

APARM2508S-SGL2L5

Request Samples



Check Inventory



25 x 25 x 8 mm

RoHS Compliant

MSL Level = N/A

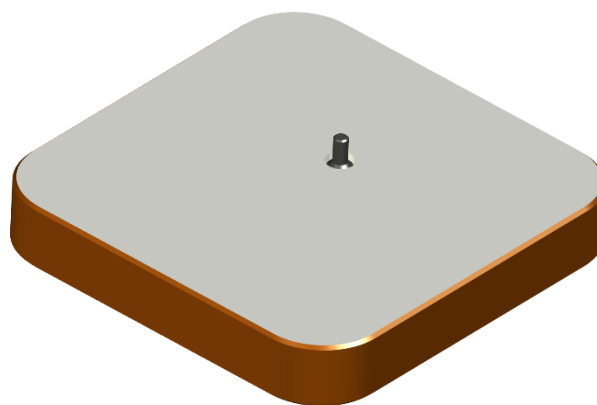
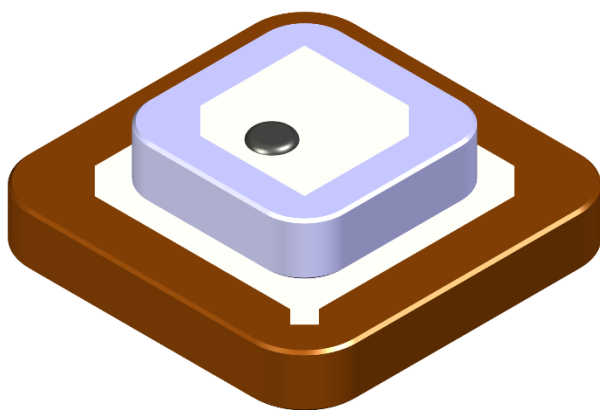
Features

- L1(E1)/L2/L5 Stacked GNSS Antenna
- Low Profile with Size 25 x 25 x 8 mm
- Peak Gain: 3.7 dBic
- Antenna Efficiency: 74%
- RHCP Polarization
- Through Hole Mounting
- Light Weight: 15.8 g

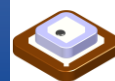
Applications

- GNSS Modules
- UAVs and Drones
- Asset Tracking & Telematics
- Intelligent Transportation
- Precision Agriculture
- Geolocation and Tracking

Product Image



GNSS L1/L2/L5 Internal Stacked Patch Antenna



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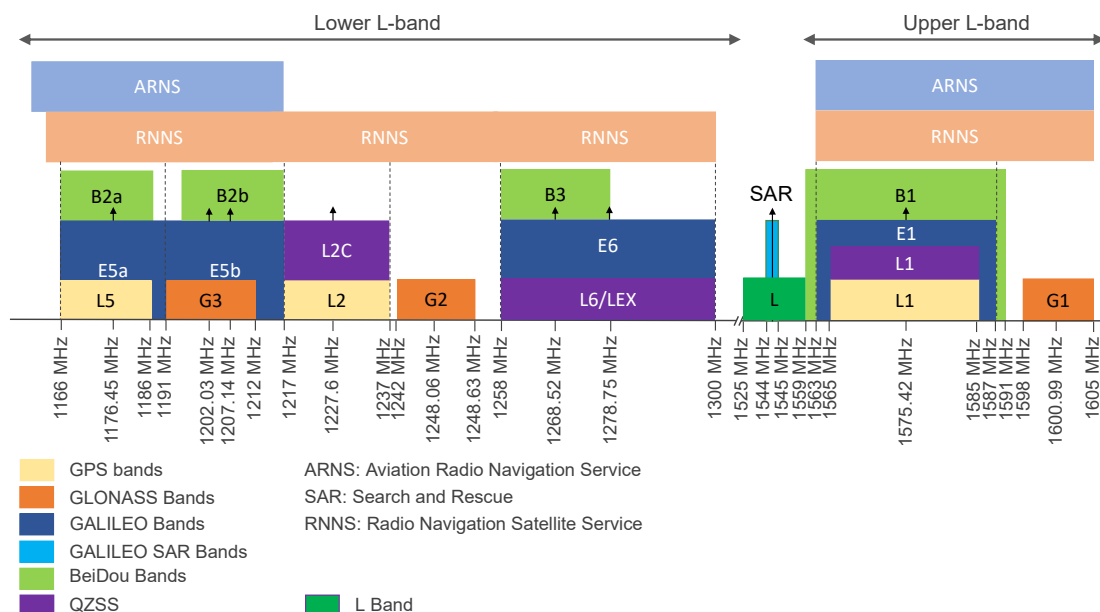
25 x 25 x 8 mm

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GNSS Frequency Bands Covered

	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	
GPS	■	■	■	
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	B1I 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	
	■		■	



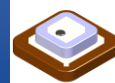
Frequency allocation: GNSS systems, upper L bands and lower L bands



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Cave, TX 78738
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REVISED: 09-11-25

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Electrical Specification

Parameters		Typ.			Units	Note
Antenna						
Frequency	1166.22 ~ 1186.68 (L5)	1212 ~ 1242 (L2)	1560 ~ 1590 (L1/E1)	MHz		
VSWR	≤ 2			-		
Peak Gain	-1.2	0.3	3.7	dBic		
Average Gain	-2.5	-2.4	-1.3	dBic		
Maximum Efficiency	56	57	74	%		
Average Efficiency	29	25	62	%		
Polarization	RHCP			-	(Right Hand Circular Polarization)	
Nominal Impedance	50			Ω		

Note: All measurements were performed using the evaluation board in a free-space environment. Actual performance may vary depending on factors such as the ground plane, specific application, and surrounding environment.

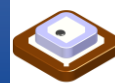
Mechanical Specification

Parameter	Specification
Antenna Dimension	25 x 25 x 8 mm
Evaluation Board Dimension	70 x 70 mm
Mounting Type	Through Hole & Adhesive
Mounting Location	PCB Center Mounting
Material(s)	Ceramic
Weight	15.8 g

Environmental Specification

Parameter	Specification
Operating Temperature	-40°C to +105°C
Storage Temperature	-40°C to +105°C
RoHS Compliance	Yes

GNSS L1/L2/L5 Internal Stacked Patch Antenna



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Ordering Information

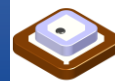
Part Number	Description
APARM2508S-SGL2L5	GNSS L1/L2/L5 Internal Stacked Patch Antenna
APARM2508S-SGL2L5-EVB	GNSS L1/L2/L5 Internal Stacked Patch Antenna EVB



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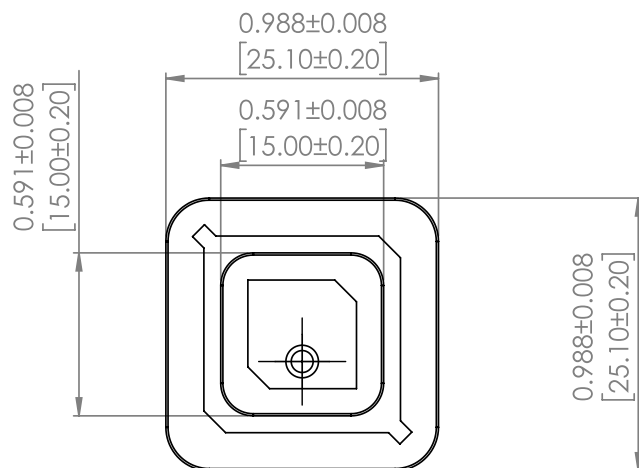
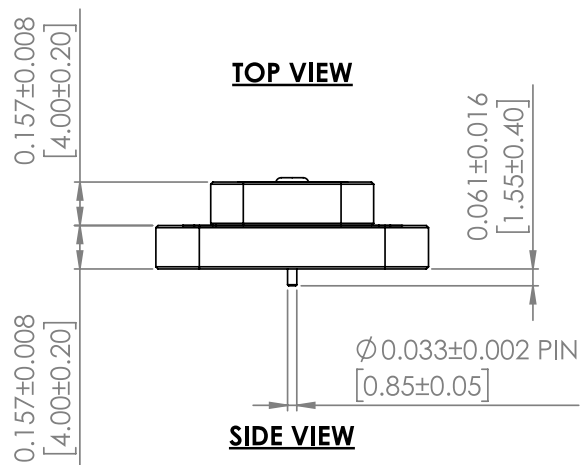
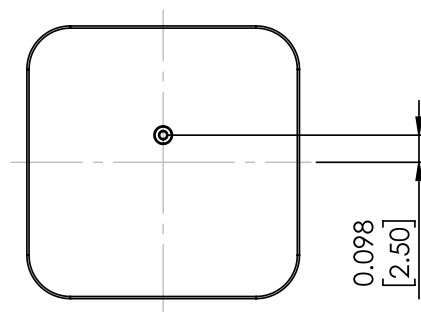
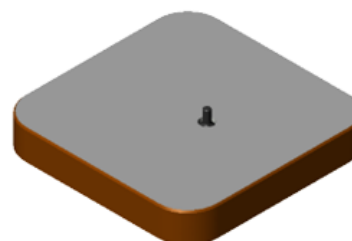
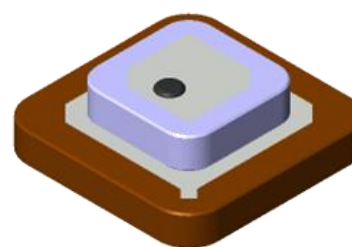
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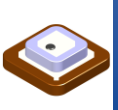
**APARM2508S-SGL2L5**

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**25 x 25 x 8 mm****RoHS Compliant****MSL Level = N/A****Product Dimension****TOP VIEW****SIDE VIEW****BOTTOM VIEW***Unit: inches[mm]*



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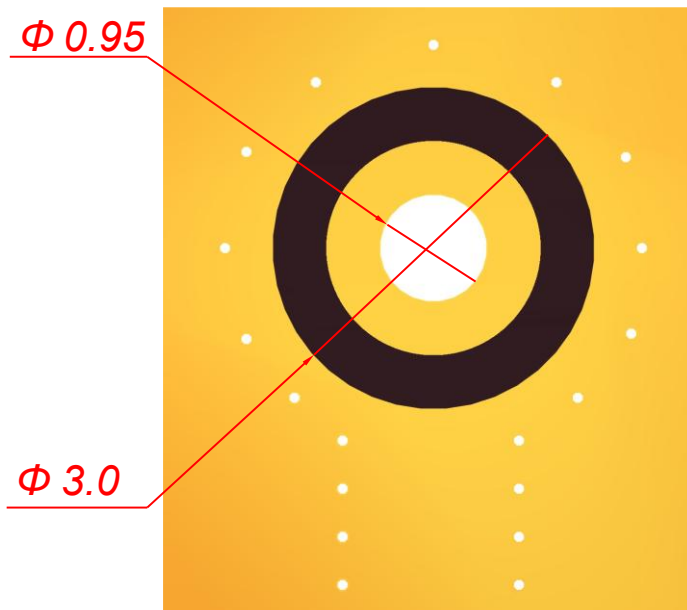
25 x 25 x 8 mm

RoHS Compliant

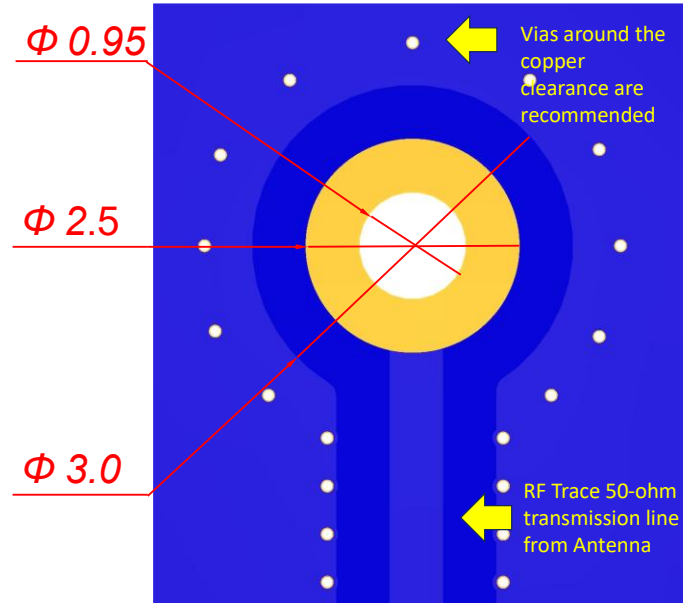
MSL Level = N/A

Antenna Footprint & PCB Layout Guide

Top



Bottom



Unit: mm

Note: Antenna welding does not support reflow soldering, please use manual soldering, the recommended soldering time is $\leq 3s$, and the temperature is $390 \pm 20^\circ\text{C}$.

For technical assistance, please contact [Abracon online support](#) through our online support platform.

Transmission Line

The transmission line should be kept as short as possible and be designed to have a characteristic impedance of 50Ω . Abracon recommends using a Co-Planar Waveguide with Ground (CPWG), which dimensions can be derived by any trusted calculator, using the correct input for PCB materials and layer stack-up.



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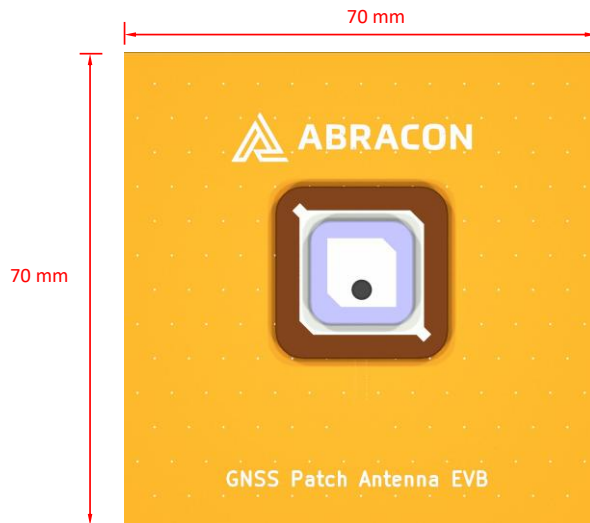


25 x 25 x 8 mm

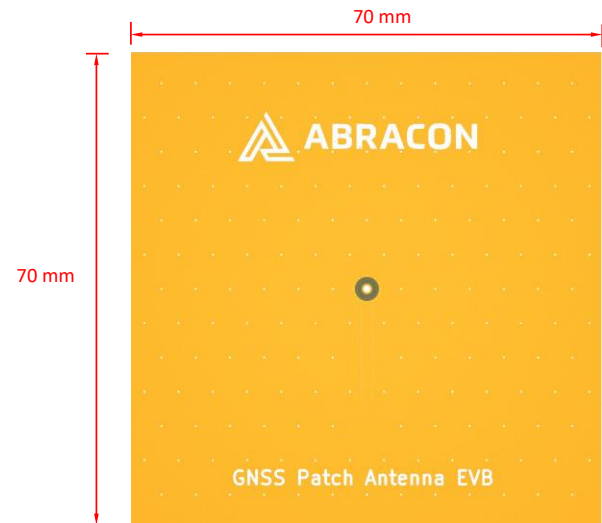
RoHS Compliant

MSL Level = N/A

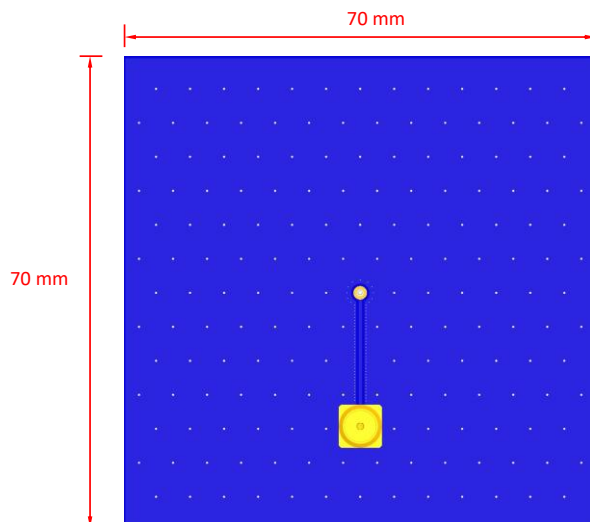
Integration Guide



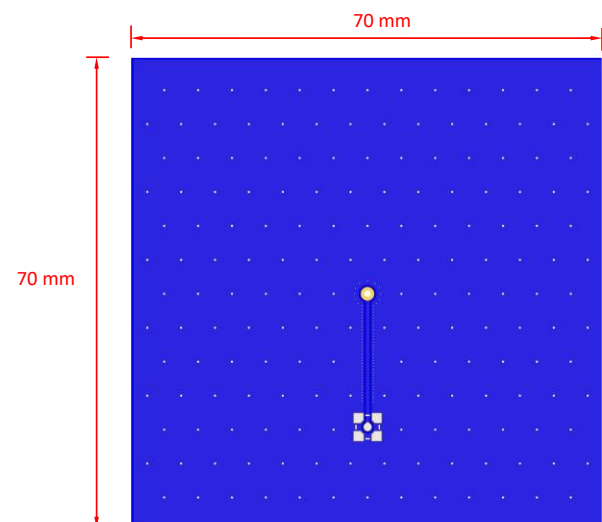
Top with Antenna



Top without Antenna

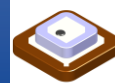


Bottom with Connector



Bottom without Connector

Unit: mm



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Request Samples



Check Inventory

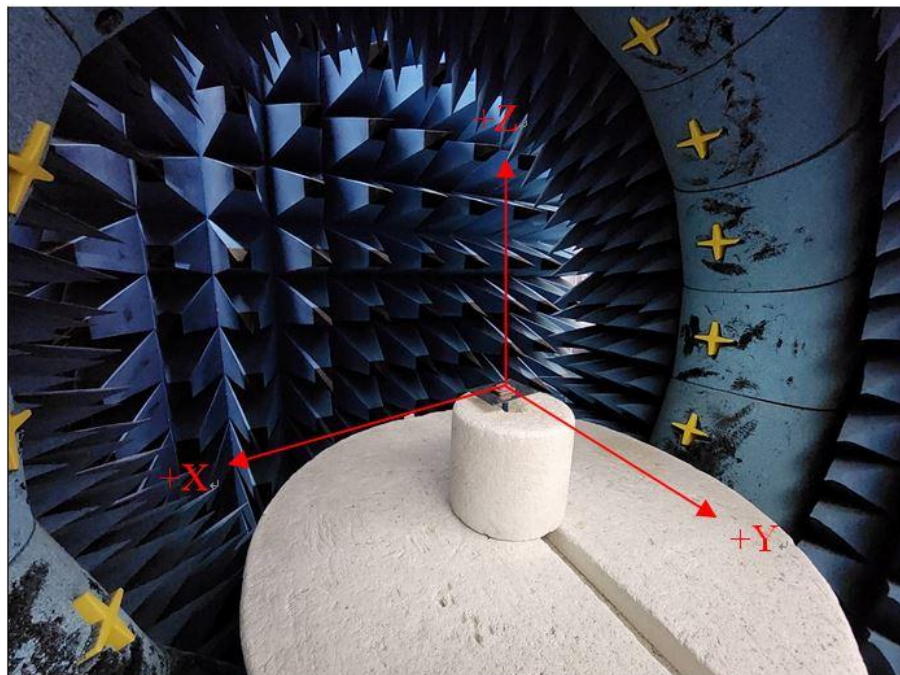


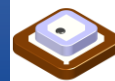
25 x 25 x 8 mm

RoHS Compliant

MSL Level = N/A

Measurement Setup

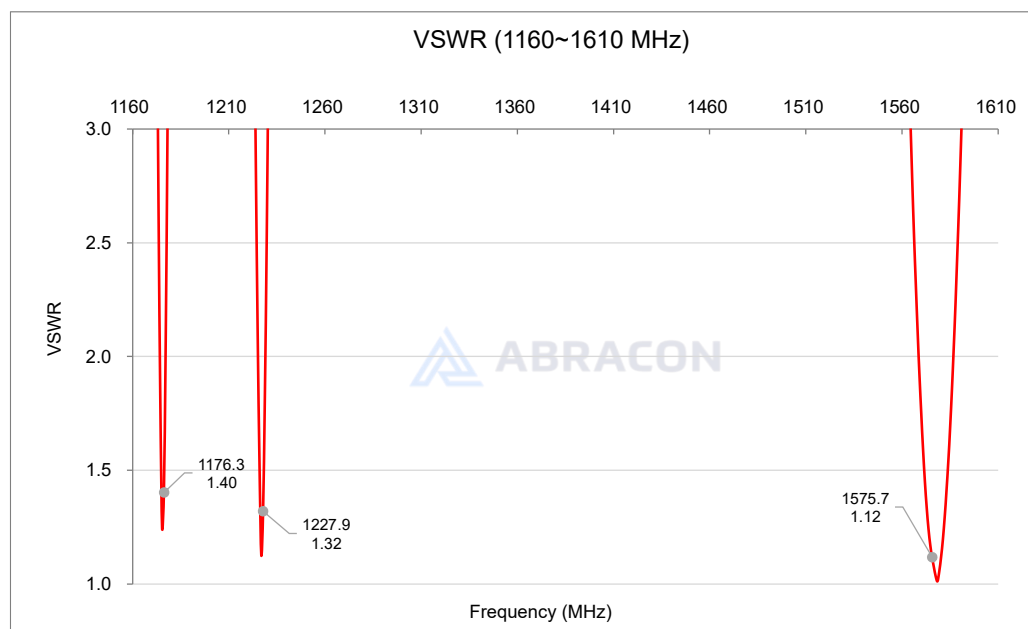
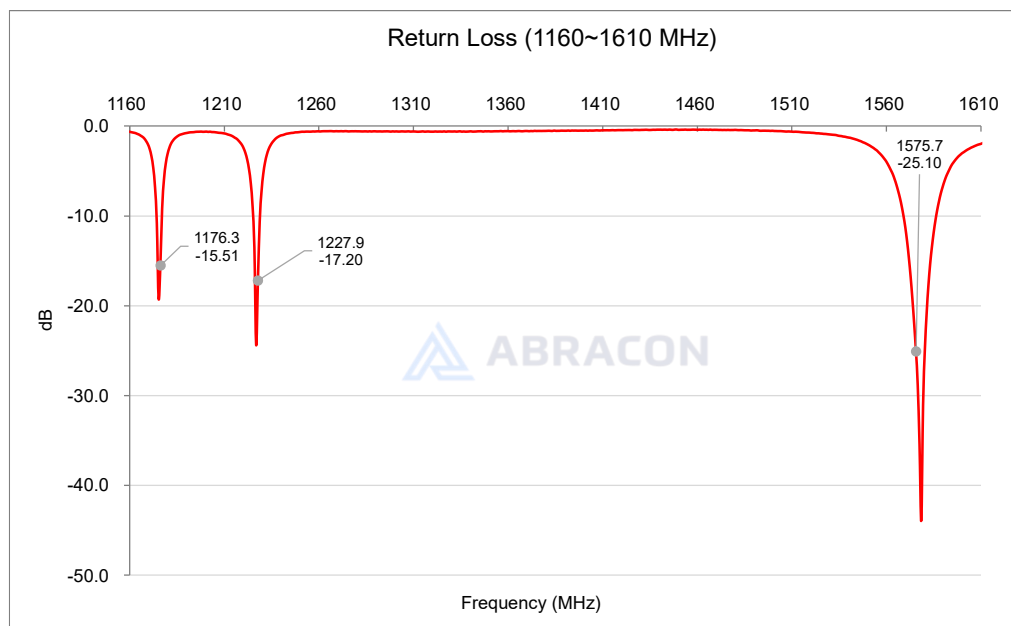


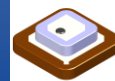
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**25 x 25 x 8 mm****RoHS Compliant****MSL Level = N/A****Reflection Characteristics – Return Loss & VSWR**



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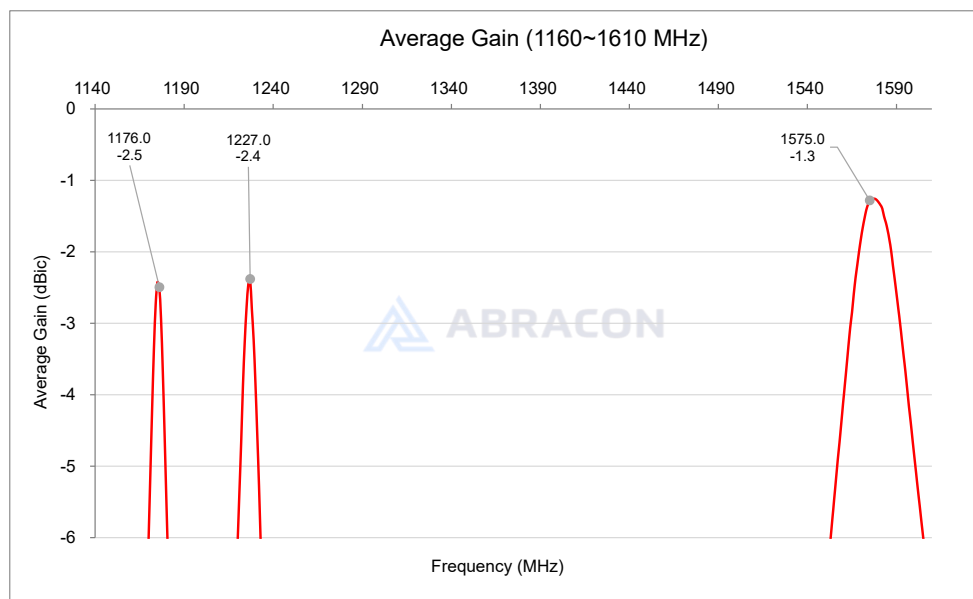
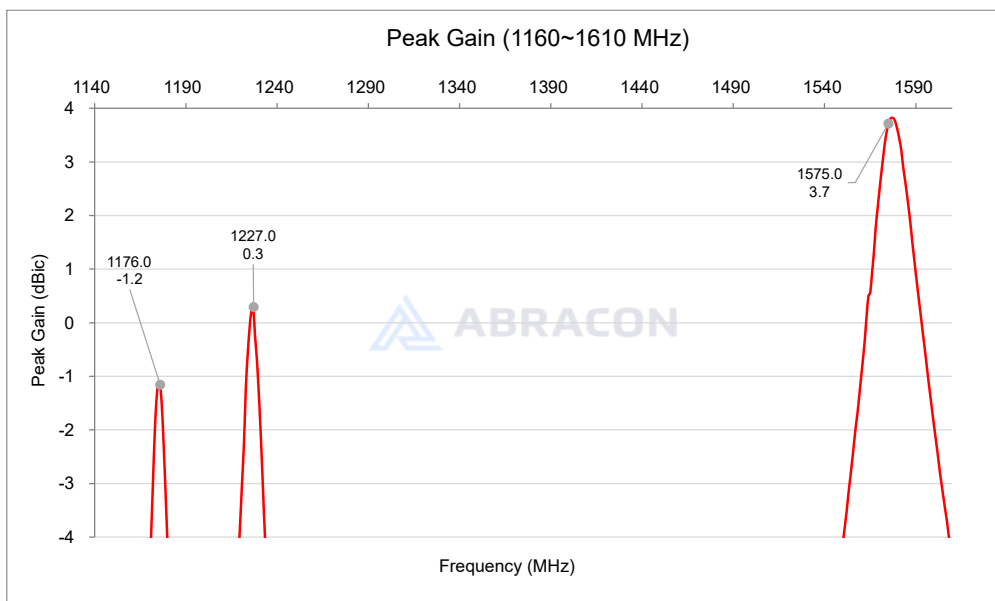


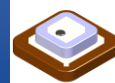
25 x 25 x 8 mm

RoHS Compliant

MSL Level = N/A

Radiation Characteristics –Peak Gain & Average Gain



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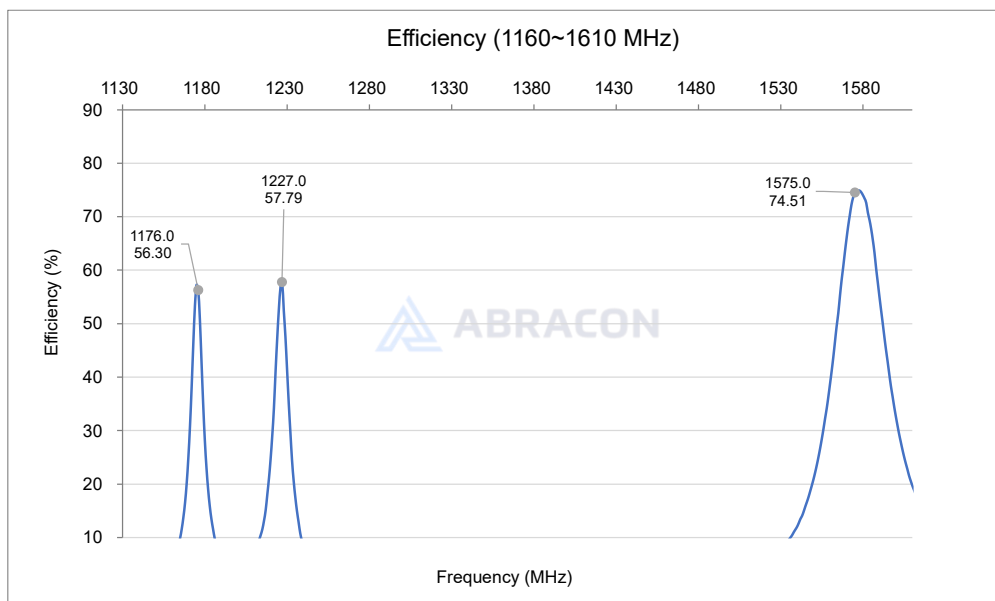
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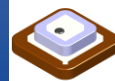


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**25 x 25 x 8 mm****RoHS Compliant****MSL Level = N/A**

Radiation Characteristics –Efficiency



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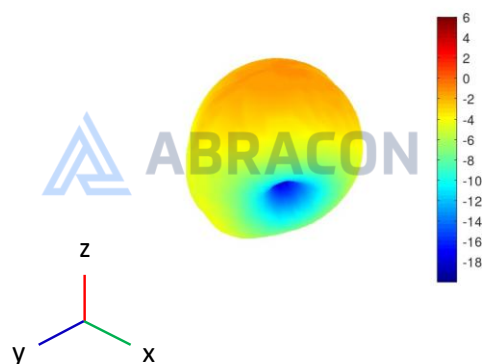
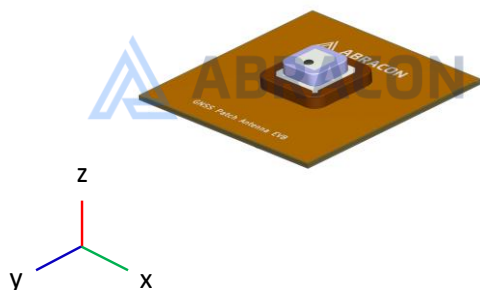
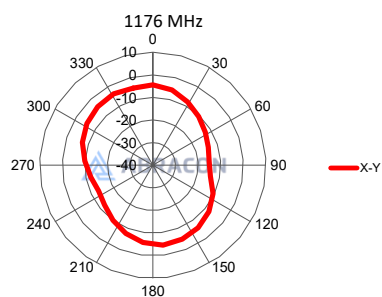
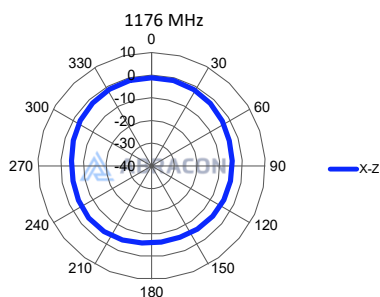
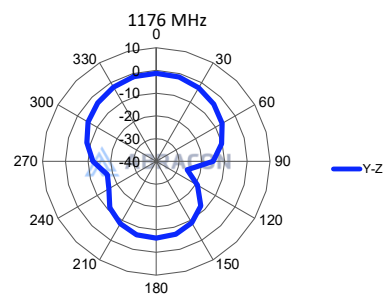
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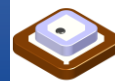


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**25 x 25 x 8 mm****RoHS Compliant****MSL Level = N/A****Radiation Characteristics – 3D & 2D Pattern**

1176MHz

**XY plane****XZ plane****YZ plane**

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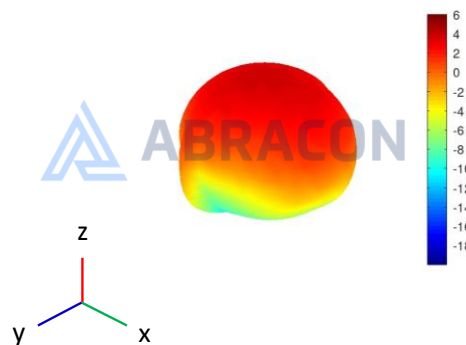
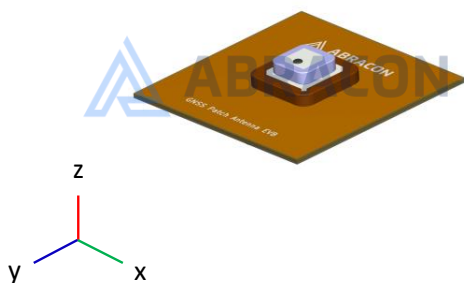
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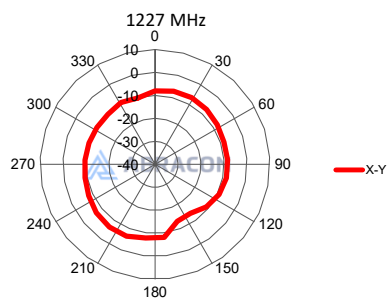
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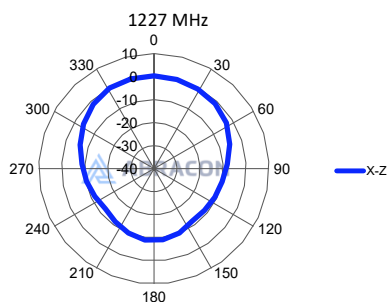
1227MHz



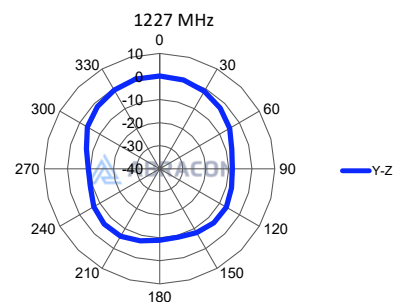
XY plane

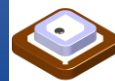


XZ plane



YZ plane



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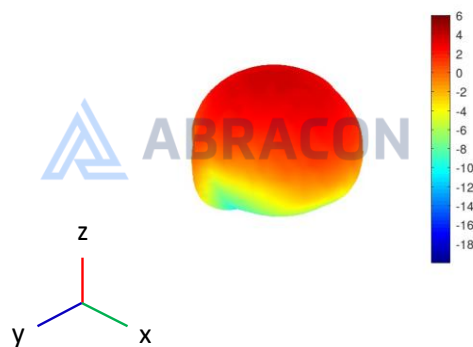
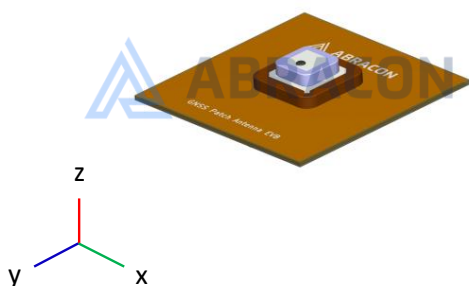
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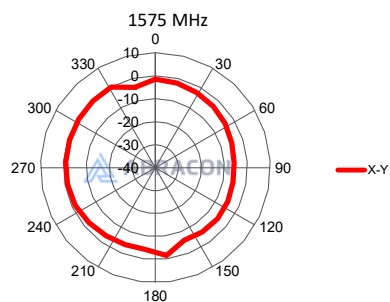
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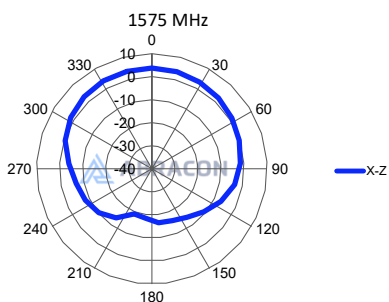
1575MHz



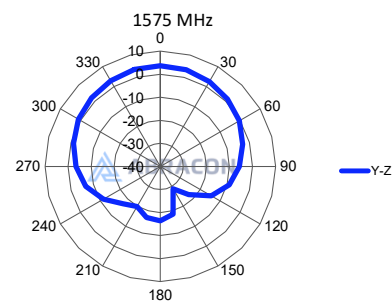
XY plane

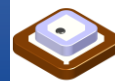


XZ plane



YZ plane





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MSL Level = N/A

Packaging

700 pcs antennas per carton

Carton Dimensions: 330 x 280 x 254 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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