SUNWAVE

AL8L

15 km 802.11a/n/ac 5G Outdoor Wireless Base Station

AL8L WIRELESS BRIDGE DATASHEET

KEY FEATURES

- Supports 802.11a/n/ac standard and 2×2 MIMO standard
- The highest transmission rate is 867 Mbps
- Outdoor recommended transmission distance: 0 ~ 15 km
- Integrated antenna, quick installation
- Built-in VTrans technology, including

  1) TDMA+: Eliminate the impact of performance degradation caused by hidden terminals and maximize wireless transmission efficiency

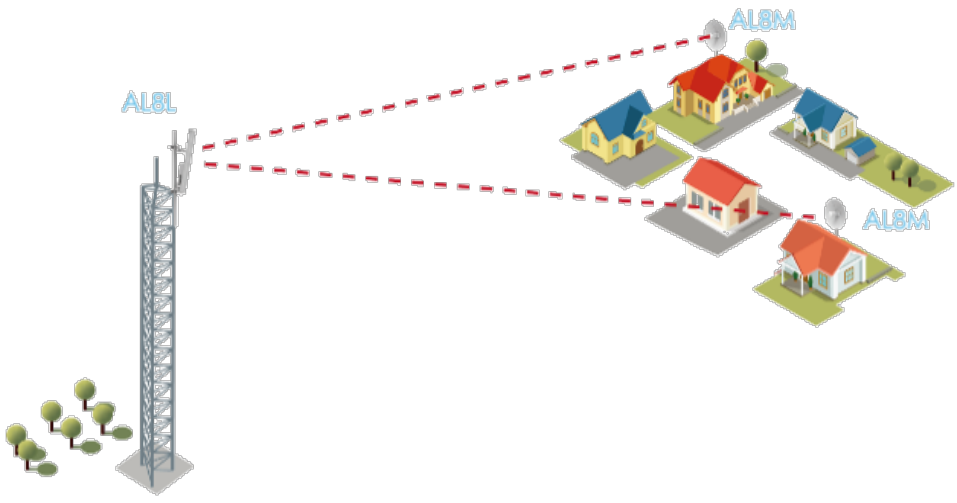
  2) Frequency (channel) extension function: Eliminate interference caused by the same frequency and adjacent frequencies through more frequency choices

  3) Channel width selection: By adjusting the channel width, the overlapped part of the spectrum can be avoided, and the influence of interference by other channels can be reduced

  4) Auto ACK function: Intelligently calculate the ACK value required for long-distance transmission to achieve the best performance at this distance
- Intelligent QoS wireless multimedia optimization technology, providing high priority transmission levels for voice and video
- Supports wireless spectrum scanning, can analyze the spectrogram of the set spectrum, can monitor the real-time energy information of the environment, including WIFI and non-WIFI energy
- Supports JTrans, it can reduce the external interference from the same frequency band of the equipment and accessories, so that the equipment can have better network stability in the environment of large interference
- Supports high-precision wireless link test function, compared with professional testers, test error ⩽3%
- Supports antenna calibration tool, real-time aligning the antenna
- Supports dual firmware backup. The mechanism can prevent the device from stopping work in extreme conditions
- Supports web page management, making installation and maintenance of equipment more convenient
- Supports wireless controller (AC) management, realize remote centralized configuration and upgrade management
- The digital tube displays the signal strength, which is convenient for debugging
- IP56

**Wireless controller needs to be purchased separately*

APPLICATION SCENARIOS



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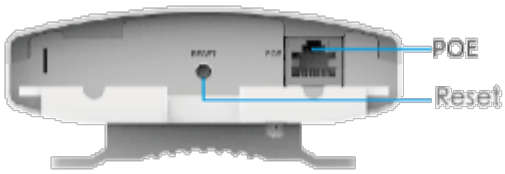
HARDWARE	
Host Size	220 x 110 x 44 mm | 8.66 x 4.33 x 1.73 in
Net Weight	0.56 kg | 1.38 lbs
Antenna Size	787 x 129 x 47 mm | 30.98 x 5.08 x 1.85 in
Antenna Net Weight	1.44 kg | 3.28 lbs
Installation	Pole mounting 30 mm ≤ Diameter ≤ 70 mm| 1.18 in ≤ Diameter ≤ 2.76 in
Protection Level	IP56
Antenna Gain	20 dBi
Beam Width	H: 120°, V: 4°
Power Supply	Passive POE 48V
Max Power Consumption	12W
Average Power Consumption	9W
CPU	IPQ4028
DDR & Memory	256MB DDR3L, 32MB Flash
Physical Interface	1*10/100/1000Mbps
RF Interface	2 x SMA connectors
Indicator Light	Power, system, signal (two-digit digital tube), Ethernet indicator
Button	1 x Reset button
Maximum Transmit Power	30dBm
Working Temperature	-40 ℃ ~ +70 ℃ | -40 °F ~ +158 °F
Storage Temperature	-40 ℃ ~ +85 ℃ | -40 °F ~ +185 °F
Working Humidity	5 ~ 95% RH Non-condensing
Surge Immunity	1. Differential mode: Wire pair-wire pair (-48V-RTN) 1.5KV (1.2/50us 42 ohm) B criterion Wire pair-wire pair (-48V-RTN) 1.5KV (10/700us 15+25ohm) C criterion 2. Differential mode: (differential pair) 0.5kV 42ohm 1.2/50us 3. Isolation withstand voltage: 1KV 4. Differential mode 250A (four wires to four wires), 8/20us, C criterion
ESD Protection	Contact 6KV, Air 8KV
Wind Survivability	200 km/h

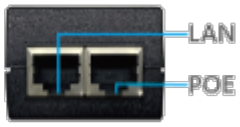
SOFTWARE	
Protocol	802.11a/n/ac
Frequency	5745~5825 MHz (China) Frequency range: 4920MHz~5960MHz (should follow local laws and regulations when using)
Operating Mode	AP, Base Station
Security	WPA2-PSK, MAC Filtering, ACL configuration
Management	Supports Web/AC remote management

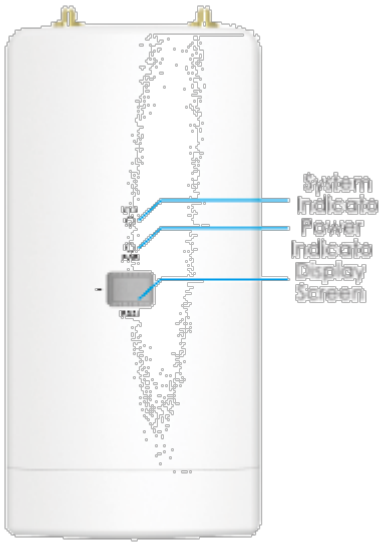
2.4G Wi-Fi Management	Supported
Other	Supports VLAN, QoS, Equipment Alarm, Spectrum Scanning, Link Test, Watchdog

RF PARAMETERS						
Transmit Power				**Receive Sensitivity**		
	Rate	**Power**	**Tolerance**	**Rate**	**Sensitivity**	**Tolerance**
11 b/g/n	1 Mbps	20dBm	+/- 2dBm	1 Mbps	-96dBm	+/- 2dBm
	11 Mbps	20dBm	+/- 2dBm	11 Mbps	-89dBm	+/- 2dBm
	6 Mbps	18dBm	+/- 2dBm	6 Mbps	-91dBm	+/- 2dBm
	54 Mbps	16dBm	+/- 2dBm	54 Mbps	-73dBm	+/- 2dBm
	HT20 MCS0 (joint road)	18dBm	+/- 2dBm	HT20 MCS0	-91dBm	+/- 2dBm
	HT20 MCS7 (joint road)	15dBm	+/- 2dBm	HT20 MCS7	-69dBm	+/- 2dBm
	HT40 MCS0 (joint road)	18dBm	+/- 2dBm	HT40 MCS0	-89dBm	+/- 2dBm
	HT40 MCS7 (joint road)	15dBm	+/- 2dBm	HT40 MCS7	-67dBm	+/- 2dBm
11a/n	6 Mbps	27dBm	+/- 2dBm	6 Mbps	-91dBm	+/- 2dBm
	54 Mbps	25dBm	+/- 2dBm	54 Mbps	-73dBm	+/- 2dBm
	HT20 MCS0 (joint road)	30dBm	+/- 2dBm	HT20 MCS0	-91dBm	+/- 2dBm
	HT20 MCS7 (joint road)	27dBm	+/- 2dBm	HT20 MCS7	-70dBm	+/- 2dBm
	HT40 MCS0 (joint road)	30dBm	+/- 2dBm	HT40 MCS0	-88dBm	+/- 2dBm
	HT40 MCS7 (joint road)	27dBm	+/- 2dBm	HT40 MCS7	-68dBm	+/- 2dBm
11ac	VHT20 MCS0 (joint road)	30dBm	+/- 2dBm	VHT20 MCS0	-91dBm	+/- 2dBm
	VHT20 MCS8 (joint road)	26dBm	+/- 2dBm	VHT20 MCS8	-67dBm	+/- 2dBm
	VHT40 MCS0 (joint road)	30dBm	+/- 2dBm	VHT40 MCS0	-87dBm	+/- 2dBm
	VHT40 MCS9 (joint road)	26dBm	+/- 2dBm	VHT40 MCS9	-64dBm	+/- 2dBm
	VHT80 MCS0 (joint road)	30dBm	+/- 2dBm	VHT80 MCS0	-85dBm	+/- 2dBm
	VHT80 MCS9 (joint road)	26dBm	+/- 2dBm	VHT80 MCS9	-60dBm	+/- 2dBm

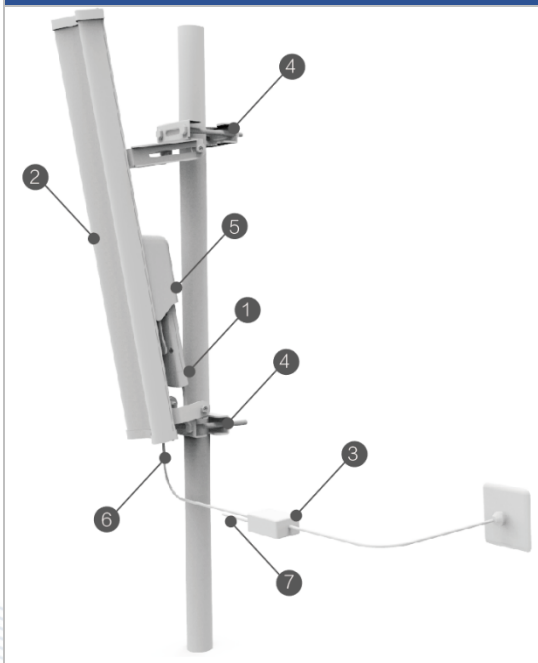
DIMENSIONS AND INTERFACE







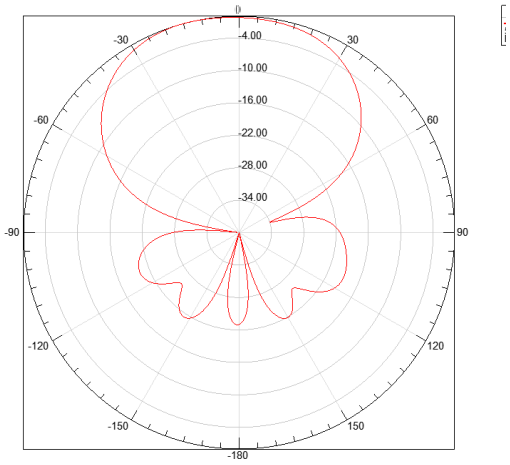
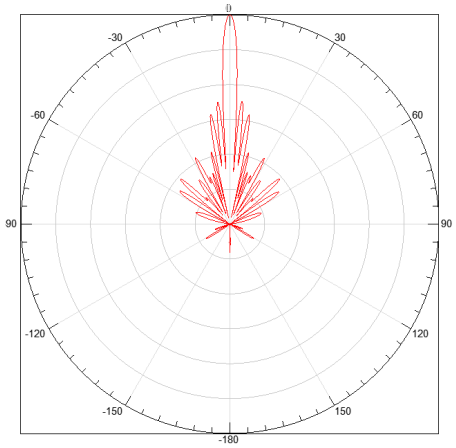
INSTALLATION

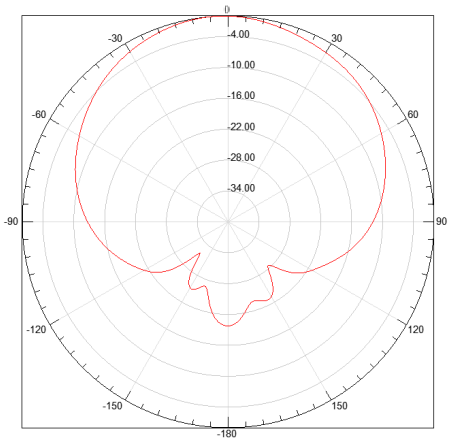
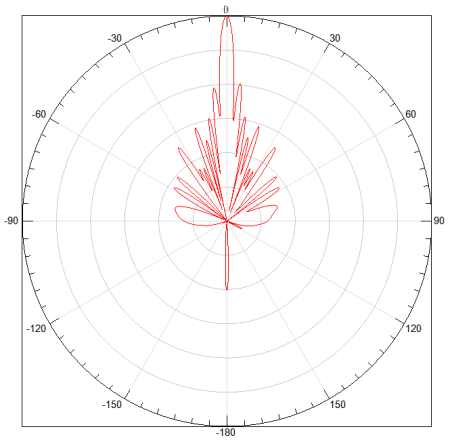


1. Host
2. Sector antenna
3. POE Adaptor
4. Mounting brackets
5. Host protective cover
6. The device's POE port can be connected to the POE power supply
7. POE port of POE adaptor should connect to the POE port on the main device

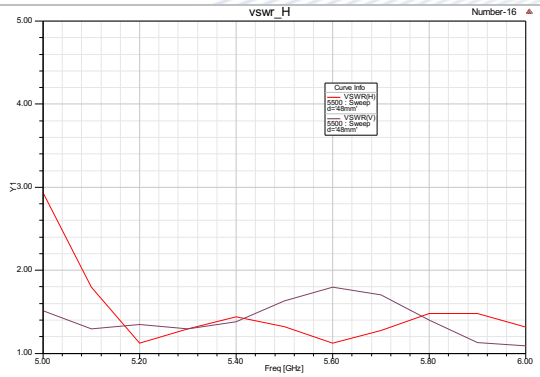
*The actual installation height needs to be determined according to the transmission distance and the installation environment, and there is no obstruction between the two points.

ANTENNA POLAR PLOT

Horizontal Polarization	Horizontal Polarization Elevation Plane
	

Vertical Polarization Azimuth	Vertical Polarization
	

Standing Wave Ratio



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