



# Configuring the Cisco Remote-PHY Solution

---

- [Prerequisites for Configuring the Cisco Remote-PHY Solution, page 1](#)
- [Restrictions for Configuring the Cisco Remote-PHY Solution, page 1](#)
- [How to Configure the Cisco Remote-PHY Solution, page 1](#)
- [Configuration Example for the Cisco Remote-PHY Solution, page 2](#)

## Prerequisites for Configuring the Cisco Remote-PHY Solution

- The Cisco CMTS must have at least one DOCSIS Timing, Communication, and Control (DTCC) card configured in the DOCSIS Timing Interface (DTI) mode for the Cisco cBR RF line card to work with the Cisco GS7000 node.

## Restrictions for Configuring the Cisco Remote-PHY Solution

- Adding or removing the upstream or downstream channels in the channel group may trigger the Cisco GS7000 to reset.
- The Cisco cBR RF line card supports only static DEPI configuration.
- The Cisco cBR RF line card does not support Spectrum Management, Inter Line Card RF Spanning, and High Availability.

## How to Configure the Cisco Remote-PHY Solution

For detailed instructions, see the Cisco Remote-PHY Configuration Guide.

# Configuration Example for the Cisco Remote-PHY Solution

## Cisco Remote-PHY RPD CM Online Basic Configuration Example

```

interface TenGigabitEthernet0/1/0
 ip address 209.165.200.225 255.255.255.224
 ip helper-address 209.165.200.226

cable downstream controller-profile 3
 max-carrier 32
 base-channel-power 41
 rf-chan 0 31
  rf-output NORMAL
  type DOCSIS
  frequency 111000000
  gam-profile 1
  power-adjust 0
  docsis-channel-id 1

cable upstream controller-profile 3
 us-channel 0 channel-width 3200000 3200000
 us-channel 0 docsis-mode atdma
 us-channel 0 frequency 11400000
 us-channel 0 minislots-size 2
 us-channel 0 modulation-profile 221
 no us-channel 0 shutdown
 us-channel 1 channel-width 3200000 3200000
 us-channel 1 docsis-mode atdma
 us-channel 1 frequency 14600000
 us-channel 1 minislots-size 2
 us-channel 1 modulation-profile 221
 no us-channel 1 shutdown
 us-channel 2 channel-width 3200000 3200000
 us-channel 2 docsis-mode atdma
 us-channel 2 frequency 17800000
 us-channel 2 minislots-size 2
 us-channel 2 modulation-profile 221
 no us-channel 2 shutdown
 us-channel 3 channel-width 3200000 3200000
 us-channel 3 docsis-mode atdma
 us-channel 3 frequency 21000000
 us-channel 3 minislots-size 2
 us-channel 3 modulation-profile 221
 no us-channel 3 shutdown
 us-channel 4 channel-width 3200000 3200000
 us-channel 4 docsis-mode atdma
 us-channel 4 frequency 24200000
 us-channel 4 minislots-size 2
 us-channel 4 modulation-profile 221
 no us-channel 4 shutdown
 us-channel 5 channel-width 3200000 3200000
 us-channel 5 docsis-mode atdma
 us-channel 5 frequency 27400000
 us-channel 5 minislots-size 2
 us-channel 5 modulation-profile 221
 no us-channel 5 shutdown

interface Cable0/0/0
 load-interval 30
 downstream Downstream-Cable 0/0/0 rf-channel 0-23
 upstream 0 Upstream-Cable 0/0/0 us-channel 0
 upstream 1 Upstream-Cable 0/0/0 us-channel 1
 upstream 2 Upstream-Cable 0/0/0 us-channel 2
 upstream 3 Upstream-Cable 0/0/0 us-channel 3
 upstream 4 Upstream-Cable 0/0/0 us-channel 4
 upstream 5 Upstream-Cable 0/0/0 us-channel 5
 cable upstream bonding-group 1
 upstream 0

```

```

upstream 1
upstream 2
upstream 3
attributes 80000001
cable upstream bonding-group 2
upstream 2
upstream 3
upstream 4
upstream 5
attributes 80000001
cable upstream bonding-group 3
upstream 0
upstream 1
upstream 4
upstream 5
attributes 80000001
cable bundle 1
cable ip-init dual-stack

interface Wideband-Cable0/0/0:0
cable bundle 1
cable rf-channels channel-list 0-7 bandwidth-percent 10

interface Wideband-Cable0/0/0:1
cable bundle 1
cable rf-channels channel-list 8-15 bandwidth-percent 10

cable fiber-node 200
downstream Downstream-Cable 0/0/0
upstream Upstream-Cable 0/0/0

cable rpd node1
identifier 0004.9f03.0061
core-interface Te0/1/0
rpd-ds 0 downstream-cable 0/0/0 profile 3
rpd-us 0 upstream-cable 0/0/0 profile 3
r-dti 1
rpd-event profile 0

interface Loopback1588
ip address 209.165.200.228 255.255.255.224
interface TenGigabitEthernet5/1/3 (connect to ASR903)
ip address 209.165.200.229 255.255.255.224

ip route 209.165.200.250 255.255.255.254 209.165.200.251 (route to ASR903 loopback ip)

ptp clock ordinary domain 0
servo tracking-type R-DTI
clock-port slave-from-903 slave
delay-req interval -4
sync interval -5
sync one-step
transport ipv4 unicast interface Lo1588 negotiation
clock source 209.165.200.250 (ASR903 loopback ip)

ptp r-dti 1
ptp-domain 0_(same domain number with ptp server)_
clock-port 1
ethernet 1_(default value is same index with clock-port index, for RPD, ethernet 1=vbh0,
ethernet 2=vbh1)_
clock-source 209.165.200.250 gateway 209.165.200.253 (clock-source is ASR093 loopback
ip, gw is ASR903 BDI ID for node)

```

### Cisco Remote-PHY RPD with Controller Profile Configuration Example

```

cable downstream controller-profile 101
multicast-pool 127
max-ofdm-spectrum 384000000
rf-chan 0 23
type DOCSIS
frequency 381000000

```

```
rf-output NORMAL
gam-profile 1
docsis-channel-id 1
rf-chan 158
ofdm channel-profile 109 start-frequency 1011000000 width 192000000 plc 1017000000
!

cable upstream controller 201
us-channel 0 channel-width 1600000 1600000
us-channel 0 docsis-mode atdma
us-channel 0 frequency 11400000
us-channel 0 minislots-size 4
us-channel 0 modulation-profile 221
no us-channel 0 shutdown
.....
us-channel 3 docsis-mode atdma
us-channel 3 frequency 30600000
us-channel 3 minislots-size 4
us-channel 3 modulation-profile 221
no us-channel 3 shutdown
!

cable fiber-node 1
downstream controller 3/0/0
upstream controller 3/0/0
cable fiber-node 2
downstream controller 3/0/0
upstream controller 3/0/1
!

cable rpd sjc_block22
description rpd for sjc block22
identifier 0011.2233.4455
core-interface Te3/0/0
principal
rpd-ds 0 controller downstream-cable 3/0/0 profile 101
rpd-us 0 controller upstream 3/0/0 profile 201
rpd-us 1 controller upstream 3/0/1 profile 201
r-dti 1
```