



东莞市优比电子有限公司

Dongguan UB Electronics Co., Ltd

## *Antenna Test Report*

- Client Name:**天诺**
- Project Name:**TY-K04-200W**
- P/N :**UB01C70F2D4525A**
- Debugging frequency band: **2400-2500/5150-5850MHz**
- Version: **V1.0**
- Prepared By:**Jiang Jia-Tao**
- Reviewed By:**Liu**
- Released Date: **2024.3.27**

# *Contents*

- Revised History
- Conclusion & Comments
- Specification
- Antenna Placement & Solution
- VSWR Results
- 2D Radiation Pattern Results
- 3D Radiation Pattern Results
- Antenna power and Sensitivity

# *Summary & Comments*

## Antenna Performance Summary

- The antenna test meets the performance requirements

## Comments for Further Improvement

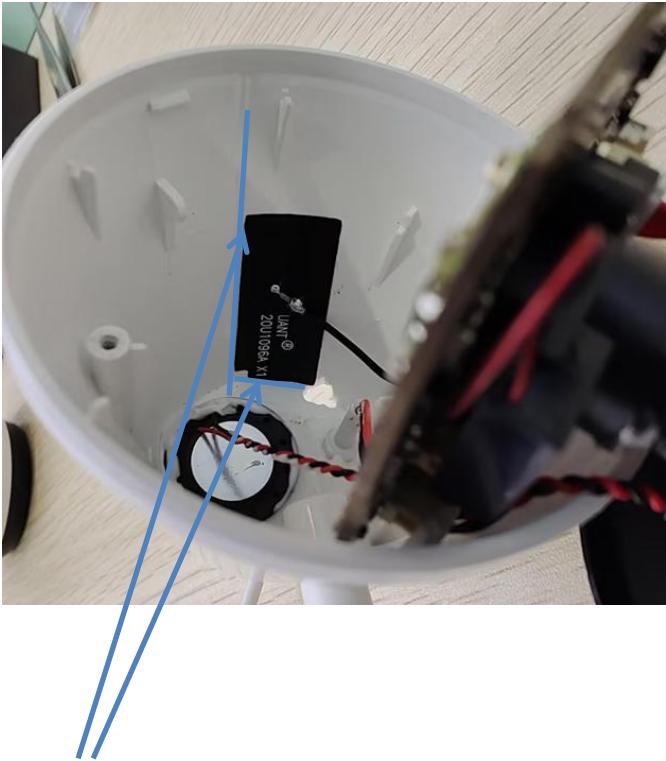
- N/A

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杭州市滨江区秋溢路500号乐通科技园3栋106室  
(东莞公司) (杭州公司)

电话：0769-81777126  
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网址：[www.ubuant.com](http://www.ubuant.com)

# External Antenna

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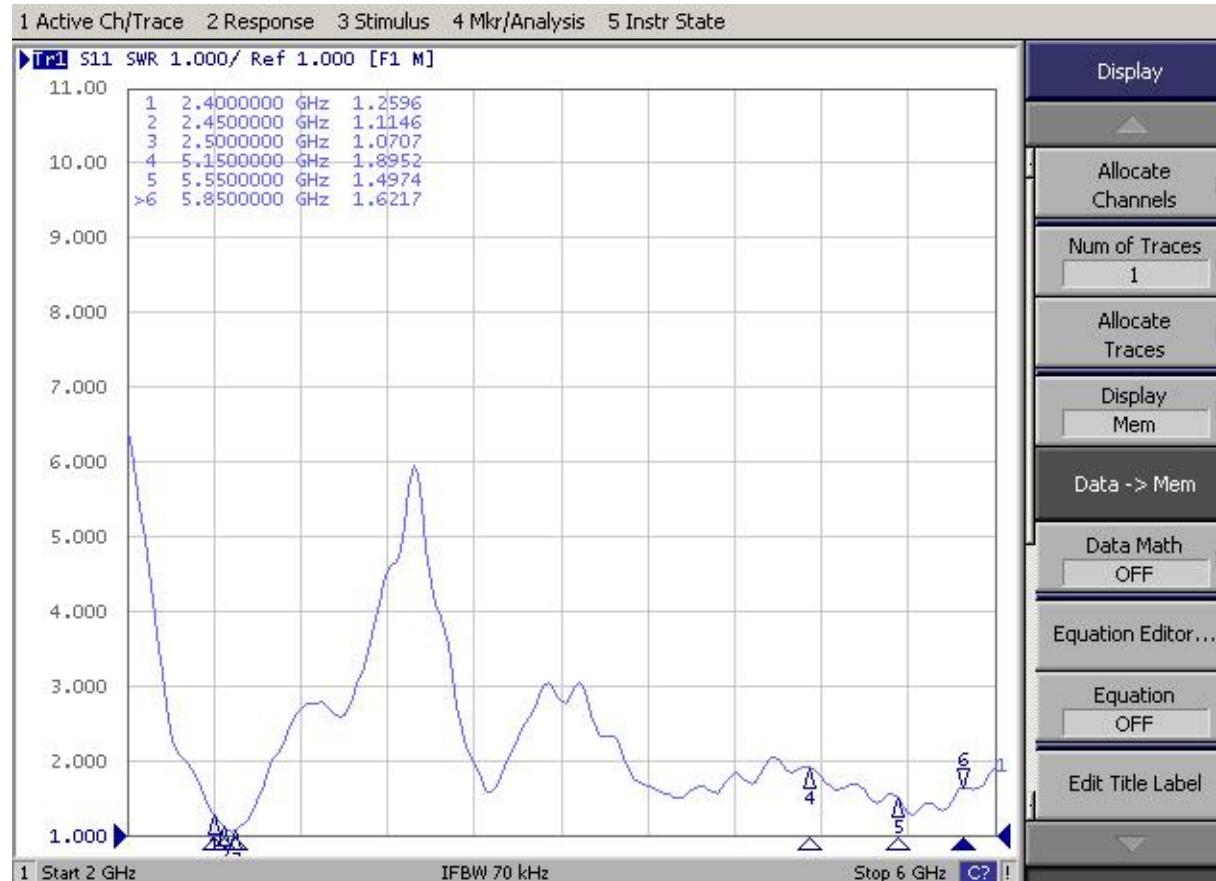
天线装配如图 天线下面平齐机壳底部贴平  
侧边侧面平齐如图机壳凹槽线平齐

- Covers 2.4-2.5/5.15-5.85GHz
- Low Gain
- Antenna form:Onboard

# VSWR Results

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WIFI\_ANT (2400 – 2500/5150-5850 MHz ) (Criterion: ≤ 1.92)



Frequency (MHz)	VSWR
2400	1.25
2450	1.1
2500	1.07
5150	1.89
5550	1.49
5850	1.62

# Antenna Gain and Efficiency

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WIFI\_ANT (2400 – 2500 /5150-5850MHz )

Frequency (MHz)	2400	2450	2500	5150	5550	5850
Efficiency (%)	63.55	58.36	58.73	52.11	54.19	57.44
Gain (dBi)	2.68	2.01	2.64	3.11	3.06	3.21



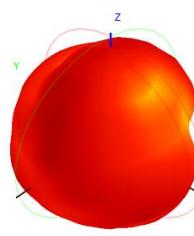
# 2D&3D Radiation Pattern Results

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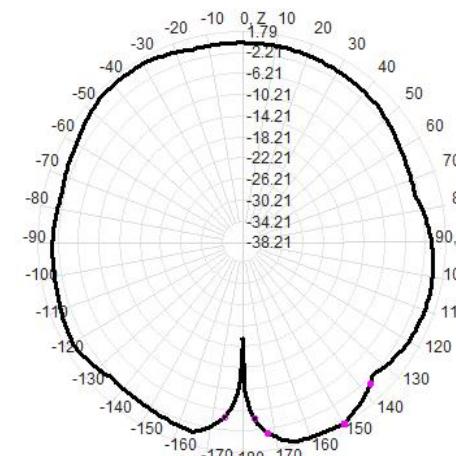
WIFI\_ANT (2400 MHz)



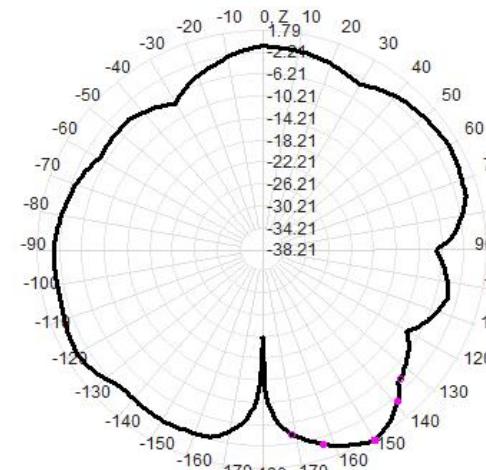
H+V



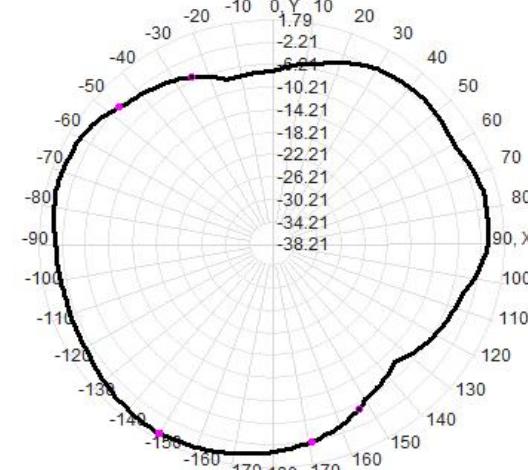
Back View



XZ



YZ



XY

# 2D&3D Radiation Pattern Results

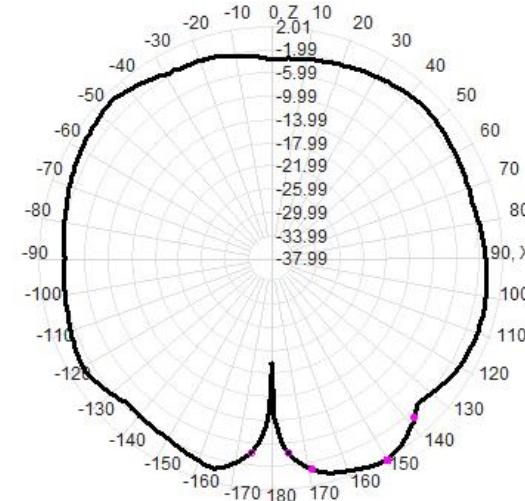
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WIFI\_ANT (2450 MHz)

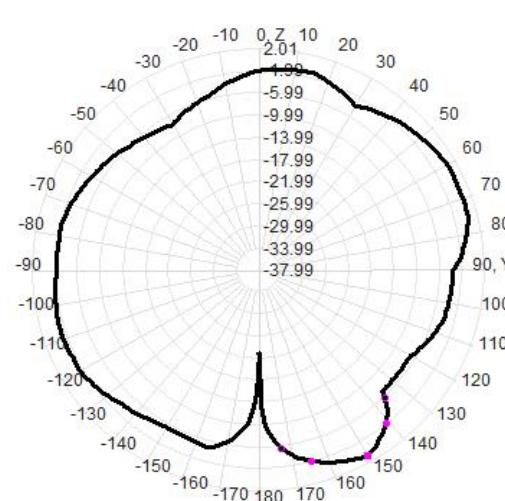


H+V

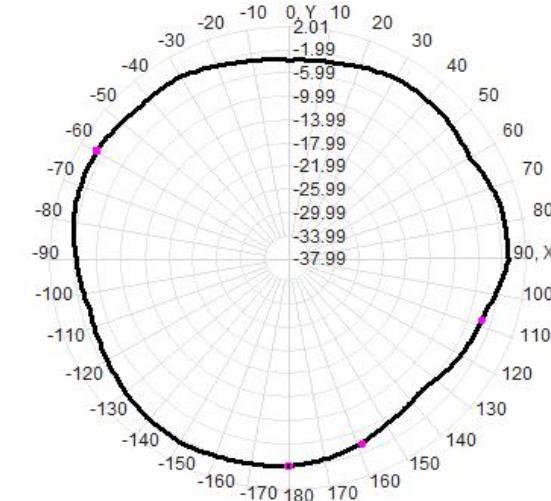
Back View



XZ



YZ



XY

# 2D&3D Radiation Pattern Results

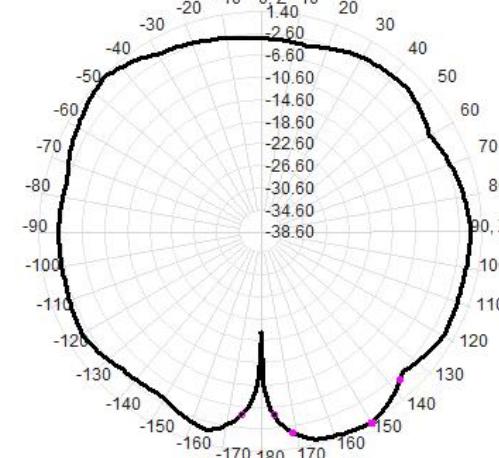
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WIFI\_ANT (2500 MHz)

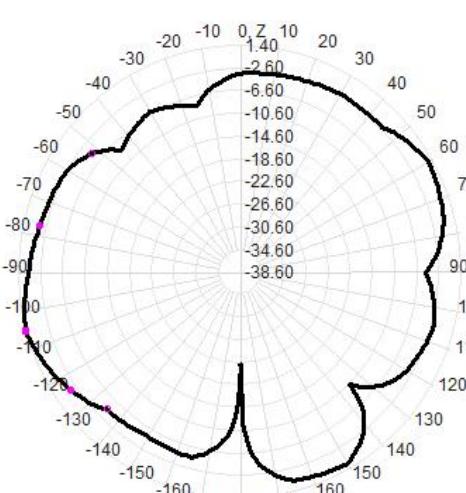


H+V

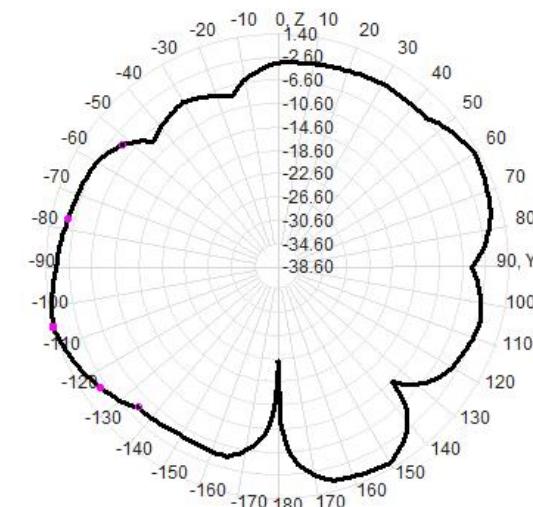
Back View



XZ



YZ

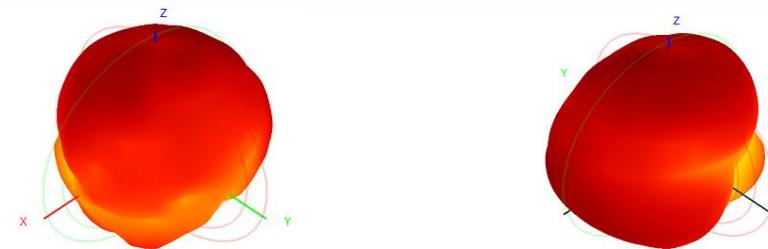


XY

# 2D&3D Radiation Pattern Results

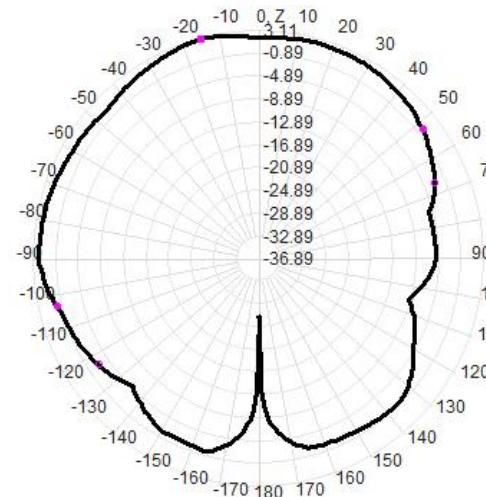
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WIFI\_ANT (5150 MHz)

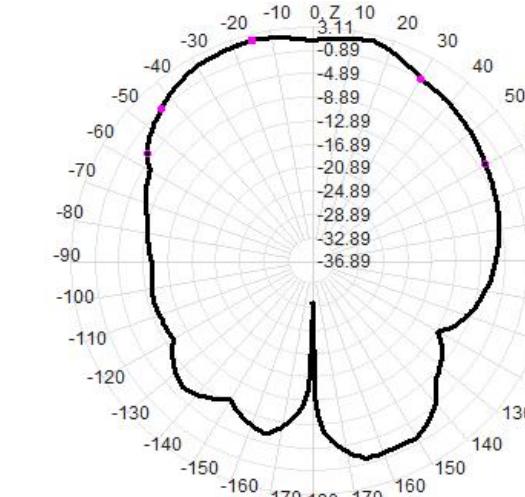


H+V

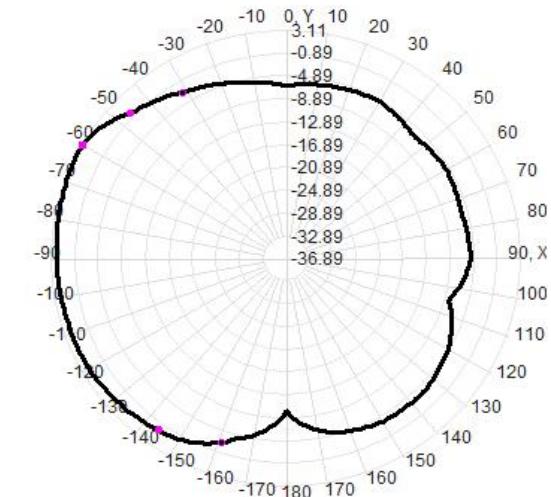
Back View



XZ



YZ

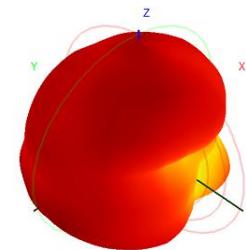
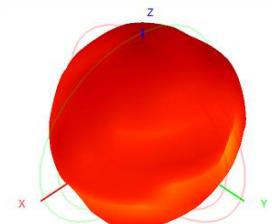


XY

# 2D&3D Radiation Pattern Results

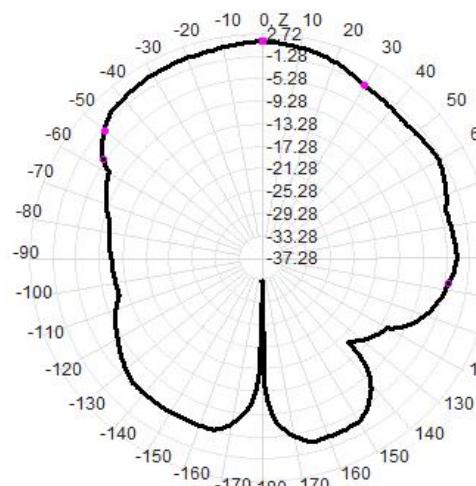
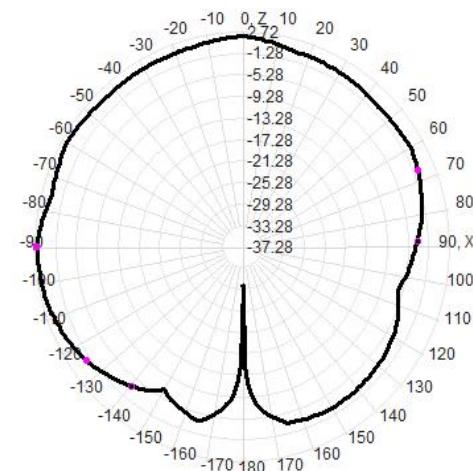
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WIFI\_ANT (5550 MHz)



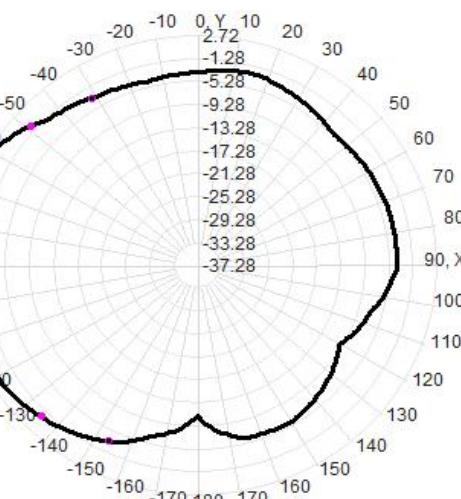
H+V

Back View



XZ

YZ



XY

# 2D&3D Radiation Pattern Results

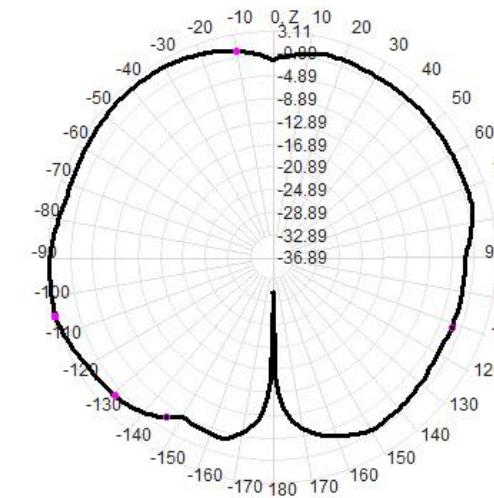
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WIFI\_ANT (5850 MHz)

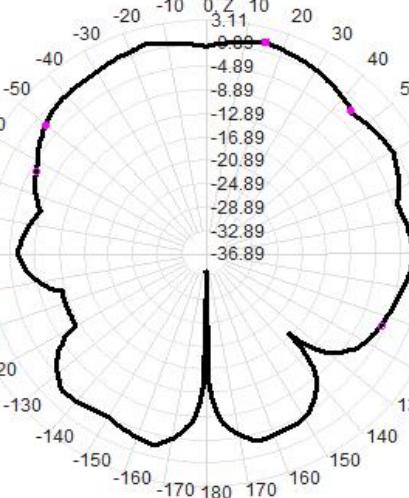


H+V

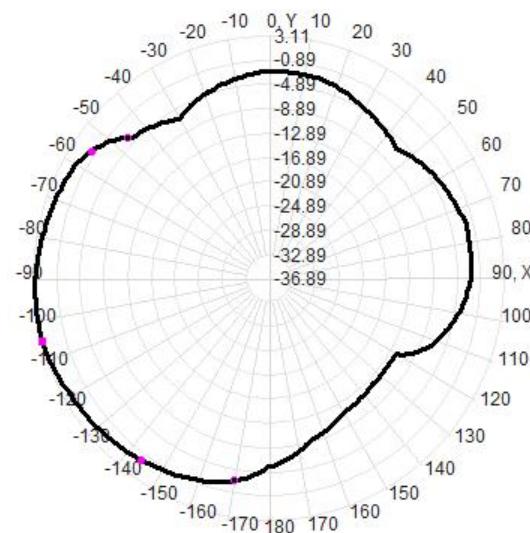
Back View



XZ



YZ



XY

# Antenna active data

Dongguan UB Electronics Co., Ltd

2.4G

WLAN Antenna Performance Table																		
WLAN Whole Band TRP (dBm) <u>13.59</u>																		
WLAN Whole Band TIS (dBm) <u>-79.42</u>																		
	Channel No.	Freq. (MHz)	TRP (dBm)	TIS (dBm)	NHPRP +/-30	NHPRP +/-45	NHPRP +/-60	Gain (dBi)	Directivity (dBi)	Efficiency (%)	Efficiency (dB)	Max (dBm)	Theta of Max	Phi of Max	Min (dBm)	Theta of Min	Phi of Min	Avg (dBm)
Phone Tx (Uplink Path)	1	1	—	13.95	—	10.50	12.25	13.18	—	—	—	16.64	30	180	6.17	90	90	—
	2	6	—	14.13	—	10.78	12.47	13.38	—	—	—	17.00	60	150	9.12	90	90	—
	3	11	—	13.53	—	9.32	11.02	11.84	—	—	—	15.91	60	150	6.20	120	90	—
	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phone Rx (Downlink Path)	1	1	—	—	-81.98	-78.53	-80.28	-81.21	—	—	—	-74.20	90	90	-84.67	30	180	—
	2	6	—	—	-78.57	-74.22	-75.91	-78.82	—	—	—	-72.56	90	90	-80.44	60	150	—
	3	11	—	—	-78.76	-73.55	-75.25	-78.07	—	—	—	-70.43	120	90	-80.14	60	150	—
	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5.8G

WLAN Antenna Performance Table																		
WLAN Whole Band TRP (dBm) <u>12.25</u>																		
WLAN Whole Band TIS (dBm) <u>-71.26</u>																		
	Channel No.	Freq. (MHz)	TRP (dBm)	TIS (dBm)	NHPRP +/-30	NHPRP +/-45	NHPRP +/-60	Gain (dBi)	Directivity (dBi)	Efficiency (%)	Efficiency (dB)	Max (dBm)	Theta	Phi of Max	Min (dBm)	Theta of Min	Phi of Min	Avg (dBm)
Phone Tx (Uplink Path)	1	36	—	12.00	—	10.69	12.25	13.21	—	—	—	19.01	90	180	-0.07	120	90	—
	2	149	—	11.88	—	9.26	10.80	11.38	—	—	—	16.12	120	180	-5.86	120	90	—
	3	165	—	9.91	—	7.39	9.01	9.48	—	—	—	14.66	120	180	-4.09	120	90	—
	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phone Rx (Downlink Path)	1	36	—	—	-71.62	-68.31	-69.87	-70.83	—	—	—	-57.55	120	90	-76.63	90	180	—
	2	149	—	—	-71.48	-68.86	-70.40	-70.98	—	—	—	-53.74	120	90	-75.72	120	180	—
	3	165	—	—	-70.62	-68.10	-69.72	-70.19	—	—	—	-56.62	120	90	-75.37	120	180	—
	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—