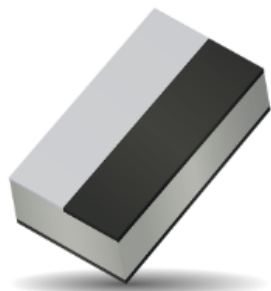


Part No. 9005868

2.4 GHz Corner Chip Antenna

2.400 - 2.480 MHz

Supports: Wi-Fi applications, Bluetooth, BLE, Zigbee, WLAN, ISM, Matter



KYOCERA AVX 9005868 Ultra small chip antenna designed for corner placement on PCB exhibits high efficiency for 2.4 GHz applications.

For support integrating, optimizing and testing this antenna in your device or custom designs, contact our Customer Support Team.

2.4 GHz Corner Chip Antenna

2.400 – 2.480 MHz

KEY BENEFITS

Stay-in-Tune

This chip antenna provides superior RF field containment, resulting in less interaction with surrounding components.

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
- Headsets, Tablets
- Smart Home/Cities
- TPMS
- Wearables
- IoT, Industrial devices
- Telematics (TCU)
- wBMS

Electrical Specifications

Typical performance on 10 x 52 x 0.8 mm PCB

Frequency	2.40 – 2.48 GHz
Peak Gain	4 dBi
Average Efficiency	72%
S11 Match	< -18 dB
Feed Point Impedance	50 ohms
Polarization	Linear
Power Handling	0.5 W
Radiation Pattern	Omnidirectional
Additional Resources	Download Simulation Files

Mechanical Specifications & Ordering Part Number

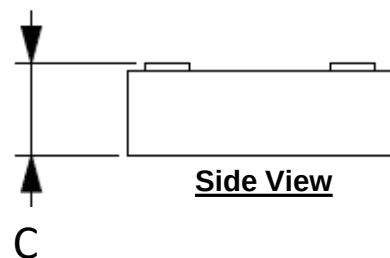
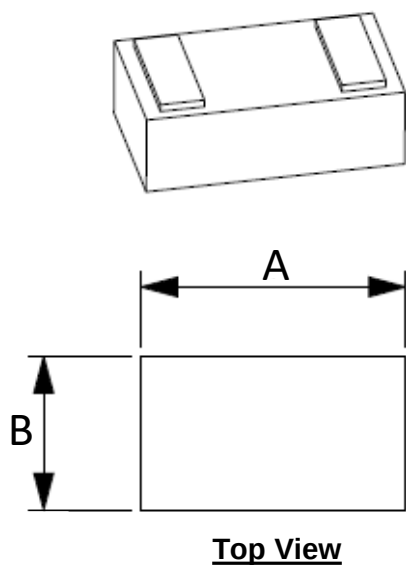
Ordering Part Number	9005868
Size (mm)	1.00 x 0.58 x 0.35
Mounting	SMT
Weight (grams)	0.0009
Storage Temperature/ Humidity	15°C to 35°C / ≤ 65%
Operating Temperature	-55°C to +125°C
Packaging	Tape & Reel, 9005868 – 5,000 pieces per reel
Variant	A9005868 (Automotive version)
Demo Board	9005868-01
Additional Resources	Download DXF and 3D Fit Files

2.4 GHz Corner Chip KYOCERA AVX Embedded Antenna Specifications
KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs

Antenna Dimensions

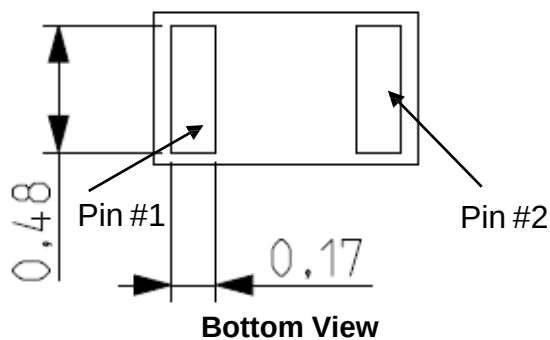
Typical antenna dimensions (mm)

Part Number	A (mm)	B (mm)	C (mm)
9005868	1.00 ± 0.10	0.58 ± 0.075	0.35 ± 0.10



Pin	Description
1	Feed
2	Floating

*Pin #1 and Pin #2 are interchangeable.

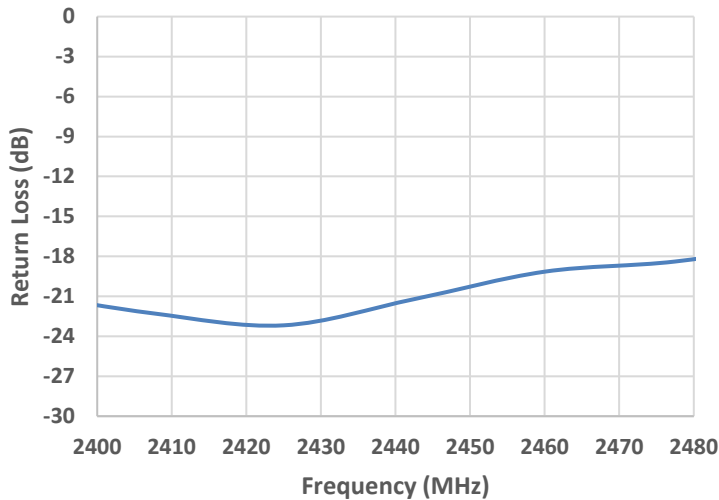


2.4 GHz Corner Chip KYOCERA AVX Embedded Antenna Specifications
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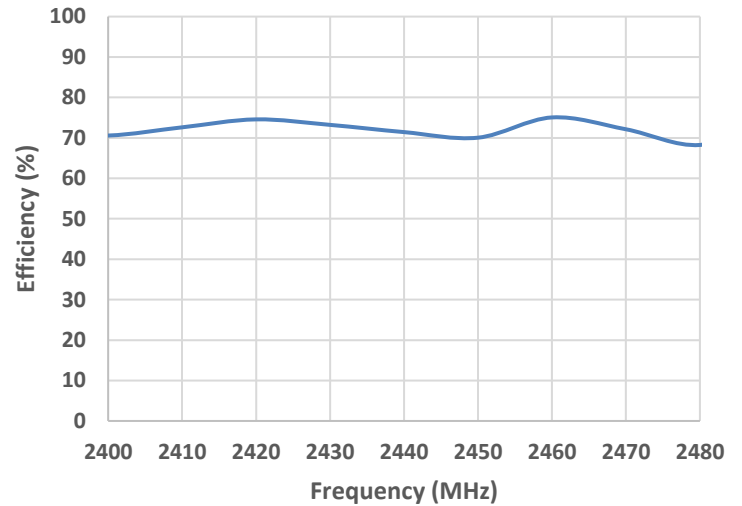
Return Loss S11, Efficiency, and Peak Gain Plots

Typical performance on 10 x 52 mm PCB

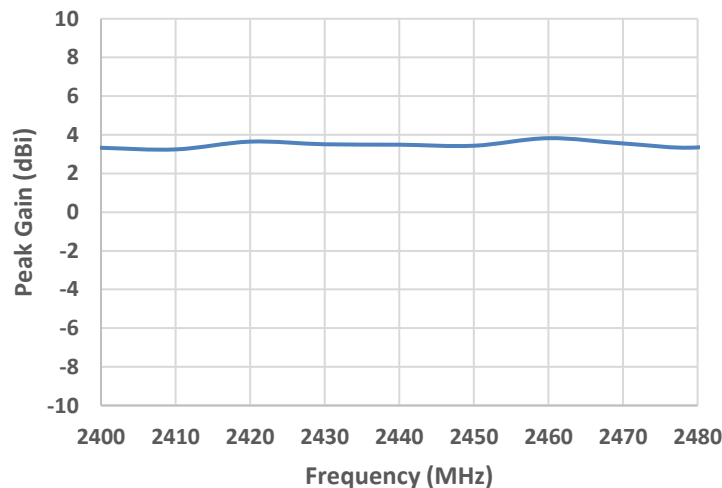
Return Loss S11 (2400 - 2480 MHz)



Efficiency (2400 - 2480 MHz)



Peak Gain (2400 - 2480 MHz)



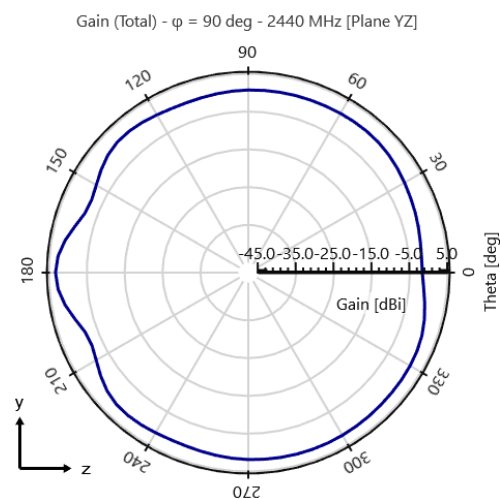
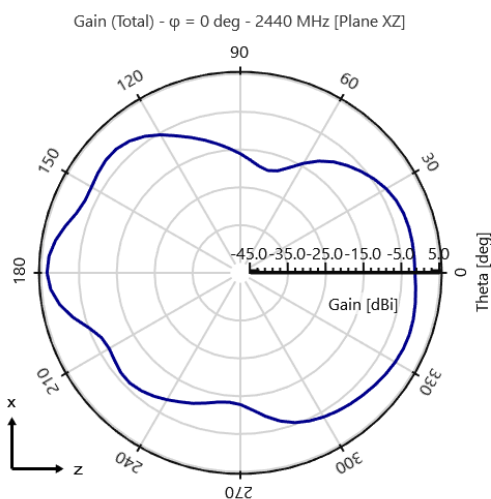
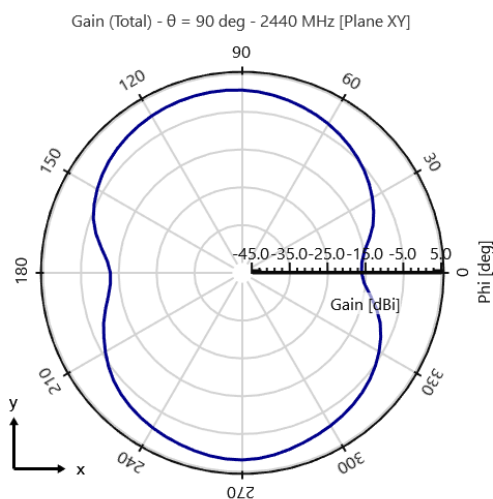
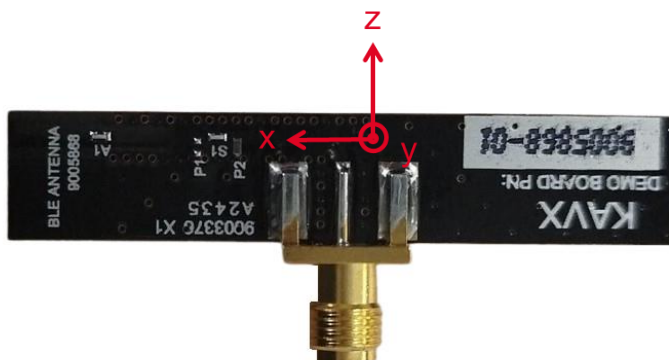
2.4 GHz Corner Chip KYOCERA AVX Embedded Antenna Specifications

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Antenna Radiation Patterns

Typical performance on 10 x 52 mm PCB

Measured @ 2440 MHz

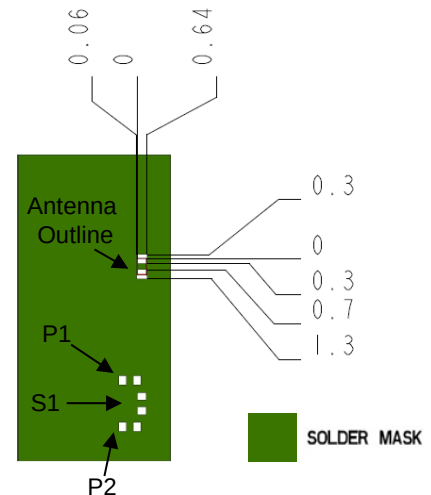
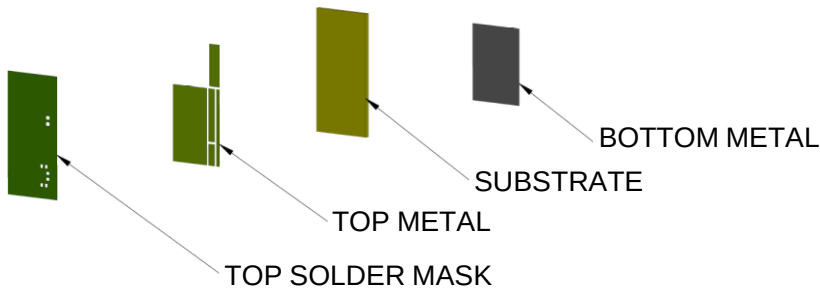


2.4 GHz Corner Chip KYOCERA AVX Embedded Antenna Specifications

KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs

Antenna Layout (9005868-01)

Typical layout dimensions (mm)



* Vias: Diam. 0.2mm, (no vias on transmission lines).

* Via holes must be covered by solder mask

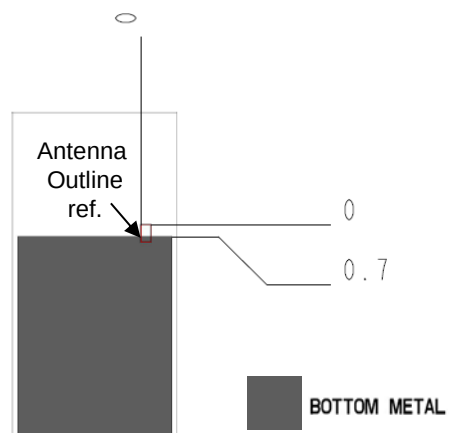
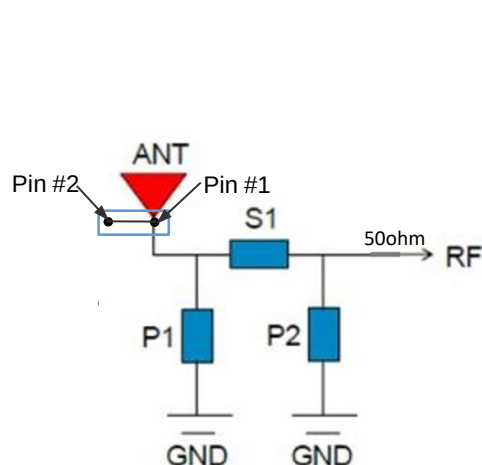
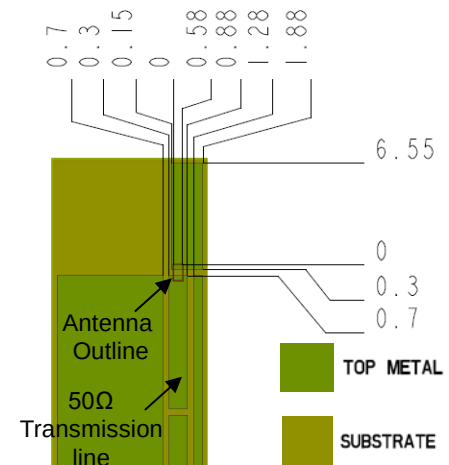
Pin Descriptions

Pin#	Description
1	Feed
2	Floating

Matching Pi Network (Demo Board)

Component	Value	Tolerance
P1	DNI	N/A
S1	2.2nH	±0.05nH
P2	1.5pF	±0.05pF

*Actual matching values depend on customer's design.

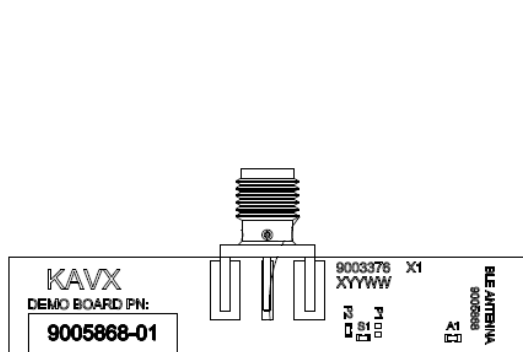


2.4 GHz Corner Chip KYOCERA AVX Embedded Antenna Specifications
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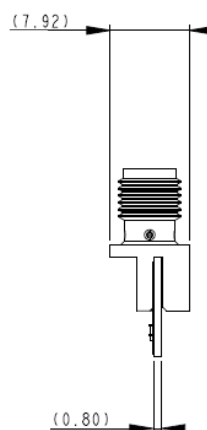
Antenna Demo Board

Typical layout dimensions (mm)

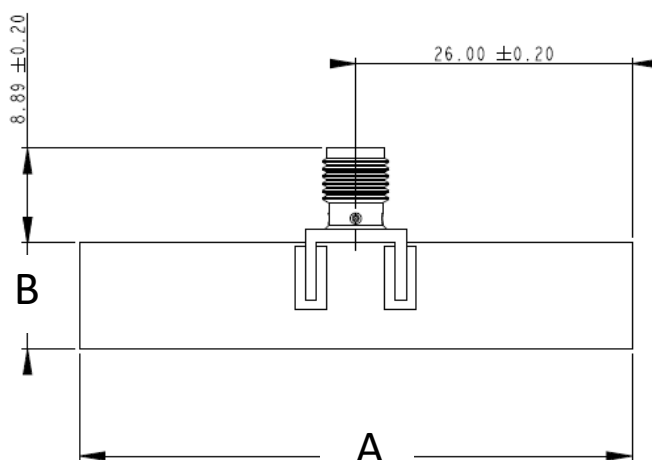
Part Number	A	B
9005868-01	52.00 ± 0.20	10.00 ± 0.20



Front View



Side View



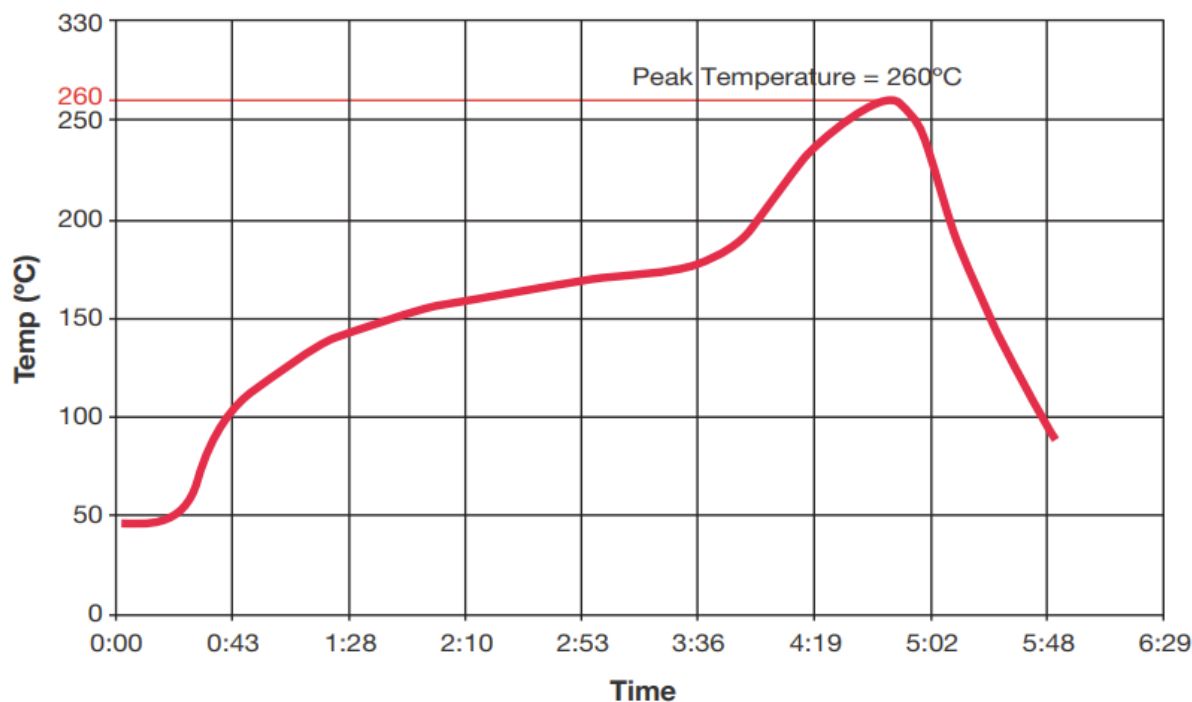
Back View

2.4 GHz Corner Chip KYOCERA AVX Embedded Antenna Specifications

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Recommended Reflow Soldering Profile

The recommended method for soldering the antenna to the board is forced convection reflow soldering. The following suggestions provide information on how to optimize the reflow process for the Chip antenna:

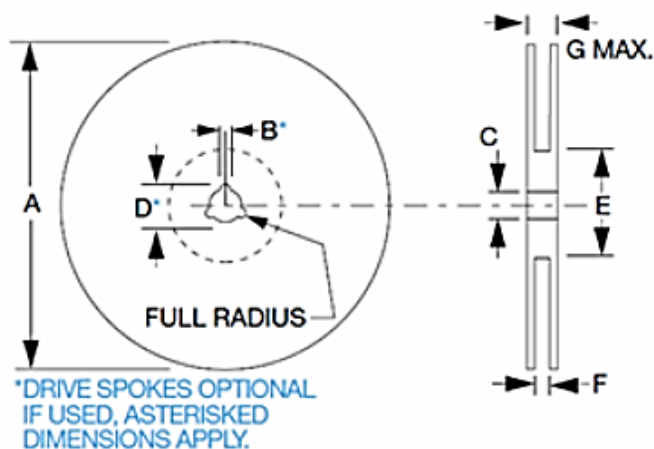


2.4 GHz Corner Chip KYOCERA AVX Embedded Antenna Specifications

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Packaging

Reel Dimensions, mm (Inches)

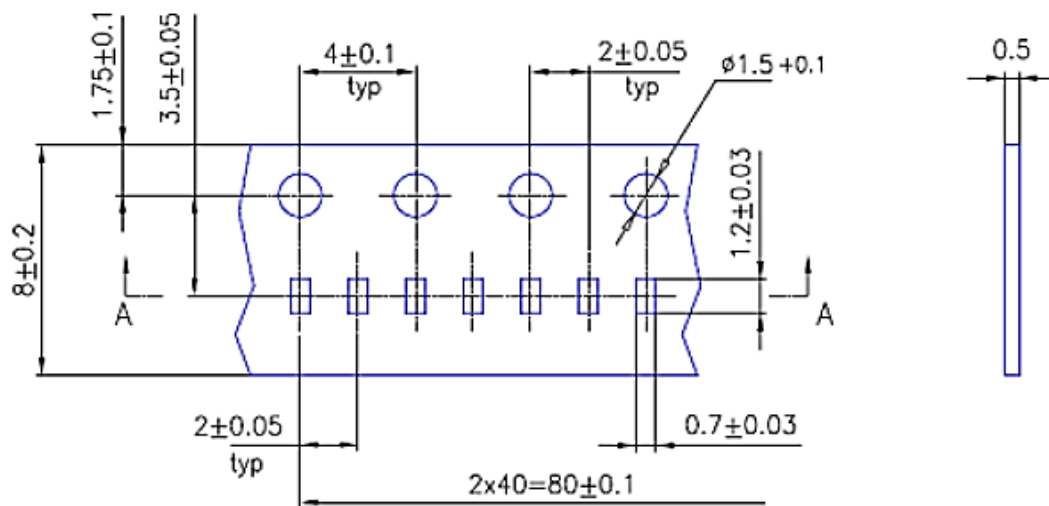


A ⁽¹⁾	B	C	D	E	F	G
180 ± 1.0 (7.087 ± 0.039)	1.5 min (0.059 min)	13 ± 0.2 (0.512 ± 0.008)	20.2 min (0.795 min)	50 min (1.969 min)	9.6 ± 1.5 (0.370 ± 0.050)	14.4 max (0.567 max)

Metric dimensions will govern. Inch measurements rounded for reference only.

(1) 330mm (13 inch) reels are available

Tape Dimensions, mm



2.4 GHz Corner Chip KYOCERA AVX Embedded Antenna Specifications
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Additional Resources

Simulation Files:

HFSS: https://www.kyocera-avx.com/download/antennas/ansys-hfss/9005868_HFSS.zip

CST: https://www.kyocera-avx.com/download/antennas/CST/9005868_CST.zip

3D FIT File:

https://www.kyocera-avx.com/download/antennas/ME-FIT/9005868_ME-Fit.zip

DXF File:

https://www.kyocera-avx.com/download/antennas/3D-DXF/9005868_3D-DXF.zip