

GNSS L1 (GPS/GLONASS/BeiDou/Galileo) - FPC Antenna



AFAG3030-SG3

Request Samples



Check Inventory



30 x 30 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

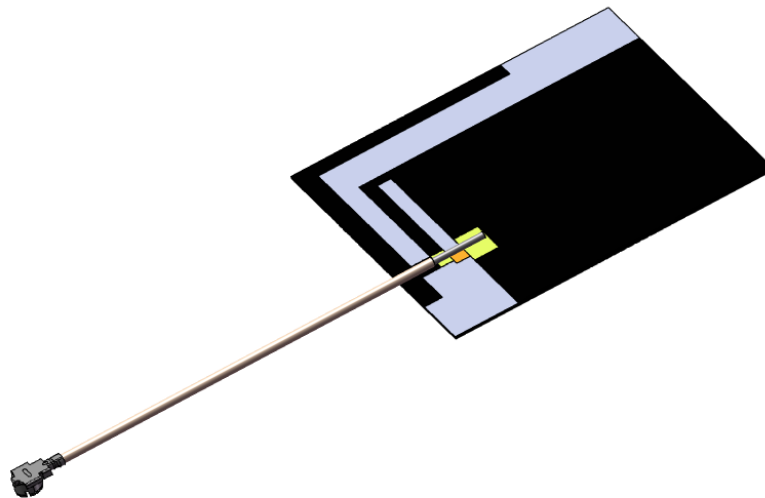
Features

- Multi-Constellation Support
GPS/GLONASS/BeiDou/Galileo
- Ultra-Low Profile
- Easy Installation on Both Flat and Curved Surfaces
- Can be Installed on Plastic and Human body
- Strong Adhesive in High-Temperature and Humid Environment
- Fully Customizable Cable Length and Connectors

Applications

- IoT
- M2M
- Unmanned Aerial Vehicle (UAV)
- Fleet Management and Asset Tracking
- Transportation
- Precision Agriculture
- Geolocation and Tracking

Product Image



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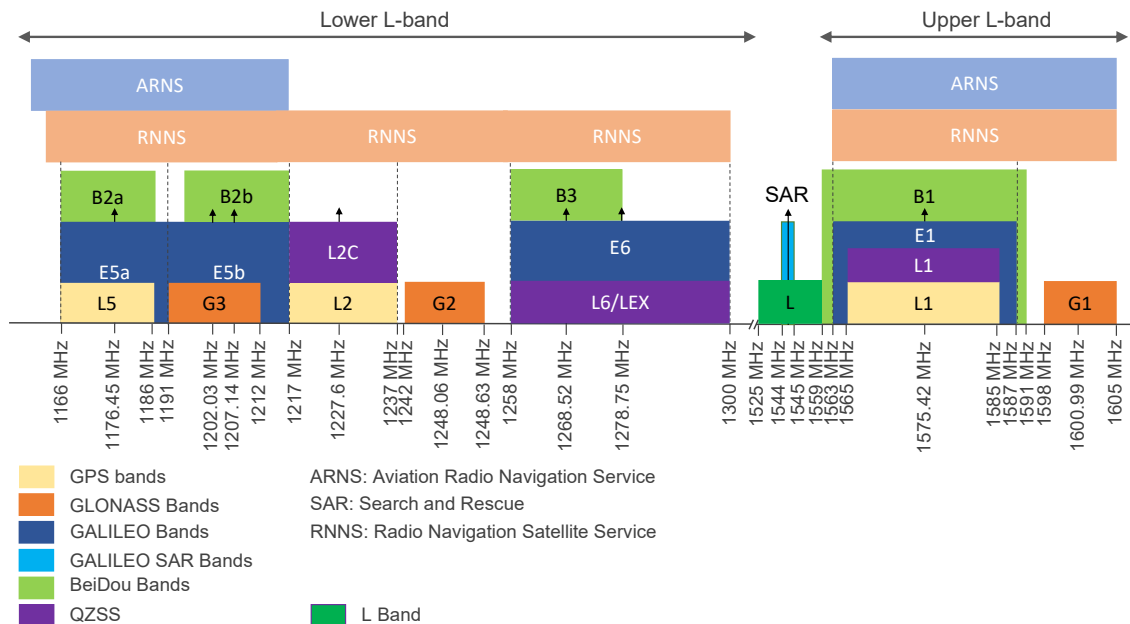
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GNSS Frequency Bands Covered

System	Band	Frequency Range	Support
GPS	L1	1575.42MHz	■
	L2	1227.6MHz	□
GLONASS	G1	1598.06-1609.31MHz	■
	G2	1242.93-1251.68MHz	□
Galileo	E1	1575.42MHz	■
	E5a	1176.45MHz	□
BeiDou	B1	1561MHz	□
	B2	1207.14MHz	□
QZSS	L1	1575.42MHz	■
	L2	1227.6MHz	□
IRNSS/NAVIC	L5	1176.45MHz	□
	L6	1278.75MHz	□
SBAS	L1/E1/B1	1575.42MHz	■
	L5/B2a/E5a	1176.45MHz	□



Frequency allocation: GNSS systems, upper L bands and lower L bands



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Electrical Specifications

Parameter	Specification	Unit
Frequency*	GPS: L1 GLONASS: G1 Beidou: B1 Galileo: E1 QZSS: L1 SBAS: L1/E1/B1	
VSWR (Typ.)	< 2.0	
Peak Gain	4 ~ 5	dBi
Efficiency	> 70	%
Input Power	< 3	W
Impedance	50	Ω
Polarization	Linear	
Radiation Pattern (Azimuth)	Omni-directional	

* All test measurements were conducted with the antenna on a 2 mm thick ABS surface. Please note that the operating frequency shifts with a change in housing material and thickness.

Mechanical Specifications

Parameter	Specification
Antenna Dimension	30 x 30 x 0.2 mm
Material	PE
Mounting Type*	Adhesive Tape (3M 467MP)
RF Connector	IPEX - 1
RF Cable	$\text{\O}1.13$ mm, L = 100 ± 5 mm

* Please note: This antenna cannot be mounted on top of metal directly.

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Environmental Specification

Parameter	Specification
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
RoHS Compliance	Yes
MSL	Not Applicable
Vibration	10 ~ 55 Hz with 1.5 mm amplitude 2 hrs

Ordering Information

Part Number	Description	Connector Option
AFAG3030-SG3-0100I	GNSS L1 (GPS/GLONASS/BeiDou/Galileo) - FPC Antenna with IPEX-1 connector with 100mm cable length	u.FL/IPEX-1/MHF1
AFAG3030-SG3-0100W	GNSS L1 (GPS/GLONASS/BeiDou/Galileo) - FPC Antenna with IPEX-4 connector with 100mm cable length	w.FL/IPEX-4/MHF4
AFAG3030-SG3-0240A	GNSS L1 (GPS/GLONASS/BeiDou/Galileo) - FPC Antenna with IPEX-4 connector with 240mm cable length	w.FL/IPEX-4/MHF4
AFAG3030-SG3-0200B	GNSS L1 (GPS/GLONASS/BeiDou/Galileo) - FPC Antenna with IPEX-4 connector with 200mm cable length	FAKRA-C

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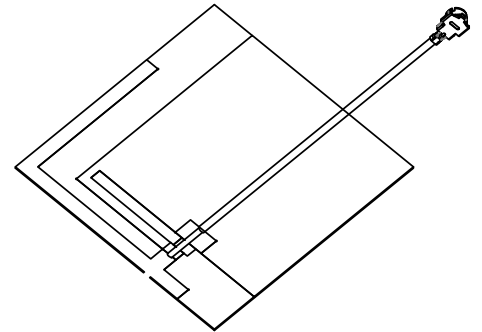
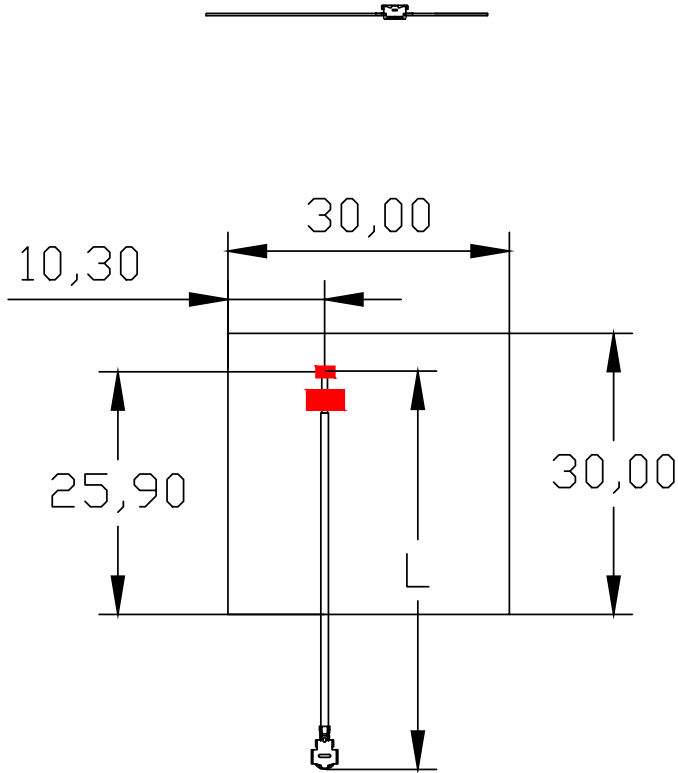
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Product Dimensions



Unit: mm

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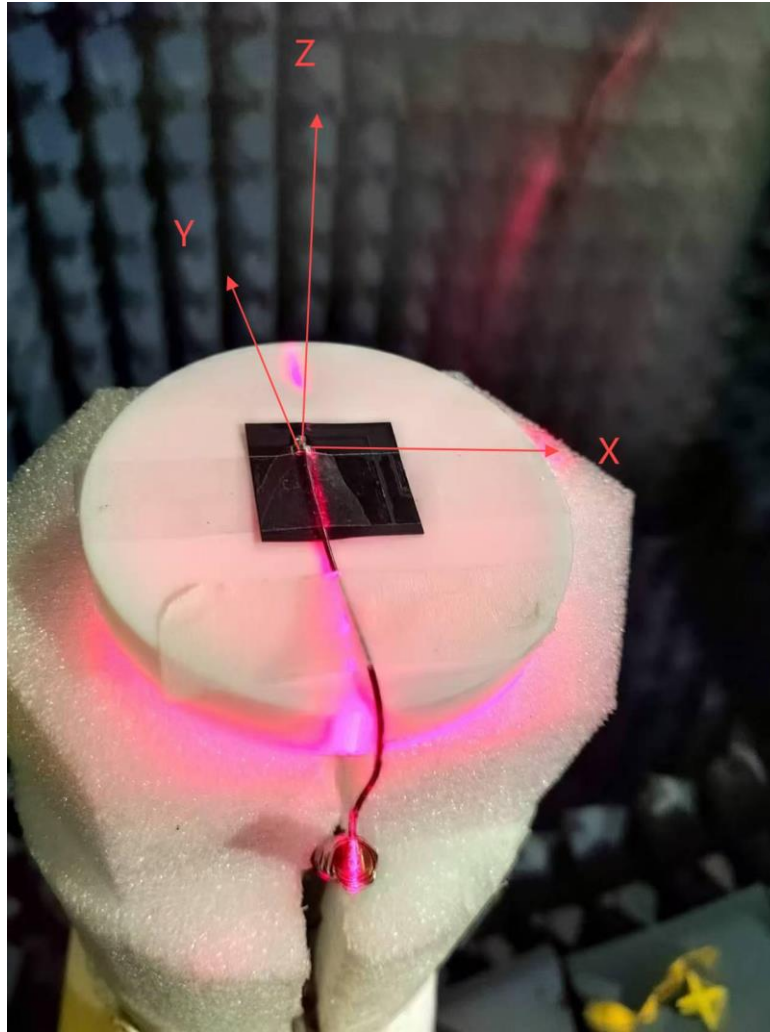
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Measurement Setup photo





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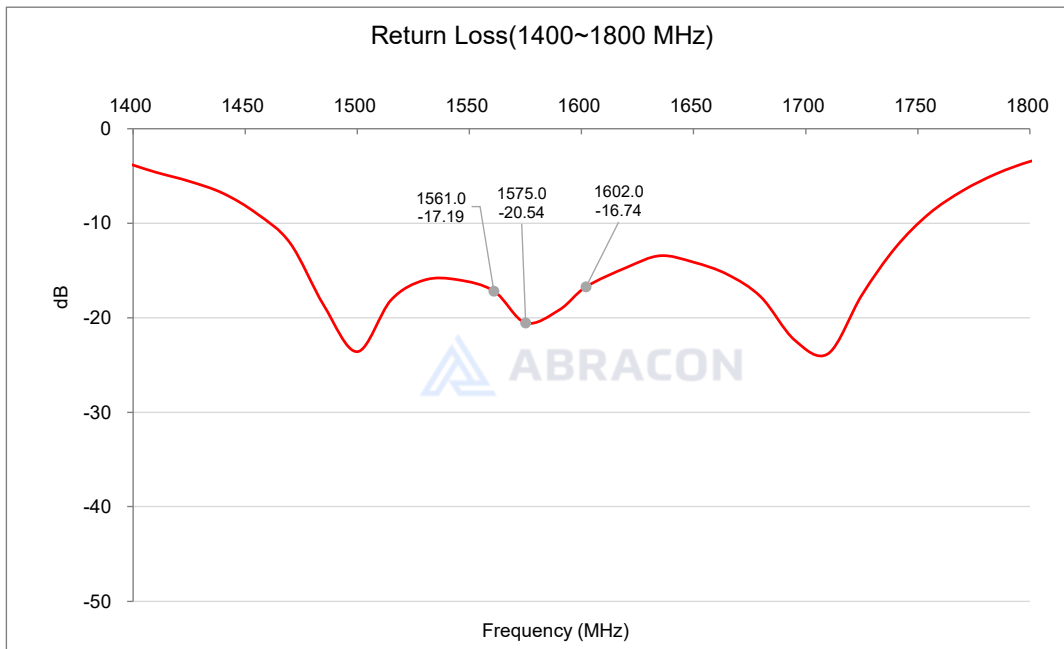
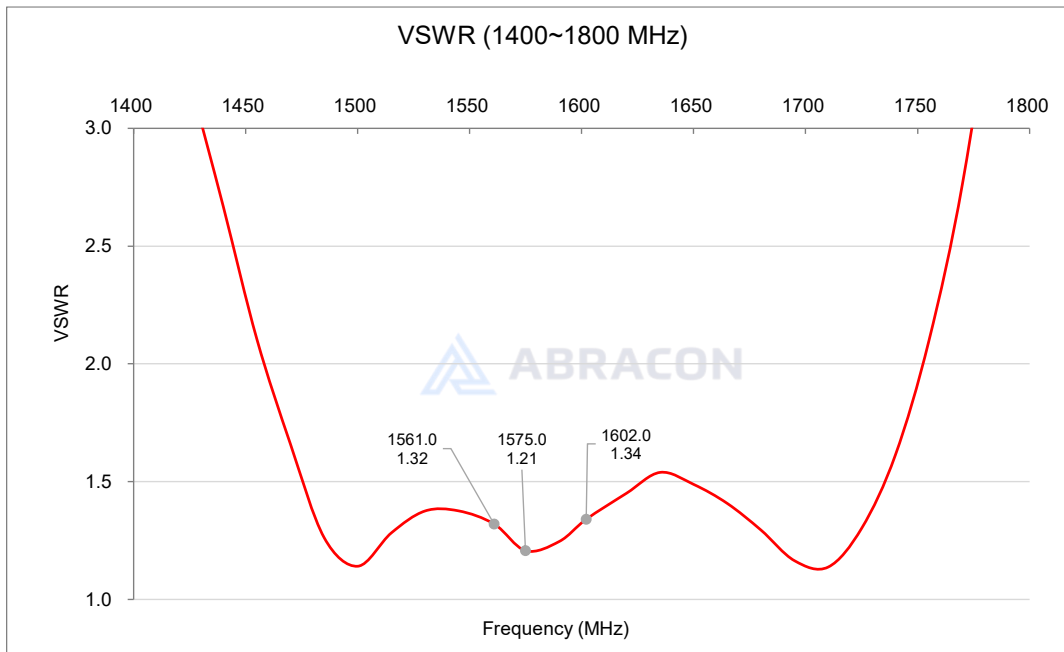


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Reflection Characteristics – Return Loss & VSWR





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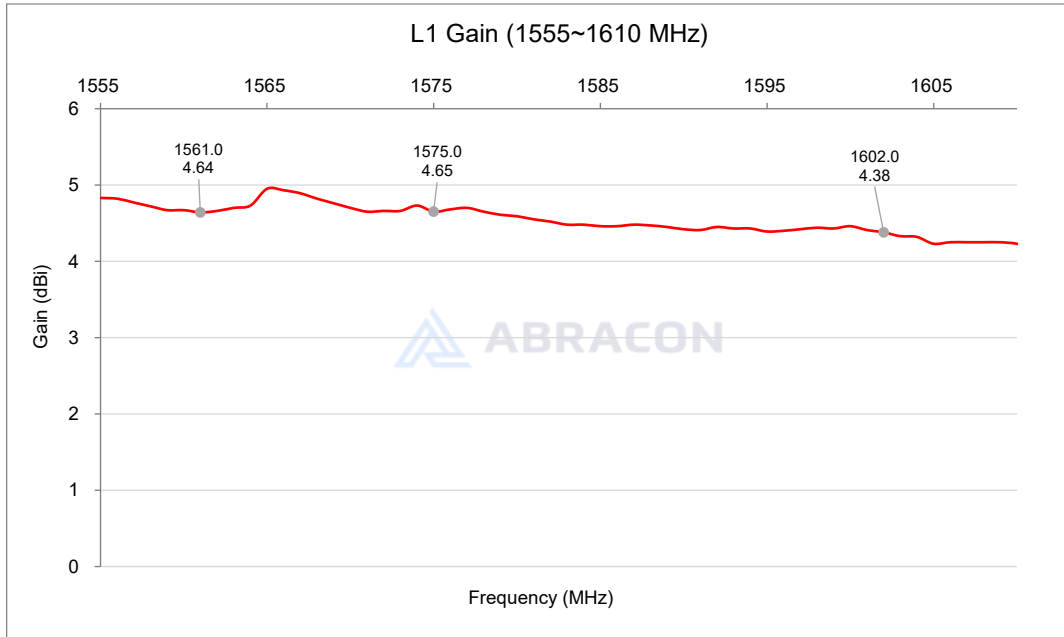


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Radiation Characteristics – Peak Gain





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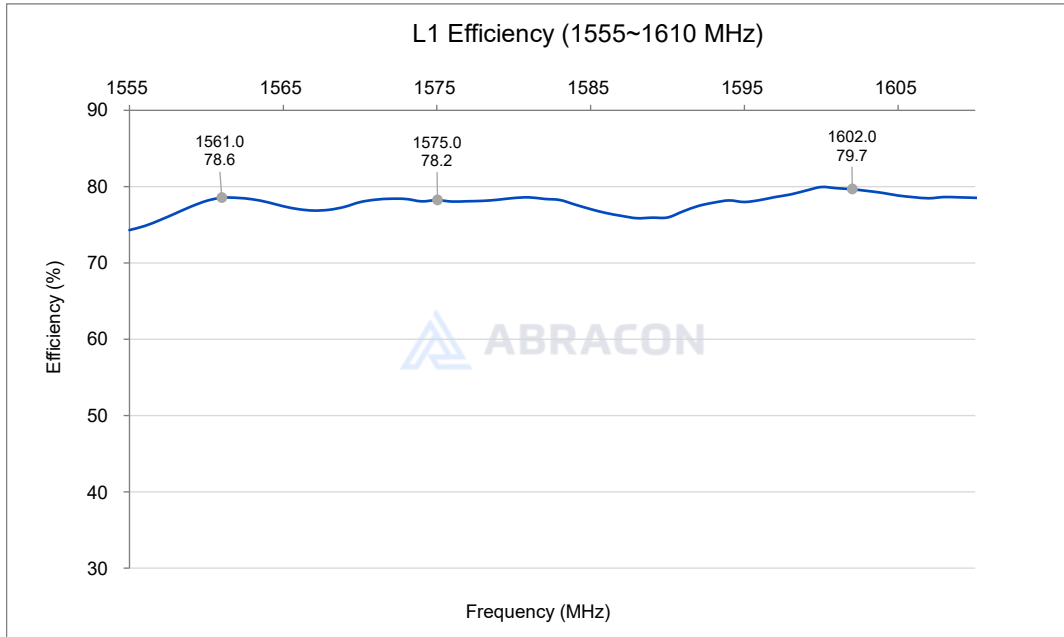


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Radiation Characteristics – Total Efficiency (%)



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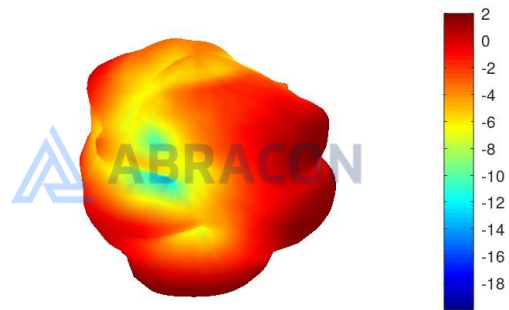
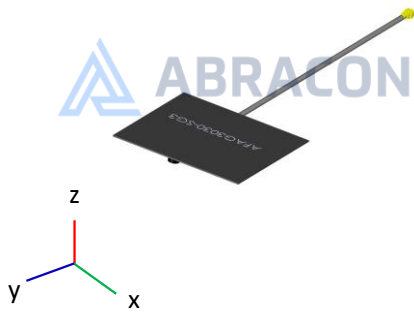
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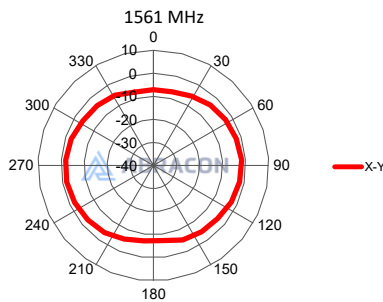
30 x 30 x 0.2 mm
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Radiation Characteristics – 3D & 2D pattern

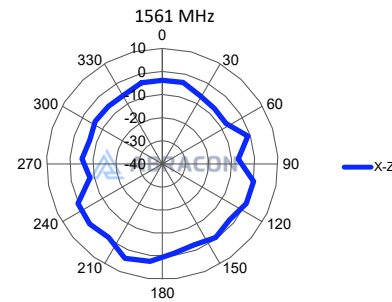
1561MHz



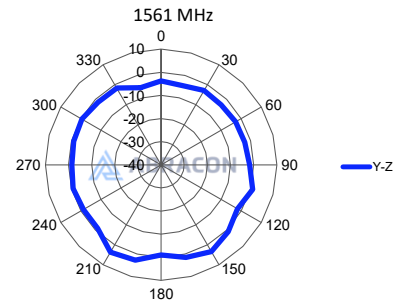
XY plane



XZ plane



YZ plane



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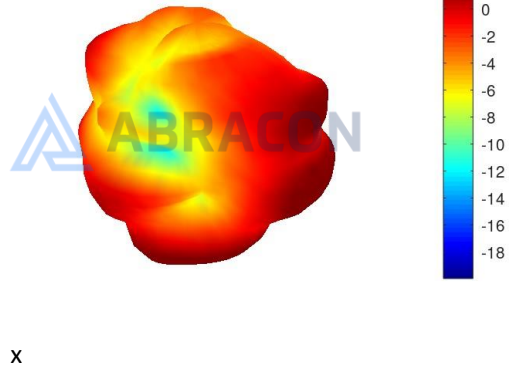
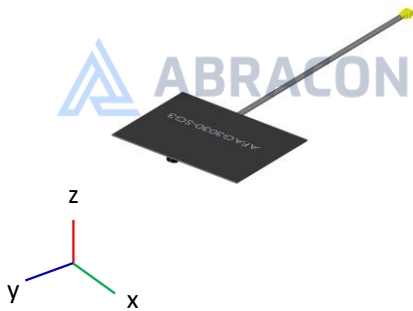


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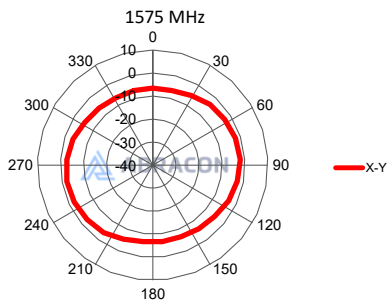


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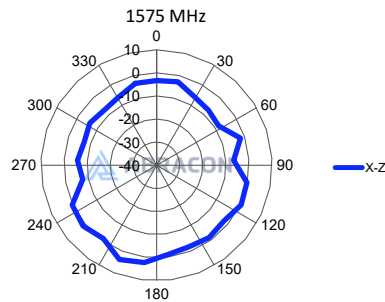
1575MHz



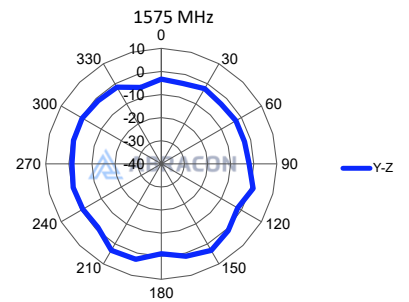
XY plane



XZ plane



YZ plane



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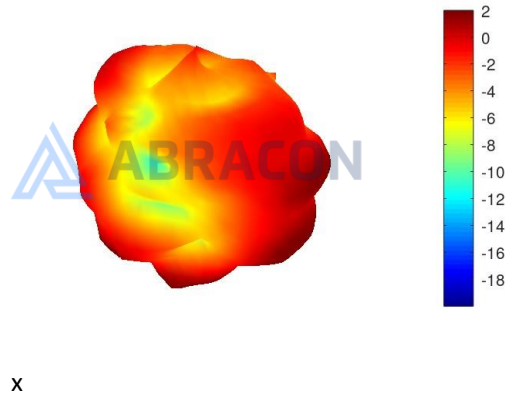
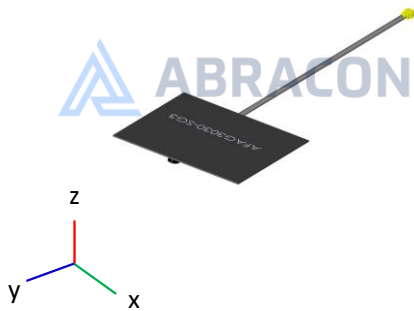


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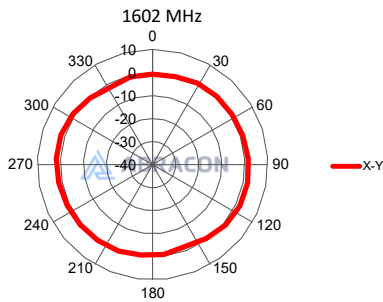


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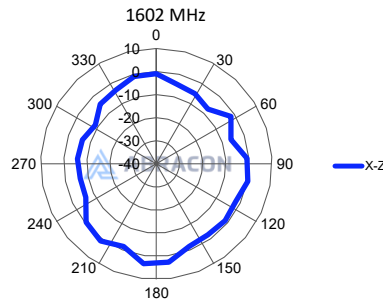
1602MHz



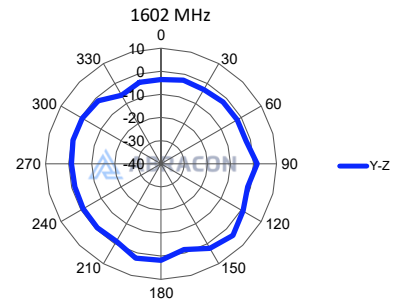
XY plane



XZ plane



YZ plane



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Packaging

Number of Antenna/ Grid: 20

Number of Antenna/ Carton: 1000

Dimension of the Carton: 630 x 460 x 105 mm

ATTENTION: Abracon LLC's products are Commercial-Off-The-Shelf ('COTS'), which are designed, intended, and validated for use in commercial, industrial, and automotive applications. The customer is responsible for testing and verifying the performance of an Abracon solution to meet their system-level requirements.



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