

SPECIFICATION

Chip Antenna

Model No. : SENA_003

WRITTEN	CHECKED	APPROVED
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1. SPECIFICATIONS

1.1. Electrical Specifications

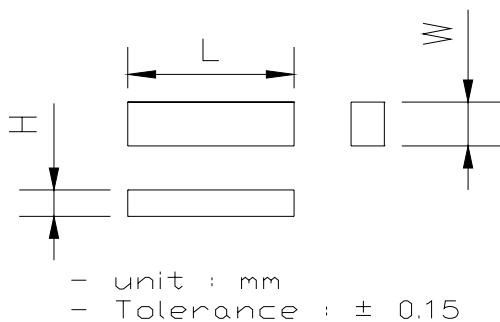
ITEM	SPEC.	Unit
Frequency	2400-2485	MHz
Bandwidth @ VSWR 2.5:1	100	MHz
Gain Max.	0.3	dBi
Polarization	Linear	
Azimuth Beam Pattern	Omni-directional	
Impedance	50	Ω

※ These values are measured on the matched reference test board.

1.2. Mechanical Specifications

Electrode	Silver	
Dimensions (L x W x H)	9.0 x 3.0 x 1.2	mm
Operating Temperature	-35 ~ +85	℃

1.3. Appearance and Dimensions

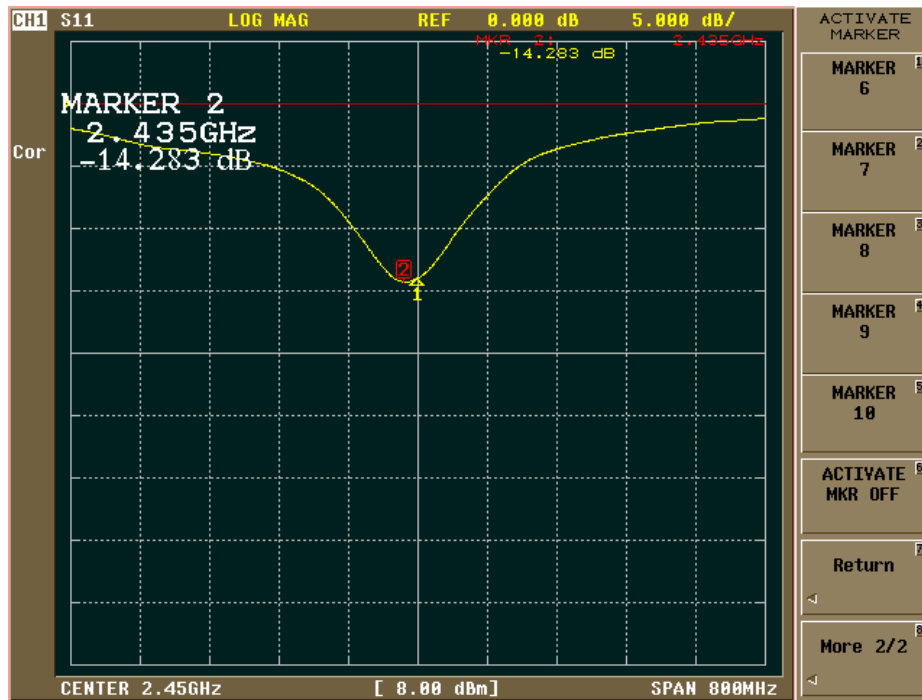


L	9.0
W	3.0
H	1.2

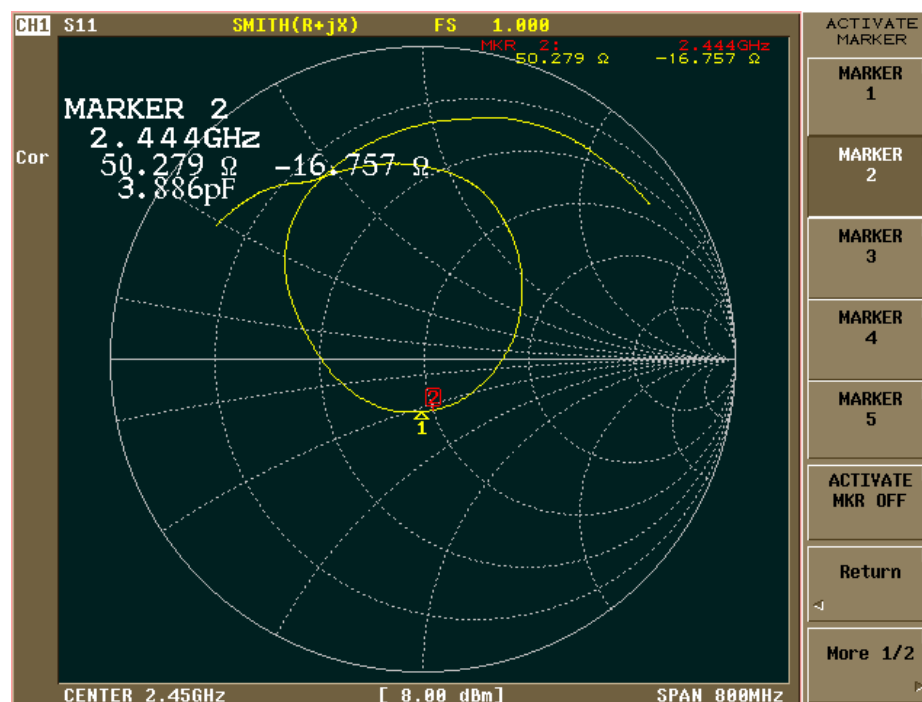
2. MEASUREMENT

2.1. Electrical Characteristic

A. S_{11} (Return Loss)

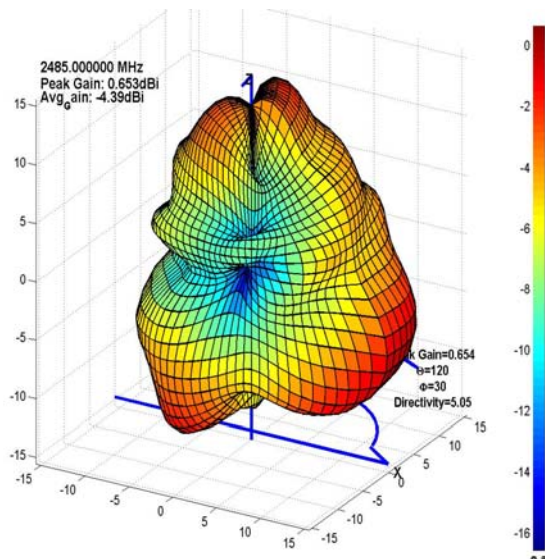
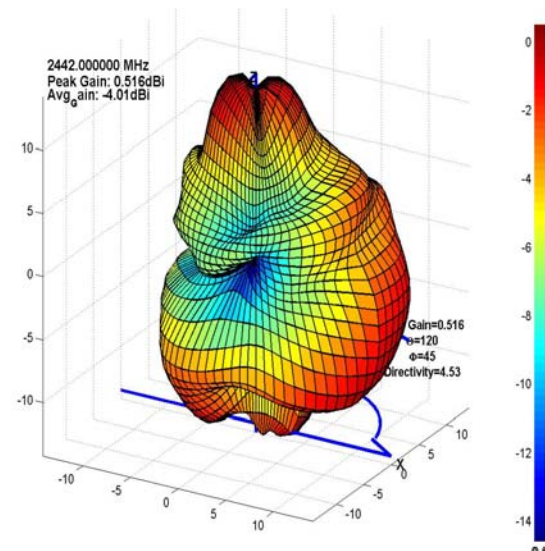
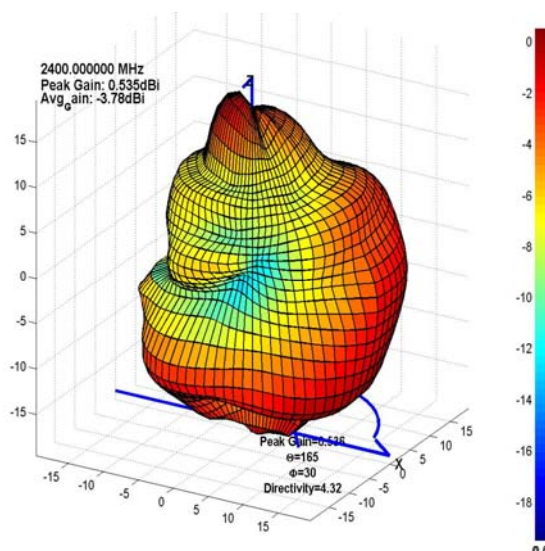


B. S_{11} (Smith chart)

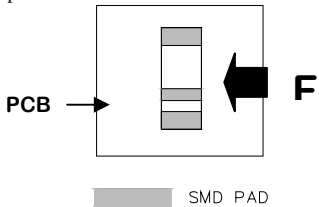
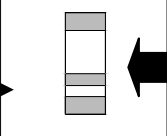


3. Radiation Data

Frequency	Efficiency	Average Gain			Max Gain			Max Position	Directivity
		Ver	Hor	Total	Ver	Hor	Total		
2400 MHz	41.8 %	-7.0 dBi	-6.6 dBi	-3.8 dBi	0.3 dBi	-0.8 dBi	0.1 dBi	Theta165/Pie30	4.32 dB
2442 MHz	39.7 %	-6.9 dBi	-7.2 dBi	-4.0 dBi	-0.2 dBi	-1.6 dBi	0.3 dBi	Theta120/Pie45	4.53 dB
2485 MHz	36.3 %	-7.1 dBi	-7.7 dBi	-4.4 dBi	-2.2 dBi	-1.6 dBi	0.2 dBi	Theta120/Pie30	5.05 dB



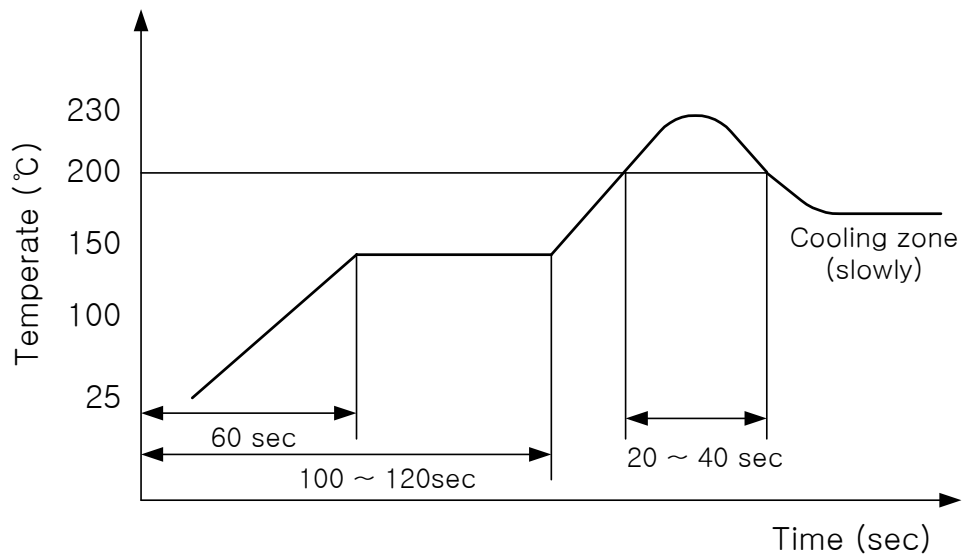
4. RELIABILITY TEST

No	Item	Test condition	Test Requirements
1	Adhesion strength	. Applied force on SMD chip till detached point from PCB  PCB →  ← F  SMD PAD	1. No mechanical damage by forces applied on the right 2. Strength (F) > 5 kgf
2	Thermal Shock (Temperature Cycle)	1. 1 cycle / step 1 : $-40 \pm 3^{\circ}\text{C}$, 30 min step 2 : $+85 \pm 3^{\circ}\text{C}$, 30 min 2. Number of cycle : 10 3. Measure after left for 48 hrs min. at room temperature	1. No visual damage 2. VSWR satisfy
3	High Temperature Resistance	1. Temperature: $+85 \pm 5^{\circ}\text{C}$ 2. Time : 96 hrs 3. Measure VSWR_C after left for 24 hrs min. at room temperature	1. No visual damage 2. VSWR satisfy
4	Low Temperature Resistance	1. Temperature: $-40 \pm 5^{\circ}\text{C}$ 2. Time : 96 hrs 3. Measure VSWR_C after left for 48 hrs min. at room temperature	1. No visual damage 2. VSWR satisfy
5	Humidity (Steady Condition)	1. Humidity : 85 % RH 1. Temperature: $+85 \pm 3^{\circ}\text{C}$ 2. Time : 96 hrs 3. Measure VSWR_C after left for 48 hrs min. at room temperature	1. No visual damage 2. VSWR satisfy
6	ESD	1. ESD Level : 8KV 2. Mode : Contact discharge 3. Number of cycle : 100 ※ Used Ref test PCB.	1. No visual damage 2. VSWR satisfy

5. SOLDERING RECOMMENDATIONS

5.1. Reflow Soldering Profile

A. Non Pb free



B. Pb free

