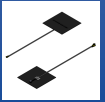


GNSS L1 (GPS/GLONASS/BeiDou/Galileo) - FPC Antenna



AFAG3030-SG3

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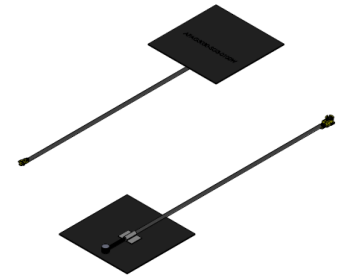
Check Inventory



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

Description

This ultra-low profile FPC antenna provides comprehensive multi-constellation GNSS L1 reception for GPS, GLONASS, BeiDou, and Galileo systems. Measuring just 30 x 30 x 0.2 mm, it delivers 4-5 dBi peak gain with over 70% average efficiency for reliable positioning in space-constrained applications. With customizable cable lengths and connectors, it offers flexible integration for IoT, M2M, and UAV platforms. This antenna is ideal for fleet management, asset tracking, transportation, and precision agriculture where robust satellite reception and adaptable mechanical configurations are essential for accurate geolocation.



Features

- Size: 30 x 30 x 0.2 mm
- Peak Gain: 4~5 dBi
- Average Total Efficiency: > 70 %
- Multi-Constellation Support
GPS/GLONASS/BeiDou/Galileo
- Ultra-Low Profile
- Fully Customizable Cable Length and Connectors

Applications

- GPS/GLONASS/BeiDou/Galileo
- IoT & M2M
- Unmanned Aerial Vehicle (UAV)
- Fleet Management and Asset Tracking
- Transportation
- Precision Agriculture
- Geolocation and Tracking

Ordering Information

Part Number	Description	Connector Option
AFAG3030-SG3	GNSS L1 (GPS/GLONASS/BeiDou/Galileo) - FPC Antenna with MHF4 connector and 240mm cable length	MHF4
AFAG3030-SG3-0100I	GNSS L1 (GPS/GLONASS/BeiDou/Galileo) - FPC Antenna with MHF1 connector and 100mm cable length	MHF1
AFAG3030-SG3-0100W	GNSS L1 (GPS/GLONASS/BeiDou/Galileo) - FPC Antenna with MHF4 connector and 100mm cable length	MHF4

Note: Other options not listed may be available upon request via [Abracon online support](#)

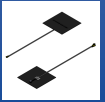


12117 Bee Caves Rd, Bldg-3, Suite 200 Bee
Cave, TX 78738
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

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



AFAG3030-SG3

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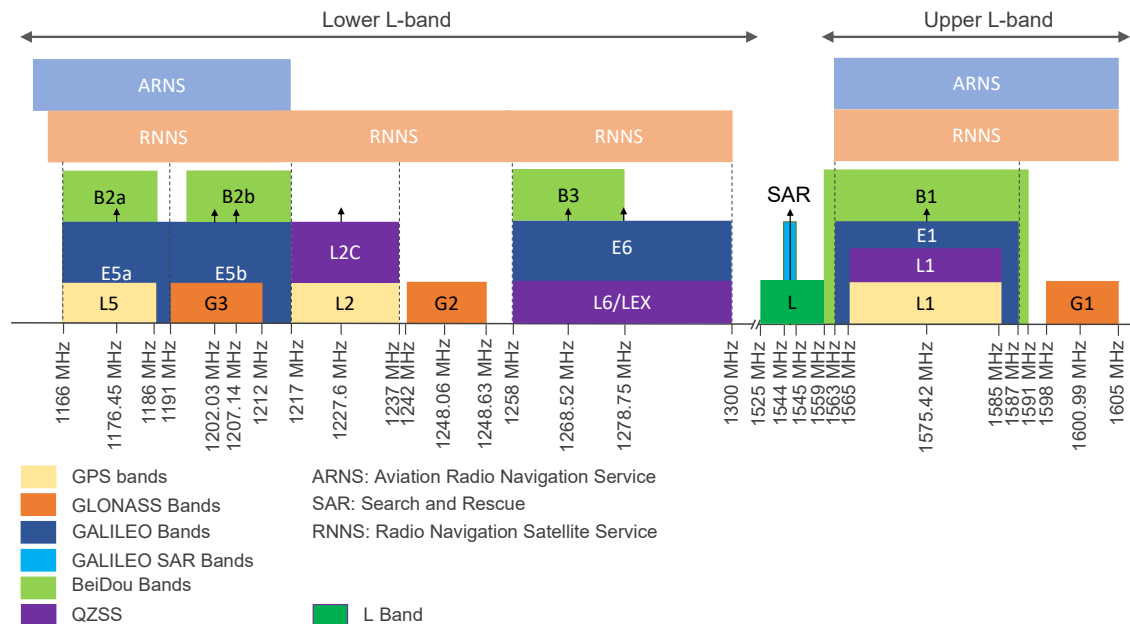
30 x 30 x 0.2 mm

RoHS/RoHS II Compliant

MSL Level = N/A

GNSS Frequency Bands Covered

GPS	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	
GLONASS	G1 1598.06-1609.31MHz	G2 1242.93-1251.68MHz	G3 1202.025MHz	
Galileo	E1 1575.42MHz	E5a 1176.45MHz	E5b 1201.5MHz	E6 1278.75MHz
BeiDou	B1 1561MHz	B2 1207.14MHz	B3 1268.52MHz	
QZSS	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	L6 1278.75MHz
IRNSS/NAVIC			L5 1176.45MHz	
SBAS	L1/E1/B1 1575.42MHz		L5/B2a/E5a 1176.45MHz	



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

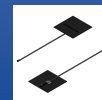


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30 x 30 x 0.2 mm

RoHS/RoHS II Compliant

MSL Level = N/A

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	MHF4
RF Cable Diameter	Ø1.13 mm
Cable Length	240 ± 5 mm
Additional Resources	Download STEP File, Package Drawing, 3D PDF

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

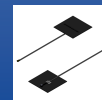


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GNSS L1 (GPS/GLONASS/BeiDou/Galileo) - FPC Antenna



AFAG3030-SG3

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30 x 30 x 0.2 mm

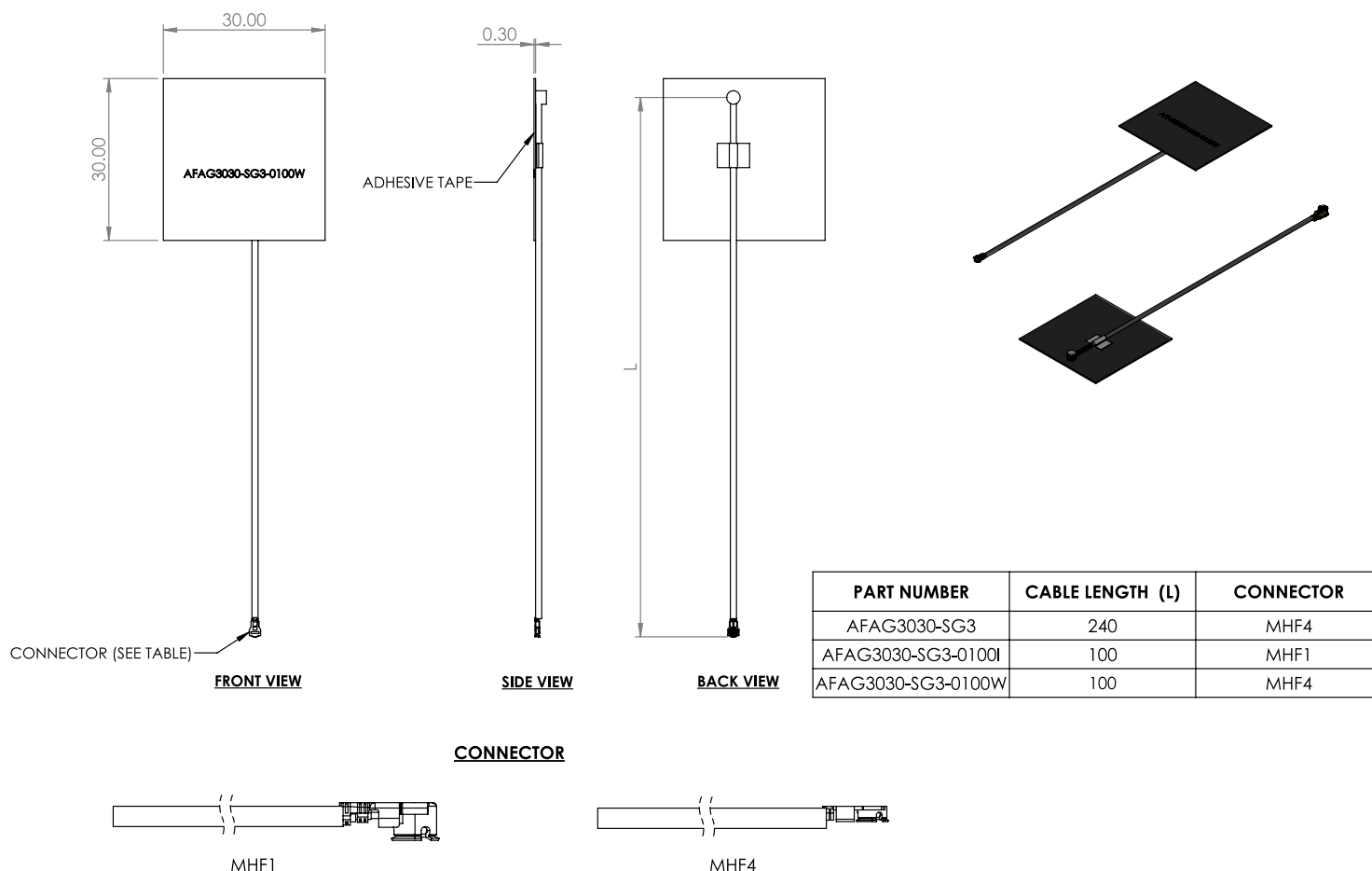
RoHS/RoHS II Compliant

MSL Level = N/A

Environmental Specification

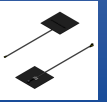
Parameter	Specification
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
RoHS Compliance	Yes
MSL	Not Applicable
Vibration	10 ~ 55 Hz with 1.5 mm amplitude 2 hrs

Product Dimensions



Unit: mm

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



AFAG3030-SG3

Request Samples

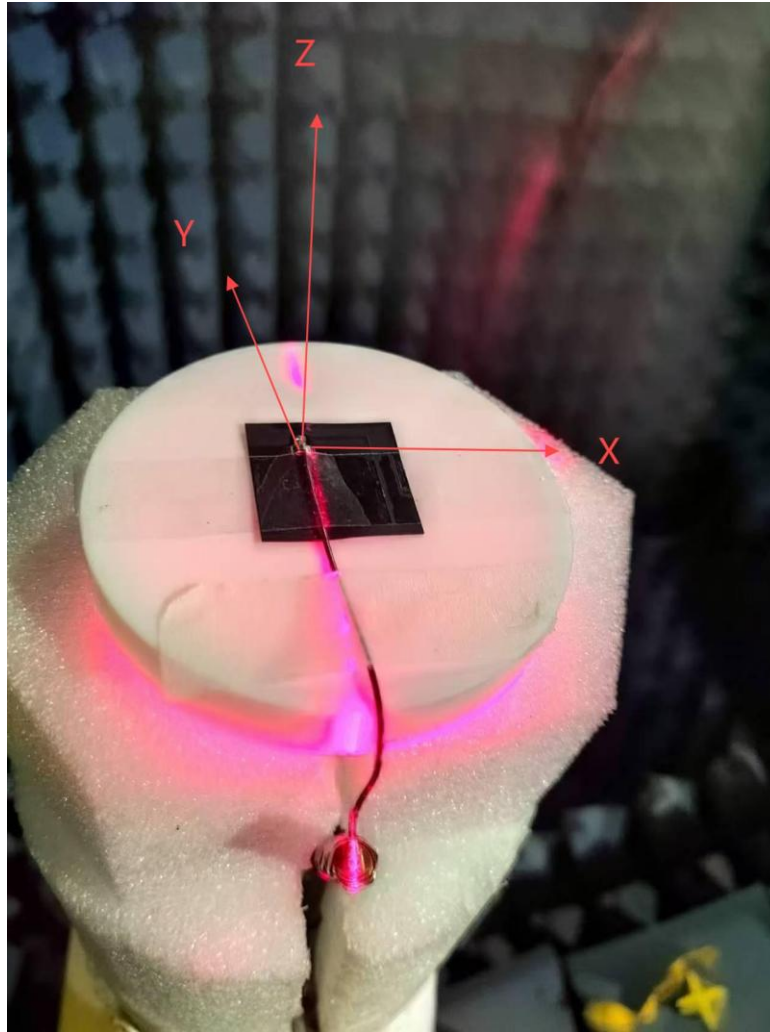


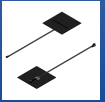
Check Inventory



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

Measurement Setup Photo





AFAG3030-SG3

Request Samples

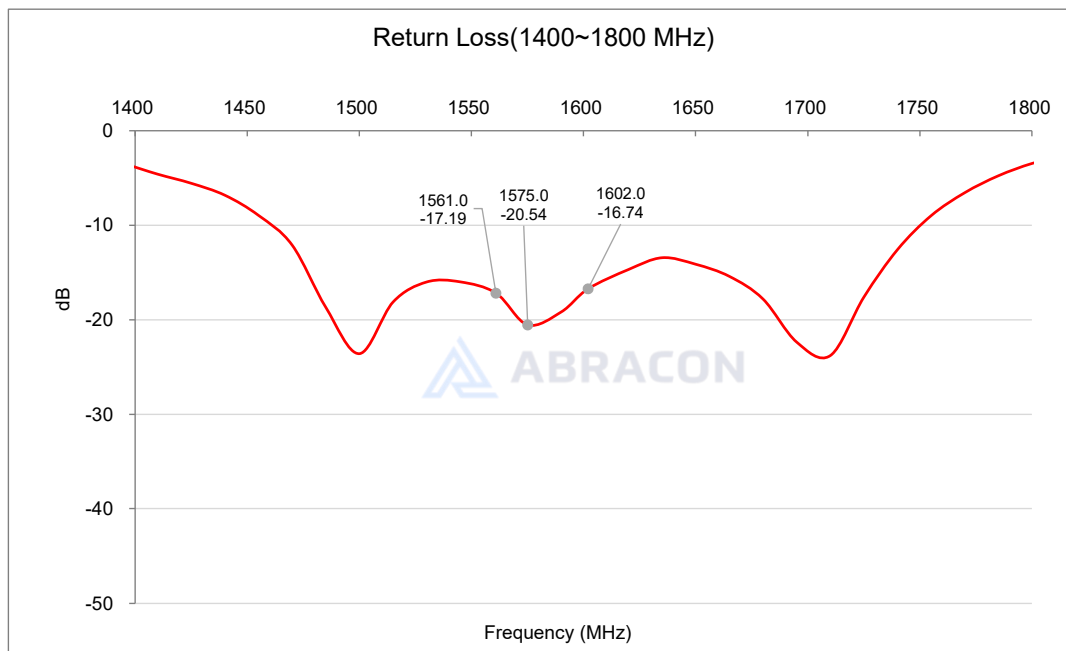
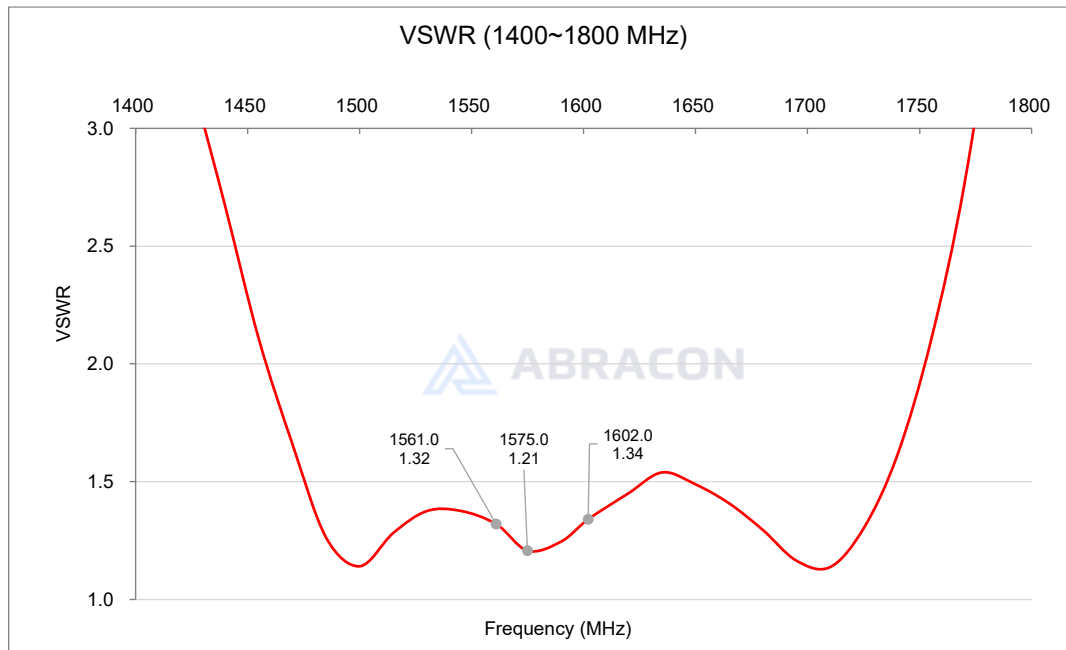


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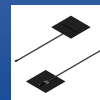


30 x 30 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Reflection Characteristics – Return Loss & VSWR



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



AFAG3030-SG3

Request Samples



Check Inventory

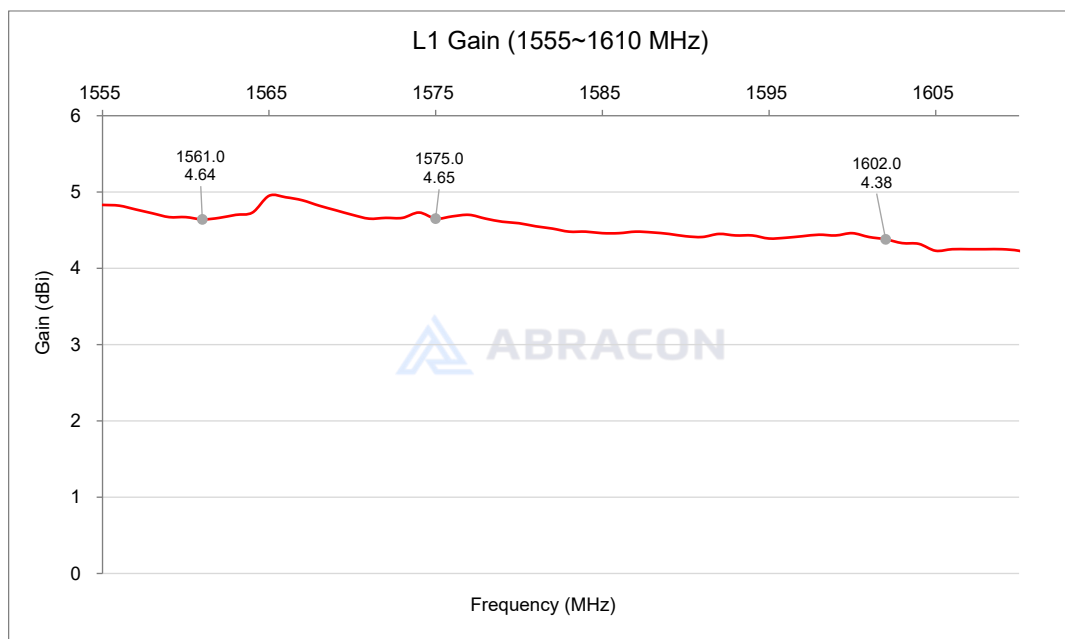


30 x 30 x 0.2 mm

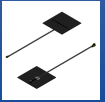
RoHS/RoHS II Compliant

MSL Level = N/A

Radiation Characteristics – Peak Gain



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



AFAG3030-SG3

Request Samples

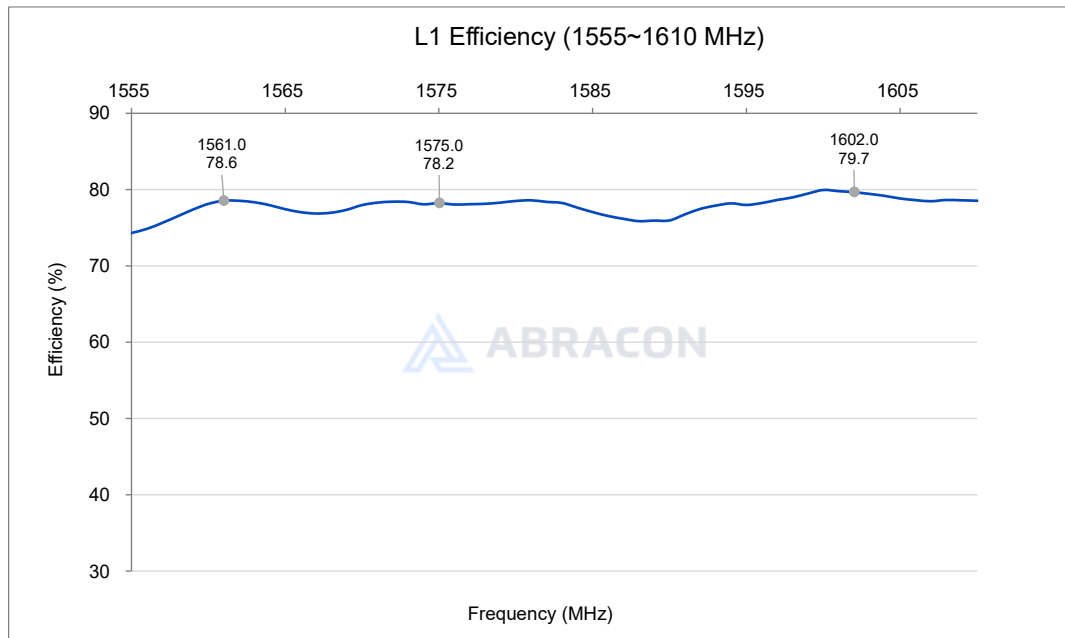


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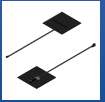


30 x 30 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Radiation Characteristics – Total Efficiency (%)



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



AFAG3030-SG3

Request Samples



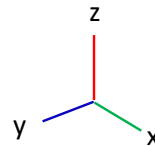
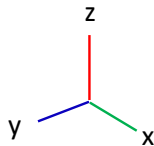
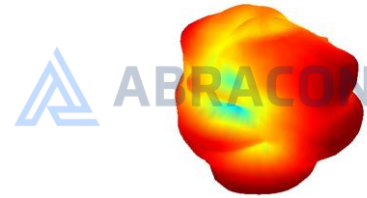
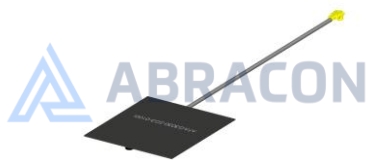
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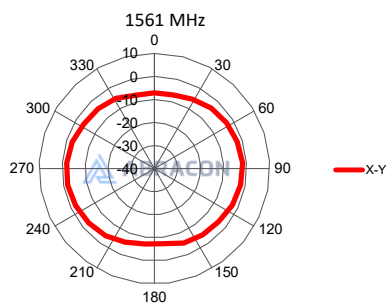
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RoHS/RoHS II Compliant
MSL Level = N/A

Radiation Characteristics – 3D & 2D pattern

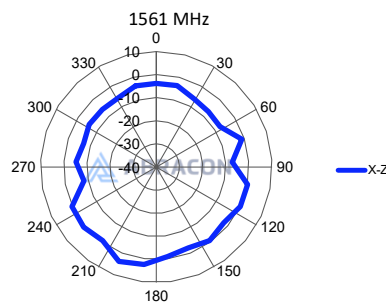
1561MHz



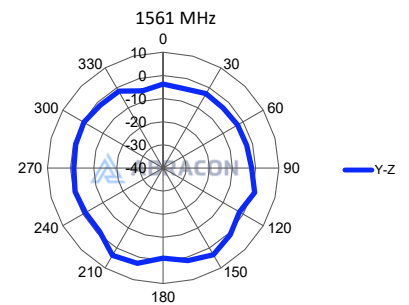
XY plane



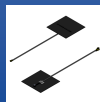
XZ plane



YZ plane



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



AFAG3030-SG3

Request Samples



Check Inventory

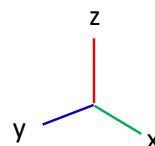
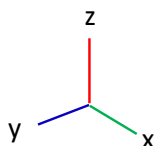
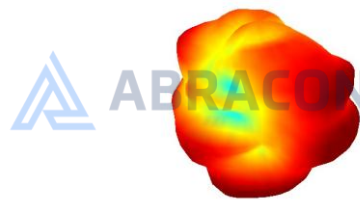


30 x 30 x 0.2 mm

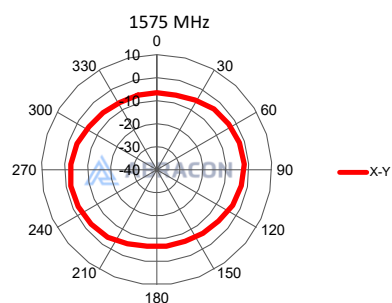
RoHS/RoHS II Compliant

MSL Level = N/A

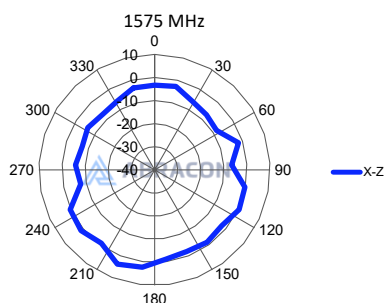
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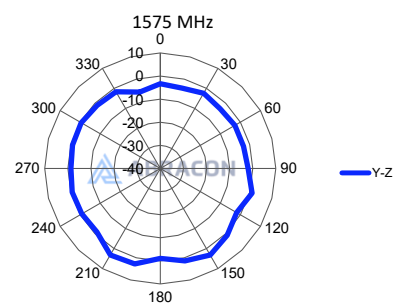
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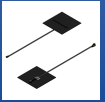
XZ plane



YZ plane



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



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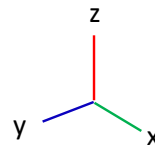
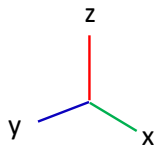
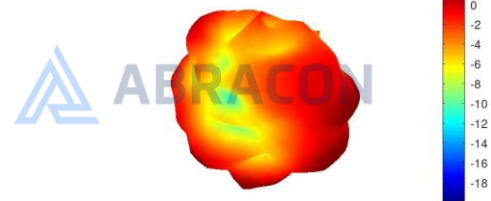
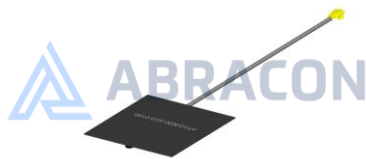


Check Inventory

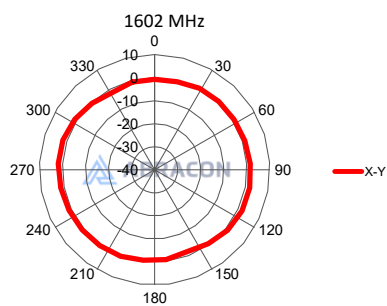


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RoHS/RoHS II Compliant
MSL Level = N/A

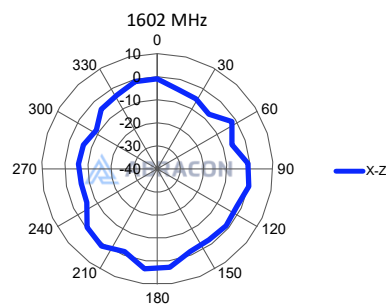
1602MHz



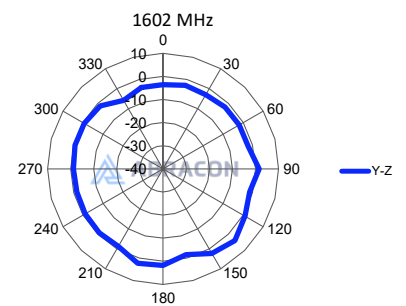
XY plane



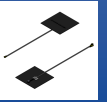
XZ plane



YZ plane



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

Packaging

Number of Antenna/ Grid: 20

Number of Antenna/ Carton: 1000

Dimension of the Carton: 630 x 460 x 105 mm

Additional Resources

STEP File: [AFAG3030-SG3 STEP File](#)

Package Drawing: [AFAG3030-SG3 Package Drawing](#)

3D PDF: [AFAG3030-SG3 3D PDF](#)

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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