

Date : Feb.19.2004

TEST REPORT

CUSTOMER : TATUNG CO.

Customer Model Name	PLANAR
Customer Approved P/N	XXXXXX
ET Antenna P/N	MPCI09003



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1. Antenna Spec. For WLAN

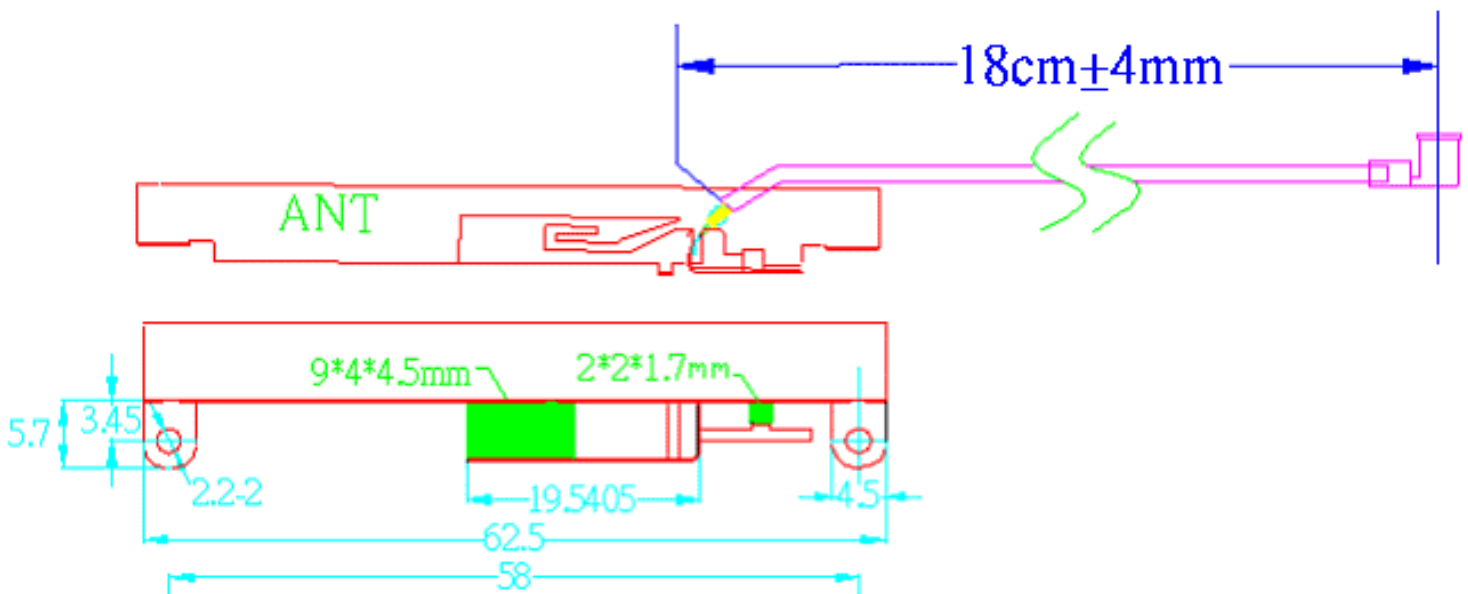
Average & Peak gain for WLAN (802.11b)

1.1. Frequency range	: 2.4 ~ 2.5GHz (Nominal)
1.2. Impedance	: 50Ω
1.3. VSWR	: ≤ 2 (Main & Aux. Antenna)
1.4. Return Loss	: ≤ -10dB (Main & Aux. Antenna)
1.5. Band Width	: ≥ 130MHz (2450MHz±65MHz at least).

2. Description

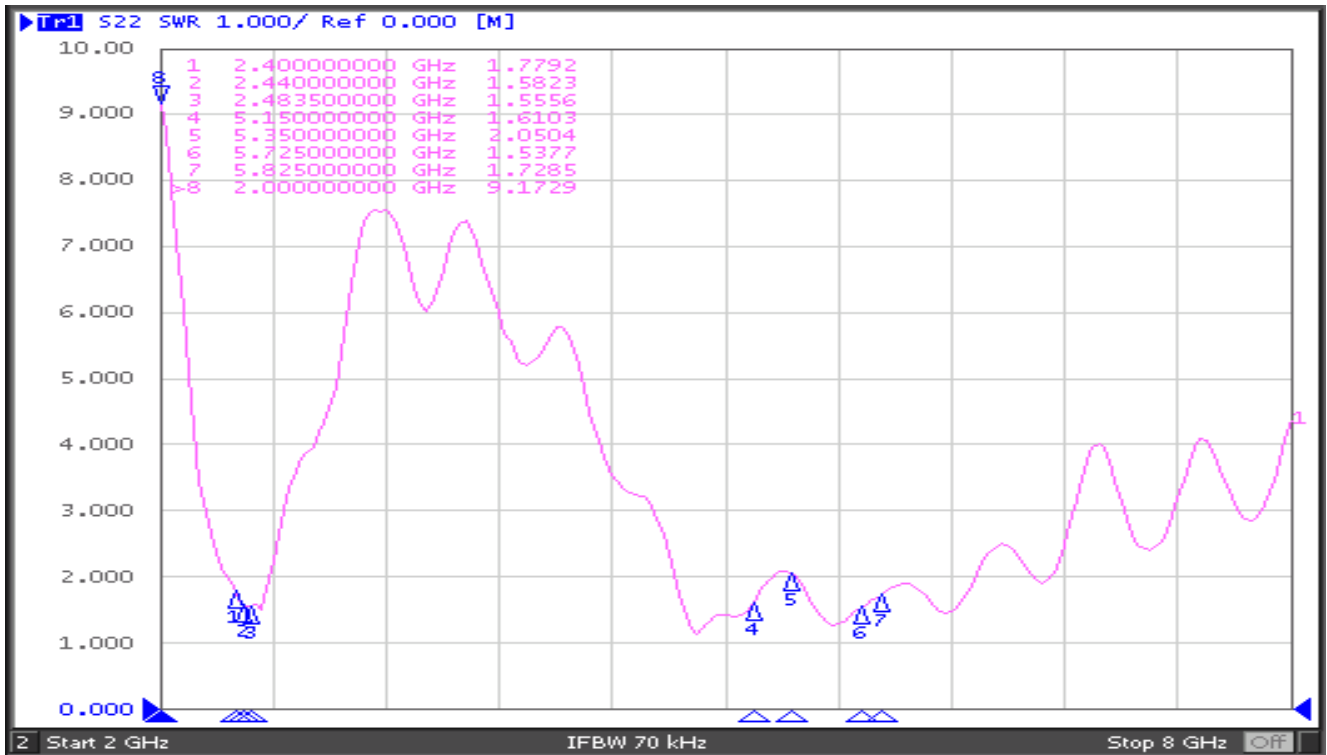
- A. TATUNG Project Name & Frequency PLANAR & Single Band 2.4~2.5GHz
- B. Vendor's antenna P/N MPC109003
- C. Antenna P/N & type & material MPC109003 & IMD & Phosphor Bronze
- D. Coaxial cable length & diameter() 18cm(Left&Right) & 1.13 & Cable Vendor GoldenBridge
- E. Connector model no. & vendor P/N:20278-101R-13/1.13 & I-PEX

3. Sample Check :

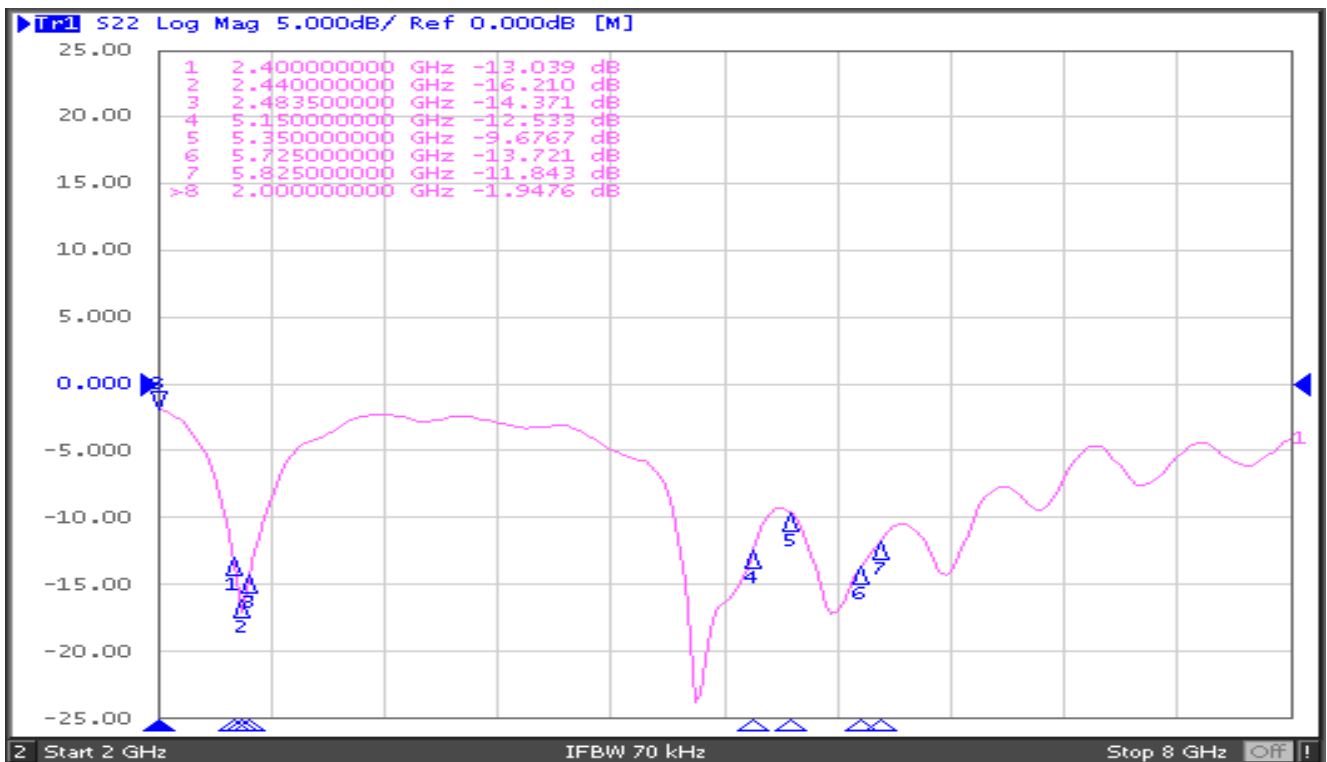


4. IMD ANT. / ANTENNA_Right(Main) / 18cm / 2.4~5.825GHz

4.1 ANT_R_VSWR

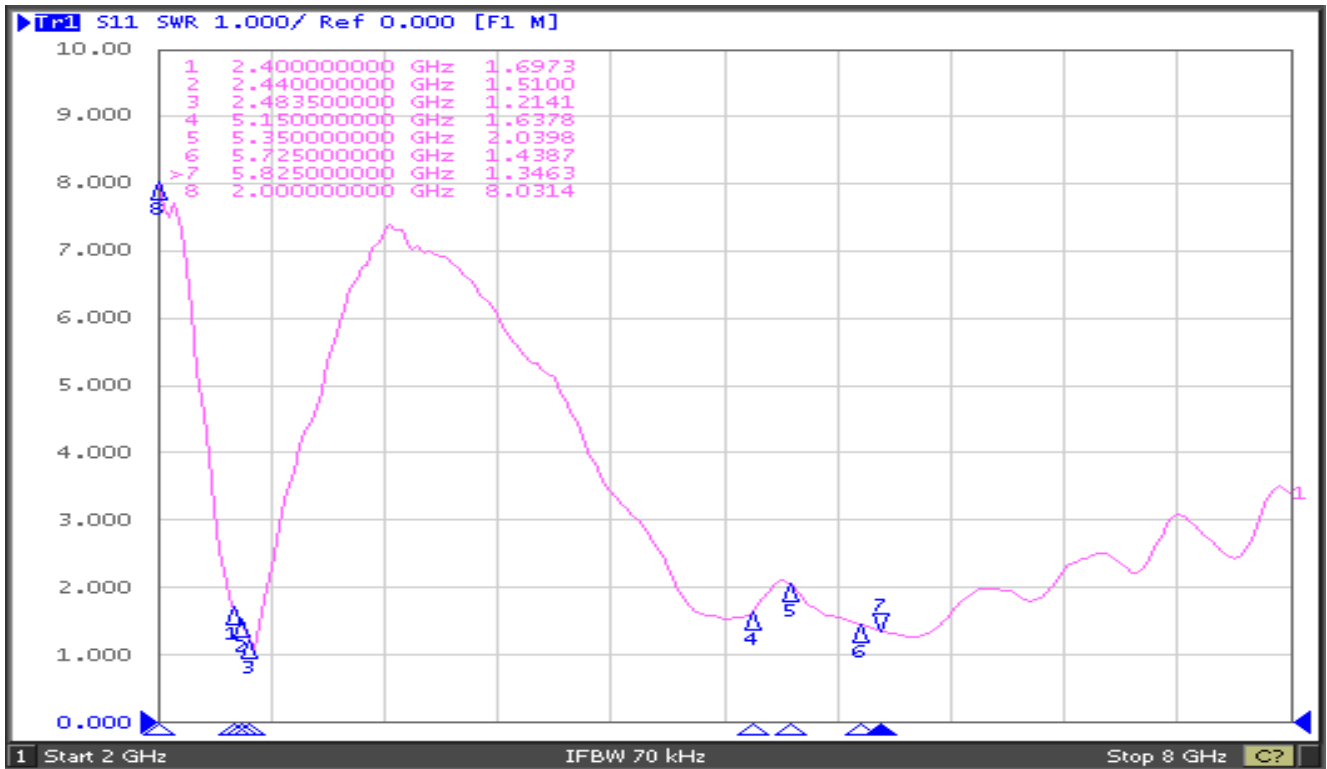


4.2 ANT_R_Return Loss

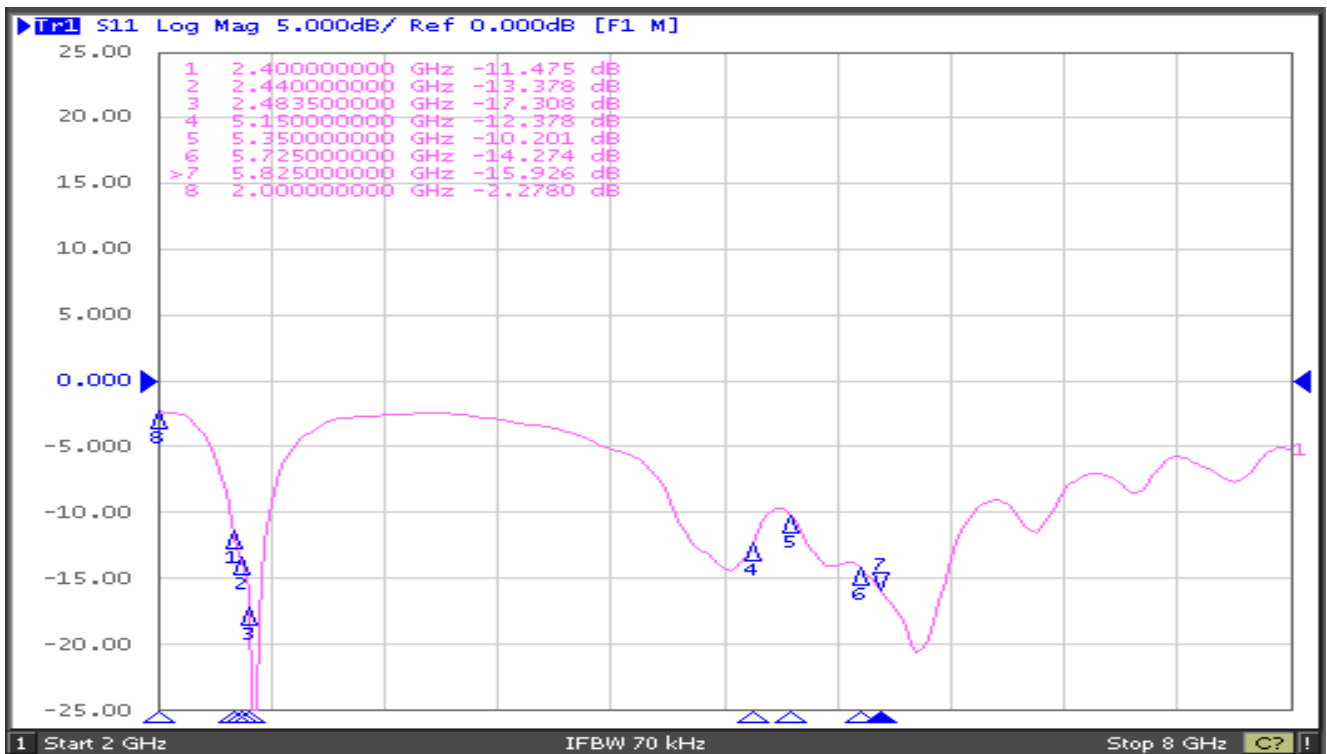


5. IMD ANT. / ANTENNA_Left(Auxiliary)/18cm/ 2.4~5.825GHz

5.1 ANT_L_VSWR



5.2 ANT_L_Return Loss

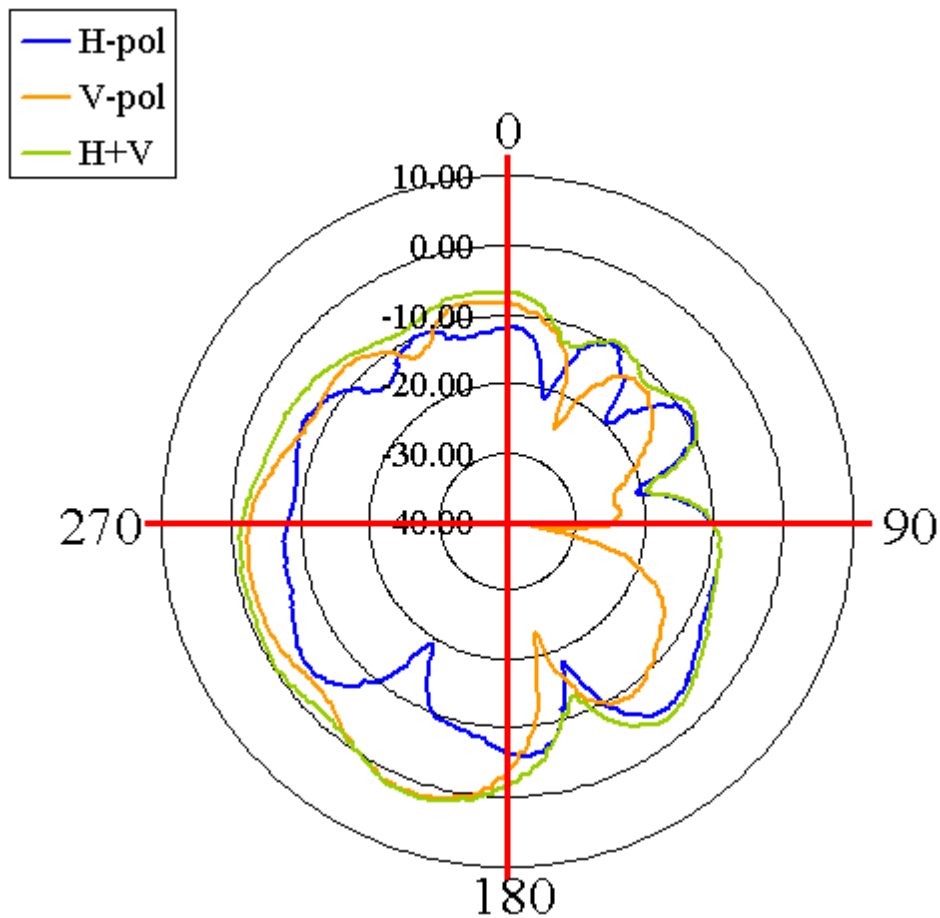


6. Gain & PATTERN–W/L/IMD ANT. For PLANAR

6.1 ANTENNA_Right (Main) / 2.4~ 5.825GHz

a.) ANT_R (Main)/ 2.4 GHz

Antenna Pattern

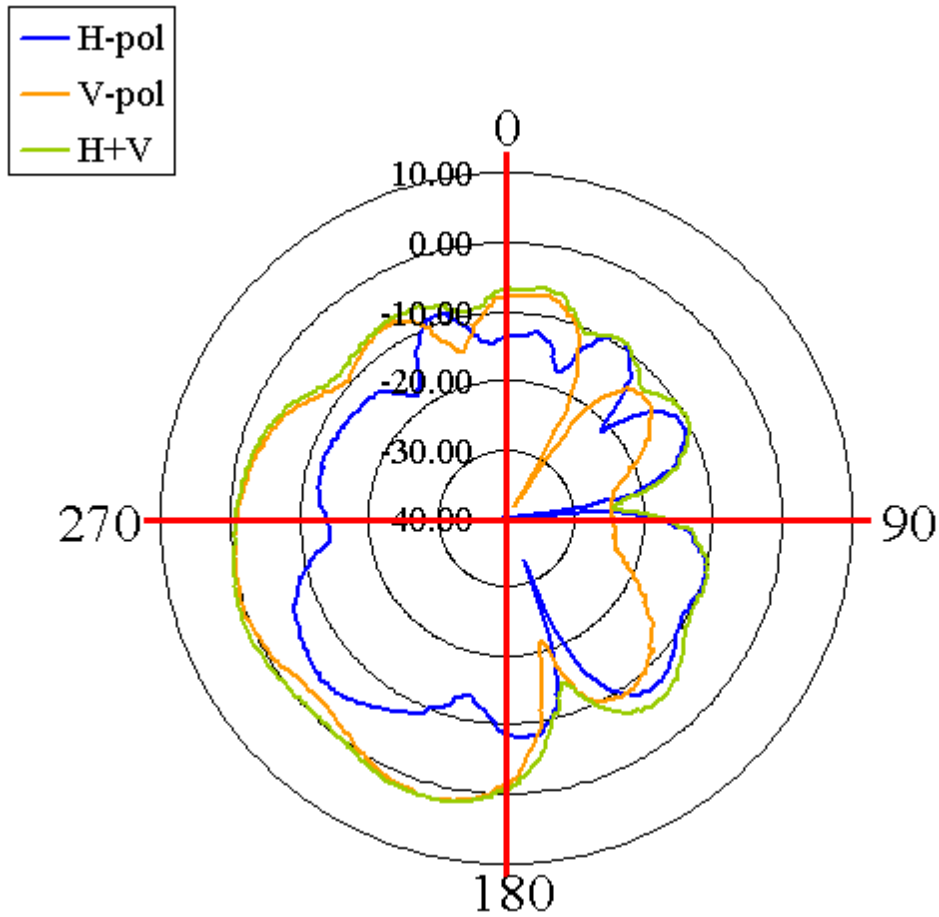


Freq= 2400.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-9.00	-5.74	-4.06
Peak Gain	-4.42	1.66	1.97

b.) ANT_R (Main)/ 2.45 GHz

Antenna Pattern

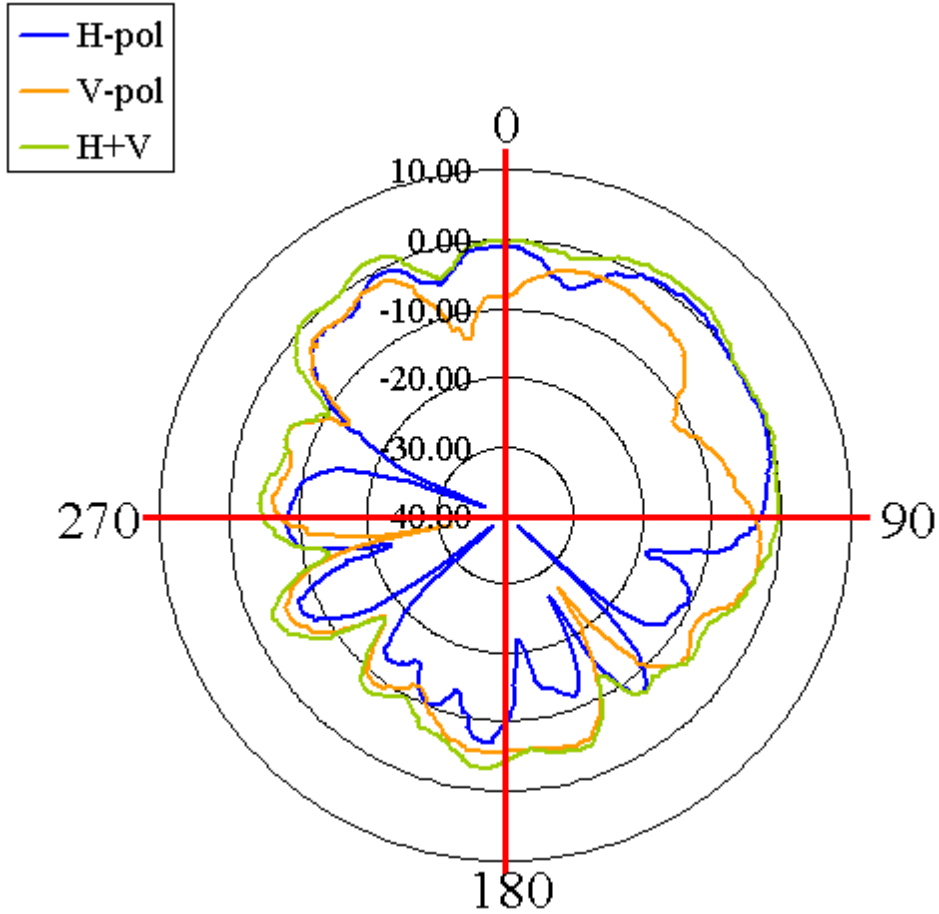


Freq= 2450.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-10.46	-4.71	-3.68
Peak Gain	-4.58	1.83	1.99

c.) ANT_R (Main)/ 2.49 GHz

Antenna Pattern

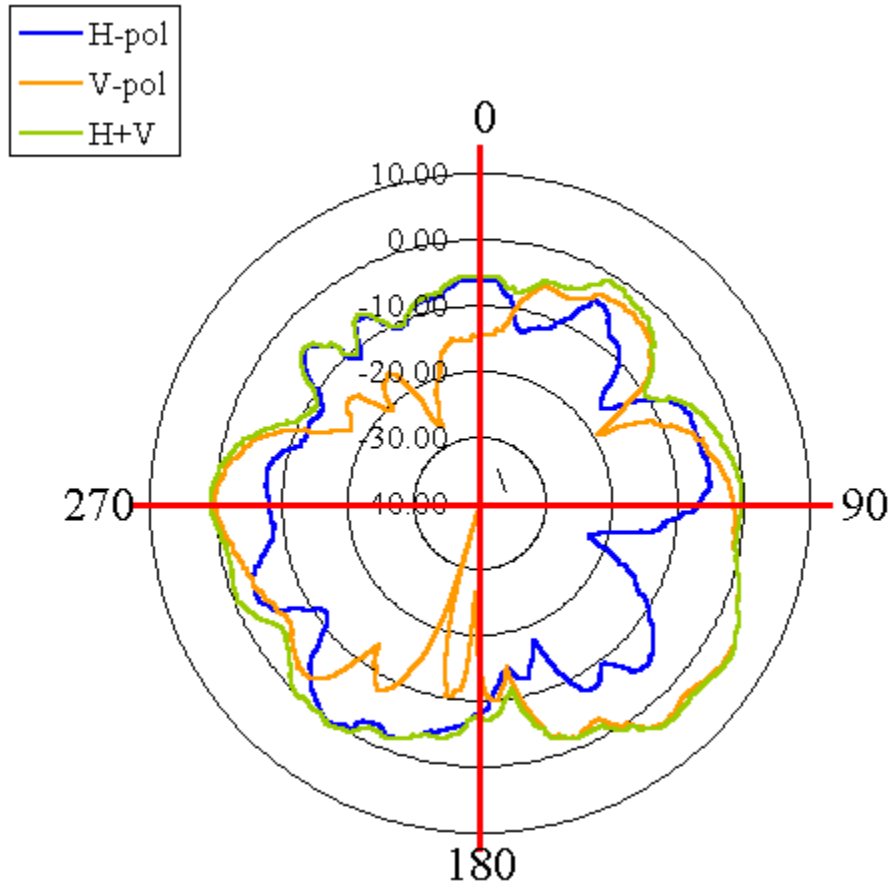


Freq= 2490.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-4.80	-6.23	-2.44
Peak Gain	0.77	-1.75	1.94

d.) ANT_R (Main)/ 5.15 GHz

Antenna Pattern

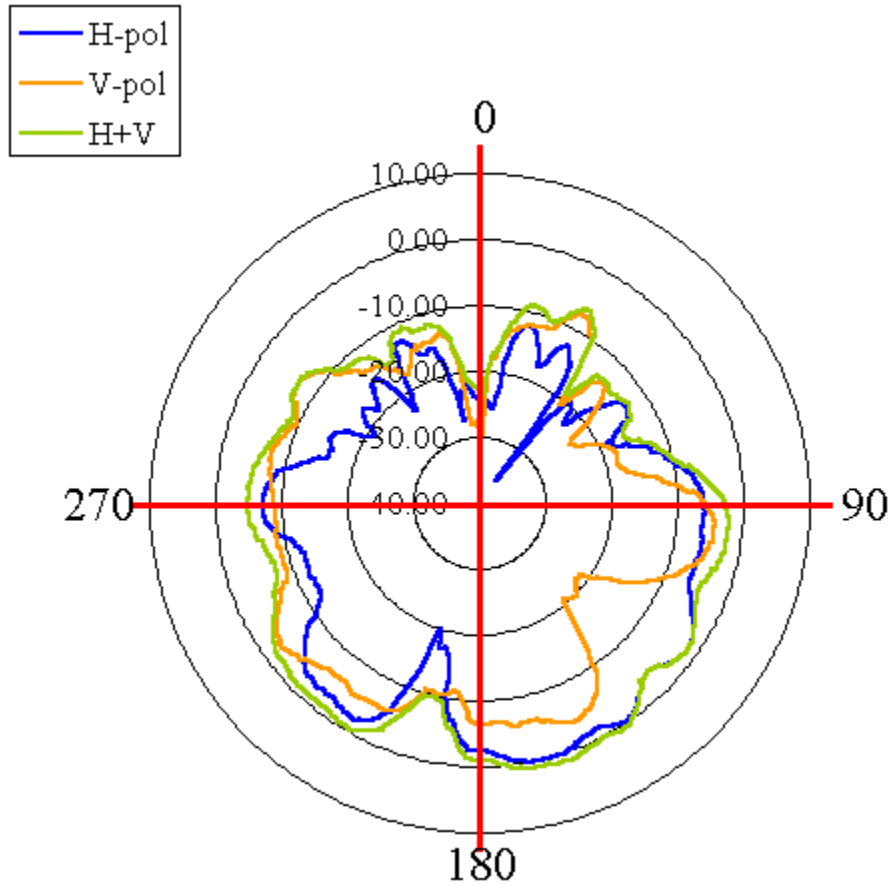


Freq= 5150.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-6.80	-3.12	-1.57
Peak Gain	0.27	4.35	4.52

e.) ANT_R (Main)/ 5.25 GHz

Antenna Pattern

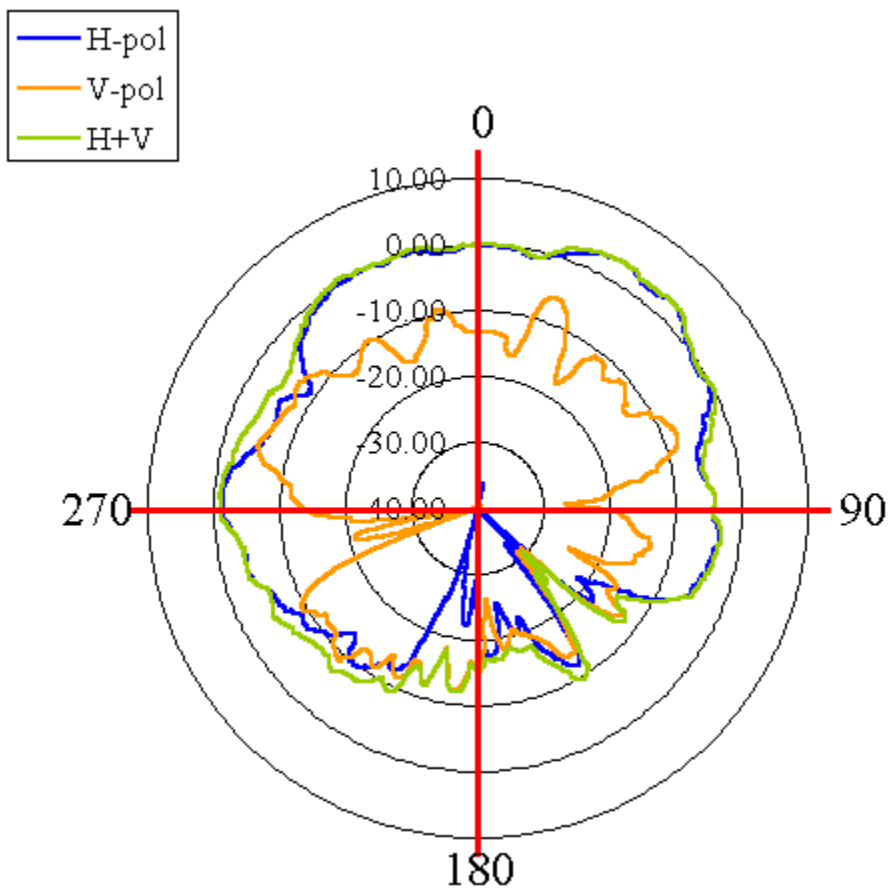


Freq= 5250.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-6.36	-8.65	-4.35
Peak Gain	0.08	-3.16	1.13

f.) ANT_R (Main)/ 5.35 GHz

Antenna Pattern

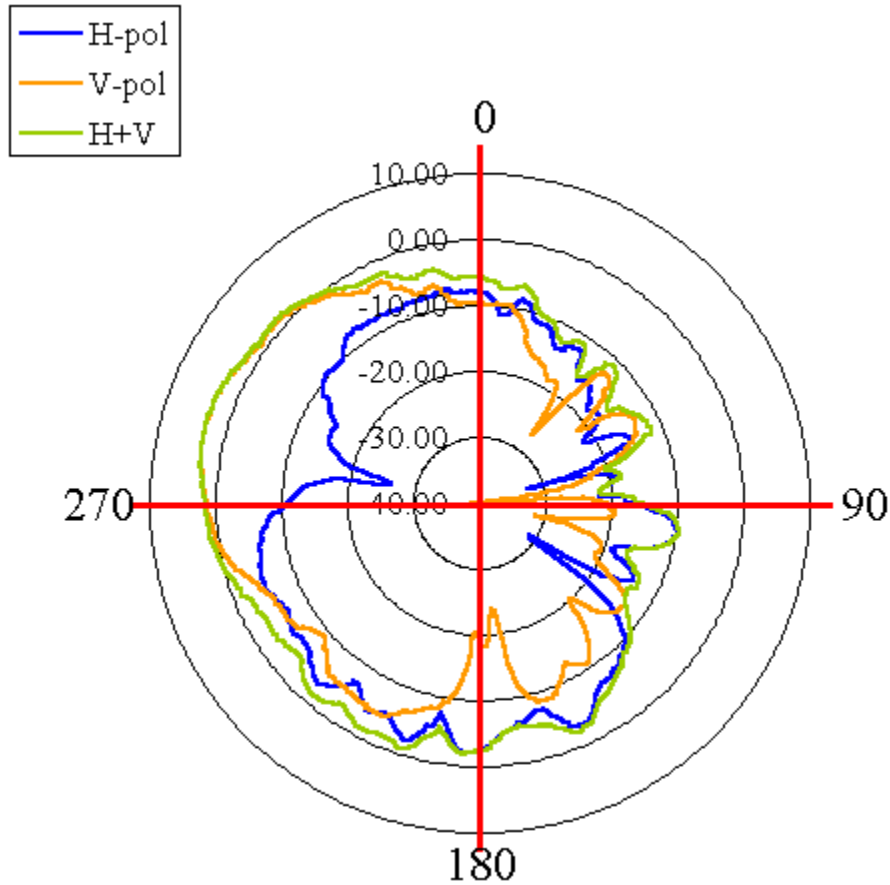


Freq= 5350.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-3.00	-11.84	-2.47
Peak Gain	3.42	-5.46	3.47

g.)ANT_R (Main)/ 5.725 GHz

Antenna Pattern

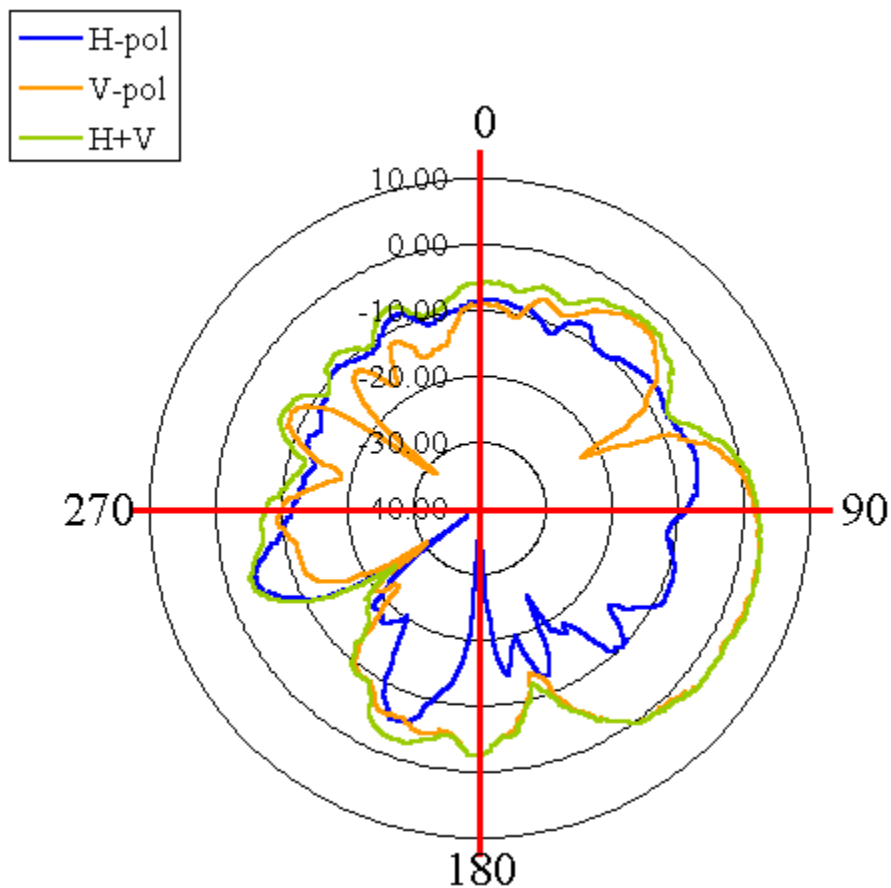


Freq= 5725.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-8.02	-4.27	-2.74
Peak Gain	-2.08	3.15	3.19

h.) ANT_R (Main)/ 5.825 GHz

Antenna Pattern



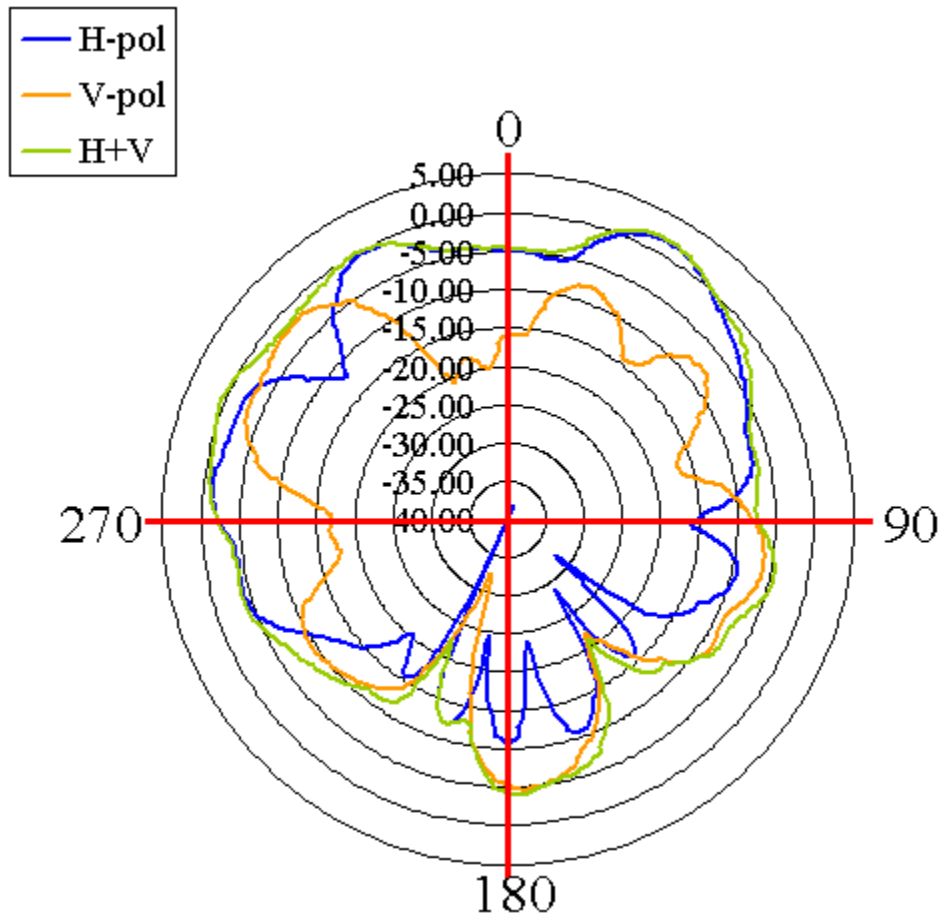
Freq= 5825.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-9.96	-3.66	-2.74
Peak Gain	-4.52	3.20	3.45

6.2 ANTENNA_Lift (Auxiliary) / 2.4~ 5.825GHz

a.) ANT_L (Auxiliary)/ 2.4 GHz

Antenna Pattern

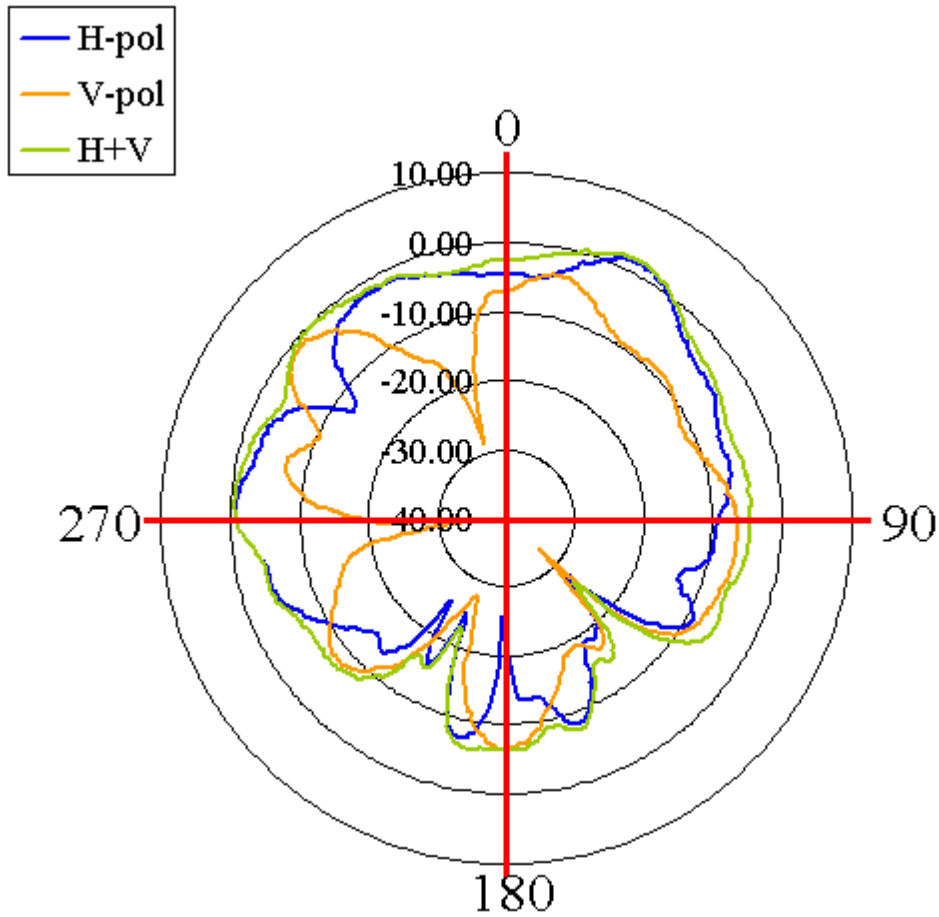


Freq= 2400.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-5.15	-8.73	-3.58
Peak Gain	1.72	-2.21	1.98

b.) ANT_L (Auxiliary)/ 2.45 GHz

Antenna Pattern

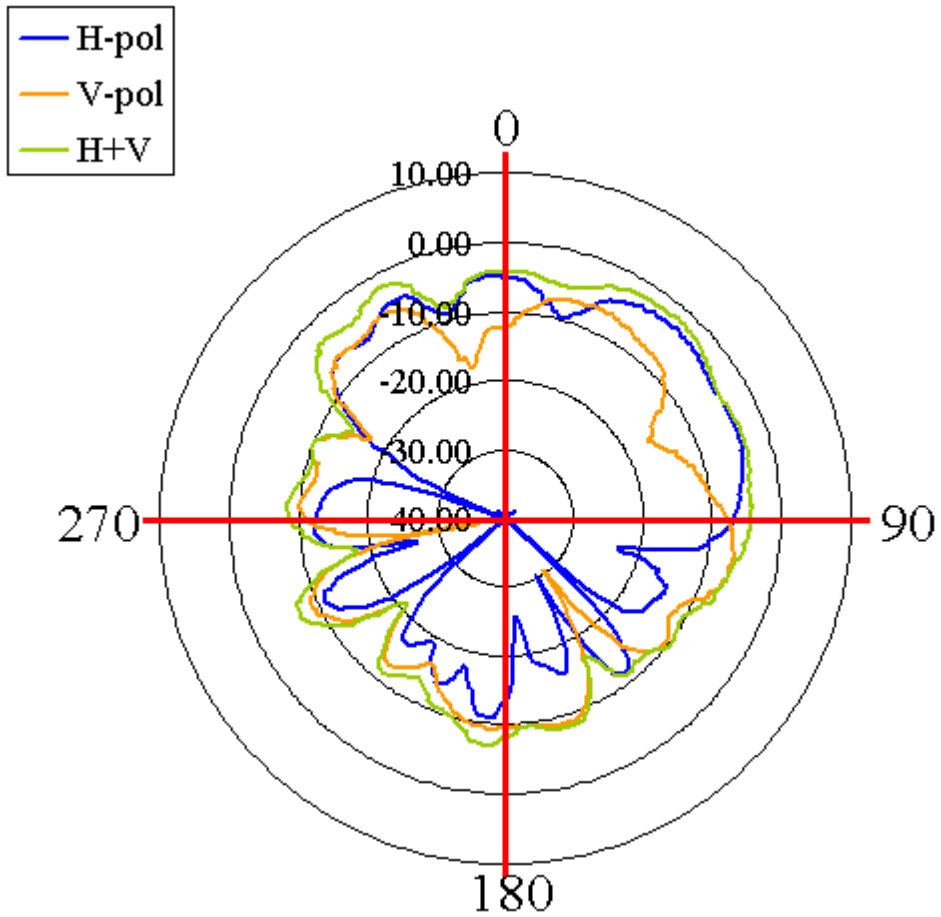


Freq= 2450.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-5.28	-8.68	-3.64
Peak Gain	1.55	-1.26	1.97

c.) ANT_L (Auxiliary)/ 2.49 GHz

Antenna Pattern

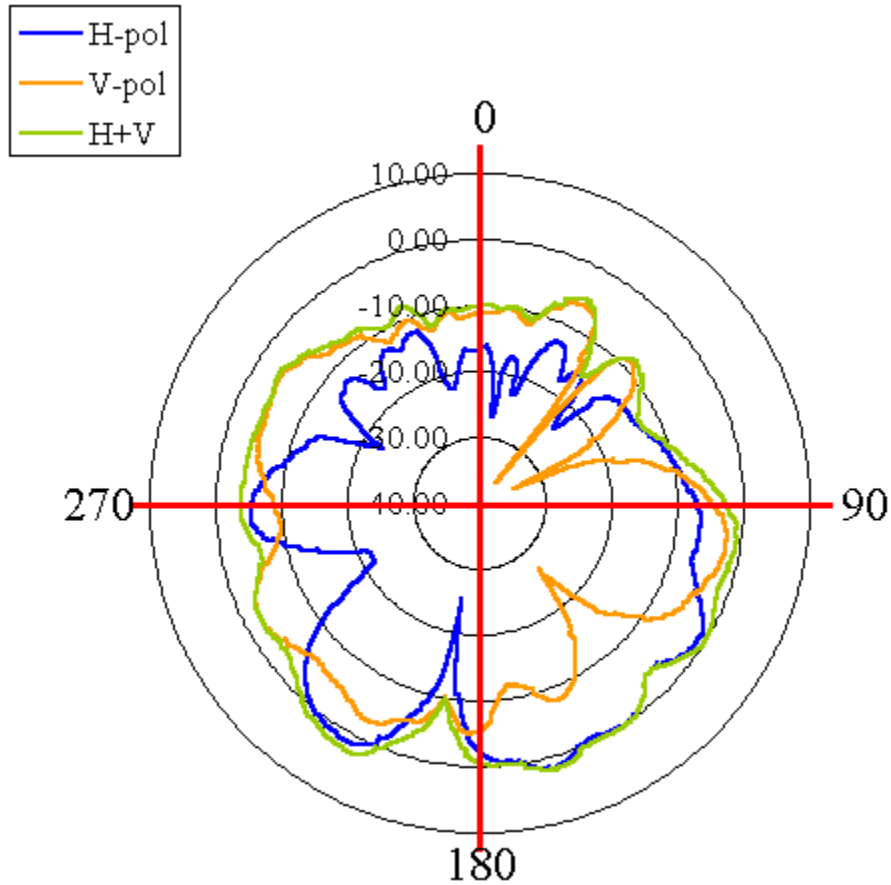


Freq= 2490.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-8.70	-10.13	-6.34
Peak Gain	-3.13	-5.65	-1.96

d.) ANT_L (Auxiliary)/ 5.15 GHz

Antenna Pattern

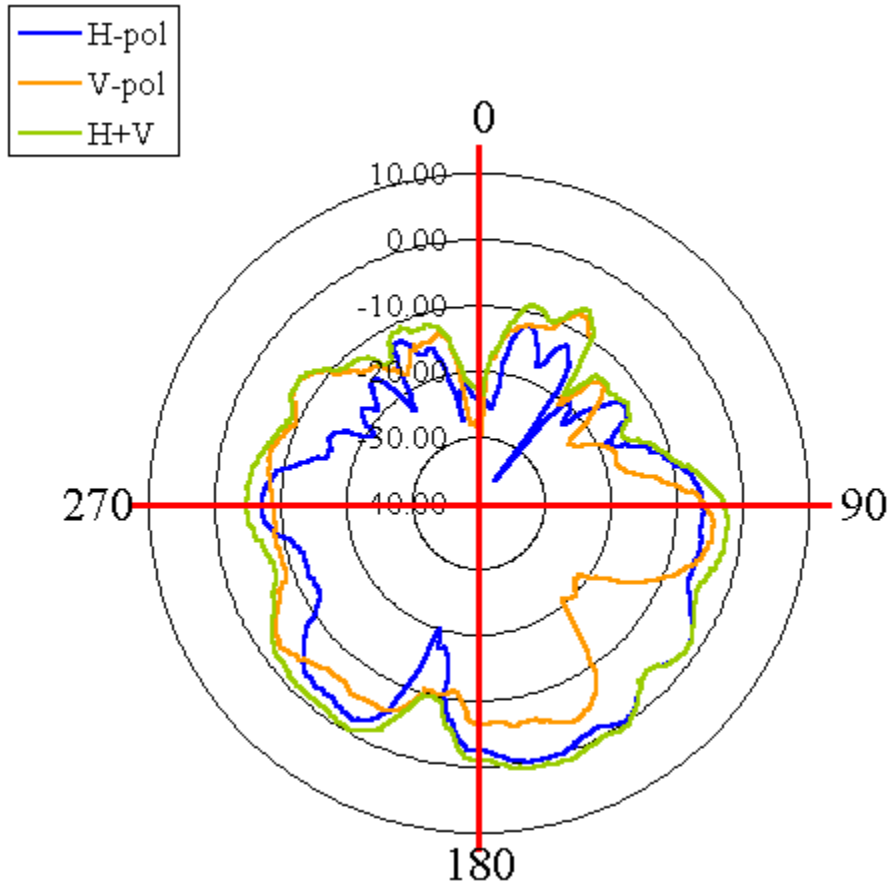


Freq= 5150.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-5.24	-6.95	-3.00
Peak Gain	1.69	-2.09	2.62

e.) ANT_L (Auxiliary)/ 5.25 GHz

Antenna Pattern

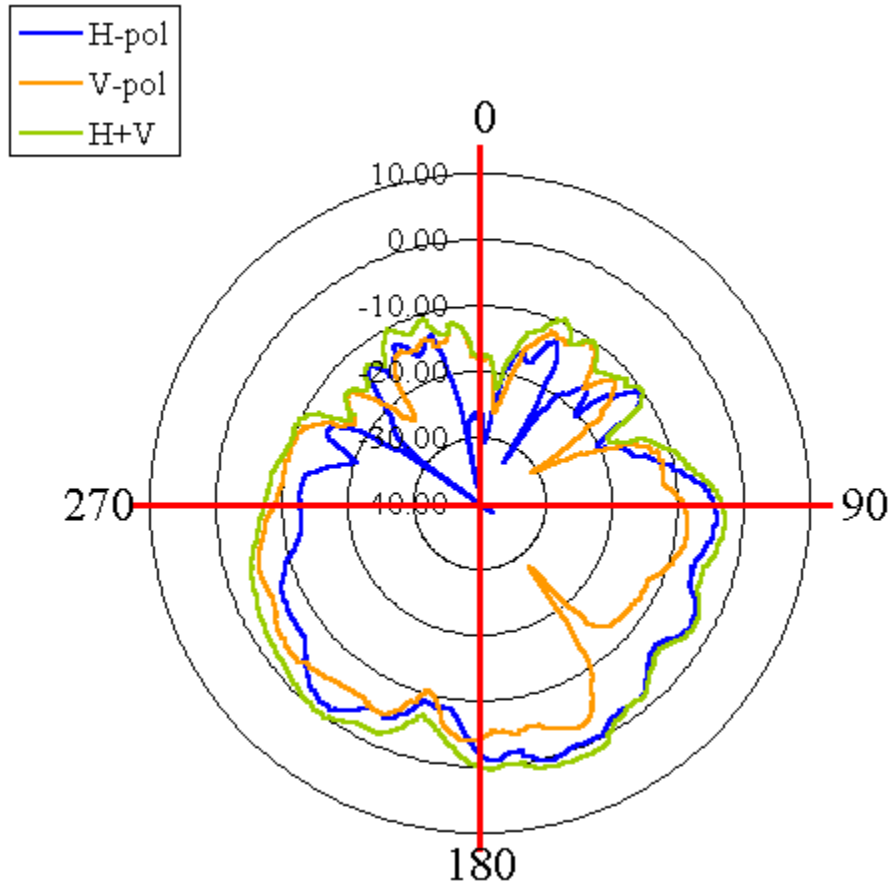


Freq= 5250.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-6.36	-8.65	-4.35
Peak Gain	0.08	-3.16	1.13

f.) ANT_L (Auxiliary)/ 5.35 GHz

Antenna Pattern

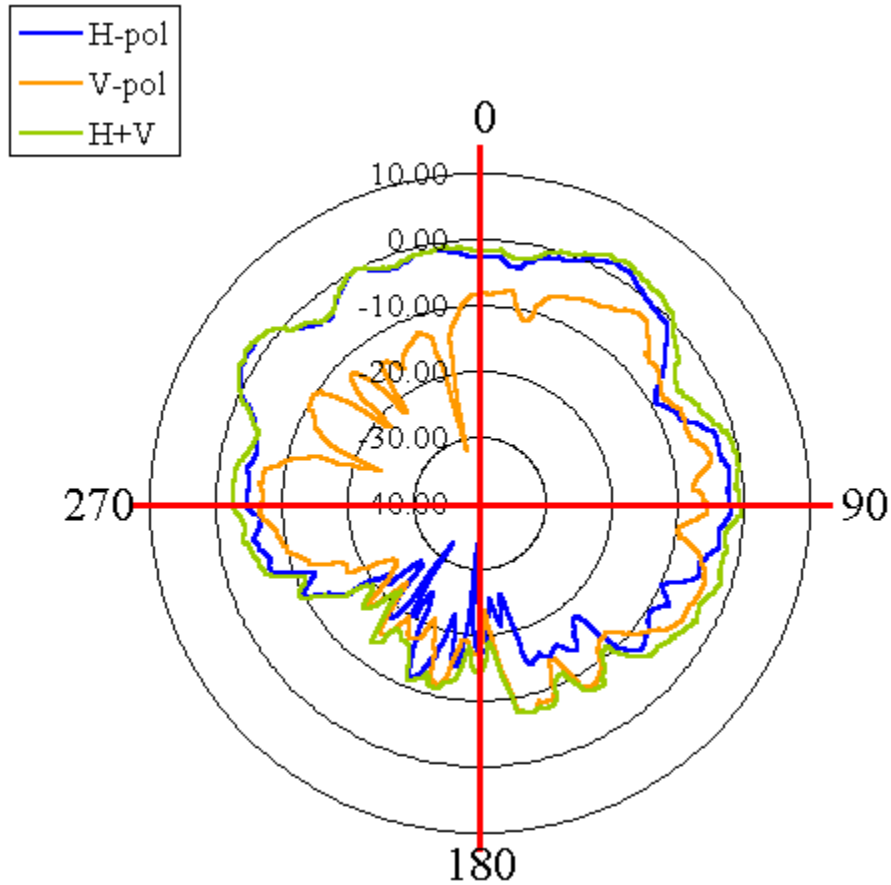


Freq= 5350.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-6.40	-8.57	-4.34
Peak Gain	0.54	-2.82	1.68

g.) ANT_L (Auxiliary)/ 5.725 GHz

Antenna Pattern

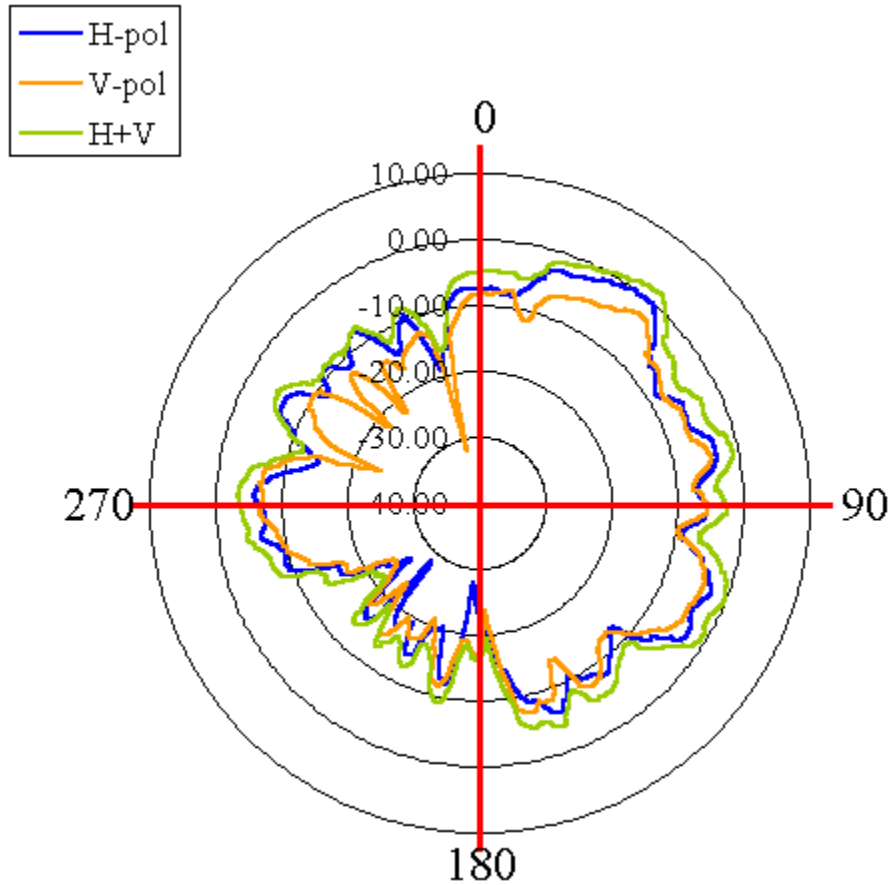


Freq= 5725.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-3.95	-8.67	-2.69
Peak Gain	1.79	-2.30	2.64

h.) ANT_L (Auxiliary)/ 5.825 GHz

Antenna Pattern



Freq= 5825.0MHz

	H-Pol	E-Pol	H+V
Average Gain	-7.03	-8.67	-4.76
Peak Gain	0.11	-2.30	2.02

7. PLANAR W/L ANT. Photo In PC



8. Reference

8.1 Connector specification :

model & vendor – P/N:20278-101R-13 / 1.13 & I-PEX

Such the attached file: SP04-0403承認書02.04.pdf