Preliminary

SPECIFICATION

Chip Antenna

Model No. : SENA_029

WRITTEN	CHECKED	APPROVED

December 31, 2009

Notes
The contents of this data sheet are subject to change without notice. Please confirm the specifications and delivery conditions when placing your order.

1. SPECIFICATIONS

1.1. Electrical Specifications

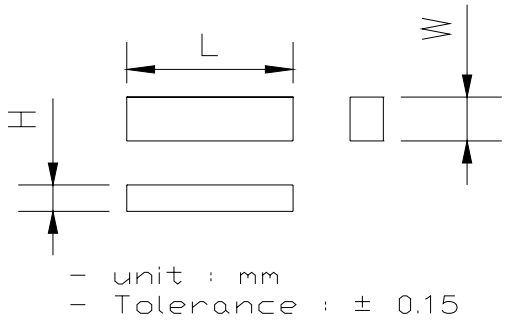
ITEM	SPEC.	Unit
Frequency	2400-2485	MHz
Bandwidth @ VSWR 2.5:1	100	MHz
Max. Gain	0.5	dBi
Polarization	Linear	
Azimuth Beam Pattern	Omni-directional	
Impedance	50	Ω

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

1.2. Mechanical Specifications

Electrode	Silver	
Dimensions (L x W x H)	5.2 x 2.0 x 1.2	mm
Operating Temperature	-40 ~ +85	℃

1.3. Appearance and Dimensions

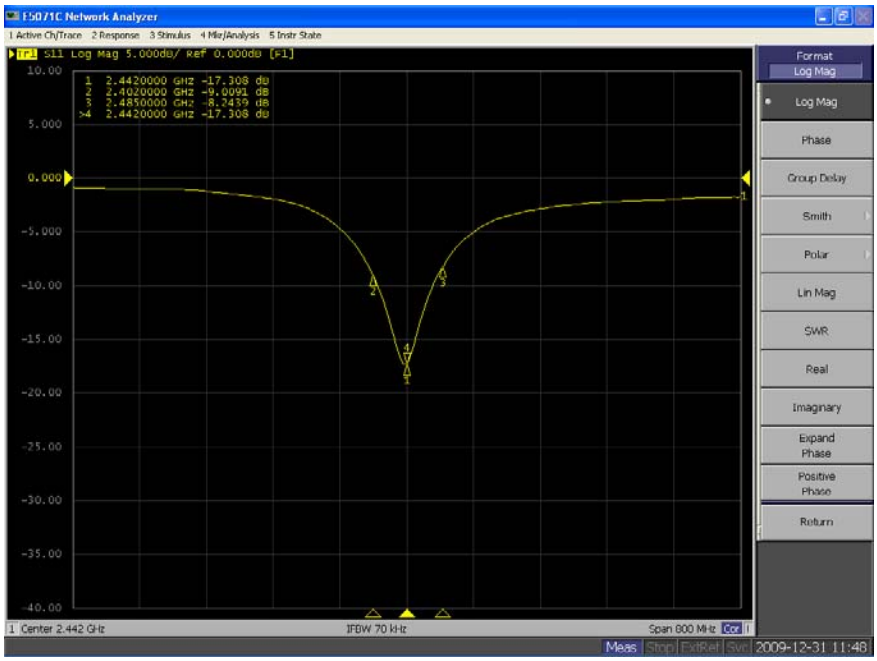


L	5.2
W	2.0
H	1.2

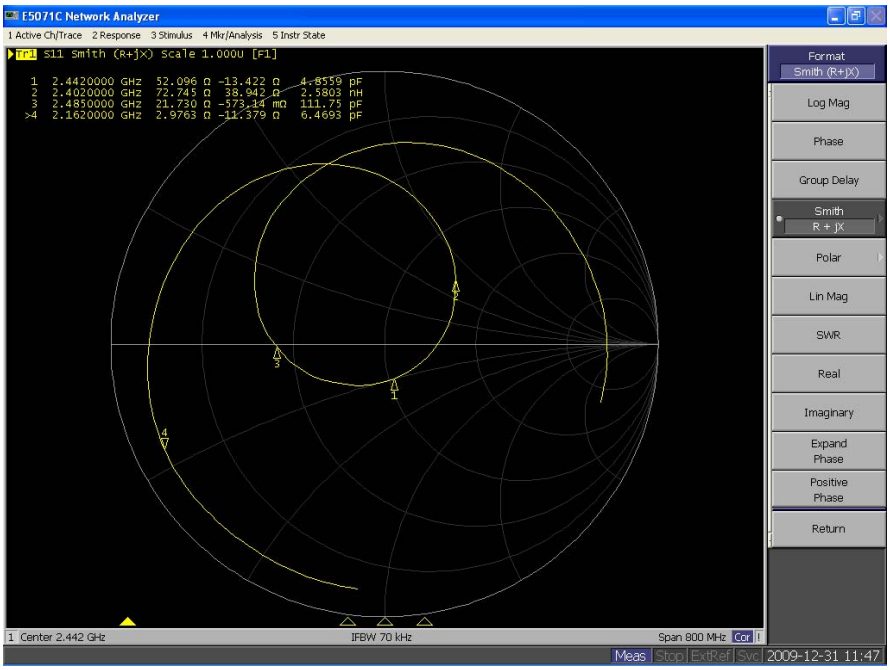
2. MEASUREMENT

2.1. Electrical Characteristic

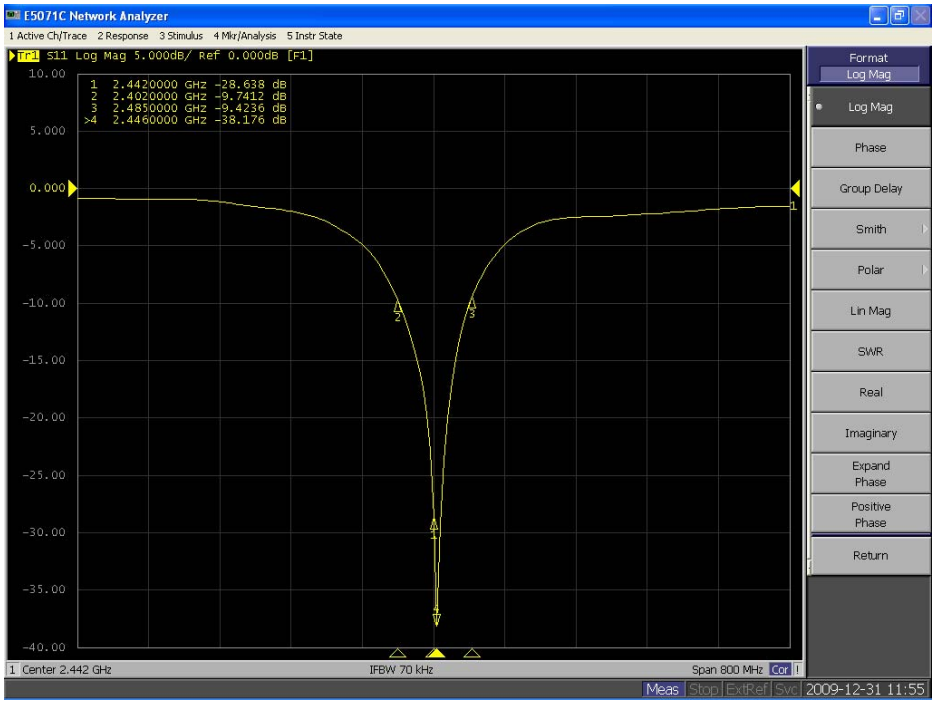
A. S_{11} (Return Loss) - (No.29) <= without Jig Board



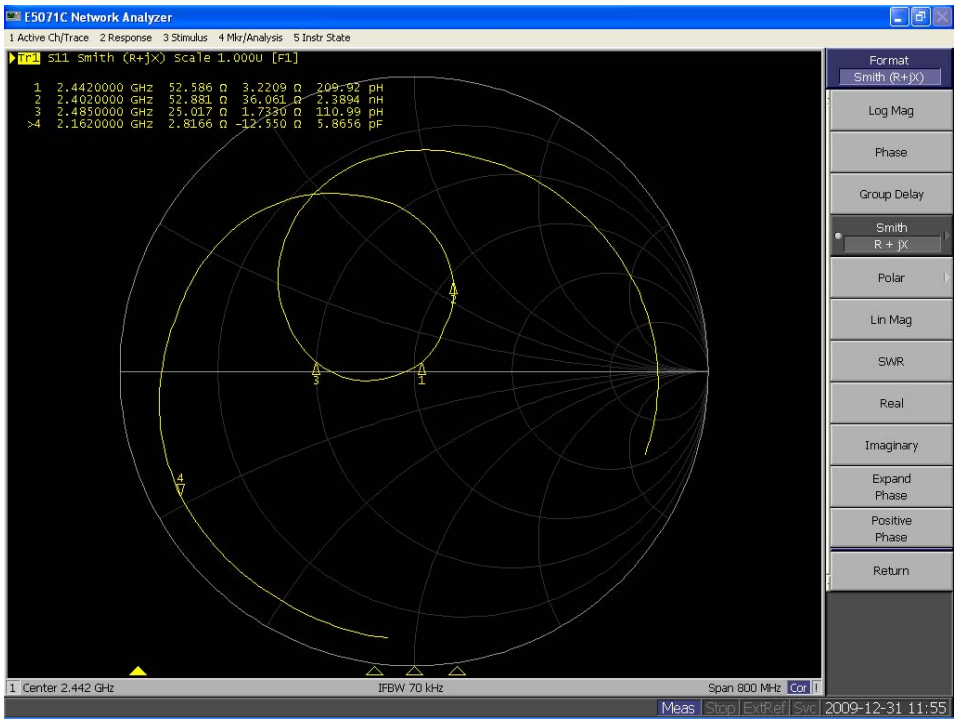
B. S_{11} (Smith chart) - (No.29) <= without Jig Board



A. S_{11} (Return Loss) - (No.29) <= with Jig Board

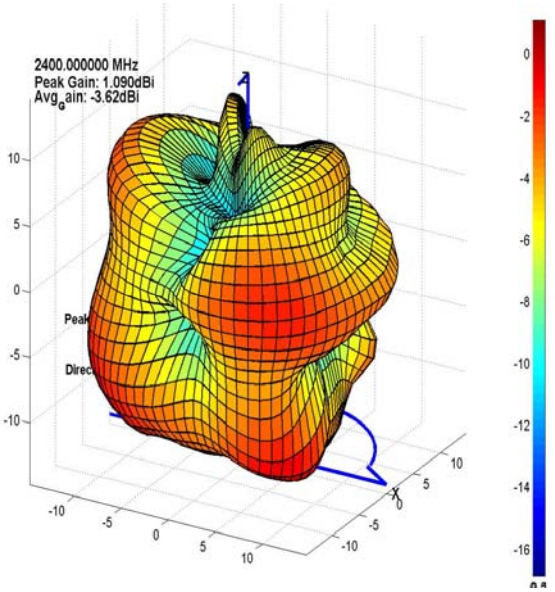


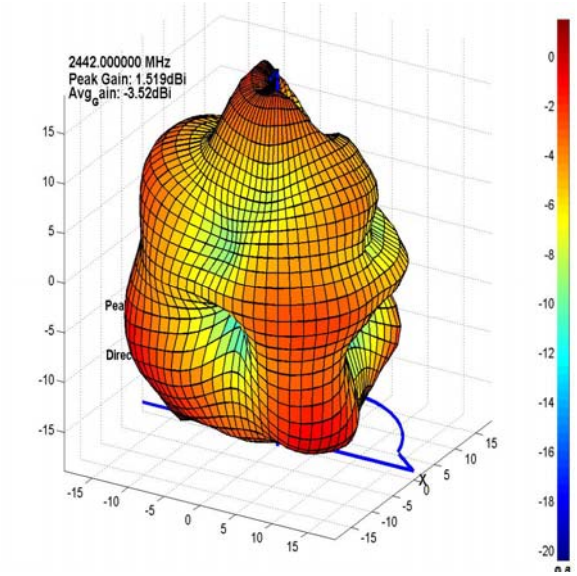
B. S_{11} (Smith chart) - (No.29) <= with Jig Board

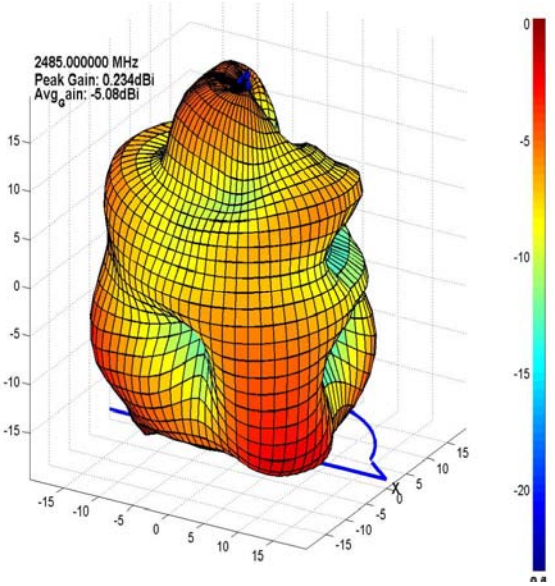


3. Radiation Data

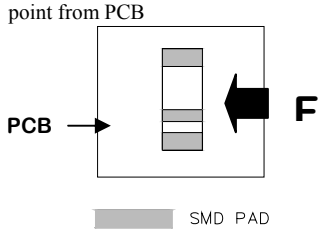
Frequency	Efficiency	Average Gain			Max Gain			Max Position	Directivity
		Ver	Hor	Total	Ver	Hor	Total		
2400 MHz	43.4 %	-9.4 dBi	-5.0 dBi	-3.6 dBi	-0.6 dBi	0.5 dBi	0.1 dBi	Theta120/Pie165	4.71 dB
2442 MHz	44.4 %	-9.0 dBi	-5.0 dBi	-3.5 dBi	-0.3 dBi	0.4 dBi	0.5 dBi	Theta120/Pie165	5.05 dB
2485 MHz	31.0 %	-9.8 dBi	-6.9 dBi	-5.1 dBi	-1.3 dBi	-0.2 dBi	0.2 dBi	Theta120/Pie150	5.32 dB







4. RELIABILITY TEST

No	Item	Test condition	Test Requirements
1	Adhesion strength	. Applied force on SMD chip till detached point from PCB  	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 ± 3℃, 30 min step 2 : +85 ± 3℃, 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 ± 5℃ 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 ± 5℃ 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 ± 3℃ 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

4. SOLDERING RECOMMENDATIOS

4.1. Reflow Soldering Profile