Specifications Sheet

Object	Internal Antenna	**Page**	1 of 13
Customer		**Date**	September 15, 2004
System	UWB	**Rev.**	IR
Model Name	W4I–UCO–25	**Written by**	

Electrical Specifications

Frequency Range (MHz)	2200 ∽ 2483.5	2483.5 ∽ 4850	4850 ∽ 6000
Bandwidth (MHz)	283.5	2366.5	1150
V.S.W.R (Min)	1.9 : 1	3 : 1	1.9 : 1
Gain (Max)	4.55 ± 1 (dBi)	3.31 ± 1 (dBi)	5.37 ± 1 (dBi)
Input Impedance	50 (Ω)		
Polarization	Linear		

Mechanical Specifications

Antenna Size (Width x Length x Height)	46 × 8 × 1 mm
Weight	N / A
Connector	Optional (HRS U.FL, I-PEX MHF, SMA)
Cable Length	200 mm (Optional)
Radiator Material	Copper
Operation Temperature	− 30 ∽ 90 (℃)
Operation Humidity	10 ∽ 90 (%)

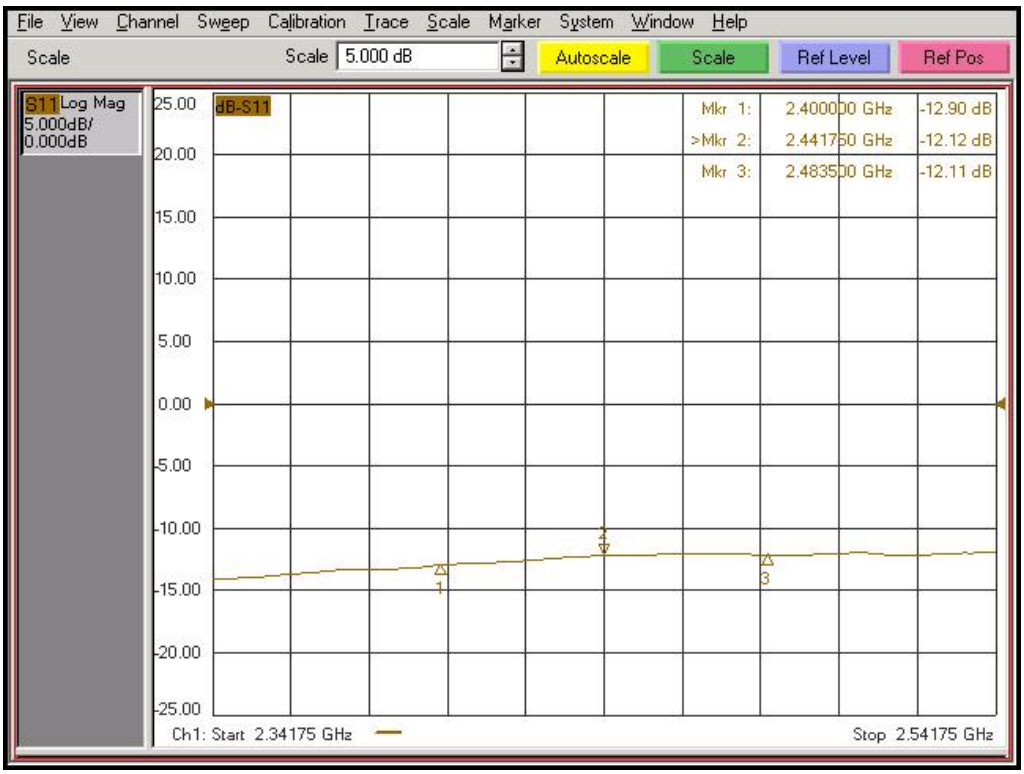
Option	
Remarks	

WINiZEN Co., Ltd.

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

a. 2200 MHz ～ 6000 MHz

b. 2341.75 MHz ～ 2541.75 MHz



c. 4800 MHz ~ 6000 MHz

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

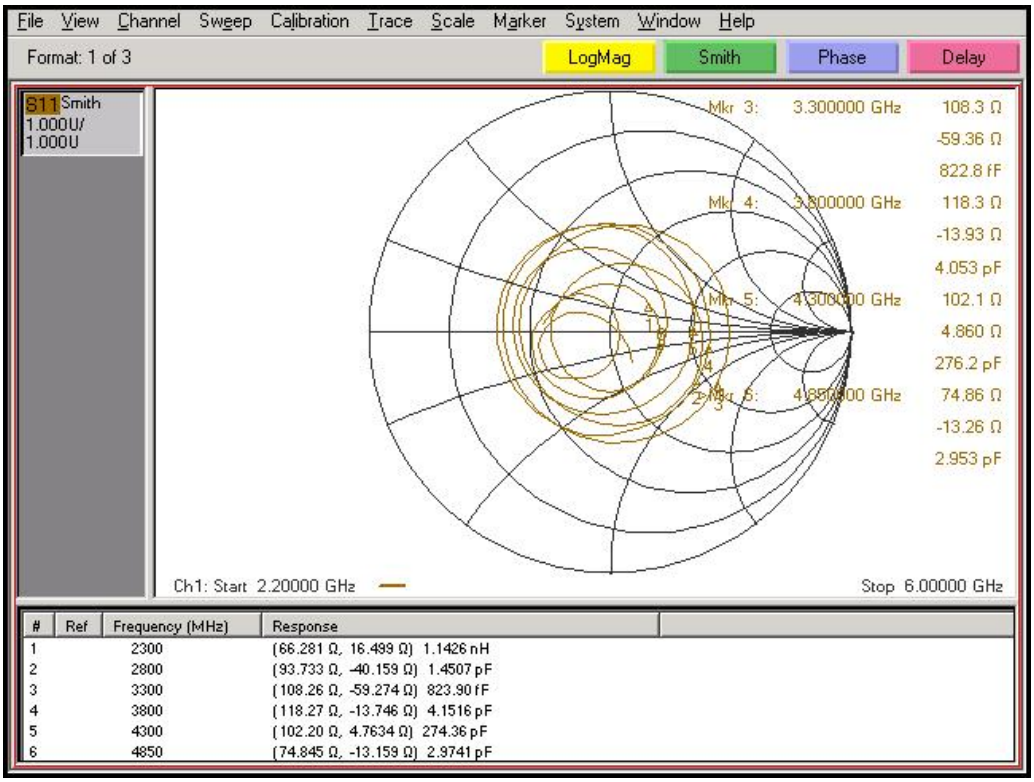
a. 2200 MHz ~ 6000 MHz

b. 2341.75 MHz ~ 2541.75 MHz

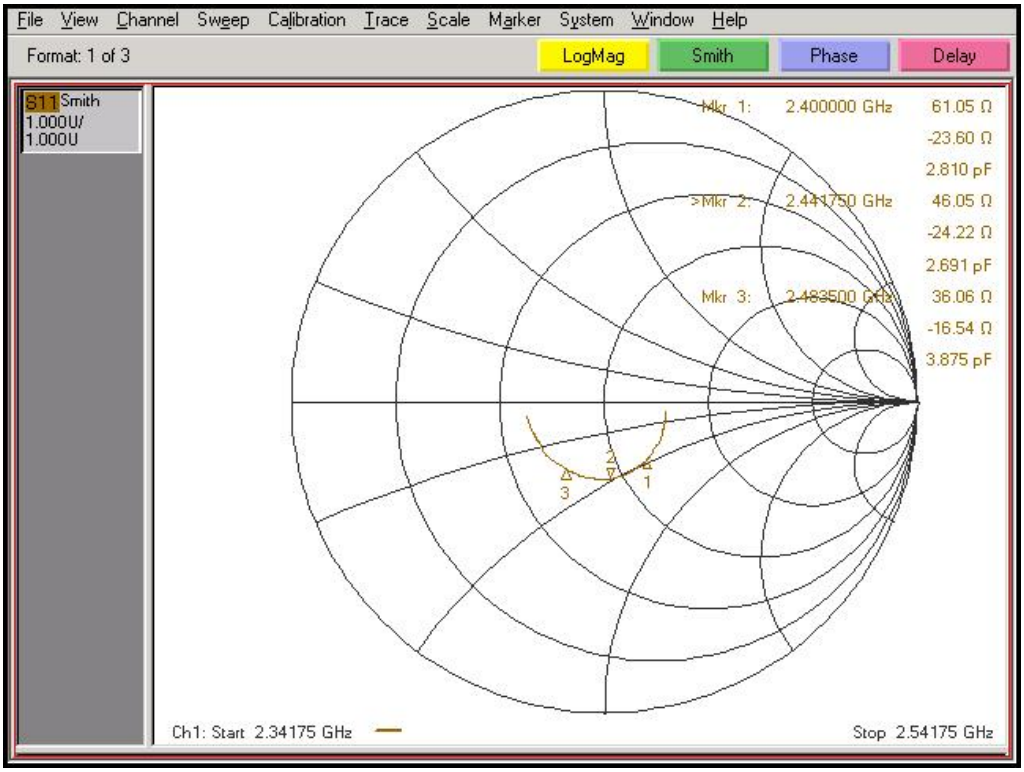
c. 4800 MHz ~ 6000 MHz

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

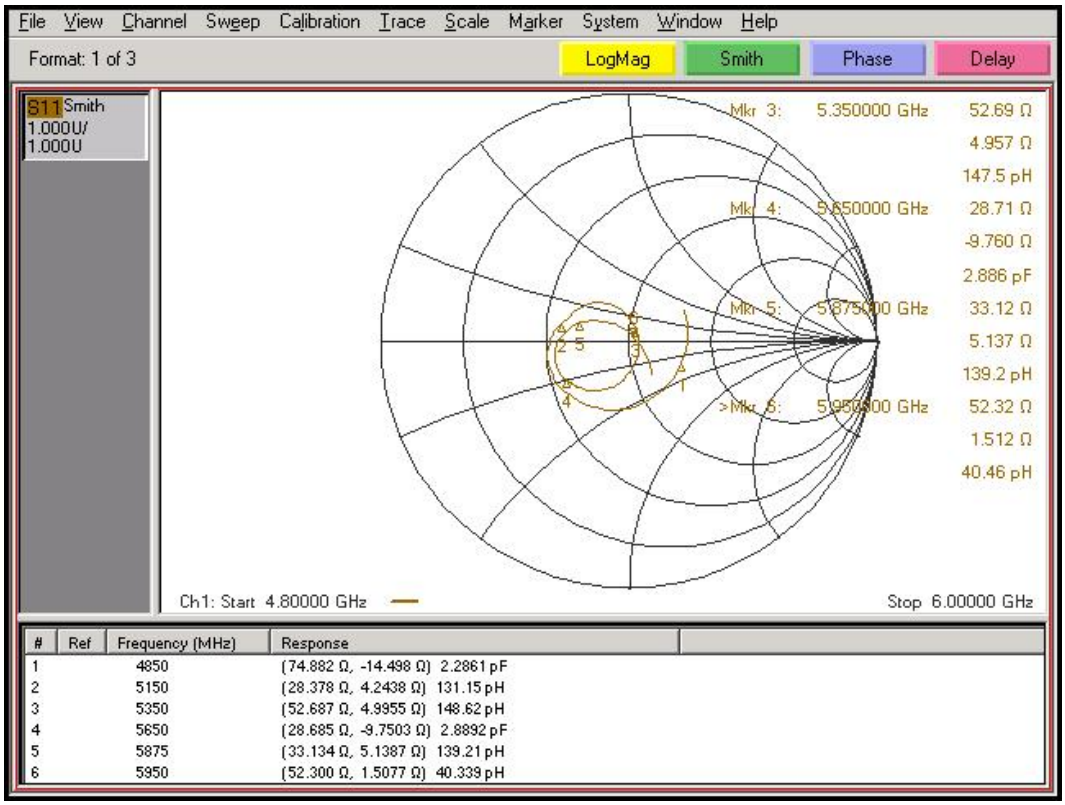
a. 2200 MHz ～ 6000 MHz



b. 2341.75 MHz ～ 2541.75 MHz



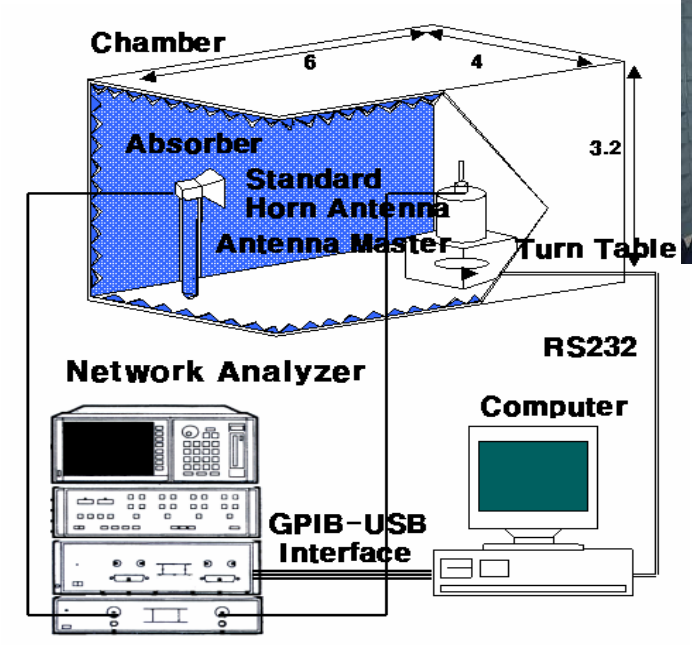
c. 4800 MHz ~ 6000 MHz

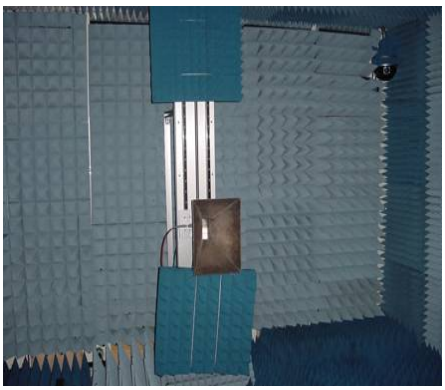


#	Ref	Frequency (MHz)	Response
1		4850	(74.882 Ω, -14.498 Ω) 2.2861 pF
2		5150	(28.378 Ω, 4.2438 Ω) 131.15 pH
3		5350	(52.687 Ω, 4.9955 Ω) 148.62 pH
4		5650	(28.685 Ω, -9.7503 Ω) 2.8892 pF
5		5875	(33.134 Ω, 5.1387 Ω) 139.21 pH
6		5950	(52.300 Ω, 1.5077 Ω) 40.339 pH

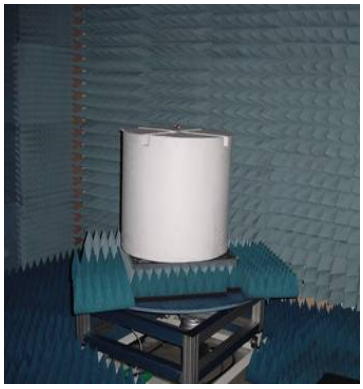
Fig 4. Measurement Configuration

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



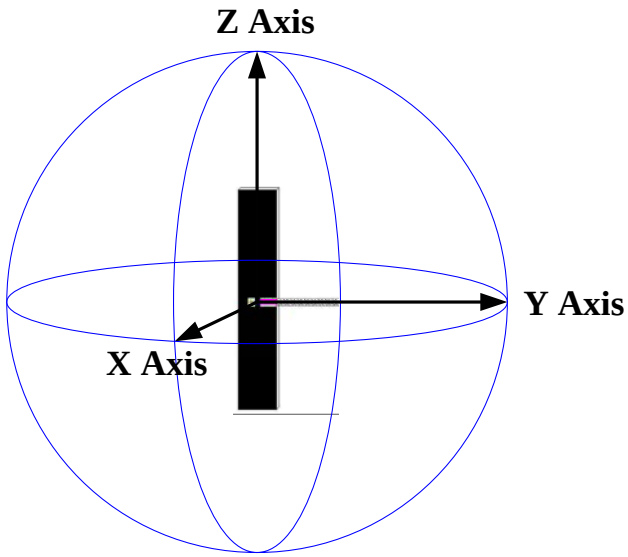


Standard Horn



Turn Table

Fig 5. Axis Definitions (Antenna Center)



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

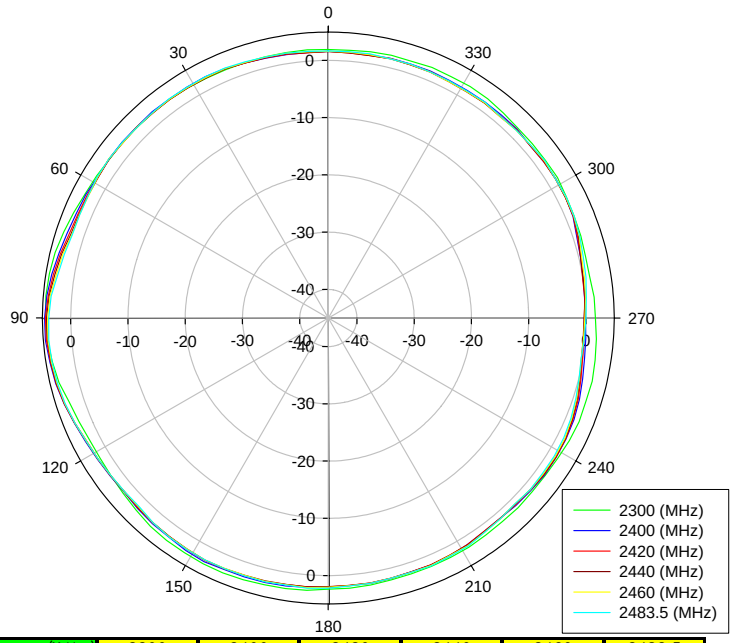
b. Elevation Pattern (Co-pol) : XZ Plane ; Horn Antenna Polarization : Horizontal

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

Fig 6. Gain Patterns

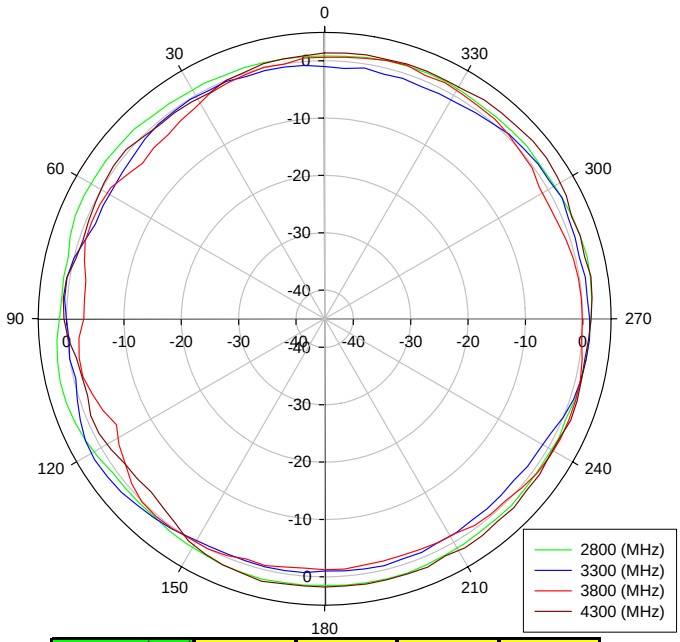
A. Azimuth Pattern

a. 2300 MHz ~ 2483.5 MHz



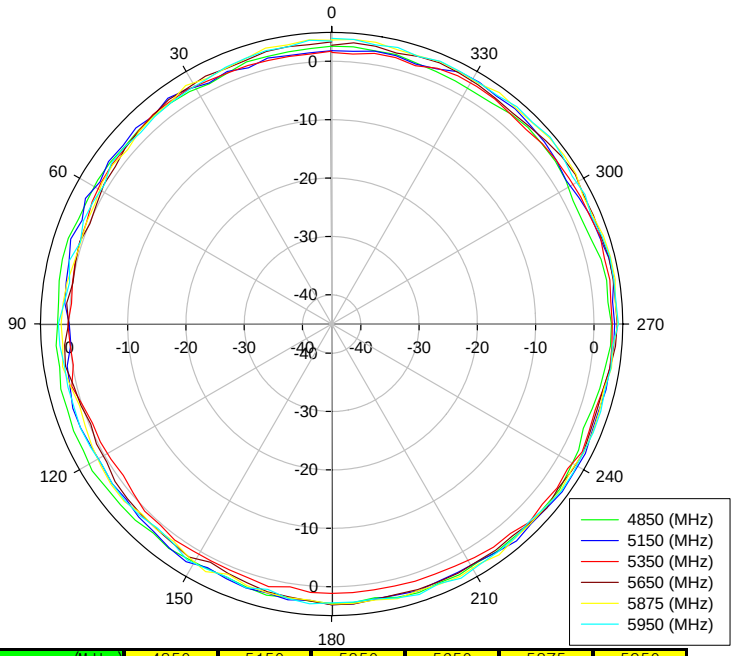
Frequency (MHz)	2300	2400	2420	2440	2460	2483.5
Max Gain	4.46906	4.547	4.37279	4.19475	4.07484	3.95485
Average Gain	2.3288757	1.943474	1.8323628	1.7884688	1.8013781	1.822267

b. 2800 MHz ~ 4300 MHz



Frequency (MHz)	2800	3300	3800	4300
Max Gain	2.38137	2.01961	1.46533	2.75534
Average Gain	1.307417	-0.231768	-0.7065421	0.7978281

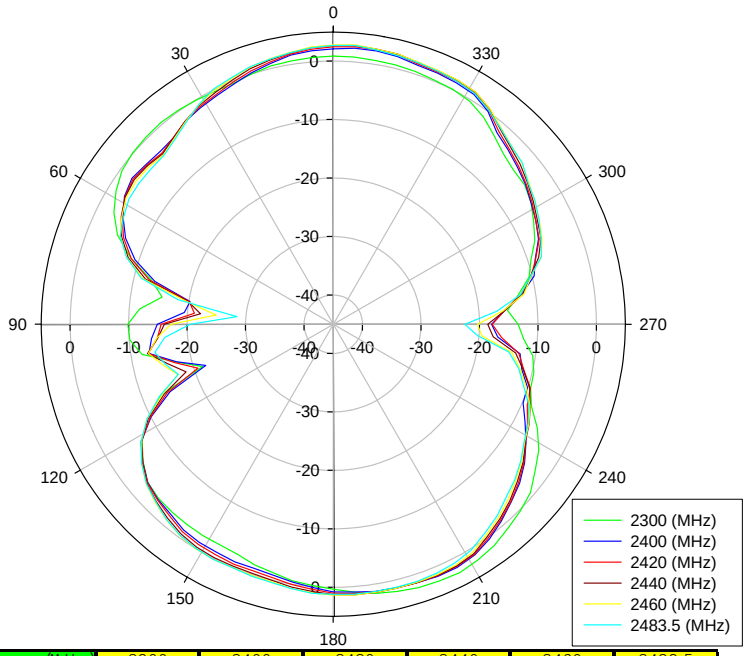
c. 4850 MHz ~ 5950 MHz



Frequency (MHz)	4850	5150	5350	5650	5875	5950
Max Gain	3.37616	3.9772	3.44537	4.00856	4.23024	4.26927
Average Gain	2.376164	2.394033	1.560114	2.283571	2.632136	2.671896

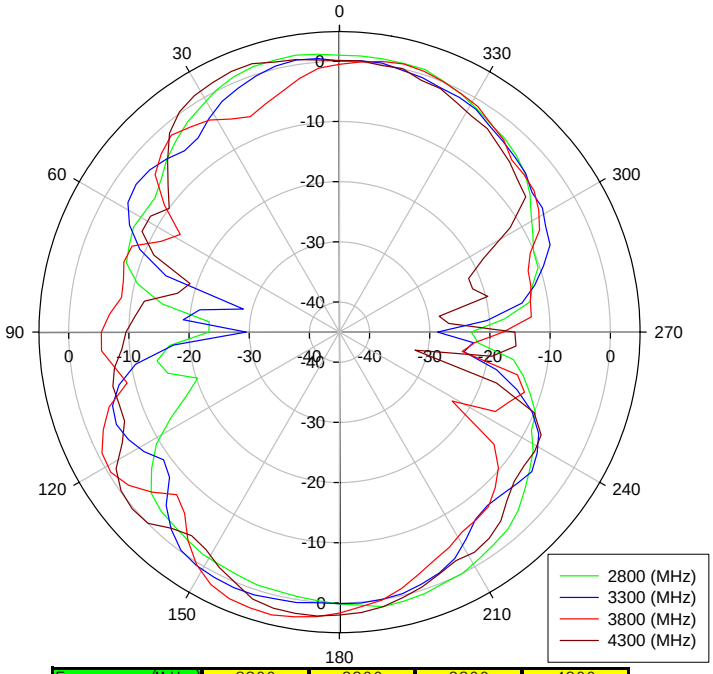
B. Elevation Pattern

a. 2300 MHz ~ 2483.5 MHz



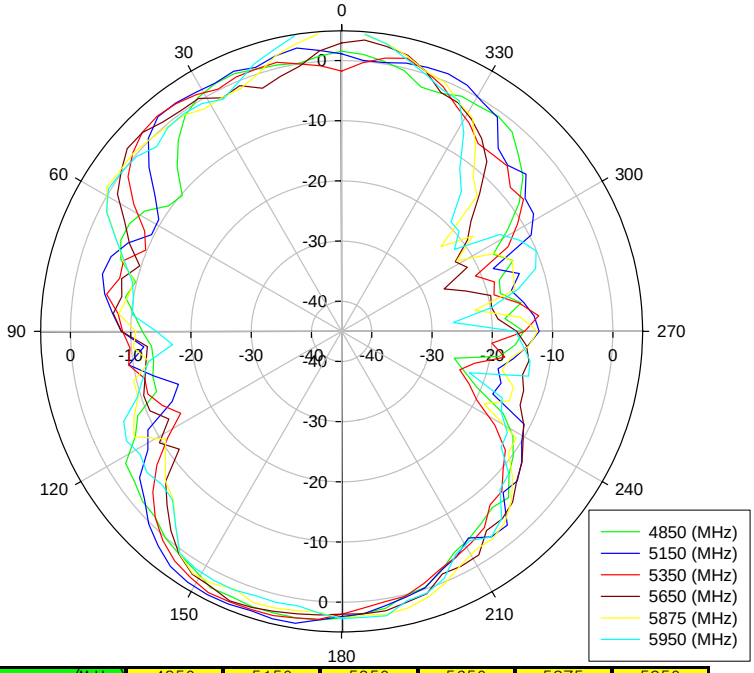
Frequency (MHz)	2300	2400	2420	2440	2460	2483.5
Max Gain	2.66234	2.30132	2.58283	2.80941	2.898	2.78222
Average Gain	-4.0019519	-4.6629241	-4.5166878	-4.3530349	-4.3693279	-4.6433795

b. 2800 MHz ~ 4300 MHz



Frequency (MHz)	2800	3300	3800	4300
Max Gain	1.55443	0.94799	3.31121	2.33758
Average Gain	-5.8164506	-6.2880569	-5.6020677	-6.001896

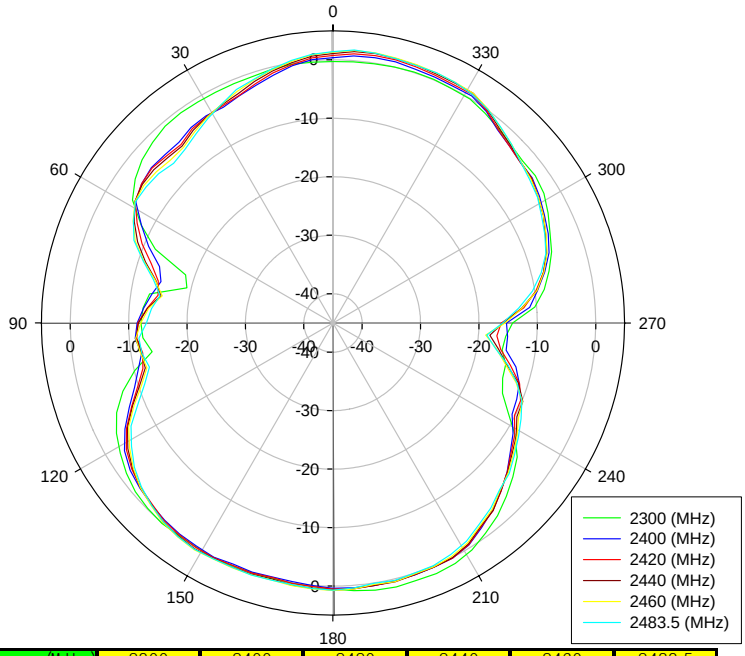
c. 4850 MHz ~ 5950 MHz



Frequency (MHz)	4850	5150	5350	5650	5875	5950
Max Gain	3.1859	4.11201	3.71574	3.5315	5.29864	5.37499
Average Gain	-5.758163	-4.47212	-5.859783	-5.850245	-5.455569	-5.735091

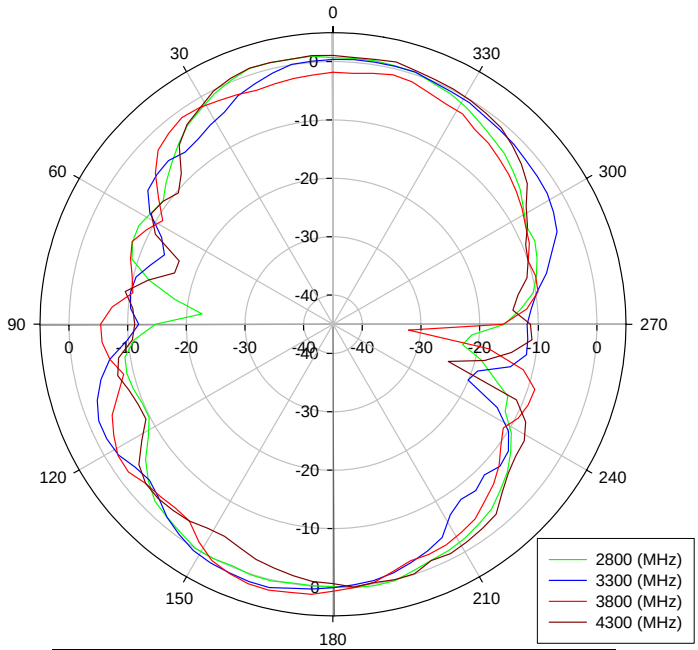
C. Elevation Side Pattern

a. 2300 MHz ~ 2483.5 MHz



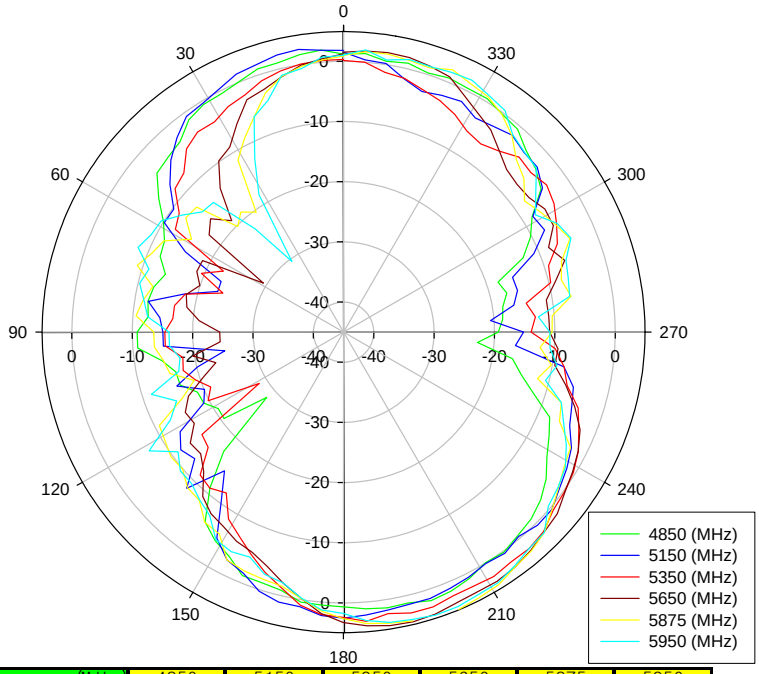
Frequency (MHz)	2300	2400	2420	2440	2460	2483.5
Max Gain	1.41177	0.90857	1.27499	1.611	1.75429	1.79895
Average Gain	-4.1376993	-4.4891274	-4.5157978	-4.4324472	-4.4369179	-4.5828728

b. 2800 MHz ~ 4300 MHz



Frequency (MHz)	2800	3300	3800	4300
Max Gain	1.07412	1.39039	1.83574	1.18625
Average Gain	-5.5626131	-4.7661935	-5.1568585	-5.3037416

c. 4850 MHz ~ 5950 MHz



Frequency (MHz)	4850	5150	5350	5650	5875	5950
Max Gain	1.97661	2.53065	3.18589	4.51085	5.09352	4.4412
Average Gain	-6.583494	-6.223518	-6.712946	-7.017516	-5.503139	-5.669522

Fig 7. Antenna Mechanical

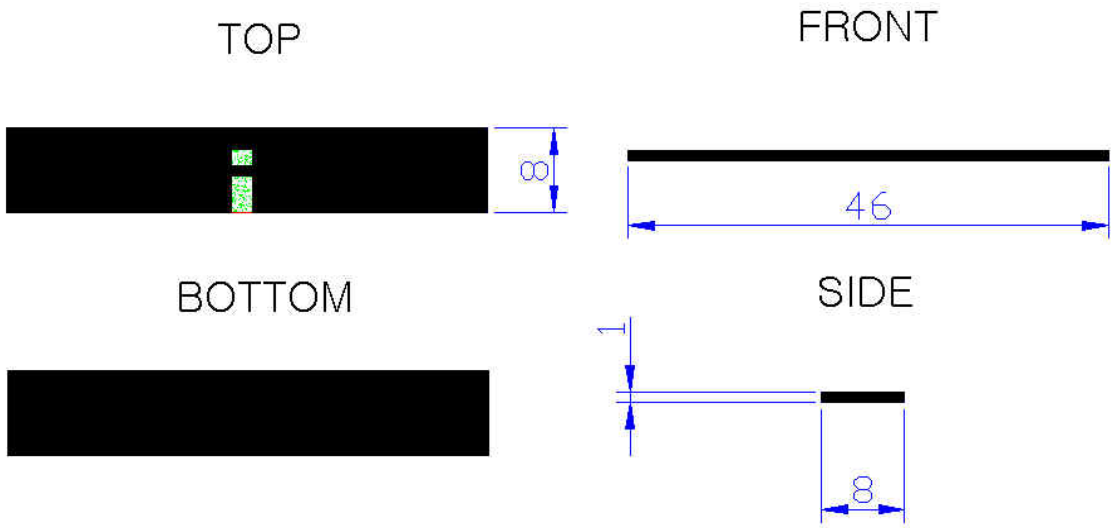


Fig 8. Cable Mechanical

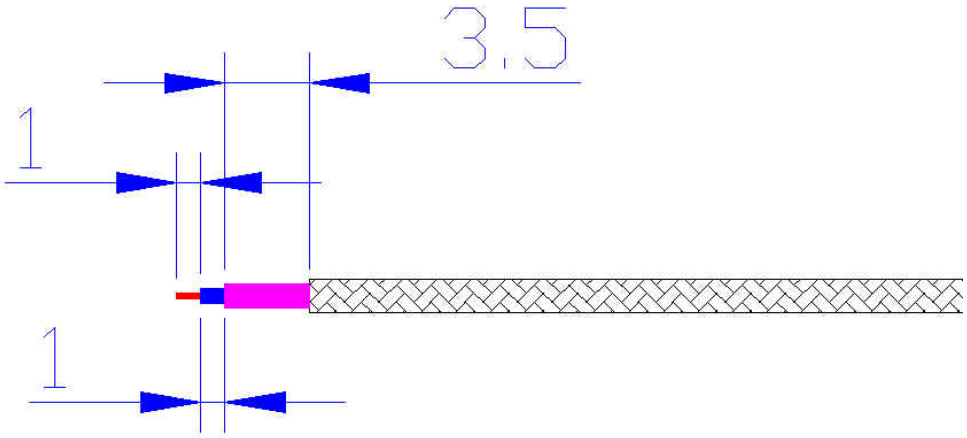


Fig 9. Antenna Mounting