

Part No. 1002649 / 1002649N

GPS/GLONASS/Beidou/Galileo Dual Feed Patch Antenna

1.575 GHz / 1.598 GHz / 1.606 GHz

Supports: GNSS systems, Global antenna embedded systems, Satellite positioning systems



KYOCERA AVX antennas deliver on the key needs of device designers for higher functionality and performance in smaller/thinner designs.

These innovative antennas provide compelling advantages for a GNSS enabled handheld devices, media players and other mobile devices.

GPS / GLONASS / Beidou / Galileo Dual Feed Patch Antenna

1.575 GHz / 1.598 GHz / 1.606 GHz

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
- Headsets, Tablets
- Gateway, Access Point
- Handheld
- Telematics
- Tracking
- Healthcare
- IoT,
- Industrial devices
- Smart Cities

Electrical Specifications

Typical characteristics, measured on a 70 x 70 mm PCB ground plane.

Frequency (GHz)	1.559 – 1.563	1.575	1.599 – 1.591	1.593 – 1.610
GNSS Bands	Beidou	GPS	Galileo	Glomass
Peak Gain (dBi)	5	5.5	5.5	5.5
Center Frequency f_0 (GHz)	1.561	1.575	1.575	1.603
Average Return Loss	< -15 dB			
Axial Ratio	1 dB			
Feed Point Impedance	50 Ω unbalanced			

Mechanical Specifications & Ordering Part Number

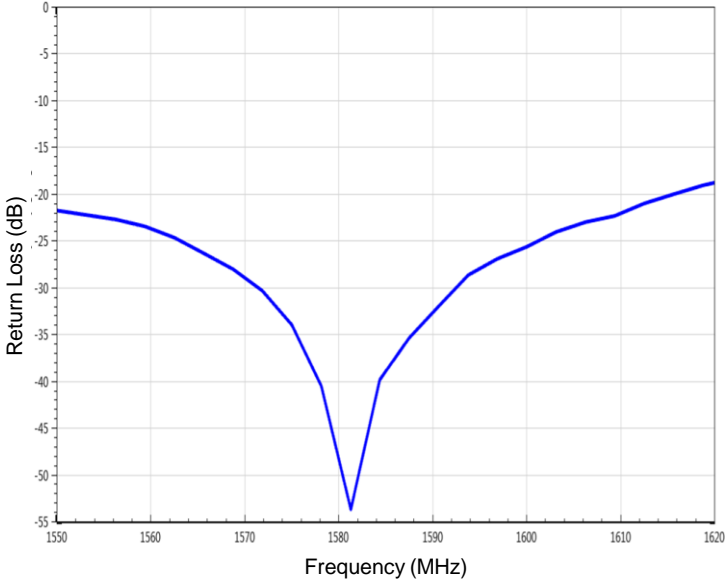
Ordering Part Number	1002649	1002649N
Size (mm)	25.0 x 25.0 x 6.7	
Mounting (mm)	Adhesive (Nitto 5000NS 22 x 22 x 0.16) & 2 through-hole Soldered Pins	Non-Adhesive 2 through-hole Soldered Pins
Weight (grams)	14.3	
Operating Temperature (°C)	- 40 to + 85	
Demo board	1002649-01	
Packaging	Plastic Tray	

GPS / GLONASS / Beidou / Galileo Dual Feed Patch KYOCERA AVX Embedded Antenna Specifications
 KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs.

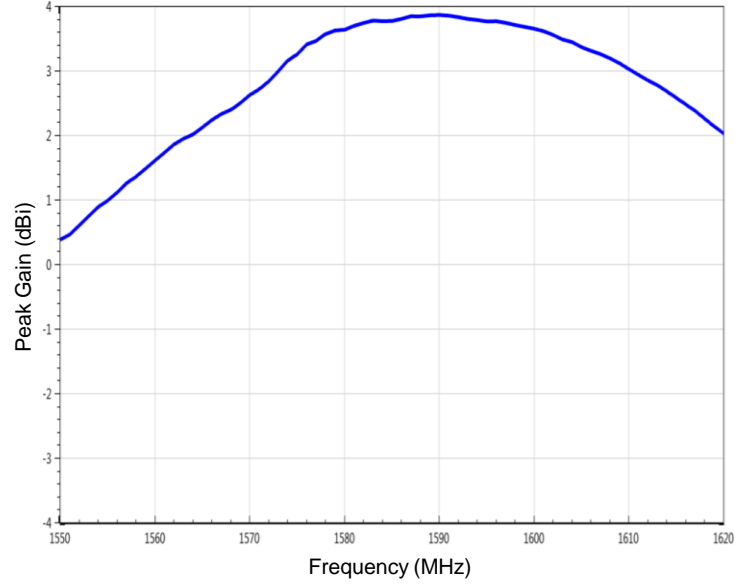
VSWR and Peak Gain Plots

Typical performance on 70 x 70 mm PCB

Return Loss



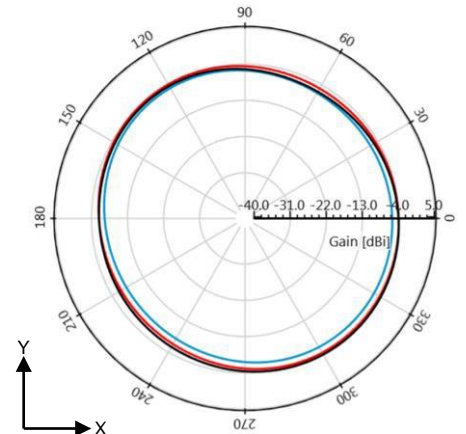
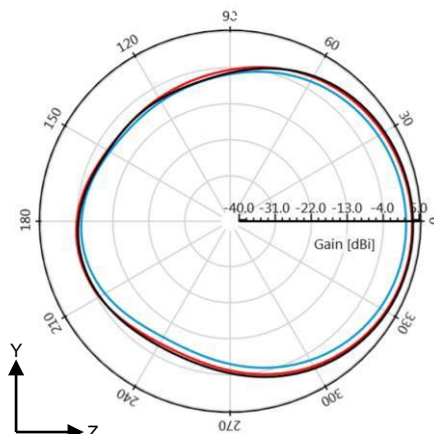
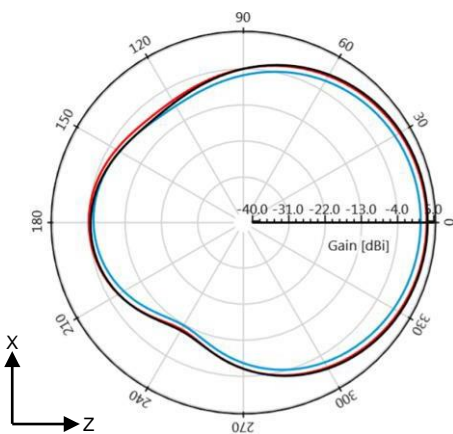
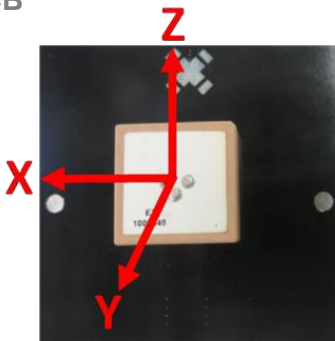
Peak Gain



Antenna Radiation Patterns

Typical performance on 70 x 70 mm PCB
 Measured @ 1561, 1575, 1603 MHz

- 1561 MHz
- 1575 MHz
- 1603 MHz

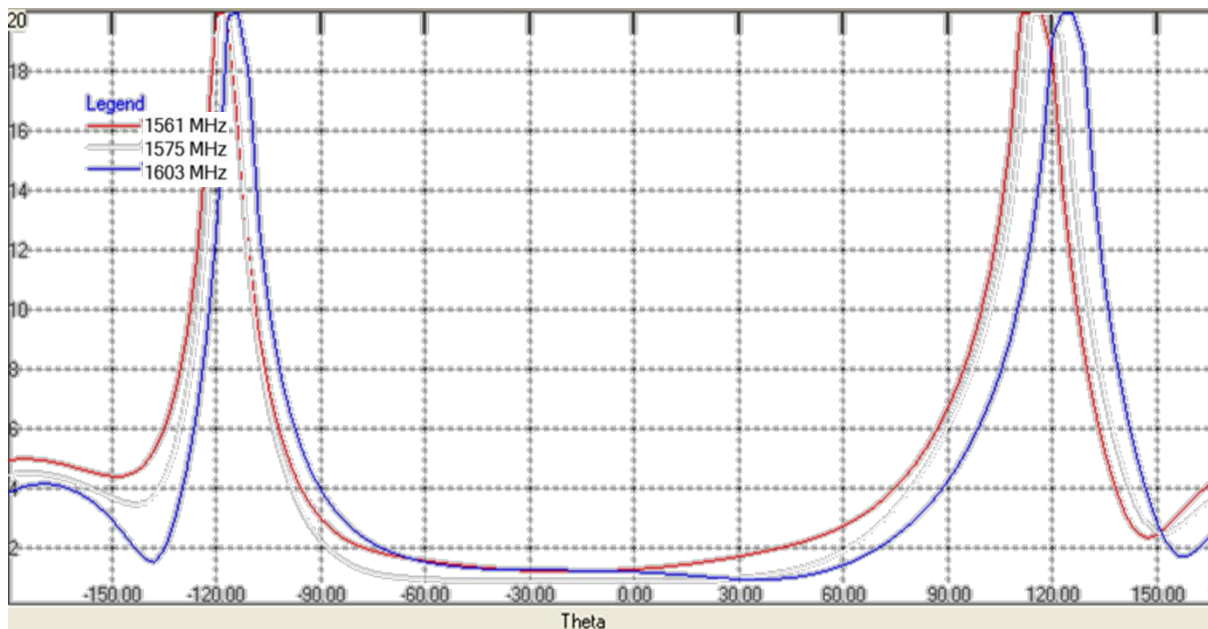


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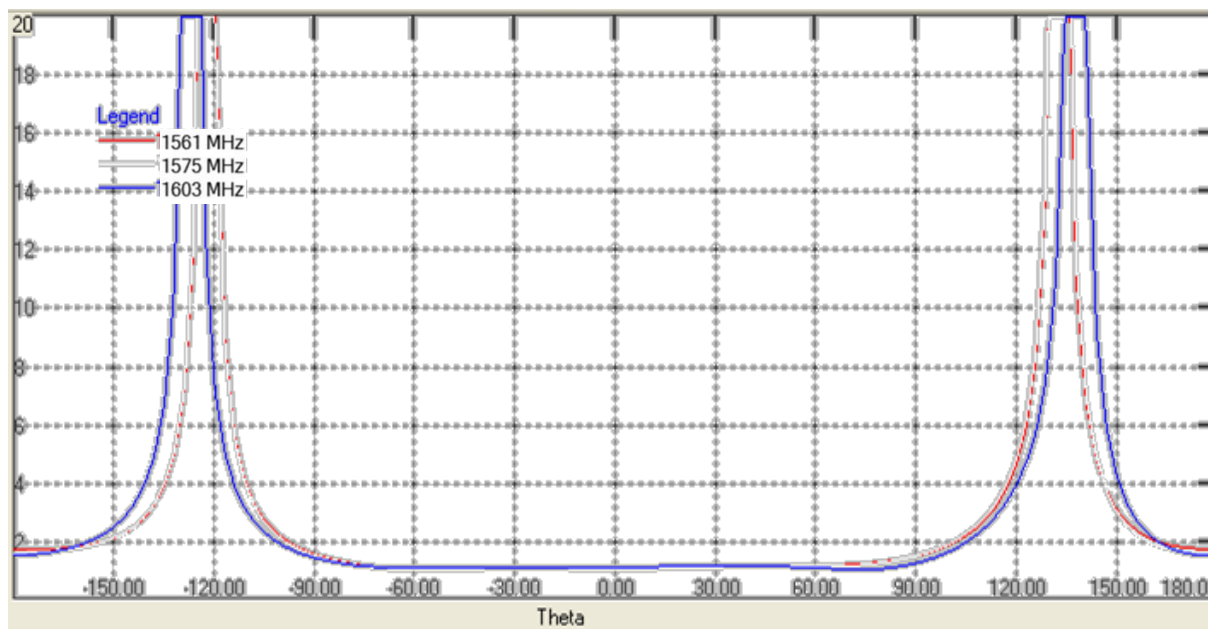
Axial Ratio Plots

Typical performance on 70 x 70 mm PCB
 Measured @ 1561, 1575, 1603 MHz

Phi = 0



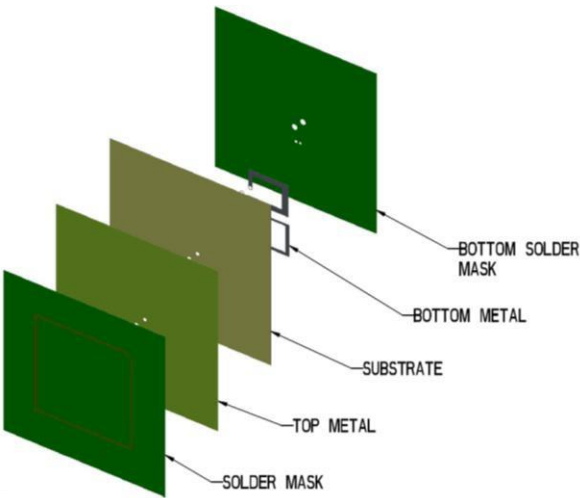
Phi = 90



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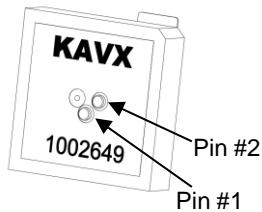
Antenna Layout

Typical layout dimensions (mm)



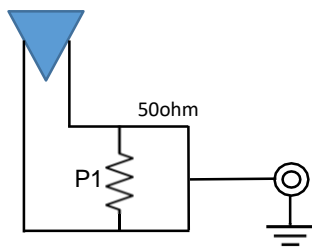
Pin Descriptions

Pin#	Description
1	Feed
2	Feed

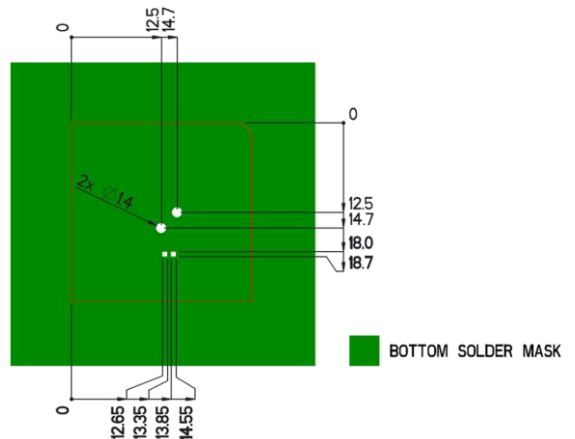
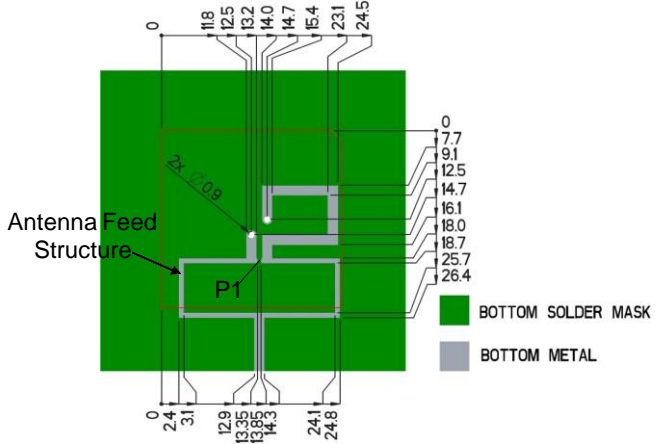
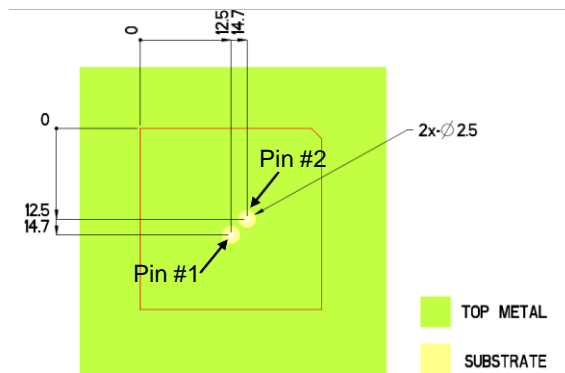
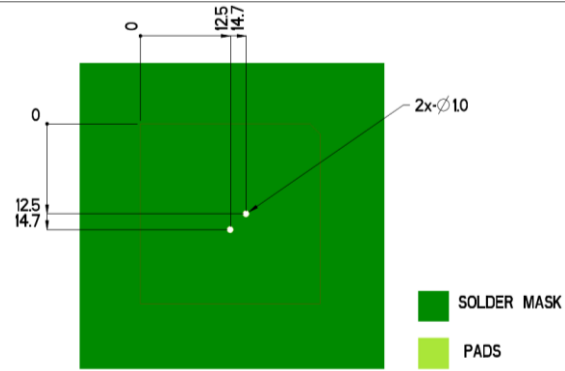
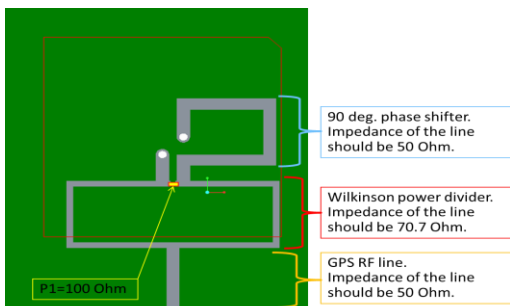


Matching Pi Network

Component	Value	Tolerance
P1	100Ω	±5%



Impedance Definition

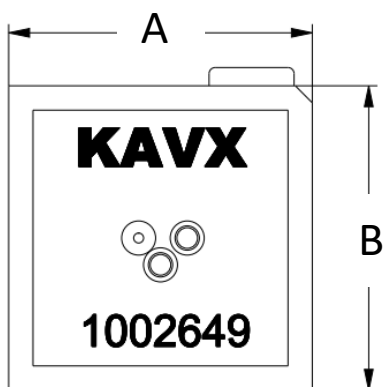


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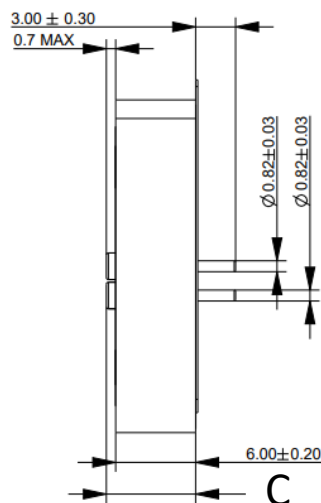
Mechanical Dimensions

Typical antenna dimensions, in mm.

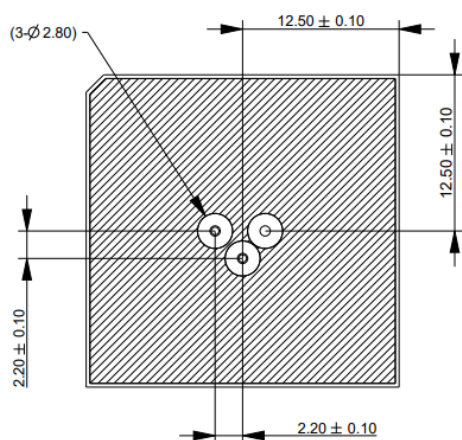
Part Number	A (mm)	B (mm)	C (mm)
1002649	25.0 ± 0.2	25.0 ± 0.2	6.7 (+0.2/-0.4)



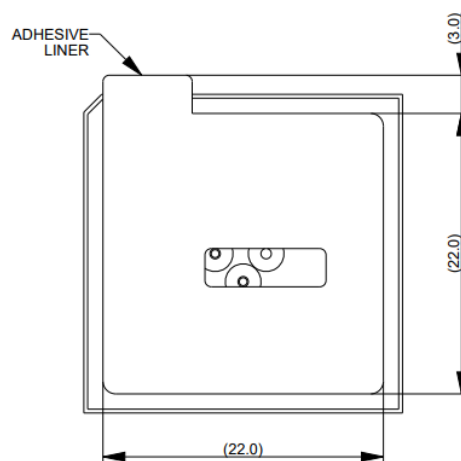
Top View



Side View



Bottom View



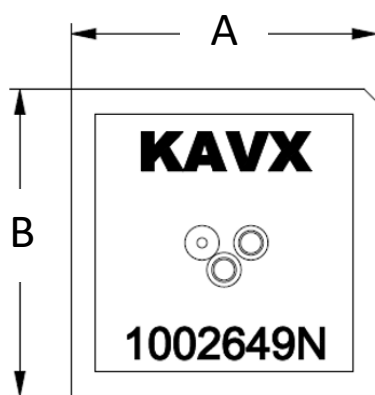
**Adhesive Liner View
(Bottom)**

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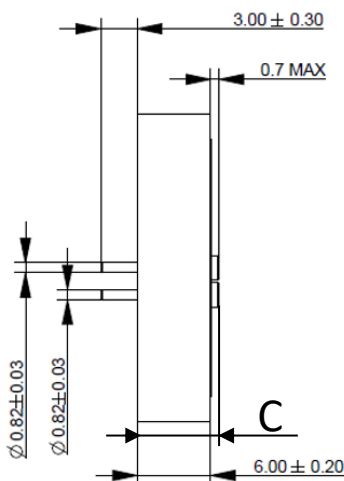
Mechanical Dimensions

Typical antenna dimensions, in mm.

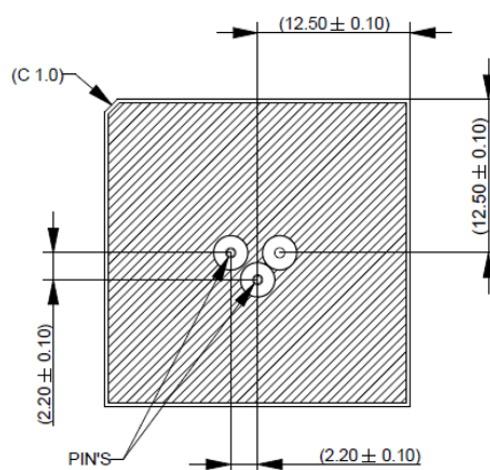
Part Number	A (mm)	B (mm)	C (mm)
1002649N	25.0 ± 0.2	25.0 ± 0.2	6.7 (+0.2/-0.4)



Top View



Side View



Bottom View

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Antenna Demo Board (1002649-01)

Typical dimensions, in mm.

Part Number	A (mm)	B (mm)	C (mm)
1002649-01	70.0 ± 0.2	70.0 ± 0.2	0.8 ± 0.1

