
Product Number: NB010-13B-IX115
**Product Name: 2.4GHz Built-in omnidirectional
yellow film antenna**

Index:

- 1. Specification**
- 2. Characteristics and Reliability Test**
- 3. Antenna - S Parameter Test Data**
- 4. Mechanical and Packing Drawing**
- 5. Material Description and RoHS Test Report**

Product Number: NB010-13B-IX115

Product Name: 2.4GHz Built-in omnidirectional yellow film antenna

1. Specification

A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz
S.W.R.	≤ 2.0
Antenna Gain	2.7 dBi (Max.)
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	FR-4
Cable Type	RG-1.13
Connector Type	I-pex
C. Environmental	
Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C
Antenna Color Storage life	< 2 year

2. Characteristics and Reliability Test

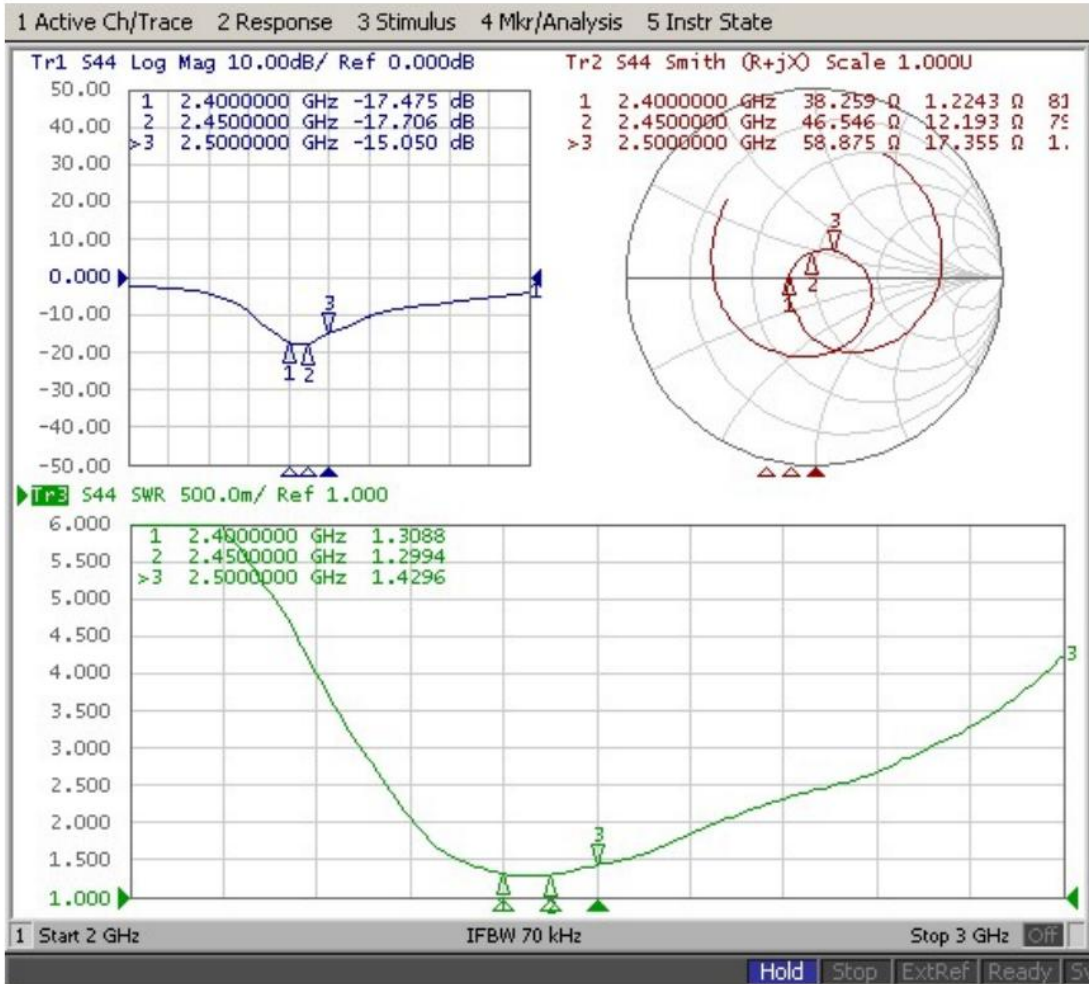
Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	GB / T2423 . 48-1997 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	GB / T2423.8-1995 Height: 1.0 Meter;	1. No parts separated 2. Frequency Tol.<= 5%

Product Number: NB010-13B-IX115

Product Name: 2.4GHz Built-in omnidirectional yellow film antenna

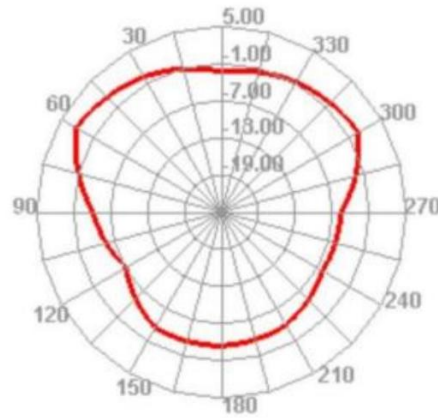
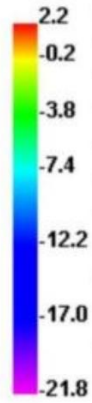
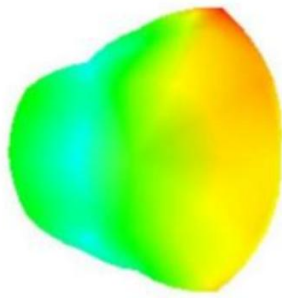
		3 directions; 1 time for each direction	
M3	Solderability	GB 2423 . 28- 82 Solder iron: 260±5°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Terminal-Torque Test	Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M6	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	GB / T 2423 . 17- 93 Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E2	Humidity	GB / T 2423 . 4 - 93 Temp: 80°C / 12 H; -40°C / 12H RH: >= 90%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	GB / T 2423 . 22 - 87 1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E4	Life (High Temp.)	GB /T 2423 . 2 - 89 Temp: 80°C; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
R1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2002/95/EC
R2	PFOS	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC

3. Antenna - S Parameter Test Data

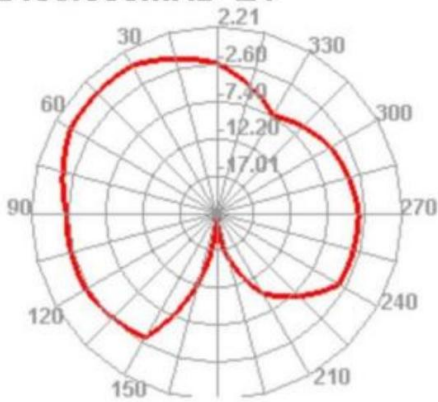


4.3D Model

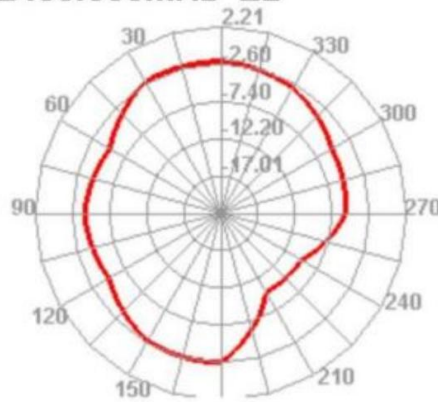
2450.000MHz



2450.000MHz E1

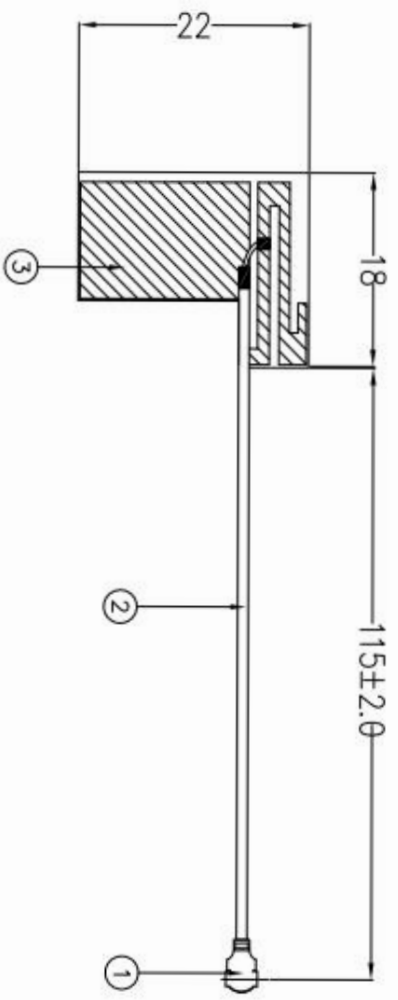


2450.000MHz E2



5.Finished product drawing

NO.	DATE	DESCRIPTION	APPROVER
▲			
▲			
▲			



Note:

1. Take * **Ts** the important dimension.
2. Tolerance: Unmarked tolerance refer to the standard tolerance please.
3. Pull Strength of the connector must be $\geq 1.0\text{kg}$.
4. Note Connector orientation.

3	NB010-A01	FPCB	FPCB 18.2*21.2mm	1
2	R-CB-113B	Coaxial Cable	SHOWA-Q.D. 1.13mm Black	1
1	CL-113	Connector	Mini Connector	1
No.	Part Number	Name	Material	Qty

TITLE: 2.4GHz Antenna		DWG NAME: NB010-13B-K115.DWG	
PART NO: NB010-13B-K115			
APPROVED BY	CHECKED BY	DESIGNED BY	UNITS: mm
2014-07-29	leon	2014-07-29	SCALE: 1:1
			Tolerance
			X.X ±0.20
			X.XX ±0.10
			X ±0.25