# RPD Commands: show i through show s

# 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**

**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 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**

**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 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 Servive 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:feb1:102/64 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:feb1:100/64 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:feb1:101/64 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**

**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 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**

**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 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**

## 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 ipv6 route** command:

```
R-PHY# show ipv6 route
Kernel IPv6 routing table
Destination                                 Next Hop                                Flags
Metric Ref    Use Iface
::/0                                        fe80::200:ff:fe00:20c                   UG
512    0        2 vbh0
2001:10:90:3::93/128                        2001:93:3:58::93                        UGH
1      2561823       0 vbh0
2001:20:1:1::33/128                         fe80::200:ff:fe00:20c                   UGC
0      6        0 vbh0
2001:93:3:55::1/128                         fe80::200:ff:fe00:20c                   UGC
0      18659       1 vbh0
2001:93:3:58::1/128                         ::                                      UC
0      19094       2 vbh0
2001:93:3:58::/64                           ::                                      U
256    2        1 vbh0
fe80::/64                                   ::                                      U
256    0        0 eth1
fe80::/64                                   ::                                      U
256    0        0 vbh1
fe80::/64                                   ::                                      U
256    0        0 l2tpeth0
fe80::/64                                   ::                                      U
256    0        0 l2tpeth1
fe80::/64                                   ::                                      U
256    0        0 l2tpeth2
fe80::/64                                   ::                                      U
256    0        0 l2tpeth3
fe80::/64                                   ::                                      U
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::/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**

| | |
|---|---|
| **multicast** | Displays IGMPv3 joint sessions. |
| **session** | 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
```

```
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    04:52:04 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
8000a103  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  1eecd1b1  5850f35b  est   PSP_PNM    04:51:54 2019-05-08
00b40101  45040024  1eecd1b1  5850f35b  est   RNG_SCQ    04:51:53 2019-05-08
00f40002  45080018  1eecd1b1  5850f35b  est   SPECMAN    04:51:54 2019-05-08
00d40003  4500001c  1eecd1b1  5850f35b  est   MAP_SCQ    04:51:54 2019-05-08
8000a104  0000a103  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:53 2019-05-08
8000a105  0000a104  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:55 2019-05-08
00b40000  45040010  1eecd1b1  5850f35b  est   RNG_SCQ    04:51:54 2019-05-08
01040001  45201004  1eecd1b1  5850f35b  est   PSP_PNM    04:51:54 2019-05-08
8000a108  0000a107  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:55 2019-05-08
00640103  4501002c  1eecd1b1  5850f35b  est   UEPI_SCQAM 04:51:55 2019-05-08
8000a10a  0000a109  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:55 2019-05-08
8000a10b  0000a10a  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:54 2019-05-08
8000a10c  0000a10b  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:54 2019-05-08
00d40102  45000028  1eecd1b1  5850f35b  est   MAP_SCQ    04:51:54 2019-05-08
01040100  45200008  1eecd1b1  5850f35b  est   PSP_PNM    04:51:54 2019-05-08
8000a10f  0000a10e  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:54 2019-05-08
8000a110  0000a10f  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:58 2019-05-08
8000a111  0000a110  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:54 2019-05-08
00640003  4501001c  1eecd1b1  5850f35b  est   UEPI_SCQAM 04:51:53 2019-05-08
00b40103  4504002c  1eecd1b1  5850f35b  est   RNG_SCQ    04:51:55 2019-05-08
00640101  45010024  1eecd1b1  5850f35b  est   UEPI_SCQAM 04:51:59 2019-05-08
8000a102  0000a101  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:54 2019-05-08
00840000  45020004  1eecd1b1  5850f35b  est   BW_SCQAM   04:51:55 2019-05-08
00d40002  45000018  1eecd1b1  5850f35b  est   MAP_SCQ    04:51:59 2019-05-08
00640001  45010014  1eecd1b1  5850f35b  est   UEPI_SCQAM 04:51:54 2019-05-08
8000a106  0000a105  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:58 2019-05-08
00b40102  45040028  1eecd1b1  5850f35b  est   RNG_SCQ    04:51:55 2019-05-08
8000a107  0000a106  1eecd1b1  5850f35b  est   PSP_DEPI   04:52:00 2019-05-08
00640100  45010020  1eecd1b1  5850f35b  est   UEPI_SCQAM 04:51:55 2019-05-08
8000a103  0000a102  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:59 2019-05-08
00d40001  45000014  1eecd1b1  5850f35b  est   MAP_SCQ    04:51:57 2019-05-08
00f40000  45080010  1eecd1b1  5850f35b  est   SPECMAN    04:52:00 2019-05-08
00f40001  45080014  1eecd1b1  5850f35b  est   SPECMAN    04:51:55 2019-05-08
8000a109  0000a108  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:59 2019-05-08
00d40100  45000020  1eecd1b1  5850f35b  est   MAP_SCQ    04:51:58 2019-05-08
8000a1a0  0000a19f  1eecd1b1  5850f35b  est   PSP_DEPI   04:52:00 2019-05-08
00b40002  45040018  1eecd1b1  5850f35b  est   RNG_SCQ    04:51:54 2019-05-08
00d40000  45000010  1eecd1b1  5850f35b  est   MAP_SCQ    04:51:55 2019-05-08
00b40100  45040020  1eecd1b1  5850f35b  est   RNG_SCQ    04:51:54 2019-05-08
00640102  45010028  1eecd1b1  5850f35b  est   UEPI_SCQAM 04:51:54 2019-05-08
00640002  45010018  1eecd1b1  5850f35b  est   UEPI_SCQAM 04:51:55 2019-05-08
00f40100  45080020  1eecd1b1  5850f35b  est   SPECMAN    04:51:54 2019-05-08
8000a10d  0000a10c  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:55 2019-05-08
```

```
8000a10e  0000a10d  1eecd1b1  5850f35b  est   PSP_DEPI   04:51:54 2019-05-08
00d40103  4500002c  1eecd1b1  5850f35b  est   MAP_SCQ    04:51:55 2019-05-08
01040101  45201008  1eecd1b1  5850f35b  est   PSP_PNM    04:51:59 2019-05-08
00f40101  45080024  1eecd1b1  5850f35b  est   SPECMAN    04:51:55 2019-05-08
00b40003  4504001c  1eecd1b1  5850f35b  est   RNG_SCQ    04:51:55 2019-05-08
00f40003  4508001c  1eecd1b1  5850f35b  est   SPECMAN    04:52:00 2019-05-08
00640000  45010010  1eecd1b1  5850f35b  est   UEPI_SCQAM 04:51:58 2019-05-08
00f40103  4508002c  1eecd1b1  5850f35b  est   SPECMAN    04:51:54 2019-05-08
00840100  45020008  1eecd1b1  5850f35b  est   BW_SCQAM   04:51:58 2019-05-08
00b40001  45040014  1eecd1b1  5850f35b  est   RNG_SCQ    04:51:55 2019-05-08
00f40102  45080028  1eecd1b1  5850f35b  est   SPECMAN    04:51:55 2019-05-08
00d40101  45000024  1eecd1b1  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
1eecd1b1  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
    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

| | |
|---|---|
| **ikev2** | Displays the ikev2 logs. |
| **resetlog** | Displays the reset reason log. |
| **secure-resetlog** | Displays the secure factory reset reason log. |
| **seres** | Displays the seres log or the contents of seres/bcm316x log since last 'clear'. |
| **ds-ofdm** | Displays downstream OFDM logs, including detailed information about processing and error handling of DS OFDM OCD and DPD messages.<br>This command also displays the `/tmp/d31_ocd.log` file contents. |
| **traceback** | Displays the traceback log, or kernel traceback log since last 'clear'. |
| **openrpd all** | Displays the openrpd log, or displays all contents of openrpd log since last 'clear'. |
| **openrpd info** | Displays only info or error mesages from the openrpd log, or displays 'info' contents of openrpd log since last 'clear'. |
| **openrpd error** | Displays only error mesages from the openrpd log or displays 'error' contents of openrpd log since last 'clear'. |
| **\| last** *lines* | Dsplays the *lines* number of lines from the tail of the log. Displays the whole output, if *lines* is greater than the size of the output. |

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

| | |
|---|---|
| **current** | Clears current data. |
| **message** | Clears OBFL error messages. |
| **startup_time** | Clears the startup time data. |
| **temperature** | Clears temperature data. |
| **voltage** | 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 **ds-ofdm** option was introduced for this command. |
| Cisco 1x2 / Compact Shelf RPD Software 8.4 | The **last** 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 ocsp 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/mmcblk0
```

```
         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
```

```
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: Ox0001 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: Ox0001 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: Ox0001 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: Ox0001 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: Ox0001 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_ocd.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
```

```
 : 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
```

```
<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
R-PHY#


root@RPDbadbad135dcc:/# cat  /tmp/d31_ocd.log
<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
 : 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
<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** }

**Syntax Description**

| | |
|---|---|
| **history** | Shows the history of memory usage percentage in a graphical format. |

**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 7.6 | The `history` 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
```

```
 124m 51372 40904  6244 RpdResHalClient
 111m 39800 28512  6220 HalMain
62896 51492 57216  6444 rpd_fault_manager
------- Info -------
VSZ:    Virtual memory mapped to process (read/write + read-only)
VSZRW:  Same as VSZ but read/write only
RSS:    Total memory used by process (shared + private)
(SHR):  Same as RSS but shared memory only
```

## Example

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

```
R-PHY#show mem history
     77777777777777777777777777777
     66666666666666666666666666666
     .............................
     00000000001000000100000000000
81.0
80.5
80.0
79.5
79.0
78.5
78.0
77.5
77.0
76.5
76.0 ******************************
    0.....6.....1.....1.....2.....3
          0     2     8     4     0
                0     0     0     0
 Memory usage percentage (last 300 seconds / 5 minutes)

     77777777777
     66666665555
     ...........
     11103017766
80.0
79.5
79.0
78.5
78.0
77.5
77.0
76.5     *
76.0 #######
75.5 ############
75.0 ############
    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
            Memory 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
     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**

| | |
|---|---|
| **cw-errs** | Shows the codeword error count for the OFDMA channel, indicating channel RF quality. |
| **config** | Shows the configuration for the OFDMA channel. |
| **iuc** *ofdmaindex* | Shows the per-IUC data for codewords and MER (*ofdmaIndex* = 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
```

```
    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. CWs | 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.

**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): 0x0000516d (Decimal:20845)
NORTH DECAP ETH TYP IPV6 CNT       (0x14002c50): 0x33e195c3 (Decimal:870421955)
NORTH DECAP IPV4 OPT CNT           (0x14002c54): 0x00001ada (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)
```

```
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 |
  |DEPTHCNT   |          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**

| | |
|---|---|
| **ccap-core** | Displays CCAP cores information. |
| **ccap-core** *index* | Displays the information of a specific CCAP core. |
| **gcp** | Displays gcp provision information. |
| **gcp ccap-identification** | Displays CCAP core identification information. |
| **gcp conn-verification** | Displays information on the gcp connection verification parameters. |
| **history** | Displays information on the core provision history. |
| **manager** | Displays information on the provision manager state. |
| **manager history** | Displays information on the provision manager state change history. |
| **message-history** | Dispalys information on the provision agent state change history. |
| **state** | 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**

| | |
|---|---|
| **config** | Displays ptp clock configuration. |
| **state** | Displays ptp clock run-time state infromation. |
| **statistics** | 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  :
   -129308l3@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
```

```
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 Max time   Max Start Time
                                     (usec)     (usec)
-------------------------------------------------------------------------------
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 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
```

```
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 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 & 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**

| | |
|---|---|
| **account** | 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+dtHV8Rr0wejiK1YJkT93n9hcBxsjHRu76bLp99l
+DDNL3+THljwnMQC1CsdvRmGXoeGf1mT9aTlGDf/YfKxZMozMnR9qlGJFXlRAwGMsCRll
lnV6IkFyh59P9UdkdSSWv+QL8lCftWBmMnyt/CkqL98NK0Vp0gIYRv7UKCwhK40c8X7Ph
zxCmKVFTUv3bf9VIPNA2esgzKDFpRvMyBC2MCGbFSHmQFyWmHBHPPmLIxK98WXutoR8fzz
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
[redacted]
 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**

**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 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**

**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 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
```

```
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 Scrmb    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    |0      |336900    |0      |0      |0         |0         |0
|00.00|
|2-ReqD |0         |0      |0         |0      |0      |0         |0         |0
|00.00|
|3-Init |98        |0      |98        |0      |0      |0         |0         |0
|00.00|
|4-Maint|0         |0      |0         |0      |0      |0         |0         |0
|00.00|
|5-Short|0         |0      |0         |0      |0      |0         |0         |0
|00.00|
|6-Long |0         |0      |0         |0      |0      |0         |0         |0
|00.00|
|9-AShrt|0         |0      |0         |0      |0      |0         |0         |0
|00.00|
|10-ALng|25        |0      |0         |0      |0      |47        |0         |0
|42.00|
|11-AUGS|0         |0      |0         |0      |0      |0         |0         |0
|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 minislot              :    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**

| | |
|---|---|
| **55d1** | Displays the OOB-55d1 upstream channel configuration. |
| **55d2** | Displays the OOB-55d2 upstream channel configuration. |

| | |
|---|---|
| **ndr** | Displays the Narrowband Digital Return (NDR) upstream channel configuration. |
| **internal** | Displays the internal debug information for OOB upstream configuration. |
| **map** | Displays the mapping between the core configured OOB channels and RPD internally allocated channel. |
| **uepi** | Displays the upstream UEPI configuration for OOB 55d1 or OOB 55d2. |

**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 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
qos
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
```

```
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
 ndrLevel 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
 ndrLevel 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
 ndrLevel 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   -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   0.000000

Channel status
gch enabled oobType confPending confInProcess 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** |
| **55d1** |
| **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:

```
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
       FEC Error
0      0      0         UP         1       8096000  0x40308000 288192           4503
       0
0      1      1         UP         1       8480000  0x40308001 280640           4385
       0
0      2      2         UP         1       8864000  0x40308002 283072           4423
       0
[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
       FEC Error
0      0      0         UP         1       20000000 0x40318000 9180           135
       0
1      0      0         UP         1       20000000 0x40318000 0              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
       FEC-Error  MC-HIT-CNT
0      0      0         UP         1       5000000  0x1        1738444288       41623478
       0          41616993
```

# 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

### Example: show upstream scqam-profile query Command

The following is a sample command to obtain the upstream scqam-profile query configuration:

```
R-PHY#show upstream scqam-profile query
Channel-type:  TDMA
Width:  200000
Code  Valid  ModType  PreMod  PreLen  GuardTime
1     Yes    qam16    QPSK1   0       0
2     Yes    qpsk     QPSK0   0       0
3     No     qpsk     QPSK0   0       0
4     No     qpsk     QPSK0   0       0
5     No     qpsk     QPSK0   0       0
6     No     qpsk     QPSK0   0       0
7     No     qpsk     QPSK0   0       0
8     No     qpsk     QPSK0   0       0
9     No     qpsk     QPSK0   0       0
10    No     qpsk     QPSK0   0       0
11    No     qpsk     QPSK0   0       0
12    No     qpsk     QPSK0   0       0
13    No     qpsk     QPSK0   0       0
14    No     qpsk     QPSK0   0       0
```

### Example: show upstream scqam-profile response Command

The following is a sample command to obtain the upstream scqam-profile response:

```
R-PHY#show upstream scqam-profile response
PreambleString:03f02833ebf02833ebf02833ebf02833ebf1642892a9974767da0417bbc2758f36ff5739350dc1871988d3d22b603f296b0df3dec0ed
f3dec0edf3dec0edf3dec0edf1642892a9974767da0417bbc2758f36ff5739350dc1871988d3d22b603f296b0000000000000000000000000000000000000000
00000000000000000000000000
Code  PreLen  PreMod  PreOffset  ScrSeed  GuardTime
1     36      QPSK1   396        338      8
2     0       QPSK0   8          338      8
```

# show upstream uepi configuration

To display upstream UEPI configuration, use the **show upstream uepi configuration** command in privileged EXEC mode.

**show upstream uepi 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 upstream uepi configuration** command:

```
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
```

```
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
SECVER: 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
```

```
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-programed 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: c0d04684066e3ccc3321a46590e9fbe2
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 **show vga** 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 |
|---|---|
| **VGA Setting:** | |
| 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 |
| **TLV 98.3 Setting:** | |
| 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 |
| **OFDMA pwrAdjust Setting:** | |
| 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.