



AVCOMM®

302W Datasheet

Aiming to create better and safer working environments and life experiences through the products we deliver.



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Outdoor Waterproof Long Range Wireless AP

302W

Outdoor IEEE 802.11a/n Wireless AP

302W is a high performance, 802.11n compliant, IP55 waterproof outdoor wireless AP/ Router with wireless coverage reaching up to 2km. It equips with highly sensitive, high power, and high gain 2T2R MIMO antennas that bring data rate up to 300Mbps. The dual Ethernet ports support NAT Routing and firewall/VPN connectivity. One Ethernet port receives PoE power input, and the other Ethernet port delivers PoE power output. A web-based GUI provides easy and secure management, as well as the firmware upgrade. The mini USB port can be used to add cellular dongles. 302W is an ideal entry-level high-speed long-range wireless communication solution for outdoor applications.



High Throughput and Extended Range Wireless Communication

- Compliant with IEEE 802.11 n2 t2r antenna system and data rate up to 300Mbps
- Long wireless transmission distance up to 2 km
- Dual Ethernet wire connection allows to expand the wireless range without bandwidth
- PoE pass-through to deliver power for AP or IP cam

High power, High gain, and Smart RF management

- External Power Amplify reaches Max. 29dBm output power and -96dbm Rx sensitivity
- Directional High-Gain 11dbi Panel Antenna Inside
- Optional 5G Radio with external antenna socket
- Supports AP, Client, WDS AP/Client, multiple SSID for Point to Point/Multiple Points connectivity

Easy and WLAN Secure management

- HTTPs/ SNMP v3/ CLI management
- Built-in WPA, WPA2/ 802.1X/ Firewall security
- Multiple operating modes: AP/Client/Bridge for different applications
- Reserved USB for firmware upgrade, or optional external cellular phone adapter by request*

Rugged Design for Wayside installation

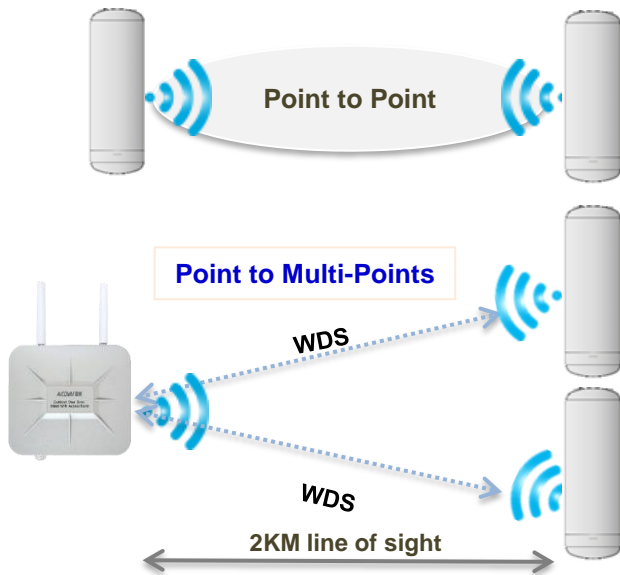
- Outdoor waterproof IP55 enclosure
- -30~60°C operating temp & 24V PoE input
- Easy Pole mount installation for wayside, Port, Airport, Factory & Building applications

Dual Ethernet Routing with Enhanced Cyber Security

- Dual Ethernet port supports one LAN port, one WAN port Router mode or Bridge mode.
- NAT, Firewall, VPN is available in Router mode.
- 1:1 NAT, port forwarding for local traffic protection
- Support Firewall for inbound/outbound traffic port forwarding
- OpenVPN Server/Client or IPSec*
- Support L2TP with PPP, PAP, CHAP(LCP, IPCP)
- Support GRE tunnel
- HTTPs/SSH secure login
- Support TACACS+ multi-user authentication for privileged user management

Industrial IoT LAN & Cloud Management

- ARP response over 802.2 LLC
- Support mqtt, CoAP protocol, ready to use AWS/Azure and Private Cloud Agent for cloud management
- Diagnostic tool includes Ping, TFTP, SNMP Trap, E-mail Alert and System Log
- AVCOMM Software Utilities
- **-ANMS:** Network Management System
- **-AIAS:** Configuration Management
- **-ATMS:** Interactive monitoring dashboard by Modbus Tag to collect data from Modbus devices
- **-ATMS OTA:** Realtime map showing the status, signal strength, location of the remote devices, over-the-air batch device registration, configuration and firmware upgrade, real-map of critical events alerts to prevent downtime



Point to point and Point to Multiple ports

302W supports AP, Client, and WDS modes. Users can configure one as AP mode, and the other as client mode for point to point connection. It is an easy way to extend the wireless range.

If the user has multiple sites and would like to send traffic to the central point via wireless, the central point can be set as AP mode, and the rest points to be set as Client mode. To enhance the distance of the point to multiple points, the central AP can be AVCOMM 502W with the high gain and omni-antenna while the 302W acts as the client with the directional antenna.

✓ Long Range Wireless Connectivity without bandwidth lost

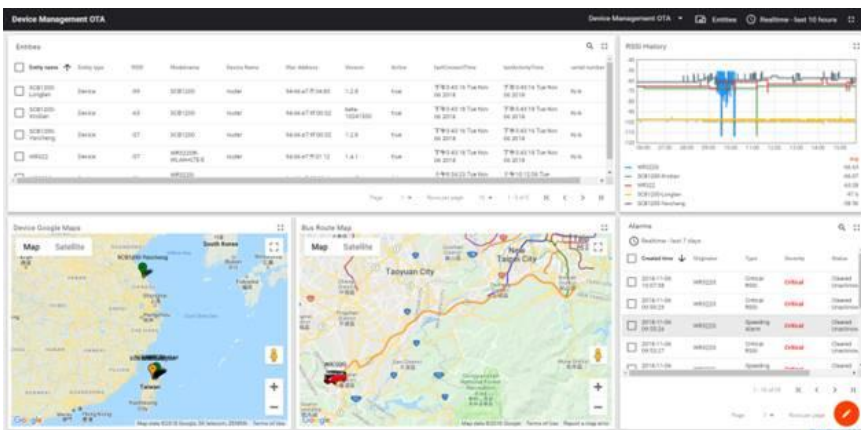
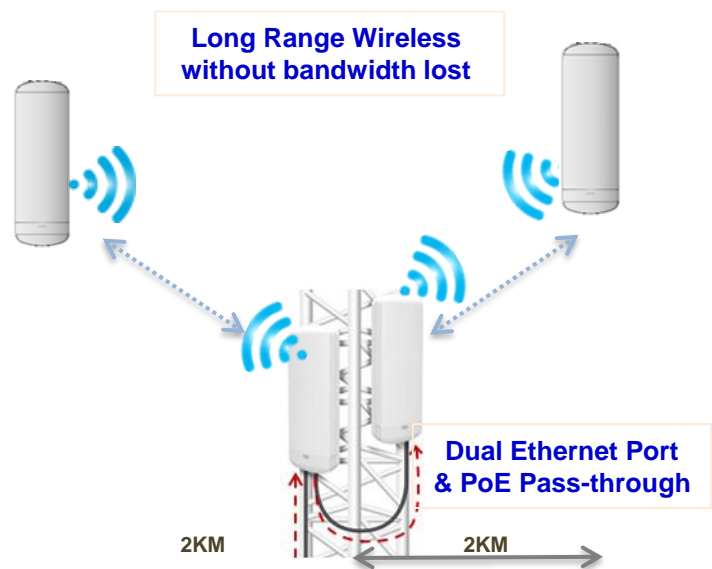
The 302W equips with two Ethernet ports for the Bridge or Router modes. While the two ports work as the Bridge mode, the traffic between the ports switch fast without bandwidth lost. Users can expand wireless coverage within one stand and reach high bandwidth wireless backhaul. While the WAN port is configured, it can support Secure Remote Access through WAN and the Cloud IIoT management.

✓ Secured Remote Access by VPN

The 302W can act as the VPN server for data encryption and dynamic remote access. Multiple VPN protocols are supported such as OpenVPN, IPSec*, GRE, and L2TP. The channels between multiple networks, ex. private/public/hybrid networks are fully secured and with authentication features.

✓ ATMS™ OTA (device management over the air)

The OTA agent embedded in the AP can upgrade device management over the air, anywhere you are and any time you want over your mobile devices. ATMS™ OTA is a secured local OTA software that can be installed in a private or public server or even QNAP NAS (network attached storage). With OTA, all device information such as location, warning event can be shown in real time. The maintenance such as configuration reload, or device reboot can also be run by group.





Ordering Information

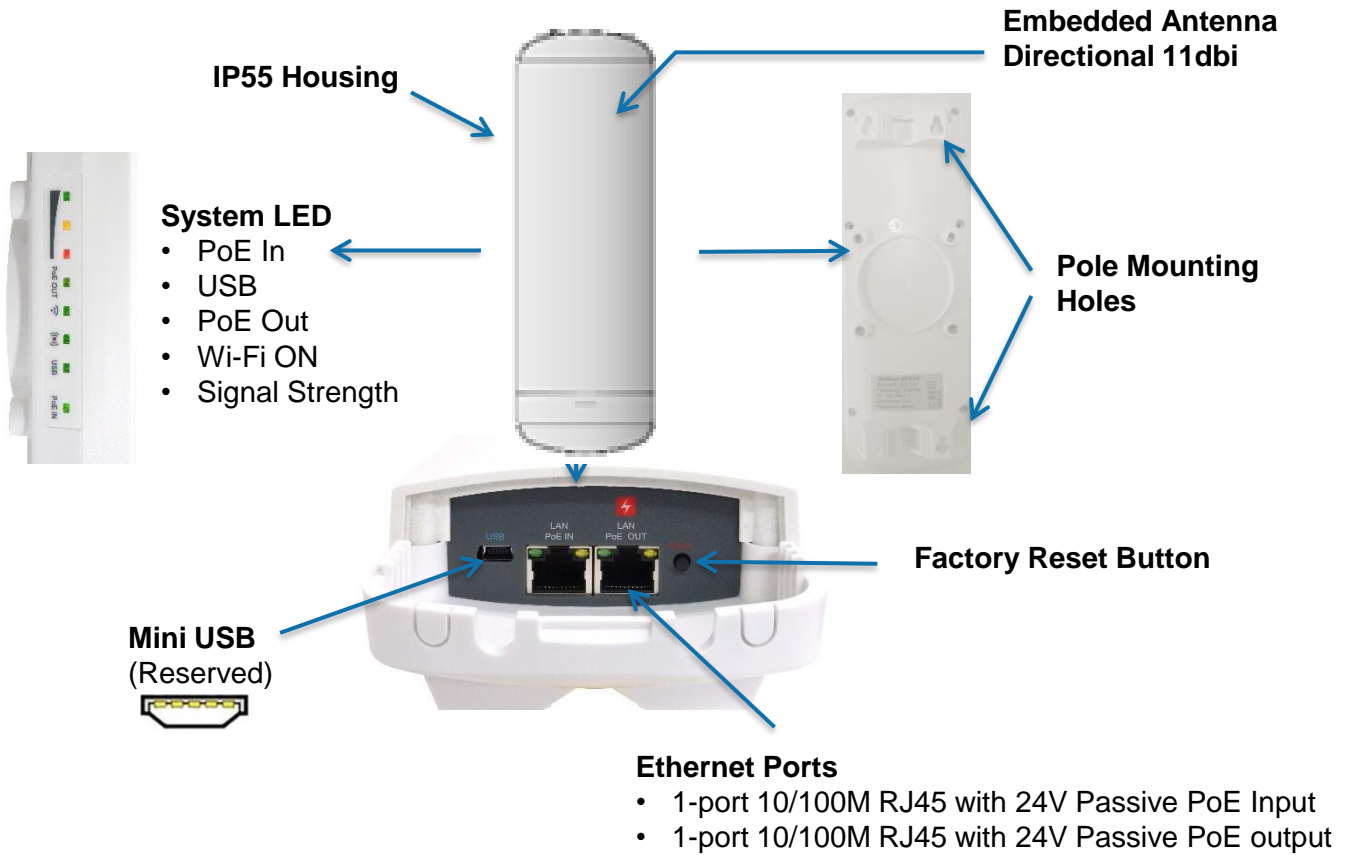
Model Name	Description
302W	Industrial waterproof outdoor wireless AP/ Router, IEEE 802.11a/n with 2T2R MIMO, wireless coverage 2KM, 2 RJ45 Ports 10/100 Base-T(X), passive POE 24V input/output, Mini USB (reserved), -30 ~ 60 °C, IP55, plastic case, Pole Mount mounting

Technology																																																										
Standard	IEEE 802.3u 100Base-TX Fast Ethernet																																																									
	IEEE 802.3 10Base-T Ethernet																																																									
	IEEE 802.11n 2.4GHz Wireless LAN																																																									
	IEEE 802.11ac 5GHz Wireless LAN (option)																																																									
Interface																																																										
Ethernet Port	2 x 10/100Base-TX RJ45, Auto Negotiation Router Mode: 1 WAN + 1 LAN Bridge Mode: 2 LAN Passive PoE 24V Input/Output																																																									
System LED	PoE In: Green ON WLAN: Green ON when enabled, Green OFF when disabled, Green Blinking while transmitting data USB: Green ON while activated PoE Out: Green ON 3 x Signal LED: Green: Excellent, Yellow: Good, Red: Weak																																																									
Reset	System Reset(2~6 Seconds) / Default Settings Reset(over 7 Seconds)																																																									
Mini USB	Reserved by Request.																																																									
Antenna Socket	Embedded 11dBi Directional Antenna Optional SMA Socket: 1 x RP-SMA (302W-NAC)																																																									
WLAN																																																										
Radio Type	2.4GHz IEEE 802.11n/g/b, Up to 2T2R MIMO																																																									
Data Rate	802.11b: 11Mbps / 802.11g: 54Mbps / 802.11n: MCS0 ~ 15, max. 300Mbps Check detail TX/RX information in User Manual																																																									
Frequency	ISM Band, 2.412GHz ~ 2.462GHz (CH1~11), programmable by regional regulation																																																									
RSSI	≤20db, compliant with CE request																																																									
RF Conducted TX/RX Spec.	Different area supports different RSSI, below table is the conducted capacity and only for reference. Check detail in User Manual.																																																									
	<p style="text-align: center;">RF Conducted Spec. [Tolerance ± 2 dB]</p> <table border="1"> <thead> <tr> <th>Data Rate</th> <th>TX</th> <th>RX</th> </tr> </thead> <tbody> <tr><td>MCS15</td><td>23</td><td>-73</td></tr> <tr><td>MCS14</td><td>24</td><td>-77</td></tr> <tr><td>MCS13</td><td>26</td><td>-78</td></tr> <tr><td>MCS12</td><td>28</td><td>-83</td></tr> <tr><td>MCS11</td><td>29</td><td>-86</td></tr> <tr><td>MCS10</td><td>29</td><td>-89</td></tr> <tr><td>MCS9</td><td>29</td><td>-92</td></tr> <tr><td>MCS8</td><td>29</td><td>-94</td></tr> <tr><td>MCS7</td><td>23</td><td>-73</td></tr> <tr><td>MCS6</td><td>24</td><td>-76</td></tr> <tr><td>MCS5</td><td>26</td><td>-82</td></tr> <tr><td>MCS4</td><td>28</td><td>-85</td></tr> <tr><td>MCS3</td><td>29</td><td>-89</td></tr> <tr><td>MCS2</td><td>29</td><td>-91</td></tr> <tr><td>MCS1</td><td>29</td><td>-94</td></tr> <tr><td>MCS0</td><td>29</td><td>-95</td></tr> <tr><td>11g 54M</td><td>25</td><td>-74</td></tr> <tr><td>11b 1M</td><td>29</td><td>-96</td></tr> </tbody> </table>	Data Rate	TX	RX	MCS15	23	-73	MCS14	24	-77	MCS13	26	-78	MCS12	28	-83	MCS11	29	-86	MCS10	29	-89	MCS9	29	-92	MCS8	29	-94	MCS7	23	-73	MCS6	24	-76	MCS5	26	-82	MCS4	28	-85	MCS3	29	-89	MCS2	29	-91	MCS1	29	-94	MCS0	29	-95	11g 54M	25	-74	11b 1M	29	-96
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Power Requirement	
Power	DC24V Passive PoE
PoE Adapter	Input: 100-240VAC 50-60Hz 0.3A Output: 24V/0.5A, RJ45 Pin 4/5: V+, Pin 7/8: V-
Power Consumption	Max 2W full traffic, suggest to reserve 15% tolerance
Software	
Management Interface	CGI WebGUI, Command Line Interface (CLI), Telnet, SNMPv1/v2c/v3, IPv4/v6*, DDNS(Cellular), DHCP server/client, DHCP relay, TFTP, SMTP, ARP response over 802.2 LLC SNAP, Proxy ARP, DNS (client/proxy), System Log, PoE Out control, FTP(active/passive)*, PPPOE*
Traffic Management	Flow Control* , Traffic shaping
Security	IEEE 802.1X/RADIUS, TLS v1.2, HTTPs/SSH, First login password management WLAN AP Security: Share Key, WPA/WPA2-PSK(Pre-Shared Key), WPA/WPA2 Enterprise Encryption: 64/128-bit WEP(Wired Equivalent Privacy), TKIP(WPA-PSK), AES(WPA2-PSK),), MAC Filter
Advanced Security	TACACS+, Multiple-user authentication
Time Management	NTP, SNTP
WAN/Routing/NAT/Fire wall/VPN	Routing: Static Route NAT: 1-1 NAT, NATP(SNAT/DNAT)), Port Forwarding, DMZ Firewall: Stateful Inspection firewall, IP/Port Filter, MAC ACL VPN: OpenVPN, L2TP, GRE, IPSEC by request*
Industrial IoT	MQTTS, CoAP, RESTful API
Private Cloud	ATMS™, ATMS™ OTA
Public Cloud	AWS Agent, Azure Agent
Location	Google map, Baidu map
MIB	MIB-II, Entity MIB, AVCOMM Private MIB
Utility	AIAS, ANMS, Ping, Traceroute
WLAN Configuration	WLAN Basic Settings: Radio on/off, AP/client mode, 2.4G 11n Band and Frequency selection, SSID/Multi-SSID configuration, SSID broadcast, Advanced WLAN settings, 802.1X
Wi-Fi Max. Client	Up to 20
Mechanical	
Installation	Pole Mount
Enclosure Material	Plastic
Dimension	280.86 mm x 91.85 mm x 50.35 mm(H x W x D)
Ingress Protection	IP55
Weight	400g
Environmental	
Operating Temp. & Humidity	-30°C~60°C , 10%~95% Non- Condensing
Storage Temperature	-30°C~80°C
Warranty	2 years
Approval	
CE RED	EN 301 489-1 V1.9.2/EN 301 489-17 V2.2.1 EN 300 328 V1.8.1:2012 EN 55022 / EN 55024 EN 62368-1 / EN 60950-1:2006+A11:2009+A1:2010+A12:2011 (TBD)
FCC	Part15 sub B +ICES003 (TBD) Part15 sub E (TBD)



function interface



Installation dimensions

Dimension: 280.86 x 91.85 x 50.35 mm
(Reference Photo)

