

# Huawei WLAN Antenna Brochure



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Wireless Local Area Networks (WLANs) are deployed in a variety of ways to meet customer requirements, and specific WLAN antennas are key to successful installations. Huawei offers a series of antennas that match different coverage scenarios, whether indoors or out.

## Indoor Distributed Deployment

(Ceiling-mounted antenna)

A ceiling-mounted antenna receives signals from Access Points (APs) through the indoor distributed system. Depending on requirements, the antenna provides omnidirectional or directional indoor coverage.

An omnidirectional antenna pattern forms almost a complete circle in the horizontal plane. Omnidirectional antennas are normally employed in open offices, conference rooms, and hotels demanding indoor distributed coverage.

Ceiling-mounted directional antennas, on the other hand, form major lobes with high gain in certain directions; other directions provide low gain. Directional antennas are used in situations that require small coverage angles but long coverage distances. Typical scenarios include corridors in hospitals and airports.



## Performance Indicators

	Omnidirectional Antenna	Directional Antenna
Antenna Part Number	27010210	27010209
Working Frequency	2.4 GHz	2.4 GHz
Gain	3 dBi	7 dBi
Coverage Distance	60m	80m

		Omnidirectional Antenna	Directional Antenna
Lobe Width	Horizontal	360°	88°
	Vertical	N/A	47°
Dimensions (mm)		Φ 186 mm x 85 mm	210 mm x 180 mm x 44 mm
Connector		N-female	N-female
VSWR		1.5	1.5
Antenna Weight		275 g	430 g

## Outdoor Coverage/Mesh Scenario

WLAN deployment is required in some open outdoor scenarios such as parks, amusement parks, and school playgrounds. Different types of antennas can be selected to meet different outdoor coverage requirements. Methods for accessing terminals in WLAN mesh networks can be used for outdoor coverage, so antenna selection methods are similar.

### 1. Omnidirectional coverage

Omnidirectional antennas are required where users are distributed and signals need to seamlessly cover areas in each outdoor corner. Antenna patterns are nearly circular in the horizontal plane. Omnidirectional antennas are classified into two types:

- Type one: User density is high. The antenna has small gain and its dimensions are small. Its N Male interface can directly connect to an AP, and the coverage distance is within 500m.
- Type two: User density is low. The N Female interface of this antenna connects to an AP through the feeder. This antenna is mounted against a pole to implement omnidirectional coverage, and provides coverage distance of about 1 km.



Antenna Part Number		27011332	27011333	27010913	27010215
Working Frequency		2.4 GHz	5 GHz	2.4 GHz	2.4 GHz
AP Quantity		2	2	2	2
Gain		3 dBi	5 dBi	8 dBi	11 dBi
Coverage Distance		500 m	200 m	1,000 m	1,500 m
Lobe Width	Horizontal	360°	360°	360°	360°
	Vertical	32°	20°	11.5°	9°
Dimensions (mm)		280 mm	280 mm	Φ29 mm x 720 mm	1100 mm

Antenna Part Number	27011332	27011333	27010913	27010215
Connector	N-Male	N-Male	N-female	N-female
Pole Diameter (mm)	N/A	N/A	48 mm-135 mm	35 mm-50 mm
VSWR	2	2	1.5	1.4
Antenna Weight	218 g	218 g	500 g	976 g

## 2. Directional coverage

In some special outdoor settings — for example, corridors, and oil pipelines, or places where there are many pedestrians — directional coverage is required. Directional antennas increase gain in the directions where electromagnetic fields focus. Directional antennas form major lobes in certain directions with high gain, while other directions have low gain. Directional antennas are either single-polarized or dual-polarized antennas. A single-polarized antenna uses a radio interface to connect to an AP, and a dual-polarized antenna uses two radio interfaces to connect to an AP.



Antenna Part Number	27010902	27010219	27010223	27010912
Working Frequency	2.4 GHz	2.4 GHz	2.4 GHz	5 GHz
AP Quantity	2	2	2	2
Gain	14.5 dBi	15.5 dBi	17 dBi	16 dBi
Coverage Distance	2000 m	2500 m	3000 m	800 m
Lobe Width	Horizontal	110°	120°	90°
	Vertical	6°	7°	7°
Dimensions (mm)	1140 mm x 114 mm x 54 mm	970 mm x 140 mm x 58 mm	970 mm x 140 mm x 58 mm	547 mm x 250 mm x 18 mm
Connector	N-female	7/16DIN or N-female	7/16DIN or N-female	N-female
Pole Diameter (mm)	48 mm-135 mm	46 mm-75 mm	50 mm-115 mm	48 mm-135 mm
VSWR	1.5	1.5	1.5	1.7
Antenna Weight	3400 g	4500 g	5000 g	1800 g

Antenna Part Number	27010812	27010904	27010898	27010889	27010906
Working Frequency	2.4 GHz	2.4 GHz	2.4 GHz	5 GHz	5 GHz
AP Quantity	1	1	1	1	1
Gain	12 dBi	14 dBi	16.5 dBi	11.5 dBi	14 dBi

Antenna Part Number		27010812	27010904	27010898	27010889	27010906
Coverage Distance		1500 m	2000 m	3000 m	500 m	650 m
Lobe Width	Horizontal	60°	30°	65°	60°	32°
	Vertical	30°	30°	7.5°	30°	32°
Dimensions (mm)		250 mm x 155 mm x 60 mm	250 mm x 250 mm x 25 mm	875 mm x 176 mm x 63 mm	230 mm x 145 mm x 55 mm	220 mm x 120 mm x 25 mm
Connector		N-femalex2	N-femalex2	N-femalex2	N-femalex2	N-femalex2
Pole Diameter (mm)		30 mm-114 mm	30 mm-114 mm	48 mm-135 mm	35 mm-114 mm	30 mm-114 mm
VSWR		1.45	2	1.5	1.8	2
Antenna Weight		1000 g	600 g	4200 g	1300 g	800 g

## Wireless Bridges

In some outdoor settings that require point-to-point transmission, two APs can be used to build a wireless bridge for high-speed data backhaul. In such situations, there are high requirements for distance and throughput, so antennas are required to provide high gain and small lobe width.



Antenna Part Number		27010889	27010890	27011016	27011015
Working Frequency		5 GHz	5 GHz	5 GHz	5 GHz
AP Quantity		1	1	1	1
Gain		11.5	19	23	28
Coverage Distance		1000 m	5000 m	7000 m	10000 m
Lobe Width	Horizontal	60°	15°	9°	6°
	Vertical	30°	15°	9°	6°
Dimensions (mm)		230 mm x 145 mm x 55 mm	250 mm x 250 mm x 25 mm	Φ400 mm	Φ600 mm
Connector		N-femalex2	N-femalex2	N-femalex2	N-femalex2
Pole Diameter (mm)		35 mm-114 mm	35 mm-114 mm	40 mm-114 mm	40 mm-114 mm
VSWR		1.8	1.8	2	1.5
Antenna Weight		1300 g	1300 g	3000 g	7000 g

## Professional Service and Support

Huawei WLAN planning tools deliver expert network design and optimization services using the most professional simulation platform in the industry. Backed by fifteen years of continuous investment in wireless technologies, extensive network planning and optimization experience, as well as rich expert resources, Huawei helps customers:

- Design, deploy, and operate a high-performance network that is reliable and secure.
- Maximize return on investment and reduce operating expenses.

## More Information

For more information, please visit <http://e.huawei.com> or contact your local Huawei office.



Enterprise Services



Product Overview



Marketing Documentation








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