APPROVAL SHEET

PCB ANTENNA

698~960/1710~2690/3300~3800/5150~5850MHz Working Frequency

Halogens Free Product

P/N: RFPCA111815IMMB901

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	2019 Mar.	New Release	HWCHAN

ELECTRICAL CHARACTERISTICS

Item	Specification
Frequency Range	698 ~960 / 1710 ~ 2690 /3300 ~3800 / 5150 ~5850 MHz (note-1)
Return Loss	-10.0 dB(Max)(@ 698 ~960 / 1710 ~ 2690 MHz) -6.0 dB(Max)(@ 3300 ~3800 / 5150 ~5850 MHz)
VSWR	2.0 (Max)(@ 698 ~960 MHz) 3.0 (Max)(@1710 ~ 2690 / 3300 ~3800 / 5150 ~5850 MHz)
Radiation	Omni-directional
Gain(peak)	3.32 dBi(@ 698 ~960 MHz) 6.04 dBi(@1710 ~ 2690 MHz) 5.36 dBi(@ 3300 ~3800 MHz) 4.39 dBi(@5150 ~5850 MHz)
Impedance	50 Ohm Nominal
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
PCB	FR4(Single Layer);T=0.4mm;黑漆
Double Tape	3M9888T
Cable	ϕ1.37 Low Loss Coaxial Cable(Black)
Connector	IPEX Compatible(Gold)

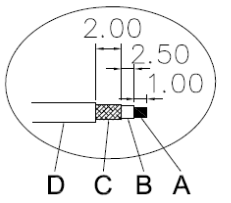
ORDERING RULE

RF	PCA	1118	15	I	M	M	B	9	01
Type Code	**Product Code**	**PCB Dimension (Unit: mm)**	**Cable Length (unit: cm)**	**Connector Brand**	**Type of Connector**	**Application**	**Project status**	**Wire Diameter**	**Project**
Walsin RF Device	PCA: PCB Antenna	Per 2 digits of length, width e.g.: 1118 Length 118.0mm, Width 18.0mm	2 digits for cable length e.g.: Cable length:15.0 cm	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 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:LTE+Sub 6G +5G N: NFC T: LTE band W: WCDMA band	B: MP T:During Test X: Pile Run	0:None 1:⌀ 0.81 3:⌀ 1.13 6:RG316 7:⌀ 1.37 8:RG178 9:⌀ 1.37 Low Loss	01~99 series number

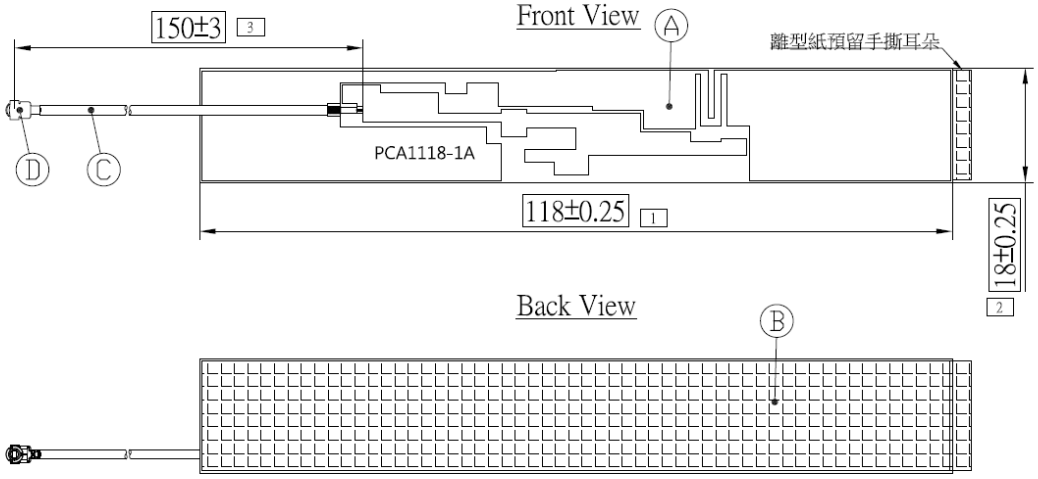
DIMENSIONS

NO	DESCRIPTION		QTY	REMARK
A	Body(PCA1118-1A)	FR4(Single Layer);T=0.4mm,Black	1	
B	Double Tape	3M9888T	1	
C	Coaxial cable	Φ1.37 Low Loss Coaxial Cable(Black)	1	
D	Connector	IPEX Compatible(Gold)	1	2130800014

ELECTRICAL
698~960MHz
1710~2690MHz
3300~3800MHz
5150~5850MHz



A - center conductor
B - Dielectric
C - Outer conductor
D - Jacket



RF Coaxial Connector direction:
100mm±90°
200mm±135°
200mm above dose
not control

※Mark□Bymark, Focused inspection dimensions
※標記□記號者, 為重點檢驗尺寸

LTR	DESCRIPTION	DATE	REQ. BY

設計 DR. HWCHAN 2019.03.05
核准 APPD. Marco

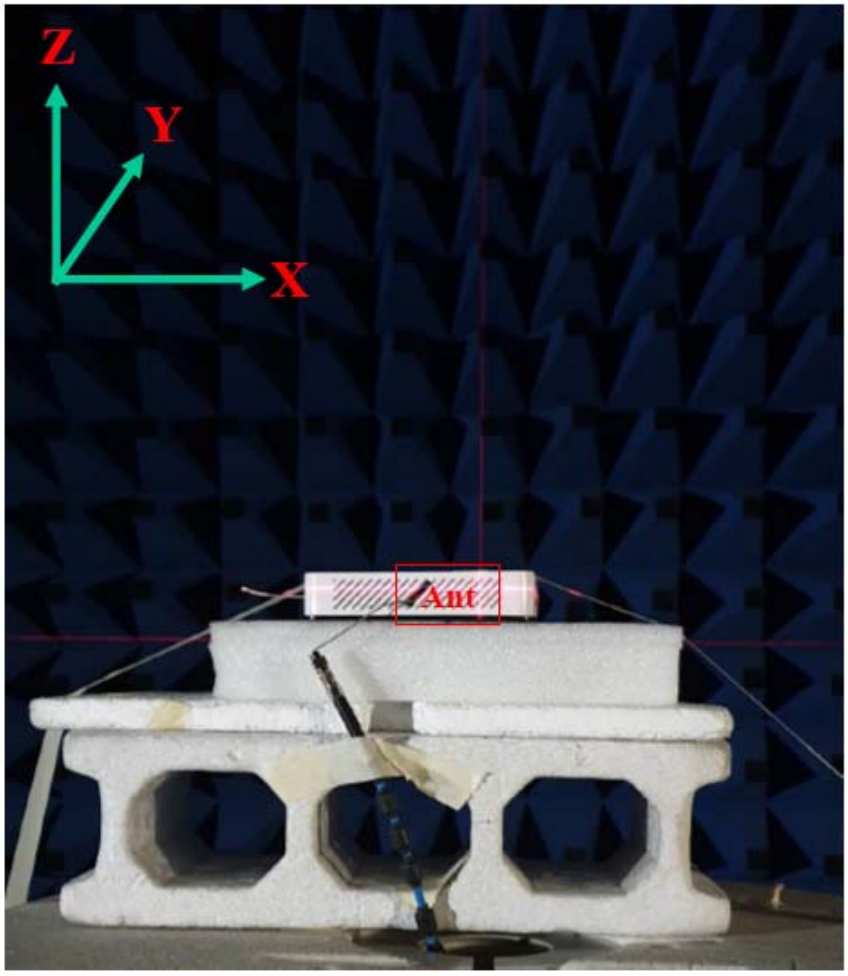
容許公差 TOLERANCE
6以下.....±0.2
6以上~30.....±0.5
30以上~120.....±0.8
120以上~315.....±1.2
315以上~1000.....±2.0
1000以上~2000.....±3.0

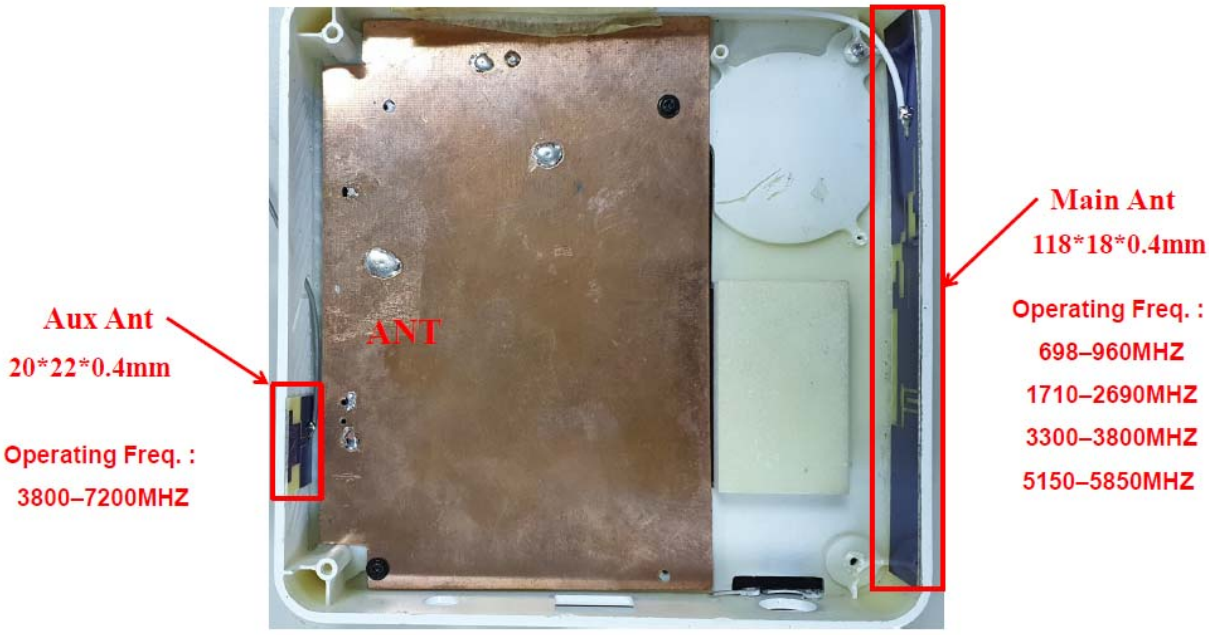
品名 ARTICLE: RFPCA111815IMMB901
版本 REV.: A
單位 UNIT: mm
比例 SCALE: ****
張數 SHEET: 1

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

Test Report

EXPERIMENTAL SETUP

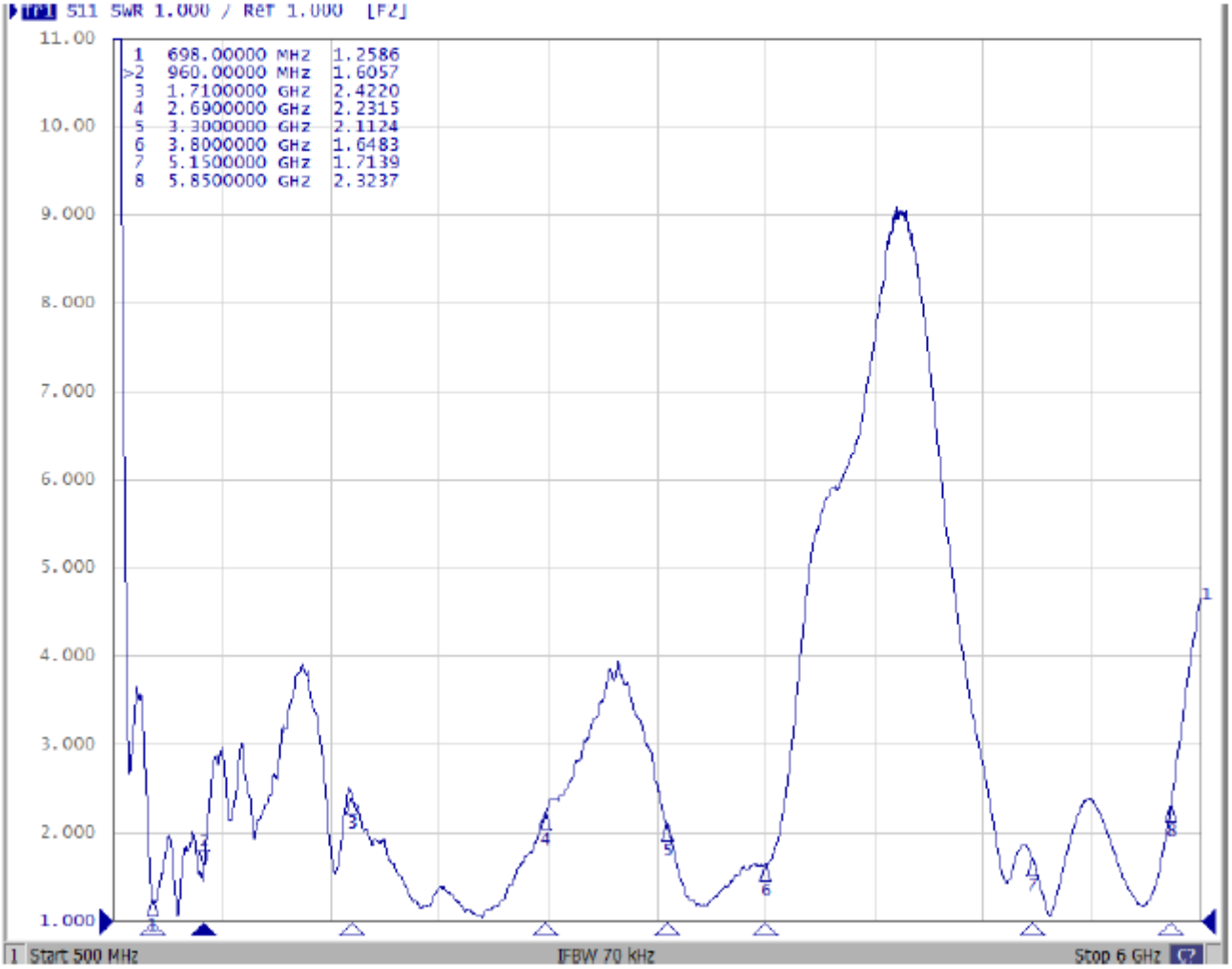




ELECTRICAL CHARACTERISTICS

VSWR

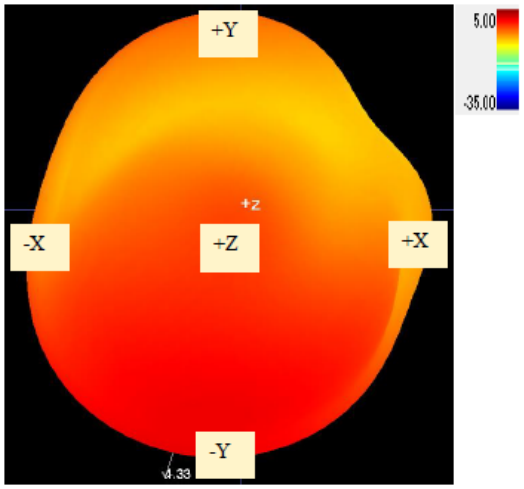
Main Ant



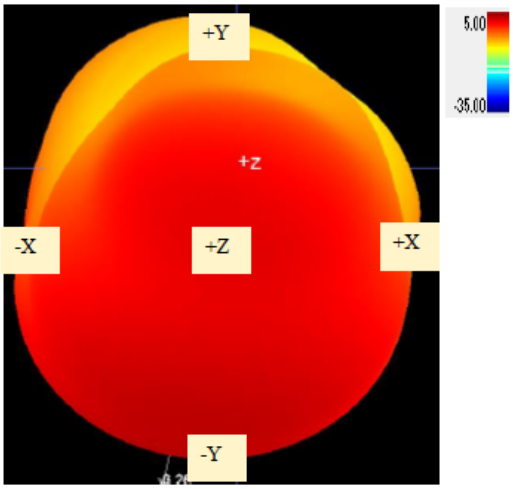
Antenna Efficiency and Peak Gain

698~960MHz

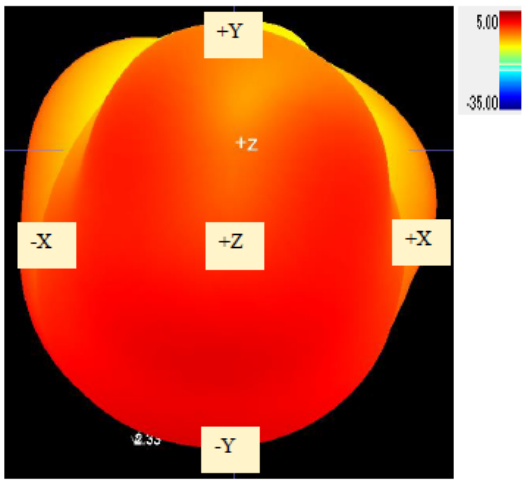
698MHz

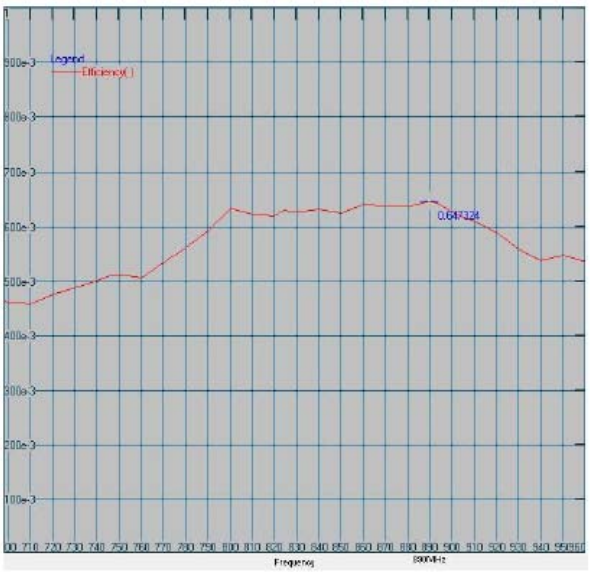


824MHz

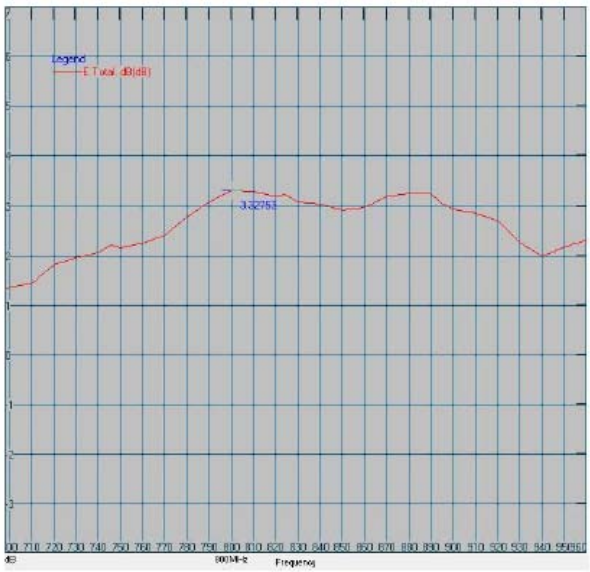


960MHz





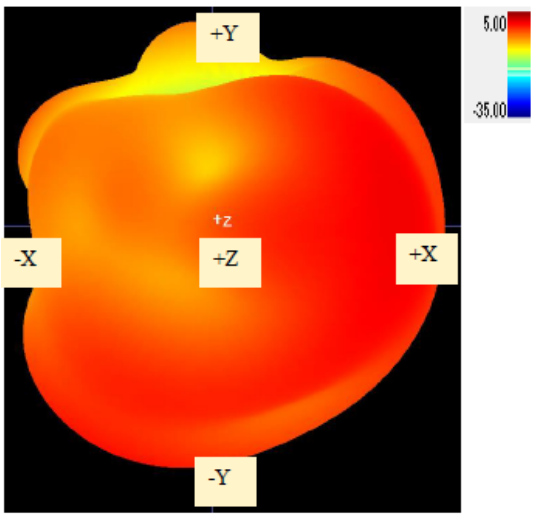
Maximum Efficiency at 890 MHz : 64.73 %



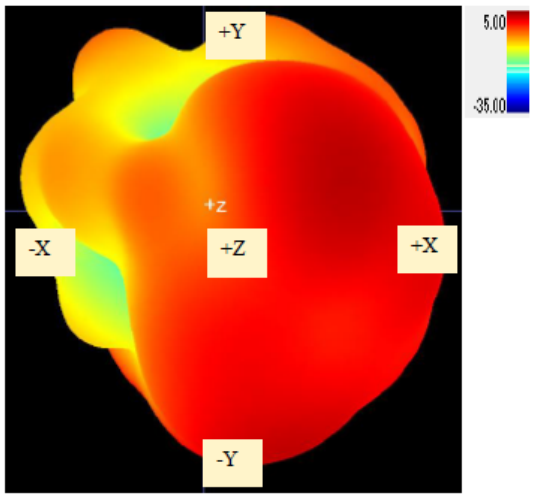
Maximum Peak Gain at 800 MHz : 3.32dBi

1710~2690MHz

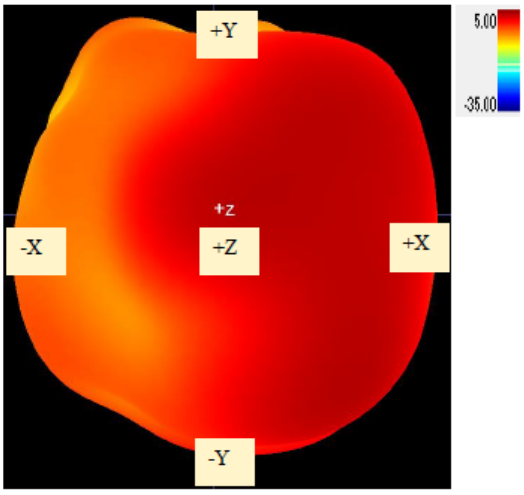
1710MHz

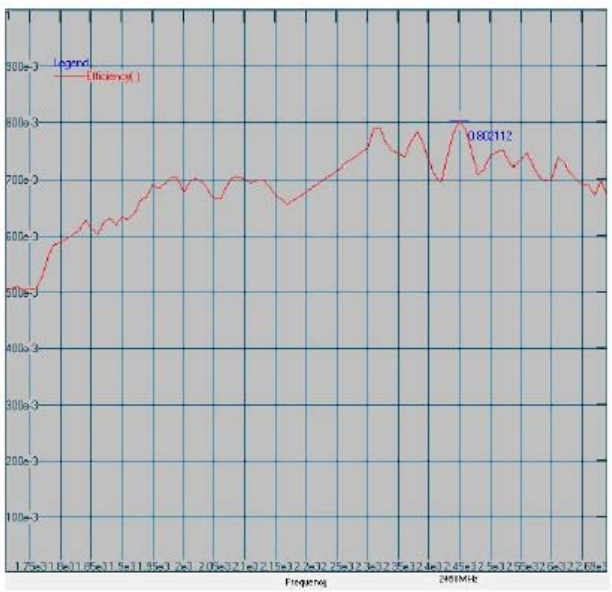


2170MHz

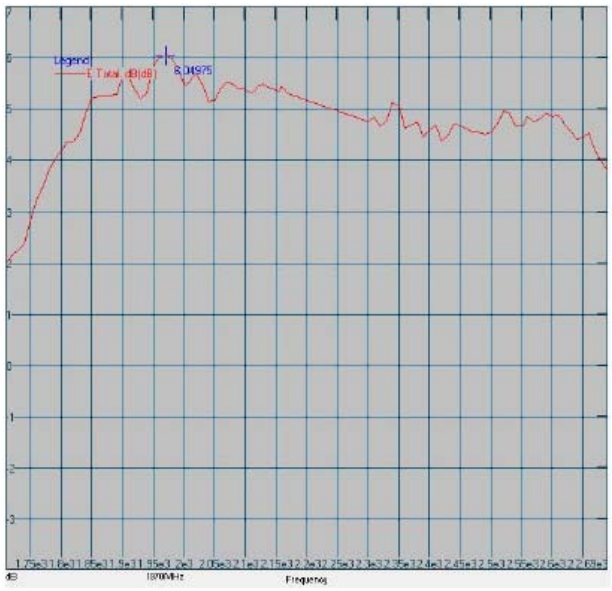


2690MHz





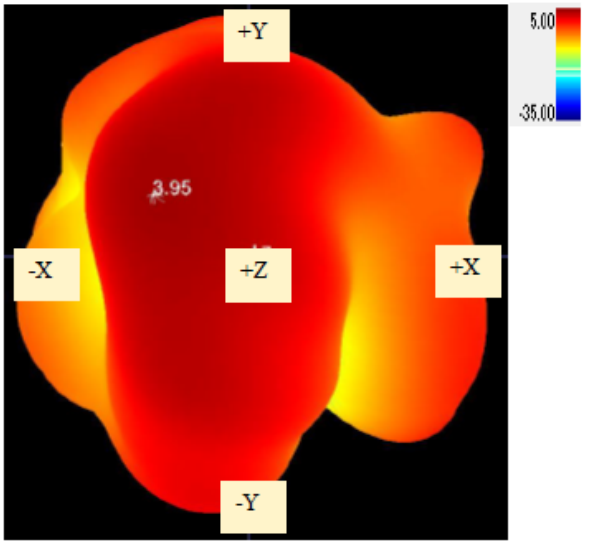
Maximum Efficiency at 2450 MHz : 80.21 %



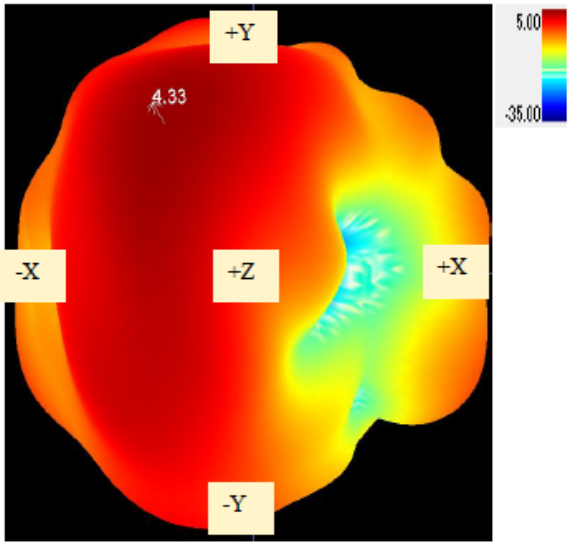
Maximum Peak Gain at 1970 MHz : 6.04dBi

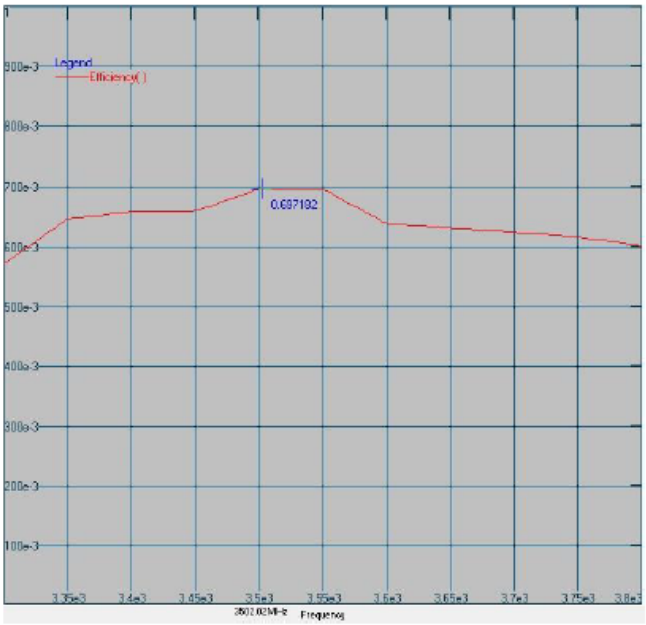
3300~3800MHz

3300MHz

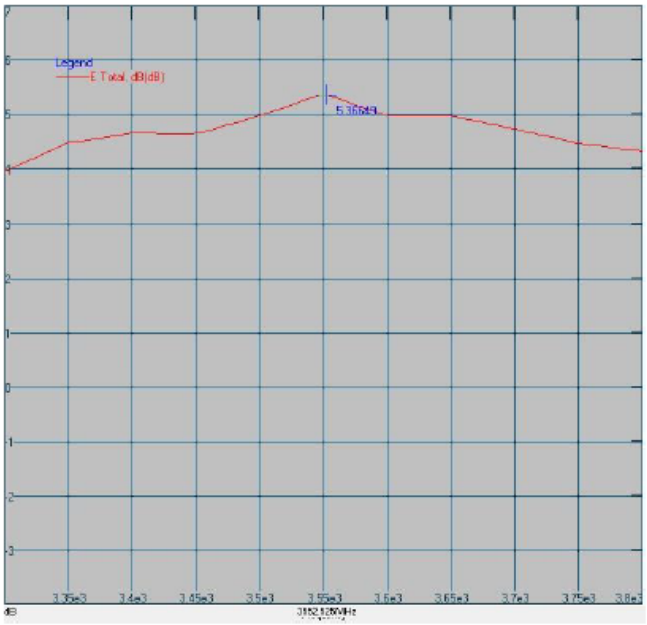


3800MHz





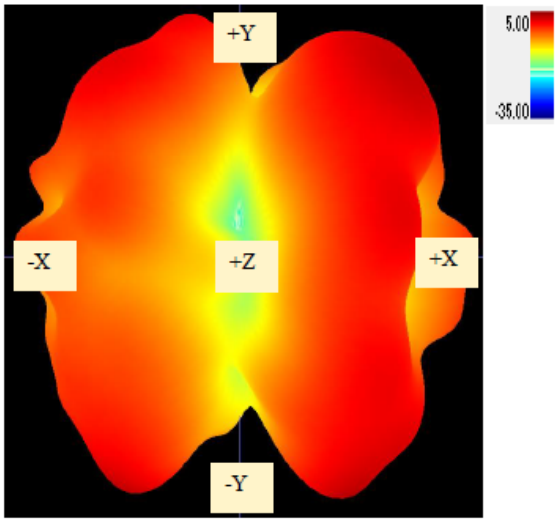
Maximum Efficiency at 3502 MHz : 69.71 %



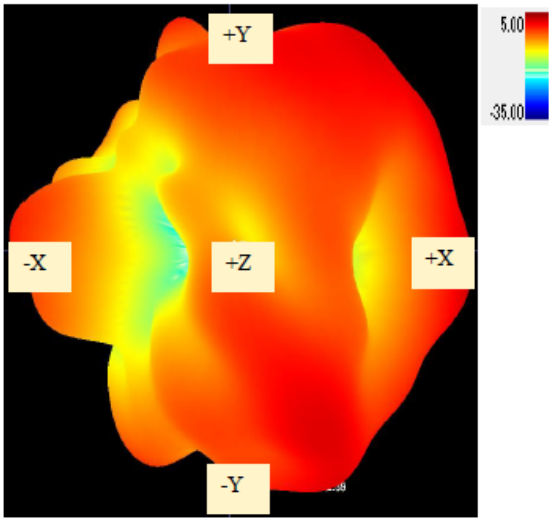
Maximum Peak Gain at 3552 MHz : 5.36dBi

5150~5850MHz

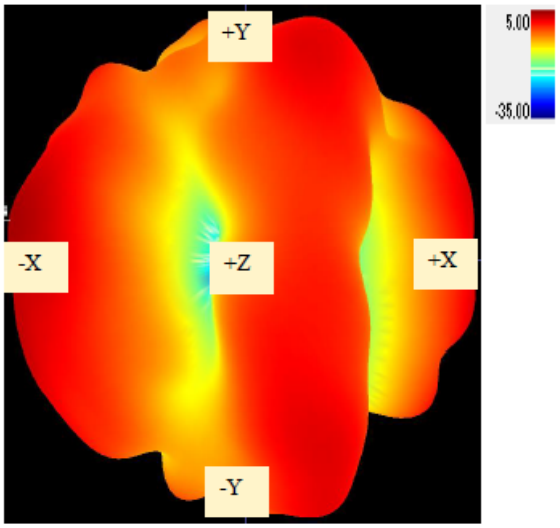
5150MHz

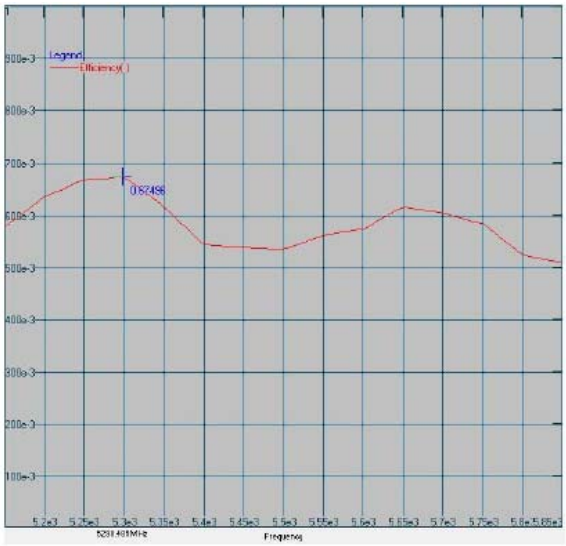


5500MHz

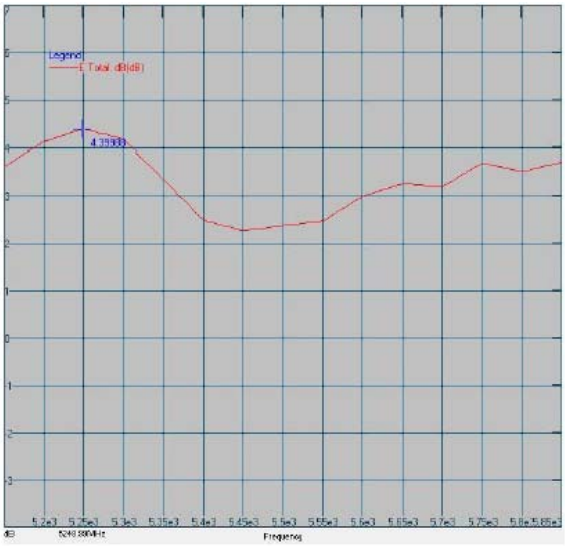


5850MHz





Maximum Efficiency at 5298 MHz : 67.49 %



Maximum Peak Gain at 5248 MHz : 4.39dBi

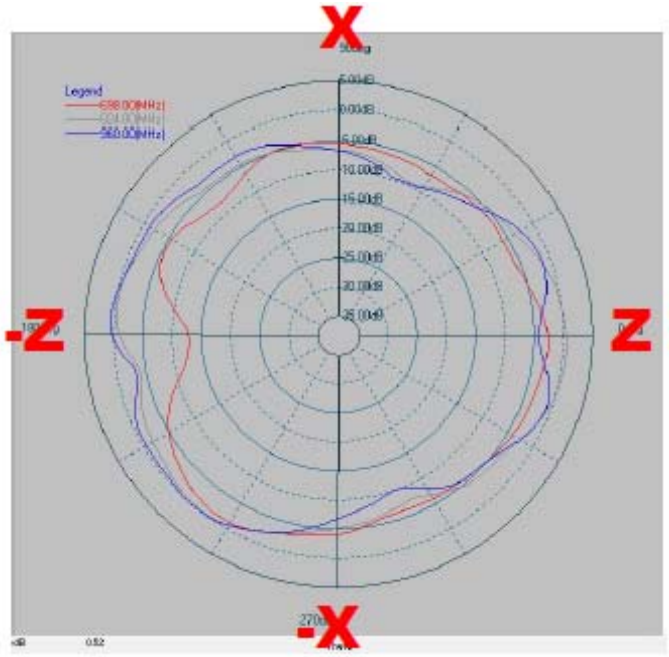
RADIATION PATTERN

698~960MHz

X-Z Plane

Phi=0.00deg

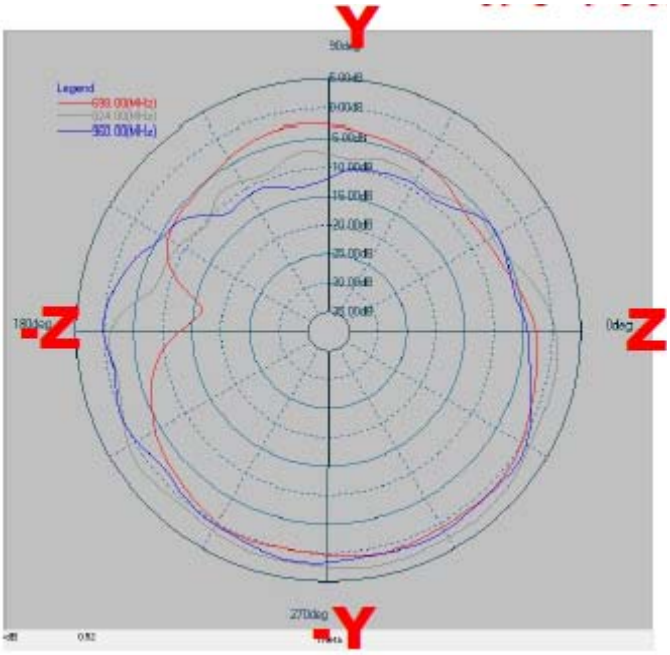
Gain . dB



Y-Z Plane

Phi=90.00deg

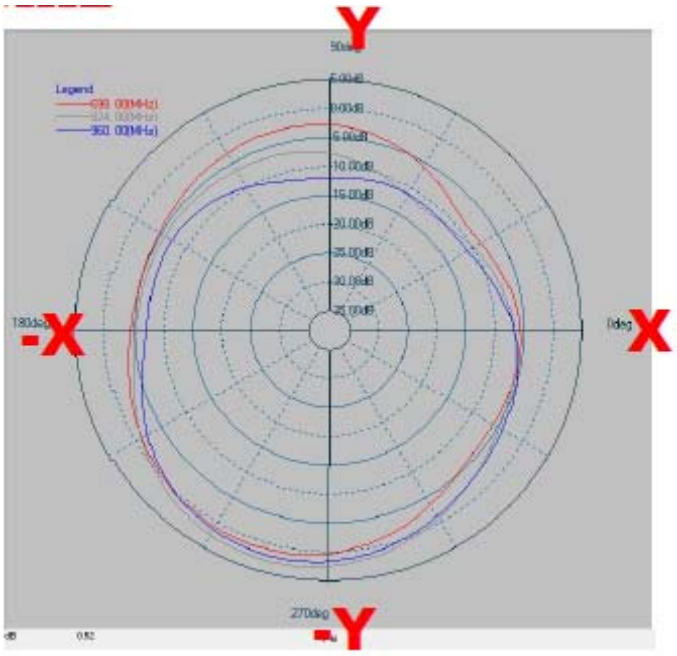
Gain . dB



X-Y Plane

Theta=90.00deg

Gain . dB



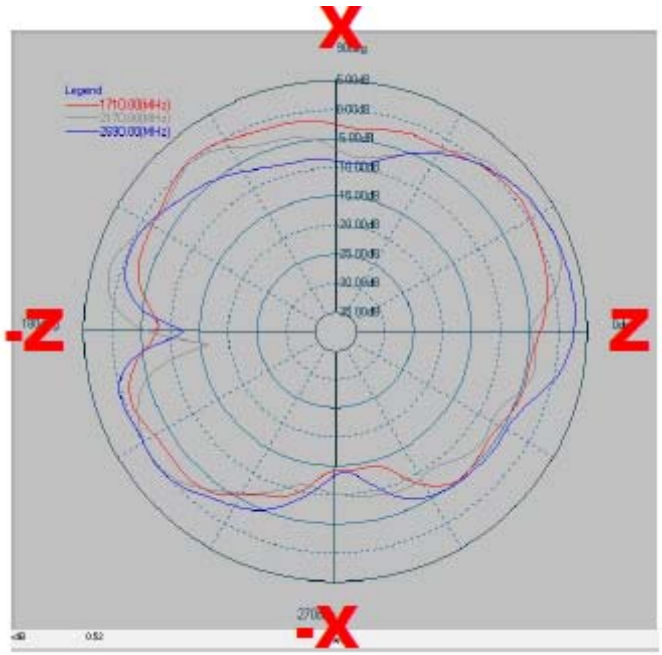
	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
698	-1.23 dB	-5.07 dB	1.00 dB	-2.53 dB	0.96 dB	-2.97 dB
824	0.60 dB	-2.87 dB	2.98 dB	-0.67 dB	2.83 dB	-2.52 dB
960	0.65 dB	-2.97 dB	1.77 dB	-1.81 dB	1.88 dB	-3.46 dB

1710~2690MHz

X-Z Plane

Phi=0.00deg

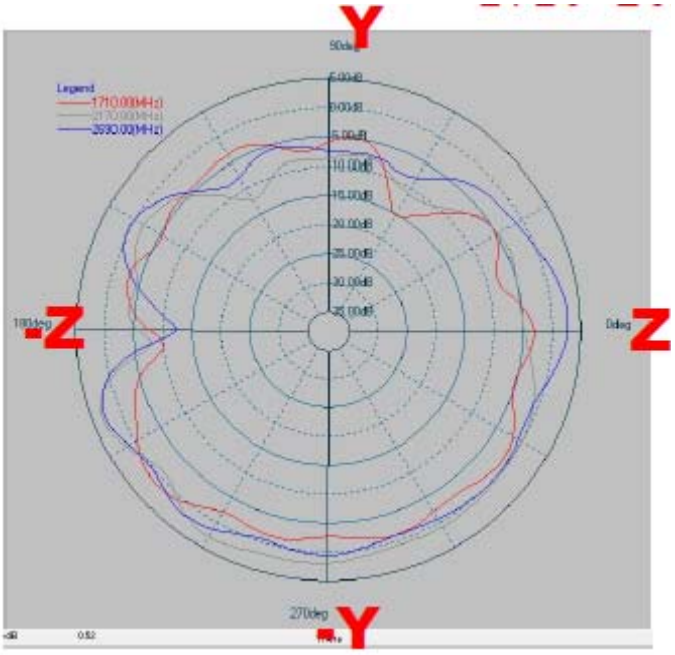
Gain . dB



Y-Z Plane

Phi=90.00deg

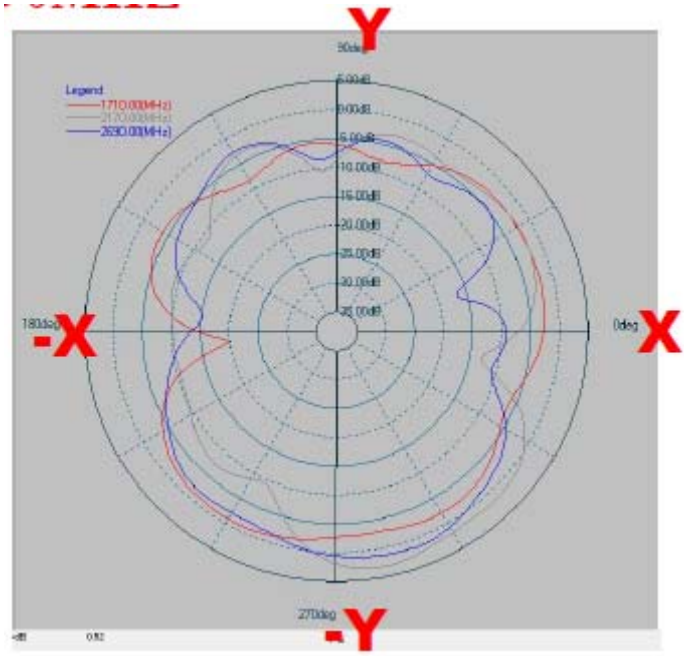
Gain . dB



X-Y Plane

Theta=90.00deg

Gain . dB



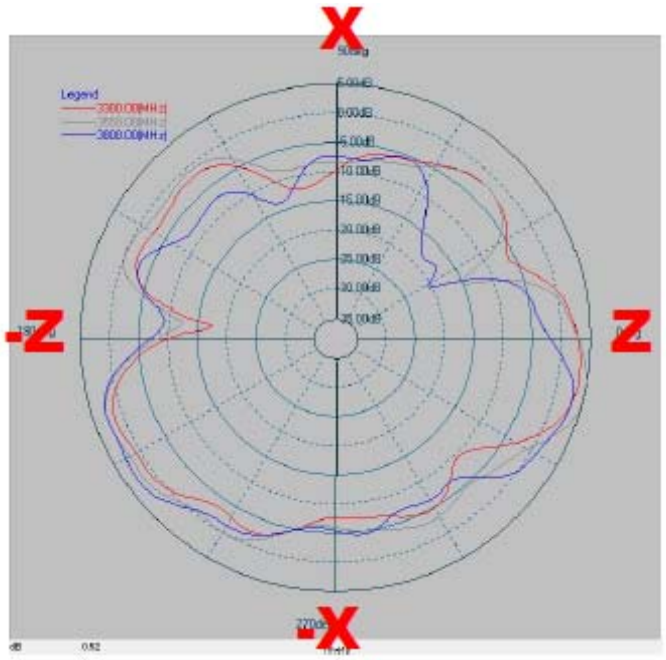
	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
1710	0.74 dB	-2.86 dB	1.34 dB	-3.44 dB	-0.97 dB	-3.94 dB
2170	2.73 dB	-2.48 dB	3.24 dB	-1.49 dB	3.05 dB	-3.00 dB
2690	3.07 dB	-1.97 dB	2.83 dB	-1.01 dB	1.36 dB	-3.84 dB

3300~3800MHz

X-Z Plane

Phi=0.00deg

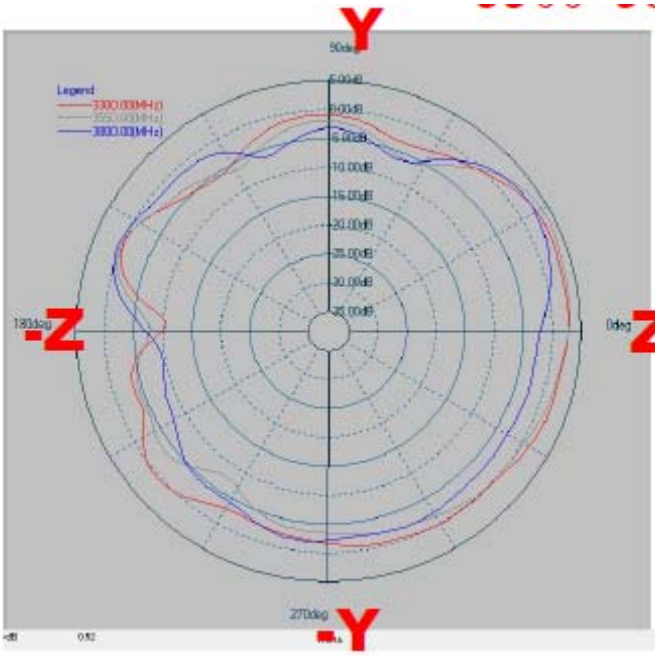
Gain . dB



Y-Z Plane

Phi=90.00deg

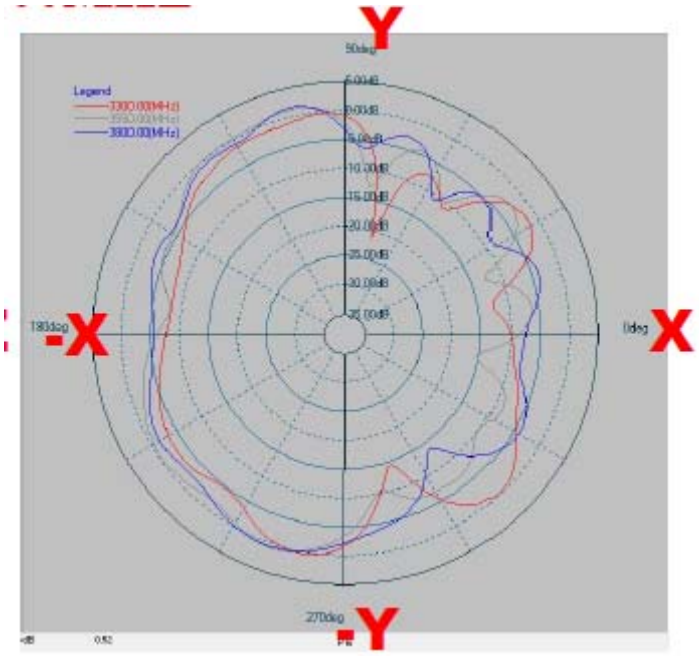
Gain . dB



X-Y Plane

Theta=90.00deg

Gain . dB



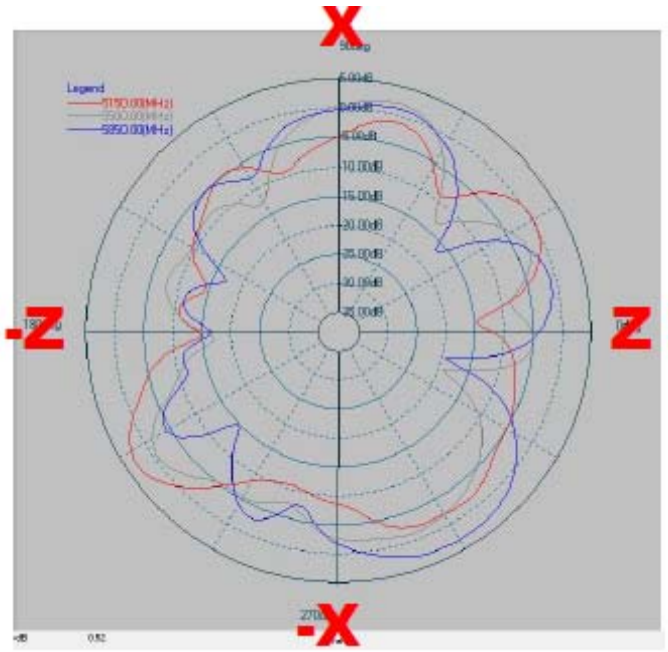
	ZX plane		ZY plane		XY plane	
Frequency [MHz]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
3300	3.64 dB	-2.40 dB	3.12 dB	-0.57 dB	0.23 dB	-3.99 dB
3550	5.16 dB	-1.26 dB	3.95 dB	-1.09 dB	1.09 dB	-3.34 dB
3800	3.29 dB	-2.64 dB	2.69 dB	-2.17 dB	1.44 dB	-3.22 dB

5150~5850MHz

X-Z Plane

Phi=0.00deg

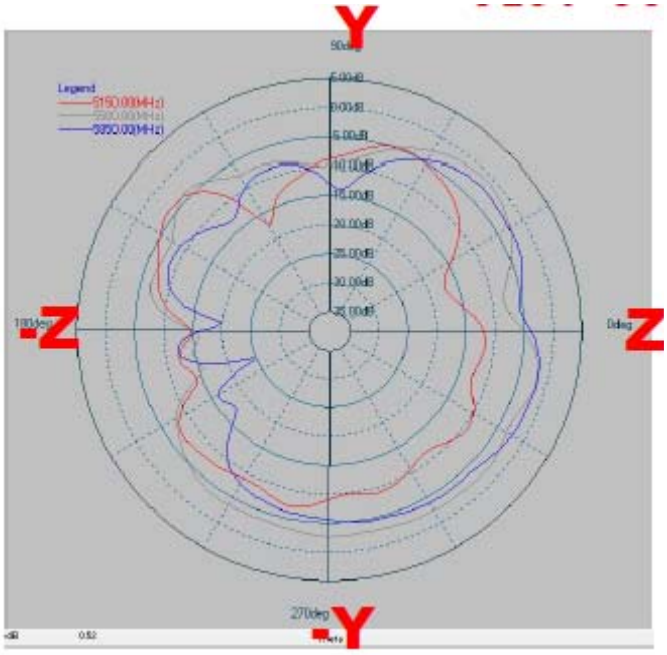
Gain . dB



Y-Z Plane

Phi=90.00deg

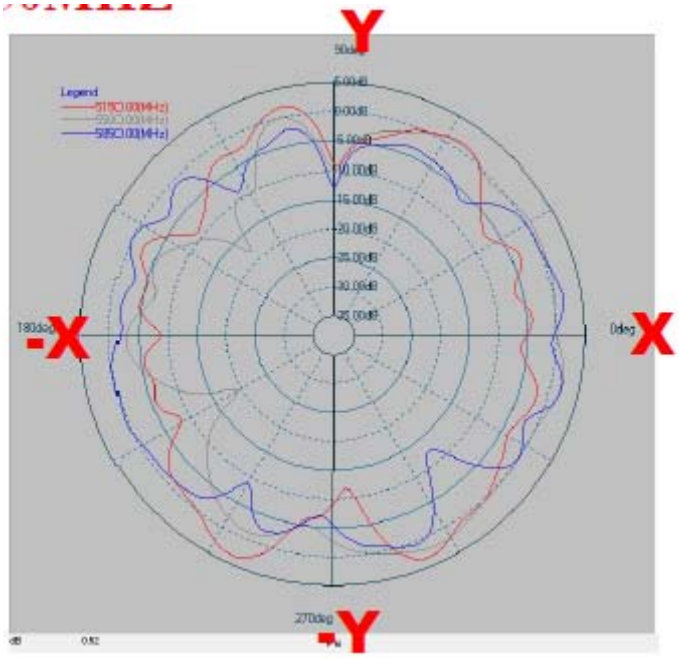
Gain . dB



X-Y Plane

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]
5150	3.11 dB	-4.00 dB	-3.95 dB	-8.91 dB	3.47 dB	-2.01 dB
5500	1.97 dB	-4.22 dB	-1.06 dB	-4.53 dB	2.07 dB	-1.69 dB
5850	3.07 dB	-2.73 dB	-1.58 dB	-5.98 dB	1.94 dB	-1.93 dB