VIAVI Solutions

PRODUCT CATALOG

RF Test Antennas

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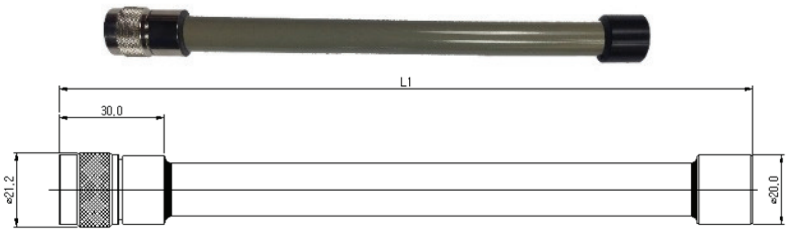
Selection Table

Antenna Type	Catalog Number	Connector	Frequency Range
Omni Antenna	G700050353	N plug (male)	806 to 896 MHz
	G700050354	N plug (male)	870 to 960 MHz
	G700050355	N plug (male)	1710 to 2170 MHz
	G700050356	N plug (male)	720 to 800 MHz
	G700050357	N plug (male)	2300 to 2700 MHz
	G700050350	N plug (male)	3300 to 3800 MHz
	G700050349	SMA plug (male)	600 to 6000 MHz
Dual Band Omni Antenna	G700050359	N plug (male)	2400 to 2500 MHz 5100 to 5900 MHz
Mag Mount Omni Antenna	G700050358	N plug (male)	689 to 6000 MHz
	G700050340	K jack (female)	26500 to 40000 MHz
	G700050342	K jack (female)	26500 to 40000 MHz
	G700050345	N plug (male)	600 to 6000 MHz
Yagi Antenna	G700050363	N jack (female)	1750 to 2390 MHz
	G700050365*	N jack (female)	866 to 960 MHz
Log Periodic Antenna	G700050366	SMA jack (female)	650 to 4000 MHz
	G700050367	SMA jack (female)	650 to 6000 MHz
Horn Antenna	G700050370	K jack (female)	26500 to 40000 MHz
Isotropic Antenna	G700050381	N plug (male)	400 to 6000 MHz (usable down to 30 MHz)
GPS Antenna	JD71050351	SMA plug (male)	L1 1575.42 MHz
	G700050390	SMA plug (male)	L1 1575.42 MHz
	JD72050005**	USB Type A	L1 1575.42 MHz

Omni Antenna

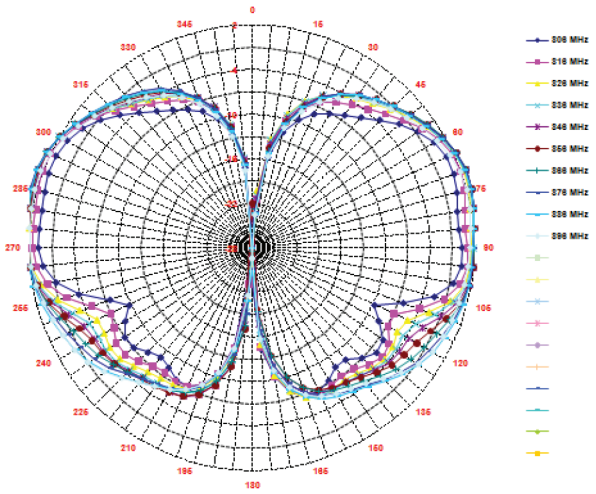
Specifications

VIAVI Omni antennas are used for both indoor and outdoor applications. They are constructed with a Type N male connector to make it easy for a direct attachment.

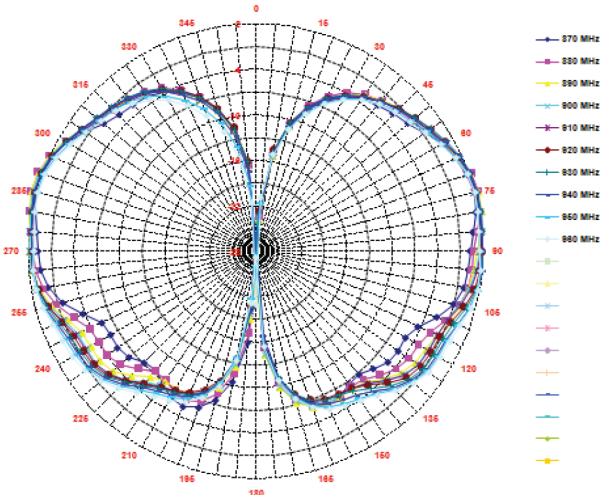
Catalog Number	G700050353	G700050354	G700050355	G700050356	G700050357
Mechanical Data					
Length (L1)					
	227.0 ± 3.0 mm	223.0 ± 3.0 mm	143.0 ± 3.0 mm	266.0 ± 3.0 mm	129.0 ± 3.0 mm
Connector	Type N plug (male)				
Environmental Data					
Operating Temperature	-20 to +70°C	-20 to +70°C	-20 to +70°C	-20 to +70°C	-20 to +70°C
Electrical Data					
Frequency Range	806 to 896 MHz	870 to 960 MHz	1710 to 2170 MHz	720 to 800 MHz	2300 to 2700 MHz
Gain	> 1 dBi	> 1 dBi	> 1 dBi	> 1 dBi	> 1 dBi
VSWR	≤ 2.4:1 (806 to 816 MHz) ≤ 2.0:1 (816 to 896 MHz)	≤ 2.0:1	≤ 2.0:1	≤ 2.0:1 (720 to 780 MHz) ≤ 2.4:1 (780 to 800 MHz)	≤ 2.0:1
Impedance	50 Ω	50 Ω	50 Ω	50 Ω	50 Ω
Maximum Power	50 W	50 W	50 W	50 W	50 W

Antenna Pattern

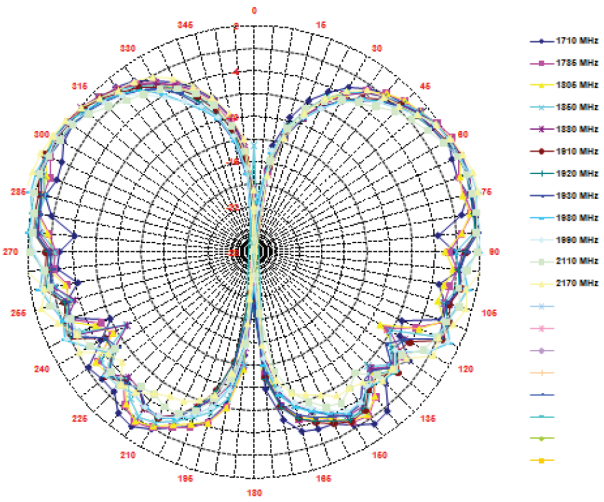
G700050353 (806 to 896 MHz)



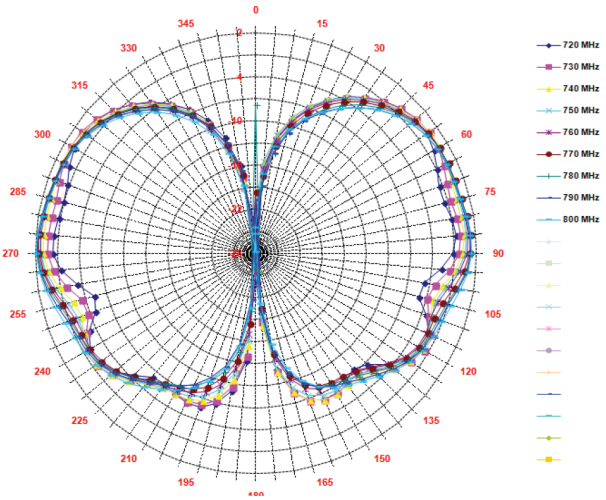
G700050354 (870 to 960 MHz)



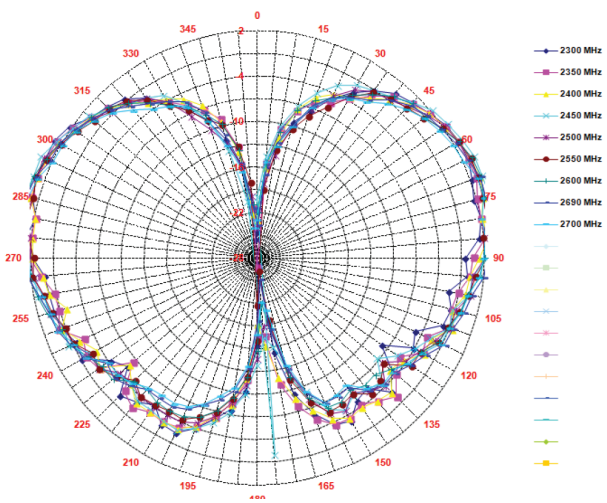
G700050355 (1710 to 2170 MHz)



G700050356 (720 to 800 MHz)



G700050357 (2300 to 2700 MHz)



Specifications

Catalog Number	G700050350

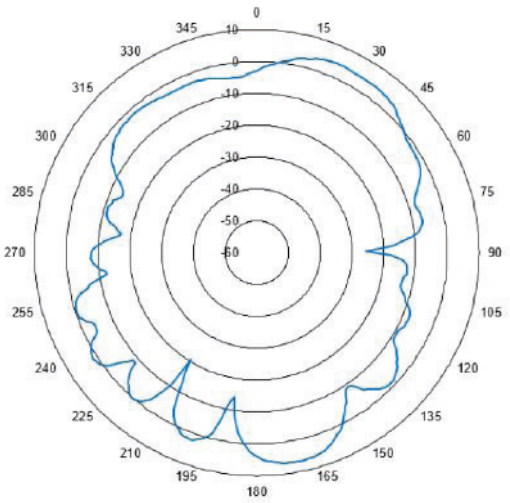
RF omni antenna, N(m), 3.3 to 3.8 GHz, 4 dBi

Mechanical Data	
Dimension	280 x 24 mm (11.02 x 0.94 in) 
Connector	Type N plug (male)
Electrical Data	
Frequency Range	3300 to 3800 MHz
Gain	> 4 dBi
VSWR	≤ 2.0:1
Impedance	50 Ω

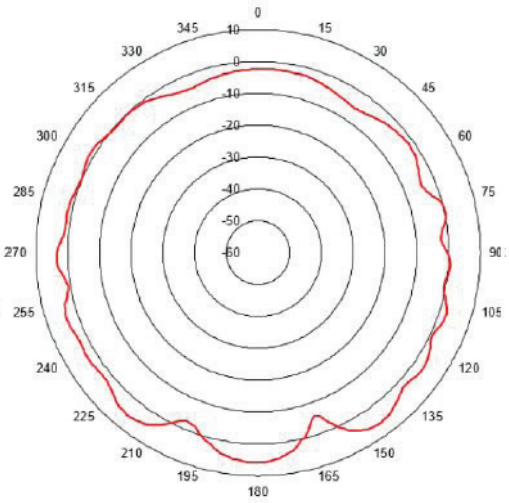
Antenna Pattern

3300 MHz

E-plane

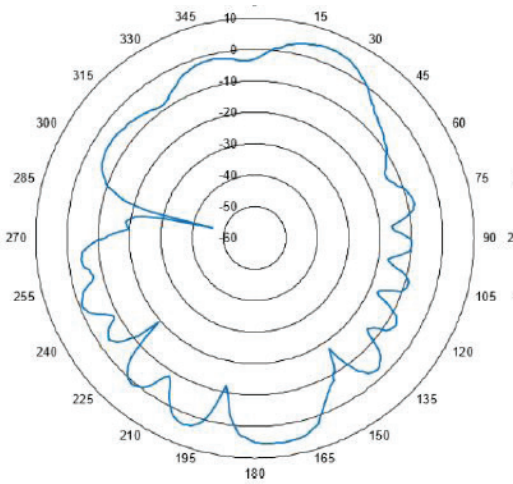


H-plane

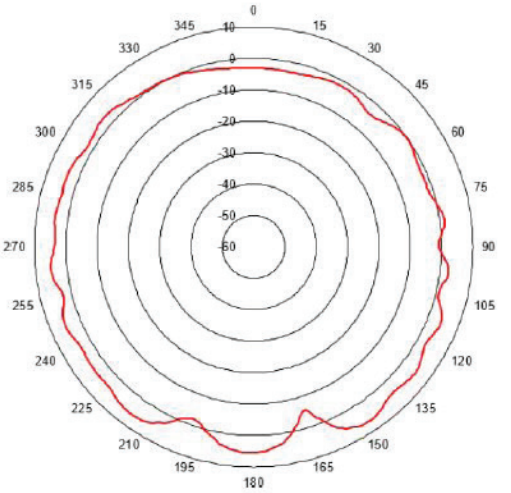


3550 MHz

E-plane

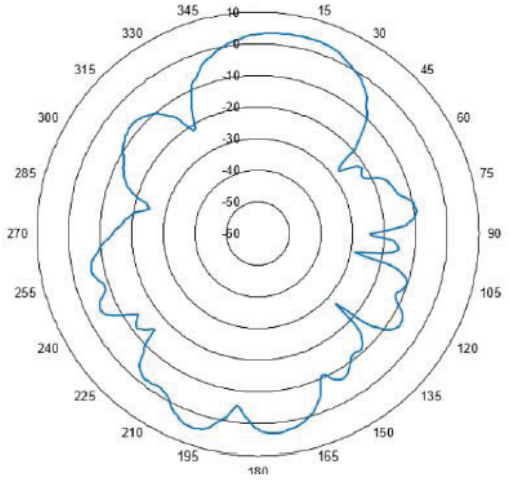


H-plane

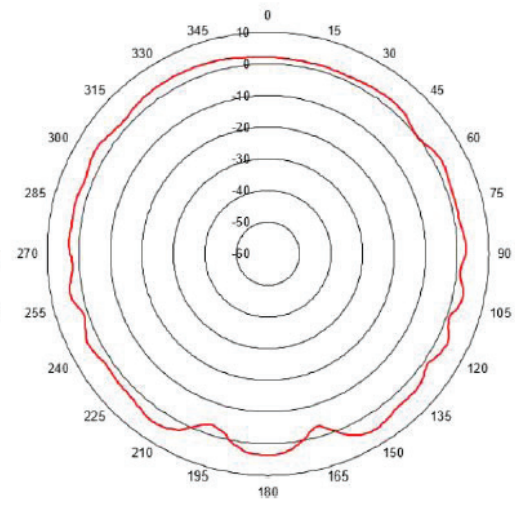


3800 MHz

E-plane



H-plane



Specifications

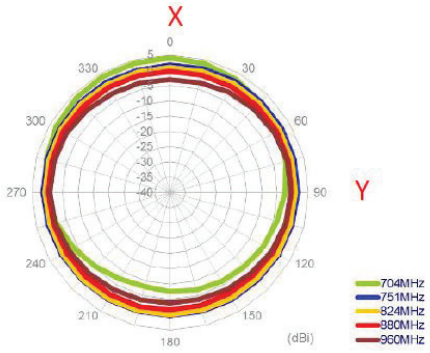
Catalog Number	G700050349

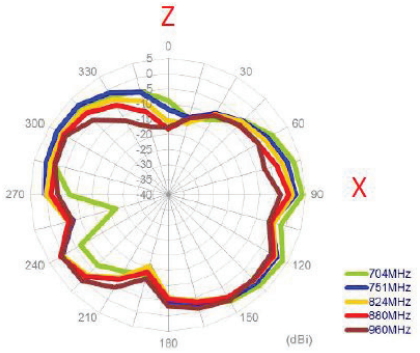
RF Omni Antenna 600 MHz to 6 GHz with SMA to N Adapter

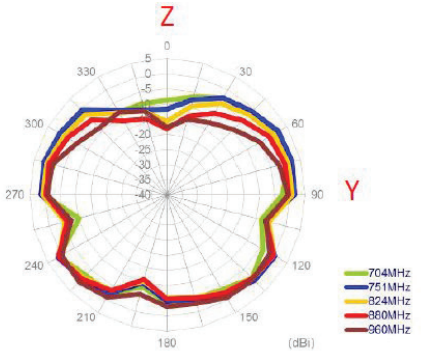
Mechanical Data						
Dimension	Straight: 224 x 58 x 13mm Right-Angle: 197 x 58 x 32 mm 					
Antenna Casing Material	UV Resistant PC/ABS					
Connector	SMA(m)					
Environmental Data						
Operating Temperature	-40 to +85°C					
Electrical Data						
Frequency Range	600 to 6000 MHz					
Peak Gain (dBi)	**Straight Free Space**					
	617-698	**698-824**	**824-960**	**1427-1518**	**1710-1880**	**1850-1990**
	1.82	1.5	1.63	1.88	3.21	2.91
	1920-2170	**2300-2690**	**3300-3500**	**3400-3800**	**3600-4600**	**5150-5925**
	2.69	1.55	-0.61	-0.28	0.53	2.25
	Bent Free Space					
	617-698	**698-824**	**824-960**	**1427-1518**	**1710-1880**	**1850-1990**
	1.68	2.73	2.16	2.14	3.62	3.5
	1920-2170	**2300-2690**	**3300-3500**	**3400-3800**	**3600-4600**	**5150-5925**
	3.7	2.8	-0.31	0.14	1.02	3.02
Impedance	50 Ω nominal					
Maximum Power	5 W					

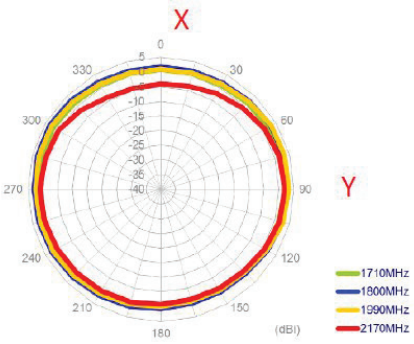
Radiation Patterns

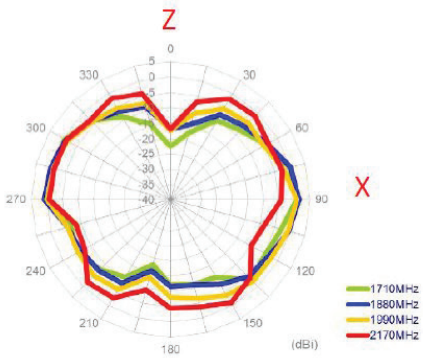
Straight Free Space

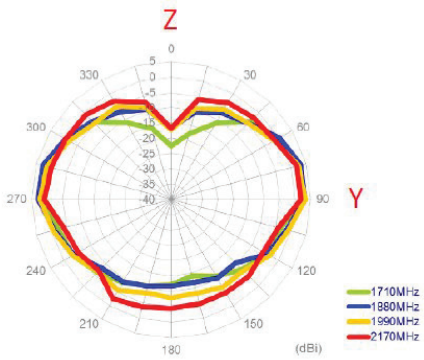


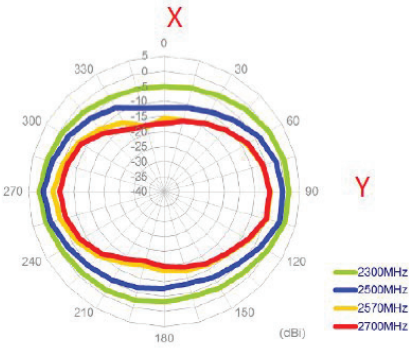


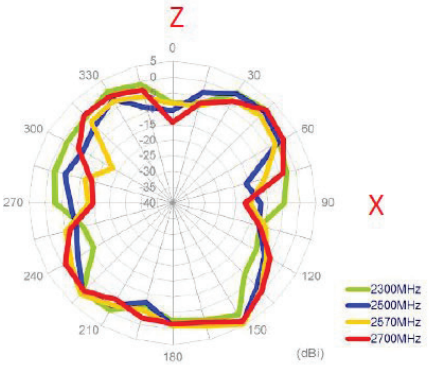


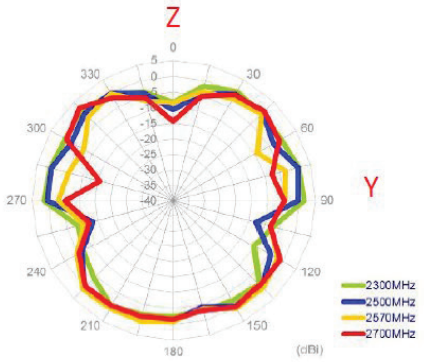


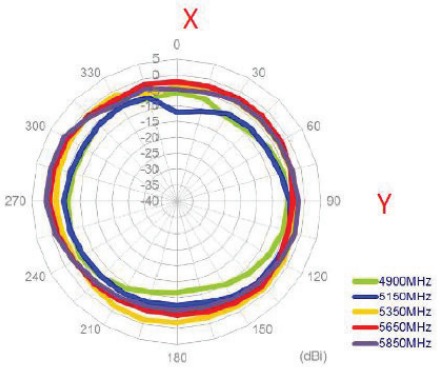


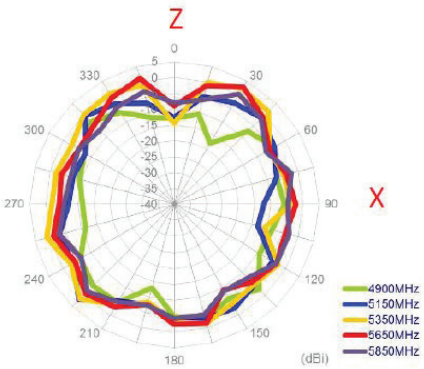


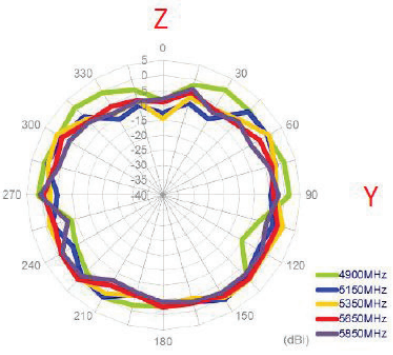






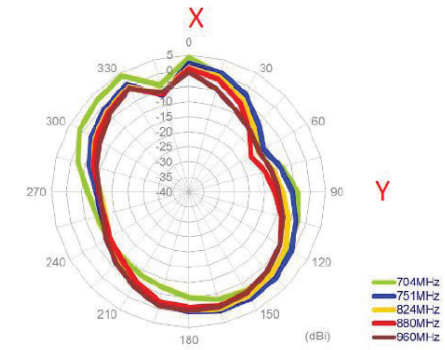


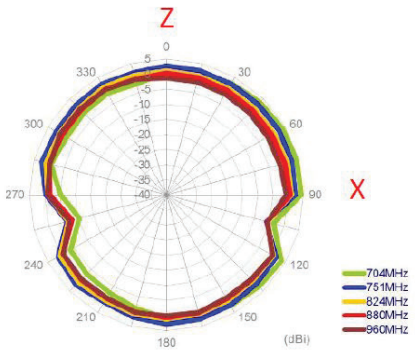


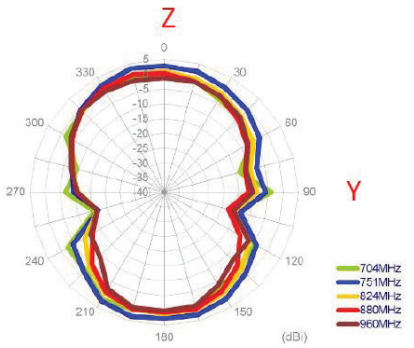


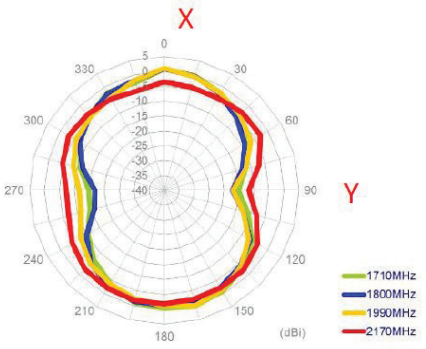
Radiation Patterns

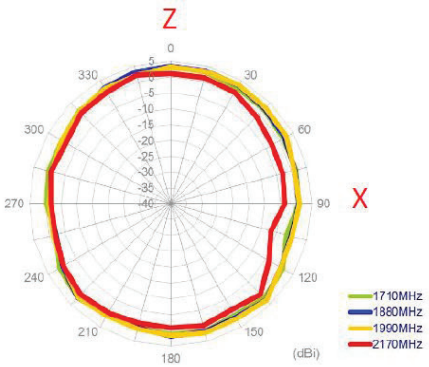
Bent 90° in Free Space

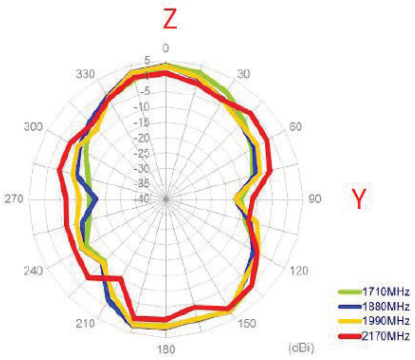


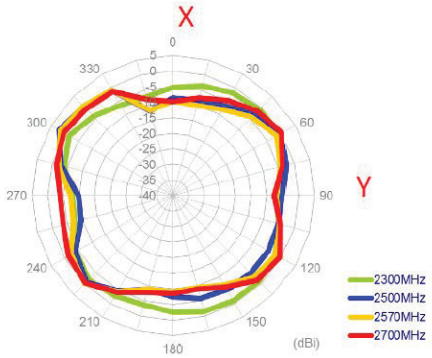


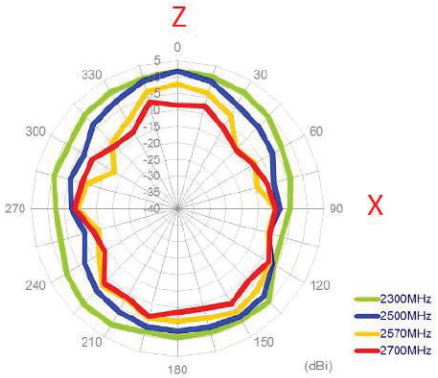


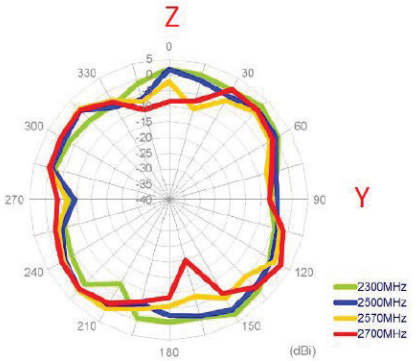


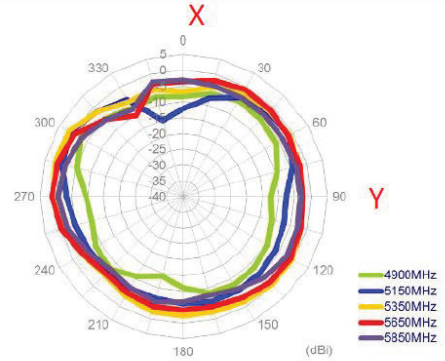


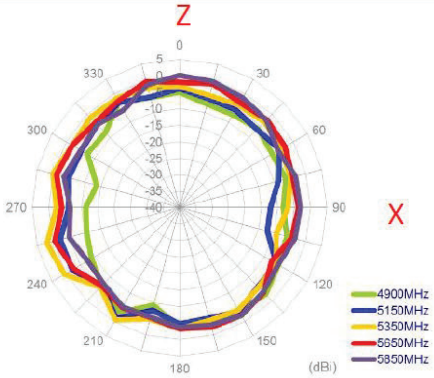


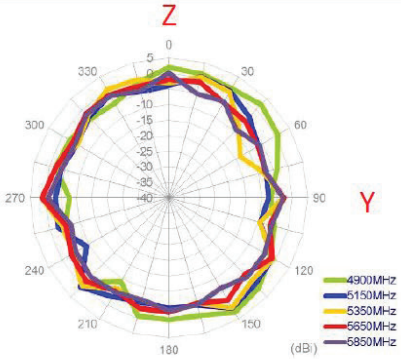












Dual Band Omni Antenna

Specifications

Catalog Number	G700050359

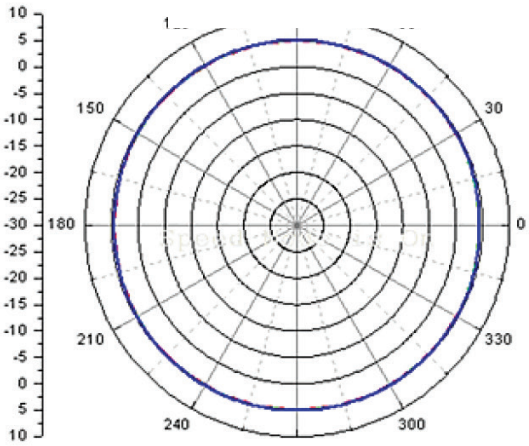
RF omni antenna, N(m), 2.4 to 2.5 GHz, 4.5 dBi, and 5.15 to 5.85 GHz, 7 dBi

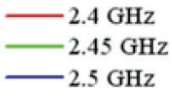
Mechanical Data	
Dimension	180 x 23 mm (7.07 x 0.89 in) 
Radome Material	ABS
Connector	Type N plug (male)
Electrical Data	
Frequency Range	2400 to 2500 MHz
	5150 to 5850 MHz
Gain	4.5 dBi (2400 to 2500 MHz)
	7 dBi (5150 to 5850 MHz)
VSWR	≤ 2.0:1
Impedance	50 Ω
Electrical Wave	1/4

Antenna Pattern

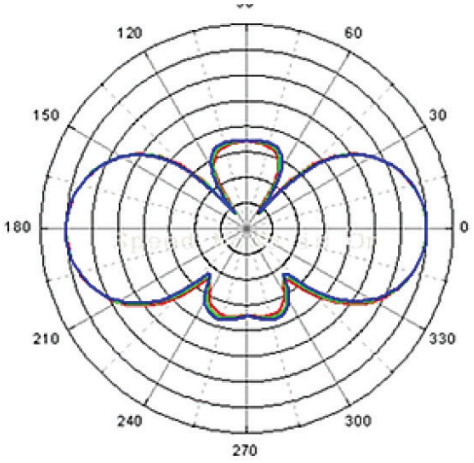
2.4 GHz

H-plane



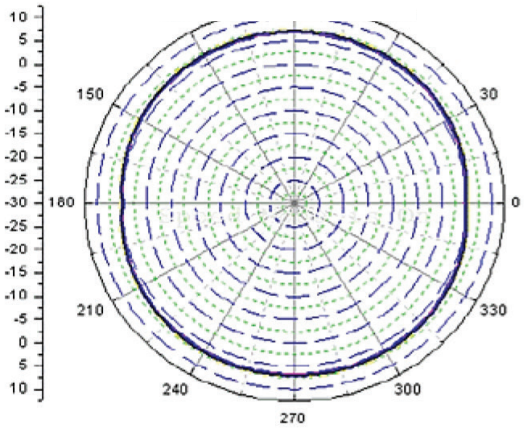


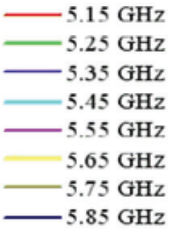
E-plane



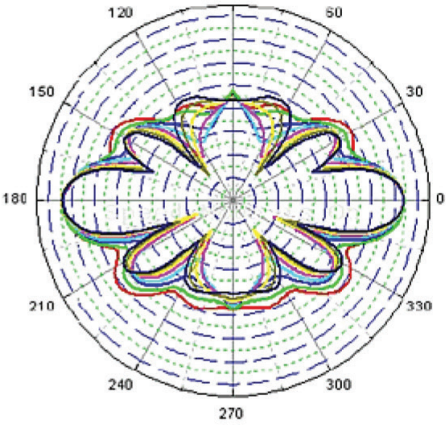
5.8 GHz

H-plane





E-plane



Mag Mount Omni Antenna

Specifications

Catalog Number	G700050358

Mag mount RF omni antenna, N(m), 694 to 6000 MHz

Mechanical Data	
Dimension	107 x 107 x 93 mm (4.20 x 4.20 x 3.67 in)
Radome Material	Black ASA UV Inhibative
Cable	RG-174, 8 ft. (GPS DC 3V and 5V)
	RF-195, 8 ft. (694-960/1710-3700 MHz)
	RF-195, 8 ft. (2.4 to 2.485 and 4.9 to 6.0 GHz)
Connector	RF: Type N plug (male)
	GPS: SMA plug (male)
Environmental Data	
Operating Temperature	-40 to +80°C
Shock and Vibration	IEEE1478, EN 61373, MIL-810G, TIA 329.2-C
Dust and Water Ingress	IP67
Electrical Data	
Frequency Range	RF: 694-960 MHz, 1710-3700 MHz, 2400 MHz, and 4900-6000 MHz
	GPS: 1575.42 ± 2 MHz
Gain	3 dBi (694 to 960 MHz)
	4 dBi (1710 to 3700 MHz)
	5 dBi (2.4 to 2.485 and 4.9 to 6.0 GHz)
GPS Unit Gain	26 dB, 5 dBi antenna
	3.3 and 5 V DC (Voltage)
	10 mA typical, 20 mA max. (Current)
VSWR	< 2.0:1
Impedance	50 Ω nominal
Maximum Power	10 W

Specifications

Catalog Number	G700050340

Mag mount RF omni antenna, K(f), 26.5 to 40 GHz, 3 dBi

Mechanical Data	
Dimension	52 x 52 x 84.3 mm (2.05 x 2.05 x 3.32 in)
Weight	200 g (7.05 oz)
Radome Material	HDPE
Connector	K jack (female)
Environmental Data	
Operating Temperature	-40 to +85°C
Electrical Data	
Frequency Range	26500 to 40000 MHz
Gain	3 dBi typical*
Azimuth Gain Variation	± 1 dB
Azimuth Beam Width	360°
3 dB Vertical Beam Width	45°
Return Loss	8 dB
Maximum Power	200 W

* Catalog number G700050343 available for factory upgrade with LNA

Specifications

Catalog Number	G700050342

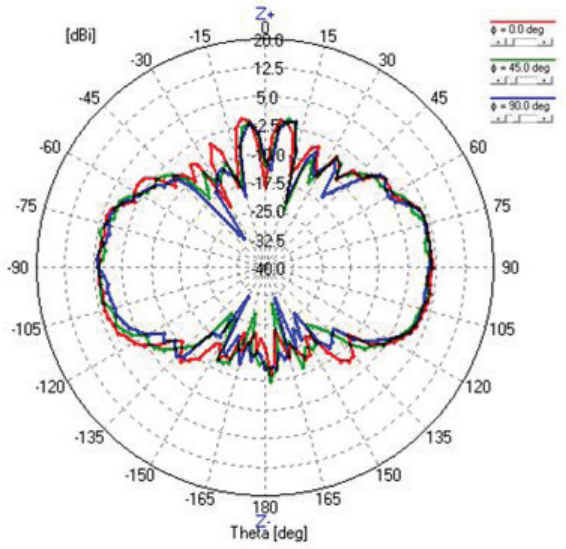
Mag mount RF omni antenna with LNA, K(f), 26.5 to 40 GHz, 18 dBi

Mechanical Data	
Dimension	With the housing: 54.0 x 137.3 x 125.5 mm (2.13 x 5.41 x 4.94 in) 
Weight	340 g (11.99 oz) without the USB cabling and housing
Radome Material	HDPE
Connector 1	K jack (female)
Connector 2	USB Type C with locking screw
Environmental Data	
Operating Temperature	-20 to +65°C
Electrical Data	
Frequency Range	26500 to 40000 MHz
Gain	18 dBi typical (3 dBi from the antenna and 15 dBi from the integrated LNA)
Azimuth Gain Variation	± 1 dB
Azimuth Beam Width	360°
3 dB Vertical Beam Width	45°
P1dB	11 dBm
Return Loss	10 dB
RF Input Power	-8 dBm maximum
Damage RF Input Power	-3 dBm maximum
Supply Voltage	4.8 V DC minimum, 5 V DC typical, 20 V DC maximum
Supply Current	150 mA typical

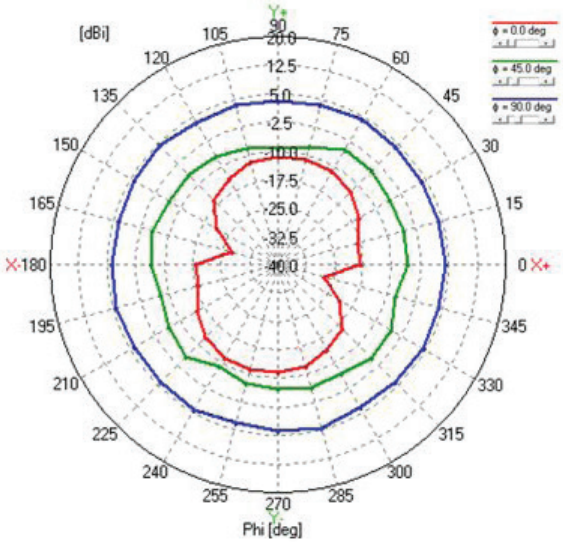
Antenna Pattern

G700050340 (28 GHz)

E-plane

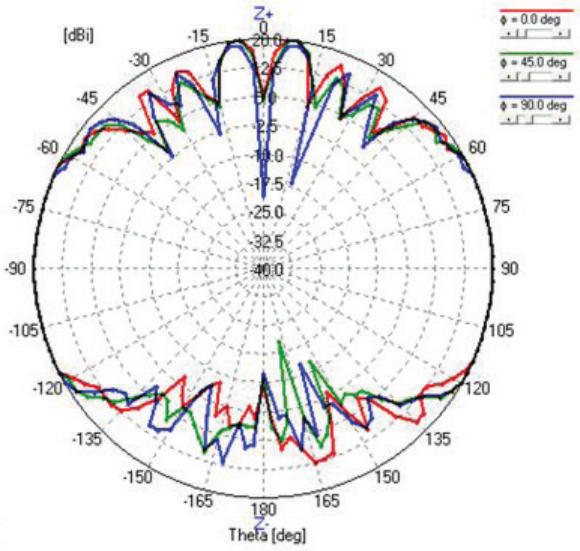


H-plane

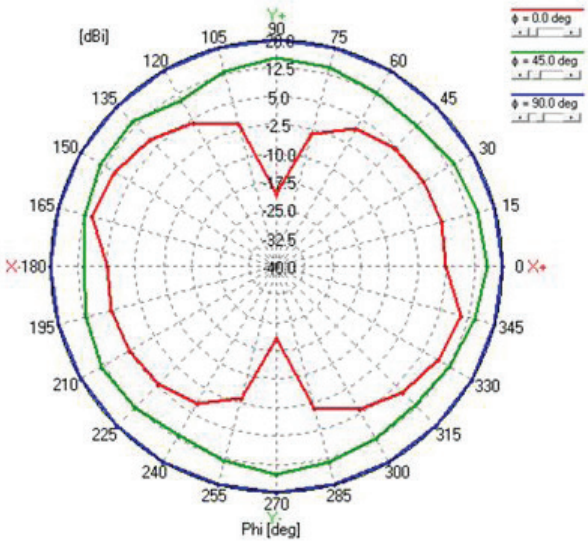


G700050342 (28 GHz)

E-plane



H-plane



Specifications

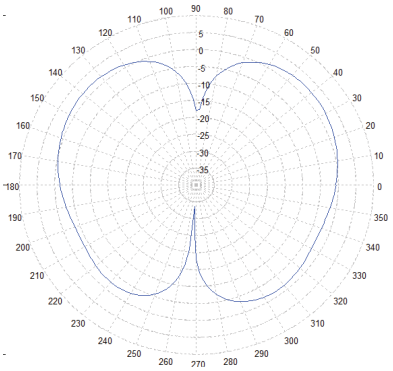
Catalog Number	G700050345

Mag Mount RF Omni Antenna 617-960/1700-6000 MHz 8 ft. LL-195 with N-plug

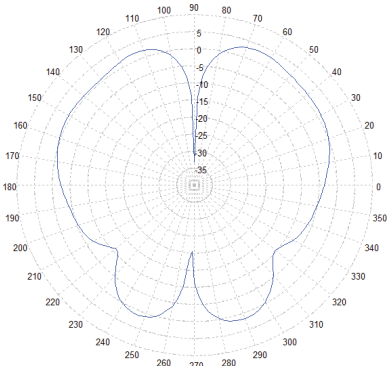
Mechanical Data	
Dimension	1.7" diameter x 3 5/8" high (43 mm x 92 mm) Mag base dia. 2 5/8" (67mm)
Radome	Black ABS Plastic
Cable	8 ft. LL-195
Connectors	N plug
Environmental Data	
Operating Temperature	-40 to +80°C
Shock & Vibration	IEEE1475, EN 61373, MIL-STD-810G
Dust & Water Ingress	IPX5
Electrical Data	
Frequency Range	617-960/1700-6000 MHz
Peak Gain	3 dBi
VSWR	2.0:1
Impedance	50 Ω nominal
Maximum Power	10 Watts

Antenna Pattern

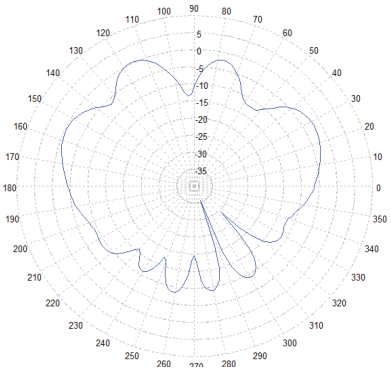
620 MHz – Elevation Plot



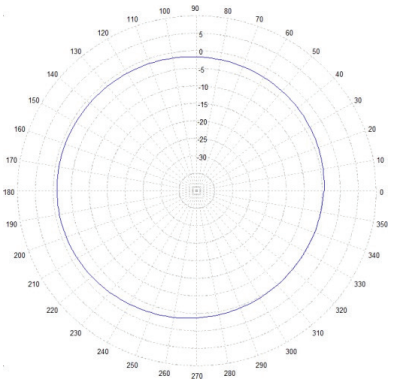
960 MHz – Elevation Plot



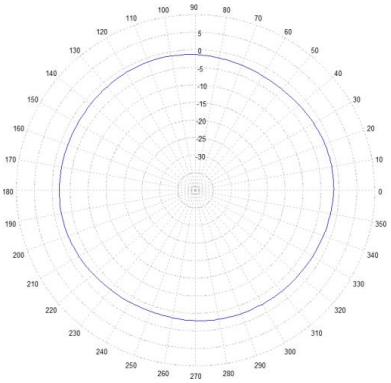
1950 MHz – Elevation Plot



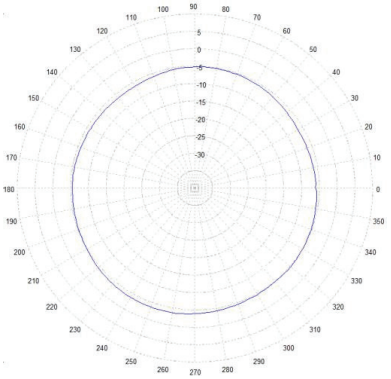
620 MHz – Azimuth Plot



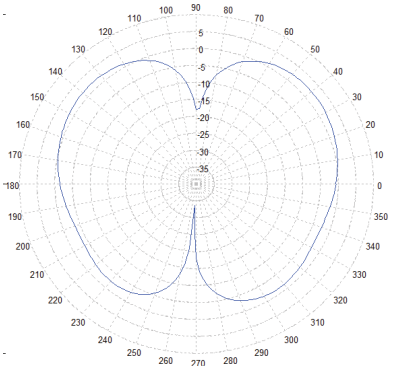
960 MHz – Azimuth Plot



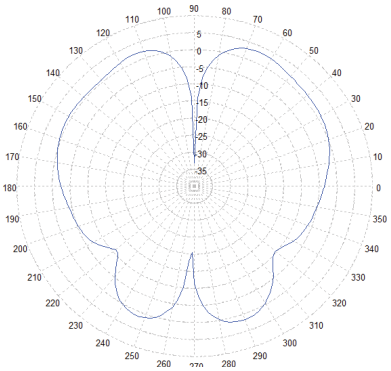
1950 MHz – Azimuth Plot



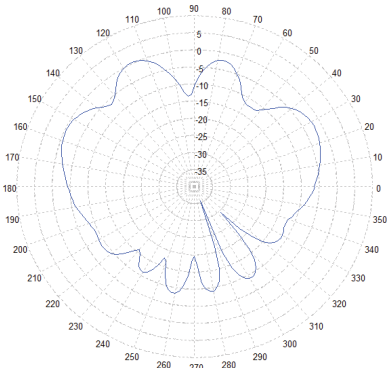
2600 MHz – Elevation Plot



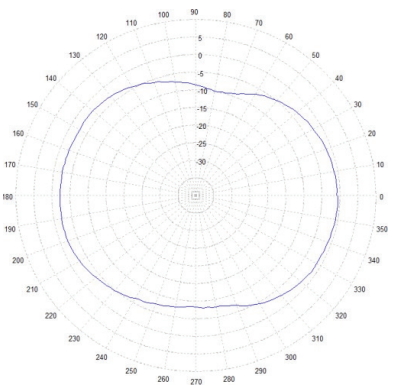
3800 MHz – Elevation Plot



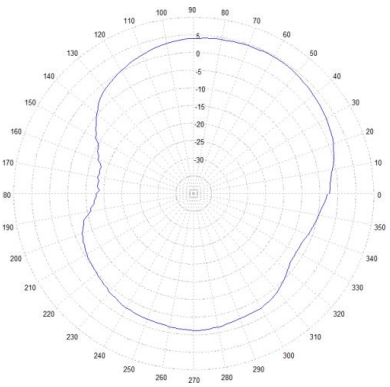
5500 MHz – Elevation Plot



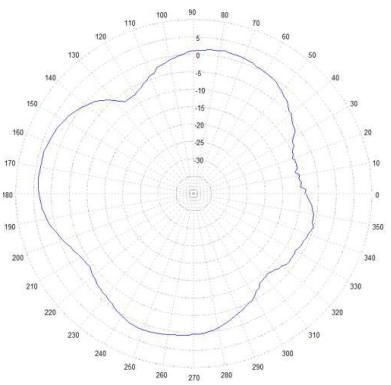
2600 MHz – Azimuth Plot



3800 MHz – Azimuth Plot



5500 MHz – Azimuth Plot



Yagi Antenna

Specifications

VIAVI directional Yagi antennas are designed to receive the signal from the Base Station with ruggedized aluminum and/or stainless-steel construction. They are ideal for outdoor applications such as Over The Air (OTA) measurement and interference analysis.

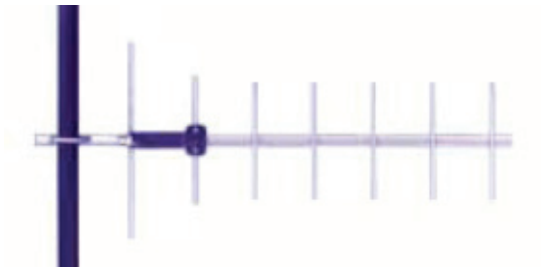
Catalog Number	G700050363

RF Yagi antenna, N(f), 1750 to 2390 MHz

Mechanical Data	
Dimension	200 x 200 x 603 mm (7.87 x 7.87 x 23.74 in)
Weight	≤ 2 kg (incl. bracket)
Radome Material	ASA
Connector	Type N jack (female)
Withstand Wind Pressure	60 m/sec
Mechanical Tilt	± 30° (Up, Down)
	± 30° (Left, Right)
Environmental Data	
Operating Temperature	-40 to +70°C
Electrical Data	
Frequency Range	1750 to 2390 MHz
Polarization	Vertical
Band Width	640 MHz
Gain	≥ 13 dBi
Beam Width	45 ± 5° (Horizontal)
	40 ± 5° (Vertical)
VSWR	< 1.4:1
Impedance	50 Ω
Maximum Power	50 W

Catalog Number	G700050365

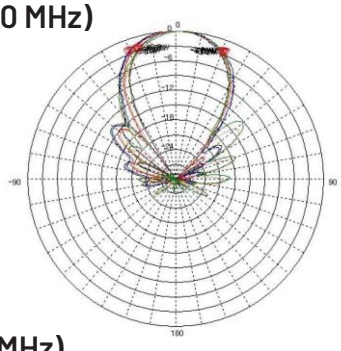
RF Yagi antenna, 866 to 960 MHz

Mechanical Data	
Dimension	Length 660 mm (25.98 in) 
Weight	< 907 g (2 lbs.)
Material	½" aluminum U channel boom
	¼" solid elements
	UV inhibited polyester coat
Connector	Type N jack (female)
Withstand Wind Pressure	125 MPH
Electrical Data	
Frequency Range	866 to 960 MHz
Gain	10.2 dBi
Beam Width	55° (Horizontal)
	50° (Vertical)
VSWR	< 2.0:1
Impedance	50 Ω
Maximum Power	300 W

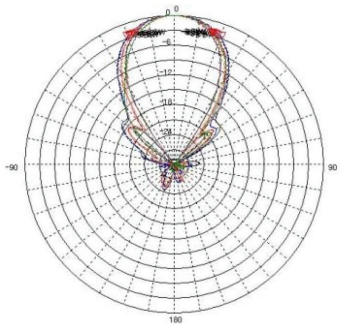
Antenna Pattern

G700050363 (1750 to 2390 MHz)

Horizontal Pattern

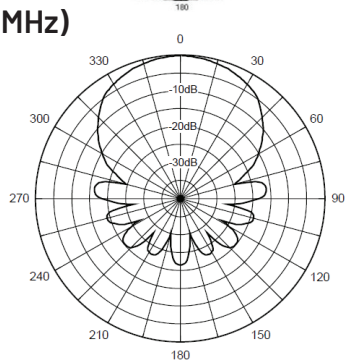


Vertical Pattern

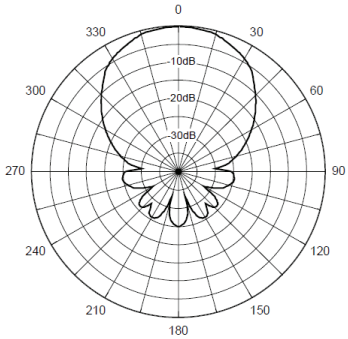


G700050365 (866 to 960 MHz)

Horizontal Pattern



Vertical Pattern



Broadband Log Periodic Antenna

Specifications

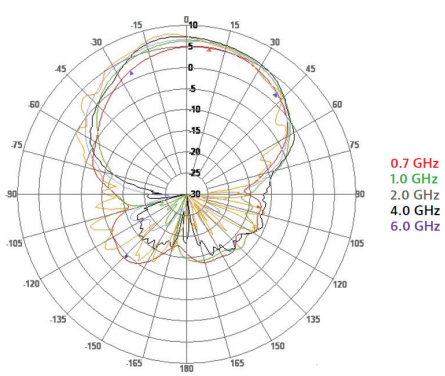
VIAVI broadband log periodic antenna is an extremely cost-effective solution that works with an AntennaAdvisor handle and CellAdvisor base station analyzer to let technicians at any skill level quickly identify and isolate RF interference. With a wide frequency coverage (up to 6 GHz), field technicians working in the cellular spectrum only need this one antenna for different cellular bands. A robust design and rugged construction with a high-tech radome housing protects against mechanical stress and environmental influence without sacrificing performance. This antenna can be used with optional JD70050007 AntennaAdvisor Handle.

Catalog Number	G700050366	G700050367
Mechanical Data		
Dimension	197 x 310 x 25.4 mm (7.75 x 12.20 x 1 in)	
Connector	SMA jack (female)	SMA jack (female)
Environmental Data		
Operating Temperature	–30 to +70°C (–22 to 158°F)	–30 to +70°C (–22 to 158°F)
Electrical Data		
Frequency Range	650 to 4000 MHz	650 to 6000 MHz
Gain	5 dBi	5 dBi
VSWR	< 2.0:1	< 2.0:1
Maximum Power	50 W	50 W

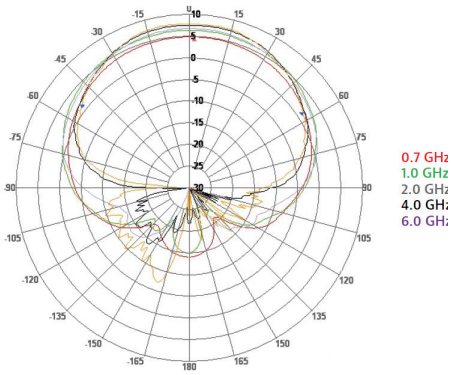
Antenna Pattern

G700050367 (650 to 6000 MHz)

E-plane



H-plane



Horn Antenna

Specifications

Catalog Number	G700050370

RF directional horn antenna kit that includes a 26.5 to 40 GHz horn antenna, a tripod handle, a 40 GHz cable, and a hard carrying case.

Mechanical Data	
Dimension	93.73 x 36.83 x 27.94 mm (3.69 x 1.45 x 1.10 in)
Connector	K jack (female)
Electrical Data	
Frequency Range	26.5 to 40 GHz
Polarization	Linear
Gain	20 dBi
3 dB Beam Width	16.7° (E-Plane)
	18.3° (H-Plane)
VSWR	≤ 1.25:1
Impedance	50 Ω nominal

Isotropic Antenna

Specifications

Catalog Number	G700050381

Isotropic antenna, N(m), 400 MHz to 6 GHz

Mechanical Data	
Dimension	130 x 130 x 390 mm (5.12 x 5.12 x 15.35 in)
Weight	0.6 kg (21.16 oz)
Connector	Type N plug (male)
Environmental Data	
Operating Temperature	-20 to +55°C
Electrical Data	
Frequency Range	400 to 6000 MHz (usable down to 30 MHz)
Linear Dynamic Range	0.2 mV/m to 200 V/m (1 dB compression point)
Sensitivity	< 0.3 mV/m
Maximum Field Strength (destruction limit)	300 V/m
Isotropy	± 1.5 dB (400 to 1500 MHz)
	± 2.0 dB (1500 to 2000 MHz)
	± 2.5 dB (2000 to 3500 MHz)
	± 3.5 dB (3500 to 6000 MHz)
Impedance	50 Ω
Control and Power Supply	USB

Typical Antenna Factors

Frequency (MHz)	Antenna Factor (dB/m typical)	Frequency (MHz)	Antenna Factor (dB/m typical)	Frequency (MHz)	Antenna Factor (dB/m typical)
400	51.9	2400	43.2	4400	46.5
600	50.2	2600	42.2	4600	47.7
800	46.5	2800	42.2	4800	46.8
1000	45.1	3000	43.5	5000	49.0
1200	43.1	3200	43.3	5200	47.6
1400	44.0	3400	45.0	5400	48.8
1600	41.8	3600	44.1	5600	49.0
1800	43.3	3800	45.9	5800	48.5
2000	43.9	4000	45.1	6000	49.6
2200	42.9	4200	46.7		

Included Accessories

- SDSW-03, USB remote axis selector
- 1.5m composite cable, ferritized, with calibration certificated of attenuation and return loss (typ. atten. 2.0 dB @3 GHz, 3.0 dB @6 GHz)
- Vertical support for fixing to ¼" thread
- Calibration certificate with antenna factor and return loss of three antennas
- Hard carrying case

GPS Antenna

Specifications

Catalog Number	JD71050351

GPS antenna with cable

Mechanical Data	
Dimension	45 x 45 x 13 mm (1.77 x 1.77 x 0.51 in)
Weight	110 g (incl. 5 m cable and connector)
Cable Length	5 m (16.4 ft)
Connector	SMA plug (male)
Environmental Data	
Operating Temperature	-10 to +50°C
Electrical Data	
Patch	
Center Frequency	1575.42 MHz
Bandwidth (10 dB return loss)	10 MHz min @ S11-10 dB
Return Loss	-10 dB max.
Gain at Zenith	5.0 dBi typical
Polarization	RHCP
Axial Ratio	3 dB typical
Filter/LNA	
Center Frequency	1575.42 MHz ± 3
Gain	28 dB typical (without cable)
Noise Figure	1.2 dB typical
Output VSWR	< 2.0:1
Voltage	2.7 to 5 V dc
Current	8 mA typical @ 3.3 V ± 0.1 (11 mA max.)

Specifications

Catalog Number	G700050390

GPS SMA mount antenna

Mechanical Data	
Dimension	15.1 x 15.1 x 44.5 mm (0.59 x 0.59 x 1.75 in) 
Weight	30 g (1.06 oz)
Radome Material	Black Ultem 1000
Connector	SMA plug (male)
Environmental Data	
Operating Temperature	-40 to +71°C
Electrical Data	
Center Frequency	1575.42 MHz
VSWR	≤ 3.0:1
Gain	-5 dBic ± 1 dB
Polarization	RHCP
Beam Width	120° x 120°
Axial Ratio at Zenith	4 dB typical
Impedance	50 Ω

Specifications

Catalog Number	JD72050005

USB GPS receiver for JD720C series

Mechanical Data	
Dimension	53 x 53 x 19.2 mm (2.08 x 2.08 x 0.75 in) 
Weight	62.37 g (2.2 oz)
Cable Length	1.5 m (59 in)
Connector	USB Type A
Environmental Data	
Operating Temperature	-40 to +85°C
Electrical Data	
Center Frequency	1575.42 MHz
Channels	48 all-in-view tracking
Sensitivity	-163 dBm
Voltage	4.5 to 5.5 V dc
Current	55 mA max.

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