

## 2.6.7 Fan module (optional)

If the upper and lower space of the equipment is less than 2U, a fan shall be added to assist heat dissipation. Fan connection is shown in the figure below.

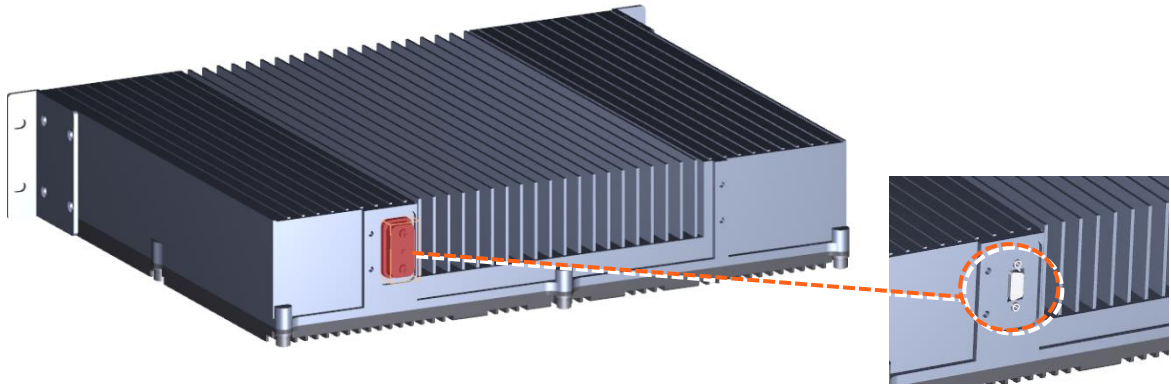


Figure 73. Fan Connection

Remove the cover plate of the end face joint and expose the joint DB15.

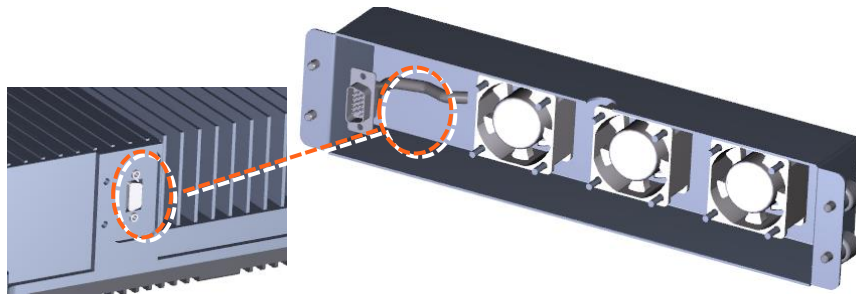


Figure 74. Fan Connection with DB15

Connect DB15.



Figure 75. Fan Installation

Four screws securing the fan module.

## 2.6.8 Mount the dMRU

The dMRU may be mounted on cabinet.

Push the cabinet into place and secure the four 4 screws.

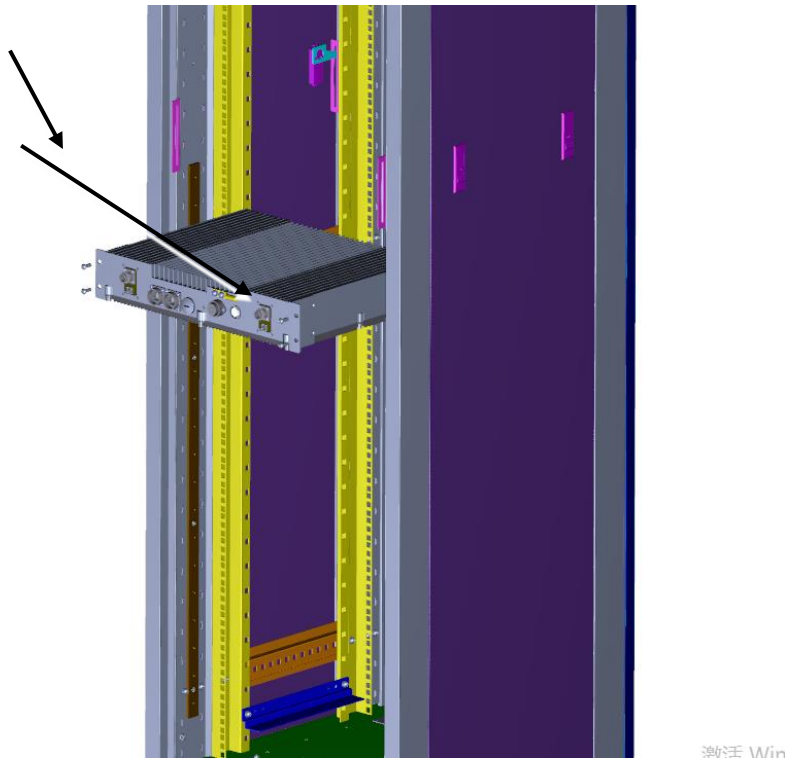


Figure 76. Rack Installation

## 2.6.9 Wall mounted installation

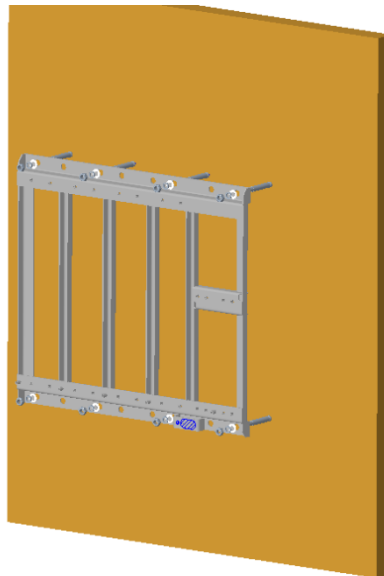
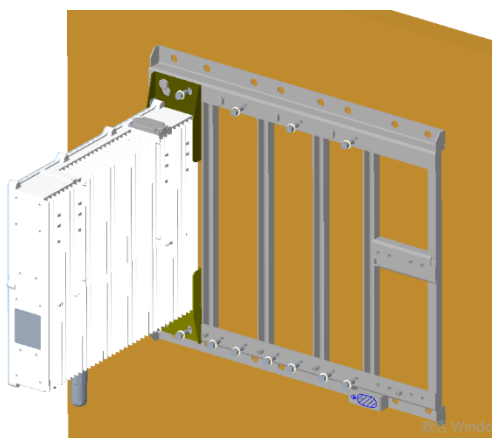
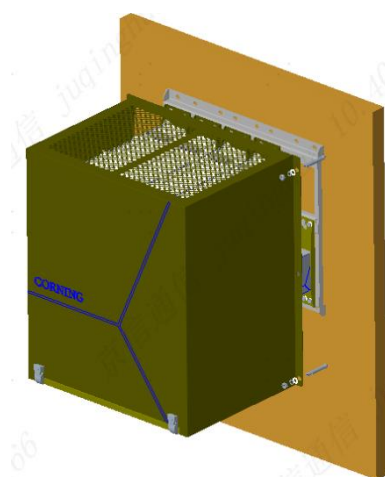


Figure 77. Wall mounted installation



*Figure 78. Wall mounted installation*



*Figure 79. Wall mounted installation*

The installation steps are as follows:

Step 1: Determine the installation position based on the dimensions of the mounting rack, drill holes in the wall according to the positions of the mounting holes, and prepare to install M10\*110 expansion screws.

Step 2: Fix the mounting rack on the wall with 8 M10\*110 expansion bolts, as shown in Figure 77.

Step 3: Put the device first on the mounting rack to hang nails, straighten the position;

Step 4: Connect the device and the mounting rack with 3 M8x16 bolts. All devices and the mounting rack are connected in the same way, as shown in Figure 78.

Step 5: If a shelter cover needs to be installed, determine the installation position based on the dimensions of the occlude cover. (The left and right sides of the shelter cover are centered on the left and right sides of the occlude cover, and the top of the occlude cover is as close as possible to the mounting rack to provide enough cable space at the bottom.) Drill holes in the wall according to the positions of the mounting holes, and prepare to install M10\*110 expansion screws.

Step 6: Fix the cover to the wall with four M10\*110 expansion bolts as shown in Figure 79.

## 2.6.10 Connect the rest of the Cables

For each of the units, connect the cables as follows:

- Ground, see 2.6.11
- Antenna, see 2.6.12

### 2.6.11 Ground

---

Note: Ground according to local regulations

---

The following additional (not supplied) tools and components are required for connecting the system ground:

- Grounding wire - grounding wire should be sized according to local and national installation requirements. The provided grounding lug supports 6 AWG stranded copper wire conductors.
1. Use a wire-stripping tool to remove approximately 0.4 inch (10.9 mm) of the covering from the end of the grounding wire.
  2. Insert the stripped end of the grounding wire into the open end of the grounding lug.
  3. Crimp the grounding wire in the barrel of the grounding lug. Verify that the ground wire is securely attached to the ground lug by holding the ground lug and gently pulling on the ground wire.
  4. Prepare the other end of the grounding wire and connect it to an appropriate grounding point at the site to ensure adequate earth ground.

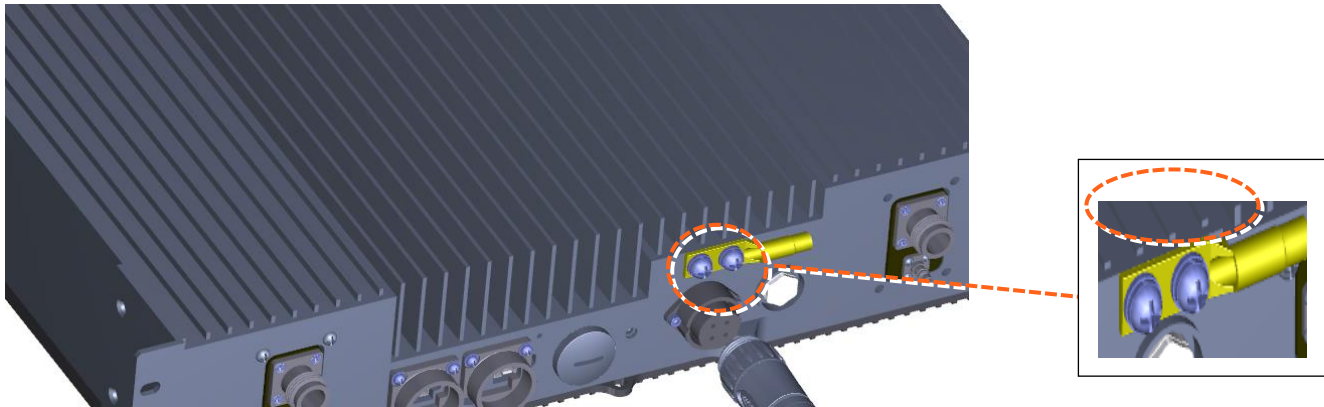


Figure 80. GND Connection

## 2.6.12 Antenna

Connect the dMRU male 4.3-10 Type duplexed RF “ANTENNA” port to the broadband antenna(s) using appropriate coax cables.



Figure 81. Antenna Connection

## 2.6.13 Verify normal operation

The following Table describes the dMRU LED behavior.

| MODULE LED       | Outside the module                          |       |                |
|------------------|---|-------|----------------|
| Status           | Description                                 | Color | Status         |
| Power Up         | The dMRU was powered up                     | Green | Solid          |
| RUN              | The system is up and running                | Green | Blinking (1Hz) |
| Identify         | Identify dMRU was activated                 | Green | Blinking (2Hz) |
| Over temperature | The dMRU temperature exceeded the max range | Red   | Blinking(1Hz)  |
| Hardware Failure | Hardware failure occurred                   | Red   | Solid          |

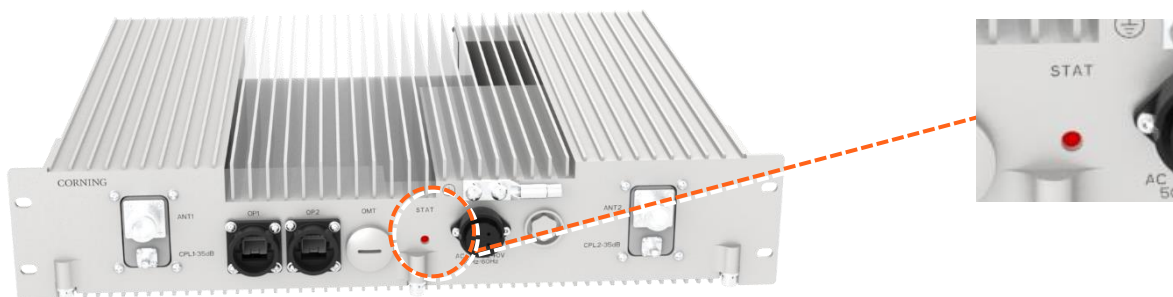


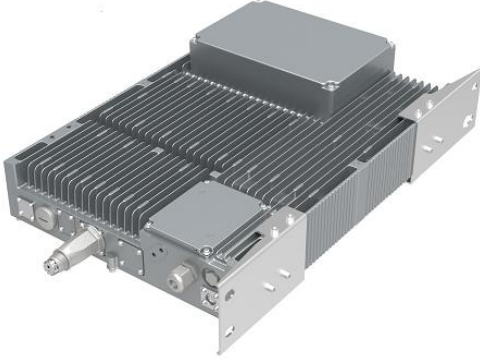



Figure 82. LED on dMRU

## 2.7 dHRU Installation

### 2.7.1 Verify box Contents

1. Open the package and verify all elements are available according to Table 20.

Table 21. dMRU Package Items List

| Item   | Quantity | Image  | Part Number            |
|--|----------|--|------------------------|
| <b>HARDWARE – provided in the box</b>  |          |  |                        |
| dHRU unit  | 1        |    | dHRU-G2-6/7/85/1719/23 |
| <b>HARDWARE – not provided</b>   |          |  |                        |
| 4 screws #8 or 4 mm<br>(for attachment to ceiling)   | 4        |   |                        |
| <b>SFP+ Pluggable Transceivers</b><br>(hot-pluggable optical transceiver module);<br>Support for option 8 line-rate 24.3 Gbps, single mode | 2        |  |                        |
| <b>Optical cables</b><br>Up to 10 km<br>LC/UPC SM DX   |          |  |                        |
| <b>SOFTWARE</b>  |          |  |                        |
| NA   |          |  |                        |
| <b>Required TOOLS</b>  |          |  |                        |
| Phillips Screwdriver   | 1        |  |                        |

## 2.7.2 dHRU Dimensions

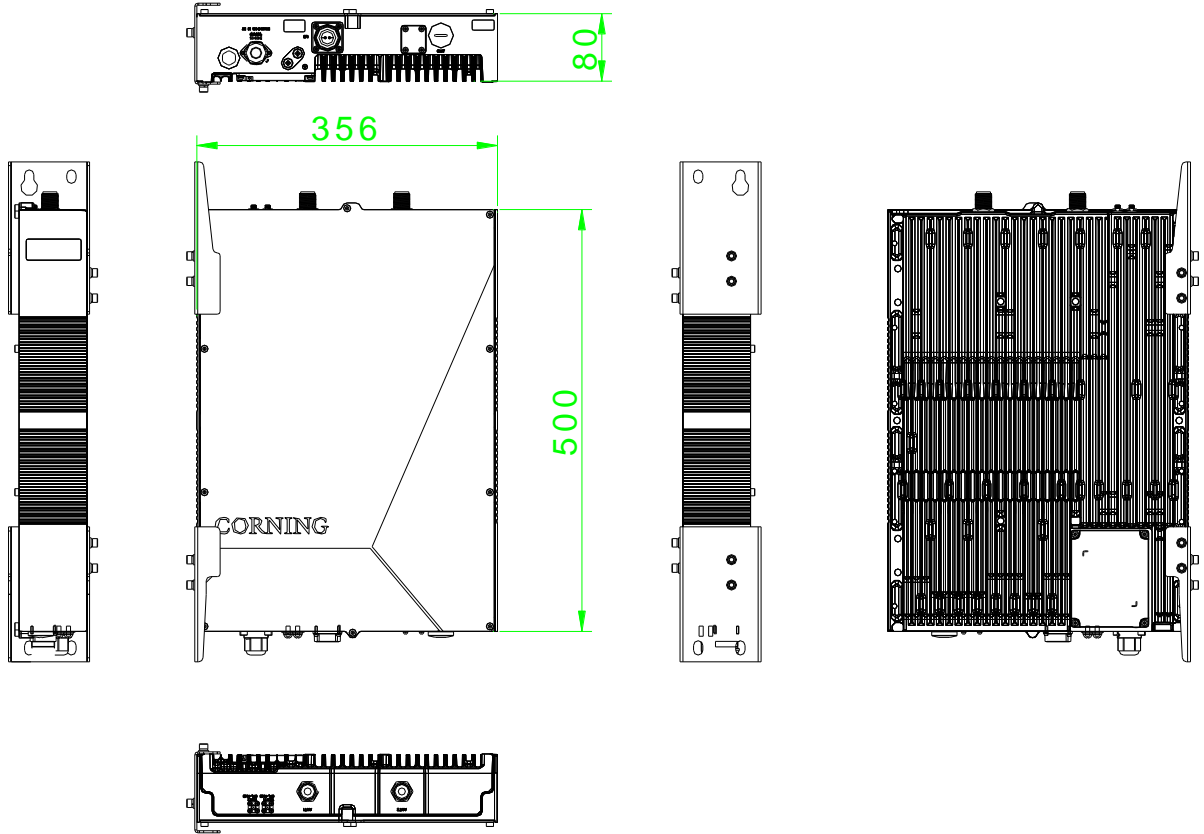


Figure 83. dHRU Dimensions

| Physical Dimensions            |           |                                  |
|--------------------------------|-----------|----------------------------------|
| Dimension (W x H x D) (approx. | Inch (mm) | 21.7 x 3.1 x 14 (550 x 80 x 356) |
| Weight (approx.                | Lbs. (Kg) | 40.8(18.5)                       |

### 2.7.3 dHRU Interfaces

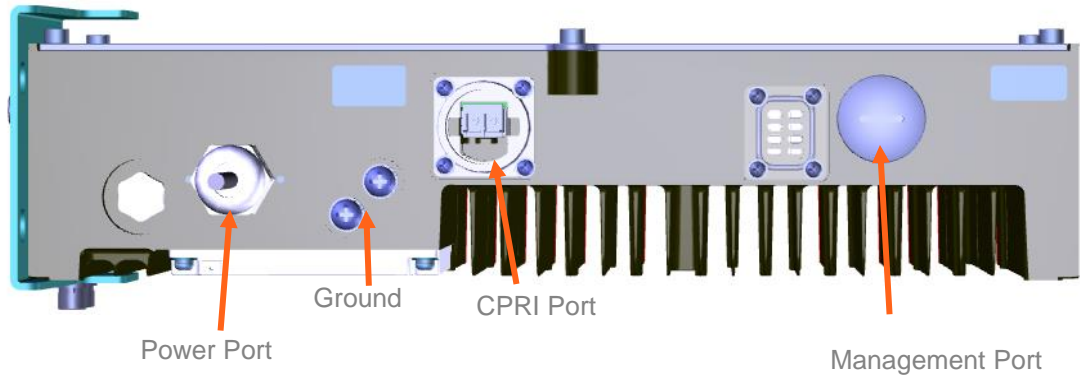


Figure 84. dHRU Front View

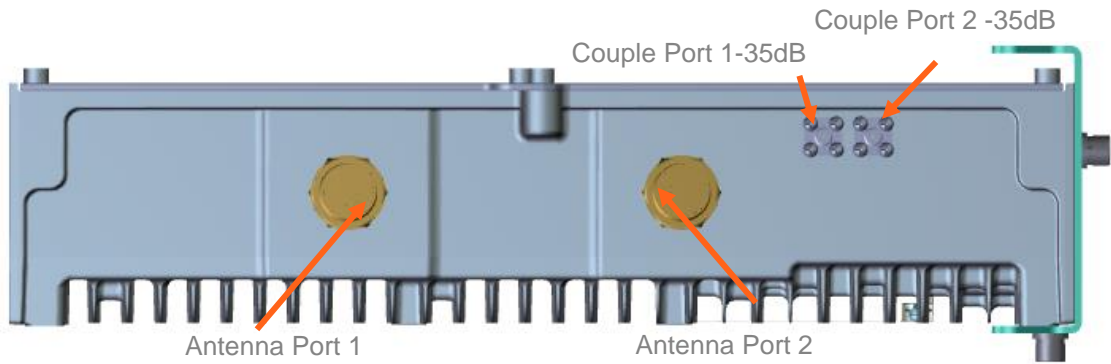


Figure 85. dHRU Back View

| Connectors       |                      |
|------------------|----------------------|
| Antenna Ports    | 2, 4.3-10 female     |
| Couple Ports     | 2, QMA female        |
| CPRI Port        | 2, SFP+ 24.3Gbps     |
| Management Ports | 1, RJ45              |
| Power Port       | 1, C016 20C003, male |
| Ground           | 1, Two holes M6      |



## 2.7.4 Cables Connection

For each of the units connect the external cables as follows:

- Power, see 2.7.5
- SFP+, see 2.7.6

## 2.7.5 Power

Connect the AC wire to the dHRU connectors panel



Figure 86. dHRU Connectors Panel

## 2.7.6 SFP+ Cables

Remove the rubber stopper from the SFP+ connector located in the dHRU CPRI port

Connect the SFP+ LC/UPC SM DX optic cable to the dHRU optic connector.

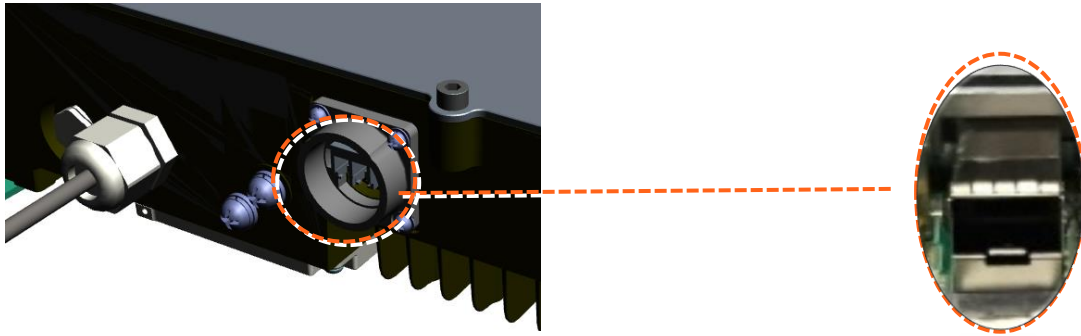


Figure 87. SFP Connector



SFP+ Pluggable Transceivers



SFP+ Cable

Figure 88. SFP and Optical Cable

## 2.7.7 Wall mounted installation

The specific installation steps are as follows:

Step 1: Determine the installation position based on the external dimensions of the mounting bracket, drill holes on the wall according to the position of the mounting bracket fixing holes, and prepare to install M10 \* 110 expansion screws;

Step 2: Use 8 M10 \* 110 expansion bolts to fix the installation bracket to the wall, as shown in the figure below;

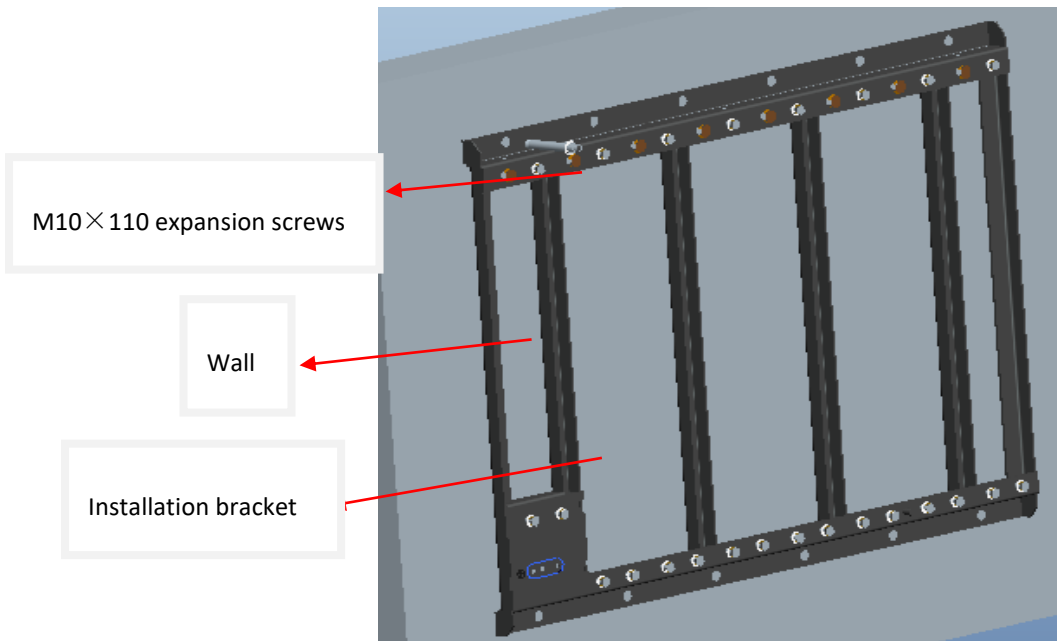


Figure 89. Wall mounted installation

Step 3: Hang the equipment on the mounting bracket and set it in the correct position;

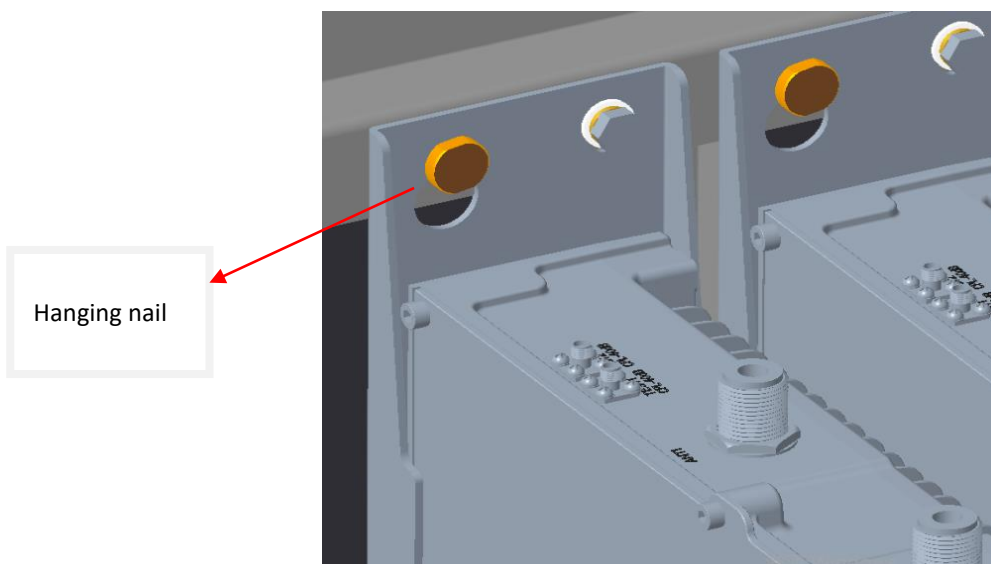
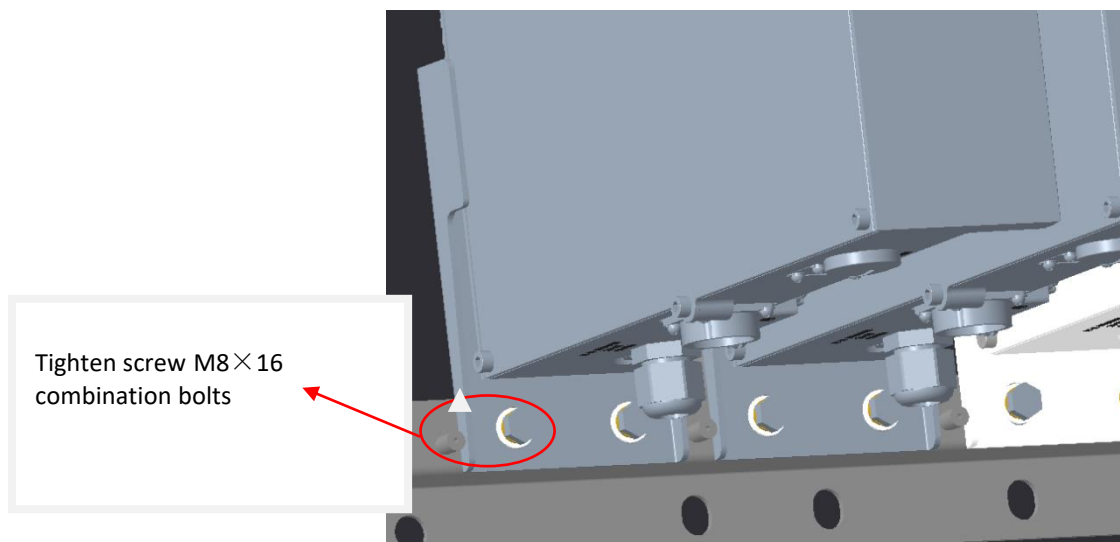


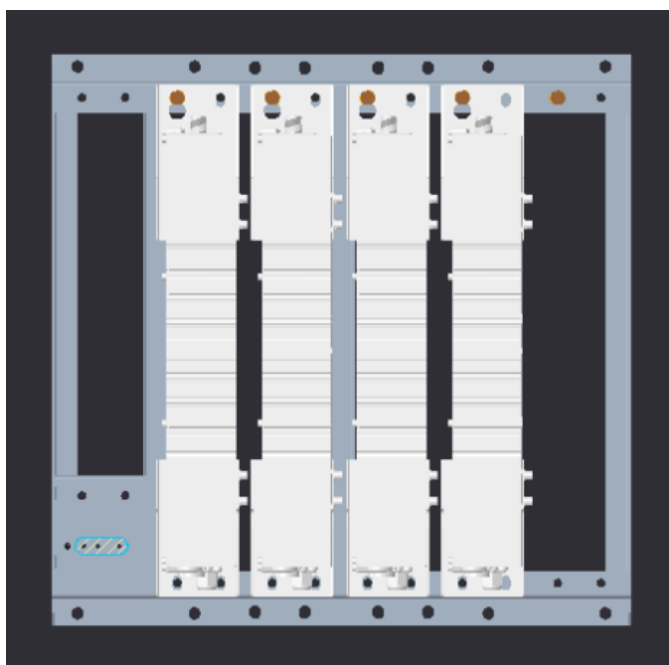
Figure 90. Wall mounted installation

Step 4: Use 3 M8 ×16 combination bolts to fix the dHRU unit up and down. Pay attention to inspection, and the bolts must have corresponding specifications of spring washers and flat washers, and be sure to tighten them, as shown in the figure below;



*Figure 91. Wall mounted installation*

Step 5: The installation is completed.



*Figure 92. Complete the installation*

## 2.7.8 Connect the rest of the Cables

For each of the units, connect the cables as follows:

- Ground, see 2.7.9
- Antenna, see 2.7.10

## 2.7.9 Ground

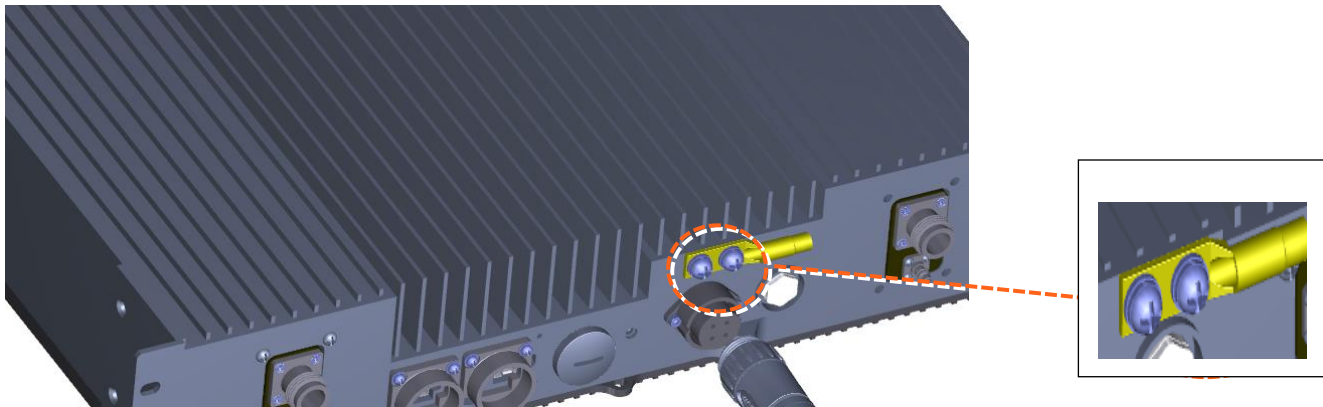
---

Note: Ground according to local regulations

---

The following additional (not supplied) tools and components are required for connecting the system ground:

- Grounding wire - grounding wire should be sized according to local and national installation requirements. The provided grounding lug supports 6 AWG stranded copper wire conductors.
1. Use a wire-stripping tool to remove approximately 0.4 inch (10.9 mm) of the covering from the end of the grounding wire
  2. Insert the stripped end of the grounding wire into the open end of the grounding lug
  3. Crimp the grounding wire in the barrel of the grounding lug. Verify that the ground wire is securely attached to the ground lug by holding the ground lug and gently pulling on the ground wire
  4. Prepare the other end of the grounding wire and connect it to an appropriate grounding point at the site to ensure adequate earth ground



*Figure 93. GND Connection*

## 2.7.10 Antenna

Connect the dHRU male 4.3-10 Type duplexed RF “ANTENNA” port to the broadband antenna(s) using appropriate coax cables.



Figure 94. Antenna Connection

## 2.7.11 Verify normal operation

The following Table describes the dHRU LED behavior.

| MODULE LED       | Outside the module                          |       |                |
|------------------|---|-------|----------------|
| Status           | Description                                 | Color | Status         |
| Power Up         | The dHRU was powered up                     | Green | Solid          |
| RUN              | The system is up and running                | Green | Blinking (1Hz) |
| Identify         | Identify dHRU was activated                 | Green | Blinking (2Hz) |
| Over temperature | The dHRU temperature exceeded the max range | Red   | Blinking(1Hz)  |
| Hardware Failure | Hardware failure occurred                   | Red   | Solid          |

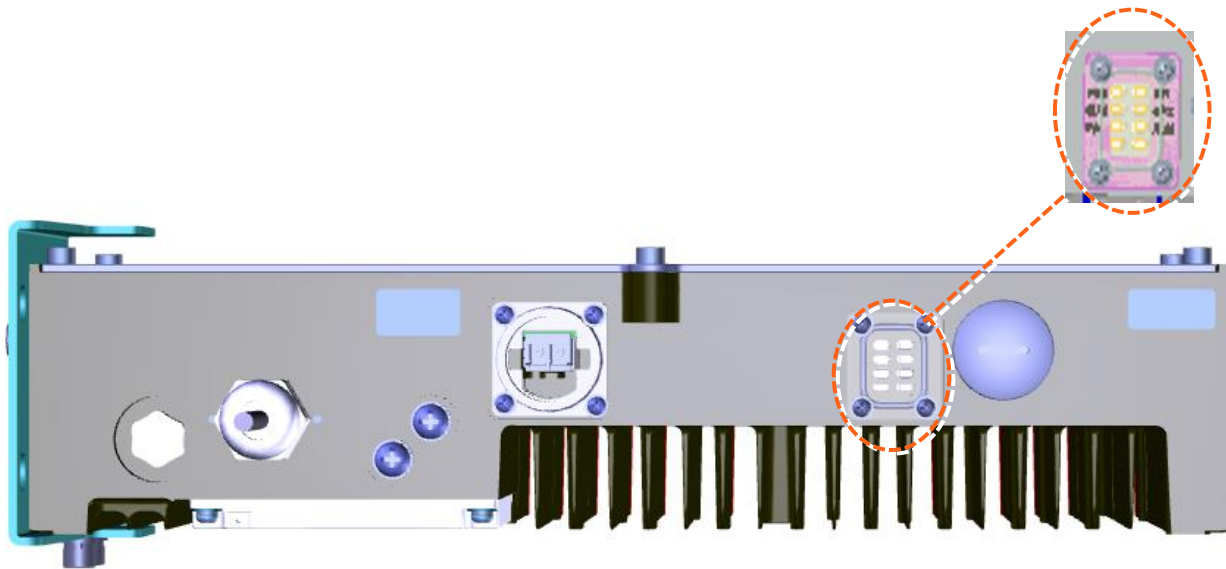


Figure 95. LED on dHRU

### 3. GUI – General Description

This section provides general guidelines and tools for navigating the system GUI:

- Screen layout, see 3.1
- Main menu options, see 3.2.
- Default network settings, see 3.3.
- Supported access options, see 3.3

#### 3.1 Screen Layout

The Information board (located at the top of the window) lists the device information.

The Navigation board (located on the left down of the window) lists the device and their functions.

The Control board (located on the right down of the window) lists the control functions.

**CORNING EVERON™ 6000 SOLUTIONS** admin

Equipment Model: RIU-G2-6  
 Equipment SN: T600002  
 Firmware Version: 23.4.2.11\_Everon\_6000\_RIU\_P2.V02.00.00.05  
 Hardware Version: 3  
 Band: 600  
 Site Info.: UNKNOWN

Information board

- Dashboard
- DCU
- RIU
- Function
- User
- Notification

Overview **RIU 1** RIU 2

Batch Power Sharing By DCU:

| More | CH. | Band | Work Mode | High Gain Mode | Max. Pwr_In | DL Pwr_in | RF Switch | UL ATTN | DL ATTN | ALC Switch |
|------|-----|------|-----------|----------------|-------------|-----------|-----------|---------|---------|------------|
| >    | 1   | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | ON        | 0dB     | 0dB     | ON         |
| >    | 2   | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | ON        | 0dB     | 0dB     | ON         |
| >    | 3   | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | ON        | 0dB     | 0dB     | ON         |
| >    | 4   | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | ON        | 0dB     | 0dB     | ON         |
| >    | 5   | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         |
| >    | 6   | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         |
| >    | 7   | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         |
| >    | 8   | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         |

Control board

Navigation board

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Figure 96. RIU Screen Layout

#### 3.2 Function Options

The function options on the Web-GUI are listed in the following Table.

| Function        | Description   |
|-----------------|---|
| Device info     | View the system topology and info about different system elements |
| Reset           | Software reset for the selected device                            |
| Firmware        | Upgrade or downgrade the firmware                                 |
| Alarm Setting   | Set the alarm including alarm enable/disable, alarm threshold     |
| Import & Export | Import or export the config file                                  |
| Log             | Import or export the log file                                     |
| Comm. Setting   | Communication setting on the SNMP parameters                      |
| IP Setting      | IP setting for the device   |
| Site Report     | Site information inventory  |

### 3.3 Supported Access Options

This section describes the HW and SW required for connecting to the HCM.

First, connect to the HCM with a laptop or a tablet.

The following browsers are supported:

- Microsoft Internet Explorer 11.0 and above
- Mozilla Firefox 42.0, 43.0 and above
- Google Chrome 45.0, 46.0 and above

After the initial configurations are done, it is recommended to establish remote access to the HCM by using the following:

*LAN Ethernet connection to the HCM with a minimum connectivity and throughput capability of 256 Kbp*

## 4. Session Access and first-time settings

When all the system elements are installed, the system administrator can login the system GUI and perform initial configurations.

It is recommended to start using Corning® Everon™ 6000\_G2 and the specific steps are as follows:

- **Commission a local session to the DCU**
- **Configure the LAN IP settings**
- **Perform the initial configurations (commissioning)**

### 4.1 Commission a Local Session

The following are the instructions for commissioning a local management session to perform basic system configurations via the system GUI.

#### ➤ To enter the system GUI

- 1) Connect a computer (e.g., laptop) to the DCU OMT port via an RJ45 CAT 5 Ethernet cable as shown below:

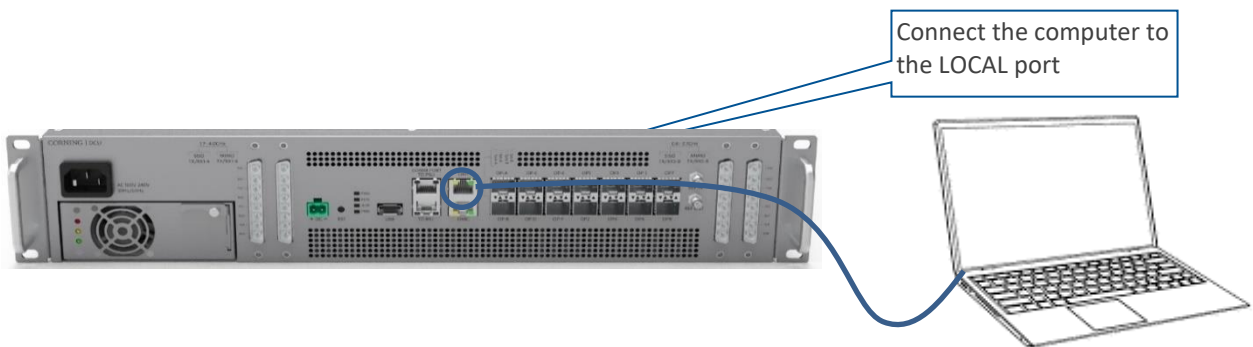


Figure 97. GUI Connection

#### \*Notes:

- *The LOCAL port is set to a static IP Address by default: 192.168.8.101;*
  - *Subnet Mask: 255.255.0.0. Your laptop/tablet network parameters must be set to match the subnet of the default IP address.*
- *The laptop/tablet IP address must be different from the LOCAL port IP address.*
  - 2) Follow the steps below to set up your laptop/tablet network parameters (the steps may vary slightly depending on the OS version used):
    - a. Click **Start** → **Settings** → **Network & Internet**



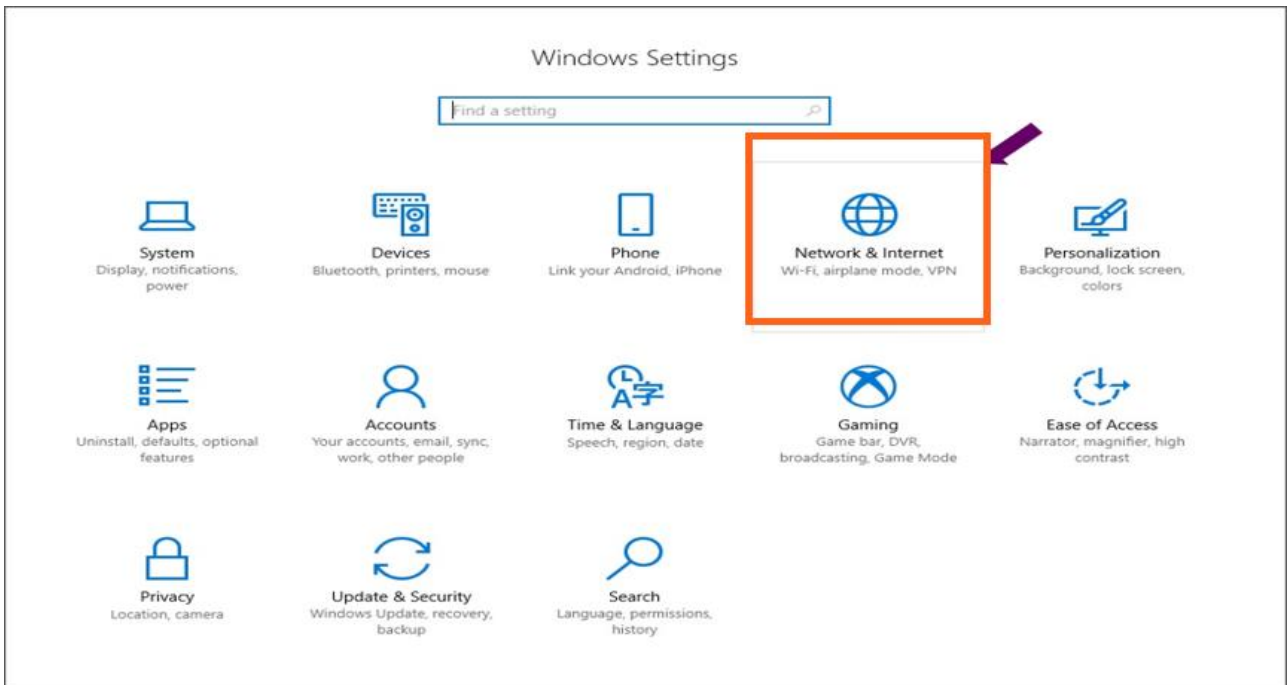


Figure 98. Network & Internet setting

b. Select **Ethernet** --Change adapter options

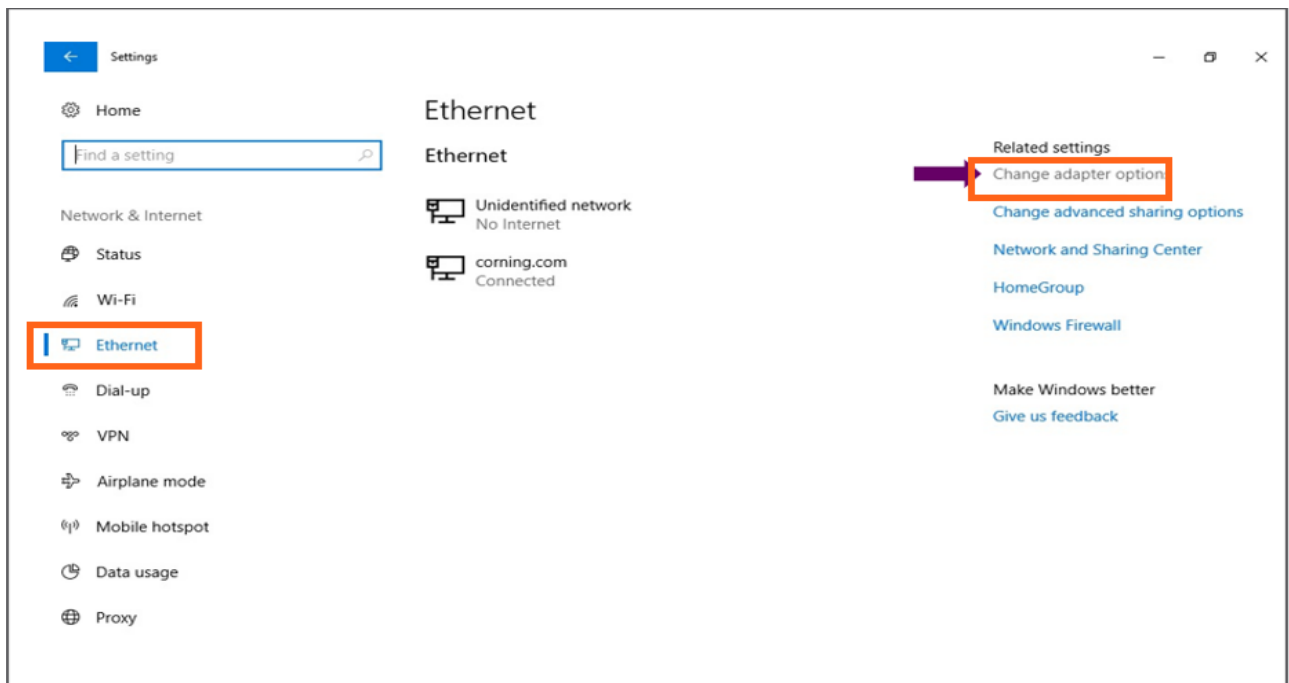


Figure 99. Ethernet setting

c. Right click on the **Ethernet 3** and select **Properties**.

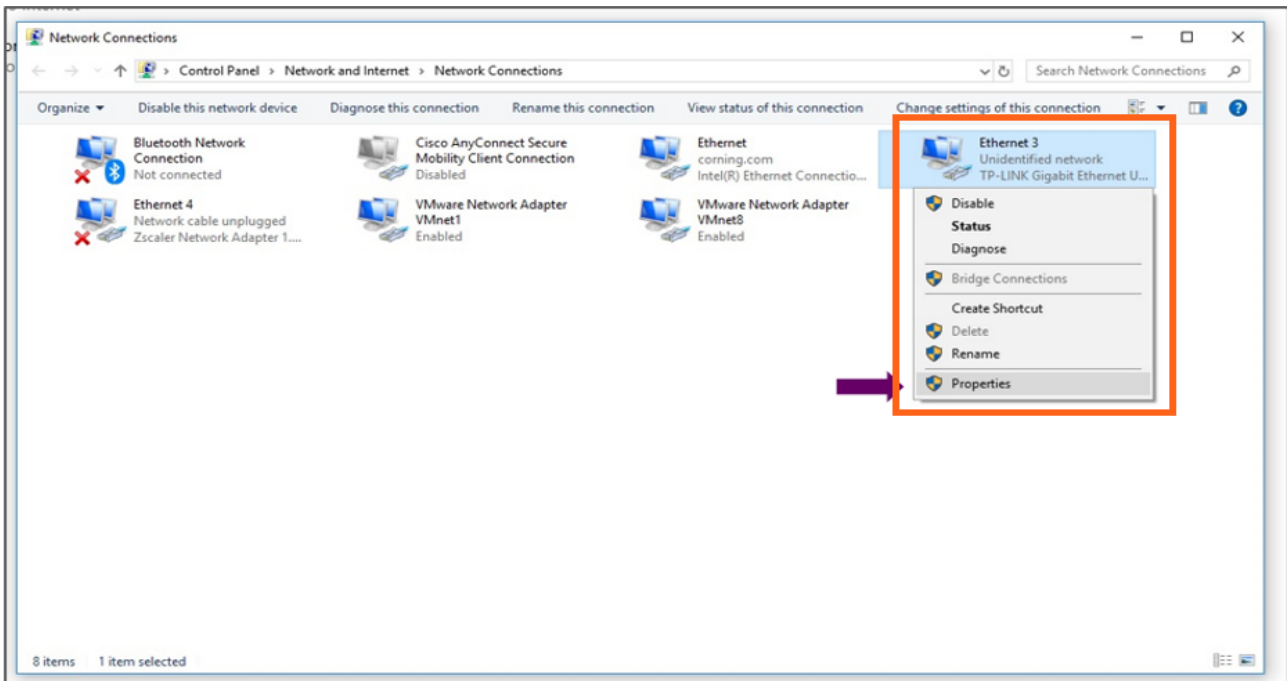


Figure 100. Ethernet 3

d. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**

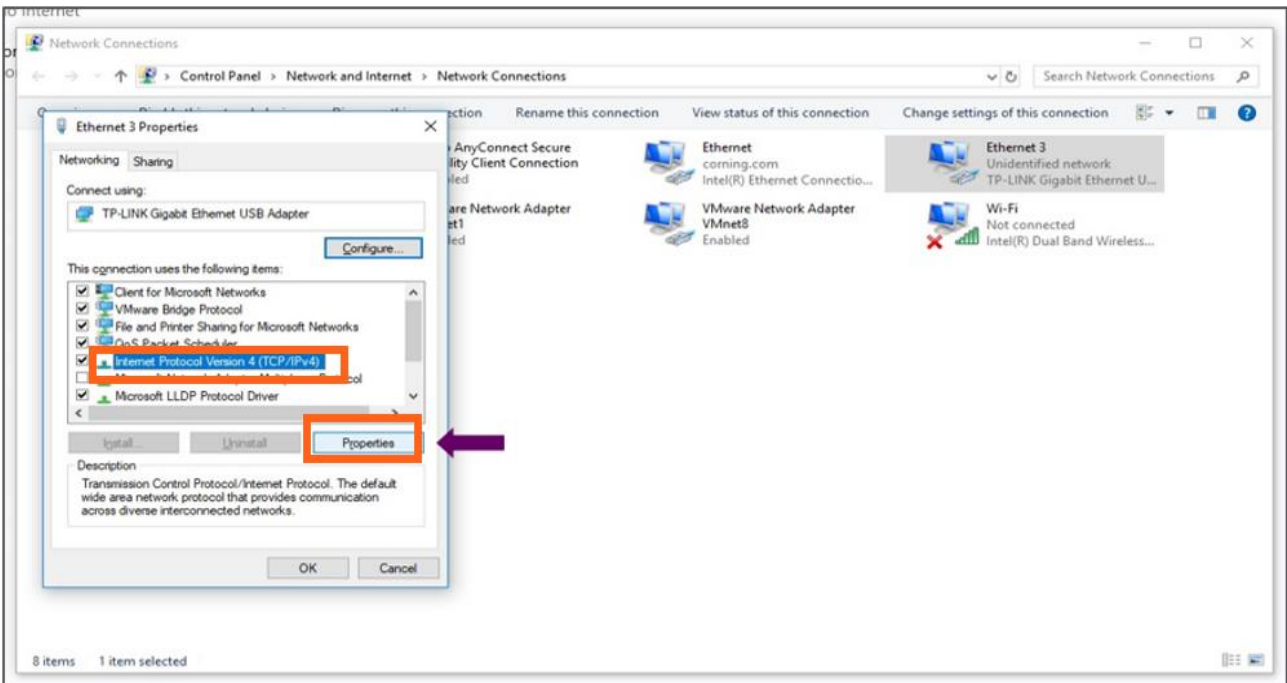


Figure 101. Ethernet 3 properties

- i. Type in the IP address **192.168.8.3** and subnet mask **255.255.0.0** click **OK**
- ii. Examples of IP addresses:
  - **Allowed: 192.168.8.3**
  - **Not allowed: 192.168.8.101 (this IP is used by the LOCAL port).**
- iii. Click **OK** and close the control panel

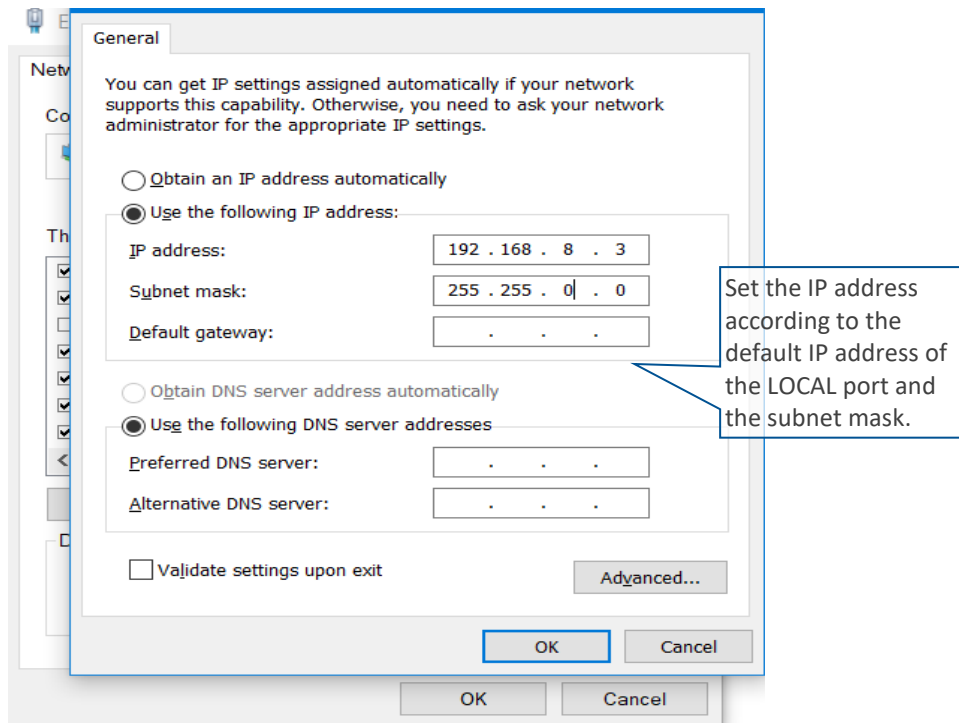


Figure 102. General setting

- 3) Once the connection is established (can be verified by accessing through command prompt: `cmd--ipconfig`), open a browser and type in the LOCAL port default IP address in the address bar: `https://192.168.8.101`.

## 5. Commissioning

Configuring the Corning® Everon™ 6000\_G2 system for each frequency requires a basic understanding of link, budgets, and RF technology. Most system commissioning should be adjusted based on the site requirements and instructions of Corning Support.

### webGUI Workflow

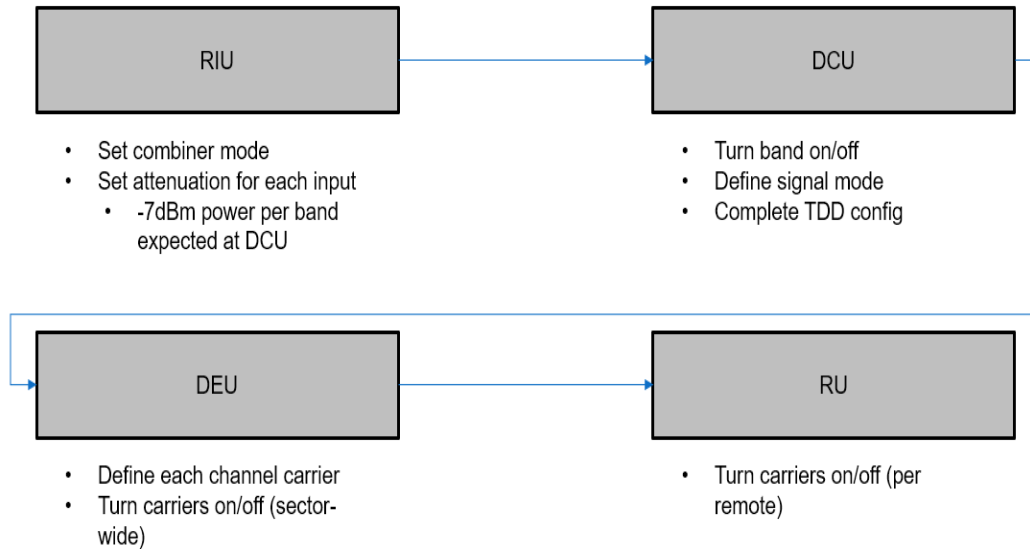
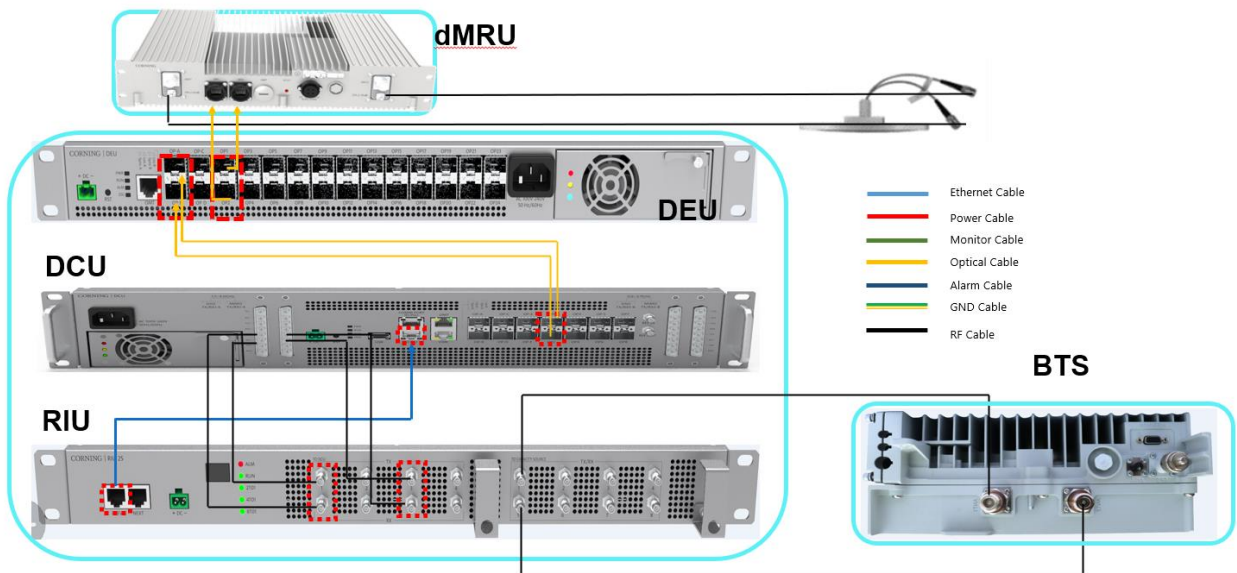
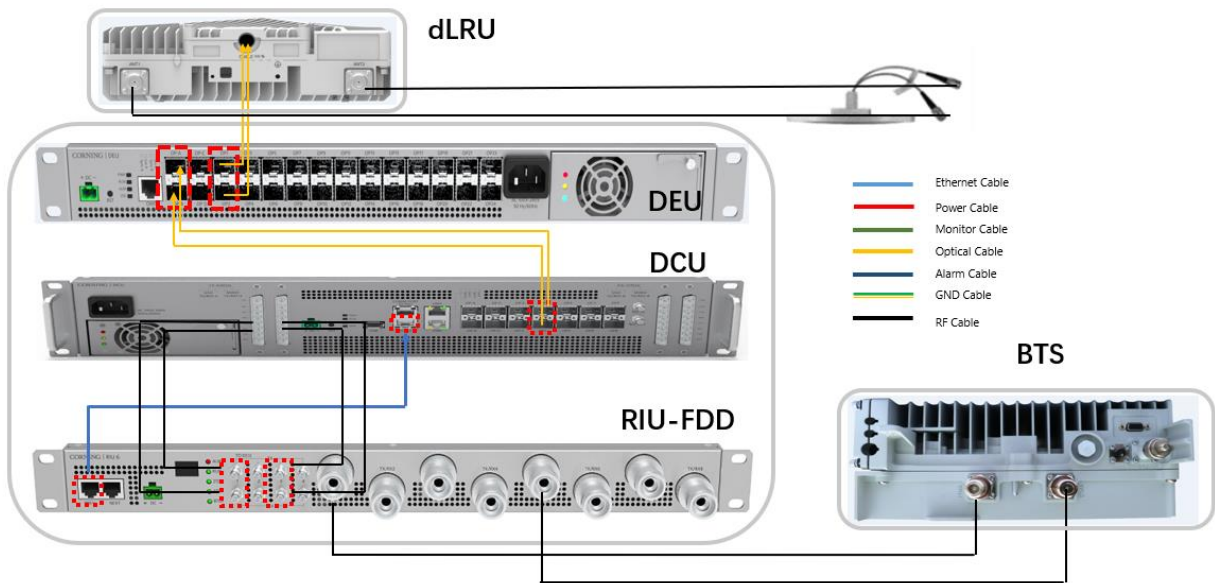
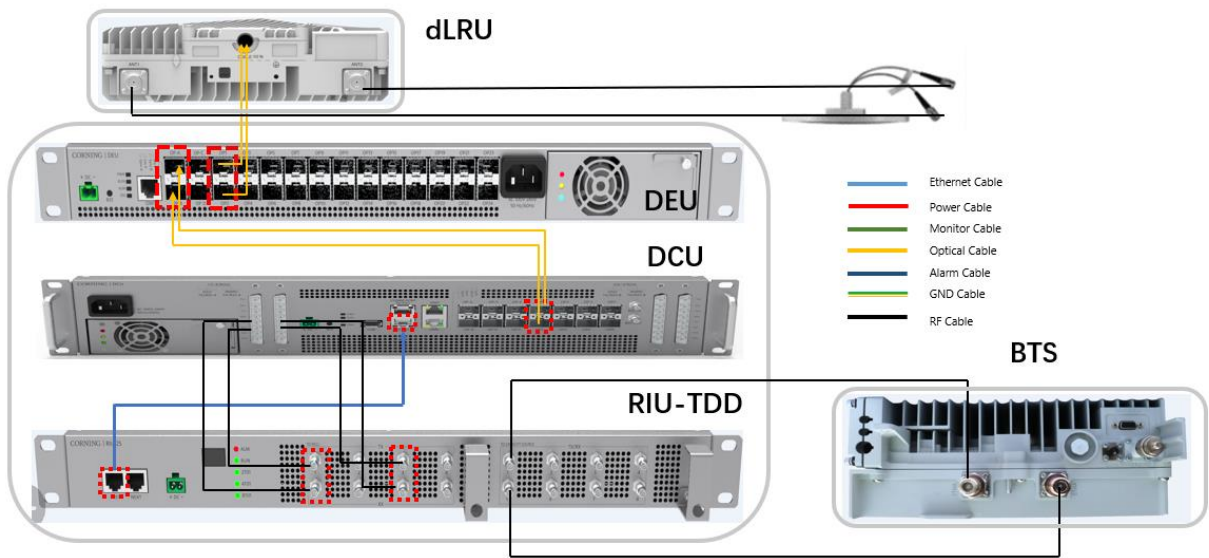
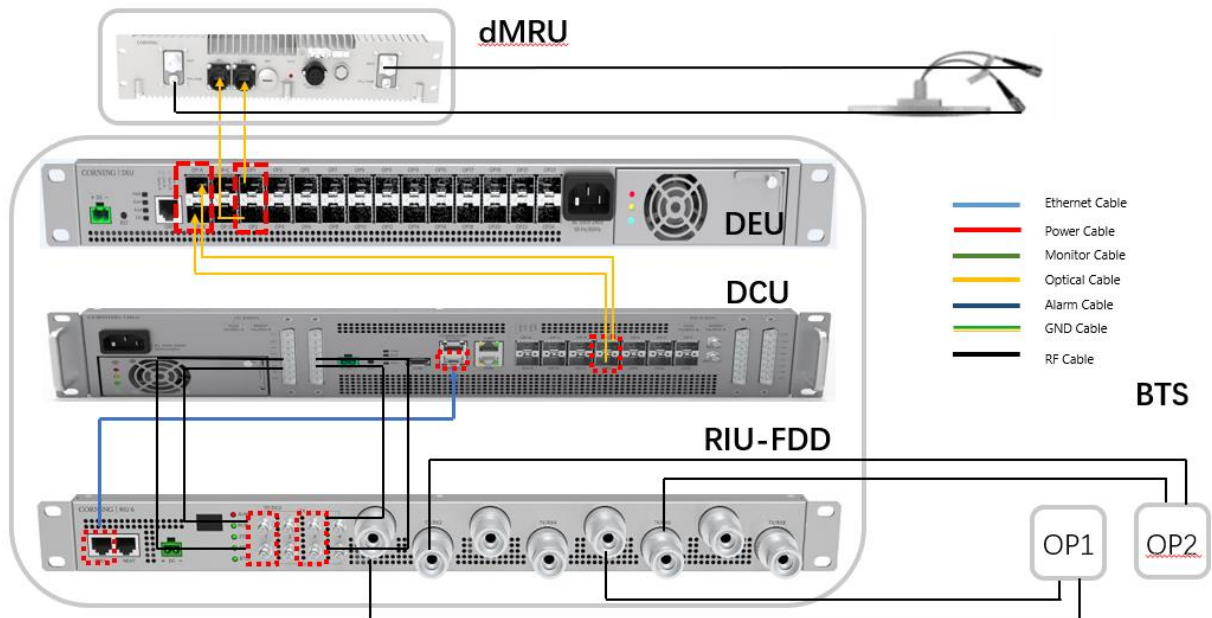


Figure 103. webGUI Workflow

*\*Note: In order to protect the whole system, please keep no signal injection into eNodeB before commissioning.*

Headend Units – Architecture Example: 2x2 MIMO, 1 Operator.

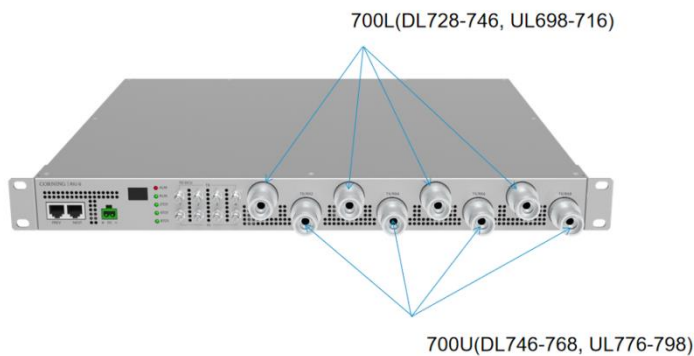




Commissioning tools:

| Tools         | Description                      |
|---------------|----------------------------------|
| Laptop        | Debug tool                       |
| Network cable | Connect DCU OMT port with laptop |

**Note:** The RIU-G2-7 input ports are different, RIU input port 1,3,5,7 for 700L band and port 2,4,6,8 for 700U band.



**Limitation:** In the current design, all the SFP connections (between DCU and DEU, DEU and dLRU) cannot be cross connected.

The following connection is supported:

DCU Port1 <--> DEU PortA

DCU Port2 <--> DEU PortB

DEU Port1 <--> dLRU-3.5 Port1

DEU Port2 <--> dLRU-3.5 Port2

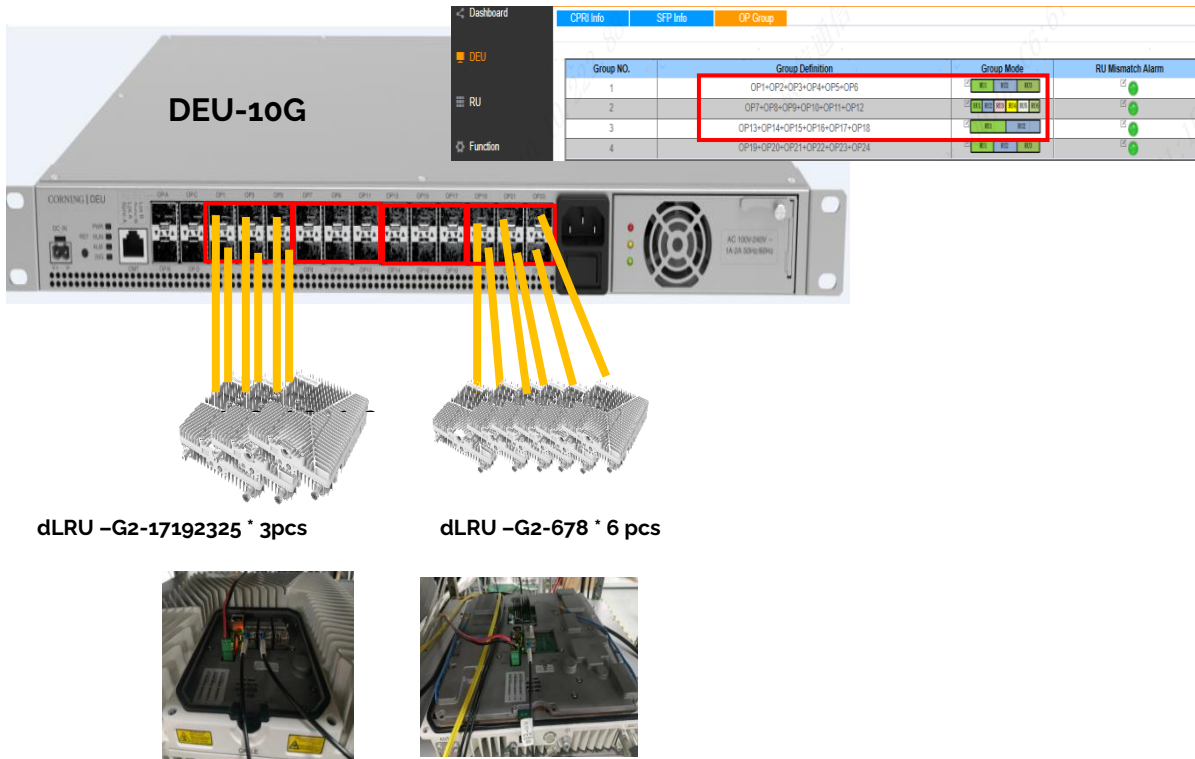
DEU Port3 <--> dMRU-3.5 Port1

DEU Port4 <--> dMRU-3.5 Port2

If the SFP is cross connected between DCU and DEU, the cross status will be shown on DEU web.

1. dLRU-3.5 and dMRU-3.5 support 8 carriers in one sub-band, and totally 16 carriers supported.
2. This version is based on build 8 for dLRU-G2-25 and dMRU-G2-25 upgrade.

**Case:** take dLRU fiber connection as an example.



**Note:**

- DEU-10G is defined as 4 groups, each group includes 6 ports
  - Each group can be set to
    - 1 fiber is connected to one device (dLRU-678)
    - 2 fibers are connected to one device (dLRU-17192325)
  - Connect the same devices to the same group
  - dLRU-17192325 need to be connected to the same pair SFP, such as OP1&OP2, OP3&OP4, OP5&OP6, but cannot be connected to unpaired ports such as port 1&5, 2&3
- Cross connection (OP1<->OP2) is NOT supported in build 8

**Limitation2:** The EAWS channel configuration of DCU should be EAWS+ EAWS or EAWS + 1900B. If configure the channel as EAWS + N/A, it may cause a spurious signal in DL 2155Mhz.

## 5.1 RIU Config

### 5.1.1 RIU WEB overview

Click RIU on the left side shown in Figure 104 to enter the RIU overview control interface where the information (e.g., RIU alarm) can be viewed. Drag the scroll bar under the information list box or the arrow in the column of More to view more.

**Configure the following parameters:**

- Band: Read Only. This shows the current frequency band supported by the RIU
- Combiner Mode: 8TO1/4TO1/2TO1

The screenshot shows the RIU-TDD overview for DCU ID 0, RIU Number 1. The table below represents the data shown in the interface:

| More | RIU ID | Band   | Combiner Mode | Site Info. | Temperature | Firmware Version                          | Equipment SN | RIU Alarm | Fan Alarm |
|------|--------|--------|---------------|------------|-------------|---|--------------|-----------|-----------|
| >    | 1      | N3500A | 4TO1          | UNKNOWN    | 38°C        | 23.4.1.11_Everon_6000_RIU_P2.V01.00.00.11 | 0722507043   | 🔴         | 🟢         |

Figure 104. RIU-TDD overview

The screenshot shows the RIU-FDD Overview for DCU ID 0, RIU Number 2. The table below represents the data shown in the interface:

| More | RIU ID | Band | Combiner Mode | Site Info. | Temperature | Firmware Version                          | Equipment SN | RIU Alarm | Fan Alarm | Temperature Alarm |
|------|--------|------|---------------|------------|-------------|---|--------------|-----------|-----------|-------------------|
| >    | 1      | 600  | 2TO1          | UNKNOWN    | 37°C        | 23.4.2.11_Everon_6000_RIU_P2.V02.AA.00.05 | T600002      | 🔴         | 🟢         | 🟢                 |
| >    | 2      | WCS  | 2TO1          | UNKNOWN    | 37°C        | 23.4.2.11_Everon_6000_RIU_P2.V02.AA.00.05 | 072251F020   | 🔴         | 🟢         | 🟢                 |

Figure 105. RIU-FDD Overview

**Note:** RIU supports 3 working modes (2 to 1, 4 to 1, 8 to 1).

**2 to 1**, 4x4 MIMO for up to 2 groups. Duplexer (TX/RX1&2 for MIMO1, TX/RX3&4 for MIMO2, TX/RX5&6 for MIMO3, TX/RX7&8 for MIMO4), Simplexes (TX1/RX5 for MIMO1, TX2/RX6 for MIMO2, TX3/RX7 for MIMO3, TX4/RX8 for MIMO4)

**4 to 1**, 2x2 MIMO for up to 4 groups. Duplexer (TX/RX1&2&3&4 for MIMO1, TX/RX5&6&7&8 for MIMO2), Simplexes (TX1/RX5 for MIMO1, TX2/RX6 for MIMO2)

**8 to 1**, SISO for up to 4 groups. Duplexer (TX/RX1~8 all for SISO), Simplexes (TX1/RX5 for SISO)



## 5.1.2 RIU Parameter Config


RIU parameters:

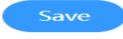
| SN | RIU Parameters       | Ranges  | Default Values                  | Remark  |  |
|----|----------------------|---|---------------------------------|---|--|
| 1  | Work Mode            | TxRx/Tx/Rx  | TxRx                            |   |  |
| 2  | High Gain Mode (FDD) | ON/OFF<br>DL gain=-30 dB/-7 dB<br>UL gain=-40 dB/-20 dB | OFF (DL: -30 dB gain,UL: -40dB) | ON (DL: -7 dB Gain,UL: -20dB)<br><br>Support DL/UL high gain mode |  |
|    | High Gain Mode (TDD) | ON/OFF<br>DL gain=-30 dB/-7 dB                          | OFF (DL: -30 dB gain)           | ON (DL: -7 dB Gain)<br><br>Support DL high gain mode              |  |
| 3  | DL Pwr_in            | Read only   | Read only                       | Downlink input power  |  |
| 4  | RF Switch            | On/Off  | On                              |   |  |
| 5  | UL ATTN              | 0~25 dB   | 20 dB                           | RIU uplink ATT  |  |
| 6  | DL ATTN              | 0~25 dB   | 20 dB                           | RIU downlink ATT  |  |
| 7  | ALC Switch           | ON/OFF  | ON                              |   |  |
| 8  | High Gain Mode =ON   | ALC Level   | ON: -11~9 dBm                   | 7 dBm   |  |
|    |                      | DC Input Overload THR                                   | -13~12 dBm                      | 12 dBm  |  |
|    |                      | DC Input Lower THR                                      | -25~12 dBm                      | -15 dBm   |  |
| 9  | High Gain Mode =OFF  | ALC Level   | OFF: 12~32 dBm                  | 30 dBm  |  |
|    |                      | DL Input Overload THR                                   | 12~37 dBm                       | 37 dBm  |  |
|    |                      | DL Input Lower THR                                      | 0~37 dBm                        | 10 dBm  |  |

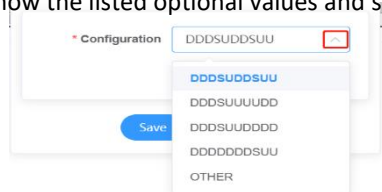
➤ **To configure RIU parameters**

1. In the dashboard, click RIU NE in the topology and enter RIU info page.

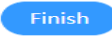


2. In the main menu options, click RIU-RIU 1 or 2 and the configuration page appears.
3. In the displayed page, click  to configure each field (Work mode, High Gain Mode, RF Switch, UL ATT, DL ATT, ALC Switch, ALC Level, DC Input Overload THR, DC Input Lower THR).


4. For UL/DL Slot Configuration, Special Sub Configuration, Sub Carrier Spacing, click the arrow to show the listed optional values and select one; Then click Save  .



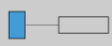
5. For User Set CF 1~8 and SSB Auto Search Switch, scroll the bar or click the arrow under **More** to fill in relevant values within the range according to the parameters above. Next click Finish

 to complete the settings.

CORNING EVERON™ 6000 SOLUTIONS admin



Equipment Model RIU-G2-35  
 Equipment SN 0722507043  
 Firmware Version 23.4.1.11\_Everon\_6000\_RIU\_P2.V01.00.00.11  
 Hardware Version 1  
 Band N3500A  
 Site Info. UNKNOWN



Overview
RIU 1

Batch Power Sharing By DCU:

| More | CH. | Band   | Work Mode | High Gain Mode | Max. Pwr_In | DL Pwr_In | RF Switch | UL ATTN | DL ATTN | ALC Switch | ALC Level | DL I |
|------|-----|--------|-----------|----------------|-------------|-----------|-----------|---------|---------|------------|-----------|------|
| >    | 1   | N3500A | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         | 30dBm     |      |
| >    | 2   | N3500A | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         | 30dBm     |      |
| >    | 3   | N3500A | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         | 30dBm     |      |
| >    | 4   | N3500A | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         | 30dBm     |      |
| >    | 5   | N3500A | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         | 30dBm     |      |
| >    | 6   | N3500A | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         | 30dBm     |      |
| >    | 7   | N3500A | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         | 30dBm     |      |
| >    | 8   | N3500A | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         | 30dBm     |      |

Figure 106. RIU-TDD information

CORNING EVERON™ 6000 SOLUTIONS

Equipment Model RIU-G2.6  
 Equipment SN T600002  
 Firmware Version 23.4.2.11\_Everon\_6000\_RIU\_P2.V02.AA.00.05  
 Hardware Version 3  
 Band 800  
 Site Info. UNKNOWN

Overview **RIU 1** RIU 2

Batch

Power Sharing By DCU:

| More | CH | Band | Work Mode | High Gain Mode | Max. Pwr_in | DL Pwr_in | RF Switch | UL ATTN | DL ATTN | ALC Switch | ALC Level | DL Input Overload Alarm             | DL Input Shutdown Alarm             |
|------|----|------|-----------|----------------|-------------|-----------|-----------|---------|---------|------------|-----------|-------------------------------------|-------------------------------------|
| >    | 1  | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | ON        | 0dB     | 0dB     | ON         | 32dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| >    | 2  | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | ON        | 0dB     | 0dB     | ON         | 32dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| >    | 3  | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | ON        | 0dB     | 0dB     | ON         | 32dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| >    | 4  | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | ON        | 0dB     | 0dB     | ON         | 32dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| >    | 5  | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         | 32dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| >    | 6  | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         | 32dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| >    | 7  | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         | 32dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| >    | 8  | 600  | Tx/Rx     | OFF            | 37dBm       | <10dBm    | OFF       | 0dB     | 0dB     | ON         | 32dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Figure 107. RIU-FDD information

You can also click Batch button to set the parameters.

CORNING EVERON™ 6000 SOLUTIONS

Equipment Model RIU-G2.6  
 Equipment SN T600002  
 Firmware Version 23.4.2.11\_Everon\_6000\_RIU\_P2.V02.AA.00.05  
 Hardware Version 3  
 Band 800  
 Site Info. UNKNOWN

Overview **RIU 1** RIU 2

Batch

Setting

Work Mode Select

High Gain Mode OFF ON

DL Input Overload Alarm Disable Enable

DL Input Shutdown Alarm Disable Enable

DL Input Lower Alarm Disable Enable

Service Off Alarm Disable Enable

RF Switch OFF ON

ALC Switch OFF ON

DL Input Overload THR(dBm)

DL Input Lower THR(dBm)

Finish Cancel

Power Sharing By DCU:

| ALC Level | DL Input Overload Alarm             | DL Input Shutdown Alarm             | DL Input Lower Alarm                |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|
| 30dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 30dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 30dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 30dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 30dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 30dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 30dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 30dBm     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

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Figure 108. RIU Batch Setting

## 5.2 DCU Config

**Note:** The max network topology would be 4:16:192(DCU star and DEU daisy chain connection).

### 5.2.1 DCU -> Dashboard

Click the Dashboard navigation button to enter the dashboard page, where you can query the full topology of all the dependent NE connected to the DCU unit. Click NE ID in the topology, and switch to the info query and configuration management page of other NE to facilitate the user.

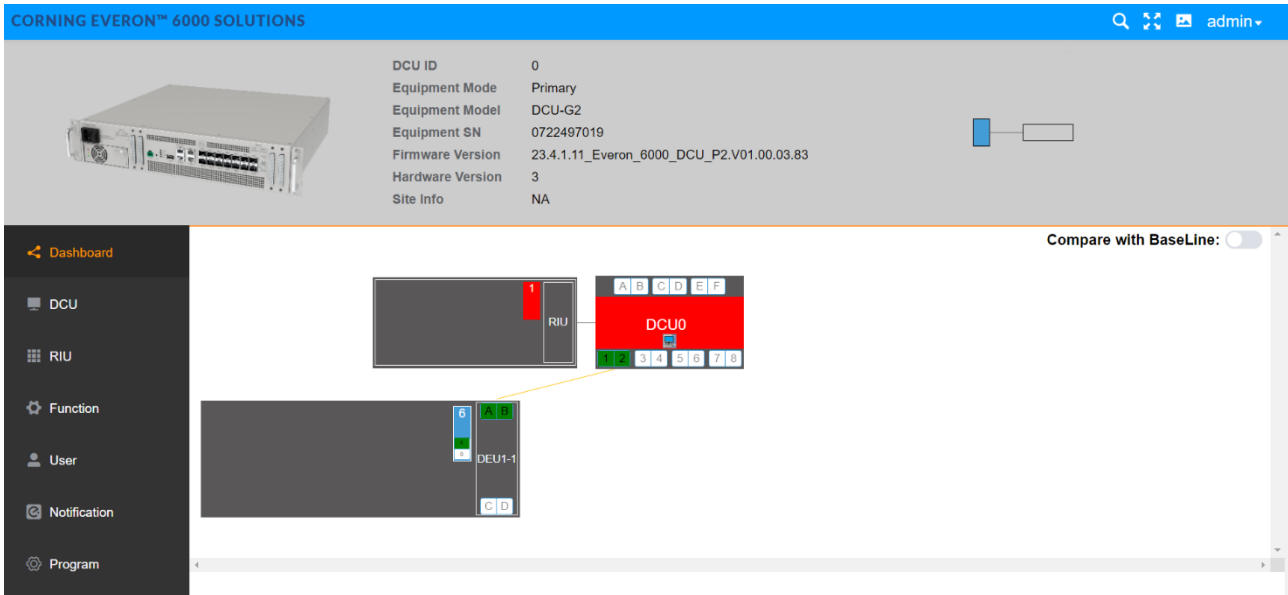


Figure 109. DCU dashboard



#### 5.2.1.1 DCU Alarm


| SN | DCU parameters                 | Range                    | Default values | Remark                                  |
|----|--------------------------------|--------------------------|----------------|---|
| 1  | Temperature THR                | 0~125℃                   | 80℃            | Temperature threshold                   |
| 2  | Power Temperature THR          | 0~125℃                   | 80℃            | Power supply unit temperature threshold |
| 3  | Optical Module Temperature THR | 0~125℃                   | 80℃            | Optical Module Temperature threshold    |
| 4  | System Delay THR               | -999999999ns~999999999ns | 60000ns        | System delay threshold                  |

On the left navigation page of the DCU unit, click DCU → Alarm. All alarm quantities of the device are displayed to facilitate the user to query and monitor the alarm info.

##### ➤ To configure DCU alarm parameters

1. Click DCU—Alarm Info to enter the configuration page.

2. For alarms, click  and Disable and Enable button can be seen. Select Enable then the green icon will be displayed .

3. For Temperature THR, Power Temperature THR, Optical Module Temperature THR, System Delay THR, click  to enter the values within the range according to the form above.

4. Click Finish  to complete the setting.

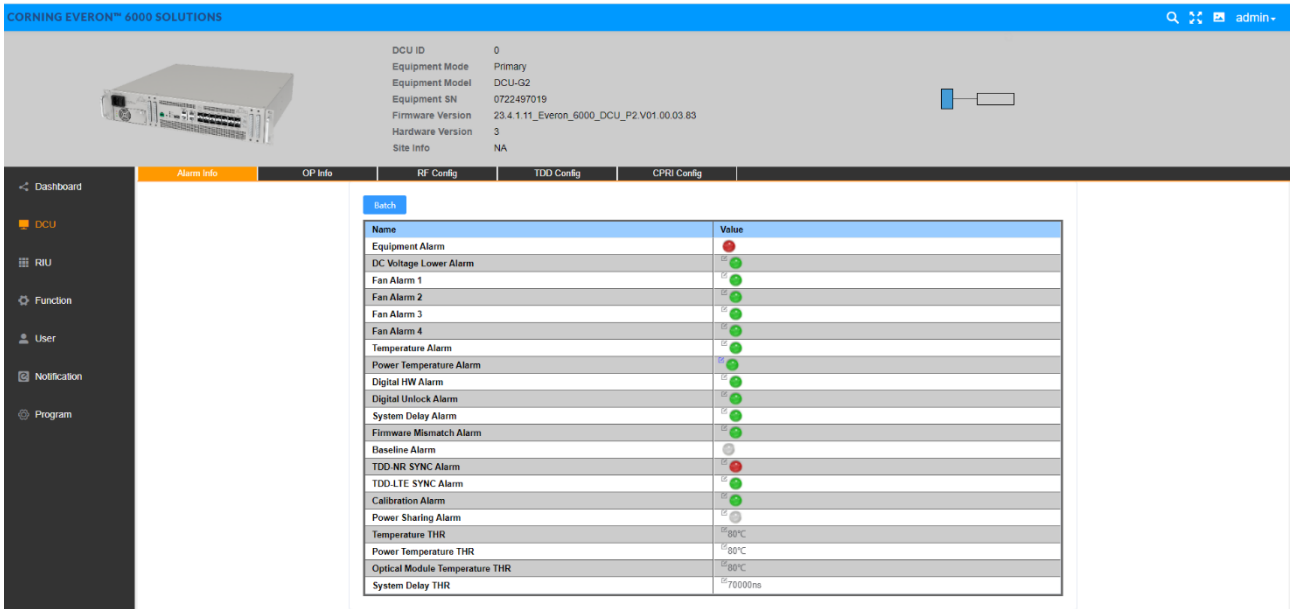


Figure 110. DCU alarm info

Click Batch button to enable/disable all alarms. And then click Finish/Cancel to complete the setting.

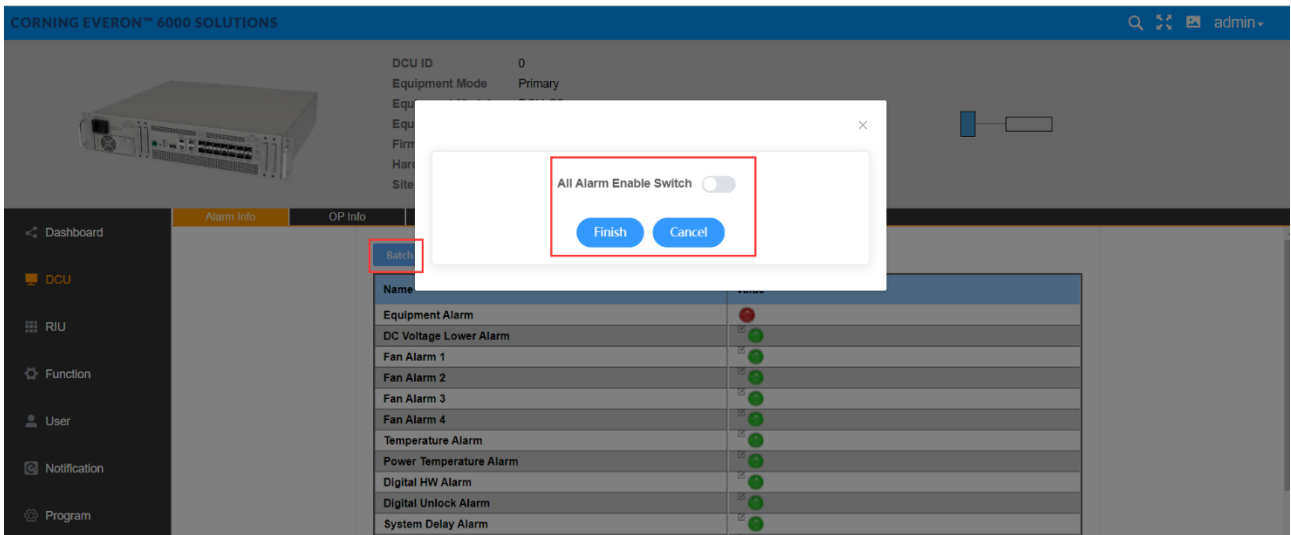


Figure 111. DCU alarm info-Batch-Enable switch

### 5.2.1.2 DCU OP

### 5.2.1.3 Info

In this window, users can query the information of all optical ports.

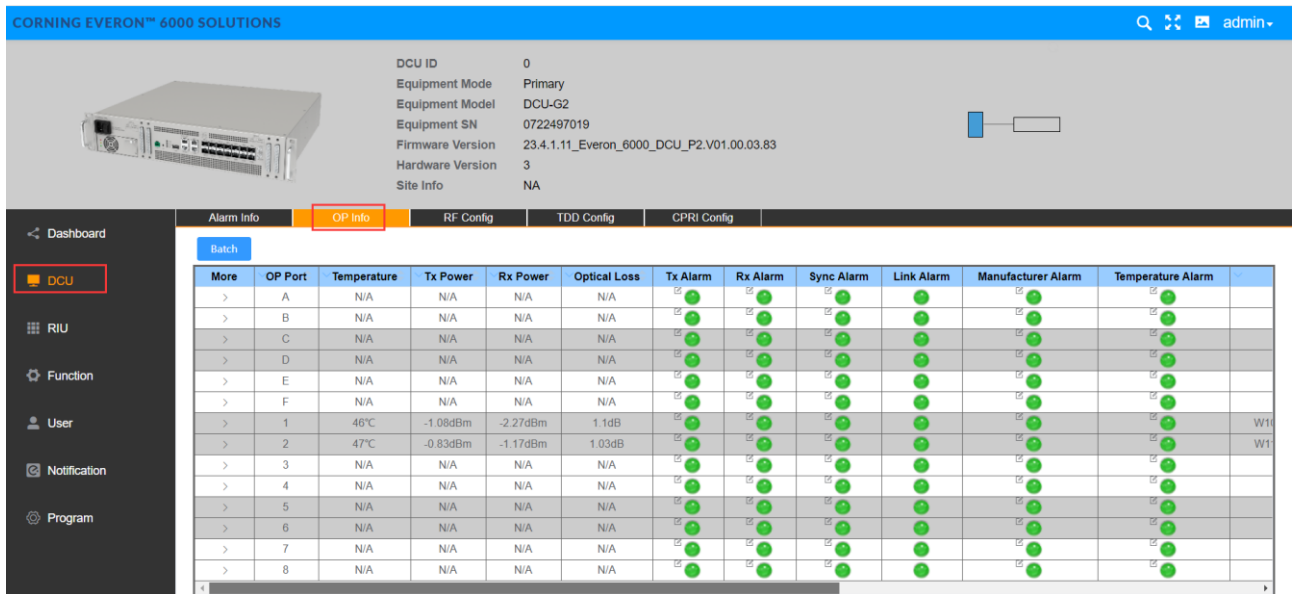



Figure 112. DCU OP info

➤ **To configure the OP Info**

1. Click the left navigation button DCU OP Info.

2. Click the edit icon  in front of the alarm indicator to enter the alarm Enable and Disable settings page.

3. Then click Finish button  to complete the setting, as shown below.

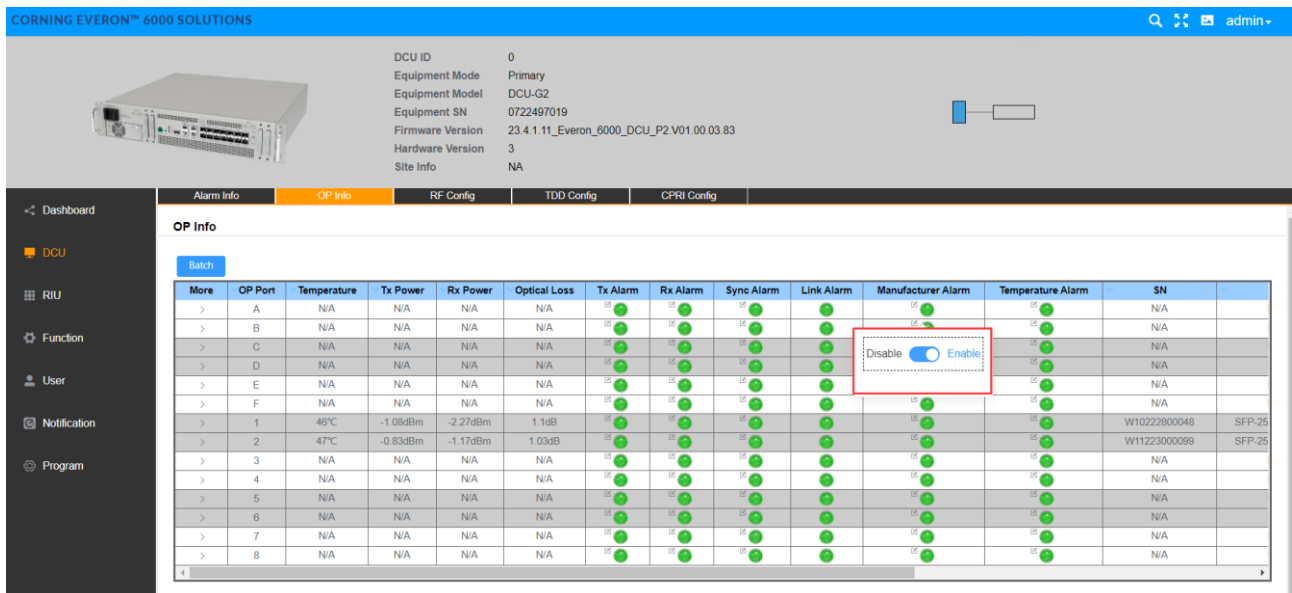


Figure 113. DCU OP Info  Disable/Enable Finish/Cancel

You can also click Batch button to directly set the parameters.

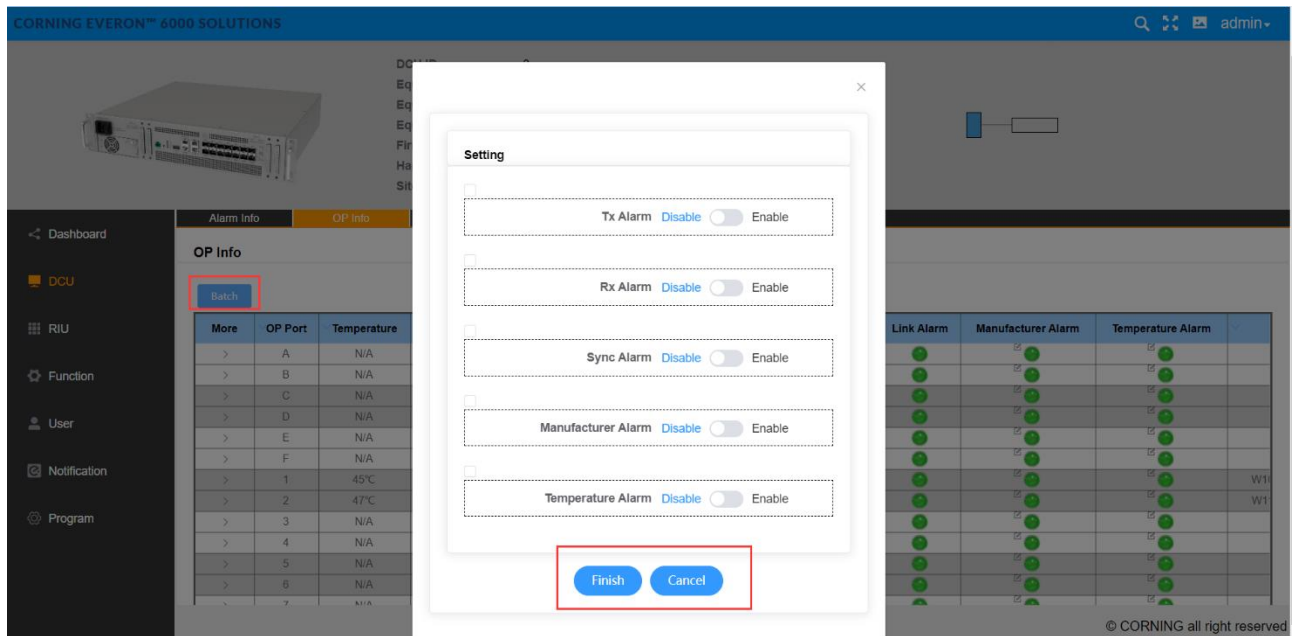


Figure 114. DCU—OP Info--Batch

### 5.2.1.4 DCU RF Config

| SN | DCU RF Config Parameters | Ranges  | Default Values | Remark  |
|----|--------------------------|---|----------------|---|
| 1  | Band                     | <b>Channel1-8</b><br>WCS/PCS/EAWS/2500/LowC/HighC<br><br><b>Channel 9-16:</b><br>600/700/ESMR+850/PCS/EAWS/2500 | N/A            | If the 16 channels are divided into 4 groups (1-4, 5-8, 9-12, 13-16, EAWS-A and 1900B must be in the same group |
| 2  | BW                       | Read only   | Read only      |   |
| 4  | Signal Mode              | FDD/TDD-NR  | TDD-NR         |   |
| 5  | RF Switch                | ON/OFF  | OFF            |   |
| 6  | UL ATTN                  | 0~20 dB   | 20dB           |   |
| 7  | DL ATTN                  | 0~20 dB   | 20dB           |   |
| 8  | High Gain Mode           | ON/OFF  | OFF(0dB)       |   |
| 9  | DL Overload THR          | -40~10 dBm  | 10 dBm         |   |

**Note:**

1. One DCU has the limitation of radio band(channel). It supports max 8 bands of these 9 bands (N3500F/2500T/EAWS-A/1900B/WCS/600/700L+700U/ESMR+850/3500G)
2. The 3500F supports (3450~3700MHz), 3500G supports(3700~3980MHz)
3. If the bands are N3500F,2500T and N3500G, there are three signal modes to choose from including TDD-NR,TDD-LTE,TDD-LTE+TDD-NR. If select other bands, the signal mode can only be FDD.
4. If the TDD band(N3500F/2500T/3500G) is configured, the TDD parameters need to be configured.
5. The CPRI config interface is associated with all channels in RF config.




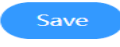


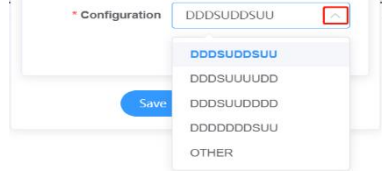
### 5.2.1.5 DCU TDD Config

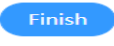
| SN | DCU TDD Config Parameters | Ranges  | Default Values |
|----|---------------------------|---|----------------|
| 1  | UL/DL Slot Configuration  | Pattern0:DDDSUDDSUU/Pattern 1:DDDSUUUDD/Pattern 2: DDDSUUDDDD/Pattern 3: DDDDDDSUU/Custom                 | DDDSUDDSUU     |
| 2  | Special Sub Configuration | 3:8:3/ 10:2:2/ 6:4:4/ Custom  | 10:2:2         |
| 3  | Sub Carrier Spacing       | 15 kHz/30 kHz   | 30 kHz         |
| 4  | User Set CF 1~8           | (2496-2690) (3450-3700) (3700-3980) (862-894) (617-652) (2350-2360) (728-768) (1930-2020) (2110-2200) MHz | 0              |
| 5  | SSB Auto Search Switch    | ON/OFF  | OFF            |

UL/DL Slot Configuration: User-defined parameters are supported, but should be the same as the operator parameters.

➤ To configure the TDD parameters

- For each screen field above (UL/DL Slot Configuration, Special Sub Configuration, Sub Carrier Spacing, User Set CF 1~8, SSB Auto Search Switch), click  to configure.
- For UL/DL Slot Configuration, Special Sub Configuration, Sub Carrier Spacing, click the arrow show the list of optional values and select one; Click Save  to complete the setting.



- For User Set CF 1~8 and SSB Auto Search Switch, scroll the bar or click the arrow under **More** to fill in relevant values within the range according to the parameters above. Click Finish button .

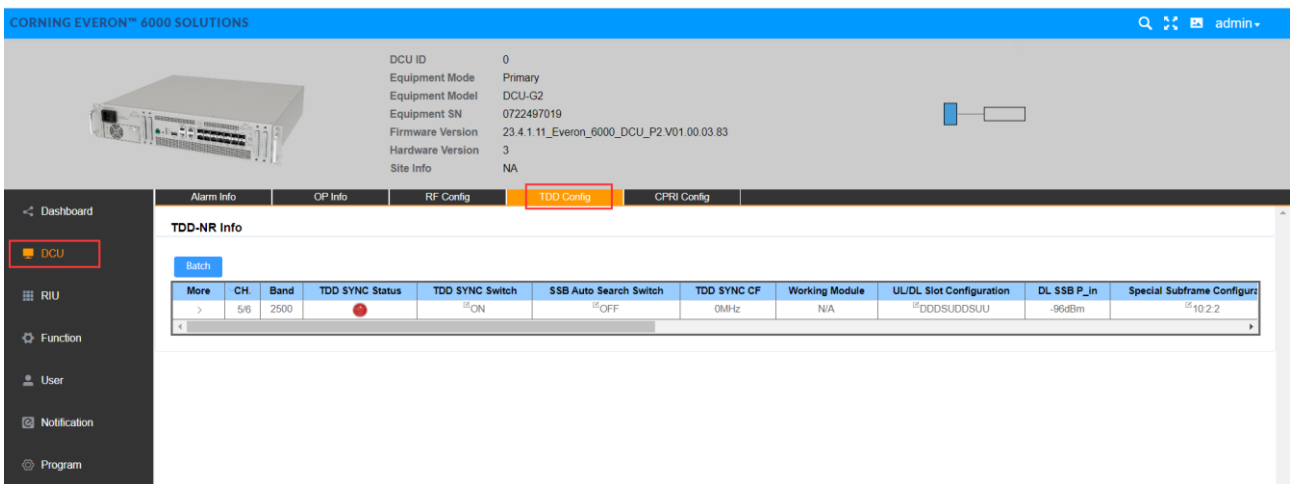



Figure 117. DCU TDD Info

CORNING EVERON™ 6000 SOLUTIONS admin



DCU ID: 0

Equipment Mode: Primary

Equipment Model: DCU-G2

Equipment SN: 0722497019

Firmware Version: 23.4.1.11\_Everon\_6000\_DCU\_P2.V01.00.03.83

Hardware Version: 3

Site Info: NA

Alarm Info | OP Info | RF Config | **TDD Config** | CPRI Config

**TDD-NR Info**

Batch

| More | CH. | Band | TDD SYNC Status | TDD SYNC Switch | SSB Auto Search Switch | TDD SYNC CF | Working Module | UL/DL Slot Configuration | DL SSB P_in |
|------|-----|------|-----------------|-----------------|------------------------|-------------|----------------|--------------------------|-------------|
| v    | 5/6 | 2500 | ●               | ON              | OFF                    | 0MHz        | N/A            | DDDSUDDSUU               | -96dBm      |

| Name         | Value  |
|--------------|--------|
| User Set CF2 | 0MHz/0 |
| User Set CF3 | 0MHz/0 |
| User Set CF4 | 0MHz/0 |
| User Set CF5 | 0MHz/0 |
| User Set CF6 | 0MHz/0 |
| User Set CF7 | 0MHz/0 |
| User Set CF8 | 0MHz/0 |

Figure 118. TDD Config More

### 5.2.1.6 CPRI Config

| SN | CPRI Config | Ranges                           | Default Values |
|----|-------------|----------------------------------|----------------|
| 1  | Band        | 700/2500/EAWS/PCS/HighC/LowC/WCS | /              |
| 2  | CPRI BW     | 100MHz/200MHz/300MHz             | /              |

The screenshot shows the 'CORNING EVERON™ 6000 SOLUTIONS' interface. At the top, there's a header with 'admin' and a search icon. Below that, a device image and its details are shown: DCU ID: 35, Equipment Mode: Secondary, Equipment Model: DCU-G2, Equipment SN: MDCU052901, Firmware Version: 23.4.1.11\_Everon\_6000\_DCU\_P2.V01.00.03.83, Hardware Version: 2, Site Info: NA.

The main navigation bar includes 'Alarm Info', 'OP Info', 'RF Config', 'TDD Config', and 'CPRI Config' (highlighted). Below this, there's a 'Carrier Num' section with a bar chart showing occupied bandwidth for various carrier widths: 300MHz (1/2), 200MHz (1/2), 100MHz (4/6), 50MHz (2/4), and 25MHz (0/4). The total occupied BW is 1000 MHz, and the residual BW is 0 MHz.

Below the bar chart, there are buttons for 'Export', 'Import', 'Delete All', and 'Add'. A table lists the configurations:

| NO. | Band     | CPRI BW | DCU     | MIMO    | AxC | Actions |
|-----|----------|---------|---------|---------|-----|---------|
| 1   | EAWS     | 100MHz  | CH1/2   | MIMO1/2 | 160 | Delete  |
| 2   | PCS      | 100MHz  | CH3/4   | MIMO1/2 | 192 | Delete  |
| 3   | HighC    | 300MHz  | CH5/6   | MIMO1/2 | 0   | Delete  |
| 4   | 600      | 50MHz   | CH11/12 | MIMO1/2 | 288 | Delete  |
| 5   | ESMR+850 | 50MHz   | CH13/14 | MIMO1/2 | 304 | Delete  |
| 6   | 700      | 100MHz  | CH15/16 | MIMO1/2 | 224 | Delete  |
| 7   | LowC     | 100MHz  | CH7/8   | MIMO1/2 | 256 | Delete  |
| 8   | 2500     | 200MHz  | CH9/10  | MIMO1/2 | 96  | Delete  |

Figure 119. DCU CPRI Config.

You can select OP1-8 to complement these configurations including export, import, delete all and add.

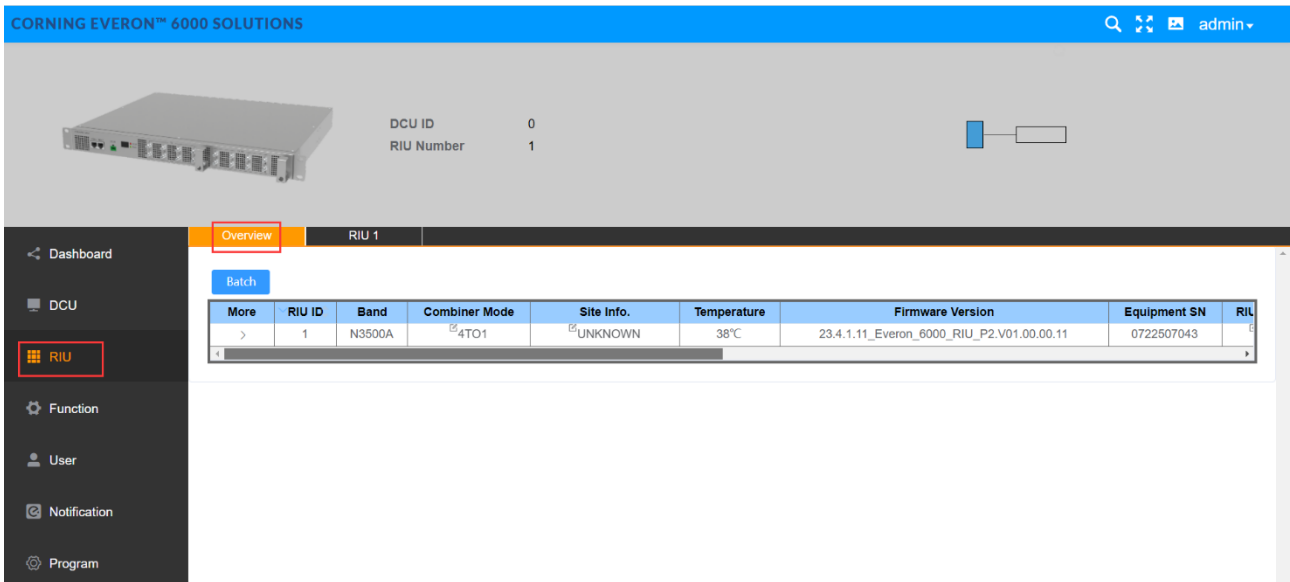
Click Add to add carrier. For the band, 2500 and PCS can be selected. For MIMO, MIMO 1/2 and MIMO 3/4 can be selected. Then click Save to complete the carrier adding configuration as shown below.

The screenshot shows the 'Add Carrier' dialog box overlaid on the CPRI Config interface. The dialog has two dropdown menus: 'Band' (set to 'N/A') and 'MIMO' (set to 'MIMO1/2'). At the bottom of the dialog are 'Save' and 'Cancel' buttons. In the background, the 'Add' button in the configuration table is highlighted with a red box.

Figure 120. DCU CPRI Config Add Carrier

## 5.2.2 DCU -> RIU

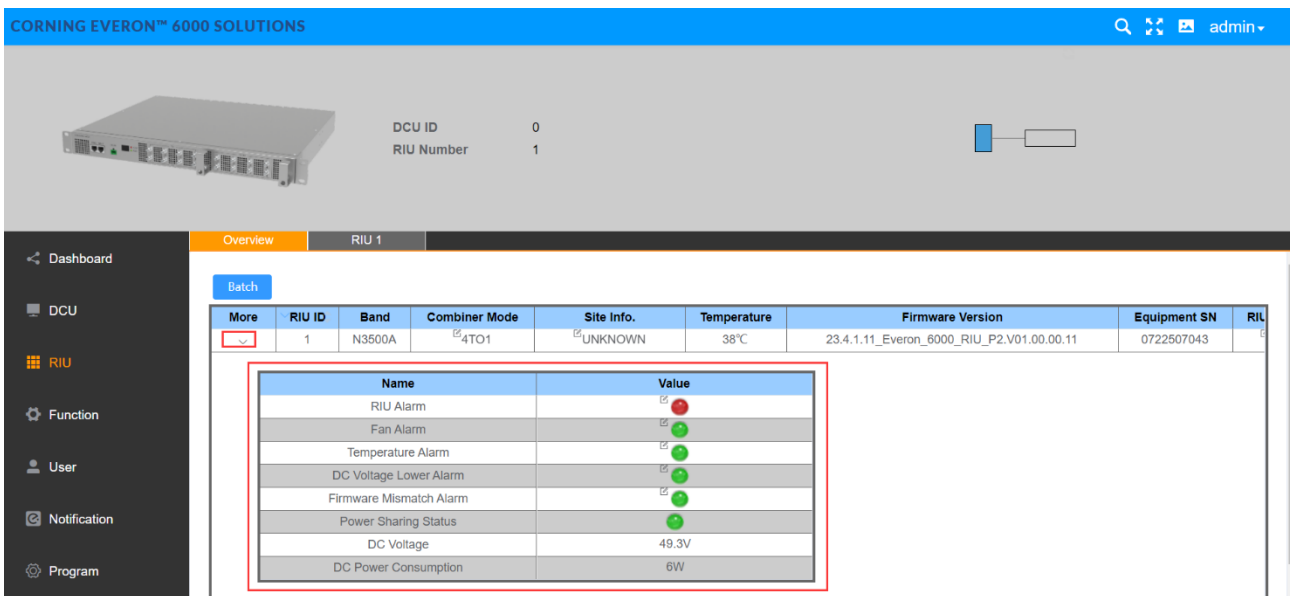
Click DCU → RIU to query and set the information of the RIU connected to the DCU unit.



Overview | RIU 1

| More | RIU ID | Band   | Combiner Mode | Site Info. | Temperature | Firmware Version                          | Equipment SN | RIU |
|------|--------|--------|---------------|------------|-------------|---|--------------|-----|
| >    | 1      | N3500A | 4TO1          | UNKNOWN    | 38°C        | 23.4.1.11_Everon_6000_RIU_P2.V01.00.00.11 | 0722507043   |     |

Figure 121. RIU overview



Overview | RIU 1

| More | RIU ID | Band   | Combiner Mode | Site Info. | Temperature | Firmware Version                          | Equipment SN | RIU |
|------|--------|--------|---------------|------------|-------------|---|--------------|-----|
| ▼    | 1      | N3500A | 4TO1          | UNKNOWN    | 38°C        | 23.4.1.11_Everon_6000_RIU_P2.V01.00.00.11 | 0722507043   |     |

| Name                    | Value |
|-------------------------|-------|
| RIU Alarm               | ●     |
| Fan Alarm               | ●     |
| Temperature Alarm       | ●     |
| DC Voltage Lower Alarm  | ●     |
| Firmware Mismatch Alarm | ●     |
| Power Sharing Status    | ●     |
| DC Voltage              | 49.3V |
| DC Power Consumption    | 6W    |

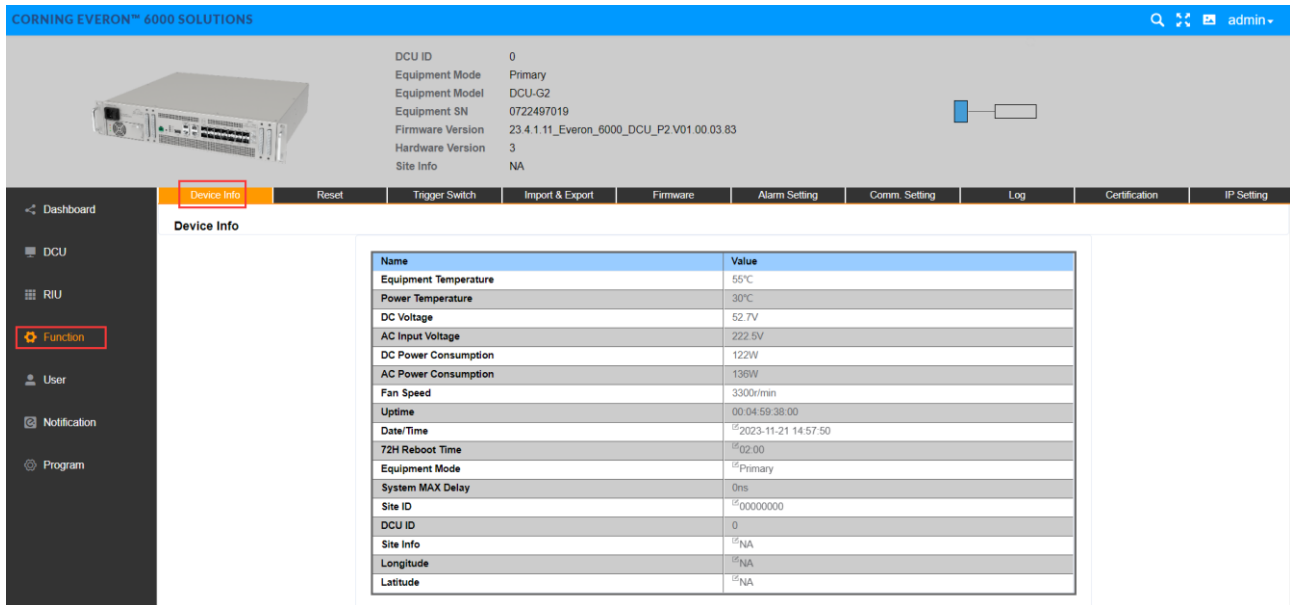
Figure 122. RIU overview More

## 5.2.3 DCU -> Function

Configure the max input according to specific needs.

### 5.2.3.1 Device Info

Click Function --Device Info to query the names and values of the device.



The screenshot shows the 'Device Info' page in the CORNING EVERON™ 6000 SOLUTIONS web interface. The page header includes the product name and a search icon. The main content area displays a table of device parameters and their values. The table is as follows:

| Name                  | Value               |
|-----------------------|---------------------|
| Equipment Temperature | 55°C                |
| Power Temperature     | 30°C                |
| DC Voltage            | 52.7V               |
| AC Input Voltage      | 222.5V              |
| DC Power Consumption  | 122W                |
| AC Power Consumption  | 136W                |
| Fan Speed             | 3300/rmin           |
| Uptime                | 00:04:59:38:00      |
| Date/Time             | 2023-11-21 14:57:50 |
| 72H Reboot Time       | 02:00               |
| Equipment Mode        | Primary             |
| System MAX Delay      | 0ms                 |
| Site ID               | 00000000            |
| DCU ID                | 0                   |
| Site Info             | NA                  |
| Longitude             | NA                  |
| Latitude              | NA                  |

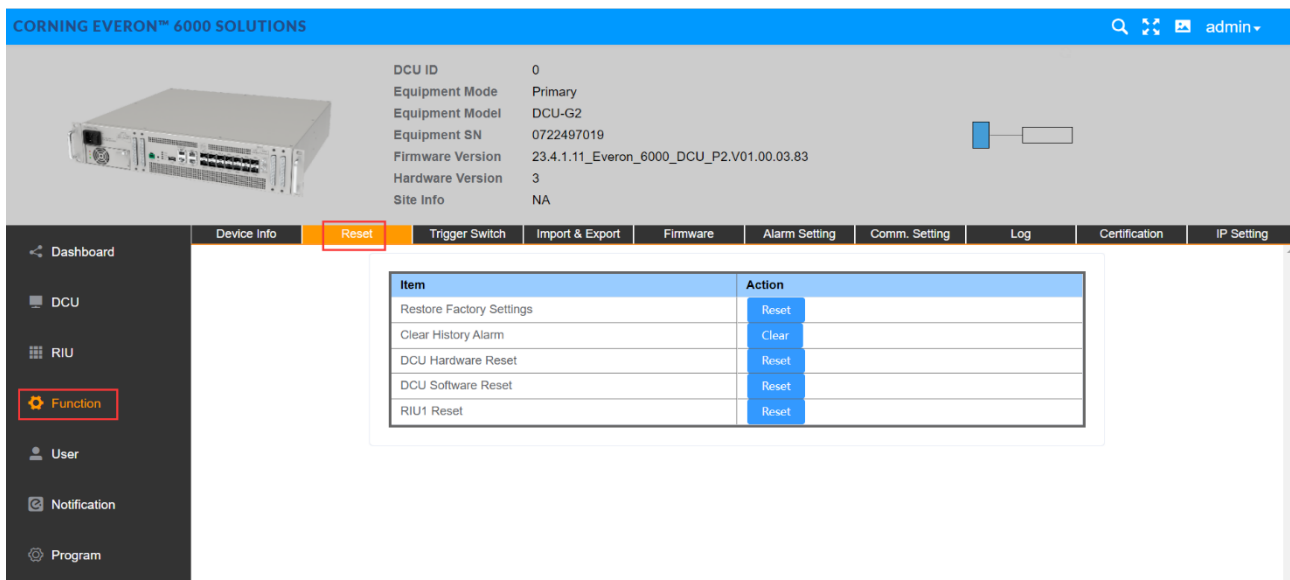
Figure 123. DCU Function Device Info

72H reboot time, site info, site ID, user model and device mode can be customized by users.

72H Reboot Time is set by the user which can be reset within 24 hours; Device Mode is used to set the work mode of DCU. (Note: when DCU is in master mode, it can be connected to DEU; when DCU is in slave mode, it cannot be connected to DEU and cannot work independently. It can only be connected to master DCU for normal use.)

### 5.2.3.2 Reset

Click Function--Reset to reset the software and hardware of DCU and clear the historical alarms.



The screenshot shows the 'Reset' page in the CORNING EVERON™ 6000 SOLUTIONS web interface. The page header includes the product name and a search icon. The main content area displays a table of reset actions and their corresponding buttons. The table is as follows:

| Item                     | Action |
|--------------------------|--------|
| Restore Factory Settings | Reset  |
| Clear History Alarm      | Clear  |
| DCU Hardware Reset       | Reset  |
| DCU Software Reset       | Reset  |
| RIU1 Reset               | Reset  |

Figure 124. DCU Function--Reset

### 5.2.3.3 Trigger Switch

Trigger Switch includes Baseline Save, Baseline Clear and DCU Identify.

Baseline Save: It is to save the current topology based on customer requirements. If an NE is removed, a baseline Save alarm will be generated.

Baseline Clear: It is to clear the previous topology and update it to the current topology.

DCU Identity: If it is clicked, the red alarm indicator will blink for 10 seconds.

Click DCU->Function->Trigger Switch as shown in Figure 125.

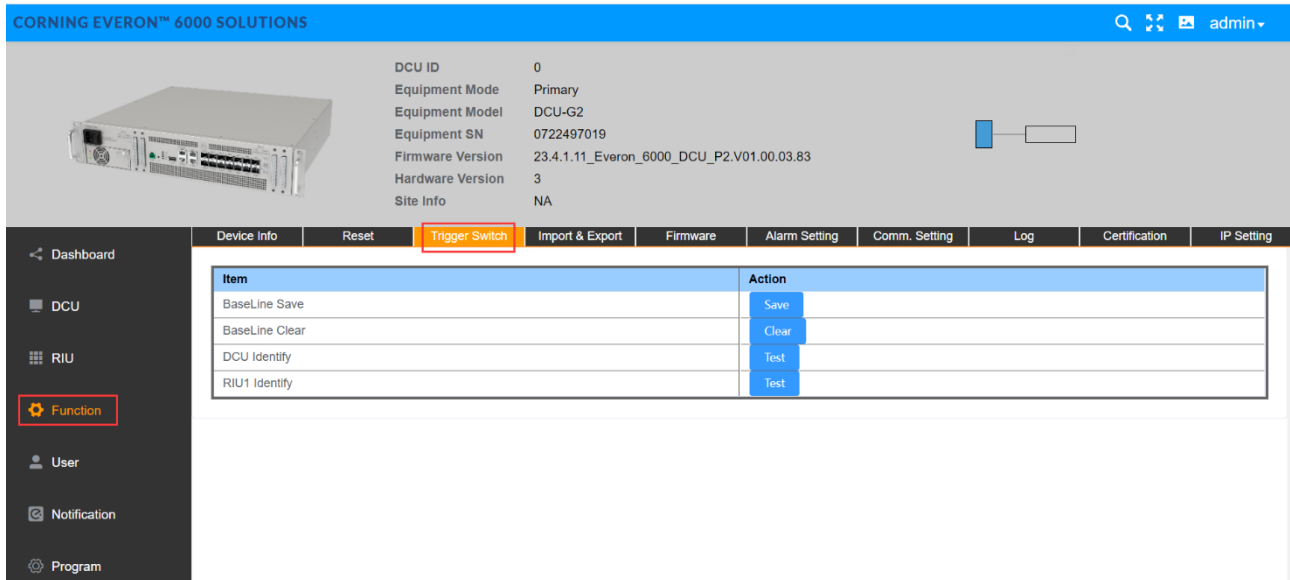


Figure 125. DCU->Function->Trigger Switch

Baseline supports topo display, and the operation steps are as follows:

- 1) Set switch

At DCU function ->trigger switch;

BaseLine Save: record the baseline function. Pay attention to the pop-up prompt that BaseLine Clear is required first, and then save the baseline after thirty seconds, as shown in Figure 126.

BaseLine Clear: clear the baseline record for thirty seconds, as shown in Figure 127;

- 2) The switch is displayed in the upper right corner of the topology, as shown in Figure 128.

(Compare with BaseLine) Click Enable, and the difference between baseline and existing networking will be displayed on the top. The difference is explained as follows:

- a) New unit: blue line;
- b) Change the adding unit: orange line;
- c) Delete additional units: fill with gray;