



**Product Name:** 5.0\*3.0\*0.5mm ISM 868 Ceramic Chip Antenna

**Part Number:** SCA03-A-S01

**Feature:**

- Direct SMT Process Compatible
- ISM 868MHz Supporting (863-870MHz)
- Compact Dims (5.0mm\*3.0mm\*0.5mm)
- Low profile

**Application:**

- ISM Application
- IoT Device Application
- Portable Device

# Ceramic Chip Antenna Series

## 5.0\*3.0\*0.5mm ISM 868MHz Chip

### MODEL: SCA03-A-S01

WI-RD-D-259 V1.0

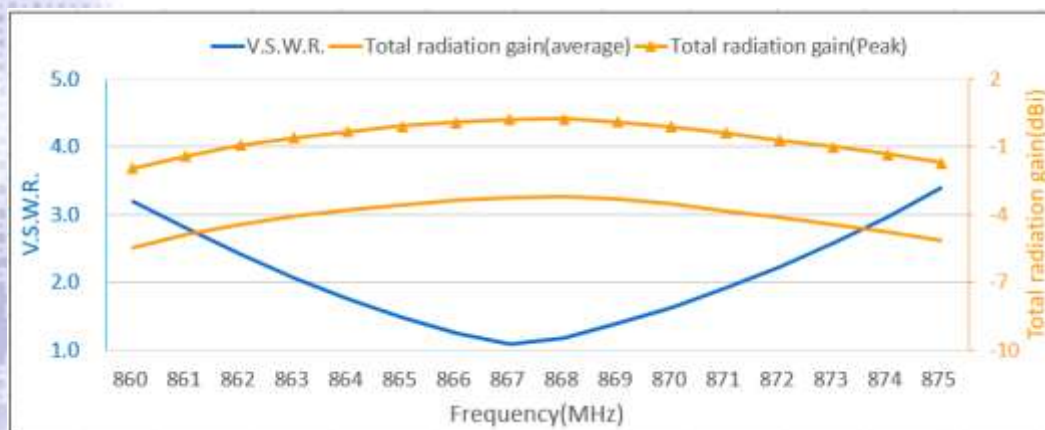
#### I. Specifications:

Category	Specifications
Frequency (MHz)	863~870
Peak Gain (dBi) (typical)	0
Radiation Efficiency (%) (typical)	47
V.S.W.R	2 MAX
Test Condition	80 x 40 mm <sup>2</sup> Evaluation Board
Impedance ( $\Omega$ )	50 $\Omega$
Dimension (mm)	5.0 x 3.0 x 0.5mm
Polarization (W)	Linear
Operation Temperature	-40~85 °C
Storage Temperature	-40~85 °C

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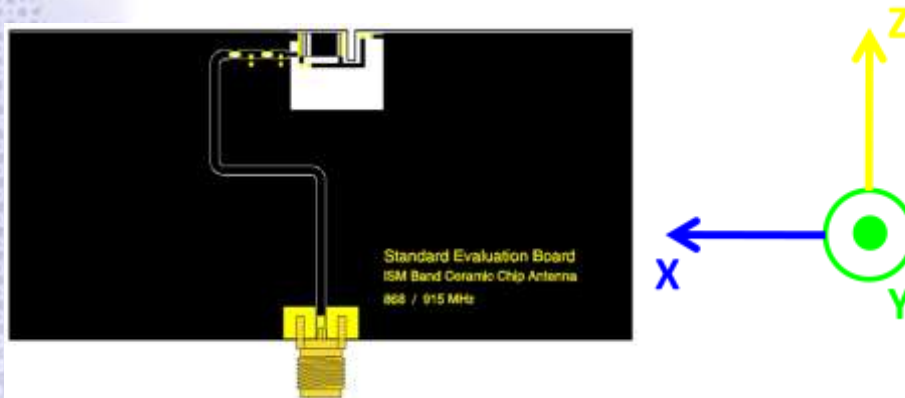
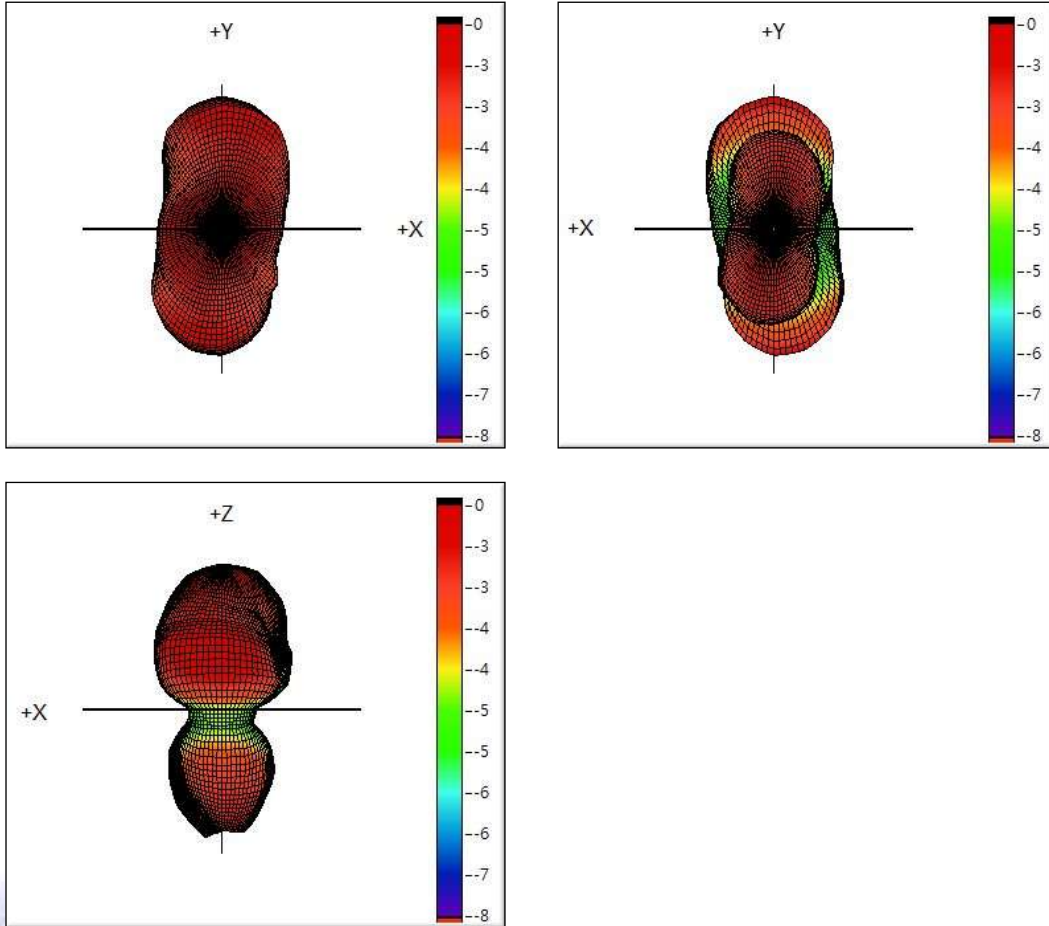
#### II. Antenna Technical Parameters:

Antenna VSWR & Radiation Gain Chart



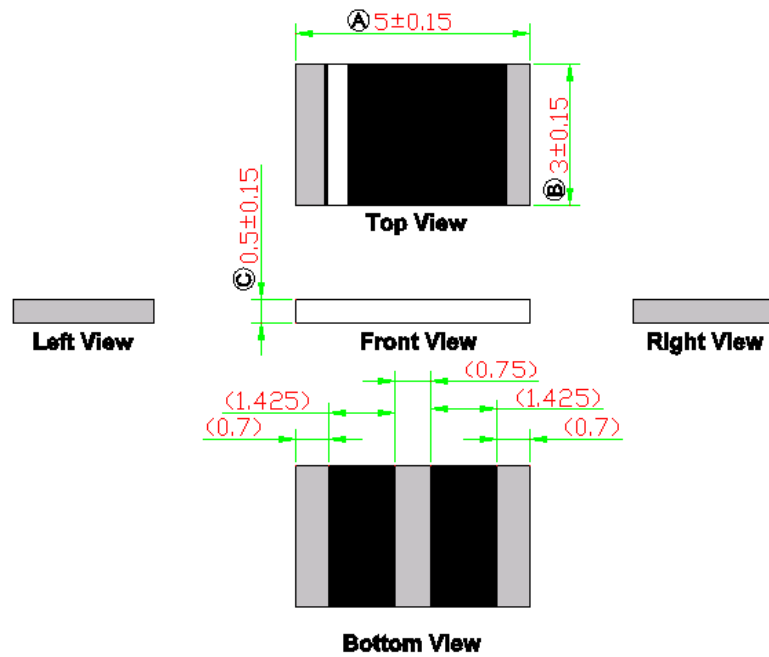
### III. 3D Radiation Pattern:

868MHz (dBi)



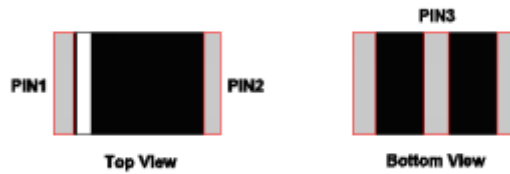
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#### IV. Mechanical Drawing (Unit:mm):



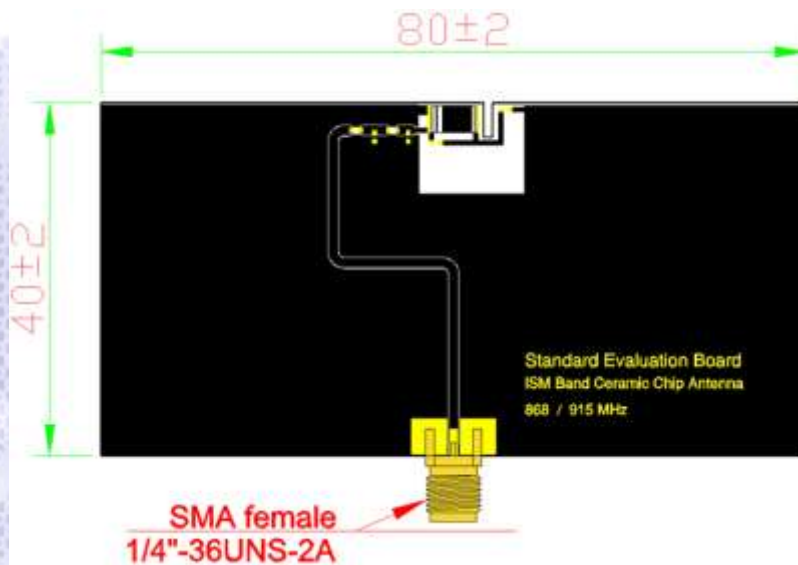
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#### Pin Definition



PIN	1	2	3
Soldering Pad	Signal	Tuning / Ground	N/C

#### Antenna Evaluation Board (Unit:mm)

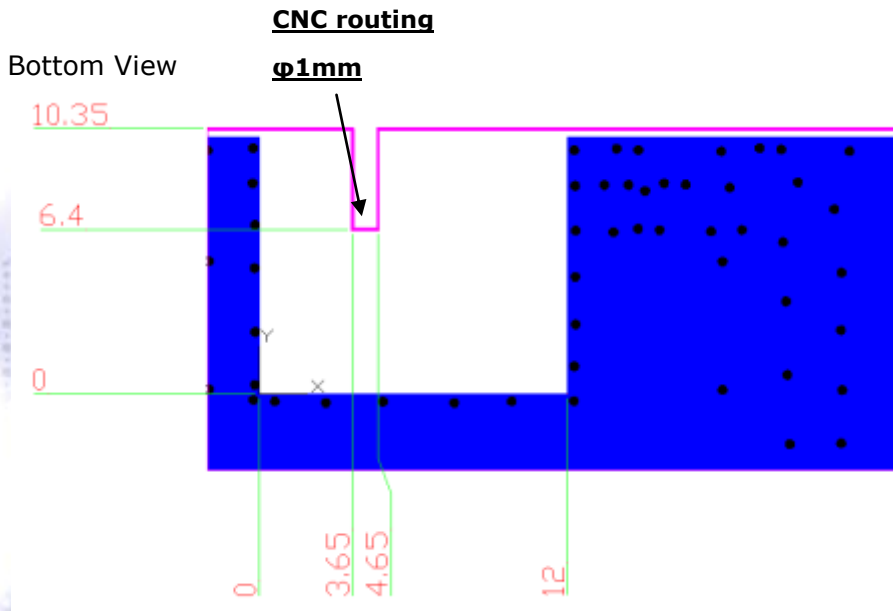


# Footprint Layout Guideline (Unit:mm)

Top View

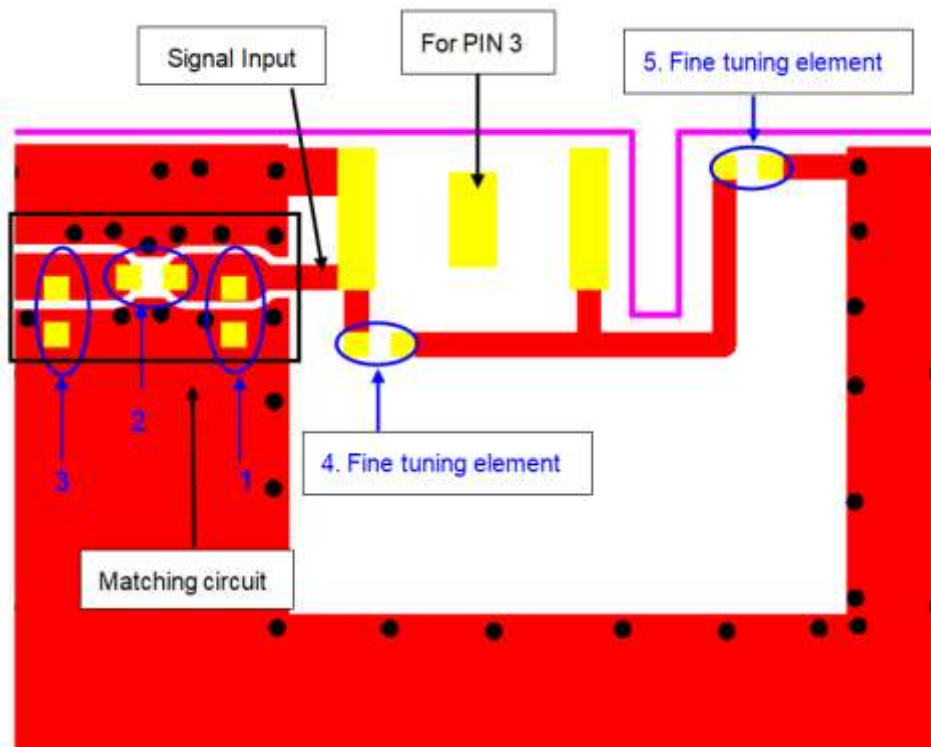


**Transmission Line with 50Ω Impedance**

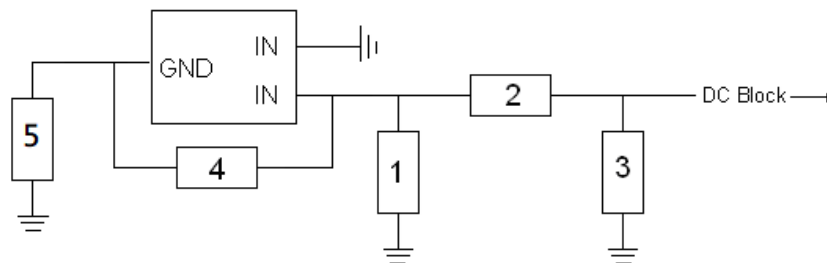


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## Matching Circuit

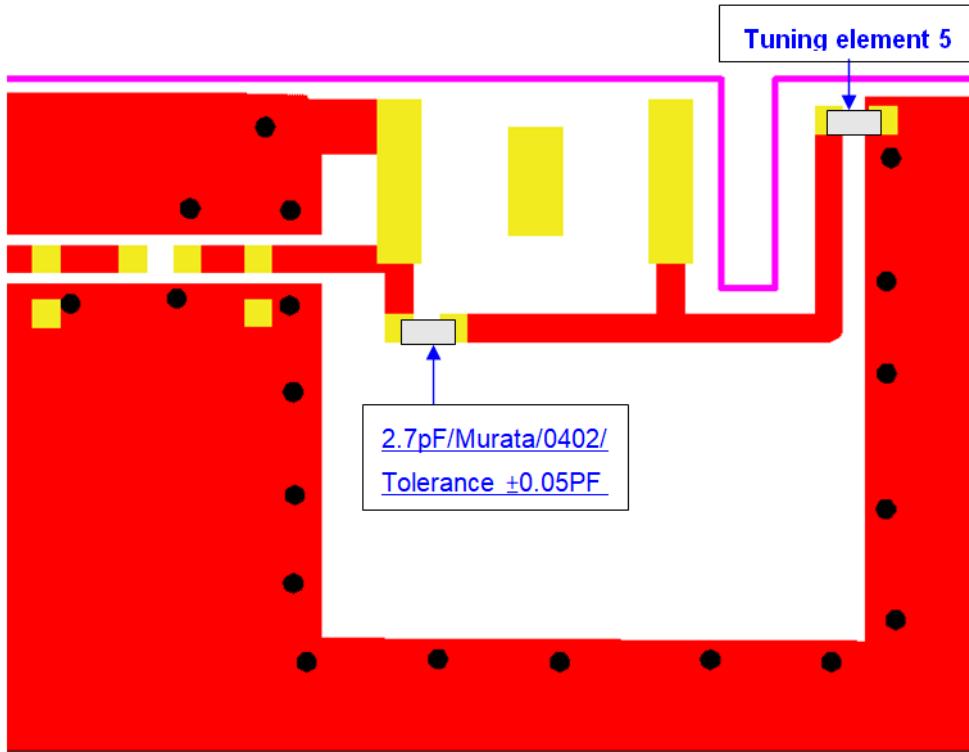


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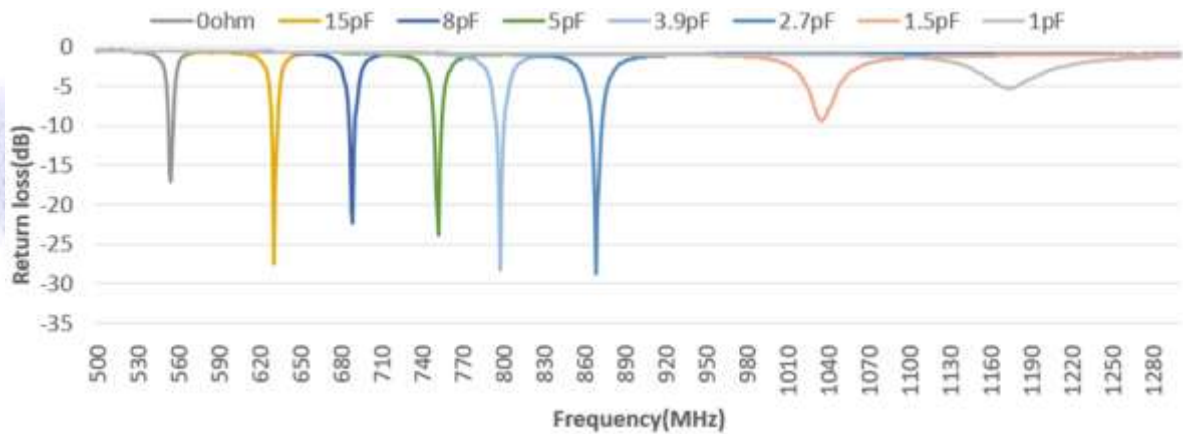
	Component Location	Value
$\pi$ Matching Circuit	1	N.I.
	2	0 $\Omega$ (0402)
	3	12 nH (0402)
Tuning Element	4	2.7 pF (0402)
	5	2.7 pF (0402)

### Tuning Element Response

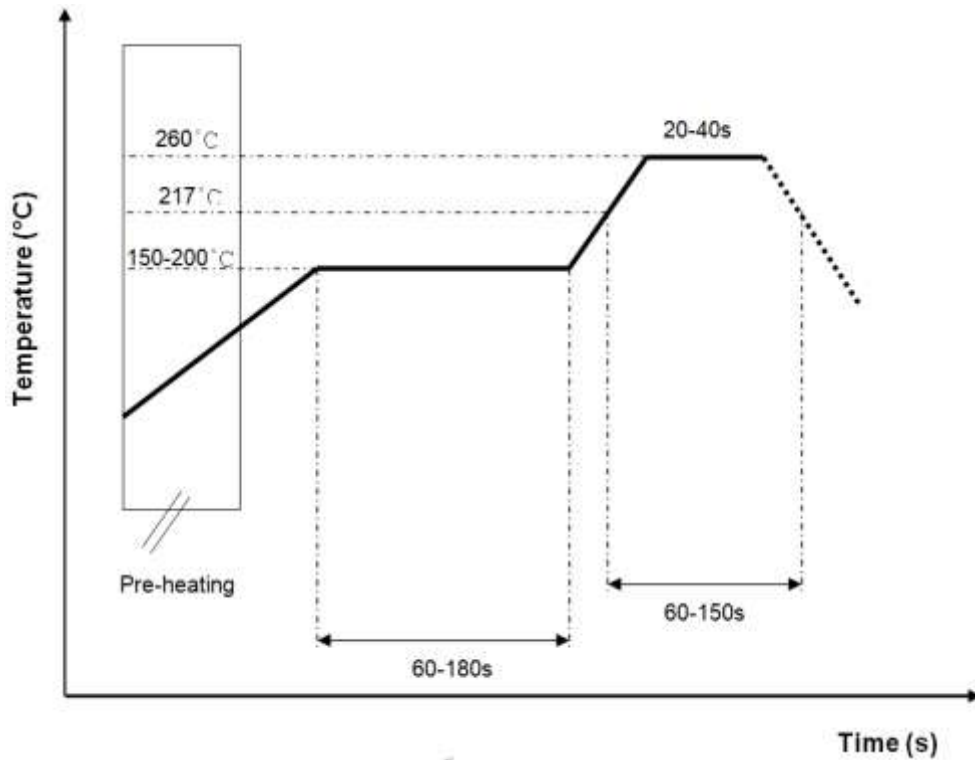


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### Frequencies responses for variation on tuning element 5,

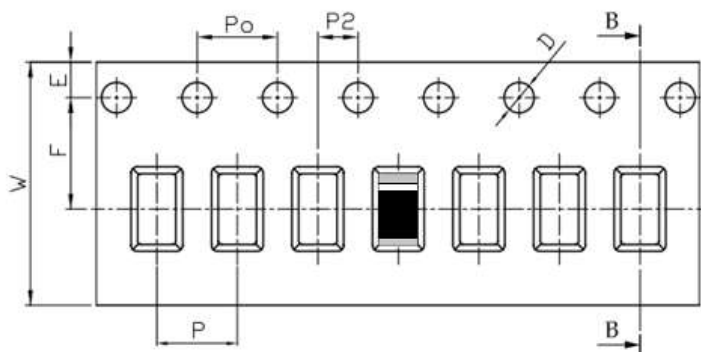


### Reflow Profile



### V. Packaging Information:

- a) Quantity per Reel: 6000 pieces/Reel
- b) Tape & Reel  
Tape Drawing



Feature	Specifications	Tolerances
W	12.00	±0.30
P	8.00	±0.10
E	1.75	±0.10
F	5.50	±0.10
P2	2.00	±0.10
D	1.50	+0.10 -0.00
Po	4.00	±0.10
10Po	40.00	±0.20