

Part No. 9003199

Dual-Feed GPS L1/L5 Stacked Patch Antenna

1164 – 1189 MHz, 1563 - 1587MHz
 Supports: GPS L1, L5



KYOCERA AVX series of GPS Ceramic 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.

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

Dual-Feed GPS L1/L5 Stacked Patch Antenna

1164 – 1189 MHz
 1563 - 1587MHz

KEY BENEFITS

Quicker Time-to-Market

Standard part means fewer design changes with, simple implementation

Best in Class Performance

External antennas are designed to maintain high efficiency in a variety of device configurations

Great Flexibility

Standard connector to makes easy set-up

Environmental Compliance

Products are the latest RoHS version compliant.

APPLICATIONS

- Cellular devices
- Telematics • Smart Grid
- Healthcare • IoT
- Applications • Metering (FDA Class I)
- M2M, Industrial

Electrical Specifications

Typical Characteristics antenna measured over 150 mm Diameter.

Frequency (MHz)	Free Space	
	1164 - 1189	1563 - 1587
Peak Gain	-4 dBi	2 dBi
Average Efficiency	24%	39%
VSWR Match	< 1.58:1	< 2.32:1
Gain Zenith	1.3 dBi	2.8 dBi
Axial Ratio	< 5 dB	< 5 dB
Power handling	2 Watt CW	
Feed Point Impedance	50 Ω unbalanced	
Polarization	R.H.C.P	
Radiation Pattern	Directional	

Mechanical Specifications & Ordering Part Number

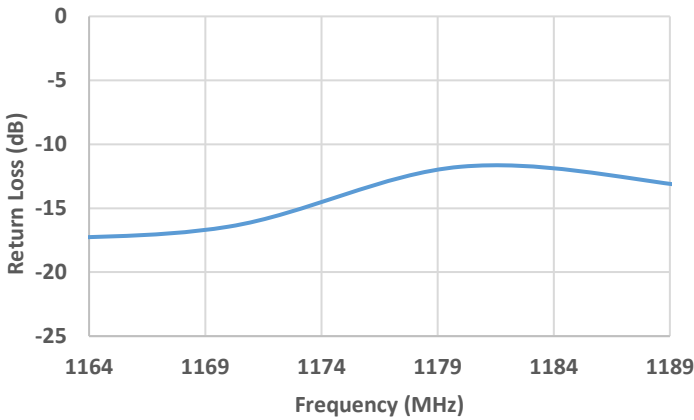
Ordering Part Number	9003199
Dimensions (mm)	25.0 x 25.0 x 8.16
Mounting Type(s)	Pins + Adhesive
Weight (grams)	84.8
Operating Temperature (°C)	[-40 ~ +85°C]

Dual-Feed GPS L1/L5 Stacked Patch Antenna Specifications.
 KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs.

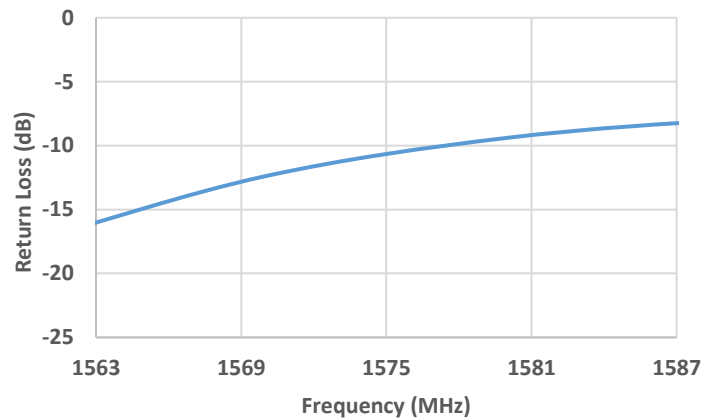
VSWR, Efficiency and Peak Gain Plots

Typical performance 9003199 measured over 150 mm Diameter EVB

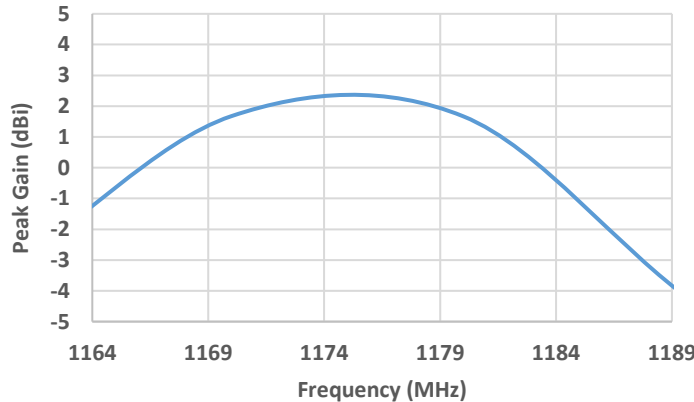
VSWR (1164 – 1189 MHz)



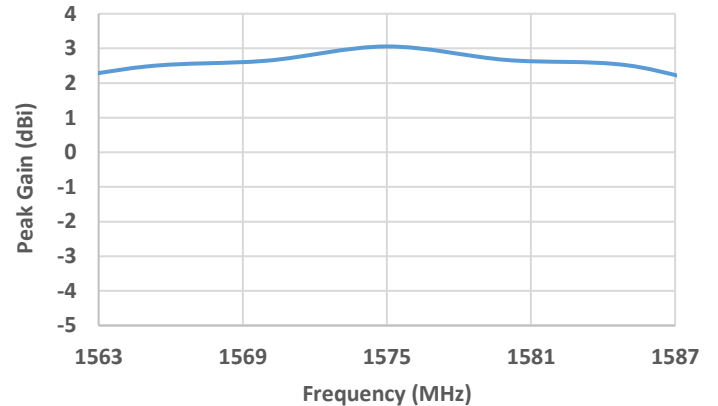
VSWR (1563 – 1583 MHz)



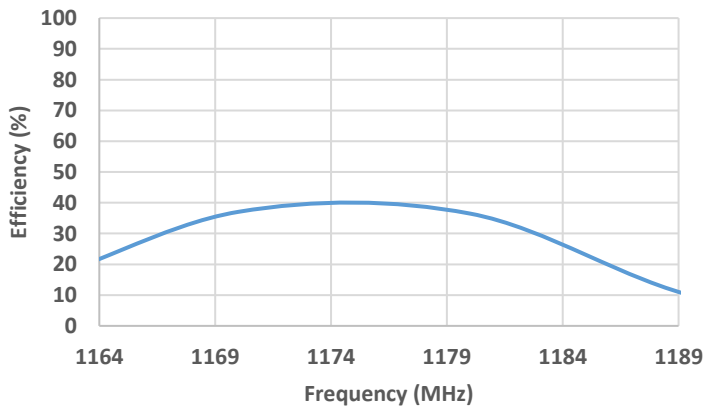
Peak Gain (1164 – 1189 MHz)



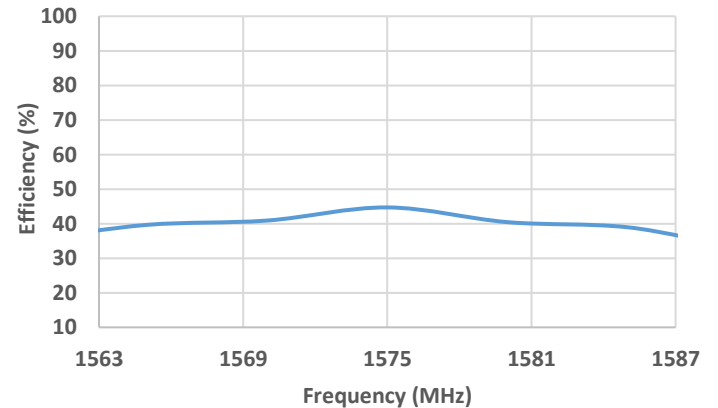
Peak Gain (1563 – 1583 MHz)



Efficiency (1164 – 1189 MHz)



Efficiency (1563 – 1583 MHz)



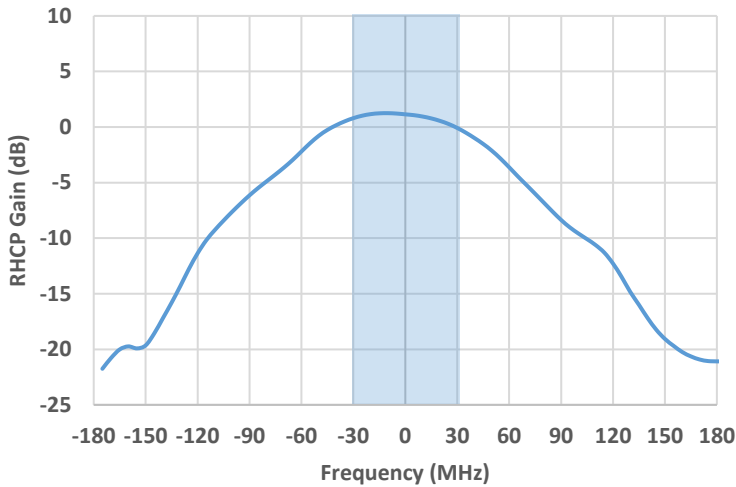
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R.H.C.P Gain Data

Typical performance 9003199 measured over 150 mm Diameter EVB (1164 - 1587 MHz)

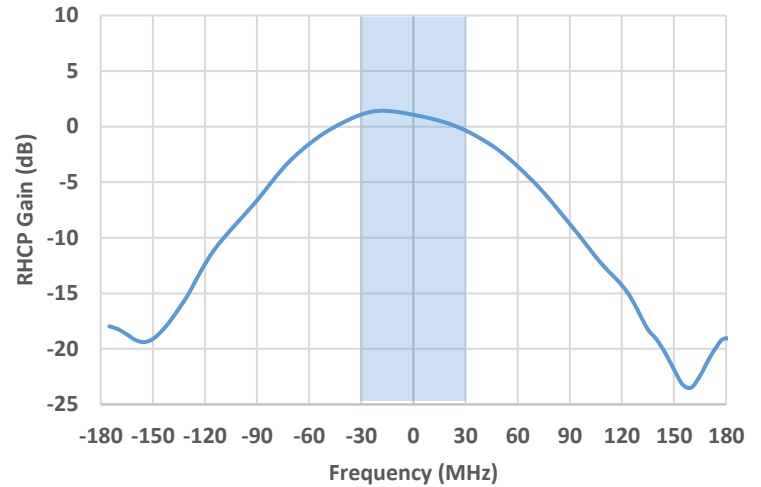
Phi = 0 deg

R.H.C.P Gain Data (1164-1189 MHz)



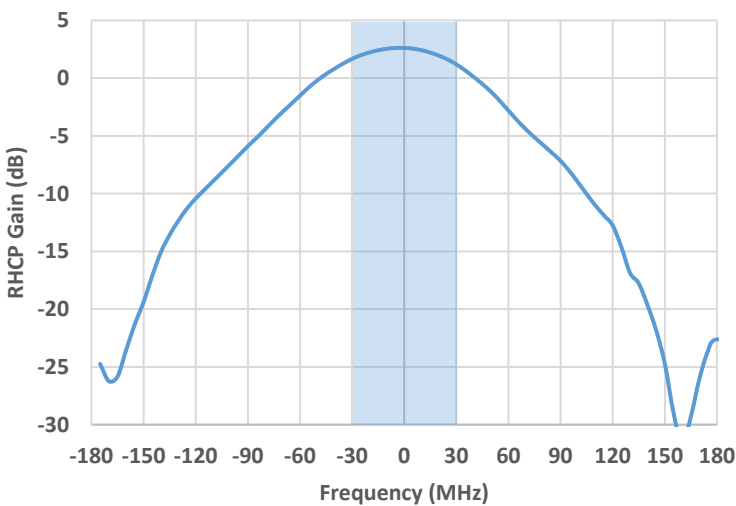
Phi = 90 deg

R.H.C.P Gain Data (1164-1189 MHz)



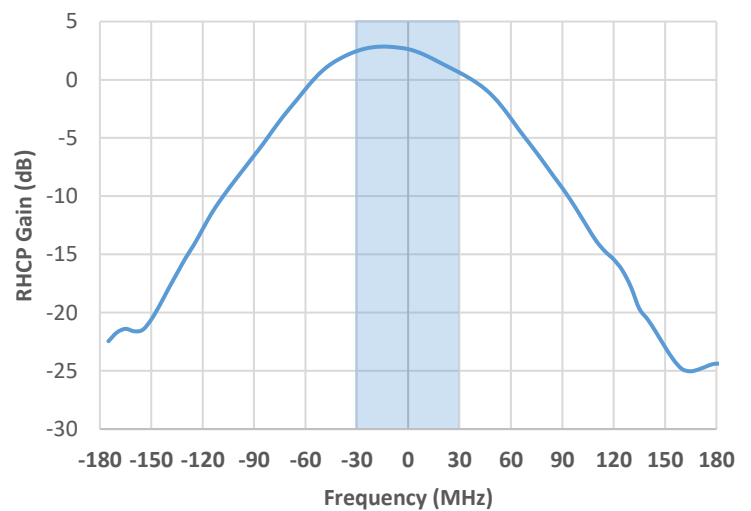
Phi = 0 deg

R.H.C.P Gain Data (1563-1587 MHz)



Phi = 90 deg

R.H.C.P Gain Data (1563-1587 MHz)



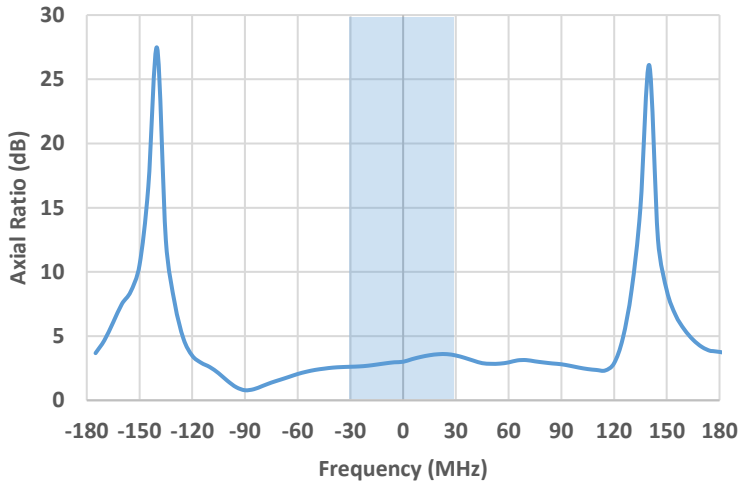
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Axial Ratio

Typical performance 9003199 measured over 150 mm Diameter (1164 - 1587 MHz) EVB

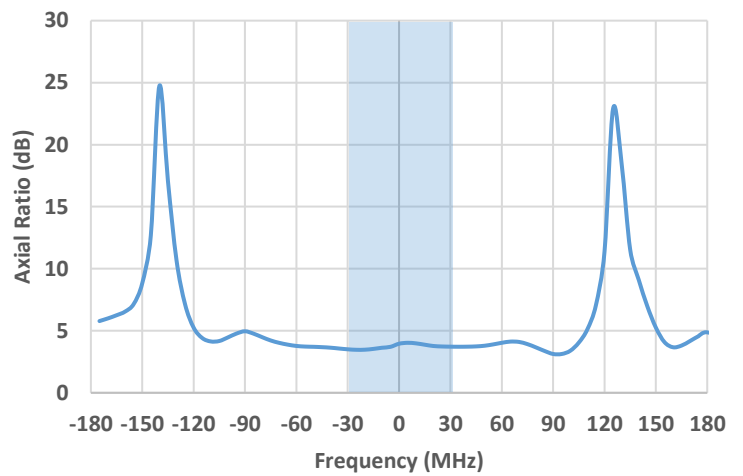
Phi = 0 deg

Axial Ratio (1164-1189 MHz)



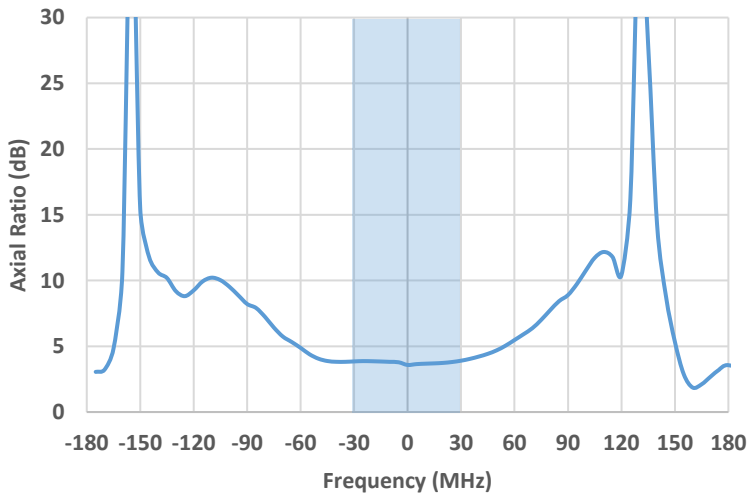
Phi = 90 deg

Axial Ratio (1164-1189 MHz)



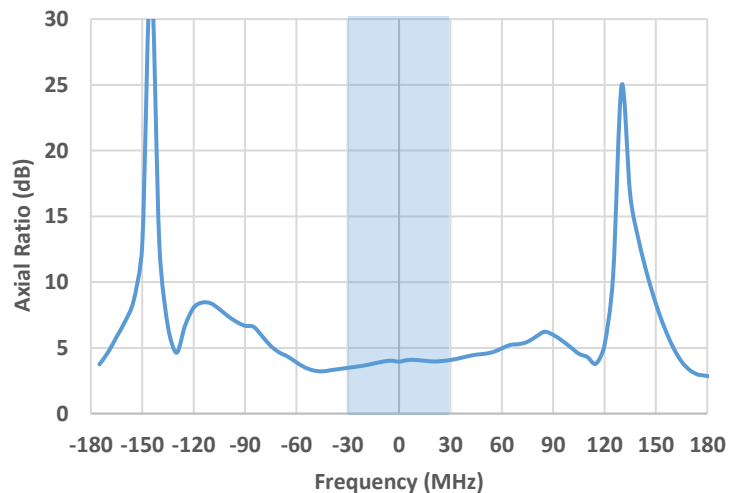
Phi = 0 deg

Axial Ratio (1563-1587 MHz)



Phi = 90 deg

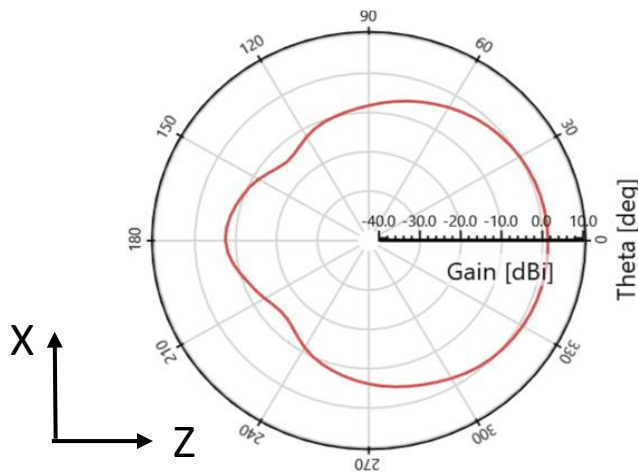
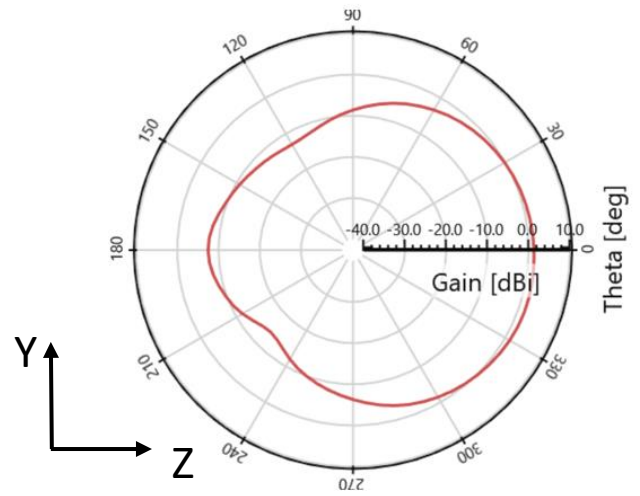
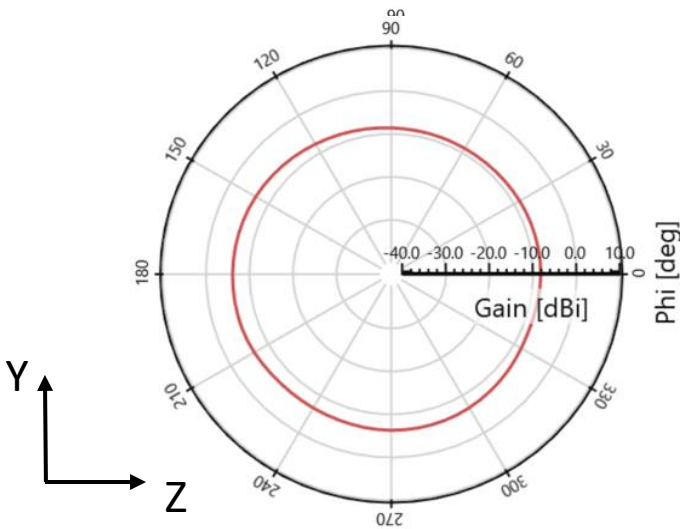
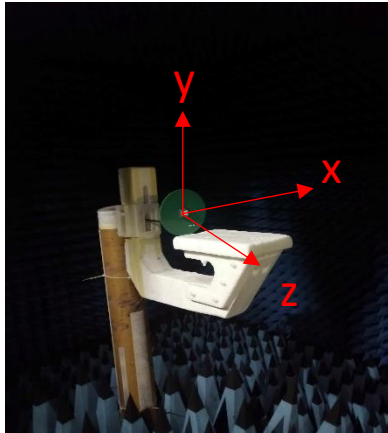
Axial Ratio (1563-1587 MHz)



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Antenna Radiation Patterns

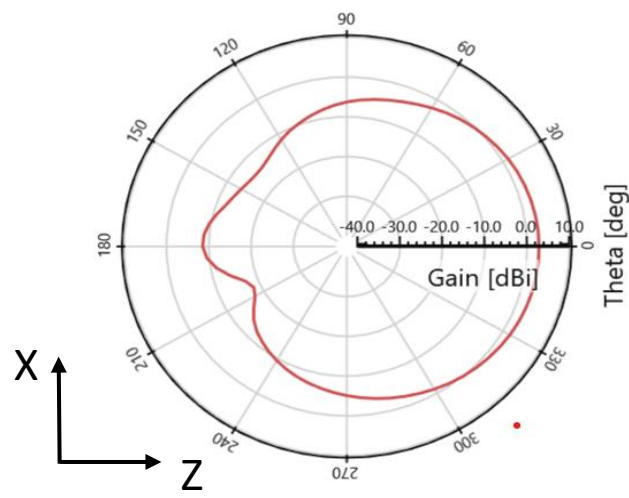
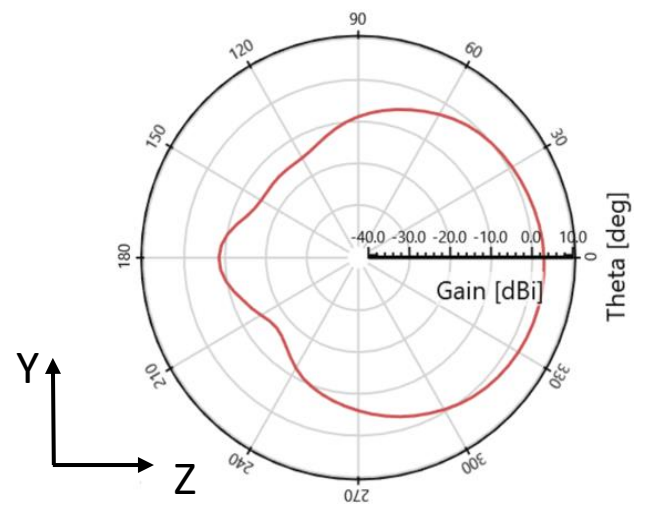
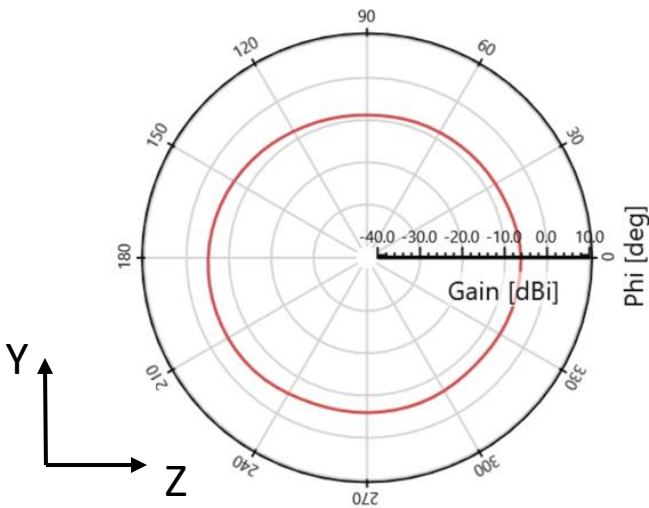
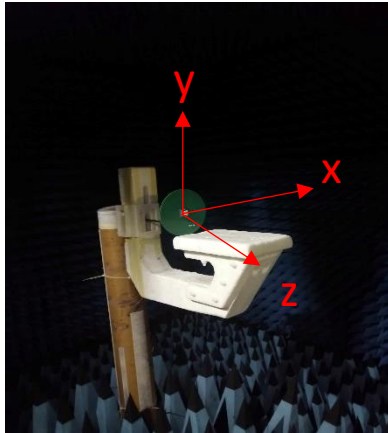
Typical performance 9003199 performance over 150 mm Diameter EVB (1164 -1189 MHz).



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Antenna Radiation Patterns

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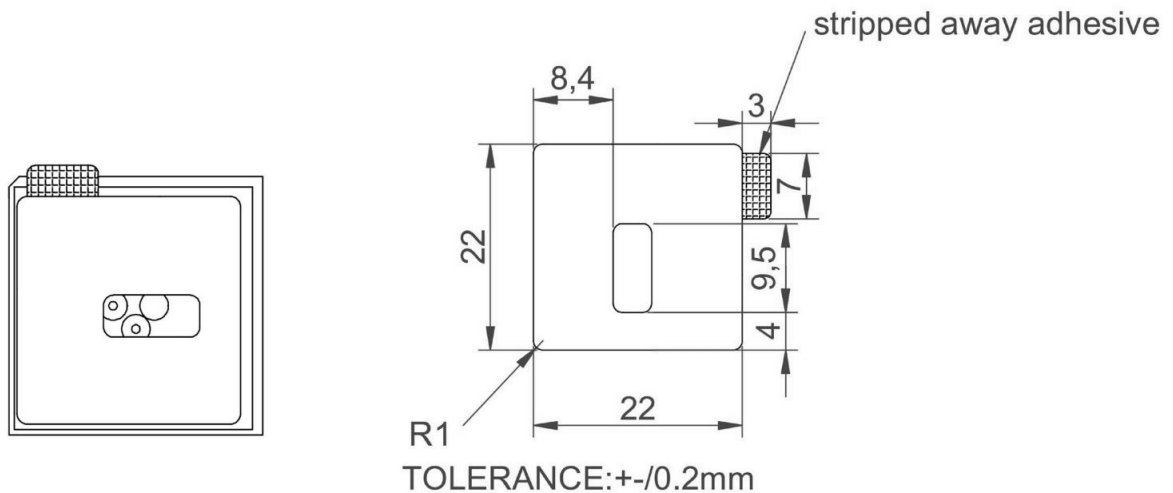
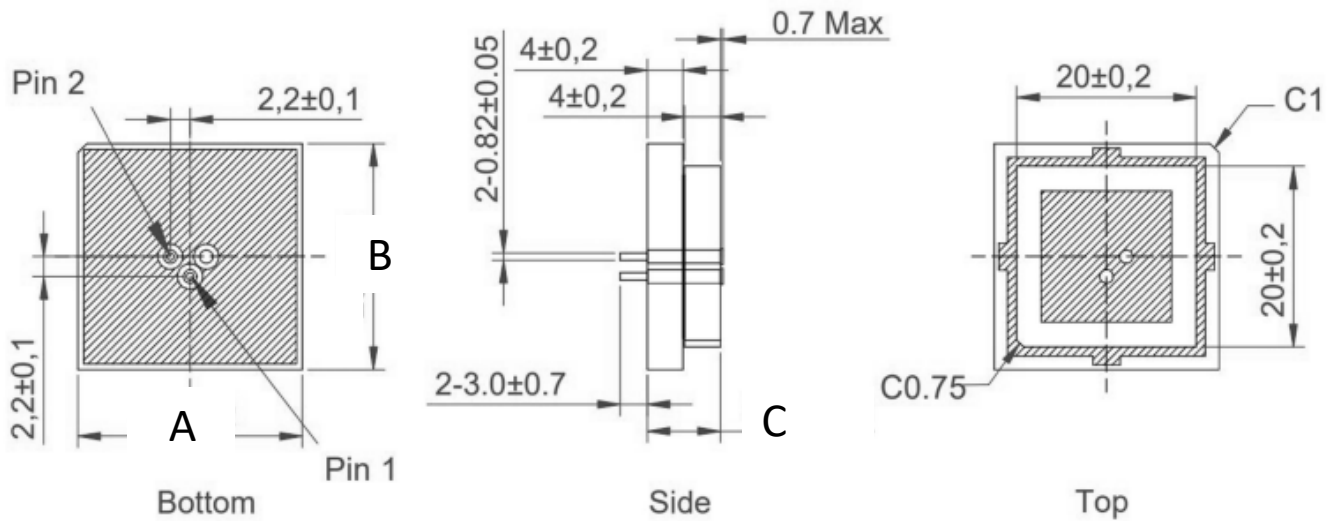


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Mechanical Specifications

Typical antenna dimensions in mm
 A Coupler RCP1500Q03 is added on the back of the EVB

Part Number	A	B	C
9003199	25 ± 2.0	25 ± 2.0	8.16 ± 0.6



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Mechanical Specifications

Typical Coupler dimensions in mm

Part Number	A	B	C
RCP1500Q03	6.35 ± 0.15	5.08 ± 0.15	1.5 ± 0.1

