



上海增信电子有限公司  
Signal Plus Technology Co., Ltd.

规格承认书  
SPECIFICATION FOR APPROVAL

日期  
DATE: 2024.04.01

版本  
REV.: B

客户  
CUSTOMER: 上海六联智能科技有限公司

客户料号  
CUSTOMER P/N:

品名  
PART NAME: 内置 2.4G&5G WiFi FPC天线, 0.81灰色普通线L=170mm with RF CONN(4代)  
for DNB20副端口

供方料号  
SUPPLIER P/N: 6241F00022

送样日期Date: 送样数量Q'TY: Pcs

客户确认CUSTOMER APPROVED BY		
核准 Approved by	审核 Checked by	确认 Confirmed by

供方确认SUPPLIER SIGNATURE		
核准 Approved by	审核 Checked by	拟制 Prepared by
Andy		Cindy

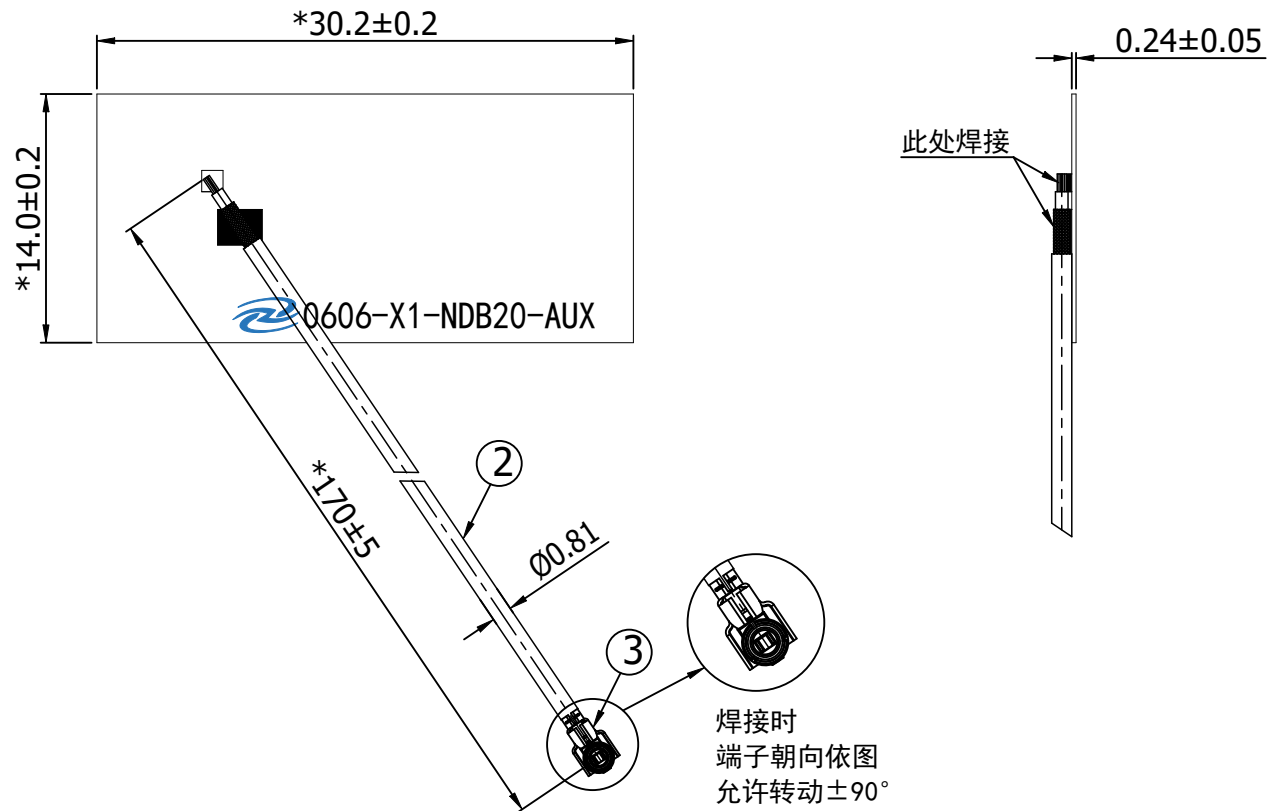
ZX-QT-RD-0011-A1

Add:上海市徐汇区桂箐路69号30栋603室 Tel:021-54266190 Fax:021-54266191

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REV	DATE	DESCRIPTION
X1	03/29-2024	New Issue
X2	04/01-2024	修改线材颜色
X3	04/01-2024	修改线材颜色




1.ELECTRICAL PROPERTIES:

- 1.1 Frequency Range.....2.4~2.5&5.15~5.85GHz
- 1.2 Impedance.....50 Ohm Nominal
- 1.3 VSWR.....≤3.5@5.35~5.85GHz(单天线检验)

- 2.These Products are in conformity with ROHS2.0
- 3.Strict size is marked with "\*" ,and () for reference.

3	Connector	IPEX-4 compatible;Gold-Plated	1	
2	Cable	0.81 Coaxial cable;Color:Gray(灰色)	1	
1	Antenna	FPC board,Black solder resist ink	1	502-1-0606-X1
NO	DESCRIPTION		Q'TY	REMARK

CUSTOMER'S SINGATURE	XXX.	±2.0	APPROVED	CUSTOMER:		
	XX.	±1.0		PART NO:		
	X.	±0.5	CHECKED	PART NAME: 内置 2.4G&5G WiFi for DNB20副端口		
	.X	±0.3		Z&X P/NO: 6241F00022		
	.XX	±0.2	DRAWING	REV	UNIT	FILE:
	⊕	⊖		X3	mm	SHEET: 1/1

 上海增信电子有限公司  
Signal Plus Technology Co.,Ltd.



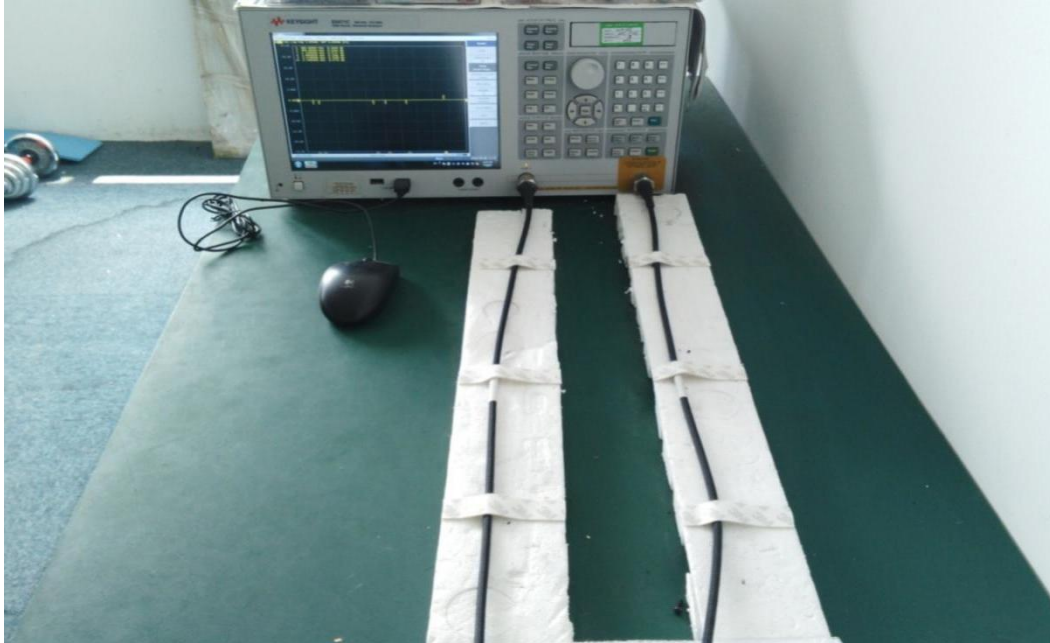
## Antenna Test Report

## 1. RF Fixture Experiment

### 1.1 Test Setup

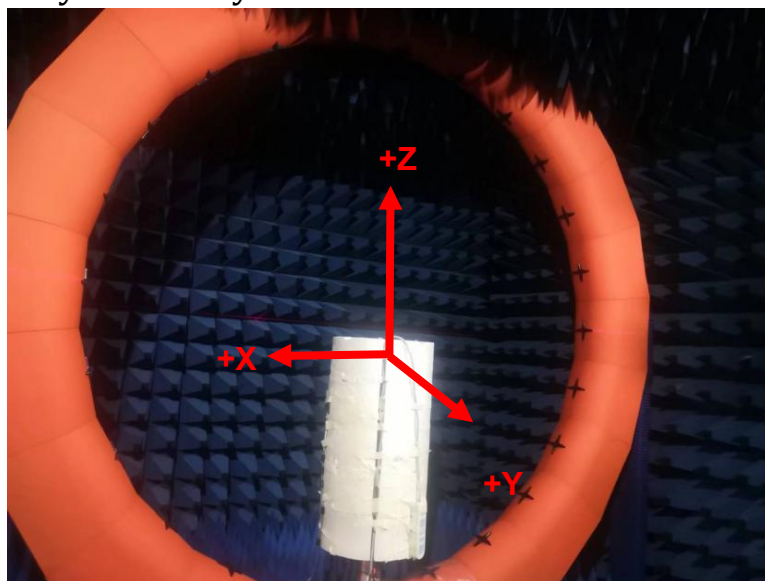
#### 1.1.1 VNA Test Setup

VSWR and Return Loss measurements ( $S_{11}$ ) were performed using an Keysight E5071C Network Analyzer. The isolation between antennas is also tested. The testing was performed with apparatus in free space.

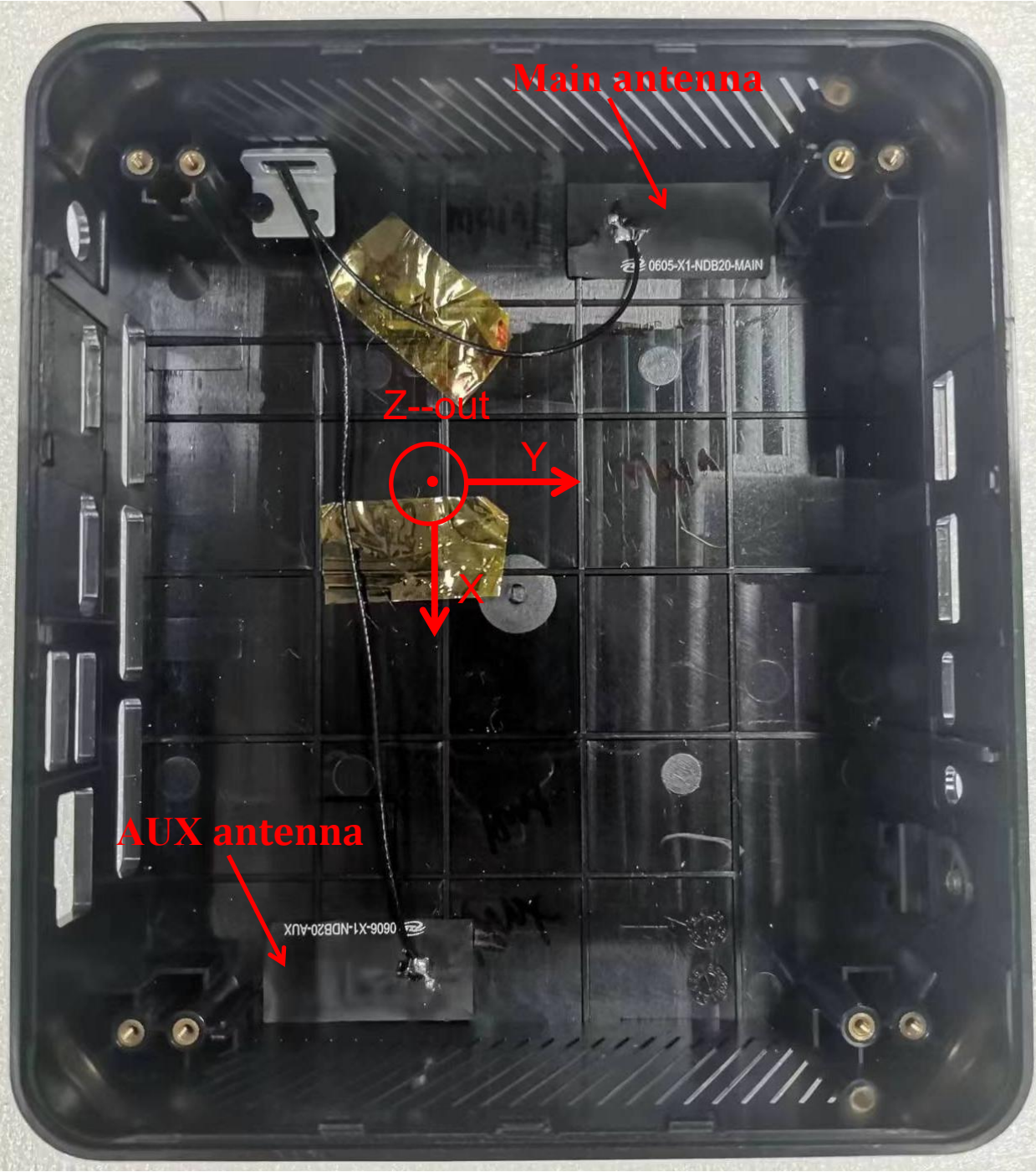


#### 1.1.2 Anechoic Chamber Test Setup

The gain of the antenna was measured in the anechoic chamber. The chamber provides less than  $-30$  dB reflectivity from 400 MHz through 6 GHz. The chamber size is: 7m\*4m\*3m. The measurement results are calibrated using a leaky wave horn standard. We can measure the antenna gain and efficiency accurately.



2. Antenna Solution



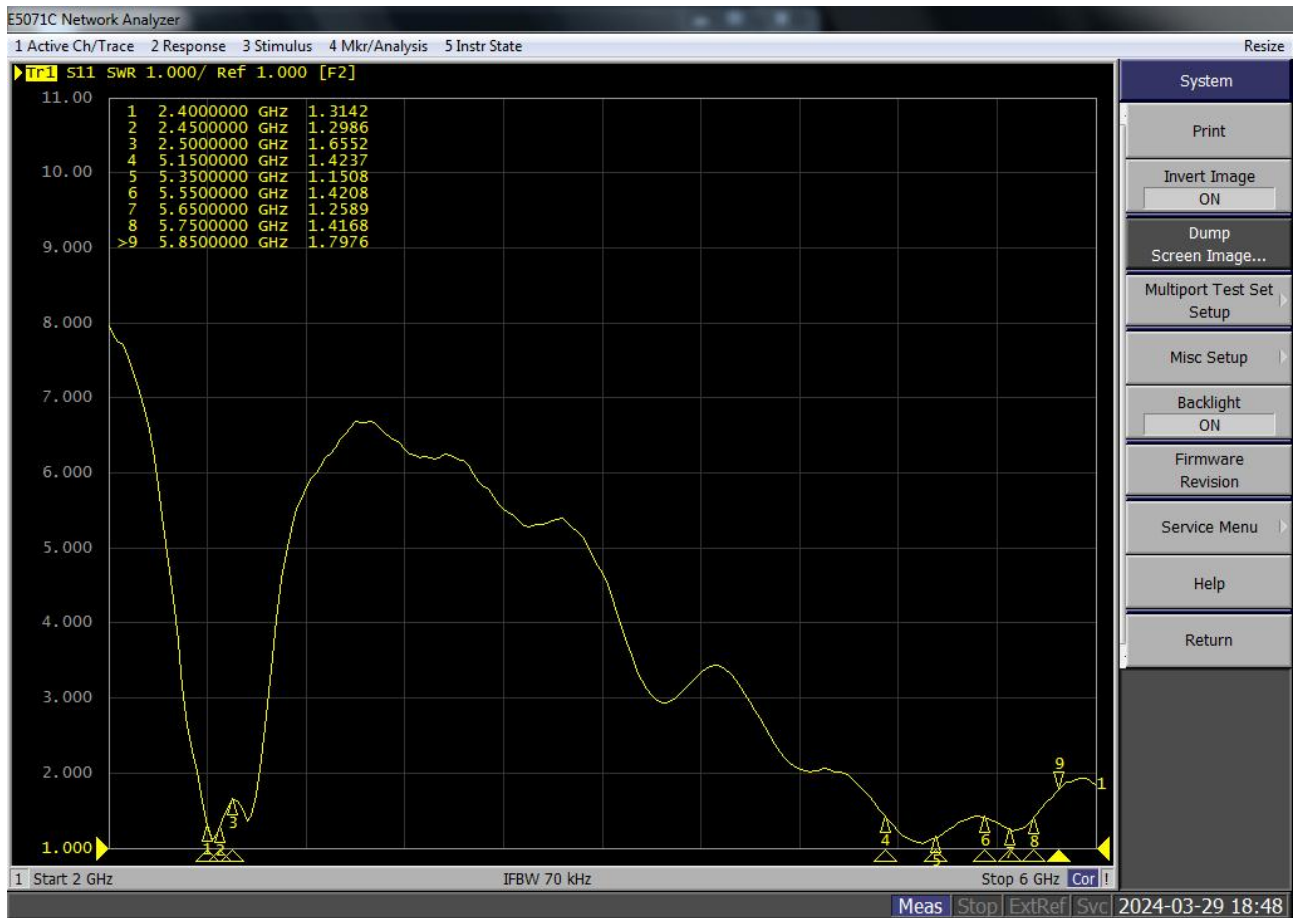
## Data Preview

### AUX antenna

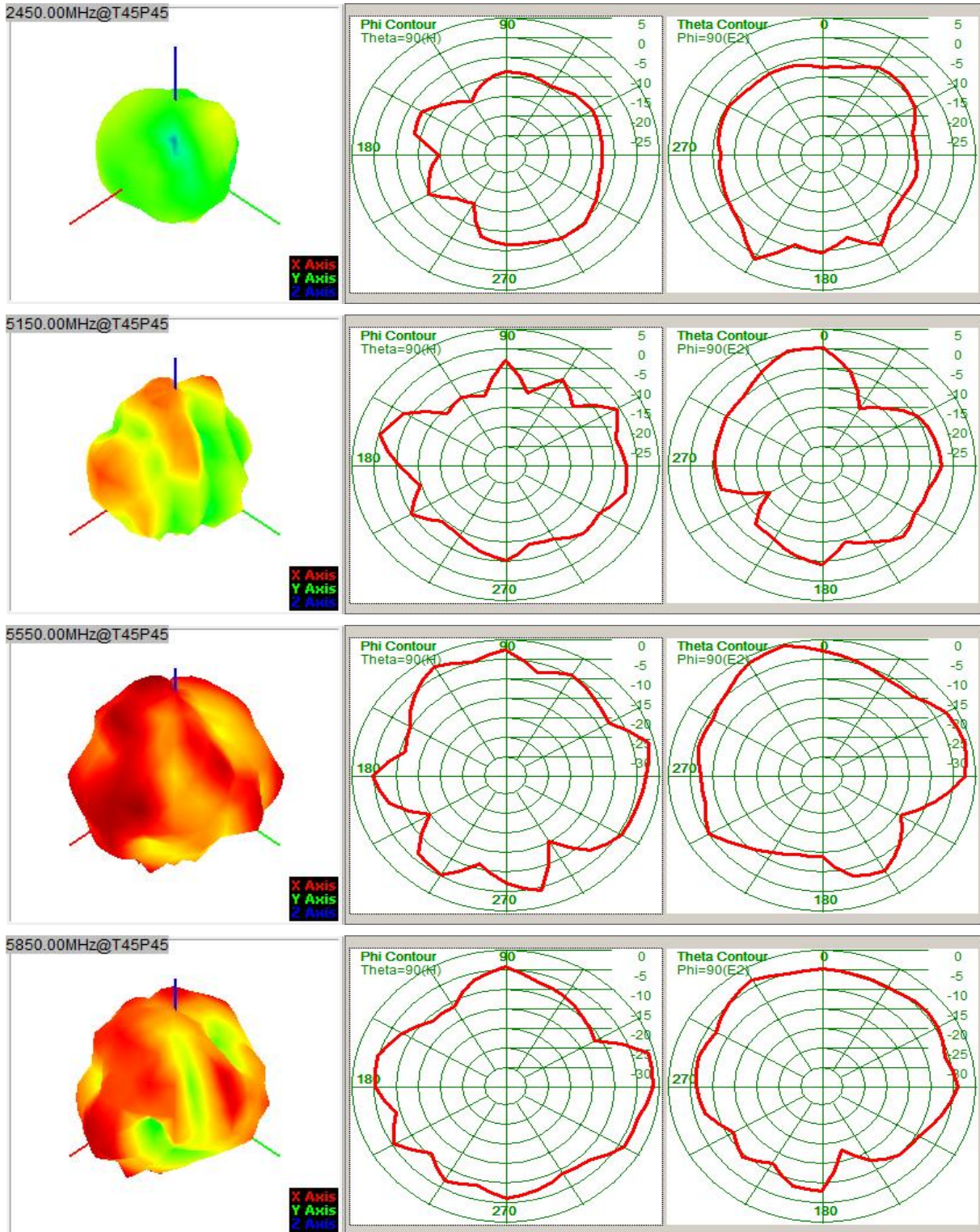
Freq.(MHz)	2400	2450	2500	5150	5350	5550	5750	5850
VSWR	1.31	1.29	1.65	1.42	1.15	1.42	1.41	1.79
Gain(dBi)	-0.38	0.93	1.42	1.47	0.87	0.62	-0.64	-1.00
Eff.%	31.2	30.5	32.2	38.6	36.5	36.4	32.9	29.4

### AUX antenna

### S11



# Radiation patterns:





#### 4. Active data

Mode	Channel	TRP	TIS
5G 11a/54m	36	13.42	-66.01
	64	13.64	-65.21
	165	12.32	-68.65

Mode	channel	TRP	TIS
2.4G 11g/54m	1	12.32	-65.14
	6	12.2	-65.96
	11	12.03	-66.31