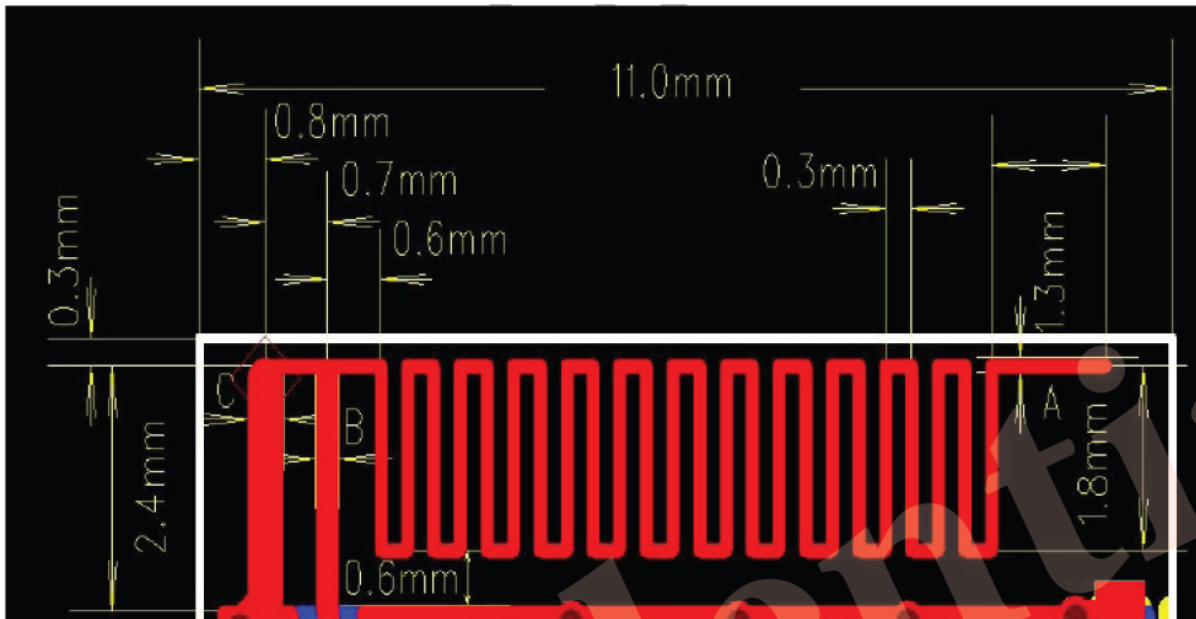


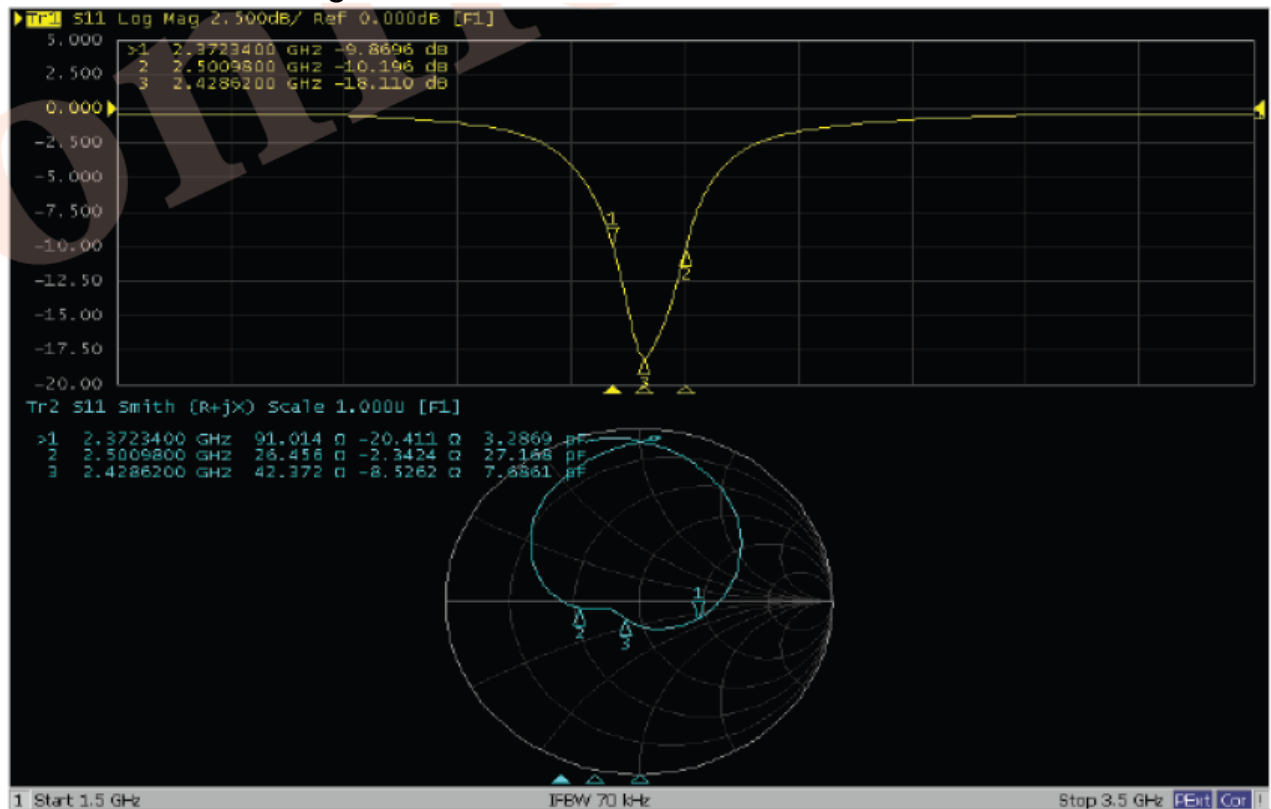
Type_3 Antenna Design Layout Guidelines & Pattern

1. The specific size specifications of the antenna are as follows (mm):



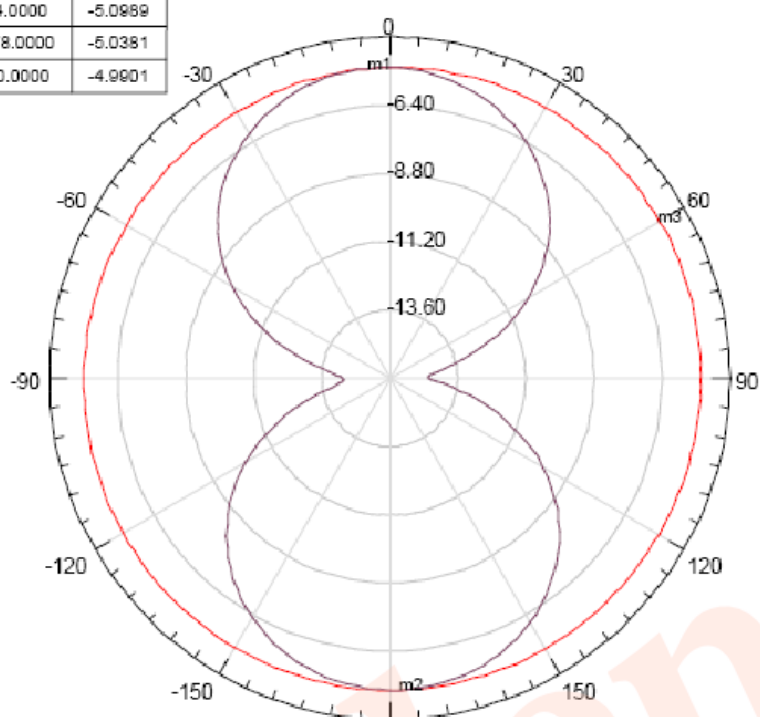
2. The results of antenna measurement and field simulation are as follows :

*Return loss/Standing wave ratio measurement:



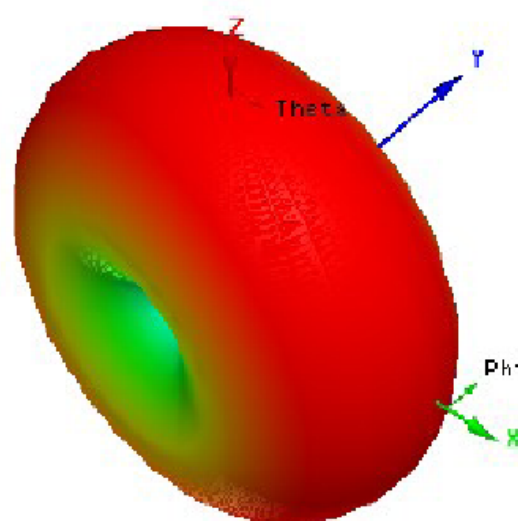
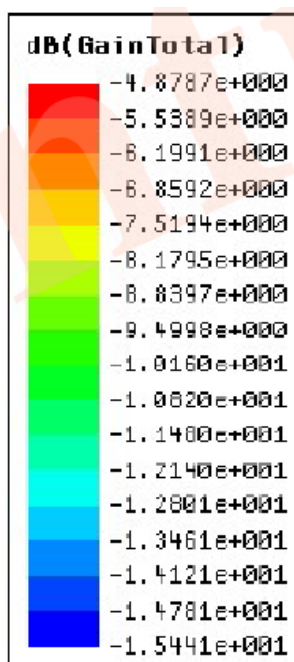
*2D field shape simulation diagram:

Name	Theta	Ang	Mag
m1	-4.0000	-4.0000	-5.0989
m2	178.0000	178.0000	-5.0381
m3	80.0000	80.0000	-4.9901



Curve Info
— dB(GainTotal)
Setup1 : Sweep1
Phi='0deg'
— dB(GainTotal)
Setup1 : Sweep1
Phi='90deg'

*3D field shape simulation diagram:



From the above measurements and simulations, it can be concluded that the gain of this antenna can only reach about -5dBi.

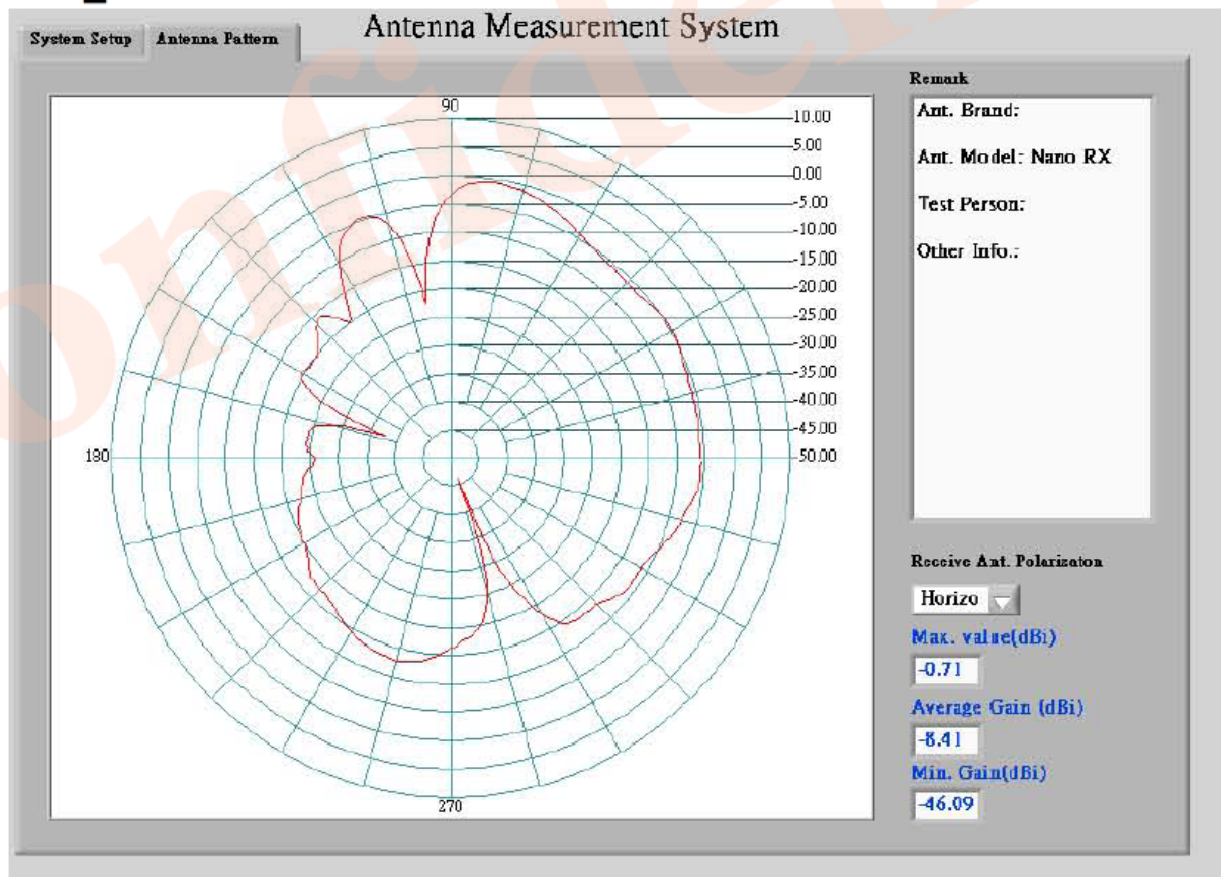
3. The actual field shape (strong) test of the antenna is as follows:

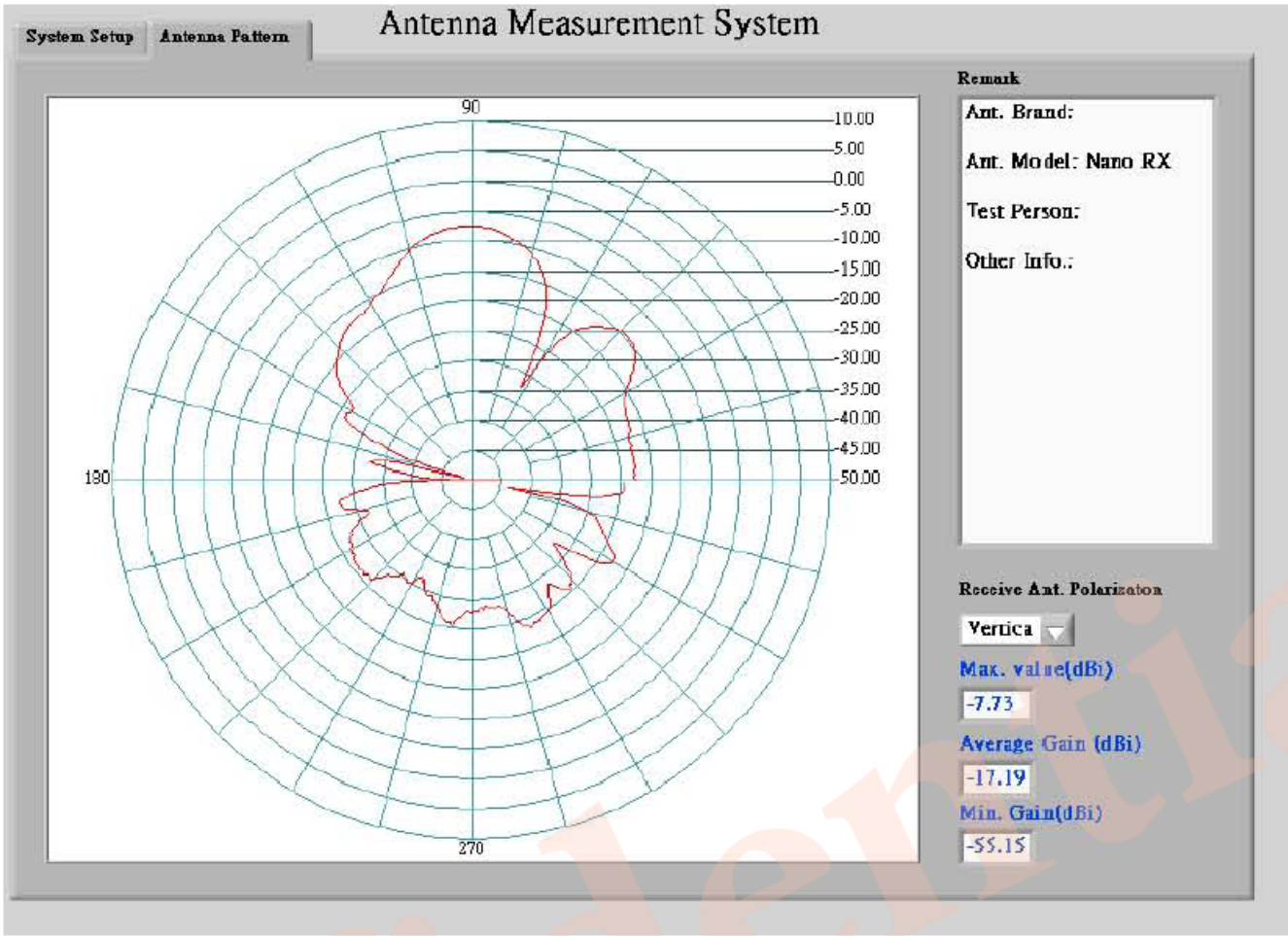
Summary

ITEM	SPEC.	
Antenna Type	Type_3 Antenna	
Center Frequency	2400 MHz	- 0.71 dBi
	2450 MHz	- 0.84 dBi
	2500 MHz	- 1.75 dBi
Max. GAIN	- 0.71 dBi	
Mini. GAIN	- 55.15 dBi	
AVG GAIN	- 8.4 dBi	
DUT Polarization	Horizontal & Vertical	
TEST Output Power Level	10dBm	
Impedance	50 Ω	

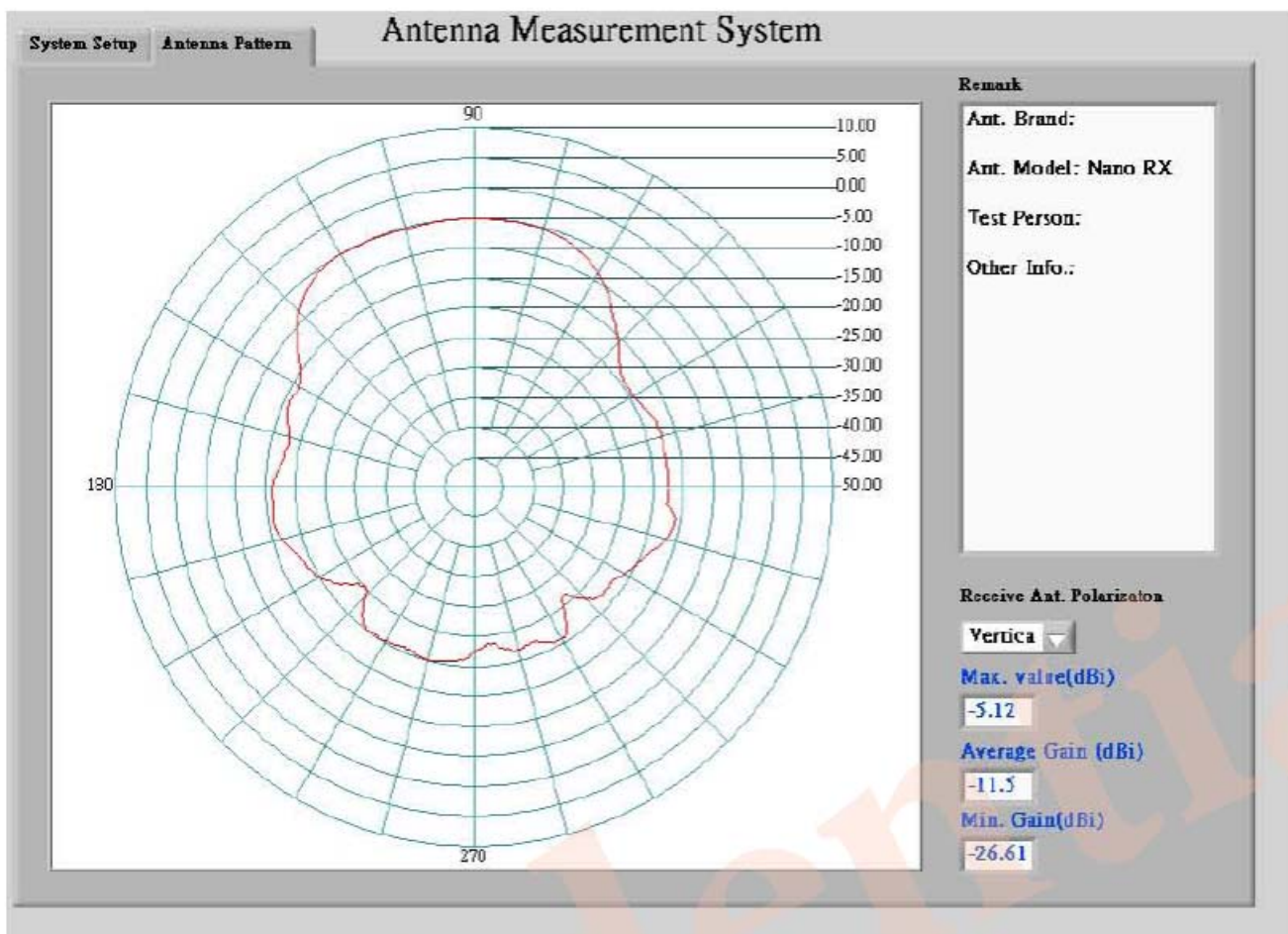
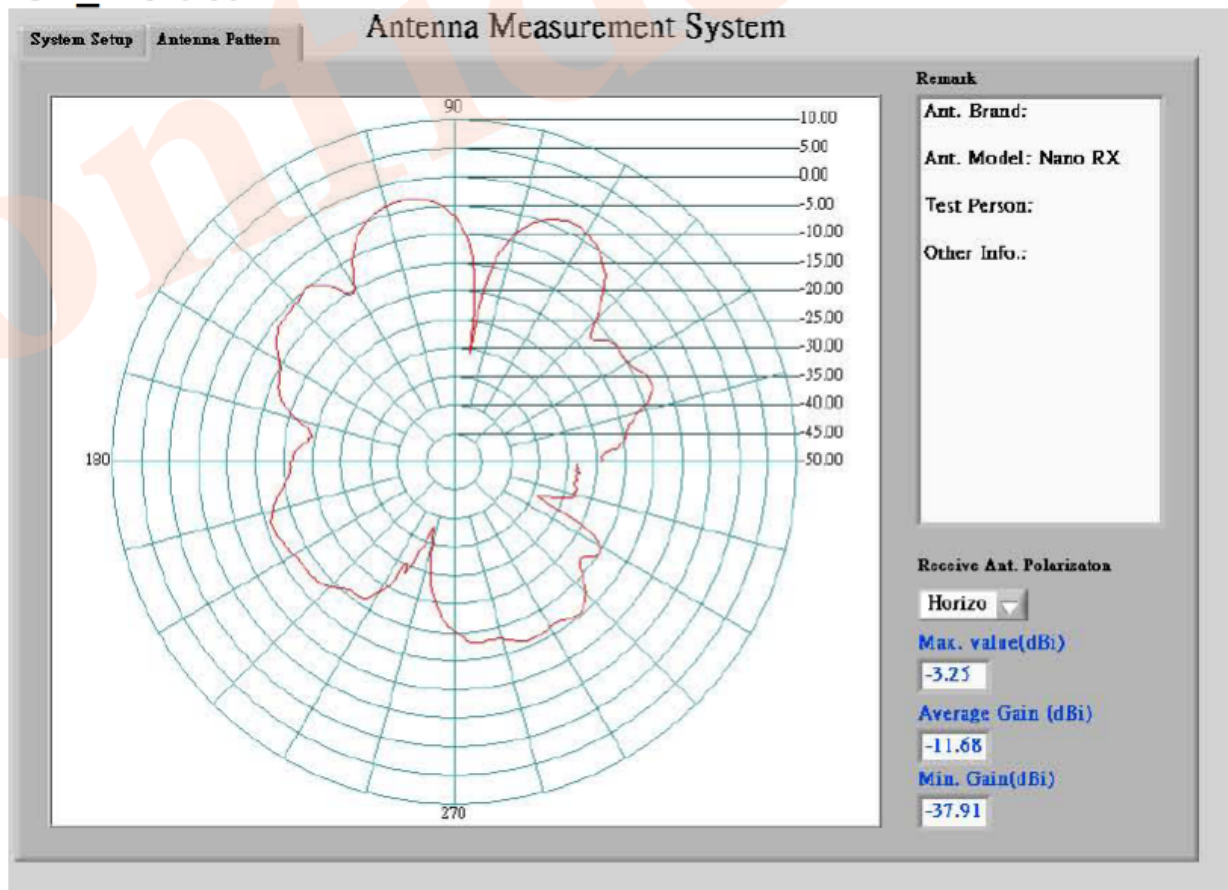
Center Frequency_2400MHz

* DUT_ Horizontal



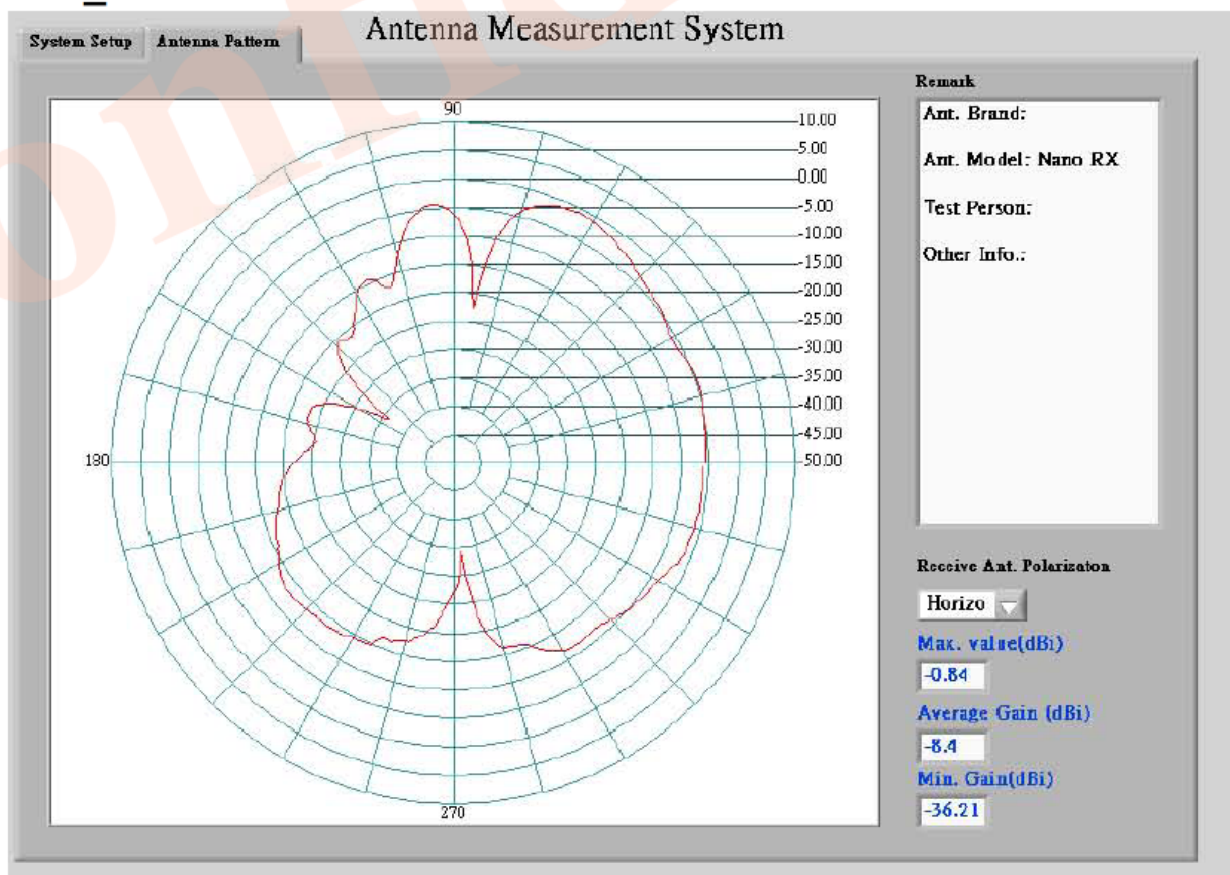


* DUT_Veritical



Center Frequency_2450MHz

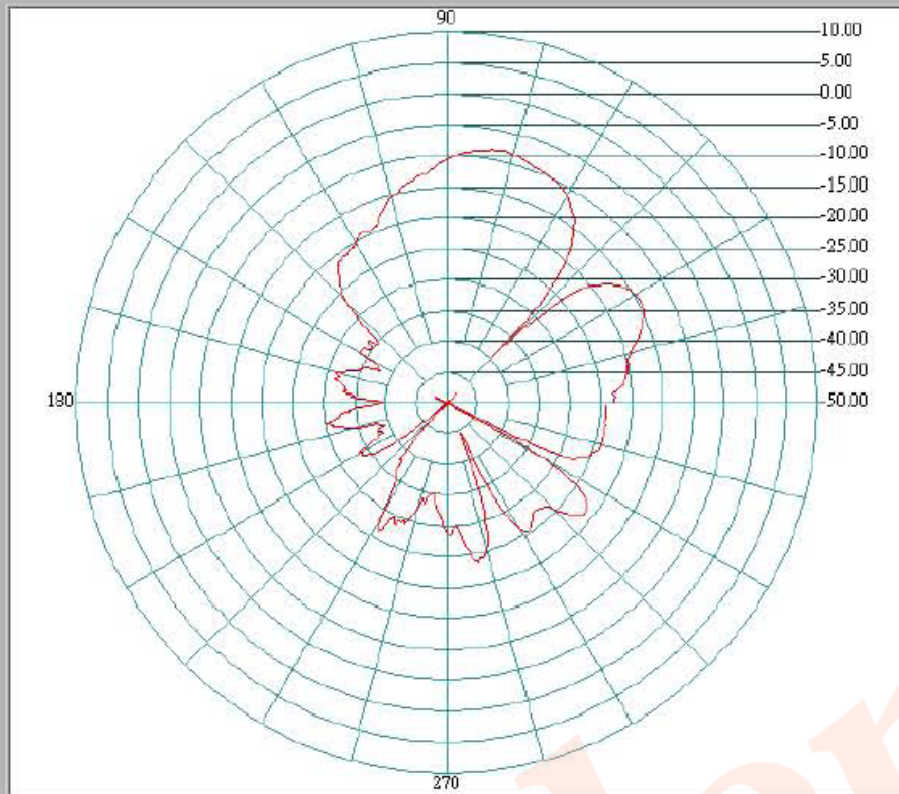
* DUT_ Horizontal



System Setup

Antenna Pattern

Antenna Measurement System



Remark

Ant. Brand:

Ant. Model: Nano RX

Test Person:

Other Info.:

Receive Ant. Polarization

Vertical

Max. value(dBi)

-8.3

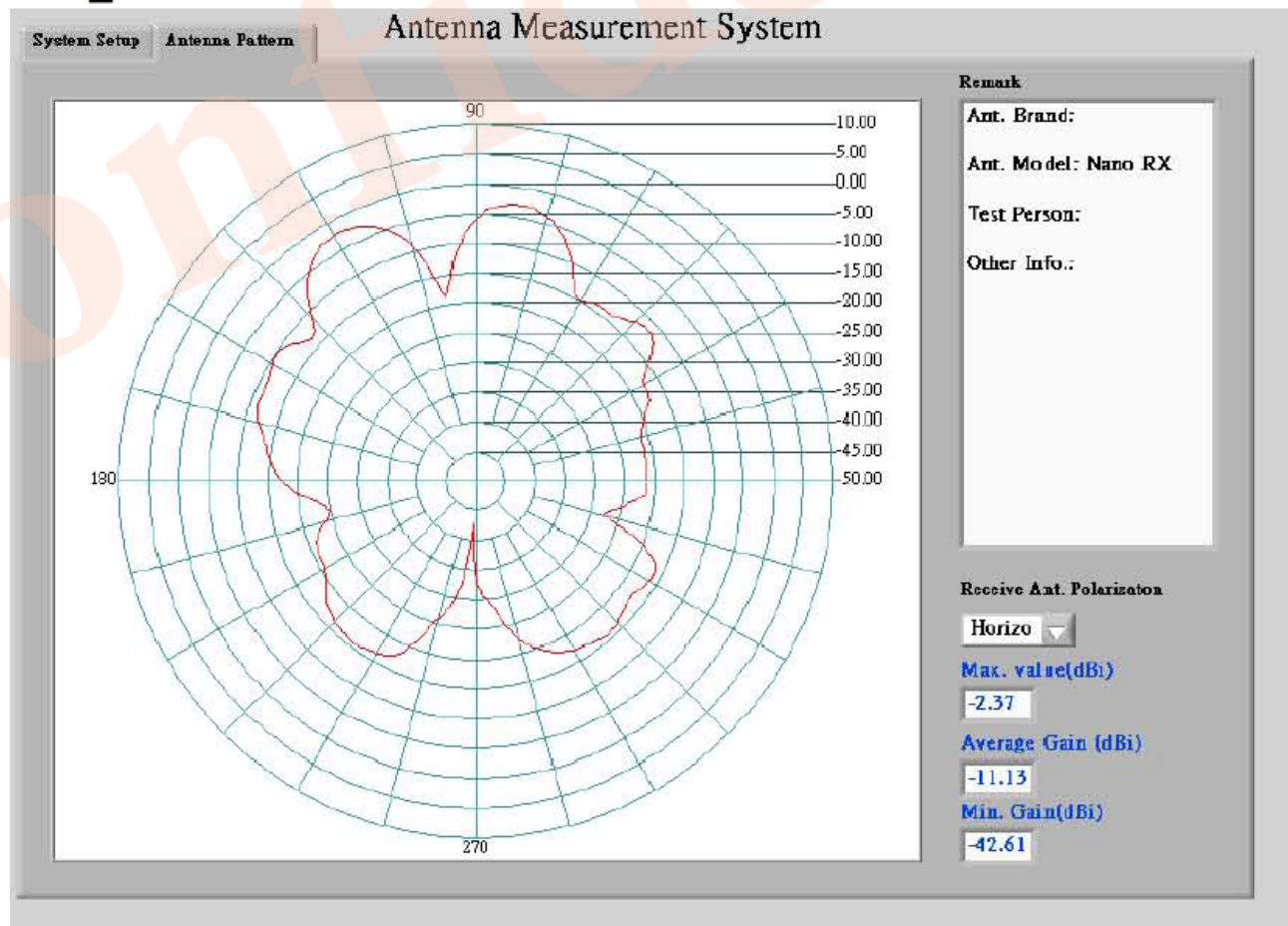
Average Gain (dBi)

-17.74

Min. Gain(dBi)

-52.24

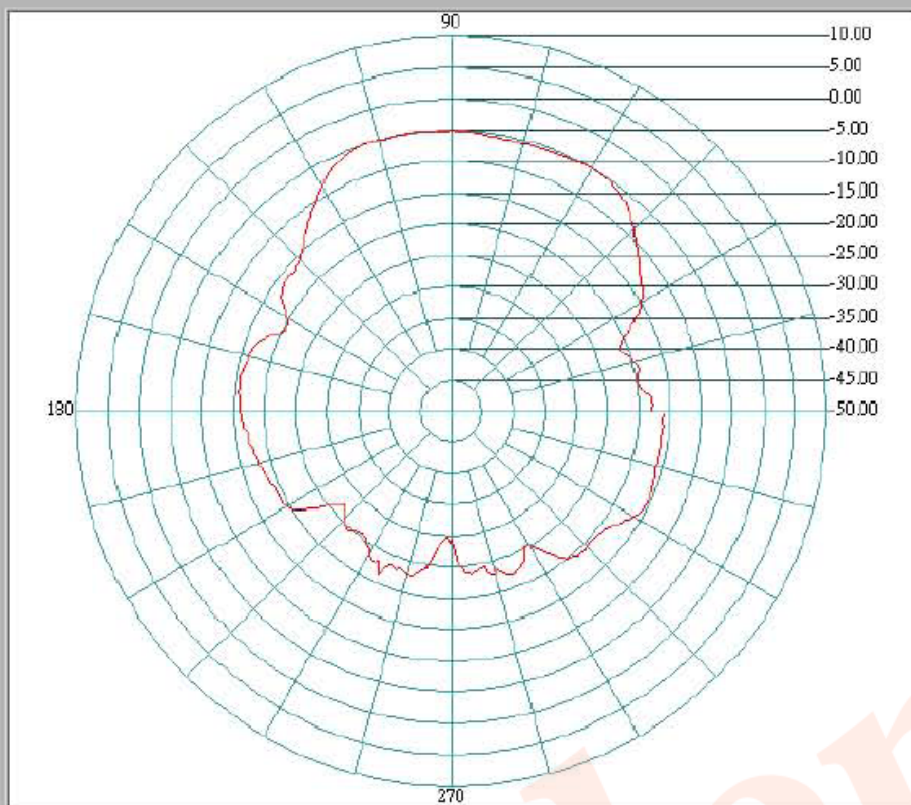
* DUT_ Vertical



System Setup

Antenna Pattern

Antenna Measurement System



Remark

Ant. Brand:

Ant. Model: Nano RX

Test Person:

Other Info.:

Receive Ant. Polarization

Vertical

Max. value(dBi)

-5.09

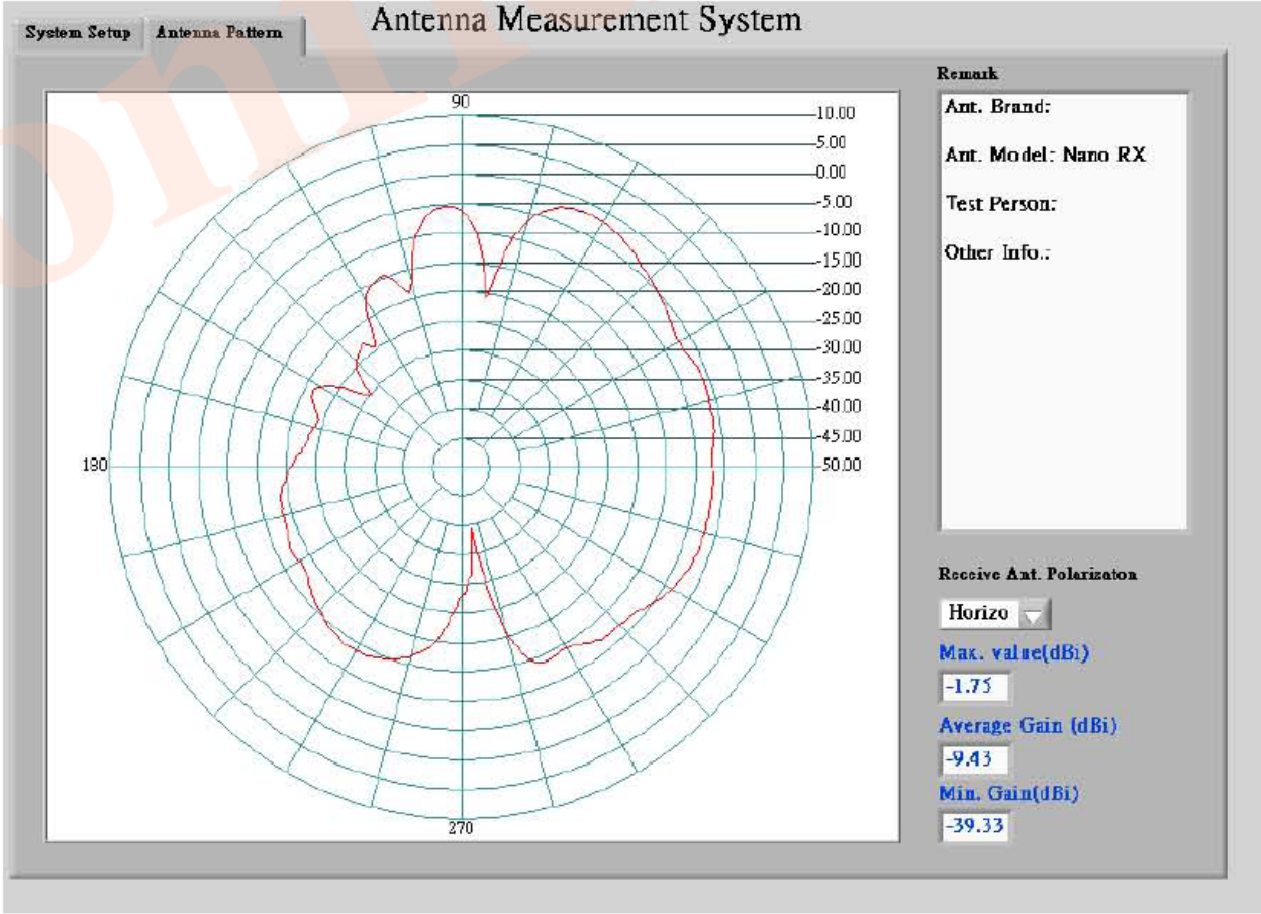
Average Gain (dBi)

-11.46

Min. Gain(dBi)

-29.87

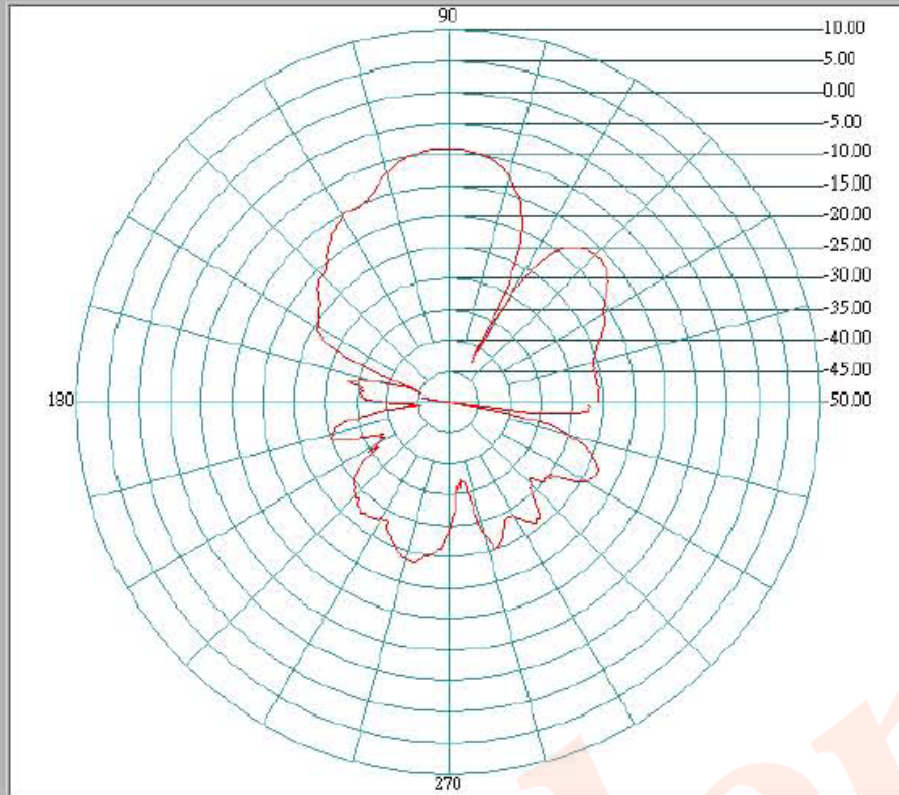
Center Frequency_2500MHz
* DUT_ Horizontal



System Setup

Antenna Pattern

Antenna Measurement System



Remark

Ant. Brand:

Ant. Model: Nano RX

Test Person:

Other Info.:

Receive Ant. Polarization

Vertical

Max. value(dBi)

-9.14

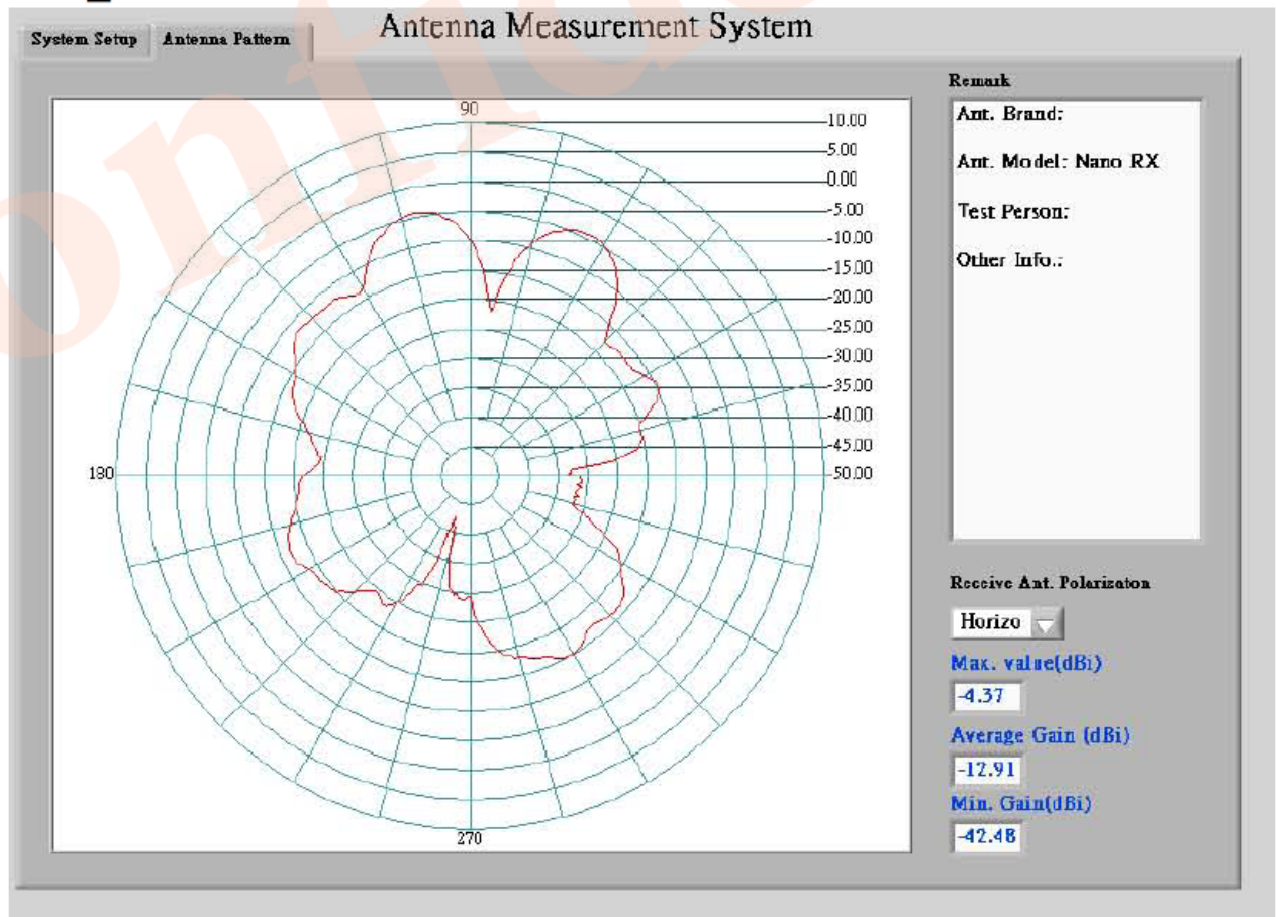
Average Gain (dBi)

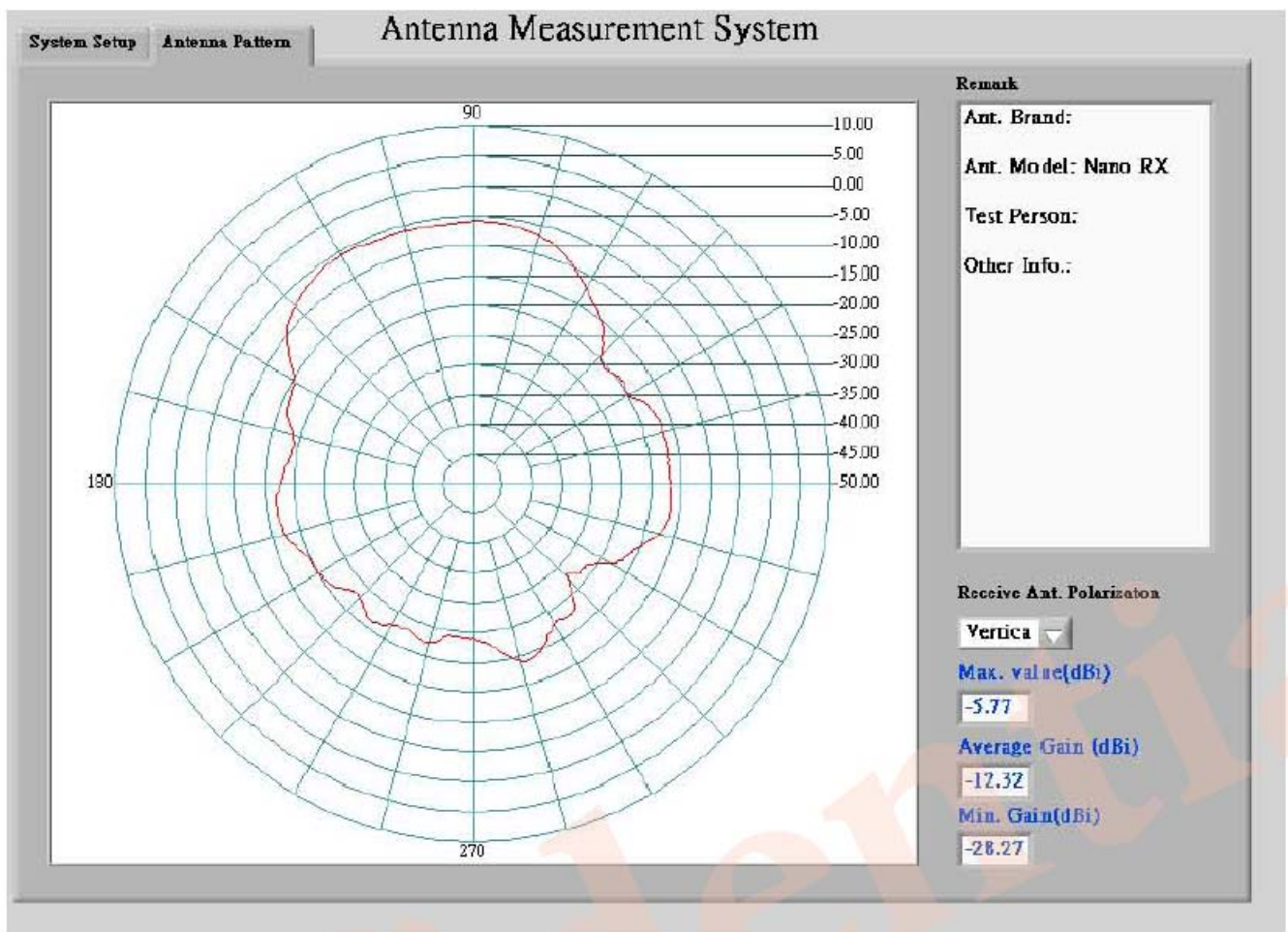
-18.54

Min. Gain(dBi)

-54.11

* DUT_ Vertical





4. Conclusion

After the comprehensive measurement above, it can be concluded that the gain of this antenna can only reach about -5dBi, and its maximum gain is about -0.71dBi.