



好天线 · 优比造

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

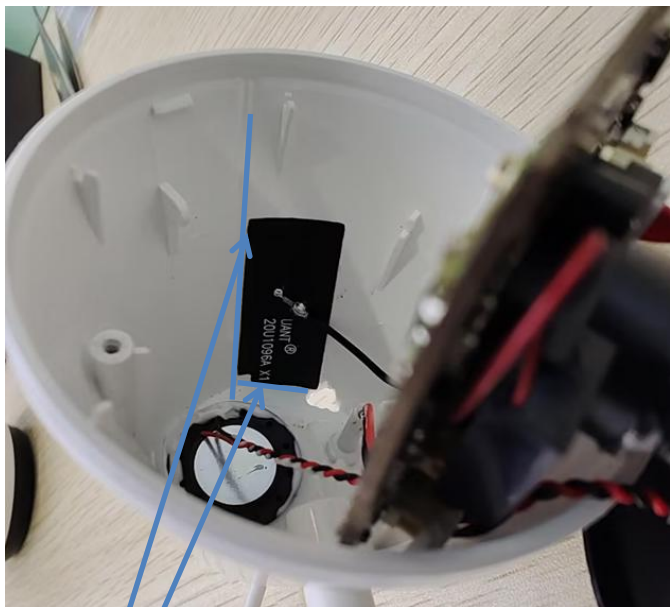
- The antenna test meets the performance requirements

Comments for Further Improvement

- N/A

External Antenna

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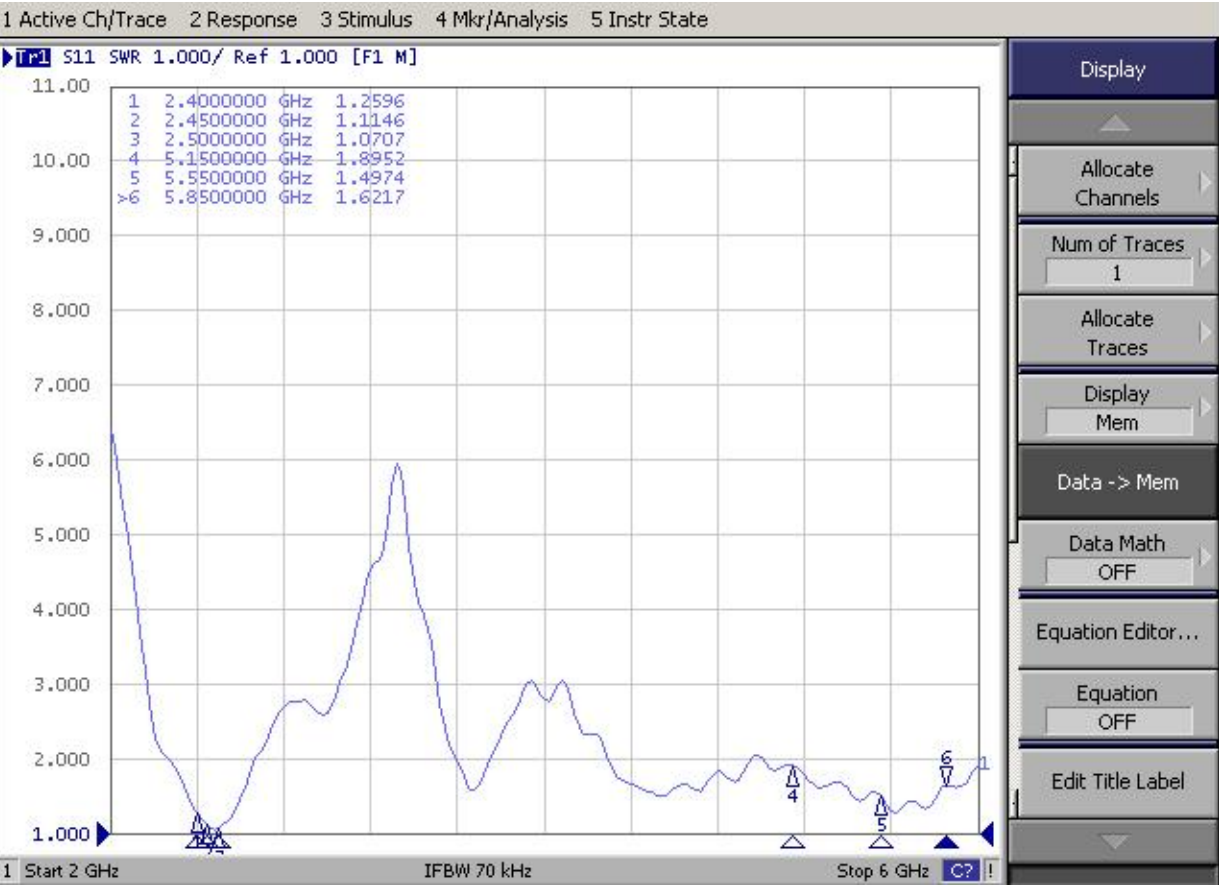
天线装配如图 天线下面平齐机壳底部贴平
侧边侧面平齐如图机壳凹槽线平齐



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

VSWR Results

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)

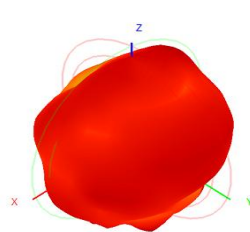
Frequency (MHz)	2400	2450	2500	5150	5550	5850
Efficiency (%)	63.55	58.36	58.73	52.11	54.19	57.44
Gain (dBi)	2.68	2.01	2.64	3.11	3.06	3.21



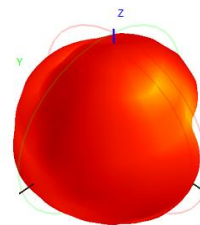
2D&3D Radiation Pattern Results

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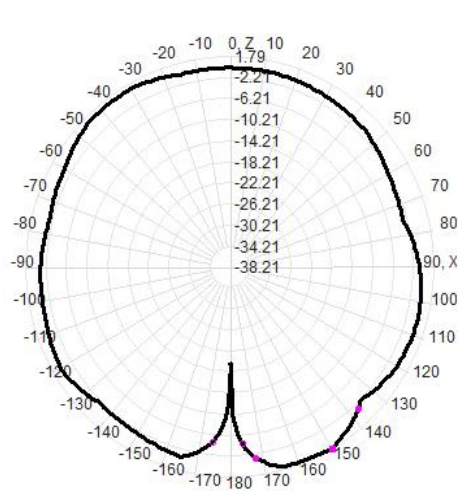
WIFI_ANT (2400 MHz)



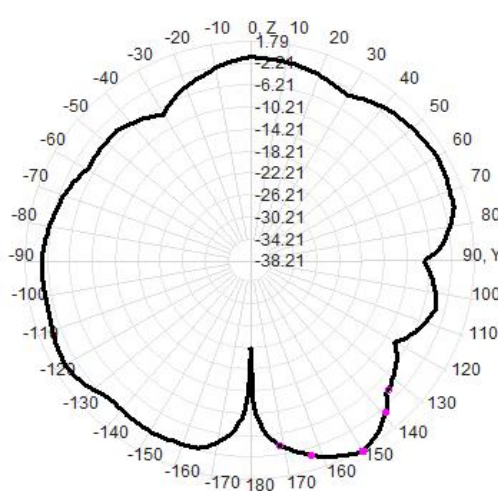
H+V



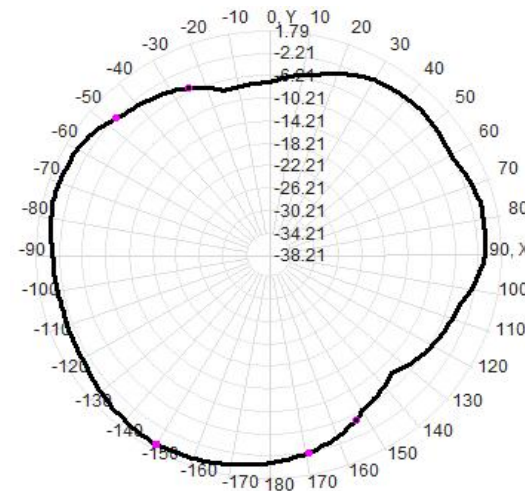
Back View



XZ



YZ

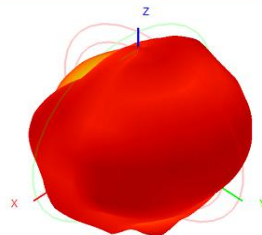


XY

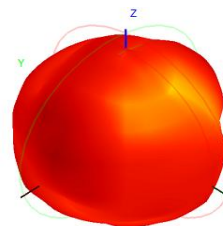
2D&3D Radiation Pattern Results

Dongguan UB Electronics Co., Ltd

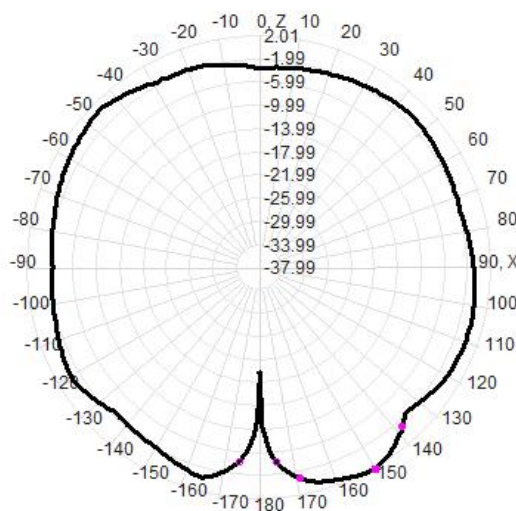
WIFI_ANT (2450 MHz)



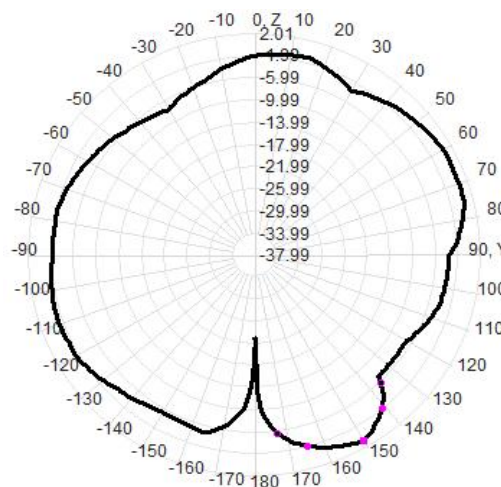
H+V



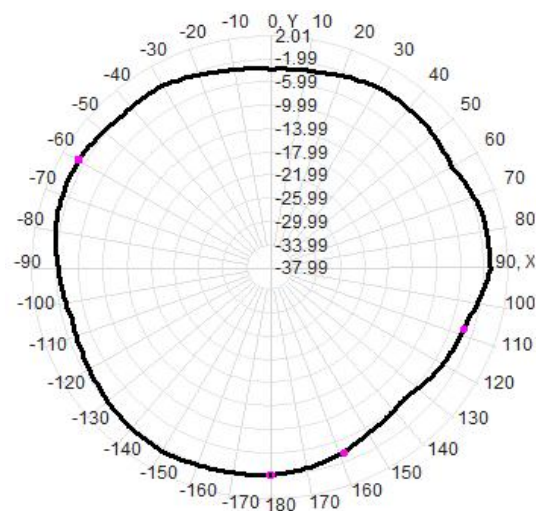
Back View



XZ



YZ

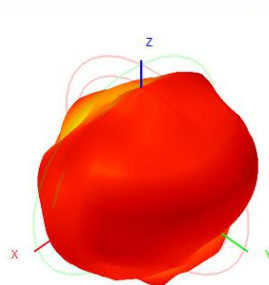


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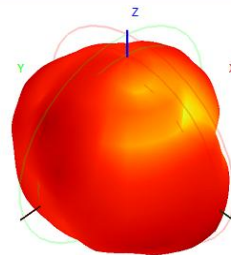
2D&3D Radiation Pattern Results

Dongguan UB Electronics Co., Ltd

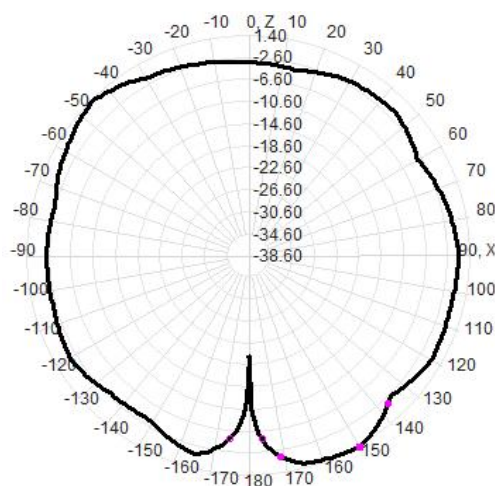
WIFI_ANT (2500 MHz)



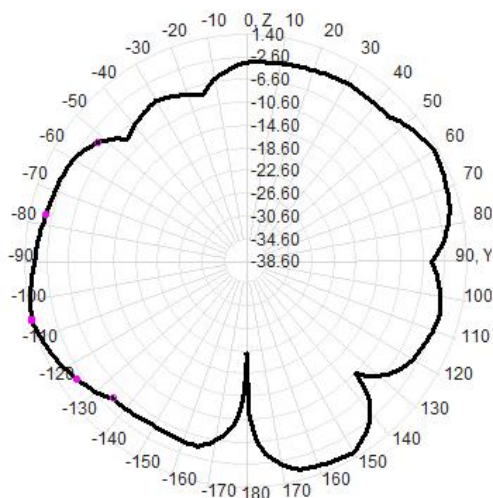
H+V



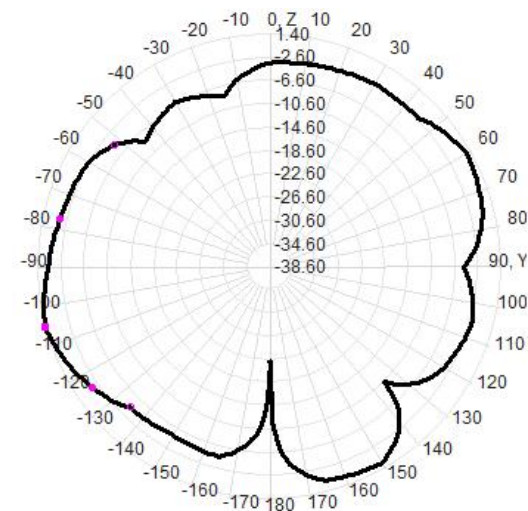
Back View



XZ



YZ

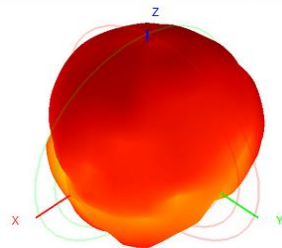


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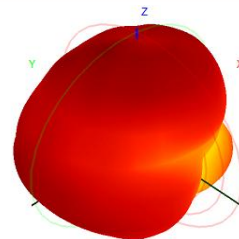
2D&3D Radiation Pattern Results

Dongguan UB Electronics Co., Ltd

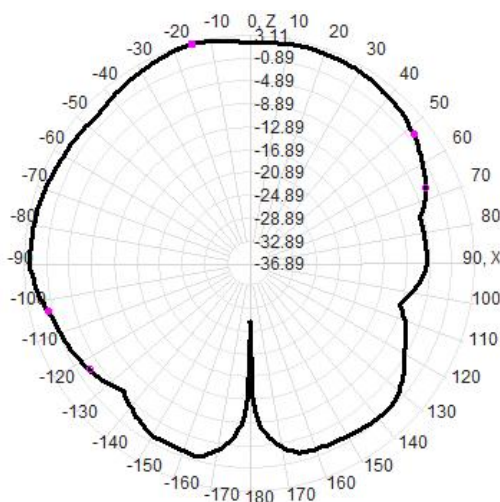
WIFI_ANT (5150 MHz)



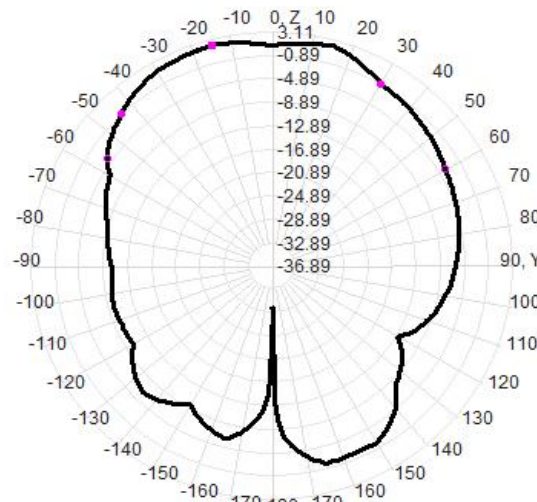
H+V



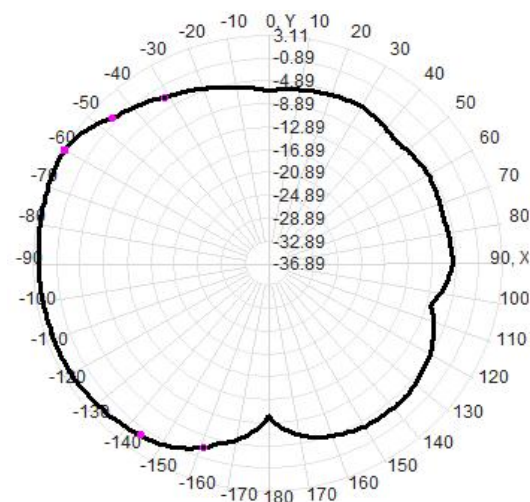
Back View



XZ



YZ

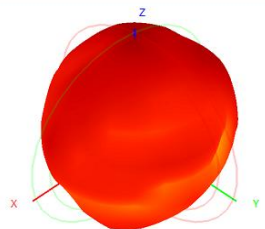


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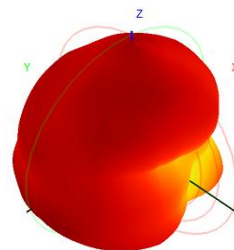
2D&3D Radiation Pattern Results

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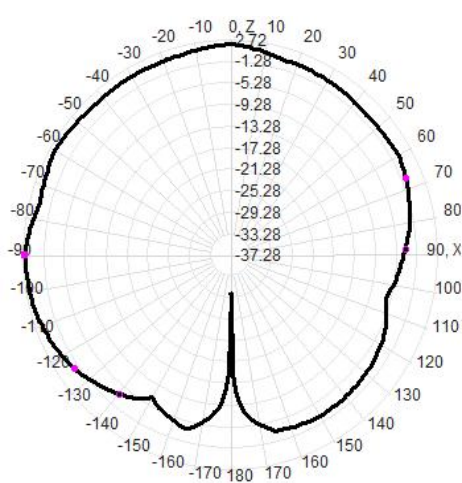
WIFI_ANT (5550 MHz)



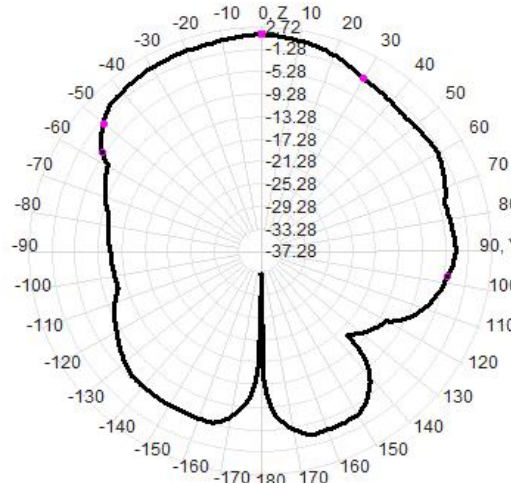
H+V



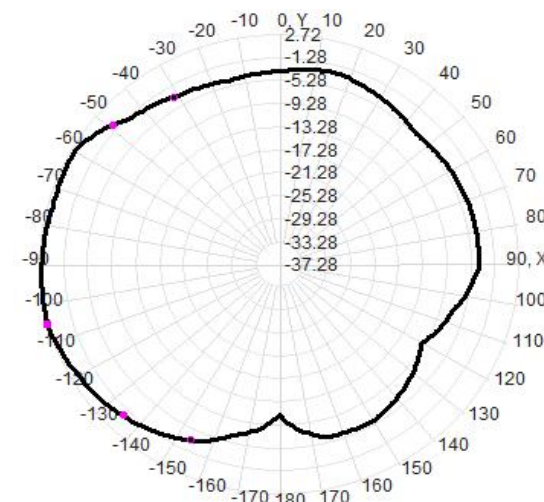
Back View



XZ



YZ

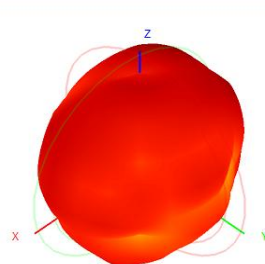


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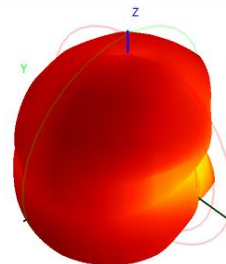
2D&3D Radiation Pattern Results

Dongguan UB Electronics Co., Ltd

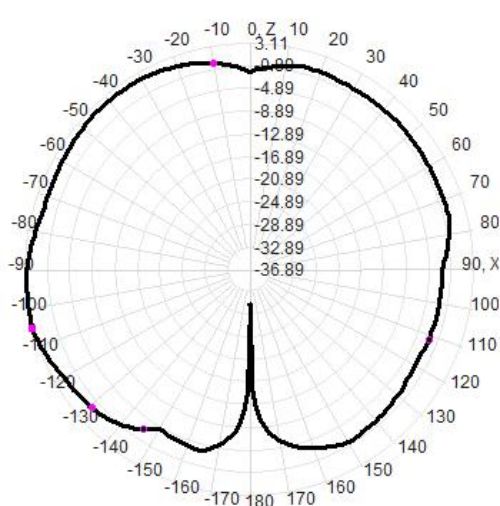
WIFI_ANT (5850 MHz)



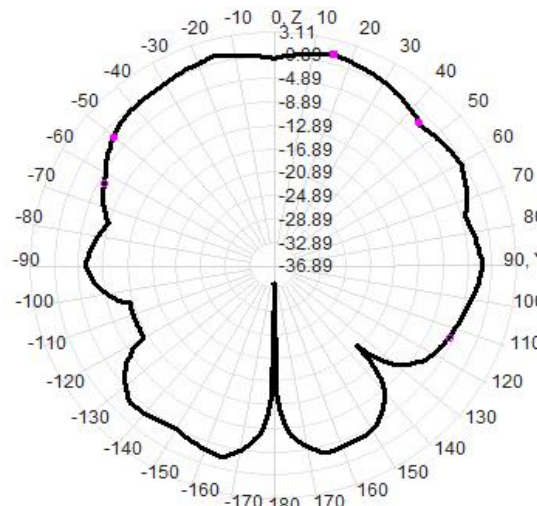
H+V



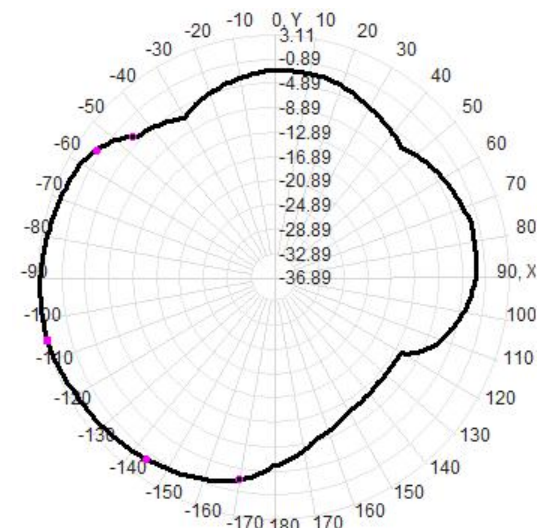
Back View



XZ



YZ



XY

Antenna active data

Dongguan UB Electronics Co., Ltd

2.4G

WLAN Antenna Performance Table																			
WLAN Whole Band TRP (dBm)			13.59																
WLAN Whole Band TIS (dBm)			-79.42																
		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)			12.25																
WLAN Whole Band TIS (dBm)			-71.26																
	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	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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--