



[SCE2201] Quick Start Guide

Small Cell Team
Oct 2025
Rev. D



Revision History

Revision	Date	Description
A	August 2022	Initial release
B	November 2022	Revision for new software release SCE2201 (NSC-SA-Sub6-GA-REG3) v2.3.007.587
C	January 2023	Revision for new software release SCE2201 (NSC-SA-Sub6-GA) v2.3.008.1037
D	May 2023	Revision for new software release SCE2201 (NSC-SA-Sub6-GA-REG5) v2.3.009.2017

Software Versions Applied to This Document

- This quick start guide document is based on the below small cell software version
 - gNB Software Version – **SCE2201 (NSC-SA-Sub6-GA-REG5) v2.3.009.2017**

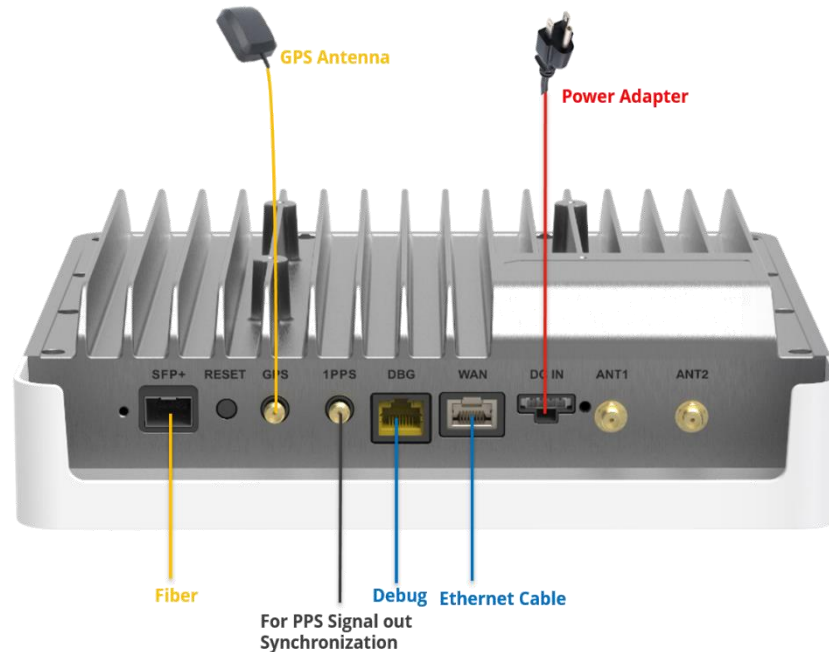
Agenda

- Step-1 Device Setup
- Step-2 Test Environment Setup
- Step-3 To Login The Admin Website
- Step-4 Configure 5G Cell
- Step-5 Reboot SCE2201 and Wait for GPS Locked Down
- Appendix

Step-1 Device Setup

Step-1 Device Setup

- To setup the device including the cable connection, please refer to Chapter-1&2 in SCE2201 user guide.

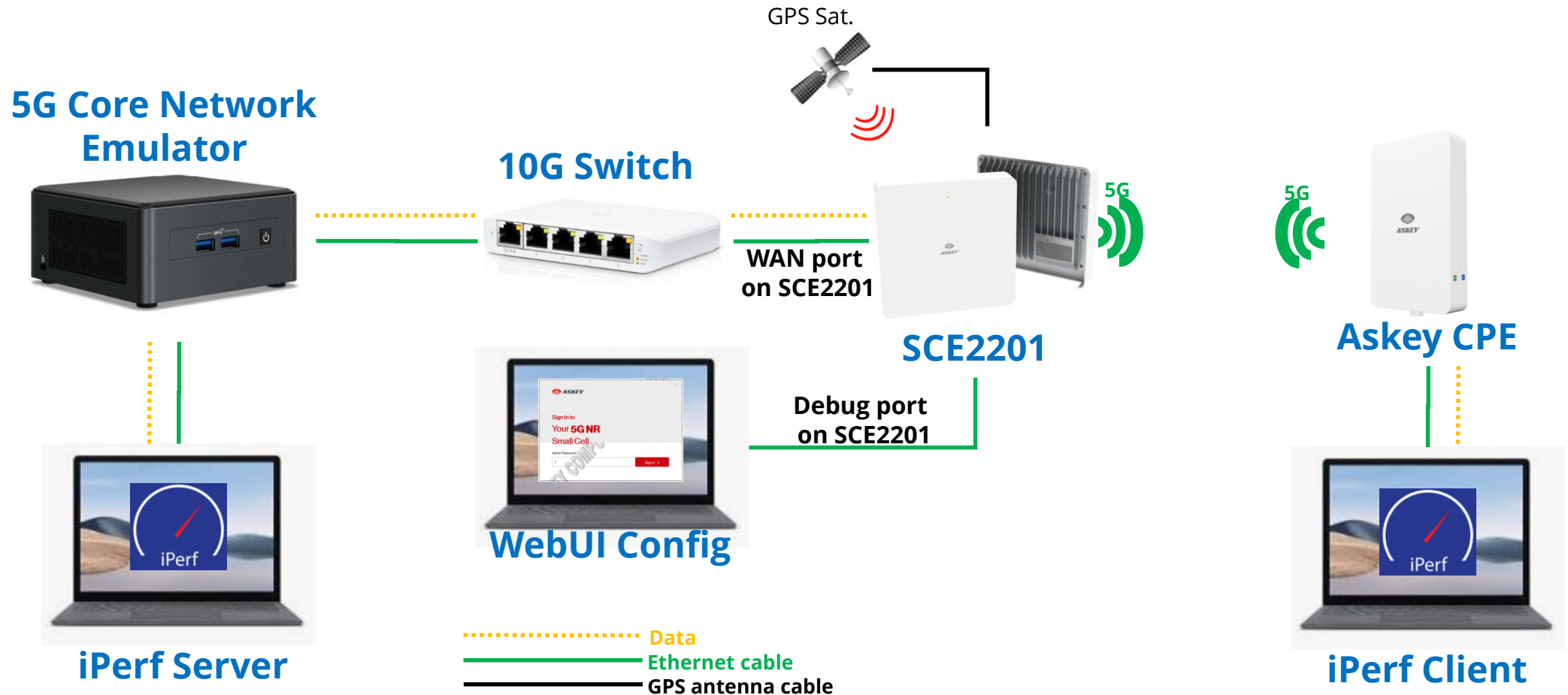


Step-2 Test Environment Setup

Step-2 Test Environment Setup (1/2)

- To test SCE2201, normally we will use the below environment setup in the next slide in our office. You can adjust the test setup according to your lab environment.
- For quick setup, please use **GPS as the synchronization source**. So please put your SCE2201 close to the window as much as possible.

Step-2 Test Environment Setup (2/2)



Step-3 To Login Admin Website

Step-3 To Login Admin Website (1/2)

- To quickly login the Admin Website of SCE2201, you can connect your laptop to the **debug** port of SCE2200. IPv4 address of the debug port is 192.168.8.100.
- The default password is "AskNodeB" + last 4 digits of the MAC (**WAN** port) (e.g., AskNodeBBBD0A). The password is case-sensitive. Letters in the last four digits of the MAC ID should be UPPER case. MAC address of WAN port is printed on the label on SCE2201.

Step-3 To Login Admin Website (2/2)



Debug port

http://192.168.8.100

192.168.8.100

The image shows a web browser window displaying the ASKEY login page. The page has a light gray header with the ASKEY logo. Below the header, the text 'Sign In to Your 5G NR Small Cell' is displayed in red. Underneath, there is a label 'Admin Password' followed by a text input field. To the right of the input field is a red button with the text 'Sign In >'. A red dotted line from the IP address '192.168.8.100' in the browser's address bar points to the login page.

Step-4 Configure 5G Cell

Step-4 Configure 5G Cell – IP Address Setup (1/2)

- In “Setting → Network” tab, you can use DHCP or manually input the required IP address and network configuration
- For quick setup, you can
 - Choose WAN port interface
 - Use **static IP settings** first
- After setting the parameters, press “Save” button to reboot SCE2201 to make the changes take effect.

Step-4 Configure 5G Cell – IP Address Setup (2/2)

- Home
- Connected Devices
- Settings
 - Network
 - Advanced
 - Sync Source
 - Time Zone
 - Reset
- Configuration
- About

Settings: Network

Interface

eth0 - WAN

☐ DHCP

IP Address

192.168.50.188

Subnet Mask

255.255.255.0

Default Gateway

192.168.50.1

Primary DNS

8.8.8.8

Secondary DNS

Please fill-in the values base on your IP plan.

Cancel

Save

Step-4 Configure 5G Cell – Sync Source Setting (1/2)

- In “Setting → Sync Source” tab, select “**Auto**” as Sync Type for quick setup.
- SCE2200 currently support both GPS and PTP as the synchronization source. For quick setup, please make sure you **connect GPS antenna to SCE2201 and put SCE2201 close to the window as much as possible.**
- After setting the parameters, press “Save” button to reboot SCE2201 to make the changes take effect.

Step-4 Configure 5G Cell – Sync Source Setting (2/2)

Home

Connected Devices

Settings

Network

Advanced

Sync Source

Time Zone

Reset

Configuration

About

Settings: Sync Source

Sync State

DISP

Sync Type

Auto

Source	GPS
Priority	255
Status	Active

Source	PTP
Priority	100
Status	Standby
PTP Interface	eth0 - WAN
Domain Number	44
PTP Mode	G.8275.2
PTP UDP IP	0.0.0.0

Cancel

Save

Step-4 Configure 5G Cell – gNB CU Parameters (1/3)

- In “Configuration → gNB → gNB CU” tab, you can configure the parameters of gNB CU.
- After setting the parameters, press “Save” button to reboot SCE2201 to make the changes take effect.

Step-4 Configure 5G Cell – gNB CU Parameters (2/3)

Home

Connected Devices

Settings

Configuration

Dashboard

gNB

Neighbor Cell

RF Antenna

VLAN

Static Routing

Version

About

Configuration: gNB CU

gNB CU

Provision Method ☐ Remote ☒ Local

gNB N2 IP 192.168.50.188

☐ gNB N3 IP 192.168.50.188
This value is equal to gNB N2 IP.

Site(gNB) ID 188

gNB ID Length 32

Cell ID 5

TAC 1

MCC 001

MNC 01

AMF IP 192.168.50.105

UE Inact Timer s30

Encrypt Algo NEA0

Integrity Algo NIA2

Reset Cancel Save

Parameter	Values
Provision Method	Select Local for quick setup.
gNB N2 IP	The same IPv4 address as in "Setting → Network" tab.
Site(gNB) ID	Give gNB ID (Decimal format) assigned by your network.
gNB ID Length	Fill the length of binary digits of gNB ID. Min is 22 and max is 32 (Please refer to Appendix)
Cell ID	Use your own Cell ID in your network in decimal format.
TAC	Fill TAC value (In decimal format) assigned by your network
MCC	Fill your Mobile Country Code
MNC	Fill your Mobile Network Code
AMF IP	Fill AMF IPv4 address
UE Inact Timer	Select s30 for quick setup.
Encrypt Algo	Select NEA0 for quick setup.
Integrity Algo	Select NIA2 for quick setup.

Step-4 Configure 5G Cell – gNB CU Parameters (3/3)

- Special attention is required when setting gNB ID length and gNB Cell ID. Please refer to **Appendix (Values Ranges of gNB ID and gNB Cell ID)** for the details.

Step-4 Configure 5G Cell – gNB DU Parameters (1/4)

- In “Configuration → gNB → gNB DU” tab, you can configure the parameters of gNB DU.
- After setting the parameters, press “Save” button to reboot SCE2201 to make the changes take effect.

Step-4 Configure 5G Cell – gNB DU Parameters (2/4)

Home
Connected Devices
Settings
Configuration
Dashboard
gNB
Neighbor Cell
RF Antenna
VLAN
Static Routing
Version
About

Configuration: gNB DU

gNB DU

Provision Method
☐ Remote
☒ Local

SST
1

SD
Enabled
66051

NR Band
78

Physical Cell ID
188

Uplink Layer
☒ One Layer
☐ Two Layers

UL Dmrs-AdditionalPosition
☐ Position 1
☒ Position 2

Extended UL Grant Size
0

QRxLevMin
-50

QQualMin
-30

Bandwidth
Profile
100MHZ

Parameter	Values
Provision Method	Select Local for quick setup.
SST	The assigned SST value by your network in decimal format.
SD	The assigned SD value by your network in decimal format.
NR Band	Select “78” or “79” according to your SCE2201 model.
Physical Cell ID	The assigned PCI value by your network. Please note that some CPEs or UEs might not work well with PCI larger than 512.
Uplink Layer	Select “One Layer” for quick setup.
UL Dmrs-AdditionalPosition	Select “Position 2” for quick setup.
Extended UL Grant Size	Select “0” for quick setup.
QRxLevMin	This specifies the minimum required Rx level in the cell in dBm. (Refer to 3GPP TS 38.304)
QQualMin	This specifies the minimum required quality level in the cell in dB. (Refer to 3GPP TS 38.304)
Bandwidth Profile	Select 5G cell bandwidth (MHz) used by your network.

Step-4 Configure 5G Cell – gNB DU Parameters (3/4)

NR ARFCN	
Profile	Edu 3.75G
DL NR ARFCN	649980
UL NR ARFCN	649980
DL CenterFreq	3749700
UL CenterFreq	3749700
DL AbsArfcnPointA	646704
UL AbsArfcnPointA	646704
DL AbsFreqPointA	3700560
UL AbsFreqPointA	3700560
AbsArfcnSsb	647232
AbsFreqSsb	3708480

Parameter	Values
NR ARFCN Profile	(1) Once Bandwidth Profile is selected, the recommended list of NR ARFCN Profiles will change accordingly. Select one NR ARFCN profile that matches your requirements. (2) Once NR ARFCN Profile is selected, the recommended values of RF parameters (ex. "DL NR ARFCN" to "AbsFreqSsb") will adjust automatically. (3) If none of those built-in NR ARFCN Profiles is suitable for you, you can select " User Specific " profile and modify the parameters by your own and then press " Save " button to save the changes.

Step-4 Configure 5G Cell – gNB DU Parameters (4/4)

Time Slot Format

Profile	DDDSU(4:1)
NumDISlot	3
NumDISlotP2	0
NumDISymbol	10
NumDISymbolP2	0
NumUISlot	1
NumUISlotP2	0
NumUISymbol	2
NumUISymbolP2	0
P2 Pres	0
PrachCfidx	159
Reset Cancel Save	

Parameter	Values
Time Slot Format Profile	Select the profile that matches your requirement and the recommended time slot parameters (ex. NumDISlot to PrachCfidx) will adjust accordingly. Please be reminded of not to change the recommended values of those parameters to prevent unnecessary errors or issues.

Step-4 Configure 5G Cell – RF Antenna Parameters (1/2)

- In “Configuration → RF Antenna” tab, you can configure the settings of maximum transmission power and antenna path.
- After setting the parameters, press “Save” button to make the changes take effect.

Step-4 Configure 5G Cell – RF Antenna Parameters (2/2)

Home

Connected Devices

Settings

Configuration

Dashboard

gNB

Configuration: RF Antenna

RF Power

ON

▼

Max TX Power

24.0

(dBm)

Antenna Path

Internal

▼

Cancel

Save

Parameter	Values
RF Power	Switch for RF electromagnetic radiation ON/OFF
Max TX Power	This max TX power is the number in one decimal place, and the range is from 0.0 to 24.0
Antenna Path	Select “Internal” if you don’t use additional external antennas.

Step-5 Reboot SCE2201 and Wait for GPS Locked Down (1/3)

- After following the above steps (1 to 4), you should reboot SCE2201 to make those changes take effect. Please unplug the power cable and plug it in again to restart the whole system.
- After reboot, your SCE2201 will start to synchronize with GPS. When you see "Sync State" becomes "**DISP**", it means SCE2201 has locked down and synchronized with GPS. Once being locked down with GPS, SCE2201 will start to turn the cell up.

Step-5 Reboot SCE2201 and Wait for GPS Locked Down (2/3)

Home

Connected Devices

Settings

Network

Advanced

Sync Source

Time Zone

Reset

Configuration

About

Settings: Sync Source

Sync State

DISP

Sync Type

Auto

Source	GPS
Priority	255
Status	Active

Source	PTP
Priority	100
Status	Standby
PTP Interface	eth0 - WAN
Domain Number	44
PTP Mode	G.8275.2
PTP UDP IP	0.0.0.0

Cancel

Save

SCE2201 has locked down and synchronized with GPS.

Step-5 Reboot SCE2200 and Wait for GPS Locked Down (3/3)

- After GPS locked down, SCE2201 will enter “**In service**” state within 10 minutes and now your SCE2201 is ready to work for you.

Home	5G NR Small Cell	
Connected Devices	System Information	
Settings	Operational Status	In Service
Configuration	IP Address	eth0 : 192.168.50.188 (WAN) eth1 : 0.0.0.0 (SFP+) eth2 : 192.168.8.100 (DBG)
About	MAC Address	eth0 : 80787112C480 eth1 : 80787112C481 eth2 : 80787112C482
	Software Version	SCE2200 (NSC-SA-Sub6-GA-REG5) v2.3.009.2017
	Location	(Source: GPS) Map Latitude: 24.999553 Longitude: 121.487703

[GPS Details](#)

Appendix

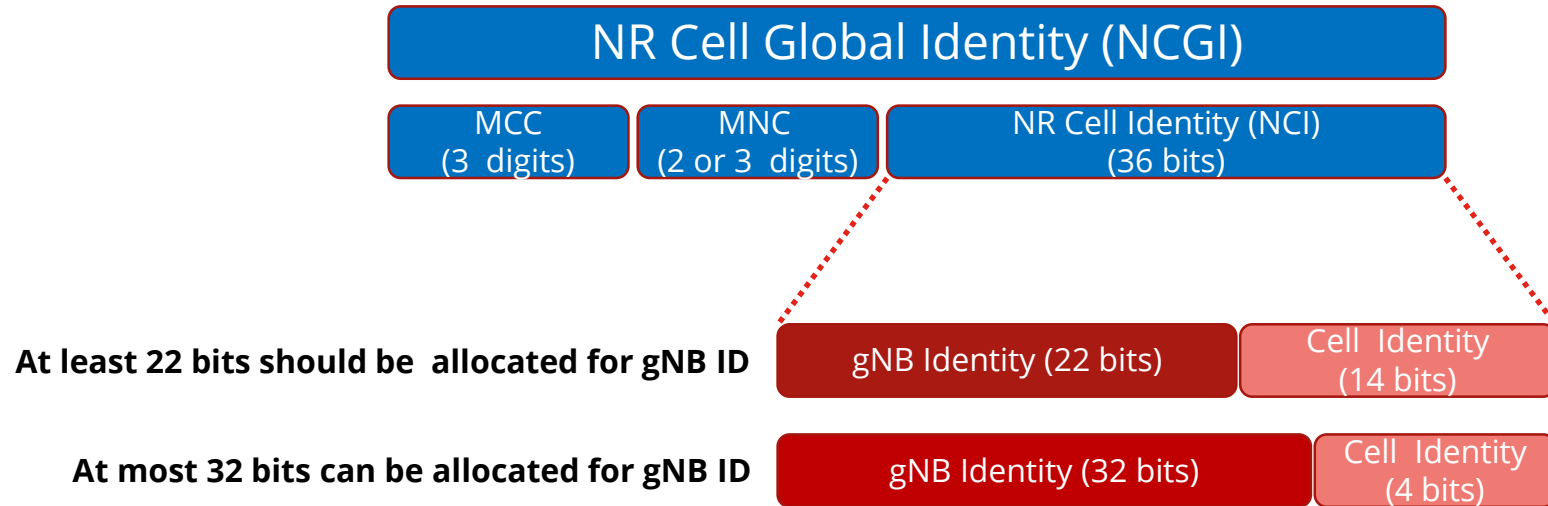
Values Ranges of gNB ID and gNB Cell ID (1/3)

- In 5G, NR Cell Global Identifier (**NCGI**) is used to identify NR cells globally. The **NCGI** is constructed by the **PLMN ID** the cell belongs to and the NR Cell Identity (**NCI**) of the cell.
- The **gNB ID** can be configured to use between **22 bits** to **32 bits** which leaves **14 bits** and **4 bits** for the Cell ID respectively

Values Ranges of gNB ID and gNB Cell ID (2/3)

- **Example 1** - "gNB ID Length": 22
 - "Site(gNB) ID" Range: 0 ~ 4194303
 - "Cell ID" Range: 0 ~ 16383
- **Example 2** - "gNB ID Length": 32
 - "Site(gNB) ID" Range: 0 ~ 4294967295
 - "Cell ID" Range: 0 ~ 15

Values Ranges of gNB ID and gNB Cell ID (3/3)



Safety Warning

FCC Statement 1:

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

FCC Statement 2:

Part 15.19 (a)(3) Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Statement 3:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: —Reorient or relocate the receiving antenna. —Increase the separation between the equipment and receiver. —Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. —Consult the dealer or an experienced radio/TV technician for help.

FCC Statement 4: Responsible Party in the United States

Contact us

Askey International Corp.

Address : 4017 Clipper Court, Fremont CA 94538, USA

TEL: (510) 415-2767

RF Exposure Information

RF Exposure Information

This device has been tested and meets applicable limits for Radio Frequency (RF) exposure.

This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

Class B Statement

§ 15.105 (b) For class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

UL Statement

- This equipment is to be connected to Power in PoE networks which would be not routing to outside plants.
- If using Class I adapter, power cord shall be connector to a socket-outlet with earthing connection.
- The product is intended to be supplied by a UL Listed Power Unit marked "L.P.S." (or "Limited Power Source") and is rated 12Vdc, 5A min.
(supplied by power adapter) or 56Vdc, min. 1.61A (supplied by PoE port), Tma = 45degree C.
If need further assistance with purchasing the power source, please contact to us for further information.
- This equipment must use Laser Class 1 optical transceiver.

Installation Notice

- This equipment is an Indoor Only device
- The installation needs to be done by CPI (Certified Professional Installer) and follow the requirement of KDB Publication 940660 D01

Thank you!



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