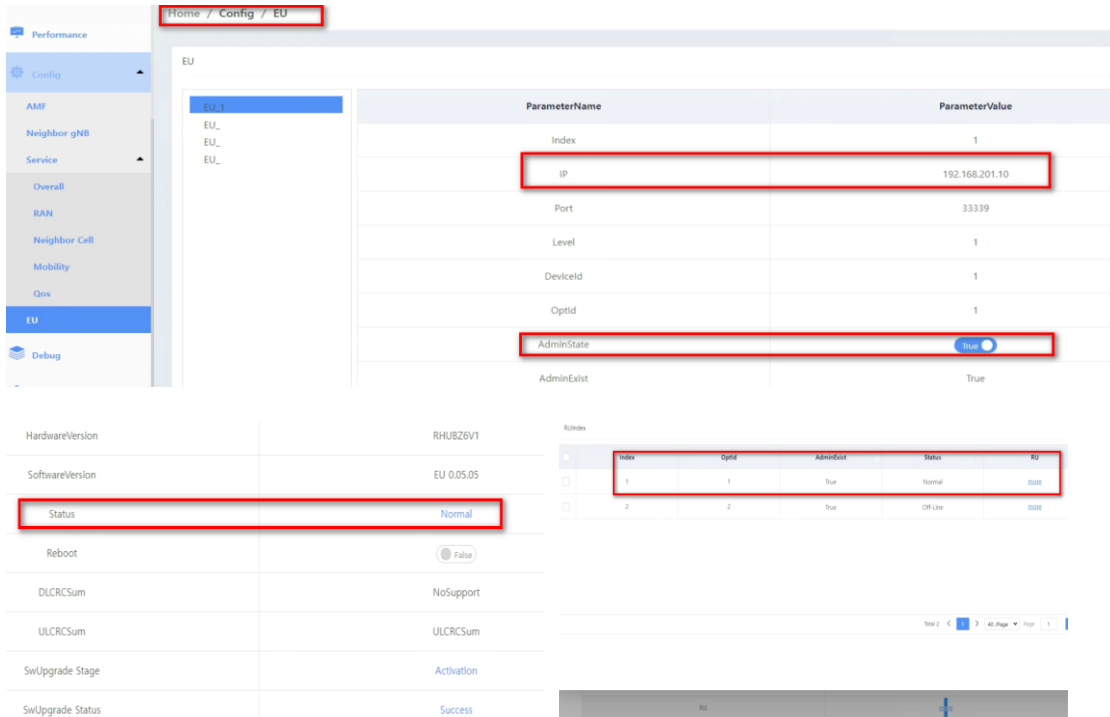


1. EU&RU Status Check in web:



Home / Config / EU

EU

ParameterName	ParameterValue
Index	1
IP	192.168.201.10
Port	33339
Level	1
DeviceId	1
OptId	1
AdminState	☒
AdminExist	True

HardwareVersion: RHUB26V1
SoftwareVersion: EU 0.05.05
Status: Normal
Reboot: ☐ False
DLCRCsum: NoSupport
ULCRCsum: ULCRCsum
SwUpgrade Stage: Activation
SwUpgrade Status: Success

Index	OptId	AdminExist	Status	RU
1	1	True	Normal	0005
2	2	True	Off-Line	0006

2. EU Parameter Check

Login in EU from BBU:

```
[root@sg-gnb ~]# ssh root@192.168.201.10
```

Kernel: 4.19.0 #1 SMP Wed Dec 15 03:23:53 UTC 2021

root@192.168.201.10's password: root

Last login: Tue Jun 20 08:34:35 2023 from 192.168.201.19

root@EUZ6:~#

Check If NrCellConfig is consistent with web. ---/opt/data/oam.config.json

```
root@EUZ6:/opt/data# ls
ad9545 config.json ext_monitor.json hardware_profile.json logger.conf monitor.json oam_config.json
root@EUZ6:/opt/data# pwd
/opt/data
root@EUZ6:/opt/data# more oam_config.json
{
  "Services": {
    "NrCellConfig": {
      "CellBarred": "0",
      "DLFreq": "4800000000",
      "ULFreq": "4800000000",
      "DLAntennas": "4",
      "ULAntennas": "4",
      "DLBandwidth": "100",
      "ULBandwidth": "100",
      "SubFramesSilentEnable": "0",
      "MaxTxPower": "24",
      "FreqBandIndicator": "79",
      "SsbPbchBlockPower": [-11, -11, -11, -11],
      "MacAddr": "0x240e968f26fc",
      "CellManagerEnable": "1",
      "PortMask": "0xffff",
      "DuplexMode": "1"
    }
  }
}
```

Check if "LocalDebug" =0, indicate disable local connection, and use BBU-EU management.

Check if "LocalEuMac" and "LocalBuMac" =0, indicate MAC code self-adaptive.

```
},
  "LmtConfig": {
    "LocalDebug": "0",
    "CpriDelayMeasure": "1",
    "PowerCoefficient": "1.09",
    "EuPowerCoefficient": "0",
    "EuMasterSlave": "1",
    "EuConfigIndex": "0",
    "EuCascadePortIndex": "11",
    "EuIpAddress": "192.168.201.10",
    "EuRecvPort": "33339"
  },
  "DeviceInfo": {
    "eCPRI": {
      "LocalEuMac": "0",
      "LocalBuMac": "0",
      "LocalBuAnt": "0",
      "LocalBuFreq": "0",
      "AutoPhyRst": "3",
      "BUMACAddr": "0x15161718191A",
      "EnableTimingPackage": "0"
    }
  }
}
```

- Sync //synchronize parameter change after modify
- bsl restart //reload bsl

3. EU Status Check

Check Version and fiber connection status:

```

root@EUZ6:/opt/data# cli client
Server connect successful!!!

=====
welcome to command line management
=====

cliManager > get_version

cliManager > HARDWARE ID: 1100
Project: RHUB
Hardware Version: RHUBZ6V1

Package version=0.05.05
compile_time=2022-12-13--20:16:16

FPGA version: 0x22120709
bsl version: BSL_ARCH=arm64
BSL_FPGA=XILINX_EU
BSL_TYPE=release
COMPILE_TIME=2022-12-12 18:59:39
develop: e1a88f33972433b520d40513009c8a4a71076225

cliManager > cpri_status_show 0 11

cliManager >
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| NUM | MASTER | STATUS | LOCK | SYNC | ERROR_RATE | RX_PWR | TX_PWR | MSTATUS | TEMPER |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 0 | 1 | 1 | 1 | 1169 | 0.00079501 | -5.47 | -3.03 | 000 | 46.16 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 0 | 1 | 0 | 0.00079617 | -inf | -inf | 111 | -inf |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 2 | 1 | 0 | 1 | 0 | 0.00079650 | -inf | -inf | 111 | -inf |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 3 | 1 | 0 | 1 | 0 | 0.00079682 | -inf | -inf | 111 | -inf |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 4 | 1 | 0 | 1 | 0 | 0.00079714 | -inf | -inf | 111 | -inf |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 5 | 1 | 0 | 1 | 0 | 0.00079746 | -inf | -inf | 111 | -inf |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 6 | 1 | 0 | 1 | 0 | 0.00079779 | -inf | -inf | 111 | -inf |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 7 | 1 | 0 | 1 | 0 | 0.00079811 | -inf | -inf | 111 | -inf |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 8 | 1 | 0 | 1 | 0 | 0.00079843 | -inf | -inf | 111 | -inf |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 9 | 1 | 0 | 1 | 0 | 0.00079877 | -inf | -inf | 111 | -inf |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 10 | 1 | 0 | 1 | 0 | 0.00079908 | -inf | -inf | 111 | -inf |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 11 | 1 | 0 | 1 | 0 | 0.00079941 | -inf | -inf | 111 | -inf |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
cliManager >

```

Check /opt/run/oam.log

```

[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [EuMnt] Add new topo 11000000, deviceId: 2
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [EuMnt] Device add in 0 port, cell id 0
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [EuMnt] -----Current topo list-----
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [EuMnt] Total devices: 2
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [EuMnt] RU total cnt: 1
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [EuMnt] RU cnt for cell 0: 1
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [EuMnt] RU cnt for cell 1: 0
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [EuMnt] RU cnt for cell 2: 0
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [EuMnt] RU cnt for cell 3: 0
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [EuMnt] 11000000 0x2 [RU]
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [EuMnt] 10000000 0x1 [EU]
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [EuMnt] -----
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [LntInterfaces] Topo id 11000000, device id 2, change type [Add], device type [RU]
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [Bbu] port 0 at cell 0 gain changed
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [Bbu] GainChangeReport send to BBU successfully
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [Bbu] Topo Change send to BBU successful, PackageID 33685
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [Bbu] Send Alarm(8) status(0) to BBU successful
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] Start to request calc Toffset ...
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] Toffset calc request done, toffset=353.830000
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] channel 0, l76 297 132
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] sirportTriggerDelay 22901 cycles = 46592.203776 ns
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] timingSetUl 57000 cycles = 115966.796875
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] txGth 85.918053 ns
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] dslaveDelay 20745.992923 ns, ulSlaveDelay 1190.322414 ns
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] T12 210.209454 ns, Tatl 17636.001400 ns, Taul 15687.277377 ns
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] Ru channel(0) is connected, now update config params
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] RU 0 ANT CAP: 4
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] RU 0 Standard Code : 5
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] RU 0 Tx Power Code : 2
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] config RU(0) to RCTD 0, Map to config 0
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] config cell params dFreq=4800000000, ulFreq=4800000000, dBandwidth=100, ulBandwidth=100
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] Config cell params dAntennas=4, freqBandIndicator=79, paraCfg->txPower=[24, 24, 24], paraCfg->duplexMode=1
[OAM_LOG] 2023-06-20 13:07:43 LOG_LEVEL_INFO [RuMnt] Send cell params result=0

```

4. RU Parameter Check

Login in RRU from EU:

Kernel: 4.19.0 #1 SMP Wed Dec 22 06:36:15 UTC 2021

root@10.20.1.1's password: root

Last login: Tue Jun 20 08:34:48 2023 from 10.20.1.201

root@RUZ4-4A-C:~#

RU IP Address and EU Optical port Mapping:

Optical port 0~11:

Pico 1 RRU IP Address=10.20.1.1

Pico 2 RRU IP Address=10.20.1.9

...

Pico N RRU IP Address=10.20.1.(N-1)*8+1

Check if "tddModeCfg"=0 ---/opt/data/rfs_config.json

```
root@RUZ4-4A-C:/opt/data# pwd
/opt/data
root@RUZ4-4A-C:/opt/data# ls
ad9528_config.json  hardware_profile.json  monitor.json  rfs_config.json
ext_monitor.json  logger.conf  mxl_16xx_config.json  rru_oam_config.json
root@RUZ4-4A-C:/opt/data# more rfs_config.json
```

```
{
  "tddModeCfg": 0,
  "debugOutputsSel": 5,
  "slotFormatSel": 0,
  "slotFormatCfg": {
    "2p5ms_double": ["0x00ffffff", "0x00ffffff", "0x00ffcc00", "0x00ffffff", "0x00000000", "0x00ffffff", "0x00ffcc00", "0x00ffffff", "0x00000000",
    "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000"],
    "2p5ms_single": ["0x00ffffff", "0x00ffffff", "0x00ffcc00", "0x00ffffff", "0x00000000", "0x00ffffff", "0x00ffcc00", "0x00ffffff", "0x00000000",
    "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000"],
    "5ms": ["0x00ffffff", "0x00ffffff", "0x00ffcc00", "0x00ffffff", "0x00000000", "0x00ffffff", "0x00ffcc00", "0x00ffffff", "0x00000000",
    "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000", "0x00000000"]
  }
}
```

"0" Indicates self-adaptive tdd config, EU padding traffic need change to 1(Local config)

- Sync //synchronize parameter change after modify
- bsl restart //reload bsl

5. RU Status Check

Check RF configuration "configRfSwitch success" ---/opt/run/log/oam.log

```
[OAM_LOG] 2022-12-12 10:11:15 LOG_LEVEL_INFO [main] device temperature: 56.934116.
[OAM_LOG] 2022-12-12 10:11:21 LOG_LEVEL_INFO [MachineRunFun] sendMsgToRfs(PUB_MSG_TYPE_CARR_CFG_REQ: 0x1002) success
[OAM_LOG] 2022-12-12 10:11:21 LOG_LEVEL_INFO [MachineRunFun] rfs_step_rf_config 1.
[OAM_LOG] 2022-12-12 10:11:22 LOG_LEVEL_INFO [configRfSwitch] send RF switch status 1 to rfs.
[OAM_LOG] 2022-12-12 10:11:22 LOG_LEVEL_INFO [MachineRunFun] configRfSwitch success, next.
[OAM_LOG] 2022-12-12 10:11:35 LOG_LEVEL_INFO [main] device temperature: 60.842725.
[OAM_LOG] 2022-12-12 10:11:55 LOG_LEVEL_INFO [main] device temperature: 62.078861.
[OAM_LOG] 2022-12-12 10:12:15 LOG_LEVEL_INFO [main] device temperature: 59.560890.
[OAM_LOG] 2022-12-12 10:12:35 LOG_LEVEL_INFO [main] device temperature: 61.923431.
```

Check RF channel normal signal print: ---/opt/run/log/rfs.log

```
[RFS_LOG] 2023-06-25 16:22:23 LOG_LEVEL_INFO [txLinkCtrl] Update channel 0 success
[RFS_LOG] 2023-06-25 16:22:26 LOG_LEVEL_INFO [drvMsgMgr] enter func:drvMsgMgrProcess MsgId:0x100c, recvPort:127.0.0.1:10000
[RFS_LOG] 2023-06-25 16:22:27 LOG_LEVEL_INFO [txLinkCtrl] ----- channel 0 TGC & DPD -----
[RFS_LOG] 2023-06-25 16:22:27 LOG_LEVEL_INFO [txLinkCtrl] bslDevFpgaCommOrxChannelSelect 0 success!
[RFS_LOG] 2023-06-25 16:22:27 LOG_LEVEL_INFO [txLinkCtrl] bslDevFpgaDpdAntSelect 0 success!
[RFS_LOG] 2023-06-25 16:22:27 LOG_LEVEL_INFO [txLinkCtrl] ttcatchData success.
[RFS_LOG] 2023-06-25 16:22:28 LOG_LEVEL_INFO [txLinkCtrl] all average txPwr : -37.833745 dBm, orxPwr: -40.891362 dBm
[RFS_LOG] 2023-06-25 16:22:28 LOG_LEVEL_ERROR [txLinkCtrl] sync failed, syncIndex : 0, peakValue = 0.000000
[RFS_LOG] 2023-06-25 16:22:28 LOG_LEVEL_INFO [txLinkCtrl] Update channel 1 success
[RFS_LOG] 2023-06-25 16:22:32 LOG_LEVEL_INFO [txLinkCtrl] ----- channel 1 TGC & DPD -----
[RFS_LOG] 2023-06-25 16:22:32 LOG_LEVEL_INFO [txLinkCtrl] bslDevFpgaCommOrxChannelSelect 2 success!
[RFS_LOG] 2023-06-25 16:22:32 LOG_LEVEL_INFO [txLinkCtrl] bslDevFpgaDpdAntSelect 1 success!
[RFS_LOG] 2023-06-25 16:22:32 LOG_LEVEL_INFO [txLinkCtrl] ttcatchData success.
[RFS_LOG] 2023-06-25 16:22:32 LOG_LEVEL_ERROR [txLinkCtrl] all average txPwr : -44.427064 dBm, orxPwr: -45.434628 dBm
[RFS_LOG] 2023-06-25 16:22:32 LOG_LEVEL_ERROR [txLinkCtrl] dataSelect failed, selectIndex = 0
[RFS_LOG] 2023-06-25 16:22:32 LOG_LEVEL_INFO [txLinkCtrl] Update channel 2 success
[RFS_LOG] 2023-06-25 16:22:37 LOG_LEVEL_INFO [txLinkCtrl] ----- channel 2 TGC & DPD -----
[RFS_LOG] 2023-06-25 16:22:37 LOG_LEVEL_INFO [txLinkCtrl] bslDevFpgaCommOrxChannelSelect 4 success!
[RFS_LOG] 2023-06-25 16:22:37 LOG_LEVEL_INFO [txLinkCtrl] bslDevFpgaDpdAntSelect 2 success!
[RFS_LOG] 2023-06-25 16:22:37 LOG_LEVEL_INFO [txLinkCtrl] ttcatchData success.
[RFS_LOG] 2023-06-25 16:22:37 LOG_LEVEL_ERROR [txLinkCtrl] all average txPwr : -44.435353 dBm, orxPwr: -47.813768 dBm
[RFS_LOG] 2023-06-25 16:22:37 LOG_LEVEL_ERROR [txLinkCtrl] dataSelect failed, selectIndex = 0
[RFS_LOG] 2023-06-25 16:22:37 LOG_LEVEL_INFO [txLinkCtrl] Update channel 3 success
[RFS_LOG] 2023-06-25 16:22:42 LOG_LEVEL_INFO [txLinkCtrl] ----- channel 3 TGC & DPD -----
[RFS_LOG] 2023-06-25 16:22:42 LOG_LEVEL_INFO [txLinkCtrl] bslDevFpgaCommOrxChannelSelect 6 success!
[RFS_LOG] 2023-06-25 16:22:42 LOG_LEVEL_INFO [txLinkCtrl] bslDevFpgaDpdAntSelect 3 success!
[RFS_LOG] 2023-06-25 16:22:42 LOG_LEVEL_INFO [txLinkCtrl] ttcatchData success.
[RFS_LOG] 2023-06-25 16:22:42 LOG_LEVEL_ERROR [txLinkCtrl] all average txPwr : -44.426730 dBm, orxPwr: -47.989567 dBm
[RFS_LOG] 2023-06-25 16:22:42 LOG_LEVEL_ERROR [txLinkCtrl] dataSelect failed, selectIndex = 0
```

Check RF Channel power and version:

```
cliManager > get_meas_power

cliManager >
+-----+
| NR      A0C0    A1C0    A2C0    A3C0    |
+-----+
Downlink
+-----+
| CPRI | -33.0 | -inf | -inf | -inf |
| DUC   | -inf | -inf | -inf | -inf |
| COMB  | -inf | -inf | -inf | -inf |
| CFR   | -32.0 | -inf | -inf | -inf |
| DPD   | -29.0 | -inf | -inf | -inf |
| OVFL  | -inf | -inf | -inf | -inf |
| TX    | -inf | -inf | -inf | -inf |
+-----+
UpLink
+-----+
| RX    | -inf | -inf | -inf | -inf |
| DIV   | -inf | -inf | -inf | -inf |
| CPRI  | -inf | -inf | -inf | -inf |
+-----+
ORX
+-----+
| ORX   | -66.0 | -66.0 | -inf | -inf |
+-----+

cliManager > get_version

cliManager > HARDWARE ID: 1110
Project: 4CG-4T4R
Hardware Version: RUZ4V2
Package version=0.05.05
compile_time=2022-12-13--17:06:34

FPGA version: 0x22071414
bsl version: BSL_ARCH=arm64
BSL_FPGA=XILINX_RU
BSL_TYPE=release
COMPILE_TIME=2022-12-02_19:44:14
develop:e5a0b4867ff0f7441bda075d5c33f917c1bb8347

cliManager > get_meas_power

cliManager >
+-----+
| NR      A0C0    A1C0    A2C0    A3C0    |
+-----+
Downlink
+-----+
| CPRI | -21.1 | -21.2 | -21.4 | -21.3 |
| DUC   | -inf | -inf | -inf | -inf |
| COMB  | -inf | -inf | -inf | -inf |
| CFR   | -21.2 | -21.2 | -21.1 | -21.5 |
| DPD   | -18.2 | -18.2 | -18.1 | -18.5 |
| OVFL  | -inf | -inf | -inf | -inf |
| TX    | -18.2 | -18.3 | -18.2 | -18.3 |
+-----+
UpLink
+-----+
| RX    | -45.3 | -50.9 | -38.4 | -37.7 |
| DIV   | -inf | -inf | -inf | -inf |
| CPRI  | -inf | -inf | -inf | -inf |
+-----+
ORX
+-----+
| ORX   | -64.3 | -64.3 | -inf | -inf |
+-----+

cliManager > get_version

cliManager > HARDWARE ID: 1110
Project: 4CG-4T4R
Hardware Version: RUZ4V2
Package version=0.05.05
compile_time=2022-12-13--17:06:34

FPGA version: 0x22071414
bsl version: BSL_ARCH=arm64
BSL_FPGA=XILINX_RU
BSL_TYPE=release
COMPILE_TIME=2022-12-02_19:44:14
develop:e5a0b4867ff0f7441bda075d5c33f917c1bb8347
```

Left-Idle mode Compare with right-Making download traffic.

Check Timing packet config:

