



東莞市亨松電子科技有限公司

Dongguan Hengxin Electronic Technology Co., Ltd.

承認書

客 戶: _____

品 名: 2.4G Antenna

料 號: HX-P15B-UFL16B

客戶料號: _____

送樣日期: 2024.09.19

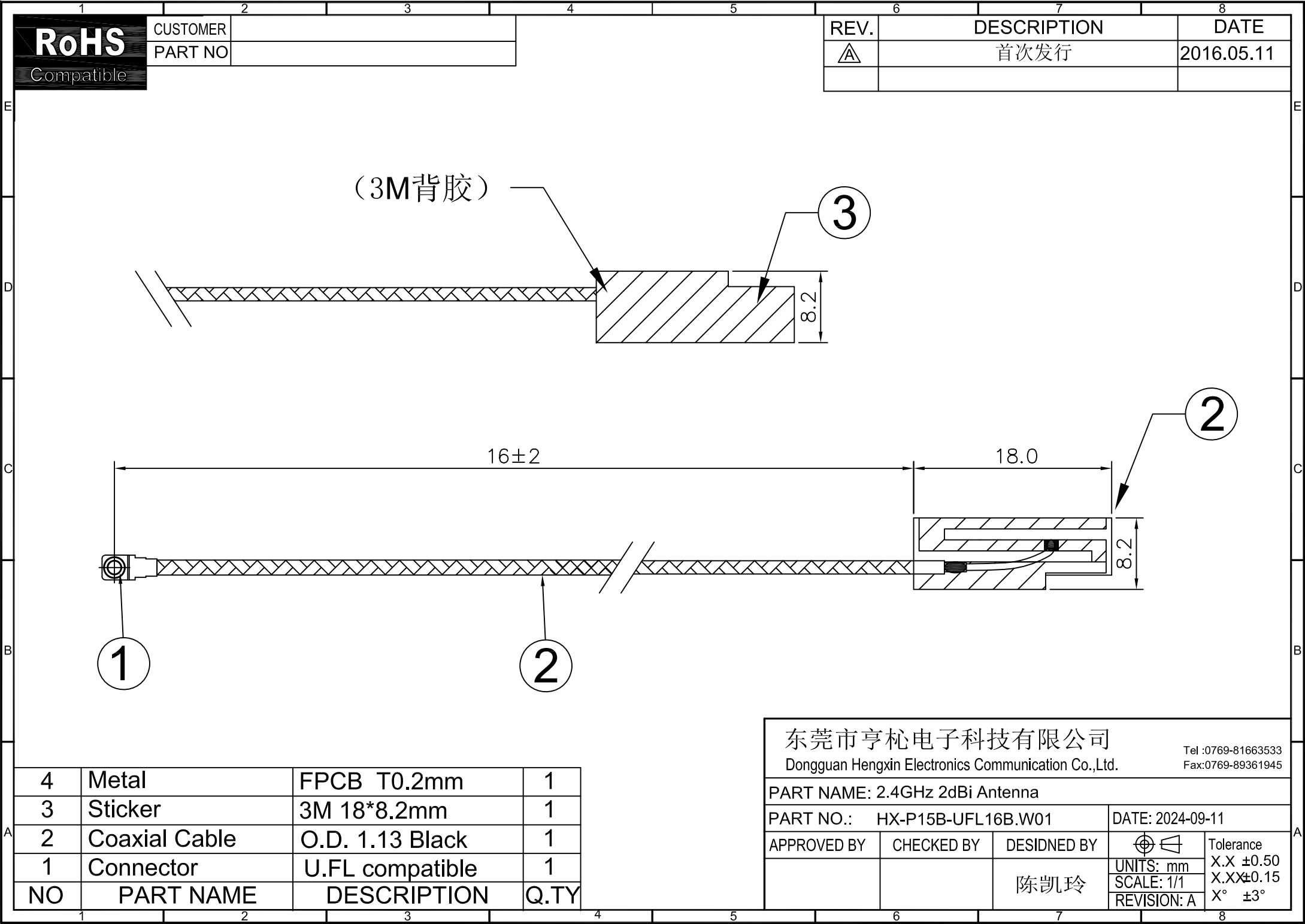
客戶確認			供應廠商	
工程部	品保部	採購部	核准	送樣人
			趙 2024.09.19 守 剛	龚银明

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RoHS
Compatible

CUSTOMER	
PART NO	

REV.	DESCRIPTION	DATE
△	首次发行	2016.05.11

4	Metal	FPCB T0.2mm	1
3	Sticker	3M 18*8.2mm	1
2	Coaxial Cable	O.D. 1.13 Black	1
1	Connector	U.FL compatible	1
NO	PART NAME	DESCRIPTION	Q.TY

东莞市亨松电子科技有限公司				Tel :0769-81663533	
Dongguan Hengxin Electronics Communication Co.,Ltd.				Fax:0769-89361945	
PART NAME: 2.4GHz 2dBi Antenna					
PART NO.: HX-P15B-UFL16B.W01			DATE: 2024-09-11		
APPROVED BY	CHECKED BY	DESIDNED BY		Tolerance	
		陈凯玲	UNITS: mm	X.X ±0.50	
			SCALE: 1/1	X.XX±0.15	
			REVISION: A	X° ±3°	

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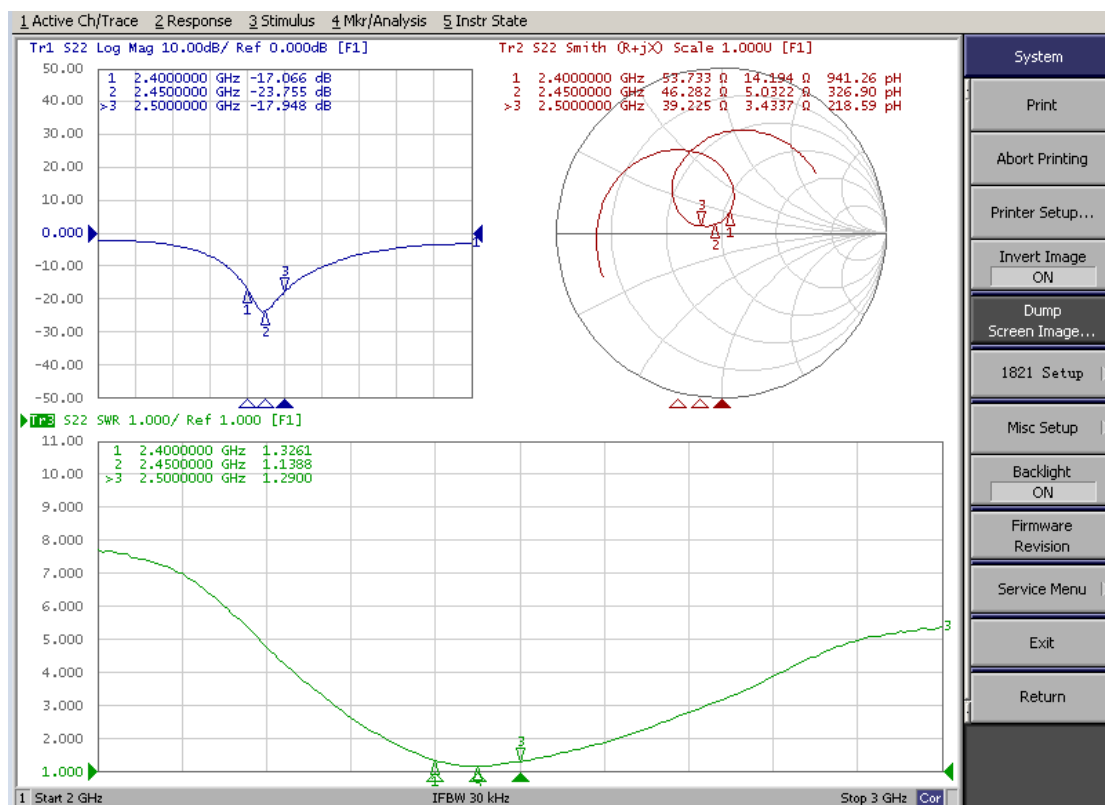
1. Reliability Testing

Test Item	Procedure	Requirement
1. Visual inspection and Dimension Check	Applicable methods using x5 magnification	follow specification
2. Rapid Changing of Temperature	-40°C (30minutes) to 80°C (30minutes); 24 cycles	After 2 hours recovery: 1. no visible damage 2. bandwidth tolerance < ±5%
3. Damp Heat	24 hours at 60°C; 90 ~ 95% RH	After 2 hours recovery: 1. no visible damage 2. bandwidth tolerance < ±5%
4. Endurance	24 hours at 80°C	After 2 hours recovery: 1. no visible damage 2. bandwidth tolerance < ±5%
5. Connector Pull Strength Test	>= 1.0 Kg	Hold 2~3S: 1. no visible damage 2. bandwidth tolerance < ±5%

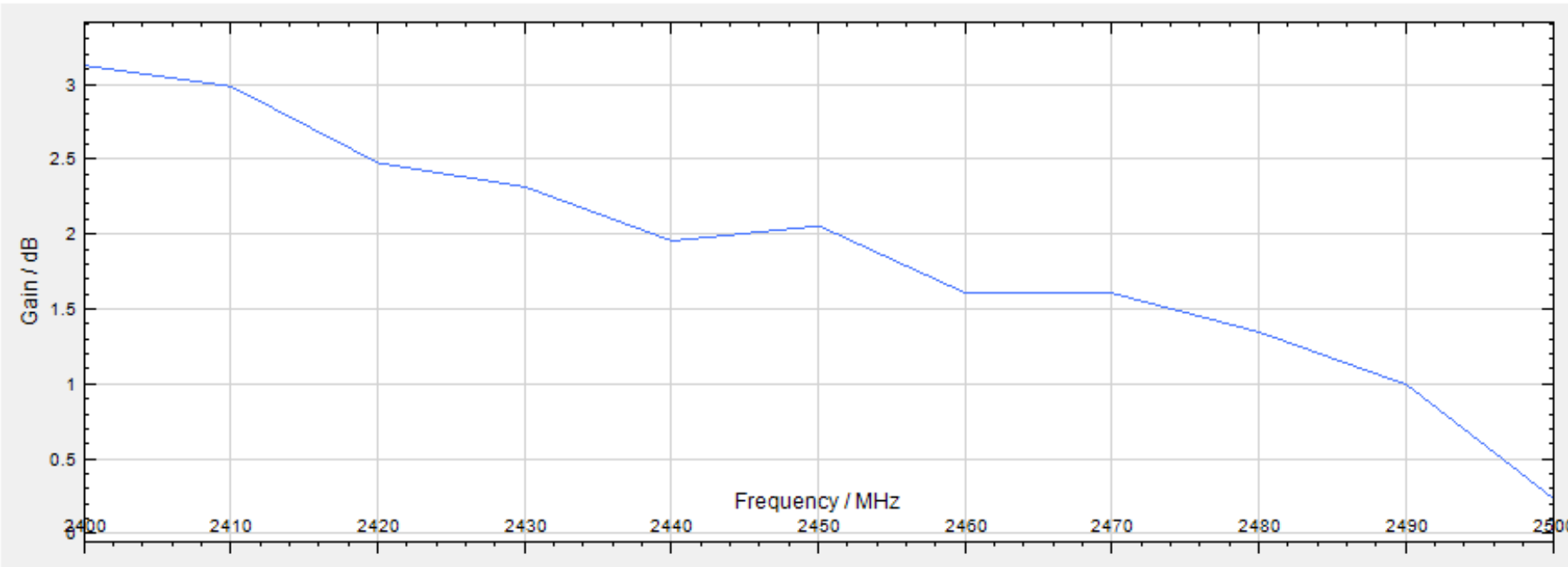
2. Specification

A. Electrical Characteristics	
S.W.R.(Tested in PC)	≤ 2.0 @ 2400~2500 MHz
Typical Antenna Gain	$+2 \pm 0.7\text{dBi}$ @ 2450 MHz
Impedance	50 Ohm
B. Material	
Material of Radiator	CU
Connector Type	Mini UFL
C. Environmental	
Operation Temperature	- 40 °C ~ + 85 °C
Storage Temperature	- 40 °C ~ + 85 °C

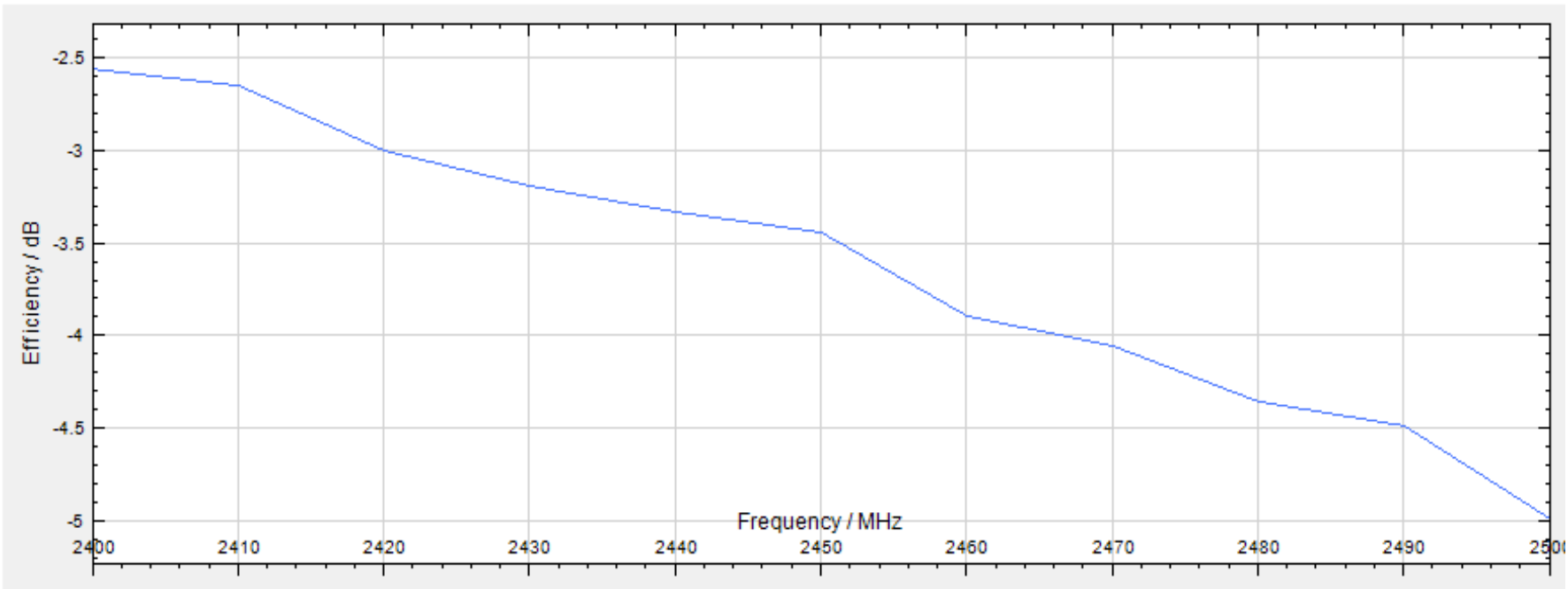
3. S.W.R. Testing Result



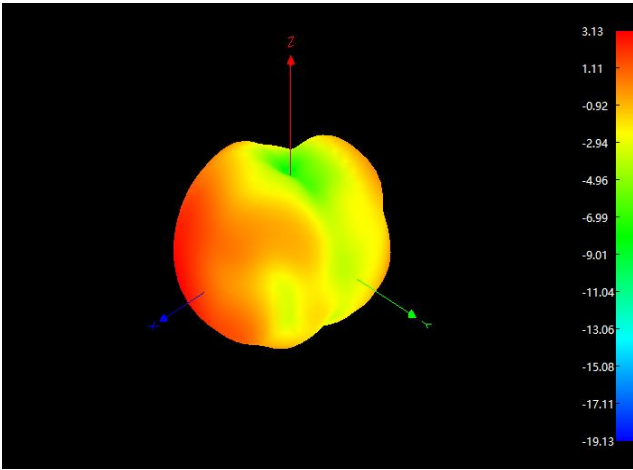
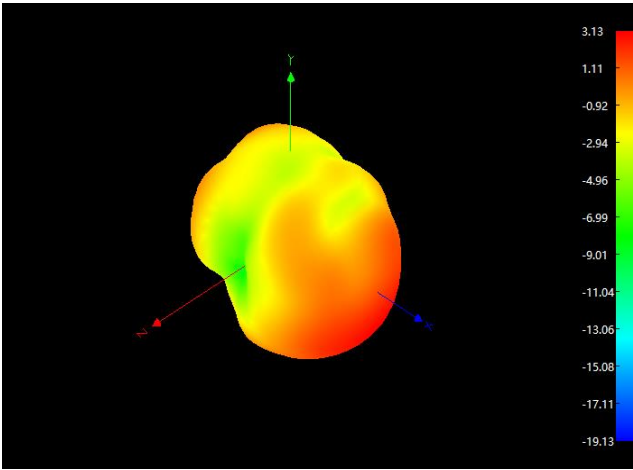
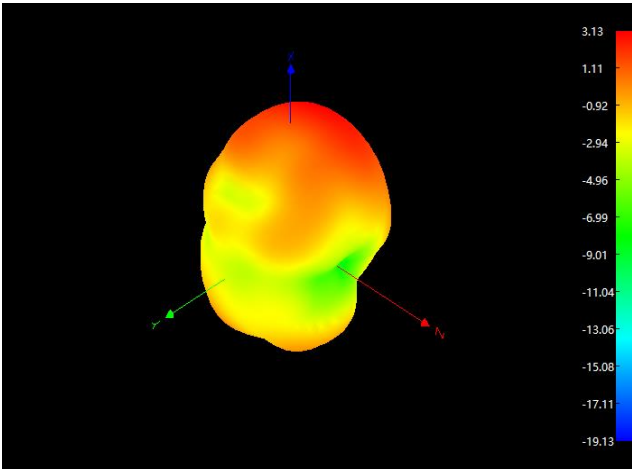
Frequency Gain/ dB	
2400	3.13
2410	2.99
2420	2.48
2430	2.32
2440	1.96
2450	2.06
2460	1.61
2470	1.61
2480	1.35
2490	1
2500	0.24



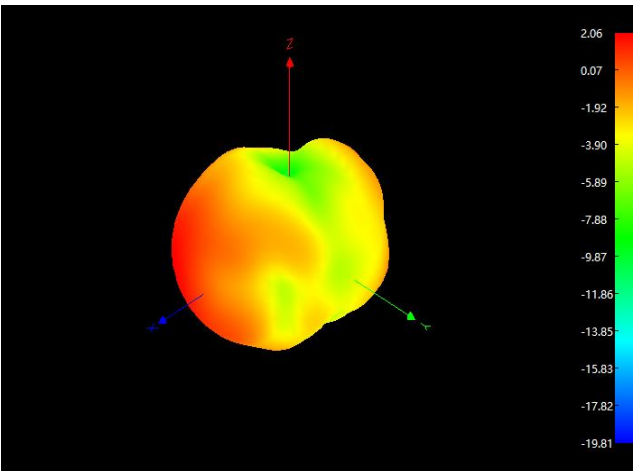
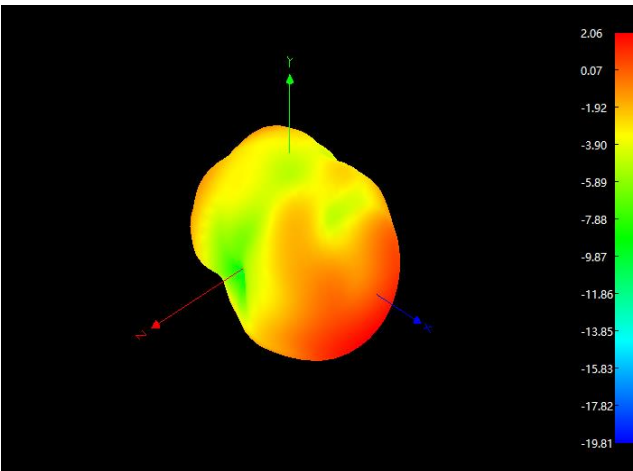
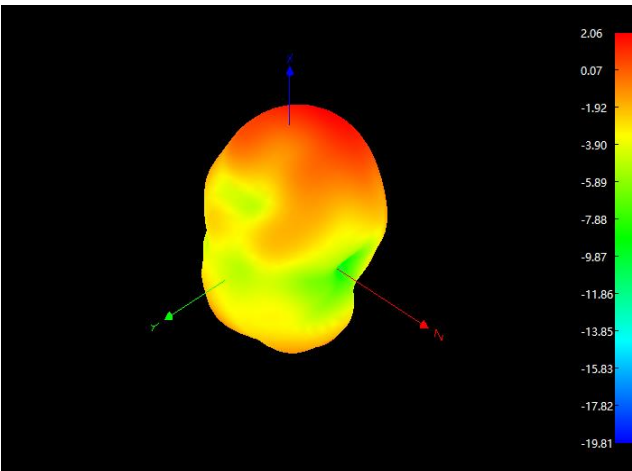
Frequency	Efficiency	Efficiency / %
2400	-2.56	55.46
2410	-2.65	54.33
2420	-3	50.12
2430	-3.19	47.97
2440	-3.33	46.45
2450	-3.44	45.29
2460	-3.89	40.83
2470	-4.05	39.36
2480	-4.35	36.73
2490	-4.48	35.65
2500	-4.98	31.77



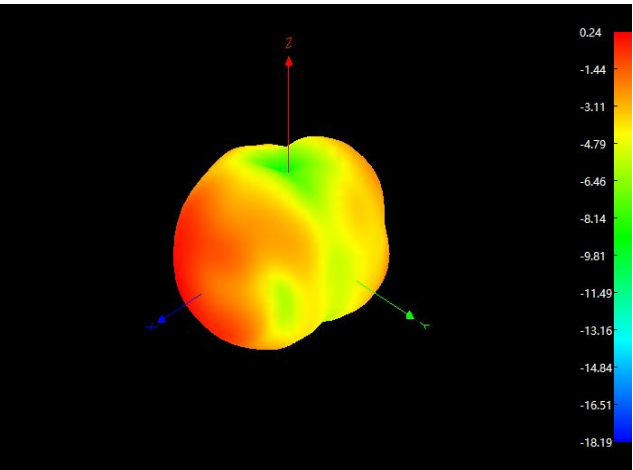
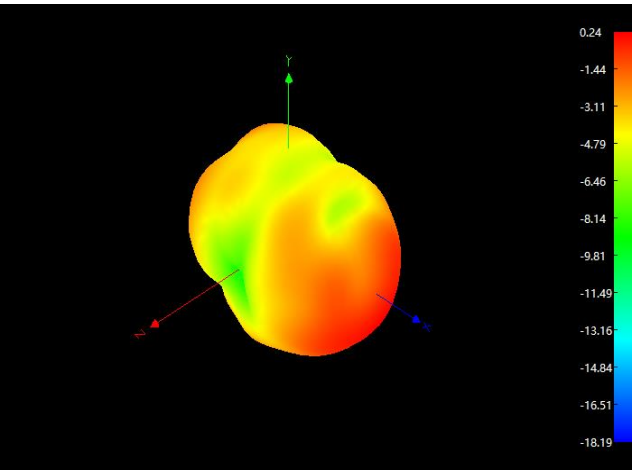
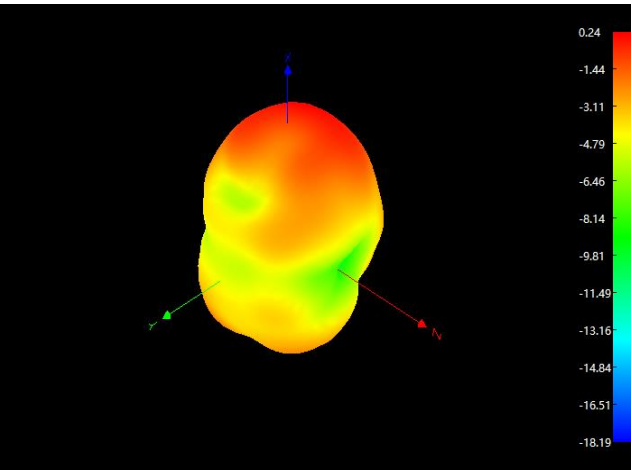
3D 2400



3D 2450



3D 2500



4. Antenna Radiation Pattern

Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

Quiet Zone: 600mm @1 GHz

Isolation: >100dB @ 1 MHz ~ 10 GHz

Testing Equipment: Agilent 5071B

Received Antenna: 0.7 ~ 6.0 GHz for Gain Calibration

Double Ridged Horn Antenna

