

戶外寬頻無線基地台

EOC系列



高效能戶外連接解決方案

EnGenius 戶外寬頻 EOC 系列是針對 ISP 和智慧城市設計的高效能戶外點對點 (PtP) 與點對多點 (PtMP) 連接方案。該系列配備雙 5GHz 電台，提供卓越的數據傳輸速度，可在密集的 RF 環境下達到高達 2.4 Gbps 的速度，無論是點對點還是點對多點應用均表現出色。

簡化設定與配置

EnGenius EOC 系列包含一個專用的 2.4 GHz 電台，並搭配用戶友好的行動應用程式，簡化點對點和點對多點連結的設定與配置。這種一體化設計使得天線校準及故障排查變得更為簡便，即使在地理位置複雜的環境中也能迅速、輕鬆完成安裝。

GPS 整合優化網路管理*

配備內建 GPS 的 EOC 系列，能夠確保設備精確放置及有效的網路繪圖，這對於點對點/點對多點設置至關重要。它透過自動發現功能，協助資產管理並使網路整合更加流暢。

堅固設計與高級安全性

為嚴苛的戶外環境而設計的 EOC 系列，具有 IP67 等級的環境抗性，並包含用於偵測電源失效的 Dying Gasp 模組。此系統高度重視安全，採用 AES-256 加密技術，確保通訊的安全與可靠。SkyPoint NMS 提供全面的網頁式監控和管理功能，同時，自動配置功能支持高效的大規模部署。

智能性能管理

憑藉先進的 RF 和服務品質 (QoS) 管理技術，EnGenius EOC 系列可靈活適應各種環境條件，確保為多樣化的 ISP 服務提供最佳性能。這款產品完美融合了高性能、簡化安裝及堅固安全性，是點對點及點對多點應用中先進無線連接的理想選擇。

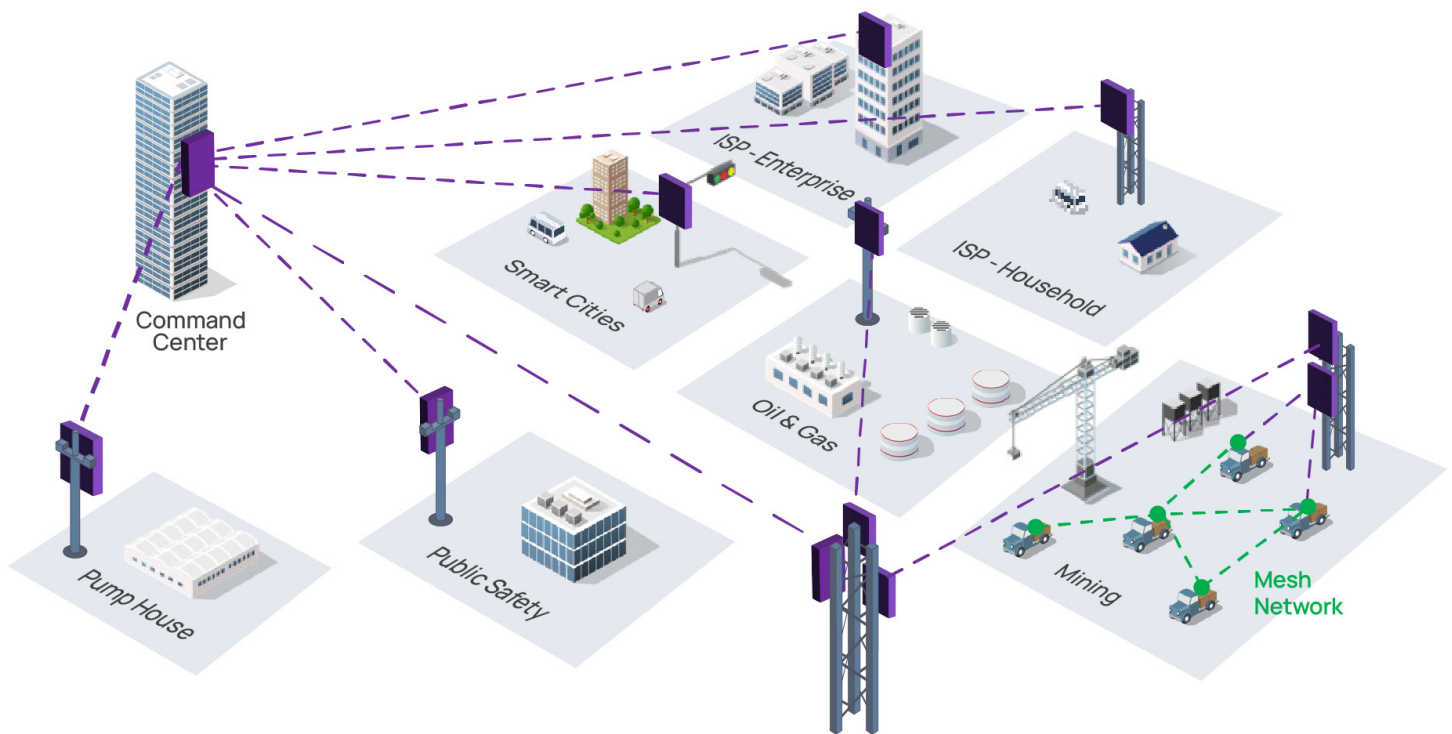
*部分功能僅適用於特定型號

功能介紹

- **MAC 協定***: 專為戶外密集 RF 環境設計的專屬點對點及點對多點 調度協定。
- **高效 5GHz 頻段**: 高鏈路容量適用於雙部門和中繼器模式的 PtP 和 PTMP 設置部署, 並支援多達 16 個設備在 PtMP 設置中。
- **自動 RF 更正**: 透過提高穩定性和減少中斷來增強網路彈性。
- **快速停機反應***: 具有 Dying Gasp 模組, 用於及時警報和響應電源相關問題。
- **動態數據速率**: 根據信號品質調整傳輸速度, 以實現可靠和高效率的連接。
- **自動和動態頻道選擇**: 自動選擇最佳頻道以避免干擾和提高信號品質。
- **RF 連接上的優越 QoS**: 優先處理關鍵流量以確保高服務品質和更好的用戶體驗。
- **行動應用程式無線調節**: 將 2.4 GHz 無線電與行動應用程式整合, 便於 PtP/PtMP 設置, 有效的天線校準和簡化故障排除。
- **多租戶網路效率**: 使用 VLAN、Q-in-Q 和過濾技術有效管理多租戶網路並減少擁堵。

- **電源冗餘***: 支持冗餘 PoE 輸入, 實現雙乙太網連接埠之間的不間斷故障切換。
- **集中式 NMS**: 提供一個全面的網路基礎平台, 用於網路性能、健康和安全管理。
- **自動佈署**: 簡化大規模網路部署, 實現簡單的集中控制。
- **智慧網路繪製***: 內建 GPS 支持自動發現和詳細的網路拓模洞察。
- **IP67 等級外殼***: 確保在惡劣環境條件下的耐用性, 延長設備壽命。
- **絕無妥協的安全性**: 透過 AES-256 確保頂級數據保護。
- **高增益集成方向天線***: 可延伸點對點無線網路達 5 英里
- **三軸旋轉臂***: 輕鬆鎖定以進行精確對準

*部分功能僅適用於特定型號



PtP/PtMP 部署應用圖表

技術規格

戶外寬頻無線基地台						
Model Number	EOC655		EOC655-C18	EOC655-C23	EOC600	EOC610
Description	戶外 5GHz 雙發 2x2 無線基地台 配備 N 型連接器		戶外 5GHz 雙發 2x2 無線基地台 配備 18dBi 面板天線	戶外 5GHz 雙頻 2x2 無線基地台 配備 23dBi 面板天線	戶外 5GHz 2x2 CPE 配備 16dBi 貼片天線	戶外 5GHz 2x2 CPE 配備 19dBi 貼片天線
Chipset	Qualcomm Chipset - Dual Core CPU, ARM A53, 1.0 GHz				IPQ5018+QCN6102, QCA8337	
Standards	IEEE 802.11ax on 5 GHz				IEEE 802.11a/n/ac/ax on 5 GHz	
Memory	DDR3 1GB, Flash 32 MB, eMMC 8GB				DDR3 512MB, Flash 128MB	
GPS	On board GPS with integrated Antenna, 1PPS pulse, GPS Synchronization				-	
Dying Gasp	40ms (Max)				-	
Thermal Sensor	To monitor board temperature				-	
Compass sensor (magnetometer)	Antenna Alignment				-	
Bluetooth*	For Radio Management				-	
Antenna	2x 2.4GHz: 3.5dBi (Integrated Oni-Directional) 2x 5GHz (Radio1): N-Type Connector 2x 5GHz (Radio2): N-Type Connector	2x 2.4GHz: 3.5dBi (Intgraed Omni-Directional) 2x 5GHz (Radio1): 18dBi Intergrated Panel Antenna 2x 5GHz (Radio2): N-Type Connector	2x 2.4GHz: 3.5dBi (Integrated Omni-Directional) 2x 5GHz (Radio1): 23dBi Intergrated Panel Antenna 2x 5GHz (Radio2): N-Type Connector	2x 2.4GHz: - 2x 5GHz -: 16dBi	2x 2.4GHz: - 2x 5GHz -: 19dBi	
External Antenna Connector Type	N-Type Female				-	
Physical Interfaces	1x 1G LAN-1 port (802.3at PoE) 1x 2.5G LAN-2 port (Proprietary PoE)				1 x 10/100/1000 BASE-T(Proprietary PoE) 1 x 10/100/1000 BASE-T Proceed reset and reboot when pushing this button	
Power Source	IEEE802.3at or Proprietary 48V/1A or Direct DC Input up-to 56V LAN2 Port				Proprietary 54V (EPA5006GR)	
Operation Modes	Base Station (BSU), Subscriber (SU)				base station(BSU)/subscriber(SU)	
Max Subscribers	16				4	
MAC Protocol	Proprietary polling based OFDMA Scheduling Protocol					
Frequency Bands	5.1 GHz - 5.9 GHz (Broadband Connectivity) 2.4 GHz / Bluetooth (Radio Management)				5 GHz: 5150 MHz ~ 5250 MHz, 5250 MHz ~ 5350 MHz, 5470 MHz ~ 5725 MHz, 5725 MHz ~ 5850 MHz	
Channel Banwidth	20 / 40 / 80 / 160 MHz				20 / 40 / 80 / 160 MHz	
Channel Spacing	5 MHz					
Max Transmit Power	Up to 27 dBm (Combined)				Up to 26 dBm (Combined)	
Dynamic Data Rate Selection (DDRS)	Automatically detect optimal data rate for given link					
Dynamic Channel Selection (DCS)	Selects optimal channel to operate to maintain SLAs (CIR & MIR)					
Auto Transmit Power Control (ATPC)	Automatically adapt the transmit power					
Interference Mitigation	Auto Channel Selection(ACS), Dynamic Channel Selection(DCS), Background Scan(BG Scan) features aid to adapt to varying RF medium					
Encryption	AES 256					

技術規格

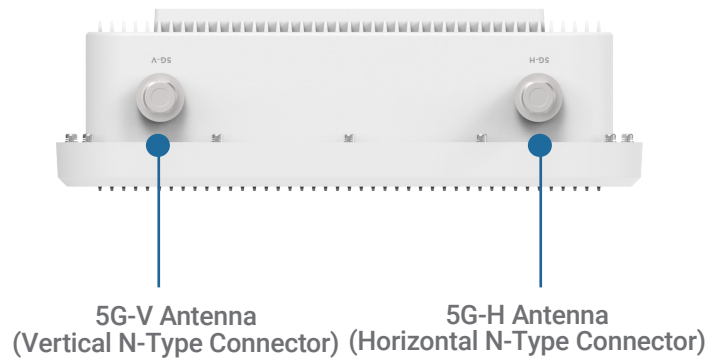
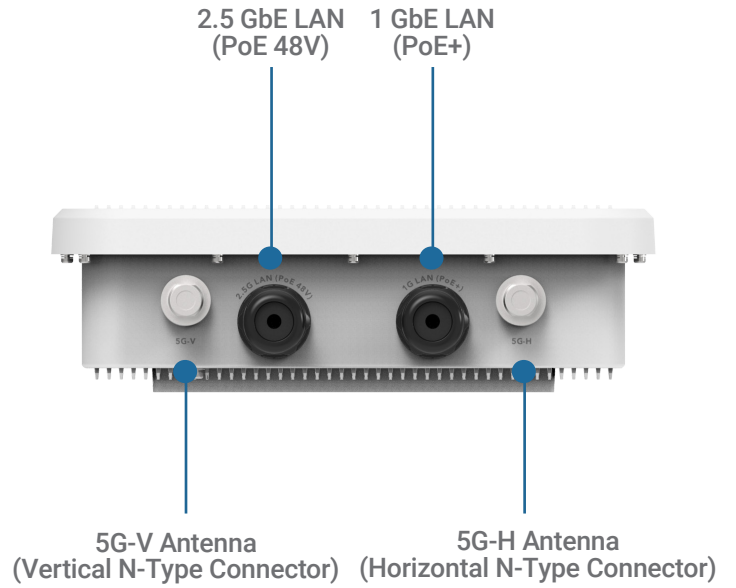
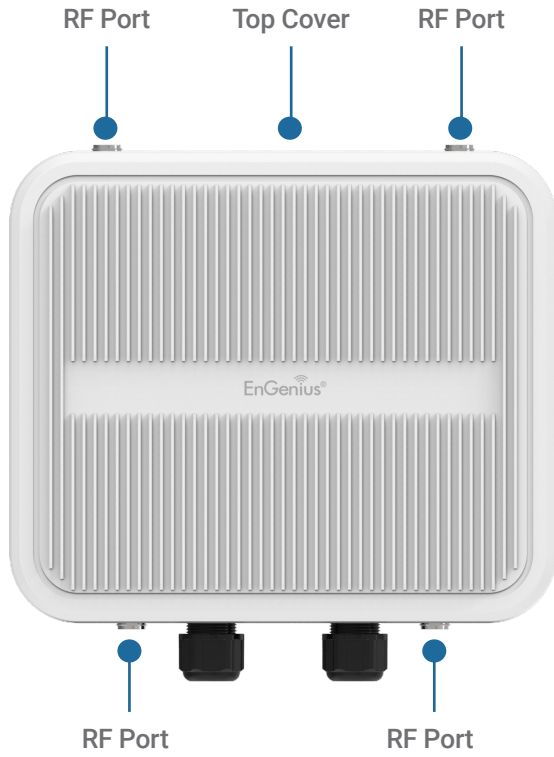
Broadband Outdoor Access Point					
Model Number	EOC655	EOC655-C18	EOC655-C23	EOC600	EOC610
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Spectrum Analyzer	Provides RF medium statistics				
Radio Chains	Dual 2x 2:2			2x 2:2	
Supported Modulation	802.11ax: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM				
Ethernet	1x GE PoE+ 1x 2.5GE Proprietary PoE			1x GE Proprietary PoE Port 1x GE Port	
Speed	10/100/1000/2500Mbps, Half/Full Duplex, Auto Negotiation			10/100/1000Mbps, Half/Full Duplex, Auto Negotiation	
Jumbo Frame	9K bytes				
PoE Source	Passive 48V/1A, 6KV Surge Protection			Passive 54V /0.6A	
Cable Length	STP Cat5e: MAX 130 meters FTP Cat6: MAX 180 meters				
Surge Protection	6KV Surge Protection on all Ethernet Ports			1KV	
Maximum Power Consumption	21W		25W	PoE: Max. 13W	PoE: Max. 11W
SNMP	v1, v2c, v3				
Authentication	Internal MAC Address Control List, Radius based Authentication				
Traffic Shaping	Downlink and Uplink traffic shaping				
Remote	SSH, Web, TFTP, HTTP, HTTPS, Syslog				
Smart Phone	Android & IOS based Application for Radio Management				
Antenna Alignment	Alignment aid provided via variable audible tone generation algorithm				
Operating Mode	Bridging				
IP Stack	IPv4, IPv6				
VLAN Tagging	802.1Q: Transparent, Access, Trunk, Q-in-Q				
Gateway Features	DHCP Server				
MAC-in-MAC	To improve the multicast traffic performance, IGMP Snooping				
Ethernet-OAM	Fault Link Management				
Packet Filtering	MAC, IP, Protocol, Port				
NTP Server	Stratum 1 NTP Server using GPS – less than 1msec accuracy				
Asymmetric Bandwidth Control	Asymmetric UL/DL committed and maximum information rate per Service Flow				
Packet Classification Capabilities	802.1p priority, IPTOS, VLAN ID, IP addresses, ports, Ethernet addresses, IP protocol, and Ether Type. Support maximum 4 SFC's with maximum 32 PIR's				
Scheduling	Real Time priority-based services				
Temperature Range	Operation: -10°C to +60°C / -14°F to +140°F Storage: -30°C to +80°C / -22°F to +176°F			Operation: -4°~140°F/-20°C~60°C Storage: -40F°~176°F/-40°C~80°C	
Humidity (Non-condensing)	Operating: 90% or less Storage: 90% or less			Storage: 90% or less	

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IP Rating (Outdoor only)	IP67			IP55	
Wind loading	200Kmph				165Kmph
ESD Protection (Outdoor only)	Contact: 4KV Air: 8KV				
Weight	2.02 kgs / 4.45 lbs	1.91 kgs / 4.21 lbs		610g	558g
Dimensions	267x227x82mm 267*258.1*82mm (w/n-type & cable gland)	267x227x82mm 267*255.1*82mm (w/n-type & cable gland)	305x305x82mm 305*305*82mm (w/n-type & cable gland)	260 x 84 x 55 mm	Φ190 x 38 mm
Package Contents	1 – Outdoor Access Point 1 – Pole-Mounting Brackets 1 – PoE Injector with AC Power Cable 1 – Ethernet Cable Cat5e 1.5 mts 1 – Grounding Cable 1.8 mts			1-EOC600 Outdoor CPE 1-EPA5006GR with AC cord 2-Pole-Mounting Brackets 1-Wall-Mount Screw Set 1-Product Card	1-EOC610 Outdoor CPE 1-EPA5006GR with AC cord 2-Pole-Mounting Brackets 1-Wall-Mount Screw Set 1-Product Card
Safety Compliance	CB				
WEEE	Yes				
RoHS	Yes				
Regulatory Compliance	FCC CE IC UKCA				
MTBF	100K hours				

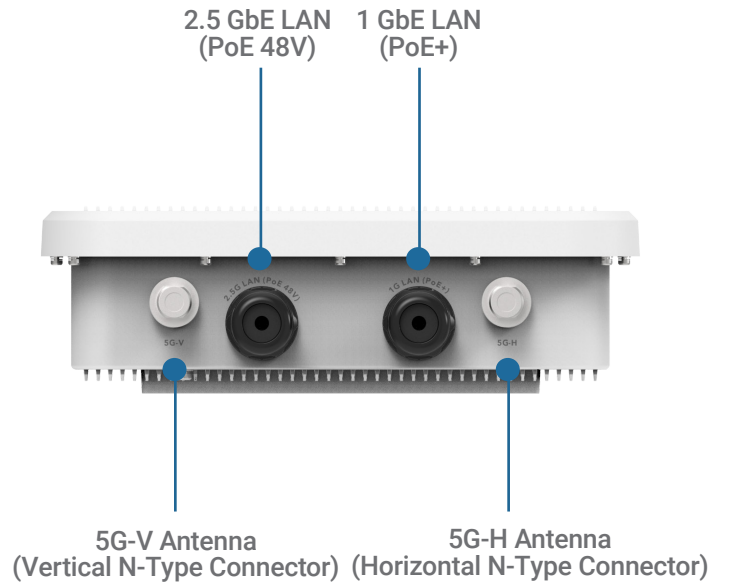
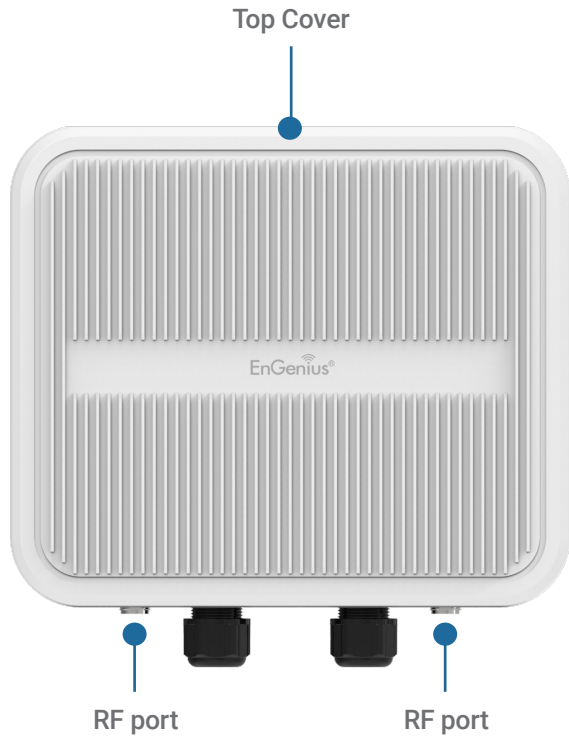
產品外觀

EOC655



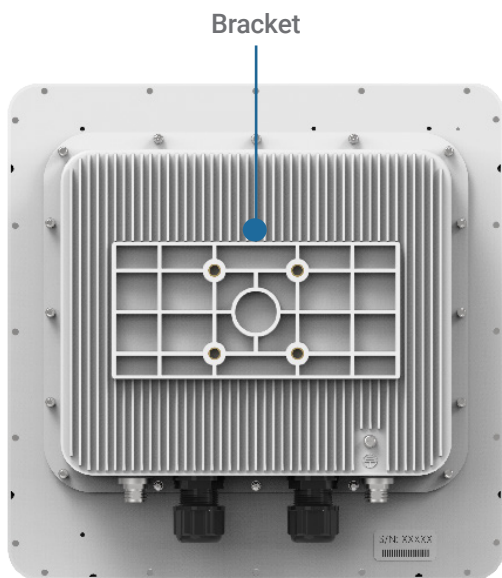
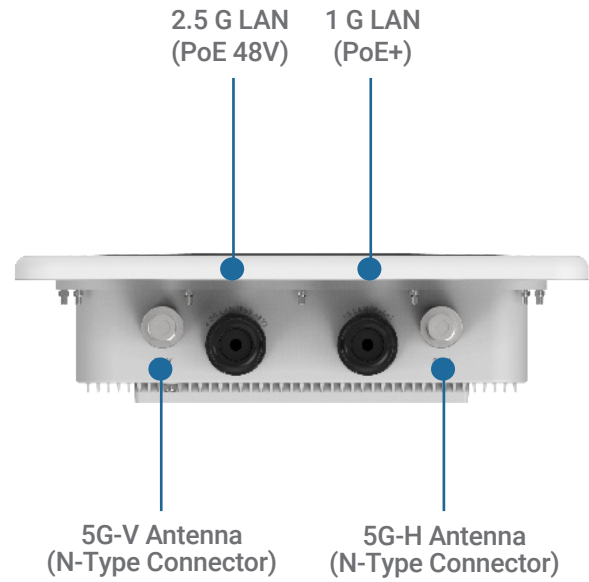
產品外觀

EOC655-C18



產品外觀

EOC655-C23



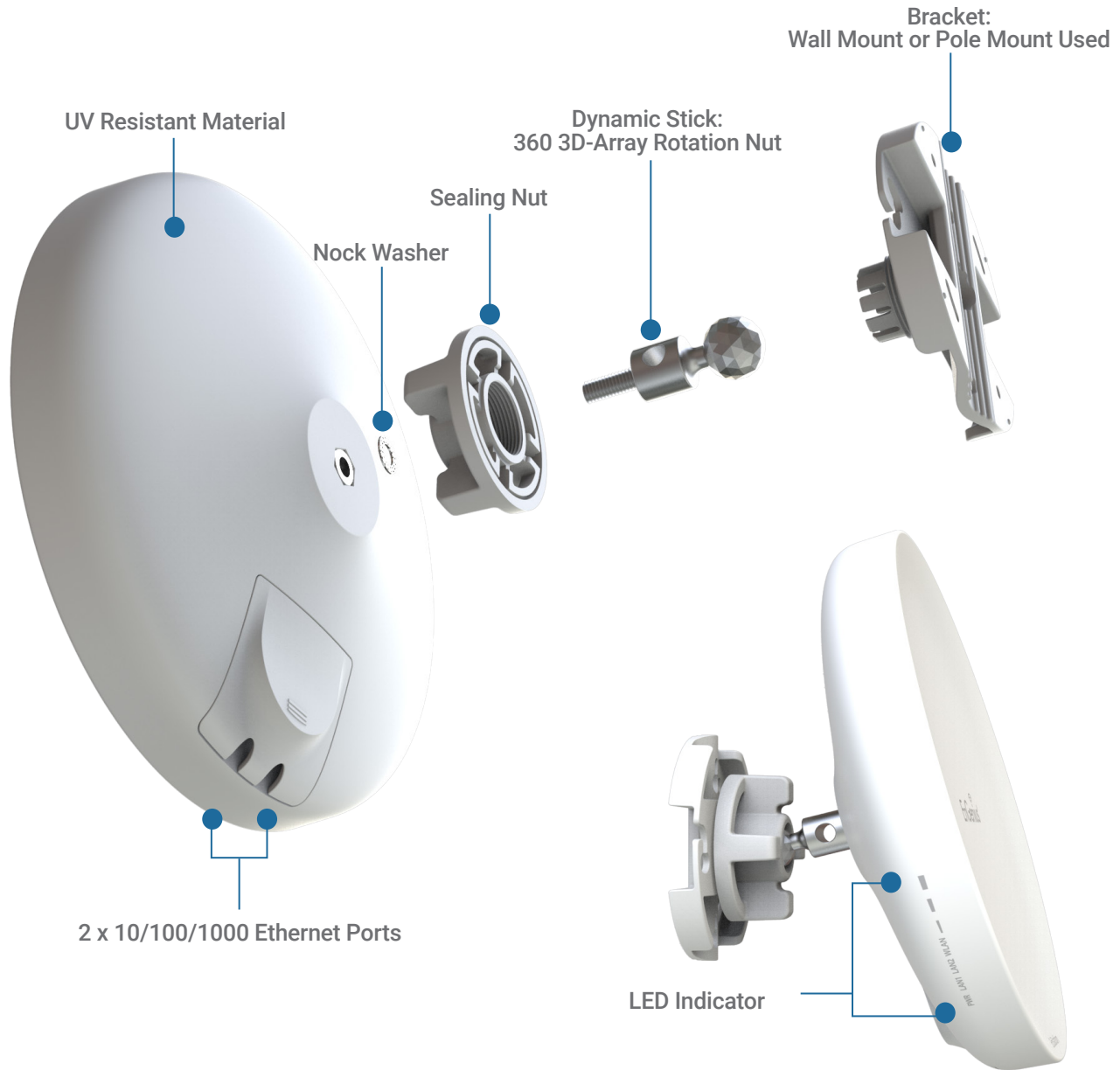
產品外觀

EOC600



產品外觀

EOC610

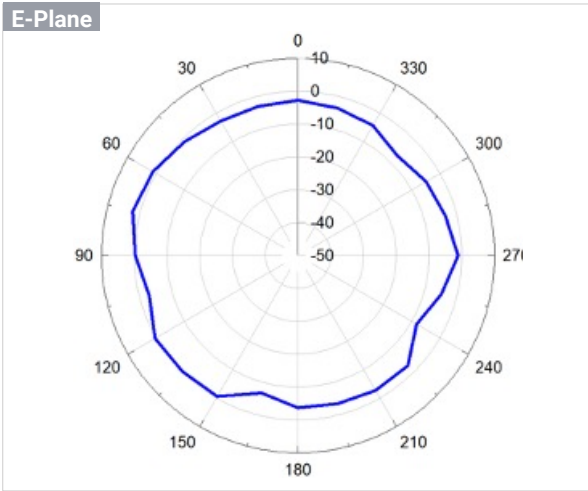


天線場型圖

EOC655 & EOC655-C18

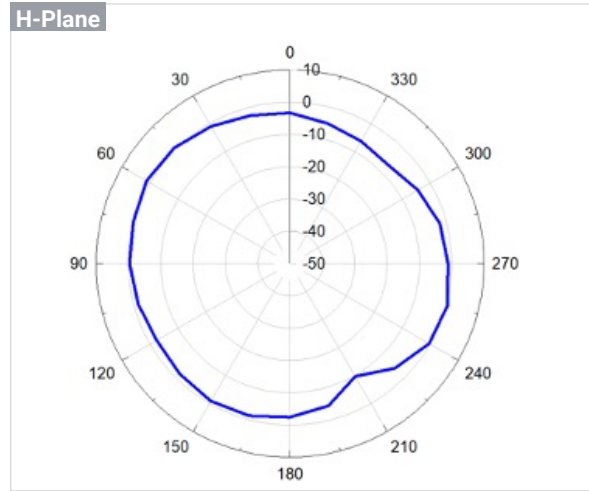
2.4GHz

E-Plane



2.4GHz

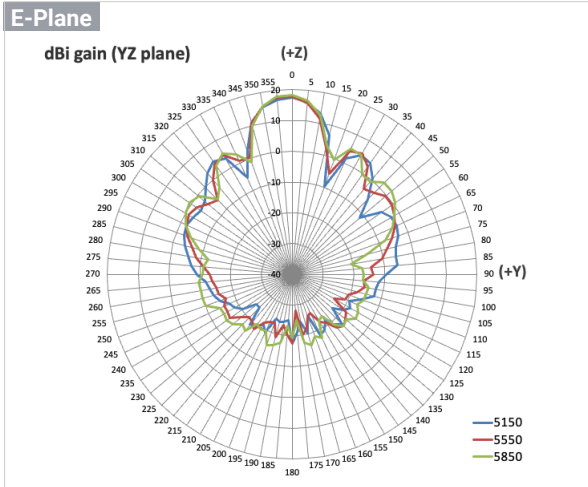
H-Plane



EOC655-C18

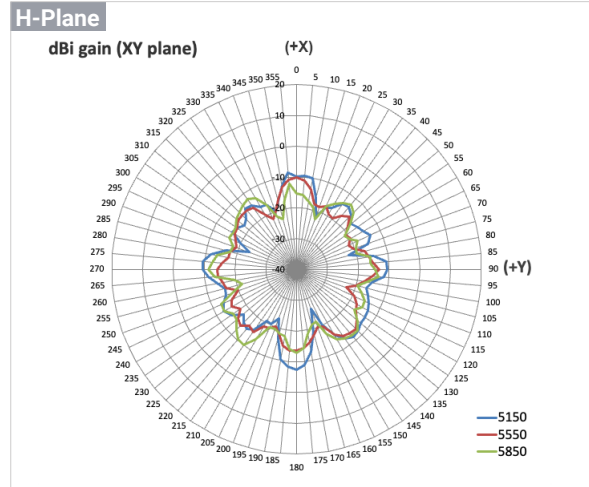
5GHz

E-Plane



5GHz

H-Plane

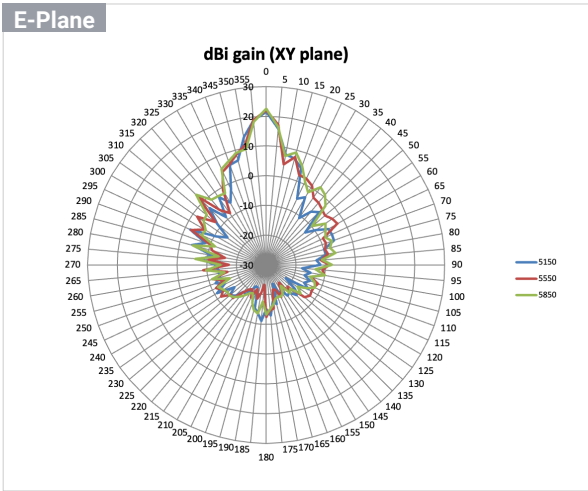


天線場型圖

EOC655 C23

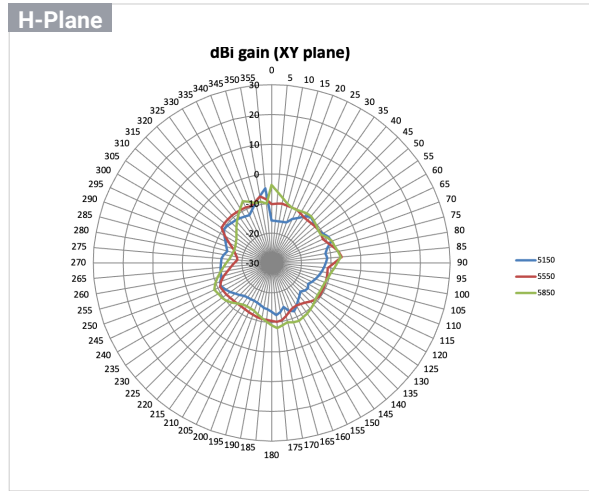
5G

E-Plane



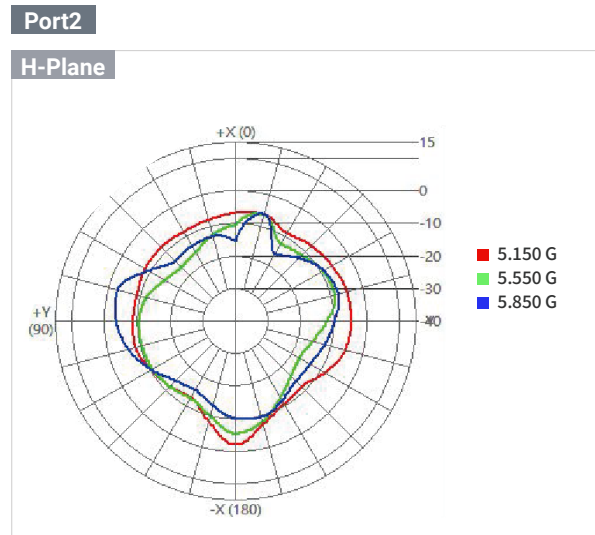
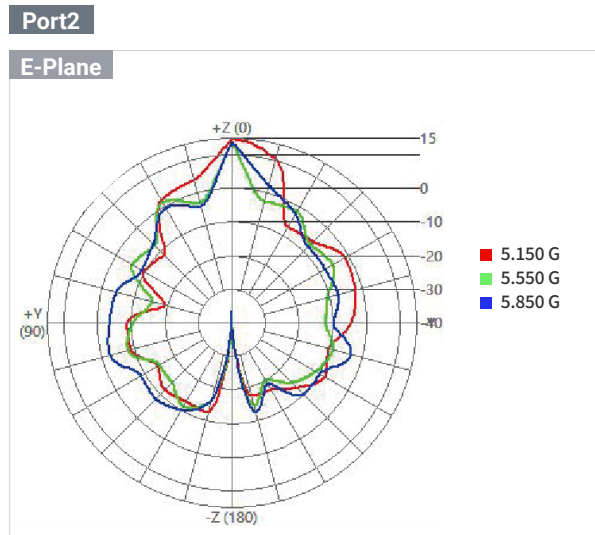
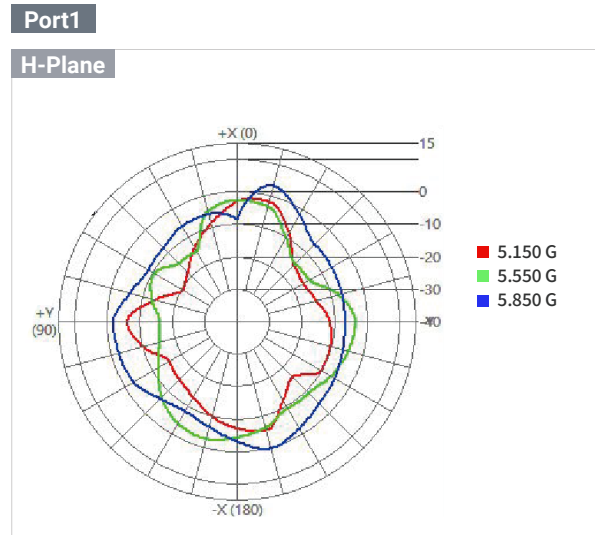
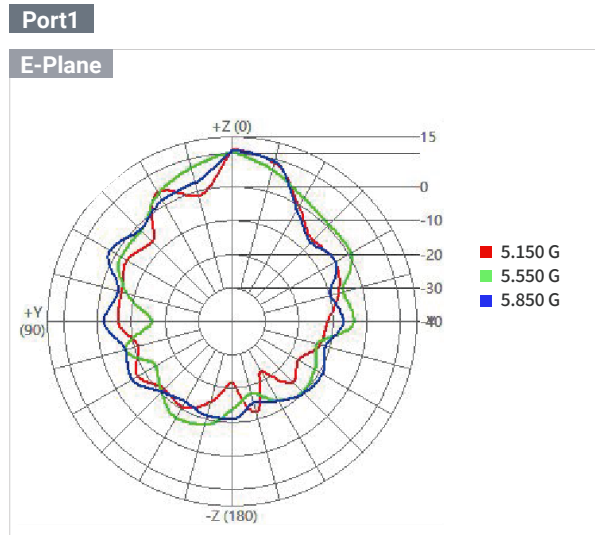
5G

H-Plane



天線場型圖

EOC600

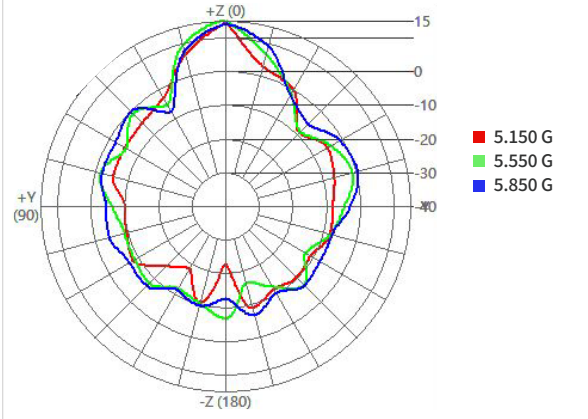


天線場型圖

EOC610

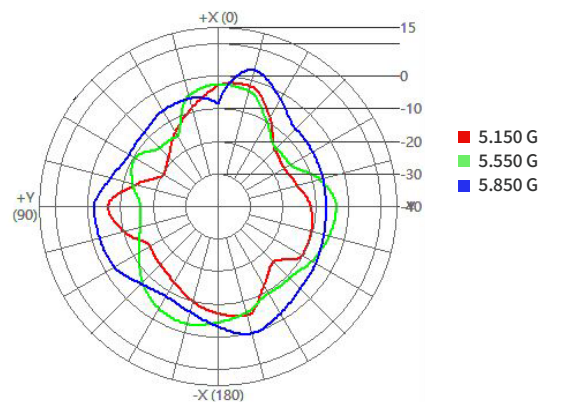
Port1

E-Plane



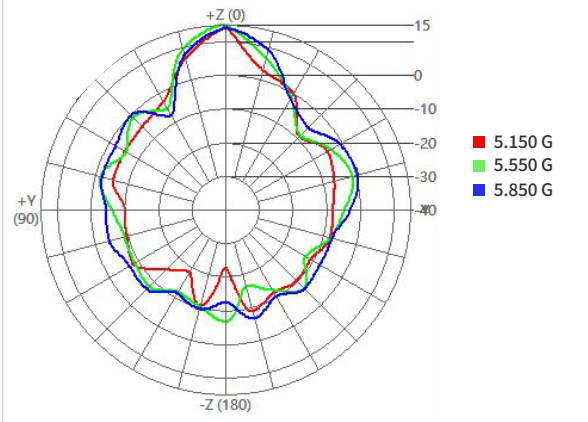
Port1

H-Plane



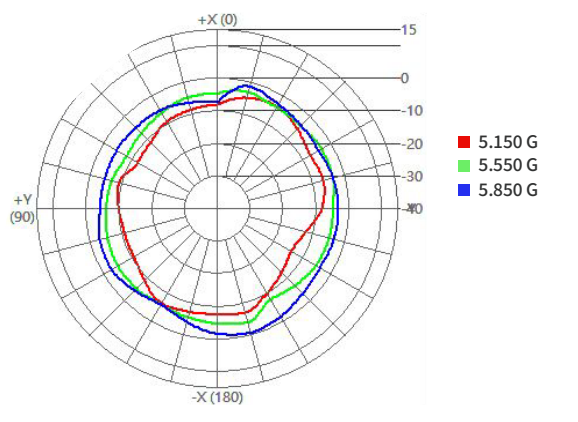
Port2

E-Plane



Port2

H-Plane



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