Cisco Remote PHY DS OFDM Channel Configuration

This document provides information on how to configure DOCSIS 3.1 DS OFDM channel on Remote PHY systems.

Finding Feature Information

Your software release may not support all the features that are documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. The Feature Information Table at the end of this document provides information about the documented features and lists the releases in which each feature is supported.

Use Cisco Feature Navigator to find information about the platform support and Cisco software image support. To access Cisco Feature Navigator, go to the link http://tools.cisco.com/ITDIT/CFN/. An account at the http://www.cisco.com/ site is not required.

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 HFC Platform	Remote PHY Device
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 • PID—iRPD-1X2= • PID—iRPD-1X2-PKEY=

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

Information About R-PHY DOCSIS 3.1 DS OFDM Channel

Cisco cBR routers support DS OFDM channels in an R-PHY system. The OFDM-channel-support includes two OFDM channels for each Remote PHY device (RPD) with a channel bandwidth up to 192 MHz and the modulation up to 4096 QAM.

RPD supports up to 128 SC-QAM channels in the presence of 2 OFDM channels. If more than 128 SC-QAM channels are already configured, then user needs to configure the RPD core to reduce the number of SC-QAM channel before the second OFDM can be configured.

Each OFDM channel supports a control profile, the NCP profile, and up to five data profiles. For a line card, a maximum of 32 DS OFDM channels are supported.

Configure DS OFDM Channel

Configure OFDM Channel Profile

To configure the OFDM channel profile, run the following commands:

```
enable
configure terminal

cable downstream ofdm-chan-profile id
  description System Profile id
  cyclic-prefix value
  interleaver-depth value
  pilot-scaling value
  roll-off value
  subcarrier-spacing value
  profile-control {modulation-default mod_prof_id | modulation-profile mod_prof_id}
  profile-ncp modulation-default <mod_prof_id>
  profile-data channel_data_prof_id {modulation-default mod_prof_id | modulation-profile
mod_prof_id}
```

Configure RPD Port/Controller and Channel

To configure the port or controller and channel, use the following commands.

```
enable
configure terminal
cable rpd <rpd_name_string>
 identifier <xxxx.xxxx.xxxx>
 core-interface Te slot/subslot/port
  principal
  rpd-ds <port> downstream-cable slot/subslot/port profile <ID>
  rpd-us <port> upstream-cable slot/subslot/port profile <ID>

cable downstream controller-profile <ID>
max-ofdm-spectrum value

rf-chan [id]
type DOCSIS
frequency value
  rf-output NORMAL
  qam-profile id
  docsis-channel-id id
rf-chan [id]
  docsis-channel-id id
  ofdm channel-profile id start-frequency value width value [plc value]
```

The OFDM channel IDs range from 158 to 162.

In the following example, 2 OFDM channels 158 and 159 are configured:

```
Router# configure terminal
Router(config)# cable downstream controller-profile 6
Router(config-controller-profile)# max-carrier 128
Router(config-controller-profile)# max-ofdm-spectrum 384000000
Router(config-controller-profile)# rf-chan 0 23
Router(config-prof-rf-chan)# type DOCSIS
Router(config-prof-rf-chan)# qam-profile 1
Router(config-prof-rf-chan)# frequency 453000000
Router(config-prof-rf-chan)# rf-output NORMAL
Router(config-prof-rf-chan)# docsis-channel-id 1
Router(config-prof-rf-chan)# exit
Router(config-controller-profile)# rf-chan 158
Router(config-prof-rf-chan)# docsis-channel-id 159
Router(config-prof-rf-chan)# ofdm channel-profile 20 start-frequency 645000000 width 192000000
 plc 651000000
Router(config-prof-rf-chan)# exit
Router(config-controller-profile)# rf-chan 159
Router(config-prof-rf-chan)# docsis-channel-id 160
Router(config-prof-rf-chan)# ofdm channel-profile 20 start-frequency 837000000 width 192000000
 plc 930000000

Router(config)# cable rpd node0
Router(config-rpd)# identifier 0004.9f31.1234
Router(config-rpd)# core-interface Te9/1/0
Router(config-rpd-core)# principal
Router(config-rpd-core)# rpd-ds 0 downstream-cable 9/0/12 profile 6
Router(config-rpd-core)# rpd-us 0 upstream-cable 9/0/0 profile 3
Router(config-rpd-core)# exit
Router(config-rpd)# r-dti 8
Router(config-rpd)# rpd-event profile 0
Router(config-rpd)# rpd-55d1-us-event profile 0
```

Configure RF Channel Bandwidth in Wideband Interface

To add the RF channel to a wideband interface, and to specify the RF channel bandwidth allocated for the channel, use the following commands:

Note Cisco cBR router does not support Dynamic Bandwidth Sharing (DBS). Hence, the bandwidth-percentage value does not apply.

```
enable
configure terminal
interface Wideband-Cable{slot/subslot/port}:wideband-channel
 cable bundle id
 cable rf-channels channel-list grouplist bandwidth-percent percentage-bandwidth
```

Verify the Profile Ordering

To view the details of the profile downgrade ordering on a specific OFDM channel, run the following command:

```
Router#show controllers downstream-cable 7/0/0 rf-channel 158 prof-order

OFDM channel data profile order: [2/0/3:158]
-----------------------------------------------
Data Profile:       Downgrade Profile:
 Profile 1     ->    Profile 0
 Profile 2     ->    Profile 1
 Profile 3     ->    Profile 2
```

Verify OFDM Channel Profile

To view the details of an OFDM Channel Profile, run the following command:

```
Router# show controllers downstream-Cable 7/0/0 rf-channel 158 verbose

Chan State Admin Mod-Type  Start       Width     PLC      Profile-ID dcid output
                           Frequency
158   UP   UP   OFDM      807000000   192000000 963000000     20     162  NORMAL
 Resource status:   OK
 License: granted <20:11:58 CST Jul 3 2017>
 OFDM channel license spectrum width: 128200000
 Config lock status: Open
 OFDM config state: Configured

 OFDM channel details: [7/0/0:158]
----------------------------------------
 OFDM channel frequency/subcarrier range     : 807000000[ 128] - 998999999[3967]
 OFDM spectrum frequency/subcarrier range    : 800600000[   0] - 1005399999[4095]
 Active spectrum frequency/subcarrier range  : 808900000[ 166] - 997049999[3929]
 OFDM channel center frequency/subcarrier    : 903000000[2048]
 PLC spectrum start frequency/subcarrier     : 963000000[3248]
 PLC frequency/subcarrier                    : 965800000[3304]
 Channel width                               : 192000000
 Active Channel width                        : 128200000
 OFDM Spectrum width                         : 204800000
 Chan prof id                                : 20
 Cyclic Prefix                               : 1024
```

```
 Roll off                                      : 128
 Interleave depth                              : 16
 Spacing                                       : 50KHZ
 Pilot Scaling                                 : 48
 Control modulation default                    : 1024
 NCP modulation default                        : 16
 Data modulation default                       : None
 Data modulation profile                       : None
 Lower guardband width in freq/subcarriers     : 1900000[38]
 Upper guardband width in freq/subcarriers     : 1900000[38]

 PLC spectrum frequencies [subcarriers]              :
  963000000[3248] - 968999999[3367]

 PLC channel frequencies [subcarriers]                :
  965800000[3304] - 966199999[3311]   Size: 8 subcarriers

 Excluded frequencies [subcarriers]                :
  800600000[   0] - 808899999[ 165]     865000000[1288] - 924999999[2487]
  997100000[3930] - 1005399999[4095]
  Count: 1532

 Pilot frequencies [subcarriers]                   :
  *:PLC pilots
  810150000[ 191]   812700000[ 242]   815250000[ 293]   817800000[ 344]
  820350000[ 395]   822900000[ 446]   825450000[ 497]   828000000[ 548]
  830550000[ 599]   833100000[ 650]   835650000[ 701]   838200000[ 752]
  840750000[ 803]   843300000[ 854]   845850000[ 905]   848400000[ 956]
  Count: 4

 Active frequencies [subcarriers]                  :
  808900000[ 166] - 864999999[1287]     925000000[2488] - 997099999[3929]
  Count: 2564

 Data frequencies [subcarriers]                   :
  808900000[ 166] - 810149999[ 190]     810200000[ 192] - 812699999[ 241]
  812750000[ 243] - 815249999[ 292]     815300000[ 294] - 817799999[ 343]
  817850000[ 345] - 820349999[ 394]     820400000[ 396] - 822899999[ 445]
  822950000[ 447] - 825449999[ 496]     825500000[ 498] - 827999999[ 547]

..
  Count: 2500

 Profiles:
  Number of profiles: 2
  CTRL profile (Profile A): rate: 864000 kbps
  Active frequencies [subcarriers]:
  Modulation:Start-freq[start-subcarrier] - End-freq[end-subcarrier]
  ------------------------------------------------------------------
  1024 :808900000[ 166] - 810100000[ 190]     1024 :810200000[ 192] - 812650000[ 241]
  1024 :812750000[ 243] - 815200000[ 292]     1024 :815300000[ 294] - 817750000[ 343]
  1024 :817850000[ 345] - 820300000[ 394]     1024 :820400000[ 396] - 822850000[ 445]
  1024 :822950000[ 447] - 825400000[ 496]     1024 :825500000[ 498] - 827950000[ 547]

...

Active subcarrier count: 2500, ZBL count: 0
  Discontinuity time [days:hours:mins:secs]: 00:00:00:00

  NCP profile:
  Active frequencies [subcarriers]:
  Modulation:Start-freq[start-subcarrier] - End-freq[end-subcarrier]
  ------------------------------------------------------------------
  16   :808900000[ 166] - 810100000[ 190]     16   :810200000[ 192] - 812650000[ 241]
```

```
  16   :812750000[ 243] - 815200000[ 292]     16   :815300000[ 294] - 817750000[ 343]
  16   :817850000[ 345] - 820300000[ 394]     16   :820400000[ 396] - 822850000[ 445]
  16   :822950000[ 447] - 825400000[ 496]     16   :825500000[ 498] - 827950000[ 547]
…
  Active subcarrier count: 2500, ZBL count: 0

 CCCs:
   OCD CCC: 1
   DPD CCCs:
     Control profile  (Profile A) CCC: 1
         NCP profile  CCC: 1
 Resource config time taken: 29 msecs
 JIB channel number: 768
Chan Pr  EnqQ  Pipe  RAF  SyncTmr DqQ ChEn  RAF Tun# SessionId Valid P/S XFI 0[TkbRt MaxP]
     1[TkbRt MaxP]
 768  0  384     0   308      0   384  1    5551 0   16778240  TRUE   0  0 479610000 4485120
 383688000 4485120
 768  1  384     0  4786      0   384  1    2190 0   16778240  TRUE   0  0 479610000 4485120
 383688000 4485120
Encap Chan-id Data:0 PLC:5
Chan   Qos-Hi   Qos-Lo    Med-Hi   Med-Lo    Low-Hi   Low-Lo
 768    24576    16384     24576    16384     40960    24576
Chan  Med Low TB-neg Qos_Exc  Med_Xof  Low_Xof  Qdrops(H-M-L)  Pos Qlen(Hi-Med-lo) Fl Tgl_cnt
 Rdy_sts
  768   0   0      0       0        0        0    0    0    0  Y    0      0      0  0
    0 ff
Chan       Rate   Neg   Pos    LastTS  CurrCr  Pos  [PLC Rate Neg Pos]
 768   10485750 65535 65535 123395759 268431360   Y [MM 86 128 1024][EM 87 128 6144][TR 2
9 3072]
```

Verify OFDM Channel

To view the details of an OFDM channel, run the following command:

```
Router#show controllers downstream-Cable 7/0/0 counter ofdm-channel

Controller Chan# Profile/PLC Packets   Bytes MaxRate  Rate       Utilization
                                             (Mbps)   (Mbps)     (%)
7/0/0      158   Total        101694 9225522    -  0.015590   0.0
7/0/0      158   0             29216 2557604  864  0.004551   0.0
7/0/0      158   PLC-MMM       72474 6667608       0.011039
7/0/0      158   PLC-EM            0       0       0.000000
7/0/0      158   PLC-TR            0       0       0.000000
```

Verify OCD and DPD of MAC Domain

To display the MAC domain's OFDM Channel Descriptor (OCD) and Downstream Profile Descriptor (DPD) messages, use the **show cable mac-domain dpd | ocd** command in privileged EXEC mode.

```
Router# show cable mac-domain cable 7/0/0 ocd

DCID: 162  OFDM Controller:channel 7/0/0:158

OCD Message
  MAC Header
    Frame Control                  : 0xC2   (MAC specific, MAC msg, EHDR Off)
    MAC Parameters                 : 0x0
    Length                         : 190
    Header Check Sequence          : 0x84A2 (33954)
```

```
  MAC Management Header
?
    Destination MAC ADDR            : 01e0.2f00.0001
    Source MAC ADDR                 : c414.3c17.3ead
    Length                          : 172
    Destination SAP                 : 0
    Source SAP                      : 0
    Control                         : 3
    Version                         : 5
    Type                            : 49
    Multipart                       : 0    (Sequence number 0, Fragments 0)
  OCD fields
    DCID                            : 162
    CCC                             : 1
    TLV 0 Spacing                   : 50 KHz
    TLV 1 Cyclic Prefix             : 1024 samples
    TLV 2 Rolloff                   : 128 samples
    TLV 3 Spectrum Location         : 800600000 Hz
    TLV 4 Interleave Depth          : 16
    TLV 5 Subcarrier Assignment     : Continuous Pilots (list)
      0191  0242  0293  0344  0395  0446  0497  0548  0599  0650
      0701  0752  0803  0854  0905  0956  1007  1058  1109  1160
      1211  1262  2513  2564  2615  2666  2717  2768  2819  2870
      2921  2972  3023  3074  3125  3176  3227  3257  3269  3280
      3289  3326  3335  3346  3358  3398  3449  3500  3551  3602
      3653  3704  3755  3806  3857  3908
    TLV 5 Subcarrier Assignment     : Excluded Subcarriers (range)
                                    : 0000 - 0165
    TLV 5 Subcarrier Assignment     : Excluded Subcarriers (range)
                                    : 1288 - 2487
    TLV 5 Subcarrier Assignment     : Excluded Subcarriers (range)
                                    : 3930 - 4095
    TLV 5 Subcarrier Assignment     : PLC Subcarriers (range)
                                    : 3304 - 3311
    TLV 6 Primary Capable           : 0 (No)
-------------------------------------------------------------------------------
```

Verify Profile Management Data

To view the detailed profile management data associated with each cable modem.

```
Router#show cable modem c0c6.87ff.dabc prof-mgmt

Downstream Profile Management Data:
MAC Address            : c0c6.87ff.dcea
IP Address             : 60.11.0.12
IPv6 Address           : ---

RxMer Exempt Percent   : 2
RxMer Margin qDB       : 0
Automatic Prof Dwngrd  : Active

DCID                                  : 162
  Configured Profile(s)               : 0
  Profile(s) in REG-RSP-MP            : 0
  Profile(s) in DBC-REQ               : N/A
  Current profile                     : 0  [1024-QAM]
  Percentages of ideal BL vs Curr Prof : 96 (better)  3 (equal)
  Downgrade profile                   : 0
  Recommend profile                   : 0
  Unfit profile(s)                    : N/A
  Recommend profile (Expired)         : N/A
```

```
  Unfit profile(s)  (Expired)          : N/A
Number of SubCarriers  : 4096
1st Active SubCarrier  : 166
# of Active SubCarriers: 3764
Tx Time                : 0h:15m:15s ago
Rx Time                : 0h:15m:15s ago
OFDM Profile Failure Rx: N/A
MER Poll Period   (min): 60
Recommend Timeout (min): 120
Unfit Timeout     (min): 60
Source              : OPT
Sub-    RxMER
Carrier
0x0000  00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
0x0020  00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
0x0040  00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
0x0060  00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
0x0080  00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
0x00A0  00000000 0000A5A3 A4A1A2A1 A5A3A39E A5A3A6A4 A6A1A6A2 A3A69FA2 A1A4A4A2
0x00C0  A2A0A4A4 A49EA7A6 A4A29EA4 A2A2A1A4 A3A1A1A4 A4A3A0A6 A4A1A4A6 A4A4A2A5
0x00E0  A5A2A3A5 A8A3A3A3 A6A1A1A0 A2A3A4A4 A3A2A19E A4A89FA3 A4A4A3A4 A4A4A5A2
0x0100  A5A3A1A1 A0A4A59E 9FA2A3A3 9F9FAAA4 A5A09FA4 A4A1A2A6 9DA1A1A0 A4A2A4A3
0x0120  A3A0A3A8 A29FA5A5 A3A6A1A0 A69EA1A2 A1A2A3A2 A1A2A3A5 9FA6A4A5 A1A7A4A4
0x0140  A5A4A5A1 A3A4A2A4 A2A2A4A3 A1A2A5A4 A19FA4A5 A1A0A5A4 9FA4A1A1 A6A2A59F
0x0160  A1A2A4A5 A3A5A4A1 A4A3A5A1 A3A3A5A0 A0A3A3A0 A2A3A3A3 A2A2A2A5 A5A4A4A3
0x0180  9EA4A3A1 A4A5A2A3 A29FA39F A6A1A0A2 A4A59FA3 A4A2A4A1 A2A4A3A3 A6A39DA2
0x01A0  A3A1A1A2 A3A2A2A1 A2A0A39F A7A39FA5 A1A4A4A1 A2A4A2A0 A6A49F9F A6A39D9F
0x01C0  9FA2A5A2 9BA1A1A0 A3A2A1A3 A39FA3A1 A19EA3A5 9DA1A0A0 A3A0A39F A0A3A2A1
0x01E0  A5A4A0A1 A0A39F9E A09FA2A4 9FA2A39F A2A3A49C A3A29FA0 A0A3A2A5 A3A0A1A1
… …
Upstream Profile Management Data:
```

Verify OCD and DPD Messages in RPD

To view OCD and DPD messages from RPD, run the following command. The output must be identical to the messages on Cisco cBR-8 routers.

```
RPD-config# show downstream ofdm configuration
OCD Message

  OCD fields
    DCID                            : 0
    CCC                             : 1
    TLV 0 Spacing                   : 50 KHz
    TLV 1 Cyclic Prefix             : 1024 samples
    TLV 2 Rolloff                   : 128 samples
    TLV 3 Spectrum Location         : 800600000 Hz
    TLV 4 Interleave Depth          : 16
    TLV 5 Subcarrier Assignment     : Continuous Pilots (list)
      191   242   293   344   395   446   497   548   599   650
      701   752   803   854   905   956   1007  1058  1109  1160
      1211  1262  2513  2564  2615  2666  2717  2768  2819  2870
      2921  2972  3023  3074  3125  3176  3227  3257  3269  3280
      3289  3326  3335  3346  3358  3398  3449  3500  3551  3602
      3653  3704  3755  3806  3857  3908
    TLV 5 Subcarrier Assignment     : Excluded Subcarriers (range)
                                    : 0    - 165
    TLV 5 Subcarrier Assignment     : Excluded Subcarriers (range)
                                    : 1288 - 2487
    TLV 5 Subcarrier Assignment     : Excluded Subcarriers (range)
                                    : 3930 - 4095
    TLV 5 Subcarrier Assignment     : PLC Subcarriers (range)
```

```
                                    : 3304 - 3311
    TLV 6 Primary Capable           : 1 (Yes)

DPD Message
  DPD fields
    DCID                            : 0
    Profile ID                      : 0
    CCC                             : 1
    TLV 5 Subcarrier Range/List     : Range (continuous)
      Modulation                    : 1024 (default value)
                                    : 0    - 4095
DPD Message
  DPD fields
    DCID                            : 0
    Profile ID                      : 255
    CCC                             : 1
    TLV 5 Subcarrier Range/List     : Range (continuous)
      Modulation                    : 16 (default value)
                                    : 0    - 4095
```

Verify per-Profile Counter on RPD

The following example shows how to verify the per-profile counter on RPD:

```
RPD-config# show downstream ofdm counter profile

Profile Pkts       Sum-Pkts   Bytes      Sum-Bytes  Codewords  Sum-Codewords
0       7735       7735       677110     677110     4815       4815
1       0          0          0          0          0          0
2       0          0          0          0          0          0
3       0          0          0          0          0          0
4       0          0          0          0          0          0
5       0          0          0          0          0          0
6       0          0          0          0          0          0
7       0          0          0          0          0          0
8       0          0          0          0          0          0
9       0          0          0          0          0          0
10      0          0          0          0          0          0
11      0          0          0          0          0          0
12      0          0          0          0          0          0
13      0          0          0          0          0          0
14      0          0          0          0          0          0
15      0          0          0          0          0          0
```

Verify the Drop Counter in DPS

To verify the drop counter, especially in the DPS module, run the following command:

```
RPD-config#show downstream channel counter
------------------- Packets counter in TPMI -------------------

Level     Rx-pkts    Rx-sum-pkts
Node Rcv  32690704   32690704
Depi Pkt  32471383   32471383

Port Chan Rx-pkts    Rx-sum-pkts
DS_0 0    3599407    3599407
DS_0 1    3605066    3605066
```

```
DS_0 5    3602293    3602293
DS_0 6    3596193    3596193
DS_0 7    3598393    3598393
DS_0 8    599        599
US_0 5    598656     598656

Port      Rx-pkts    Rx-sum-pkts Drop-pkts  Drop-sum-pkts
DS_0      28998897   28998897    0          0
US_0      3602539    3602539     0          0
US_1      2244       2244        0          0


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

Field        Pkts       Sum-pkts
Dpmi Ingress 28844845   28844845
Pkt Delete   0          0
Data Len Err 0          0

Chan Flow_id Octs       Sum-octs   SeqErr-pkts SeqErr-sum-pkts
0    0       374242     374242     1           1
0    1       710485     710485     1           1
0    2       218477141  218477141  1           1
0    3       0          0          0           0
1    0       379530     379530     1           1
1    1       700973     700973     1           1
1    2       218859695  218859695  1           1
1    3       0          0          0           0
2    0       372126     372126     1           1
2    1       695623     695623     1           1


31   2       0          0          0           0
31   3       0          0          0           0
158  0       0          0          0           0
158  1       682214     682214     1           1
158  2       0          0          0           0
158  3       0          0          1           1
163  0       0          0          0           0
163  1       0          0          1           1
163  2       0          0          0           0
163  3       1654620    1654620    1           1


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

Chan Tx-packets Tx-octets  Drop-pkts  Tx-sum-pkts Tx-sum-octs Drop-sum-pkts
0    3599803    219580072  0          3599803     219580072   0
1    3605466    219958582  0          3605466     219958582   0
2    3602414    219728291  0          3602414     219728291   0
3    3604543    219858566  0          3604543     219858566   0


31   599        20366      0          599         20366       0
158  7797       682524     0          7797        682524      0
```

Configuration Example

The following example shows how to configure OFDM channel:

```
cable downstream ofdm-chan-profile 0
  description System Profile 0
  cyclic-prefix 1024
  interleaver-depth 16
  pilot-scaling 48
  roll-off 128
  subcarrier-spacing 50KHZ
  profile-control modulation-default 256-QAM
  profile-ncp modulation-default 16-QAM
  profile-data 1 modulation-default 1024-QAM

cable downstream controller-profile 100
 max-ofdm-spectrum 192000000
 rf-chan 0 7
  type DOCSIS
  frequency 453000000
  rf-output NORMAL
  qam-profile 1
  docsis-channel-id 1
 rf-chan 158
  docsis-channel-id 159
  ofdm channel-profile 0 start-frequency 645000000 width 192000000 plc 651000000

cable rpd node_0873
 identifier 0004.9f00.0873
 core-interface Te7/1/0
  principal
  rpd-ds 0 downstream-cable 7/0/0 profile 100
  rpd-us 0 upstream-cable 7/0/0 profile 1
```

Feature Information for RPHY DS OFDM Channel Configuration

Use Cisco Feature Navigator to find information about the platform support and software image support. Cisco Feature Navigator enables you to determine which software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to the www.cisco.com/go/cfn link. An account on the Cisco.com page is not required.

Note The following table lists the software release in which a given feature is introduced. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Table 2: Feature Information for RPHY DS OFDM Channel Configuration

Feature Name	Releases	Feature Information
Remote PHY DS OFDM Channel Configuration	Cisco 1x2 / Compact Shelf RPD Software 3.1	This feature was integrated into the Cisco Remote PHY Device.