chip, use the **show regproc** command in privileged EXEC mode.

## show regproc

### Command Default

None.

### Command Modes

Privileged EXEC (#)

### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show regproc** command:

```
R-PHY# show regproc
REGPROC Statistic:
-----
Sequence Error: 0
NACK           : 0
Good ACK       : 2016095
Missing ACK    : 5
Past ACK       : 0
Overflow ACK   : 0
Write Post Err: 0
Inval Payld Sz: 0
Null Payld     : 3
Flush Count    : 5598
Invalid Args   : 0
Drain Read Pkt: 0
AsyncRd Entry  : 0
AsyncRd LenErr: 0
Sock Send Fail: 0
Sock Read Fail: 0
Sock Rd Empty  : 0
```

## REGPROC Ring Buffer:

```

-----
[ 0]: head 146, tail 146
[ 1]: head 164, tail 164
[ 2]: head 183, tail 183
[ 3]: head  0, tail  0
[ 4]: head  0, tail  0
[ 5]: head  0, tail  0
[ 6]: head  0, tail  0
[ 7]: head 217, tail 217

```

## REGPROC Async Read Buffer:

```

-----

```

## PIPE Statistic:

```

-----

```

```

Master Wr Fail      : 0
Master Wr Incomp   : 0
Master Poll Fail   : 0
Master Poll Timeout : 0
Master Poll Unexpect: 0
Master Rd Fail     : 0
Master Rd Empty    : 0
Master Rd !Aligned : 0
Master Rd Len Err  : 0
Slave Wr Fail      : 0
Slave Wr Incomplete: 0
Slave Rd Fail      : 0
Slave Rd Len Err   : 0
Master Wr/Rd Msgs  : 2014366 / 2014366 (diff: 0)
Slave Wr/Rd Msgs   : 1184768 / 1184768 (diff: 0)

```

## Regproc Callback Time Statistic:

```

-----

```

Regproc CB type	: Count	Total time (usec)	Max time (usec)	Max Start Time
Pipe Read CB	: 2013642	72209509	100376	2019-09-09 10:53:28
Socket Read CB	: 2013894	32238904	19877	2019-09-09 12:25:26
Etrace Socket Read CB	: 0	0	0	---
Ofdma Socket Read CB	: 0	0	0	---
Bcm3161 Avs Process CB	: 0	0	0	---
Bcm316x Async Read CB	: 8406	70951	225	2019-09-09 23:40:40
Bcm316x Int Poll CB	: 84066	1173826	575	2019-09-10 06:50:44
Bcm316x Oob Gcp CB	: 42032	80221	221	2019-09-09 12:01:10
Bcm316x Wbfft Poll CB	: 840638	1719140	1005	2019-09-09 21:07:46
Bcm316x Dscalib CB	: 8406	6133089	6128	2019-09-10 06:00:00

## show sfp info

To display general information about an SFP+ port, use the **show sfp info** command in privileged EXEC mode.

### show sfp info port

#### Syntax Description

*port* Specifies the port number.



**Command Default** None.

**Command Modes** Privileged EXEC (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

This is a sample output of the **show sfp info** command:

```
R-PHY# show sfp info 0
== SFP A0 EEPROM CONTENT ==
Reg 0x0000: 03 04 07 10 00 00 00 00 00 00 00 06 67 00 00 00
Reg 0x0010: 08 02 00 1e 43 49 53 43 4f 2d 41 56 41 47 4f 20
Reg 0x0020: 20 20 20 20 20 00 00 17 6a 53 46 42 52 2d 37 30 39
Reg 0x0030: 53 4d 5a 2d 43 53 31 20 47 34 2e 31 03 52 00 17
Reg 0x0040: 00 1a 00 00 41 56 44 32 31 32 31 39 39 50 44 20
Reg 0x0050: 20 20 20 20 31 37 30 36 30 31 20 20 68 f0 03 2b
Reg 0x0060: 00 00 06 a7 5a 1c b2 88 58 42 75 1d 36 b3 9b 56
Reg 0x0070: c8 d9 14 00 00 00 00 00 00 00 00 00 46 4a e1 0f
Base ID Fields:
  Identifier           :0x03
  Ext.Identifier       :0x04
  Connector            :0x07
  Compliance Code      :0x00
  Transceiver Codes    :0x10 0x0 0x0 0x0 0x0 0x0 0x0 0x0
  Encoding              :0x06
  BR,Nominal           :10300 Mbps
  Rate Identifier      :0x00
  Length(9um)-km       :0x00
  Length(9um)          :0x00
  Length(50 um OM2)    :0x08
  Length(62.5 um OM1) :0x02
  Length(Copper)       :0x00
  Length(OM3)          :0x1e
  Vendor name          :CISCO-AVAGO
  Vendor OUI           :0x0 0x17 0x6a
  Vendor PN            :SFBR-709SMZ-CS1
  Vendor Rev           :0x47 0x34 0x2e 0x31
  Wavelength           :850 nM
  CC Base              :0x17
Extended ID Fields:
  Options               :0x0 0x1a
  BR, max               :0x00
  BR, min               :0x00
  Vendor SN             :AVD212199PD
  Date                  :2017-06-01
  Diagnostic Type       :0x68
  Enhanced Options      :0xf0
  SFP-8472 Compliance   :0x03
  CC EXT                :0x2b
  Vendor Specific       :0x0 0x0 0x6 0xa7 0x5a 0x1c 0xb2 0x88 0x58 0x42 0x75 0x1d 0x36
  0xb3 0x9b 0x56       :0xc8 0xd9 0x14 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x46 0x4a 0xe1
  0xf
== SFP A2 EEPROM CONTENT ==
Reg 0x0000: 4b 00 fb 00 46 00 00 00 8d cc 74 04 87 5a 7a 76
Reg 0x0010: 14 82 04 e2 14 82 04 e2 39 c7 02 e5 1c f5 07 46
```

## show ssh

```

Reg 0x0020: 3d e9 01 97 1f 07 03 ff 00 00 00 00 00 00 00 00
Reg 0x0030: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Reg 0x0040: 00 00 00 00 3f 80 00 00 00 00 00 00 01 00 00 00
Reg 0x0050: 01 00 00 00 01 00 00 00 01 00 00 00 00 00 00 14
Reg 0x0060: 1f 12 80 e8 0a a0 17 4c 15 d6 00 00 00 00 00 00
Reg 0x0070: 00 00 00 00 00 00 00 00 00 00 1d 00 00 00 00 00

Reg 0x0080: 43 4f 55 49 41 38 4e 43 41 41 31 30 2d 32 34 31
Reg 0x0090: 35 2d 30 33 56 30 33 20 01 00 46 00 00 00 00 c6
Reg 0x00a0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Reg 0x00b0: 00 00 00 00 00 00 00 00 00 00 00 00 00 aa aa
Reg 0x00c0: 53 46 50 2d 31 30 47 2d 53 52 20 20 20 20 20 20
Reg 0x00d0: 20 20 20 20 33 32 00 00 00 00 00 00 00 00 00 35
Reg 0x00e0: 1e 28 2e 2e 31 34 29 36 00 00 00 00 00 00 00 00
Reg 0x00f0: 00 00 00 00 00 66 00 00 ff ff ff ff 00 00 00 00

```

## SFP Detail Diagnostic Information (Internal Calibration):

	Measured	High Alarm	High Warning	Low Alarm	Low Warning:
Temperature:	31 C	75 C	70 C	-5 C	0 C
Voltage :	3.30 V	3.63 V	3.46 V	2.97 V	3.13 V
BiasCurrent:	5.44 mA	10.50 mA	10.50 mA	2.50 mA	2.50 mA
Tx Power :	-2.24 dBm	1.70 dBm	-1.30 dBm	-11.30 dBm	-7.30 dBm
Rx Power :	-2.53 dBm	2.00 dBm	-1.00 dBm	-13.90 dBm	-9.90 dBm

## Checking for Alarms and Warnings:

Done Checking for Alarms and Warnings

## Diag &amp; Control/Status:

```

Alarm & Warning      :0x4b 0x0 0xfb 0x0 0x46 0x0 0x0 0x0 0x8d 0xcc 0x74 0x4 0x87 0x5a
0x7a 0x76
                    :0x14 0x82 0x4 0xe2 0x14 0x82 0x4 0xe2 0x39 0xc7 0x2 0xe5 0x1c
0xf5 0x7 0x46
                    :0x3d 0xe9 0x1 0x97 0x1f 0x7 0x3 0xff
Calibration Constants :0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x0 0x3f 0x80 0x0 0x0
                    :0x0 0x0 0x0 0x0 0x1 0x0 0x0 0x0 0x1 0x0 0x0 0x0 0x1 0x0 0x0 0x0
                    :0x1 0x0 0x0 0x0
CC_DMI              :0x14
Diag Monitor Data   :0x1f 0x12 0x80 0xe8 0xa 0xa0 0x17 0x4c 0x15 0xd6
Status & Control     :0x00
Reserved SFF-8079   :0x00
Alarm Flags         :0x00 0x00
Warning Flags       :0x00 0x00
Ext Status/Control  :0x00 0x00

```

## show ssh

To display SSH related information, use the **show ssh** command in privileged EXEC mode.

```
show ssh { account | exec-timeout | nms-pubkey | rpd-pubkey | session }
```

### Syntax Description

<b>account</b>	Displays SSH account information.
----------------	-----------------------------------

---

**exec-timeout** Displays SSH session EXEC timeout.

---

**nms-pubkey** Displays SSH NMS pubkey installed.

---

**rpd-pubkey** Displays SSH RPD pubkey installed.

---

**session** Displays SSH session connected.

---

**Command Default**

None.

**Command Modes**

Privileged EXEC (#)

**Command History**

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show ssh account** command:

```
R-PHY# show ssh account
Account Num: 1
Current SSH Accounts:
admin
```

The following is a sample output of the **show ssh exec-timeout** command:

```
R-PHY# show ssh exec-timeout
SSH exec-timeout: 180
```

The following is a sample output of the **show ssh nms-pubkey** command:

```
R-PHY# show ssh nms-pubkey
ssh-rsa AAAAB3NzaC1yc2EAAAABIwAAAgEAtQCXVFm
RIwemejbTx0+U8taMq5n4Zetu71xb+dtHV8Rr0wejiK1YJkT93n9hcBxsjHRu76bLp991
+DDNL3+TH1jwnMQC1CsdrvRmGXoeGf1mT9aTlGDf/YfKxZMozMnR9q1GJFX1RAwGMsCR11
lnV6IkFyh59P9UdkdSSWv+QL81CftWBmMnyt/CkqL98NK0Vp0gIYRv7UKCwhK40c8X7Ph
zxcmKVFtUv3bf9VIPNA2esgzKDFpRvMyBC2MCGbFShmQFyWmHBHPmLIxK98WXutoR8fzz
s+4hingZ4X9DMMNwTQ6WOzjuKq6iU= xxx@xxx.xxx.com
```

The following is a sample output of the **show ssh rpd-pubkey** command:

```
R-PHY# show ssh rpd-pubkey
Public key portion is:
ssh-rsa
-----BEGIN PUBLIC KEY-----
MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEA
root@RPD10049fc10100
Fingerprint: sha1!! fe:4b:af:a8:3c:d6:d8:9c:cf:fd:0f:8d:cd:46:1a:99:cd:0e:f7:18
```

The following is a sample output of the **show ssh session** command:

```
R-PHY# show ssh session
connected session: 0
ssh password auth: on
ssh NMS pubkey num: 0
```

## show startup-capture-files

To display the startup-capture files, use the **show startup-capture-files** command in privileged EXEC mode.

**show startup-capture-files**

**Command Default** None.

**Command Modes** Privileged EXEC (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

This is a sample output of the **show startup-config** command for all the line cards:

```
R-PHY# show startup-capture-files
-rw-r--r-- 1 root root 24576 Jan 11 05:03
/rpd/log/startup_capture.20190111_044935.pcap
-rw-r--r-- 1 root root 57344 Jan 11 04:57
/rpd/log/startup_capture.20190111_045137.pcap
-rw-r--r-- 1 root root 7512323 Jan 10 07:16
/rpd/log/startup_capture.20190110_070948.pcap
```

## show static l2tp

To display static Layer 2 VPN related information, use the **show static l2tp** command in privileged EXEC mode.

**show static l2tp { session | tunnel}**

**Syntax Description** **session** Displays information on the static Layer 2 VPN session.

**tunnel** Displays information on the Layer 2 VPN static tunnels.

**Command Default** None.

**Command Modes** Privileged EXEC (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show static l2tp session** command:

```
R-PHY# show static l2tp session
Index  SessionId  CoreId          Direction  GroupAddr/DestIp  PwType  Last chg
0      00002710   5F:67:63:70:70:5F  US        2001:558:ff01:30::11  MCM     15:56:50
2019-05-09
1      8000fff1   5F:67:63:70:70:5F  DS        ::                MCM     15:56:48
2019-05-09
32     8000b000   5F:67:63:70:70:5F  DS        ::                MCM     15:56:37
2019-05-09
33     8000b001   5F:67:63:70:70:5F  DS        ::                MCM     15:56:37
2019-05-09
34     8000b002   5F:67:63:70:70:5F  DS        ::                MCM     15:56:37
2019-05-09
35     8000b003   5F:67:63:70:70:5F  DS        ::                MCM     15:56:37
2019-05-09
```

The following is a sample output of the **show static l2tp tunnel** command:

```
R-PHY# show static l2tp tunnel
Remote Address      Local Address      State  Sessn Count
2001:558:ff01:30::11 2001:558:ff40:31::117 est    1
ff3a::c373:2        2001:558:ff40:31::117 est    60
ff3c:100b::1        2001:558:ff40:31::117 est    1
```

## show tacacs-server

To display TACACS server configured, use the **show tacacs-server** command in privileged EXEC mode.

### show tacacs-server

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show tacacs-server** command:

```
R-PHY# show tacacs-server
TACACS server configured:
3.3.3.3
4.4.4.4
5.5.5.5
20.1.0.33
10.79.41.148
10.79.18.145
2001:1::1
```

## show tech-support

To display general information about the device when reporting a problem, use the **show tech-support** command in privileged EXEC mode.

### show tech-support

<b>Command Default</b>	None.
<b>Command Modes</b>	Privileged EXEC (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

This is a sample output of the **show tech-support** command:

```
R-PHY# show tech-support
-----show technology-----

----16:48:37.076 Fri May 10 2019: show clock----
16:48:37.079 Fri May 10 2019
...
```

## show terminal\_length

To display number of lines of output to display on the terminal screen for the current session, use the **show terminal\_length** command in privileged EXEC mode.

### show terminal\_length

<b>Command Default</b>	None.
<b>Command Modes</b>	Privileged EXEC (#)

Command History	Release	Modification
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show terminal\_length** command:

```
R-PHY# show terminal_length
Number of lines on screen (0 for no pausing): 5
```

## show tod

To display the date and time of the day, use the **show tod** command in privileged EXEC mode.

**show tod**

---

**Command Default**

None.

---

**Command Modes**

Privileged EXEC (#)

---

**Command History**

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show tod** command:

```
R-PHY# show tod
Server      TimeOffset  Time                Status
11.1.1.10  28800       2019 May 10 06:35:19  OK
```

## show upstream channel configuration

To display upstream channel configuration, use the **show upstream channel configuration** command in privileged EXEC mode.

**show upstream channel configuration** *port channel*

---

**Command Default**

None.

---

**Command Modes**

Privileged EXEC (#)

---

**Command History**

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show upstream channel configuration** command:

```
R-PHY# show upstream channel configuration 0 0

US Channel 0 info:
=====
Channel width: 3200000
Docsis mode   : docsis20-atdma
Equal-coeff   : Off
Frequency     : 11400000
Ingress-cancl: Yes
Max-logic-ch  : 1
```

## show upstream iuc counter

```

Minislot-size: 2
Power level   : 0.0 dB (BR: 2.0, NRM: -29296dB)
Shut state   : No
IUC          Type  Pre Diff RS  RS  RS  T   T       FEC Last Scrbm  Guard DeInt DeInt Payld
              Len Deco En  T   Len Enh Thre En  CW  seed  Time  Depth BSize Size
req          QPSK  38  n   n  0  6  0  0x0  y  n  0x152  22  1  0x0  0x1c
initial     QPSK  384 n   y  5  44 0  0x0  y  n  0x152  48  1  0x0  0xb0
station     QPSK  384 n   y  5  44 0  0x0  y  n  0x152  48  1  0x0  0xb0
a-s-d       64QAM  64  n   y  6  88 0  0x0  y  y  0x152  22  1  0x0  0x0
a-l-d       64QAM  64  n   y  9  250 0  0x0  y  y  0x152  22  1  0x0  0x0
unsol-d     64QAM  64  n   y  9  250 0  0x0  y  y  0x152  22  1  0x0  0x0

```

## show upstream iuc counter

To display upstream physical channel counter, use the **show upstream iuc counter** command in privileged EXEC mode.

**show upstream iuc counter** *port channel*

### Command Default

None.

### Command Modes

Privileged EXEC (#)

### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show upstream iuc counter** command:

```

R-PHY# show upstream iuc counter 0 0
Channel Counters for physical channel 0/0, status valid(1)
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|IUC    | Grants |Collide| No      |Phy     |No      | Good  | Corrected|Uncorrectd|
SNR    |        |       | Energy |Errors  |Preambl | FEC   | FEC      |FEC       |
|        |        |       |        |        |        |      |          |          |
+-----+-----+-----+-----+-----+-----+-----+-----+
|1-Req  |336905  |10     |336900  |10      |10      |10     |10        |10        |
|00.00 |        |       |        |        |        |      |          |          |
|2-ReqD |10      |10     |10      |10      |10      |10     |10        |10        |
|00.00 |        |       |        |        |        |      |          |          |
|3-Init |98      |10     |98      |10      |10      |10     |10        |10        |
|00.00 |        |       |        |        |        |      |          |          |
|4-Maint|10      |10     |10      |10      |10      |10     |10        |10        |
|00.00 |        |       |        |        |        |      |          |          |
|5-Short|10      |10     |10      |10      |10      |10     |10        |10        |
|00.00 |        |       |        |        |        |      |          |          |
|6-Long |10      |10     |10      |10      |10      |10     |10        |10        |
|00.00 |        |       |        |        |        |      |          |          |
|9-AShrt|10      |10     |10      |10      |10      |10     |10        |10        |
|00.00 |        |       |        |        |        |      |          |          |
|10-ALng|25      |10     |10      |10      |10      |147    |10        |10        |
|42.00 |        |       |        |        |        |      |          |          |
|11-AUGS|10      |10     |10      |10      |10      |10     |10        |10        |
|00.00 |        |       |        |        |        |      |          |          |

```



```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+
Physical Channel 0/0 Counters:

DOCSIS 2.0 REQ Count: 335544320      DOCSIS 3.0 REQ Count: 511311872
REQ Overflow Count  :      0        Delete Packet Count :      0
High Byte Count    :      0        Low Byte Count   : 2474964992
Last Update Time 12.878056 s ago

```

## show upstream map counter

To display upstream map message counter, use the **show upstream map counter** command in privileged EXEC mode.

**show upstream map counter** *port channel*

### Command Default

None.

### Command Modes

Privileged EXEC (#)

### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show upstream map counter** command:

```

R-PHY# show upstream map counter 0 0
Map Processor Counters
=====
Mapped minislots           : 4142462816
Discarded minislots (chan disable):      0
Discarded minislots (overlap maps):      0
Discarded minislots (early maps) :      0
Discarded minislots (late maps)  :      0
Unmapped minislots         :          3154
Last mapped minislots      :      3529494

```

## show upstream oob configuration

To list all the OOB upstream channel configurations for OOB-55d1, OOB-55d2, NDR, use the **show upstream oob configuration** command.

**show upstream oob configuration** {55d1 | 55d2 | ndr | internal | map | uepi}

### Syntax Description

<b>55d1</b>	Displays the OOB-55d1 upstream channel configuration.
<b>55d2</b>	Displays the OOB-55d2 upstream channel configuration.

**show upstream oob configuration**

<b>ndr</b>	Displays the Narrowband Digital Return (NDR) upstream channel configuration.
<b>internal</b>	Displays the internal debug information for OOB upstream configuration.
<b>map</b>	Displays the mapping between the core configured OOB channels and RPD internally allocated channel.
<b>uepi</b>	Displays the upstream UEPI configuration for OOB 55d1 or OOB 55d2.

**Command Default** None.

**Command Modes** Privileged EXEC mode (#)

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

**Usage Guidelines** None.

**Example**

This example shows how to display the OOB-55d1 upstream channel configuration:

```
R-PHY#show upstream oob configuration 55d1
```

```
USOOB 55D1 bcm configuration:
```

Port	Chan	IntChan	State	Enabled	DevId	RfPortId	DemodId	Frequency	CalcuFreq	RegFreq	PwrAdj
0	0	0	UP	1	1	0	0	8096000	a1eb85	a1eb85	0.0
0	1	1	UP	1	1	0	1	8480000	a99999	a99999	0.0
0	2	2	UP	1	1	0	2	8864000	b147ae	b147ae	0.0

**Example**

This example shows how to display the OOB-55d2 upstream channel configuration:

```
R-PHY#show upstream oob configuration 55d2
```

```
USOOB 55D2 bcm configuration:
```

Port	Chan	IntChan	State	Enabled	DemodIdx	Frequency	CalcuFreq	RegFreq
0	0	0	UP	1	0	18500000	3e8e0000	3e8e0000
1	0	0	UP	1	1	18500000	3e8e0000	3e8e0000

**Example**

This example shows how to display the NDR channel configuration:

```
R-PHY#show upstream oob configuration ndr
```

```
USOOB NDR bcm configuration:
```

Port	Chan	IntChan	State	Enabled	Frequency	Mode	Sessionid	QOS	MTU	PowerAdjust	CalcuFreq
RegFreq	VGA	Gain	SetPoint								
0	0	0	UP	1	5000000	5.12 MHz	0x1	48	1500	0	3f9c0000
	3f9c0000	-9	89	16.000000							

NDR Server information

gch	ipv6	dip	dipv6	dmac	mtu
0	0	192.168.126.104	0:0:0:0:0:0:0:0	00:27:90:0a:ff:68	1500
48					

### Example

This example shows how to display the mapping between the core configured OOB channels and RPD internally allocated channel:

```
R-PHY#show upstream oob configuration map
OOBType  Port  Channel  InternCh  GcpState  L2TP
55d2(20) 0    0        0          AdminUp(2) True
55d2(20) 1    0        0          AdminUp(2) False
```

### Example

This example shows how to display the upstream UEPI configuration for OOB 55d1 or OOB 55d2:

```
R-PHY#show upstream oob configuration uepi
US OOB uepi 55d1 configuration:
Source Id Session id Remote IP                      Arpd CPU
1          0x0000ad9c 2002::c09f:9f03                          1

US OOB uepi 55d2 not configured!

R-PHY#show upstream oob configuration uepi
US OOB uepi 55d1 not configured!
US OOB uepi 55d2 configuration:
In Session(BCM) Out Session Src IP                      Dst IP
Src MAC                      Dst MAC
0x40318000          0x403004a6 2002::c08c:28a3                          2002::ac14:126
00:27:90:0b:0d:c6 78:72:5d:f3:f5:81
```

### Example

This example shows how to display the internal debug information for OOB upstream configuration:

```
R-PHY#show upstream oob configuration internal

bcm oob us data (New)
gch State Frequency rfPortId rpdDevId demodid
0 2 20000000 0 0 0
1 0 0 0 0 0
2 0 0 0 0 0
3 2 20000000 0 0 1
4 3 11000000 1 0 1
5 0 0 0 0 0

bcm oob us data
```

## show upstream oob configuration

```

gch State Frequency rfPortId rpdDevId demodid
0 2 20000000 0 0 0
1 0 0 0 0 0
2 0 0 0 0 0
3 2 20000000 0 0 1
4 3 11000000 1 0 1
5 0 0 0 0 0

55-1 IP information
ipv6 sip sipv6 smac dip dipv6
dmac
0 0x0 0x0 0x0 00:00:00:00:00:00 0x0 0x0 0x0
00:00:00:00:00:00

55-2 IP information
ipv6 sip sipv6 smac dip dipv6
dmac
1 0x0 0x20020000 0xc08c28a3 00:27:90:0b:0d:c6 0x0 0x20020000 0xac140126
78:72:5d:f3:f5:81

bcm oob us channel data (New)
dspIdx chan IntChan state oob_type conf dmixFreq sessionid addRule gch demodid ipv6 pw2dcm
nldrLevel adjust
0 0 0 2 20 1 20000000 0x40318000 0 0 0 0 0
0 -28.750000
0 0 0 0 0 0 0 0x0 0 0 0 0 0
0 -28.750000
0 0 0 0 0 0 0 0x0 0 0 0 0 0
0 -28.750000
1 0 0 2 20 1 20000000 0x40318000 0 3 1 0 0
0 -28.750000
1 1 1 0 0 0 0 0x0 0 4 0 0 2
0 0.000000
0 0 0 0 0 0 0 0x0 0 0 0 0 0
0 -28.750000

NDR IP information
gch ipv6 sip sipv6 smac dip dipv6
dmac mtu qos

bcm oob us channel data
dspIdx chan IntChan state oob_type conf dmixFreq sessionid addRule gch demodid ipv6 pw2dcm
nldrLevel adjust
0 0 0 2 20 1 20000000 0x40318000 0 0 0 0 0
0 -28.750000
0 0 0 0 0 0 0 0x0 0 0 0 0 0
0 -28.750000
0 0 0 0 0 0 0 0x0 0 0 0 0 0
0 -28.750000
1 0 0 2 20 1 20000000 0x40318000 0 3 1 0 0
0 -28.750000
1 1 1 0 0 0 0 0x0 0 4 0 0 2
0 0.000000
0 0 0 0 0 0 0 0x0 0 0 0 0 0
0 -28.750000

NDR IP information
gch ipv6 sip sipv6 smac dip dipv6
dmac mtu qos

Bcm oob us channel data (Shadow)
dspIdx chanId state oob_type rfPortId dmixFreq sessionid rpdDevId gch demodid ipv6 pw2dcm
nldrLevel mtu qos adjust
0 0 2 20 0 20000000 0x40318000 0 0 0 1 0

```

```

0      0      0  -28.750000
0      0      0      0      0      0      0x0      0      0      0      0
0      0      0      0  0.000000
0      0      0      0      0      0      0x0      0      0      0      0
0      0      0      0  0.000000
1      0      2      20      0      20000000 0x40318000 0      3      1      1      0
0      0      0      0  -28.750000
1      1      3      22      1      11000000 0x2      0      4      1      1      2
0      1500    0  0.000000
0      0      0      0      0      0      0x0      0      0      0      0
0      0      0  0.000000

```

## Channel status

gch	enabled	oobType	confPending	confInProgress	confProcessTime	deletePending	gcpRcvd	l2tpRcvd
0	1	20	0	0	0	0	1	1
1	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0
3	1	20	0	0	0	0	1	0
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0

## show upstream oob counter

To view the upstream OOB-55d1, OOB-55d2, and NDR, use the **show upstream oob counter** command.

```
show upstream oob counter {55d1 | 55d2 | ndr}
```

### Syntax Description

**55d1**

**55d2**

**ndr**

### Command Default

None.

### Command Modes

Privileged EXEC mode (#)

### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced.

### Usage Guidelines

From the FEC error message, you can get the details of the traffic in the upstream port and also the errors that might occur in the RF network before it reaches the RPD upstream port.

We recommend that you use the more generic **show upstream oob counter** command, which covers all the OOB upstream counters.

### Example

This example shows how to view the upstream packet counter for OOB-55d1:

**show upstream port status**

```
R-PHY#show upstream oob counter 55d1
```

```
USOOB 55D1 counters:
```

```
Counters Packed After Firmware
Total Tx WbFft Byte Count    0.
Total Tx WbFft Packet Count  0.
Total Tx UsOob Byte Count    851904.
Total Tx UsOob Packet Count  13311.
```

DspIdx	ChanId	IntChanId	AdminState	Enabled	dmixFreq	sessionId	Bytes	Packets
0	0	0	UP	1	8096000	0x40308000	288192	4503
0	1	1	UP	1	8480000	0x40308001	280640	4385
0	2	2	UP	1	8864000	0x40308002	283072	4423

```
[BCM To CPU] MC Rule Hit Counter : 13311
IPSM Rule Index: 73
[CPU To NC] IPSM Rule Hit Counter: 13250
```

**Example**

This example shows how to view the upstream packet counter for OOB-55d2:

```
R-PHY#show upstream oob counter 55d2
```

```
USOOB 55D2 counters:
```

```
Counters Packed After Firmware
Total Tx WbFft Byte Count    0.
Total Tx WbFft Packet Count  0.
Total Tx UsOob Byte Count    9180.
Total Tx UsOob Packet Count  135.
```

DspIdx	ChanId	IntChanId	AdminState	Enabled	dmixFreq	sessionId	Bytes	Packets
0	0	0	UP	1	20000000	0x40318000	9180	135
1	0	0	UP	1	20000000	0x40318000	0	0

```
MC Rule Hit Counter: 135
```

**Example**

This example shows how to view the upstream packet counter for NDR:

```
R-PHY#show upstream oob counter ndr
```

```
USOOB NDR counters:
```

DspIdx	ChanId	IntChanId	AdminState	Enabled	dmixFreq	sessionId	Bytes	Packets
0	0	0	UP	1	5000000	0x1	1738444288	41623478

# show upstream port status

To view the upstream port status, you can use the **show upstream port status** command.

**show upstream port status**

### Syntax Description

This command has no arguments or keywords.

### Command Default

None.

### Command Modes

Privileged EXEC mode (#)

### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 9.x	This command was introduced.

### Usage Guidelines

None.

### Upstream Port Configuration

This example shows how to display the upstream port status:

```
R-PHY# show upstream port status
Port ID Port Type Oper Status
0 US UP
1 US UP
```

## show upstream scqam-profile

To get the upstream scqam-profile query configuration and the response, use the **show upstream scqam-profile** command.

**show upstream scqam-profile { query | response }**

### Syntax Description

**query** This command is part of the support for TLV 150 UsScQamProfileQuery. RPD supports the readcount, read by index, read by leaf, including TLV150 UsScQamProfileQuery.

**response** This command is part of the support for TLV 151 UsScQamProfileResponse. RPD supports the readcount, read by index, read by leaf, including TLV151 UsScQamProfileResponse.

### Command Default

None

### Command Modes

Privileged EXEC mode (#)

### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 9.x	This command was introduced.

### Usage Guidelines

None





```

R-PHY# show upstream uepi configuration
Port Channel PwSubtype      SessionId  DstMac      DstIp
0 0 PSP-UEPI-SCQAM 0x45010150 badb.ad0a.0ef3 11.1.6.3
0 0 PSP-BW-REQ-SCQ 0x45020034 badb.ad0a.0ef3 11.1.6.3
0 0 PSP-RNG-REQ-SCQ 0x45040150 badb.ad0a.0ef3 11.1.6.3
0 0 PSP-MAP-SCQ 0x00D40000 badb.ad0a.0ef3 11.1.6.3
0 0 PSP-SPECMAN 0x45080150 badb.ad0a.0ef3 11.1.6.3
0 1 PSP-UEPI-SCQAM 0x45010154 badb.ad0a.0ef3 11.1.6.3
0 1 PSP-RNG-REQ-SCQ 0x45040154 badb.ad0a.0ef3 11.1.6.3
0 1 PSP-MAP-SCQ 0x00D40001 badb.ad0a.0ef3 11.1.6.3
0 1 PSP-SPECMAN 0x45080154 badb.ad0a.0ef3 11.1.6.3
0 2 PSP-UEPI-SCQAM 0x45010158 badb.ad0a.0ef3 11.1.6.3
0 2 PSP-RNG-REQ-SCQ 0x45040158 badb.ad0a.0ef3 11.1.6.3
0 2 PSP-MAP-SCQ 0x00D40002 badb.ad0a.0ef3 11.1.6.3
0 2 PSP-SPECMAN 0x45080158 badb.ad0a.0ef3 11.1.6.3
0 3 PSP-UEPI-SCQAM 0x4501015C badb.ad0a.0ef3 11.1.6.3
0 3 PSP-RNG-REQ-SCQ 0x4504015C badb.ad0a.0ef3 11.1.6.3
0 3 PSP-MAP-SCQ 0x00D40003 badb.ad0a.0ef3 11.1.6.3
0 3 PSP-SPECMAN 0x4508015C badb.ad0a.0ef3 11.1.6.3
1 0 PSP-UEPI-SCQAM 0x45010160 badb.ad0a.0ef3 11.1.6.3
1 0 PSP-BW-REQ-SCQ 0x45020038 badb.ad0a.0ef3 11.1.6.3
1 0 PSP-RNG-REQ-SCQ 0x45040160 badb.ad0a.0ef3 11.1.6.3
1 0 PSP-MAP-SCQ 0x00D40100 badb.ad0a.0ef3 11.1.6.3
1 0 PSP-SPECMAN 0x45080160 badb.ad0a.0ef3 11.1.6.3
1 1 PSP-UEPI-SCQAM 0x45010164 badb.ad0a.0ef3 11.1.6.3
1 1 PSP-RNG-REQ-SCQ 0x45040164 badb.ad0a.0ef3 11.1.6.3
1 1 PSP-MAP-SCQ 0x00D40101 badb.ad0a.0ef3 11.1.6.3
1 1 PSP-SPECMAN 0x45080164 badb.ad0a.0ef3 11.1.6.3
1 2 PSP-UEPI-SCQAM 0x45010168 badb.ad0a.0ef3 11.1.6.3
1 2 PSP-RNG-REQ-SCQ 0x45040168 badb.ad0a.0ef3 11.1.6.3
1 2 PSP-MAP-SCQ 0x00D40102 badb.ad0a.0ef3 11.1.6.3
1 2 PSP-SPECMAN 0x45080168 badb.ad0a.0ef3 11.1.6.3
1 3 PSP-UEPI-SCQAM 0x4501016C badb.ad0a.0ef3 11.1.6.3

```

**show upstream uepi counter**

```

1    3    PSP-RNG-REQ-SCQ    0x4504016C    badb.ad0a.0ef3    11.1.6.3
1    3    PSP-MAP-SCQ         0x00D40103    badb.ad0a.0ef3    11.1.6.3
1    3    PSP-SPECMAN        0x4508016C    badb.ad0a.0ef3    11.1.6.3

```

## show upstream uepi counter

To display upstream UEPI counter, use the **show upstream uepi counter** command in privileged EXEC mode.

**show upstream uepi counter****Command Default**

None.

**Command Modes**

Privileged EXEC (#)

**Command History**

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

The following is a sample output of the **show upstream uepi counter** command:

```

R-PHY# show upstream uepi counter
Port Channel PwSubtype      SessionId      Packets
0    0        PSP-UEPI-SCQAM  0x45010150    48413
0    0        PSP-BW-REQ-SCQ  0x45020034    48423
0    0        PSP-RNG-REQ-SCQ 0x45040150    2648
0    0        PSP-MAP-SCQ     0x00D40000    52268220
0    0        PSP-SPECMAN     0x45080150    345648
0    1        PSP-UEPI-SCQAM  0x45010154    1
0    1        PSP-RNG-REQ-SCQ 0x45040154    2648
0    1        PSP-MAP-SCQ     0x00D40001    52268425
0    1        PSP-SPECMAN     0x45080154    345684
0    2        PSP-UEPI-SCQAM  0x45010158    0
0    2        PSP-RNG-REQ-SCQ 0x45040158    2646
0    2        PSP-MAP-SCQ     0x00D40002    52266529
0    2        PSP-SPECMAN     0x45080158    345696
0    3        PSP-UEPI-SCQAM  0x4501015C    10
0    3        PSP-RNG-REQ-SCQ 0x4504015C    2648
0    3        PSP-MAP-SCQ     0x00D40003    52268212
0    3        PSP-SPECMAN     0x4508015C    345660
1    0        PSP-UEPI-SCQAM  0x45010160    47828
1    0        PSP-BW-REQ-SCQ  0x45020038    47899
1    0        PSP-RNG-REQ-SCQ 0x45040160    2645
1    0        PSP-MAP-SCQ     0x00D40100    52412751
1    0        PSP-SPECMAN     0x45080160    345504
1    1        PSP-UEPI-SCQAM  0x45010164    41
1    1        PSP-RNG-REQ-SCQ 0x45040164    2645
1    1        PSP-MAP-SCQ     0x00D40101    52412484
1    1        PSP-SPECMAN     0x45080164    345564
1    2        PSP-UEPI-SCQAM  0x45010168    61
1    2        PSP-RNG-REQ-SCQ 0x45040168    2656

```

```

1 2 PSP-MAP-SCQ 0x00D40102 52412710
1 2 PSP-SPECMAN 0x45080168 345576
1 3 PSP-UEPI-SCQAM 0x4501016C 0
1 3 PSP-RNG-REQ-SCQ 0x4504016C 2644
1 3 PSP-MAP-SCQ 0x00D40103 52412282
1 3 PSP-SPECMAN 0x4508016C 345480

```

## show version

To view the system hardware and software status, use the **show version** command in privileged EXEC mode.

### show version

#### Command Default

None.

#### Command Modes

Privileged EXEC (#)

#### Command History

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 2.1	This command was introduced on the Cisco Remote PHY Device.

This is a sample output of the **show version** command:

```

R-PHY# show version
Cisco RPD Software, version v6.5, build by rpd-release, on 2019-04-29 03:28:18
Branch information:
  RPD branch: (detached from RPD_V6_5_20190429)
  OpenRPD branch: (detached from RPD_V6_5_20190429)
  SeresRPD branch: (detached from RPD_V6_5_20190429)

System image file is:
current image is /bootflash/RPD-V6-5.itb.SSA.act
primary image is /bootflash/RPD-V6-5.itb.SSA.act
secondary image is /bootflash/RPD-V6-4.itb.SSA.act

Current running image information:
Current running image is signed by release key

Last reload reason: DHCP Failure

Bootloader version:
Primary: U-Boot 2016.01 (Apr 22 2019 - 22:02:58 -0400) *
Golden:  U-Boot 2016.01 (Apr 12 2017 - 09:13:28 +0800)

IOFPGA version:
IOFPGA: 0x0354
SECVAR: 0x17051701

System uptime:
  02:31:56 up 3 min,  load average: 3.02, 0.89, 0.31

System CPU information:
processor      : 0
Features      : fp asimd evtstrm aes pmull sha1 sha2 crc32
CPU implementer : 0x41

```

**show version golden**

```

CPU architecture: 8
CPU variant      : 0x0
CPU part        : 0xd03
CPU revision    : 4

processor       : 1
Features       : fp asimd evtstrm aes pmull sha1 sha2 crc32
CPU implementer : 0x41
CPU architecture: 8
CPU variant    : 0x0
CPU part      : 0xd03
CPU revision  : 4

processor       : 2
Features       : fp asimd evtstrm aes pmull sha1 sha2 crc32
CPU implementer : 0x41
CPU architecture: 8
CPU variant    : 0x0
CPU part      : 0xd03
CPU revision  : 4

processor       : 3
Features       : fp asimd evtstrm aes pmull sha1 sha2 crc32
CPU implementer : 0x41
CPU architecture: 8
CPU variant    : 0x0
CPU part      : 0xd03
CPU revision  : 4

System memory information:
MemTotal:      898032 kB
MemFree:       164656 kB
MemAvailable:  271860 kB
Buffers:       2716 kB
Cached:        110824 kB

Hardware Information:
Hardware Version      : 1.1
Product Number (PID) : RPHY-RPD
PCA Serial Number    : CAT2109E1C9
Asset ID              : Asset-2
System MAC Address   : 10:04:9f:b1:13:00

```

## show version golden

To view the details of the RPD factory-programmed golden image including the image type, size, created time, hash value, and so on, use the **show version golden** command.

### show version golden

#### Command Modes

Privileged EXEC (#)

**Command History**

Release	Modification
Cisco 1x2 / Compact Shelf RPD Software 6.1	This command was introduced on the Cisco Remote PHY Device.

**Examples**

This example displays the output for the show version golden command.

```
R-PHY# show version golden
FIT description: Image file for the LS1043A Linux Kernel
Created: Wed Apr 19 18:58:43 2017
Image 0 (kernel@1)
Description: ARM64 Linux kernel
Created: Wed Apr 19 18:58:43 2017
Type: Kernel Image
Compression: gzip compressed
Data Size: 4735708 Bytes = 4624.71 kB = 4.52 MB
Architecture: AArch64
OS: Linux
Load Address: 0x80080000
Entry Point: 0x80080000
Hash algo: md5
Hash value: c0d04684066e3ccc3321a46590e9f8e2
Image 1 (fdt@1)
Description: Flattened Device Tree blob
Created: Wed Apr 19 18:58:43 2017
Type: Flat Device Tree
Compression: uncompressed
Data Size: 26264 Bytes = 25.65 kB = 0.03 MB
Architecture: AArch64
Hash algo: md5
Hash value: 95ab11836ddb56f5c77776e2a2e9cd8c
Image 2 (fdt@2)
Description: Flattened Device Tree blob
Created: Wed Apr 19 18:58:43 2017
Type: Flat Device Tree
Compression: uncompressed
Data Size: 25874 Bytes = 25.27 kB = 0.02 MB
Architecture: AArch64
Hash algo: sha1
Hash value: 67565983ab4e52f02d578dea043816d7ac9b7ca4
Image 3 (fdt@3)
Description: Flattened Device Tree blob
Created: Wed Apr 19 18:58:43 2017
Type: Flat Device Tree
Compression: uncompressed
Data Size: 24665 Bytes = 24.09 kB = 0.02 MB
Architecture: AArch64
Hash algo: sha1
Hash value: 320f176ec348981b519b3ddede87c5d813167989
Image 4 (ramdisk@1)
Description: LS1043 Ramdisk
Created: Wed Apr 19 18:58:43 2017
Type: RAMDisk Image
Compression: uncompressed
Data Size: 27096692 Bytes = 26461.61 kB = 25.84 MB
Architecture: AArch64
OS: Linux
Load Address: unavailable
Entry Point: unavailable
Hash algo: md5
Hash value: d6e6934199290fd7f0d4d3e3bad9db69
```

```

Default Configuration: 'config@1'
Configuration 0 (config@1)
Description: Boot Linux kernel
Kernel: kernel@1
Init Ramdisk: ramdisk@1
FDT: fdt@1
Configuration 1 (config@2)
Description: Boot Linux kernel
Kernel: kernel@1
Init Ramdisk: ramdisk@1
FDT: fdt@2
Configuration 2 (config@3)
Description: Boot Linux kernel
Kernel: kernel@1
Init Ramdisk: ramdisk@1
FDT: fdt@3

```

## show vga

To display the VGA settings and other VGA-related configurations in the OOB and the DOCSIS upstream receivers, use the show vga command.

### show vga

#### Syntax Description

This command has no arguments or keywords.

#### Command Default

None.

#### Command Modes

Privileged EXEC mode (#)

#### Command History

Release	Modification
Cisco 1x2 RPD Software 1.1	This command is introduced.
Cisco 1x2 / Compact Shelf RPD Software 10.4	The <b>show vga</b> command displays the TLV 98.3 information that is configured on the RPHY.

#### Usage Guidelines

DOCSIS receivers can use PHY's internal NB-GAIN/power-adjust to adjust the individual receivers' power level, while the TLV 98.3 is used to update the VGA on RPHY ports.

#### Example

The example shows how to display the VGA information and TLV98.3 configuration:

```

R-PHY#show vga
OOB US S/W VGA Gain:
  Port0: 11
  Port1: 11

OOB US Default Gain Calculated:
  Port0: 11
  Port1: 11

```

```

Enable Upstream Calibration: TRUE

Upstream Calibration - Port0: 10 0 Port1: 10 0
VGA of platform: CSHELF
VGA Setting: Power values below in reference to 0dBmV/6.4Mhz
Port0: 0x13 (+7db)
Port1: 0x10 (+10db)
NB-GAIN Setting:
Port 0 (SCQAM0)
  receiver 1 : 31(0x1f) adj:-0.4:-0.2 db
  receiver 2 : 32(0x20) adj:-0.1:+0.1 db
  receiver 3 : 32(0x20) adj:-0.1:+0.1 db
  receiver 4 : 32(0x20) adj:-0.1:+0.1 db
  receiver 5 : 32(0x20) adj:-0.1:+0.1 db
  receiver 6 : 32(0x20) adj:-0.1:+0.1 db
  receiver 7 : 32(0x20) adj:-0.1:+0.1 db
  receiver 8 : 32(0x20) adj:-0.1:+0.1 db
  receiver 9 : 32(0x20) adj:-0.1:+0.1 db
  receiver 10: 32(0x20) adj:-0.1:+0.1 db
  receiver 11: 32(0x20) adj:-0.1:+0.1 db
Port 1 (SCQAM1)
  receiver 1 : 31(0x1f) adj:-0.4:-0.2 db
  receiver 2 : 32(0x20) adj:-0.1:+0.1 db
  receiver 3 : 32(0x20) adj:-0.1:+0.1 db
  receiver 4 : 32(0x20) adj:-0.1:+0.1 db
  receiver 5 : 32(0x20) adj:-0.1:+0.1 db
  receiver 6 : 32(0x20) adj:-0.1:+0.1 db
  receiver 7 : 32(0x20) adj:-0.1:+0.1 db
  receiver 8 : 32(0x20) adj:-0.1:+0.1 db
  receiver 9 : 32(0x20) adj:-0.1:+0.1 db
  receiver 10: 32(0x20) adj:-0.1:+0.1 db
  receiver 11: 32(0x20) adj:-0.1:+0.1 db
TLV 98.3 Setting:
Supp range for TLV 98.3: -200 to 100 TenthdBmV per 1.6Mhz
Port 0 : Enabled
User Config value: -60
Port 1 : Disabled
User Config value: --
OFDMA pwrAdjust Setting:
Port 0
  receiver 0 : 25(0x19) adj:-2.0 db
Port 1
  Value not set as tlv98.3 disabled for this port

```

The output shows whether the TLV is enabled per port. It also shows the supported range of TLV 98.3 for this platform depending on whether this is CSHELF or NODE RPD. It displays the user configured value via TLV. The user configured value is used to calculate the VGA of the platform, taking into account the calibration values on upstream so that the RX power at the input port to RPD matches the desired value. If the user configured value is out of bounds of the supported range on this platform, then the minimum or maximum TLV value for the platform is used, whichever is closer.

The user configured TLV value is in units of tenths of dB with reference to 0 dBmV/1.6 Mhz as defined in the cable labs specification.

When TLV 98.3 is enabled, the per channel power adjusts for both SCQAM and OFDMA are true power adjusts and should match the user configuration on the core. The output displays the power adjust configured per OFDMA channel on the RPD when TLV 98.3 is enabled.

Table 1: Output Field Descriptions

Output Field	Descriptions
<b>VGA Setting:</b>	
VGA Setting: Power values below in reference to 0dBmV/6.4Mhz	VGA gain that is configured per port on the RPHY is displayed with reference to 0 dBmV/6.4 Mhz.
Port0: 0x13 (+7db)	VGA configured on the RPHY for port 0
Port1: 0x10 (+10db)	VGA configured on the RPHY for port 1
<b>TLV 98.3 Setting:</b>	
Supp range for TLV 98.3: -200 to 100 TenthdBmV per 1.6MHz	Supported range of TLV 98.3 on this platform.
Port 0 : Enabled	Status of TLV 98.3 on port 0
Port 1 : Disabled	Status of TLV 98.3 on port 1
User Config value: -60	User configured value of TLV 98.3 on the port
<b>OFDMA pwrAdjust Setting:</b>	
Port 0 receiver 0 : 25(0x19) adj:-2.0 db	OFDMA power adjust for OFDMA receivers on Port 0
Port 1 Value not set as tlv 98.3 disabled for this port	OFDMA power adjust for OFDMA receivers on Port 1



**Note** If TLV 98.3 is disabled on the core, then the rpd must be rebooted for the change to take effect and function correctly. After disabling the TLV 98.3 feature, the `show vga` output is updated to reflect the correct Rx power and vga values only upon RPD reboot.