

Part No. 9001157

GPS / GLONASS SMT Patch Antenna

1575 MHz, 1610 MHz

Supports: Tracking, Smart Home, Agriculture, Automotive, Healthcare, Digital Signage, Wearables, Industrial Devices



KYOCERA AVX series of GPS SMT Patch Antennas deliver on the key needs of device designers for higher functionality and performance in M2M designs. These innovative antennas provide compelling advantages for GPS enabled M2M applications such as vehicle tracking.

Best in Class Performance

Circularly Polarized patch antennas are designed to maintain high efficiency in a variety of device configurations. Minimal ground clearance and component “keep out” area. High selectivity eliminates the need for additional filters and frees up board space

Electrical Specifications

Typical Characteristics, on 50 x 50 mm ground plane

Frequency (MHz)	1563-1587	1593-1610
Peak Gain	3.8 dBi	24.3 dBi
Average Efficiency	48%	67%
VSWR	< 3.2:1	< 5.0:1
Gain @ Zenith	3.5 dBic	4.2 dBic
Polarization	Linear	
Power Handling	2 Watt	
Feed Point Impedance	50 Ω unbalanced	
Radiation Pattern	Directional	

GPS / GLONASS SMT Patch Antenna

1563-1587 MHz
1593-1610 MHz

KEY BENEFITS

Reduced Costs and Time-to-Market

Standard antenna eliminates design fees and cycle time associated with a custom solution; getting products to market faster.

Quicker Time-to-Market

By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

Reliability

Products are the latest RoHS version compliant.

APPLICATIONS

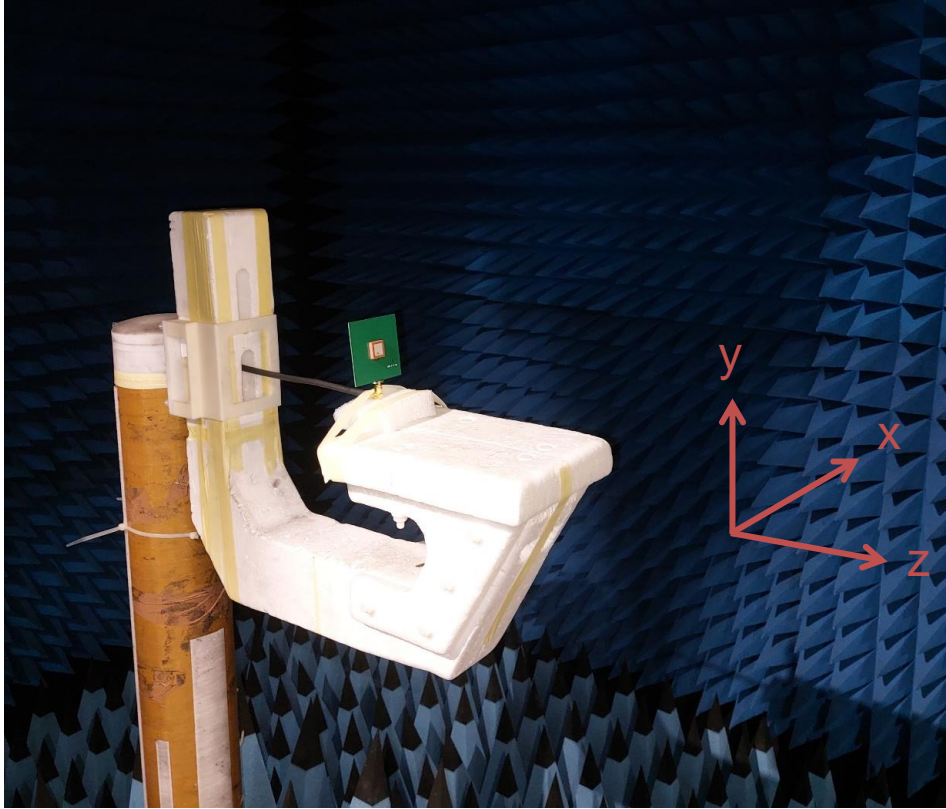
- Embedded design
- POS, Headsets, Tablets
- Gateway, Access Point
- Handheld
- Telematics
- Tracking
- Healthcare
- M2M, Industrial devices
- Smart Grid
- OBD-II

Mechanical Specifications & Ordering Part Number

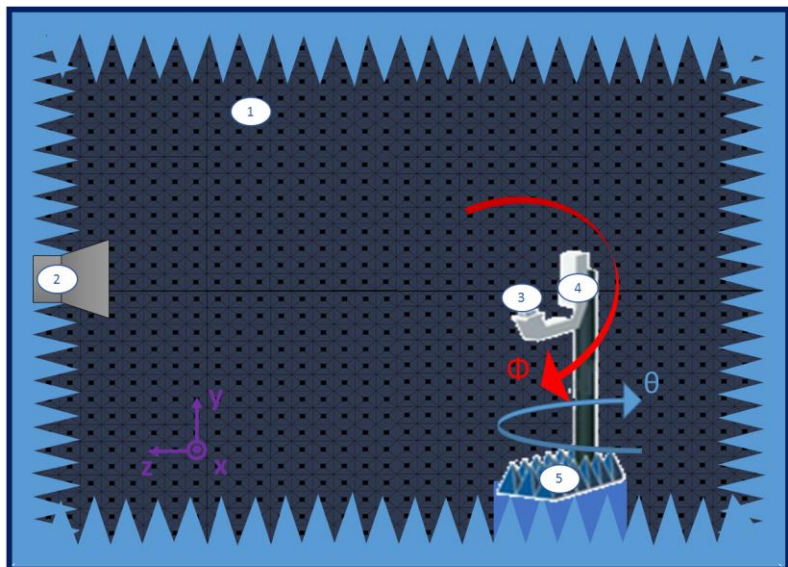
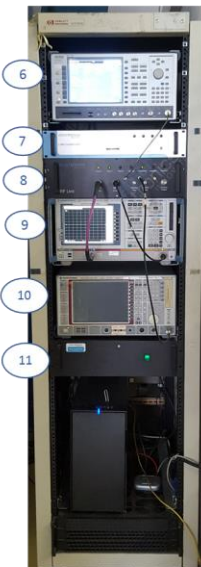
Ordering Part Number	9001157
Size (mm)	18.0 x 18.0 x 4.0
Mounting (mm)	SMT
Weight (grams)	6
Packaging	Packing in T&R
Demo Board	9001157-01

1575 MHz KYOCERA AVX Embedded Antenna Specifications.
 KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs.

Test Setup



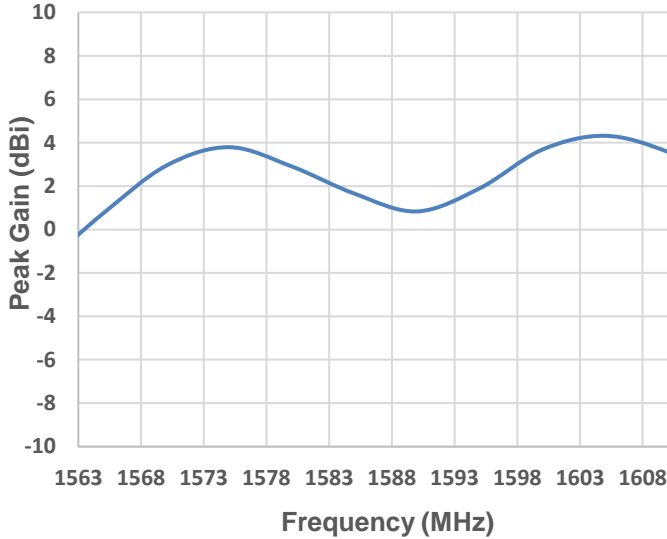
No	Description
1	Anechoic Chamber
2	Dual polarized Horn 700MHz-6GHz
3	Device under test
4	3D position arm (Phi angle)
5	3D positioner base (Theta angle)
6	Radio Communication Tester for Cellular protocols (Anritsu 8820)
7	Radio Communication Tester for LoRa Protocol (Ethertronics LoRa Unit)
8	Ethertronics RF Control Unit
9	Vector Network Analyzer (R&S ZVBB)
10	Spectrum Analyzer (R&S FSEM)
11	Ethertronics Motor Control Unit



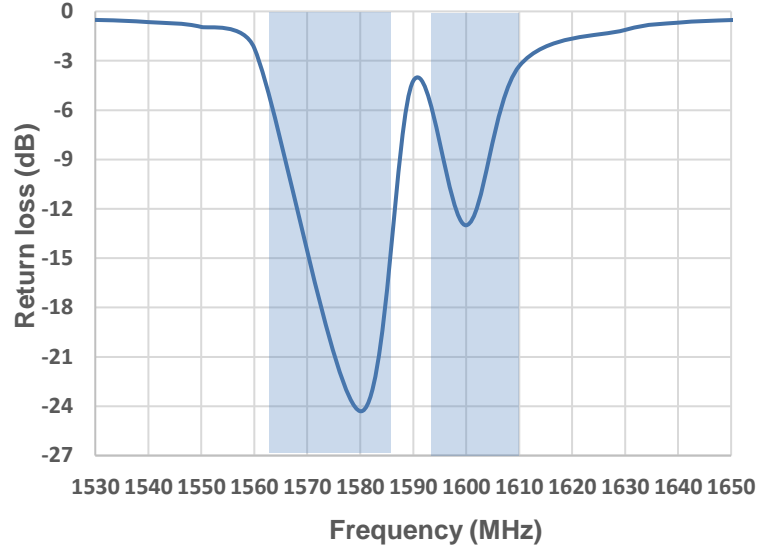
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Peak Gain, VSWR, Efficiency and Gain @ Zenith Plots

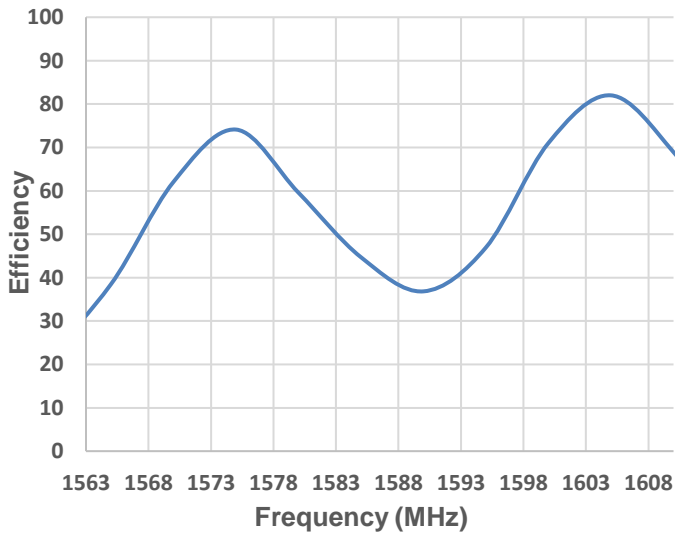
Peak Gain (1563 – 1610 MHz)



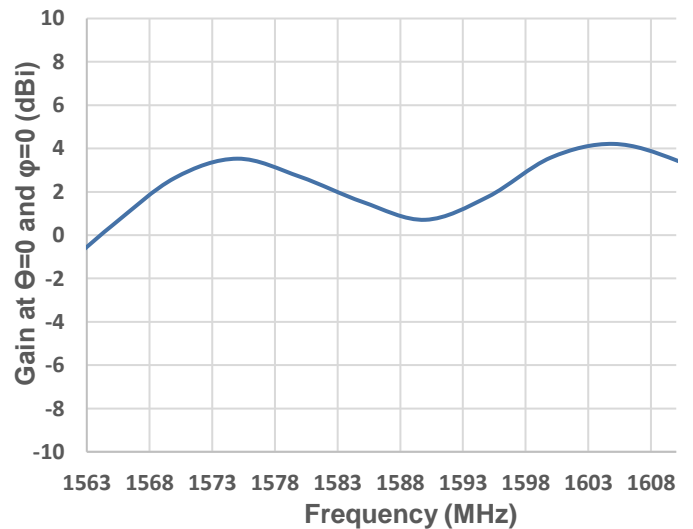
Return Loss



Efficiency (1563 – 1610 MHz)

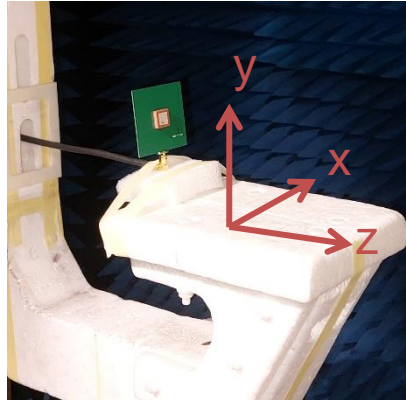


Gain at Zenith (1563 – 1610 MHz)

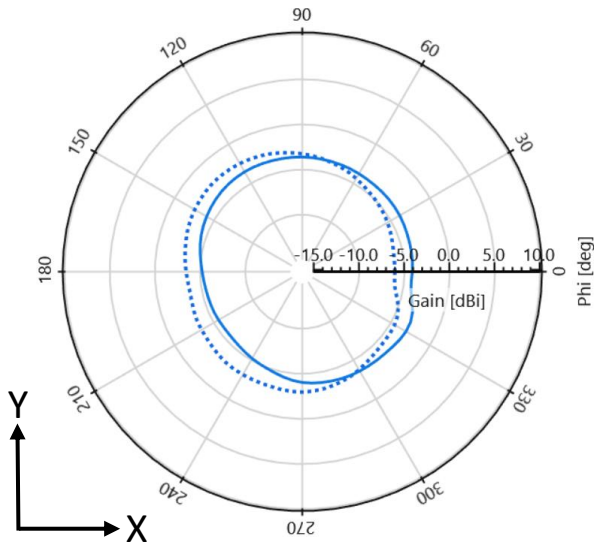


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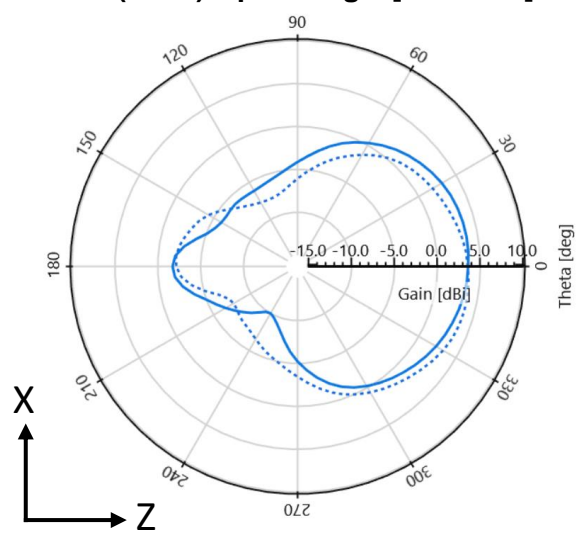
Antenna Radiation Patterns
 Measured at 1575-1600 MHz



Gain (Total) - $\Theta = 90$ deg - [Plane XY]

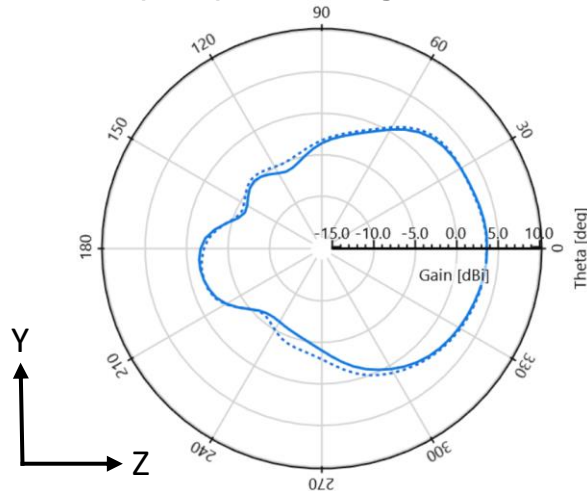


Gain (Total) - $\phi = 0$ deg - [Plane XZ]



Gain (Total) - $\phi = 90$ deg - [Plane YZ]

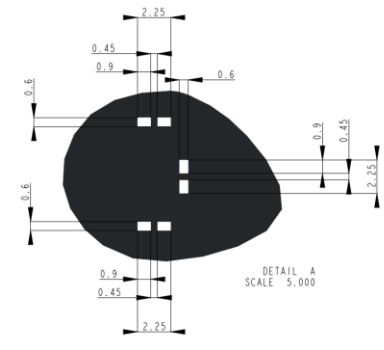
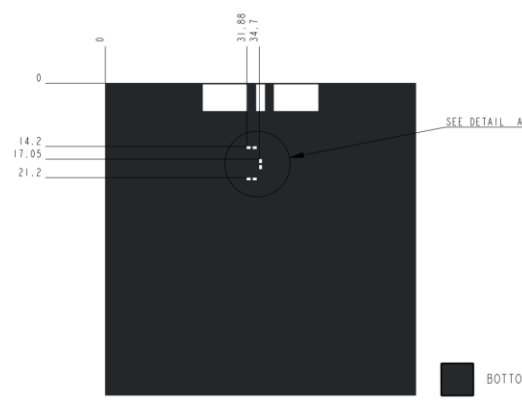
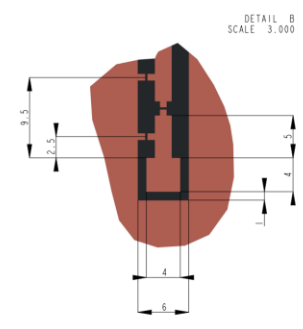
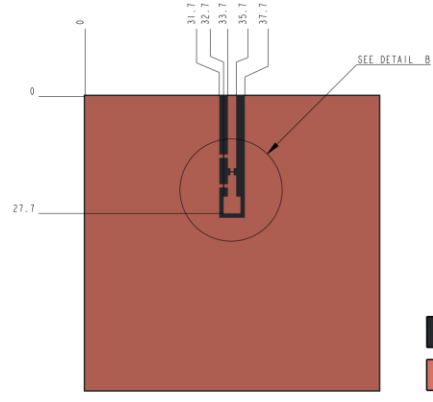
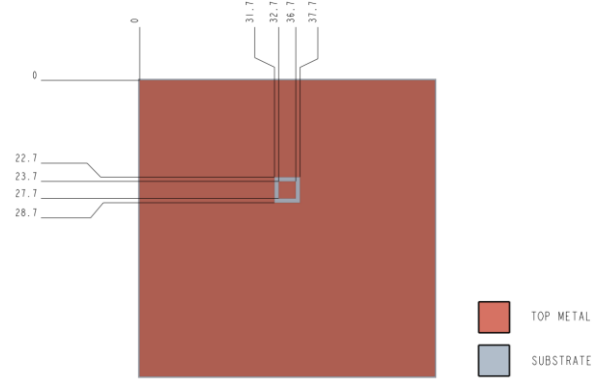
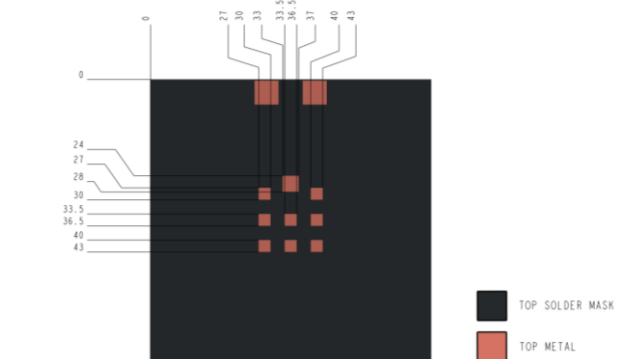
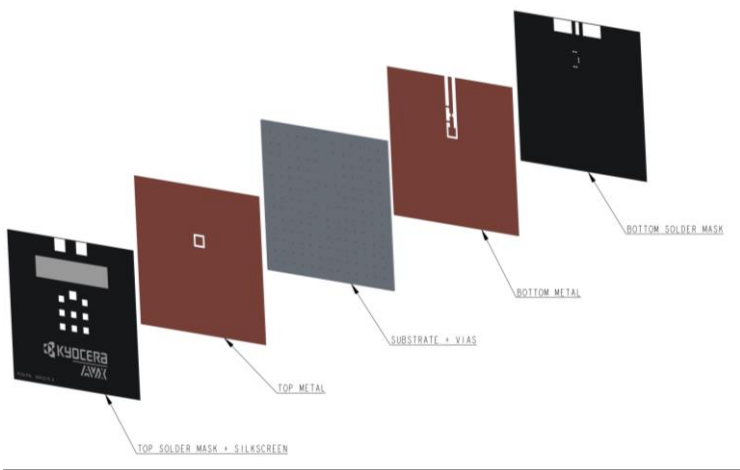
--- 1575 MHz
 — 1600 MHz



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Antenna Layout

Typical Layout Dimensions (mm)

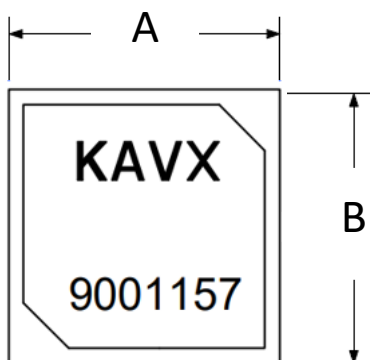


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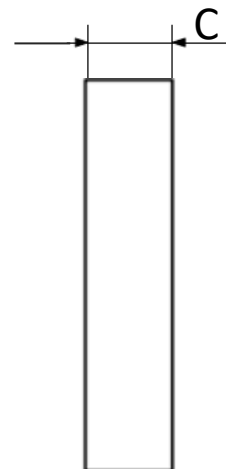
Mechanical Dimensions

Typical antenna dimensions, in mm.

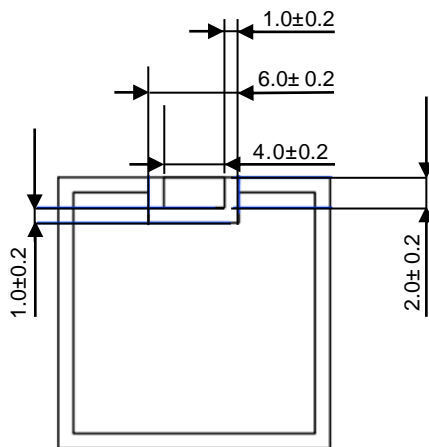
Part Number	A	B	C
9001157	18.0 ± 0.2	18.0 ± 0.2	4.00 ± 0.2



Top View



Side View



Bottom View

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Antenna Demo Board (9001157-01)

Demo Board Front/Back View (mm)

