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

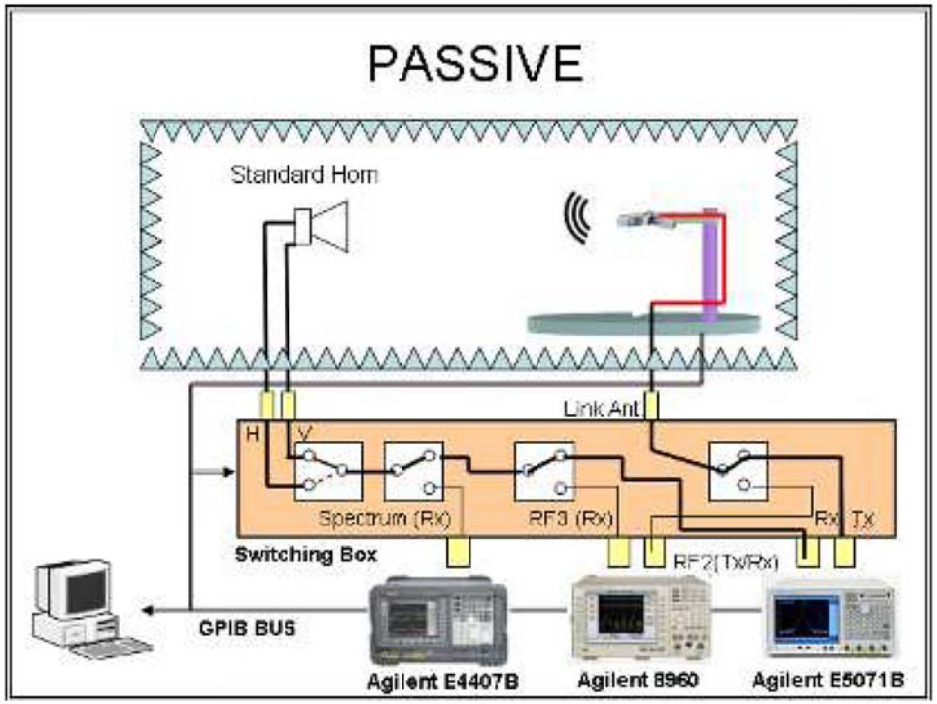


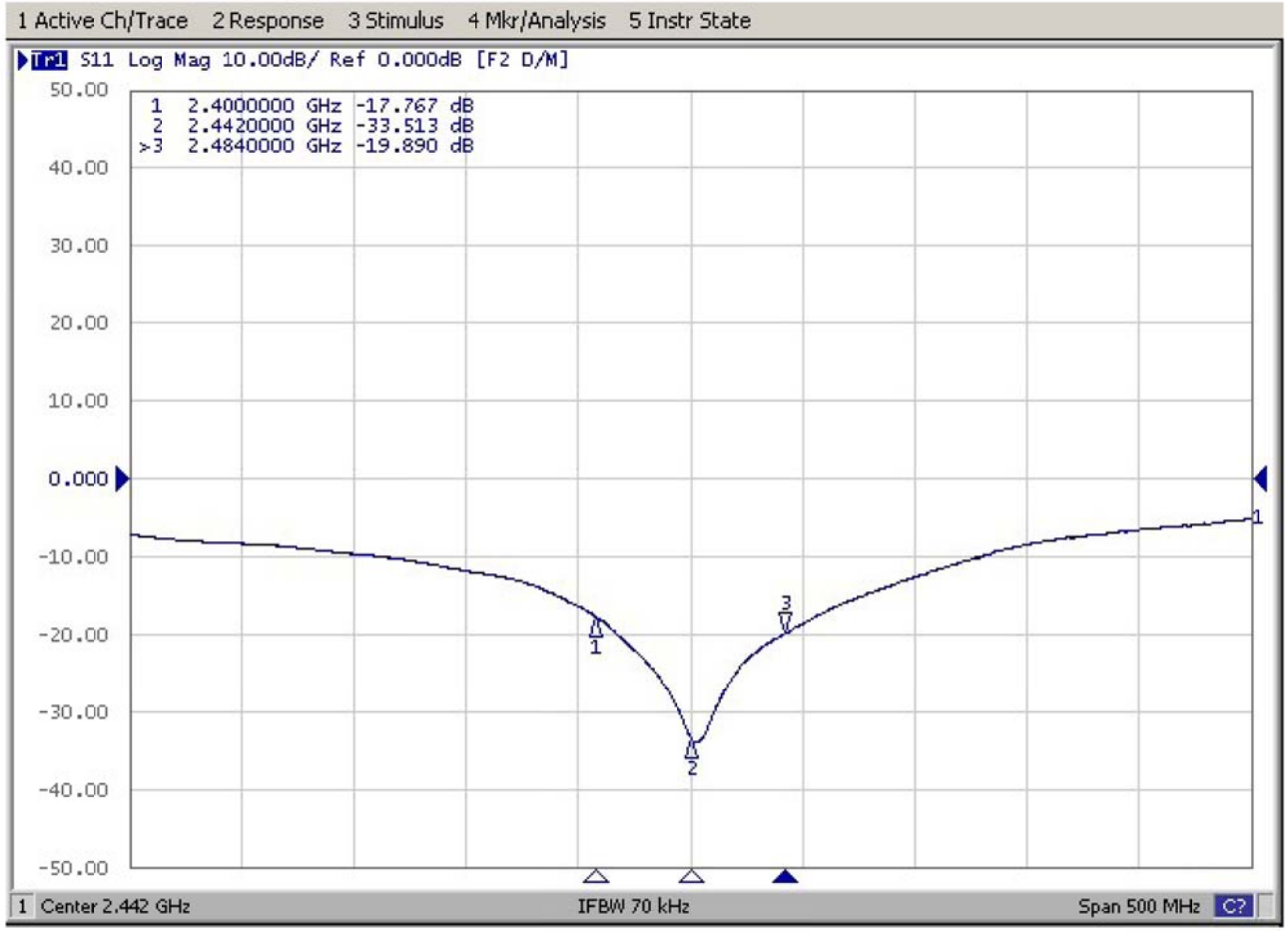
Figure. Scheme of radiation pattern measurement system

Experimental results

Experimental results

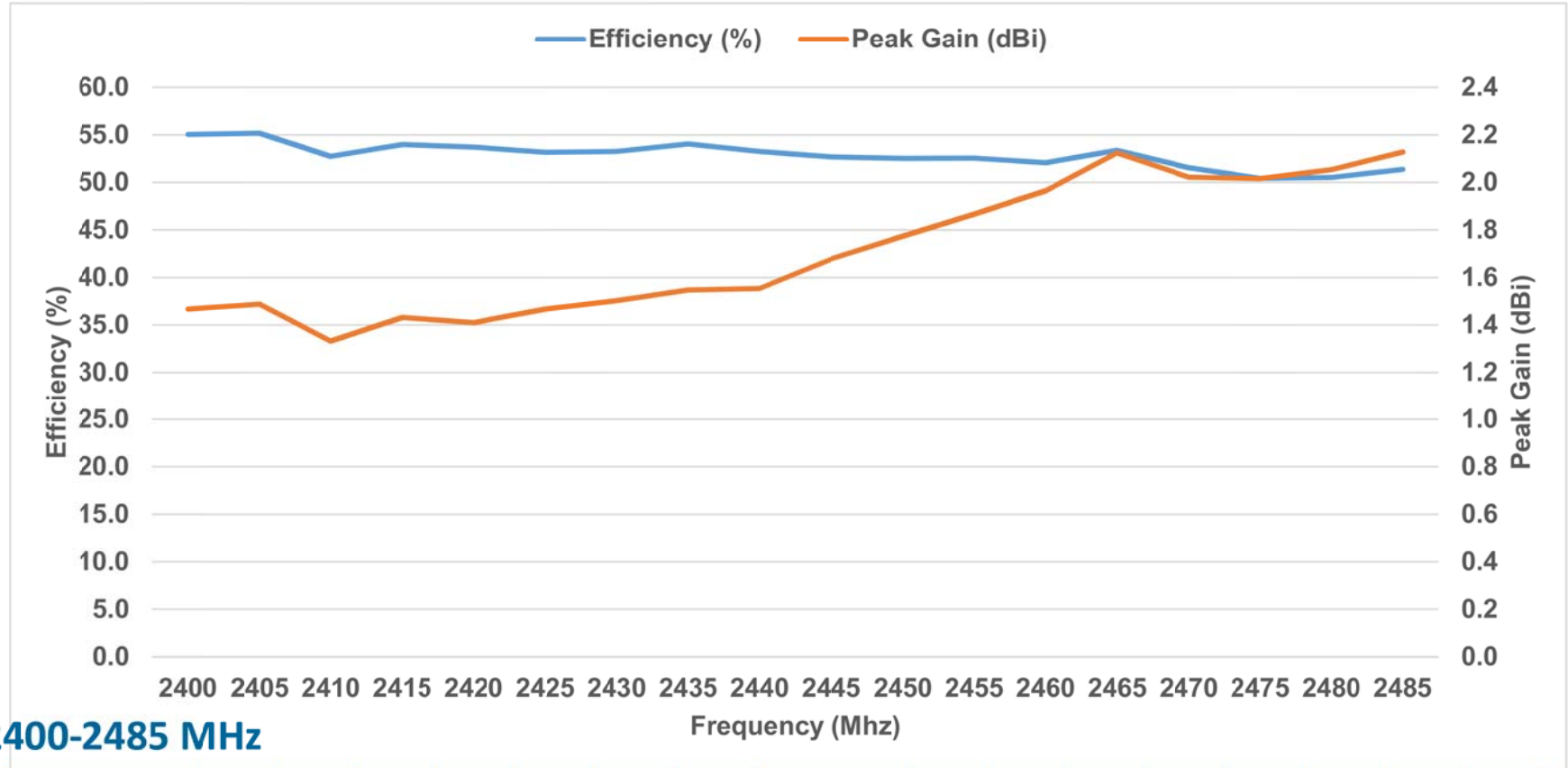
S-Parameters

Return Loss



Experimental results

Radiation efficiency and peak gain

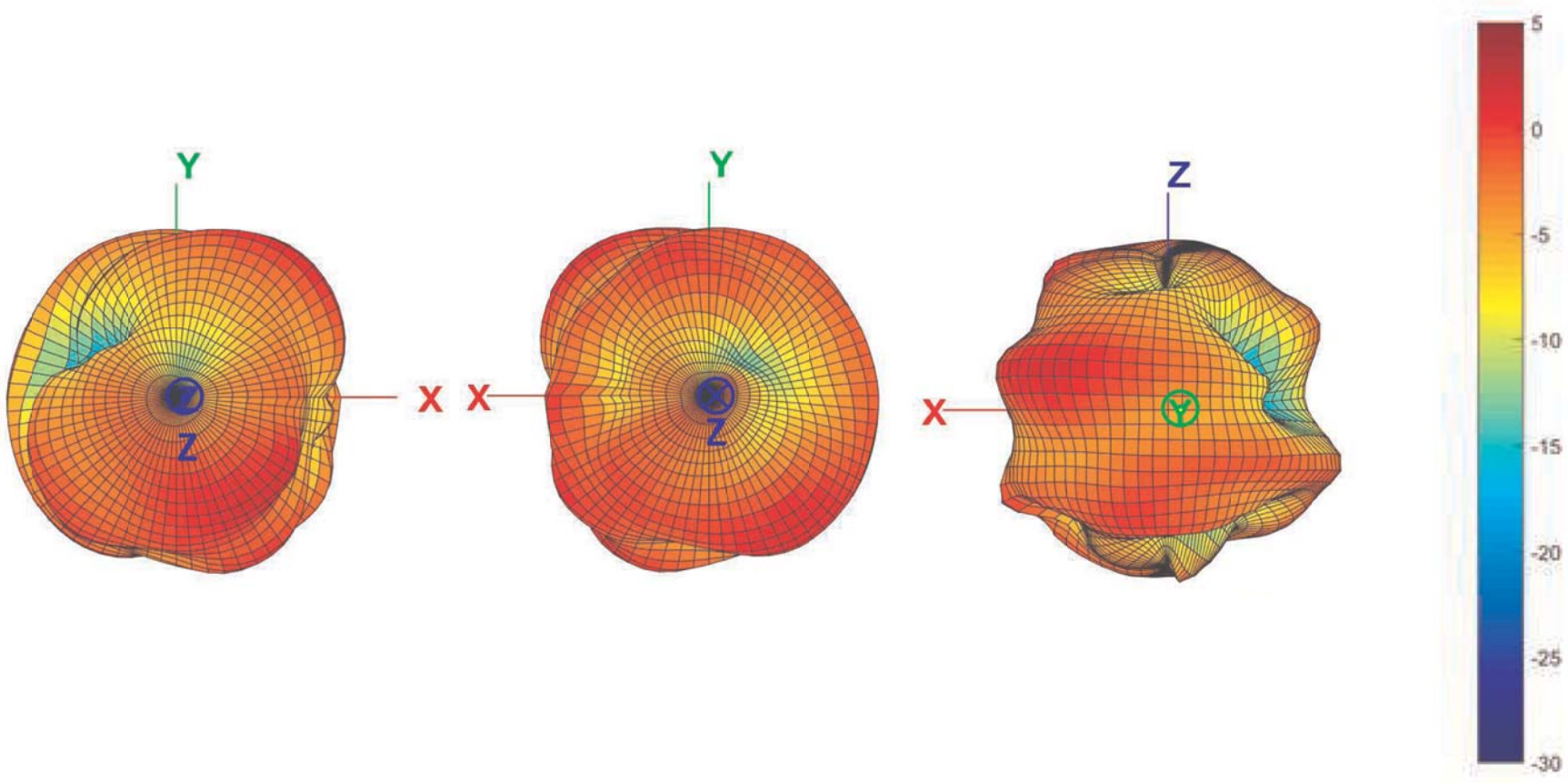


2400-2485 MHz

Frequency (MHz)	2400	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2460	2465	2470	2475	2480	2485
Efficiency (dB)	-2.6	-2.6	-2.8	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-2.8	-2.8	-2.8	-2.8	-2.7	-2.9	-3.0	-3.0	-2.9
Efficiency (%)	55.0	55.2	52.7	54.0	53.7	53.2	53.2	54.0	53.3	52.7	52.5	52.6	52.1	53.4	51.5	50.4	50.5	51.4
Peak Gain (dBi)	1.5	1.5	1.3	1.4	1.4	1.5	1.5	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.0	2.0	2.1	2.1

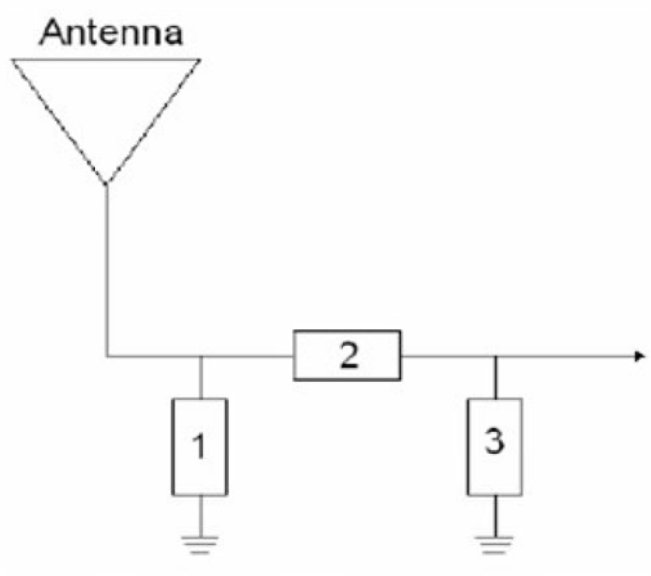
Experimental results

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



Experimental results

Matching Circuit



System Matching Circuit Component				
Location	Description	Vendor	Tolerance	P/N
1	N/A	-	-	-
2	2.2nH, (0201)	MURATA	±0.05n	LQP03TG2N2B02D
3	0.2pF, (0201)	MURATA	±0.05pF	GRM0335C1HR20WA01D