Test Report – 安普新 DVT1 Sparrow RX

Customer:	**安普新**
Project:	**Sparrow**
Stage	**DVT1**
Antenna:	**Sparrow_RX_ANT1(Print)**
Version:	**B**
Release date:	**2023/10/25**

Prepared by:	**Kin Dai**
Checked by:	**Sam Wu**
Approved by:	**Mike Yang**

Report Outline

Equipment

Equipment List

Equipment information

TYPE OF EQUIPMENT	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DUE DATE
(OTA2-3D ETS Chamber	ETS-844	N/A	N/A
Measurement Software	Maxwell V3.7.1	N/A	N/A
Multi-Axis Positioning System	N/A	N/A	N/A
switch control	MT8862A	SN6262021092	N/A
Network Analyzer	E5071C	MY46107724	2024.07.31

Background

Background

Customer information

1. Ampacs has provided DVT1 RX. Unicton will measure the S11 with the original RF matching components. If the S11 is not qualified, the RF matching components will need to be re-tuned.

Measurement Setup

Measurement Setup

Reflection Coefficient Measurement

a. Equipment : Network Analyzer(Agilent E5071A)

b. Test items : S-parameters (Impedance, return loss, VSWR)

Figure. Network Analyzer(Agilent E5071A)

Measurement Setup

Radiation Pattern Measurement

a. Equipment : Anechoic Chamber, Network Analyzer (Agilent E5071C), Standard Horn.

b. Test items : Gain, efficiency, 2D gain pattern, 3D gain pattern

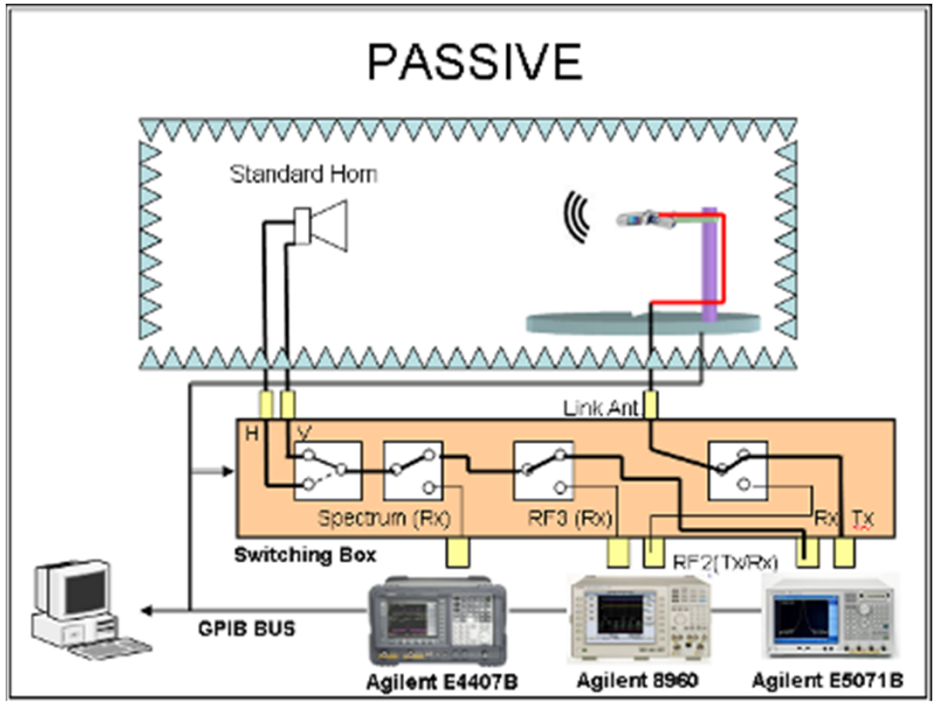


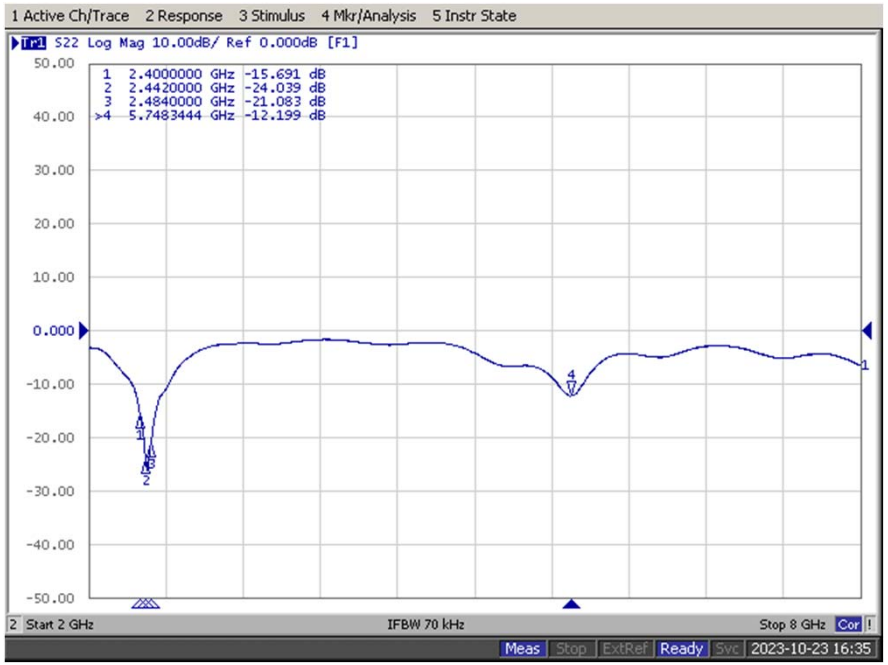
Figure. Scheme of radiation pattern measurement system

Experimental results

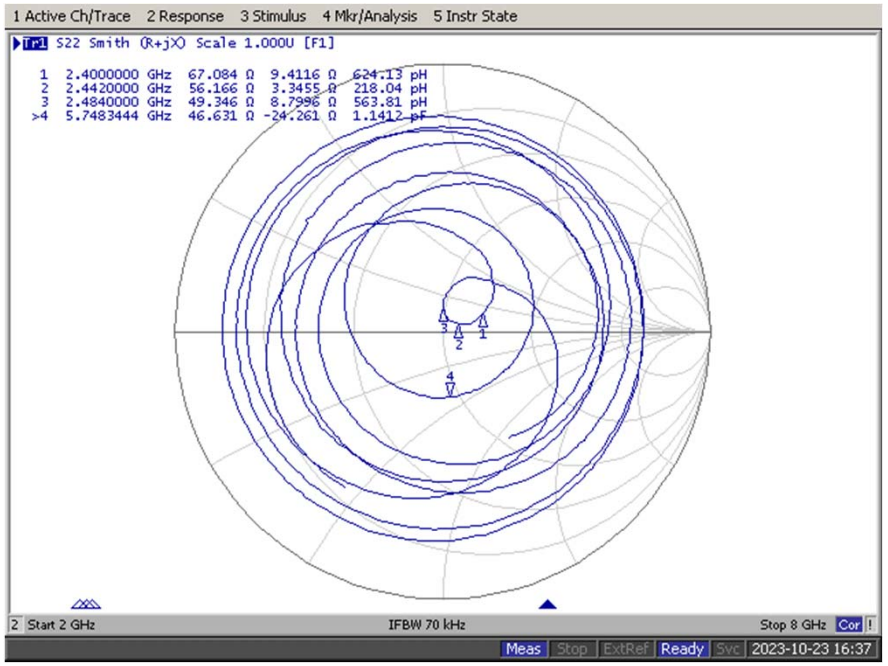
Experimental results

S-Parameters (Original RF matching components)

Return Loss



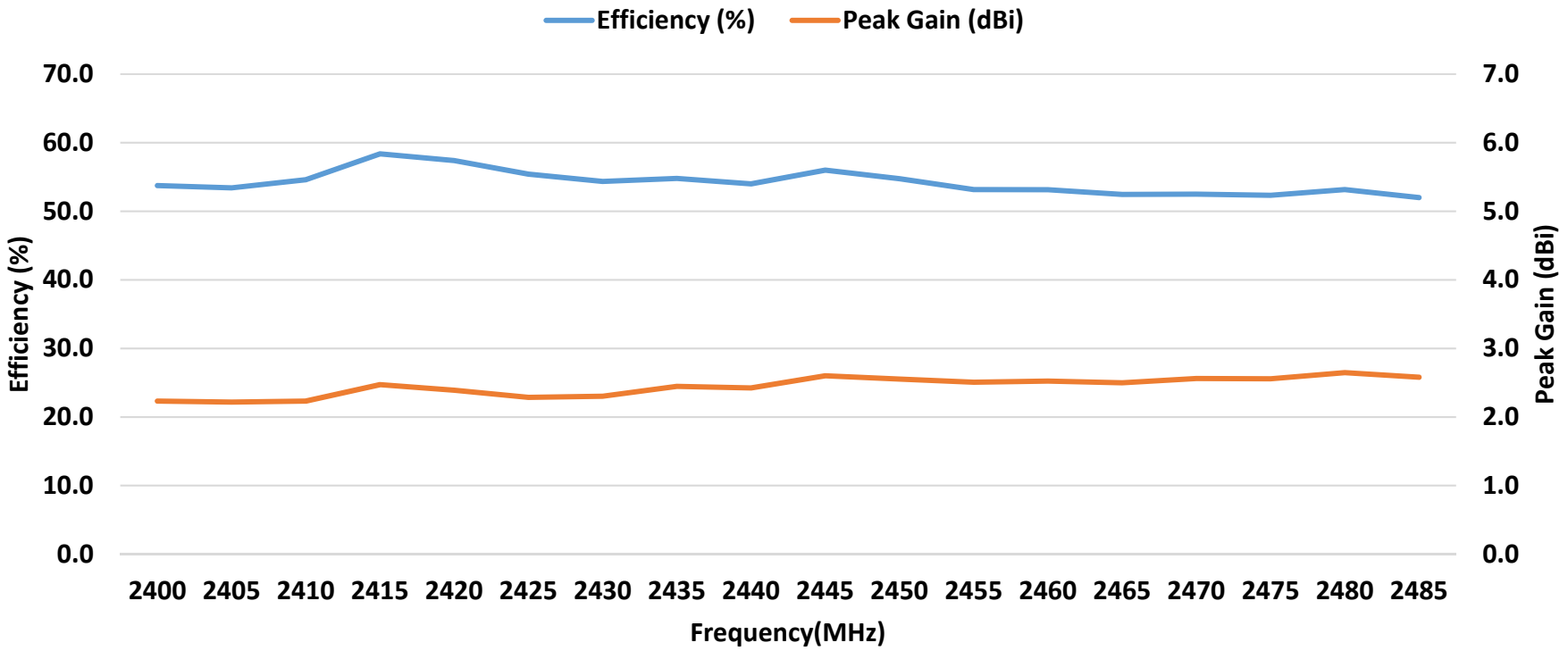
Smith Chart



No need to be re-turned.

Experimental results

Radiation efficiency and peak gain

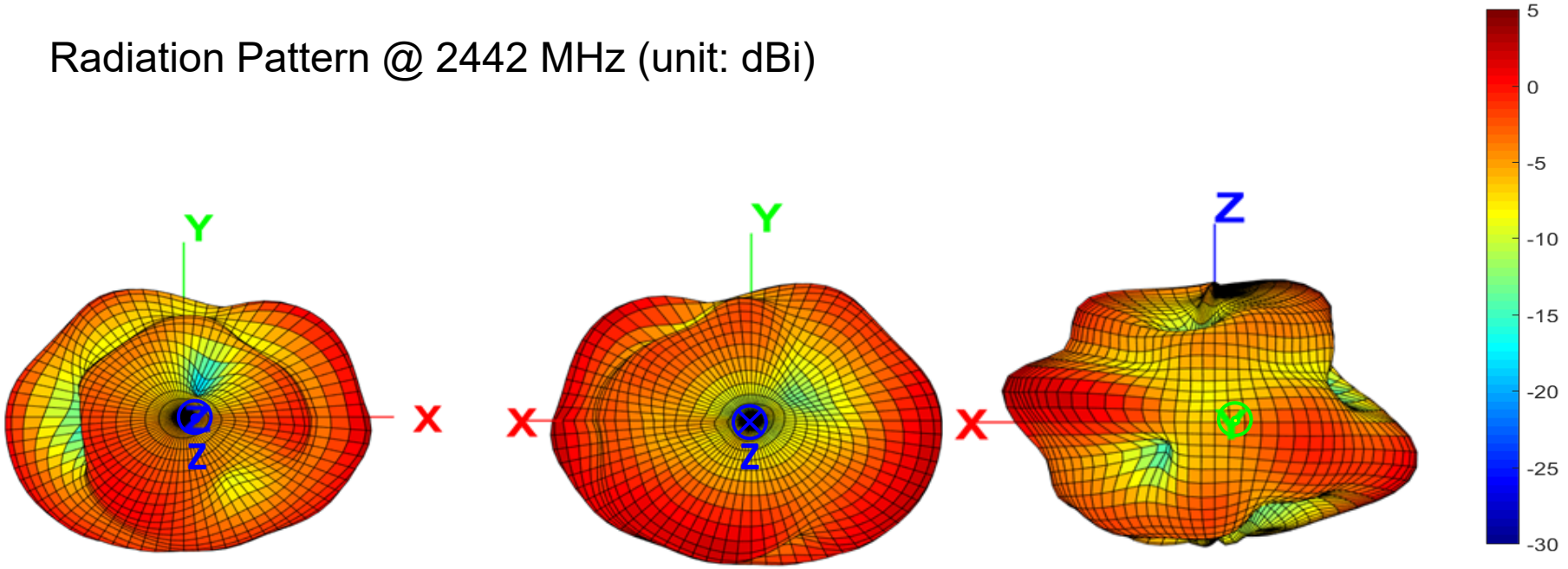


Frequency (MHz)	2400	2410	2415	2420	2425	2430	2435	2440	2442	2450	2455	2460	2465	2475	2485
Efficiency (dB)	-2.7	-2.7	-2.6	-2.3	-2.4	-2.6	-2.6	-2.6	-2.7	-2.5	-2.6	-2.7	-2.7	-2.8	-2.8
Efficiency (%)	53.7	53.4	54.6	58.4	57.4	55.4	54.4	54.8	54.0	56.0	54.7	53.2	53.1	52.5	52.5
Peak Gain (dBi)	3.2	3.2	3.2	3.5	3.4	3.3	3.3	3.4	3.4	3.6	3.6	3.5	3.3	3.3	3.6

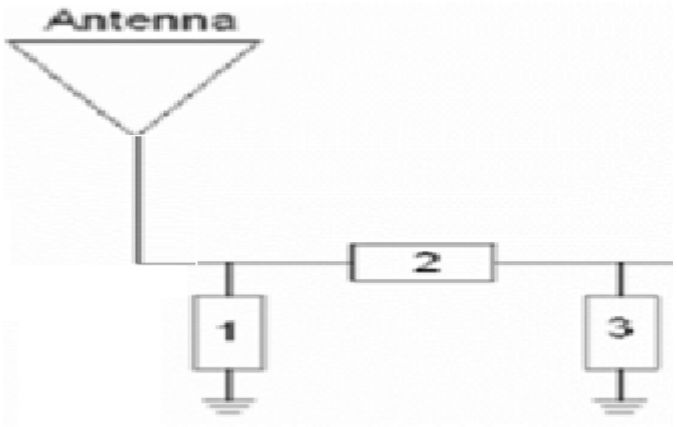
Experimental results

3D Gain Pattern

Radiation Pattern @ 2442 MHz (unit: dBi)



Experimental results



System Matching Circuit Component			
Location	Description	Vendor	P/N
1	N/A	-	-
2	O ohm	-	-
3	N/A	-	-

Conclusion

1. **The average efficiency is about 54.2% for the provided RX sample.**

2. **There is no RF matching change for the DVT2.**

Unictron Technologies Corp.

Thanks for Your Attention