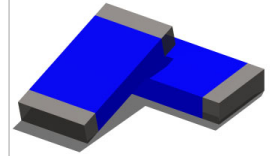


### Features

- Dual Band WiFi
- Chip Type
- Stable And Reliable Performance
- 2400-2500MHz & 5150-5850MHz
- SMT Process Compatible

### Applications

- Wireless Communication Devices
- WiFi Certified AC Applications
- IoT Applications
- Machine To Machine Communication
- Wireless PCMCIA Cards Or USB Dongles



### Part Numbering Guide

**S AT CA 3C1GF WF B3**

SUNTSU

ANTENNA

CHIP ANTENNA

PACKAGE SIZE\*

APPLICATION

FREQUENCY

3C1GF = 3.2mm x 1.6mm x 0.5mm

WF - WiFi

B3 = 2400-2500MHz  
5150-5850MHz



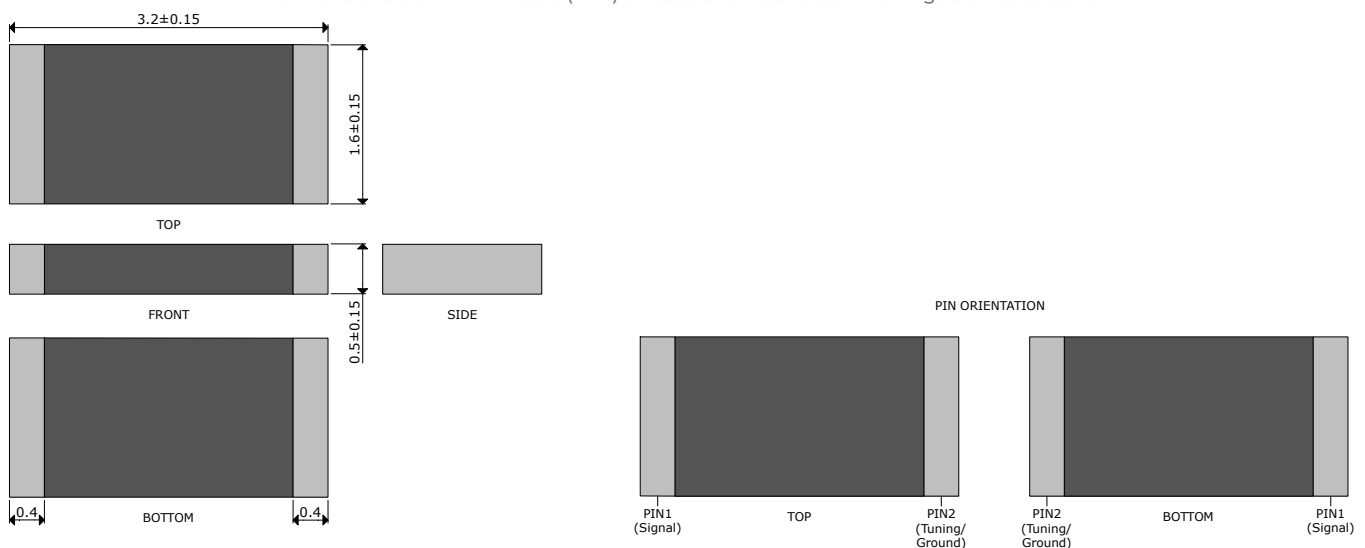
\* Where letters denote decimal location (A=0, B=1, C=2, etc.); e.g. B5=0.15, 3A5=3.05, 9A=9.0

Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Band	MHz	2400		2500	
Impedance	$\Omega$		50		
Polarization			Linear		
Peak Gain	dBi		1.4		At 2442MHz
Efficiency	%		76		At 2442MHz
VSWR				2	At Center Frequency
Operating Temperature	C	-40		85	

Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Band	MHz	5150		5800	
Impedance	$\Omega$		50		
Polarization			Linear		
Peak Gain	dBi		2.3		At 5550MHz
Efficiency	%		67		At 5550MHz
VSWR				2	At Center Frequency
Operating Temperature	C	-40		85	

### Outline Drawing

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

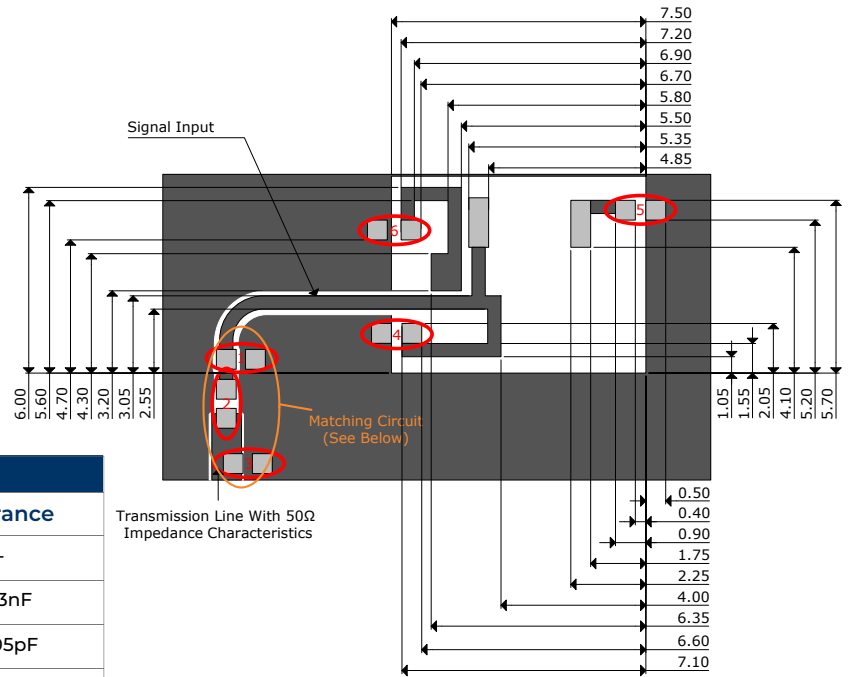
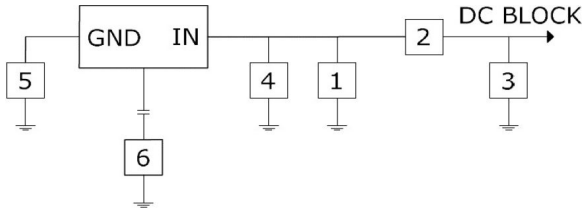


## Recommended Land Pattern & Frequency Tuning Scenario Circuit

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

For these suggested values for the matching and tuning of components, the average frequency will be around 2442MHz for the lower Band and around 5550MHz for the higher on a standard 80 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.

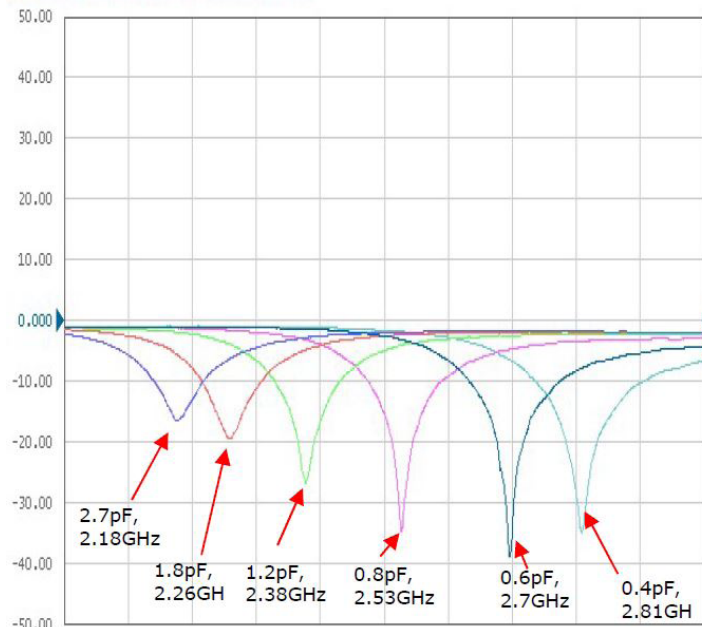


### System Matching Circuit Components

Location	Description	Vendor	Tolerance
1	N/A	-	-
2	1nH, (0402)	DARFON	±0.3nF
3	0.2pF, (0402)	DARFON	±0.05pF
4	22pF, (0402)	DARFON	±5%
5 (Fine Tuning)	1pF, (0402)	DARFON	±0.05pF
6 (Fine Tuning)	0.2pF, (0402)	DARFON	±0.05pF

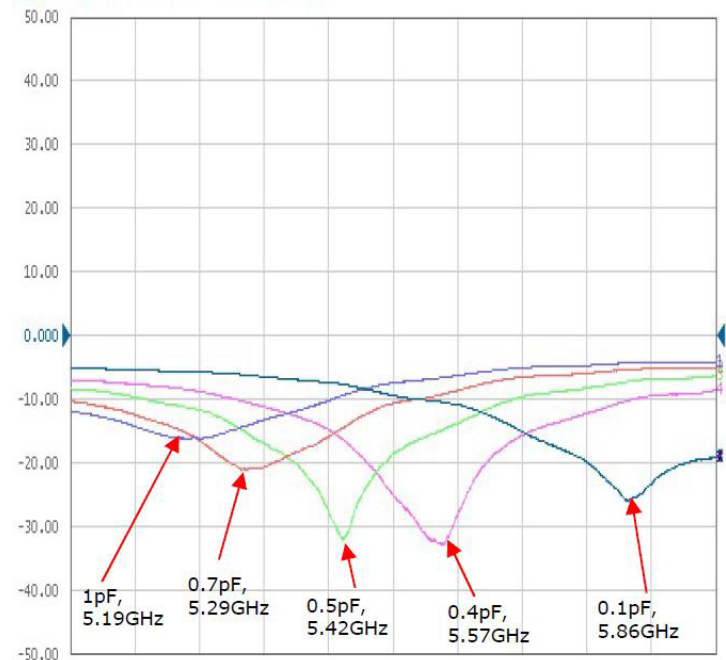
Tr1 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]  
Tr2 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]  
Tr3 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]  
Tr4 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]  
Tr5 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]  
Tr6 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]

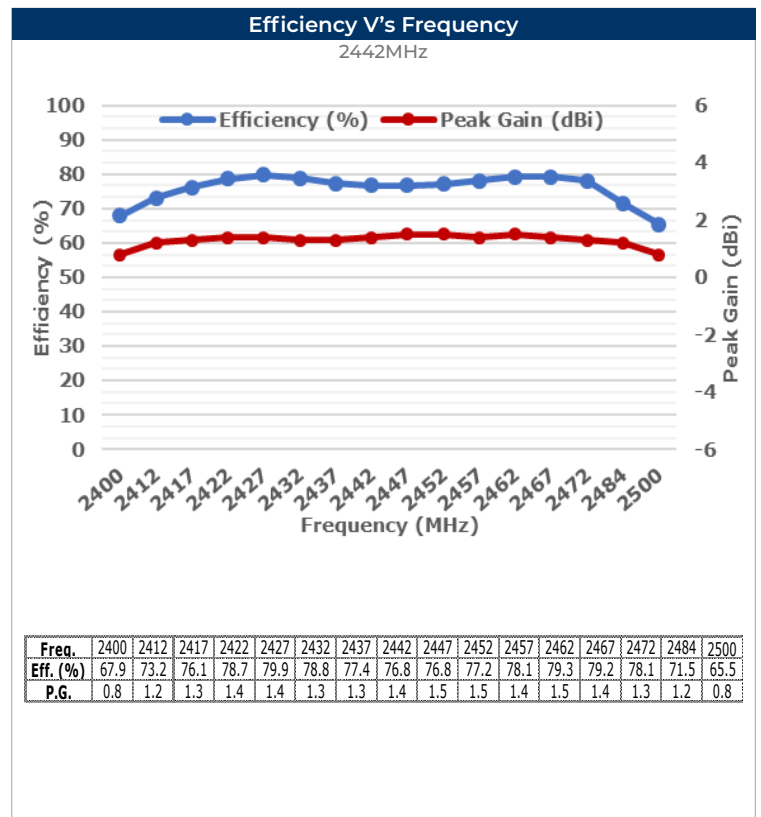
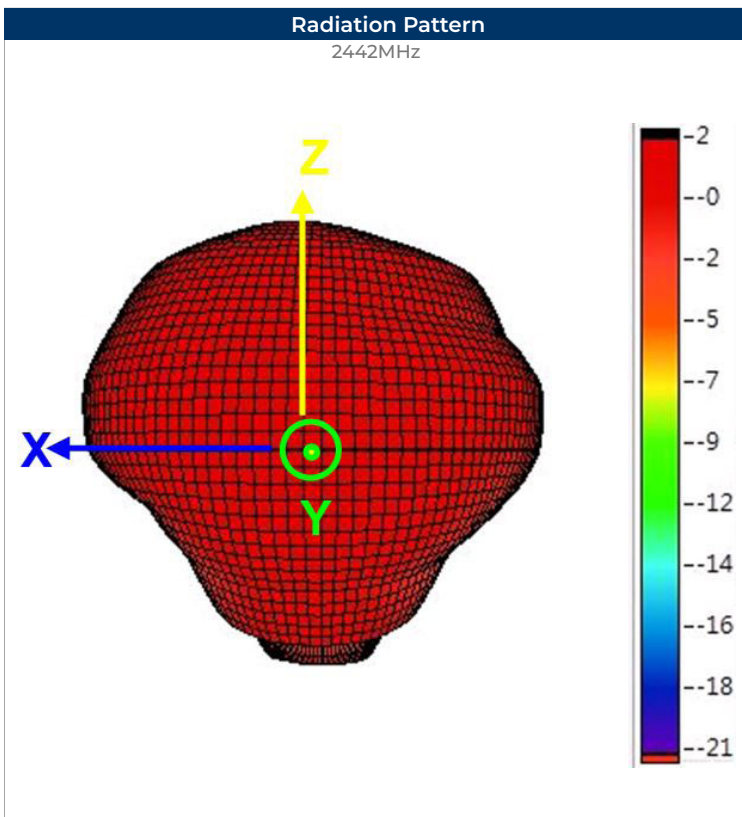
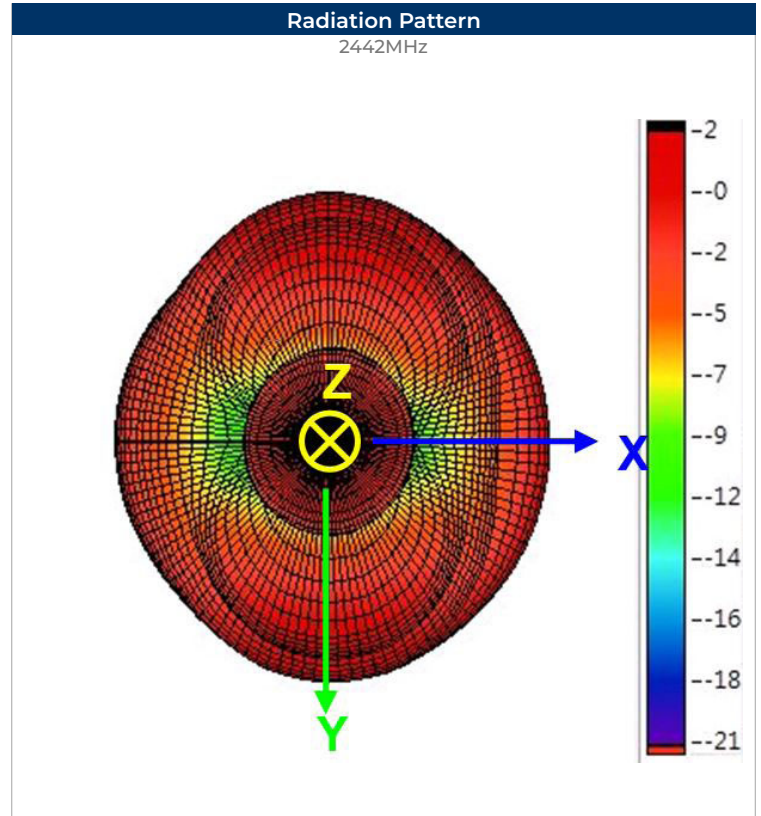
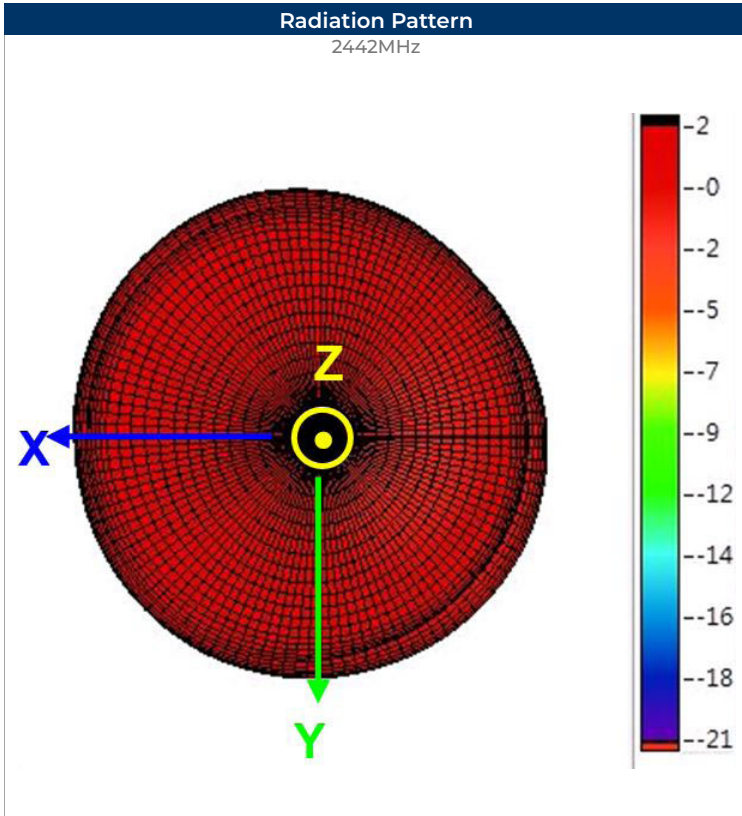
Reference chart for the  
2400-2500MHz Band



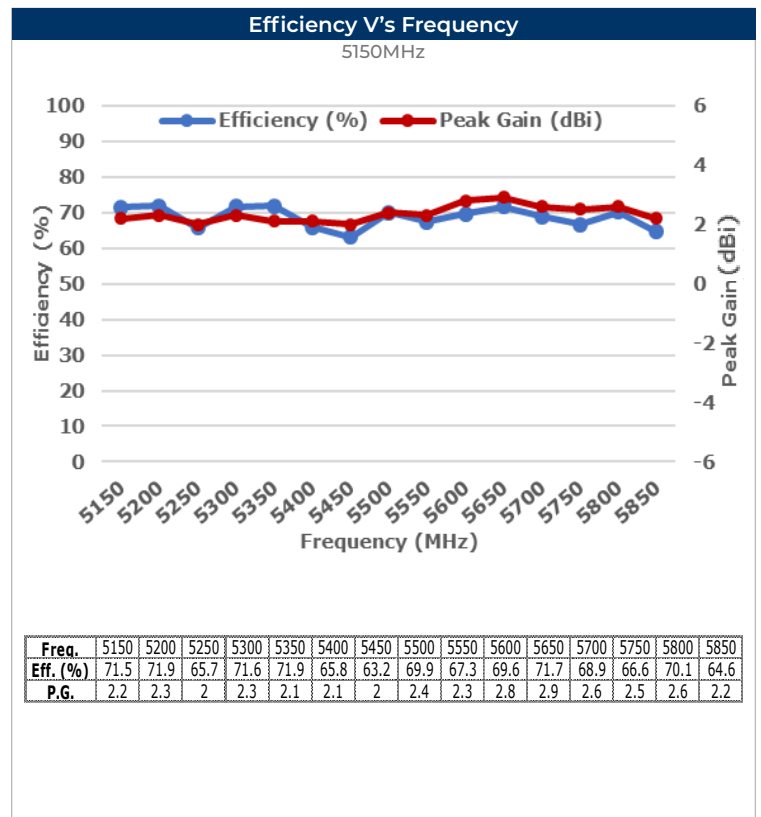
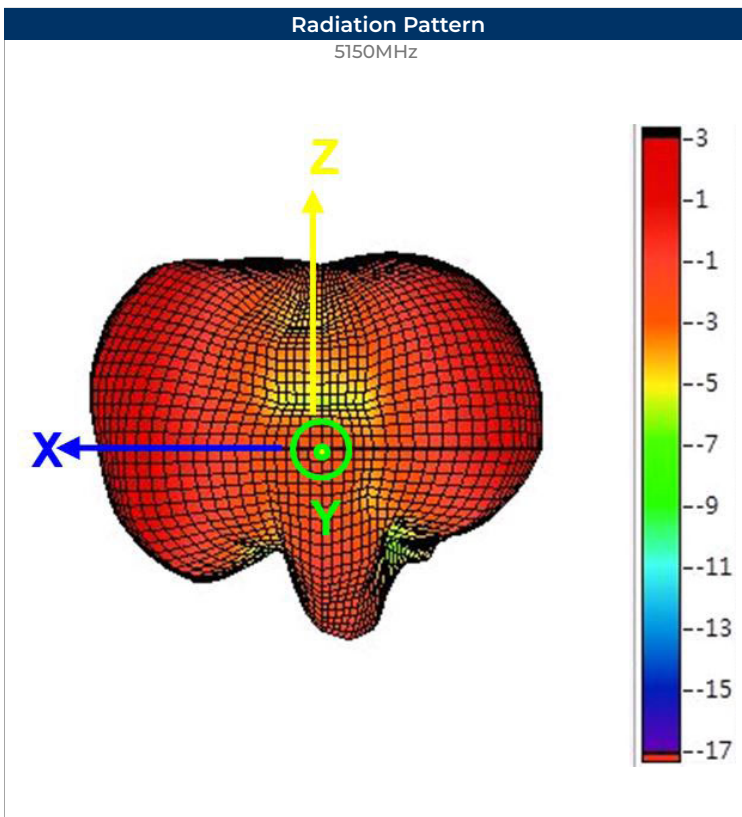
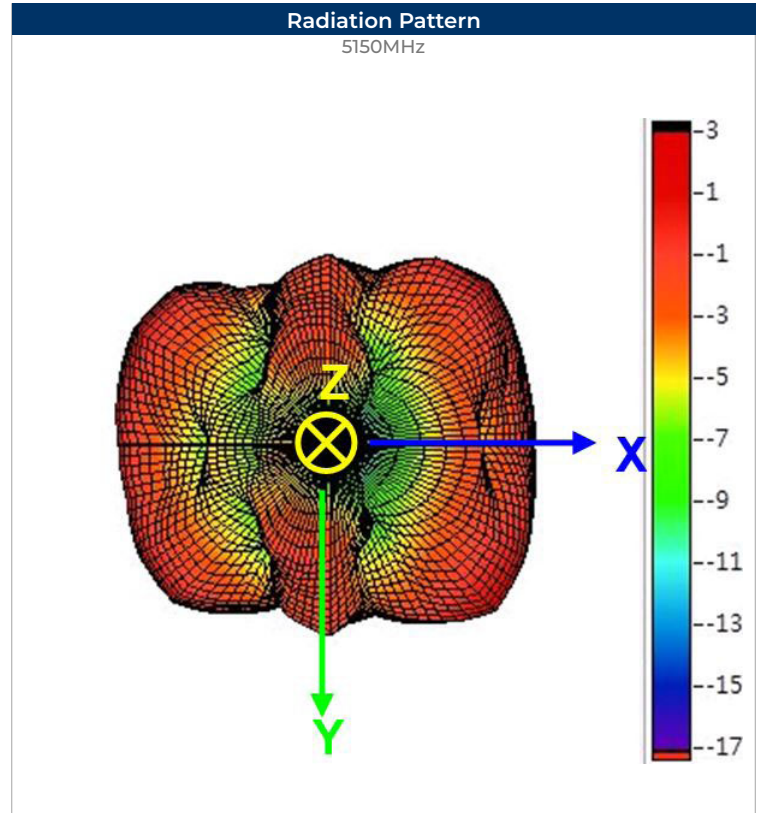
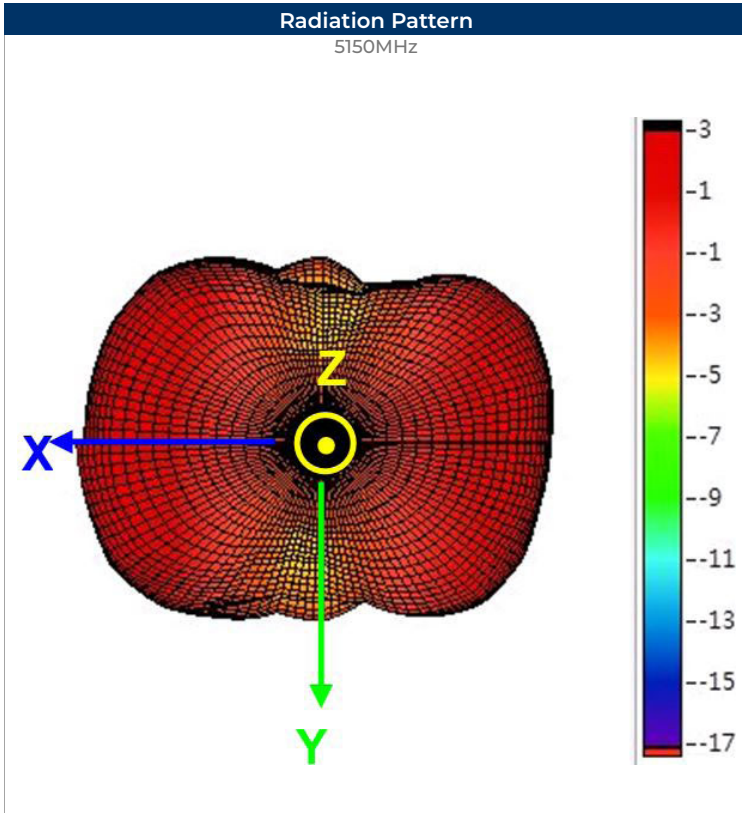
Tr1 S22 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]  
Tr2 S22 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]  
Tr3 S22 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]  
Tr4 S22 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]  
Tr5 S22 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]

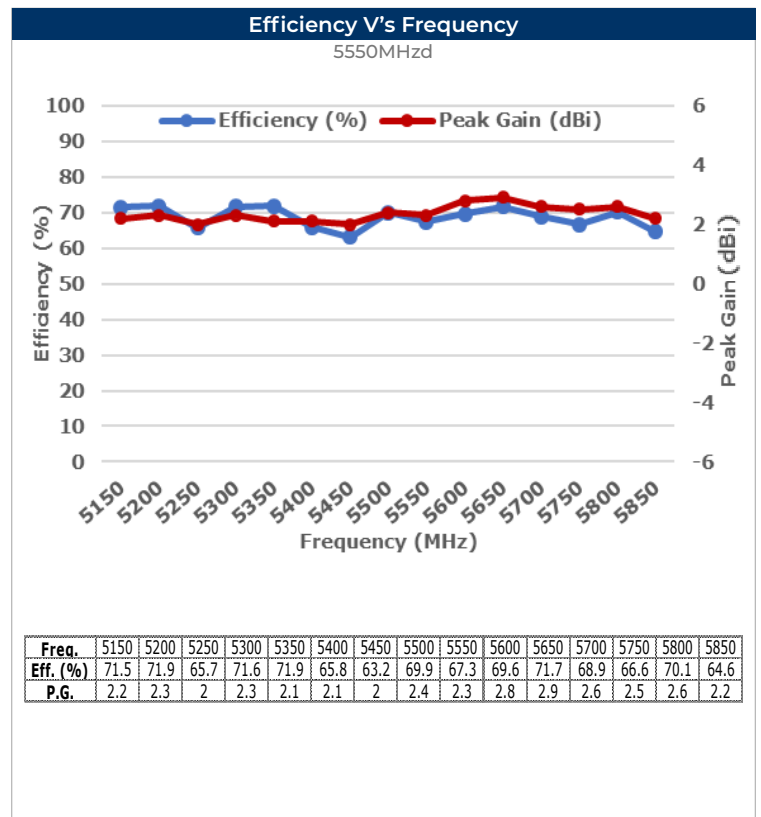
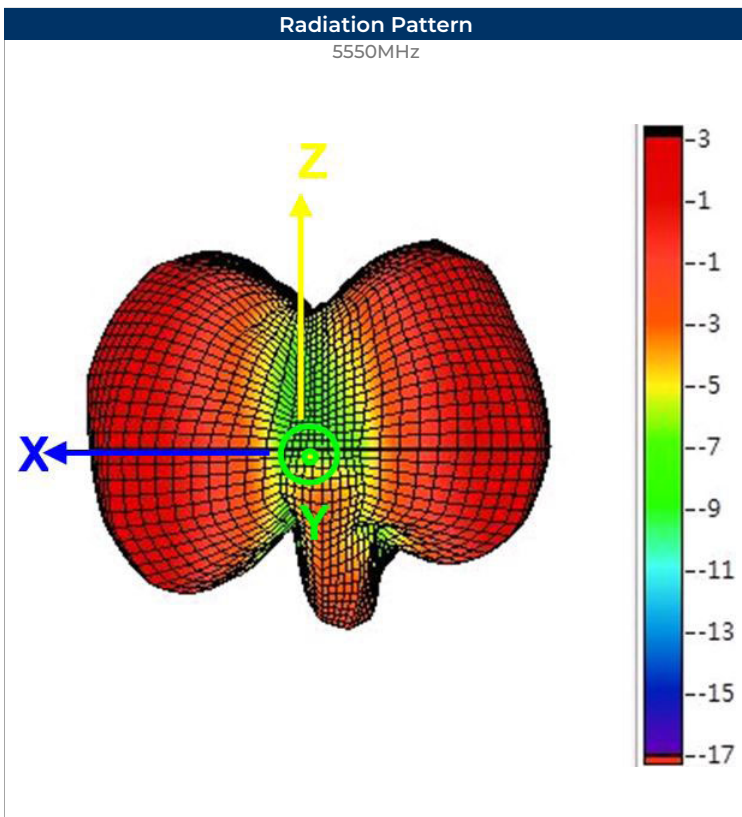
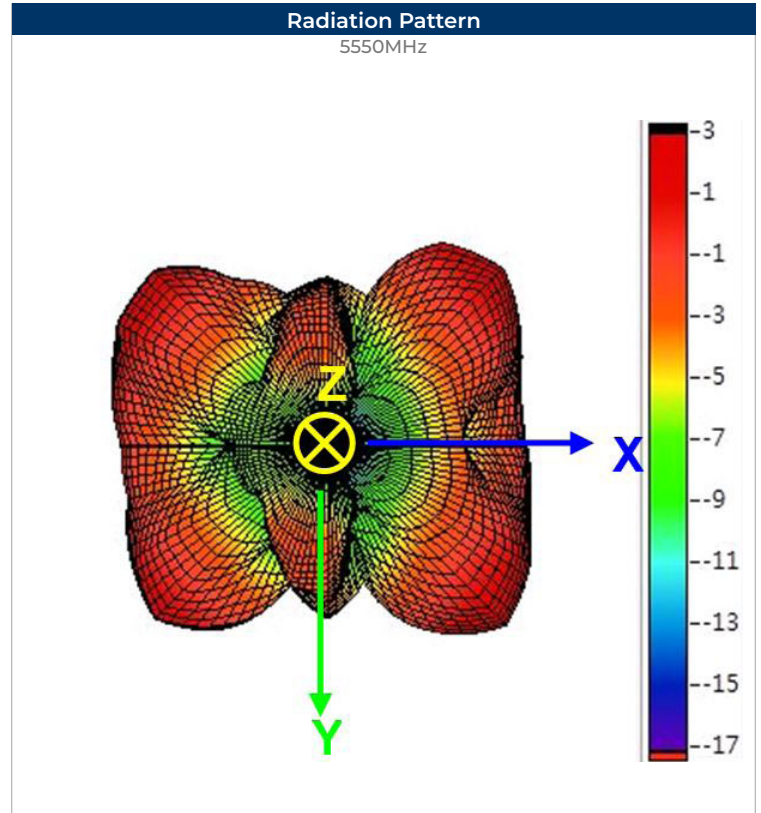
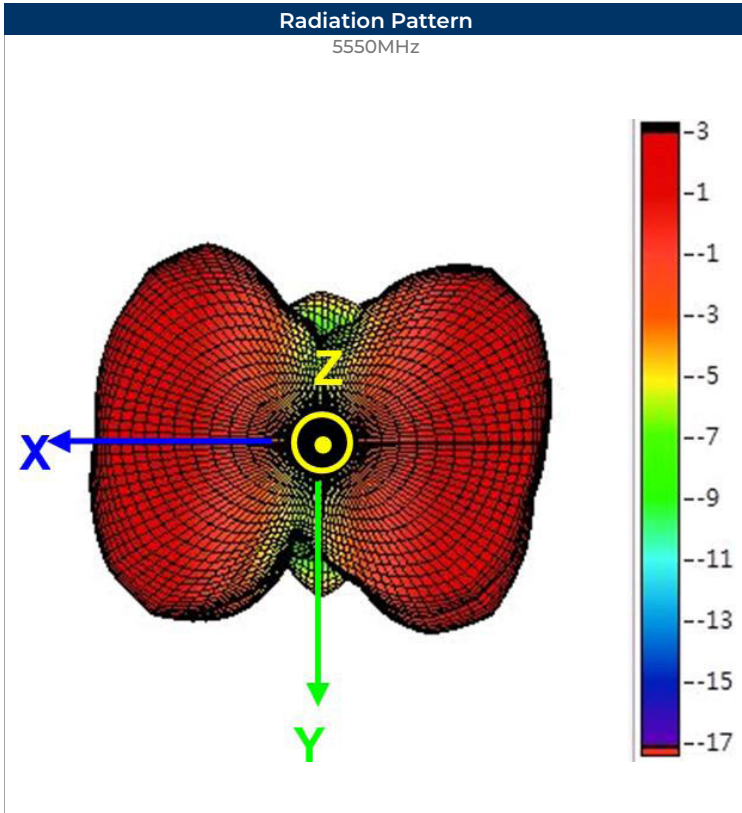
Reference chart for the  
5150-5850MHz Band



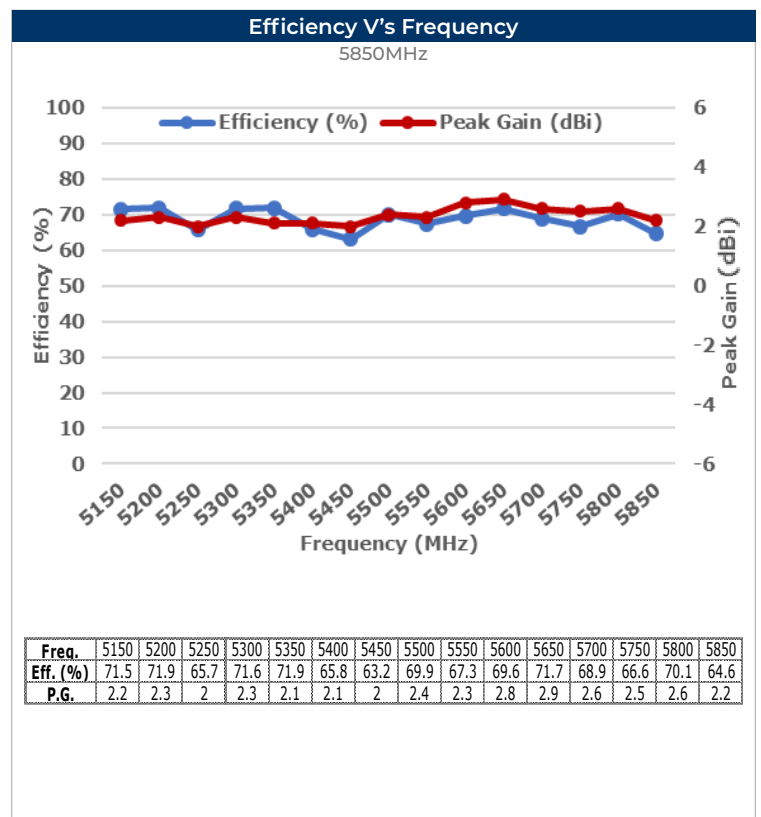
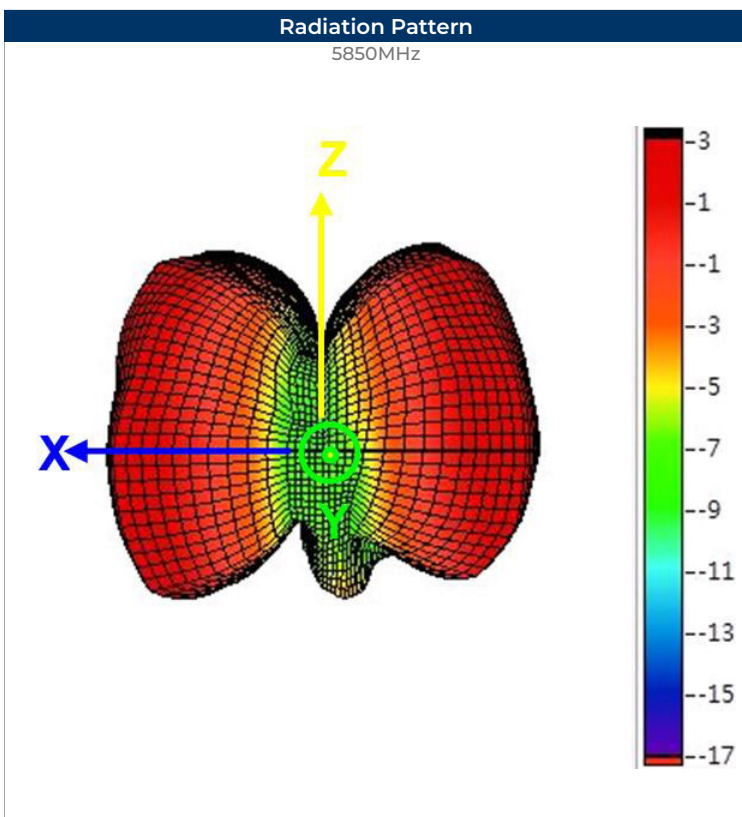
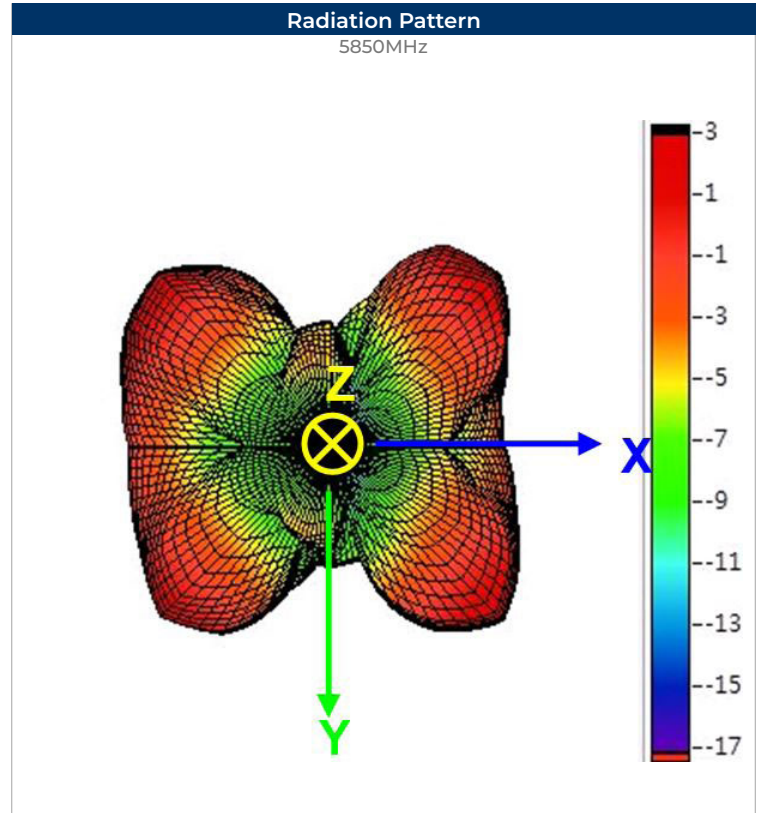
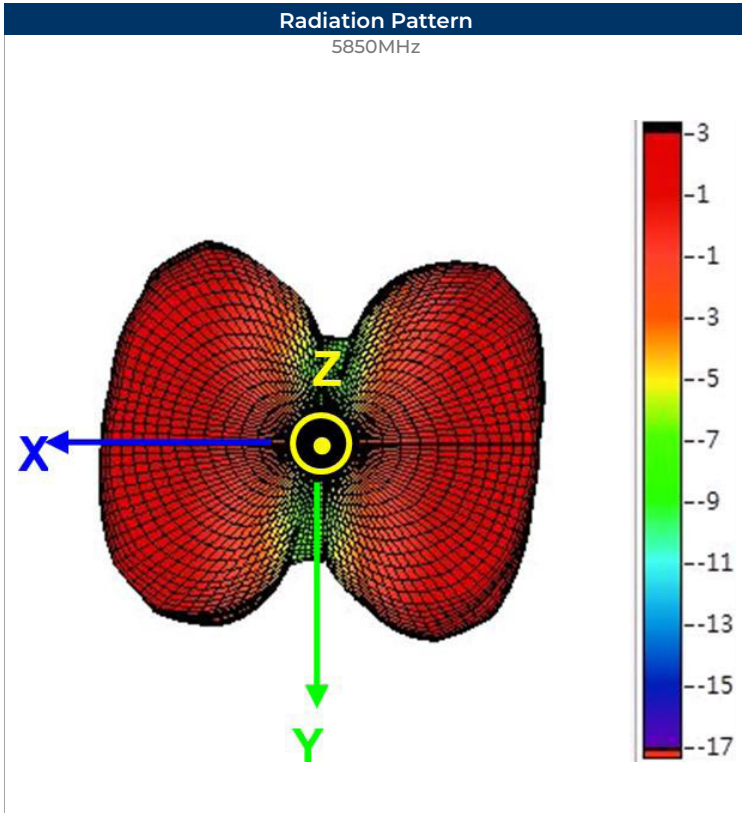






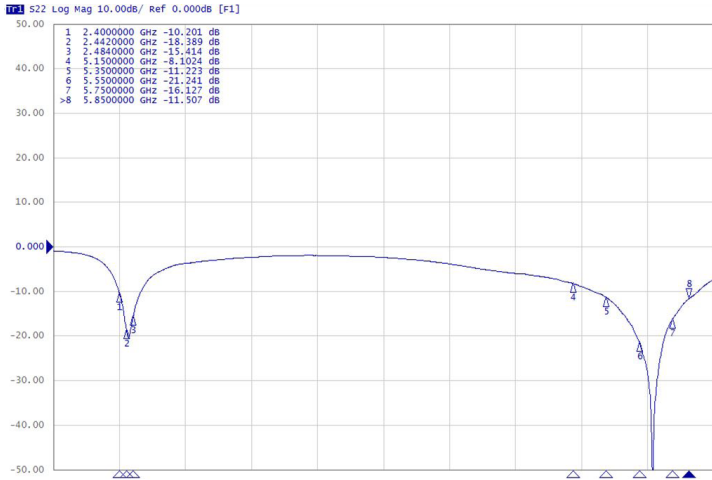






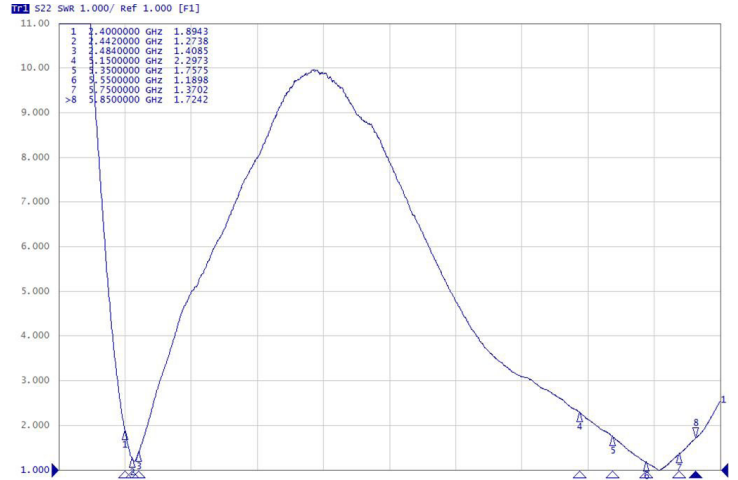
**Electrical Test**

Return Loss



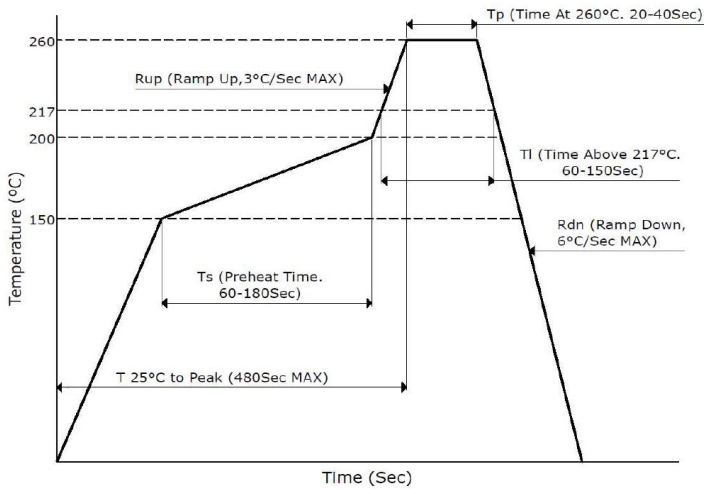
**Electrical Test**

VSWR



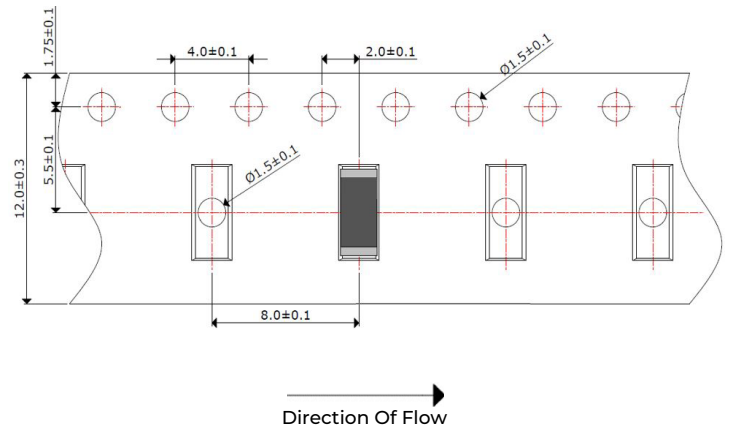
**Soldering Conditions**

Typical Soldering Profile For Lead-Free Process



**Packaging - Tape And Reel**

5000Pcs / 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%RH 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.