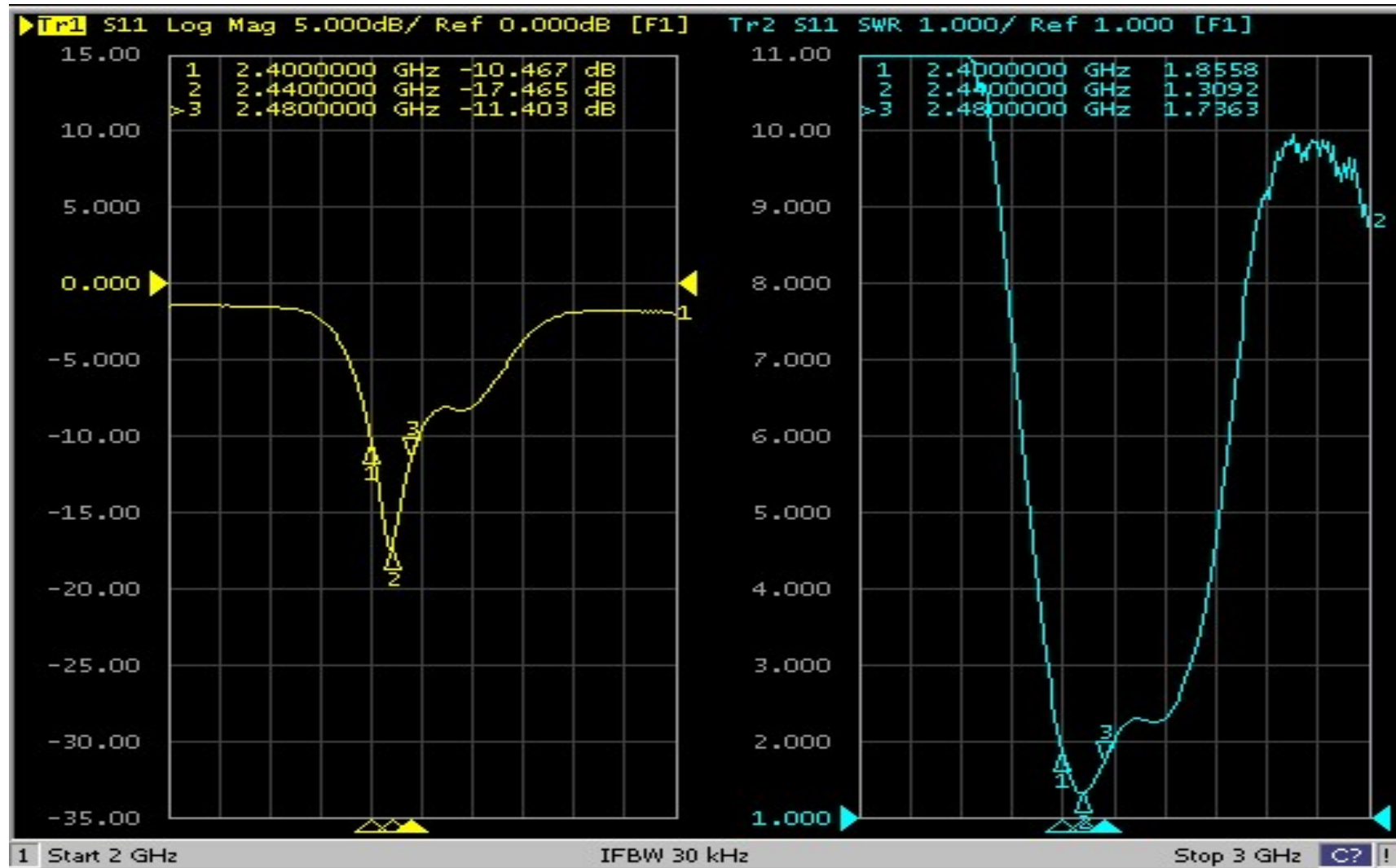




Chicony BT Antenna 【GCR 2407(Hyper X)】 Project

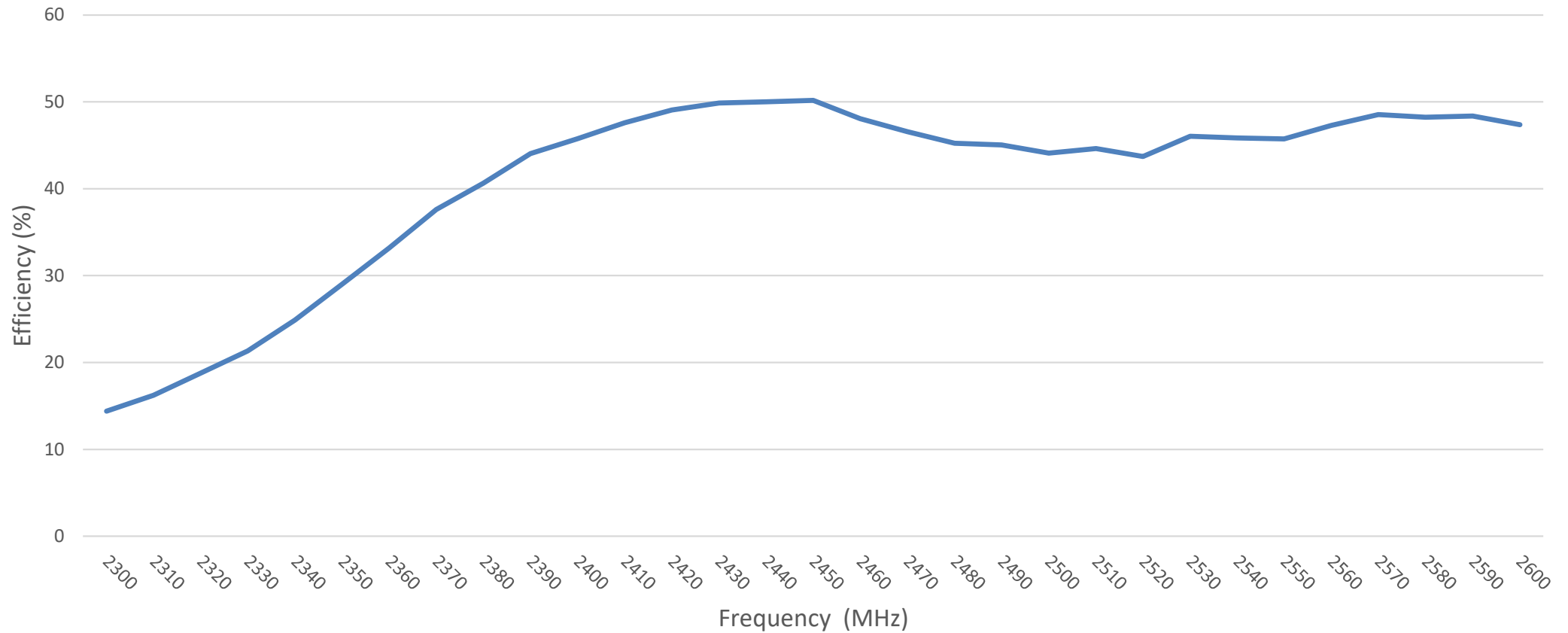
Date 2024/12/09
Author Nick

DCAH0S13 Antenna S11 (With Magnetic Metal Part)



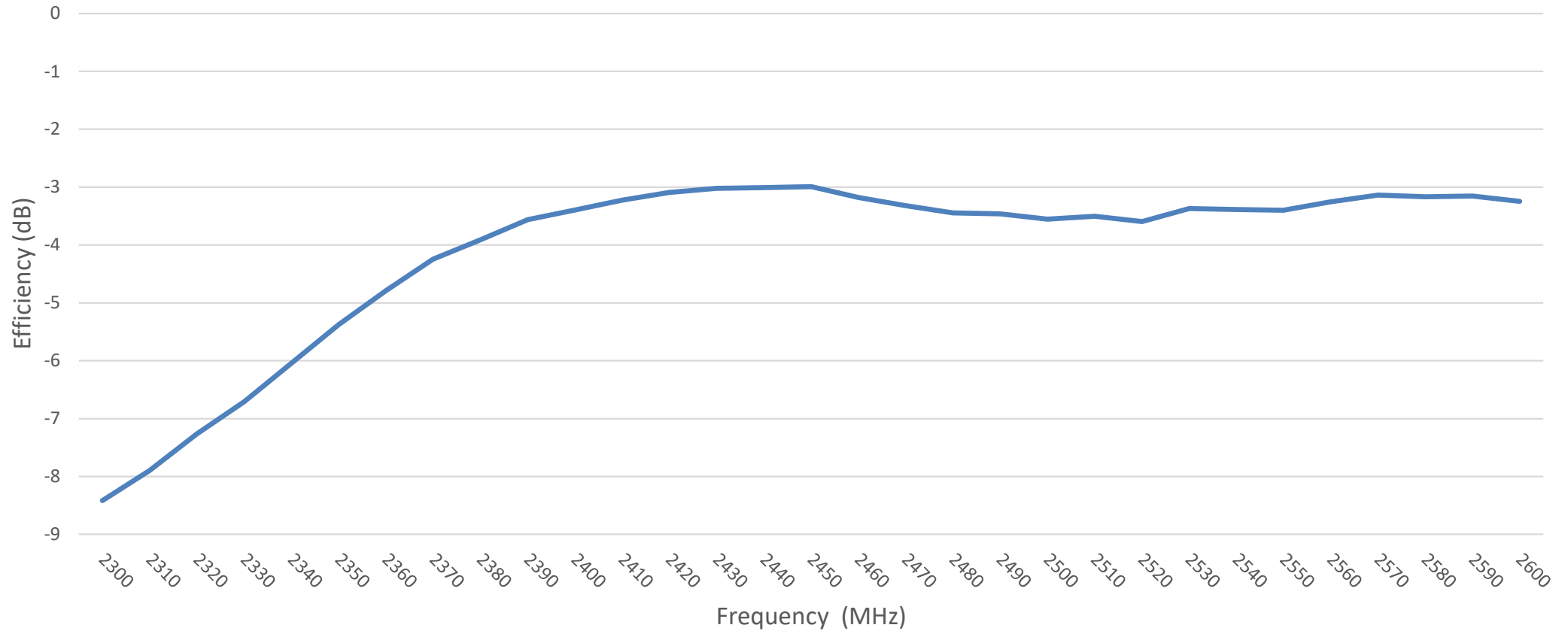
	2400 MHz	2440 MHz	2480 MHz
S11 (dB)	-10.46	-17.46	-11.40
VSWR	1.85	1.30	1.73

DCAH0S13 Antenna Efficiency



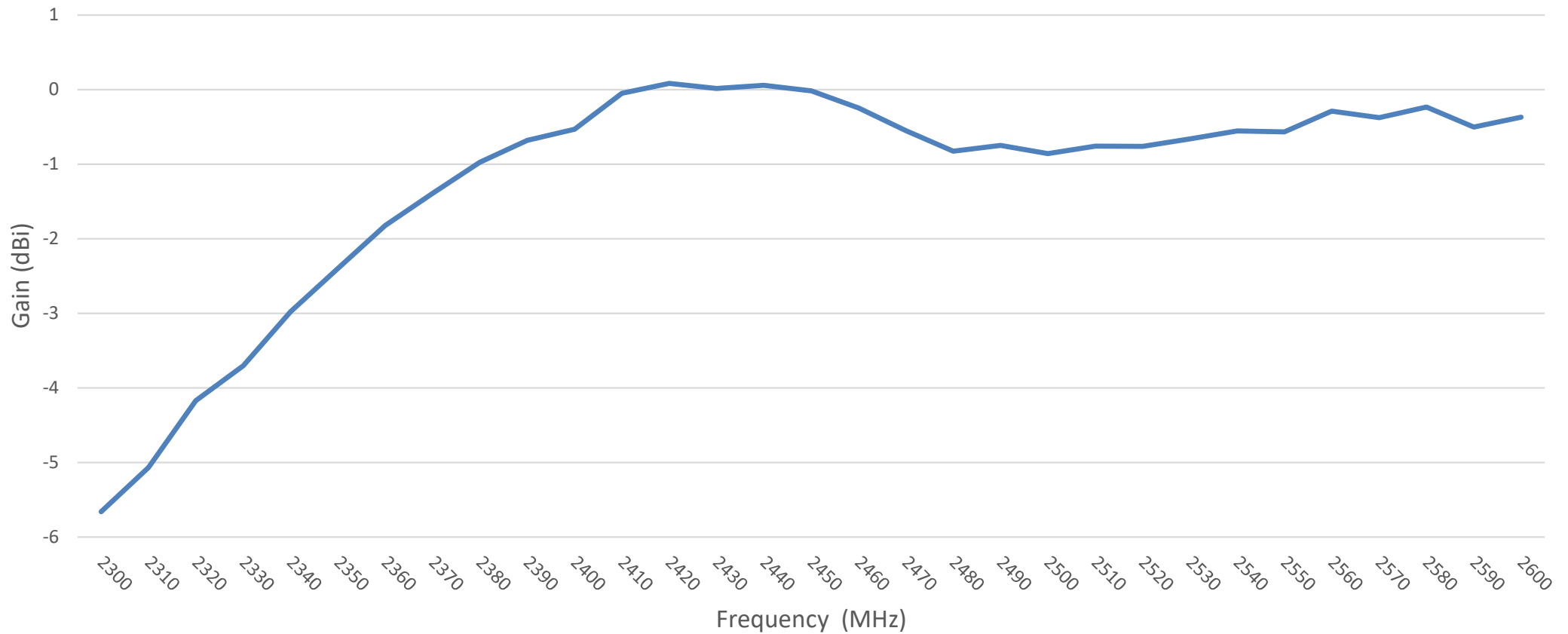
Frequency (MHz)	2400	2440	2480
Efficiency (%)	45.76	50	45.22

DCAH0S13 Antenna Average Gain



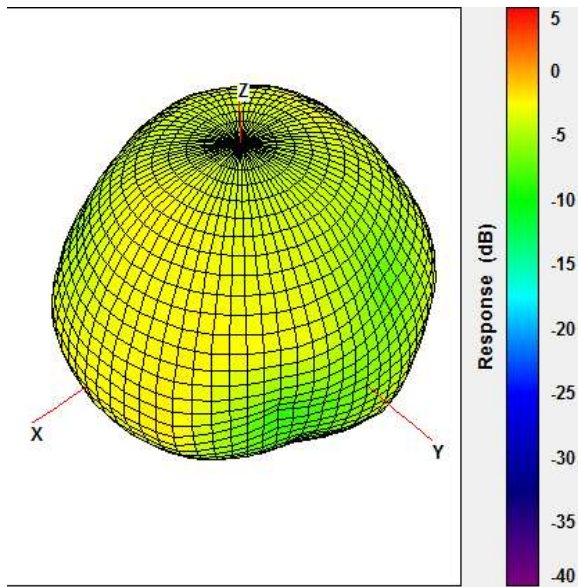
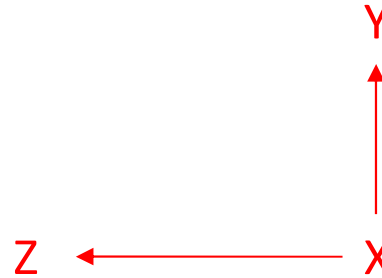
Frequency (MHz)	2400	2440	2480
Efficiency (dB)	-3.39	-3.01	-3.44

DCAH0S13 Antenna Peak Gain

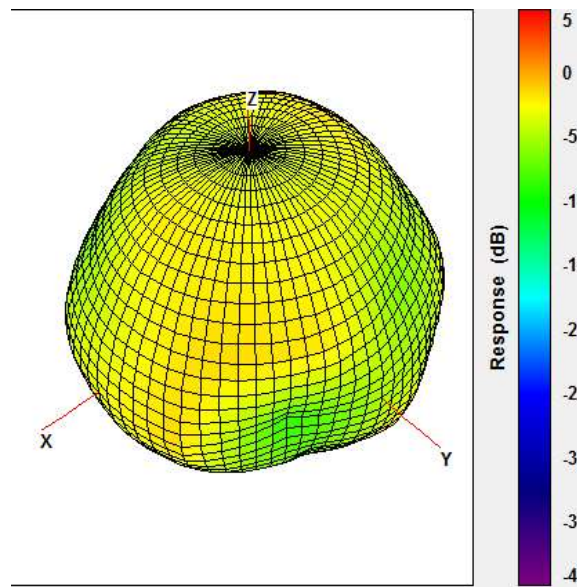


Frequency (MHz)	2400	2440	2480
Gain (dBi)	-0.53	0.05	-0.82

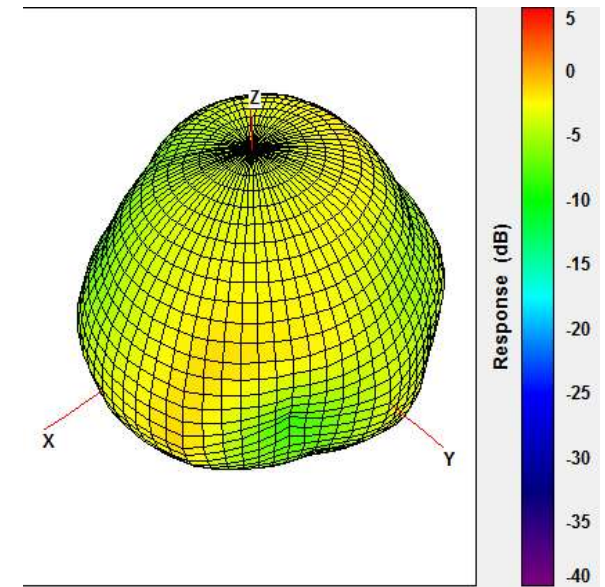
DCAH0S13 Antenna 3D Pattern



2400MHz

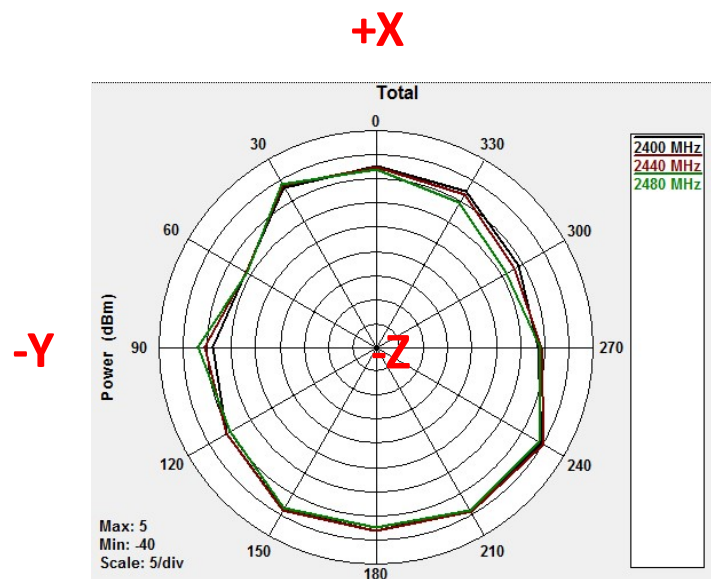


2440MHz

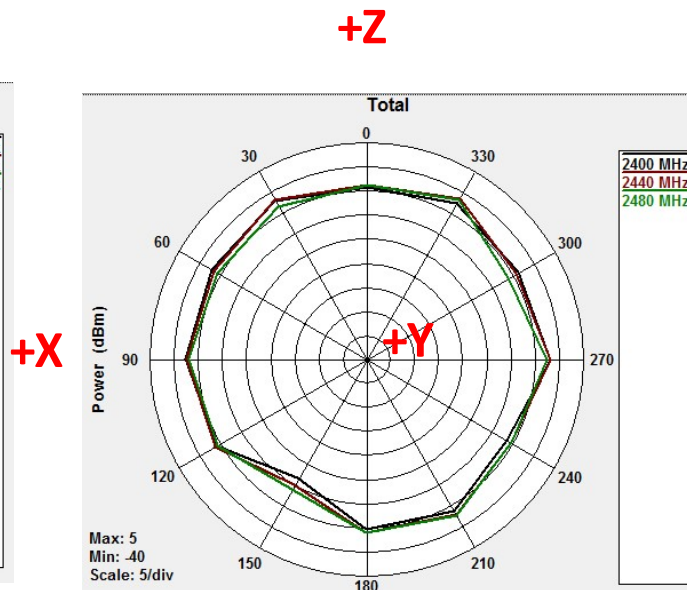


2480MHz

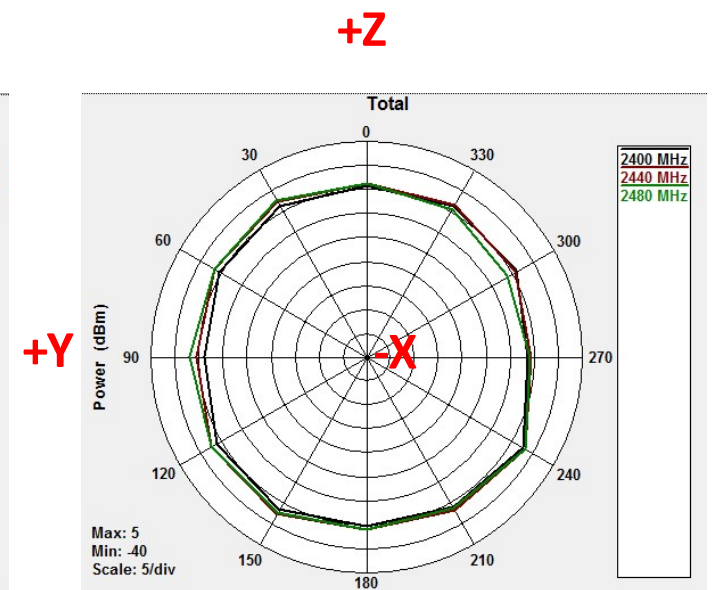
DCAH0S13 Antenna 2D Pattern



XY-Plane

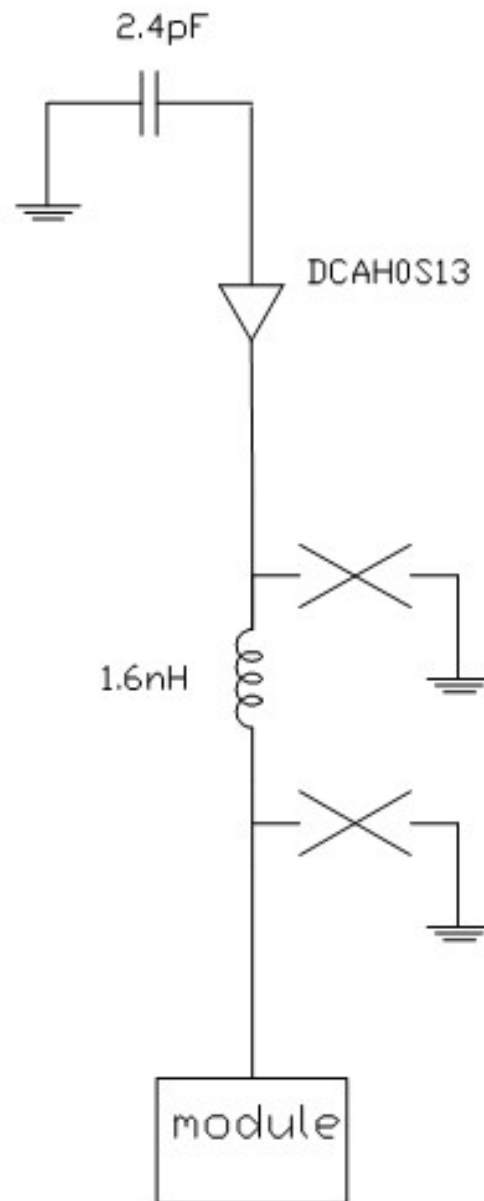


XZ-Plane



YZ-Plane

DCAH0S13 Matching Circuit



Summary

1. Adjust the antenna tuning based on the customer's provided prototype.
2. Modify the antenna matching to 2.4pF (behind the antenna) and add a series 1.6nH, and replace the cable material. The DCAH0S13 antenna efficiency is approximately 45%~50%.
3. The metal above the antenna causes partial field obstruction, resulting in lower efficiency.
4. Other characteristics are as shown in the previous report for the customer's reference.

1. Name and address of the antenna manufacturer

→ CIROCOMM TECHNOLOGY CORPORATION

No. 37, Gongye S. Rd., Guantian Dist., Tainan City 720006, Taiwan (R.O.C.)

2. Model number of the antenna

→ DCAH0S13 (Antenna type : Chip antenna)

3. Maximum gain of the antenna for the frequency band of operation

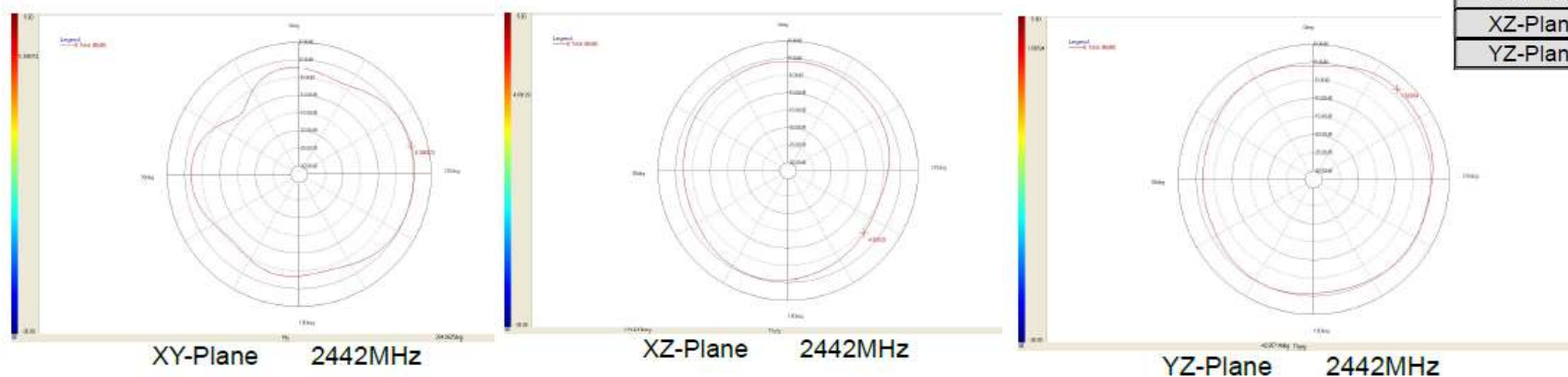
→

Table 1

No	Parameter	Specification
1	Working Frequency	2442 MHz
2	Dimension	3.05×1.6×0.55 mm
3	Return Loss	< -10dB
4	VSWR	2.0max
5	Peak Gain	1.0 dBi (typ)
6	Polarization	Linear
7	Azimuth	Omni-directional
8	Impedance	50 Ω
9	Operating Temperature	-40~105℃

4. Antenna patterns(2D or 3D) preferred

→



2442MHz	Peak Gain
XY-Plane	0.39
XZ-Plane	-4.09
YZ-Plane	1.50

(Unit : dBi)

5. Antenna gain description

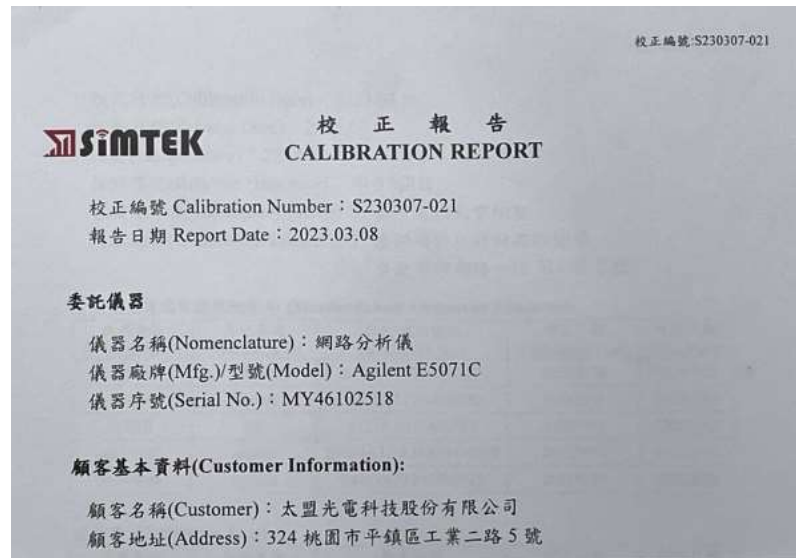
→ As per the test report

6. Performance specifications

→ As per the test report

7. Table of calibrated equipment

→



8. Tets data

→ 2024/12/09

9. Names of test personnel

→ Nick

10. Names of commercial test software being used

→ ETS-Quest Analysis

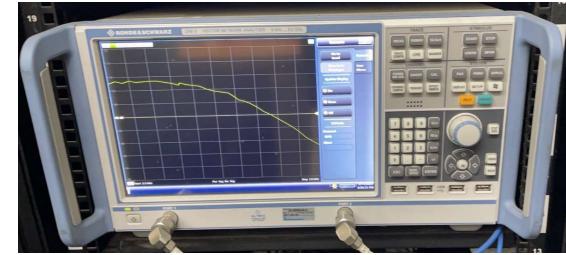
11. Test setup photos and



FSL-SPECATRUM



CMW-500



R&S ZNB8

12. Description of how measurements are made

→ Place the prototype on the test platform, position the test object at the center, and align it with the horn antenna. Use the ETS-Quest Analysis software to perform the measurements, and the computer will automatically calculate the results

13. Full electrical and mechanical specifications

→ Test Volume : 60 cm diameter

Quiet Zone Performance Amplitude: taper less than 1dB, ripple maximum +/- 0.5 dB

Quiet Zone Performance Phase: taper less than 5 degrees, ripple maximum +/- 5.0 degrees

Overall Dimensions (Nominal LxWxH): 15 ft x 9 ft x 8 ft (4.6 m x 2.7 m x 2.4 m)

Shielded Door Dimensions (Nominal): 4 ft x 7 ft (1.2 m x 2.1 m)

Max DUT Weight: 50 kg (110 lbs.)

Passive antenna measurements from 600MHz to 8500MHz

14. Configuration and RF Chains as applicable

