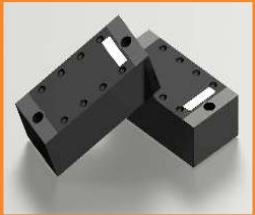


FEATURES	APPLICATIONS	
<ul style="list-style-type: none"> <li>- WiFi/ZigBee/Bluetooth</li> <li>- Chip Type</li> <li>- Stable And Reliable Performance</li> <li>- 2400-2500MHz</li> <li>- SMT Process Compatible</li> </ul>	<ul style="list-style-type: none"> <li>- ISM 2.4 GHz Applications</li> <li>- ZigBee/BLE Applications</li> <li>- Bluetooth Earphone Systems</li> <li>- Smart Hand Held Devices</li> <li>- Machine To Machine Communication</li> </ul>	

### PART NUMBERING GUIDE

**SUNTSU** → **S** **AT** **CA** - **5A2C1G** - **WF** **B1** ←

**ANTENNA** → **AT**

**CHIP ANTENNA** → **CA**

**FREQUENCY BAND (MHz)**  
B1: 2400-2500MHz

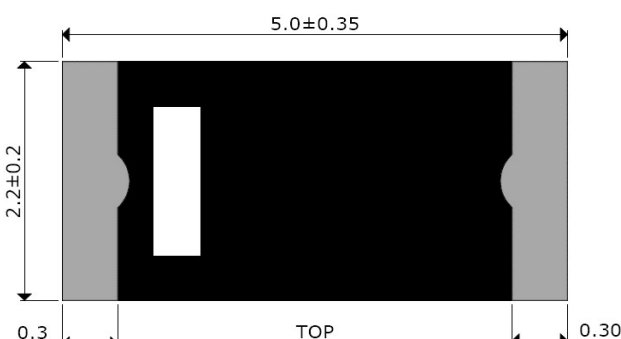
**APPLICATION**  
WF: WiFi

**\* PACKAGE SIZE**  
5A2C1G: 5.0mm x 2.2mm x 1.6mm

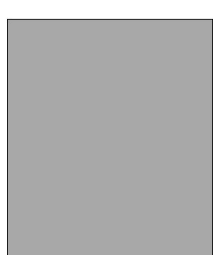
\* Where letters denote decimal location A=.0, B=.1, C=.2, etc. Ex: B5=0.15, 3A5=3.05, 9A=9.0  
To customize your parameters, contact a Suntsu representative.

ELECTRICAL PARAMETERS (At 25°C)	UNITS	MIN.	TYP.	MAX	REMARKS
Frequency Band	MHz	2400		2500	
Impedance	Ω		50		
Polarization			Linear		
Peak Gain	dBi		2.2		At 2442MHz
Efficiency	%		66		At 2442MHz
VSWR				2	At Center Frequency
Operating Temperature	°C	-40		85	


### OUTLINE DRAWING (NOTE: All dimensions are in millimeters [mm], unless otherwise noted. Drawings are not to scale.)



TOP

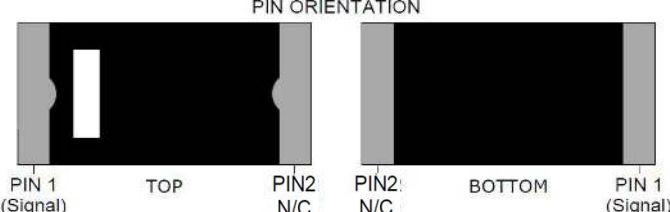


SIDE



FRONT

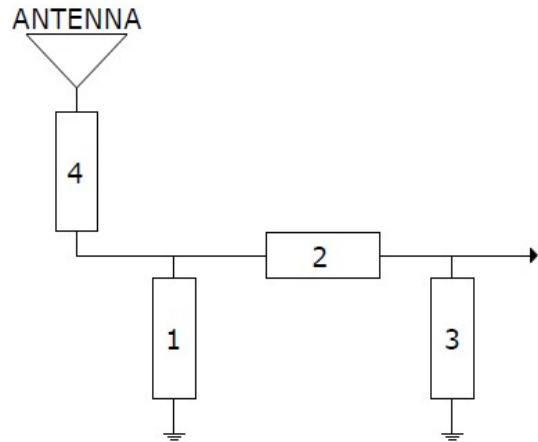
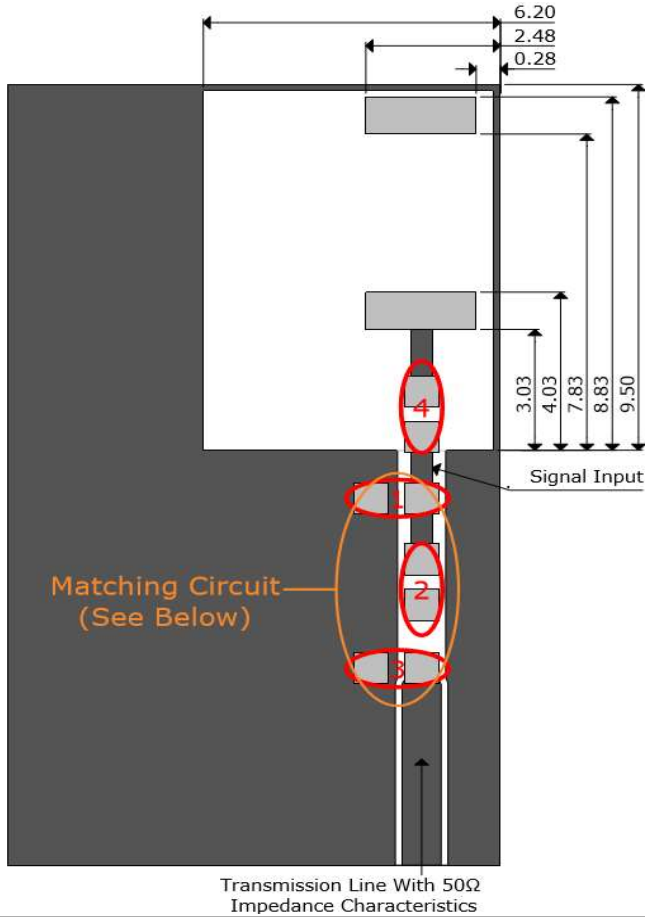
PIN ORIENTATION



PIN 1 (Signal)    TOP    PIN2 N/C

PIN2 N/C    BOTTOM    PIN 1 (Signal)

**RECOMMENDED LAND PATTERN & FREQUENCY TUNING SCENARIO CIRCUIT** (NOTE: All dimensions are in mm, unless otherwise noted. Drawings are not to scale.)



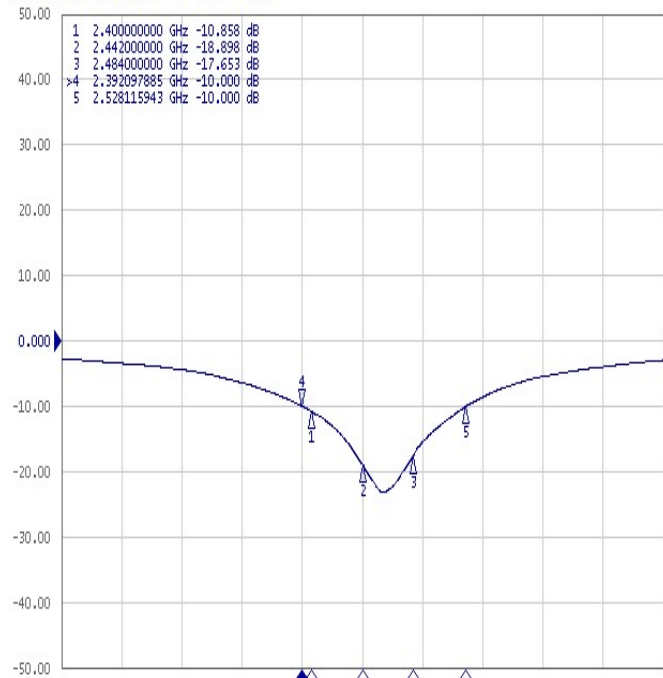
System Matching Circuit Components			
Location	Description	Vendor	Tolerance
1	N/A	-	-
2	2.2nH, (0402)	DARFON	±0.1nH
3	1pF, (0402)	DARFON	±0.1pF
4 (Fine Tuning)	0Ω, (0402)	-	-

For these suggested values for the matching and tuning of components, the average frequency will be 2442MHz on a standard 40 x 40mm<sup>2</sup> Evaluation board.  
Please note, these are average reference values which may need to be changed when different circuit boards or manufactures are used.

**ELECTRICAL TEST**

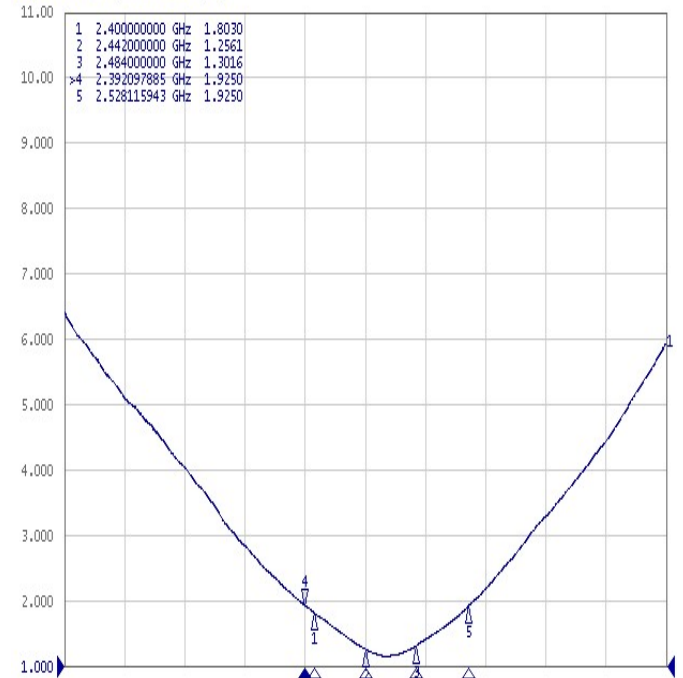
**Return Loss**

TR1 S22 Log Mag 10.00dB/ Ref 0.000dB [F2]



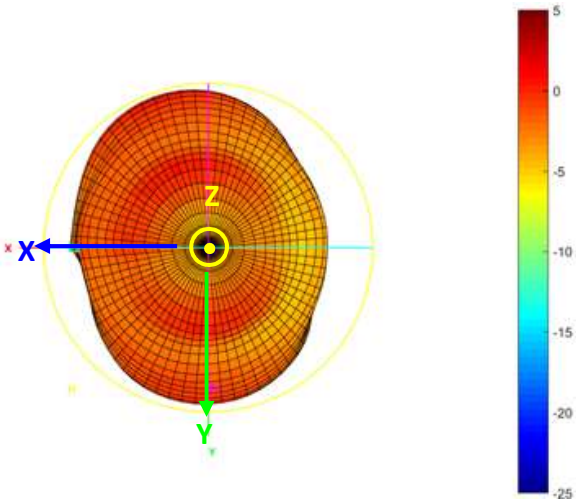
**VSWR**

TR1 S22 SWR 1.000/ Ref 1.000 [F2]

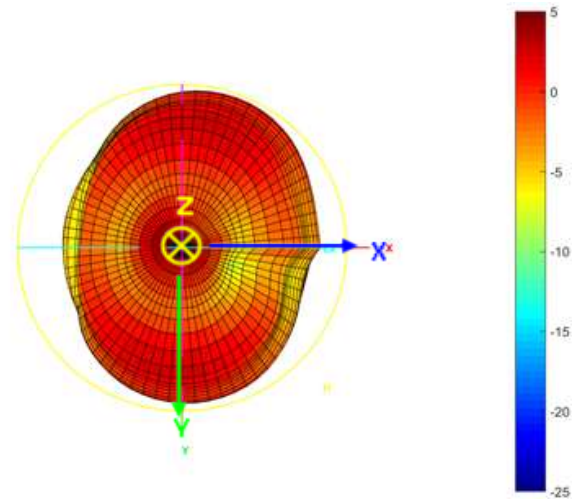


### 3D RADIATION PATTERN (UNIT: dBi) AND EFFICIENCY vs FREQUENCY

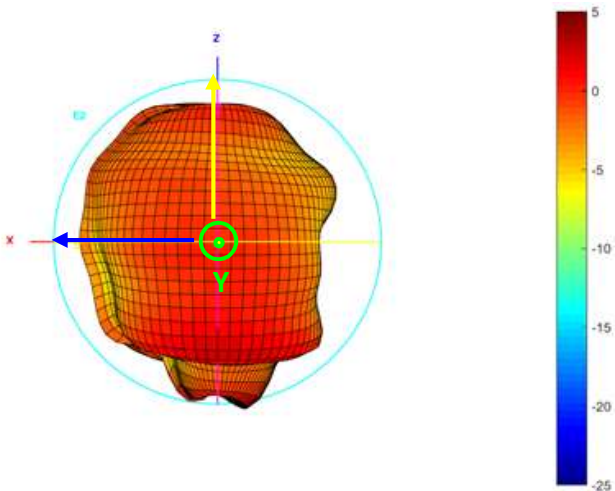
2442MHz



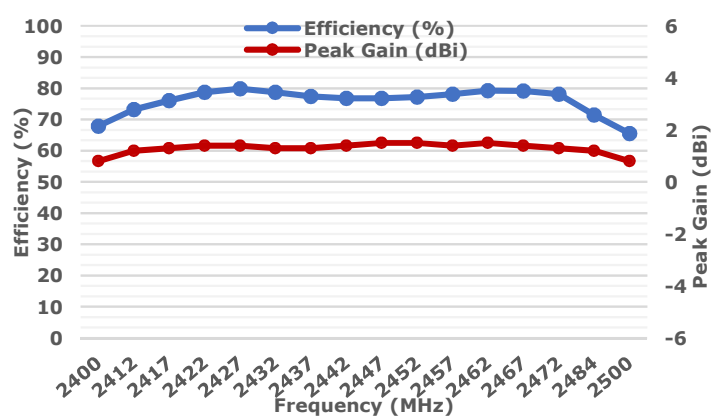
2442MHz



2442MHz



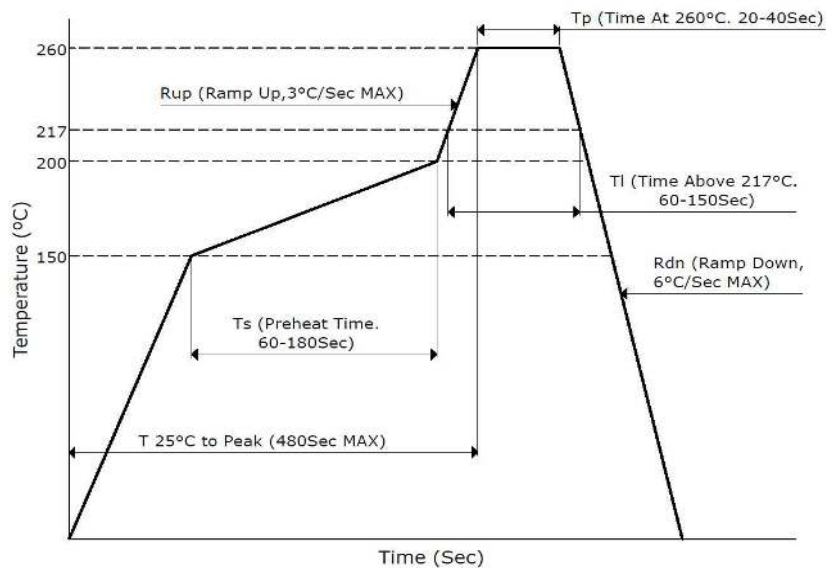
2442MHz



Freq.	2400	2412	2417	2422	2427	2432	2437	2442	2447	2452	2457	2462	2467	2472	2484	2500
Eff. (%)	59.3	60.9	62.2	66.1	64.2	68.4	67.5	66.8	65.2	65.8	64.8	65.1	64	62.4	63	61.5
P.G.	1.4	1.6	1.8	2.1	2	2.3	2.3	2.2	2	2.1	1.9	2	1.9	1.8	1.8	1.7

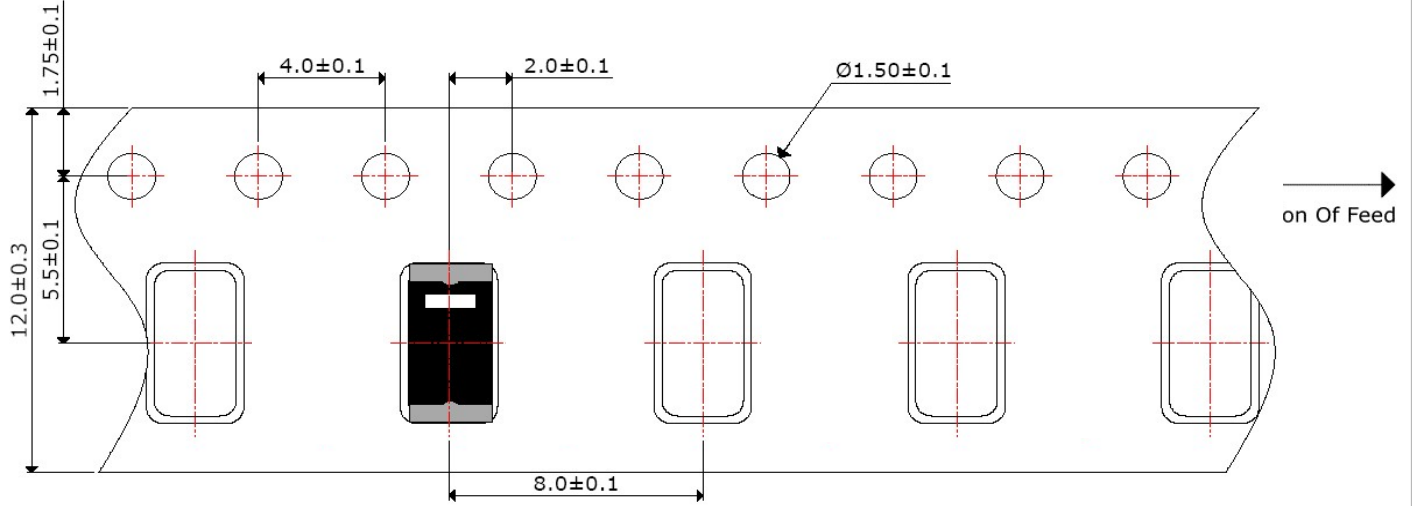
### SOLDERING CONDITIONS

Typical Soldering Profile For Lead-Free Process



**PACKAGING - TAPE AND REEL** (NOTE: All dimensions are in mm, unless otherwise noted. Drawings are not to scale.)

3,000pcs / Reel



**ENVIRONMENTAL & MECHANICAL SPECIFICATIONS**

High Temperature Test	85°C for 500 hours, and then to normal temperature/humidity for 24hours.
Low Temperature Test	-30°C for 500 hours, and then to normal temperature/humidity for 24hours.
Humidity Test	85°C / 90-95% for 96 hours, and then to normal temperature/humidity for 24hours.
Thermal Shock Test	-30°C for 30 min and +85°C for 30 min. 5 cycles, then expose to normal temperature/humidity for 24 hours or more.
Vibration Test	5 to 200 to 5Hz, swept in 10min, 4.5G at max(2mm amplitude), in X and Y directions for 2 hours each and in Z direction for 4 hours.