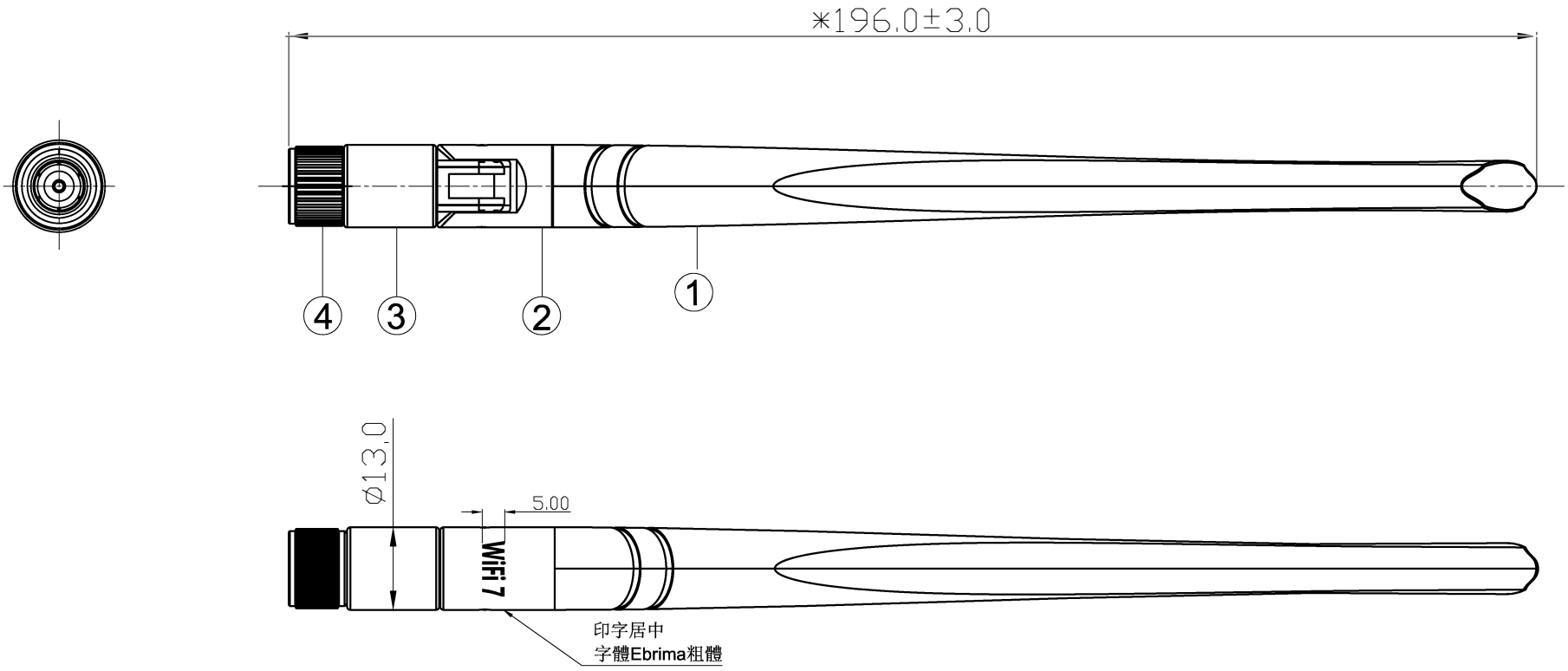
SIGN	DATE	DESCRIPTION	APPROVER
A			
B			
C			



No.	Description	Material	Finished	Q'ty
4	SMA公頭母針	半塑	黑色	1
3	連接頭	ABS	黑色	1
2	連接筒	ABS	黑色	1
1	天線塑膠外套	TPEE	黑色	1

ALFA Network Inc

TITLE: Antenna

PART NO.: ARS-NT5B7 | CUSTOMER P/N: /

APP BY	CHK BY	RF BY	DES BY	Tolerance
			Lisa 2023.11.09	UNITS: mm SCALE: 1/1 REVISION: A

Tolerance: X.X ±0.3, X.XX ±0.2, X° ±1

Product Number:ARS-NT5B7
Product Name: WIFI6E Antenna

1. Specification

A. Electrical Characteristics	
Frequency	**2400 ~ 2500 MHz** **5150 ~ 5850 MHz** **5925 ~ 7125 MHz**
V.S.W.R.	**<= 2.0 @ 2400 ~ 2500 MHz** **<= 2.5 @ 5150 ~ 5850 MHz** **<= 2.5 @ 6500 MHz** **<= 2.5 @ 7125 MHz**
Efficiency	**~75%**
Polarization	**Linear**
Impedance	**50 Ohm**
B. Material & Mechanical Characteristics	
Material of Radiator	**CU**
Material of Plastic	**TPEE / ABS**
Cable Type	**RG178**
Connector Type	**SMA Male Reverse**
C. Environmental	
Operation Temperature	**- 40 ˚C ~ + 70 ˚C**
Storage Temperature	**- 40 ˚C ~ + 80 ˚C**

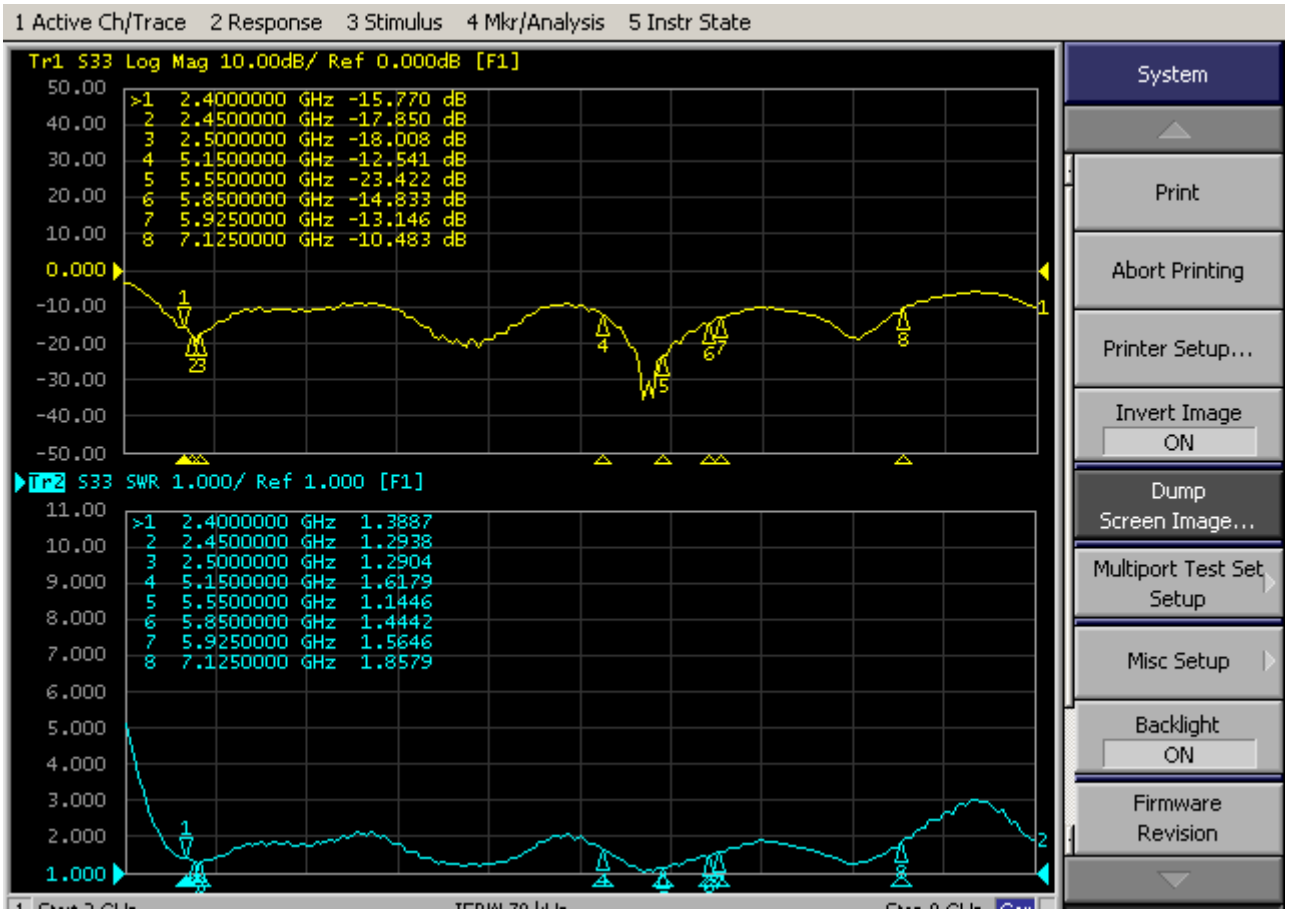
Product Number: ARS-NT5B7
Product Name: WIFI6E Antenna

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 2015/863/EU

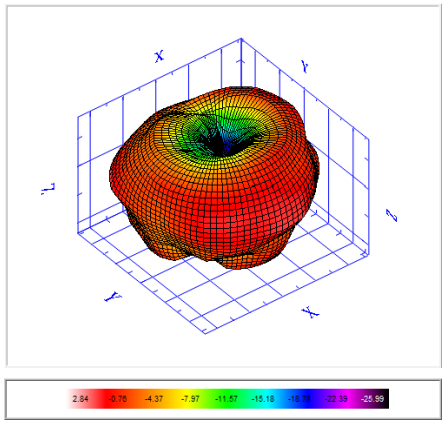
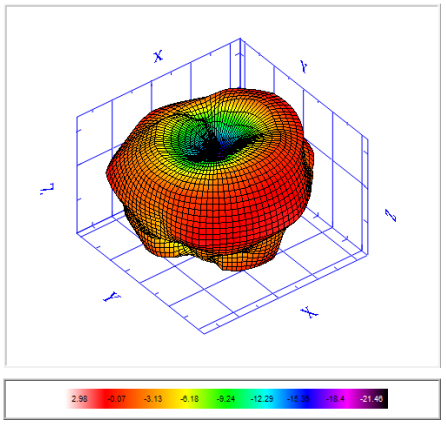
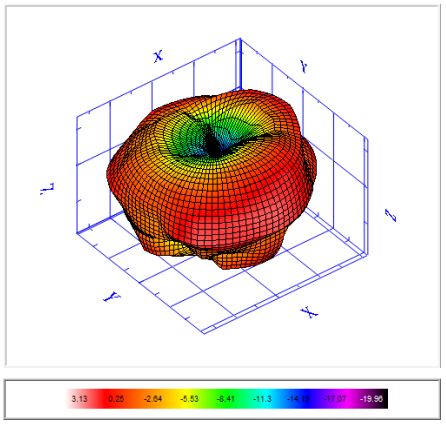
Product Number:ARS-NT5B7
Product Name: WIFI6E Antenna

4 Antenna - S Parameter Test Data

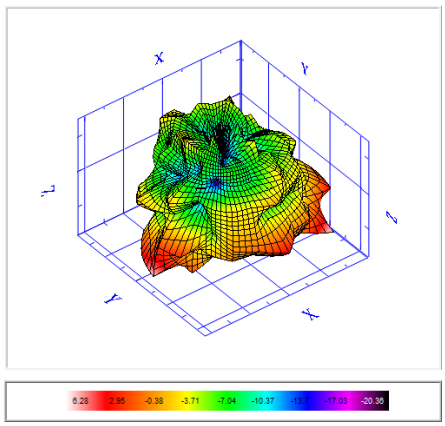
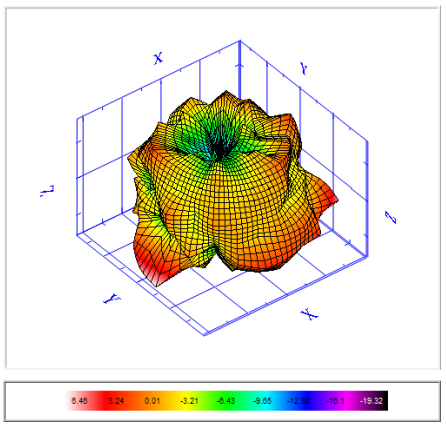
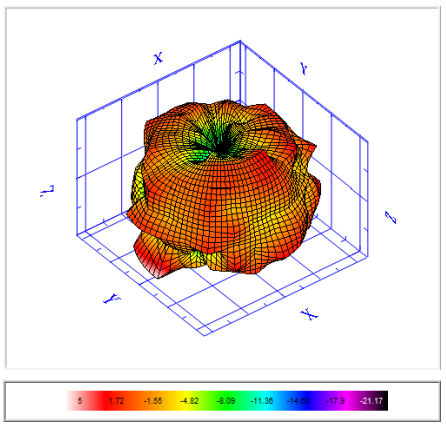


Product Number:ARS-NT5B7
Product Name: WIFI6E Antenna

5 Antenna - Radiation Pattern Test Data

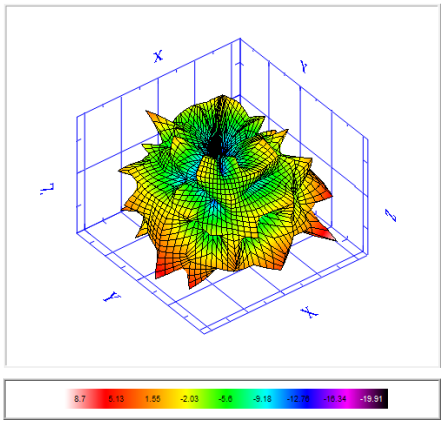
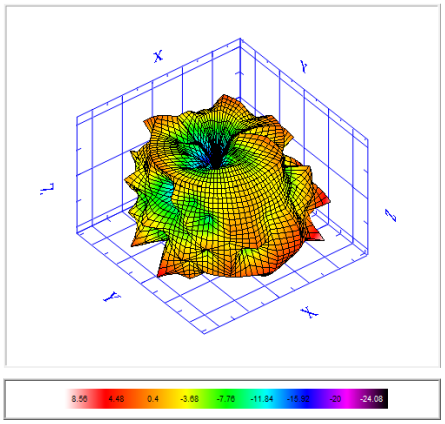
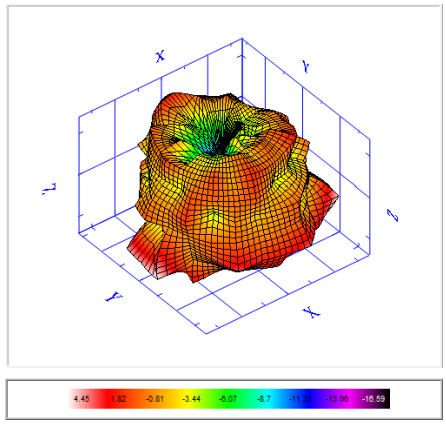
2400 MHz	2450 MHz	2500 MHz
		

Frequency	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	2.84	2.74	2.83	2.82	2.6	2.98	2.56	2.67	2.46	2.53	3.13
Efficiency (%)	59.7	61.57	60.69	61.07	55.19	62.17	58.49	61.98	65.22	61.76	68.08
Average Gain (dB)	-2.24	-2.11	-2.17	-2.14	-2.58	-2.06	-2.33	-2.08	-1.86	-2.09	-1.67

5150 MHz	5745 MHz	5850 MHz
		

Frequency	5150	5180	5250	5350	5470	5580	5600	5700	5725	5745	5785	5800	5850
Peak Gain (dBi)	6.28	4.15	5.48	5.22	5.31	5.37	6.46	5.46	5.06	5.76	4.51	3.82	5
Efficiency (%)	44.21	35.45	45.1	54.36	64.25	72.83	69.47	75.27	66.81	78.64	77.74	70.33	77.78
Average Gain (dB)	-3.54	-4.5	-3.46	-2.65	-1.92	-1.38	-1.58	-1.23	-1.75	-1.04	-1.09	-1.53	-1.09

Product Number:ARS-NT5B7
Product Name: WIFI6E Antenna

5925 MHz	6525 MHz	7125 MHz
		

Frequency	5925	6125	6325	6525	6825	7125
Peak Gain (dBi)	8.7	8.04	7.38	8.56	4.88	4.45
Efficiency (%)	65.1	77.08	76.7	89.36	55.67	73.07
Average Gain (dB)	-1.86	-1.13	-1.15	-0.49	-2.54	-1.36