

DIGISOL Wi-Fi6 11ax 1800Mbps Ceiling Wireless AP

DG-WM820AX

Key Features:-

- Upto 1800Mbps aggregate speed
- Support WiFi 6 802.11ax Standard
- 2 x Gigabit LAN Port
- Multimode AP / Repeater / Gateway
- Target Wake Up time (TWT)
- Support FIT / FAT Mode
- MU-MIMO and OFDMA



Short Specifications:-

DG-WM820AX is an 11ax Wi-Fi standard MTK Chipset high power industrial Ceiling Wireless Access Point support MU-MIMO, Wave2.0, OFDMA and Seamless Roaming. Combined 1800Mbps Wi-Fi speed over 2 radios: 2.4GHz (600Mbps 11ax 2*2) + 5GHz (1200Mbps 2*2), equipped Gigabit 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.

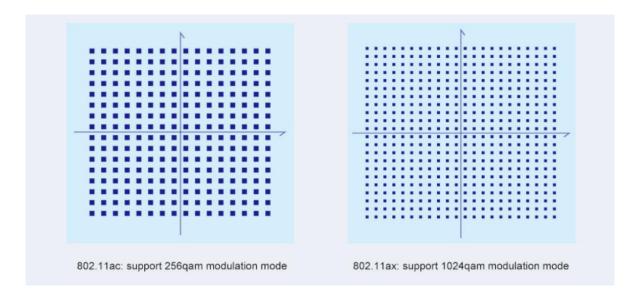
Main Features:

Wireless data rate up to 1.8Gbps. 802.11ax support 1024QAM, long OFDM symbol, 80M bandwidth and 11ax 2x2 MIMO technology, the wireless data rate up to 1.8Gbps, meet with demand of high-speed applications such as VR/ AR, 4K or 8K stream media.

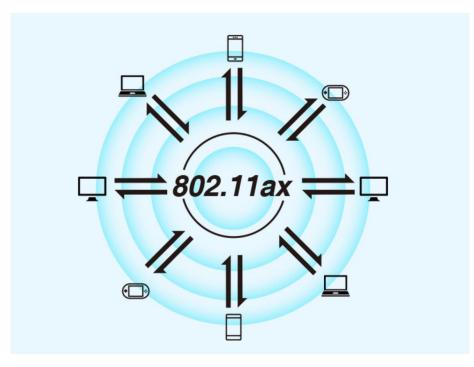




1024-QAM Modulation Mode. 802.11ax adopt 1024-QAM modulation, which is more efficient than 802.11ac modulation, the throughput of single spatial traffic is increased by 25%.

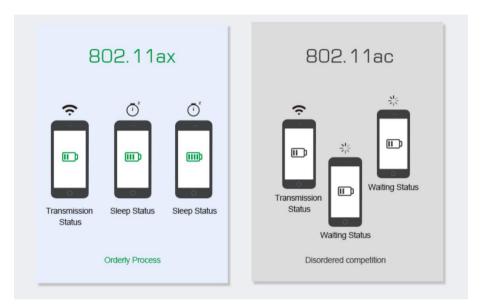


DL/ UL MU-MIMO. 802.11ax support both downlink MU-MIMO and uplink MU-MIMO. It can communicate with multiple end users at the same time, greatly improving the user's uplink transmission rate and the system's uplink and downlink capacity, improving the efficiency of multi-user concurrent scenarios, reducing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

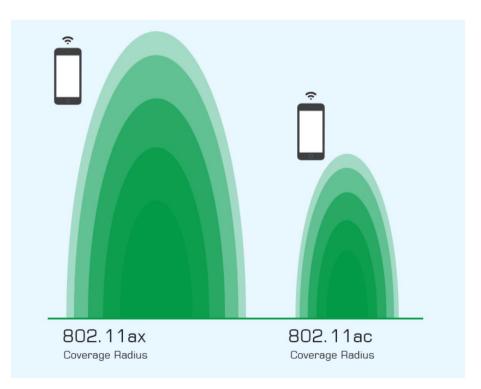




TWT (Target Wake-up Time). 802.11ax support TWT, allowing devices to negotiate when need to wake up, send and receive data. In additional, wireless AP can group the device into different TWT cycles, increase sleep time, reduce the device competing after wake-up, and save the device power.

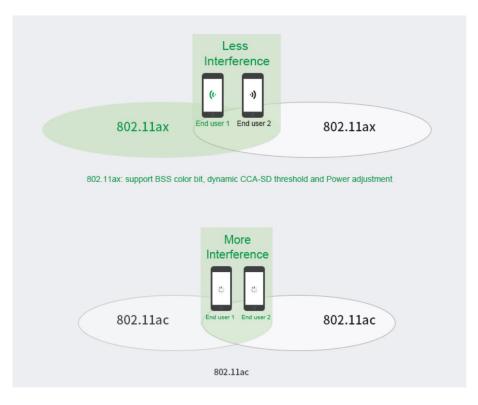


Coverage Improvement. 802.11ax support long OFDM symbol transmission mechanism and 2MHz narrowband transmission, effectively reduced the packet loss rate and noise interference, improve the receive sensitivity and increase the Wi-Fi coverage.





Improvement of Anti-Interference Ability. 802.11 ax 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.



Technical Specifications:-

HARDWARE SPECIFICATIONS	
Chipset	MT7621DAT+MT7905N+MT7975DN
Standard	802.11ax/ac/b/g/n
Flash	SPI NOR 8MB
Memory	128MB
2.4G Frequency	2.4GHz - 2.484GHz
2.4G Wi-Fi standard	802.11b/g/n/ac/ax
5.8G Frequency	5150~5850MHz
5.8G Wi-Fi Standard	802.11 a/n/ac/ax
Interface	1 * 10/100 /1000 RJ45 WAN Port
	1 * 10/100 /1000 RJ45 LAN Port
	1 * Reset button, press 10 seconds to revert to default setting
	USB3.0 and Bluetooth are optional if need.
Antenna	Build in 4dBi MIMO Antenna
Data Rate	1800Mbps
End Users	120+
RF Power	≤ 18dBm
DC	12V1.5A
PoE	48V (IEEE 802.3af/at)
LED light	Sys and WiFi, WAN, LAN
Power Consumption	≤ 15W
Size	168mm x 168mm x 32mm



Technical Specifications:-

FIRMWARE SPECIFICATIONS	
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, WPA3, 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

ANTENNA SPECIFICATIONS	
Frequency Range	2.4GHz, 2.5GHz
Impedance	50 Ohms nominal
Gain	4dBi
Radiation	Omni
Polarization	Vertical



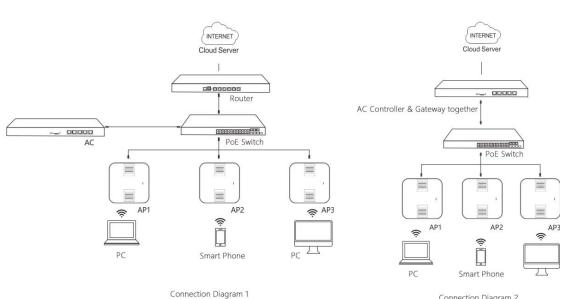
ANTENNA SPECIFICATIONS Return Loss/VSWR	
	10 10 <td< th=""></td<>
	TART 2 200,000 000 MHz STOP 2 780.000 000 MHz
	41 1.10-0 -2 450.000 -2 450.000 -2 450.000 -2 12.45 -2 1.1049 -2 1.1049 -2 1.1049 -2 1.1049 -2 1.1049 -2 1.1049 -2 1.1049 -2 1.1049 -2 1.1049 -2 1.1049 -2 1.1049 -2 1.4537
	POLAR LIN MAG
	START 2 200.000 000 MHZ 2 STOP 2 700.000 000 MHZ MORE
requency Range	5.15GHz, 5.85GHz
npedance	50 Ohms nominal
ain	4dBi
adiation	Omni
Polarization	Vertical







APPLICATION



Connection Diagram 2





e	11AX HT40 (2.4G)			
ad Link	397Mbps			
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			12% + 0.03% •	
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	and and mo Rate Response Time Raw Data Totals Endpoint Configuration			
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All Pairs	18 206 397 967 14 358 73 665			
A Pair 1 No Group F	inished 1, 813 -0. 130 : +0. 130 40. 452 22. 721 57. 554 3, 658. 054			
Pair 3 No Group F Bair 4 No Group F	inished 1,812 -0.097 : +0.097 39.624 26.711 73.665 3,658.435			
🛍 — Pair 5 No Group F 🛍 — Pair 6 No Group F		0.250 0.334		
Pair 7 No Group 5				
Pair S No From F Pair 9 No Group F Pair 10 No Group F				
Pair 10 50 broip F	inished 1,834 -0.108 : +0.108 40.111 27.482 55.440 3,657.868	0.210		
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C Throughput 74.000				>
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77.000 74.000 54.000 84.000 844.000				
77.000 74.000 54.000 54.000 54.000 34.000				
77.000 74.000 54.000 54.000 24.000 24.000			- Part 1 - Part 2 - Part 3 - Part 4 - Part 4 - Part 5 - Part 7 - Part 9 - Part 10	
77.000 74.000 54.000 54.000 54.000 34.000	20 1 0:12:10 1 0:10:20 1 0:20:20 1	0.33/19 1 0.38 ^{/19} 1 1		
77.000 74.000 54.000 54.000 24.000 24.000	29 1 0:12:19 1 0:19:29 1 0:26:29 1 E1a	0-33-19 1 0-38-59 1 1 pred time (h.m. so)	- Part 1 - Part 2 - Part 3 - Part 4 - Part 4 - Part 5 - Part 7 - Part 9 - Part 10	×



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	ponse Time Raw Data Totals Endpoint Configuration	
Group Pair Group Run Statu	Timing Records 95% Confidence Average Winimum Waximum Measured Relative Completed Interval (Mops) (Mops) Time (sec) Precision	<u>^</u>
All Pairs	293 412.067 21.500 63.898 30 -3.945 : -3.945 43.606 22.844 69.455 55.008 8.817	
Pair 2 No Group Finished	35 -1.927 : +1.927 50.809 39.801 61.633 55.108 3.792	
Pair 6 No Group Finished	30 -2.899 +2.899 42.543 24.184 53.981 56.413 6.814	
👔 — Pair 6 No Group Finished		
 Pair 7 No Group Finished Pair 8 No Group Finished 	26 - 2, 657 : +2, 657 36, 747 26, 127 48, 222 56, 604 7, 222 34 - 2, 029 : +2, 029 48, 134 38, 556 63, 888 56, 558 4, 215	
pair 9 No Group Finished Pair 10 No Group Finished	14·-1220 · 4220 · 4220 · 4220 · 2220 · 2135 · 5232 · 447 21·-1249 · 4249 · 4249 · 2127 · 3135 · 5232 · 447 21·-1341 · 4-531 · 2049 · 2027 · 5131 · 4151 · \$256	
×		>
Throughput		
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101.25		
92.00 - 92.00 -		
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92.00 - 92.00 -		
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01.25 92.00 72.00 93.00 93.00 94.00		
101.25 92.00 72.00 52.00 52.00		
101.25 92.00 82.00 72.00 62.00 93.00 10.00		
101.25 92.00 72.00 52.00		
101.23 92.00 82.00 72.00 61.00		
101.23 92.00 72.00 51.00 52.00	Image: Configuration Ends 2020/12/31, 17/21/34 Run time 0100001 Ran to completion	



e	11AX HT40 (5.8G)
ad Link	828Mbps
IxChariot Test - untitled1.tst	- 0 X
File Edit View Run Tools Window	
	R asponse Time Raw Data Totals Endpoint Configuration
Pair Group	Timing Records 95% Confidence Average Winimum Maximum Measured Relative
Group Name Run St	Status Completed Interval (MOps) (MOps) (MOps) Time (sec) Precision
■ All Pairs ■ Pair 1 No Group Finish	37, 271 828. 246 37. 054 164. 609 shed 3, 791 -0. 124 : +0. 124 84. 297 43. 173 98. 765 3, 597, 755 0. 147
🗓 — Pair 2 No Group Finish	3,693 −0.112 : +0.112 82.112 41.216 96.270 3,597.998 0.136
🛍 - Pair 3 No Group Finish	
🗐 — Pair 4 No Group Finish 🏥 — Pair 5 No Group Finish	
Pair 6 No Group Finish	
🗓 — Pair 7 No Group Finish	
🏨 — Pair 8 No Group Finish	shed 3,705 -0.121 : +0.121 82.383 45.198 91.848 3,597.845 0.147
Pair 9 No Group Finish	3,818 -0.111 : +0.111 84.897 54.832 164.609 3,597.753 0.131
Pair 9 No Group Finish	3,818 -0.111 : +0.111 84.897 54.832 164.609 3,597.753 0.131
	3,818 -0.111 : +0.111 84.897 54.832 164.609 3,597.753 0.131
	3,818 -0.111 : +0.111 84.897 54.832 164.609 3,597.753 0.131
	ahed 3,818 -0.111 : +0.111 84.897 54.832 164.608 3,597.753 0.131 ahed 3,664 -0.119 : +0.119 51.479 54.018 92.166 3,597.451 0.146 Legend
Pair 10 No Group Finish	ahed 3,818 -0.111 : +0.111 84.897 54.832 164.609 3,597.753 0.131 ahed 3,664 -0.119 : +0.119 51.479 54.018 92.166 3,597.451 0.146 Legend Fair 1 Fair 2
Throughput	ahed 3,818 -0.111 +0.111 84.897 54.832 164.608 3,597.753 0.131 shed 3,664 -0.119 + -0.119 81.479 54.018 92.166 3,597.451 0.146
Throughput	ahed 3,818 -0.111 +0.111 84.897 54.832 164.609 3,597.753 0.131 ahed 3,664 -0.119 + -0.119 51.479 54.018 92.166 3,597.451 0.146
Pair 10 No Group Finish < Throughput 176.65 157.00	ahed 3,818 -0.111 +0.111 84.897 54.832 164.609 3,997.753 0.131 shed 3,664 -0.119 : -0.119 81.479 54.018 92.166 3,997.451 0.146
Throughput	Ahed 3,818 -0.111 + 0.111 84.897 54.832 164.609 3,597.753 0.131 Ahed 3,664 -0.119 + -0.119 51.479 54.018 92.166 3,597.451 0.146
Throughput 10 No Group Finish 176.65 157.00 137.00 137.00	ahed 3,818 -0.111 +0.111 84.897 54.832 164.609 3,997.753 0.131 shed 3,664 -0.119 : -0.119 81.479 54.018 92.166 3,997.451 0.146
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Throughput 176.65 157.00	Ahed 3,818 -0.111 + 0.111 84.897 54.832 164.609 3,597.753 0.131 Ahed 3,664 -0.119 + -0.119 51.479 54.018 92.166 3,597.451 0.146
C Fair 10 No Group Finish	Ahed 3,818 -0.111 + 0.111 84.897 54.832 164.609 3,597.753 0.131 Ahed 3,664 -0.119 + -0.119 51.479 54.018 92.166 3,597.451 0.146
Throughput 10 No Group Finish 176.65 157.00 137.00 137.00	Ahed 3,818 -0.111 + 0.111 84.897 54.832 164.609 3,597.753 0.131 Ahed 3,664 -0.119 + -0.119 51.479 54.018 92.166 3,597.451 0.146
C Fair 10 No Group Finish	Ahed 3,818 -0.111 + 0.111 84.897 54.832 164.609 3,597.753 0.131 Ahed 3,664 -0.119 + -0.119 51.479 54.018 92.166 3,597.451 0.146
Pair 10 No Group Finish C Throughput 176.65 157.00 137.00 137.00 97.00 100 57.00 100	Ahed 3,818 -0.111 + 0.111 84.897 54.832 164.609 3,597.753 0.131 Ahed 3,664 -0.119 + -0.119 51.479 54.018 92.166 3,597.451 0.146
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Throughput 176.65 157.00 137.00 77.00 57.00 57.00 10.00:00 0:00:19 1	Abed 3,618 - 0.111 e4.607 54.602 164.609 3,97.753 0.131 Abed 3,664 - 0.119 e.0.119 81.479 54.013 92.166 3,97.451 0.146
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Pairs 10 No Group Finish	Abed 3,618 - 0.111 e4.607 54.602 164.609 0,907.753 0.131 Abed 3,664 - 0.119 e.0.119 81.479 54.013 92.166 3,597.451 0.146
Pair: 10 No Group Finish Throughput 176.65 157.00 97.00 77.00 57.00 37.00 0.00 57.00 37.00 0.00 58art: 2020/12/20, 14:13:59	Abed 3,618 - 0.111 e4.607 54.602 164.609 3,97.753 0.131 Abed 3,664 - 0.119 e.0.119 81.479 54.013 92.166 3,97.451 0.146



_ink	880Mbps
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	ion Rate Response Time Raw Data Totals Endpoint Configuration
Group Pair Group	p Run Status – Timing Records 95% Confidence Average Minimum Maximum Measured Relative Completed – Interval (Mops) (Mops) – (Mops) – Time (see) Frecision
All Pairs	211, 421 680, 127 20, 070 282, 666
Pair 1 No Group	Error: CHR0200 20,046 -0.055 : 40.055 83.488 30.441 125.196 19,206.317 0.065 Error: CHR0200 21.143 -0.079 : 40.079 83.069 21.674 136.519 19.205.746 0.089
Pair 2 No Group	
🗿 — Pair 4 No Group	
 Pair 5 No Group Pair 6 No Group 	
🛄 — Pair 7 No Group	Error: CHE0200 20,657 -0.052 : +0.052 86.043 28.725 117.820 19,206.288 0.061
Pair 8 No Group	
Pair 10 No Group	
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Throughput	Legend
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303.50 290.00 260.00 230.00	
303. 50 290. 00 280. 00 230. 00 200. 00	- Pair 1 - Pair 1 - Fair 3 - Fair 3 - Fair 3 - Fair 3 - Fair 5 - Fair 5 - Fair 7
303. 50 290. 00 280. 00 230. 00 200. 00	- Pair 1 - Fair 2 - Fair 3 - F
303.50 290.00 260.00 230.00	- Pair 1 - Fair 2 - Fair 3 - F
303.50 290.00 280.00 230.00 200.00	- Pair 1 - Fair 2 - Fair 3 - Fair 3
202.50 290.00 280.00 230.00 200.00 8 170.00 140.00	- Pair 1 - Fair 2 - Fair 3 - Fair 3
202.50 290.00 280.00 230.00 200.00 8 170.00 110.00 110.00	- Pair 1 - Fair 2 - Fair 3 - Fair 3
303.50 290.00 260.00 200.00 140.00 140.00 50.00 20.00	
303.30 290.00 280.00 200.00 200.00 110.00 110.00 50.00	
302.50 290.00 280.00 200.00 110.00 50.00 50.00 0:00:00 0:33:20	
302.50 290.00 280.00 230.00 230.00 210.00 140.00 140.00 100.00 200.00 200.00 200.00 140.00 100.00 200.00 0:00:00 0:00:00 0:00:00 0:00:00 0:00:00 0:00:00 0:00:00 20:00 0:00:00 0:00:00 0:00:00 0:00:00 0:00:00 0:00:00 0:00:00	



ACCESSORY	
AP	1
LAN Cable	1
Mounting Accessories	1
Gift Box	1

Supported Controllers	DG-WU2001 / DG-WU2003 / DG-WU2004 / DG-WU2008 / DG-WU3000
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Ordering Information:-

DG-WM820AX : DIGISOL Wi-Fi6 11ax 1800Mbps Ceiling Wireless AP

*Warranty shall be subject to terms and conditions specified in the DIGISOL PRODUCT WARRANTY displayed on the website of the company.

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