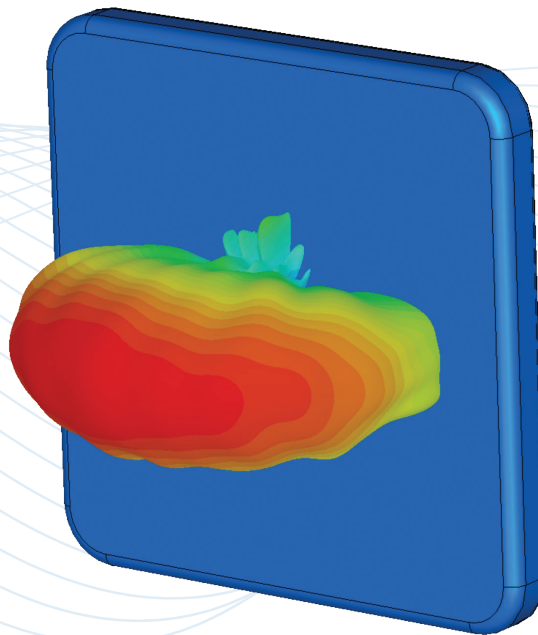


Tri-Band Sector with Integrated GNSS for Wi-Fi 6E/7 Applications

Wi-Fi Antennas

IW-ANT-PNL25610-R=



Description

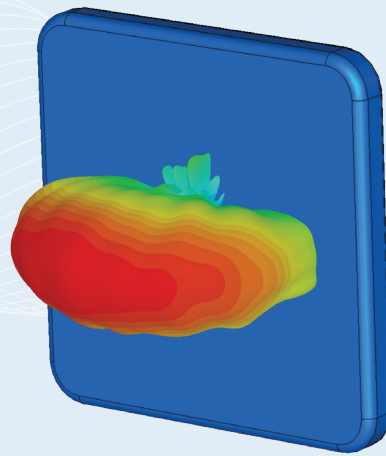
High-performance sector with four dual-band 2.4 GHz & 5 GHz ports, four 6 GHz ports, and an integrated GNSS antenna that covers the GPS L1 and L5 frequency bands

Technologies

- Wi-Fi

Features

- Supports 4x4 MIMO over 2.4 GHz, 5 GHz, and 6 GHz
- Engineered for low skyward radiation for compliance with the FCC's 21 dBm EIRP skyward limit
- High-isolation between 5 GHz and 6 GHz ports enables concurrent radio operation
- Integrated GNSS antenna covers L1 and L5 GPS bands for AFC location reporting
- IP-67 and UL 94 V-0 design



Tri-Band Sector with Integrated GNSS for Wi-Fi 6E/7 Applications

Wi-Fi Antennas

The IW-ANT-PNL25610-R= is a 9-port 4x4 tri-band sector designed to support a variety of outdoor Wi-Fi 6E/7 applications. The antenna is engineered to achieve low skyward radiation to comply with the FCC's 21 dBm EIRP skyward limit over UNII-1, UNII-5, and UNII-7. Integrated high-rejection coexistence filters and a passive, L1/L5 GNSS antenna enable concurrent 5 GHz and 6 GHz radio operation and AFC location reporting, respectively. The antenna is 14.5" square by 1.26" deep and is IP-67, UV-stabilized, and UL 94 V-0 rated.

Features

- Supports 4x4 MIMO over 2.4 GHz, 5 GHz, and 6 GHz
- Engineered for low skyward radiation for compliance with the FCC's 21 dBm EIRP skyward limit
- High-isolation between 5 GHz and 6 GHz ports enables concurrent radio operation
- Integrated GNSS antenna covers L1 and L5 GPS bands for AFC location reporting
- IP-67 and UL-94 V-0 design

Applications

- Venues
- Agriculture
- Industrial Communication
- Campus Wi-Fi
- Warehouses
- Backhaul
- Smart Cities
- Connected Transportation

Certifications



Tri-Band Sector with Integrated GNSS for Wi-Fi 6E/7 Applications

Wi-Fi Antennas

Electrical Specifications

Metric	2.45 GHz Array Specifications	5 GHz Array Specifications	6 GHz Array Specifications	GNSS Antenna Specifications
Frequency Range	2400 – 2482 MHz	5170 – 5835 MHz	5925 – 6875 MHz	1164 – 1215 MHz & 1559 – 1610 MHz
Nominal Input Impedance	50 Ω	50 Ω	50 Ω	50 Ω
VSWR	2:1	2:1	2:1	2:1
Polarization	Slant ±45°	Slant ±45°	Slant ±45°	Mixed
Typical Azimuth Plane Beamwidth	90°	75°	75°	*
Typical Elevation Plane Beamwidth	45°	28°	27°	*
Peak Gain	9 dBi	9 dBi	10 dBi	6 dBi/ 3 dBi (resp., per band)
Peak Gain ≥ 30° Above the Horizon	2 dBi	-2 dBi	-2 dBi	N/A
Maximum In-Band Port-to-Port Isolation	20 dB	20 dB	20 dB	N/A
Maximum Isolation Between 5 GHz & 6 GHz Ports	N/A	> 55 dB	> 55 dB	N/A

*Elevation plane beamwidths depend on the articulation of the product. The radiation patterns are provided in the following section.

Mechanical and Environmental Specifications

Metric	Specification
Connectors	RP-TNC female (TNC female for GNSS antenna)
Dimensions	14.5"x14.5"x1.26"
Mounting Holes	M6 (12 [mm] thread depth)
Weight	4.8 lbs.
Operational Temperature Range	-40°C to +70°C
Ingress Protection	IP-67
Flammability Rating	UL 94 V-0
UV Stability	UL 746C

External Cable Specifications

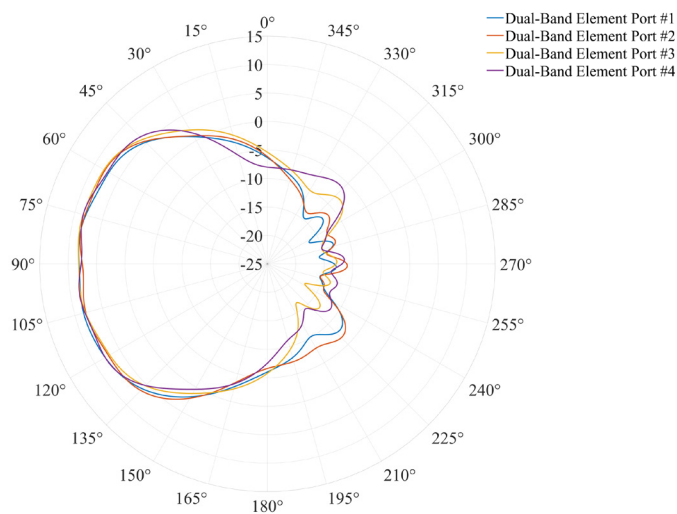
External Cable Assembly	Frequency [MHz]	Typical VSWR	Maximum VSWR	Typical Insertion Loss	Maximum Insertion Loss
188 [mm] RP-TNC-to-N Assembly	2500	1.15:1	1.25:1	0.35 dB	0.45 dB
	5835	1.25:1	1.35:1	0.65 dB	0.75 dB
	6875	1.25:1	1.35:1	0.75 dB	0.85 dB
381 [mm] RP-TNC-to-N Assembly	2500	1.15:1	1.25:1	0.6 dB	0.7 dB
	5835	1.25:1	1.35:1	1 dB	1.1 dB
	6875	1.25:1	1.35:1	1.2 dB	1.3 dB
502 [mm] TNC-to-TNC Assembly	1610	1.1:1	1.2:1	0.6 dB	0.75 dB

Tri-Band Sector with Integrated GNSS for Wi-Fi 6E/7 Applications

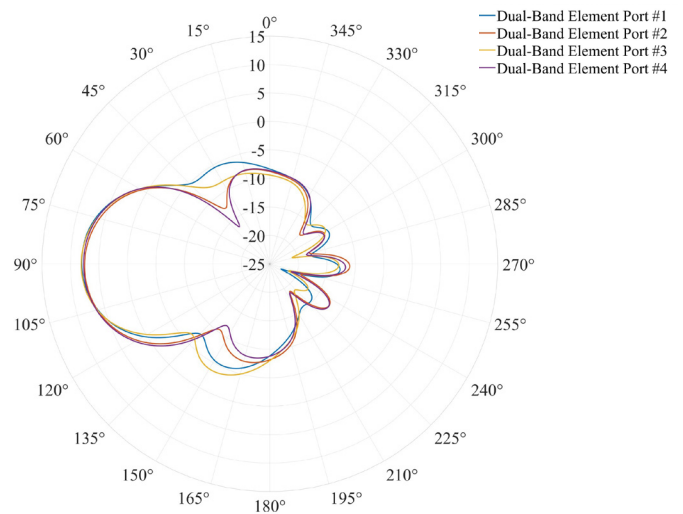
Wi-Fi Antennas

2.45 GHz Radiation Patterns

Azimuth Plane

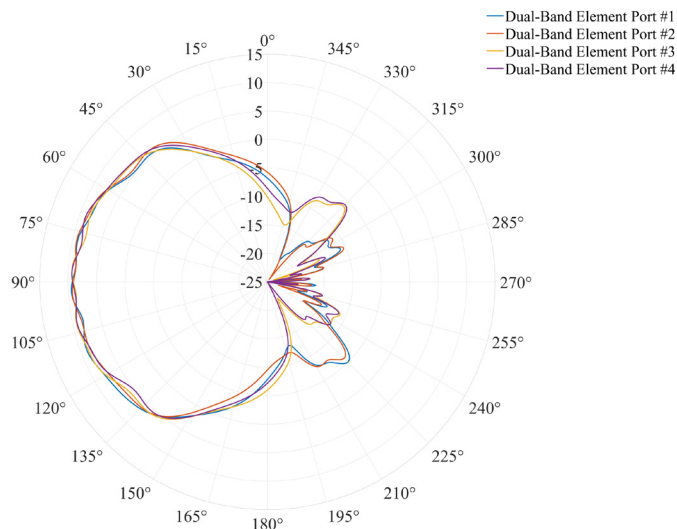


Elevation Plane

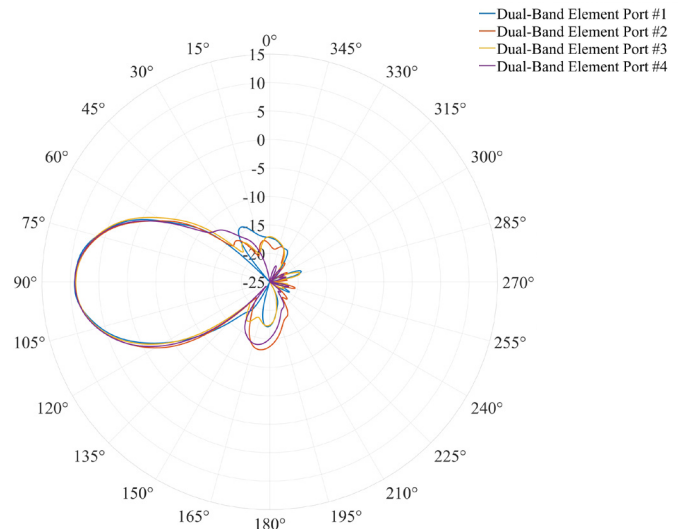


5.15 GHz Radiation Patterns

Azimuth Plane



Elevation Plane

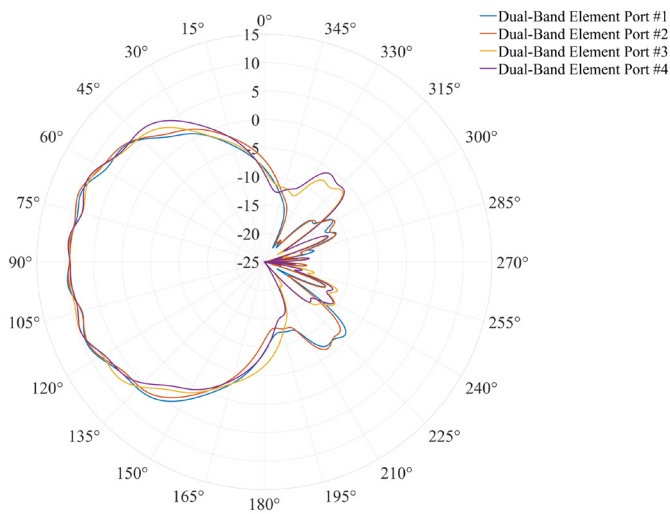


Tri-Band Sector with Integrated GNSS for Wi-Fi 6E/7 Applications

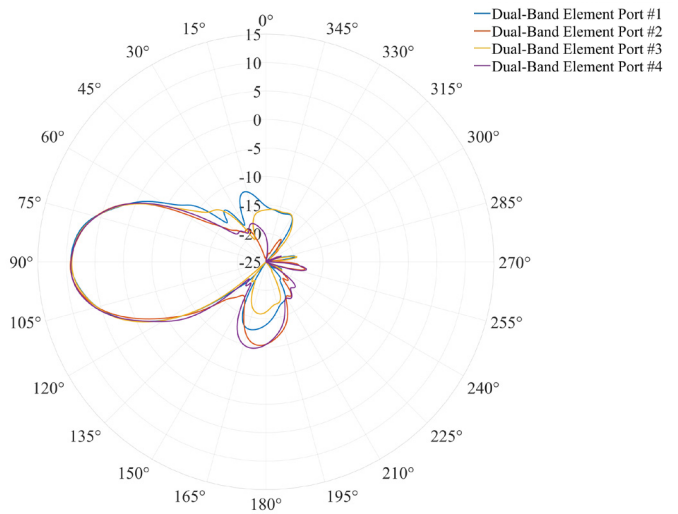
Wi-Fi Antennas

5.5 GHz Radiation Patterns

Azimuth Plane

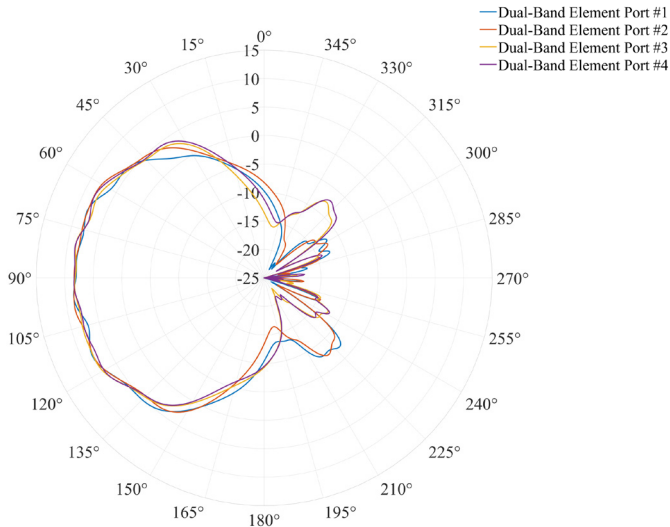


Elevation Plane

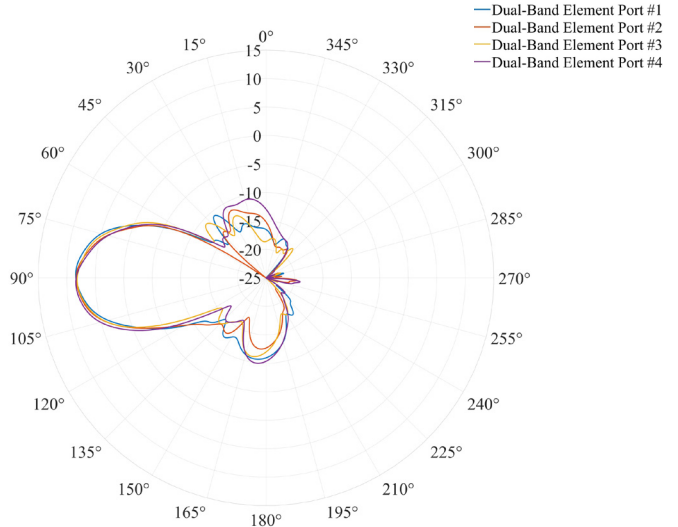


5.835 GHz Radiation Patterns

Azimuth Plane



Elevation Plane

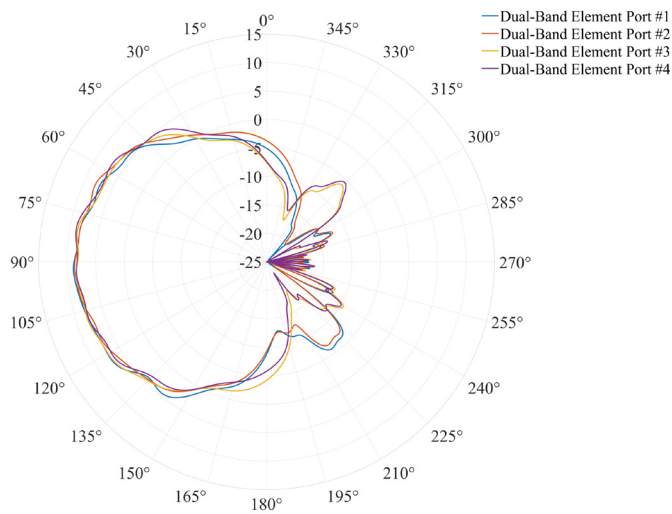


Tri-Band Sector with Integrated GNSS for Wi-Fi 6E/7 Applications

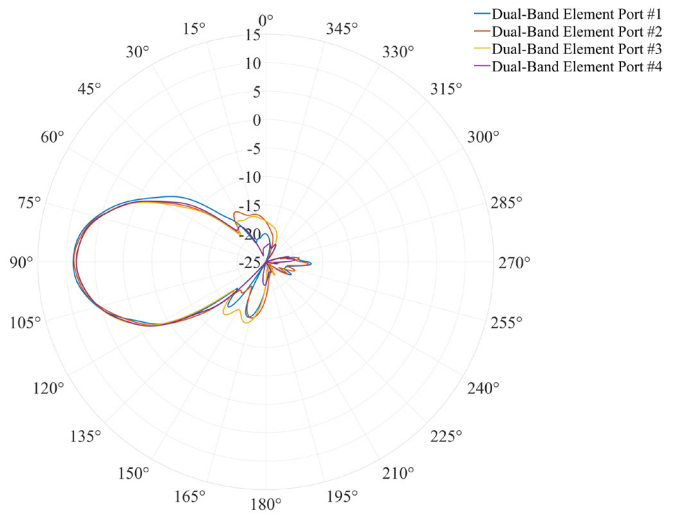
Wi-Fi Antennas

5.925 GHz Radiation Patterns

Azimuth Plane

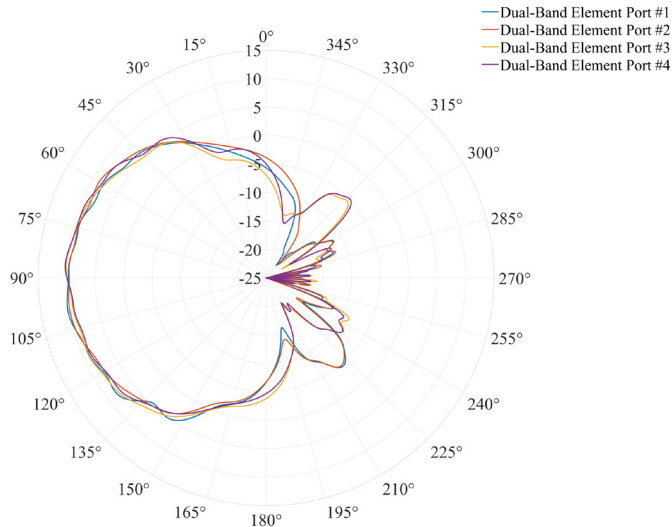


Elevation Plane

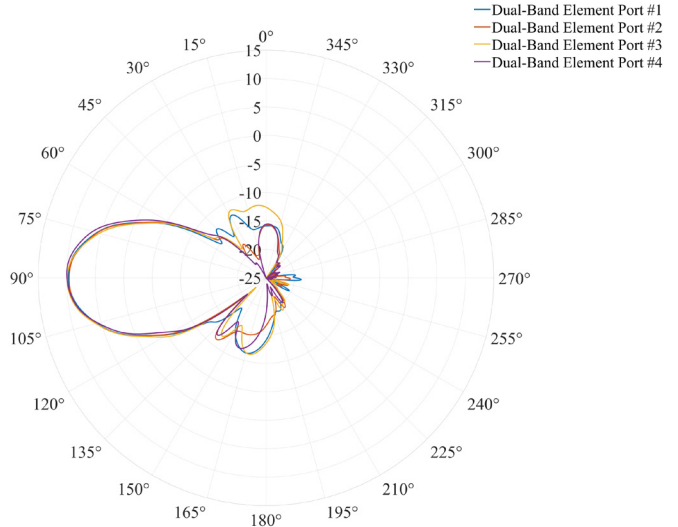


6.425 GHz Radiation Patterns

Azimuth Plane



Elevation Plane

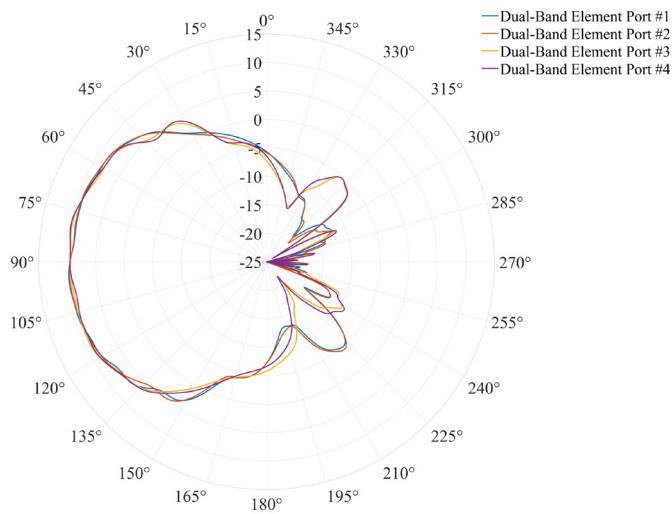


Tri-Band Sector with Integrated GNSS for Wi-Fi 6E/7 Applications

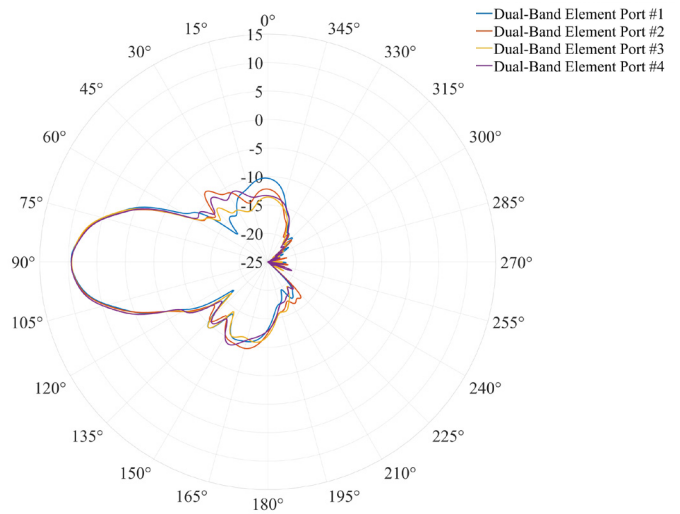
Wi-Fi Antennas

6.875 GHz Radiation Patterns

Azimuth Plane



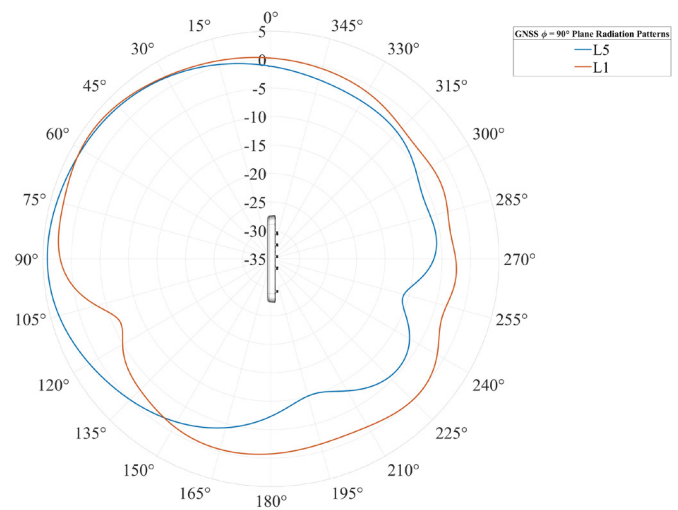
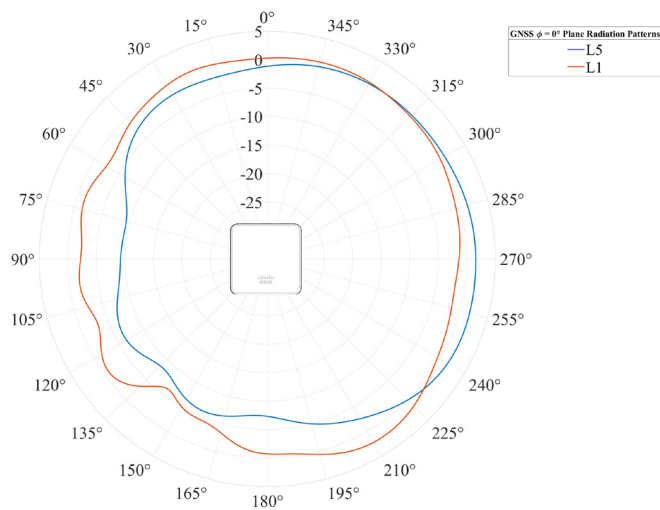
Elevation Plane



Tri-Band Sector with Integrated GNSS for Wi-Fi 6E/7 Applications

Wi-Fi Antennas

GNSS Radiation Patterns



CONTACT US

For more information about
this product contact us

> pctel.com/contact

Solving Complex Wireless Challenges

PCTEL is a leading global provider of wireless technology solutions, including purpose-built Industrial IoT devices, antenna systems, and test and measurement products. Trusted by our customers for 29+ years, we solve complex wireless challenges to help organizations stay connected, transform, and grow.



PCTEL, Inc.

T: +1 630 372 6800 | pctel.com

Specifications subject to change without notice. ©2024 PCTEL, Inc. All rights reserved. (April 2024)