

# DATA SHEET

## WIRELESS COMPONENTS

Ceramic Chip Antenna

ANT1608LL14R2400A

2.4 - 2.5GHz

I608 Series



FEATURES

- Compact size
- Omni-directional Radiation
- Tape & reel automatic mounting
- Reflow process compatible
- RoHS compliant

APPLICATIONS

- 2.4GHz WiFi device
- Bluetooth gadget
- Zigbee device
- ISM band equipment

ORDERING INFORMATION

All part numbers are identified by the series, packing type, material, size, antenna type, working frequency and packing quantity.

**PART NUMBER**

**ANT 1608 L L14 R 2400A**  
 (1) (2) (3) (4) (5) (6)

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**(1) PRODUCT**

ANT = Antenna

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**(2) SIZE**

1608 = 1.6 × 0.8 mm

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**(3) ANTENNA TYPE**

L,F,A = Chip Antenna

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**(4) SERIAL NO.**

L14

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**(5) PACKING STYLE**

R = Tape and Reel

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**(6) WORKING FREQUENCY**

2400 = 2.4GHz

**SPECIFICATION**

Table 1

DESCRIPTION	VALUE
Working Frequency	2.4 ~ 2.484 GHz
Bandwidth	150 MHz(Typ.)
VSWR	6.0 dB Max
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Peak Gain	2.0 dBi(Typ.)
Impedance	50 Ω
Operating Temperature	- 40~105 °C
Maximum Power	1 W
Termination	Ag (Environmentally-Friendly Leadless)
Resistance to Soldering Heats	260°C , 5sec.

**NOTE**

I. The specification is defined on Yageo evaluation board

**DIMENSIONS**

Table 2 Mechanical Dimension

	DIMENSION
L (mm)	1.6 ±0.15
W (mm)	0.8 ±0.15
T (mm)	0.4(max)
A1 (mm)	0.70 ±0.15
A2 (mm)	0.25 ±0.15
B1 (mm)	0.30 ±0.15
B2 (mm)	0.25 ±0.15
C1 (mm)	0.70 ±0.15
C2 (mm)	0.25 ±0.15
G1 (mm)	0.20 ±0.05
G2 (mm)	0.10 ±0.05

Table 3 Termination configuration

TERMINAL NAME	FUNCTION
A1, A2	Soldering Pad
C1, C2	Feeding Pad

**OUTLINES**

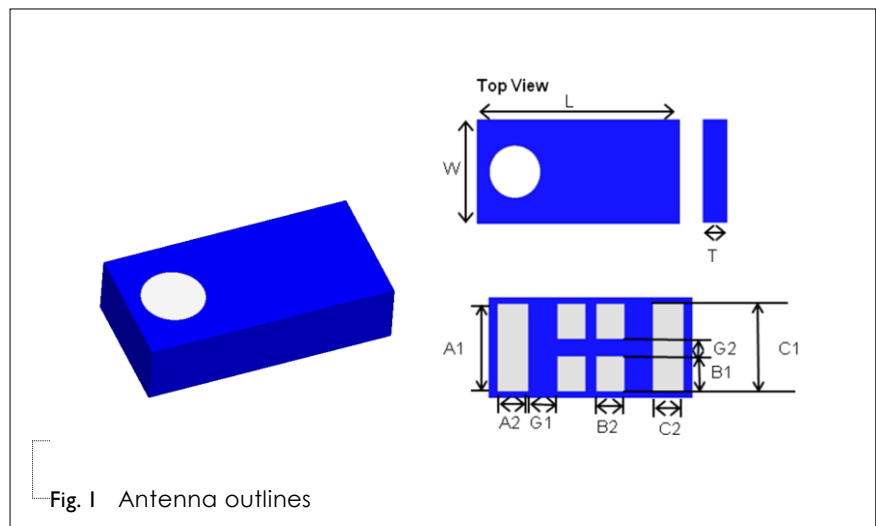


Fig. 1 Antenna outlines

REFERENCE DESIGN OF EVALUATION BOARD

◇SCENARIO I

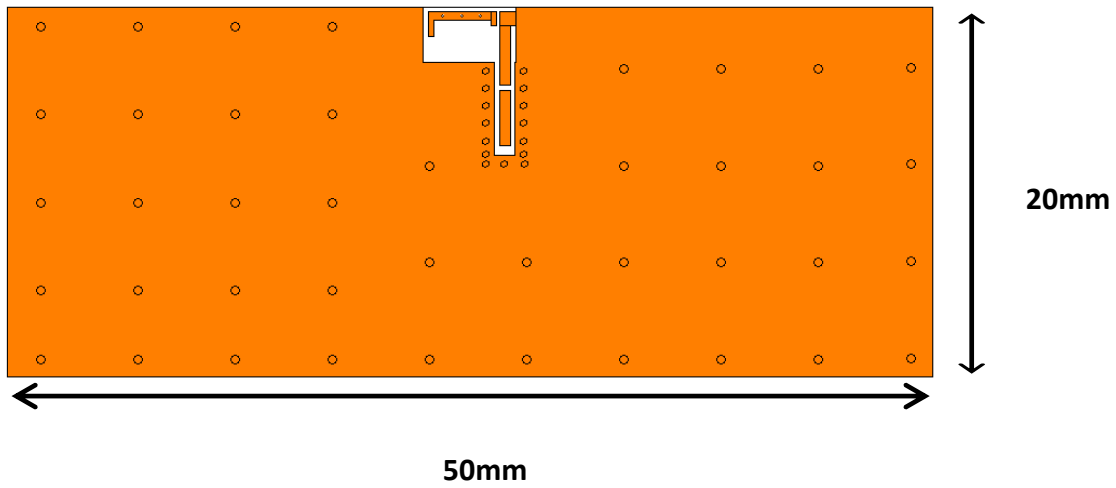


Fig. 2 Outlook and dimension of evaluation board (Scenario 1)

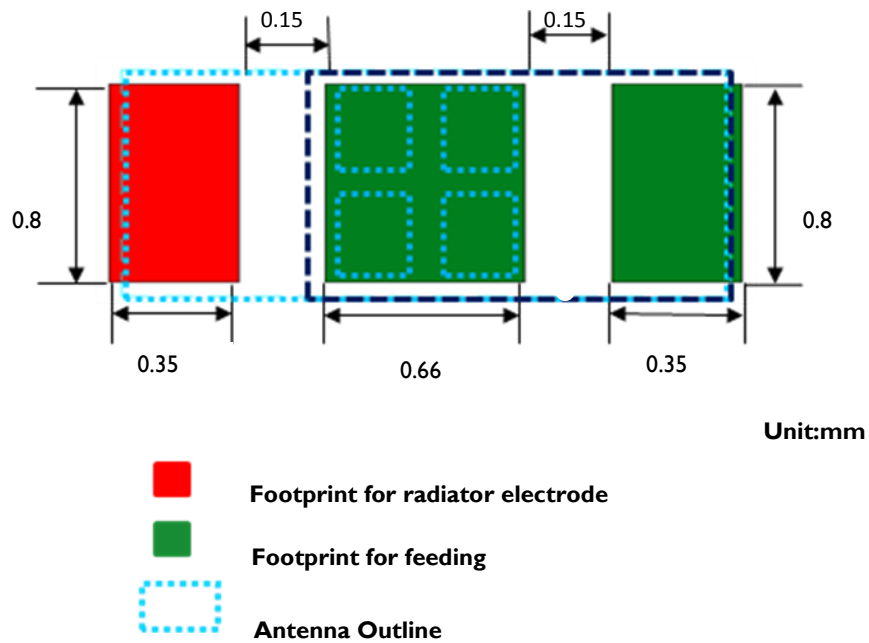


Fig. 3 Footprint

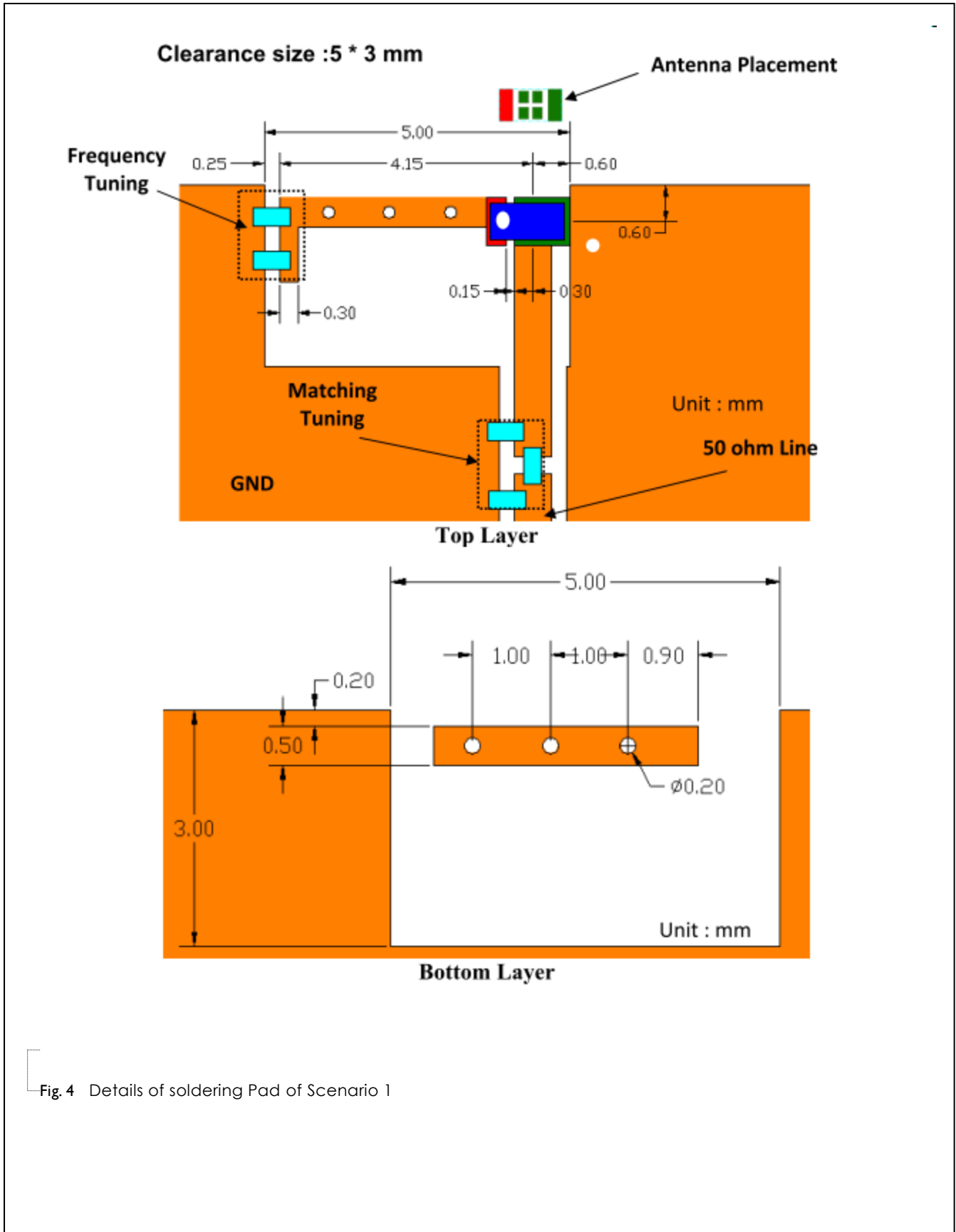


Fig. 4 Details of soldering Pad of Scenario 1

**ELECTRICAL PERFORMANCES**

◊ SCENARIO 1

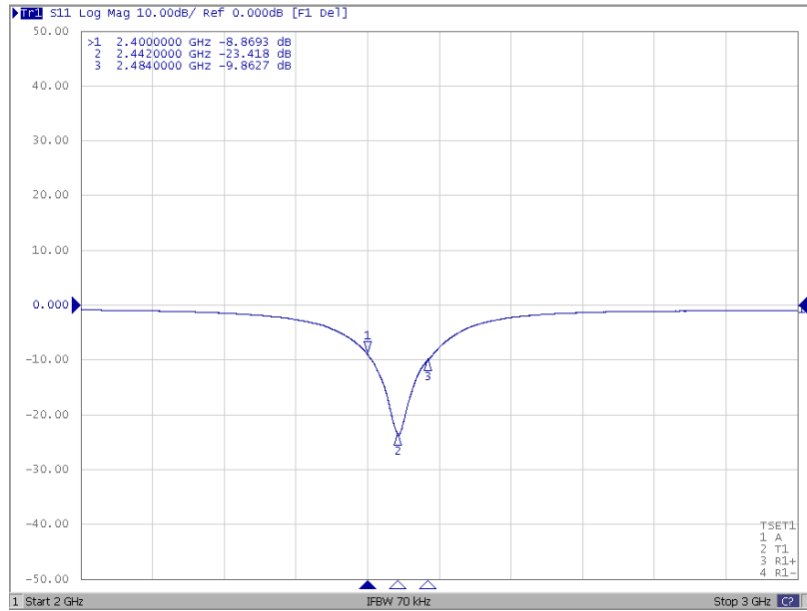
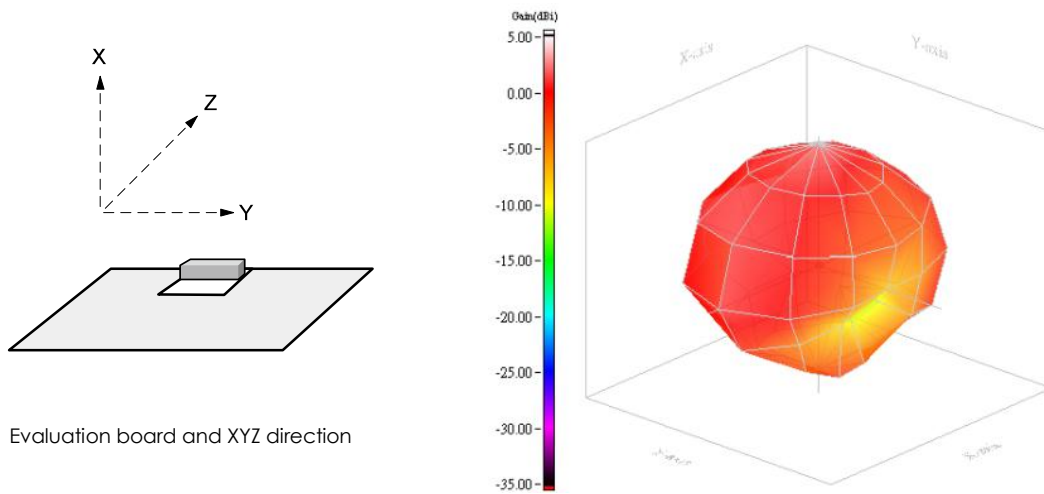


Fig. 5 Return loss of Scenario 1



Max Gain = 2.03dBi  
Efficiency = -2.08dB, 61.88%

Fig. 6 Radiation pattern of Scenario 1

REFERENCE DESIGN OF EVALUATION BOARD

◇SCENARIO 2

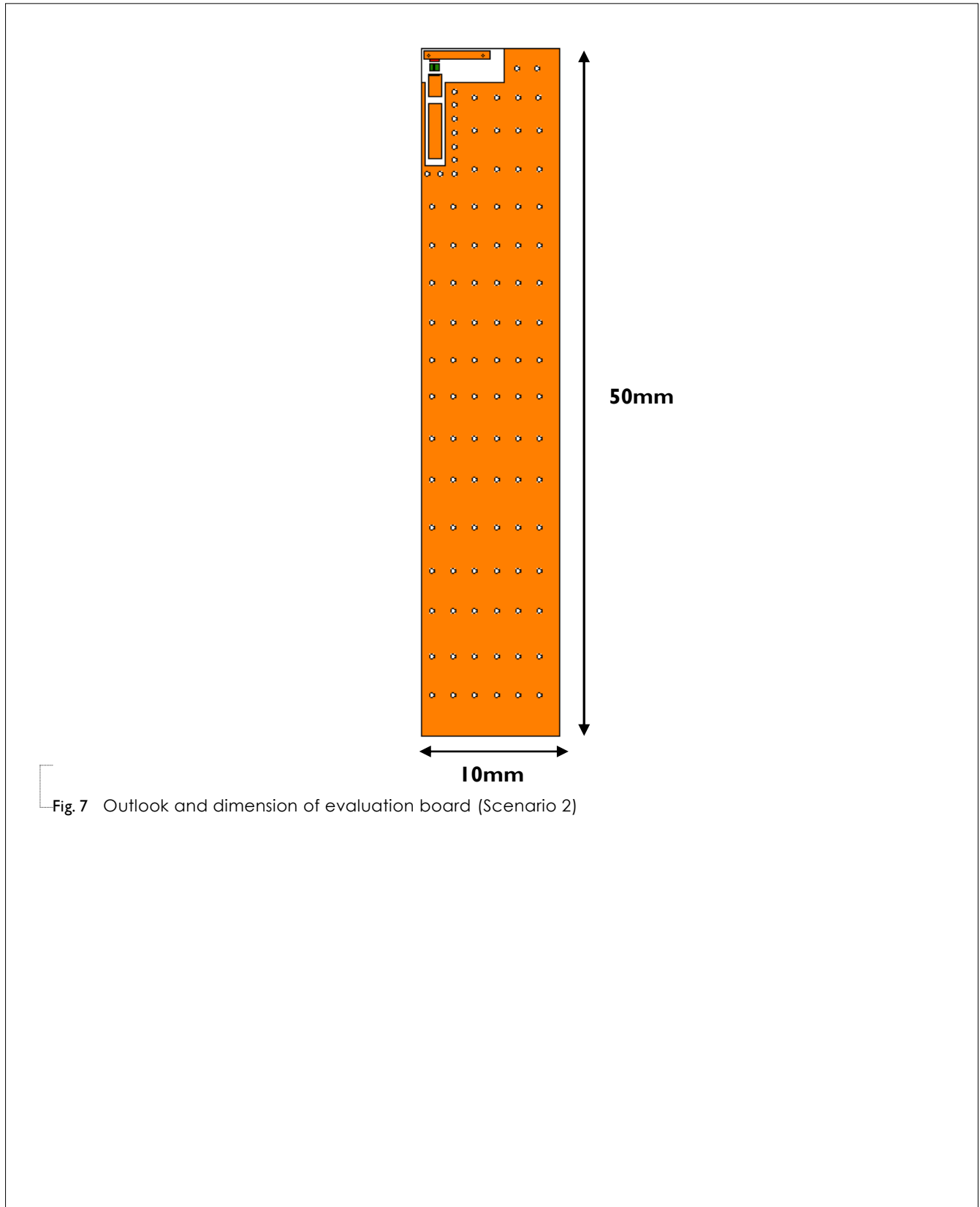


Fig. 7 Outlook and dimension of evaluation board (Scenario 2)

**Clearance size : 6 \* 2.5 mm**

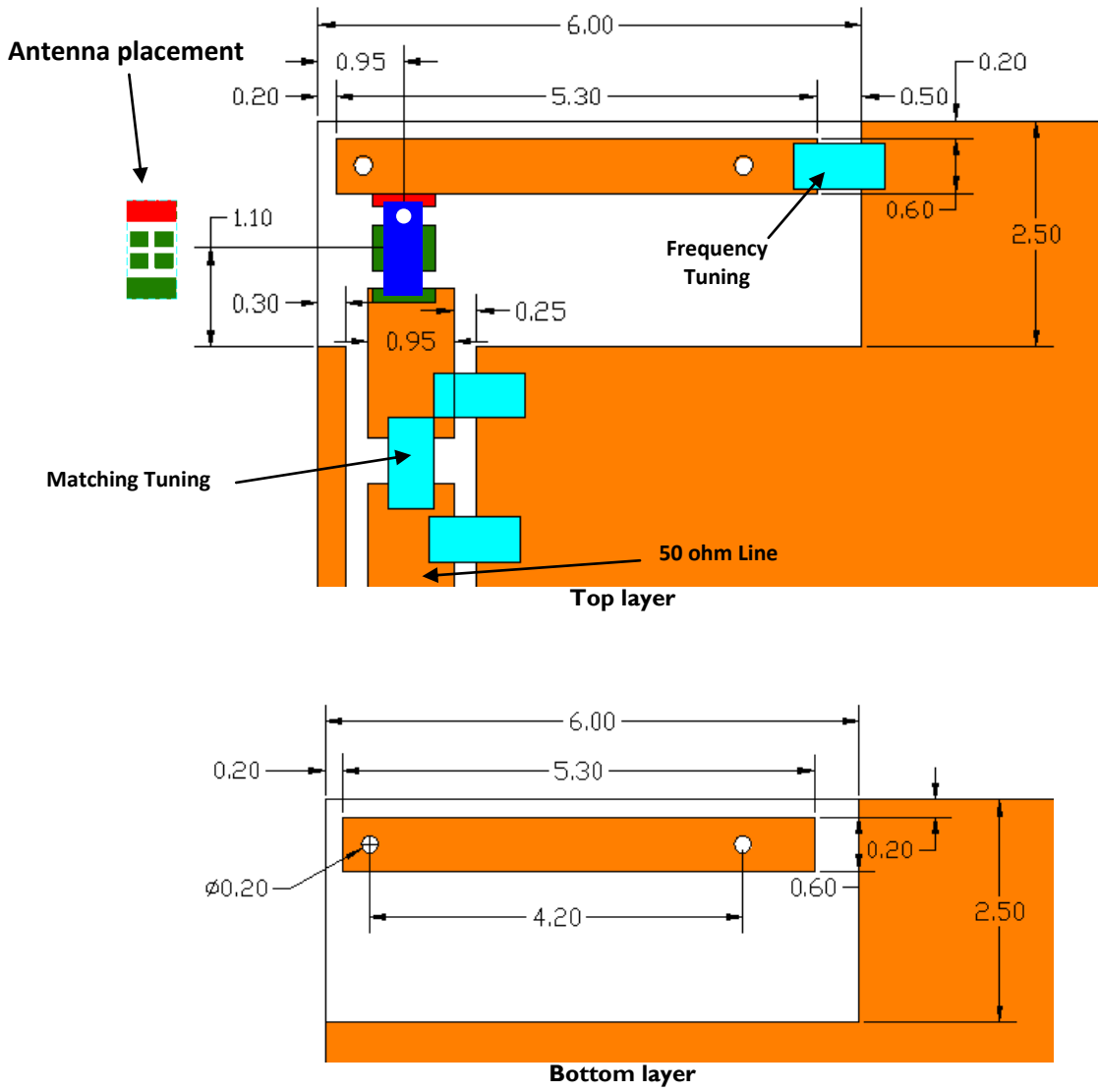


Fig. 8 Details of soldering Pad of Scenario 2



**ELECTRICAL PERFORMANCES**

◊ **SCENARIO 2**

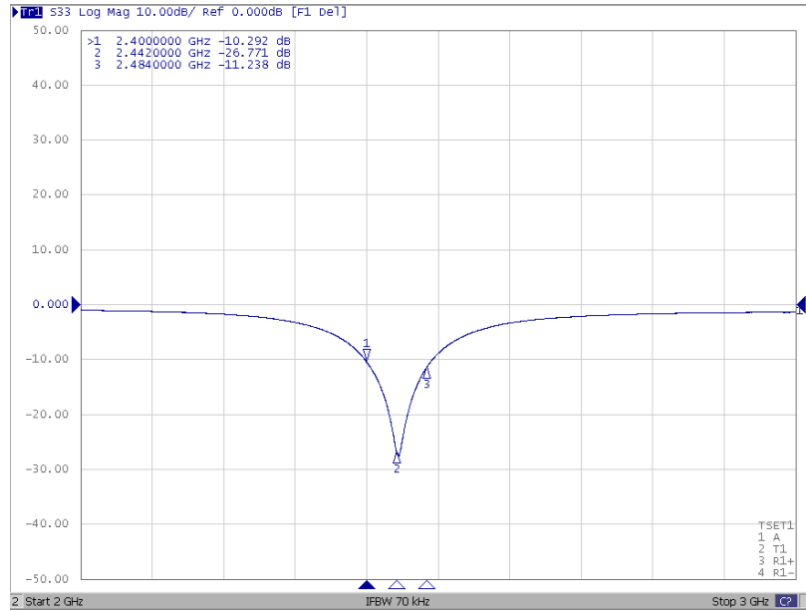
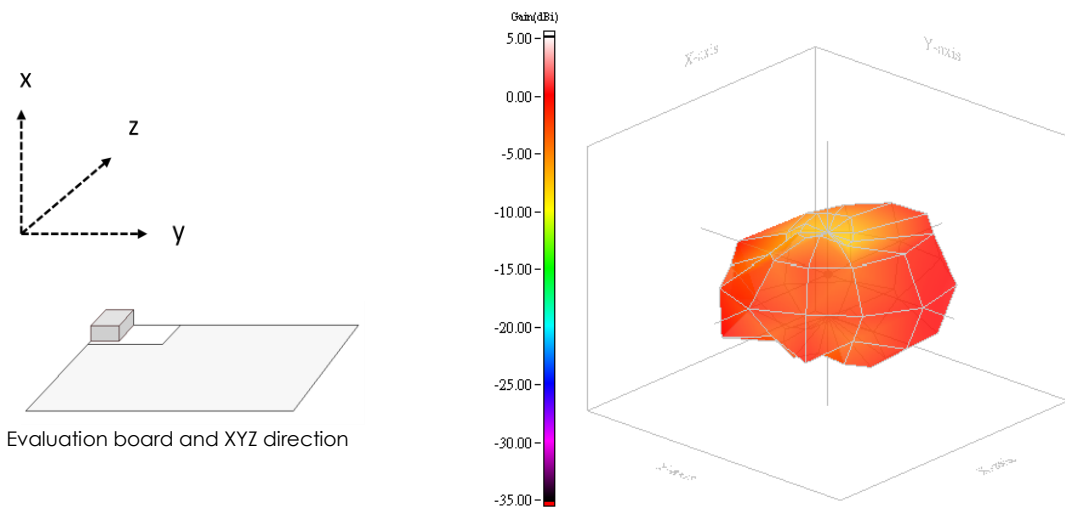


Fig. 9 Return loss of Scenario 2



Max Gain = 3.38dBi  
Efficiency = -2.17dB, 60.64%

Fig. 10 Radiation pattern of Scenario 2

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 1	Feb. 14, 2017 -	-	Add EV Board Scenario 2 layout and performance data.
Version 0	Oct. 03, 2016 -	-	New data sheet for SMD type antenna, 2.45GHz application, 1608 series PIFA mode