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27010209 Indoor 2.4 GHz Single-Polarized Directional Antenna (H88 V47 G7)

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5.1 27010209 Technical Specifications

Appearance and Structure

Figure 5-1 Appearance of the 27010209 Indoor 2.4 GHz Single-Polarized Directional Antenna (H88 V47 G7)



Technical Specifications

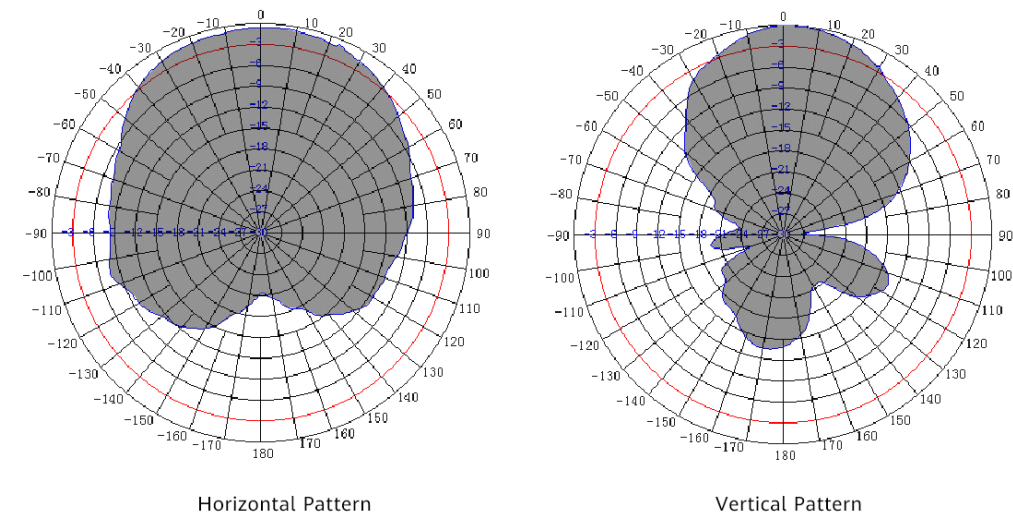
Table 5-1 Technical specifications of the 27010209 Indoor 2.4 GHz Single-Polarized Directional Antenna (H88 V47 G7)

Item	Details
Part Number	27010209
Model	TDJ-SA800/2500-7-90
Description	824~960MHz/1710~2500MHz,7dBi, 90deg,Vertical Polarization,50W,0r,N/ female,with support
Frequency [MHz]	824 to 960 1710 to 2500
Antenna gain [dBi]	7 dBi
Coverage distance [m(ft.)]	90 m(ft.)
Horizontal beamwidth [degrees]	88 degrees
Vertical beamwidth [degrees]	47 degrees
Standing wave ratio (SWR)	≤ 1.5
Polarization	Vertical polarization
Antenna connector	N-female
Antenna dimensions [mm(in.)]	H x W x D: 44 x 210 x 180
Weight without packaging [kg(lb)]	0.43 kg(lb)
Installation type	Wall
Grounding requirements	Same as the AP

Item	Details
Antenna note	The gains and lobe widths in this document are typical values. The actual values are within a range. For specifications, see the corresponding data sheets. There may be differences in the standards of different countries, so the mapping between antennas and APs shall comply with local standards. For details, refer to device access authentication information. The coverage distance is subject to the following constraints: - The default AP transmit power is 15 dBm. - The default STA type is mobile phone, and no obstacle exists. - 2.4 GHz: The uplink and downlink RSSIs are greater than or equal to -70 dBm. For any questions about the parameters above, contact Huawei technical support.

Antenna's Radiation Pattern

Figure 5-2 Antenna Pattern1 of the 27010209 Indoor 2.4 GHz Single-Polarized Directional Antenna (H88 V47 G7)



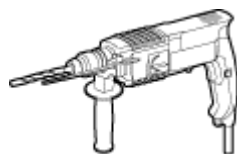
5.2 27010209 Antenna Installation

The 27010209 antenna is an indoor directional antenna. It forms a major lobe in a certain direction with high gains, while other directions have low gains. It applies to scenarios that require small coverage angles but long coverage distances. Typical scenarios include corridors in hospitals or airports.

5.2.1 Accessories and Tools

Tools:

- Hammer drill ($\phi 6$ mm, for wall mounting)



- Rubber mallet (for wall mounting)



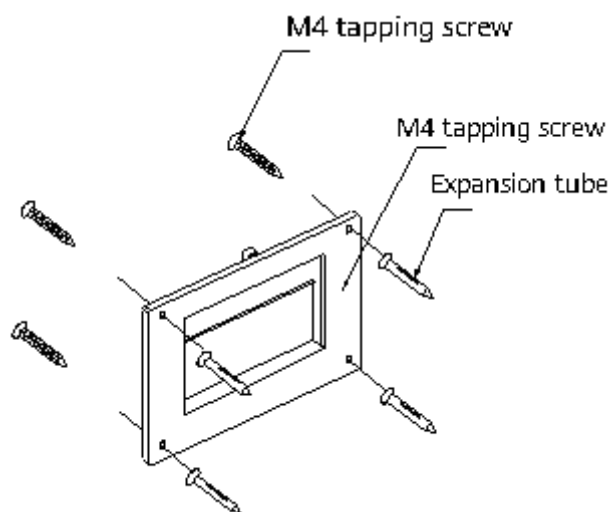
Other accessories:

- Mounting bracket: 1 set
- M4 expansion bolt: 4 sets

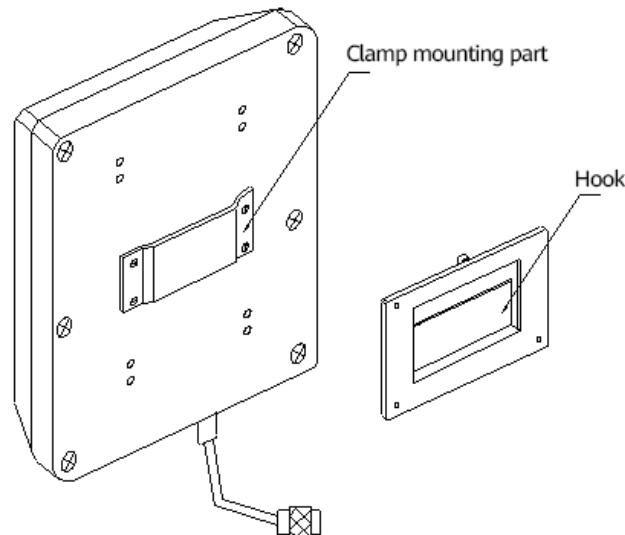
5.2.2 Wall Mounting

The 27010209 antenna can be mounted on a wall.

1. Drill four $\phi 6$ mm holes (35 mm deep) on the wall to install plastic expansion tubes that will support expansion bolts. The relative position of the four holes must exactly match with that of the four holes on the antenna mounting bracket.



2. Fix the antenna support to the wall using expansion bolts.
3. Insert the clamp mounting part on the bottom plate of the antenna to the hook on the mounting bracket.



5.2.3 Connecting RF Cables

RF Cable Deployment Requirements

- Use a short feeder cable to connect the antenna to an AP.
- It is recommended that you connect a 50 ohm RF load to an idle antenna interface.
- Bend radius requirements: RG-8U RF cable: > 150 mm; 1/2" RF cable: > 50 mm; 7/8" RF cable: > 250 mm. One inch (1") equals 25.4 mm.
- The grounding requirements of antennas are the same as those of APs.

RF Cable Connections

Connect the RF cables directly to the antenna interfaces.



Instructions on Making RF Cables

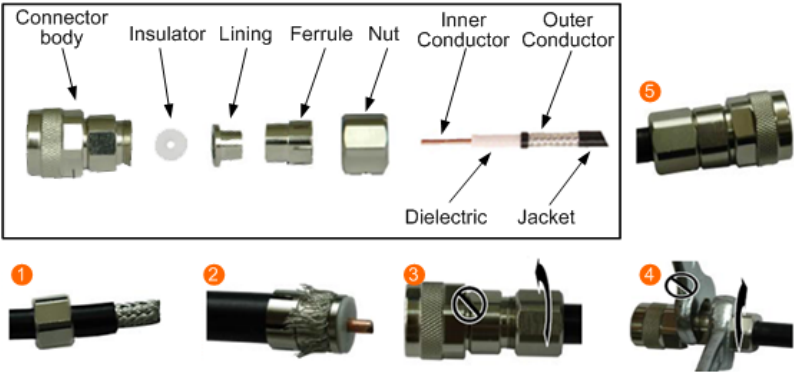
When making RF cables onsite, ensure that the coaxial cables and connectors in use comply with the mappings described in Table [Coaxial cables and connectors](#).

Table 5-2 Coaxial cables and connectors

Coaxial Cable	Coaxial Connector	Cable Loss	Appearance
RG-8U(25070009)	Type-N male connector (14040184)	2400MHz ~2483.5 MHz: 26.8dB/100m 4920Mhz ~5825Mhz: 41.8dB/100m	
1/2" (inch) super-flexible cable (25070076)	Type-N male connector (14040150)	2400MHz ~2483.5 MHz: 18.1dB/100m 4920Mhz ~5825Mhz: 30dB/100m	

Connecting the type-N male coaxial connector to the RG-8U feeder cable

1. Peel the cable.
2. Install accessories, such as the nut.
3. Install the connector body.
4. Tighten the connector on the cable.
5. After assembly is complete, verify that cable attenuation is within the proper range. Take waterproof measures during the operation.



Connecting the type-N male coaxial connector to the 1/2" feeder cable

1. Peel the cable.
2. Install the back nut.
3. Install the front nut.
4. Put the cable through the heat-shrink tubing.
5. After assembly is complete, verify that cable attenuation is within the proper range. Take waterproof measures during the operation.

