

Test Report – Headset

Model:	Maxwell_RX_Printed_ANT
Antenna type:	PIFA
Antenna Brand	Ampacs Corporation
Release date:	2022/09/15

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Report Outline

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Background

Background

Sample information

1. Adjust the printing antenna to optimize, and compare the characteristics with the matching value of the previous version

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

- Equipment : Anechoic Chamber, Network Analyzer (Agilent E5071C), Standard Horn.
- Test items : Gain, efficiency, 2D gain pattern, 3D gain pattern

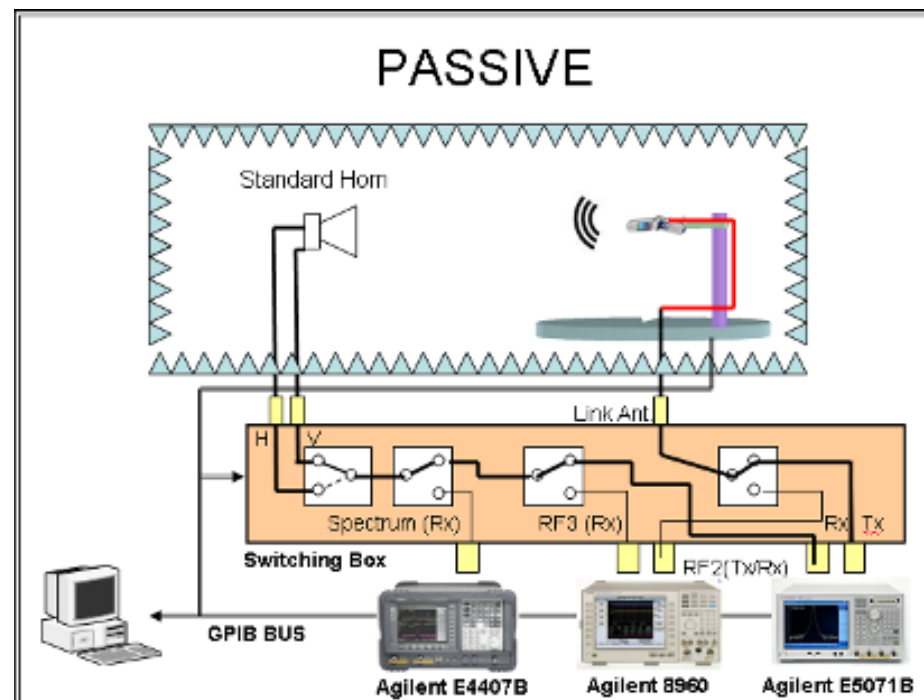
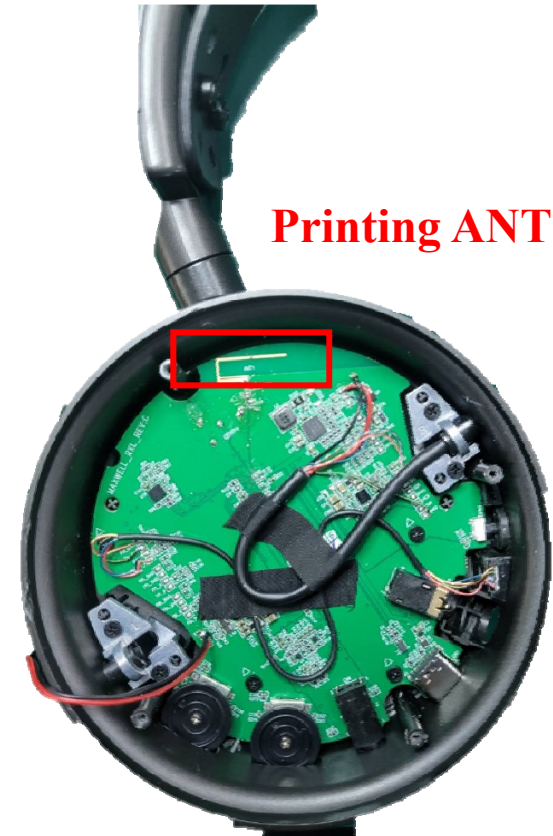


Figure. Scheme of radiation pattern measurement system

Measurement Setup

Mechanical setting

Placement of antenna

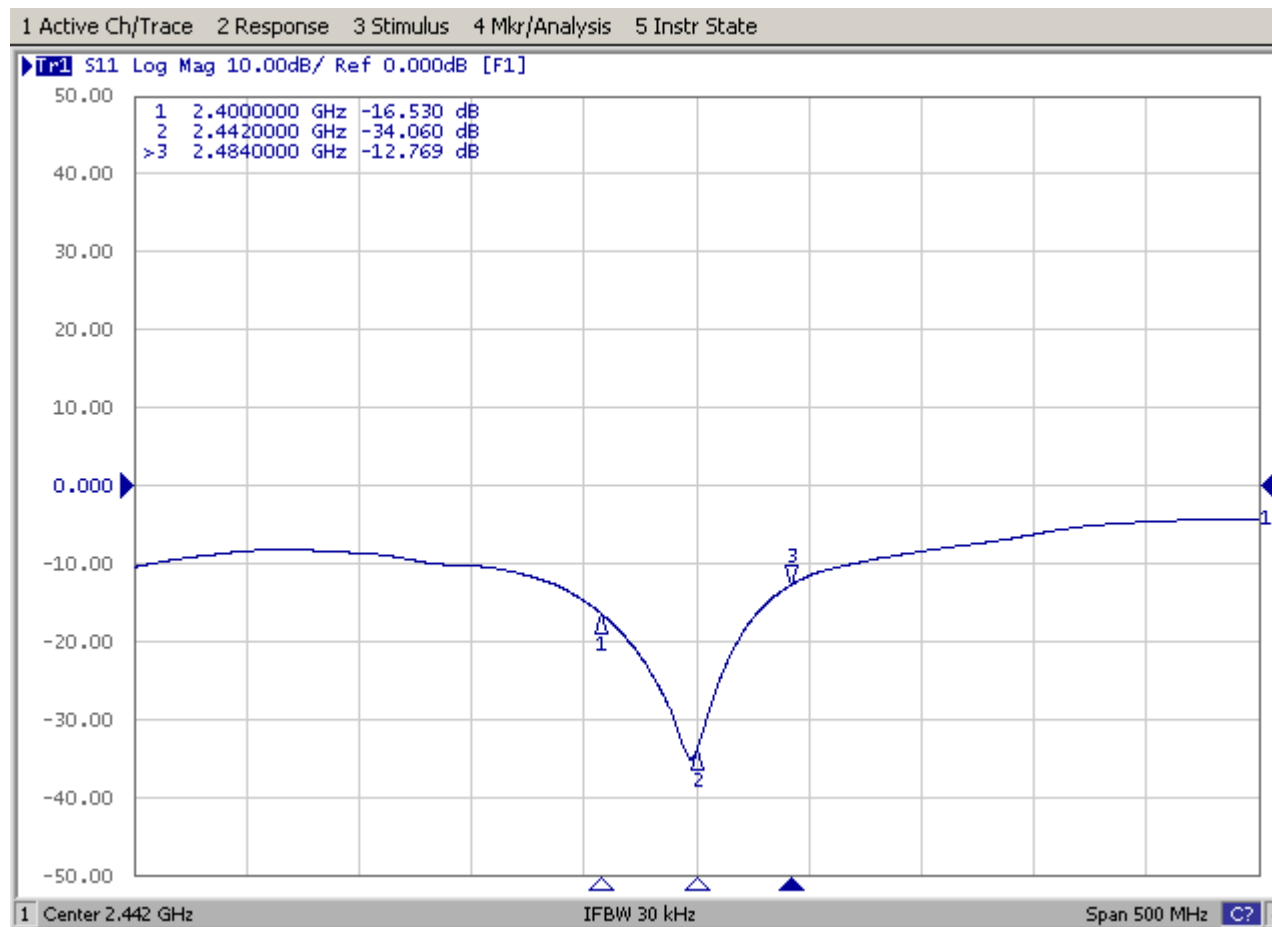


Experimental results

Experimental results

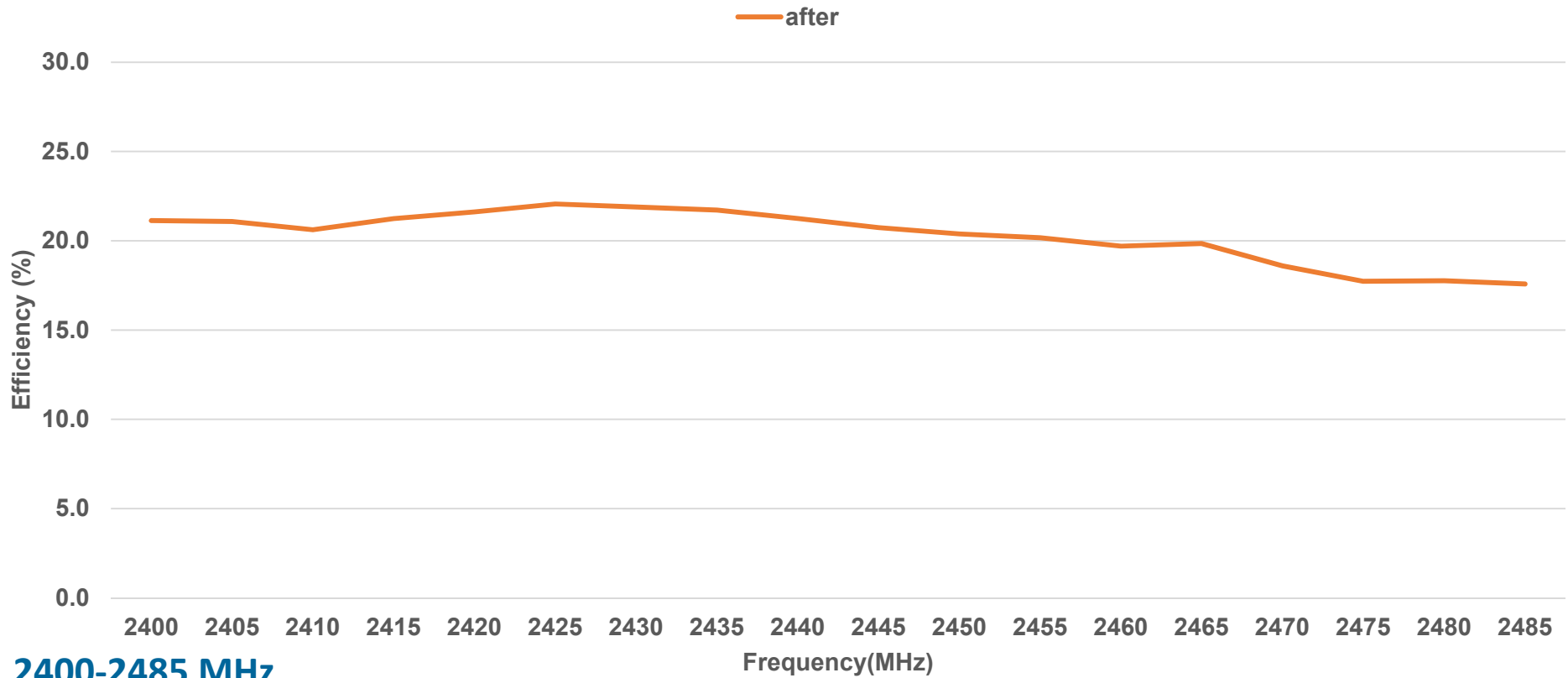
S-Parameters

Return Loss



Experimental results

Radiation efficiency

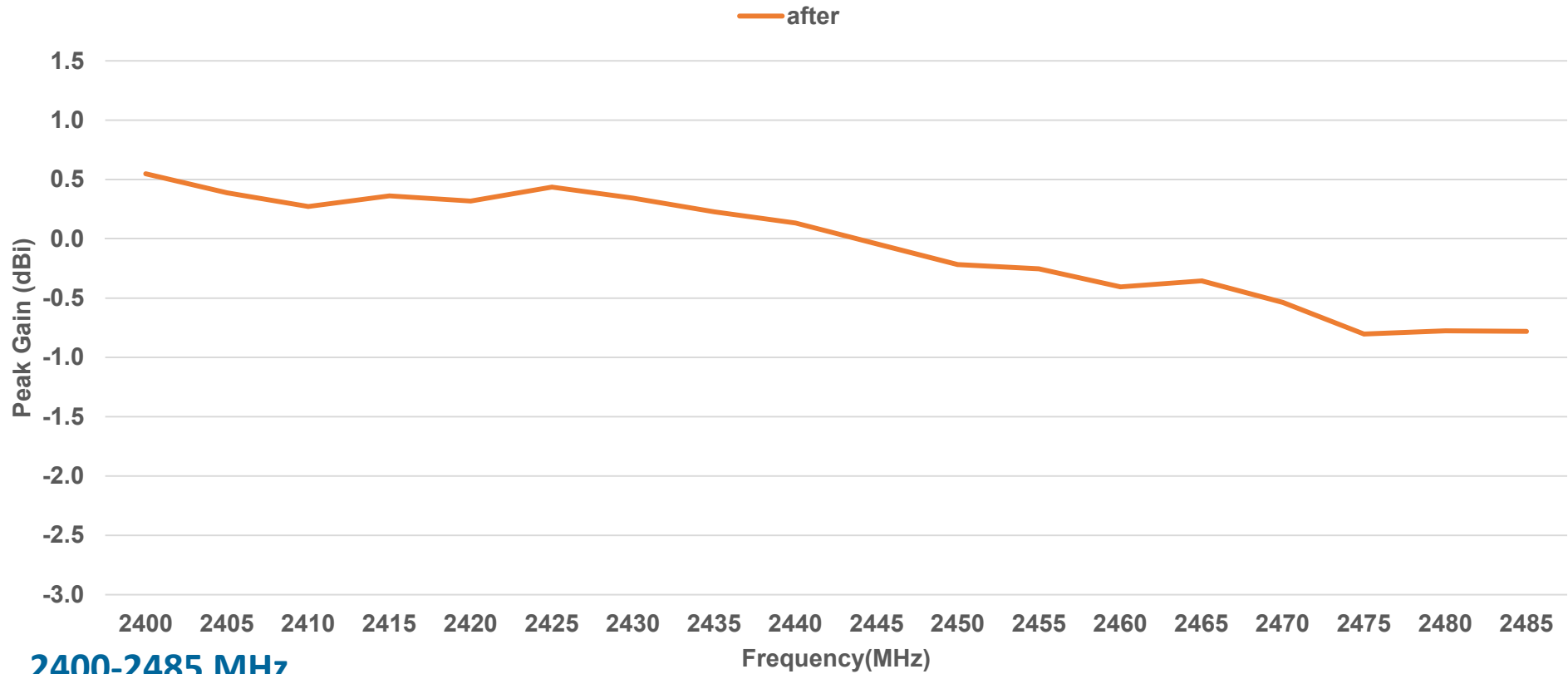


2400-2485 MHz

Frequency (MHz)	2400	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2460	2465	2470	2475	2480	2485
Efficiency	21.1	21.1	20.6	21.2	21.6	22.1	21.9	21.7	21.2	20.7	20.4	20.2	19.7	19.8	18.6	17.7	17.8	17.6

Experimental results

Radiation peak gain

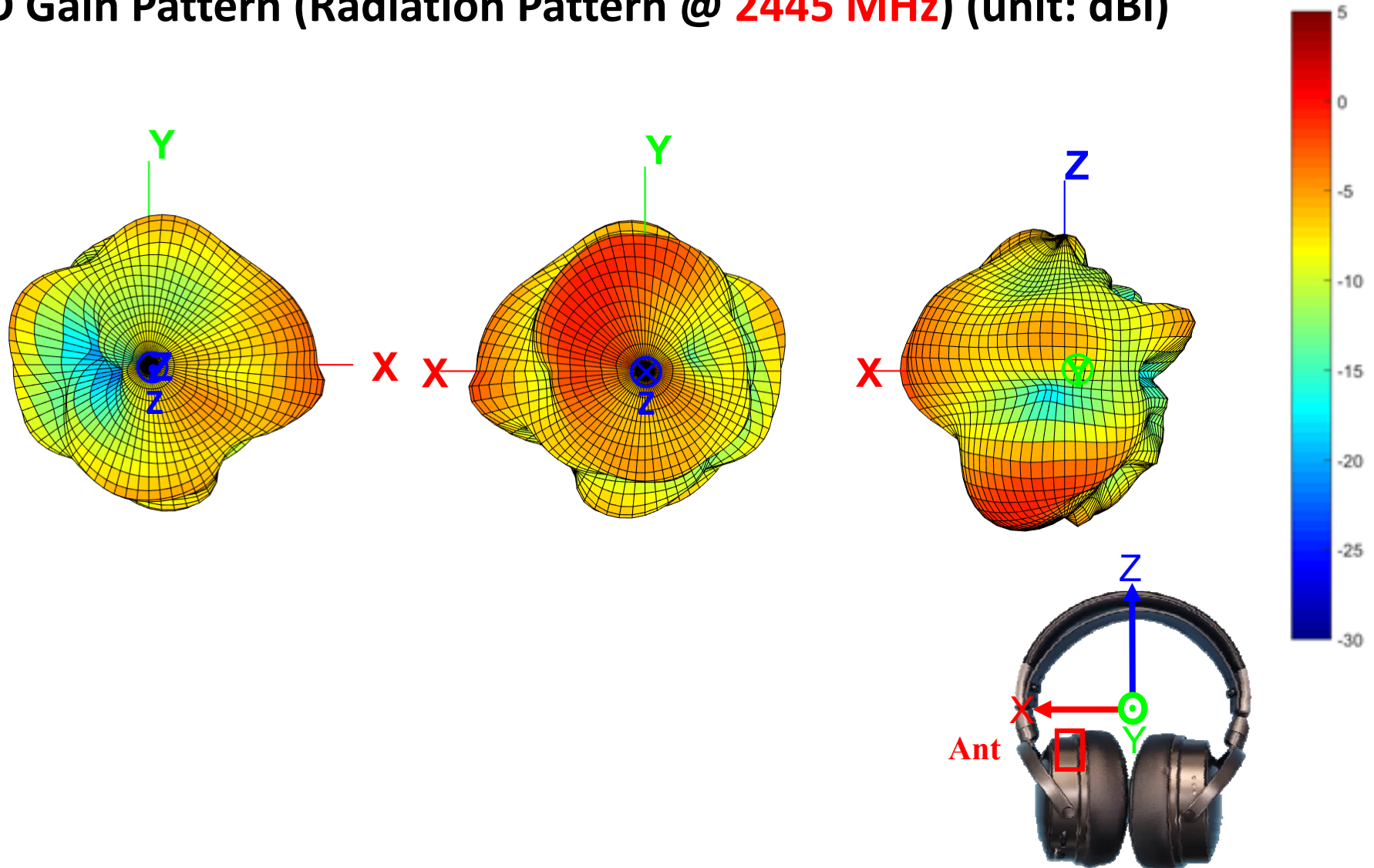


2400-2485 MHz

Frequency (MHz)	2400	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2460	2465	2470	2475	2480	2485
Peak gain	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.2	0.1	0.0	-0.2	-0.3	-0.4	-0.4	-0.5	-0.8	-0.8	-0.8

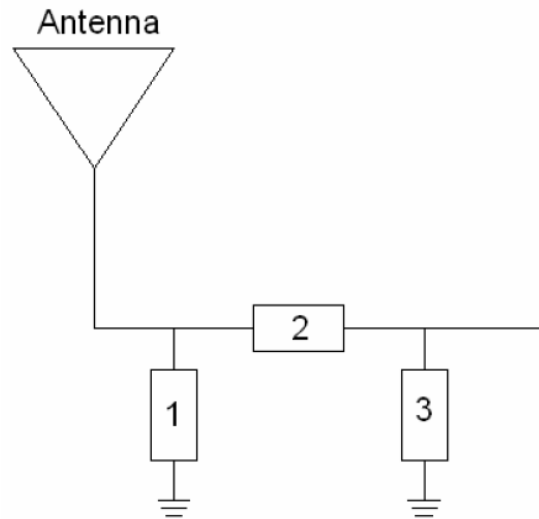
Experimental results

3D Gain Pattern (Radiation Pattern @ 2445 MHz) (unit: dBi)



Experimental results

Matching Circuit



System Matching Circuit Component			
Location	Description	Vendor	Part number
1	N/A	-	-
2	1.8nH, (0402)	MURATA	LQG15HS1N8S02D
3	0.6pF, (0402)	MURATA	GRM1555C1HR60WA01D