

2022

Everon 6000 G2(3500)
Commissioning Instruction Manual

August, 2022

File history

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Foreword

This manual introduces the Everon 6000 G2 commissioning instructions and relevant operating instructions

WEB OMT configuration through IE7/IE8, Firefox and Chrome browsers.

Since the system of this product will be constantly updated and the software will be constantly upgraded, the software version described in this manual may be different from the pictures. Therefore, the parameters, specifications, and others in this manual are subject to change without notice.

Abbreviation notes are shown in the following table:

Abbreviation notes Table 1

ALC	Automatic Level Control
AGC	Automatic Gain Control
ATT	Attenuation
BTS	Base Transceiver Station
DL	Downlink
UL	Uplink
ANT	Antenna
MCU	Main Control Unit
LNA	Low Noise Amplifier
OMT	Operation & Maintenance Terminal
WebOMT	Web Operation & Maintenance Terminal
OP	Optical Fiber
WDM	Wavelength Division Multiplexer
WCDMA	Wideband Code Division Multiple Access
CDMA	Code Division Multiple Access
FCC	Federal Communications Commission
LTE	(3G) Long Term Evolution
MIMO	Multiple Input Multiple Output

Abbreviation notes Table 2

DAS	Distributed Antenna System
dLRU-G2-678	Low Power Remote (20dBm) for 600, 700L/700U/700FN, 850, 2T2R MIMO (requires 1x10G SFP, ordered separately)
dLRU-G2-17192325	Low Power Remote (20dBm) for AWS, PCS, WCS and 2.5GHz (194MHz), 2T2R MIMO (requires 3x10G SFP, ordered separately)
dLRU-G2-25	Low Power Remote (23dBm) for 2.5GHz (194MHz), 2T2R MIMO (requires 1x25G SFP, ordered separately)
dLRU-G2-35	Low Power Remote (26dBm) for C-Band, 2T2R MIMO (requires 2x25G SFP, ordered separately)
dMRU-G2-25	Mid power remote (8W) for 2.5GHz, 2T2R MIMO, AC power (requires 1x25G SFP, ordered separately)
dMRU-G2-35	Mid power remote (8W) for C-Band, 2T2R MIMO, AC power (requires 2x25G SFP, ordered separately)
RIU-G2-25	Radio Interface Unit (RIU) for 2.5GHz, 8 x 4.3-10 ports, support for either 2 x 4T4R2 or 4 x 2T2R, input power range: -10~37 dBm
RIU-G2-35	Radio Interface Unit (RIU) for C-Band, 8 x 4.3-10 ports, support for either 2 x 4T4R2 or 4 x 2T2R, input power range: -10~37 dBm
DCU-G2	Digital Conversion Unit (DCU) for FDD and TDD bands. Supports 2 x 8T8R/4 x 4T4R/8 x 2T2R, up to 16 RF Channels, 8 optical ports for DEU connection, 4 optical ports for cascading DAU (requires 25G SFPs, ordered separately)
DEU-G2	Digital Extension Unit (DEU) includes 28 optical ports (HW line rate up to 25Gbps), 4 optical ports for DEU cascade (25Gbps), 24 optical ports for radio connection (dLRU/dMRU/dHRU) (requires 25G SFPs, ordered separately)
DEU-G2-PS	Digital Extension Unit (DEU) includes 28 optical ports (HW line rate up to 25Gbps), 4 optical ports for DEU cascade (25Gbps), 24 optical ports for radio connection (dLRU/dMRU/dHRU). Include 12 x power supply ports (max 100W) (requires 25G SFPs, ordered separately)
dLRU-G2-678	Low Power Remote (20dBm) for 600, 700L/700U/700FN, 850, 2T2R MIMO (requires 1x10G SFP, ordered separately)
dLRU-G2-17192325	Low Power Remote (20dBm) for AWS, PCS, WCS and 2.5GHz (194MHz), 2T2R MIMO (requires 3x10G SFP, ordered separately)
dLRU-G2-25	Low Power Remote (23dBm) for 2.5GHz (194MHz), 2T2R MIMO (requires 1x25G SFP, ordered separately)
dLRU-G2-35	Low Power Remote (26dBm) for C-Band, 2T2R MIMO (requires 2x25G SFP, ordered separately)
dMRU-G2-25	Mid power remote (8W) for 2.5GHz, 2T2R MIMO, AC power (requires 1x25G SFP, ordered separately)

1 Operating environment

1.1 Computer hardware configuration requirements

- Computer: main frequency above 2GHz, memory above 512MB, display resolution: 1024×768 above;
- With an RJ45 network port;
- Or with a USB port, external USB to RJ45 network port.

1.2 Computer software configuration requirements

- Operating system: Windows XP, Windows 7, windows 10 and above;
- Browser: Mozilla Firefox and above, Google Chrome 67 and above, IE9/IE10 and above are recommended;

2 Overview

The product can use the network management system to query and set the parameters of the network element, so as to complete the daily management and maintenance tasks of the network element.

The whole system includes RIU, DCU, DEU and dLRU. It is connected to the OMT port of DCU through network cable, and the remote computer terminal can be connected to the whole system, so as to complete the monitoring of all network elements in the whole network, and complete the parameter inquiry and setting of all RIU, DCU, DEU and dLRU.

The schematic diagram of WEB OMT commissioning is shown in Figure 2-1:

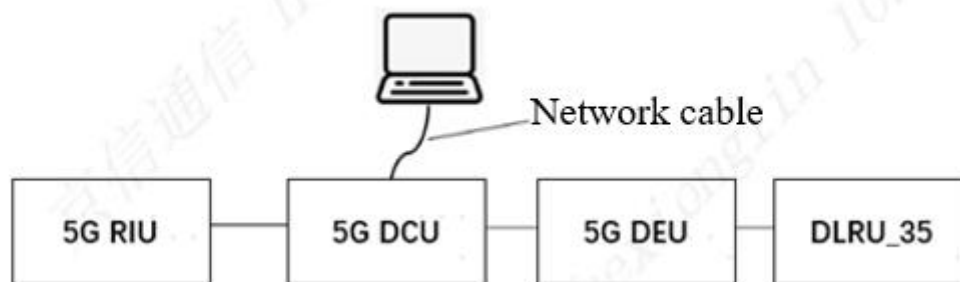


Figure 2-1 D430 WEB OMT commissioning diagram

3. System connection description of RIU+DCU+DEU+dLRU (1+1+1+1)

1) Fiber connection description

The optical port connection of the system is shown in the figure. The DCU optical port OP1 is connected to the DEU OP-A port, the DCU optical port OP2 is connected to the DEU OP-B port, the DEU OP1 port is connected to the dLRU OP1 port, and the DEU OP2 port is connected to the dLRU OP2 port.

2) Equipment wiring is shown in the figure below:

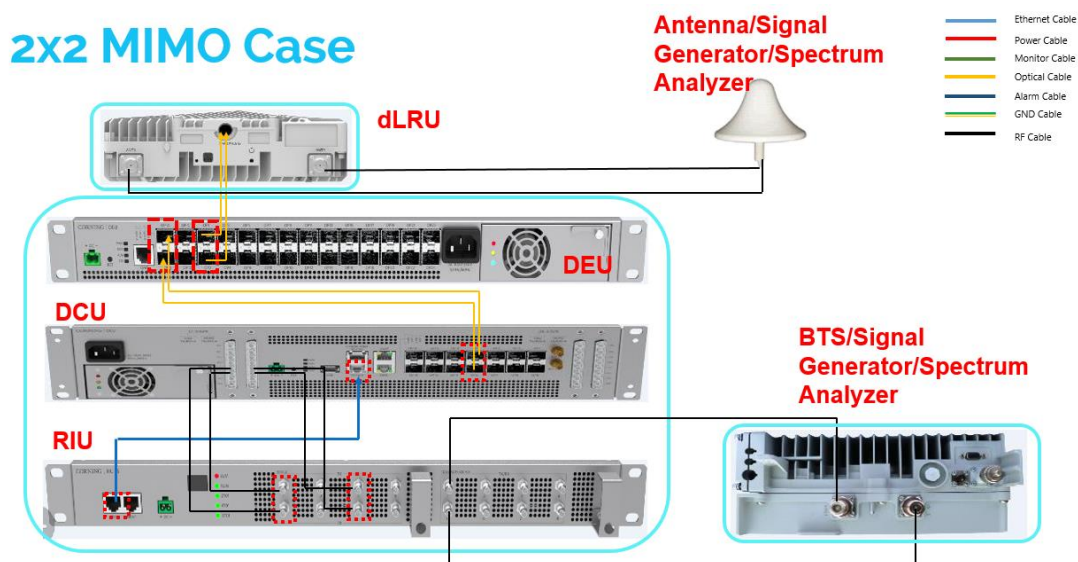


Figure 3-1 system connection and commissioning diagram

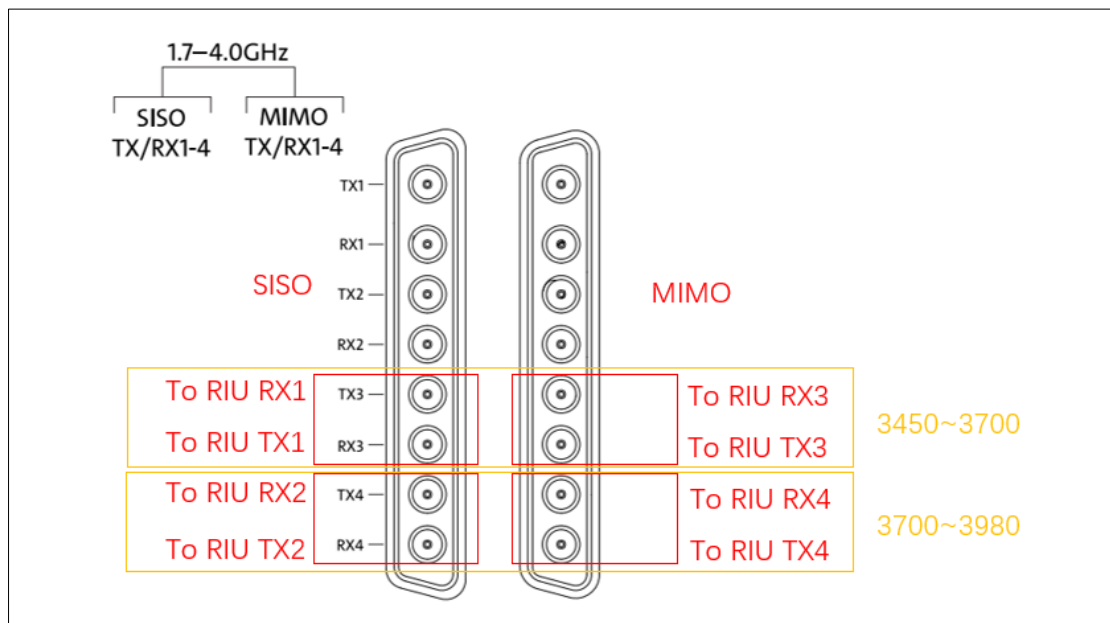
Base station RRU->RIU:

- ANT1 of RRU is connected to TX1/RX1, TX2/RX2, TX3/RX3 and TX4/RX4 of RIU;

- ANT2 of RRU is connected to TX5/RX5, TX6/RX6, TX7/RX7 and TX8/RX8 of RIU;

RIU->DCU (It request to connect RF cable and network cable between RIU and RCU):

- Connect the "**PREV**" of the RIU panel to the "**to RIU**" of the DCU panel with the network cable;
- TX1 and RX1 of RIU1 are connected to SISORX3 and SISOTX3 of DCU;
- TX2 and RX2 of RIU1 are connected to SISORX4 and SISOTX4 of DCU;
- TX3 and RX3 of RIU1 are connected to MIMORX3 and MIMOTX3 of DCU;
- The TX4 and RX4 of RIU2 are connected to the MIMORX4 and MIMOTX4 of DCU.



4 Configuration instructions before accessing WEB OMT

After the RIU, DCU, DEU and dLRU are connected to the local computer through the network cable respectively, the relevant settings of the network parameters of the local computer are required before the normal use of WEB-OMT to access the system. The setting of computer IP is shown in figure 4.1-1:

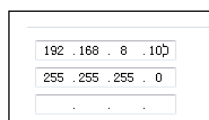


Figure 4.1-1 computer IP settings

In figure 4.1-2, the IP address 192.168.8.102 is only an example. It can be all IP addresses except 101 in the same network segment 192.168.8 (the default IP address of the DAS network element is 192.168.8.101).

After the above operations, you can log in to WEB-OMT through the browser, address: <https://192.168.8.101>, default account: **admin**, default password: **admin**; As shown in figure 4.1-3:

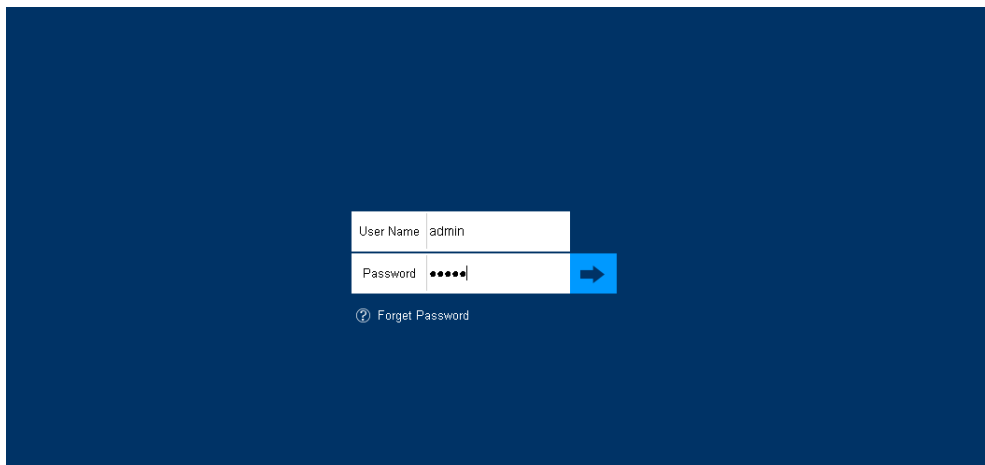


Figure 4.1-2 WEB OMT login interface

5 Software upgrade operation instructions

Connect the network cable to the OMT port of the DCU device, and use the WEB browser to access the device IP address: <https://192.168.8.101>. After entering the user name and password of the device, the system will enter the WEB configuration page of DCU by default. Click the topology diagram frame of DCU and DEU respectively in the topology diagram area to switch to the corresponding network element WEB configuration page.

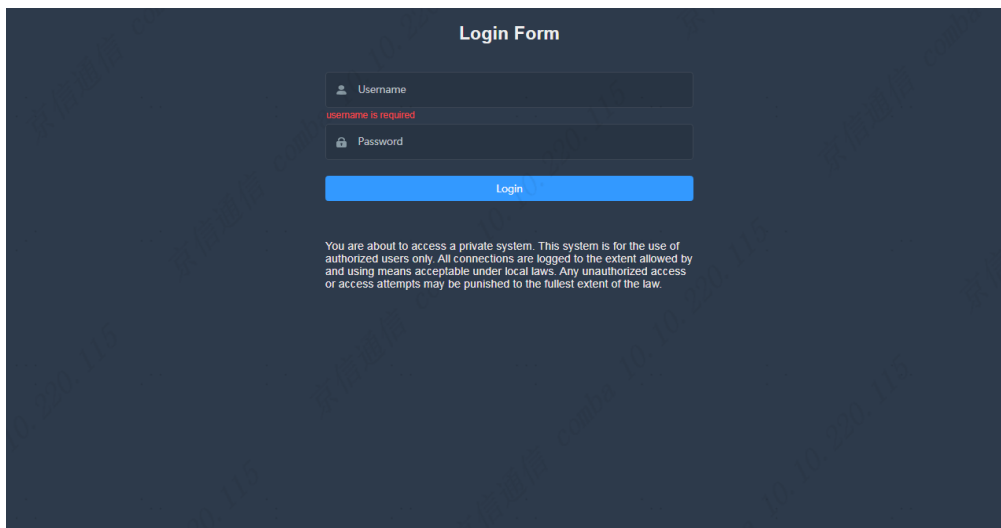


Figure 5.1-1 WEB OMT login interface

5.1 RIU software upgrade instructions

Step1: connect the network cable connecting the local commissioning computer to the DCU network element.

Step 2: click Function—Firmware—Scan to enter the RIU software package selection page, and import the software package M52RIU_V01.00.00.01.dnl of the RIU to the device storage area.

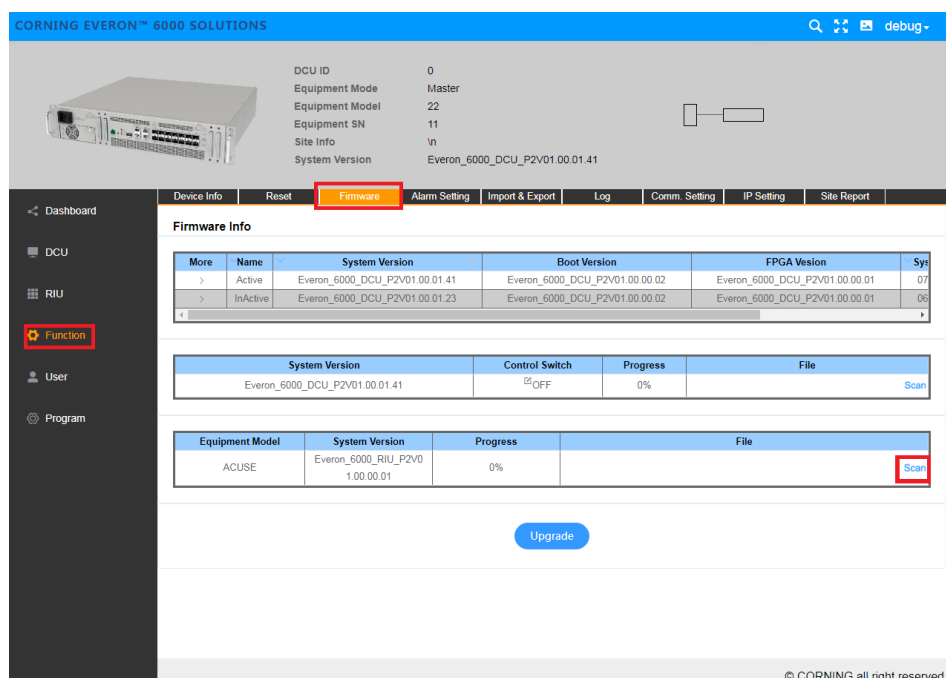


Figure 5.1-2 WEB OMT login interface

Step3: click Upgrade - OK to perform the software upload operation,

and the software upload progress will be displayed in real time under progress. When the progress prompt is 100%, it means that the software package has been uploaded.

Equipment Model	System Version	Progress	File
ACUSE	Everon_6000_RIU_P2V0 1.00.00.01	0%	M52RIU_V01.00.00.01.dnl Remove Scan

Upgrade

Figure 5.1-3 RIU software upgrade progressing

Step4: wait for the software upload to complete, click OK. And wait for the device reset to complete (the front panel of the device's run light flashes for 1s, indicating that the device reset is complete).

5.2 DCU software upgrade instructions

Step1: connect the network cable connecting the local commissioning computer to the DCU network element.

Step2: as shown in figure 5.2-1, click Function—Firmware—Scan to enter the DCU software package selection page, and import the DCU device software package DCUG2_V01.00.01.41.dnl to device storage area.

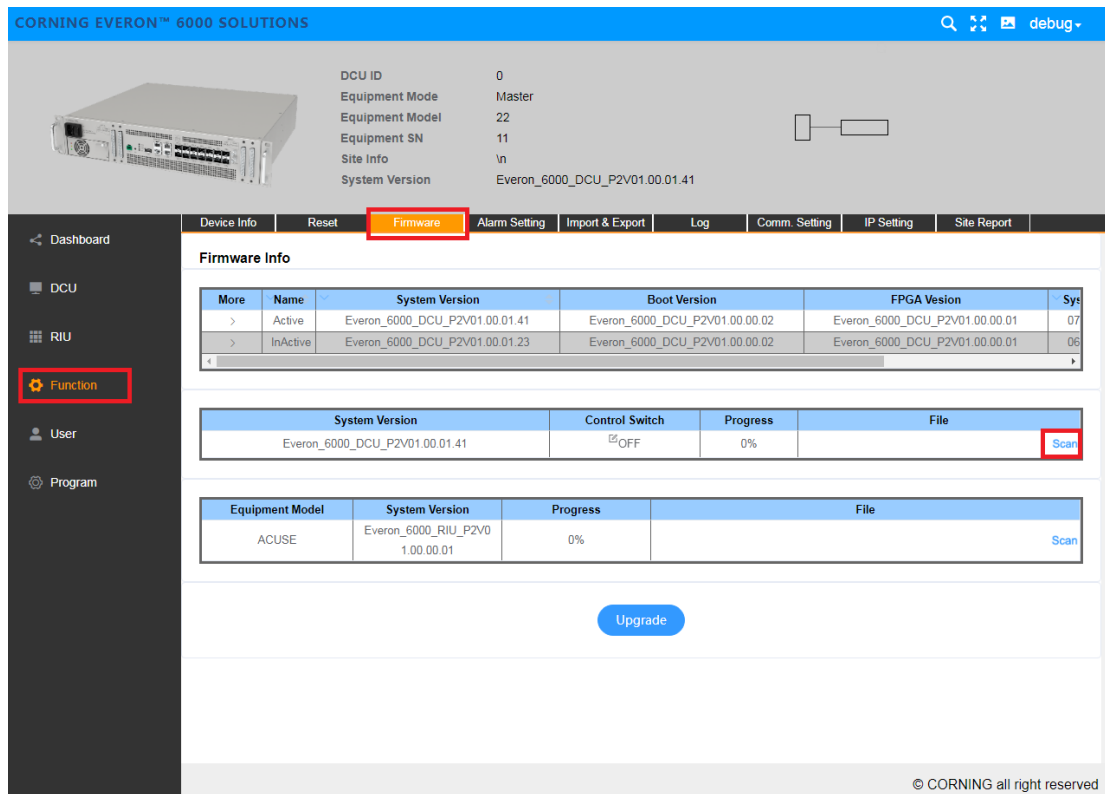


Figure 5.2-1dcu function interface

Step3: click Upgrade - OK to perform the software upload operation, and the software upload progress will be displayed in real time under progress. When the progress prompt is 100%, it means that the software package has been uploaded.

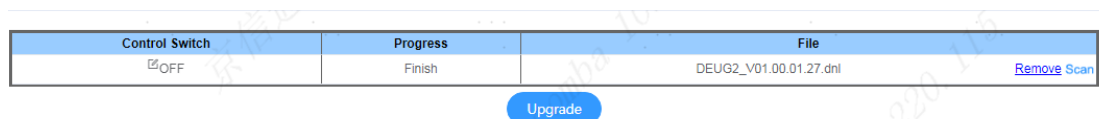


Figure 5.2-2 DCU upgrade

Step4: wait for the software upload to complete, click OK. And wait for the device reset to complete (the front panel of the device's run light flashes for 1s, indicating that the device reset is complete).

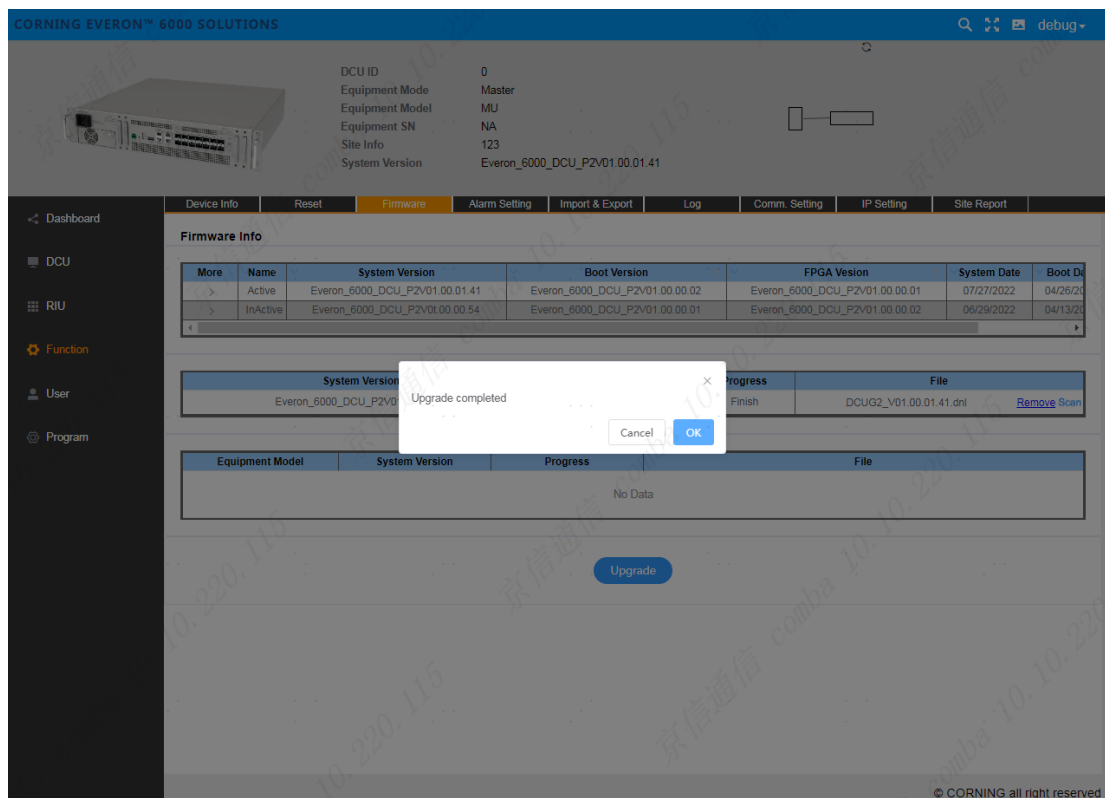


Figure 5.2-3 DCU software upgrade package upload completed

Step5: after the device upgrade and reset is completed, as shown in figure 5.2-4, the software version number of the DCU network element is Everon_6000_DCU_P2V01. 00.01.41 indicates that the software of the DCU network element has been upgraded.

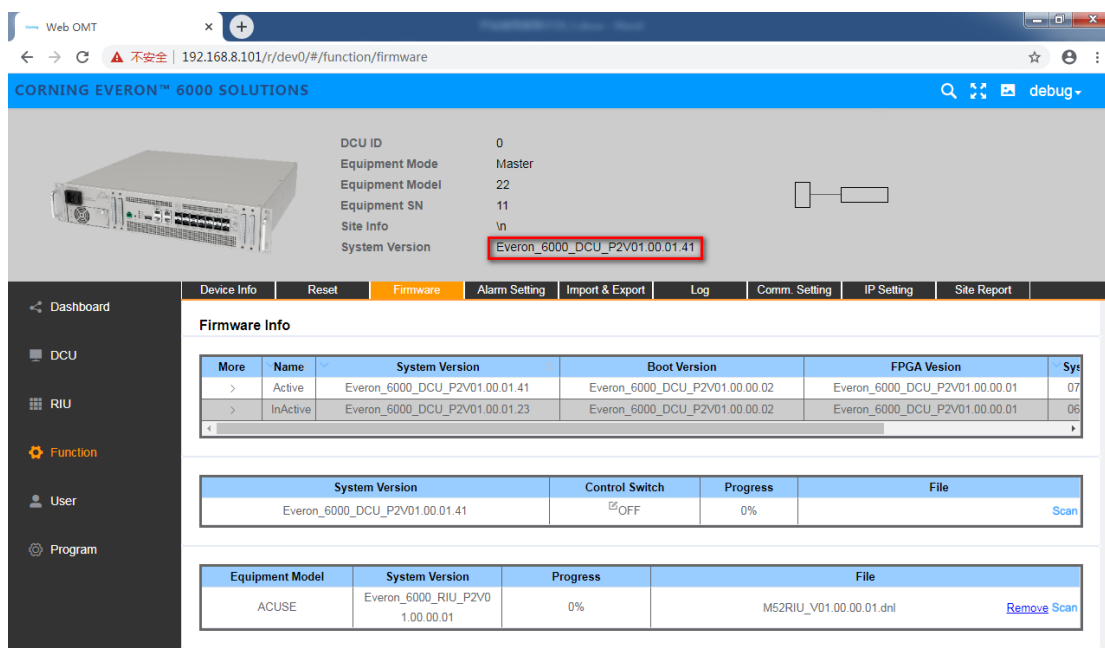


Figure 5.2-4 DCU software query

5.3 DEU software upgrade instructions

Step1: connect the network cable connecting the local commissioning computer to the DEU network element.

Step2: as shown in figure 5.3-1, after entering the WEB configuration page of DEU, click Function—Firmware—Scan to enter the DEU software package selection page, and import the software package DEUG2_V01.00.01.27.dn to the device storage area.

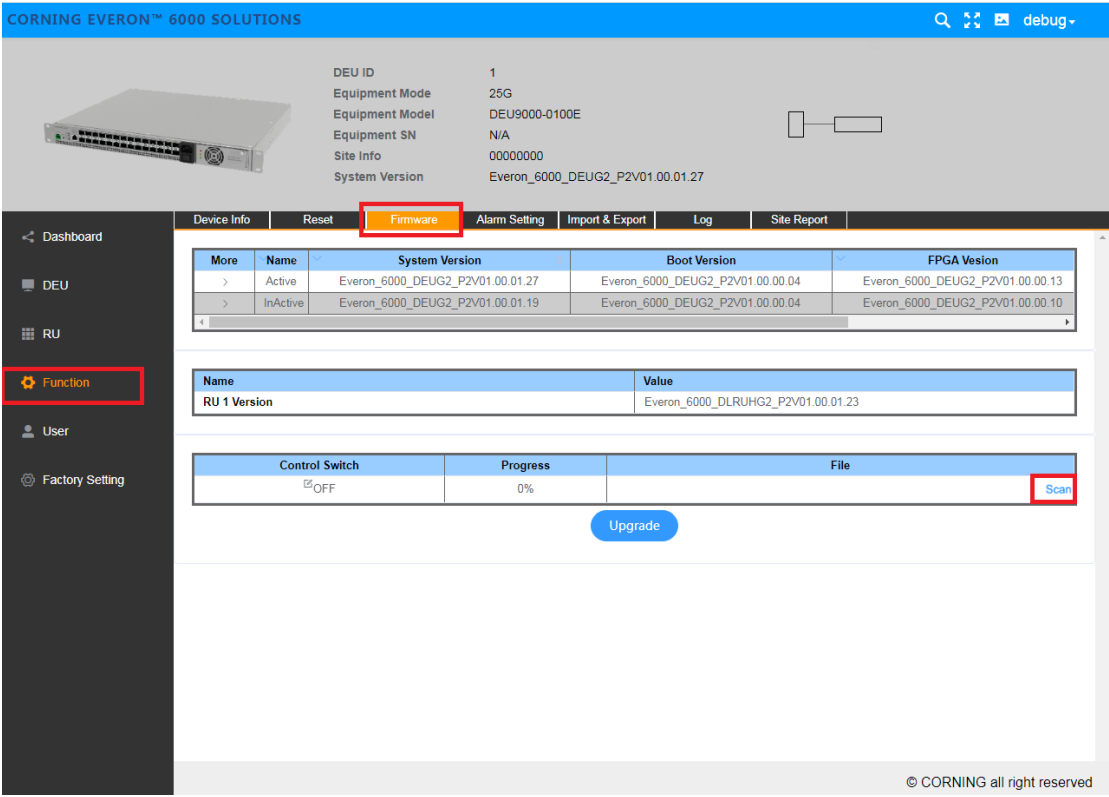
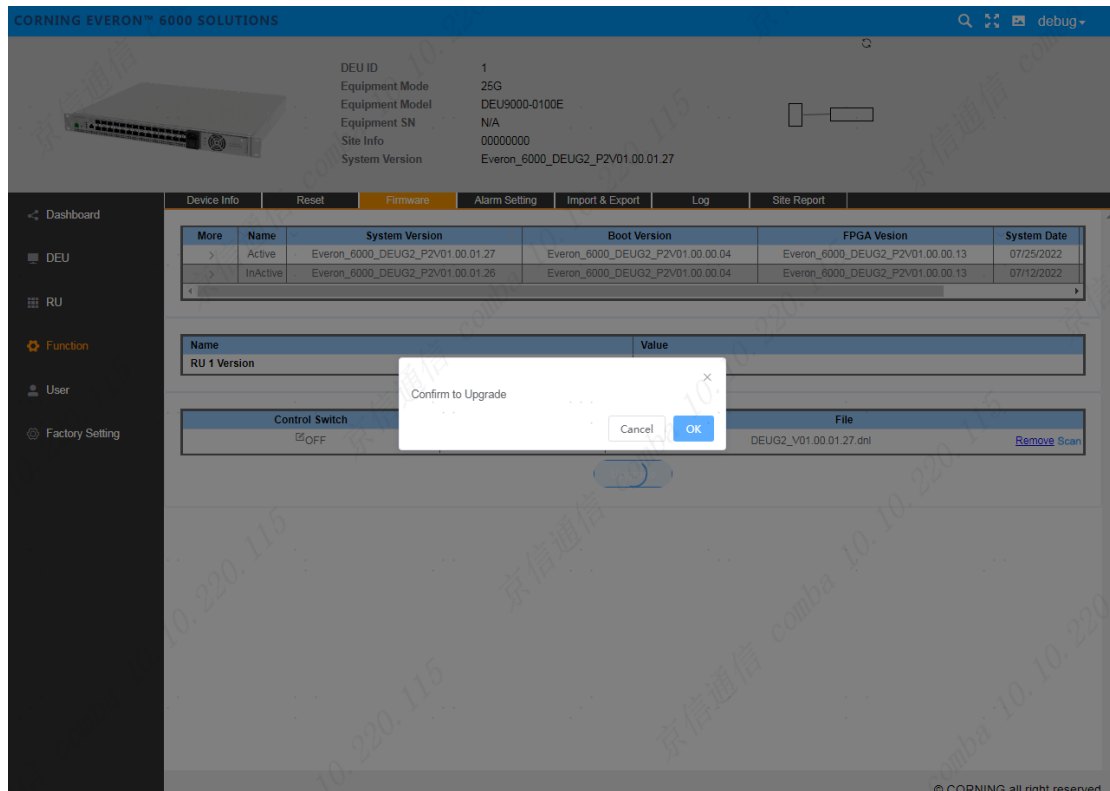


Figure 5.3-1 DEU function

Step3:click Upgrade - OK to upload the software.



The software upload progress will be displayed in real time under progress. When the progress prompt is 100%, it means that the software package has been uploaded.

Control Switch	Progress	File
<input checked="" type="checkbox"/> OFF	Finish	DEUG2_V01.00.01.27.dnl Remove Scan

[Upgrade](#)

Figure 5.3-2 DEU upgrade

Step4: wait for the software upload to complete, click OK in the pop-up dialog box, wait for the device reset to complete (the front panel of the device run light flashes as 1s, indicating that the device reset is complete), and query the software version of the DEU device as DEUG2_V01.00.01.27 indicates that the software upgrade of DEU is completed.

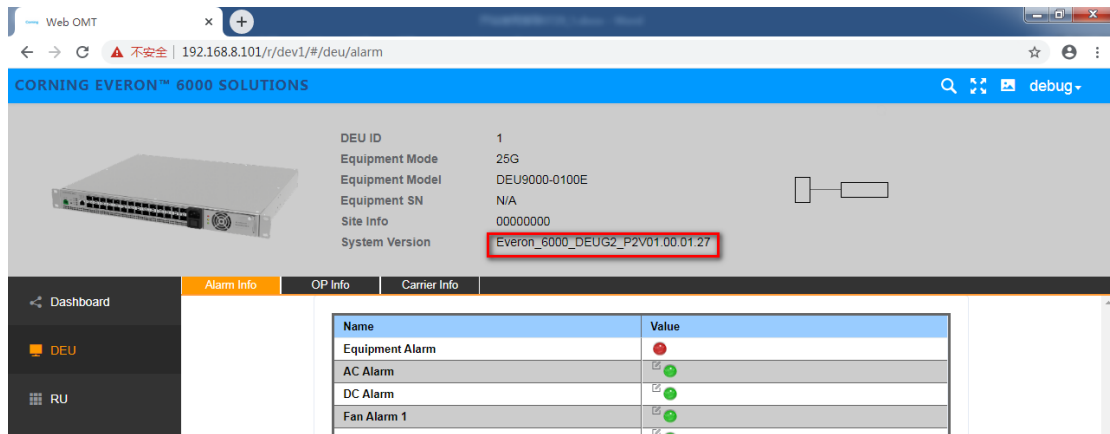


Figure 5.3-3 DEU software upgrade result query

5.4 dLRU software upgrade instructions

Step1: connect the network cable connecting the PC to the WEB OMT port of dLRU, and access the IP address of the device through the browser: <https://192.168.8.101>, enter the user name and password to enter the WEB configuration page of dLRU.

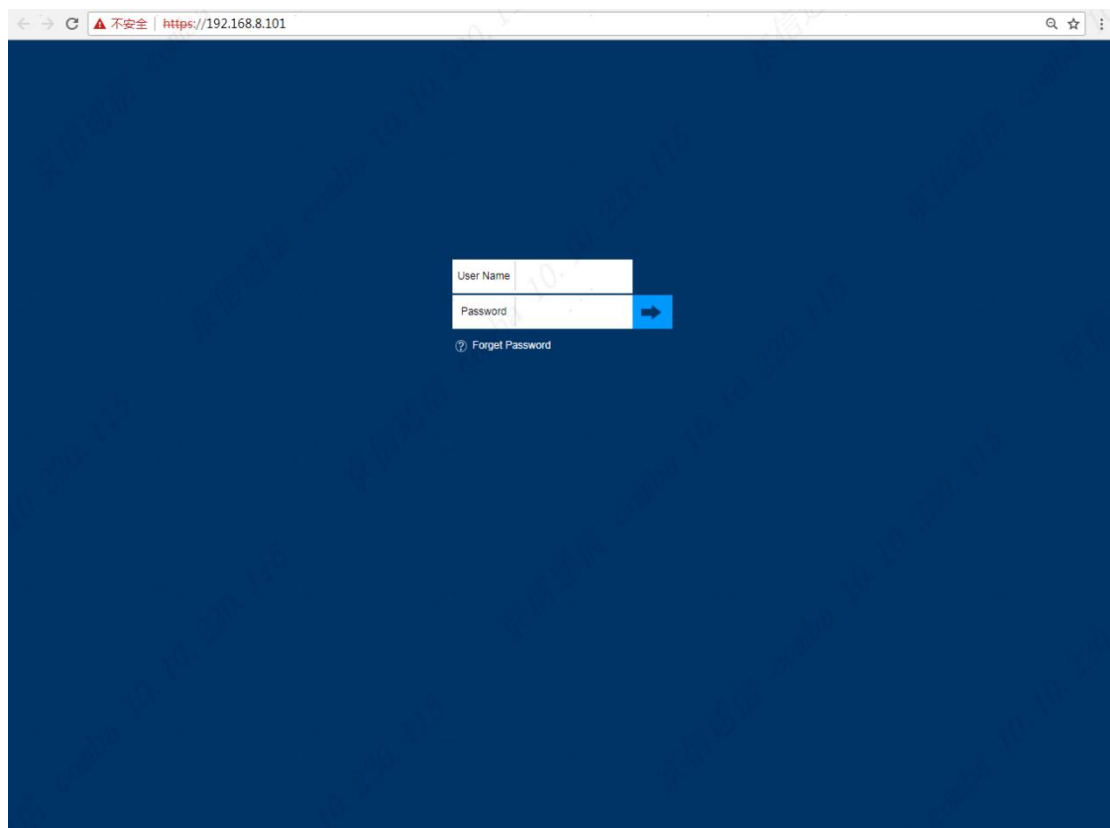


Figure 5.4-1 dLRU WEB OMT login interface

Step2: as shown in the figure, click Firmware—Scan to upload the

software package of dLRU, select the software package of dLRU, click Upgrade in turn, and click OK to perform the software upgrade operation.

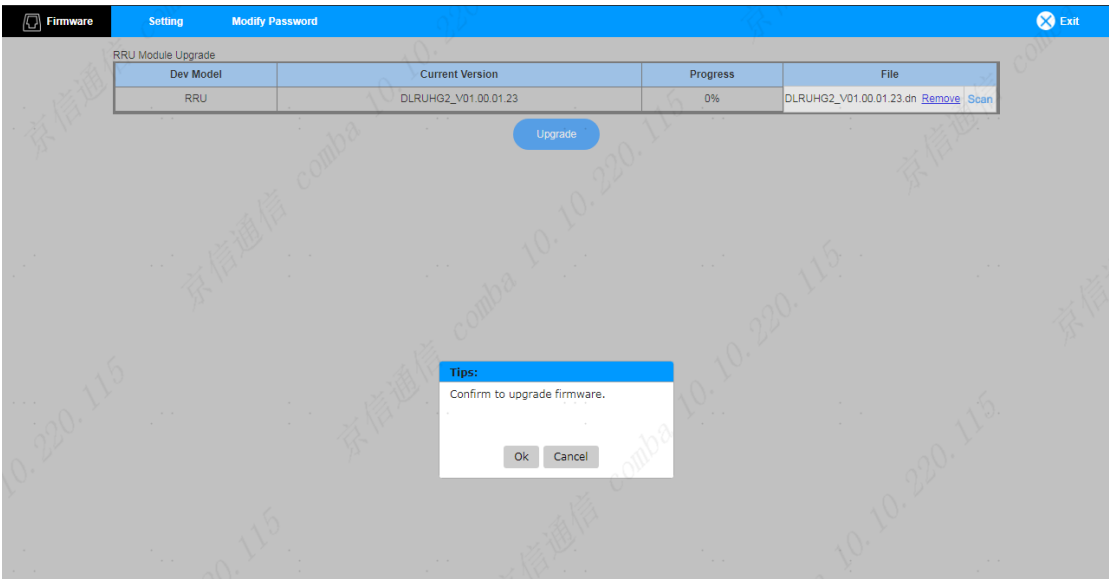


Figure 5.4-2 dLRU upgrade

After uploading the software package, wait for the device reset to complete.

Step3: after the device is reset, connect the network cable to the WEB OMT port of the DEU device, click Firmware—Scan to upload the software package of dLRU, select the software package of dLRU, click Upgrade in turn, and click OK in the pop-up dialog box to upgrade the software.

6 System WEB configuration description

Connect the network cable to the OMT port of the DCU and access the IP address of the system through the WEB browser(<https://192.168.8.101>), the system will pop up whether to access the security access page. Click Accept to enter the system login page. When the system logs in for the first time, the password modification page will pop up. According to the user's requirements, you can customize the password of any 13 digit alphanumeric field (such as: zaq1XSW2CDE34). After logging in to the WEB, the system defaults to the WEB page of DCU, and click Dashborder, enter the topology display area of the system, click the network element

block diagram of RIU, DCU and DEU in the topology display area, and you can directly switch to the WEB configuration page of the corresponding network element.

6.1 RIU WEB configuration description

Step1: in the topology display area of the system, click the RIU network element block diagram in the topology display area to enter the WEB configuration page of the RIU.

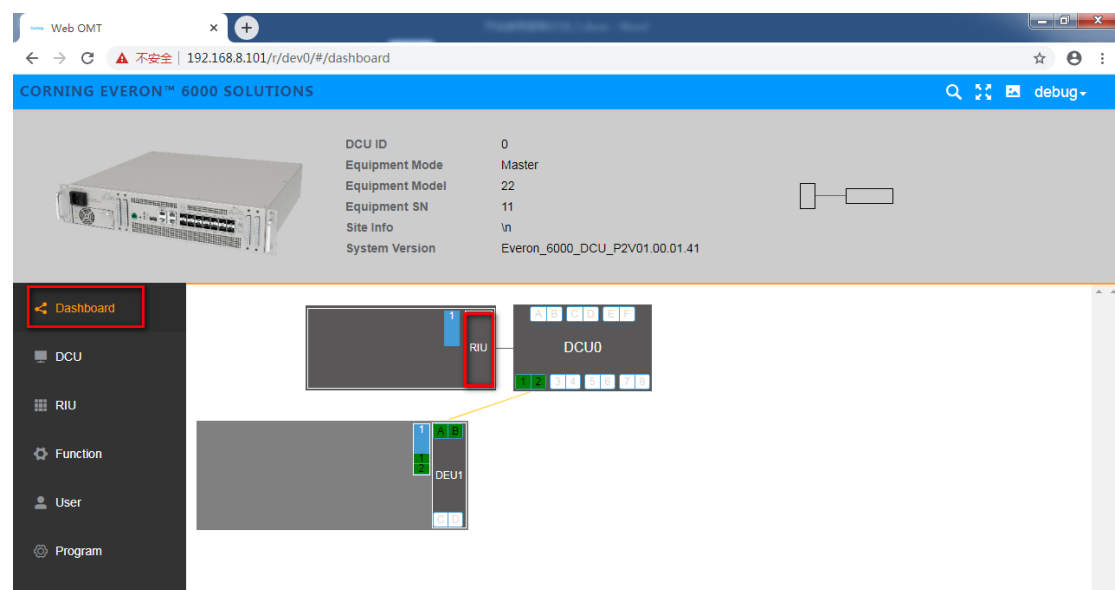


Figure 6.1-1 topology switching area

Step2: set the working mode of the channel to TX/RX, set the RF switch to ON, set UL ATT, and DL ATT to adjust the signal size of the uplink and downlink output and input channels in turn.

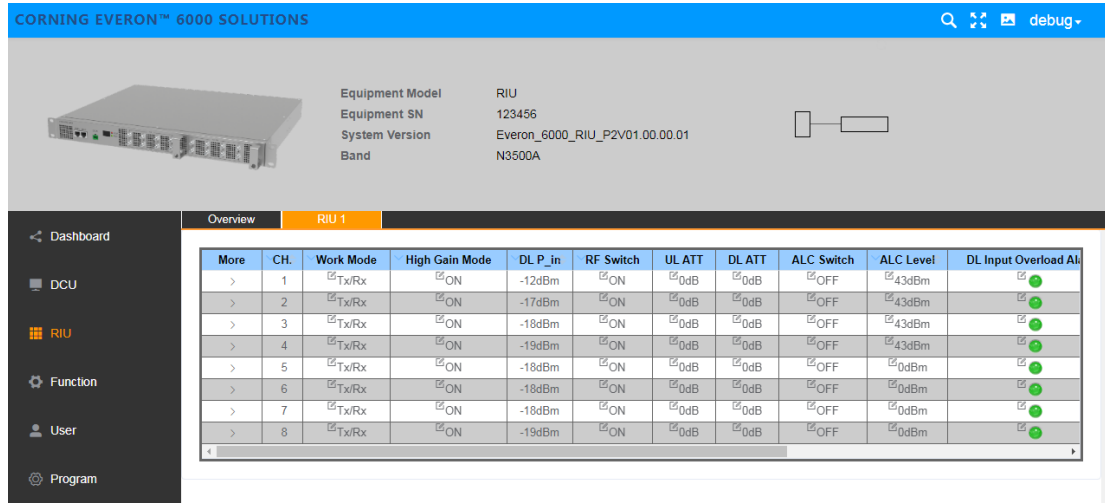


Figure 6.1-2 RIU WEB configuration page

6.2 DCU WEB configuration description

Connect the network cable to the OMT port of the DCU and access the IP address of the system through the WEB browser(<https://192.168.8.101>), as shown in Figure 2, the system will pop up whether to access the security access page. Click Accept to enter the system login page. When the system logs in for the first time, the password modification page will pop up. According to the user's requirements, you can customize the password of any combination of letters in the 13 digit number field (such as zaq1XSW2CDE34)

After logging into the WEB, the system defaults to the WEB page of DCU. Click the topology display area on the WEB and click the topology box of DCU to switch to the WEB page of DCU for WEB configuration of DCU. This configuration is only for the signal output of dLRU:

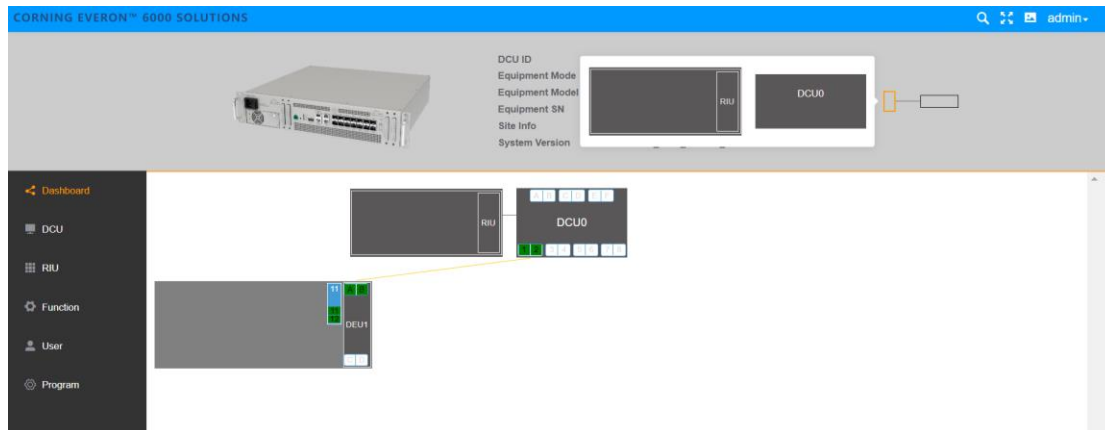


Figure 6.2-1 topology switching area

Click DCU-RF config and set the band, BW, Signal Mode and RF switch of channel 5`8 as follows:

Channel 5: Band is N3500F, BW is 250M, Signal Mode is TDD-NR, and RF Switch is on.

Channel 6: Band is N3500F, BW is 250M, Signal Mode is TDD-NR, and RF switch is on.

Channel 7: Band is N3500G, BW is 280m, Signal Mode is TDD-NR, and RF switch is on.

Channel 8: Band is N3500G, BW is 280m, Signal Mode is TDD-NR, and RF switch is on.

UL ATT and DL ATT are the attenuation values of uplink and downlink channels respectively, and the size of signal output can be adjusted according to user needs.

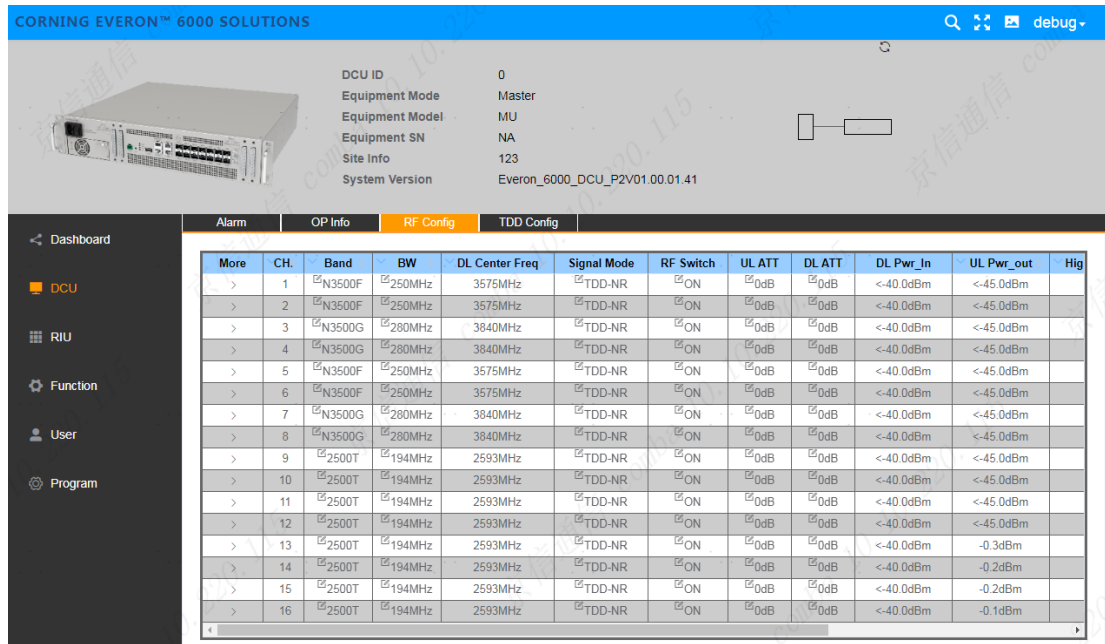


Figure 6.2-2 DCU online interface

6.3 DEU WEB configuration description

As shown in figure 6.3-1, click the topology display area on the WEB and the topology of DEU to switch to the WEB page of DEU for WEB configuration of DEU.

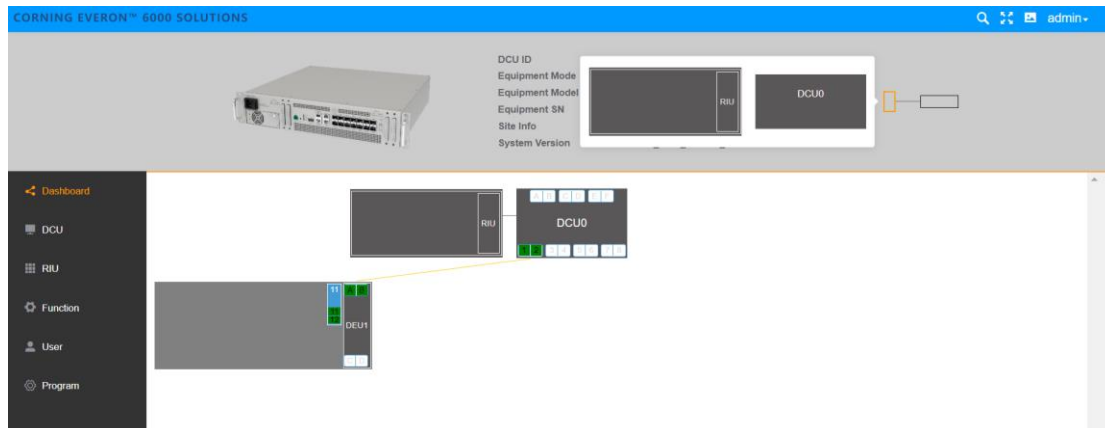


Figure 6.3-1 topology switching area

Click DEU-Carrier info-Add in turn to complete the carrier configuration of the channel of dLRU. The carrier configuration information of the channel is as follows. Configure the carrier center frequency point UL Center Freq. (MHz), DL Center Freq. (MHz), carrier bandwidth BW, signal mode Technology, uplink and downlink attenuation UL ATT (DB), DL

ATT (DB) MIMO in turn. When MIMO is set to MIMO 1, it means that the carrier signal outputs a signal from the ANT1 port of dLRU, Setting MIMO to MIMO 2 means that the carrier signal outputs the signal from the ANT2 port of dLRU. After the configuration is completed, click Finish to complete the carrier configuration.

The image shows a carrier configuration page with the following fields and values:

Parameter	Value
Switch	OFF <input checked="" type="checkbox"/> ON
* UL Center Freq.(MHz)	3575
* DL Center Freq.(MHz)	3575
* BW	100MHz
* Technology	TD-NR
* UL ATT(dB)	0
* DL ATT(dB)	0
* UL Delay(us)	0.0
* UL Delay(us)	0.0
* MIMO	MIMO1

At the bottom, there are two buttons: "Finish" and "Cancel".

Figure 6.3-2 carrier configuration page

To realize the carrier output signal from channel 1 SISO of dLRU, the configuration information is shown in the figure. The configuration range of UL Center Freq. (MHz) and DL Center Freq. (MHz) is 3450~3700. In this example, 3575M is configured, and the MIMO mode is set to MIMO 1.

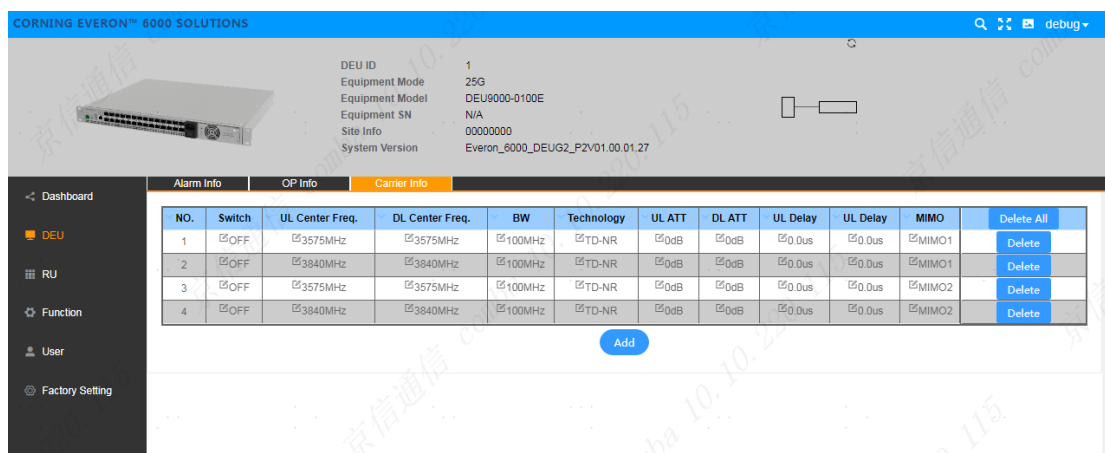


Figure 6.3-3 dLRU channel 1sio carrier configuration page

To realize the carrier output signal from channel 3 SISO of dLRU, the configuration information is shown in the figure. The configuration range of UL Center Freq. (MHz) and DL Center Freq. (MHz) is 3700~3980. In this example, 3840M is configured, and the MIMO mode is set to MIMO 1.

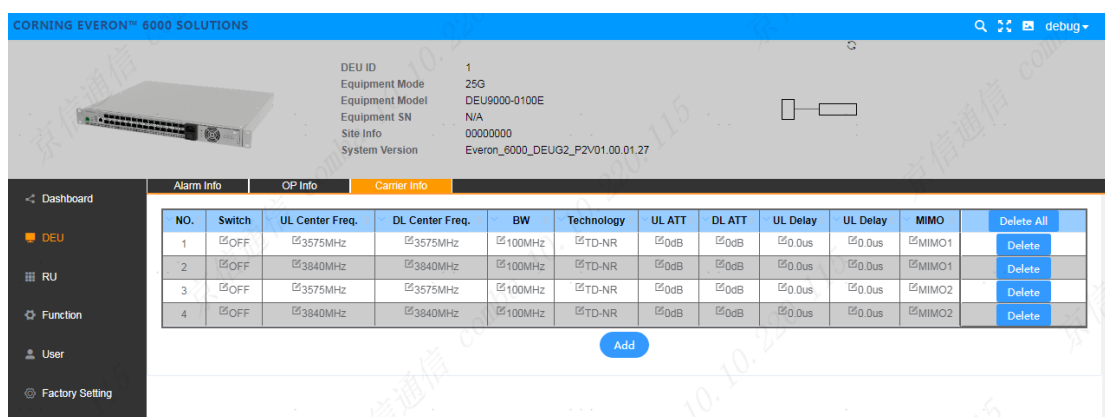


Figure 6.3-4 dLRU channel 3 SISO carrier configuration page

To realize the MIMO output signal of the carrier from channel 2 of dLRU, the configuration information is shown in the figure. The configuration range of UL Center Freq. (MHz) and DL Center Freq. (MHz) is 3450~3700. In this example, the configuration is 3575M, and the MIMO mode is set to MIMO 2.

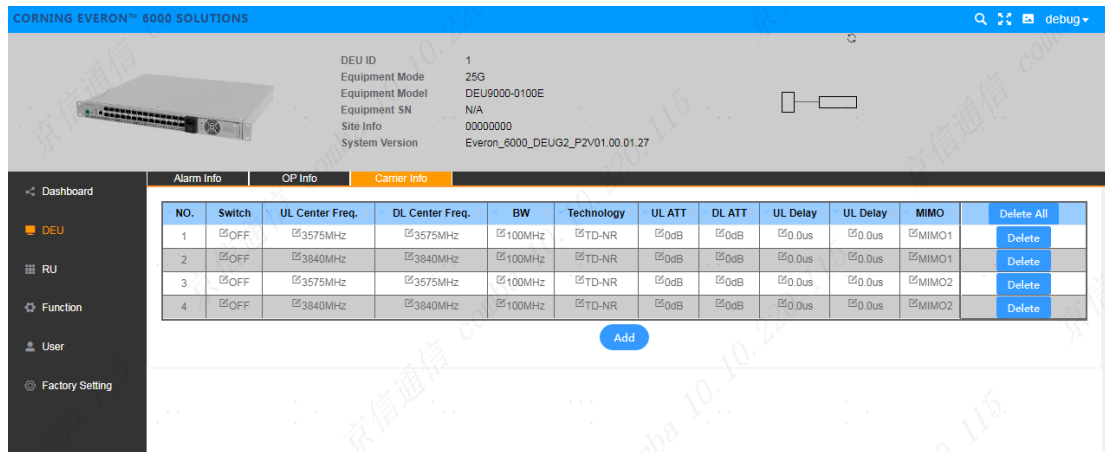


Figure 6.3-5 dLRU channel 2 MIMO carrier configuration page

To realize the MIMO output signal of the carrier from channel 4 of dLRU, the configuration information is shown in the figure. The configuration range of UL Center Freq. (MHz) and DL Center Freq. (MHz) is 3700~3980. In this example, the configuration is 3840M, and the MIMO mode is set to MIMO 2.

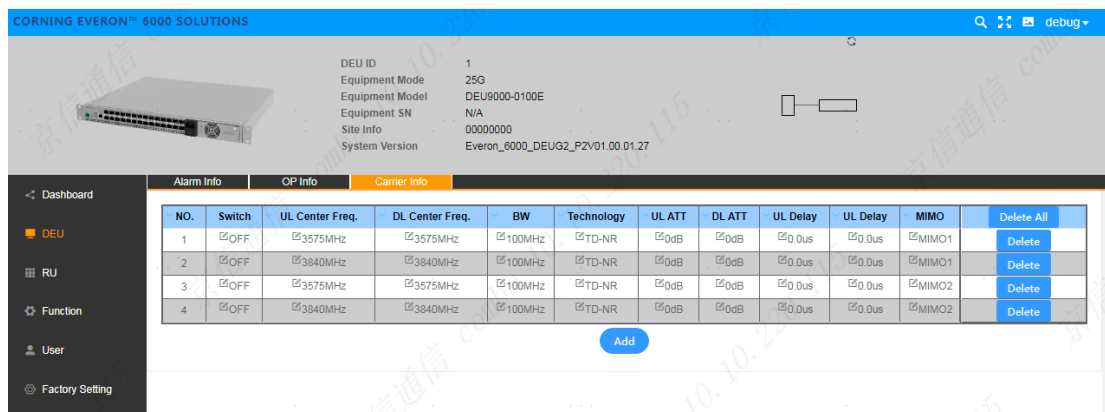


Figure 6.3-6 dLRU channel 4 MIMO carrier configuration page

6.4 dLRU WEB configuration description

Click RU-RF Switch to set the switches of the four channels of dLRU to ON/OFF, which means that the RF channel is in the on state, set the Work Mode to DL Normal Open, which means that the downlink is normally open. And set UL Normal Open, which means that the uplink is normally open.

CORNING EVERON™ 6000 SOLUTIONS

Equipment SN

Equipment Model

System Version

Site Info

N/A

N/A

N/A

0

Overview

RU1

Dashboard

DEU

RU

Function

User

Factory Setting

RF Info

CH	Band	RF Switch	Rating Power	DL P_out	UL P_in	DL ATT	UL ATT	Delay Adjust Mode	Delay Adjust Value	Work Mode
1	N/A	ON	21dBm	<-7.0dBm	<-93.0dBm	0dB	0dB	Auto	0ns	Normal
2	N/A	ON	21dBm	<-7.0dBm	<-93.0dBm	0dB	0dB	Auto	0ns	Normal
3	N/A	ON	21dBm	<-7.0dBm	<-93.0dBm	0dB	0dB	Auto	0ns	Normal
4	N/A	ON	21dBm	<-7.0dBm	<-93.0dBm	0dB	0dB	Auto	0ns	Normal

OP Info

Tx Power	Rx Power	Tx Alarm	Rx Alarm	Temperature Alarm	Sync Alarm	Manufacturer Alarm	P N	S N	Manufacturer	Wavelength	Transmission Rate	Production Date	Revision
0dBm	0dBm	ON	ON	ON	ON	ON	0	0	0	0nm	0Gbps	0	0
0dBm	0dBm	ON	ON	ON	ON	ON	0	0	0	0nm	0Gbps	0	0

Figure 6.4-1 dLRU WEB configuration page