



WAX638E

## Next Gen 6GHz Tri-Band WiFi 6E Access Point for the Commercial and Residential Integrators

The WAX638E expands the NETGEAR Insight Cloud managed access point products to offer a next generation tri-band access point that includes a new and ultra wide, ultra fast WiFi frequency band. The WAX638E is a 2.4GHz, 5GHz and 6GHz tri-band design delivering up-to 7.8Gbps total WiFi throughput, supported by a 2.5Gbps Power-over-Ethernet and a 1Gbps Ethernet ports, and industry leader of technology innovation and performance in its product class.

The WAX638E enables industry's next generation WiFi standard, WiFi 6 Release 2, or WiFi 6E, operating on 6GHz band, delivering unprecedented data throughput speed and available channels for WiFi connectivity with smartphones, IoTs, and computers.

The new 6GHz band provides up to 3.5 times more channels for WiFi communication, enabling the WAX638E to deliver faster speed, handling more client devices in a significantly less congested environment.

WiFi 6 Release 1 operates only in 2.4GHz and 5GHz bands, with 80MHz channelization in the 5GHz band. By contrast, WiFi 6 Release 2, or WiFi 6E, operates in 2.4GHz, 5GHz, and 6GHz bands, with 160MHz channelization in the 5GHz and 6GHz bands. By enabling the 160MHz channels, the WAX630E delivers 100% more speed in the 5GHz band than WiFi 6 Release 1 access points.

The WAX638E is ideal in high density client device environments such as schools, hotels, restaurants and conference centers, and provides enterprise grade WiFi network security. With Insight management, WAX638E works seamlessly with your current NETGEAR Insight managed switches, WiFi access points and network storage, and is compatible with previous generation WiFi devices (WiFi 5 802.11ac for example) and WiFi access points. Enjoy a 4-year Insight subscription plus 4 years of ProSUPPORT, a 24/7 live expert technical support by phone, chat and email.

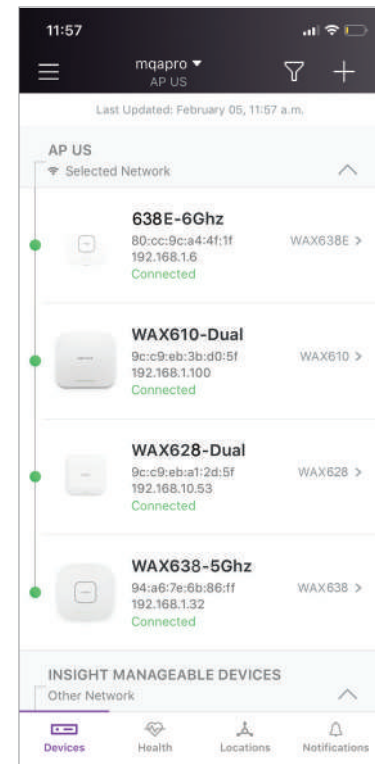
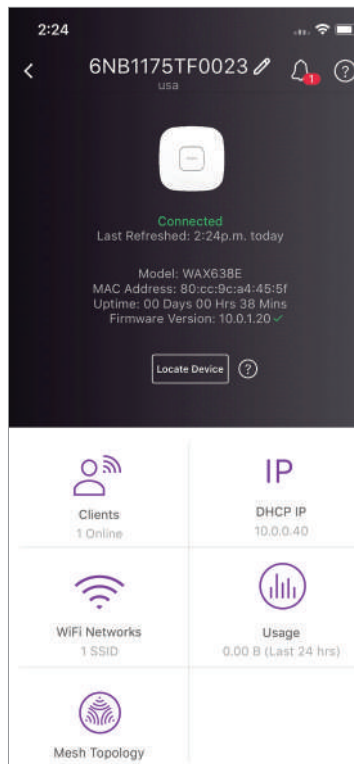
With the updated WiFi 6 (802.11ax) and WiFi 6E (802.11ax) technology such as OFDMA, upstream and downstream MU-MIMO, and increased speeds, coverage, and capacity, you can feel confident that you're getting the highest performance WiFi that's set for years to come! Plus the assurance that you can now add more connected devices on your WiFi network without any slowdowns or blind spots.

The WAX638E, a WiFi 6E access point, combined with Insight, helps integrators with a way to remotely manage their client's network, providing seamless WiFi connection and satisfied client experiences. NETGEAR empowers integrators with an all new WiFi 6E access point for high performance and high coverage for the years to come.

The WAX638E is compatible with other Pro WiFi Insight managed access points to form a scalable wireless network.

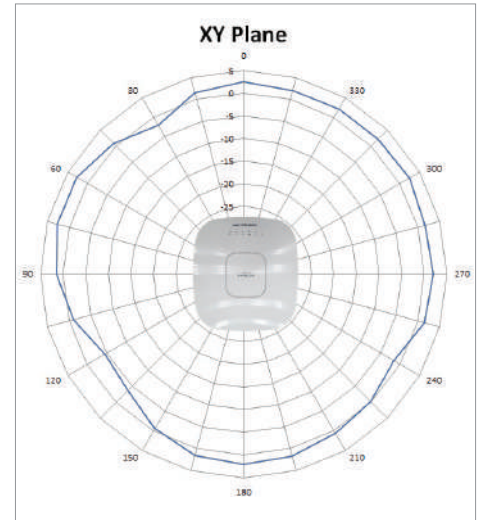
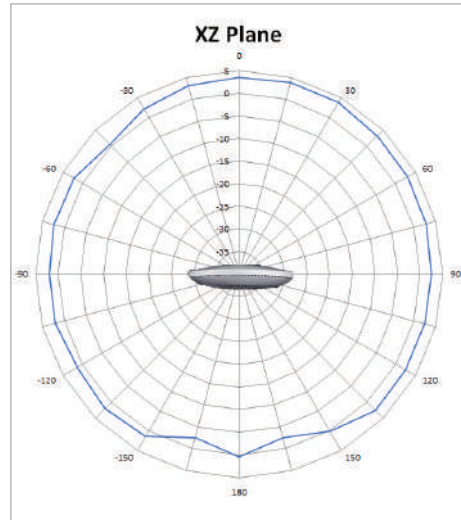
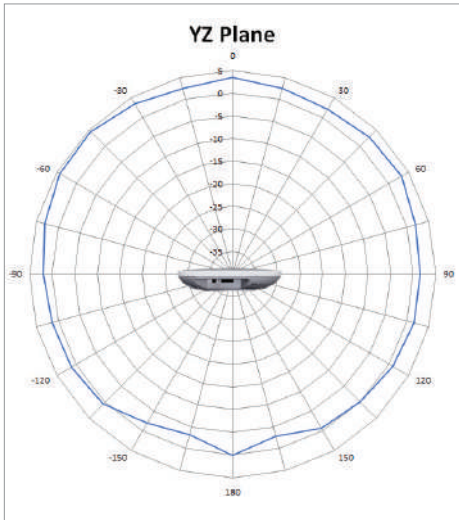
## Supercharged performance and unbeatable security for WiFi integration projects

- Business class WiFi based on next generation 802.11ax WiFi 6 technology on 6.0GHz, 5.0GHz and 2.4GHz bands. (Backward compatible to 802.11b/g/n/a/ac)
- Support 160MHz channelization in both 5GHz and 6GHz to deliver 200% throughput compared to previous generation
- Tri-band, 2.4GHz, 5.0GHz, 6.0GHz, 8 streams of data for an aggregate throughput of up to 7.8Gbps
- Instant WiFi Mesh forming wireless backhaul with other Pro WiFi Insight managed access points to form a WiFi mesh network
- 100% more throughput in 4-stream 5.0GHz band compared to previous generation
- 4 times more client device supported
- Enterprise security and Enhanced Open security, such as WPA3, WPA2 Enterprise, WPA3 Enterprise, 8x SSID, Dynamic VLAN and VLAN
- Basic Service Set Coloring (BSS Coloring) enabling significant improvement in radio frequency channel efficiency and reduction of interference
- Orthogonal Frequency Division Multiple Access (OFDMA) allowing simultaneous services to multiple devices in the same channel thus improving bandwidth efficiency and reducing latency
- 2.5GbE port, backward compatible with 100/1000Mbps Ethernet, supported by NETGEAR [MS510TXUP](#) and other multi-gig Ethernet switches
- One additional 1GbE port for network redundancy or link aggregation to enhance reliability or throughput
- Target Wake Time (TWT) allows more efficient power usage resulting in longer battery life in WiFi 6 client devices
- Beamforming+; Advanced 6th generation WiFi technology such as up and downstream MU-MIMO
- One 802.3bt 2.5Gbps PoE port. Remote management and monitoring from NETGEAR Insight app or Cloud portal for unrivaled management experience of your wireless network.
- App managed. Faster installation through NETGEAR Insight app or Cloud portal. No additional hardware needed.
- Market leading 5-year warranty with 24/7 chat support for peace of mind

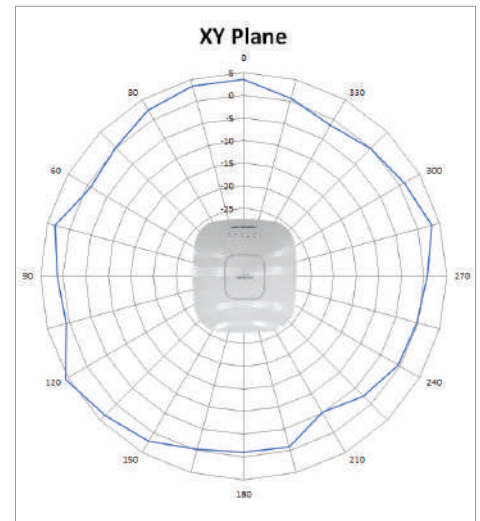
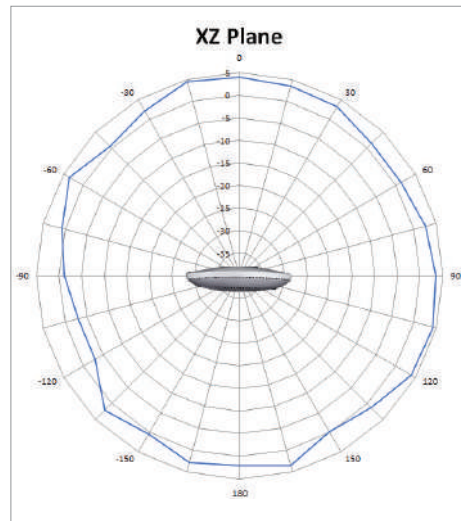
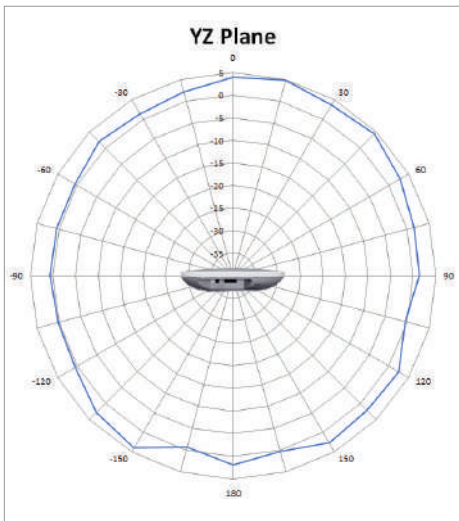


## Radio Patterns for WAX638E

### Radio Pattern for 2.4GHz

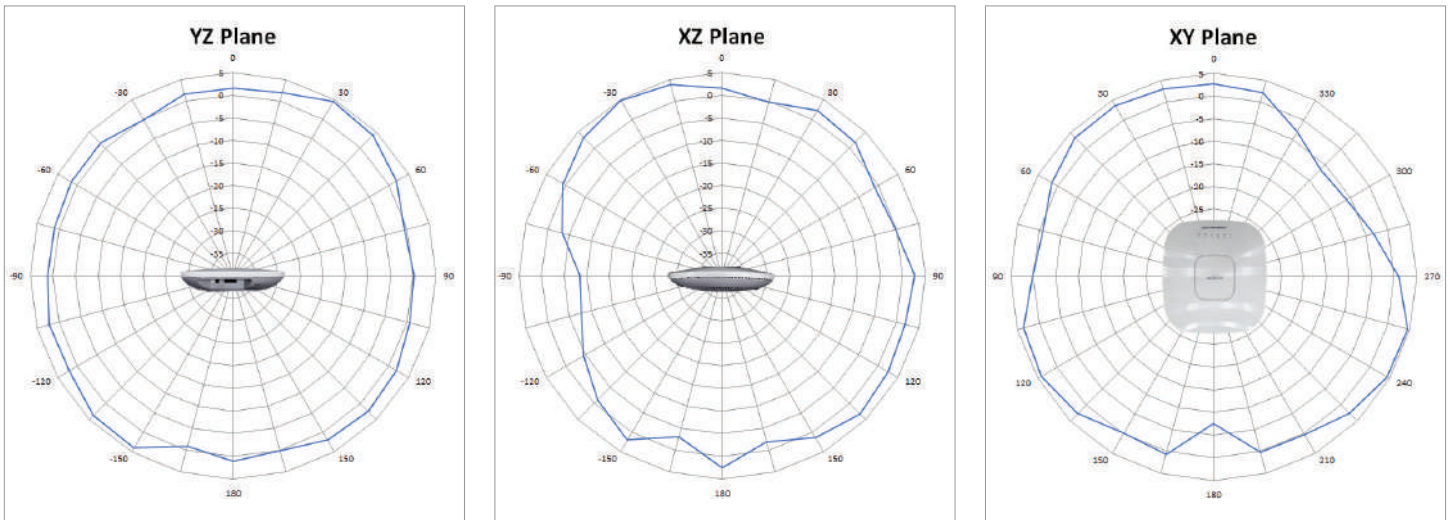


### Radio Pattern for 5GHz



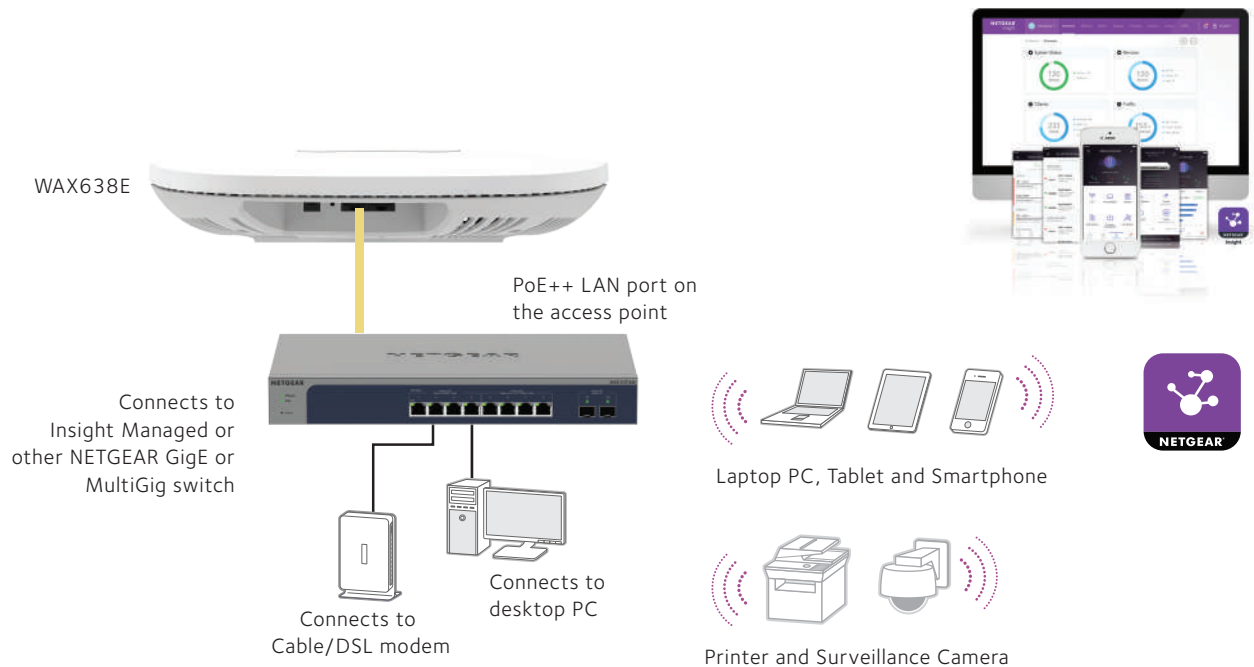
## Radio Patterns for WAX638E

### Radio Pattern for 6GHz



## Example Application

### WAX638E Deployment Scenario



## Product Comparison

Product Comparison	WAX628	WAX638E
WiFi Standards	5.0GHz: 802.11a/n/ac/ax 2.4GHz: 802.11b/g/n/ax	6.0GHz: 802.11ax 5.0GHz: 802.11a/n/ac/ax 2.4GHz: 802.11b/g/n/ax
Wireless Mode (Transmit x Receive)	4x4 in 5.0GHz 2x2 in 2.4GHz	2x2 in 6.0GHz 4x4 in 5.0GHz 2x2 in 2.4GHz
Channelization	5GHz: 20/40/80 /160MHz 2.4GHz: 20/40MHz	5GHz: 20/40/80/160MHz 6GHz: 20/40/80/160MHz 2.4GHz: 20/40MHz
OFDM/OFDMA	OFDM and OFDMA	OFDM and OFDMA
BSS Coloring	Yes	Yes
Multi-User MIMO	Bi-dir MU-MIMO	Bi-dir MU-MIMO
Target Wake Time (TWT)	Yes	Yes
Maximum Theoretical Throughput	AX5400 5.4Gbps	AXE7800 7.8Gbps
Maximum Theoretical Throughput per Band	5.0GHz: 4800Mbps 2.4GHz: 600Mbps	6.0GHz: 2400Mbps 5.0GHz: 4800Mbps 2.4GHz: 600Mbps
Antenna Gain	Internal 2.5/3.0 dBi (2.4GHz/5GHz)	Internal 4.4/6.3/3.1 dBi (2.4GHz/5GHz/6GHz)
Power over Ethernet (PoE)	802.3at/af	802.3bt/at
Coverage	3,000 sq.ft. (275m <sup>2</sup> )	3,000 sq.ft. (275m <sup>2</sup> )
PoE Power Consumption	21.2W	27.64W
Centralized Management	Insight App	Insight App
Secure Socket Layer (SSL)	Yes	Yes
<b>Wireless Distribution System (WDS)</b>		
Repeater	Yes	Yes
Bridge Point-to-point/Multi-point	Yes	Yes
Simultaneous Bridge and Wireless Client Association	Yes	Yes
<b>Security</b>		
WiFi Protected Access (WPA/WPA2 WPA3), 802.11i	Yes	Yes
MAC address filtering with access control	Yes	Yes
802.1x RADIUS support with EAP TLS, TTLS, PEAP	Yes	Yes
Neighbor AP detection	Yes	Yes
Block SSID Broadcast	Yes	Yes
VLAN Support	Yes	Yes
Guest Network/Captive Portal	Yes	Yes
Bandwidth management	Yes	Yes
Link Layer Discovery Protocol	Yes	Yes
Bandsteering	Yes	Yes
<b>Instant WiFi Mesh</b>		
Wireless backhaul to form Mesh Network	Yes	Yes

## Technical Specifications

Standards	WAX628	WAX638E
IEEE 802.11ax WiFi 6 standard	Yes	Yes
WMM Wireless Multimedia Prioritization	Yes	Yes
WDS Wireless Distribution System	Yes	Yes
Power over Ethernet (PoE) IEEE 802.3af	Yes, approximately 60% of full throughput performance	No
Power over Ethernet (PoE) IEEE 802.3at	Yes	Yes, max throughput will reduce by 50% on 2.4GHz
Power over Ethernet (PoE) IEEE 802.3bt	Yes	Yes
OFDM/OFDMA	Yes	Yes
<b>Physical Specifications</b>		
Dimensions W x D x H	241.2 x 239.6 x 51.4 mm (9.5 x 9.4 x 2.0 in)	266.6 x 268.3 x 55.5 mm (10.49 x 10.56 x 2.18 in)
Weight	819g (1.80lb)	1050 g (2.31 lb)
<b>Environmental Specifications</b>		
Operating temperature	0° to 40°C (32° to 104°F)	0° to 40°C (32° to 104°F)
<b>Physical Interfaces</b>		
Interface	One 100/1000/2.5GBASE-T Gigabit Ethernet (RJ-45) ports with Auto Uplink™ (Auto MDI-X) supporting IEEE 802.3af or 802.3at Power over Ethernet (PoE) One 100/1000GBASE-T Gigabit Ethernet (RJ-45) port	One 100/1000/2.5G (IEEE 802.3at or 802.3bt doesn't support IEEE 802.3af) One 100/1000M Ethernet
Power adapter (not included)	12V DC, 2.5A; plug is localized to country of sale	12V DC, 3.5A; plug is localized to country of sale
LED	Five (5): Power and cloud connection; Two (2) LAN ports: 2.4GHz status, 5.0GHz status	One (1): Power and cloud connection; Two (2): LAN ports; Three (3): Radio (2.4GHz, 5GHz, 6GHz)
<b>Security</b>		
WiFi Protected Access® (WPA, WPA2, WPA3)	Yes	Yes
WPA2 and WPA3 Enterprise	Yes	Yes
Wireless access control to identify authorized wireless network devices	Yes	Yes
MAC address authentication	Yes	Yes
<b>Network Management</b>		
NETGEAR Insight App	App management for setup, monitoring and management	
<b>Advanced Wireless</b>		
Wireless Distribution System (WDS)	Bridge mode: Point-to-point wireless Bridge mode: Point-to-multipoint wireless Repeater mode Adjustable Transmit Power Control (TPC) Device detection Identify type of wireless clients in the network	

## Technical Specifications

<b>Package Contents</b>		<b>WAX638E</b>
		WAX638E Insight managed wireless access point Wall/ceiling mount kit Installation guide
<b>Warranty and Support</b>		
Hardware Limited Warranty		5 years
Next-Business-Day (NBD) Replacement		5 years
Technical support (online, phone)		90 days free from date of purchase*
ProSUPPORT OnCall 24x7 Service Packs (This NETGEAR product comes with 4 years of Insight remote management subscription and 4 years of our ProSupport OnCall 24x7 Service Pack.**)		PMB0312-10000S, 1 year PMB0332-10000S, 3 years PMB0352-10000S, 5 years
<b>Ordering Information</b>		
WAX638E-100EUS		Europe and Asia Pacific
WAX638E-111NAS		US

\*This product comes with a limited warranty that is valid only if purchased from a NETGEAR authorized reseller, and covers unmodified hardware, fans and internal power supplies – not software or external power supplies, and requires product registration using the Insight mobile app or Insight Cloud portal within 90 days of purchase; see <https://www.netgear.com/about/warranty> for details. Intended for indoor use only.

\*\*The NETGEAR OnCall 24x7 contract provides unlimited phone, chat and email technical support for your networking product.

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