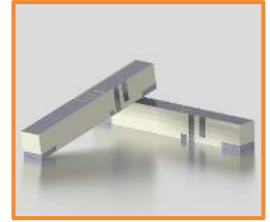


FEATURES	APPLICATIONS
<ul style="list-style-type: none"> - LTE Full Band / 3G / 2G - Chip Type - Stable And Reliable Performance - 698-798MHz, 824-960MHz, 1710-2170MHz, 2300-2400MHz and 2490-2690MHz 	<ul style="list-style-type: none"> - LTE Full Band / 3G / 2G - LTE / GSM / CDMA / DCS / PCS / WCDMA / UMTS - HSDPA / GPRS / EDGE / IMT. - Machine To Machine Communication - Hand Held Devices



PART NUMBERING GUIDE

SUNTSU → S AT CA 35A5A4A CE B3 ← FREQUENCY BAND (MHz)

ANTENNA

CHIP ANTENNA

FREQUENCY BAND (MHz)

- B3: 698-798MHz
- 824-960MHz
- 1710-2170MHz
- 2300-2400MHz
- 2490-2690MHz

APPLICATION

CE: Cellular

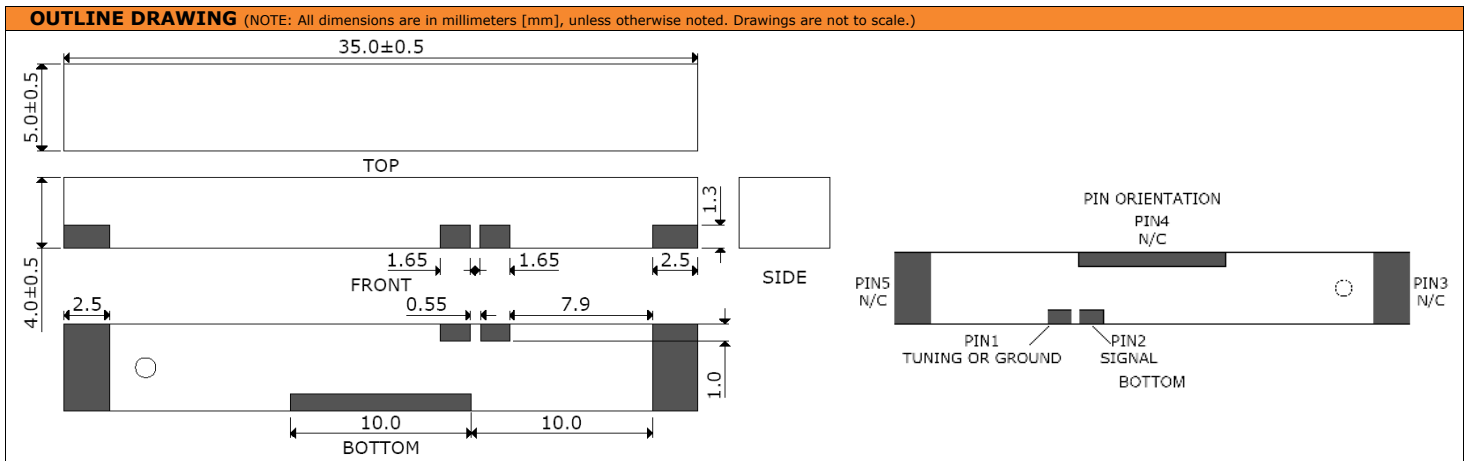
* PACKAGE SIZE

35A5A4A: 35.0mm x 5.0mm x 4.0mm

* 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	698		798	
Impedance	Ω		50		
Polarization			Linear		
Peak Gain	dBi		1.3		At 748MHz
Efficiency	%		54		At 748MHz
VSWR				3	At Center Frequency
Frequency Band	MHz	824		960	
Impedance	Ω		50		
Polarization			Linear		
Peak Gain	dBi		0.5		At 900MHz
Efficiency	%		56		At 900MHz
VSWR				3	At Center Frequency
Frequency Band	MHz	1710		2170	
Impedance	Ω		50		
Polarization			Linear		
Peak Gain	dBi		2.6		At 1950MHz
Efficiency	%		54		At 1950MHz
VSWR				3	At Center Frequency
Frequency Band	MHz	2300		2400	
Impedance	Ω		50		
Polarization			Linear		
Peak Gain	dBi		3		At 2350MHz
Efficiency	%		65		At 2350MHz
VSWR				3	At Center Frequency
Frequency Band	MHz	2490		2690	
Impedance	Ω		50		
Polarization			Linear		
Peak Gain	dBi		2.4		At 2590MHz
Efficiency	%		69		At 2590MHz
VSWR				3	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.)



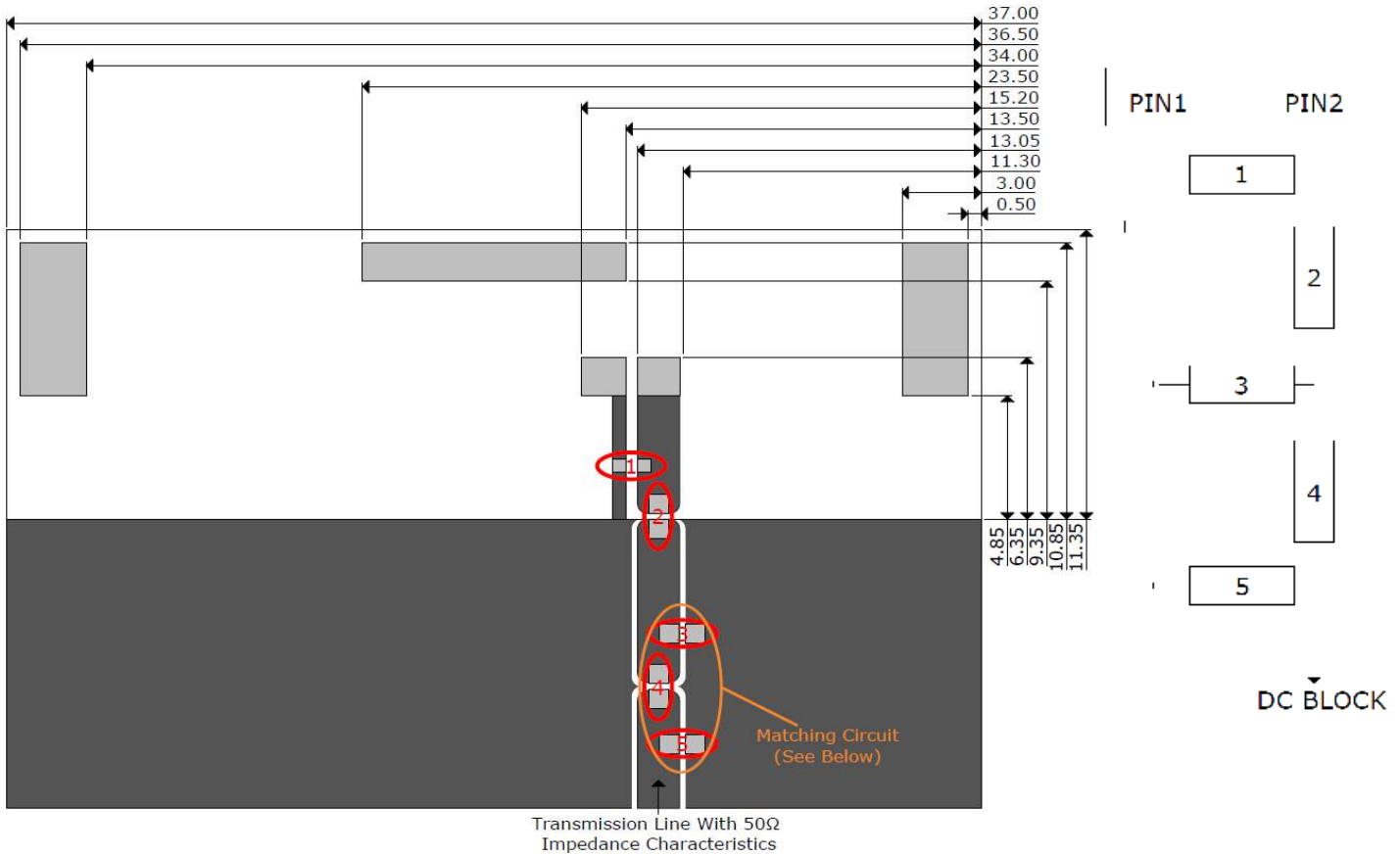
Dimensions:

- Length: 35.0 ± 0.5 mm
- Width: 5.0 ± 0.5 mm
- Height: 4.0 ± 0.5 mm
- Pin 1 offset: 2.5 mm
- Pin 2 offset: 0.55 mm
- Pin 3 offset: 7.9 mm
- Pin 4 offset: 1.65 mm
- Pin 5 offset: 1.65 mm
- Pin 1 length: 10.0 mm
- Pin 2 length: 10.0 mm
- Pin 3 length: 1.0 mm
- Pin 4 length: 1.3 mm
- Pin 5 length: 2.5 mm

PIN ORIENTATION:

- PIN5 N/C
- PIN4 N/C
- PIN3 N/C
- PIN1 TUNING OR GROUND
- PIN2 SIGNAL

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



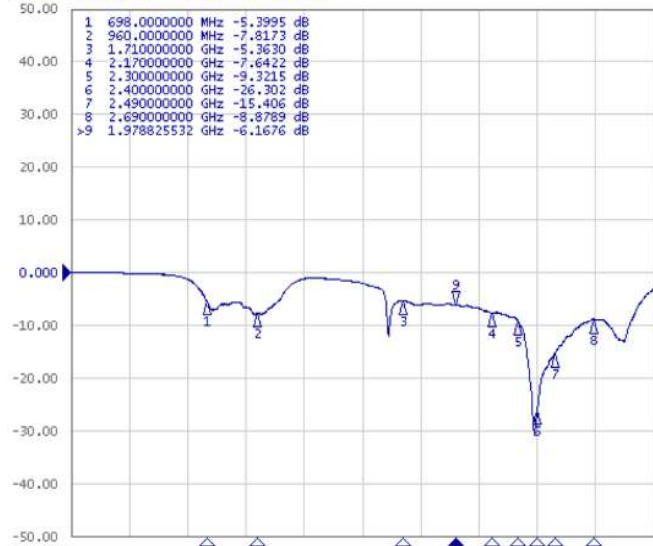
System Matching Circuit Components			
Location	Description	Vendor	Tolerance
1 (Fine Tuning)	6.8nH (0402)	MURATA	± 0.1nH
2 (Fine Tuning)	3.9pF (0402)	MURATA	± 0.05pF
3	N/A	-	-
4	0Ω, (0402)	-	-
5	N/A	-	-

For these suggested values for the matching and tuning of components, the average frequency will be 698-690MHz & 1710-2690MHz on a standard 118.5 x 37mm² 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

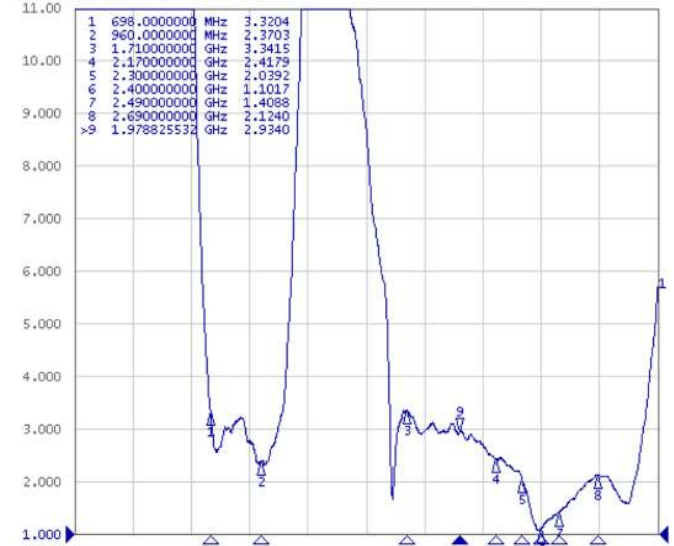
RETURN LOSS

[F1] S22 Log Mag 10.00dB/ Ref 0.000dB [F1]



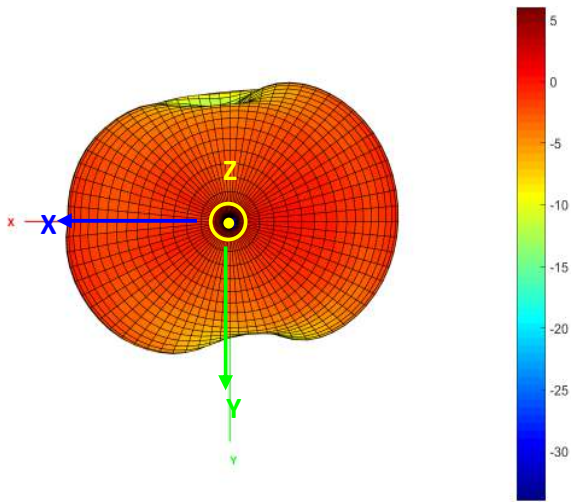
VSWR

[F1] S22 SWR 1.000/ Ref 1.000 [F1]

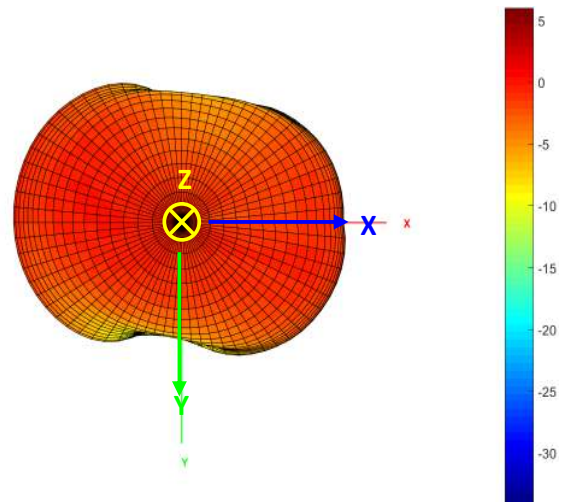


3D RADIATION PATTERN (UNIT: dBi) AND EFFICIENCY vs FREQUENCY

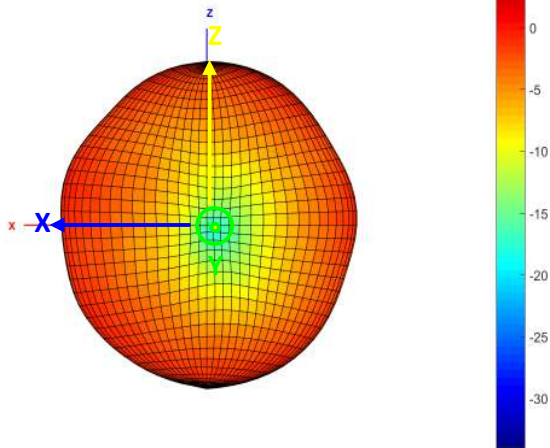
748MHz



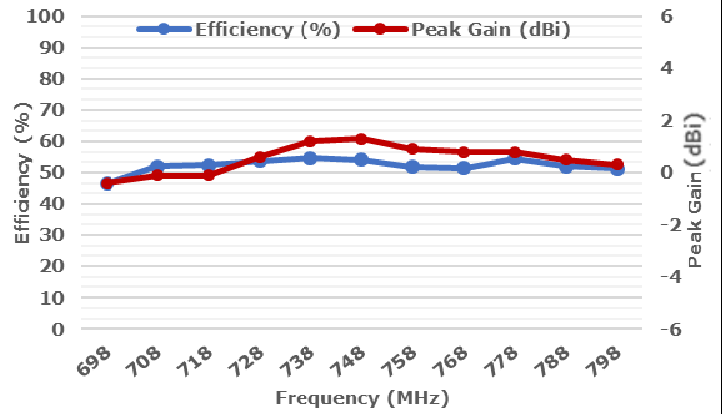
748MHz



748MHz

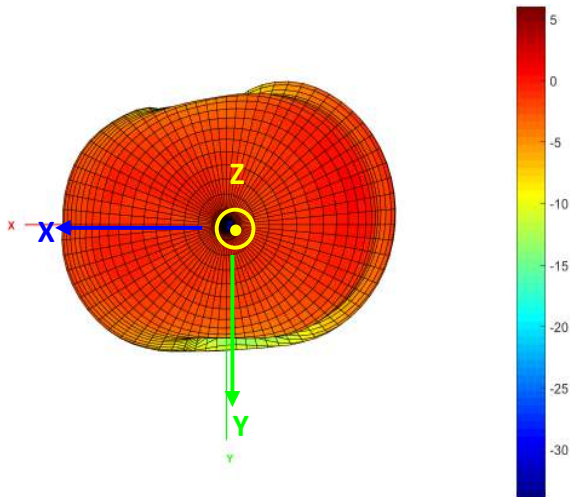


748MHz

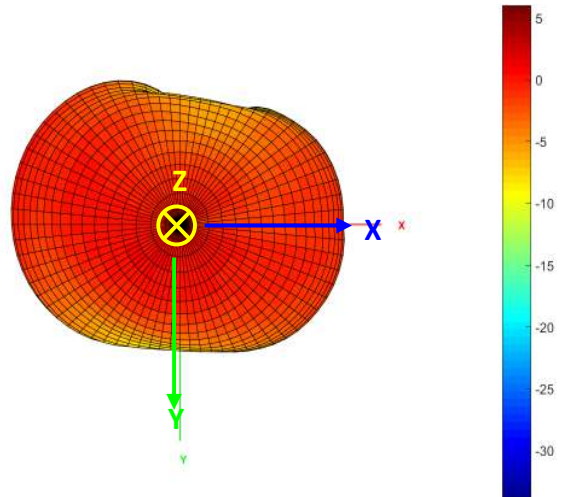


Freq.	698	708	718	728	738	748	758	768	778	788	798
Eff. (%)	46.5	52	52.3	53.7	54.7	54.2	51.80	51.50	54.4	52	51.3
P.G.	-0.4	-0.1	-0.1	0.6	1.2	1.3	0.9	0.8	0.8	0.5	0.3

890MHz

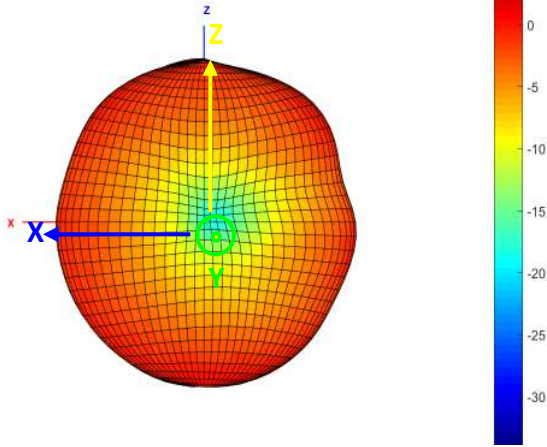


890MHz

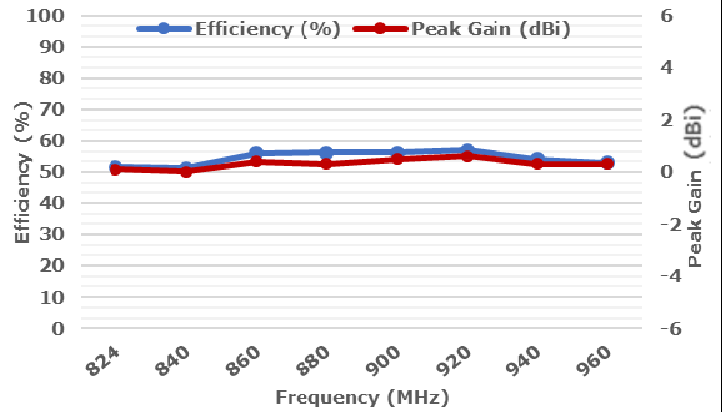


3D RADIATION PATTERN (UNIT: dBi) AND EFFICIENCY vs FREQUENCY (CONT)

890MHz

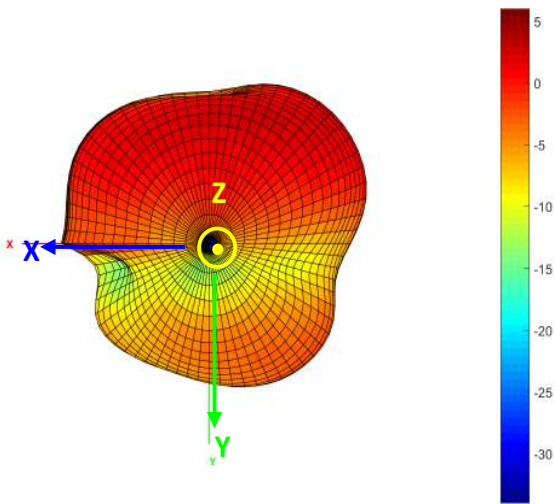


890MHz

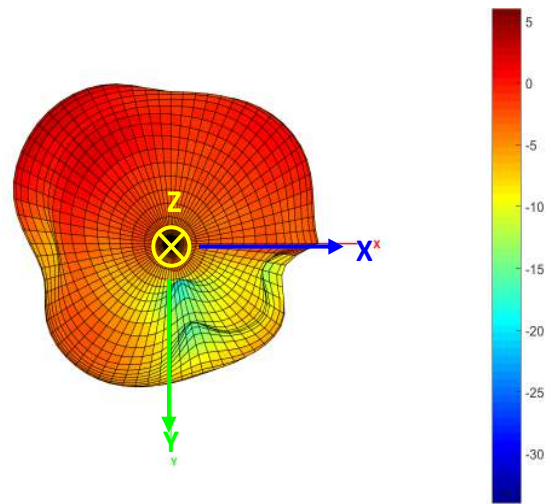


Freq.	824	840	860	880	900	920	940	960
Eff. (%)	51.7	51.2	56.1	56.3	56.2	57	54.10	52.90
P.G.	0.1	0	0.4	0.3	0.5	0.6	0.3	0.3

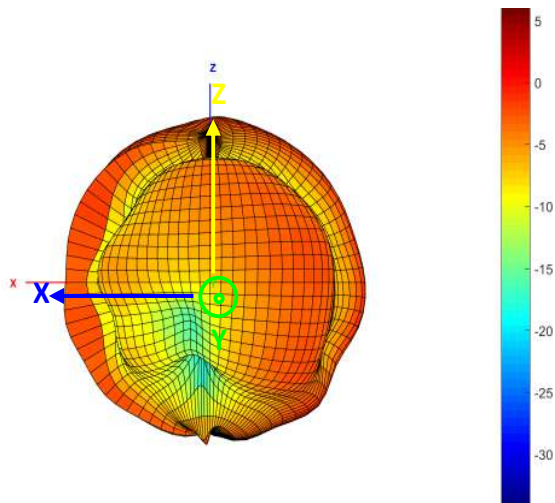
1950MHz



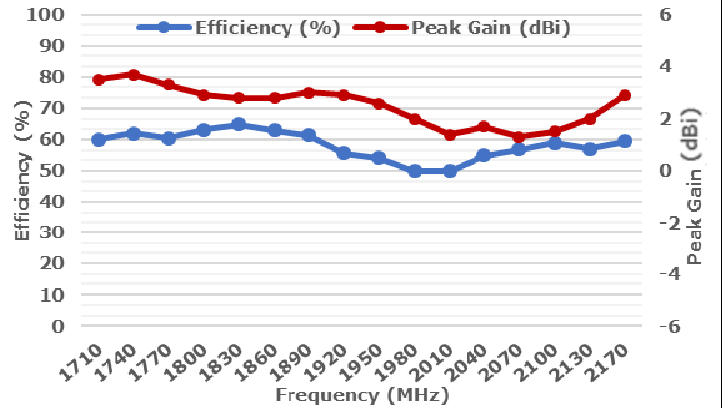
1950MHz



1950MHz



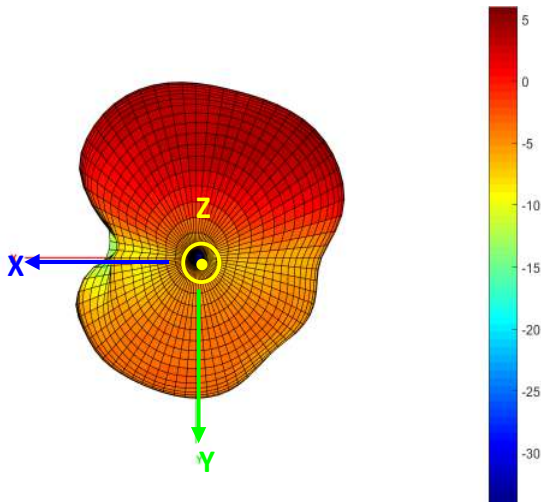
1950MHz



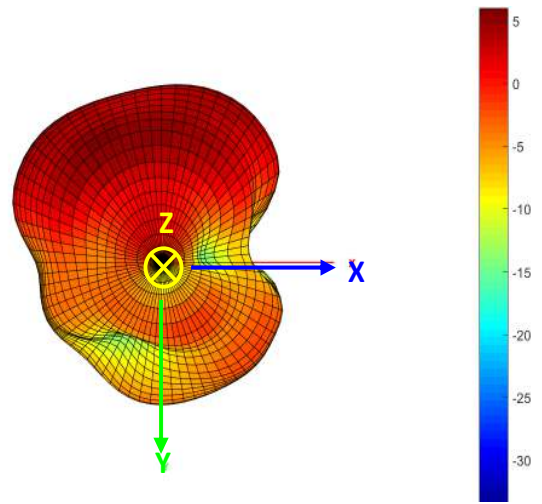
Freq.	1710	1740	1770	1800	1830	1860	1890	1920	1950	1980	2010	2040	2070	2100	2130	2170
Eff. (%)	60.1	61.9	60.5	63.1	64.8	63	61.40	55.70	54.1	49.9	49.8	54.8	56.8	59	56.9	59.4
P.G.	3.5	3.7	3.3	2.9	2.8	2.8	3	2.9	2.6	2	1.4	1.7	1.3	1.5	2	2.9

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

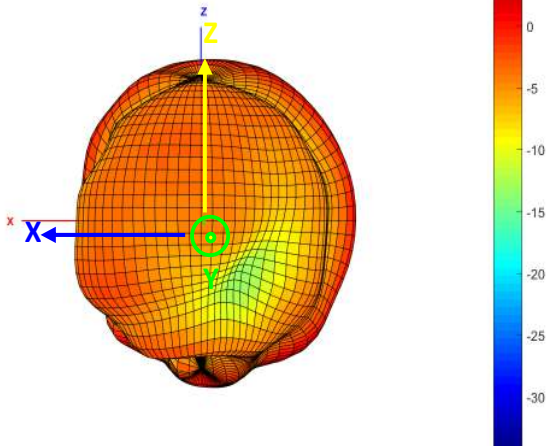
2350MHz



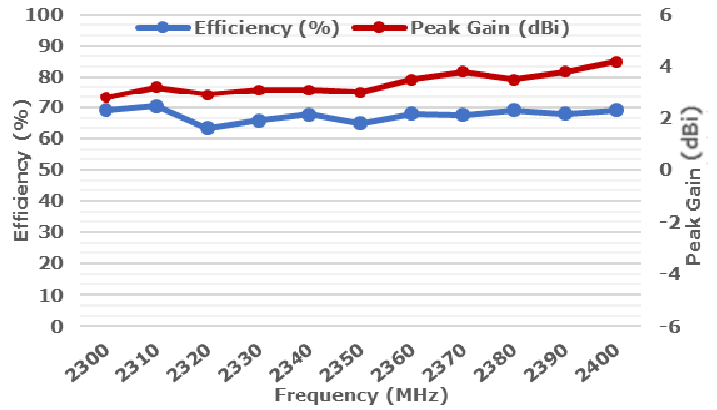
2350MHz



2350MHz

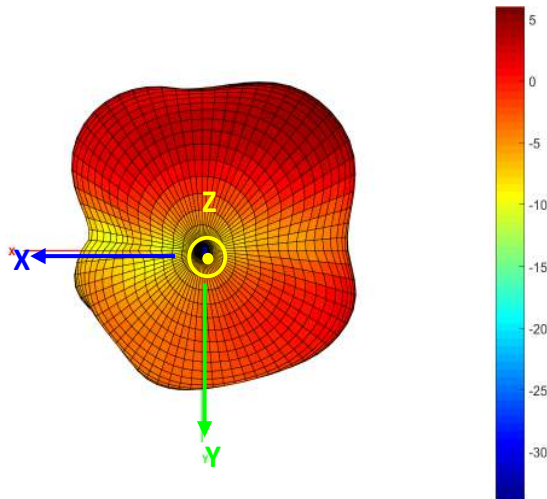


2350MHz

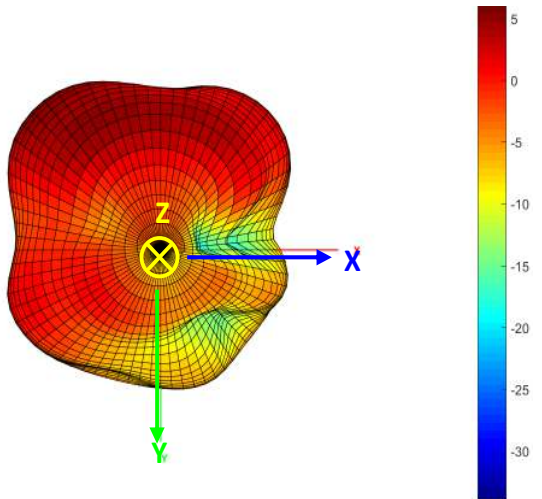


Freq.	2300	2310	2320	2330	2340	2350	2360	2370	2380	2390	2400
Eff. (%)	69.1	70.4	63.4	65.9	67.7	64.9	67.90	67.60	69	67.9	69
P.G.	2.8	3.2	2.9	3.1	3.1	3	3.5	3.8	3.5	3.8	4.2

2590MHz

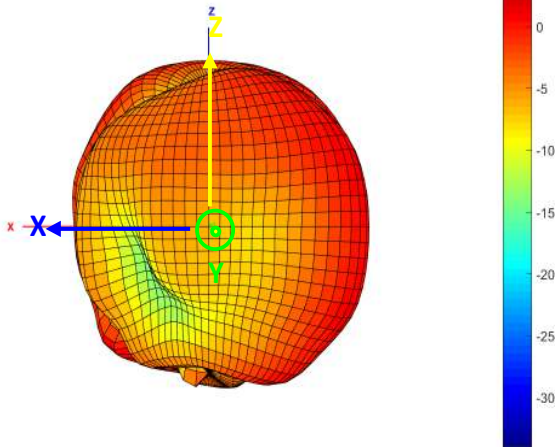


2590MHz

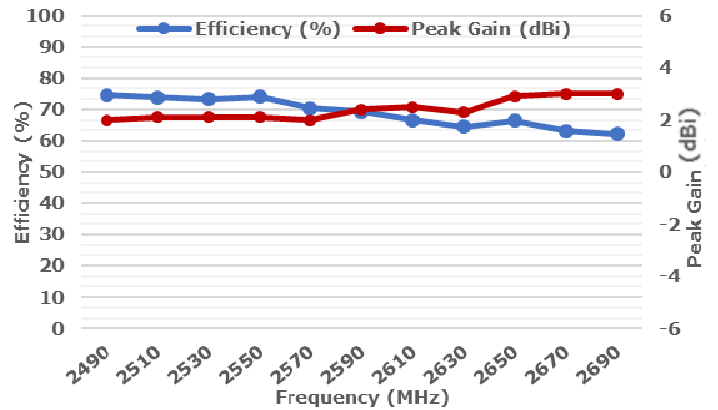


3D RADIATION PATTERN (UNIT: dBi) AND EFFICIENCY vs FREQUENCY (CONT)

2590MHz



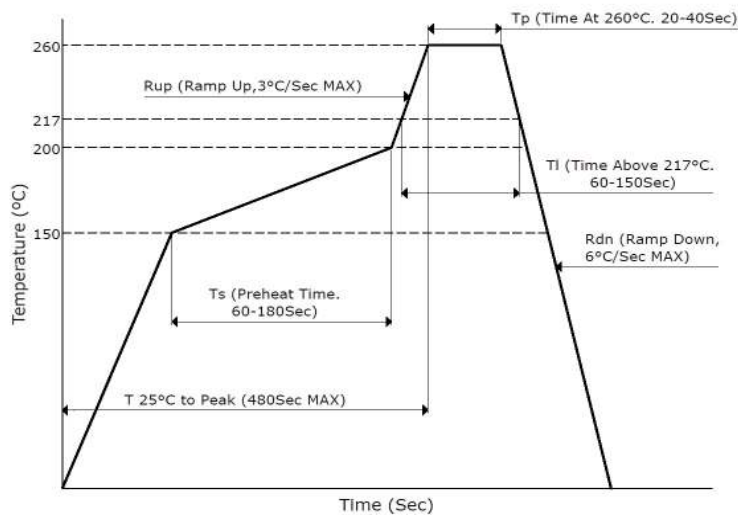
2590MHz



Freq.	2490	2510	2530	2550	2570	2590	2610	2630	2650	2670	2690
Eff. (%)	74.6	73.8	73.3	74.1	70.5	69.2	66.60	64.40	66.3	63.1	62.2
P.G.	2	2.1	2.1	2.1	2	2.4	2.5	2.3	2.9	3	3

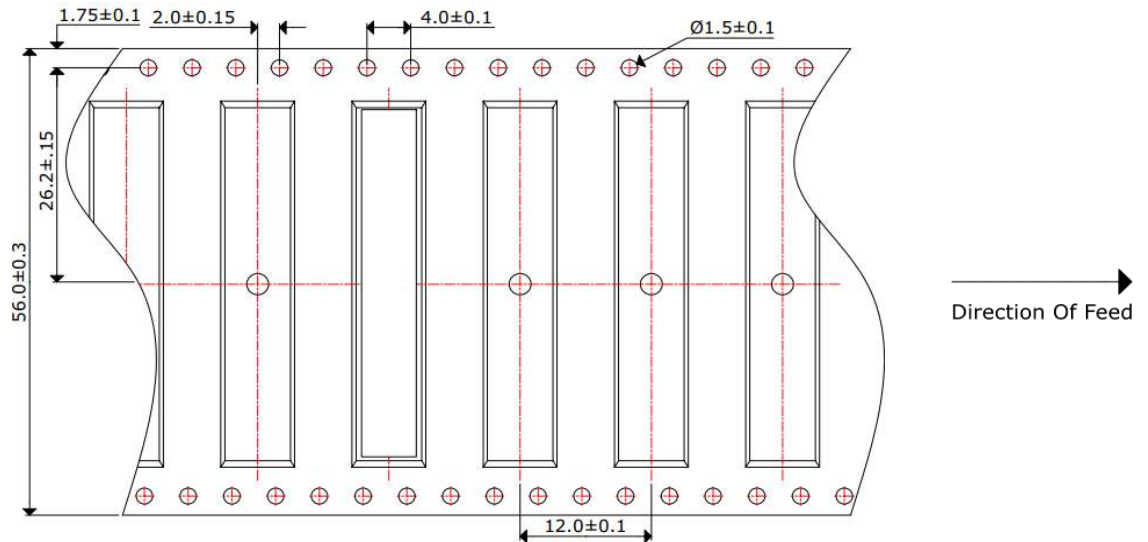
SOLDERING CONDITIONS

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.)

1,000pcs / 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.