

Product Number: AN067  
Product Name: Antenna

# Specification For Approval

Date: 2019-03-26

File No.: 190326001

Version: 1.0

Customer : \_\_\_\_\_

Customer P/N :  /

P/N : HD-AN2400-57B1

Description : Antenna

\_\_\_\_\_

Checked By:

Customer Approved By:

**Product Number: AN067**  
**Product Name: Antenna**

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**Product Number: AN067**

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### 1. Revision Histor

Revision	Date	Change Notification	Description
1.0	2019-03-26	初版	

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## 2. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	2400~2500 MHz
S.W.R.	$\leq 2.5$ @ 2400~2500MHz
Antenna Gain	$\geq 2.0 \pm 0.5$ dBi @ 2400~2500MHz
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	Cu
Material of Plastic	Body 1: TPE
Cable Type	
C. Environmental	
Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C
Antenna Color Storage life	< 2 year

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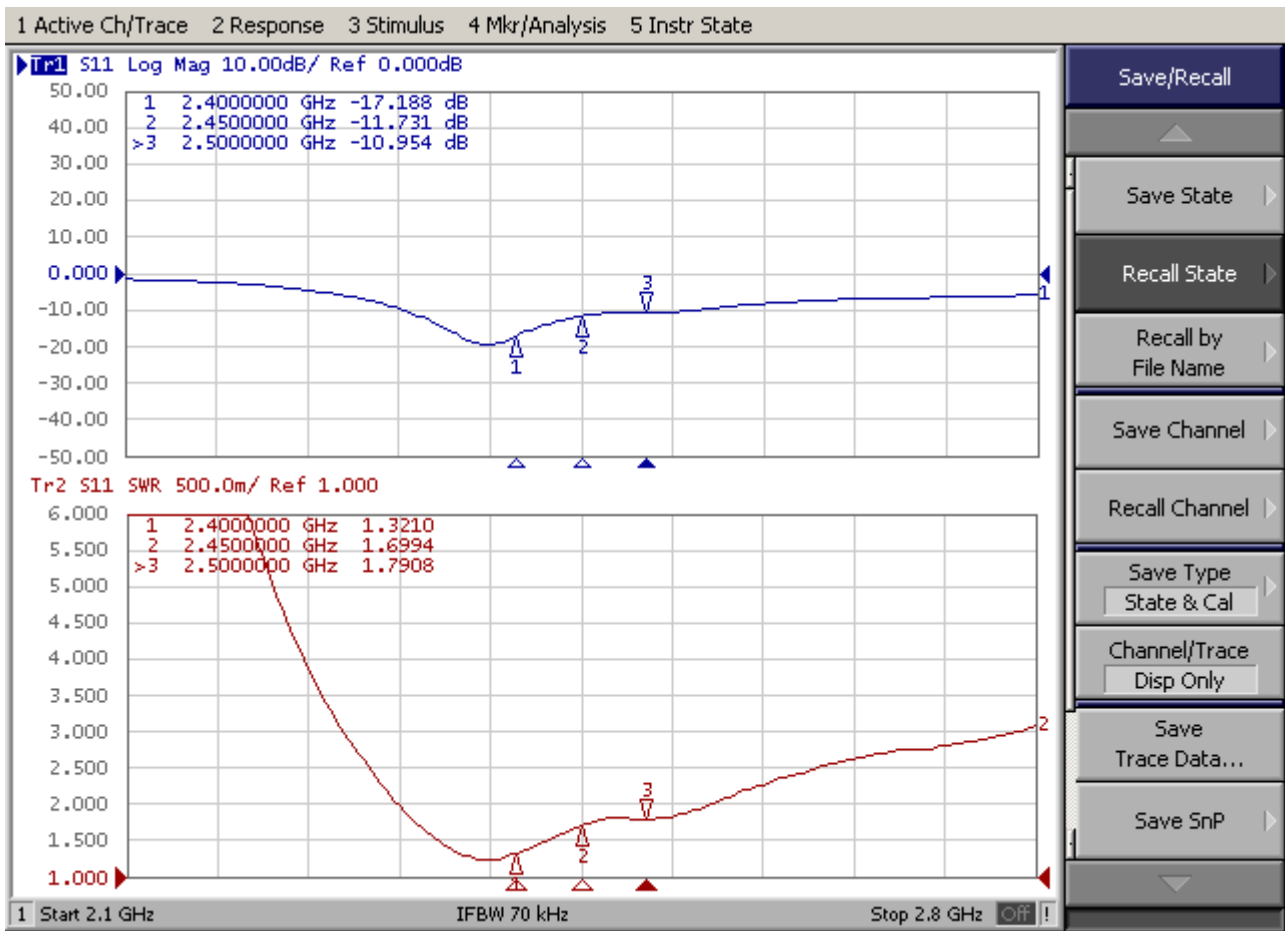
### 3. Characteristics and Reliability Test

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
R2	PFOS	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC
R3	PFOA	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC

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### 4. Antenna - S Parameter Test Data

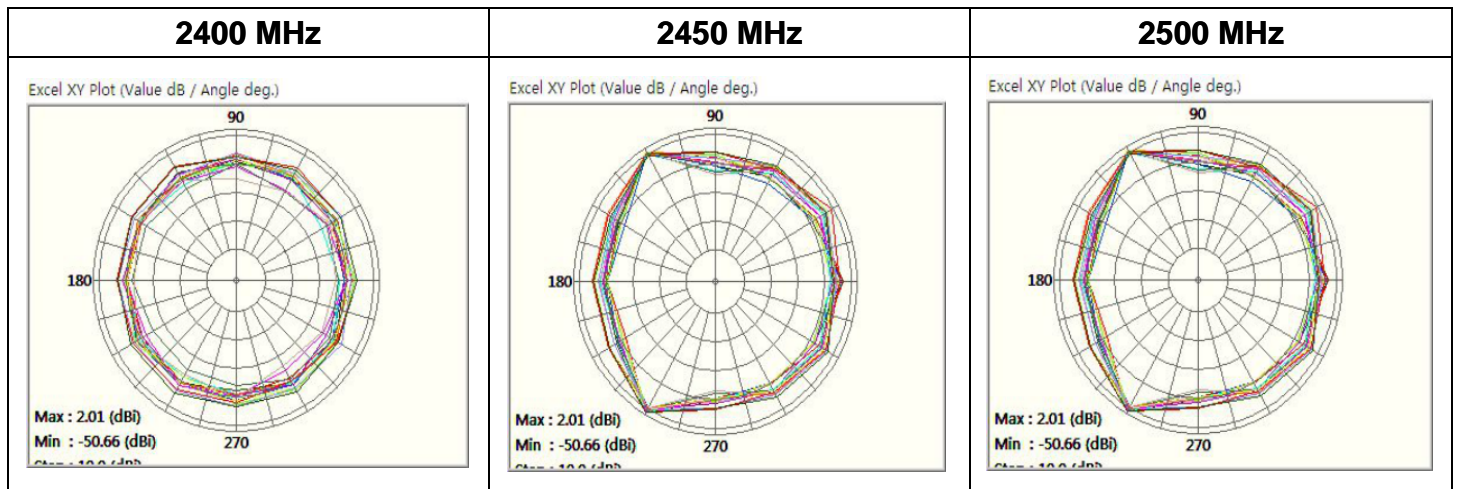
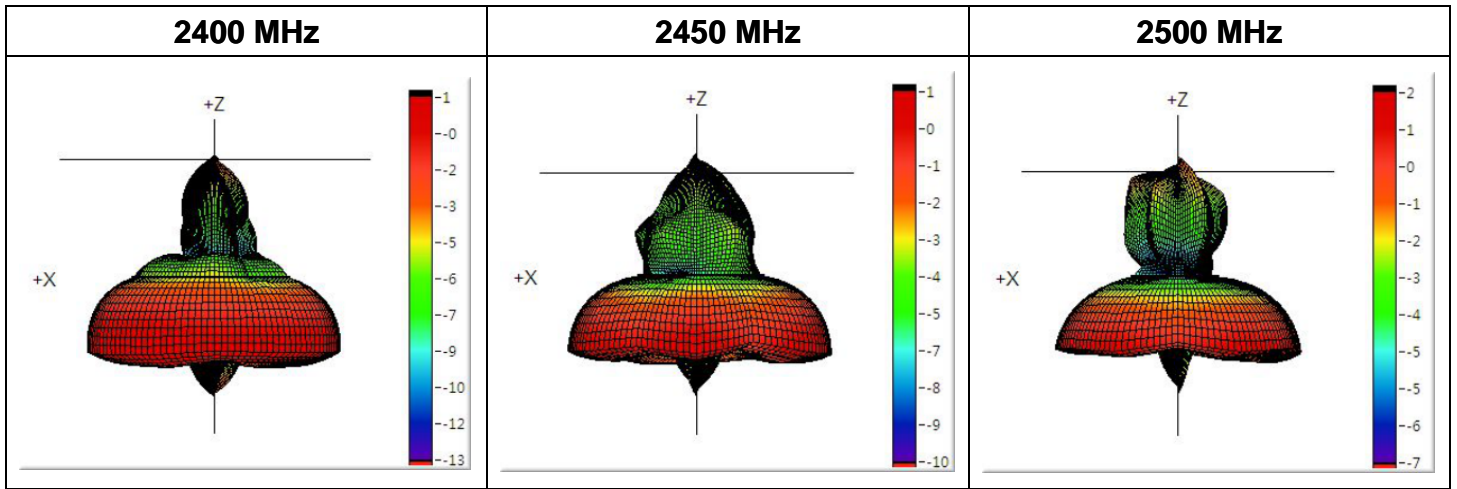


Frequency	2.38G	2.39G	2.4G	2.41G	2.42G	2.43G	2.44G	2.45G	2.46G	2.47G	2.48G	2.49G	2.5G	2.51G	2.52G
Total Rad. Pow. Total (dBi)	-3.46	-3.38	-4.12	-3.59	-3.63	-3.51	-3.54	-3.28	-3.65	-3.36	-2.95	-2.84	-2.74	-2.56	-2.53
Total Rad. Pow.0-90 Total (dBi)	-8.94	-8.86	-9.36	-8.73	-8.59	-7.93	-7.9	-7.44	-7.85	-7.68	-6.94	-6.77	-6.58	-6.31	-6.23
Total Rad. Pow.90-180 Total (dBi)	-4.07	-3.93	-4.65	-4.14	-4.34	-4.49	-4.71	-4.59	-5.11	-4.8	-4.38	-4.32	-4.12	-3.99	-3.87
Maximum Total Value (dBi)	1.99	1.81	1.06	2.01	1.78	1.45	1.49	1.29	0.97	1.13	1.6	1.47	1.71	1.32	1.83
Maximum Total @ Theta (deg.)	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Maximum Total @ Phi (deg.)	30	30	240	270	150	120	180	300	90	270	330	90	210	240	180
Minimum Total Value (dBi)	-11.7	-12.4	-13	-12.2	-11.4	-12.7	-11.4	-9.86	-10.3	-11.4	-8.71	-8.32	-7.21	-7.33	-8.03
Minimum Total @ Theta (deg.)	60	150	60	150	150	150	150	150	90	90	90	90	60	90	150
Minimum Total @ Phi (deg.)	150	120	210	240	180	300	60	90	0	90	270	240	240	300	210
Ant. Port Inp. Pow. Total (dBi)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak EIRP Total (dBi)	1.99	1.81	1.06	2.01	1.78	1.45	1.49	1.29	0.97	1.13	1.6	1.47	1.71	1.32	1.83
Directivity Total (dBi)	5.45	5.19	5.18	5.6	5.41	4.96	5.03	4.57	4.62	4.49	4.55	4.31	4.45	3.88	4.36
Efficiency Total (dB)	-3.46	-3.38	-4.12	-3.59	-3.63	-3.51	-3.54	-3.28	-3.65	-3.36	-2.95	-2.84	-2.74	-2.56	-2.53
Efficiency Total (%)	45.08	45.92	38.73	43.75	43.35	44.57	44.26	46.99	43.15	46.13	50.7	52	53.21	55.46	55.85
Gain Total (dBi)	1.99	1.81	1.06	2.01	1.78	1.45	1.49	1.29	0.97	1.13	1.6	1.47	1.71	1.32	1.83
NHPIS +/-30 Total (dBi)	-8.34	-8.23	-8.83	-8.24	-8.22	-7.94	-7.97	-7.53	-8.17	-8.1	-7.55	-7.44	-7.13	-6.88	-6.66
NHPIS +/-45 Total (dBi)	-5.18	-5.1	-5.8	-5.22	-5.28	-5.09	-5.14	-4.84	-5.3	-5.1	-4.66	-4.55	-4.39	-4.19	-4.13

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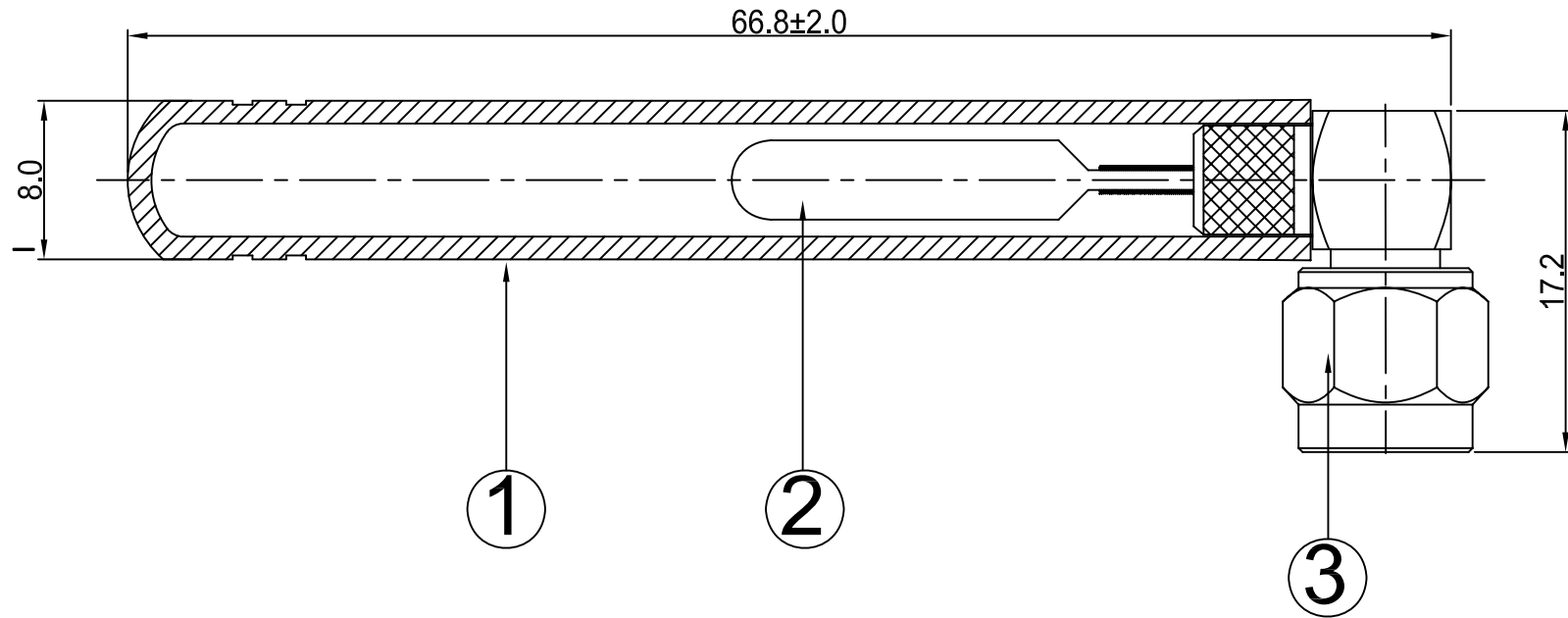
### 5. Antenna - Radiation Pattern Test Data




**RoHS**

Compatible

REV.	DESCRIPTION	DATE
△	首次发行	2019.03.25



NO	PART NAME	DESCRIPTION	PART NO.	Q.TY
3	SMA 90° Male	Cu Au Plated	A029-SMA-C-047	
2	Sheetmetal	4.5*L33.0mm	R-AN33045-02	1
1	Antenna Cap	TPE, Color:Black	R-AN32-60	1

PART NAME: 2.4G Antenna				
PART NO.: <b>AN067</b>			DATE: 2019-03-25	
APPROVED BY	CHECKED BY	DESIGNED BY	 Tolerance X.X ±0.50 X.XX±0.15 X° ±3°	UNITS: mm SCALE: 1/1 REVISION: A
		邓金昌 2019-03-25		



# 產品包裝規範 PACKING CRITERION

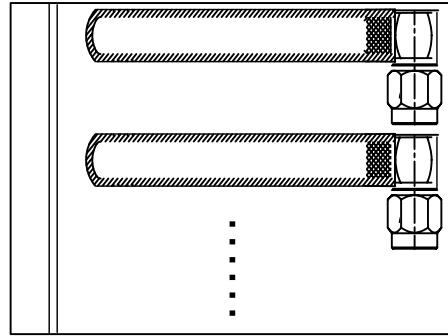
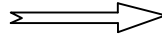


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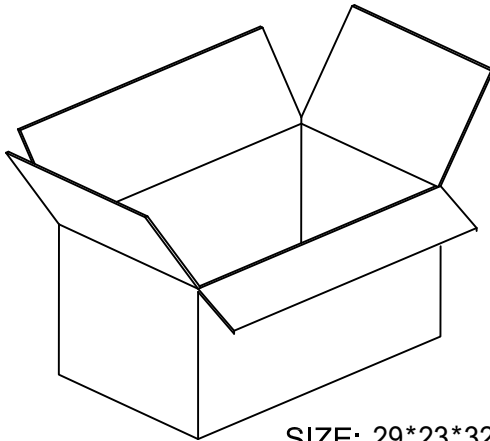
Part Number : <b>AN067</b>	Revision : A
Name: 2.4G ANTENNA	Customer : ALL

1.



R-PE-BAG-220150006 50PCS/BAG

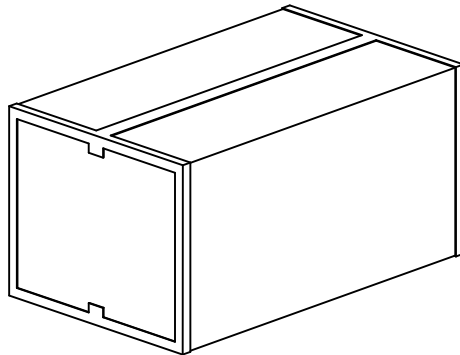
2.



SIZE: 29\*23\*32.5CM  
3000 PCS/BOX



3.



APPROVED BY :   LQ  

CHECKED BY :           

DESIGNED BY :   DJC