GPS + IRIDIUM Patch Antenna - Automotive Qualified



APRA2504F00Z

Request Samples | Check Inventory

25.1 x 25.1 x 4.0 mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

- Complies with Automotive Qualification (AEC-Q200)
- Complies with IATF 16949 Certification
- Multiband GPS + Iridium patch
- Low VSWR ≤ 3
- RHCP polarization
- Peak Gain of 3.0 dBi
  - GPS: 2.0 dBi
  - Iridium: 3.0 dBi

Applications

- Automotive
- GPS/Iridium applications
- IoT & M2M
- Industrial IoT
- Consumer electronics
- Wireless modules
- Video and surveillance
- Broadband cellular connectivity
- Networking & Telecommunications

Product Image



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Electrical Specifications

Parameter	Specification		Unit
Operating Band	GPS	Iridium	
Operating Frequency	1575.42 ± 1.023	1610 ~ 1625	MHz
Center Frequency	1595 ± 3		
Max VSWR	3		
Gain	2.0	3.0	dBi
Impedance	50		Ω
Polarization	RHCP		

Note:

- Ground Plane size: 70 x 70 mm
- Actual electrical characteristics will depend on the size of ground plane in use.

Mechanical Specifications

Parameter	Specification
Antenna Dimension	25.1 x 25.1 x 4.0 mm
Material	Ceramic
Termination	Silver
Mounting Type	Through-Hole + Adhesive Tape

Environmental Specifications

Parameter	Specification
Operating Temperature	-40ºC to +105ºC
Storage Temperature	
Frequency Temperature Coefficient (T_f)	-40ºC to +105ºC (0 ± 20 ppm/ ºC)
RoHS / RoHS II Compliant	Yes
MSL	1
Environmentally Friendly	Pb free
Relative Humidity	0~95%
Soldering Feed Pin Temperature	+290 ºC (3 seconds max)

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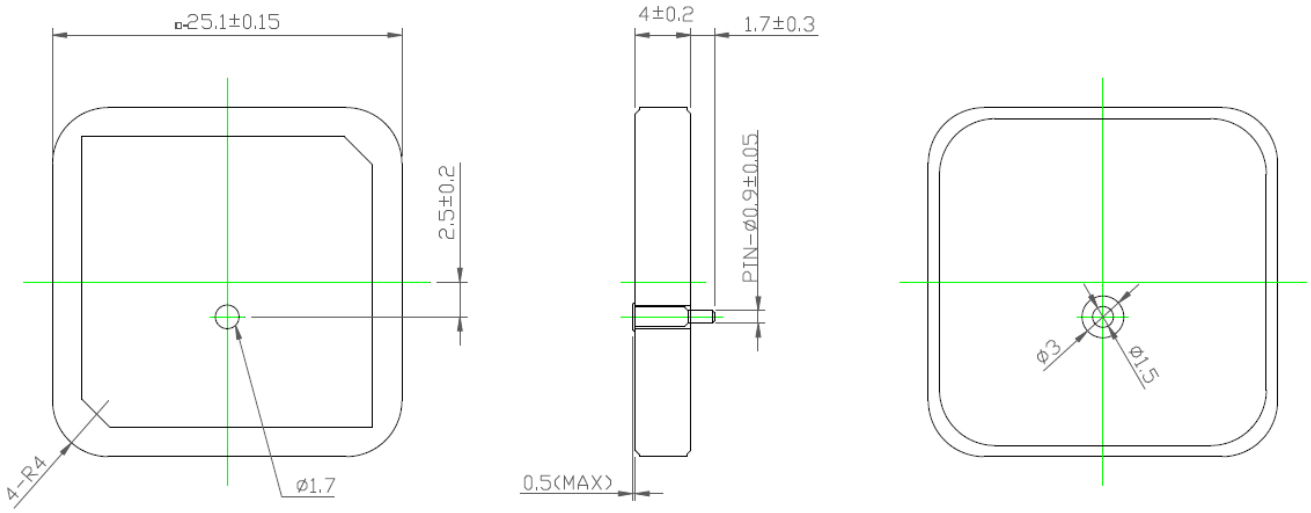


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Product Dimension



Unit : mm

Product Marking



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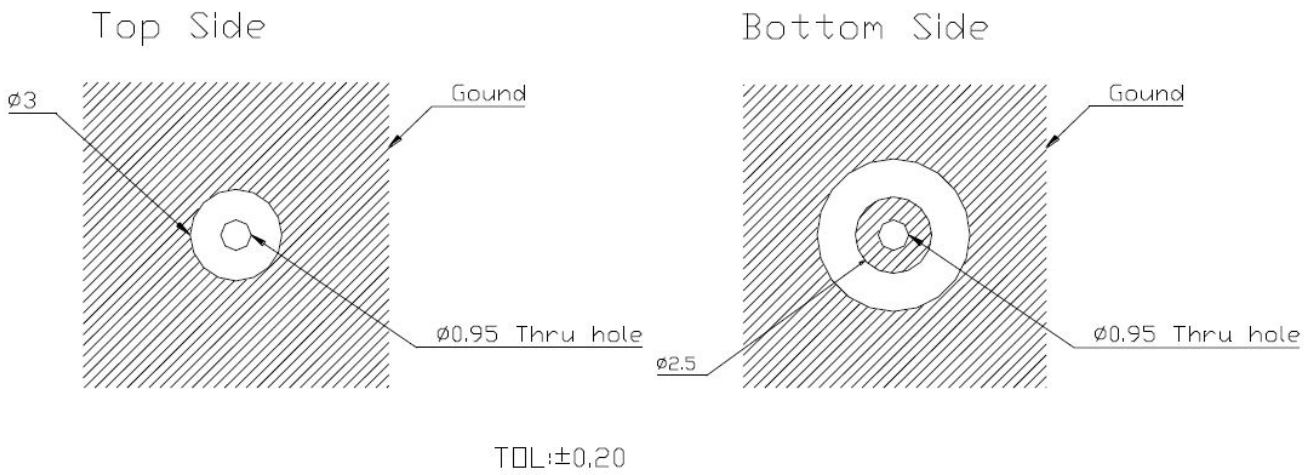


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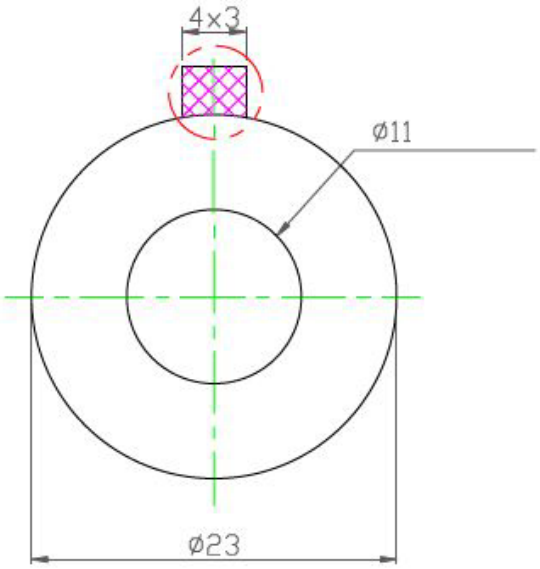
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Layout Dimensions



Unit : mm

Tape Dimensions



Double – coated thin adhesive tape | Thickness : 0.12 mm

Unit : mm

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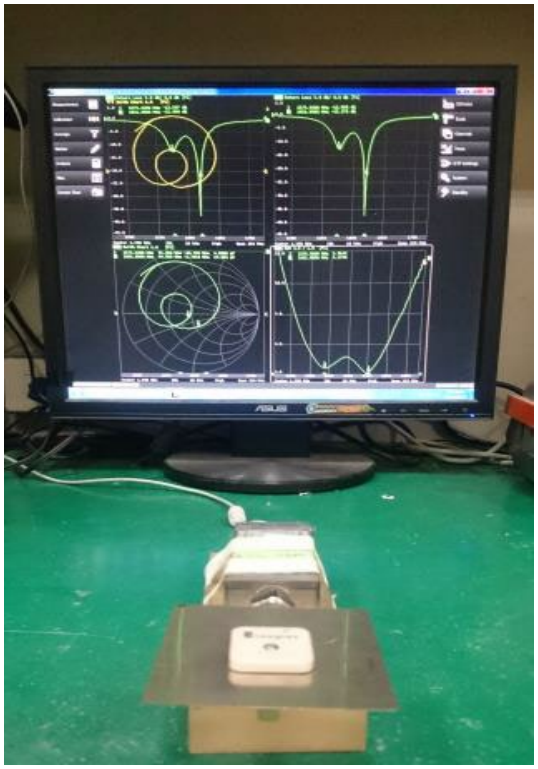


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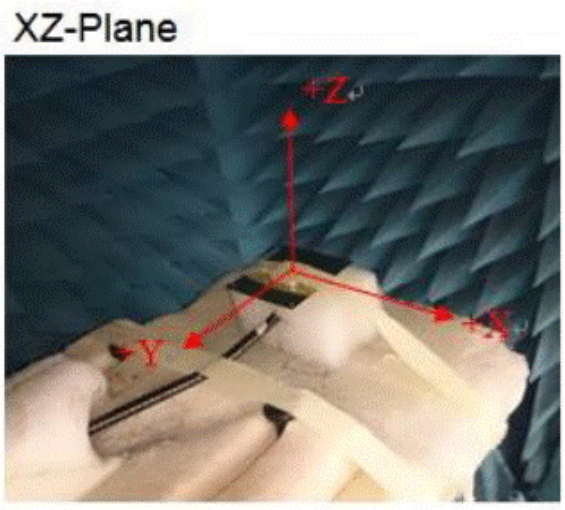
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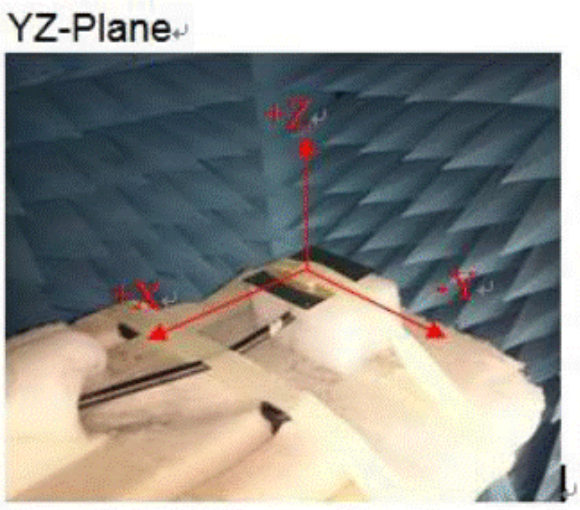
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VNA Test Measurement – Set up



Radiation Measurement – Set up





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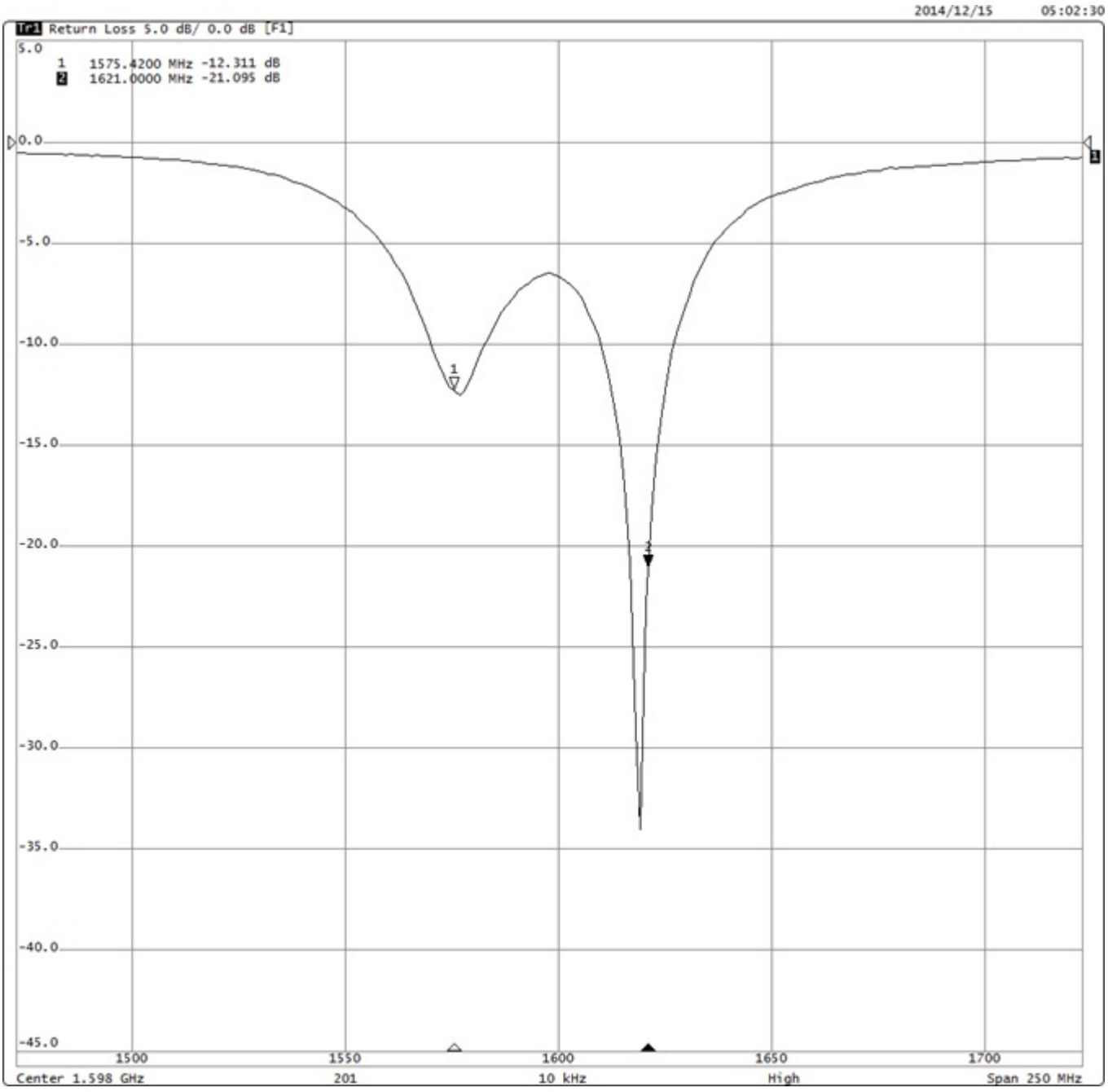


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Test Measurement – Return Loss



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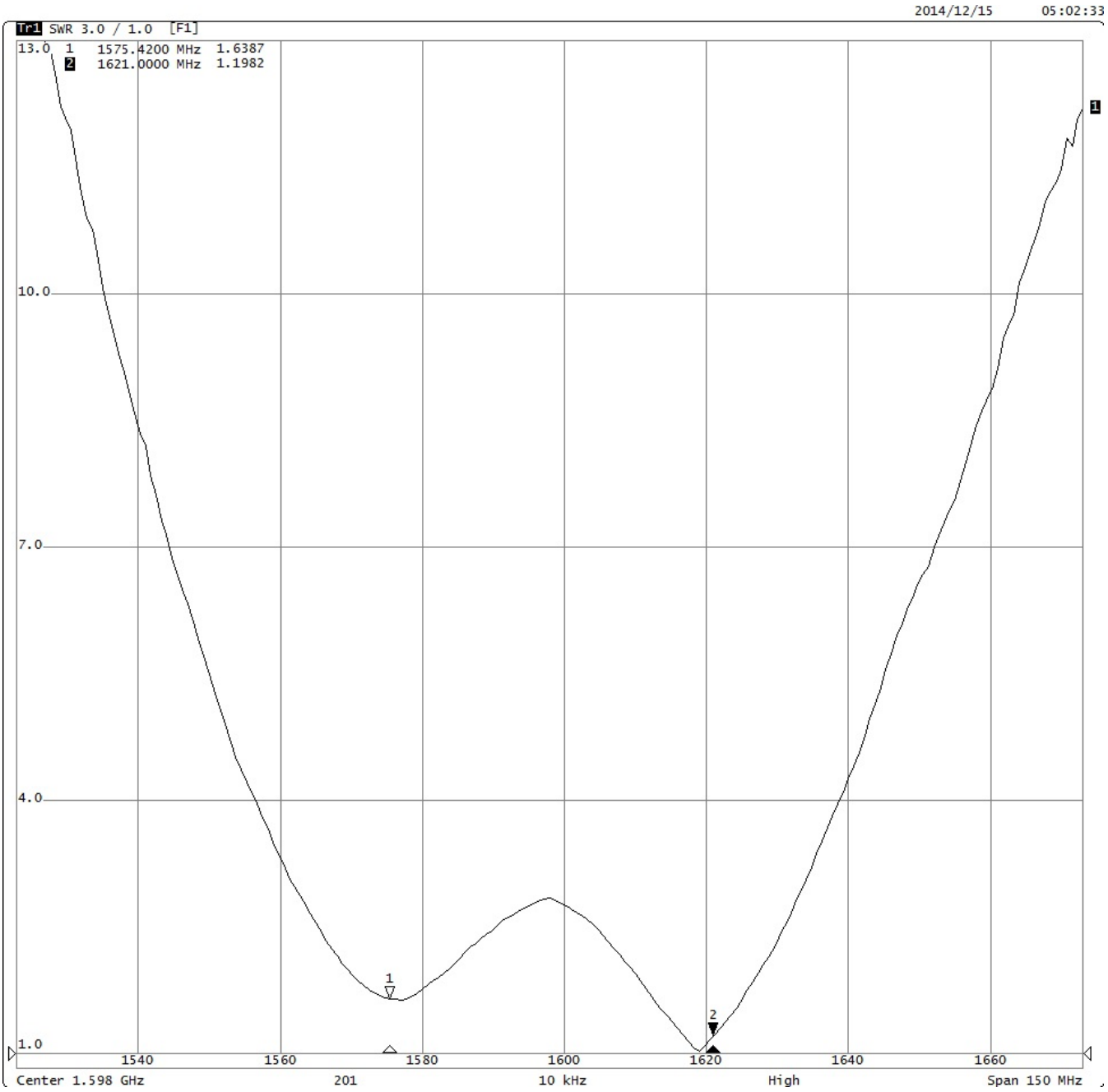


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Test Measurement – VSWR



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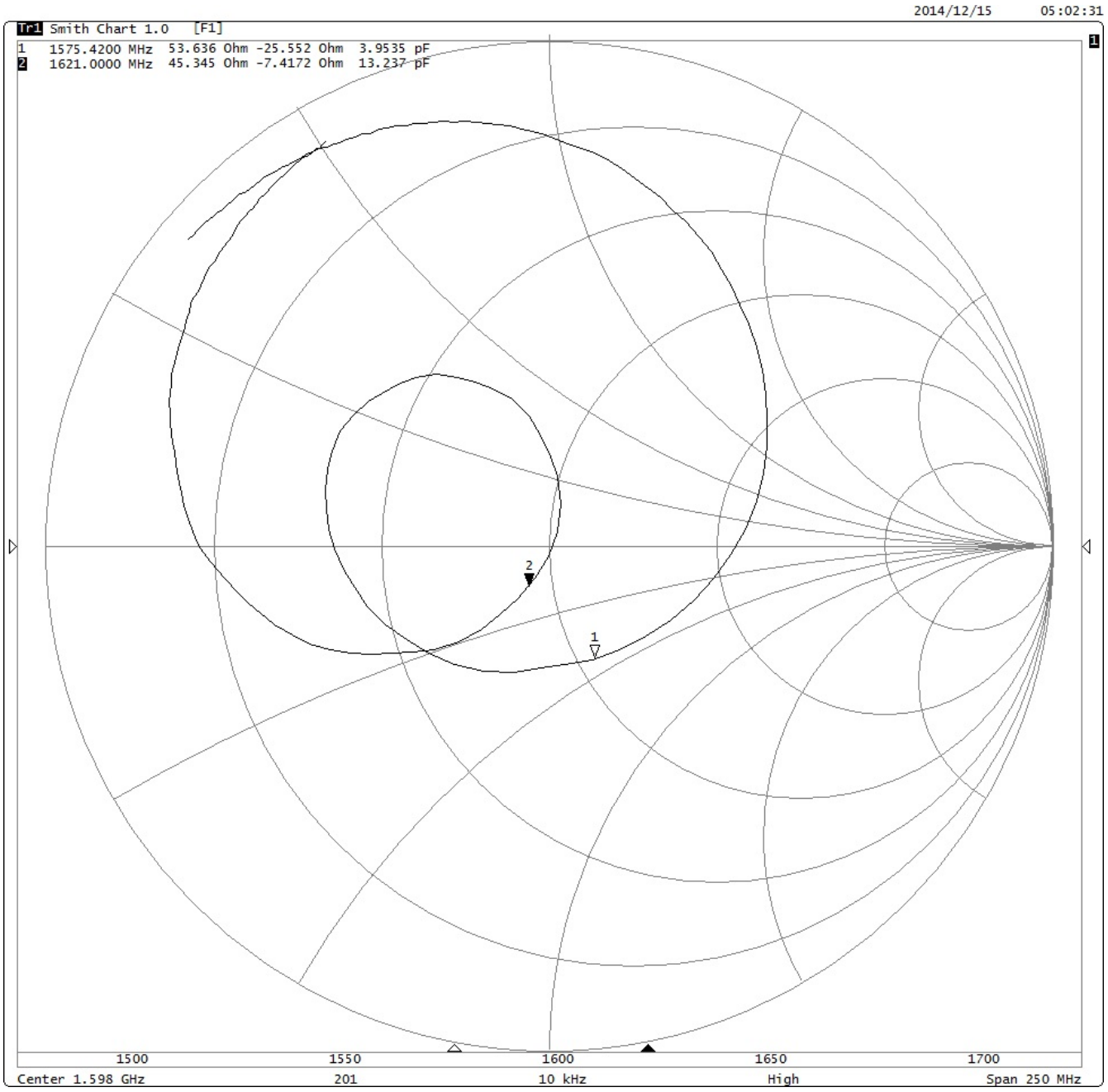


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Test Measurement – Smith Chart



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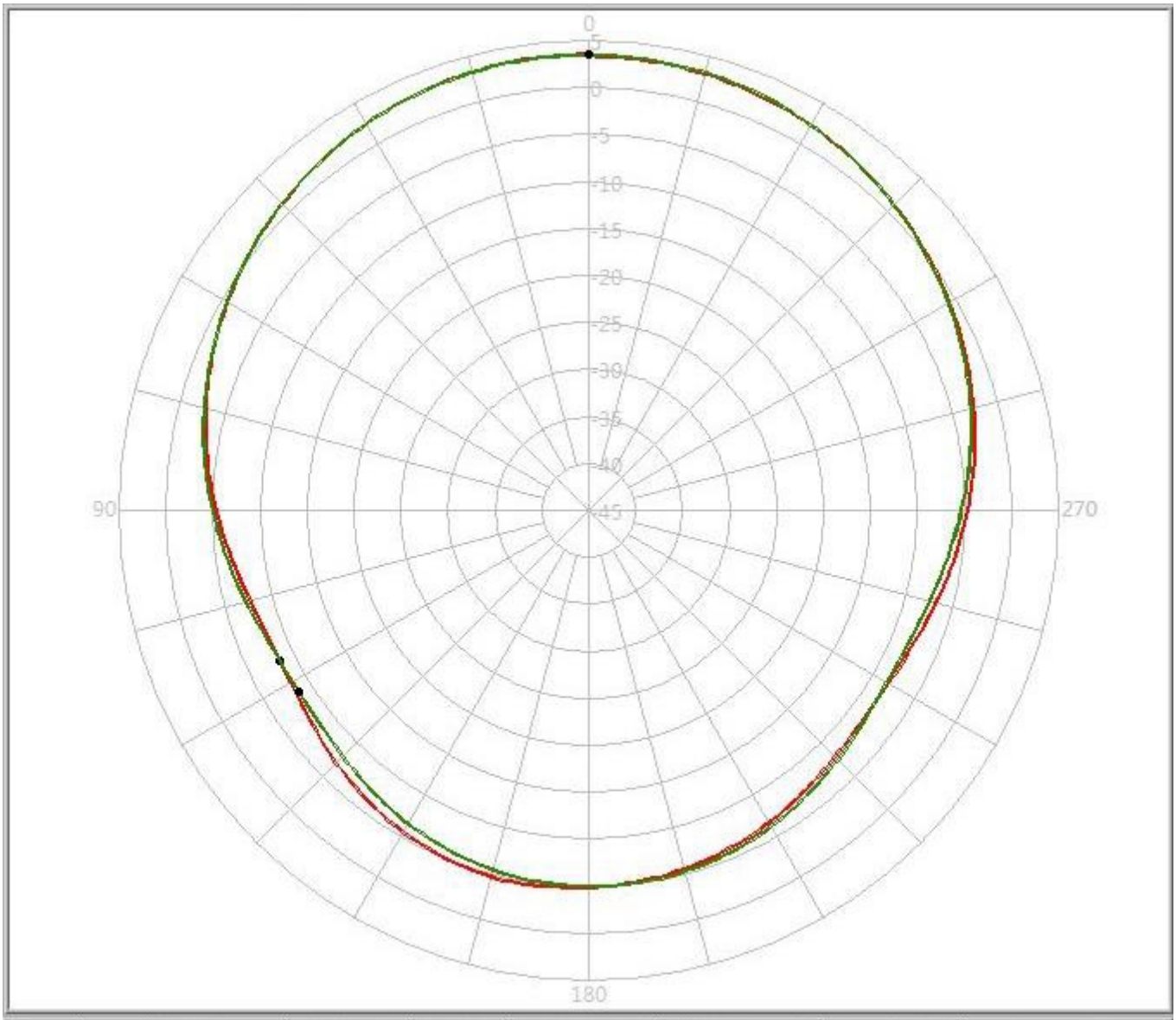
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MSL Level = 1

Radiation Measurement – 2D Pattern

XZ + YZ Plane : 1575.42 MHz



Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.
1	APRA2504F00Z	XZ	1575.42	3.56 / 0.00	-8.44 / 116.00	-1.19	V+H
2	APRA2504F00Z	YZ	1575.42	3.49 / 0.00	-8.62 / 122.00	-1.21	V+H

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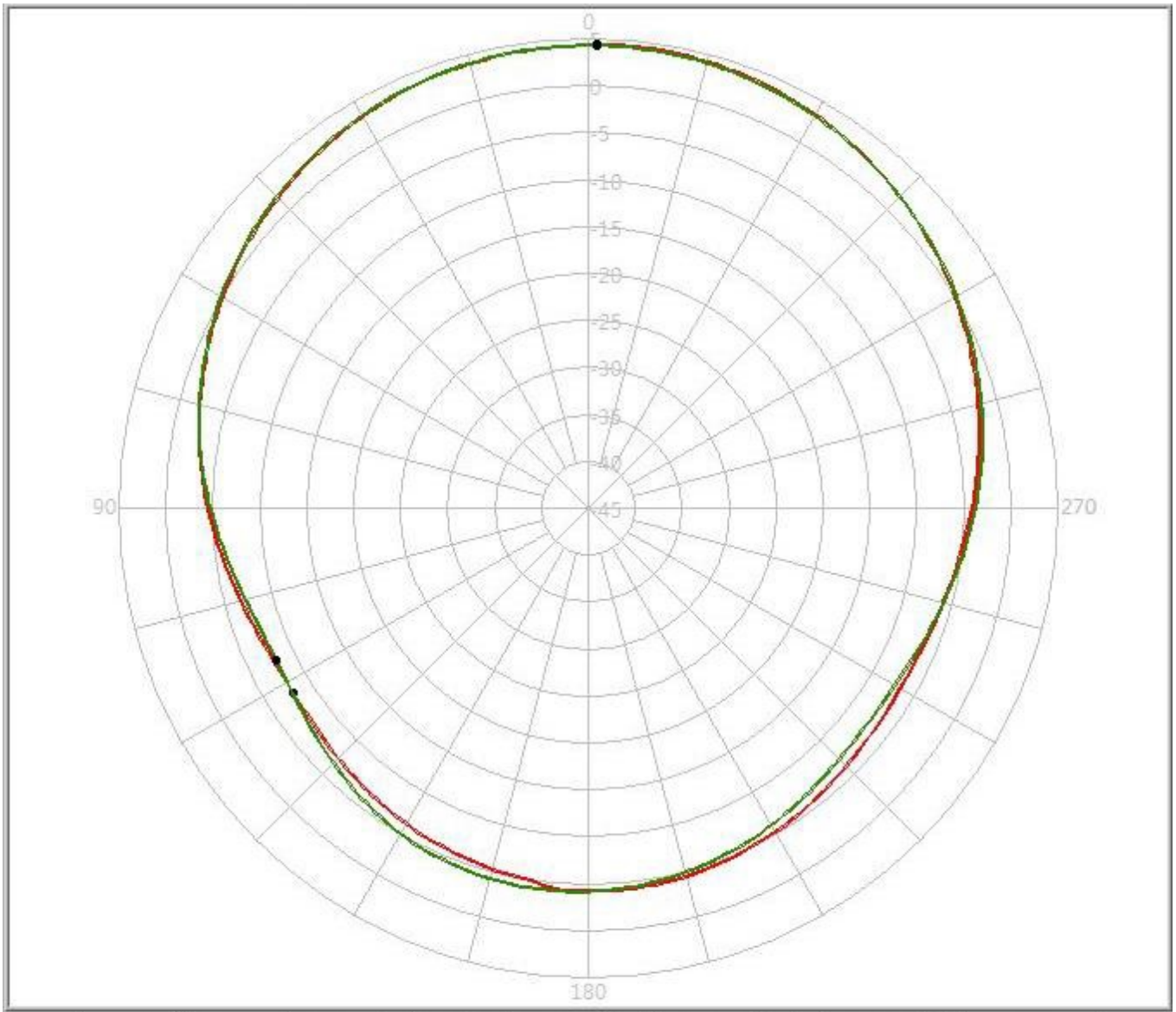


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RoHS/RoHS II Compliant
MSL Level = 1

XZ + YZ – Plane : 1621 MHz



Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.
1	APRA2504F00Z	XZ	1621.00	4.48 / 359.00	-7.91 / 122.00	-0.38	V+H
2	APRA2504F00Z	YZ	1621.00	4.32 / 359.00	-8.01 / 116.00	-0.36	V+H

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Soldering Condition

- Soldering should be done in 3 seconds by a feed pin of maximum temperature +290 °C.

Precautions

- Do not direct solder onto the silver electrode of the antenna pattern.
- Do not use the patch antenna in a corrosive gaseous atmosphere for example sulfur gas, chlorine gas.

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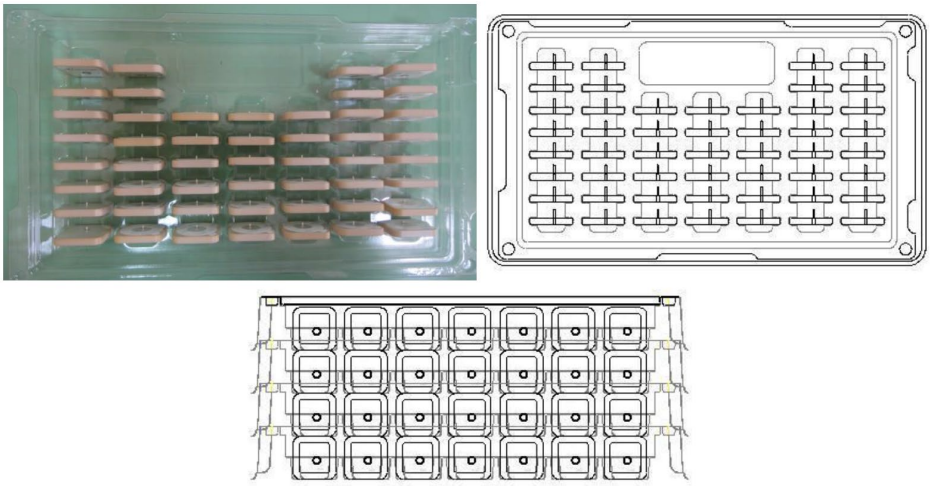
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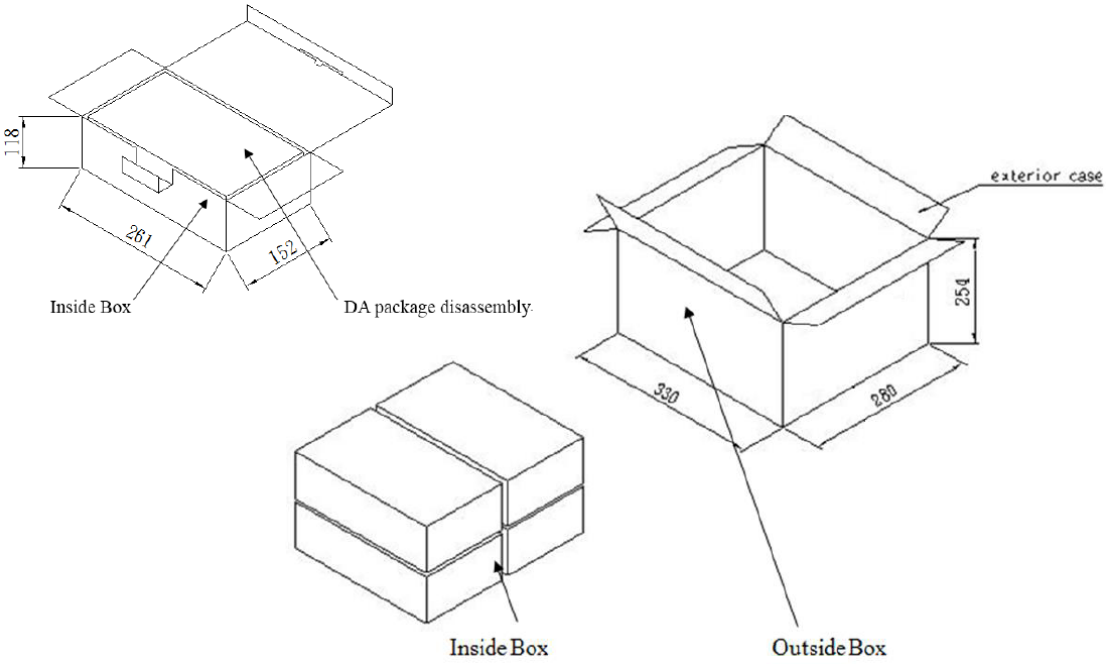
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Packaging Information

Dimensions of the inner carton : 261 x 152 x 118 mm
Dimensions of the outer Carton : 330 x 280 x 254 mm
Number of pcs per outer Carton : 800





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