

Product Number: SM-NB1309-01TM
Product Name: 2.4GHz Antenna

Specification For Approval

Date: 2016 / 11 / 02

File No.: 161102005

Version: 1.0

Customer : _____

Customer P/N : _____

GX P/N : _____

Description : 2.4GHz Antenna

Checked By:

Customer Approved By:

Index:

- 1. Revision History / Page 3**
- 2. Specification / Page 4**
- 3. Characteristics and Reliability Test / Page 5**
- 4. Antenna - S Parameter Test Data / Page 6**
- 5. Antenna - Radiation Pattern Test Data / Page 7**
- 6. Mechanical and Packing Drawing / Page 8 ~ 9**
- 7. Material Description and RoHS Test Report / Page 10 ~ end**

Product Number: SM-NB1309-01TM
Product Name: 2.4GHz Antenna

1. Revision History

Revision	Date	Change Notification	Description
1.0	2016.11.02	初版	

Product Number: SM-NB1309-01TM

Product Name: 2.4GHz Antenna

2. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz
V.S.W.R.	≤ 2.0 @ 2400 ~ 2500 MHz Test data from the model test
Peak Gain	2.78dBi
Efficiency	52 %
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	SPTE
C. Environmental	
Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C

Product Number: SM-NB1309-01TM

Product Name: 2.4GHz Antenna

3. Characteristics and Reliability Test

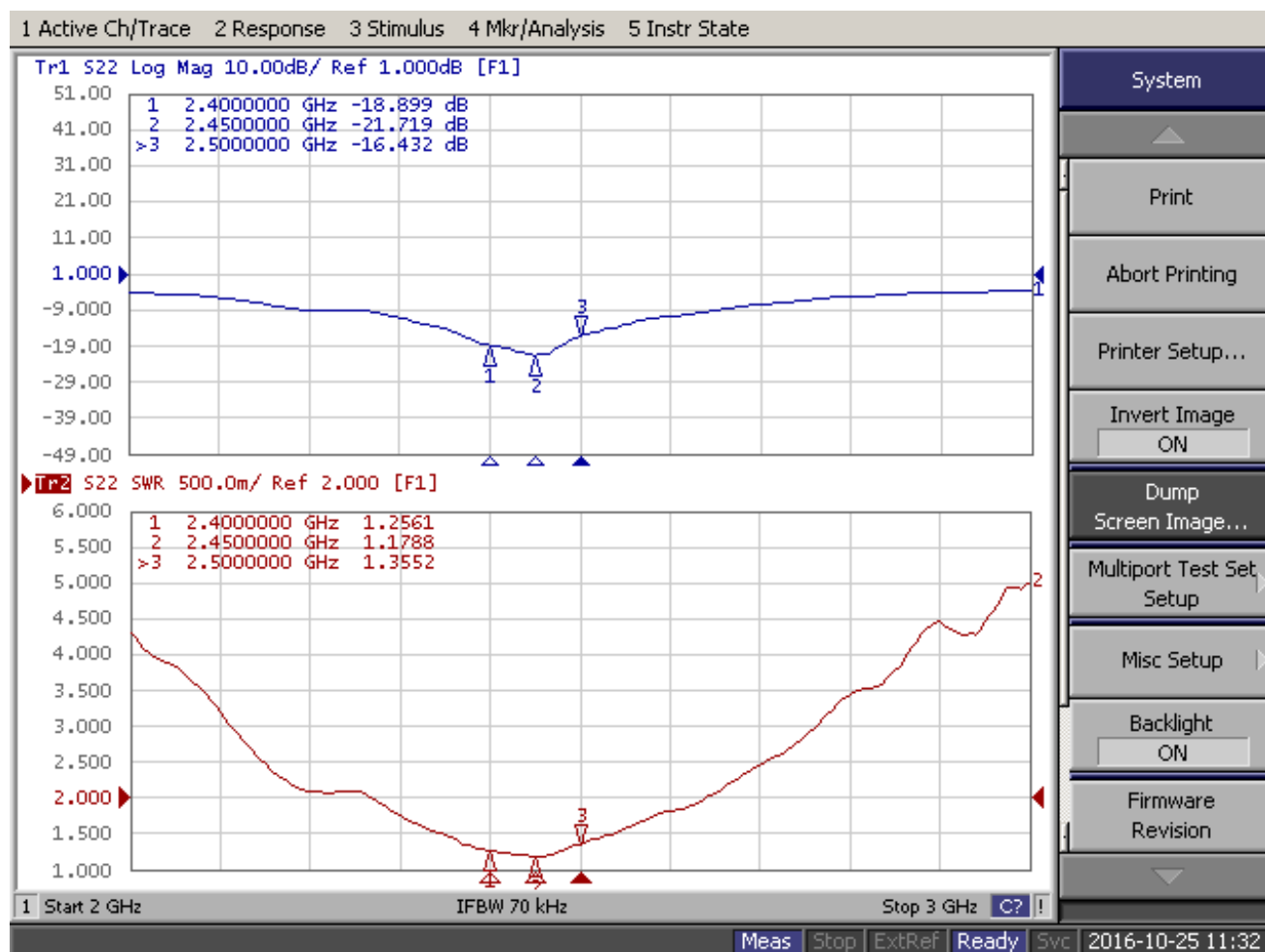
Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	GB / T2423 . 48-1997 Amplitude: 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; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
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 2011/65/EU

Product Number: SM-NB1309-01TM

Product Name: 2.4GHz Antenna

4. Antenna - S Parameter Test Data

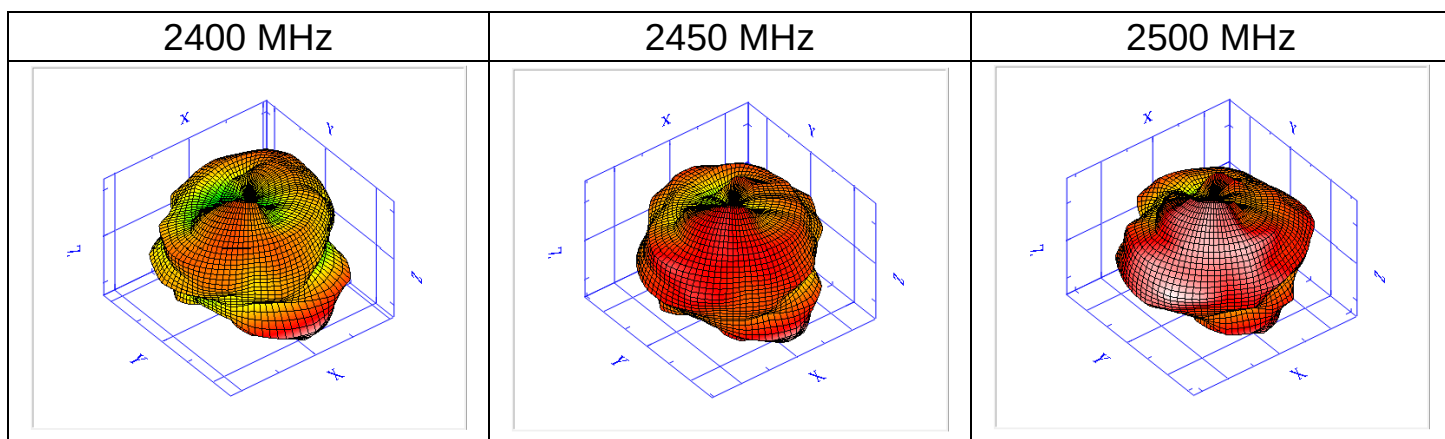
Test data from the model test



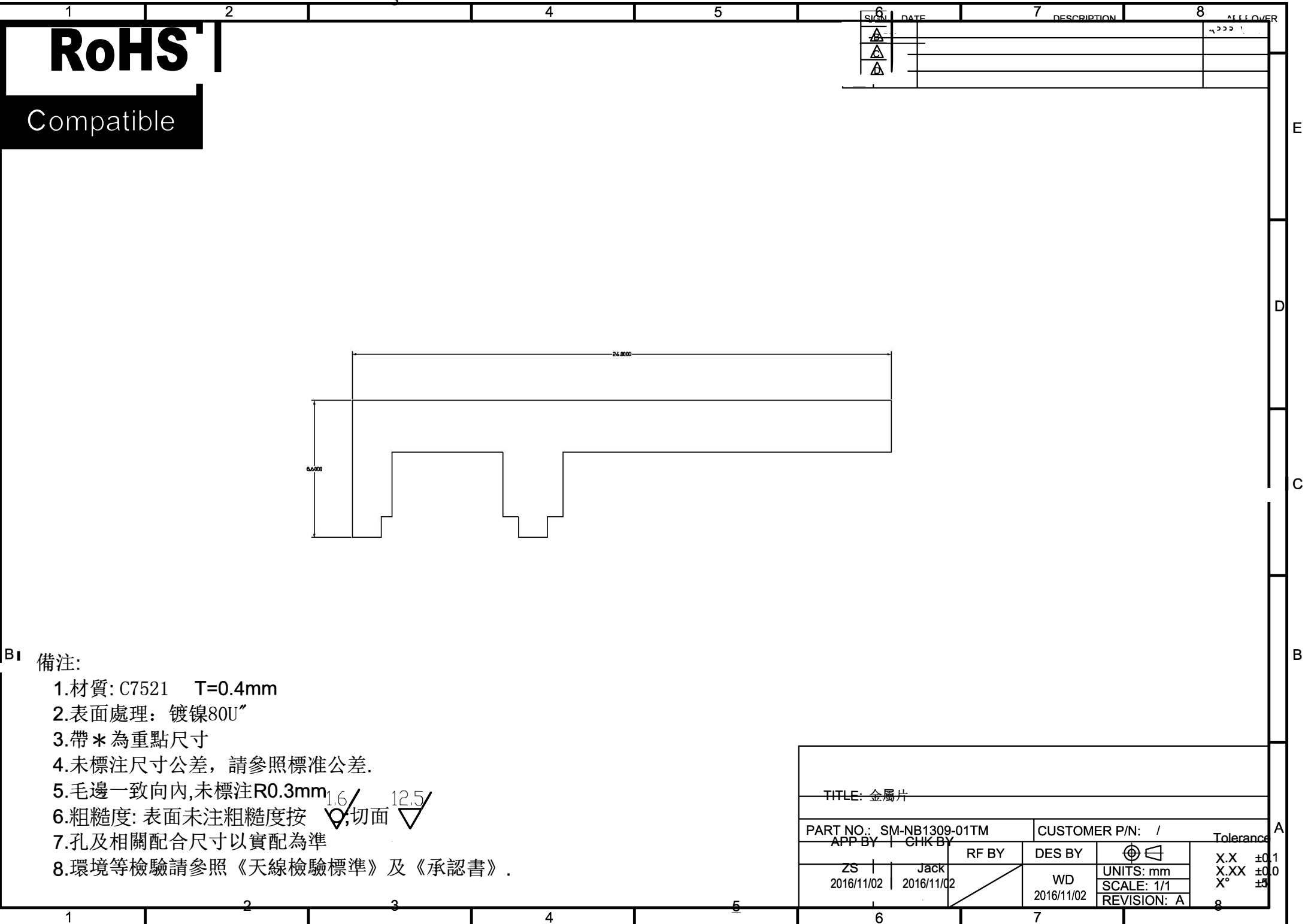
Product Number: SM-NB1309-01TM

Product Name: 2.4GHz Antenna

5. Antenna - Radiation Pattern Test Data



Frequency	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
E-Total Peak Gain (dBi)	2.78	2.7	2.72	2.58	1.84	1.17	1.57	1.51	1.91	1.98	2.3
Efficiency (%)	49.12	50.15	50.29	51.24	48.37	47.84	52.81	53.13	54.04	54.29	55.94
Average Gain (dB)	-3.09	-3	-2.98	-2.9	-3.15	-3.2	-2.77	-2.75	-2.67	-2.65	-2.52



RoHS
Compatible

6	DATE	7	DESCRIPTION	8	ALLOW
△					
△					
△					

備注:
1.材質: C7521 T=0.4mm
2.表面處理: 鍍鎳80U"
3.帶*為重點尺寸
4.未標注尺寸公差, 請參照標準公差.
5.毛邊一致向內, 未標注R0.3mm
6.粗糙度: 表面未注粗糙度按 1.6/▽, 切面 12.5/▽
7.孔及相關配合尺寸以實配為準
8.環境等檢驗請參照《天線檢驗標準》及《承認書》.

TITLE: 金屬片					
PART NO.: SM-NB1309-01TM			CUSTOMER P/N: /		
APP BY		CHK BY		Tolerance	
ZS		Jack		RF BY	
2016/11/02		2016/11/02		DES BY	
				WD	
				2016/11/02	
				UNITS: mm	
				SCALE: 1/1	
				REVISION: A	
				X.X ±0.1	
				X.XX ±0.0	
				X° ±5	