
Installation and operation manual

Q.HOME CORE Cellular



Safety

General Notice

1. Contents may be periodically updated or revised. Qcells reserves the right to make improvements or changes in the product(s) and the program(s) described in this manual without the prior notice.
2. The installation and maintenance can only be performed by qualified personnel who:
 - Are licensed and/or satisfy state and local jurisdiction regulations;
 - Have good knowledge of system operation, and other related documents.
3. Before installing the device, carefully read, fully understand and strictly follow the detailed instruction of this manual and other related regulations. Qcells shall not be liable for any consequences caused by the violation of the storage, transportation, installation, and operation regulations specified in this document and the user manual.
4. Use insulated tools when installing the device. Personal Protective Equipment must be worn during installation, electrical connection and maintenance.
5. Please visit the website www.qcells.com/us of Qcells for more information.

Descriptions of Labels

	CE mark of conformity		Do not dispose of the inverter together with household waste.		FCC mark of conformity
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RF EXPOSURE WARNING!

- Install and operate the device in accordance with provided instructions.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between you and the device.
- End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.



CAUTION!

- Do not dismantle or scrap by force.
- Anti-static measures should be taken to decrease the damage of static electricity to electronic components.
- Keep away from flammable, explosive materials.
- All product labels and nameplate on the module shall be maintained and clearly visible.

FCC RULES

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.

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

Note: Complying within the limits of a Class B digital device, pursuant to FCC part 15B 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 the antenna.
- Connect the equipment into an outlet on a different circuit from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

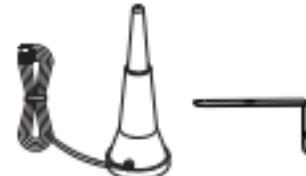
Packing List



1 communication
dongle



*1 mounting screw with
wall anchor



1 antenna with
L-shaped bracket



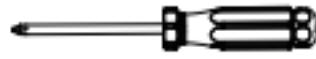
Documents

*Note: Three communication options are available for the Q.HOME CORE system: LAN, WiFi or Cellular (including Wi-Fi mode and 4G mode). Choose the communication mode based on specific needs.

Mounting screw: ST4.8*L30;

Wall anchor: 5.7*29.

Installation Tools



Crosshead screwdriver



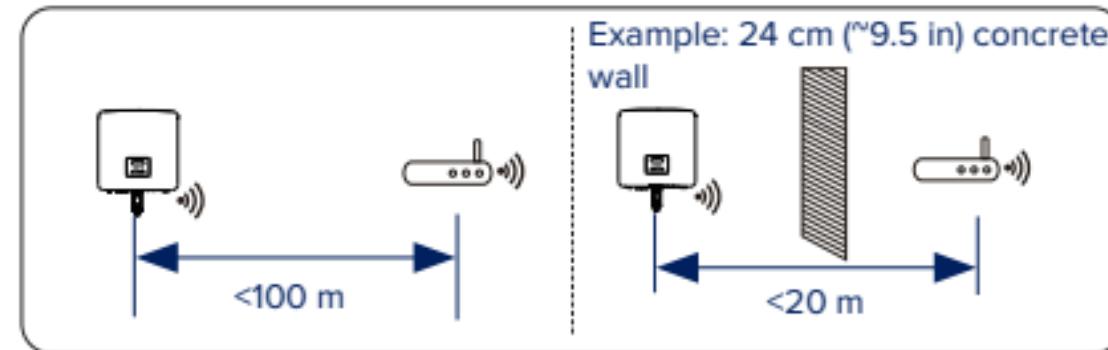
Drill



Rubber mallet

Wi-Fi Installation requirements

The longest connection distance between the router and the Wi-Fi dongle should be no more than 100 meters. If there is a wall between the router and the dongle, the longest connection distance is 20 meters.

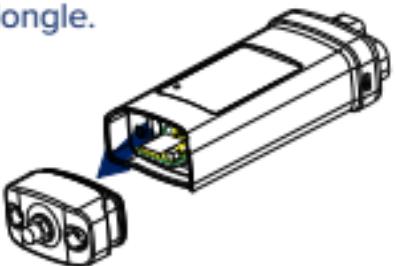


*Note: When the Wi-Fi signal is weak, please install a Wi-Fi signal booster at the appropriate location.

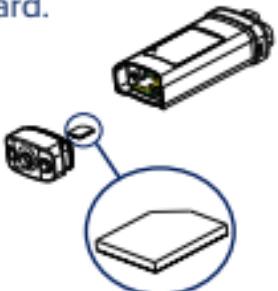
4G Cellular SIM card installation

Step 1: Screw off the dongle back cover, and insert the nano size SIM card. Screw those components.

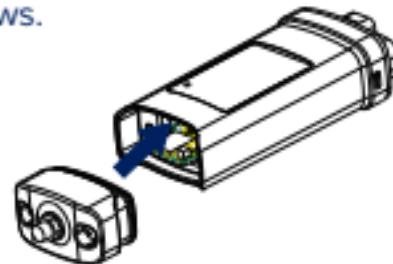
Unscrew the back cover of the Cellular dongle.



Insert the SIM card.



Replace the cover and secure with screws.



NOTICE!

- Please choose local operators' SIM card and confirm its availability with your dealer.
- Please obtain the corresponding SIM card APN from the operators, and fill in the APN during configuration.

4G Cellular antenna installation

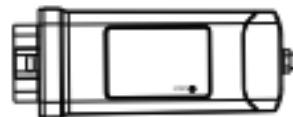
1

Remove the dust cap.



2

Untie the antenna and screw the connector to the dongle.

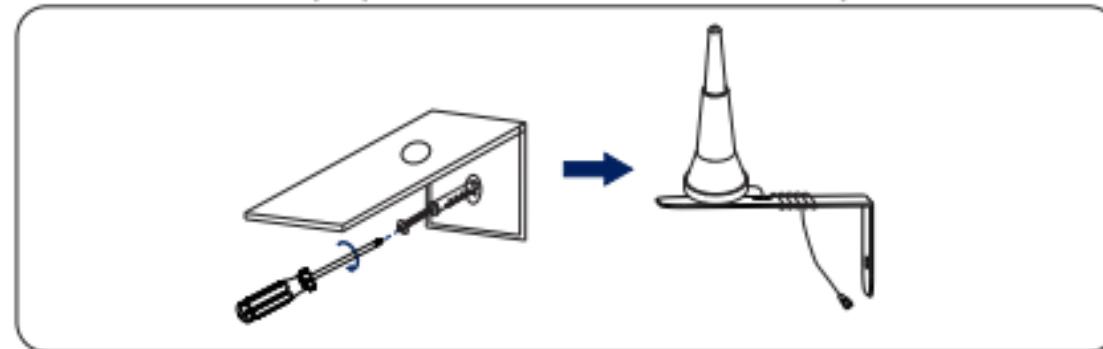


Avoid acute angle!



4G Cellular antenna installation

Determine the outdoor mounting location of the antenna. Use proper hardware to secure the L-shaped bracket to the wall. Attach the bracket to the bracket.



*Note: Bracket must be at least 1 meter away from the inverter or any other equipment with strong signal interference.

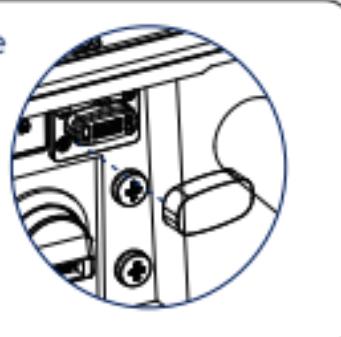
Electrical Connection

*Note: Ensure all power has been turned off at least 5 minutes prior to installation.



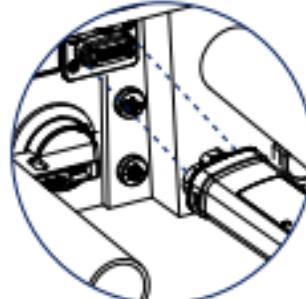
Remove the dust cover.

1

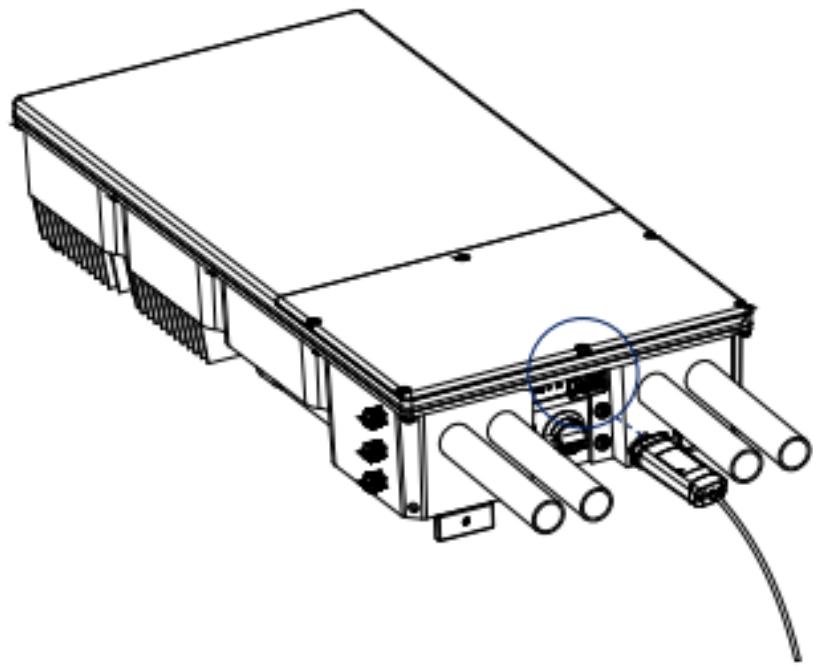
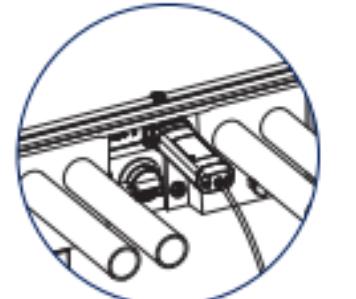


Insert with connectors aligned.

2



3



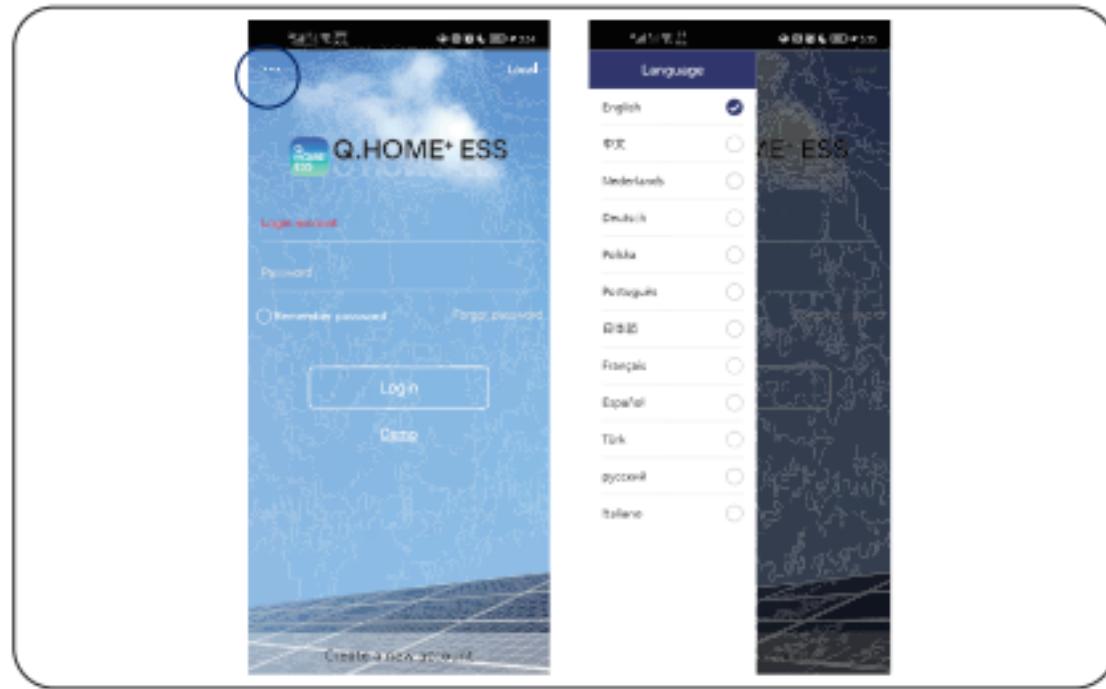
Monitoring Connection

- **Q.HOME Registration**

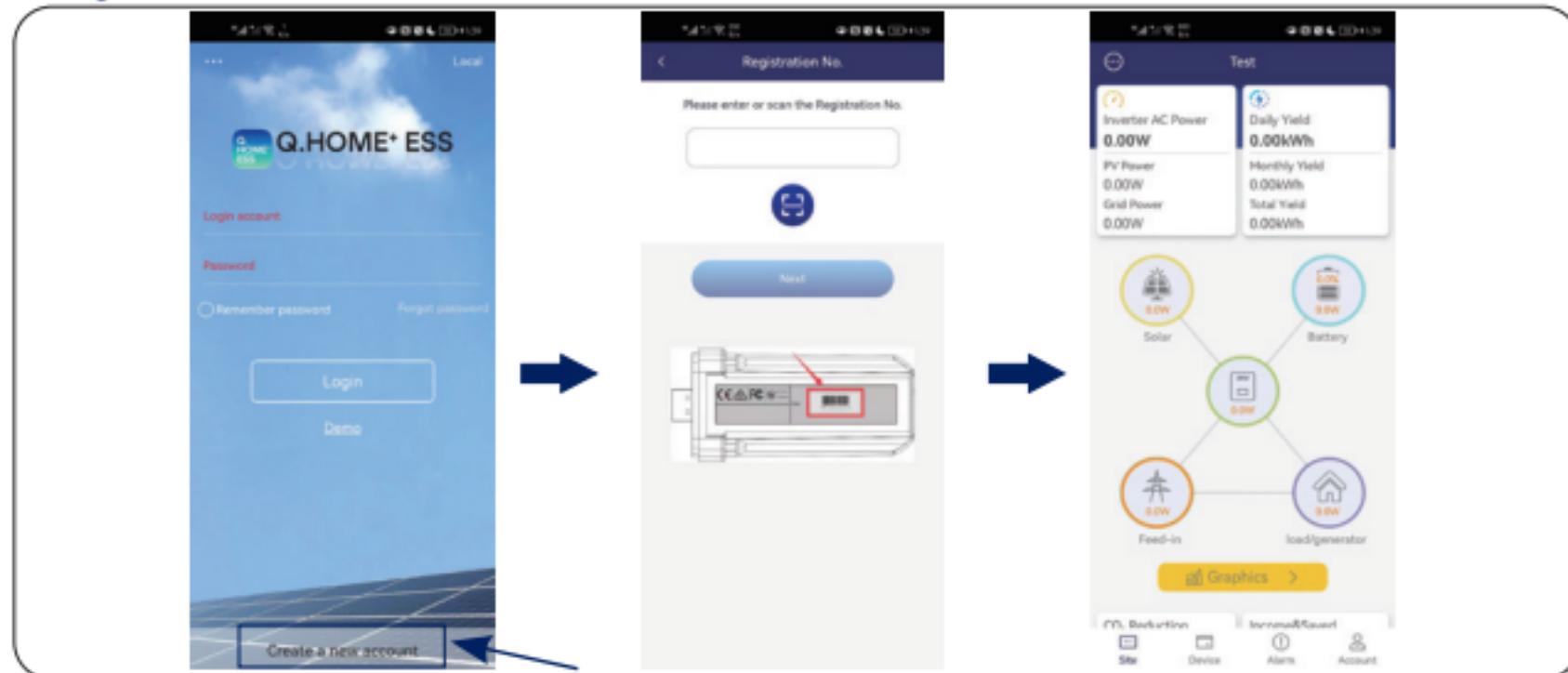
Step 1: Scan the QR code to download Q.HOME App



Step 2: Select the language



Step 3: Create a new account and follow the tutorial on the Q.HOME APP or the App guide at <https://www.Q.HOME.com/> to complete the Wi-Fi/Cellular configuration.

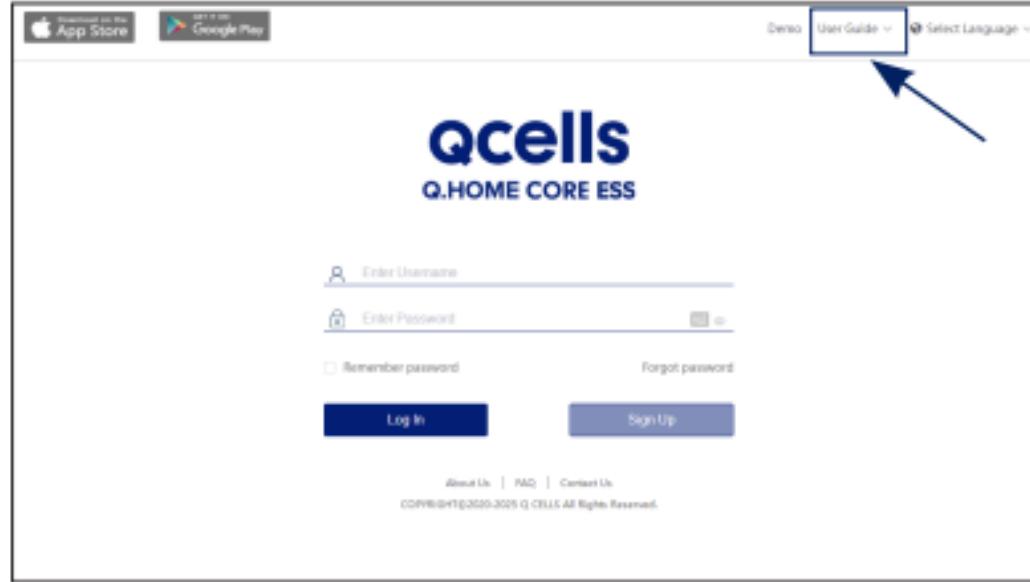


- **Monitoring Website Registration**

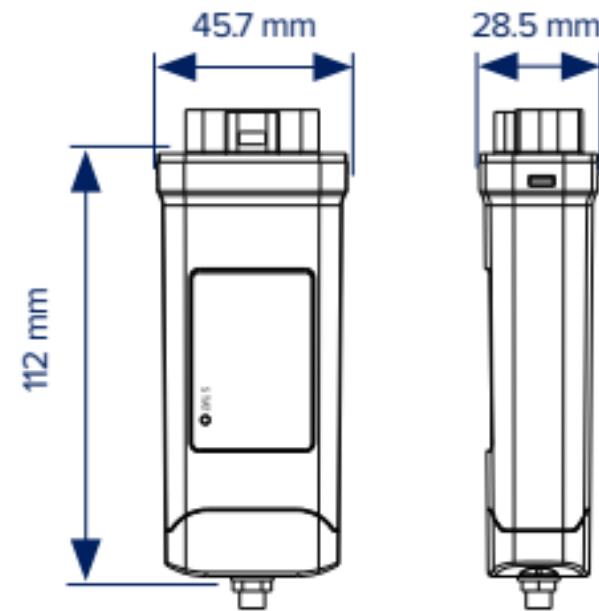
- Note: Make sure the computer or laptop has a good internet connection.

- 1 Open the browser, and type www.portal-q-cells.us into the browser;

- 2 Select the language and then complete the registration, login, site adding and other related operations shown in the "User Guide"- "App guide".



Appearance and Dimensions



Technical Data

Q.HOME CORE Cellular / WiFi / LAN

Model	Q.HOME CORE Cellular	Q.HOME CORE WiFi	Q.HOME CORE LAN
Power Supply	5 V _{DC} , 200 mA	5 V _{DC} , 260 mA	5 V _{DC} , 200mA
Rated Power	1W	1.3 W	1.4 W
Data Transfer Intervals	5 min		
Weight	124±10 g	107±10 g	80±10 g
Dimensions	112 × 45.7 × 28.5mm		
Operating Temperature Range	-35°C ~ +60°C	-40°C ~ +85°C	-35°C ~ +60°C
Degree of Protection	IP65		
Antenna Gain	3 dBi		
SIM Card Size	Nano - 4FF 12.3*8.8 mm		
Wireless Module	WiFi 2.4 GHz		
LTE-FDD (Cellular):	Cat M1: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85		
Cat NB2:	B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85		

SIM Card

	Data usage	Description
Standard	20 MB	*Status data upload: every 5 min
10s Live Data	200 MB	Data upload: every 10 sec (live view); Status data upload: every 5 min

*Includes inverter and dongle firmware updating 1 time per month.

*Monthly SIM traffic recommended

LED Indicators

	Green	Red
Steady off		Off
Fast blink (200 ms)	Wi-Fi: Disconnect from router	Cellular: Disconnect SIM or from inverter
Blink slowly (1 s)		Disconnect to inverter
Green/Red alternately (200 ms)		Disconnect to MQTT server
Steady on		Connected

Maximum Gain Value		
Frequency [Hz]	Efficiency	Max Gain [dBi]
699000000	25%	2.866106822
720000000	25%	2.455704025
750000000	23%	2.195982352
780000000	29%	1.952068178
800000000	40%	1.340931081
820000000	41%	1.256674562
824000000	43%	1.160799746
844000000	39%	0.931458486
864000000	39%	0.663674812
884000000	36%	1.00968124
904000000	33%	1.53481644
924000000	32%	1.607613079

944000000	29%	1.64769644
960000000	28%	1.689596419
1710000000	23%	0.258506654
1750000000	23%	1.279135649
1790000000	24%	0.472267094
1830000000	24%	1.077271166
1870000000	26%	0.358800755
1900000000	26%	1.4932357
1930000000	23%	0.062825135
1990000000	24%	1.128008922
2100000000	22%	0.234923747
2130000000	24%	0.361548587
2160000000	23%	0.791813253
2370000000	24%	0.694977462

2400000000	24%	0.785306441
2450000000	26%	1.144213694
2510000000	23%	1.016261119
2540000000	23%	1.167124851
2570000000	25%	1.135851497
2600000000	26%	1.137343658
2600000000	25%	1.152378666
2630000000	24%	1.000669611
2660000000	26%	1.124260082
2690000000	24%	1.135376563

Operating Frequency Range

802.11n(HT40):2422MHz-2462MHz	LTE Band 1: 23dBm
LTE Band 1: Tx: 1920~1980MHz/ Rx: 2110~2170MHz	LTE Band 3: 23dBm
LTE Band 3: Tx: 1710~1785MHz/ Rx: 1805~1880MHz	LTE Band 8: 23dBm
LTE Band 8: Tx: 880~915MHz/ Rx: 925~960MHz	LTE Band 20: 23dBm
LTE Band 20: Tx: 832~862MHz/ Rx: 791~821MHz	LTE Band 28: 23dBm
LTE Band 28: Tx: 703~748MHz/ Rx: 758~803MHz	NB-IOT Band 1: 23dBm
NB-IOT Band 1: Tx: 1920~1980MHz/ Rx: 2110~2170MHz	NB-IOT Band 3: 23dBm
NB-IOT Band 3: Tx: 1710~1785MHz/ Rx: 1805~1880MHz	NB-IOT Band 8: 23dBm
NB-IOT Band 8: Tx: 880~915MHz/ Rx: 925~960MHz	NB-IOT Band 20: 23dBm
NB-IOT Band 20: Tx: 832~862MHz/ Rx: 791~821MHz	NB-IOT Band 28: 23dBm
NB-IOT Band 28: Tx: 703~748MHz/ Rx: 758~803MHz	
802.11b/g/n(HT20)/n(HT40):18dBm	



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