



Part No. 9005812

UWB Ceramic Chip Antenna

6.0 - 8.5 GHz
Supports: UWB



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

This antenna designed for UWB applications exhibits the high efficiency in a small footprint and delivers the key needs to the device engineers for the higher functionality and better performance in a smaller and thinner designs.

For further optimization to custom design and for support to integrate and test this antenna performance in your device, contact our Customer Support Team.

Antenna Ceramic UWB:

6000 – 8500 MHz

KEY BENEFITS

Greater Flexibility with Unique Form Factors

KYOCERA AVX technology helps you deliver more advanced ergonomic designs without adverse impact on product performance.

Quicker Time-to-Market

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

Environmental Compliance

Comply with latest RoHS requirements

APPLICATIONS

- Embedded design
- Gateway, Access Point
- Key Fobs
- Healthcare (FDA Class I)
- M2M, Industrial devices
- Smart Grid

Electrical Specifications

Typical performance on 52 x 10 mm PCB

Frequency (MHz)	6000 – 8500
Peak Gain	4.9 dBi
Average Efficiency	58%
Return Loss Match	< 4.8 dB
Feed Point Impedance	50 ohms unbalanced
Polarization	Linear
Power Handling	2W
Radiation Pattern	Omni-directional

Mechanical Specifications & Ordering Part Number

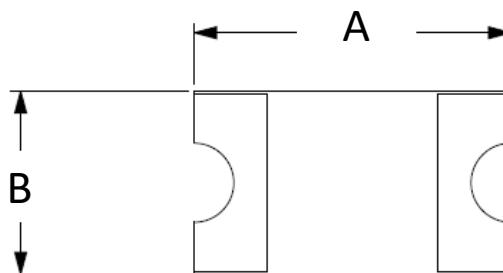
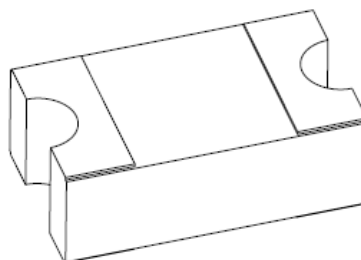
Ordering Part Number	9005812
Size (mm)	1.00 x 0.58 x 0.35
Mounting	SMT
Weight (grams)	TBD
Packaging	Tape & Reel 5,000 pieces per reel
Demo Board	9005812-04
Operational Temperature Range	-55 °C to +125 °C
Storage Temperature / Humidity Condition	15 °C to +35 °C / ≤ 65%

UWB Ceramic KYOCERA AVX Embedded Chip Antenna Specification
 KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs

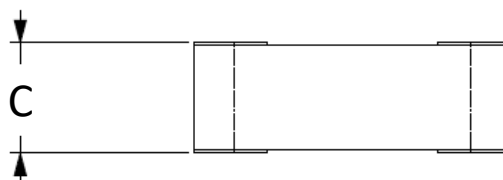
Antenna Dimensions

Typical antenna dimensions (mm)

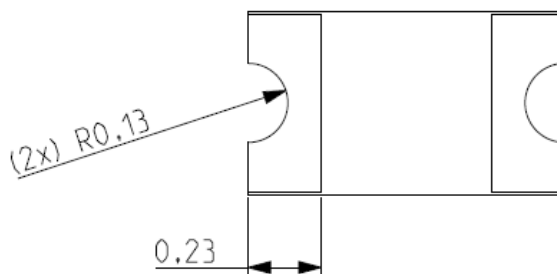
Part Number	A	B	C
9005812	1	0.58	0.35



TOP VIEW



SIDE VIEW



BOTTOM VIEW

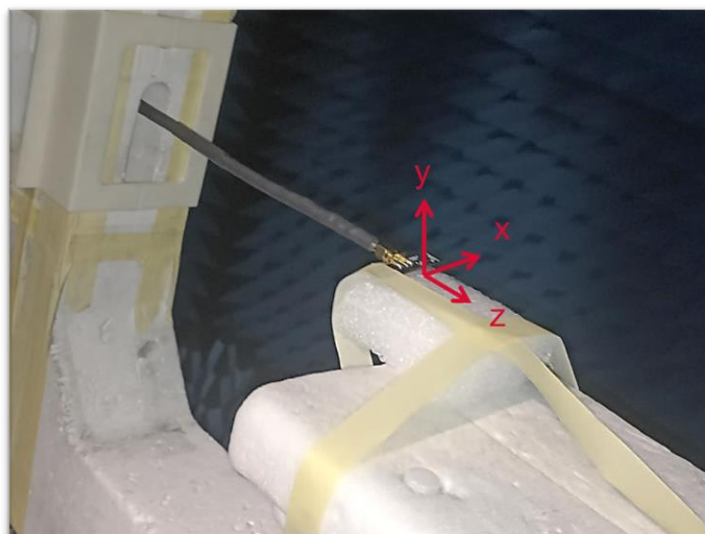
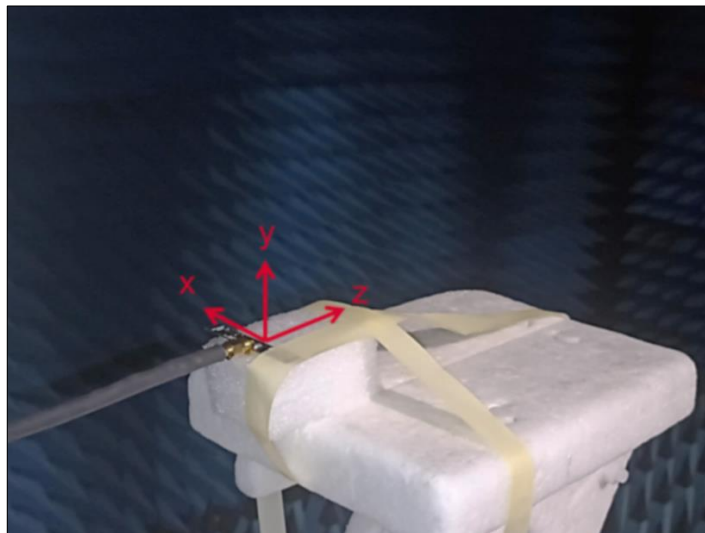
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Test Environment setup

Typical performance on 52 x 10 mm PCB



9005812 antenna

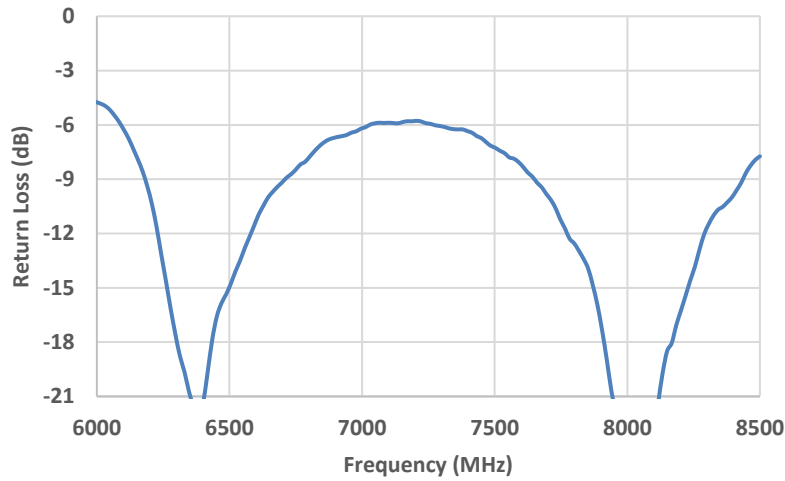


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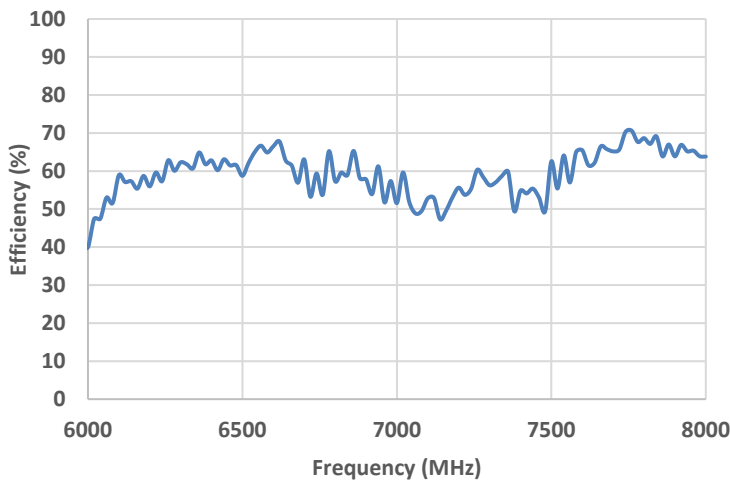
Return Loss, Efficiency, and Peak Gain Plots

Typical Performance on 52 x 10 mm PCB

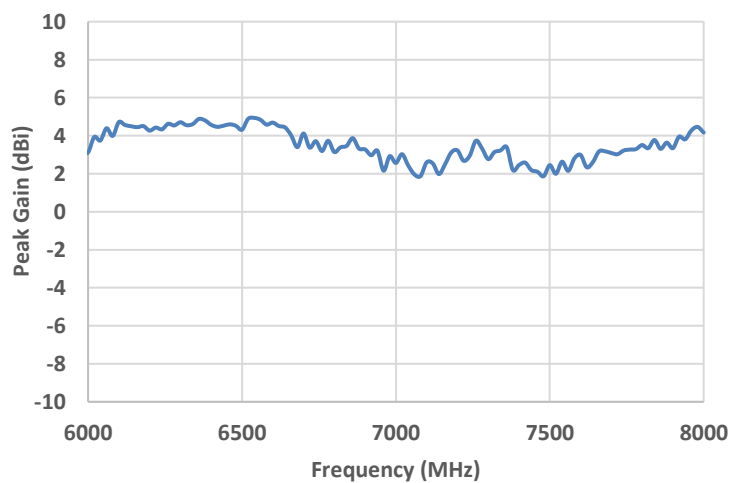
Return Loss Data (6000 MHz – 8500 MHz)



Efficiency (6000 MHz – 8000 MHz)



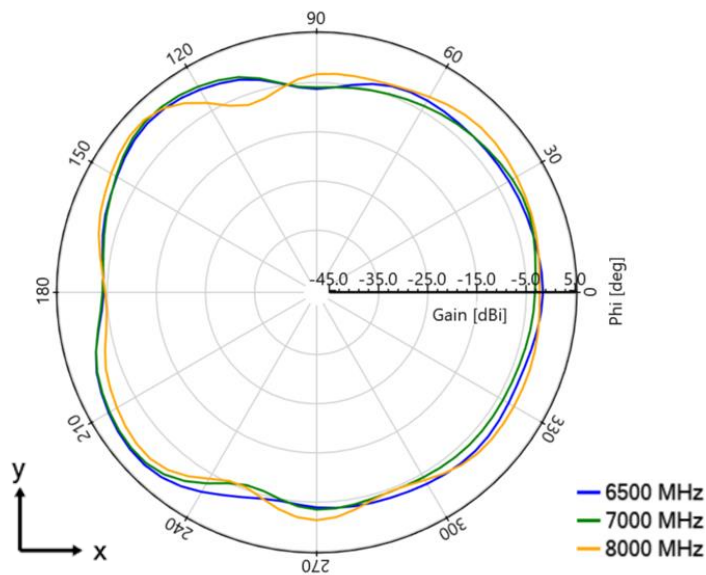
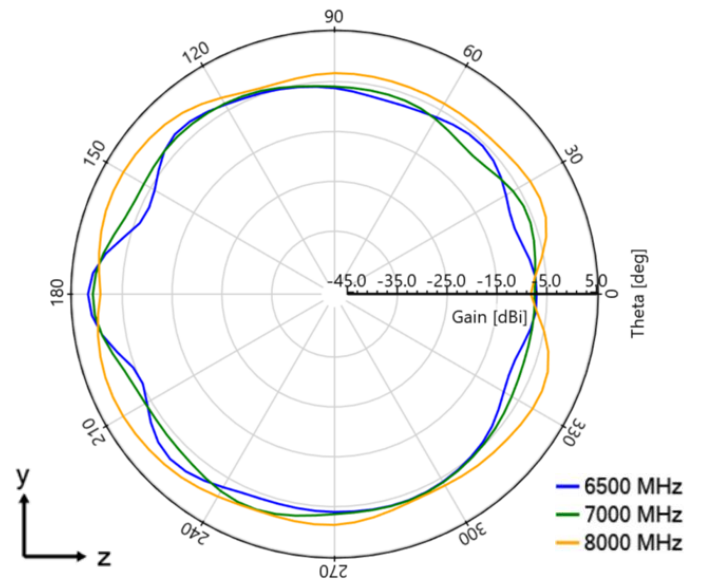
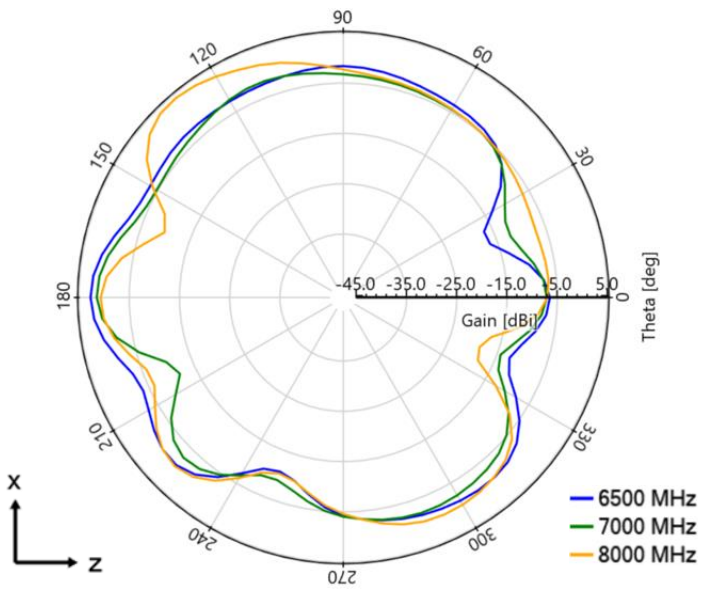
Peak Gain (6000 MHz – 8000 MHz)



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Antenna Radiation Patterns

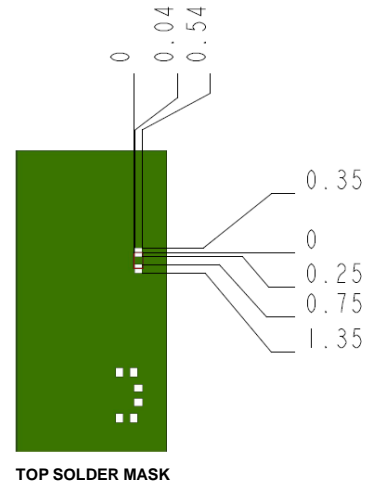
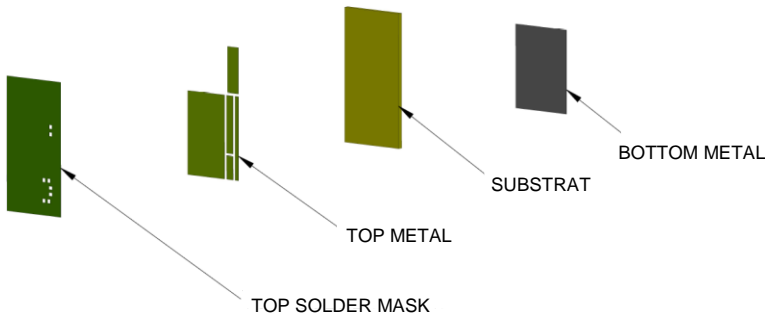
Typical Performance on 52 x 10 mm PCB
 Measured at 6500, 7000 and 8000 MHz



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Antenna Layout (9005812)

Typical antenna dimensions (mm)

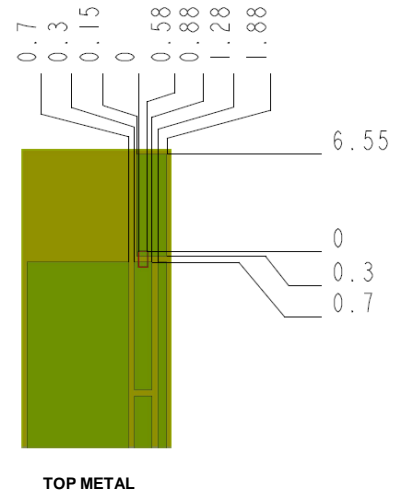


- Additional VIAS : Diam. 0.2mm to be placed around antenna, (no vias on transmission lines).
- Via holes must be covered by solder mask

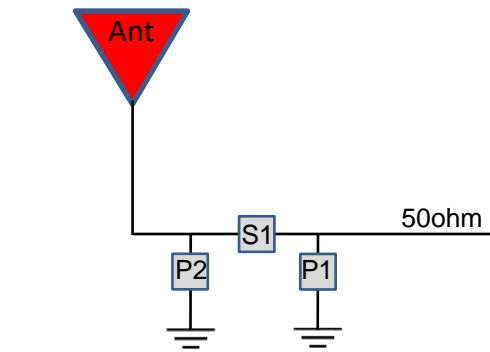
Matching Pi Network

Component	Value	Tolerance
P1	1.8nH	± 0.1nH
S1	0.4 pF	± 0.01pF
P2	N/A	N/A

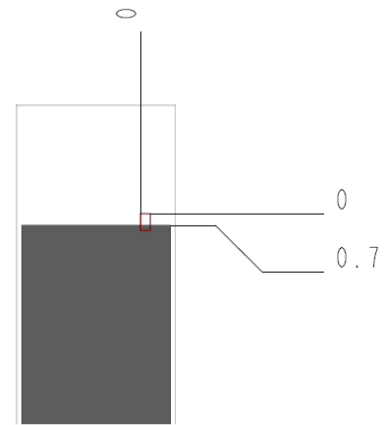
*Actual matching values depend on customer design



TOP METAL



(Antenna Matching)



BOTTOM METAL

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Antenna Demo Board (9005812-04)

Typical layout dimensions (mm)

Part Number	A	B	C
9005812-04	52.00	10.00	0.80

