Product Description

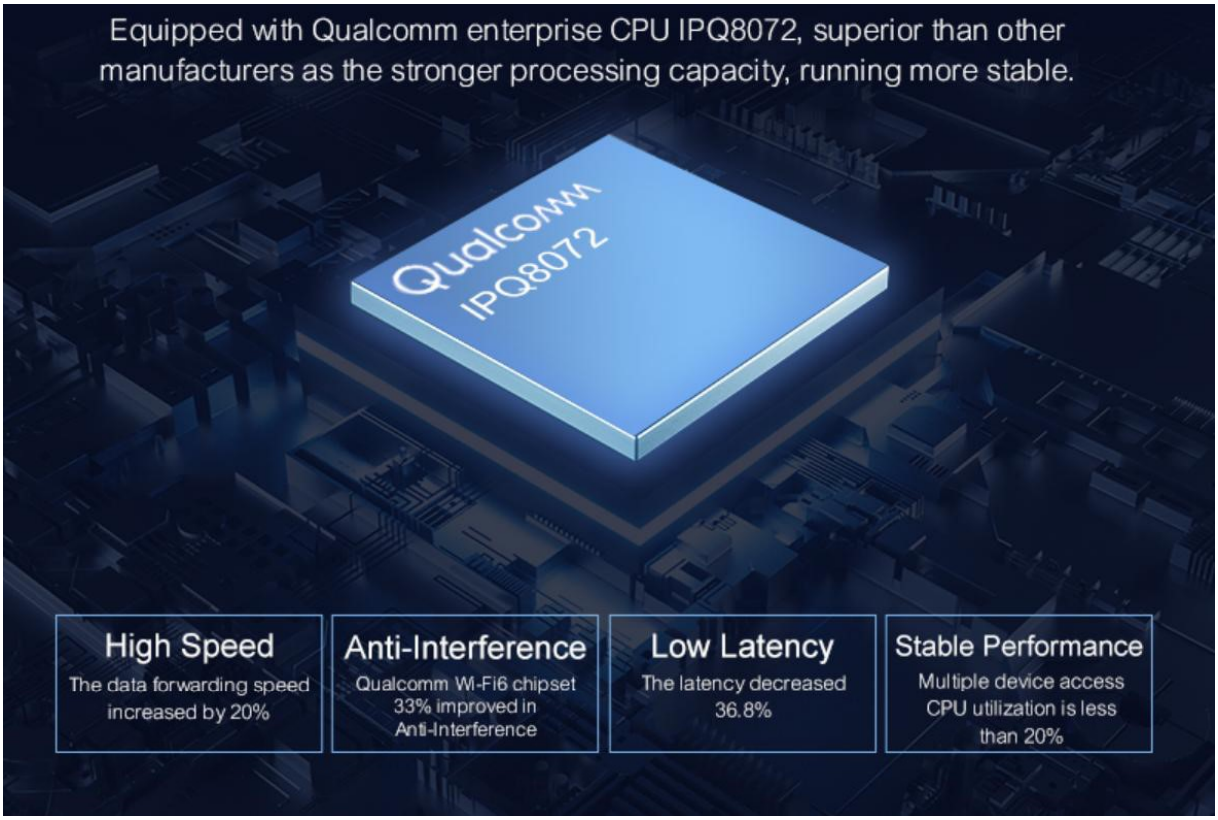
WD-AP880 is an 11ax Wi-Fi standard Qualcomm Chipset high power industrial Ceiling Wireless Access Point support MU-MIMO, Wave2.0, OFDMA and Seamless Roaming.

It comply with 802.11ax, 4*4 MIMO technology, dual band, up to 3657Mbps data rate; equipped with 2.5G WAN & LAN ports, support MU-MIMO and DL/UL-OFDMA modulation, faster Ethernet data rate and more users, then multiple users can upload or download multiple packets at same time, narrower subcarrier spacing and longer symbol time, improved the stability and data processing efficiency, publicly to be used in high density access environment such as university campus, concert venue, gymnasium, etc.

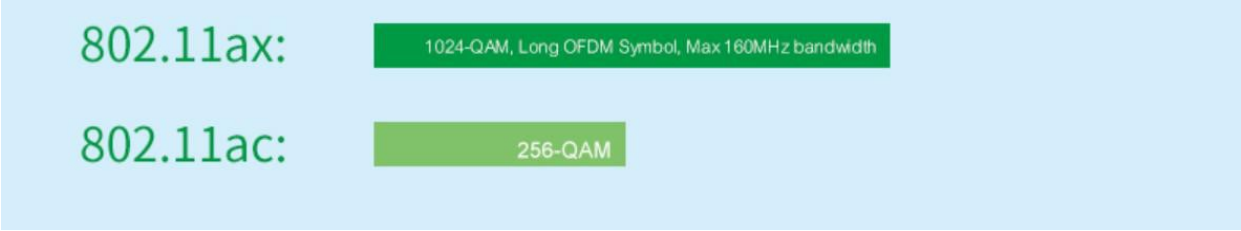
Features

- 2.5G Ethernet port. Using 2.5Gbps Ethernet port, compared with Gigabit port, the speed is greatly improved, so that the wired interface is no longer the bottleneck of wireless transmission, and the wireless experience I high pedestrian density scenarios such as conference room, bar, office area, KTV is optimized.

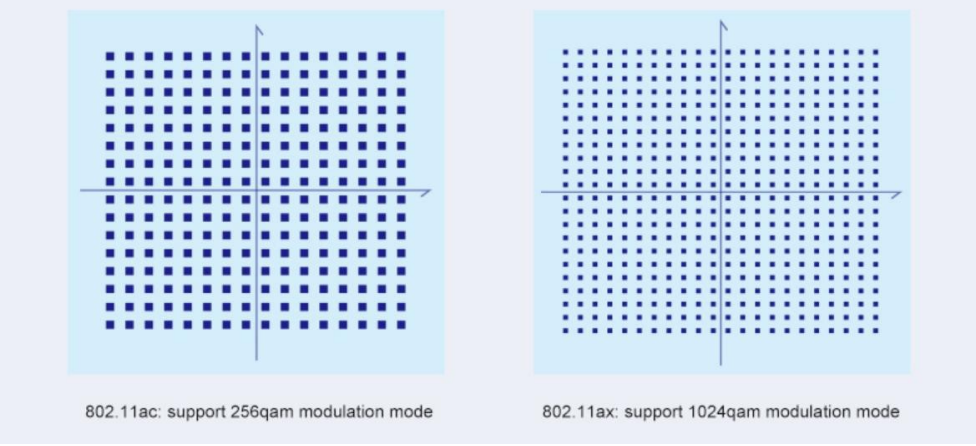
- Qualcomm 4-core enterprise CPU with more stable performance.



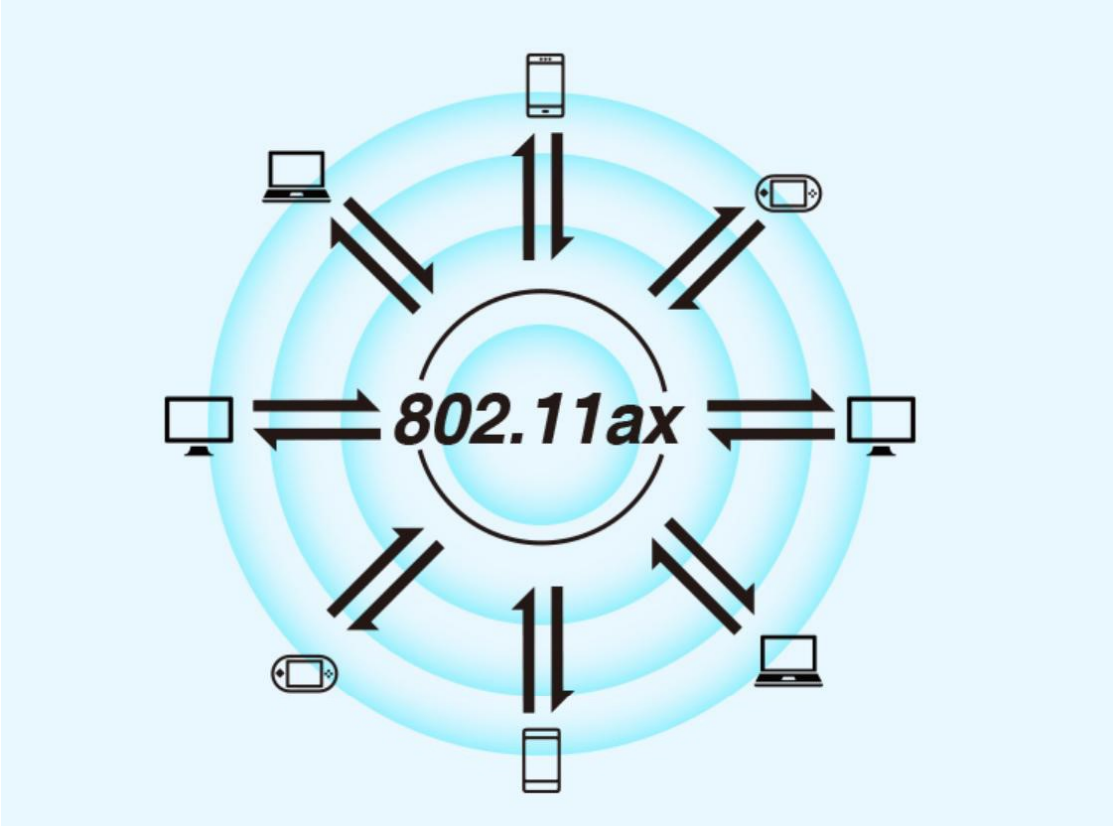
- Wireless data rate up to 3.6Gbps. 802.11ax support 1024QAM, long OFDM symbol, 160M bandwidth and 11ax 4x4 MIMO technology, the wireless data rate up to 3.6Gbps, meet with demand of high-speed applications such as VR/ AR, 4K or 8K stream media.



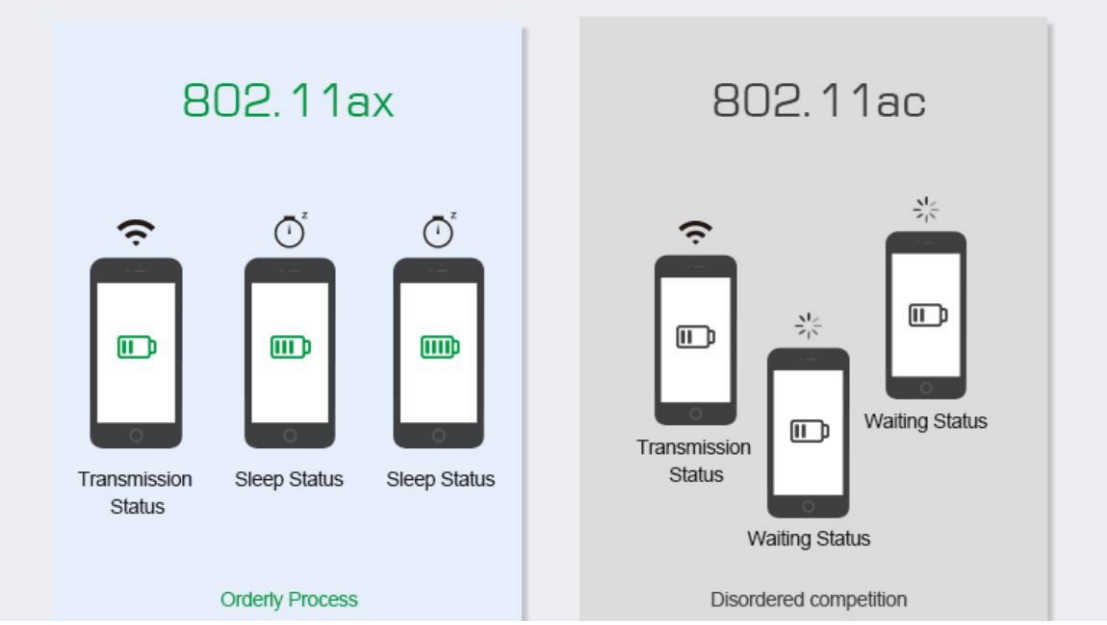
- 1024-QAM Modulation Mode. 802.11ax adopt 1024-QAM modulation, which is more efficient than 802.11ac modulation, the throughput of single spatial traffic is increased by 25%.



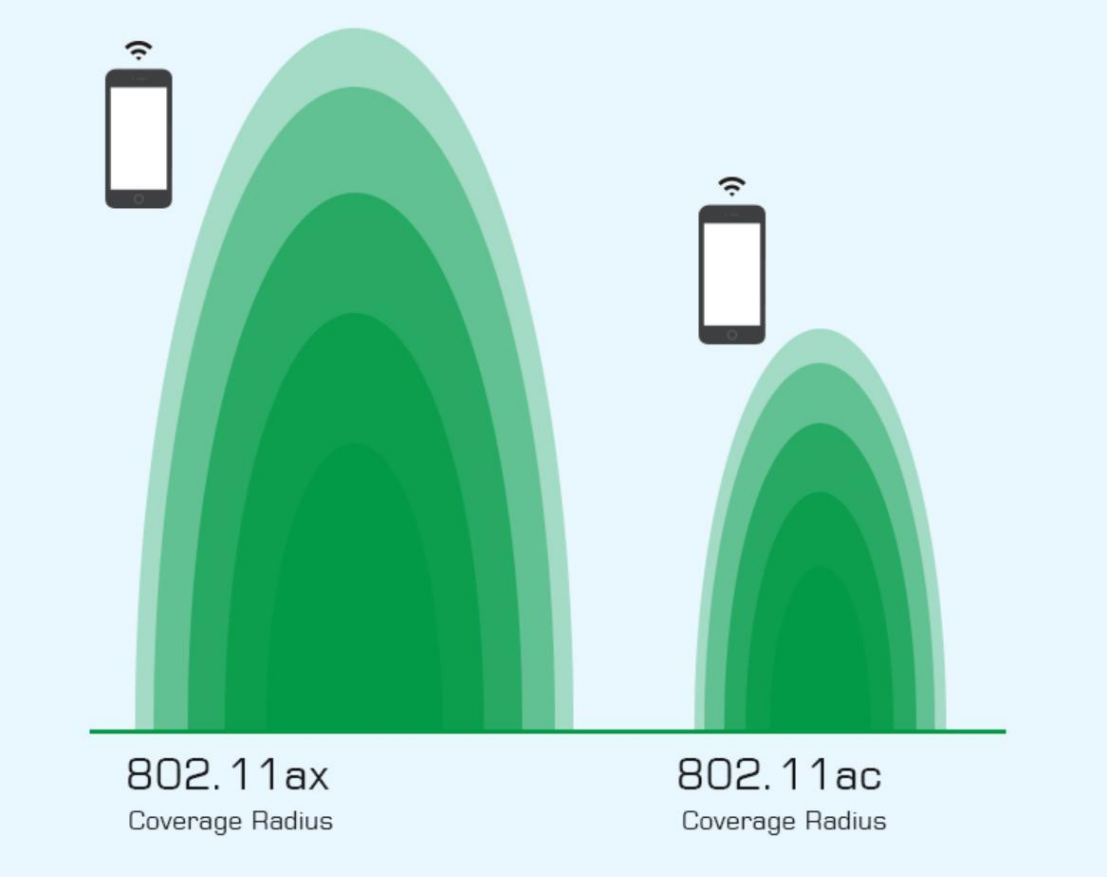
- DL/ UL MU-MIMO 802.11ax support both downlink MU-MIMO and uplink MU-MIMO. It can communicate with multiple end users at the same time, greatly improving the user's uplink transmission rate and the system's uplink and downlink capacity, improving the efficiency of multi-user concurrent scenarios, reducing the terminal application latency.



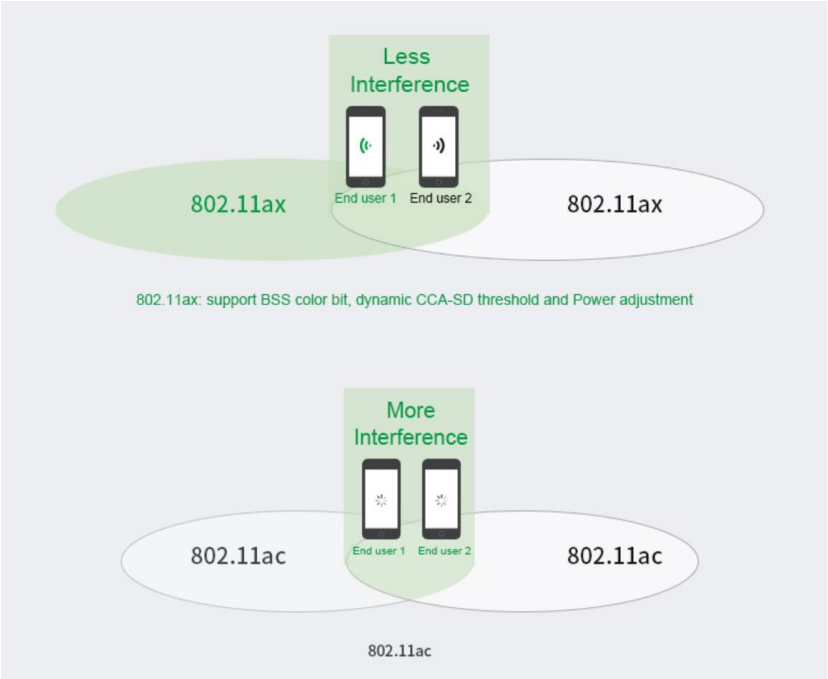
- TWT (Target Wake-up Time). 802.11ax support TWT, allowing devices to negotiate when need to wake up, send and receive data. In additional, wireless AP can group the device into different TWT cycles, increase sleep time, reduce the device competing after wake-up, and save the device power.



- Coverage Improvement. 802.11ax support long OFDM symbol transmission mechanism and 2MHz narrowband transmission, effectively reduced the packet loss rate and noise interference, improve the receive sensitivity and increase the WiFi coverage.



- Improvement of Anti-Interference Ability. 802.11ax support BSS color bit and dynamic CCA-SD (Clear Channel Assessment Signal Detection) threshold and power adjustment, effectively alleviates the channel interference in multi-users scenarios, improve the utilization of spectrum resources.



Product Spec.

Chipset	IPQ8072A +QCN5054+QCN5024+QCA8081*2
Standard	802.11ax/ac/b/g/n
DDR	512MB (16 bit) *2=1GB, max up to 2GB
Flash	NOR-8MB AND NAND-128MB
2.4G Frequency	2.4GHz - 2.484GHz
2.4G Wi-Fi standard	802.11b/g/n/ax
5.8G Frequency	5150~5850MHz
5.8G Wi-Fi Standard	802.11 a/n/ac/ax
Interface	1 * 10/100 /1000/2500Mbps RJ45 WAN Port
	1 * 10/100 / 1000/2500Mbps RJ45 LAN Port
	1 * Reset
	1* Bluetooth(optional)
	1 * DC Port
Antenna	IPEX Connector, 4*4dBi dual band omni antennas
Data Rate	3657Mbps （ 2.4G: 1182Mbps (11ax 4x4); 5.8G: 2475Mbps (11ax 4x4)）
End Users	300+
RF Power	2.4G ≤ 20dBm 5.8G ≤ 19dBm
DC	12V----2A
PoE	48V (IEEE 802.3at+)
LED light	Sys; 5.8G wifi; 2.4G wifi; WAN; LAN
Max Power Consumption	≤ 22W
Size	198mm * 198mm * 41. mm
Working Temperature	-20°C to 45°C
Storage Temperature	0°C to 70°C
Humidity	5%～95% (non-condensing)

Firmware Specification

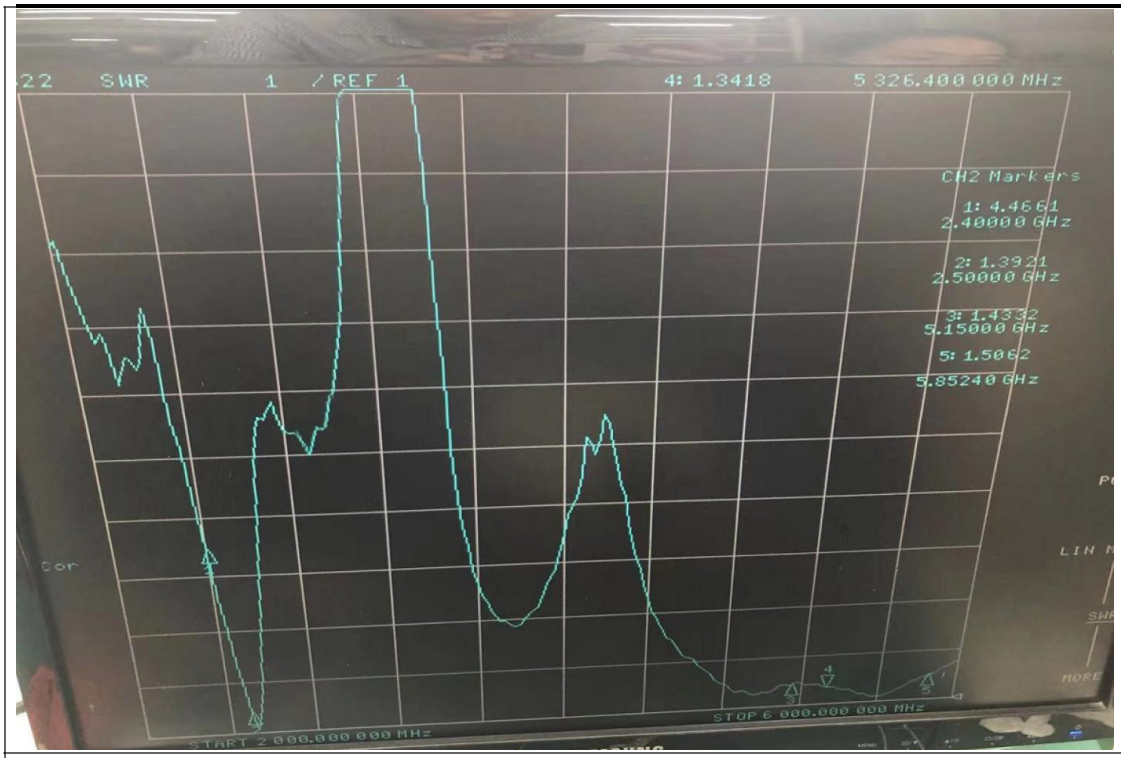
Working Mode	Gateway, AP
Wireless Functions	Multiple SSID functions: 2.4GHz: 4; 5.8GHz: 4.
	Support SSID hidden
	Support seamless roaming, 802.11kvr standard.
	Support 5G Prior for a faster Ethernet.
	Wireless Security: Open, WPA, WPA2PSK_TKIPAES, WAP2_EAP, 802.1x
	Support MAC filter
	Support Wi-Fi time on/off to save energy
	Support client isolation to improve the wireless stability

	Support RF power adjustable, adjust the RF power based on environment.
	Support user quantity limited, Max 64 users to access each band.
Networking Function	VLAN settings
	Cloud access support in gateway mode
Device Management	Back-up the configuration
	Restore the configuration
	Reset to factory default
	Reboot the device: including time reboot or reboot immediately
	Admin management password modify
	Firmware upgrade
	System log
	Support firmware GUI web management, AC controller management, remote management and cloud management
Protocols	IPv4

Application

Antenna Specification

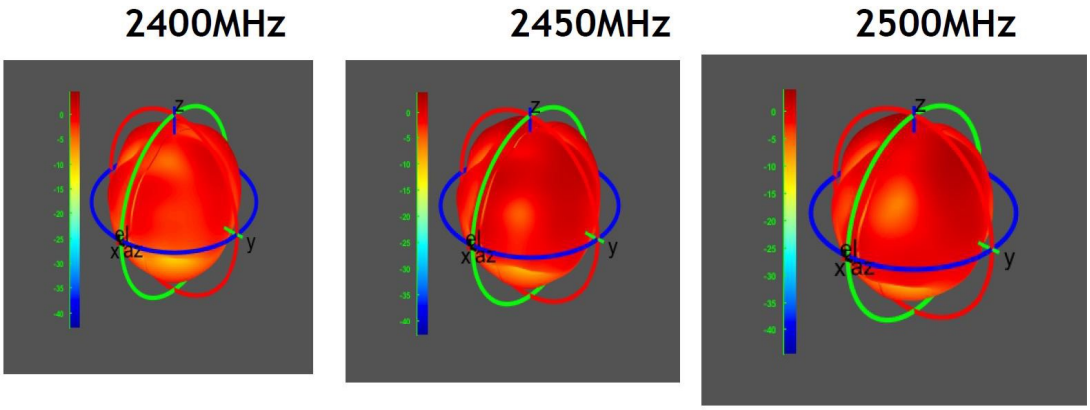
Frequency Range	2.4GHz & 5.8GHz
Impedance	50 Ohms nominal
Gain	4dBi
Radiation	Omni
Polarization	Vertical
S-Parameters (2.4/ 5.8G #2 VSWR)	



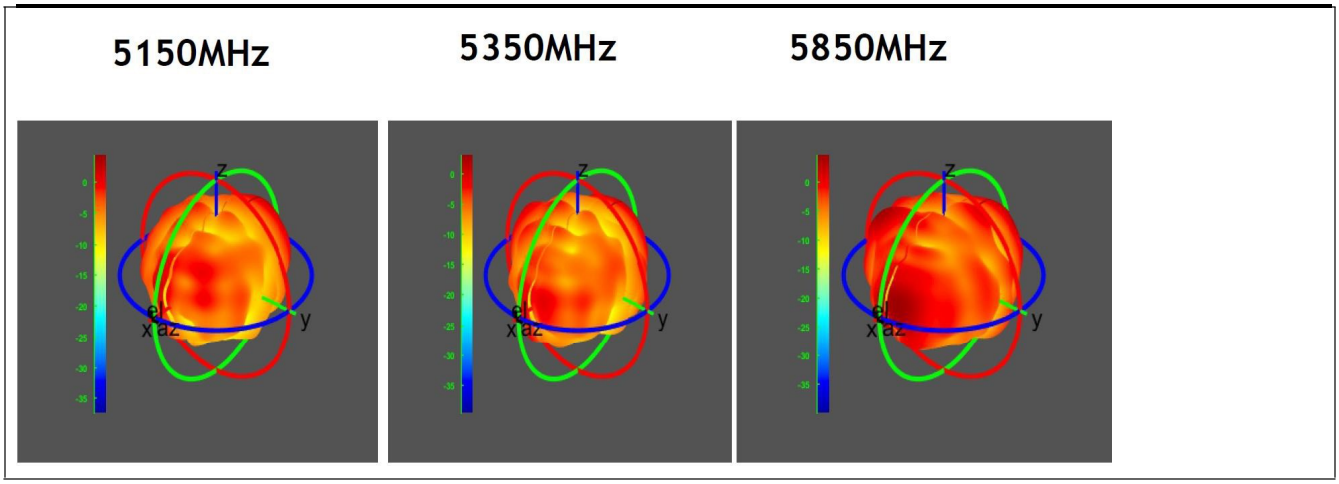
Antenna Efficiency& Peak Gain (2.4/5.8G#2)

Frequency (MHz)	Directivity(dB)	Gain(dB)	Efficiency(dB)	Efficiency(%)	BW@Phi=0	BW@phi=90	BW@theta=90	oundness@Theta=3	oundness@Theta=6	oundness@Theta=9	eak Gain@Phi(Deg
2400	6.3353	4.41	-1.9253	64.1905	53.8117	65.4418	54.9686	6.5873	13.6366	6.7307	38
2450	5.0209	3.6652	-1.3557	73.1868	51.948	65.9976	115.8061	5.9739	11.9681	5.3284	34
2500	5.6424	3.9792	-1.6632	68.1836	54.7476	68.5025	100.4049	7.8784	9.0185	4.7983	72
5150	8.0104	4.3132	-3.6972	42.6853	39.2657	17.6771	71.4728	7.1057	11.3183	15.9552	2
5200	8.0108	3.4185	-4.5924	34.7348	39.9221	17.3414	70.4911	6.5451	12.3226	16.4138	4
5250	7.8239	2.8227	-5.0012	31.6138	42.3543	18.0389	72.915	7.4008	12.6833	15.6369	8
5300	8.0655	2.968	-5.0975	30.9206	40.2303	19.015	73.6867	9.3891	11.8026	15.555	22
5350	8.0825	2.9809	-5.1016	30.8917	35.4891	21.9018	72.2433	11.2179	10.9733	16.9255	0
5400	8.3839	3.459	-4.9248	32.1748	35.6284	24.9851	67.7328	12.0413	11.2309	17.931	0
5450	8.5071	4.6273	-3.8798	40.9277	37.99	24.6068	67.8689	11.6072	13.0435	19.1602	2
5500	8.5902	5.6359	-2.9543	50.6484	35.9196	28.4369	69.3701	10.92	15.987	17.7478	4
5550	8.6204	5.7178	-2.9026	51.2553	33.2672	35.666	69.5587	9.2637	14.4105	17.3706	6
5610	8.1581	5.7608	-2.3973	57.5801	34.5794	44.0294	66.6877	8.4687	13.9859	19.8	10
5670	7.0767	5.1349	-1.9418	63.9474	39.6406	39.6061	62.4705	9.351	11.0162	17.0613	14
5730	7.1306	5.1505	-1.9801	63.386	35.0325	33.7607	46.9087	13.3567	12.5148	14.5314	10
5790	7.4477	5.0303	-2.4174	57.314	33.5088	72.4597	40.1525	11.7179	14.536	15.6735	10
5850	6.988	4.4866	-2.5013	56.2171	39.1351	77.913	39.6082	10.4381	18.9779	14.9626	168
5900	7.1781	4.7168	-2.4613	56.7374	40.0221	76.4709	40.8435	10.0351	19.9536	14.6616	14
5950	7.3855	4.5964	-2.7891	52.6127	40.1784	59.7174	71.7295	8.8555	19.6051	14.2134	14
6000	7.6448	4.747	-2.8978	51.3123	41.5137	61.8456	64.5915	8.4006	18.2329	14.5507	168

Radiation patterns- 3D (2.4G#2)



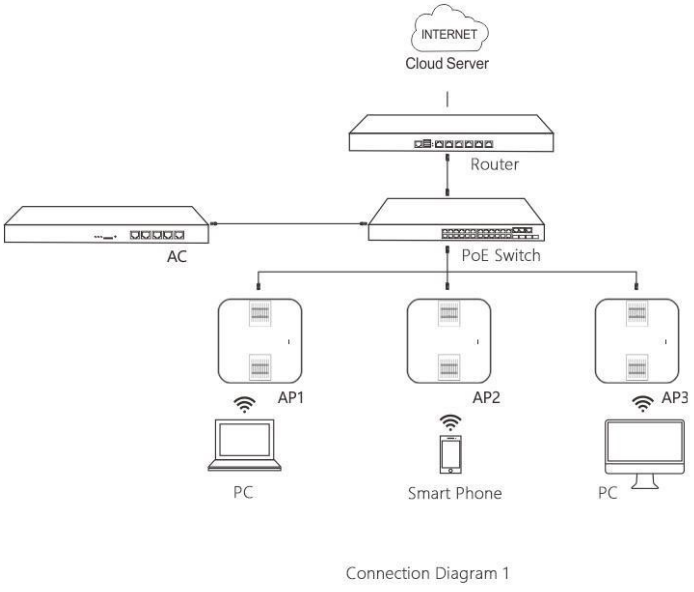
Radiation patterns- 3D (5.8G#2)



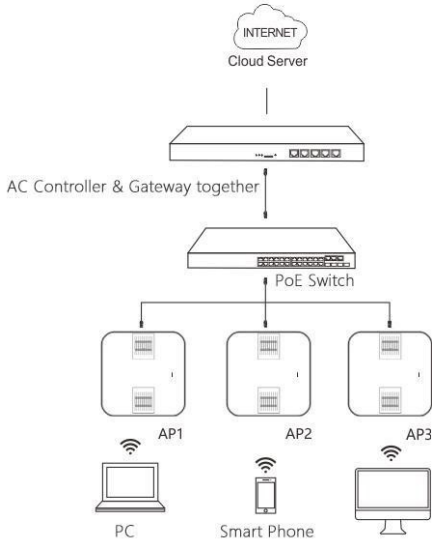
Accessory

AP	1
Lan cable	1
Mounting Accessories	1
Gift Box	1

Working Diagram



Connection Diagram 1



Connection Diagram 2

Sticker and Packing box: