DIGISOL Wi-Fi6 11ax 1800Mbps Ceiling Wireless AP

DG-WM820AX

3 YEARS WARRANTY*

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.
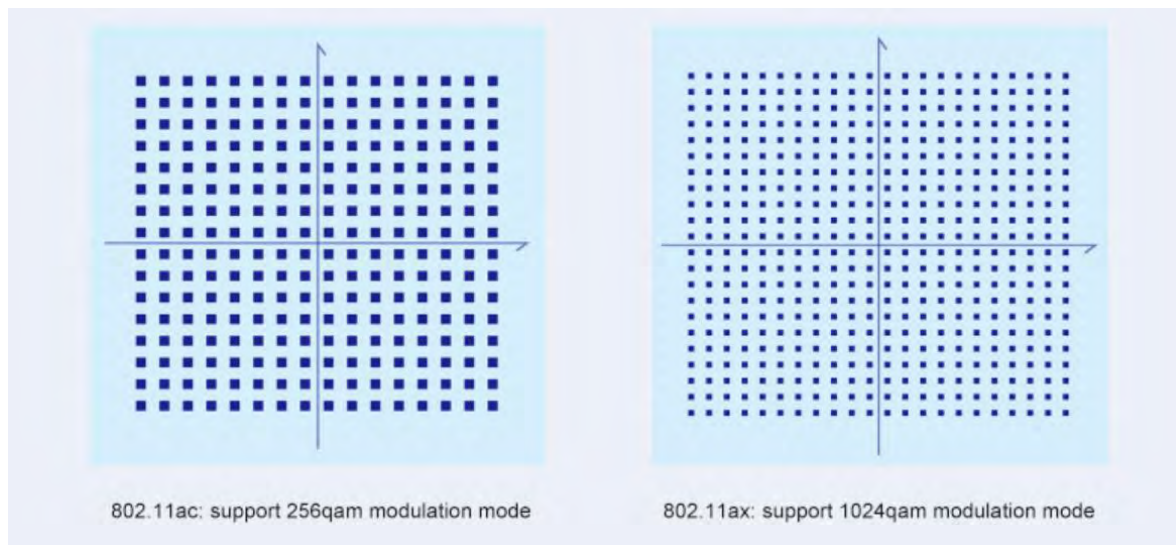
| 802.11ax: | 1024-QAM, Long OFDM Symbol, Max 160MHz bandwidth |
| 802.11ac: | 256-QAM |

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%.


802.11ac: support 256qam modulation mode

802.11ax: support 1024qam modulation mode

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.
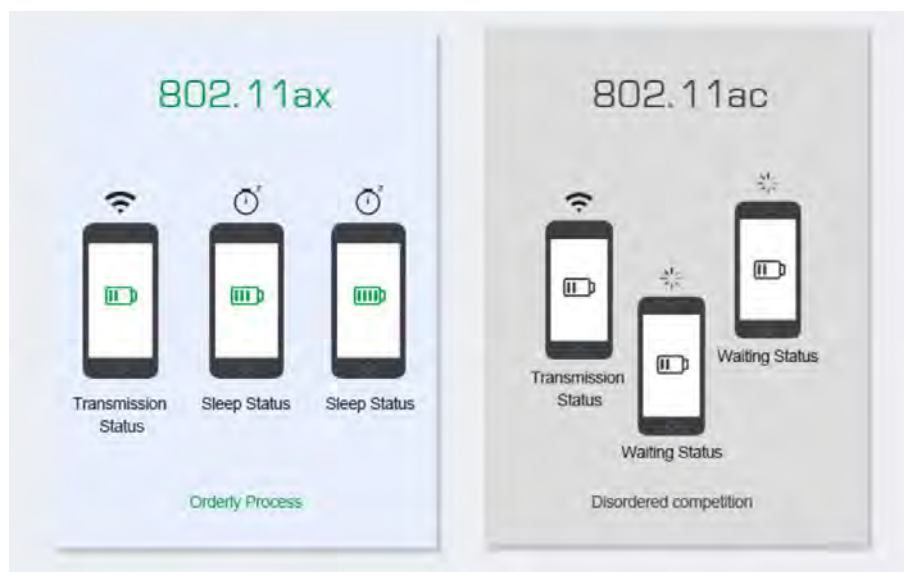
Coverage Improvement. 802.11ax support long OFDM symbol transmission mechanism and 2MHz narrowband transmission, effectively reduced the packet loss rate and noise interference, improve the receive sensitivity and increase the Wi-Fi coverage.
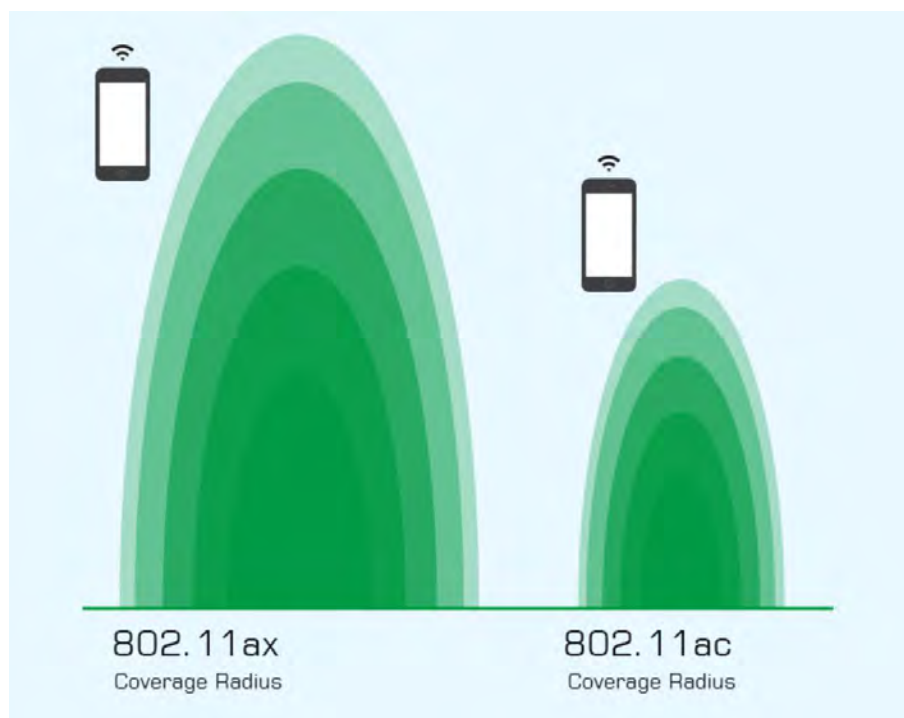
Improvement of Anti-Interference Ability. 802.11ax support BSS color bit and dynamic CCA-SD (Clear Channel Assessment Signal Detection) threshold and power adjustment, effectively alleviates the channel interference in multi-users scenarios, improve the utilization of spectrum resources.

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	12V----1.5A
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
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
Protocols	IPv4

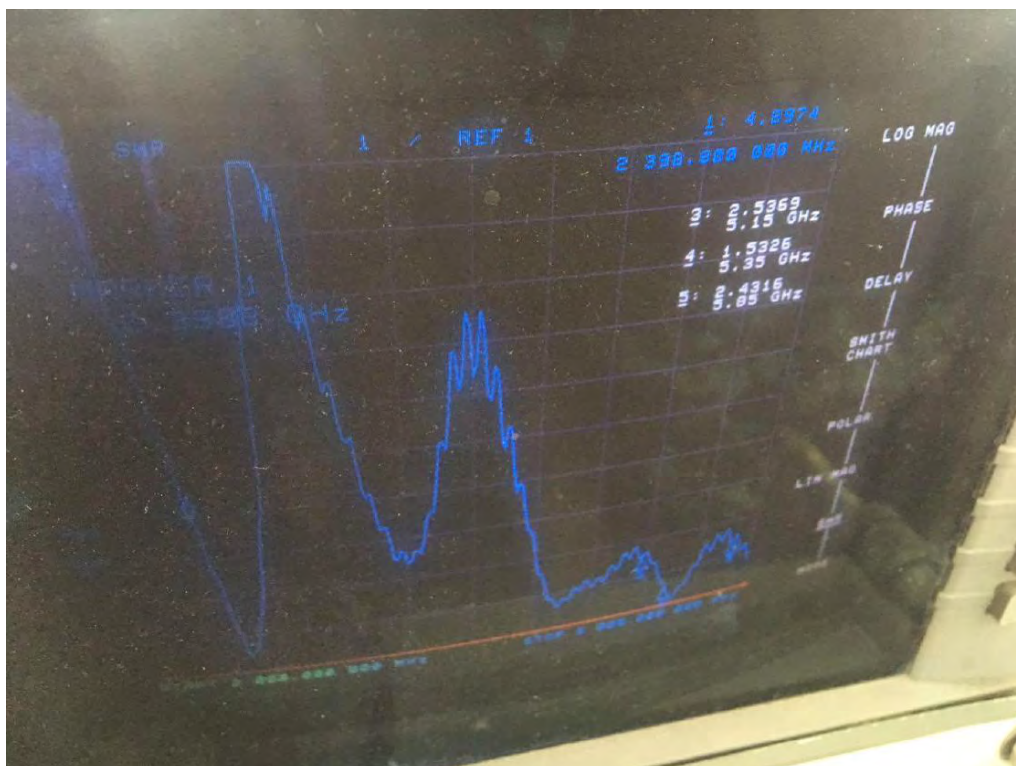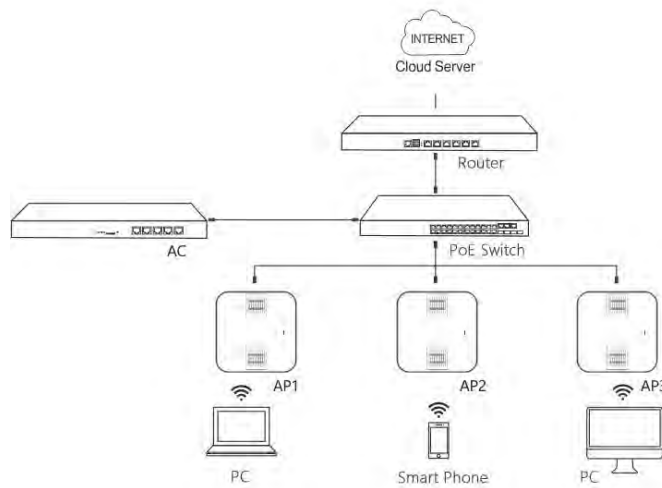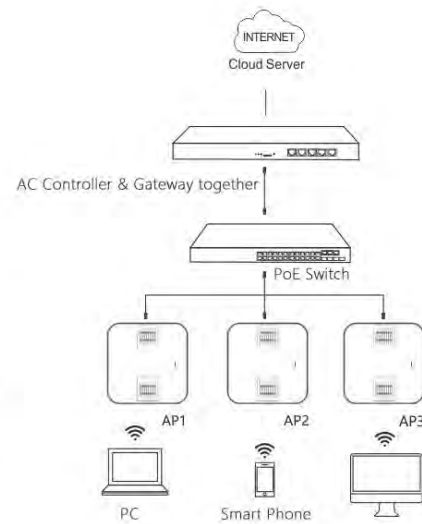| ANTENNA SPECIFICATIONS	
Frequency Range	2.4GHz, 2.5GHz
Impedance	50 Ohms nominal
Gain	4dBi
Radiation	Omni
Polarization	Vertical

ANTENNA SPECIFICATIONS
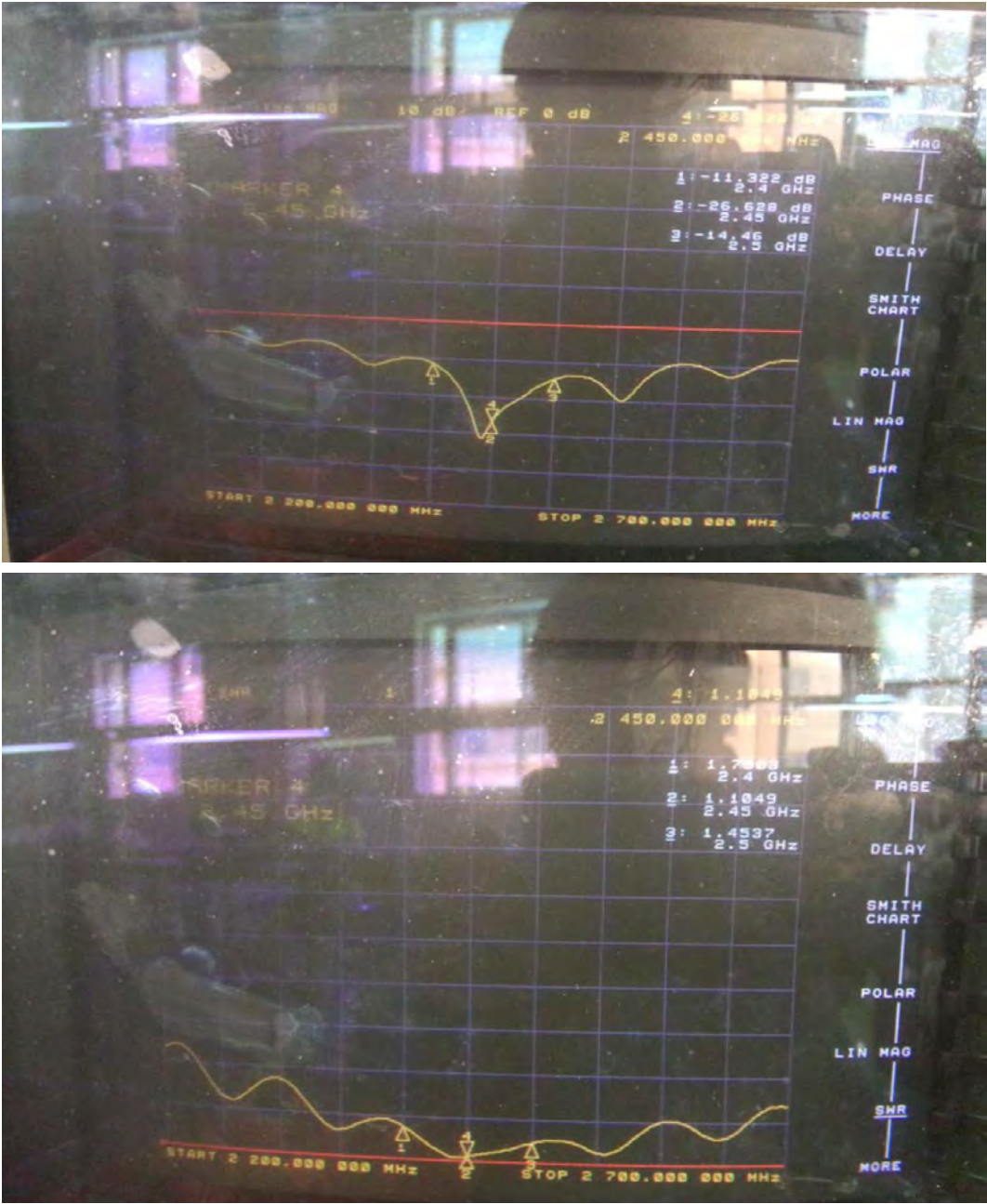
Return Loss/VSWR	

Frequency Range	5.15GHz, 5.85GHz
Impedance	50 Ohms nominal
Gain	4dBi
Radiation	Omni
Polarization	Vertical

ANTENNA SPECIFICATIONS

Return Loss/VSWR

APPLICATION

Connection Diagram 1

Connection Diagram 2

THROUGHPUT TESTING

Mode	11AX HT40 (2.4G)
Upload Link	397Mbps
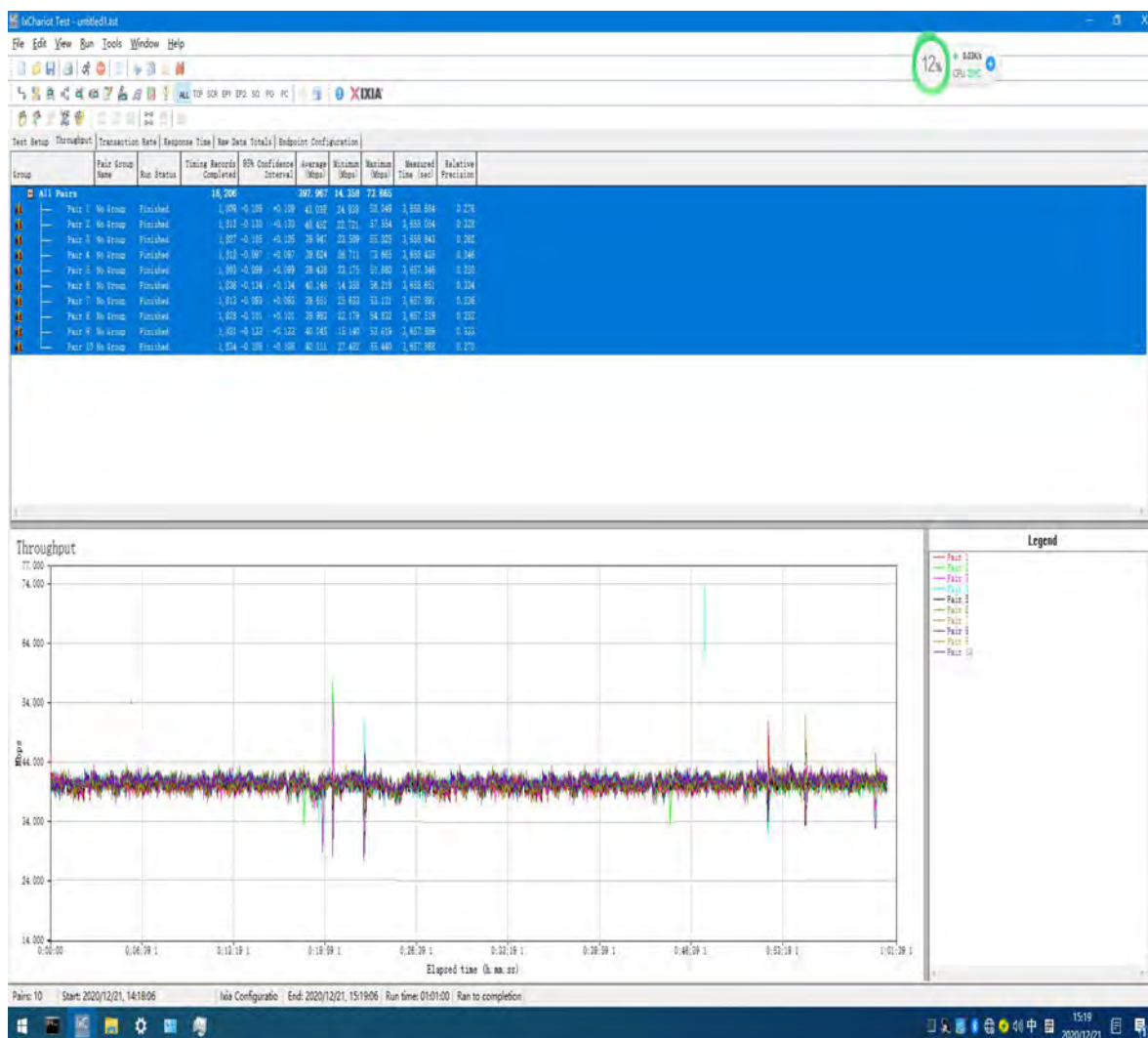
THROUGHPUT TESTING

Upload Link	412Mbps

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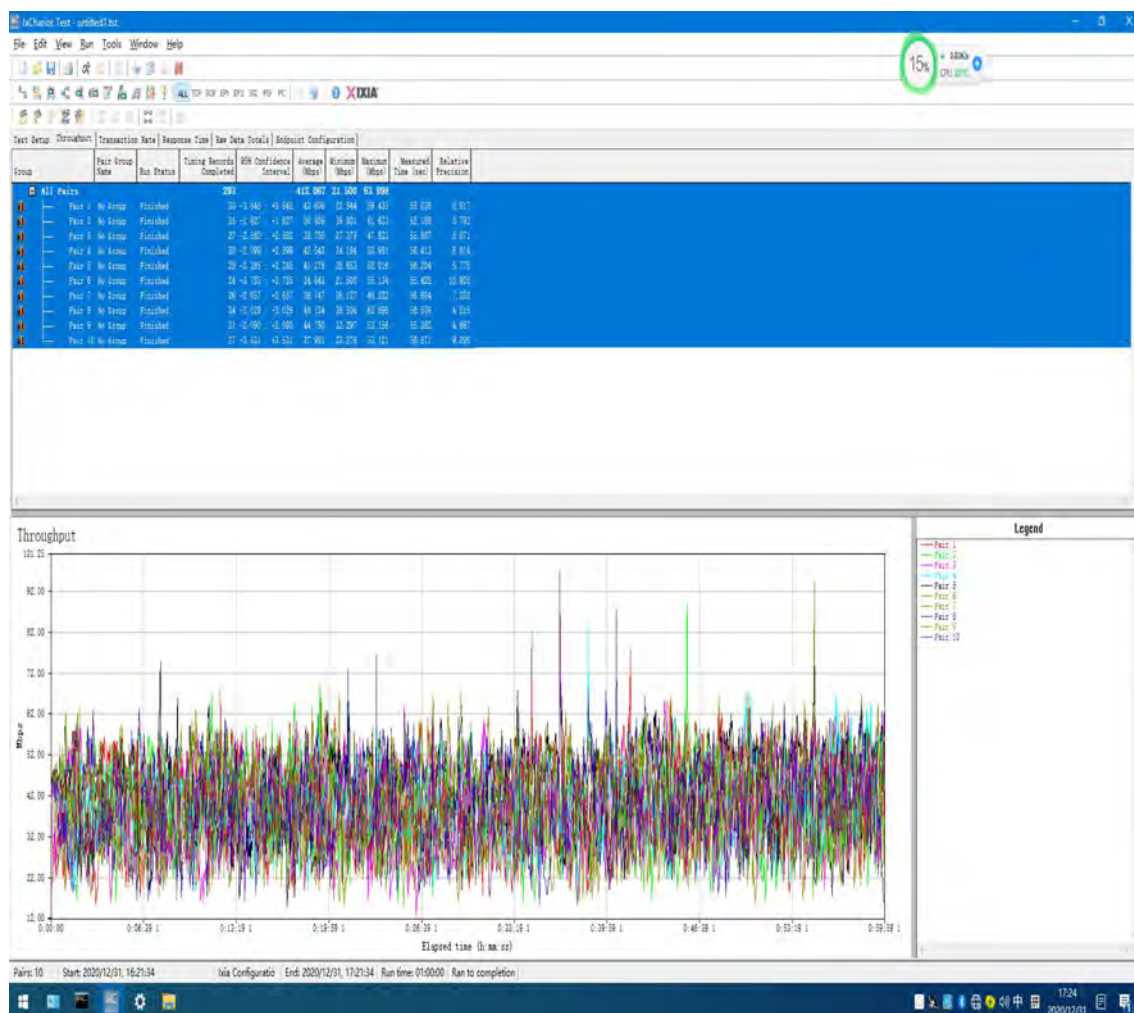
THROUGHPUT TESTING

Mode	11AX HT40 (5.8G)
Upload Link	828Mbps
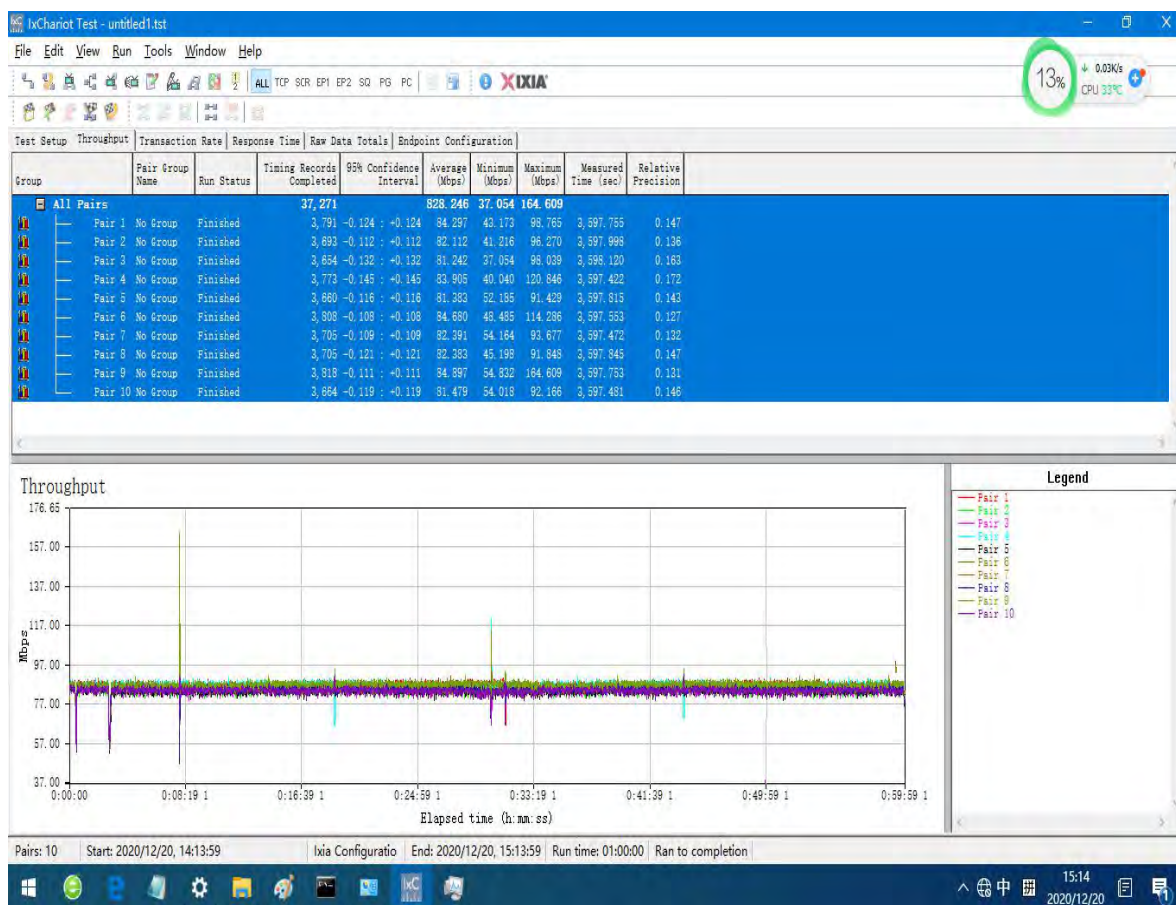
THROUGHPUT TESTING

Upload Link	880Mbps
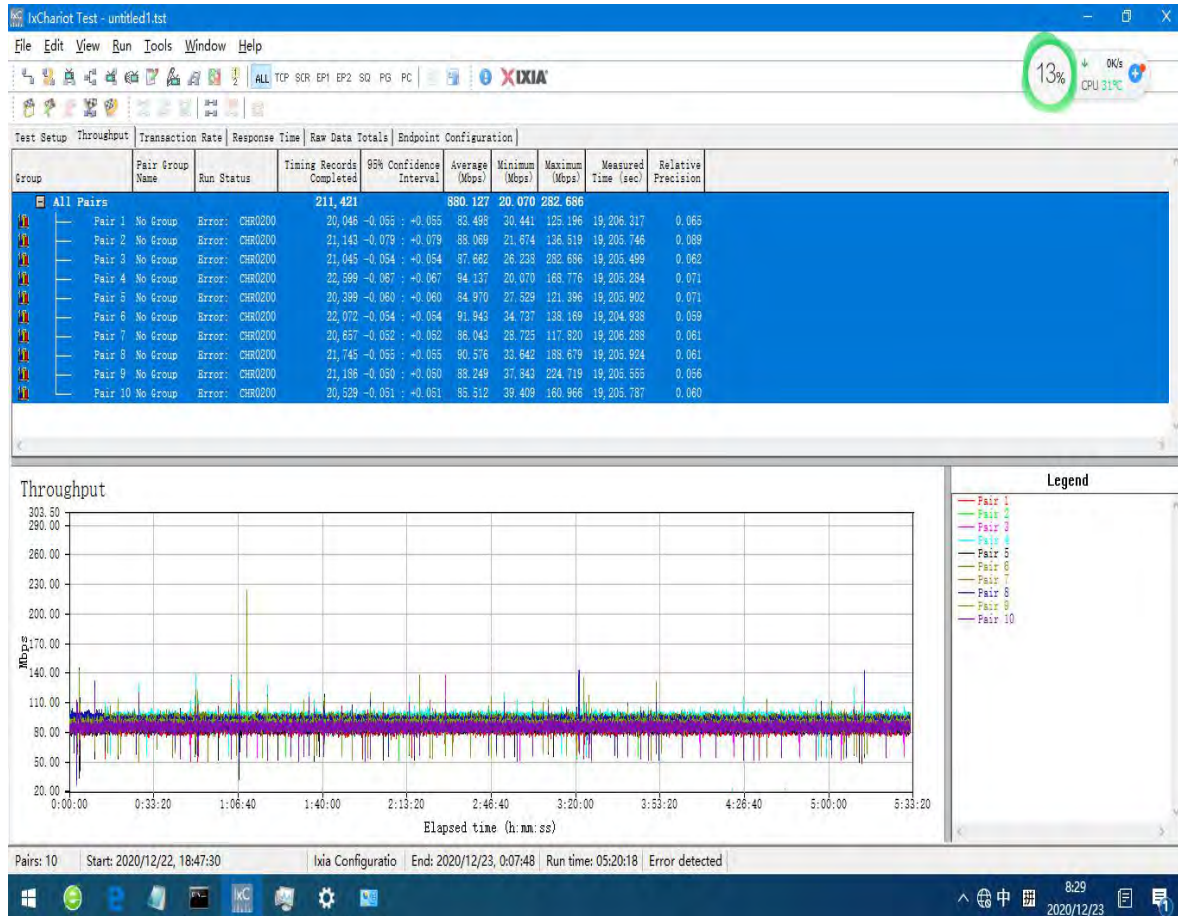
ACCESSORY	
AP	1
LAN Cable	1
Mounting Accessories	1
Gift Box	1

Supported Controllers	DG-WU2001 / DG-WU2003 / DG-WU2004 / DG-WU2008 / DG-WU3000

Ordering Information:-

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

RESET WAN/ PoE DC LAN LED

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