



## Spectrum Capture

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## Hardware Compatibility Matrix for Cisco Remote PHY Device



**Note** Unless otherwise specified, the hardware components introduced in a given Cisco Remote PHY Device Software Release are supported in all subsequent releases.

**Table 1: Hardware Compatibility Matrix for the Cisco Remote PHY Device**

Cisco HFC Platform	Remote PHY Device
Cisco GS7000 Super High Output Node	Cisco 1x2 / Compact Shelf RPD Software 2.1 and Later Releases
Cisco GS7000 Super High Output Intelligent Node (iNode)	Cisco 1x2 / Compact Shelf RPD Software 4.1 and Later Releases Cisco Intelligent Remote PHY Device 1x2 <ul style="list-style-type: none"><li>• PID—iRPD-1X2=</li><li>• PID—iRPD-1X2-PKEY=</li></ul>

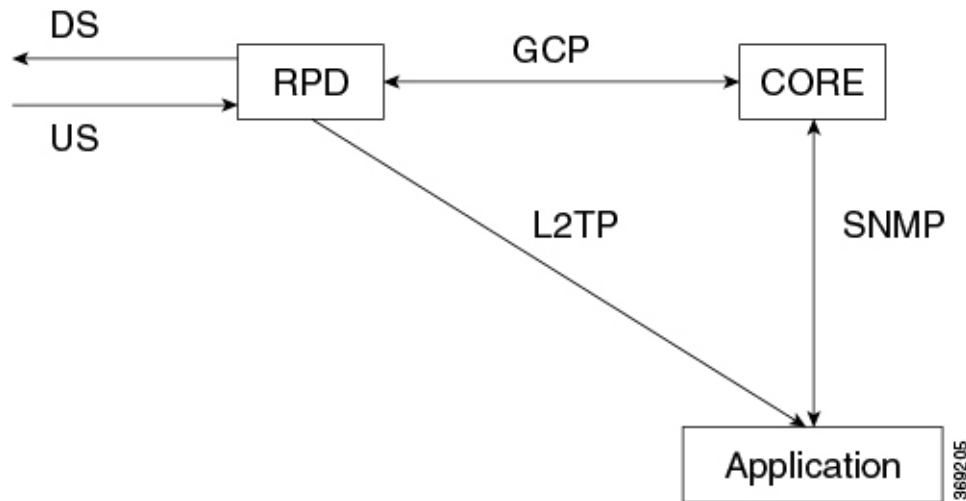


**Note** The -PKEY suffix in the PID indicates units that enable the SCTE-55-2 Out-of-Band protocol support.

# Spectrum Capture

The upstream triggered spectrum analysis measurement provides a wideband spectrum analyzer function in the CCAP which can be triggered to examine desired upstream transmissions as well as underlying noise or interference during a quiet period. WBFFT stands for Wide Band Fast Fourier Transform. This feature allows all RPD US ports to enable an upstream spectrum analyzer built into the RPD's front end. RPD supports FreeRunning trigger mode.

**Figure 1: Spectrum capture workflow**



**Note** US FFT data is computed and sent directly from US PHY. RPD firmware does not handle these data. The firmware configures US PHY to send L2TP stream based on GCP TLV messages.

Please refer to below link for cBR8 configuration about this feature:

[https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b\\_cbr\\_docsis\\_full\\_book\\_xe16\\_10/b\\_cbr\\_docsis\\_full\\_book\\_xe16\\_10\\_chapter\\_0100110.html](https://www.cisco.com/c/en/us/td/docs/cable/cbr/configuration/guide/b_cbr_docsis_full_book_xe16_10/b_cbr_docsis_full_book_xe16_10_chapter_0100110.html)



- Note**
1. This feature provides a stream of raw spectrum data only.
  2. The application that interprets and presents the data in human readable format is not part of this feature.

## Verifying Spectrum Capture Configuration

To verify if the spectrum capture is enabled, use **show bcm-register wbfft config** command as shown in the following example. The WBFFT Trigger Mode should be FreeRunning if this feature is enabled.

```
R-PHY#show bcm-register wbfft config
WBFFT Trigger Mode : FreeRunning
```

```

Enable UTSC           : TRUE
Sample Num            : 4096
Session ID            : 44201020
PNM Dest IP           : 2001:30:84:0:1:0:66:1
PNM Dest Mac          : c414.3c16.d682

R-PHY#show bcm-register wfft all 0
WBFFT Start Ctrl     [cc000000] : 00000001
In Control            [cc000004] : 00472F04
Out Control           [cc00000c] : 0000009B
Timing Ctrl          [cc000010] : 00000003
WBFFT FIRST WDW CF   [cc000024] : 00000920
WBFFT SCND WDW CF    [cc000028] : 0000C660
WBFFT MIDL WDW CF    [cc00002c] : 000061E0
WBFFT MAX CTL        [d0000048] : 33800000
WBFFT Status         [cc000034] : 00000000

WBFFTS In Ctrl       [d0000044] : 00000100
WBFFT PKT BYTE       : 004A0000
WBFFT PKT COUNT      : 00004A00

```

## Feature Information for Spectrum Capture

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to [www.cisco.com/go/cfn](http://www.cisco.com/go/cfn). An account on Cisco.com is not required.

**Table 2: Feature Information for Spectrum Capture**

Feature Name	Releases	Feature Information
Spectrum Capture	Cisco 1x2 / Compact Shelf RPD Software 6.4	This feature was integrated into the Cisco Remote PHY Device.

