Specifications Sheet

Object	Internal Antenna	**Page**	1 of 6
Customer		**Date**	February 19, 2010
System	WIFI/ Bluetooth/ Zigbee/ ISM	**Rev.**	A
Model Name	W5I−BO-07	**Written by**	W. I. KWAK

Electrical Specifications

Frequency Range (MHz)	2400 ~ 2483.5
Band Width (MHz)	83.5
V.S.W.R (Min)	1.9 : 1
Gain (Max)	2.71 (dBi)
Input Impedance	50 (Ω)
Polarization	Linear

Mechanical Specifications

Antenna Size (Length x Width x Height)	48 × 8 × 1 mm
Weight	N / A
Connector	I-PEX MHF
Cable Length	130 mm
Radiator Material	Copper
Operation Temperature	− 30 ~ 70 (℃)
Operation Humidity	10 ~ 90 (%)

Option	
Remarks	Data measured at free-space.

WINiZEN Co., Ltd.

Fig 1. Return Loss

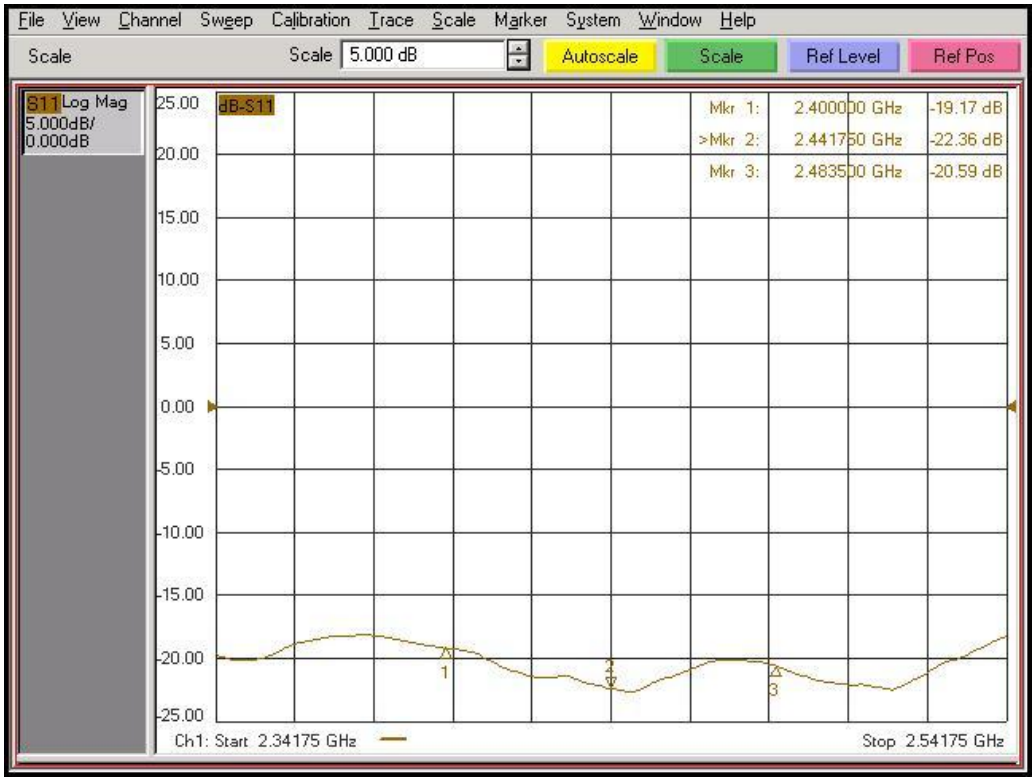


Fig 2. V.S.W.R



Fig 3. Smith Chart

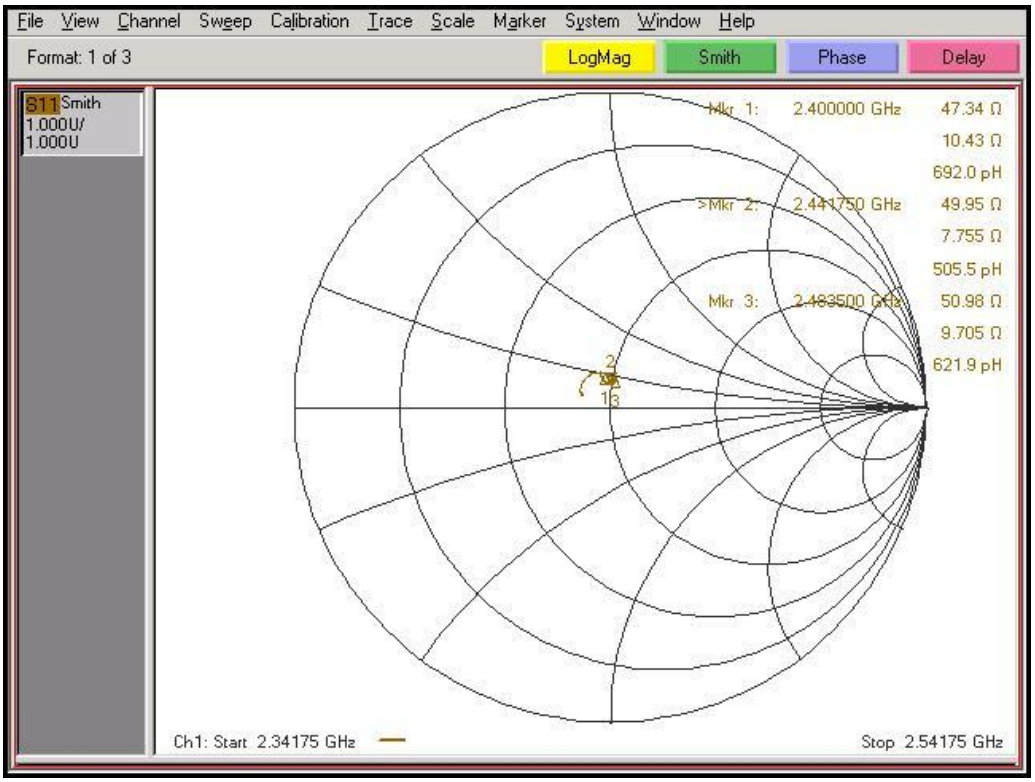
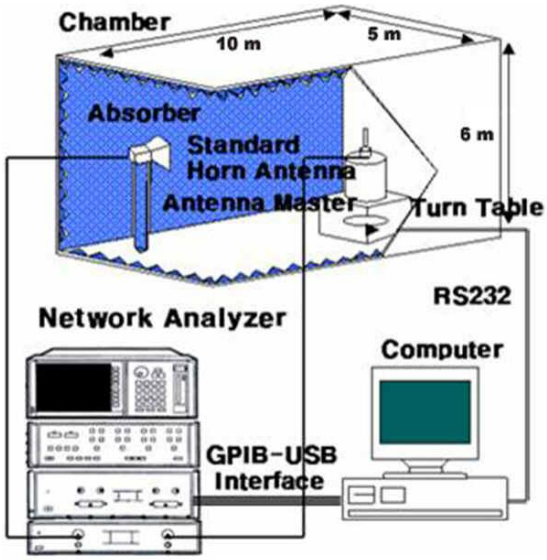
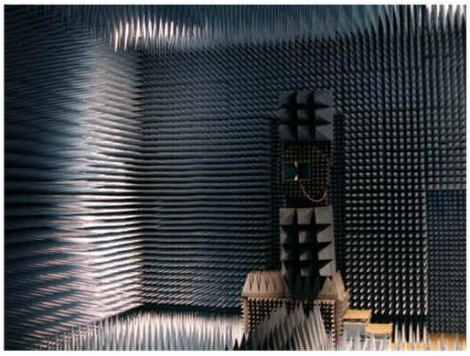


Fig 4. Measurement Configuration



Hewlett Packard 8722ES 50 MHz ~ 40 GHz
S-Parameter Network Analyzer



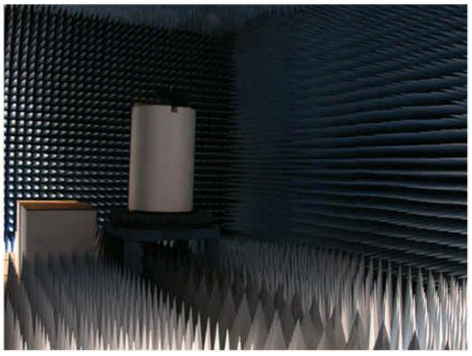
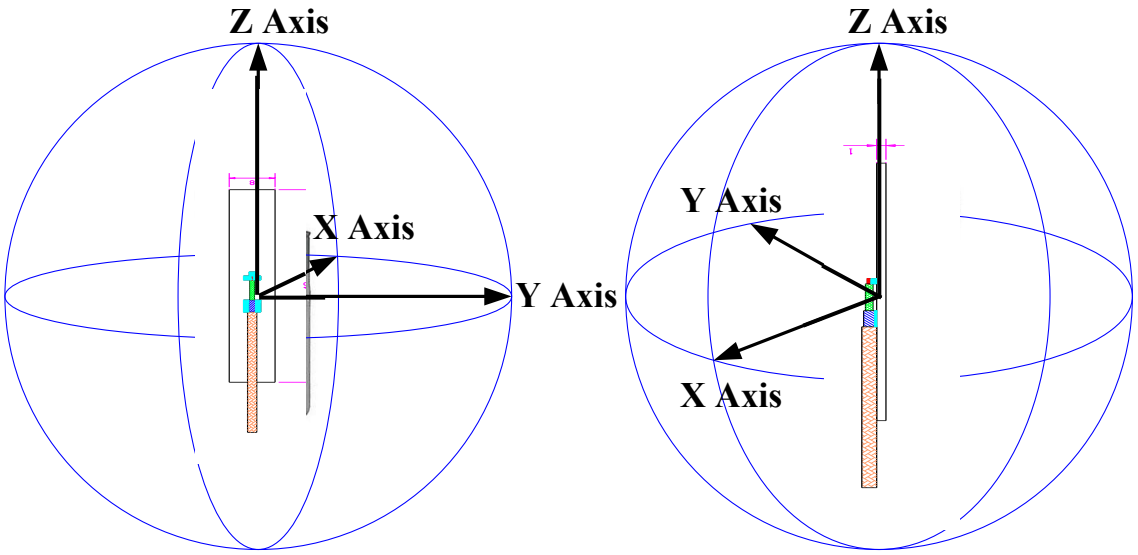


Fig 5. Axis Definitions (Antenna Center)



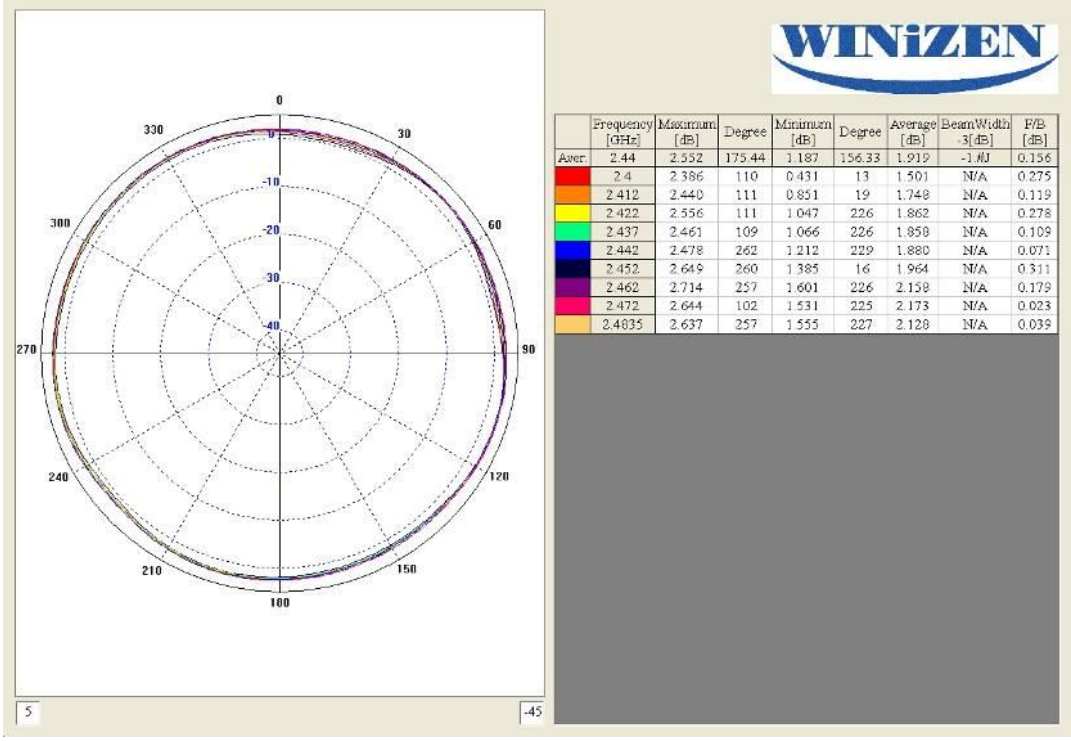
a. Azimuth Pattern (Co-pol) : XY Plane ; Horn Antenna Polarization : Vertical

b. Elevation Pattern (Co-pol) : XZ Plane ; Horn Antenna Polarization : Horizontal

c. Elevation Side Pattern (Co-pol) : YZ Plane ; Horn Antenna Polarization : Horizontal

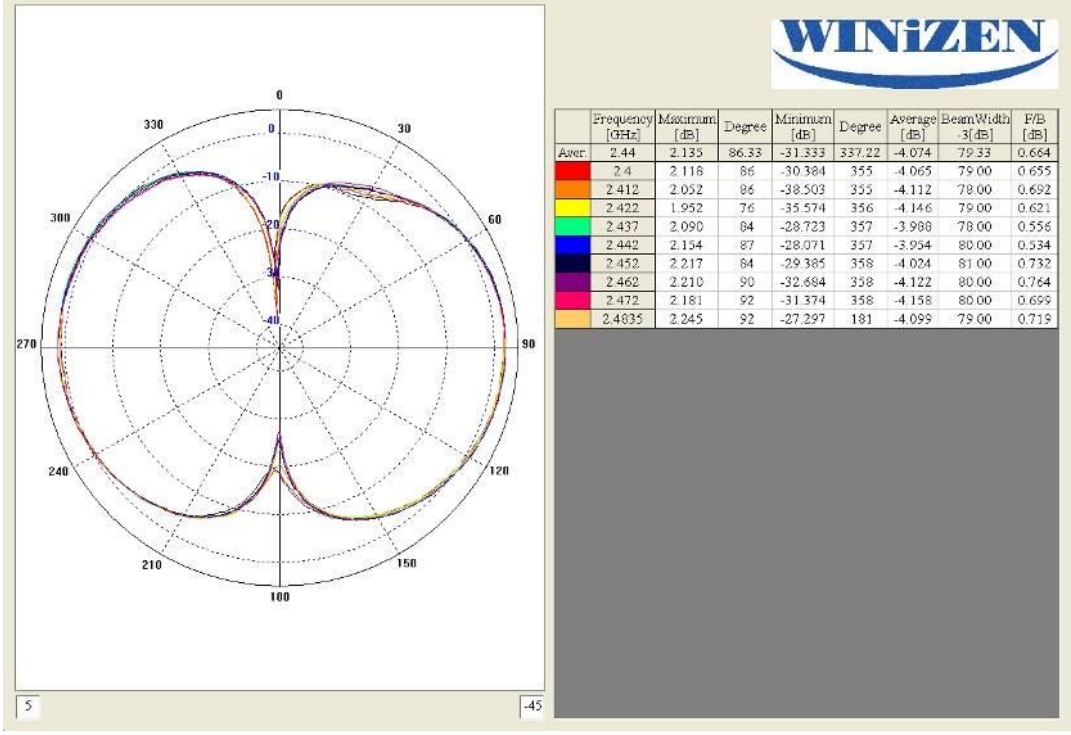
Fig 6. Gain Patterns

a. Azimuth Pattern



	Frequency [GHz]	Maximum [dB]	Degree	Minimum [dB]	Degree	Average [dB]	BeamWidth -3[dB]	F/B [dB]
Aver.	2.44	2.552	175.44	1.187	156.33	1.919	-1.#J	0.156
	2.4	2.386	110	0.431	13	1.501	N/A	0.275
	2.412	2.440	111	0.851	19	1.748	N/A	0.119
	2.422	2.556	111	1.047	226	1.862	N/A	0.278
	2.437	2.461	109	1.066	226	1.858	N/A	0.109
	2.442	2.478	262	1.212	229	1.880	N/A	0.071
	2.452	2.649	260	1.385	16	1.964	N/A	0.311
	2.462	2.714	257	1.601	226	2.158	N/A	0.179
	2.472	2.644	102	1.531	225	2.173	N/A	0.023
	2.4835	2.637	257	1.555	227	2.128	N/A	0.039

b. Elevation Pattern



	Frequency [GHz]	Maximum [dB]	Degree	Minimum [dB]	Degree	Average [dB]	BeamWidth -3[dB]	F/B [dB]
Aver.	2.44	2.135	86.33	-31.333	337.22	-4.074	79.33	0.664
	2.4	2.118	86	-30.384	355	-4.065	79.00	0.655
	2.412	2.052	86	-38.503	355	-4.112	78.00	0.692
	2.422	1.952	76	-35.574	356	-4.146	79.00	0.621
	2.437	2.090	84	-28.723	357	-3.988	78.00	0.556
	2.442	2.154	87	-28.071	357	-3.954	80.00	0.534
	2.452	2.217	84	-29.385	358	-4.024	81.00	0.732
	2.462	2.210	90	-32.684	358	-4.122	80.00	0.764
	2.472	2.181	92	-31.374	358	-4.158	80.00	0.699
	2.4835	2.245	92	-27.297	181	-4.099	79.00	0.719

Fig 7. Antenna Mechanical

