

Part No. 1004259C0

GPS/GLONASS Ceramic Patch Antenna (Active)

1.575 GHz; 1.602 GHz

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



KYOCERA AVX's 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 GPS/GLONASS enabled handheld devices, media players and other mobile communications devices.

GPS/GLONASS active patch antenna solution utilizes a Low Noise Amplifier (LNA) mounted on a PCB for superior performance.

Electrical Specifications

Typical performance 70 x 70 mm PCB

Frequency	1.575 GHz	1.593 – 1.610 GHz
GNSS Bands	GPS	GLONASS
Center Frequency f_0	1.575 GHz	1.602 GHz
Gain at Zenith	5.0 dBic (typ)	
Output VSWR	1.5 (typ)	
Average Efficiency	79%	
Impedance	50 ohm	
Polarization	R.H.C.P	
Operation Voltage	3.0 ± 0.1 V	
LNA/Filter Gain	20 ± 3 dB (DC = 3.0 V)	
Operation Temperature	-40 to +85 °C	

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KEY BENEFITS

Reduced Costs & Time-to-Market

Standard antennas eliminate design fees, redesign cycle time and minimize risk associated with customer solution. Quicker time to market.

Quicker Time-to-Market

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

Environmental Compliance

Products are the latest RoHS version compliant.

APPLICATIONS

- Embedded design
- POS, Headsets, Tablets
- Gateway, Access Point
- Telematics
- Tracking
- OBD-II
- M2M, Industrial devices
- Smart Grid
- Not recommended in harsh environments
- Healthcare (FDA Class I)

Mechanical Specifications & Ordering Part Number

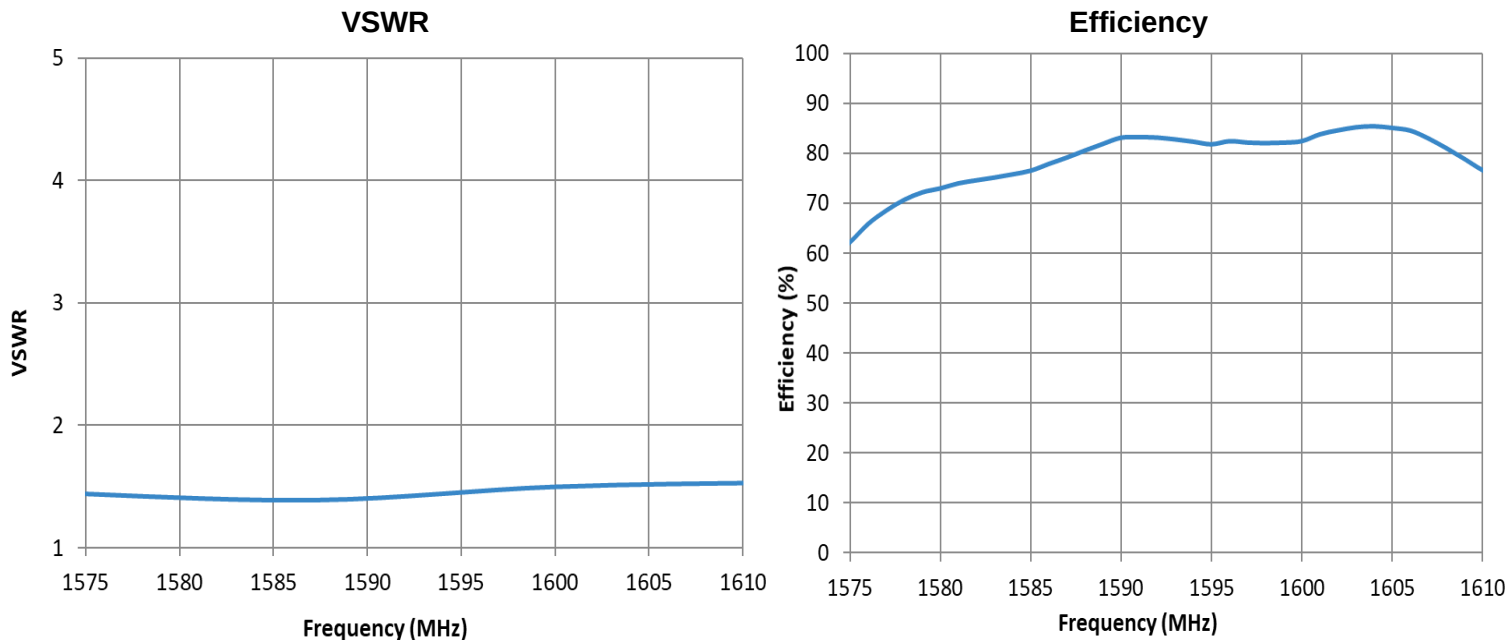
Ordering Part Number	1004259C0-AA12L0076
Size (mm)	25 x 25 x 6.5 mm
Mounting	Drop-in (non adhesive)
Weight (grams)	11.2
Connector	IPEX MHF
Cable (mm)	RF Ø 1.13 Gray, 76.0 ± 3.0
Storage Temperature (°C)	-40 to +85
Packaging	Plastic Tray
Additional Resources	Download 3D FIT File

*Additional variations available with different cable lengths and connectors.

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

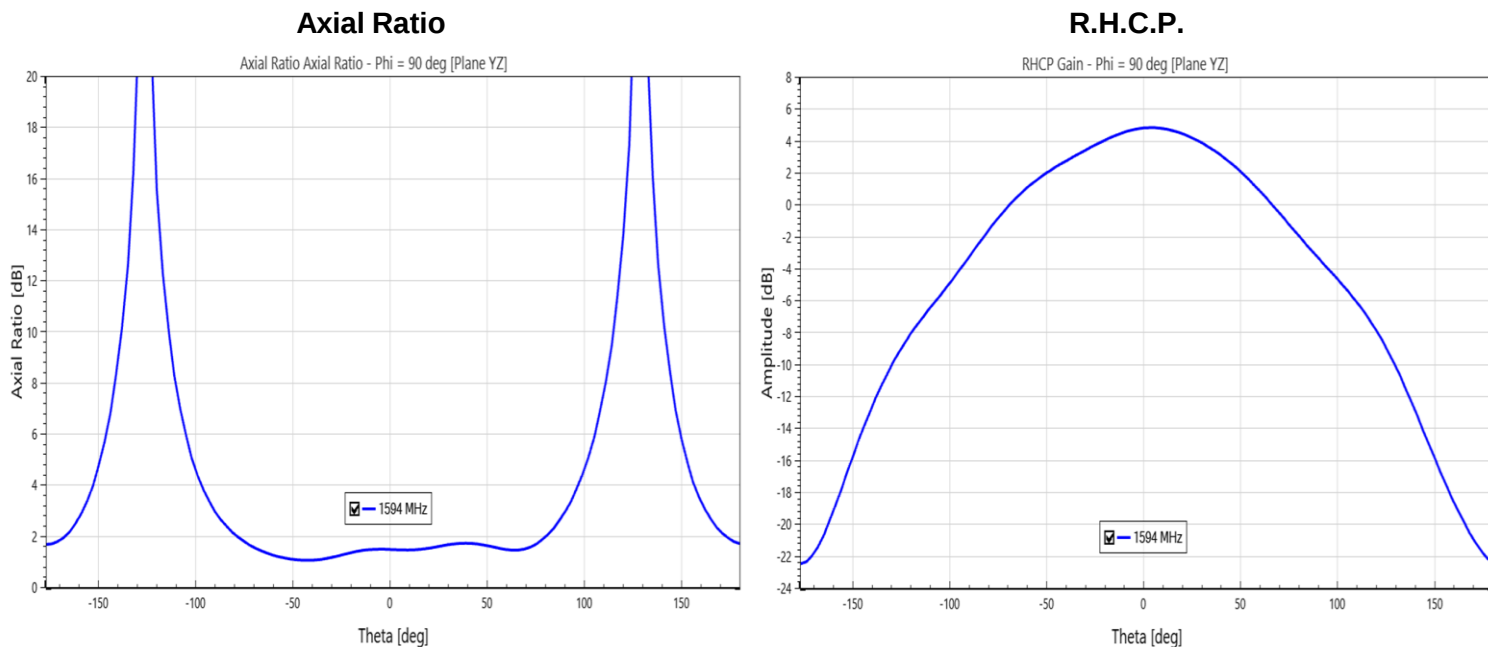
VSWR and Efficiency Gain Plots

Typical performance on 70 x 70 mm PCB



Axial Ratio/RHCP charts

Typical performance on 70 x 70 mm PCB

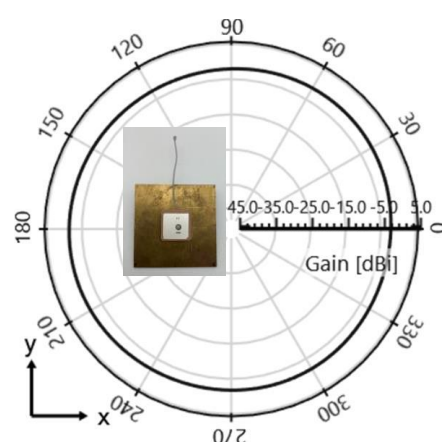
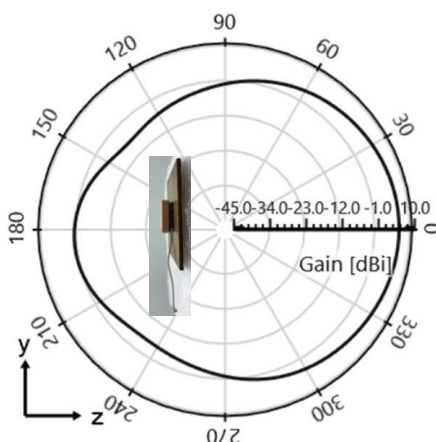
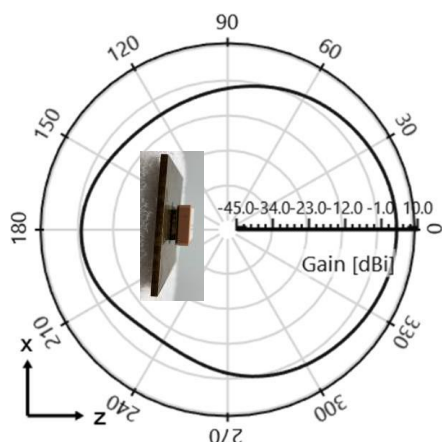
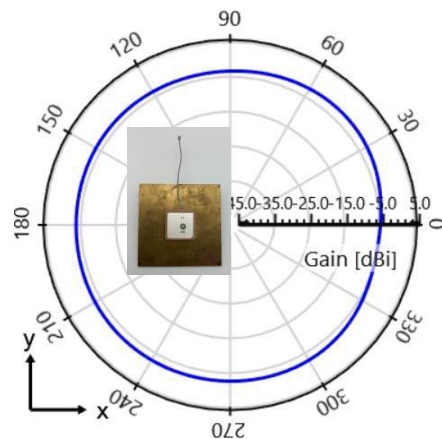
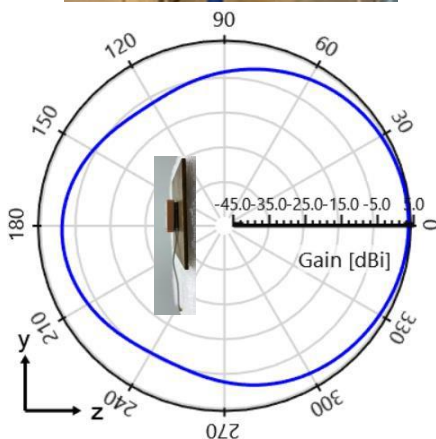
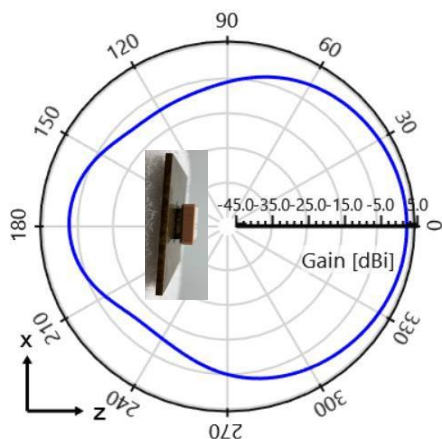
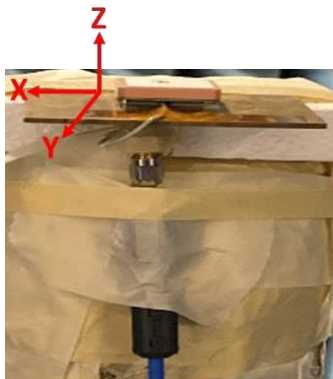


GPS / GLONASS Active Patch Embedded KYOCERA AVX Antenna Specifications
KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs.

Antenna Radiation Patterns

Typical performance on 70 x 70 mm PCB
Measured @ 1575, 1602 MHz

- ☒ — 1575 MHz
- ☒ — 1602 MHz

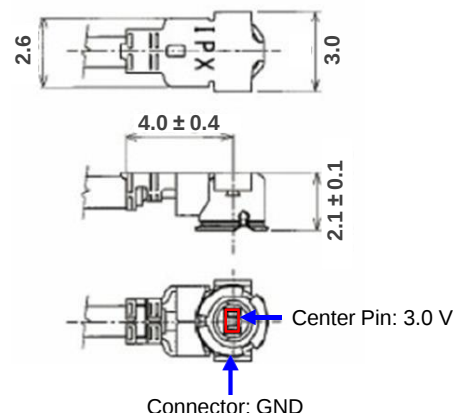


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Filter/LNA Specifications

Gain	$20 \pm 3\text{dB}$ ($3.0 \pm 0.1\text{V}$)
Voltage (V_{cc})	$3.0 \pm 0.1\text{V}$
Current (lin)	$4.5 \pm 1.5\text{mA}$
Output VSWR	2.0 max (DC = 3.0V)

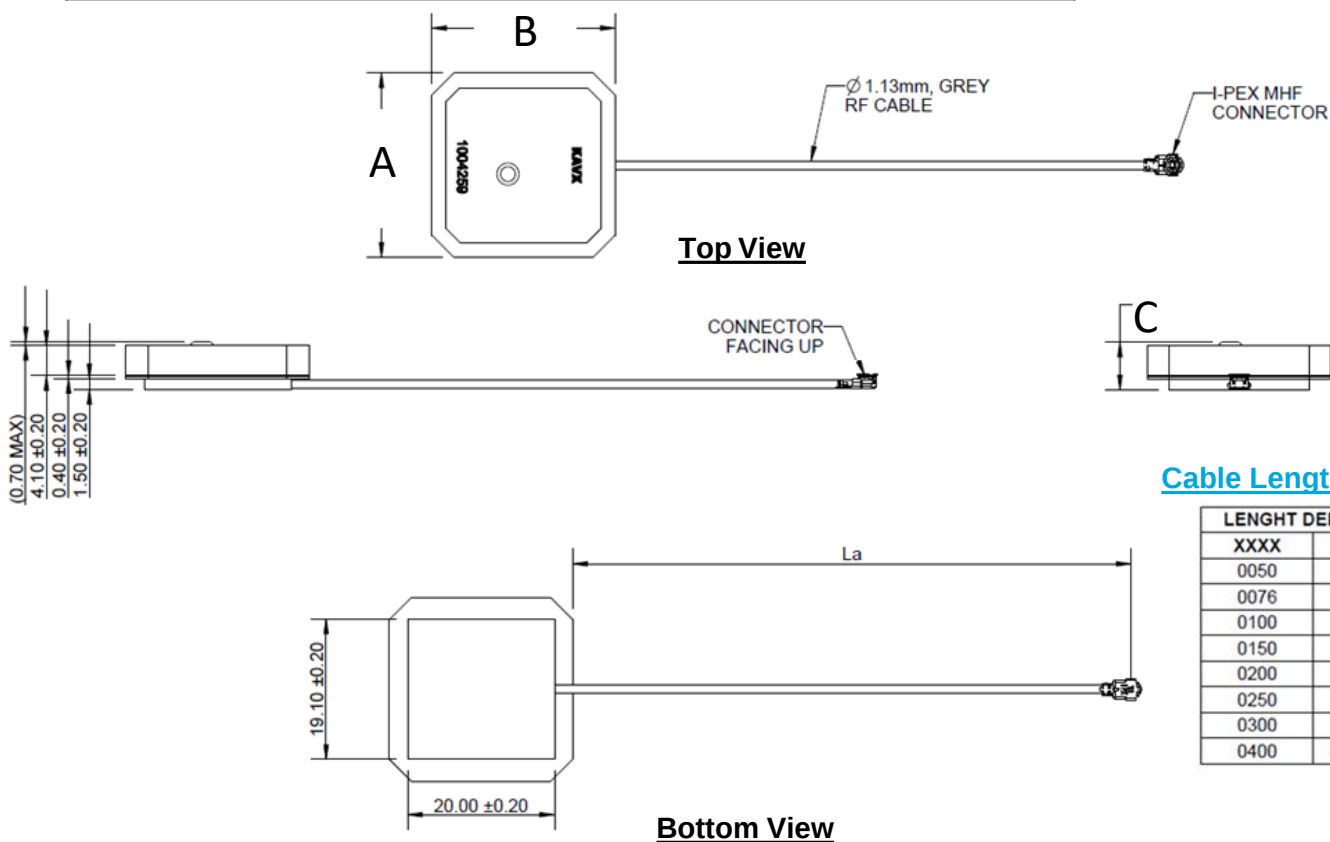
Connector Dimensions (mm)



Mechanical Dimensions

Typical antenna dimensions (mm)

Part Number	A	B	C	La (Cable Length)
1004259C0-AA12L0076	25.0 ± 0.2	25.0 ± 0.2	(6.50)	76.0 ± 3.0
1004259C0-AA12LXXXX	25.0 ± 0.2	25.0 ± 0.2	(6.50)	XXXX



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Additional Resources – 1004259C0

3D FIT File:

https://www.kyocera-avx.com/download/antennas/ME-FIT/1004259_ME_fit.zip