

Data Sheet

CUSTOMER : _____

MODEL NAME: AC001S Chip Antenna

CUSTOMER P/N : _____

AWAN P/N : _____



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1. Chip Antenna Picture

Photo	
Front	

2. Features

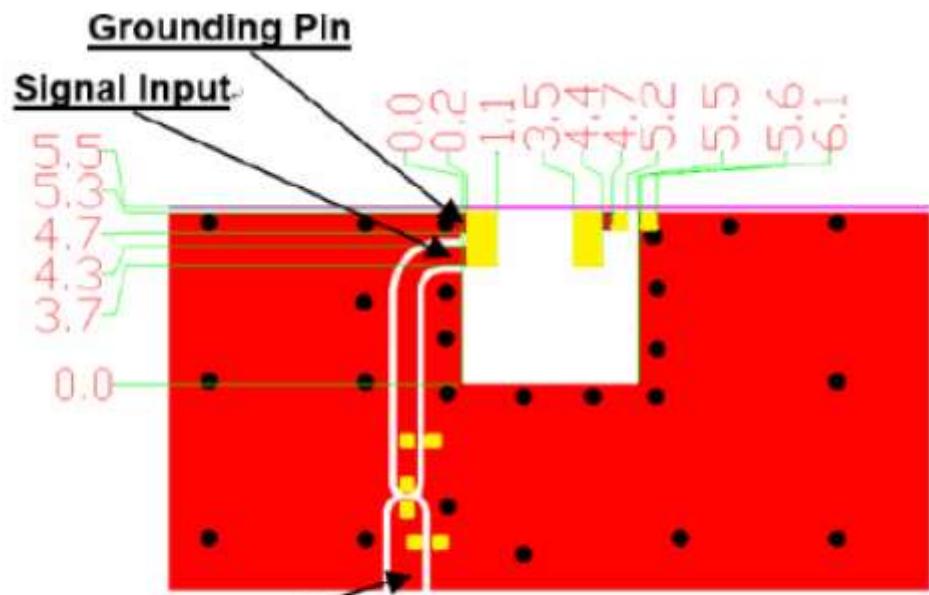
- *Stable and reliable in performances
- *Low profile, compact size
- *RoHS compliance
- *SMT processes compatible

3. Applications

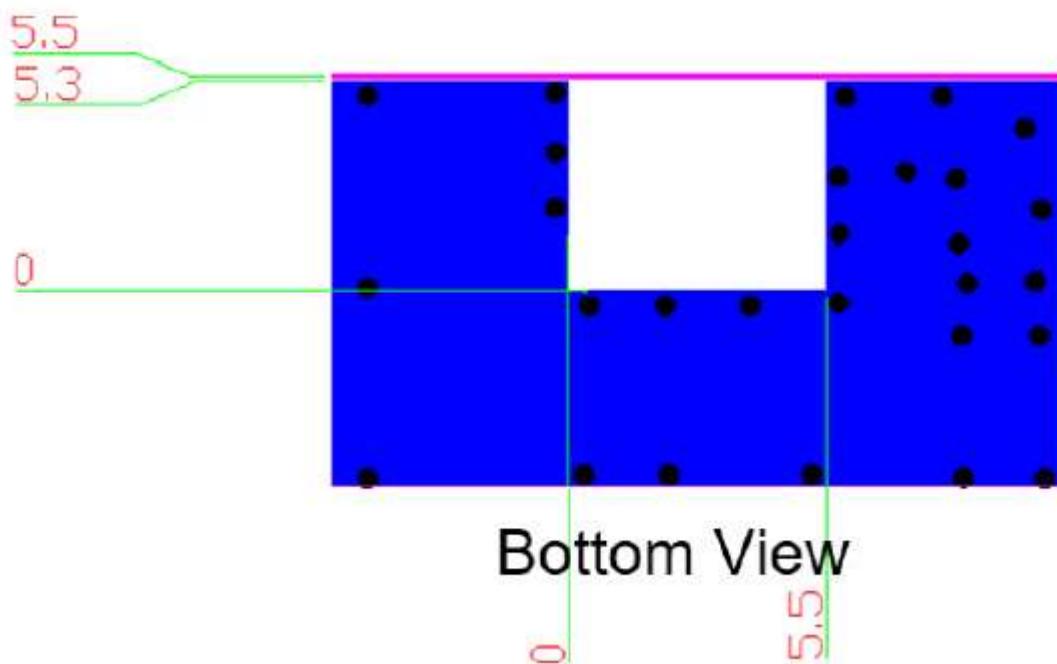
- *ISM 2.4 GHz applications
- *ZigBee/BLE applications
- *Bluetooth earphone systems
- *Hand-held devices when WiFi / Bluetooth functions are needed, e.g., Smart phones
- *IEEE802.11 b/g/n
- *Wireless PCMCIA cards or USB dongles

4. Layout Guide & Electrical Specifications

4-1 Layout Guide (unit: mm)



Transmission Line with 50Ω Impedance Characteristic

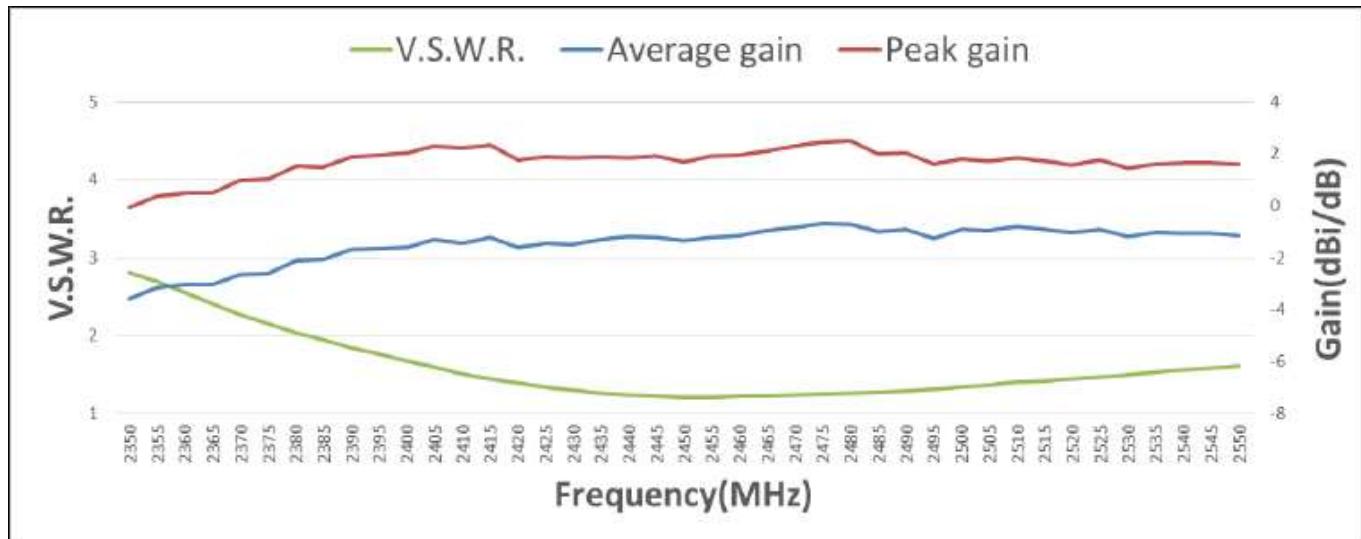


4-2 Electrical Specifications

4-2-1 Electrical Table

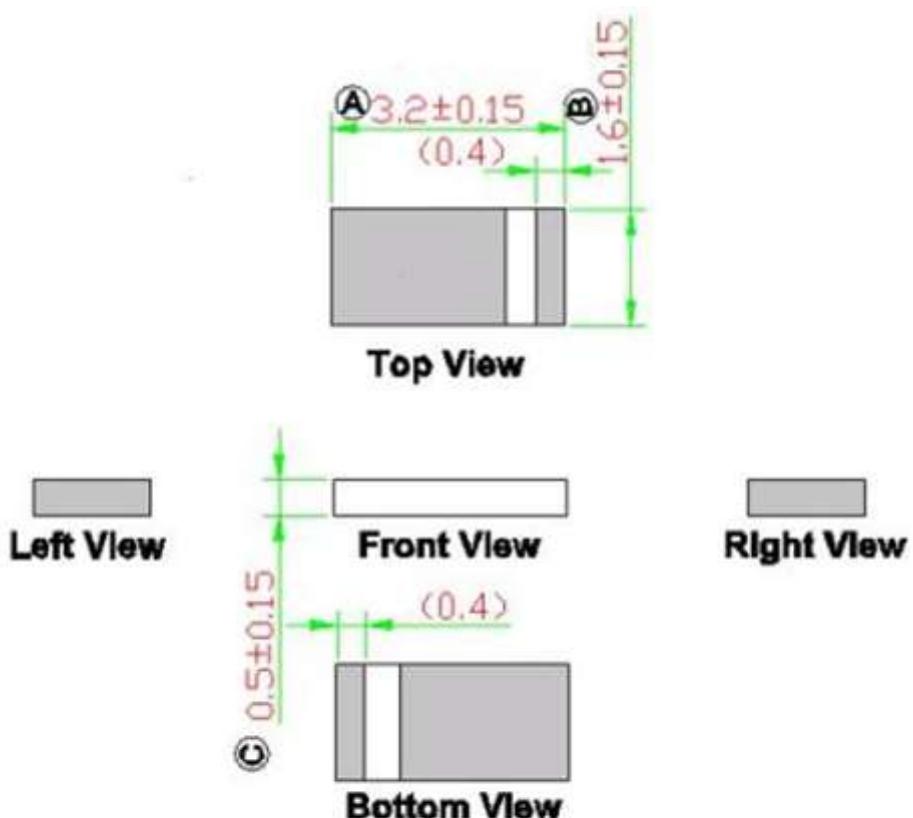
Characteristics	Specifications	Unit
Outline Dimensions	3.2 x 1.6 x 0.5	mm
Ground Plane Dimensions	80 x 40	mm
Working Frequency	2400~2500	MHz
VSWR (@ center frequency)*	2 Max.	
Characteristic Impedance	50	Ω
Polarization	Linear Polarization	
Peak Gain (@2442 MHz)	1.8 (typical**)	dBi
Efficiency	76.3 (typical**)	%

4-2-2 Frequency VS.VSWR and total Radiation Gain

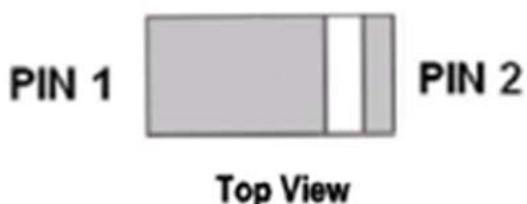


5. Outline Dimensions of Antenna & Evaluation Board (unit: mm)

5-1 Antenna Dimensions

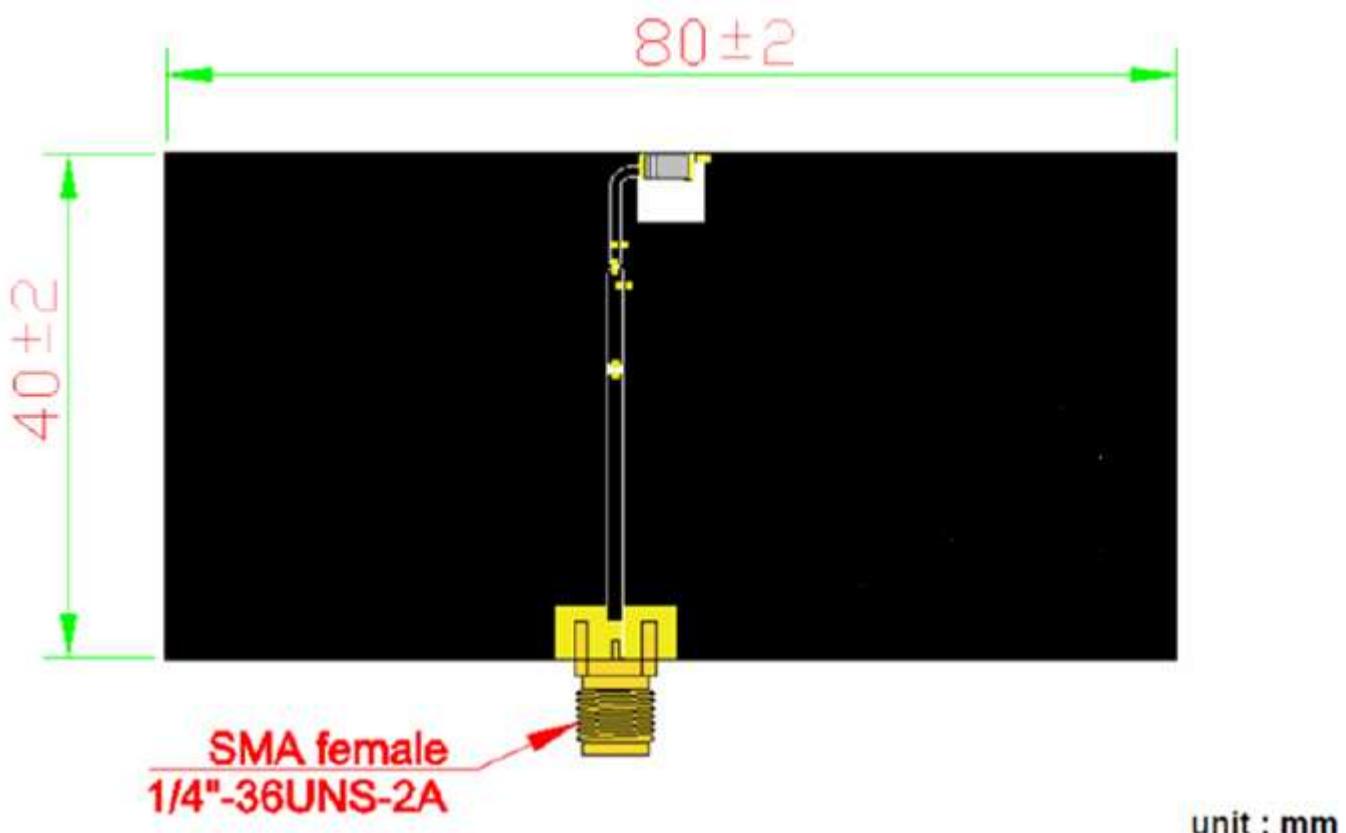


PIN Definition



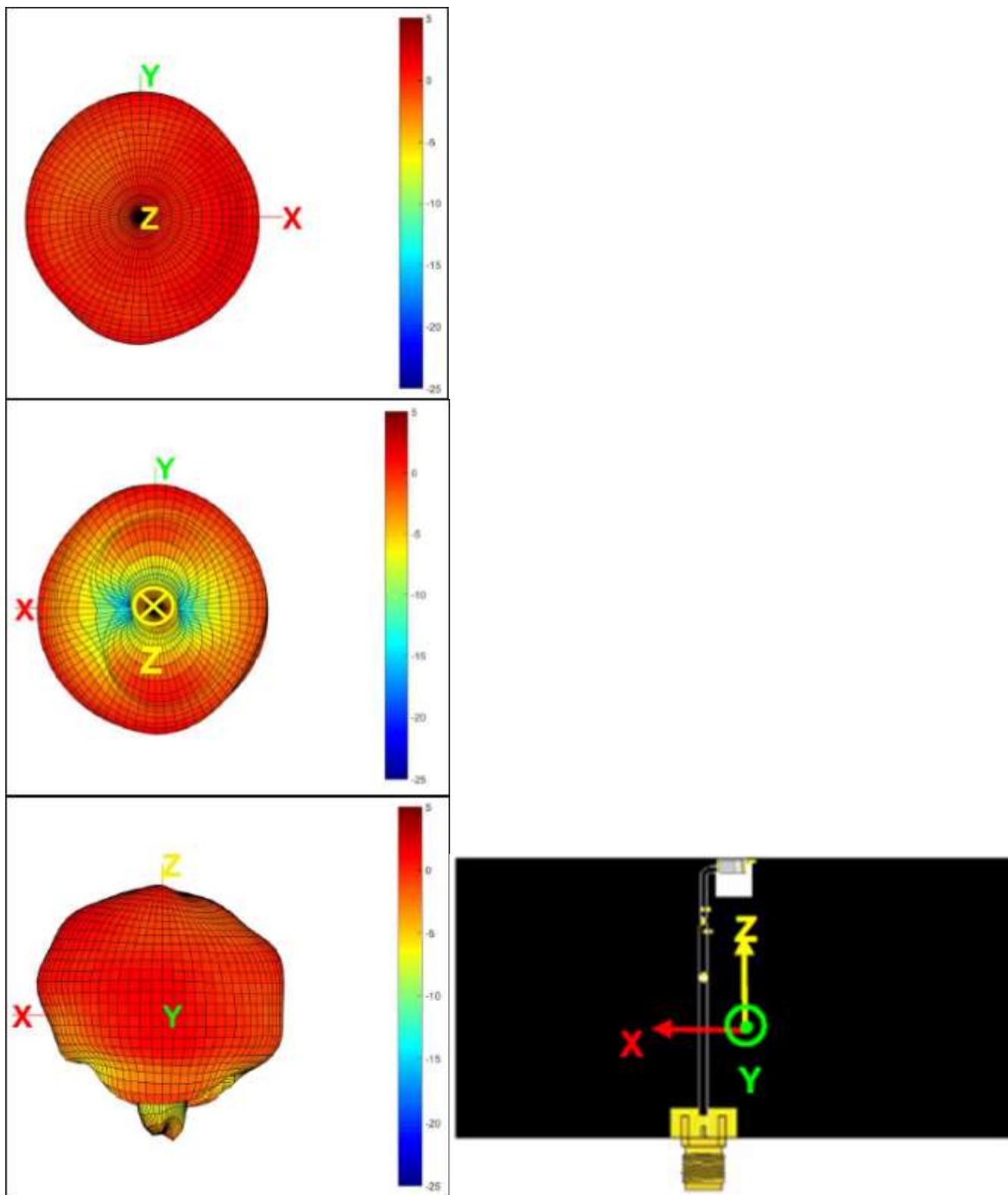
PIN	1	2
Soldering PAD	Signal	Tuning / Ground

5-2 Evaluation Board with Antenna



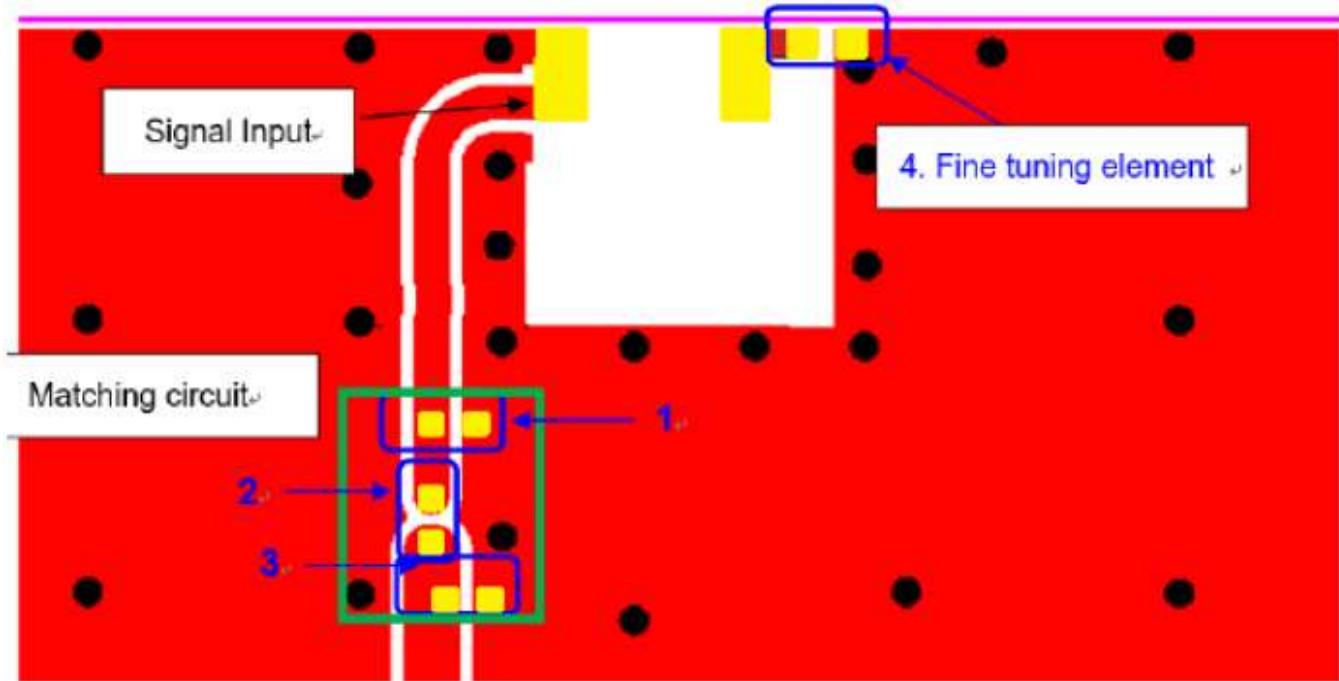
6. Rediation Pattern

6-1 Gain Patten @ 2442 MHz (unit: dBi)



7. Frequency tuning and Matching circuit

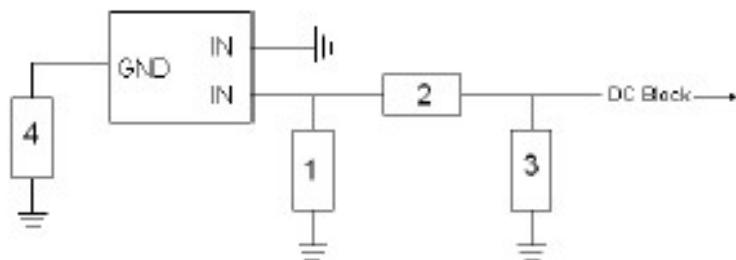
7-1. Chip antenna tuning scenario:



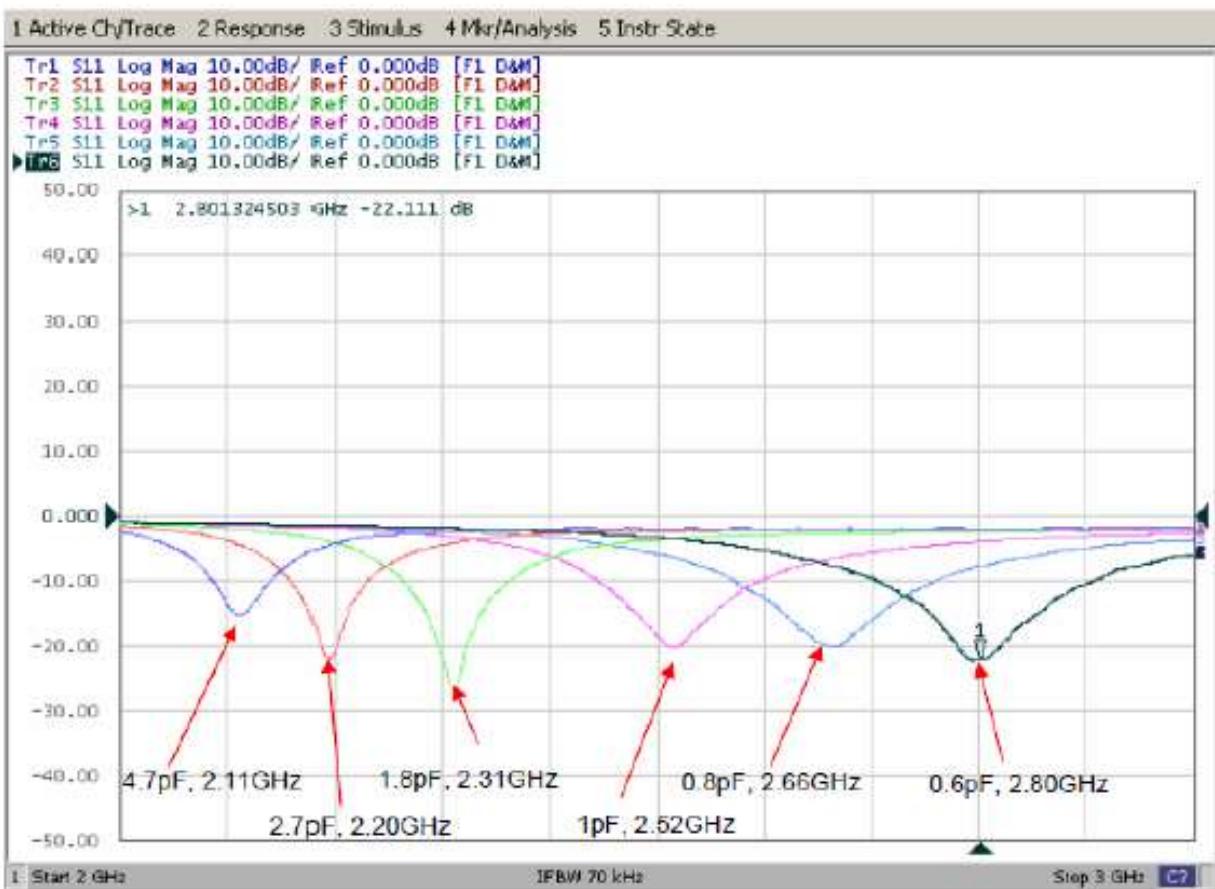
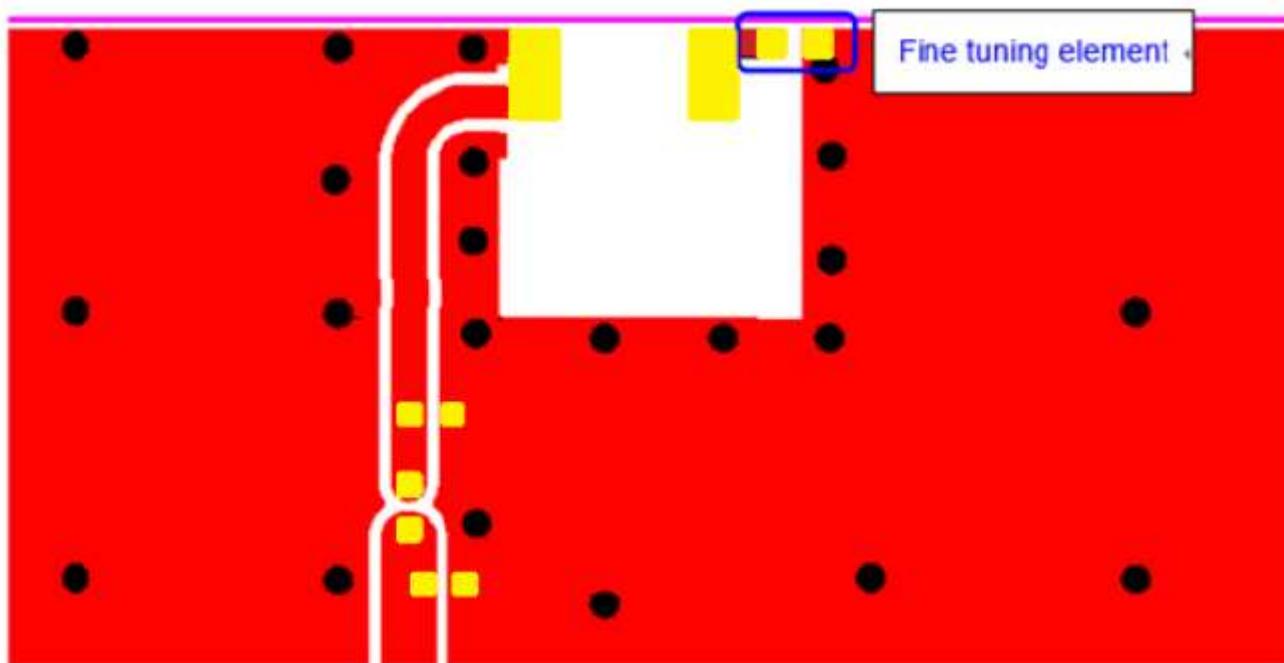
7-2. Matching circuit:

With the following recommended values of matching and tuning components, the center frequencies will be about 2442 MHz at our standard 40 x 20 mm² evaluation board. However, these are typical reference values which may need to be changed when circuit boards or part vendors are different.

System Matching Circuit Component			
Location	Description	Vendor	Tolerance
1	1.2pF, (0402)	MURATA	±0.05 pF
2	3.3nH, (0402)	MURATA	±0.1 nH
3	NA		
Fine tuning element 4	1.2pF, (0402)	MURATA	±0.05 pF

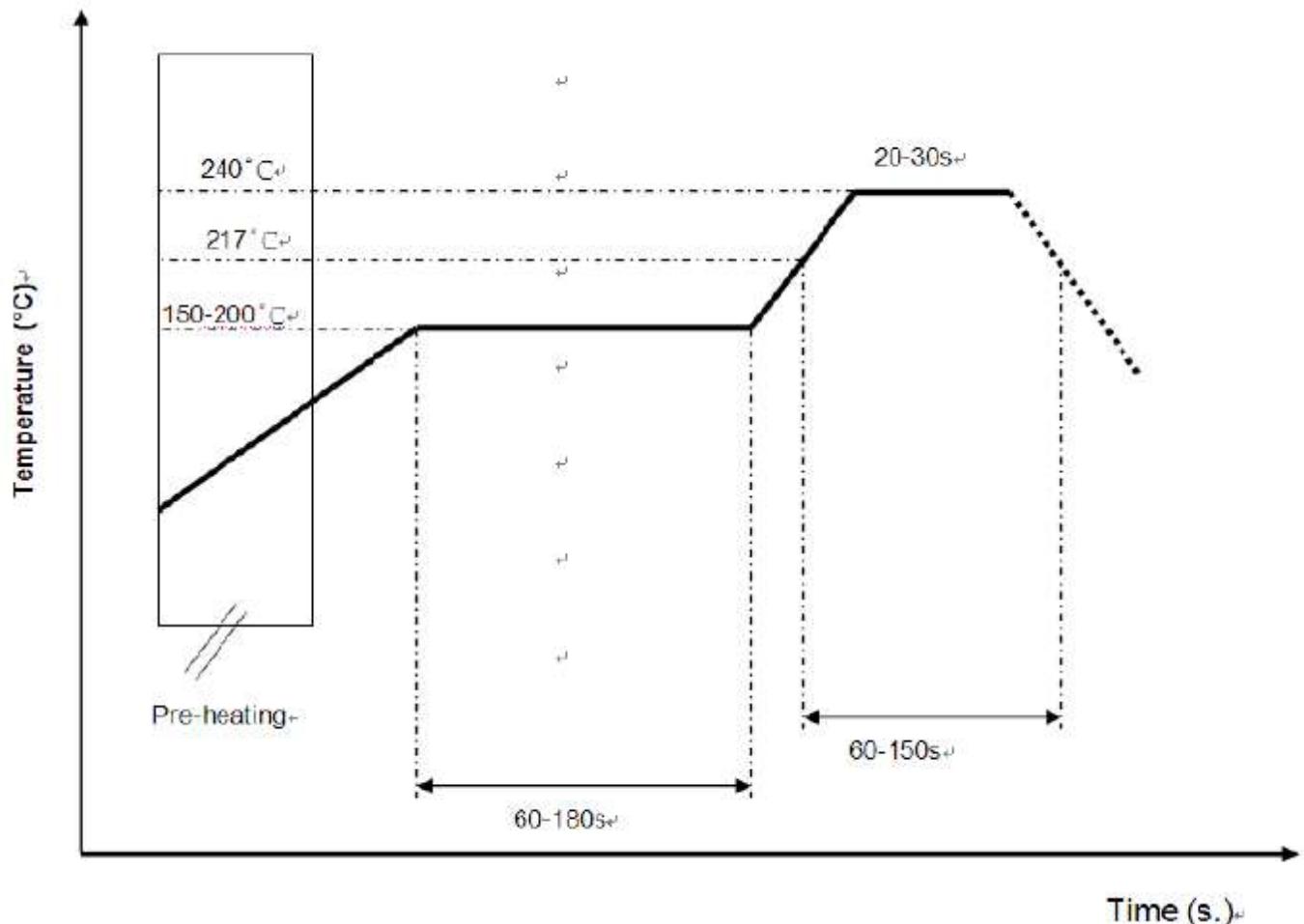


7-3. Reference for the frequency tuning element



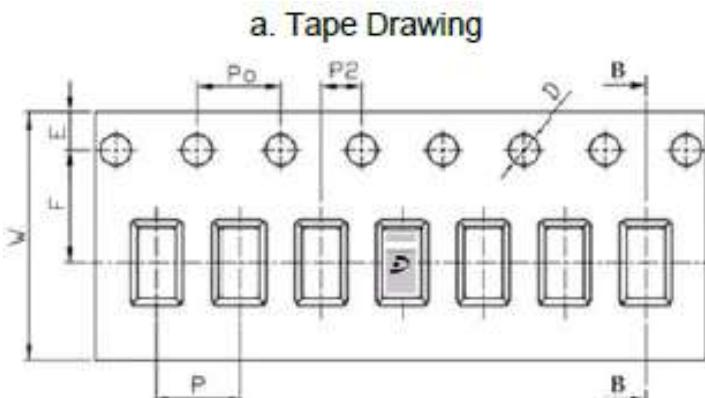
8. Soldering Conditions

8-1. Typical Soldering Profile for Lead-free Process



9. Packing

- (1) Quantity/Reel: 5000 pcs/Reel
- (2) Cardboard tape:Black conductive polystyrene
- (3) Packaging method is implemented according to “MSL 2a 包裝作業指導書”



b. Tape Dimensions (unit: mm)

Feature	Specifications	Tolerances
W	12.00	± 0.30
P	4.00	± 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

10. Operating & Storage Conditions

10-1. Operating

- (1) Maximum input power: 2 W
- (2) Operating Temperature: -40°C to 85°C
- (3) Relative Humidity: 10% to 70%

10-2. Storage (sealed)

- (1) Storage Temperature: -5°C to 40°C
- (2) Relative Humidity: 20% to 70%
- (3) Shelf Life: 1 year

10-3. Storage (unsealed)

Meet the criteria of J-STD-033 MSL2a

10-4. Storage (After mounted on customer's PCB with SMT process)

- (1) Storage Temperature: -40°C to 85°C
- (2) Relative Humidity: 10% to 70%