Anywhere

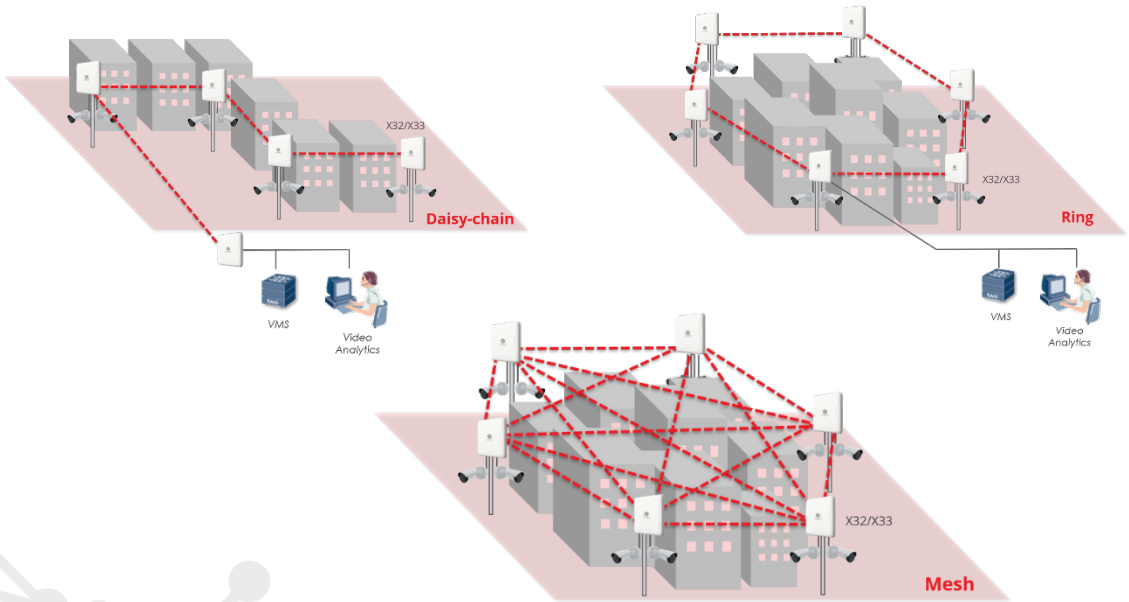
X33 Anywhere Network Node

X33 Anywhere Network Node is an industrial-grade 5 GHz tri-radio wireless backhaul unit designed for flexible and expandable deployments regardless of physical constraints. Our Connectivity Technology breaks the traditional hopping limitation of wireless networks by tackling the multi-hop bandwidth degradation, enable X33 to extend connectivity to the locations where extensive fiber optic cabling is unfeasible due to a tight timescale. With the built-in selectable hardware RF filter, it provides interference isolation for delivering the highest end-to-end network throughput.

Anywhere Networks' not only provides absolute security through 128-bit AES link encryption and 256-bit AES end-to-end encryption but also optimizes client traffic management with the flow-based encapsulation. Packets are encrypted and encapsulated starting from the entrance point of the mesh, through travelling the tunnels, then decapsulated and decrypted at the exit points of the mesh. The intermediate nodes act as flow switching nodes without looking into the payloads but based on the encapsulation header to route to the destination. In this approach, we provide enhanced security, capacity and greater transparency at higher level applications.

Ultra high throughput wireless surveillance backhauling applications	Over 20 hops backhauling with deployment flexibility	Industrial-grade hardware design
•Up to 1,000 Mbps throughput •802.3af PoE output port	•Selectable hardware RF filter •2×5 GHz radio •1x2.4/5 GHz radio	•IP 67 weatherproof •6kV surge protection

Deployment Architecture



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Specifications

Wireless			
Operating Frequency[1]	2.400 - 2.4835 GHz; 4.940 - 4.990 GHz 5.150 - 5.350 GHz; 5.470 - 5.850 GHz		
Modulation	OFDM: BPSK, QPSK,16QAM, 64QAM,256QAM DSSS: DBPSK, DQPSK, CCK		
No. of Spatial Stream	2×2: 2 MIMO		
Channel Bandwidth[1]	20/40/80/160[2] MHz Channel		
Data Rate	173 Mbps (20MHz); 400 Mbps (40 MHz); 867 Mbps (80 MHz); 1733 Mbps (160 MHz)		
Receive Sensitivity	Radio 0/1	-87 dBm (20 MHz); -84 dBm (40 MHz); -81 dBm (80 MHz); -78 dBm (160 MHz)	
	Radio 2	-91 dBm (20 MHz); -88 dBm (40 MHz); -85 dBm (80 MHz); -82 dBm (160 MHz and 80+80 MHz)	
Transmit Power[1]	Radio 0/1	5 GHz, 21 dBm (Max.)	
	Radio 2	2.4/5 GHz, 23 dBm (Max.)	
Features	Interference mitigation by selectable RF filter, Spectrum Analyzer		
Antenna			
Connected To	Radio 0	Radio 1	Radio 2
Type	Built-in 5 GHz	External 5 GHz	External 2.4/5 GHz
Gain	20 dBi	Optional Antennas: 5 GHz 19 dBi 2×N-female Panel, More Options on Request	Optional Antennas: 2.4/5 GHz 5/7 dBi Dual-band N-male Omni; 5 GHz 19 dBi 2×N-female Panel, More Options on Request
Polarization	Vertical & Horizontal		
Horizontal Beamwidth	17˚		
Vertical Beamwidth	17˚		
VSWR	1.8 (Max.)		
Front-to-back Radio	-30 dB (Min.)		
Isolation	35 dB (Min.)		
Network			
Topology	Point-to-Point (PtP), Point-to-Multipoint (PtMP), Daisy-chain, Ring, and Mesh		
Redundancy	Flow-based routing, Multiple Drop-off Point, Bonded Link		
Mobility	Mobile Mode and Static Mode		
Path Selection	Bandwidth-based metrics load balancing		
Traffic Optimization	BUM Traffic Management		
Features	End-to-End Layer 2 Transparent, VLAN 802.11Q pass-through		

Security	
Link Encryption	128-bit AES
End-to-end Encryption	256-bit AES
Client MAC Access Control	Whitelist[2], Blacklist
Neighbor MAC Access Control	Whitelist, Blacklist
Management	
User Interface	Anywhere Node Manager (A-NM) for A-OS
Support	Remote Firmware Upgrade, SNMP v1/v2c[2], MIB support[2]
Hardware	
No. of Radio	2×5 GHz Radio, 1×2.4/5 GHz Radio
Network Interface	1xGE & PoE Input Port; 1xGE & PoE Output Port (802.3af)
LED	PWR; ETH0; ETH1; PD; RADIO 0; RADIO 1; RADIO 2
Power Supply	Proprietary High Power PoE Injector (60W)
Power Consumption	38 W (Max.)
Antenna Movement	±30° Up/Down-tilt
MTBF	350,000 hours (50˚C)
Physical Characteristics	
Dimensions	305×305×111 mm (w/ Bracket, w/o Mounting)
Weight	3.5 kg (Net w/o Mounting); 4.5 kg (Net w/ Mounting); 5.4 kg (Gross)
Mounting	Pole (ø30 to ø60 mm) and Wall Mounting
Environmental	
Temperature	-40˚C to 65˚C (Operating)
Humidity	5% to 95 % Non-condensing
Elevations	86 to 106 kPa
Wind Loading	256 km/h (Max.)
Weatherproof	IP67, 6 kV Common Mode Surge Protection
Certification	
FCC, CE, RCM, OFCA	
Standard Warranty	
First year free limited hardware warranty and firmware upgrade. The 1/3/5-year extended warranties are available under specific purchase terms and conditions.	
Ordering Information	
Part Number	GE.AP-X330-00
Description	X33 Anywhere Network Node

[1]operating frequency, transmit power and channel bandwidth vary by country/region settings
[2]available in the future updates

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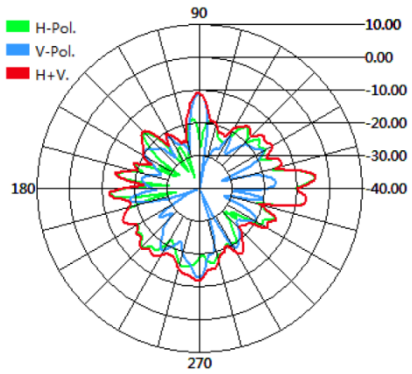
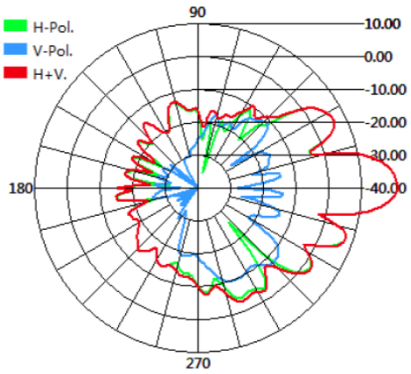
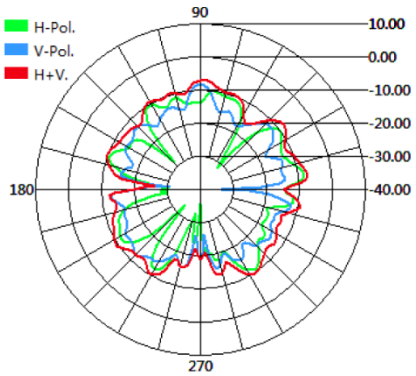
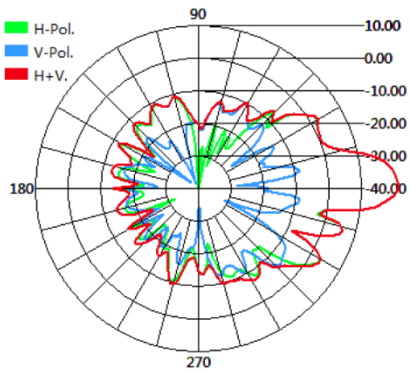
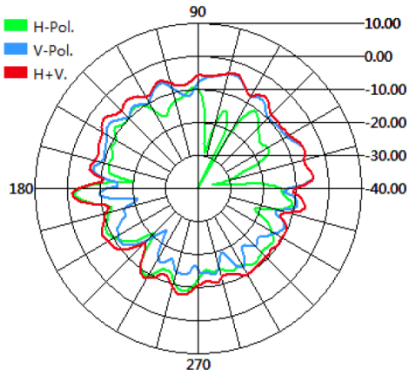
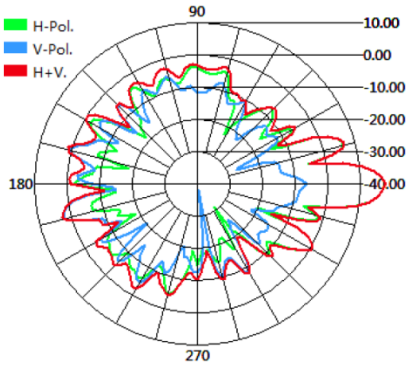
Antenna Patterns for Built-in 5GHz 20dBi 2×2 Panel Antenna

Vertical Polarization, 5.15 GHz	
XY-plane	XZ-plane
	
Vertical Polarization, 5.50 GHz	
XY-plane	XZ-plane
	
Vertical Polarization, 5.85 GHz	
XY-plane	XZ-plane
	

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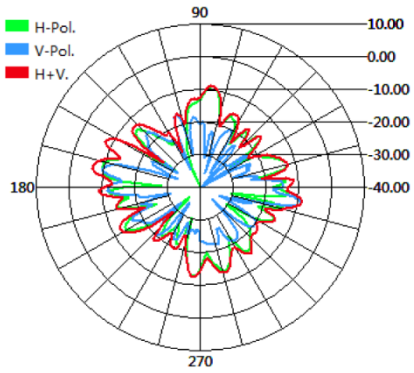
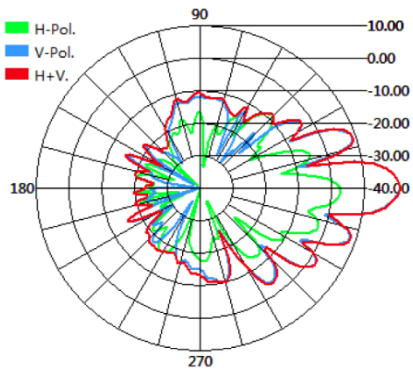
Horizontal Polarization, 5.15 GHz	
XY-plane	XZ-plane
	
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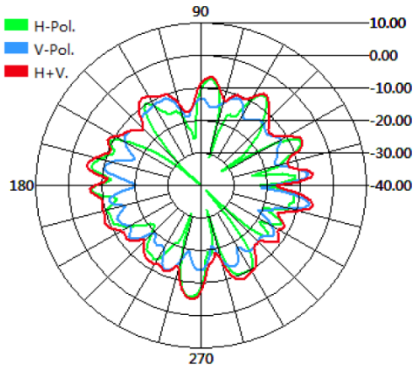	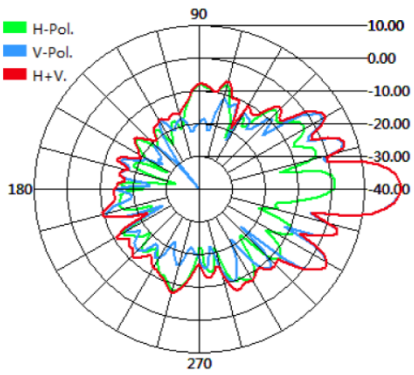
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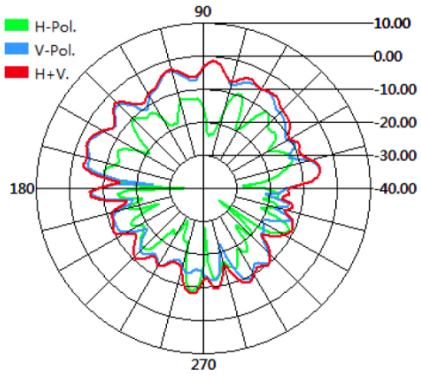	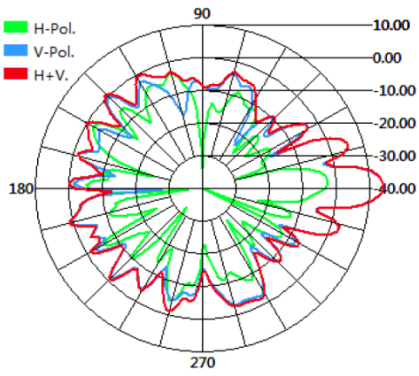

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