


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

PART NUMBERING GUIDE

SUNTSU → **S** **AT** **CA** - **1GID** - **WF** **B1** ←

ANTENNA → **AT**

CHIP ANTENNA → **CA**

FREQUENCY BAND (MHz)
B1: 2400-2500MHz

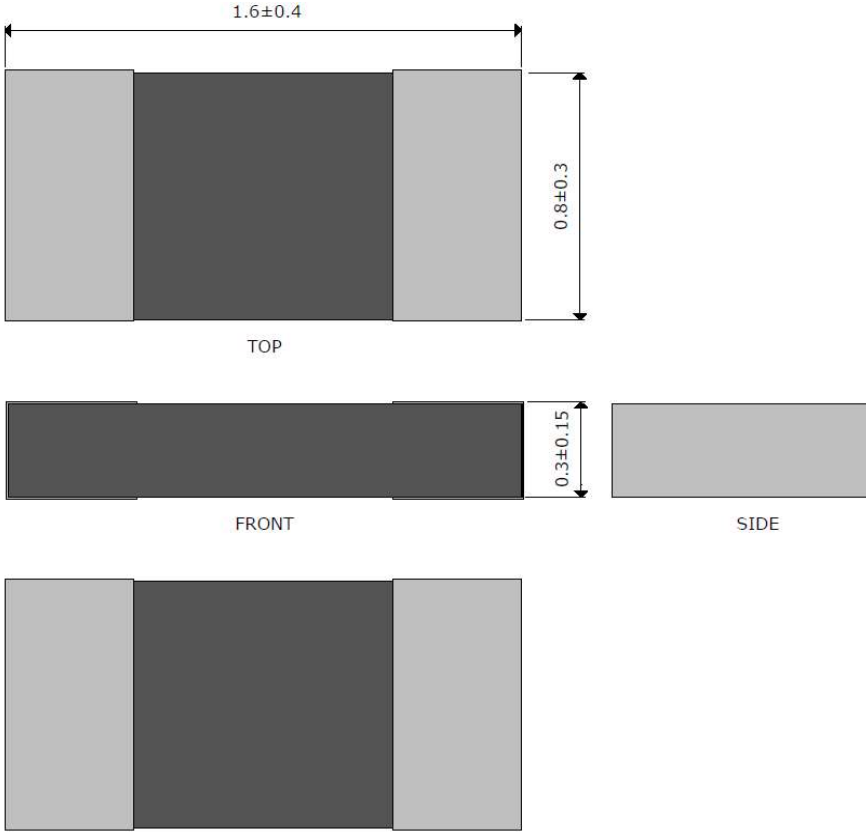
APPLICATION
WF: WiFi

*** PACKAGE SIZE**
1GID: 1.6mm x 0.8mm x 0.3mm

* 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		-0.3		At 2442MHz
Efficiency	%		60		At 2442MHz
VSWR				2.5	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.)



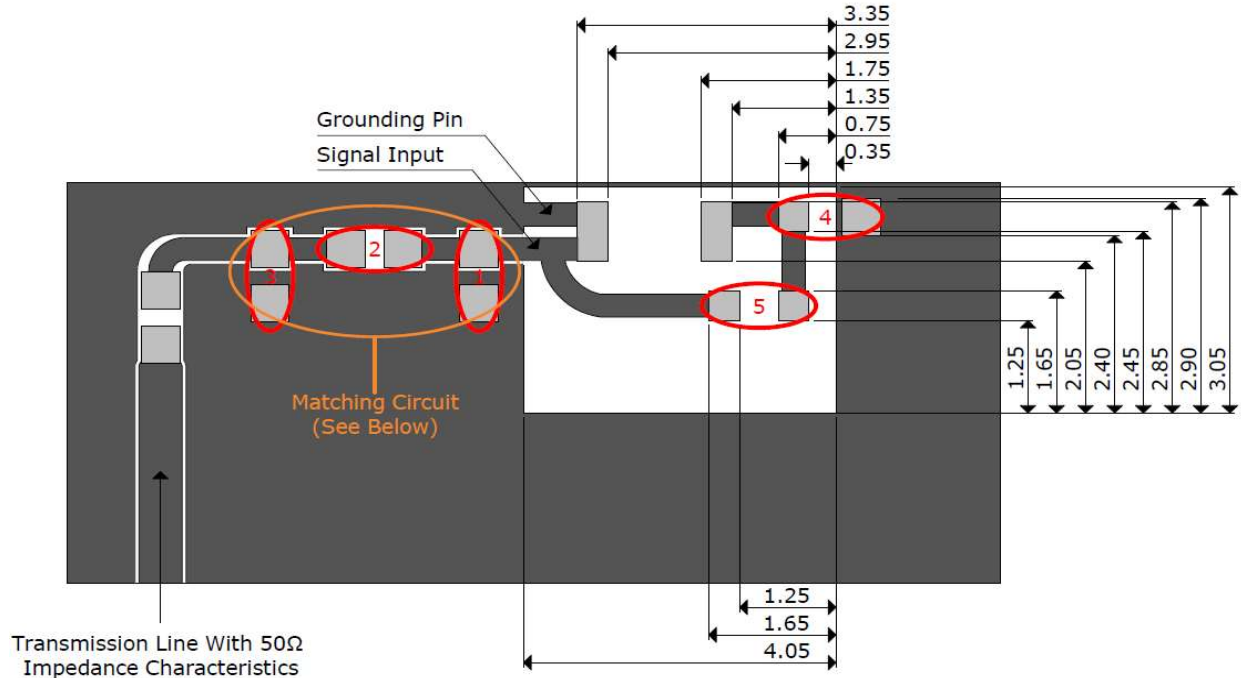
TOP

FRONT

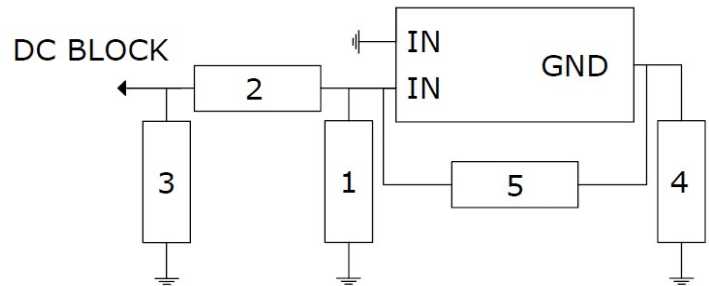
SIDE

BOTTOM

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



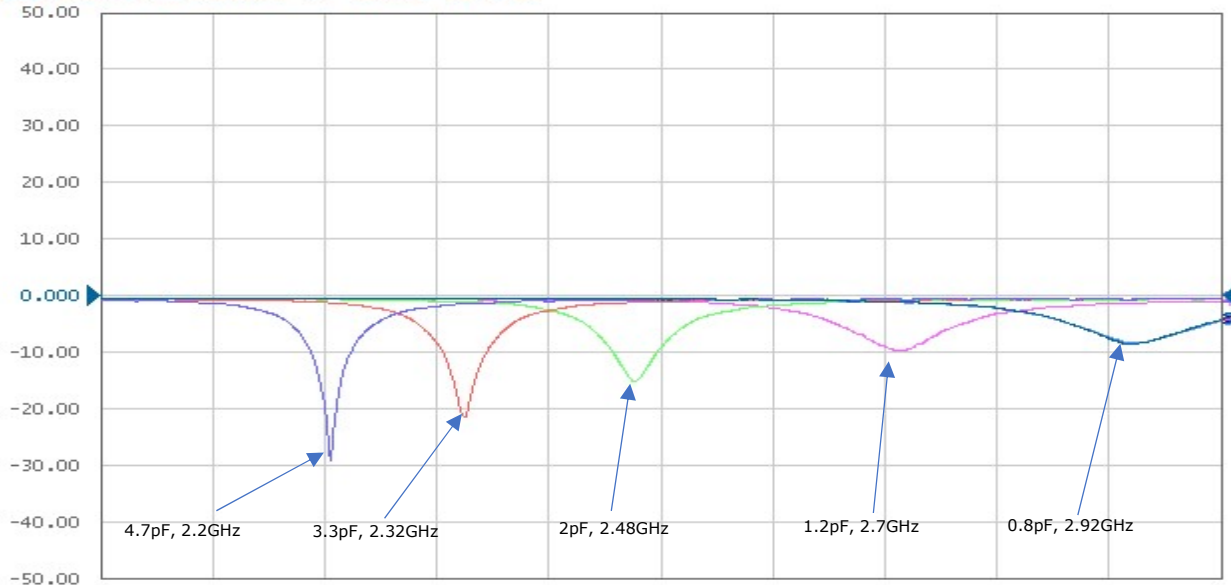
System Matching Circuit Components			
Location	Description	Vendor	Tolerance
1	N/A	-	-
2	0Ω, (0402)	-	-
3	N/A	-	-
4 (Fine Tuning)	2.2pF, (0402)	DARFON	±0.1pF
5 (Fine Tuning)	1.2pF, (0402)	DARFON	±0.1pF



For these suggested values for the matching and tuning of components, the average frequency will be 2442MHz on a standard 40 x 20mm² Evaluation board.
Please note, these are average reference values which may need to be changed when different circuit boards or manufactures are used.

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Tr1 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]
Tr2 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]
Tr3 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]
Tr4 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]
Tr5 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]
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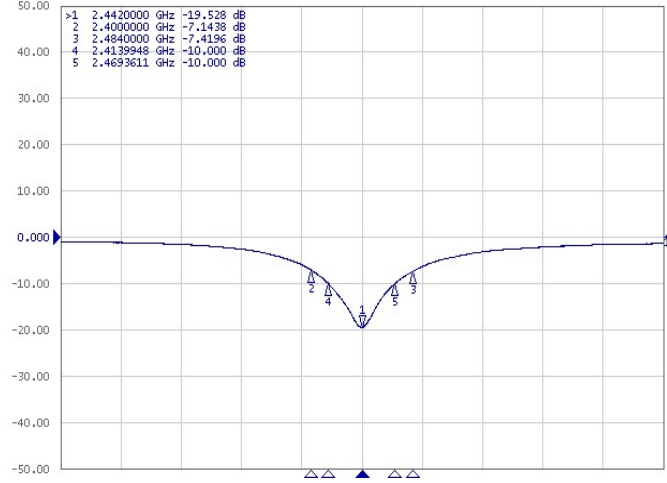
The below chart is for reference of Frequency Tuning then the element in location 5 is kept at 1pF.



ELECTRICAL TEST

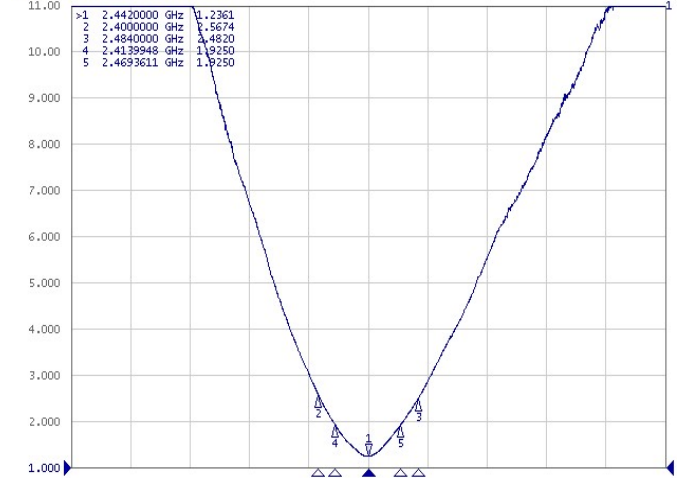
Return Loss

[F1] S11 Log Mag 10.00dB/ Ref 0.000dB [F2]



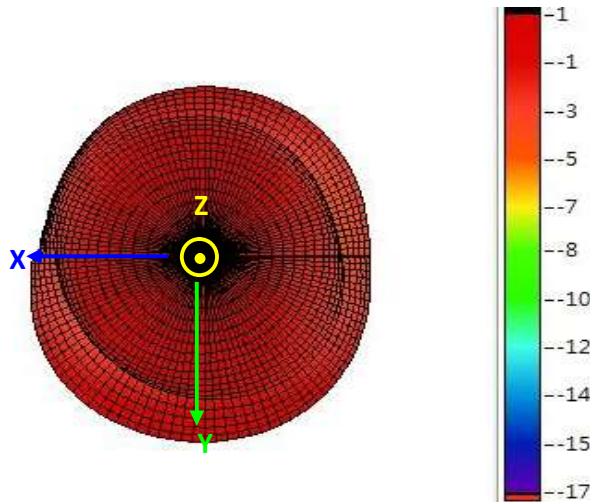
VSWR

[F1] S11 SWR 1.000/ Ref 1.000 [F2]

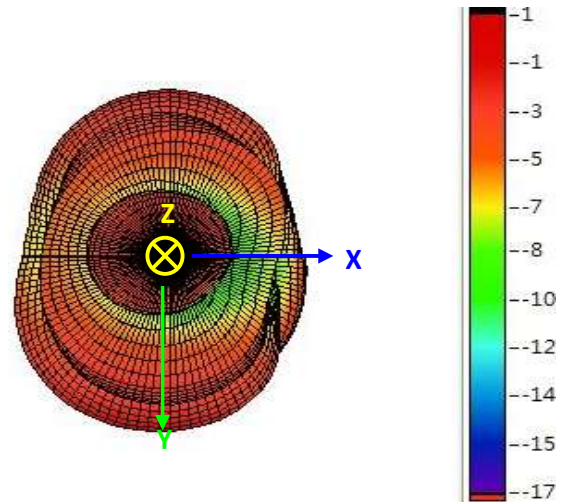


3D RADIATION PATTERN (UNIT: dBi) AND EFFICIENCY vs FREQUENCY

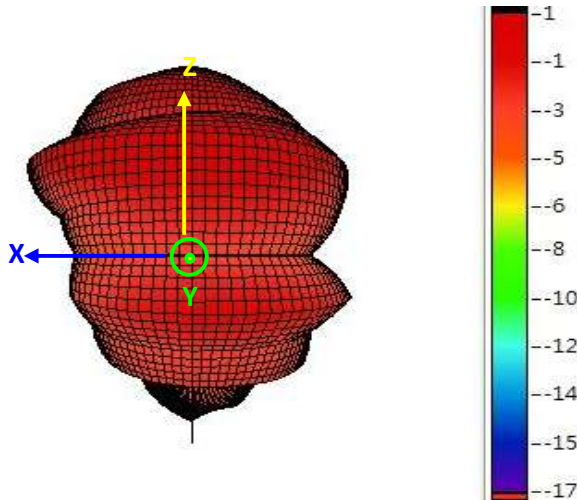
2442MHz



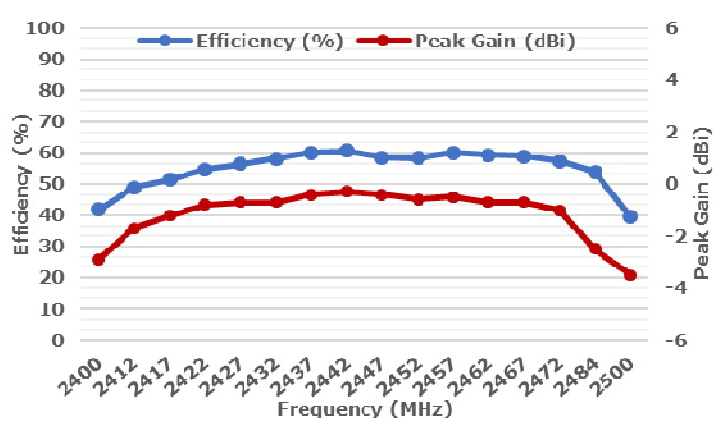
2442MHz



2442MHz



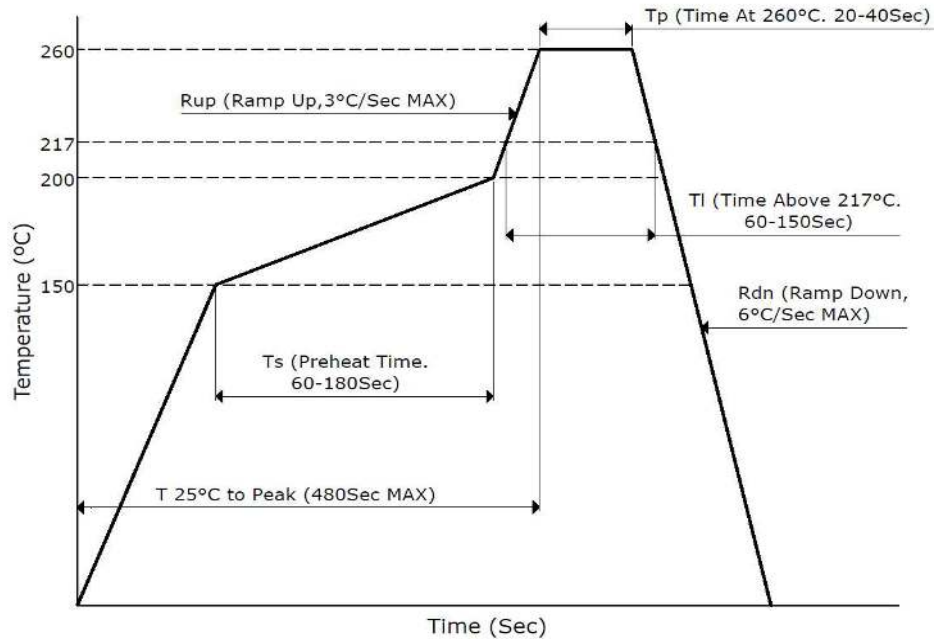
2442MHz



Freq.	2400	2412	2417	2422	2427	2432	2437	2442	2447	2452	2457	2462	2467	2472	2484	2500
Eff. (%)	41.8	48.9	51.4	54.6	56.5	58.1	60.1	60.7	58.6	58.3	60	59.2	59	57.4	53.9	39.5
P.G.(dBi)	-2.9	-1.7	-1.2	-0.8	-0.7	-0.7	-0.4	-0.3	-0.4	-0.6	-0.5	-0.7	-0.7	-1	-2.5	-3.5

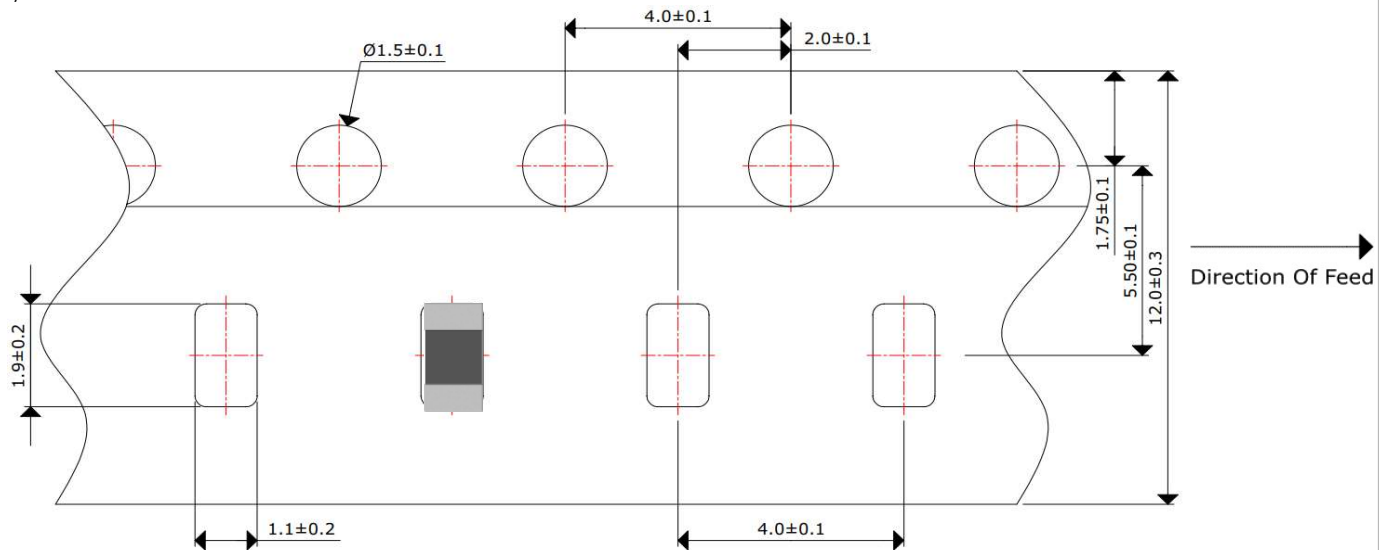
SOLDERING CONDITIONS

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.)

5,000pcs / 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.