Specifications Sheet

Object	External Dipole Antenna	**Page**	1 of 7
Customer		**Date**	August 24, 2005
System	WLAN IEEE 802.11b/g/a	**Rev.**	E
Model Name	W4E−WO−32	**Written by**	W. I. KWAK

Electrical Specifications

Frequency Range (MHz)	2400 ∽ 2483.5	5150 ∽ 5875
Band Width (MHz)	83.5	725
V.S.W.R (Min)	1.9 : 1	1.9 : 1
Gain (Max)	3.5 (dBi)	6 (dBi)
Input Impedance	50 (Ω)	
Polarization	Linear	

Mechanical Specifications

Antenna Size (Width x Length x Height)	153 × 18.5 ×14 mm
Connector	TNC / SMA (optional)
Radiator Material	Copper
Operation Temperature	− 30 ∽ 70 (℃)
Operation Humidity	10 ∽ 90 (%)

Option	
Remarks	

WINiZEN Co., Ltd.

Fig 1. Return Loss (Agilent E8357A 300KHz～6GHz PNA Series Network Analyzer)

Fig 2. V.S.W.R (Agilent E8357A 300KHz～6GHz PNA Series Network Analyzer)

Fig 3. Smith Chart (Agilent E8357A 300KHz～6GHz PNA Series Network Analyzer)

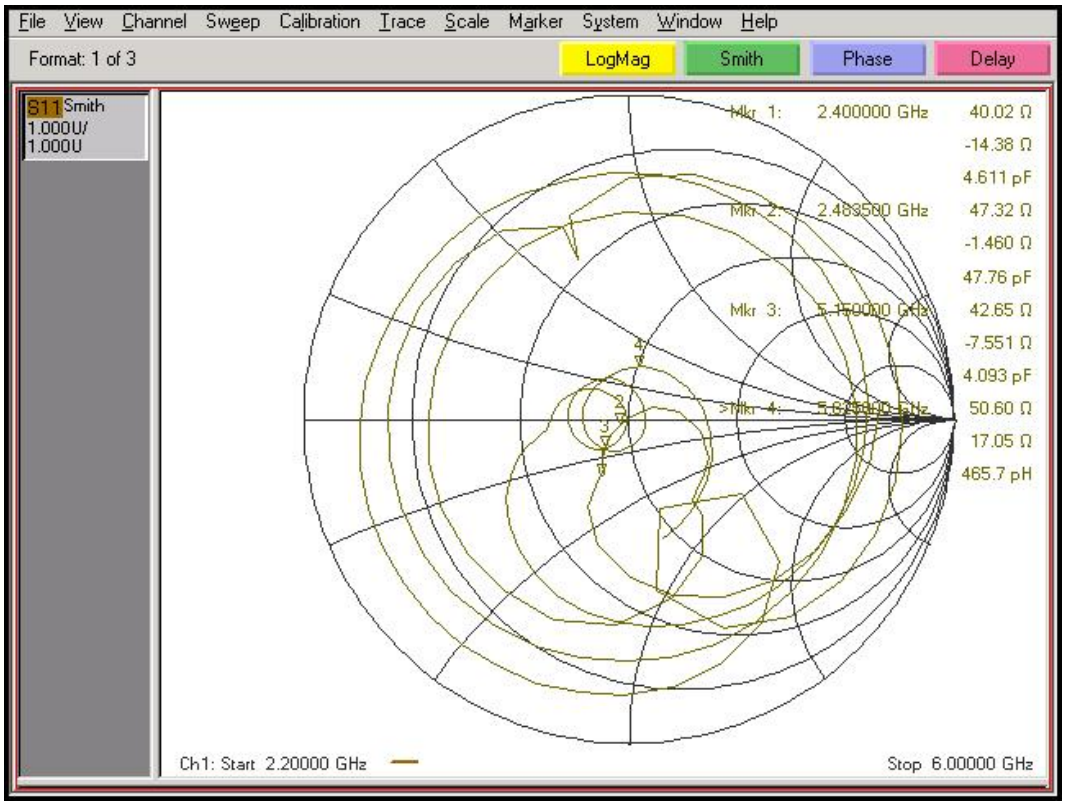
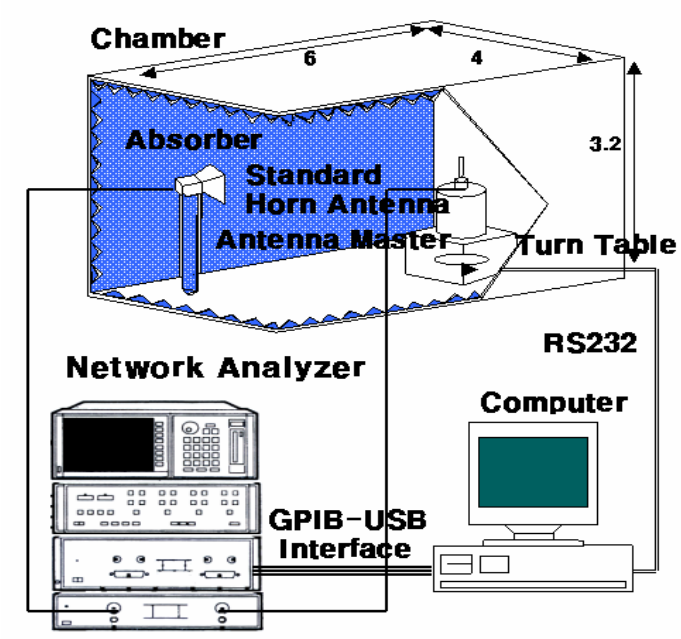
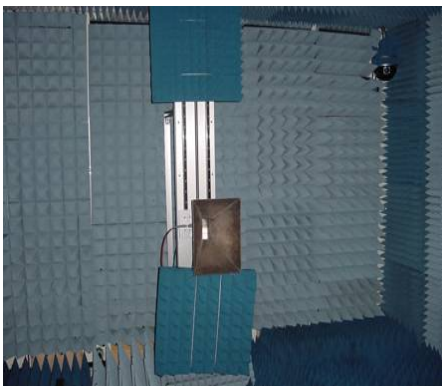


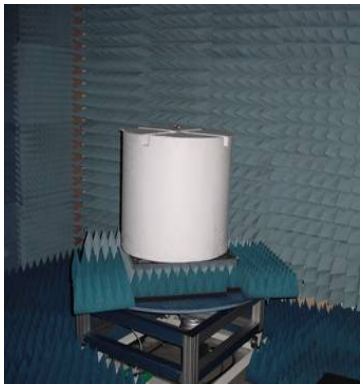
Fig 4. Measurement Configuration

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



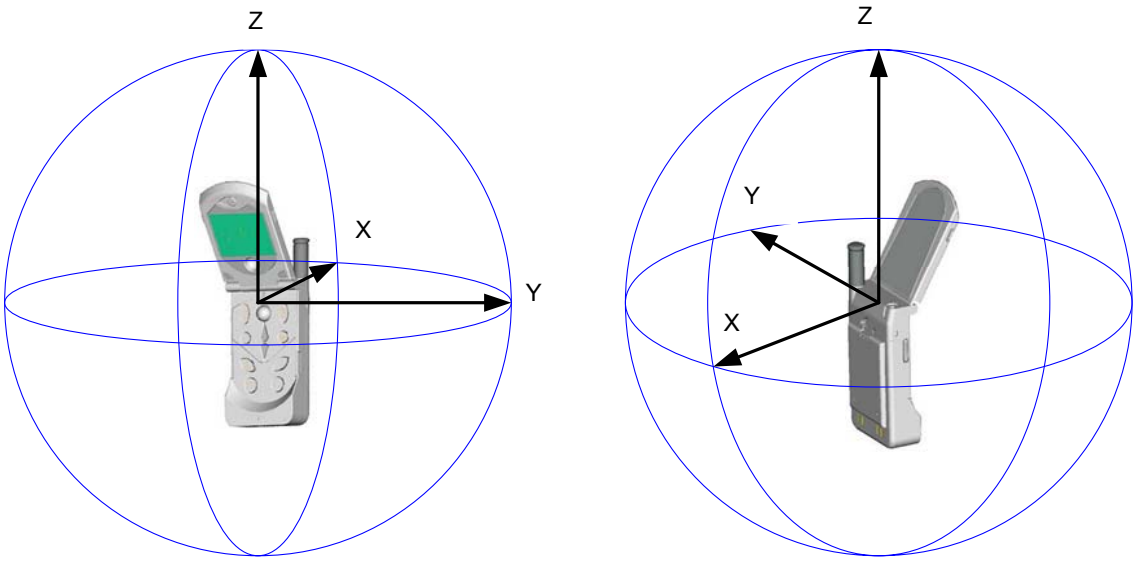


Standard Horn



Turn Table

Fig 5. Axis Definitions (Antenna Center)



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

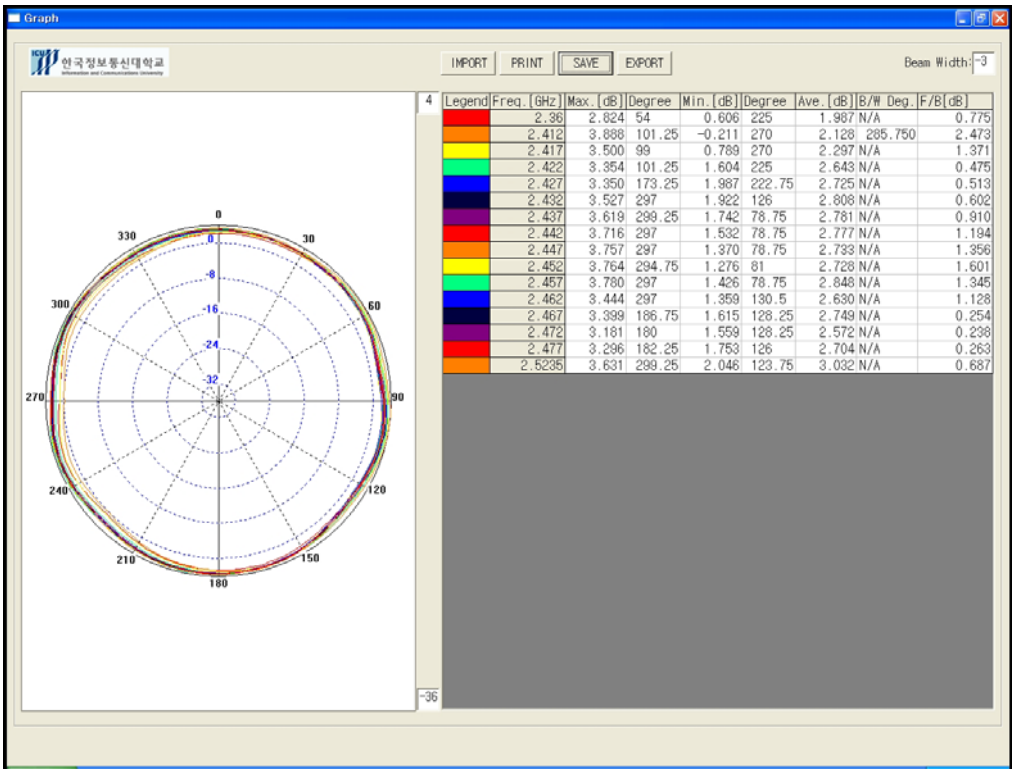
b. Elevation Pattern (Co-pol) : XZ Plane ; Horn Antenna Polarization : Horizontal

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

Fig 6. Gain Patterns

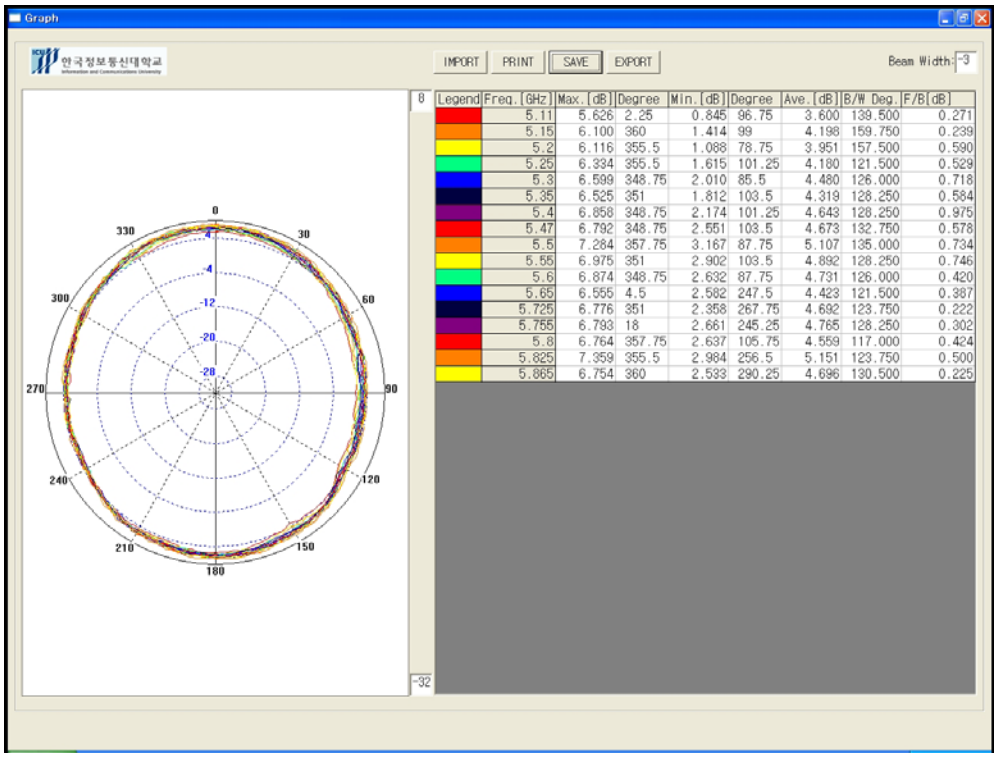
a. Azimuth Pattern

2400 MHz ~ 2483.5 MHz



Legend	Freq. [GHz]	Max. [dB]	Degree	Min. [dB]	Degree	Ave. [dB]	B/W Deg.	F/B [dB]
	2.36	2.824	54	0.606	225	1.987	N/A	0.775
	2.412	3.888	101.25	-0.211	270	2.128	285.750	2.473
	2.417	3.500	99	0.789	270	2.297	N/A	1.371
	2.422	3.354	101.25	1.604	225	2.643	N/A	0.475
	2.427	3.350	173.25	1.987	222.75	2.725	N/A	0.513
	2.432	3.527	297	1.922	126	2.808	N/A	0.602
	2.437	3.619	299.25	1.742	78.75	2.781	N/A	0.910
	2.442	3.716	297	1.532	78.75	2.777	N/A	1.194
	2.447	3.757	297	1.370	78.75	2.733	N/A	1.356
	2.452	3.764	294.75	1.276	81	2.728	N/A	1.601
	2.457	3.780	297	1.426	78.75	2.848	N/A	1.345
	2.462	3.444	297	1.359	130.5	2.630	N/A	1.128
	2.467	3.399	186.75	1.615	128.25	2.749	N/A	0.254
	2.472	3.181	180	1.559	128.25	2.572	N/A	0.238
	2.477	3.296	182.25	1.753	126	2.704	N/A	0.263
	2.5235	3.631	299.25	2.046	123.75	3.032	N/A	0.687

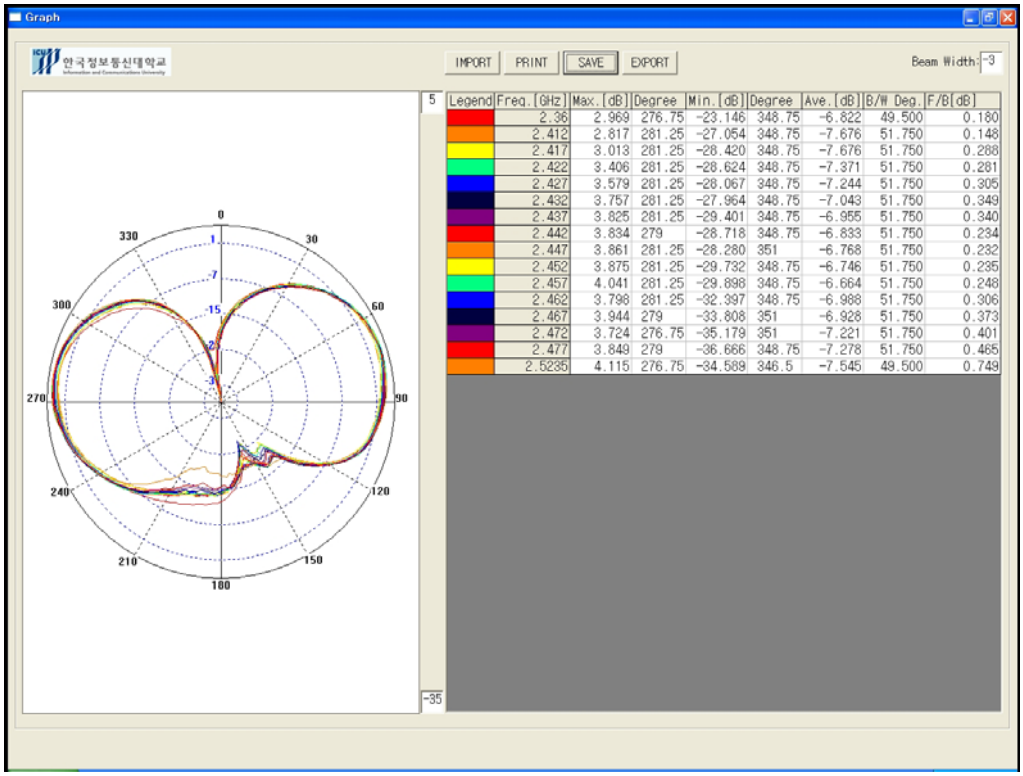
5150 MHz ~ 5875 MHz



Legend	Freq. [GHz]	Max. [dB]	Degree	Min. [dB]	Degree	Ave. [dB]	B/W Deg.	F/B [dB]
	5.11	5.626	2.25	0.845	96.75	3.600	139.500	0.271
	5.15	6.100	360	1.414	99	4.198	159.750	0.239
	5.2	6.116	355.5	1.088	78.75	3.951	157.500	0.590
	5.25	6.334	355.5	1.615	101.25	4.180	121.500	0.529
	5.3	6.599	348.75	2.010	85.5	4.480	126.000	0.718
	5.35	6.525	351	1.812	103.5	4.319	128.250	0.584
	5.4	6.858	348.75	2.174	101.25	4.643	128.250	0.975
	5.47	6.792	348.75	2.551	103.5	4.673	132.750	0.578
	5.5	7.284	357.75	3.167	87.75	5.107	135.000	0.734
	5.55	6.975	351	2.902	103.5	4.892	128.250	0.746
	5.6	6.874	348.75	2.632	87.75	4.731	126.000	0.420
	5.65	6.555	4.5	2.582	247.5	4.423	121.500	0.387
	5.725	6.776	351	2.358	267.75	4.692	123.750	0.222
	5.755	6.793	18	2.661	245.25	4.765	128.250	0.302
	5.8	6.764	357.75	2.637	105.75	4.559	117.000	0.424
	5.825	7.359	355.5	2.984	256.5	5.151	123.750	0.500
	5.865	6.754	360	2.533	290.25	4.696	130.500	0.225

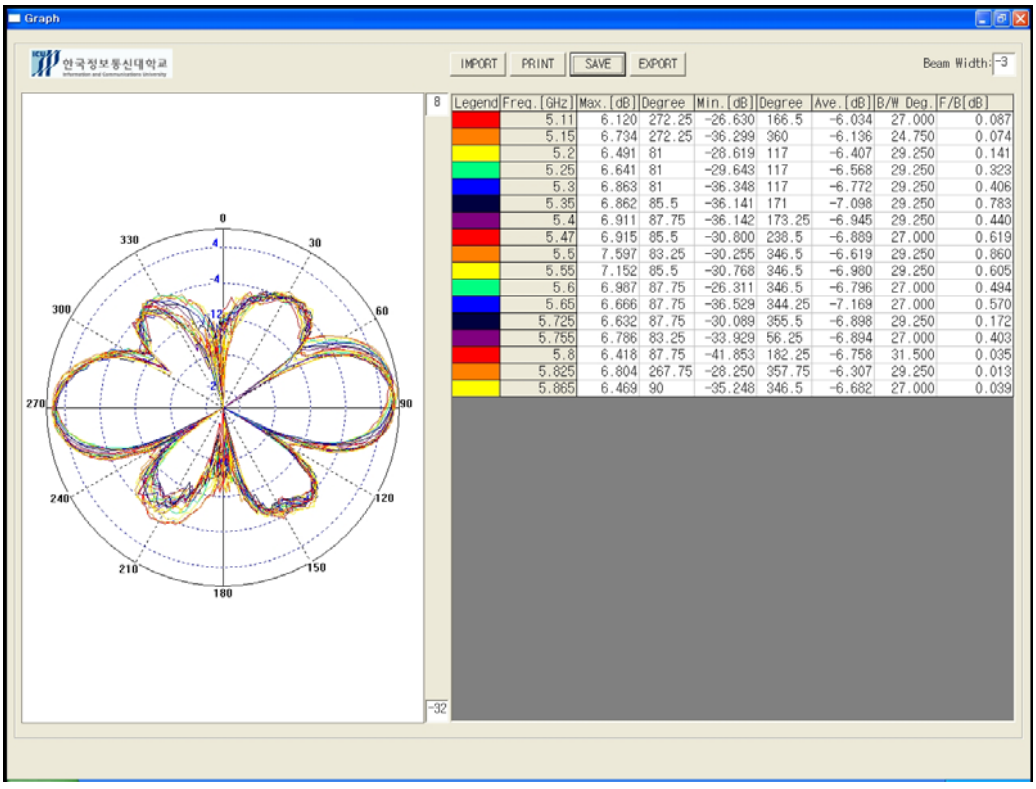
b. Elevation Pattern

2400 MHz ~ 2483.5 MHz



Legend	Freq.[GHz]	Max.[dB]	Degree	Min.[dB]	Degree	Ave.[dB]	B/W Deg.	F/B[dB]
	2.36	2.969	276.75	-23.146	348.75	-6.822	49.500	0.180
	2.412	2.817	281.25	-27.054	348.75	-7.676	51.750	0.148
	2.417	3.013	281.25	-28.420	348.75	-7.676	51.750	0.268
	2.422	3.406	281.25	-28.624	348.75	-7.371	51.750	0.281
	2.427	3.579	281.25	-28.067	348.75	-7.244	51.750	0.305
	2.432	3.757	281.25	-27.964	348.75	-7.043	51.750	0.349
	2.437	3.825	281.25	-29.401	348.75	-6.955	51.750	0.340
	2.442	3.834	279	-28.718	348.75	-6.833	51.750	0.234
	2.447	3.861	281.25	-28.280	351	-6.768	51.750	0.232
	2.452	3.875	281.25	-29.732	348.75	-6.746	51.750	0.235
	2.457	4.041	281.25	-29.898	348.75	-6.664	51.750	0.248
	2.462	3.798	281.25	-32.397	348.75	-6.988	51.750	0.306
	2.467	3.944	279	-33.808	351	-6.928	51.750	0.373
	2.472	3.724	276.75	-35.179	351	-7.221	51.750	0.401
	2.477	3.849	279	-36.666	348.75	-7.278	51.750	0.465
	2.5235	4.115	276.75	-34.589	346.5	-7.545	49.500	0.749

5150 MHz ~ 5875 MHz



Legend	Freq.[GHz]	Max.[dB]	Degree	Min.[dB]	Degree	Ave.[dB]	B/W Deg.	F/B[dB]
	5.11	6.120	272.25	-26.630	166.5	-6.034	27.000	0.087
	5.15	6.734	272.25	-36.299	360	-6.136	24.750	0.074
	5.2	6.491	81	-28.619	117	-6.407	29.250	0.141
	5.25	6.641	81	-29.643	117	-6.568	29.250	0.323
	5.3	6.863	81	-36.348	117	-6.772	29.250	0.406
	5.35	6.862	85.5	-36.141	171	-7.098	29.250	0.783
	5.4	6.911	87.75	-36.142	173.25	-6.945	29.250	0.440
	5.47	6.915	85.5	-30.800	238.5	-6.889	27.000	0.619
	5.5	7.597	83.25	-30.255	346.5	-6.619	29.250	0.860
	5.55	7.152	85.5	-30.768	346.5	-6.980	29.250	0.605
	5.6	6.987	87.75	-26.311	346.5	-6.796	27.000	0.494
	5.65	6.666	87.75	-36.529	344.25	-7.169	27.000	0.570
	5.725	6.632	87.75	-30.089	355.5	-6.898	29.250	0.172
	5.755	6.786	83.25	-33.929	56.25	-6.894	27.000	0.403
	5.8	6.418	87.75	-41.853	182.25	-6.758	31.500	0.035
	5.825	6.804	267.75	-28.250	357.75	-6.307	29.250	0.013
	5.865	6.469	90	-35.248	346.5	-6.682	27.000	0.039

Fig 7. Antenna Mechanical