

翱瑞（深圳）科技有限公司

SPECIFICATION FOR APPROVAL

● 物料名称

Name of material: AF330 天线 (AF330 Antenna)

● 供应商

Vendor Name : 深圳星河电波科技有限公司
Shenzhen yGalax Technologies Limited

● 物料描述

Material description: FPC焊接Cable (FPC Weld cable)

● 料 号 :

P/N(Part Number):

● 物料丝印

Material screen printing: YX-AF330-WIFI1-V1.0
YX-AF330-WIFI2-V1.0

供方确认 Supplier confirmation:		客户确认 Customer confirmation:	
测试 Test:	研发 RF:	测试 Test:	研发 RF:
		采购Purchase:	
品质Quality:	审核 Check:	品质 Quality:	审核 Check:

Directory

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- 4、 Antenna performance and precautions
- 5、 Full scale measurement report
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- 8、 Salt spray test
- 9、 High and low temperature test

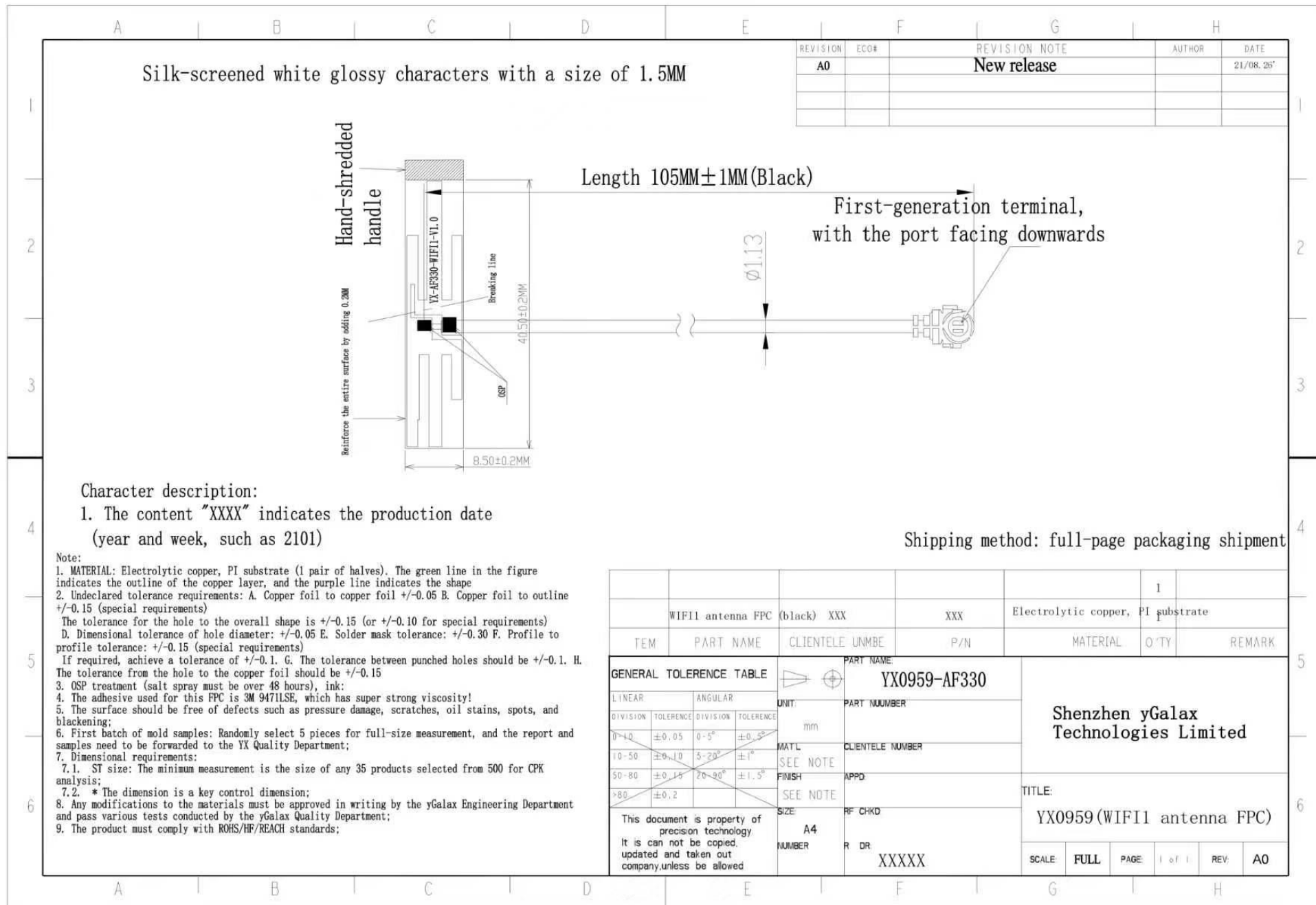
REVISION HISTORY

NO.	Date	Version		Update		Cnmment		Written	
1	2026. 8. 24	First edition release							
2									
3									
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MADE:

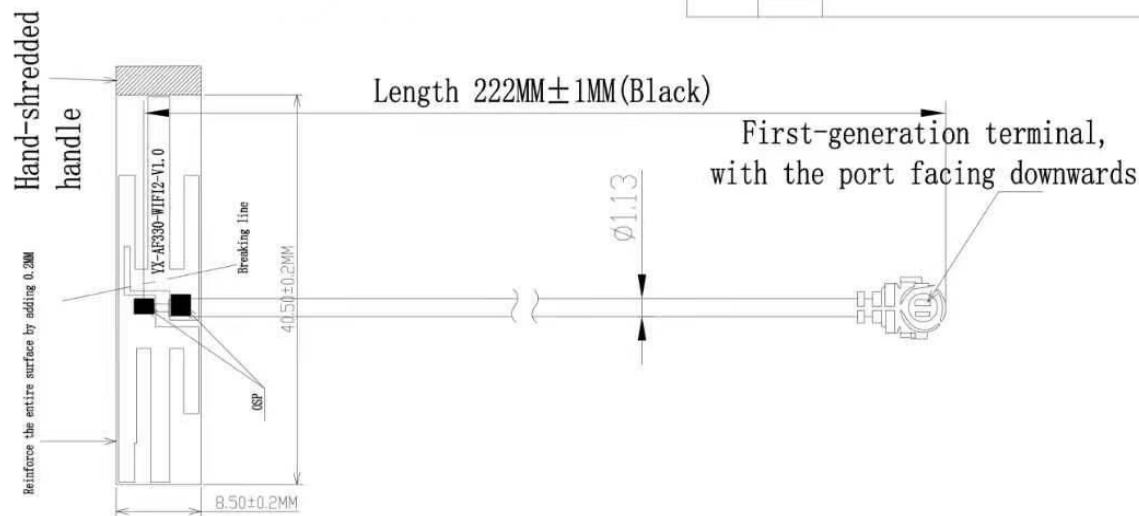
CHECK:

3. ICD Drawing



Silk-screened white glossy characters with a size of 1.5MM

REVISION	ECO#	REVISION NOTE	AUTHOR	DATE
A0		New release		21/08.25'



Character description:

1. The content "XXXX" indicates the production date (year and week, such as 2101)

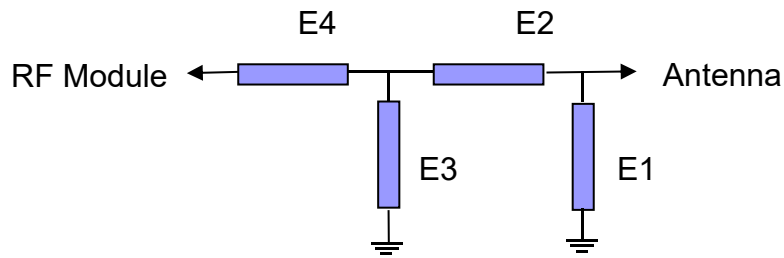
Shipping method: full-page packaging shipment

Note:

1. MATERIAL: Electrolytic copper, PI substrate (1 pair of halves). The green line in the figure indicates the outline of the copper layer, and the purple line indicates the shape
2. Undeclared tolerance requirements: A. Copper foil to copper foil ± 0.05 B. Copper foil to outline ± 0.15 (special requirements)
The tolerance for the hole to the overall shape is ± 0.15 (or ± 0.10 for special requirements)
- D. Dimensional tolerance of hole diameter: ± 0.05 E. Solder mask tolerance: ± 0.30 F. Profile to profile tolerance: ± 0.15 (special requirements)
If required, achieve a tolerance of ± 0.1 . G. The tolerance between punched holes should be ± 0.1 . H. The tolerance from the hole to the copper foil should be ± 0.15
3. OSP treatment (salt spray must be over 48 hours), ink:
4. The adhesive used for this FPC is 3M 9471LSE, which has super strong viscosity!
5. The surface should be free of defects such as pressure damage, scratches, oil stains, spots, and blackening;
6. First batch of mold samples: Randomly select 5 pieces for full-size measurement, and the report and samples need to be forwarded to the YX Quality Department;
7. Dimensional requirements:
 - 7.1. ST size: The minimum measurement is the size of any 35 products selected from 500 for CPK analysis;
 - 7.2. * The dimension is a key control dimension;
8. Any modifications to the materials must be approved in writing by the yGalax Engineering Department and pass various tests conducted by the yGalax Quality Department;
9. The product must comply with ROHS/HP/REACH standards;

					1				
	WIFI1 antenna FPC	(black) XXX	XXX	Electrolytic copper, PI	substrate				
TEM	PART NAME	CLIENTELE UNMBE	P/N	MATERIAL	Q'TY	REMARK			
GENERAL TOLERANCE TABLE		 YX0959-AF330		Shenzhen yGalax Technologies Limited					
LINEAR		ANGULAR					UNIT:		
DIVISION	TOLERANCE	DIVISION	TOLERANCE				PART NUMBER		
0~1.0	±0.05	0~5°	±0.5°				mm		
1.0~5.0	±0.10	5~20°	±1°				MATERIAL		
5.0~8.0	±0.15	20~90°	±1.5°				CLIENTELE NUMBER		
>8.0	±0.2						FINISH		
SEE NOTE		APPRO:		TITLE:					
FINISH		SIZE					YX0959(WIFI2 antenna FPC)		
SEE NOTE		RF CHKD							
This document is property of precision technology. It is can not be copied, updated and taken out company,unless be allowed		A4		SCALE					
		NUMBER		FULL					
		R DR		PAGE: 1 of 1					
		XXXXXX		REV: A0					

Antenna matching diagram



WIFI Antenna	Element	Value
	E1	N/C
	E2	0 Ω
	E3	N/C
	E4	

WiFi1 OTA Data

FS	Channel	TRP (dBm)	TIS (dBm)	FS	Channel	TRP (dBm)	TIS (dBm)				
WIFI B (11M)	1	18.04		WIFI A (54M)	36	10.55					
	6	18.62			149	10.23					
	11	18.09	-85.02		165	9.91	-71.11				

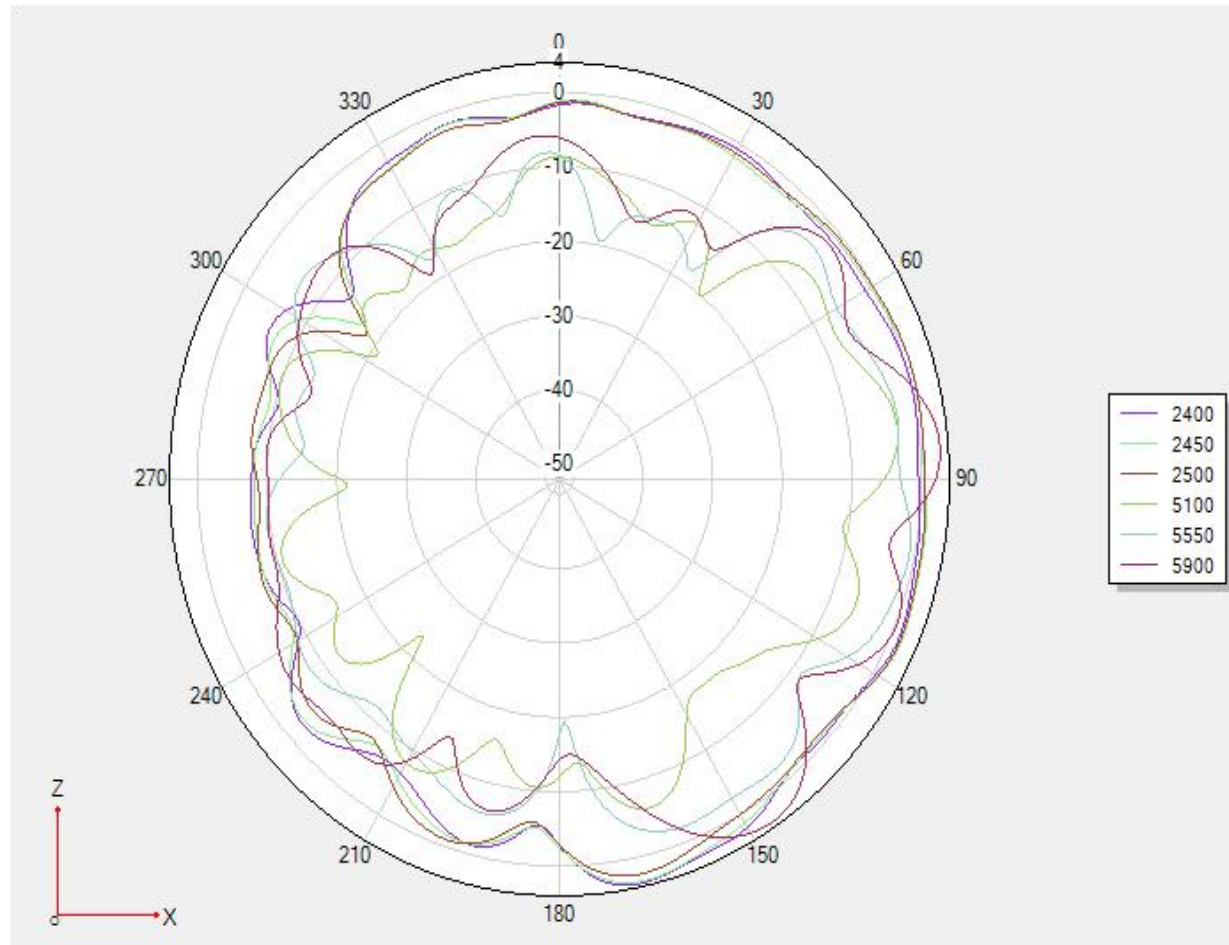
WiFi2 OTA data

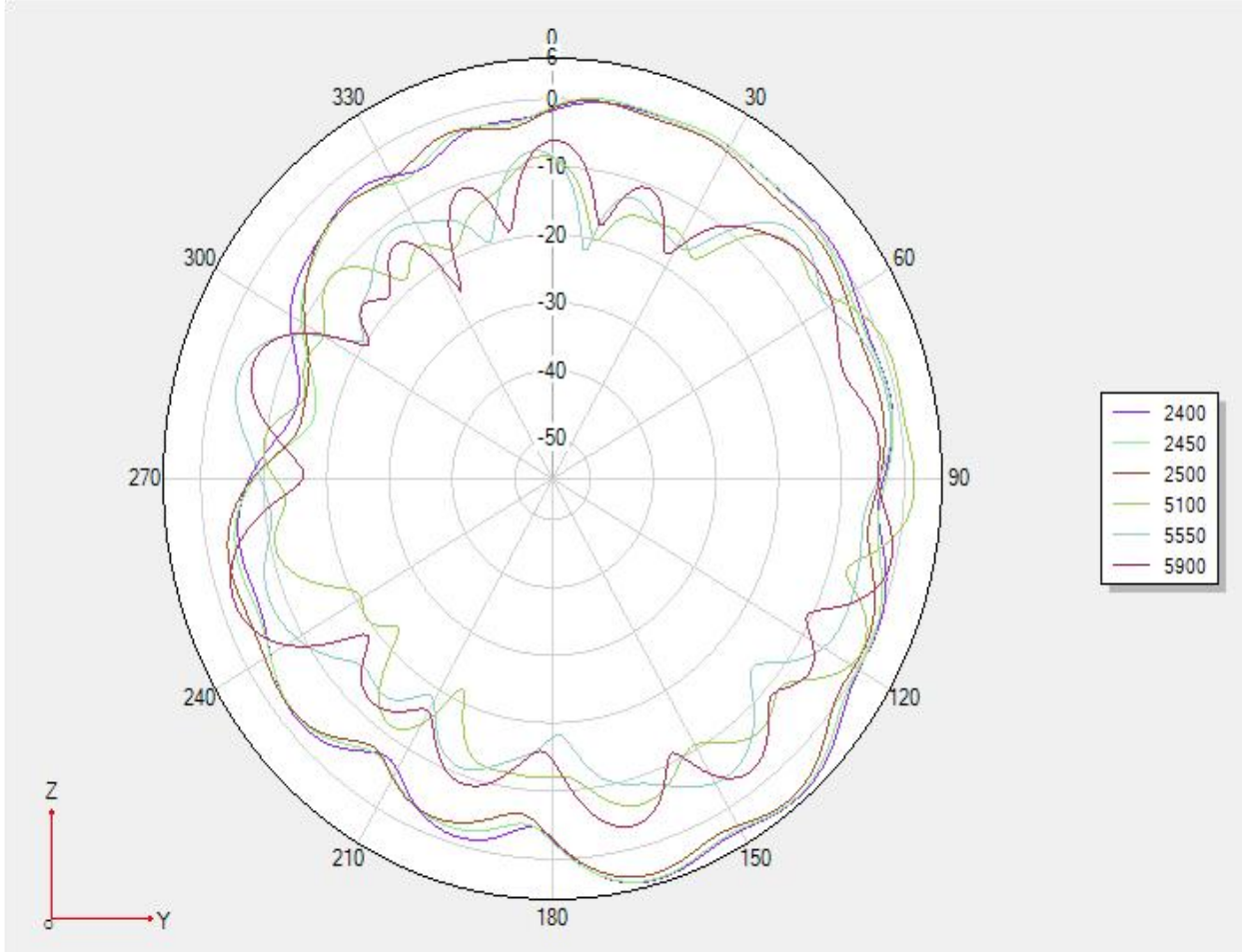
FS	Channel	TRP (dBm)	TIS (dBm)	FS	Channel	TRP (dBm)	TIS (dBm)				
WIFI B (11M)	1	17.29		WIFI A (54M)	36	9.39					
	6	17.21			149	8.58					
	11	16.61	-82.19		165	7.64	-68.49				

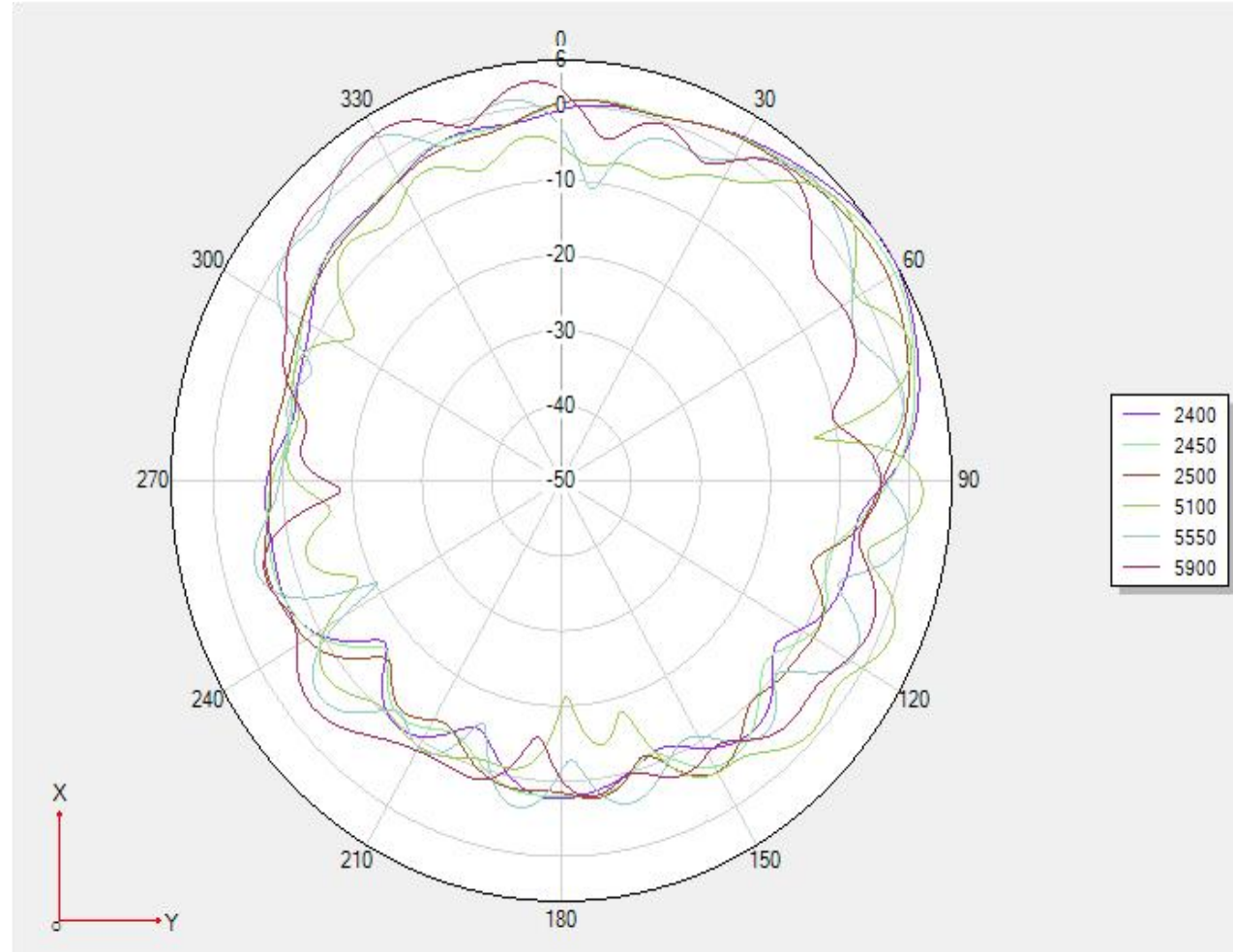
Efficiency/Gain

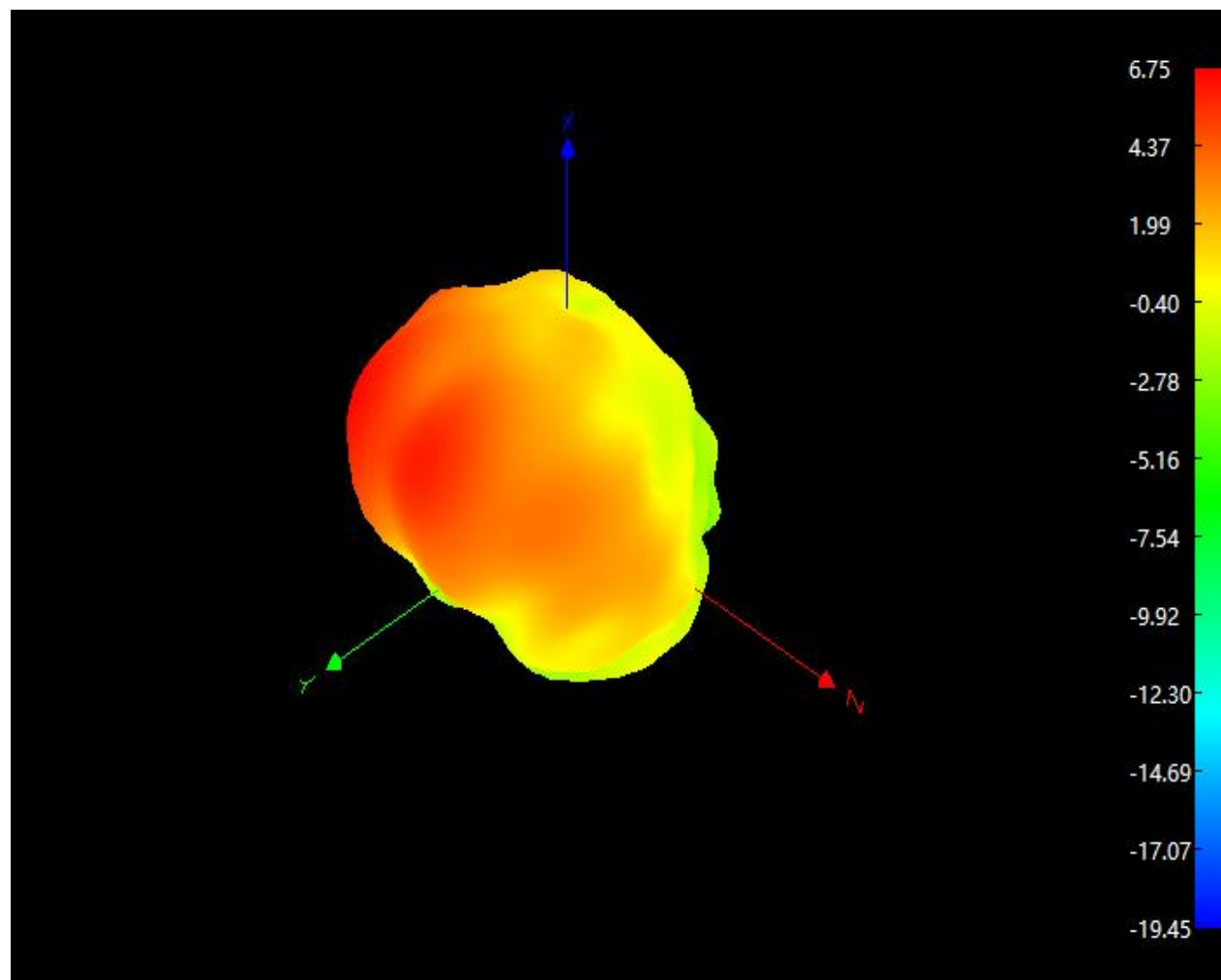
Frequency / MHz	Efficiency / dB	Efficiency / %	Gain/ dBi
2400	-1.16	76.5	6.75
2410	-1.01	79.33	6.72
2420	-1.09	77.78	6.8
2430	-1.11	77.36	7
2440	-1.16	76.56	6.6
2450	-1.17	76.3	6.62
2460	-1.24	75.22	6.42
2470	-1	79.43	6.56
2480	-1.02	79.07	6.36
2490	-1.14	76.91	5.82
2500	-1.21	75.68	6.23
5100	-3.69	42.73	7.86
5150	-3.36	46.13	8.17
5200	-3.45	45.19	8.31
5250	-3.66	43.05	8.08
5300	-3.83	41.4	8.1
5350	-3.94	40.36	8.12
5400	-3.98	39.99	7.94
5450	-4	39.81	7.27
5500	-3.88	40.93	7.75
5550	-3.87	41.02	7.69
5600	-3.97	40.09	7.3
5650	-3.89	40.83	7.36
5700	-3.84	41.3	7.16
5750	-3.93	40.46	6.93
5800	-3.78	41.88	6.64
5850	-3.76	42.07	6.29
5900	-3.82	41.5	5.44

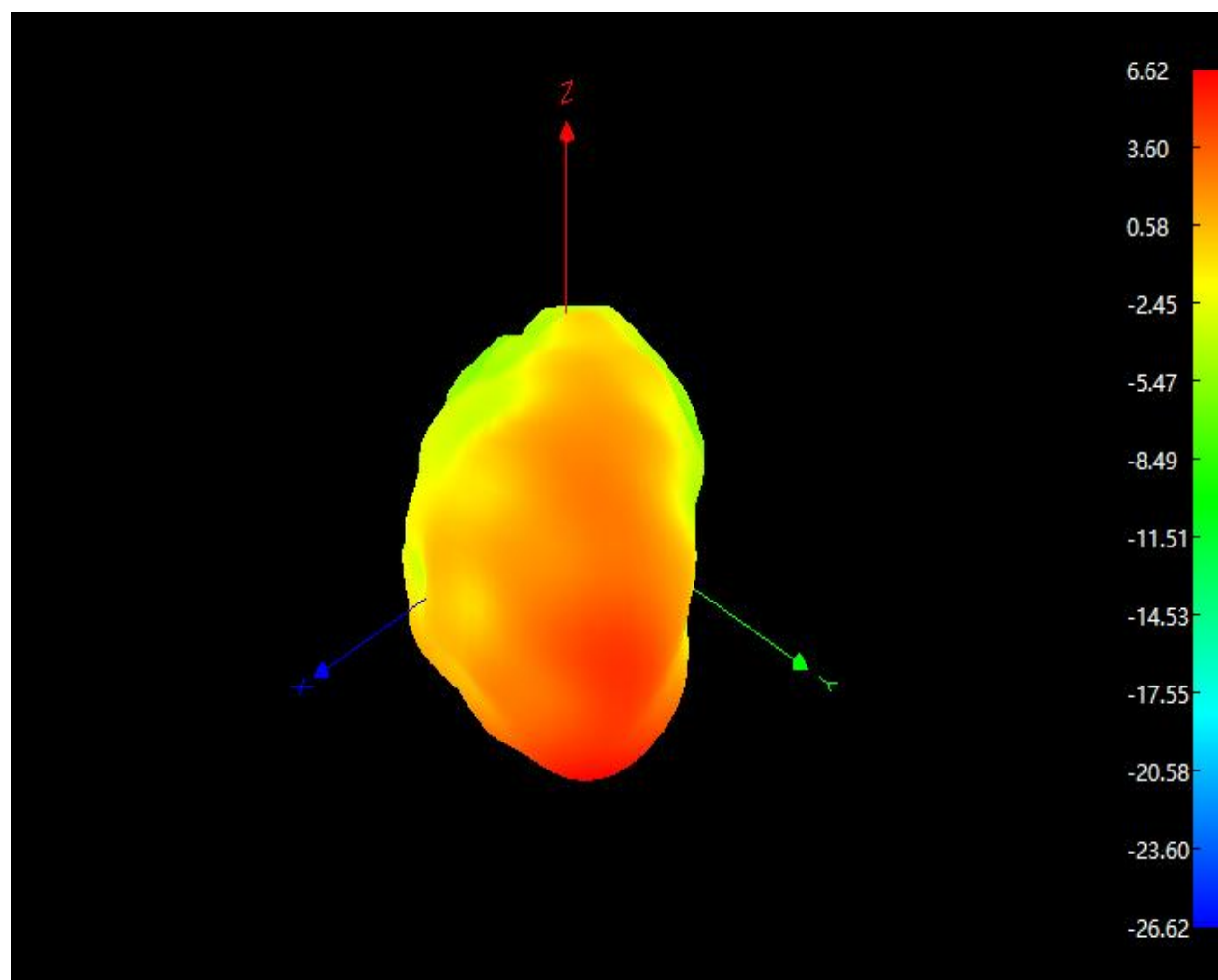
Antenna 2/3D Diagram

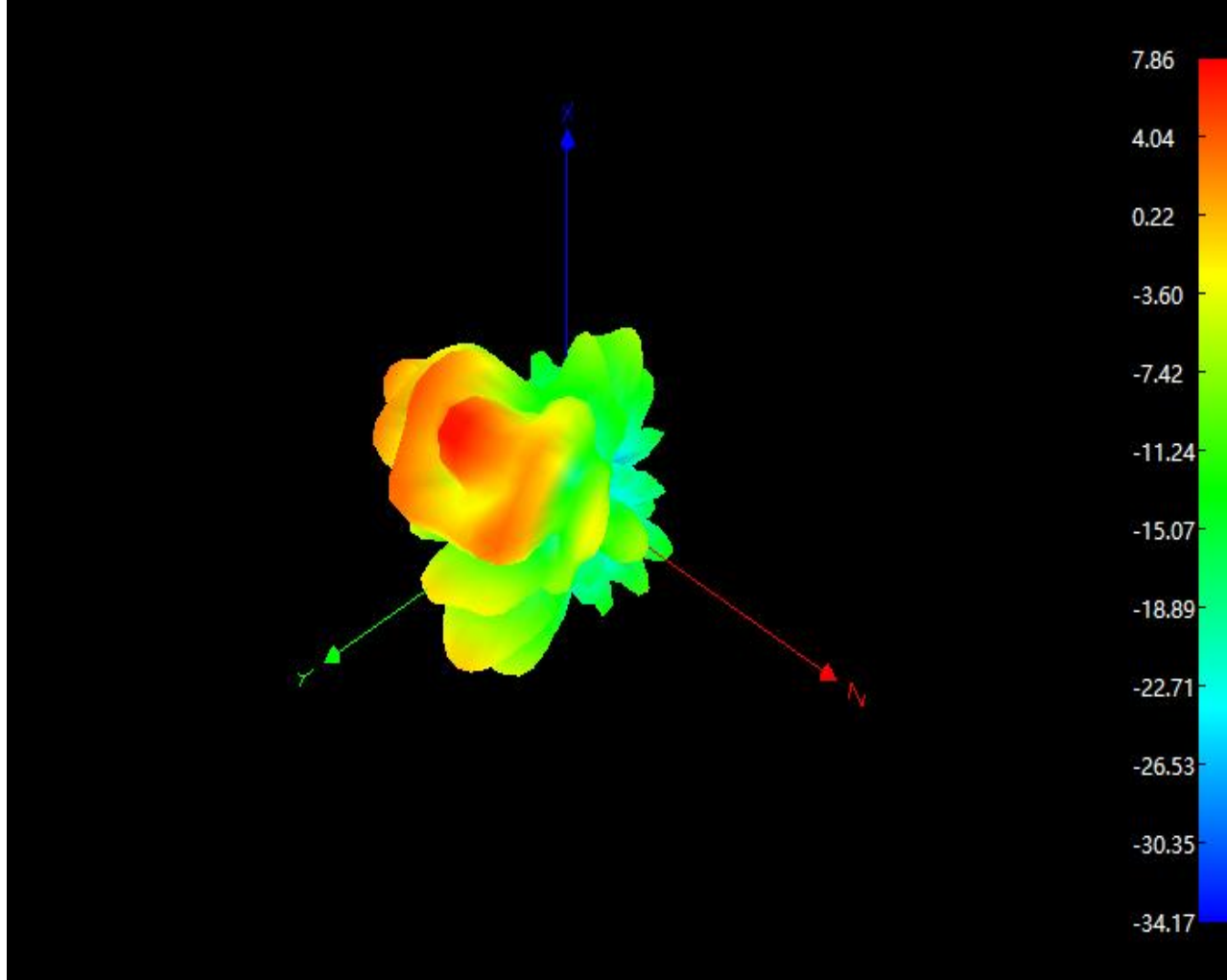


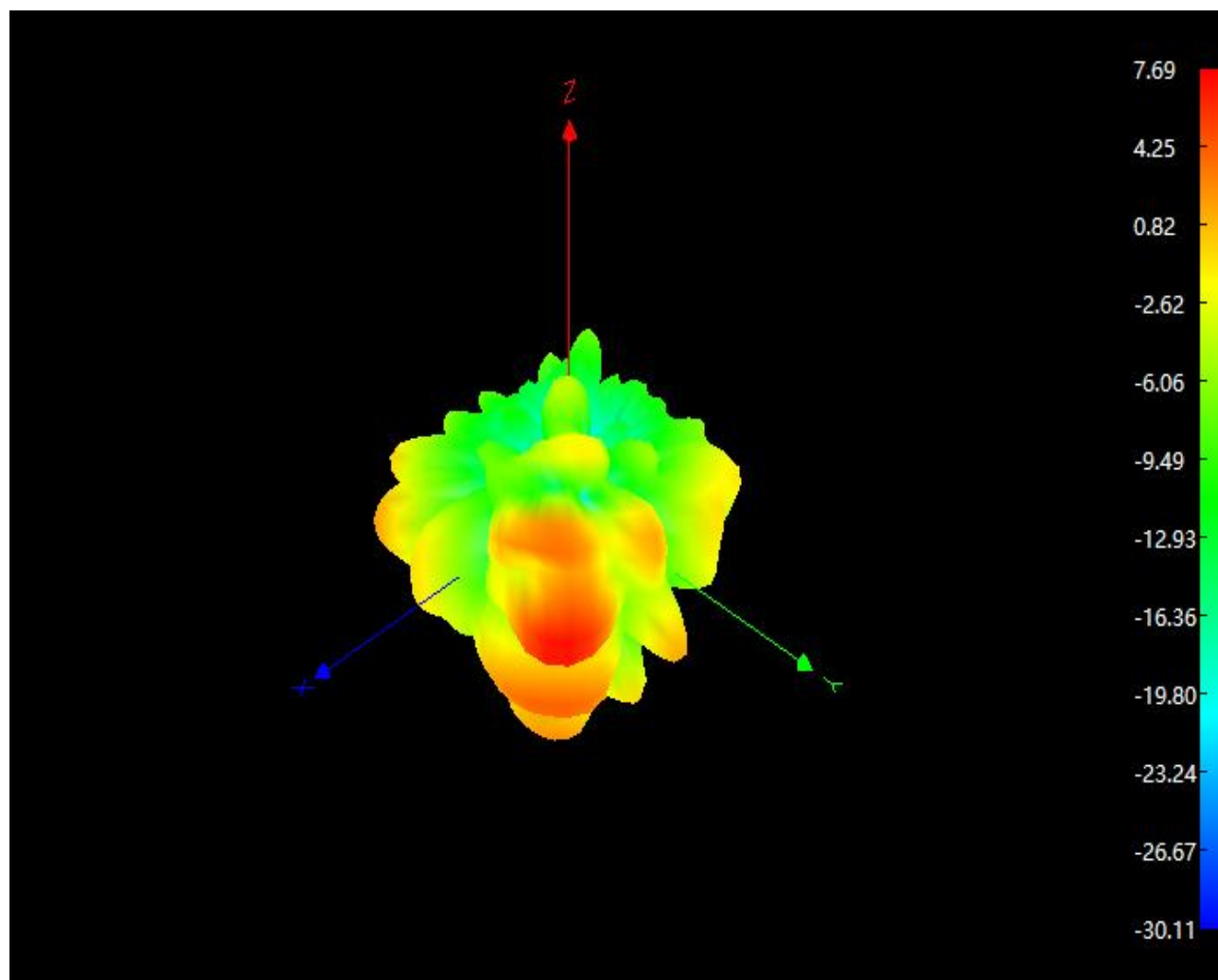


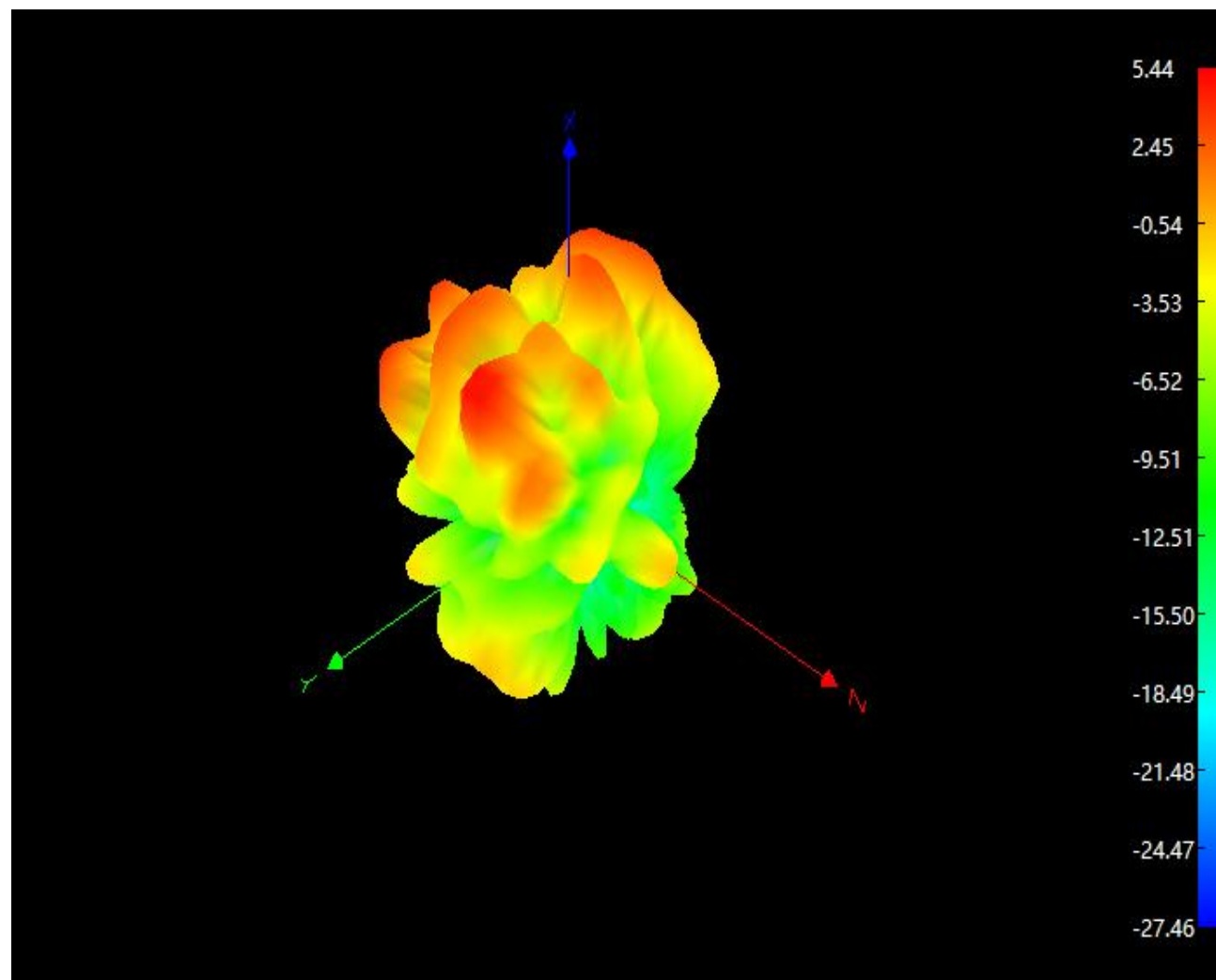


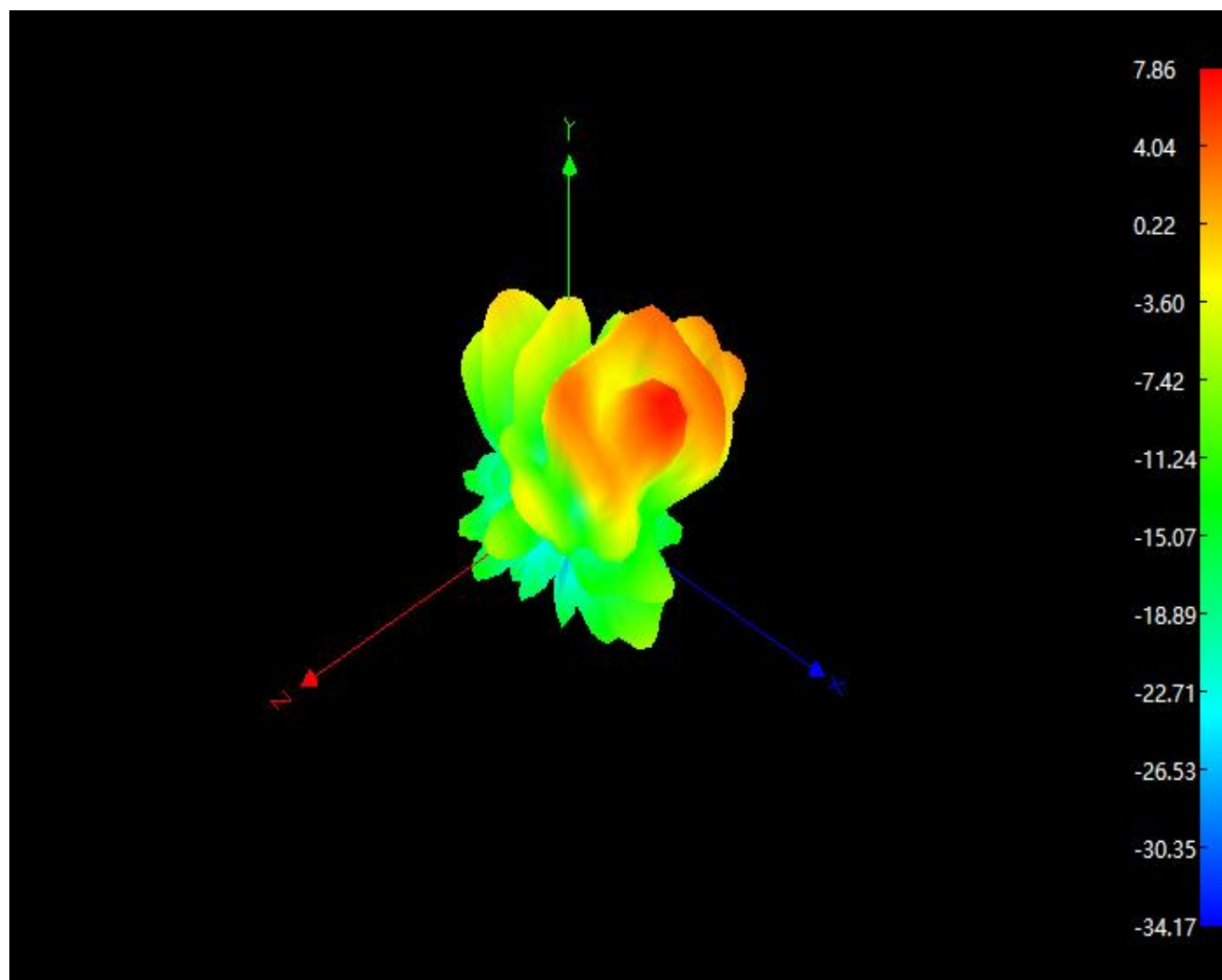












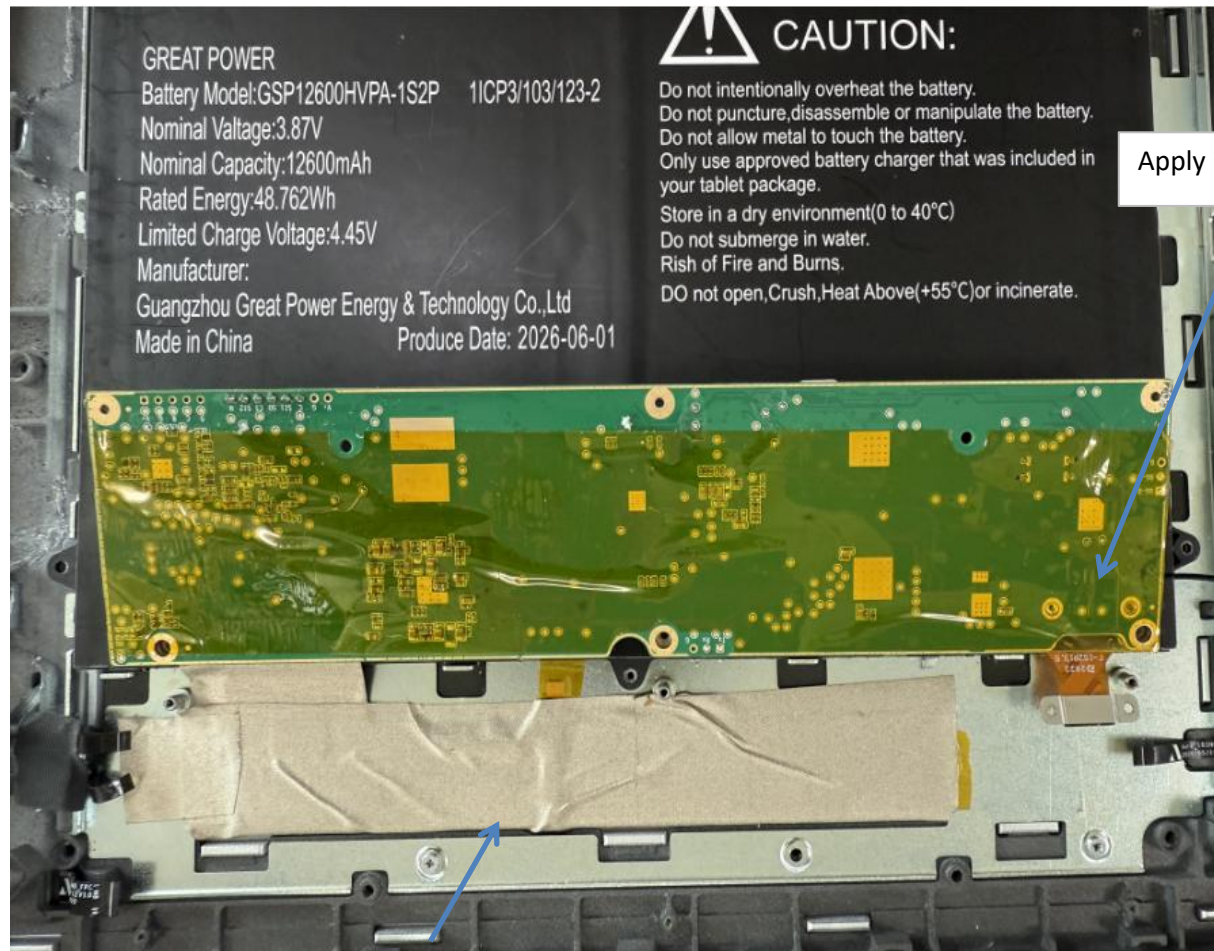
Antenna assembly drawing

WiFi1 Antenna mounting

WiFi2 Antenna mounting



Overall machine environment handling



Shenzhen yGalax Technologies Limited				File NO#		
				MADE DATE		
	FPC ante inspection specification			PAGE		
				VISION	A0	
1. Purpose : Strict inspection, control the use of defective products, ensure product quality requirements. 。						
2. Range of application: FPC Ante.						
3. Work content						
	Item	Content	Tool	Inspection standard	Defect describe	FAULT GRADE
	Package	INDENTIFICATION	by sight	The outer package has clear label, indicating the product name, specification, quantity, date, etc.	The mark is not clear and cannot be read.	MIN
		MATERIAL	by sight	Uniform packaging, clean and tidy, no damage, no impact on handling, storage, no wrong loading, mixed loading, less loading.	Packaging is not uniform, dirty, wet, damage, affect handling, storage.	MIN
	Face	FACIAL	by sight	No breakage, copper exposure, cracking, color difference, glue benefit on FPC, no oxidation, brittle crack on golden finger.	FPC has damage, copper exposure, cracking, color difference, glue, gold finger oxidation, brittle crack.	MAJ
	Structure	size	Vernier calliper	Circuit board size (length, width and height) is the same as the template.	The dimensions are different from the pattern.	MAJ
		material proof	sample	Same as the sample.	The material is different from the template.	MAJ
	Function	electroplating	model	Gold finger gilded bright, 100% coverage.	Plating is not bright, plating coverage is low.	MAJ
		FIT	Frame	Attach the FPC to the housing, and the preset paste position is consistent, no more or less.	Attach the FPC to the housing, and the preset position of the paste is not consistent, there is more or less.	MAJ
MADE BY:			Audit:	Approver:		

RoHS Restricted Substance Composition sheet

Product information provided												
Customer name				Project name		Manufacturer				Green mark		
AURA				AF330		yGalax				/		
Product composition information												
Item	Part name	Part NO#	VOLUME UP	Third party test report		Limit substance content PPM						remark
				DATE	number	(Pb)	(Cd)	(Hg)	(Cr ⁶⁺)	(PBB)	(PBDE)	
1	3M adhesive	/	honjingxinban	2021/1/13	SHAEC2100467601	O	O	O	O	O	O	
2	COPPER CLAD LAMINATE	/	caigelundi	2021/3/3	SHAEC2103249001	O	O	O	O	O	O	
3	ink	/	kaiyao	2021/8/17	ERT2102095	O	O	O	O	O	O	
4	Electroplating	/	jiahongtai	2021-5-13	A2210168276101001E	O	O	O	O	O	O	

Note: 1. Please indicate whether the content of the six restricted substances complies with the regulations by using "O" or "X"; "O" for compliance and "X" for non-compliance

Note: 2. PPM limit values: Cadmium < 100 PPM; Lead/Mercury/Six-valent Chromium/PBB/PBDE < 1000 PPM.

3. The total amount of lead, six-valent chromium, mercury and cadmium in packaging materials should not exceed 100 ppm.

4. This form should be fully completed by the supplier and stamped; here, the supplier refers to the direct trading party. (Provide a paper copy with a stamp o)

Salt spray test report

Date 20260824

Product name	AF330	Customer name	AURA
Supplier		National testing standards	GB/T 2423.2-2008
Sample situation	QTY: 5PCS		
	MATERIAL: One - sided half - half colloidal electrolytic copper	Plating thickness : ≥3U"	
TEST DATE	FROM 20260820 9:00 TO 20260821 9: 00 TOTAL 48 H		
TEST TYPE:	☒ NSS	☐ ASS	☐ CASS
Test condition	Saline solution: 5%		PH:7.0
	The temperature inside the box: 35°C		relative humidity: 85%
	Spray way: ☒ continue ☐ gap		compressed air pressure: 1kg/cm²
	Salt spray sedimentation rate: 1-2ml/80cm2/h		Fog fluid collection:
	Test cycle: A loop		Spray time: 48 h
Test result	Appearance after test: The appearance is intact without significant change.		
	Coating: no peeling, no corrosion		
	Surface spraying, screen printing: no shedding, no bubbles		
NOTE:			
1, Salt spray test operating standards in accordance with the People's Republic of China national standard GB/T2423.17-2008			
2. The test results shall be determined according to the national standard GB/T6461-02 of the People's Republic of China			
Test Date:		Check:	

High and low temperature test records

Product name	AF330		Customer name	AURA	
Test QTY	6 pcs		TEST DATE		
Cycle-index	1		Test time	48H	
Test condition High temperature: + <u>65</u> °C Humidity: <u>90</u> % RH Low temperature: - <u> </u> °C Test: high-temp: <u>48</u> H low-temp: <u> </u> H					
Test project	Uncycled test			Cycled test	
Item	After the high temperature	After low temperature	After the high temperature	After low temperature	
1	OK	/			
2	OK	/			
3	OK	/			
4	OK	/			
5	OK	/			
6	OK	/			
Post test defect:					
Reason analysis:					
Improvement measure:					
Test result: ☒ pass ☐ fail					

AUDIT:

Record: