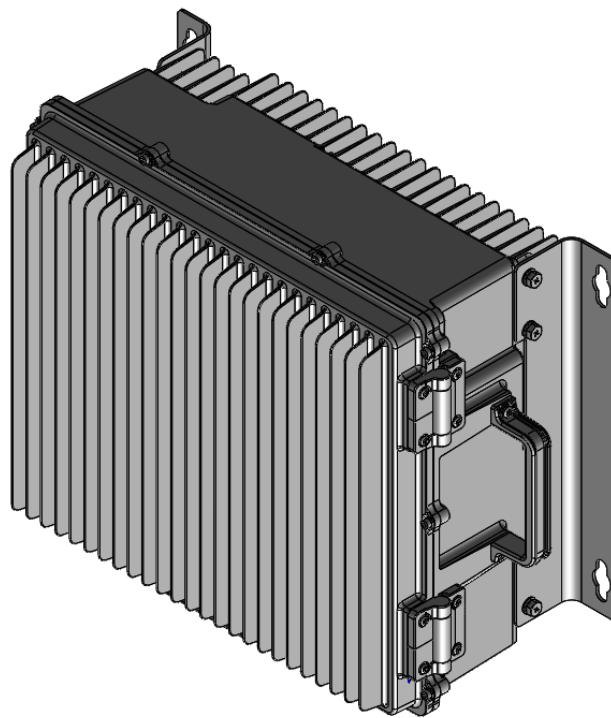# Alliance-TR_N2ROU_CALA for Mexico(Remote Unit)

User Manual

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REVISION HISTORY

Version	Issue Date	Section	Description
V 1.0	April 27, 2020	All	Original

Preface

Technicians using these manuals should have completed the SOLiD Certification Program. SOLiD also recommends technicians be familiar with the concepts of fiber optic cabling, networking and wireless communication technologies, and SNMP. We further recommend training programs offered through CIBET (Certified In Building Engineering Technologist) and BICSI (Building Industry Consulting Service International).

Copyright

Technical Support

SOLiD serial numbers must be available to authorize technical support and/or to establish a return authorization for defective units. The serial numbers are located on the back of the unit, as well as on the box in which they were delivered. Additional support information may be obtained by accessing the SOLiD Tehcnology, Inc. website at www.solid.co.kr

Contents

Section1

1.1 Safety & Certification Notice

"**Only qualified personnel should handle the DAS equipment. Any person involved in installation or service of the DAS should understand and follow these safety guidelines.**"

- Obey all general and regional safety regulations relating to work on high voltage installations, as well as regulations covering correct use of tools and personal protective equipment.

- The power supply unit in repeaters contains dangerous voltage level, which can cause electric shock. Switch the mains off prior to any work in such a repeater. Any local regulations are to be followed when servicing repeaters.

- To prevent electrical shock, switch the main power supply off prior to working with the DAS System or Fiber BDA. Never install or use electrical equipment in a wet location or during a lightning storm.

- When working with units outdoors, make sure to securely fasten the door or cover in an open position to prevent the door from slamming shut in windy conditions.

- Use this unit only for the purpose specified by the manufacturer. Do not modify or fit any spare parts that are not sold or recommended by the manufacturer. This could cause fires, electric shock or other injuries.

- Any DAS system or Fiber BDA will generate radio (RF) signals and continuously emit RF energy. Avoid prolonged exposure to the antennas. SOLiD recommends maintaining a 310cm minimum clearance from the antenna while the system is operating.

- Do not operate this unit on or close to flammable materials, as the unit may reach high temperatures due to power dissipation.

- Do not use any solvents, chemicals, or cleaning solutions containing alcohol, ammonia, or abrasives on the DAS equipment. Alcohol may be used to clean fiber optic cabling ends and connectors.

- Do not look into the ends of any optical fiber or directly into the optical transceiver of any digital unit. Use an optical spectrum analyzer to verify active fibers. Place a protective cap over any radiating transceiver or optical fiber connector to avoid the potential of radiation exposure.

- Allow sufficient fiber length to permit routing without severe bends.

- For pluggable equipment, make sure to install the socket outlet near the equipment so that it
  is easily accessible.

- Certification
  ● FCC: This equipment complies with the applicable sections of Title 47 CFR Parts 15,22,24,
    27 and 90
  ● UL/CUL: This equipment complies with UL and CUL 1950-1 Standard for safety for
    information technology equipment,including electrical business equipment
  ● FDA/CDRH: This equipment uses a Class 1 LASER according to FDA/CDRH Rules.This
    product conforms to all applicable standards of 21 CFR Chapter 1, Subchaper J, Part 1040

- A readyily accessible disconnect device shall be incorporated external to the equipment.

- This power of this system shall be supplied through wiring installed in a normal building.
If powered directly from the mains distribution system, it shall be used additional protection,
such as overvoltage protection device

- Only 50 ohm rated antennas, cables and passive equipment shall be used with this remote.
Any equipment attached to this device not meeting this standard may cause degradation and
unwanted signals in the bi-directional system.   All components connected to this device must
operate in the frequency range of this device.

- Only 50 ohm rated antennas, cables and passive components operating from 150 - 3 GHz
shall be used with this device.

- The head end unit must always be connected to the Base Station using a direct cabled
  connection.   This system has not been approved for use with a wireless connection via server
  antenna to the base station.

- Round terminals located on the side of a 1 mm2 (16 AWG) or more wires Using permanently
connected to earth. (Green/yellow color)

- The following notice: "The Manufacturer's rated output power of this equipment is for single
carrier operation. For situations when multiple carrier signals are present, the rating would
have to be reduced by 3.5 dB, especially where the output signal is re-radiated and can cause
interference to adjacent band users. This power reduction is to be by means of input power or
gain reduction and not by an attenuator at the output of the device."

- Prior to equipment use the service must be registered with the FCC. This can be done through

the FCC's website at https://signalboosters.fcc.gov/signal-boosters/.

- Access can only be gained by SERVICE PERSONS or by USERS who have been instructed about
the reasons for the restrictions applied to the location and about any precautions that shall be
taken; and
- Access is through the use of a TOOL or lock and key, or other means of security, and is on
trolled by the authority responsible for the location.

- Notice! Be careful not to touch the Heat-sink part due to high temperature.

- Use of unauthorized antennas, cables, and/or coupling devices not conforming with
ERP/EIRP and/or indoor-only restrictions is prohibited.
- Home/ personal use are prohibited.
- Signal booster warning label message

WARNING. This is **NOT** a **CONSUMER** device. It is designed for installation by **FCC LICENSEES** and **QUALIFIED INSTALLERS**. You **MUST** have an **FCC LICENSE** or express consent of an FCC Licensee to operate this device. Unauthorized use may result in significant forfeiture penalties, including penalties in excess of $100,000 for each continuing violation.

WARNING: This is NOT a CONSUMER device. It is designed for installation by an installer

approved by an ISED licensee. You MUST have an ISED LICENCE or the express consent of an ISED

licensee to operate this device.

CAUTION
DOUBLE POLE/NEUTRAL FUSING

Section2

2.1 Overview

The N2ROU is a coverage system for in-building services delivering voice and data in high quality and for seamlessly. As a distributed antenna system, it provides analog and digital phone systems that are served in multiple bands through one antenna.
The system covers general public institutions and private facilities.

- Shopping malls
- Hotels
- Campus areas
- Airports
- Clinics
- Subways
- Multi-use stadiums, convention centers, etc.

The system helps improve in-building radio environments in poor condition and make better poor RSSI and Ec/Io. By providing communication services at every corner of buildings, the system enables users to make a call at any site of buildings.
The system uses digital (CDMA, WCDMA, LTE) methods.
The N2ROU system supports communication standards interface protocols in worldwide use.

- Frequencie Bands : 850C, 1900P, AWS13, L2600F
- Voice protocols: CDMA etc.
- Data protocols: WCDMA,CDMA2000, LTE etc.

N2ROU is basically equipped with four-band (850C, 1900P, AWS13, L2600F) modules. The 1900P_M, L2600F_M, AWS13_M bands are serviceable, but up to two optional modules (Bands) are supported. Multiple signals are transmitted by one fiber optic cable, and the system does not require additional facilities each time a new frequency is added.
The characteristics of this system are as follows :

- Flexibility & Scalability
  - Support fiber-optic ports up to 60
  - Clustering multiple-buildings (campus) as one coverage
- Option structures
  - Modular frequency upgrade
- Multi-Band, Multi Operator
  - Signals with a plurality of service provider transmit simultaneously
  - Support multi-operator in a band
- Low OPEX / CAPEX
  - Compact design
  - Upgradable design
  - Easy installation and maintenance

2.2 N2ROU

The N2ROU (New 2W Remote Optical Unit) is one of the Alliance-TR DAS series that supports 2W output power. There are two types of N2ROUs: four-band (SISO) support and two-band (MIMO) support multiplexers.
(4-Band Multiuplexer: 850C, 1900P, AWS13, L2600F)
(2-Band Multiuplexer: 1900P_M, L2600_M)
(2-Band Multiuplexer: AWS13_M, L2600_M)

N2ROU sends a signal that multiple operators and multiple technologies are simultaneously transmitted from BTS to remote locations via the same optical fiber.

Section3

3.1 Functional Description

The following figure shows the block diagram of N2ROU. The N2ROU has four different diagrams based on optional modules. The diagram shown below is the first one with the default combination.
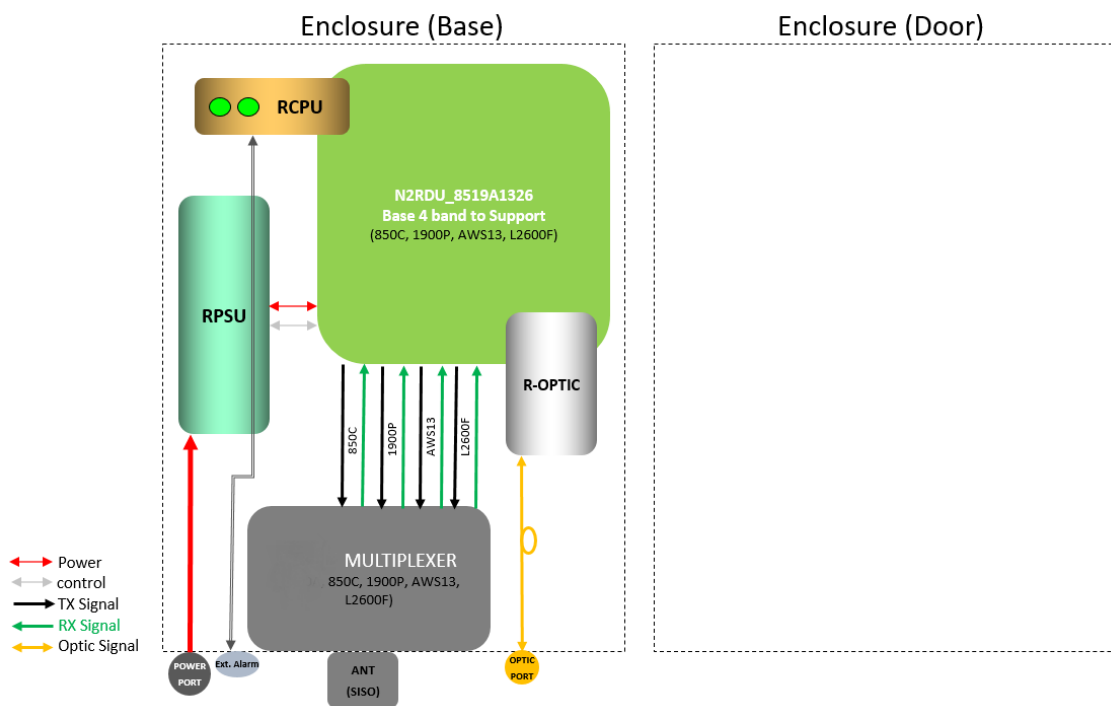

Figure 3.1 – N2ROU Block Diagram (4 Bands)

The components are;

- R-Optic: Remote Optical Unit

- RCPU: Remote Central Processor Unit

- RPSU (AC): Remote AC Power Supply Unit (When using the AC input power)

- N2RDU_8519A1326: Remote Drive Unit (4 bands)

- N2ROU_MUX_5B_708519A1326: Combining Unit

The diagram below shows the 4 bands(SISO) combination and 2 bands(MIMO). combination 4 base bands with 2 additional bands.
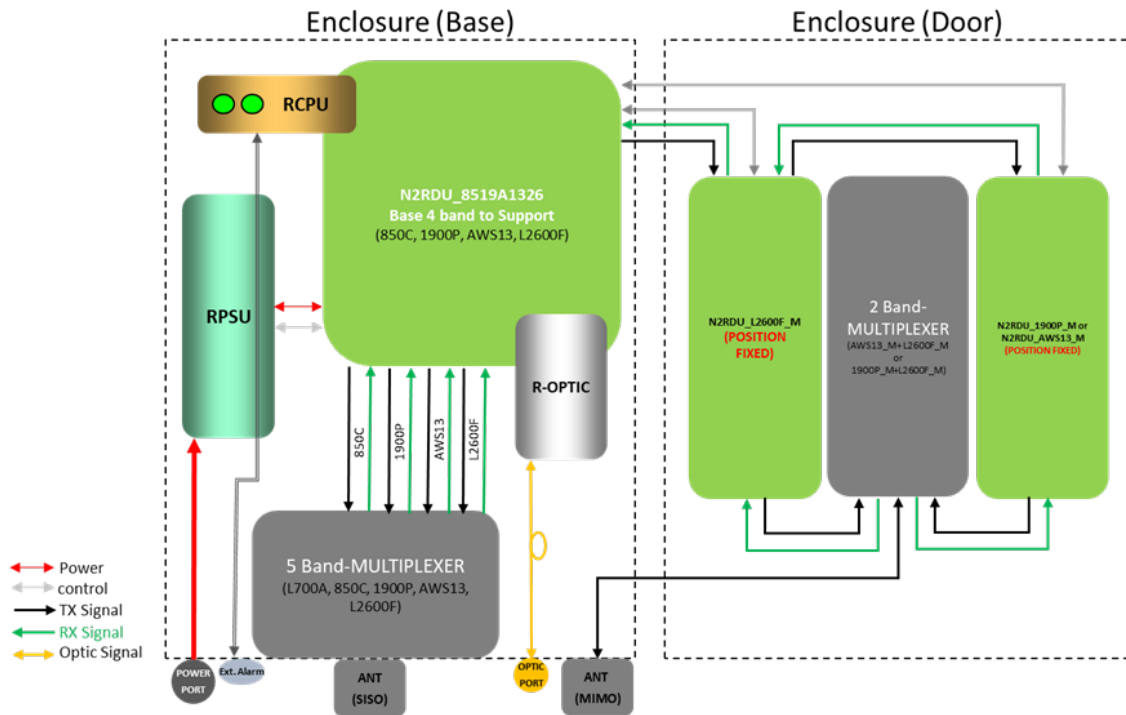

Figure 3.2 – N2ROU Block Diagram (4 bands(SISO) + 2 bands(MIMO))

The components are;

- R-Optic: Remote Optical Unit

- RCPU: Remote Central Processor Unit

- RPSU (AC): Remote AC Power Supply Unit (When using the AC input power)

- N2RDU_8519A1326: Remote Drive Unit (4 bands)

- N2RDU_1900P_M: Remote Drive Unit (1 band)

- N2RDU_L2600F_M: Remote Drive Unit (1 band)

- N2ROU_MUX_5B_7085182126: Combining Unit

- N2ROU_MUX_2B_1926: Combining Unit

- N2ROU_MUX_2B_A1326: Combining Unit

3.2 N2ROU Component

The following figure shows internal configuration of the N2ROU fully equipped with frequency bands.
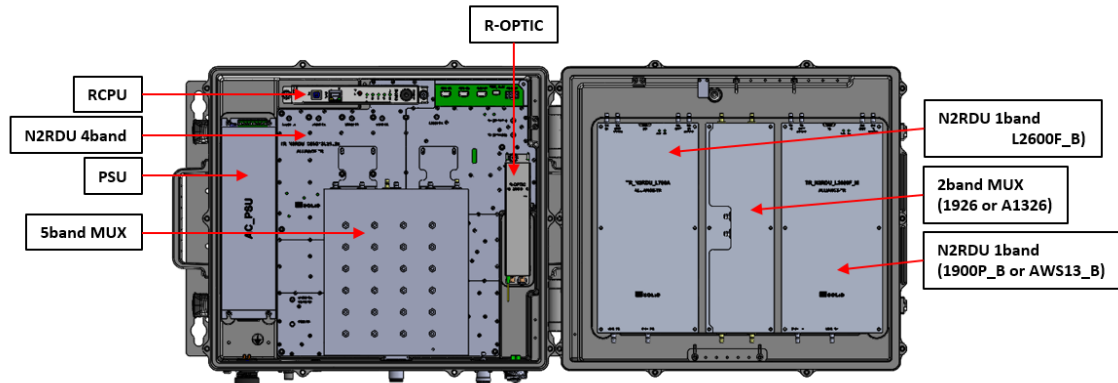

Figure 3.5 – Internal View of Remote Unit

The N2ROU receives TX optical signals from Head-End and converts them into RF signals. The converted RF signals are amplified through High Power Amp in a corresponding RDU, combined with Multiplexer module and then radiated to the antenna port. RX signals received from the antenna port are filtered through the multiplexer module, amplified at the RDU modules, and converted into optical signals via optical module. After converted, the signals are sent to a upper device of ODU or iODU. Four base bands are installed and additional two RDU modules can be installed on the right side of the enclosure. Refer to the image above.

The following table describes components of N2ROU.

Unit	Description
N2RDU	**Remote Drive Unit**
	Amplify TX signals
	Amplify RX signals
	Remove other signals through BPF
RPSU (AC)	**Remote AC Power Supply Unit**
	Input power: 90~280 VAC
	Output power: +29.2 VDC
R-OPTIC	**Remote Optic**
	Convert RF signals into optical signals and vise versa; Compensate optical loss
	Communicate with BIU/OEU though the WIFI modem
	5dBo optical link between ODU (OM4) and ROU
	10dBo optical link between ODU (OM1) and ROU
	Fiber Connector: SC/APC Connector
	Fiber Type: Single Mode Fiber
	Optical Wavelength: 1310/1550 WDM
RCPU	**Remote Central Processor Unit**
	Controls signal of each unit
	Monitors BIU/ODU/OEU through the WIFI modem
MUX_4B_8519A1326	**Multiplexer 4-band(SISO bands)**
	Combine TX signals from 4 RDUs; Distribute RX signals to 4 RDUs
	Allow to use a single antenna port for 4 bands
MUX_2B_1926 MUX_2B_A1326	**Multiplexer 2-band(MIMO bands)**
	Combine TX signals from 2 RDUs; Distribute RX signals to 2 RDUs
	Allow to use a single antenna port for 2 bands
ROU Enclosure	**Enclosure to satisfy IP66**
	Vertical Mount
	Wall Mount

3.3 Dimension
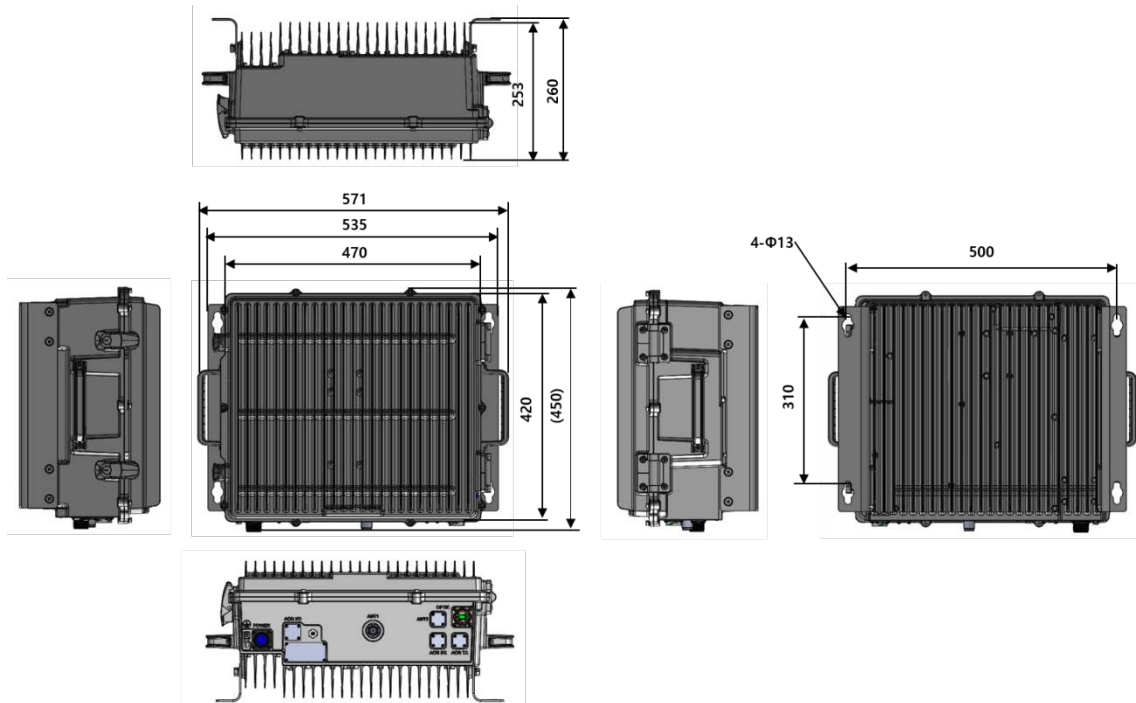
Figure 3.6 – Remote Unit Dimension

ITEM	SPECIFICATION	REMARK
Dimensions (WxHxD)	18.5"x16.5" (10 RU) x 10.2" (470mm x 420mm x 260mm)	Including Bracket
Weight	Max. 69.44 lbs (31.5kg) for base model, 4 bands Max. 72.75 lbs (33kg) for 5 bands Max. 80.46 lbs (36.5kg) for 6 bands	MUX included

Section4

4.1 Installation

This chapter describes how to install each unit and optical cables. It also explains how to install shelves or enclosuers of each unit, power cabling method and optical cabling and RF interface. Required accessories and tools for installation are list up in the below table.

4.2 Required Materials

Installation Step	Accessory	Included	Tool	Remark
Remote Enclosure Installation	M12 Bolt (4EA)	X	Spanner (19mm)	-
Power Connection_AC	AC 120V power cable (1EA) [2 meter, with MIL-5015 type Connector (MS-3106A- 18-10S) at one end, AC Plug at another end]	○	-	-
Ground Connection	M6 Screw (1EA)	○	#2 Screwdriver (+)	For more details, refer to **4.3.3.**
	Lug (1EA)	○	Crimping tool	
	Max. AWG #6 Cable	X		
Optical Connection	Optical Cable Assembly Connector (1EA) [957-5004-105, by Amphenol]	○	-	For more details, refer to **4.3.4.**
	OPTIC SC/APC Cable (1EA)	X	-	
Antenna Connection	4.3-10 DIN(M) RF Cable (1 or 2EA)	X	-	2 EA are required in case

					of MIMO.
N2RDU Installation (Optional bands)	Expansion of N2RDU_L700A (Not support)	N2RDU_L700A Module	○	#1 Screwdriver (+)	
		M4 Screw (6EA)			
		I/O Cable (1EA)			
		TX IN RF Cable (1EA) Base RDU to Option RDU			
		RX OUT RF Cable (1EA) Base RDU to Option RDU			
		TX RF Cable (1EA) L700A RDU to MUX			
		RX RF Cable (1EA) L700A RDU to MUX			For more details, refer to **4.3.5.**
	Expansion of N2RDU_1900P_M+N2RDU_L2600F_M or N2RDU_AWS13_M+N2RDU_L2600F_M	N2RDU_1900P_M Module	○	#0 Screwdriver (+) #1 Screwdriver (+)	
		N2RDU_AWS13_M Module			
		N2RDU_L2600F_M Module			
		MUX_2B_1926			
		MUX_2B_A1326			
		M4 Screw (18EA)			
		I/O Cable (2EA)			
		TX RF Cable (1EA) Base RDU to Option RDU			
		RX RF Cable (1EA) Base RDU to Option RDU			
		Casecade TX RF Cable(1EA) AWS13_M/1900P_M			

		to L2600F_M			
		Casecade RX RF Cable(1EA) AWS13_M/1900P_M to L2600F_M			
		MUX RF Cable (1EA) MUX to ANT Port			
		TX RF Cable (1EA) 1900P_M/AWS13_B RDU to MUX			
		RX RF Cable (1EA) 1900P_M/AWS13_M RDU to MUX			
		TX RF Cable (1EA) L2600F_M RDU to MUX			
		RX RF Cable (1EA) L2600F_M RDU to MUX			
MIMO Antenna Connection (Optional)	RF Adaptor [4.3-10 DIN(F) type to SMA(F) type Adaptor]			#0 Screw driver (+)	For more details, refer to **4.3.6.**
	M3 Screw (4EA)				
Connection with External Alarm	Inner Data Interface Cable (1 EA) [0.5 meter, with MIL-5015 type Connector (97-3102A-14S-5P) and Signal Connector (SMH200-05)]	○	#0 Screw driver (+)	For more details, refer to **4.3.7.**
	M3 Screw (4EA)				

4.3 Install N2ROU

4.3.1 Install N2ROU

The N2ROU uses a unibody enclosure that is NEMA 4 (IP66) certified to withstand water and dust intrusion. It can be mounted on a pole, wall, or rack. Basically wall-mounted bracket for N2ROU is included.
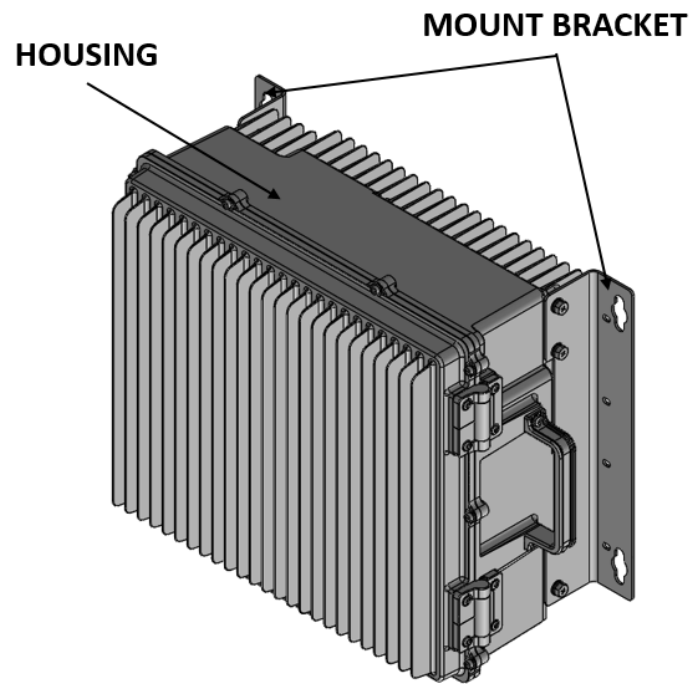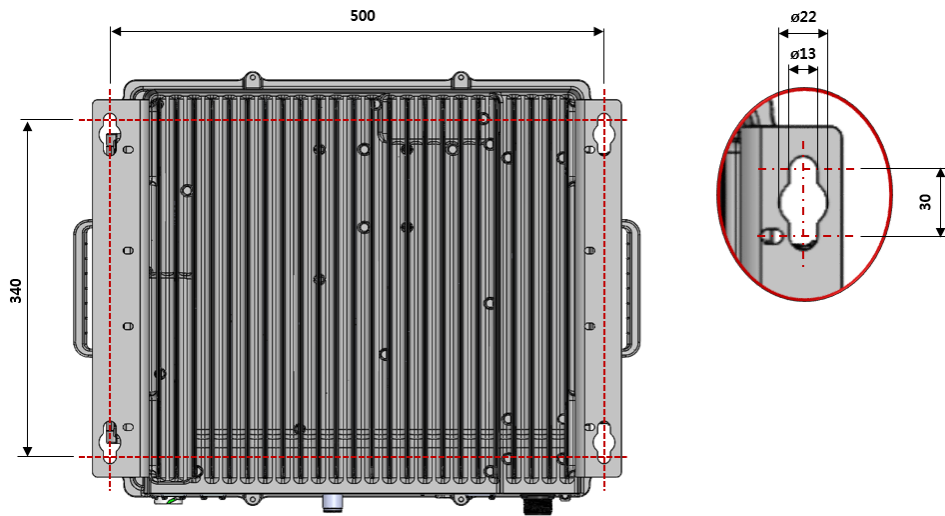

Figure 4.1 – Exterior of N2ROU

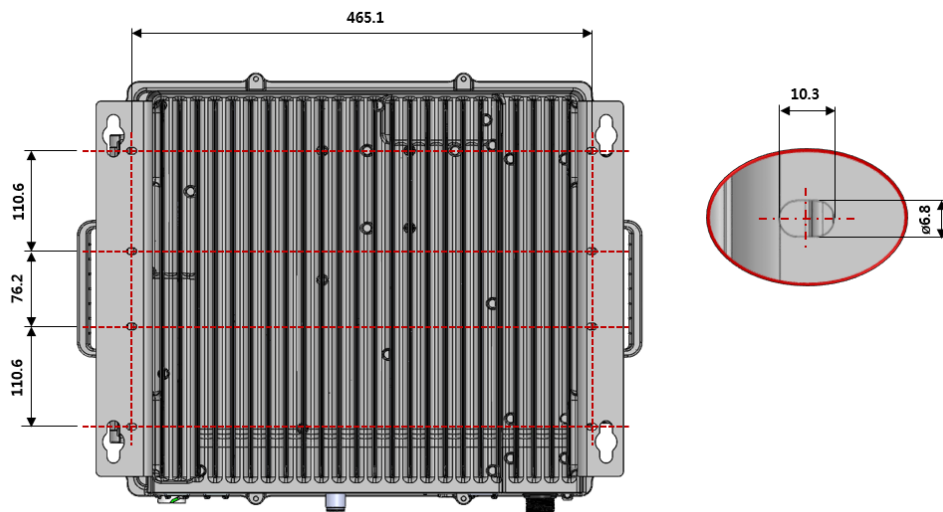**Figure 4.2 – N2ROU Wall Mount Dimensions**

Figure 4.3 – N2ROU Rack Mount Dimensions

N2ROU Wall Mount Procedure

The enclosure comes with the bracket for wall mounting. It doesn't need to remove the bracket to install the enclosure, simply install and tighten 4 mounting bolts to secure the unit. First, install 2 of M12 mounting bolts roughly half way into the wall. Mount the enclosure and tighten the bolts. Second, tighten the remaining M12 mounting bolts under the enclosure and secure the unit tightly.
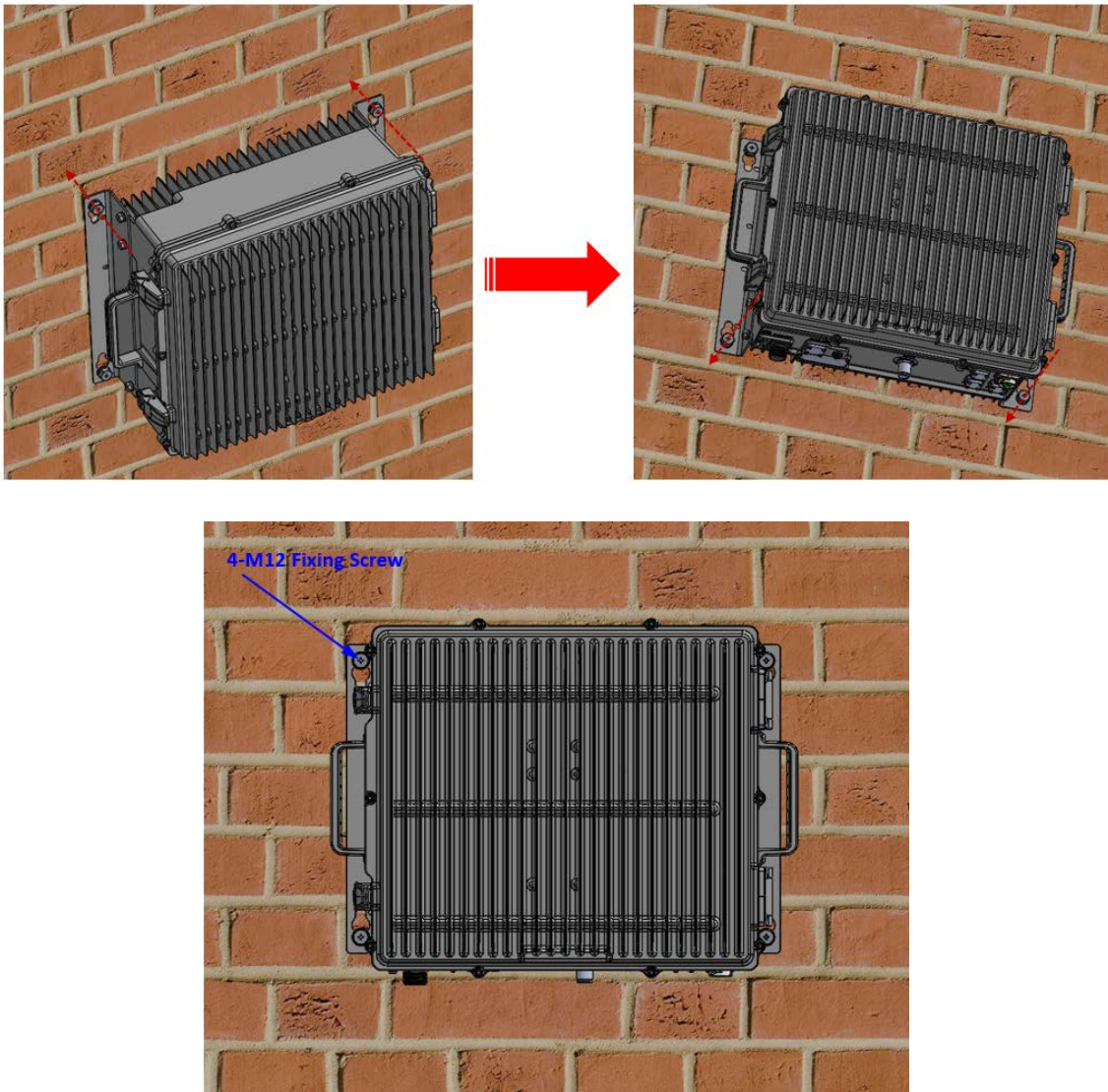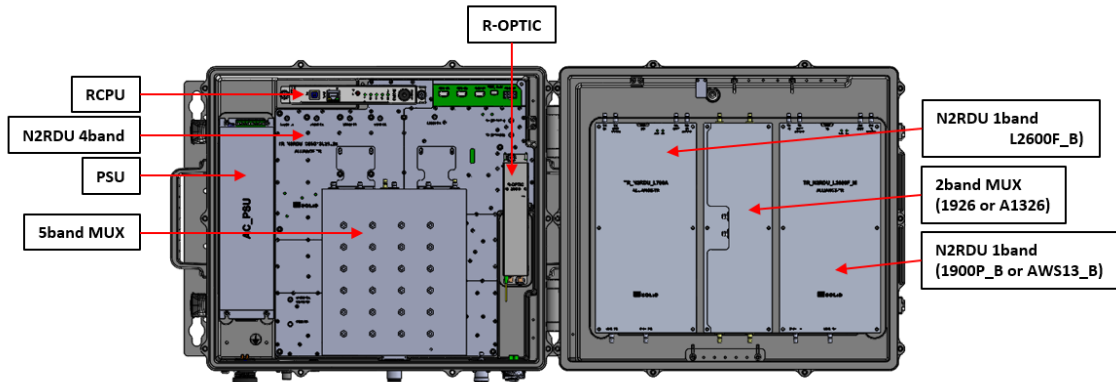

Figure 4.4 – Installation Procedure

N2ROU Components

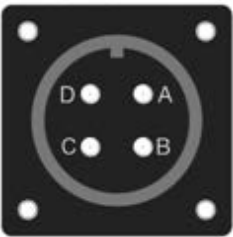

N2ROU has the following components:

No.	Unit	Description	Remark
Common Part	Enclosure	N2ROU_BASE_AC	1EA
	RCPU	Remote Central Processor Unit	1EA
	R_OPTIC	Remote Optic (only Remote Unit)	1EA
	RPSU	Remote AC Power Supply Unit	1EA
	Power Cable	MS Connector with 4 holes	1EA
	N2RDU	N2RDU_8519A1326	ANT1
		N2RDU_1900P_M	ANT2
		N2RDU_AWS13_M	
		N2RDU_L2600F_M	
	MUX_4B	Internal Combiner Unit for 850C, 1900P, AWS13, L2600F	1EA
	MUX_2B	Internal Combiner unit for 1900P_M, L2600F_M	1EA
		Internal Combiner unit for AWS13_M, L2600F_M	1EA

Basically, the N2ROU is equipped with RCPU to check and control state of each module, R_OPTIC to covert RF to opticals and vise versa, RPSU to supply power for N2ROU. It should have a power cable for external rectifier or to supply required power.
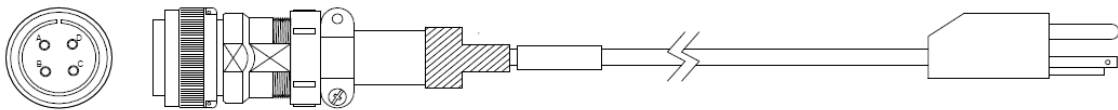
4.3.2 N2ROU Power Cabling

AC Power

The N2ROU supports only AC 120V input power and only a single type of power cable is provided. The pin discription of AC port is as below. Pay attention to the correct polarity.

AC Power Port	MS Connector No.	Name	Description
	A	AC_H	AC Hot
	B	AC_N	AC Neutral
	C	N.C	Not Connected
	D	F.G	Frame Ground

Check if the connection is the same as one seen in the table above and make sure to turn the power ON. The figure below is the AC power cable that comes with the unit.

Figure 4.5– AC Power Cable

4.3.3 N2ROU Ground Cabling

The grounding terminal is located at the bottom of N2ROU enclosure fixed by an M6 screw. Compression terminal is attached already when it is delivered. The recommended thickness of cable is AWG#6 copper grounding wire.
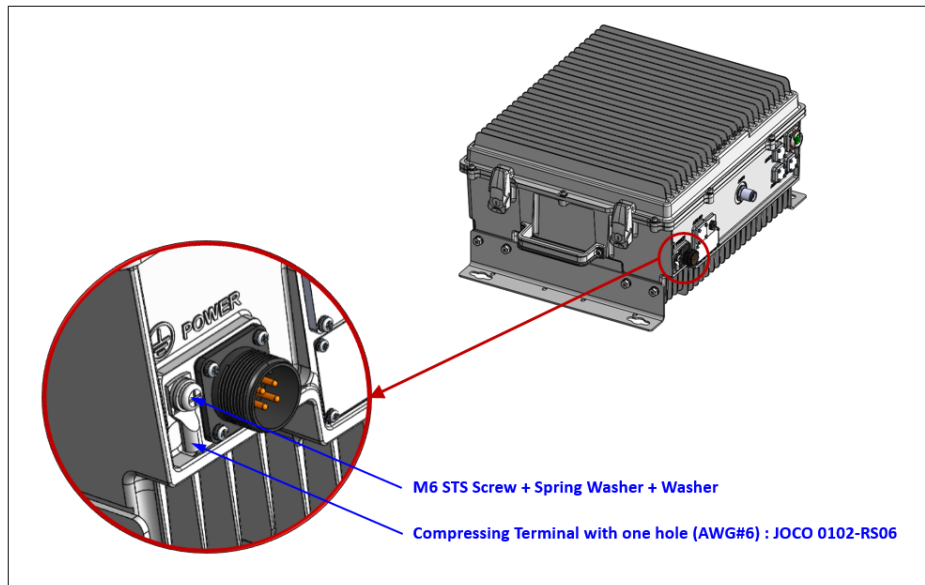

M6 STS Screw + Spring Washer + Washer

Compressing Terminal with one hole (AWG#6) : JOCO 0102-RS06

Figure 4.7 – Location of Ground Terminal

The specification of compression terminal is as follows.

- Material : Electrolytic Copper (TPC)
- Surface : Tin Plated
- With Inspection Hole
- Color Coded to Show Proper Die Number and Color 10㎟~630㎟
- To IEC 60228 Class2
- UL Listed 486A-486B up to 35KV
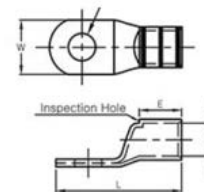
Part No Explation : JOCO 0101-X X 04 → Stud Size(mm, UNC)

Tongue Form R : Round Type
S : Square Type

Barrel Form *S : Standard Barrel Type
*L : Long Barrel Type

71Part Number71	Wire Range		Stud Size	Dimension (mm)						Color Code & Die No	Q'ty / bag
	AWG	㎟		W	d	E *S	E *L	L *S	L *L		
JOCO 0101–XX05			M5	9.5				33	39	Red 21 JOCD–8	500
JOCO 0101–XX06			M6								
JOCO 0101–XX08	8	10	M8	15	4.7	15	21	39	45		
JOCO 0101–XX10			M10								
JOCO 0101–XX12			M12	18				43	49		
JOCO 0102–XX05			M5	12				33	39	Blue 24 JOCD–6	300
JOCO 0102–XX06			M6								
JOCO 0102–XX08	6	16	M8	15.5	5.4	15	21	39	45		
JOCO 0102–XX10			M10								
JOCO 0102–XX12			M12	18				43	49		

Figure 4.8 – Information of Terminal

The required part number is JOCO 0102-RS06 that supports AWG 6. To install the grounding cable, follow the steps below.
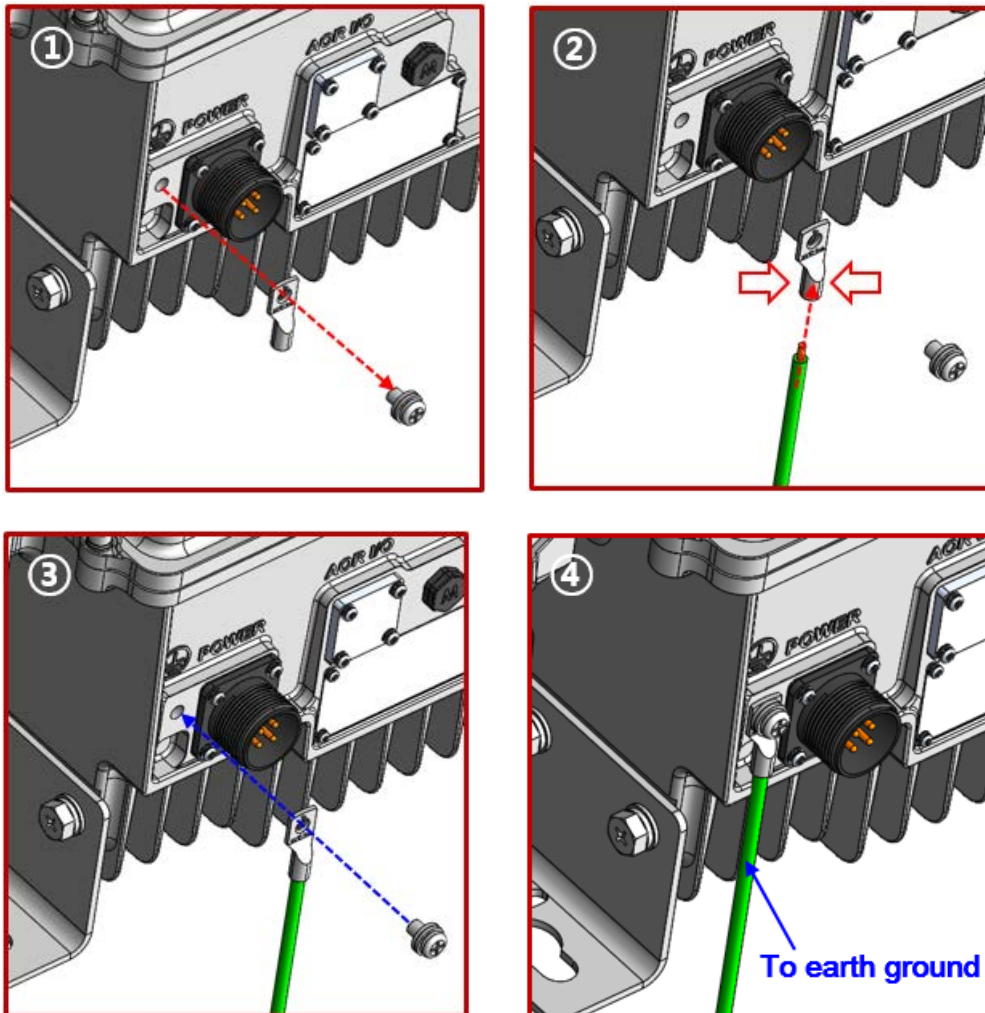

Figure 4.9 –Installing Ground Terminal

The procedures are

1. Loosen two M6 screws and then take compression terminal off
2. Insert AWG#6 grounding wire into terminal, and then compress a terminal using the tool
3. Assemble the terminal with 2xM6 screws
4. Cut the ground wire to proper length and connect it to the earth ground source

4.3.4 Optical Cabling

The Optical connector is located at the bottom of the N2ROU. Optical cable can be connected by using its connectors.
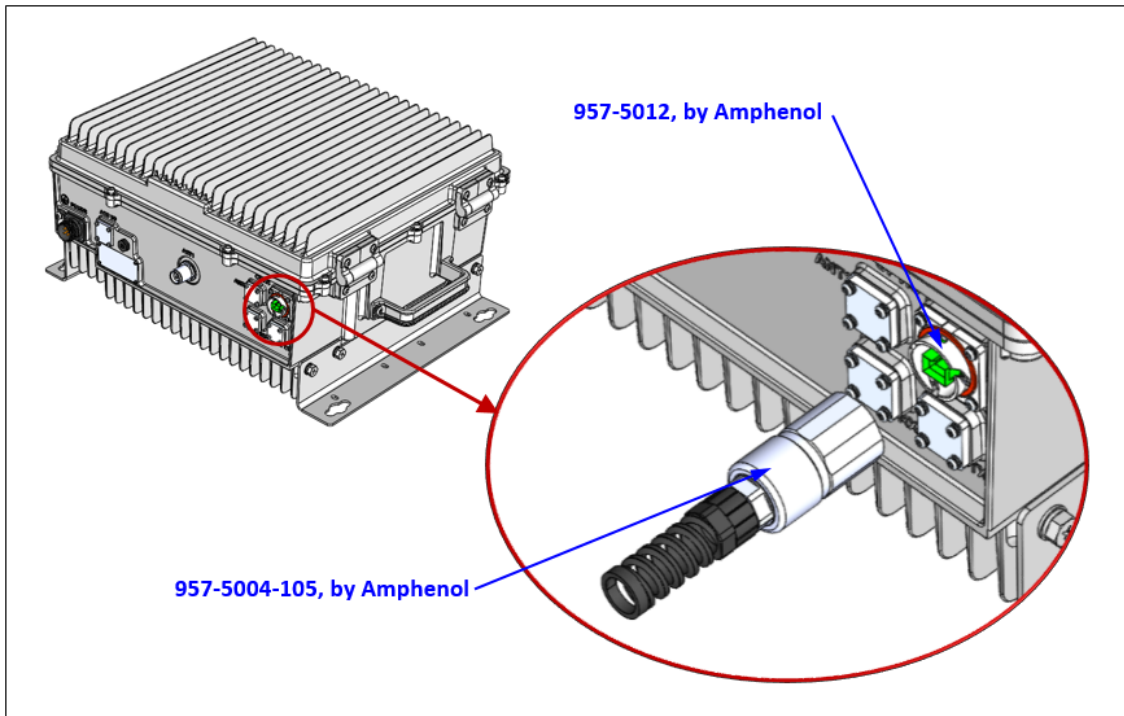
Figure 4.10 –Optical Connector

Refer to the figure below for detailed information. The figure is based on LC type, but can be applied to SC type as well.

4.3.5 Mounting N2RDU (Optional Modules)

The N2ROU has the basic modules as shown on the left side of the enclosure (see the figure below) and the maximum of two optional remote units can be installed on the right. Various combinations can be configured based on different services and conditions.
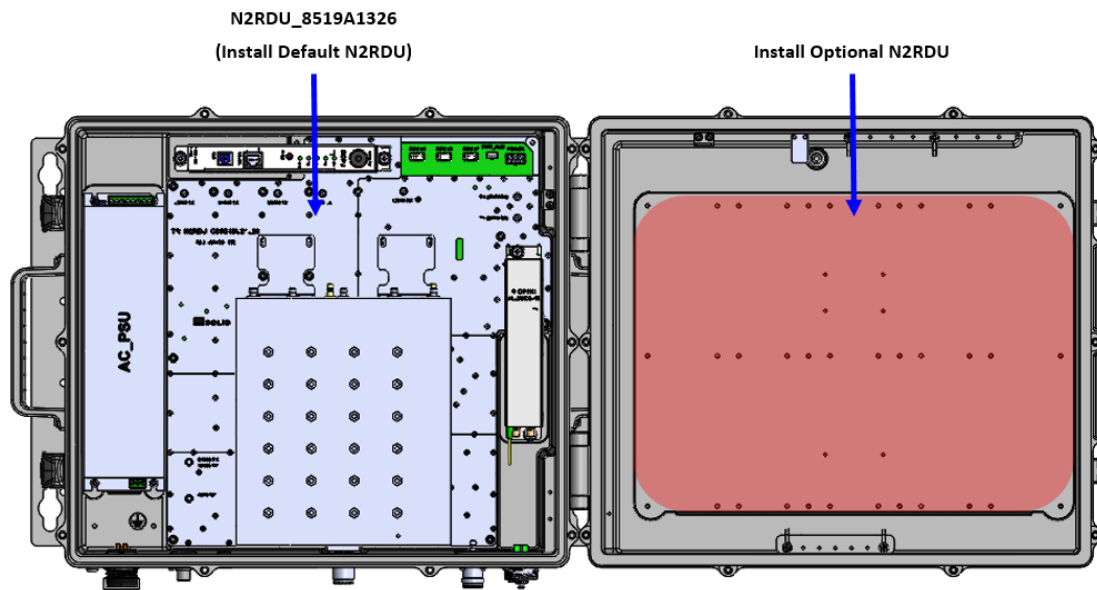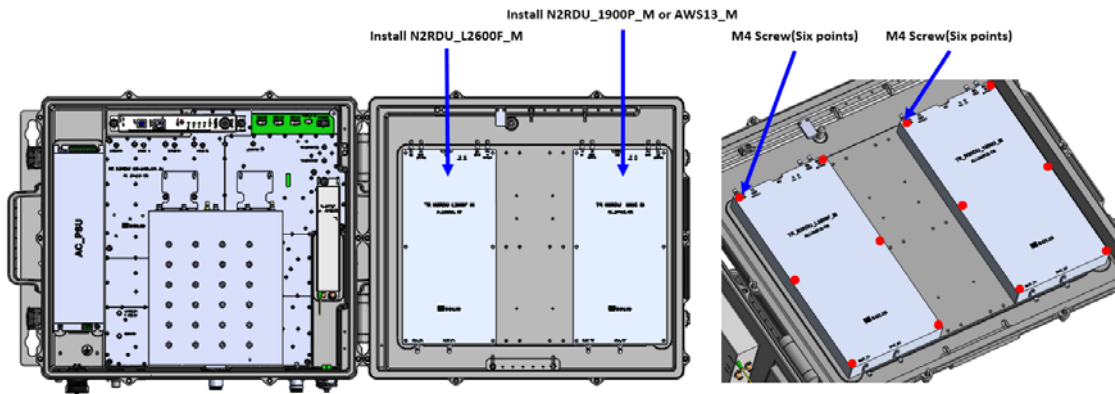
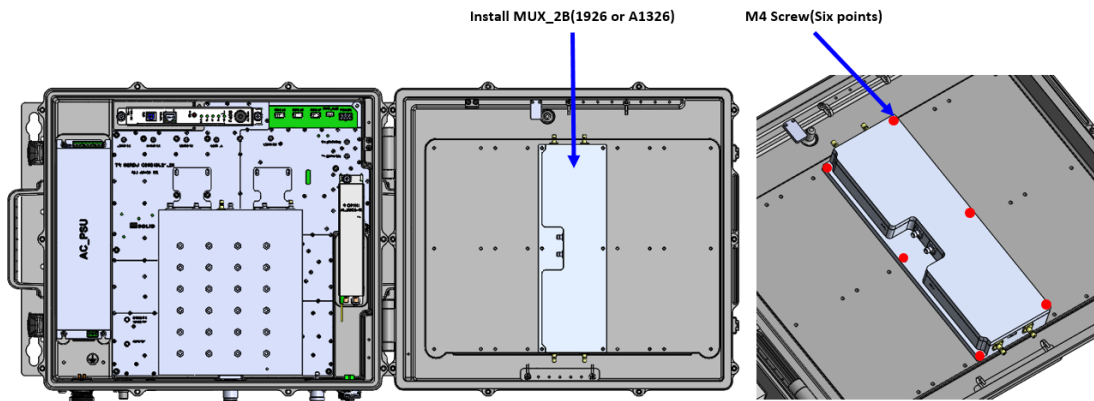

Figure 4.11 – Location of N2RDU

Mounting of N2RDU_1900P_M+ N2RDU_L2600F_M or AWS13_M+ N2RDU_L2600F_M (MIMO Band Expansion)

N2RDU_1900P_M, N2RDU_AWS13_M and N2RDU_L2600F_M module can be installed in the N2RDU as an optional module in the pink box shown in the figure below. It can be installed with 12 screws included in the package.

Figure 4.14 – Install N2RDU_1900P_M + N2RDU_L2600F_M or AWS13_M + N2RDU_L2600F_M

To service 1900P_M, AWS13_M and L2600F_M Band Expansion, MUX_2B(1926 or A1326) is required, and it can be installed with 6 screws included in the package.

Figure 4.15 – Install MUX_2B(1926 or A1326)

Refer to the figure below for cabling in order to service 1900P_M + L2600F_M or AWS13_M + L2600F_M Band Expansion.

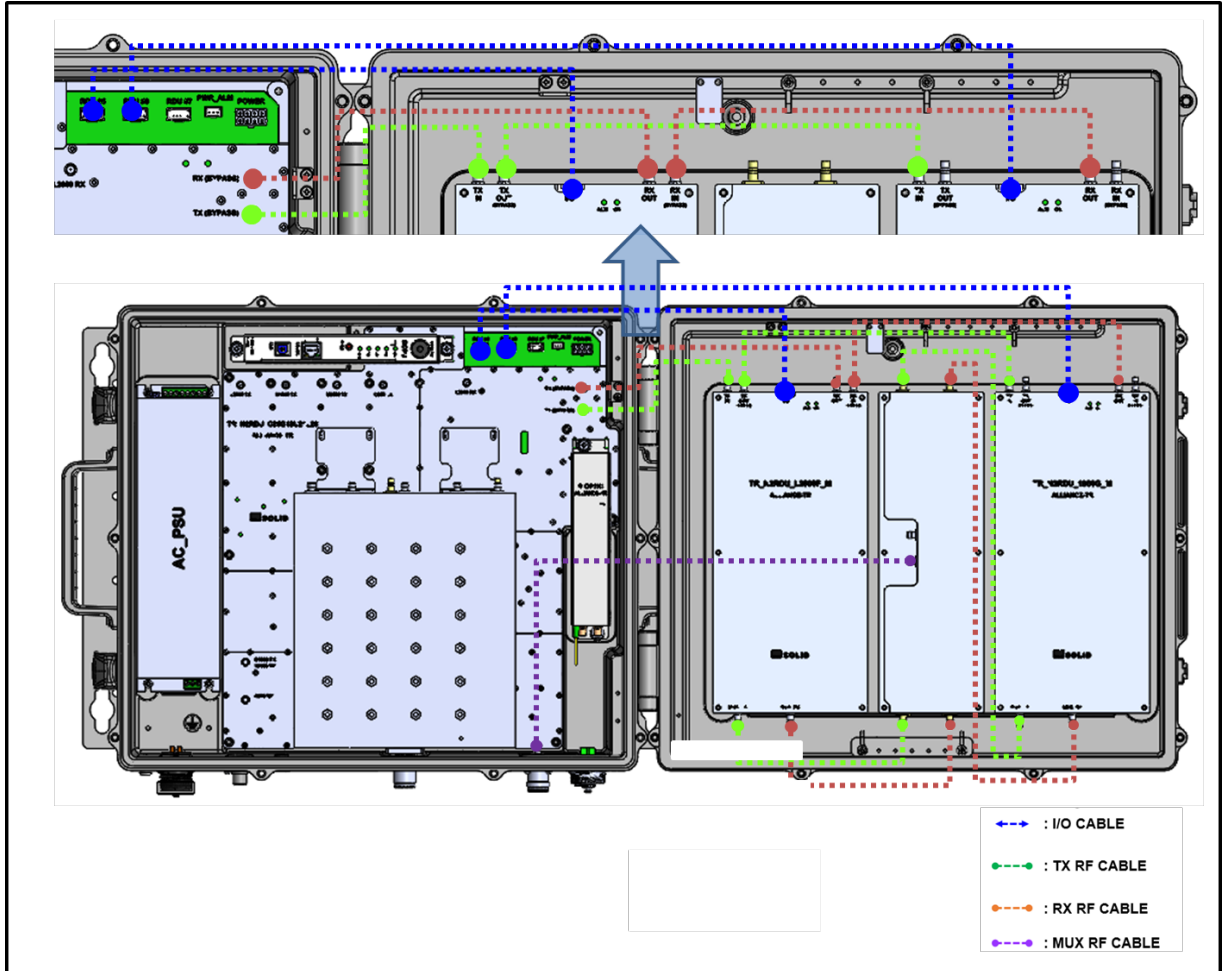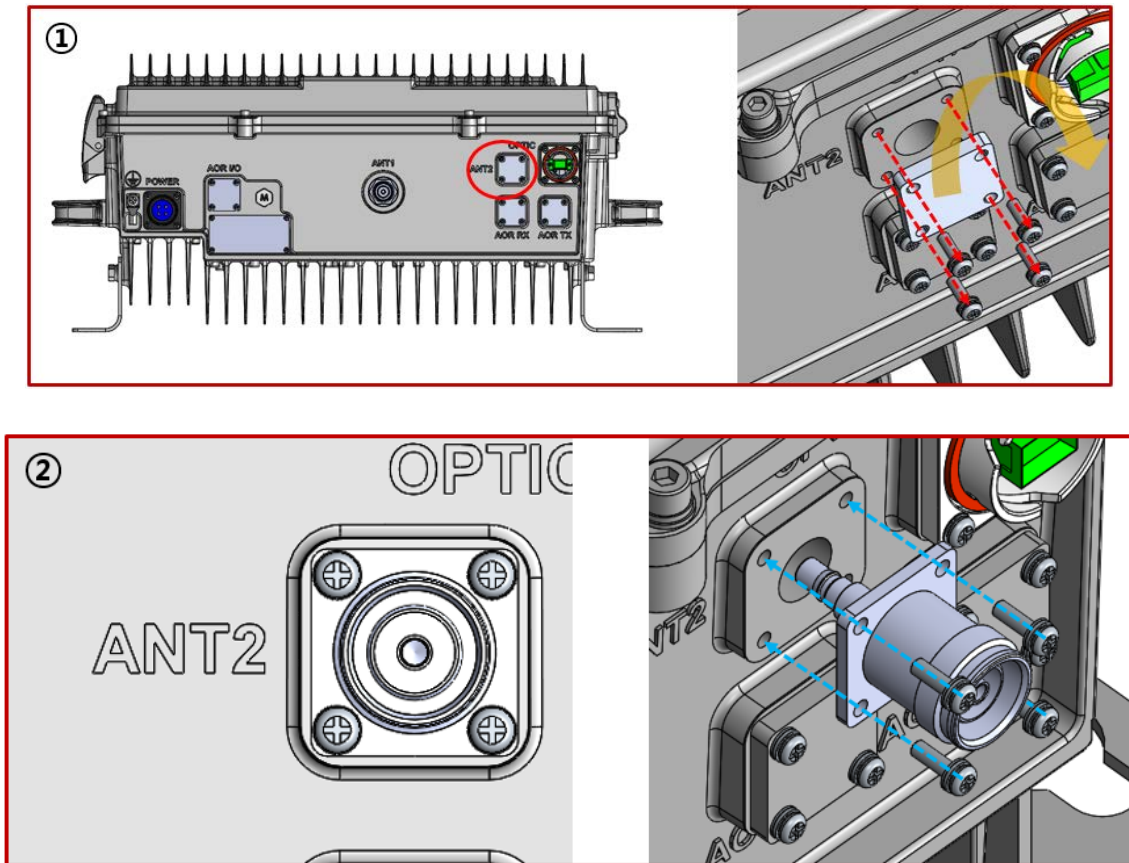**Figure 4.16 – Cabling of N2RDU_1900P_M + N2RDU_L2600F_M or N2RDU_AWS13_M + N2RDU_L2600F_M (MIMO Band Expansion)**

4.3.6 MIMO Antenna Connection (Optional)

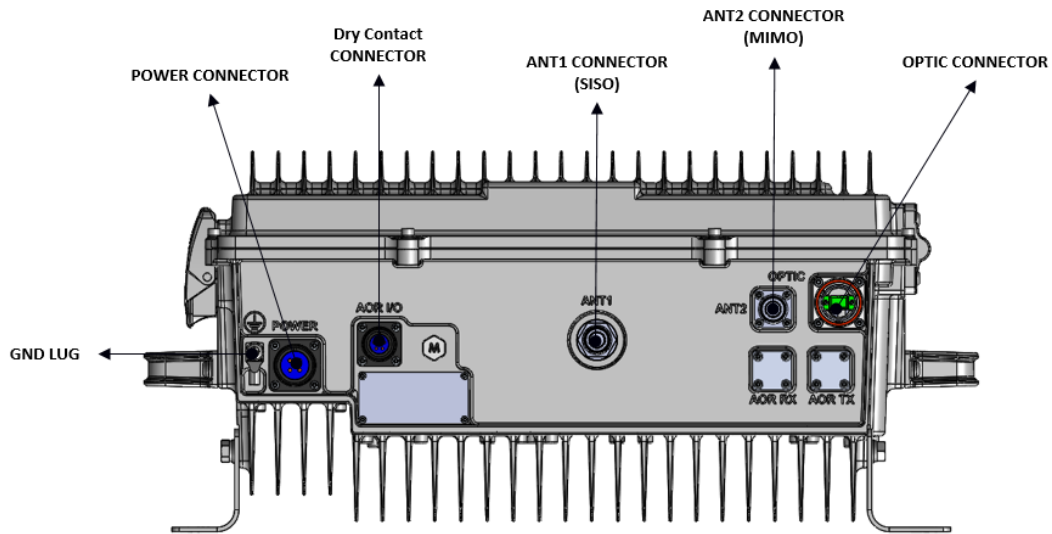To support MIMO service, MIMO Antenna connection is required.

Figure 4.22 – Installing MIMO Antenna Adaptor

The procedures are

1. Remove the dummy cover from the ANT2 port.
2. Install 4.3-10 DIN(F) to SMA(F) Adaptor with the screws included in the package.

Section5

5.1 Specifications

Mechanical	Specification
Mounting Type	Wall or rack mounting
Connectors	Antenna port type: 4.3-10 DIN (M) type Fiber connectors: SC/APC for connecting to ODU or OEU
Craft Port	Serial interface RS-232 9-pin D-sub Male for connecting management PC (on CPU)
Power Consumption	175W for 4 bands(850C, 1900P, AWS13, L2600F) 265W for 6bands(850C, 1900P, AWS13, L2600F, 1900P_M, L2600F_M or 850C, 1900P, AWS13, L2600F, AWS13_M, L2600F_M) – optional band is AWS13_M and L2600F_M
Environmental	**Specification**
Environmental & IP Rating	IP66 Compliant, NEMA4
Operating Environment	Temp Range: -10°C to 50°C. Humidity: 5 to 90% non-condensing
Optical	**Specification**

Optics	SC/APC (Step Ferrule)
Laser Diode/Photo Diode	1550nm/1310nm (Coaxial Type)
Optical Loss	Max 5dBo (4-port optical module); Max 10dBo (1-port optical module)

5.2 RF Performance

N2RDU Specifications per Band

Frequency Band	Downlink(Tx)			Uplink(Rx)	
	Frequency(MHz)	Bandwidth(MHz)	Output Pwr(dBm)	Frequency(MHz)	Bandwidth(MHz)
850C	869 ~ 894	25	33	824 ~ 849	25
1900P	1930 ~ 1995	65	33	1850 ~ 1915	65
AWS13	2110 ~ 2180	70	33	1710 ~ 1780	70
L2600F	2620 ~ 2690	70	33	2500 ~ 2570	70
1900P_M	1930 ~ 1995	65	33	1850 ~ 1915	65
AWS13_M	2110 ~ 2180	70	33	1710 ~ 1780	70
L2600F_M	2620 ~ 2690	70	33	2500 ~ 2570	70

5.3 Certification

Environmental	Specification
Environmental & IP Rating	IP66 Compliant, NEMA4
Operating Environment	Temp Range: -10°C to 50°C. Humidity: 5 to 90% non-condensing

FCC Part 15.105 statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Part 15.21 statement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

RF Exposure Statement

The antenna(s) must be installed such that a minimum separation distance of at least 320 cm is maintained between the radiator (antenna) and all persons at all times. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

RSS-GEN, Sec. 7.1.2 – (transmitters)

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionneravec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention desautres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotroperayonnée quivalente (p.i.r.e.) ne dépassepas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

RSS-GEN, Sec. 7.1.2 – (detachable antennas) (Max. antenna gain : 17 dBi)
This radio transmitter (identify the device by certification number, or model number if Category II)has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (identifier le dispositif par son numéro de certification ou son numéro de modèle s'il fait partie du matériel de catégorie I) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste,ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

RF Radiation Exposure
This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 320 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. RF exposure will be addressed at time of installation and the use of higher gain antennas may require larger separation distances.

RSS-102 RF Exposure
L'antenne (ou les antennes) doit être installée de façon à maintenir à tout instant une distance minimum de au moins 320 entre la source de radiation (l'antenne) et toute personne physique. Cet appareil ne doit pas être installé ou utilisé en conjonction avec une autre antenne ou émetteur.