

APPROVAL SHEET

Metal ANTENNA

2.4~2.5/5.15~7.125 GHz Working Frequency

Halogens Free Product

P/N: RFMTA311020EMMB301

Customer : _____

Customer 's Part No. : _____

Approval No. : _____

Issue Date : _____

*Contents in this sheet are subject to change without prior notice.

Version	Date	Description	Author
V01	2020 Aug.	New Release	SHLEE
V02	2020 Nov.	增加 Gain table	SHLEE

ELECTRICAL CHARACTERISTICS

Item	Specification
Frequency Range	2.4~2.5 / 5.15~7.125 GHz
Impedance	50 Ohm Nominal
Return Loss	-10 dB (Max)
Peak Gain (including cable loss)	1.71 dBi @ 2.4GHz; 4.82dBi @ 5GHz 4.76 dBi @ 6GHz
2.0 (Max)	
Radiation	Omni-directional
Polarization	Linear Vertical
Admitted Power	1W
Operation Temperature	-20℃ ~ +65℃

*note-1: Electrical characteristics will depend on customer's final application.

MATERIAL TABLE

Items	Description
Metal	SUS 430 T=0.3mm(鍍鎳)
Cable	(\$ 1.13) (Black)
Connector	四代 IPEX(Ni/Gold)
Doubel Tape	3M9888T
Copper Foil Tape	CU(90*50mm)

ORDERING RULE

RF	MTA	3110	20	E	M	M	B	3	01
Type Code	Product Code	Dimension (Unit: mm)	Cable Length (unit: cm)	Connector Brand	Type of Connector	Application	Project status	Wire Diameter	Project
Walsin RF Device	MTA: Metal Antenna	Per 2 digits of length, width e.g.: 3407 Length 34mm, Width 7.8mm	2 digits for cable length e.g.: 20 Cable Length:20cm	A: N C:MCX D:IPEX III E: IPEX IV F: IPEX A13 H: Hirose I: IPEX M: MMCX S: SMA T: TNC U:MURATA N: None	A: Reverse Female B: Reverse Male F: Female M: Male N: None	0: 0GHz 3: 3GHz 5: 5GHz 6: 6GHz A: 2.4GHz ISM band B: GSM 900/1800 dual band G: GPS band L: 2.4/5.2/5.8 GHz tri-band M: 2.4~2.5/5.15~7.125 MHz N: NFC T: LTE band W:WCDMA band	B: MP T:Durin g Test X: Pile Run	0:None 1:∅ 0.81 3:∅ 1.13 6:RG316 7:∅ 1.37 8:RG178	01~99 series number

NO	DESCRIPTION		Q'TY	REMARK
A	Antenna	SUS430 T=0.3mm	1	RFMTA3110-01
B	Coaxial cable	Coaxial Cable (φ1.13);Black	1	
C	Connector	四代 IPEX (Ni/Gold)	1	2130101307
D	Double Tape	3M9888T	1	
E	Copper Foil Tape	CU(90°50mm)	1	

ELECTRICAL
Frequency :
2.4~2.5 GHz / 5.15~7.125 GHz

The technical drawing includes several views:
 - Exploded view at the top left showing components A (Antenna), B (Coaxial cable), C (Connector), D (Double Tape), and E (Copper Foil Tape).
 - Top view of the antenna structure with dimensions: 15 (6.50±0.05), 16 (3.10±0.1), 17 (6.30), 12 (7.40±0.05), 13 (5.00±0.05), 14 (5.50±0.05), 18 (5.00±0.05), 19 (7.50±0.05).
 - Side view showing the profile of the antenna.
 - Bottom view with dimensions: 1 (6.30±0.05), 2 (7.20±0.1), 3 (6.00±0.05), 4 (5.30±0.1), 5 (6.30±0.1), 6 (3.50±0.05), 7 (31.00±0.15), 8 (28.00±0.1), 9 (8.90±0.05), 10 (2.80±0.1), 11 (10.00), 12 (4.90), 13 (6.70).
 - Detail view of the connector area with dimensions: 1 (1.00), 2 (1.00), 3 (2.00), 4 (200±3).
 - Note: IPEX方向: 100mm±90°, 200mm±135°, 200mm以上不管控.

※標記□記號者，為重點檢驗尺寸

設計DR.	SHLEE	2020.08.24	品名 ARTICLE	版本REV. A	
核准APP.	MARCO				
容許公差 TOLERANCE			RFMTA311020EMMB301		
6以下.....±0.2					
6以上~30.....±0.5					
30以上~120.....±0.8					
120以上~315.....±1.2					
315以上~1000.....±2.0			單位UNIT	比例SCALE	張數SHEET
1000以上~2000.....±3.0			mm	****	7

PSA

華新科技股份有限公司
 WALSIN TECHNOLOGY CORPORATION

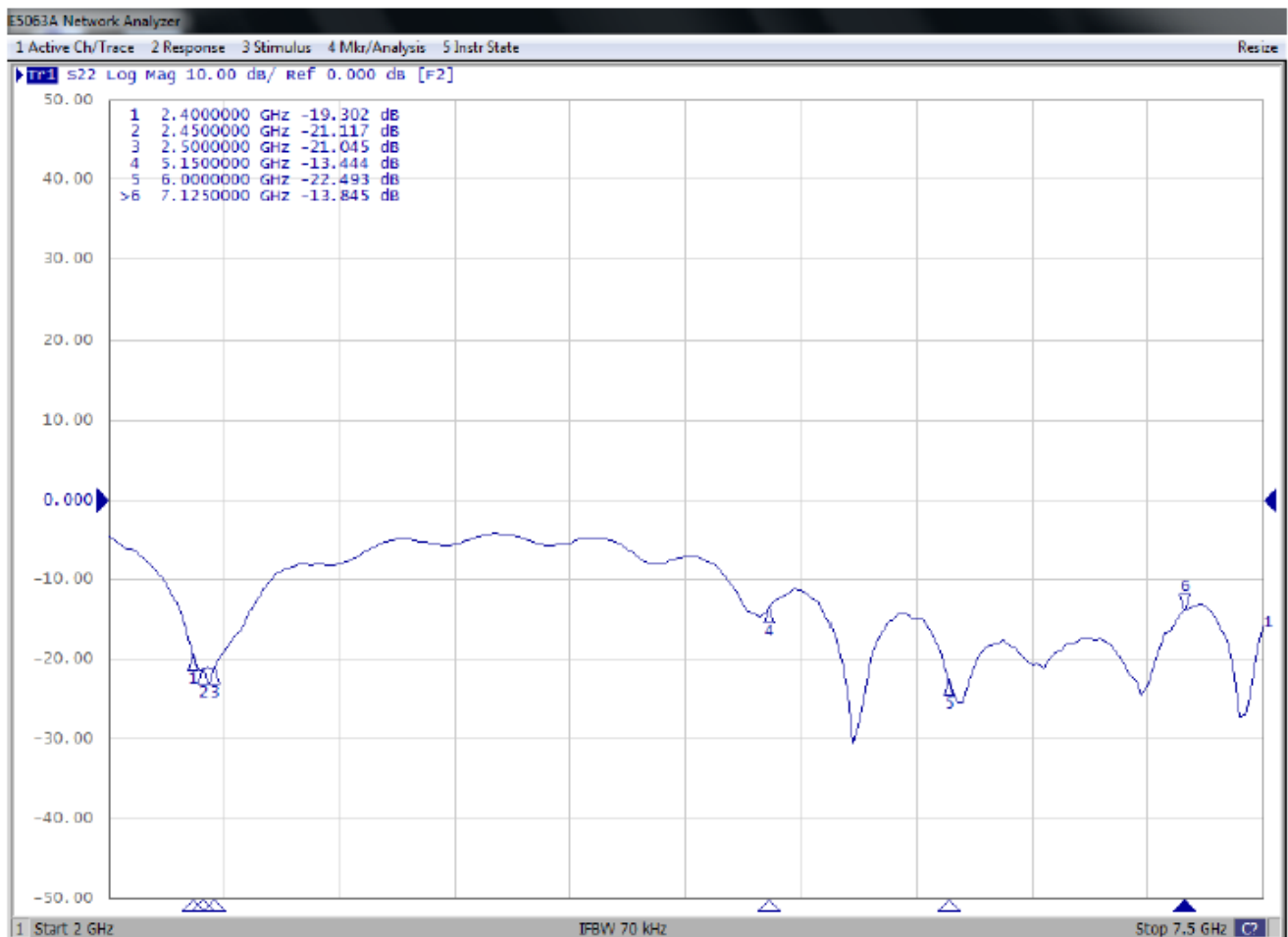
Test Report

■ EXPERIMENTAL SETUP



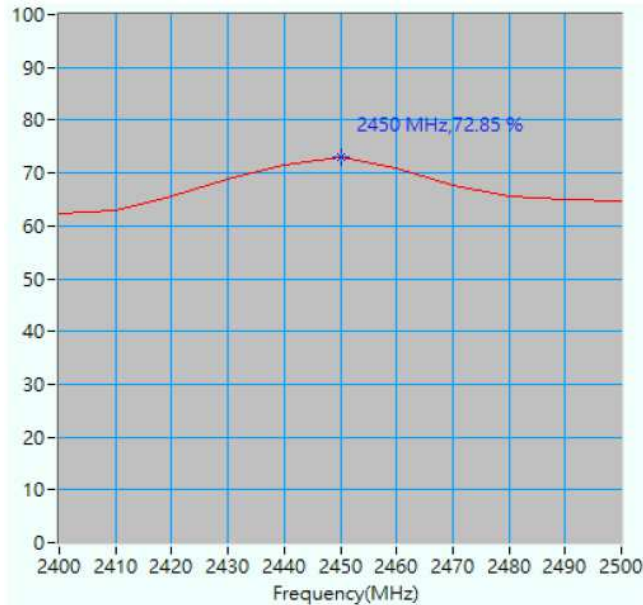
ELECTRICAL CHARACTERISTICS

Return Loss

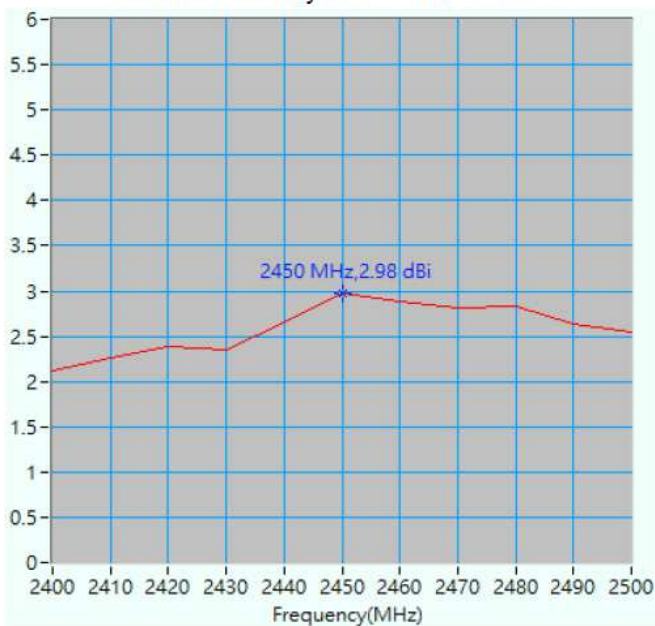


■ Antenna Efficiency and Peak Gain

2400~2500 MHz



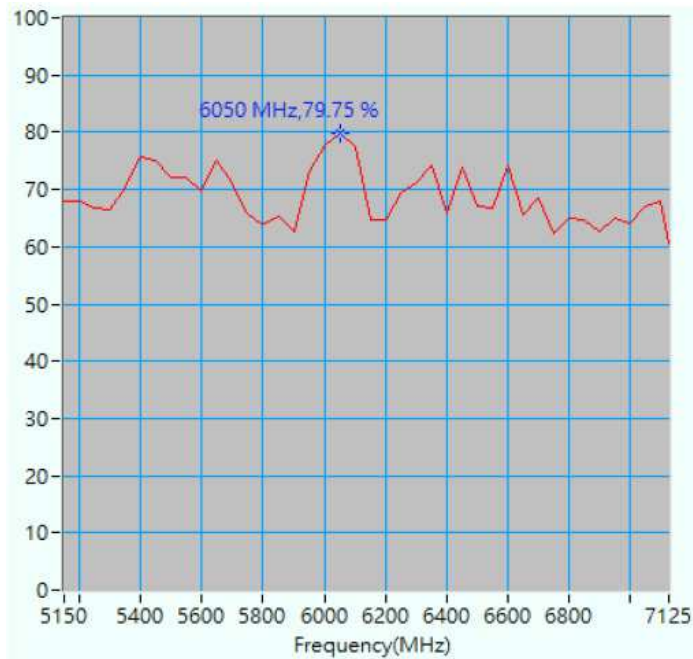
Maximum Efficiency at 2450 MHz : 72.85 %



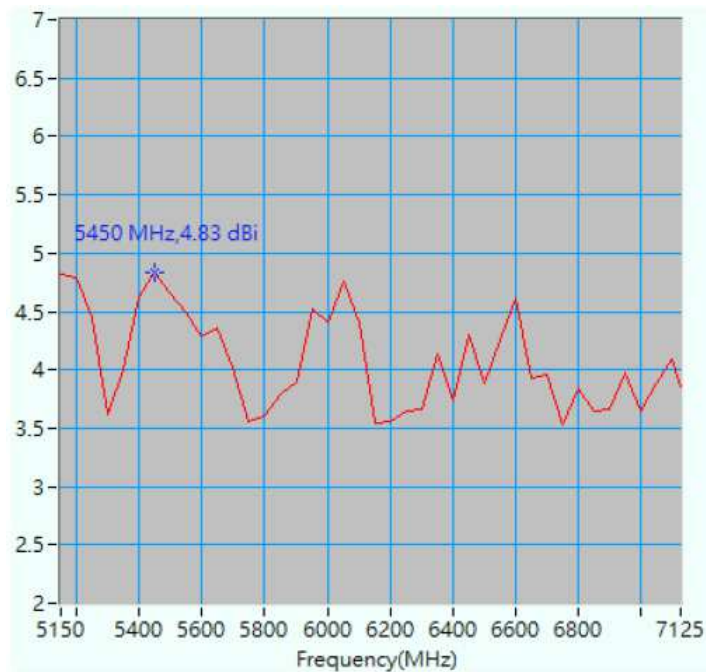
Maximum Peak Gain at 2450 MHz : 2.98 dBi

Frequency (GHz)	Efficiency (%)	Peak gain (dBi)
2.4	62.23	2.11
2.45	72.85	2.98
2.5	64.71	2.55

5150~7125 MHz



Maximum Efficiency at 6050 MHz : 79.75 %



Maximum Peak Gain at 5450 MHz : 4.83 dBi

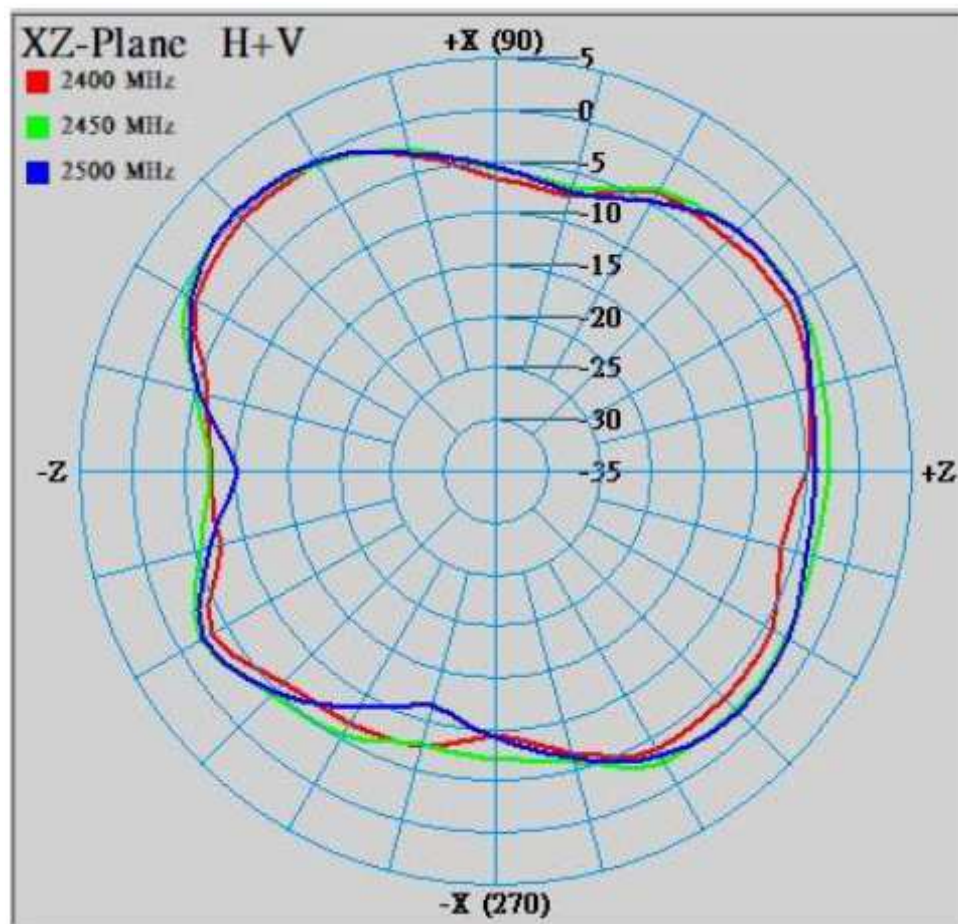
Freq. Range(MHz)	Ant. Net Gain(dBi)	
	Max	Min
UNII5(5925~6425)	4.76	3.54
UNII6(6425~6525)	4.29	3.89
UNII7(6525~6875)	4.61	3.53
UNII8(6875~7125)	4.09	3.64

RADIATION PATTERN

2400~2500 MHz

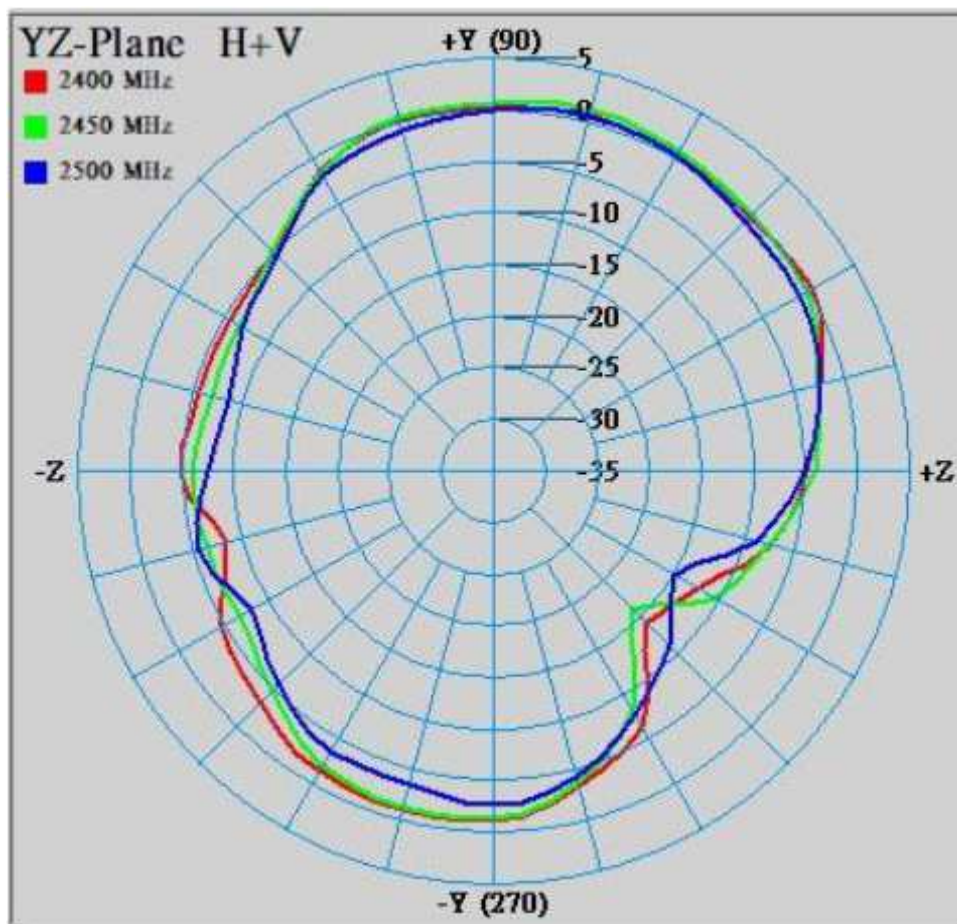
Phi=0.00deg

Gain . dB



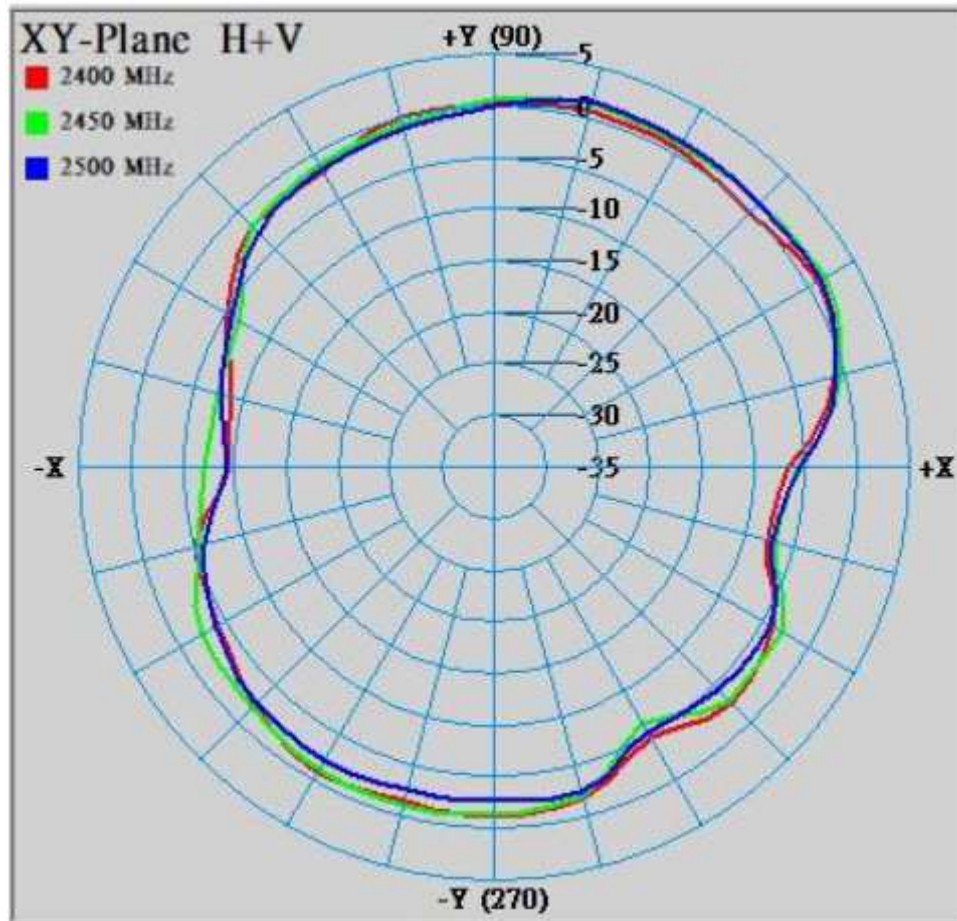
$\Phi = 90.00^\circ$

Gain . dB



Theta=90.00deg

Gain . dB

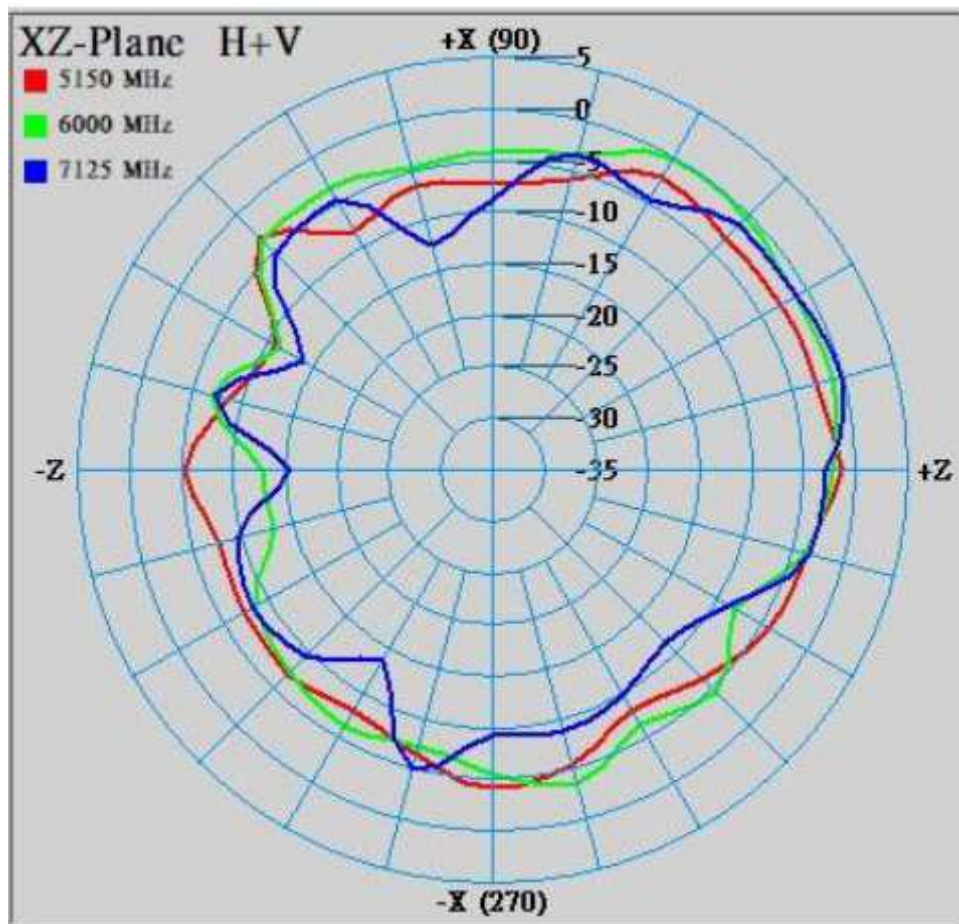


	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
2400	-0.54	-4.34	0.62	-2.55	1.08	-2.05
2450	0.42	-3.22	1.28	-2.65	1.71	-1.69
2500	0.48	-3.68	0.54	-3.50	1.56	-2.13

5150~7125 MHz

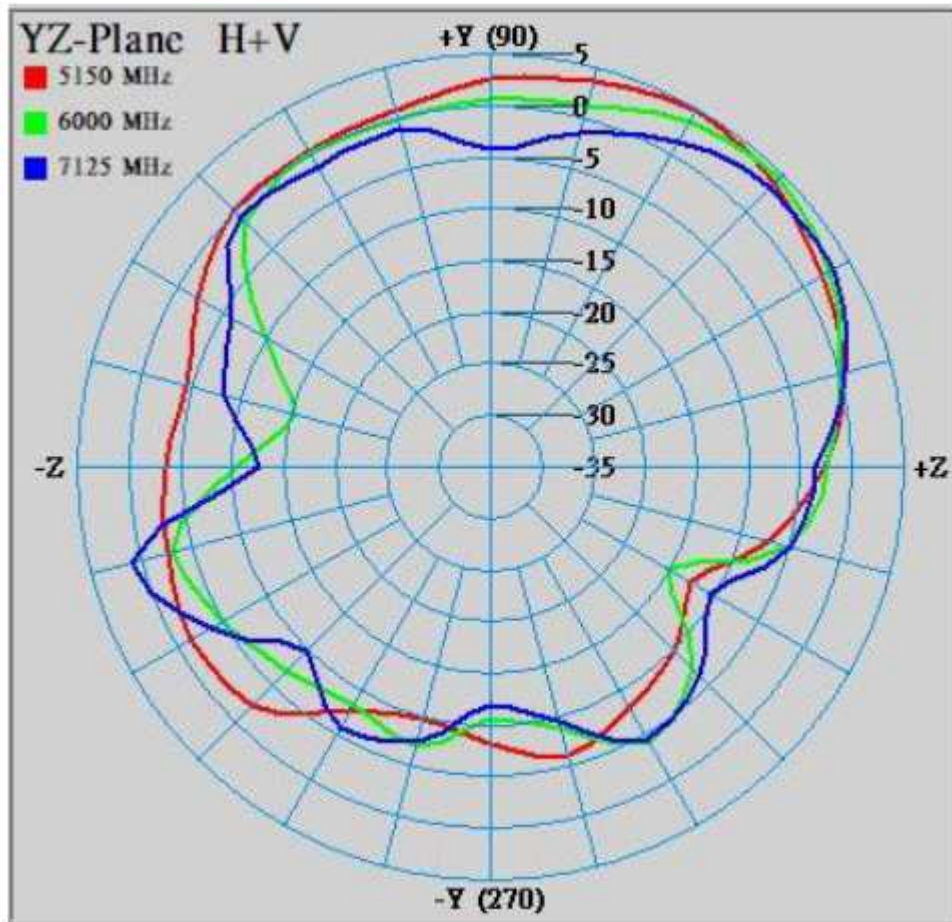
Phi=0.00deg

Gain . dB



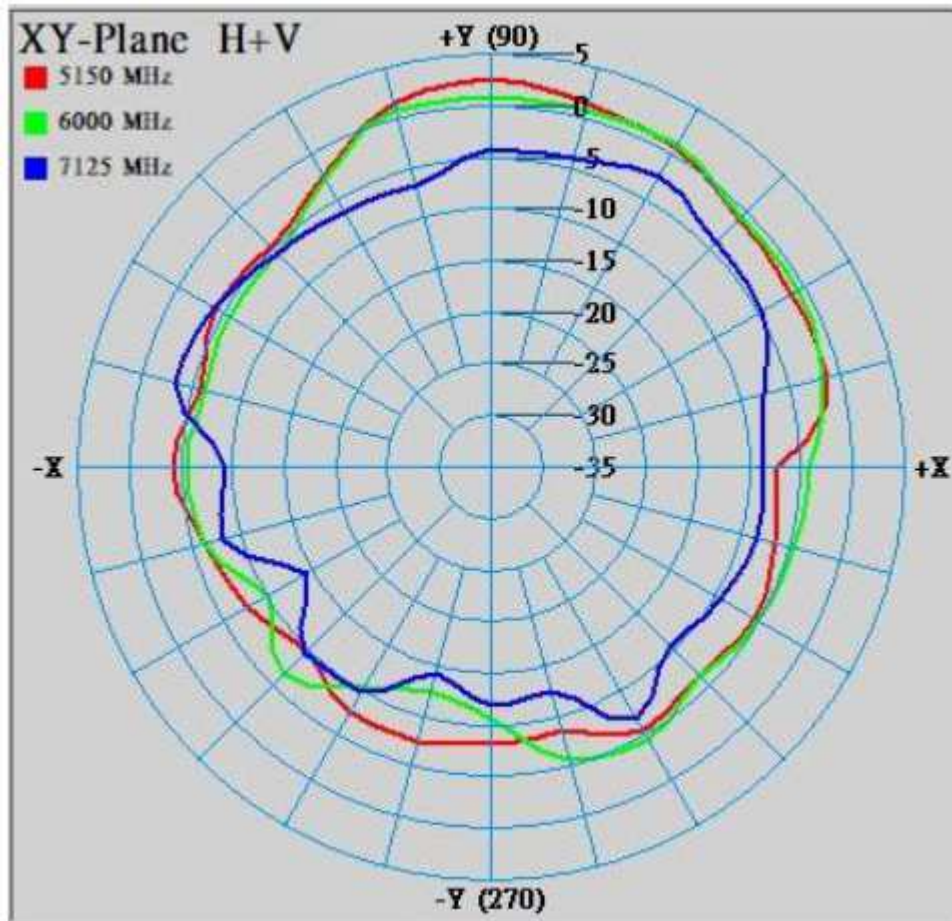
$\Phi = 90.00^\circ$

Gain . dB



Theta=90.00deg

Gain . dB



Frequency [MHz]	ZX plane		ZY plane		XY plane	
	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
5150	-1.32	-5.10	4.82	-0.71	2.51	-2.95
5500	-0.18	-4.25	4.40	-1.69	0.92	-3.27
7125	-0.17	-5.63	3.31	-2.23	-2.45	-6.73