

ANT-520-421

4G/5G + Wi-Fi + GPS 7-in-1 MIMO Antenna (Top Hat)



Applications

- Buses, Vans, Trucks
- Police / Fire / Ambulance Vehicles
- Boats
- Kiosks

Product Features

- Combines 4x Ultra-Wideband Flex elements + 2x Wi-Fi + 1x GPS antennas into a single streamlined enclosure
- Low Profile: 2.7 inches tall
- Up to 4x4 MIMO on 5G and 6x6 MIMO on WiFi
- Weatherproof & Impact Resistant
- Compatible with most Cellular/Wi-Fi/GPS Devices
- Omni-Directional 7 dBi Peak Gain
- 15 ft Low-Loss Coax Leads



Ordering Information

Part No.	Description
ANT-520-421	Top Hat Low-Profile 4G/5G + Wi-Fi + GPS 7-in-1 Combination Screw Mount MIMO Vehicle Antenna

General Description

This 7-in-1 low-profile, heavy-duty, multi-element combo antenna cost-effectively combines high efficiency and peak gain in a compact easy to install form factor. Suitable for fleet management, mobile video, remote monitoring and recreational vehicle applications.

Featuring 1 GPS element, 2 dedicated 2 Tri-Band WiFi elements & 4 ultra-wideband flex elements for WiFi or Cellular, this antenna is ideally suited for 2x2, 4x4 and 6x6 MIMO vehicular modems and routers.

The 4 ultra-wideband elements can be used for any radio system between 600 and 6000 MHz including all 4G/5G bands used by commercial and public safety operators worldwide (600 – 6000 MHz). Four SMA-to-RPSMA adapters are included to allow the flex elements to also be used for 3x3 to 6x6 WiFi configurations.

All WiFi generations through WiFi-7 and 4.9 GHz public safety bands are supported. FirstNet, LTE Unlicensed (LTE/U), Licensed-Assisted Access (LAA), Multefire and OnGo (CBRS) Radio Systems are also supported.

The active L1 band GPS element has a 28 dB low noise amplifier (LNA).

The antenna has its own ground-plane and can radiate on any mounting surface such as metal, plastic or fiberglass without affecting performance.

Each antenna element includes a 15 ft (4.5m) low-loss pre-terminated coax cable.

Installation requires only a 1.5 in diameter hole. The included rubber gasket and mounting nut seal the opening from water and dust making in IP67 compliant.

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Electrical Specifications

Ultra-Wideband Flex Elements

Parameter	Rating
Frequency Range	600 – 6000 MHz
Peak Gain	7 dBi x 4
VSWR	≤ 2.0:1
Input Impedance	50 Ohm
Polarization	Vertical
Max Input Power	50 W
DC Grounded	No

Wi-Fi Elements

Parameter	Rating
Frequency Range	2400-2500 MHz, 4900-7125 MHz
Peak Gain	4~6 dBi x 2
VSWR	≤ 2.0:1
Input Impedance	50 Ohm
Polarization	Linear
Max Input Power	50 W
DC Grounded	No

GPS Element

Parameter	Rating
Frequency Range	1575.42 MHz (L1 band)
Gain	Antenna: 5 dBi LNA: 28 ± 2dB Typical
VSWR	≤ 2.0:1
Ex-band Attenuation	2dB@CF+50MHz/16dB@CF-50MHz
Input Impedance	50 Ohm
Polarization	RHCP
Max Input Power	50 W
Noise Figure	1.5 dB
DC Voltage	2.7/3.0/3.3/5.0/3.0 to 5.0 etc.
DC Current	5 - 15mA
Current Consumption	11 mA (max)
DC Grounded	No

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Mechanical Specifications

Parameter	Rating
Connector Type	4x Flex Elements: SMA Male (plug) + SMA-to-RPSMA adapter 2x Wi-Fi: RP-SMA Male (plug) 1x GPS: SMA Male (plug)
Cable Length (all)	Flex & Wi-Fi: 15 ft LMR200 (4.5 m) low-loss coax GPS: 15 ft RG174 (4.5 m) low-loss coax
External Ground Plane	Not Required
Dimensions	Radome: 9.7 in x 2.7 in (247 x 69.5 mm) Mounting post: 1.5 in (38 mm) diameter; 1.4 in (36 mm) length
Weight	6 lb (2.7 kg)
Materials	Radome: ABS plastic Connector: Brass with Nickel plating Gasket: Rubber
Antenna Color	Black
Operating Temperature	-40°C to +85°C
Environmental Rating	IP67 (waterproof)
Wind Rating	134 MPH (60 m/s)

Operation of this device outside the parameter ranges given above may cause permanent damage.

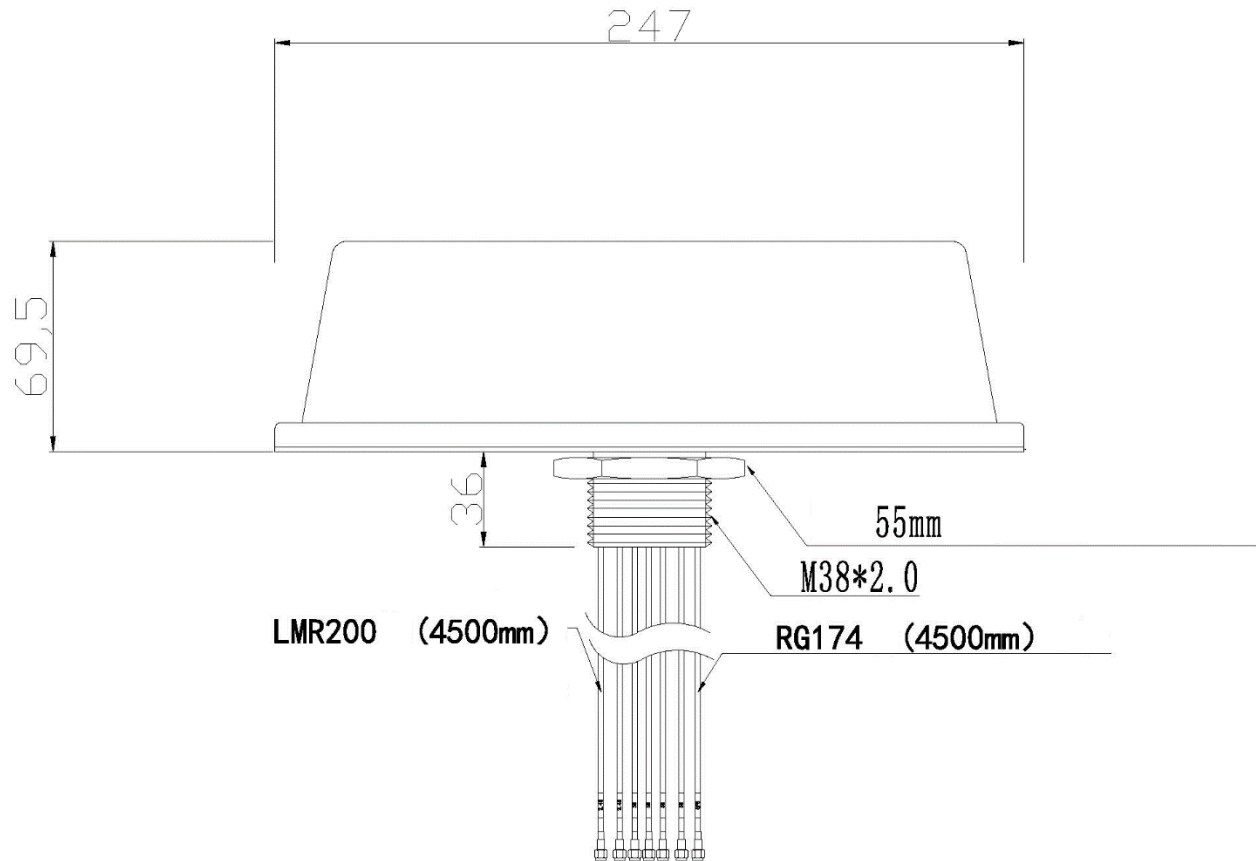
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Mechanical Dimensions

Dimensions in mm



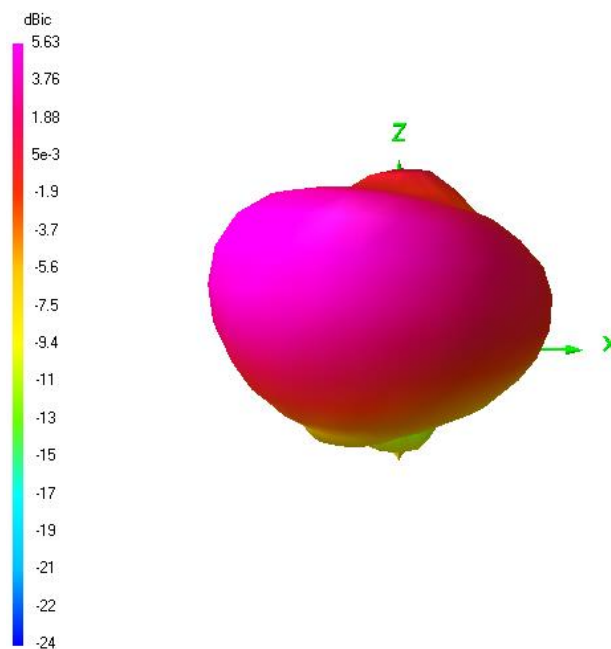
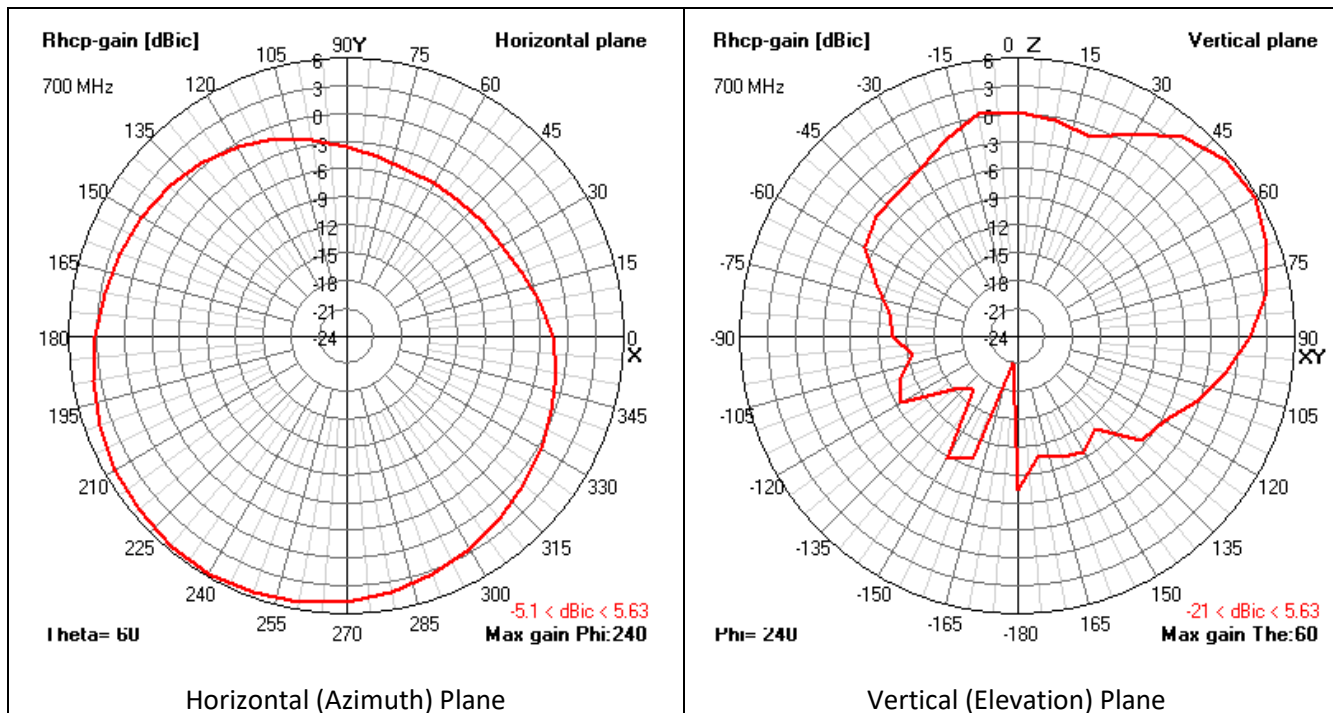
ANT-520-421

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Radiation Patterns

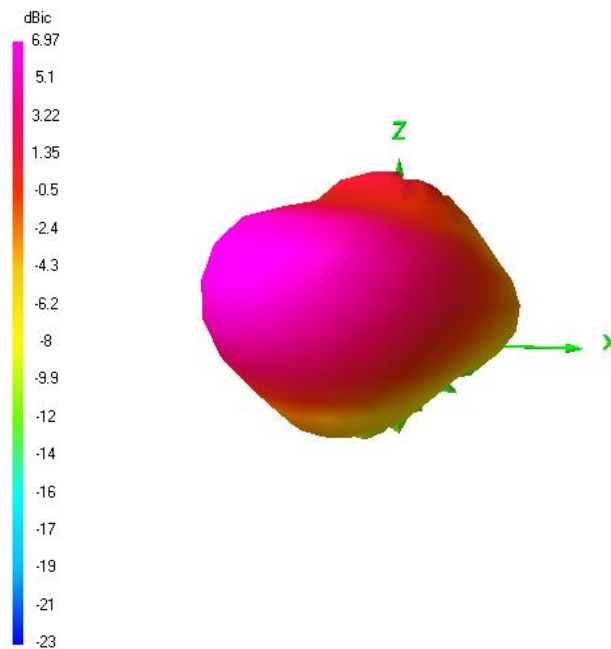
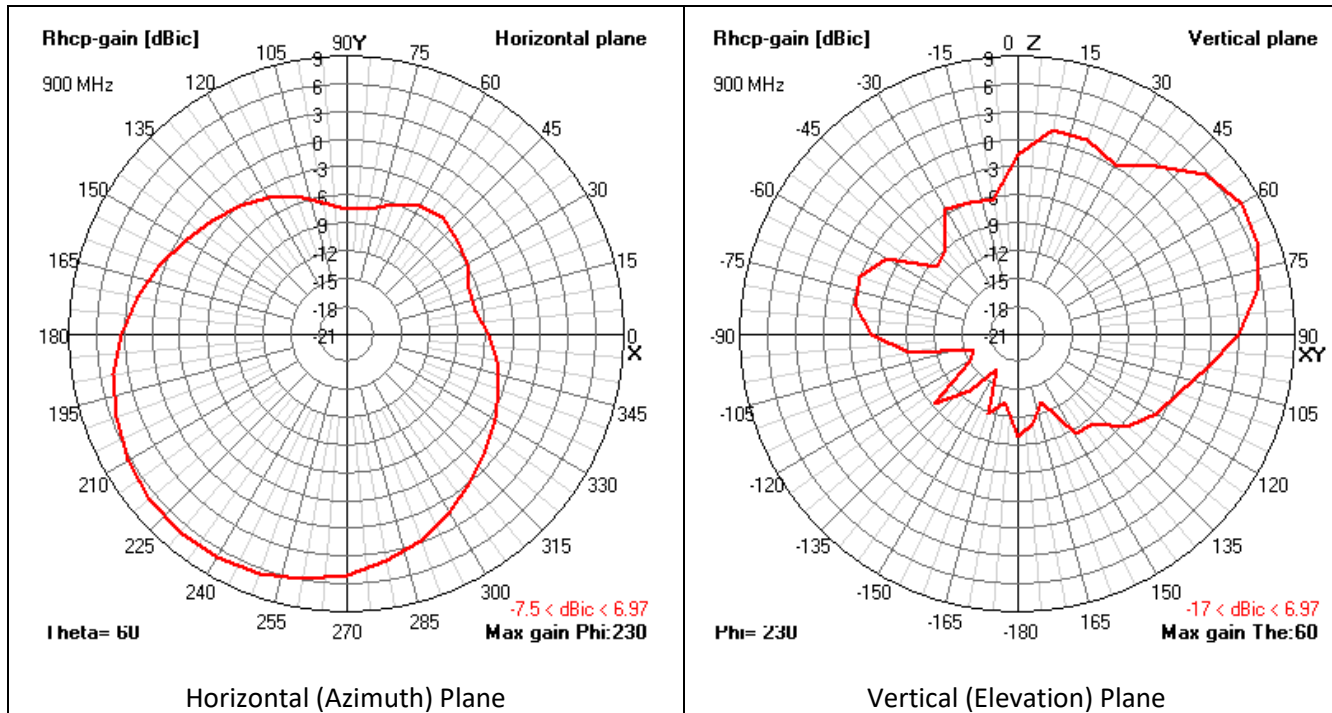
700 MHz



ANT-520-421

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900 MHz

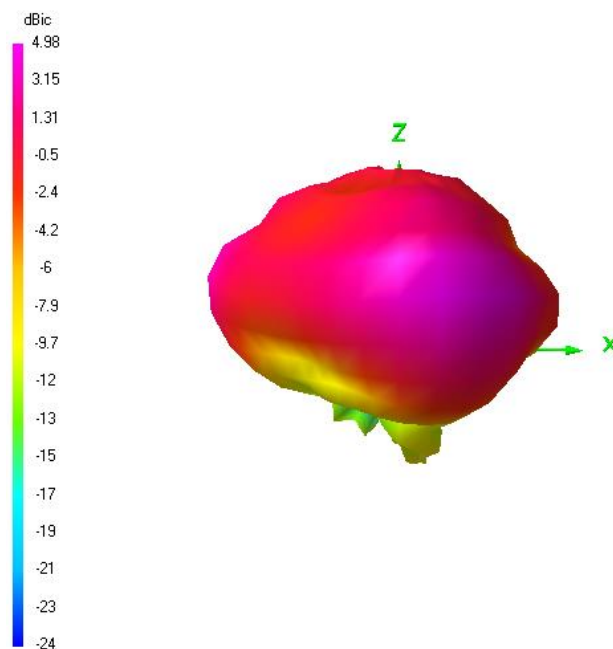
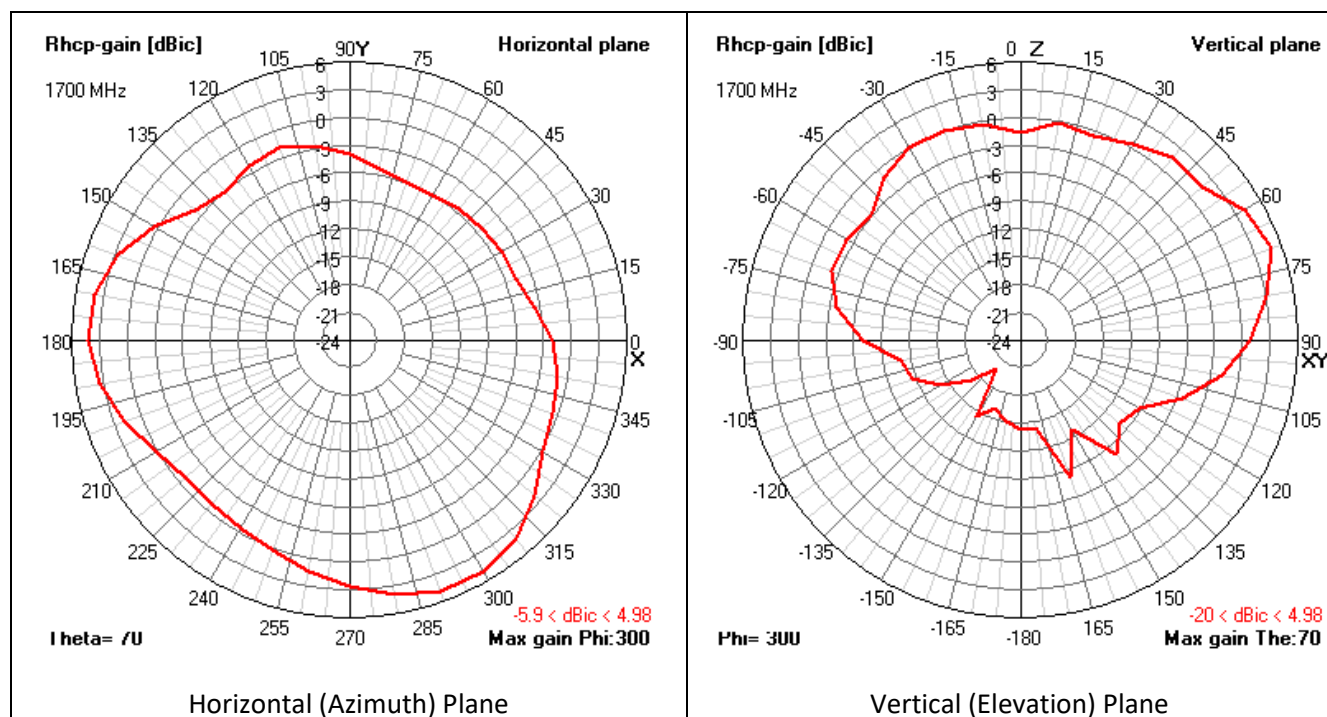


ANT-520-421

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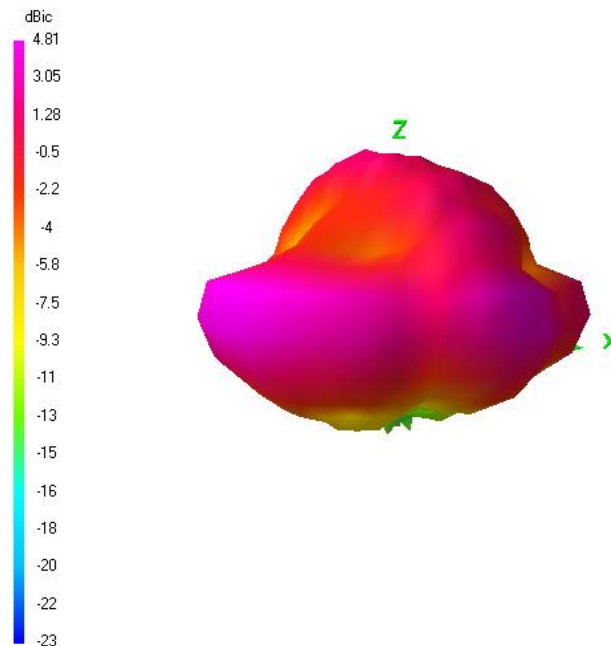
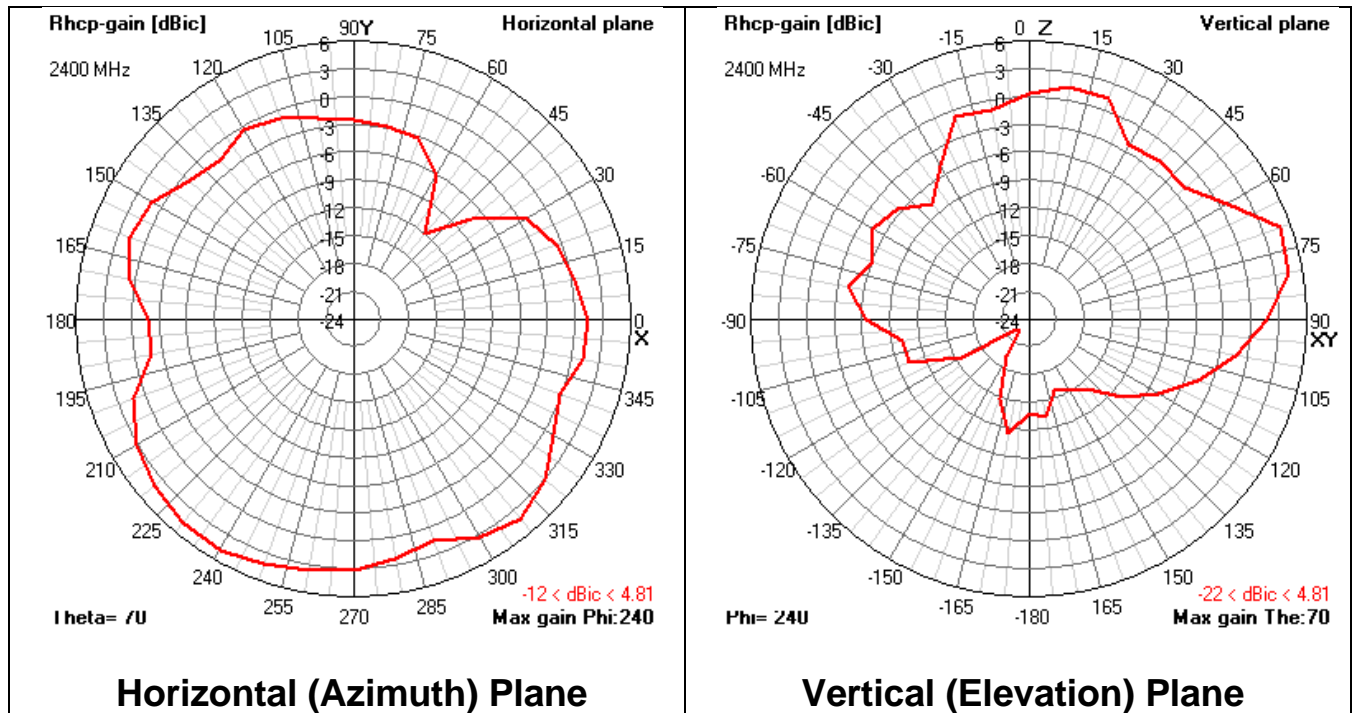
1700 MHz



ANT-520-421

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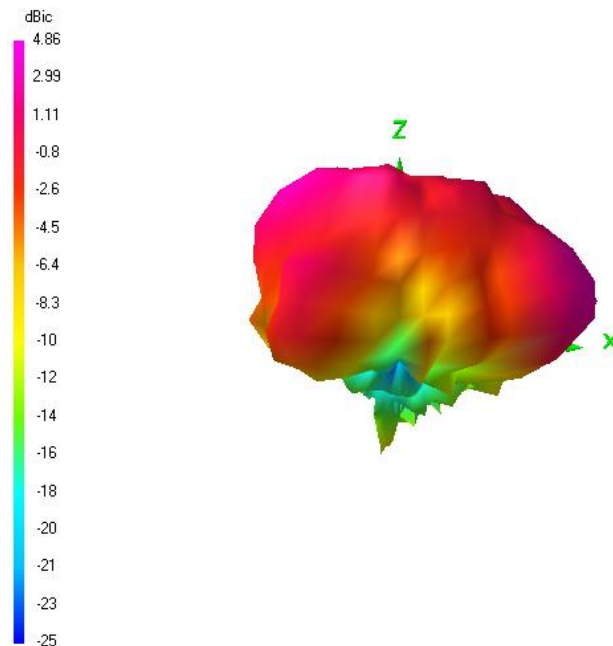
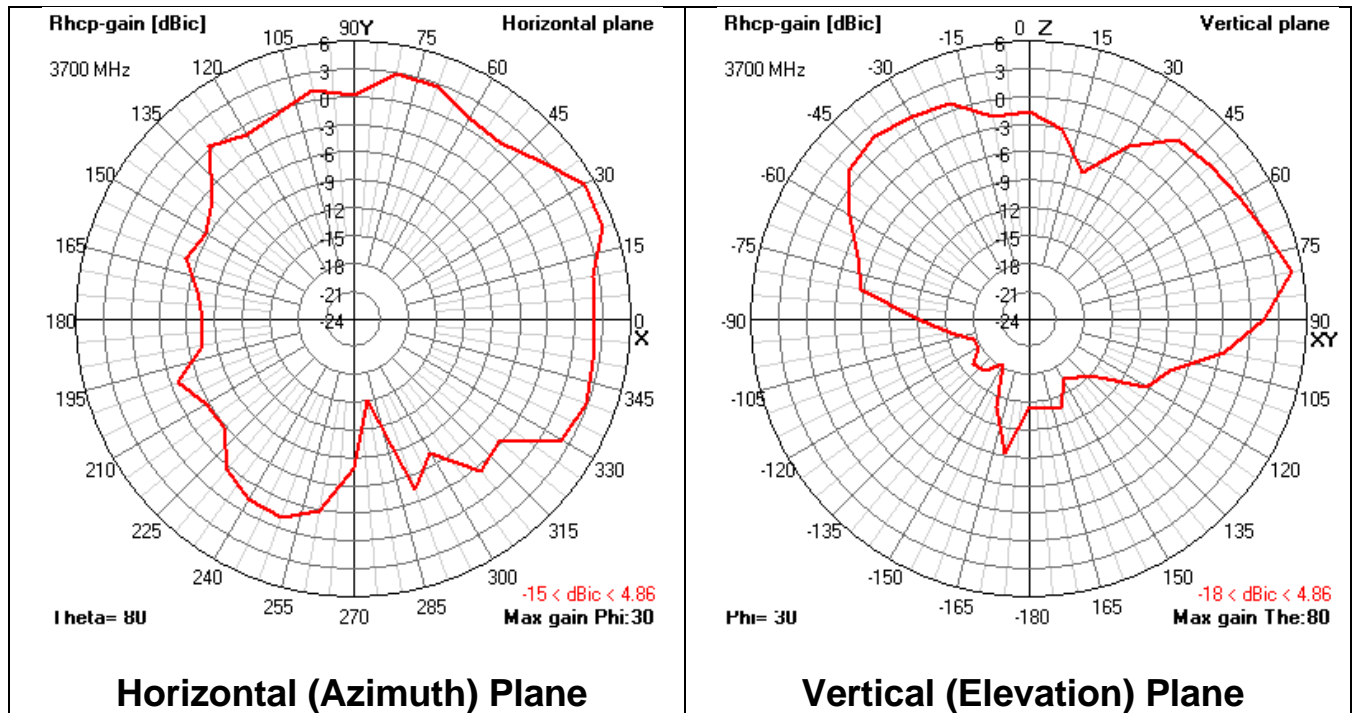
2400 MHz



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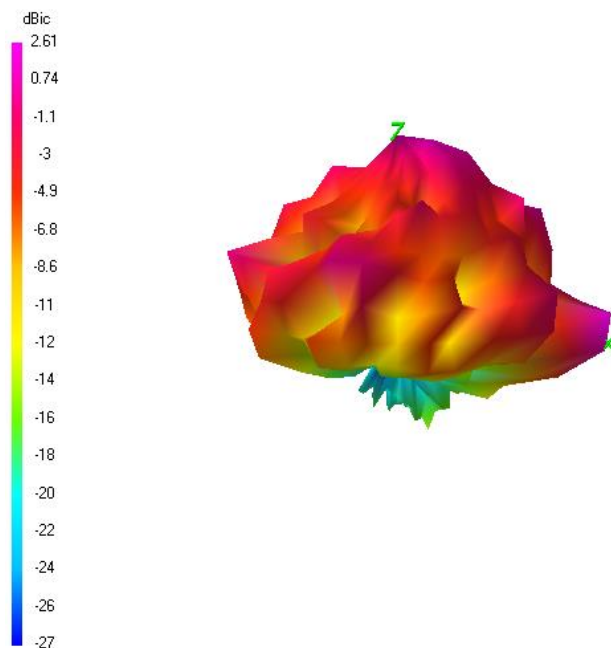
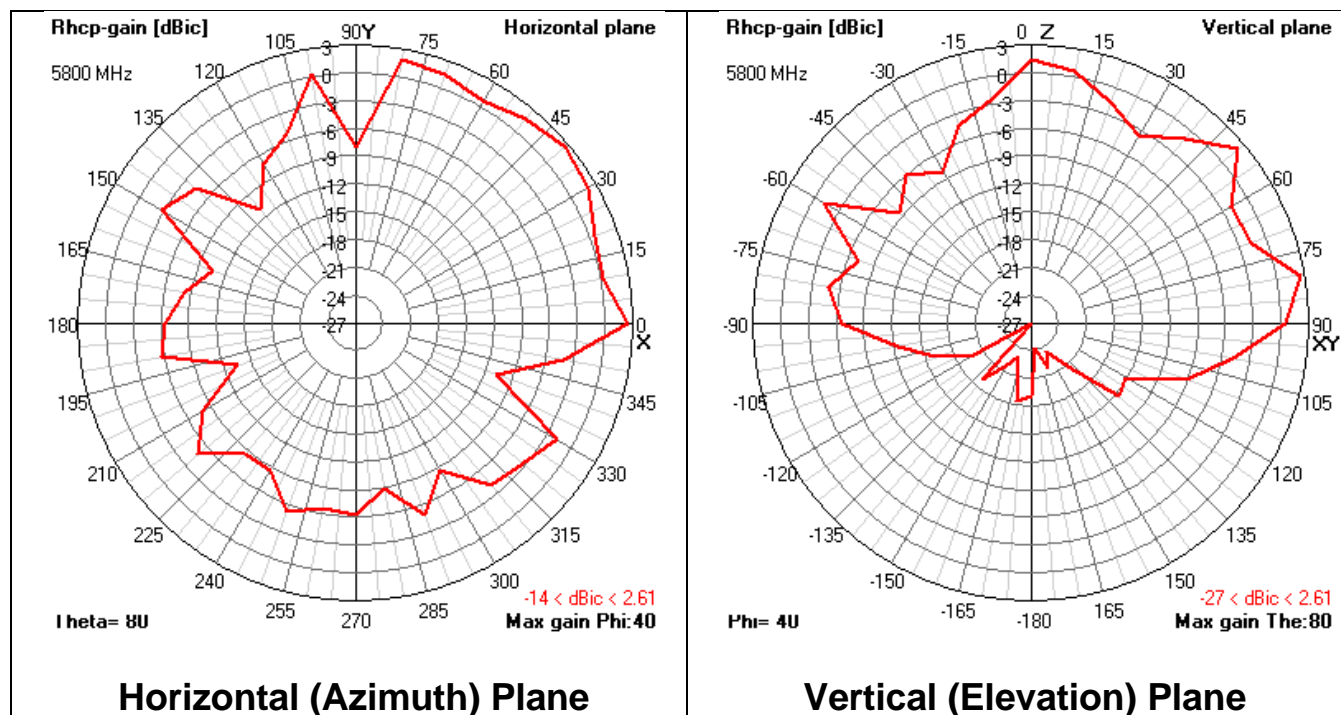
3700 MHz



ANT-520-421

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5800 MHz



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Product Images



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Installation Instructions

- Drill a 1.5" (38mm) hole in flat horizontal surface
- Remove mounting nut and feed coax cables through hole
- Press antenna into hole and tighten nut from underneath
- Optionally apply a thin bead of silicone caulk around the antenna rim

Contact Information

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