



深圳市海德门电子有限公司

ShenZhen Deman Electronics Technology Co., Ltd

# Antenna Test Report

For

P5L-PINPad GPS&WiFi Antenna

<b>Customer</b>	<b>WISEASY</b>	<b>Project</b>	<b>P5L-PINPad</b>
<b>Band</b>		<b>Color</b>	<b>Black</b>
<b>PRS PN</b>	<b>ShenZhen Deman Electronics Technology Co., Ltd</b>	<b>Version</b>	<b>V1.0</b>
<b>Issued by</b>		<b>Checked by</b>	
<b>Confirmed by</b>		<b>Date</b>	<b>2022.07.21</b>

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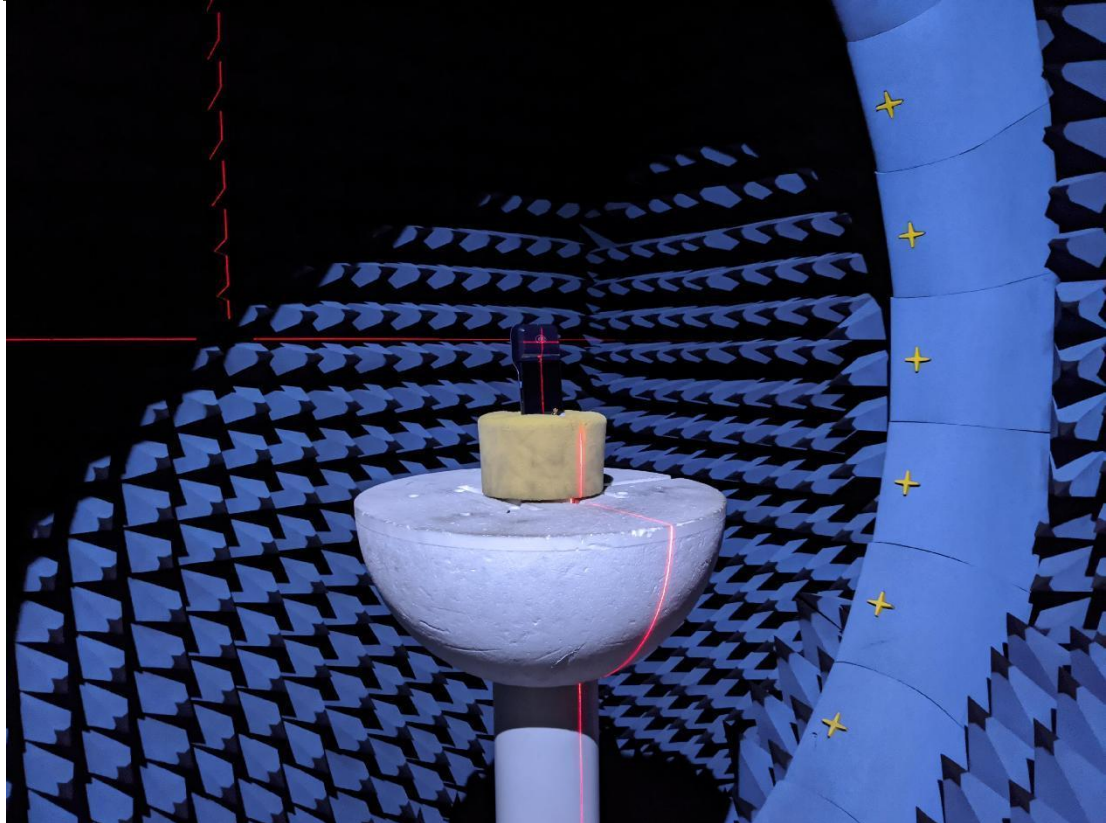


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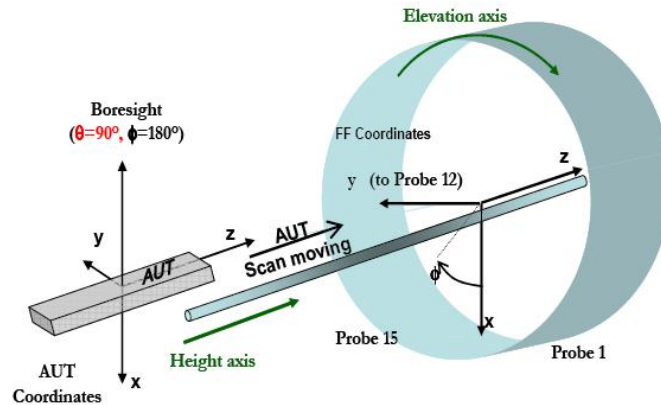
## A.TEST INSTRUMENTATION

CHAMBER	SATIMO Chamber
Wireless Networking Test Set	Agilent 8960 5515C
NETWORK ANALYZER	Agilent 5072AD
COMPREHENSIVE TESTER	R&S CMW500
TEMPERATURE	20±2℃
HUMIDITY	50±20%rh

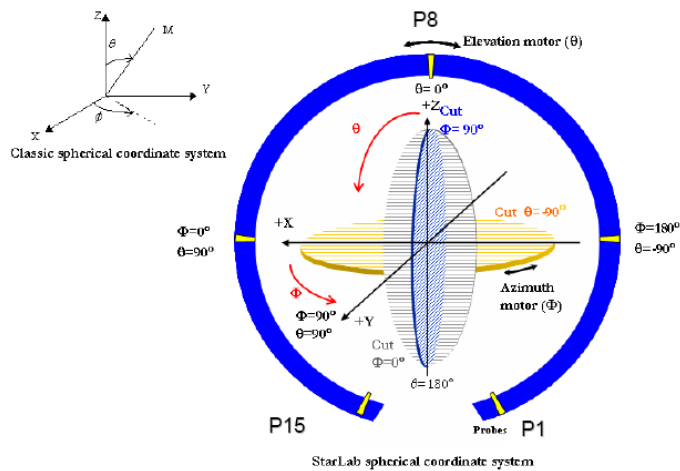


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Coordinate system – Cylindrical geometry

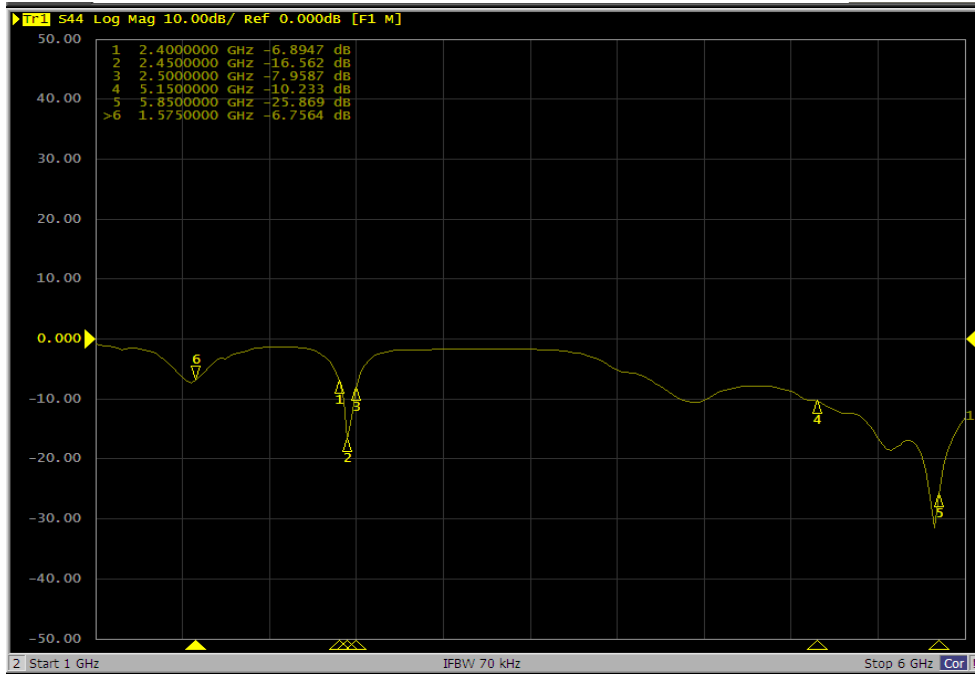


Coordinate system – Spherical geometry



## B. Definitions

VSWR: Voltage Standing Wave Rate



WiFi:

TRP & TIS

Total radiated power & Total isotropic sensitivity

Band	DATA RATE	CHANNEL	TRP/dBm	TIS/dBm
11b	11	1	11.53	-83.64
		7	11.81	-84.01
		13	13.01	-82.86
11b	1	1	11.8	-92.1
		7	11.95	-91.5
		13	13.06	-90.19
11a	6	36	8.21	-87.61
		149	9.32	-89.8
		165	10.76	-90.11
11a	54	36	8.31	-69.64
		149	9.45	-72.1

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		165	10.29	-72.05
11g	6	1	10.52	-87.41
		7	10.51	-87.42
		13	11.68	-84.64
11g	54	1	10.63	-69.67
		7	10.5	-70.53
		13	11.5	-66.75
11gn	MC1	1	11.86	-83.58
		7	11.87	-84.07
		13	12.82	-82.87
11gn	MC7	1	12.02	-66.13
		7	11.98	-67.46
		13	12.94	-65.64
11an	MC1	36	8.38	-83.57
		149	9.03	-85.15
		165	10.36	-85.75
11an	MC7	36	8.34	-67.15
		149	9.13	-69.27
		165	10.6	-69.96
11ac	MC7	36	9.52	-67.51
		149	10.29	-69.89
		165	11.19	-70.21

GPS :

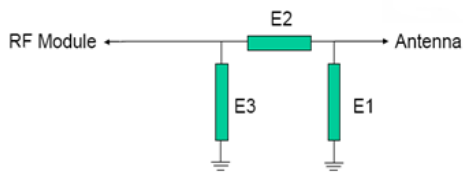
TICN	TIS/dBm
42.95	-153.09

## C. Cell-Phone Photo and Dealing Methods

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**D. Matching Circuit Description**



Element	Value
E1(0402)	/
E2(0402)	0Ω
E3(0402)	/

**E. Cell-phone cable test (Conduct at the test hole and set the line loss as 0)**

**F. Efficiency test results**

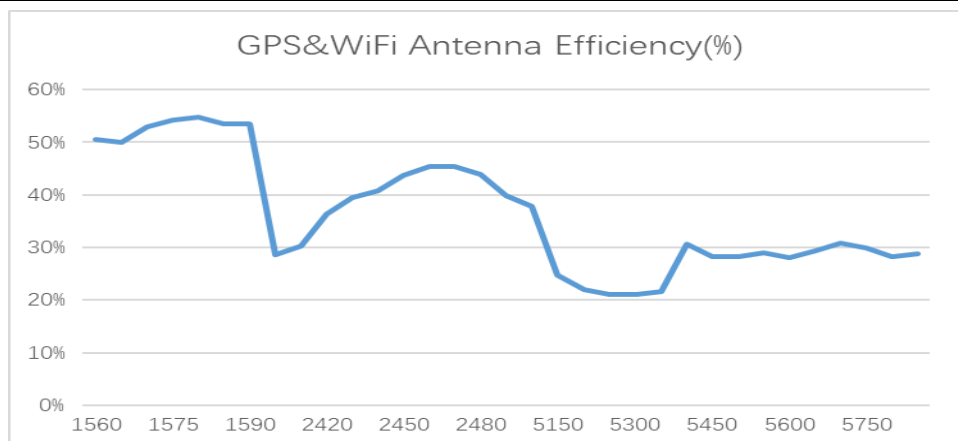
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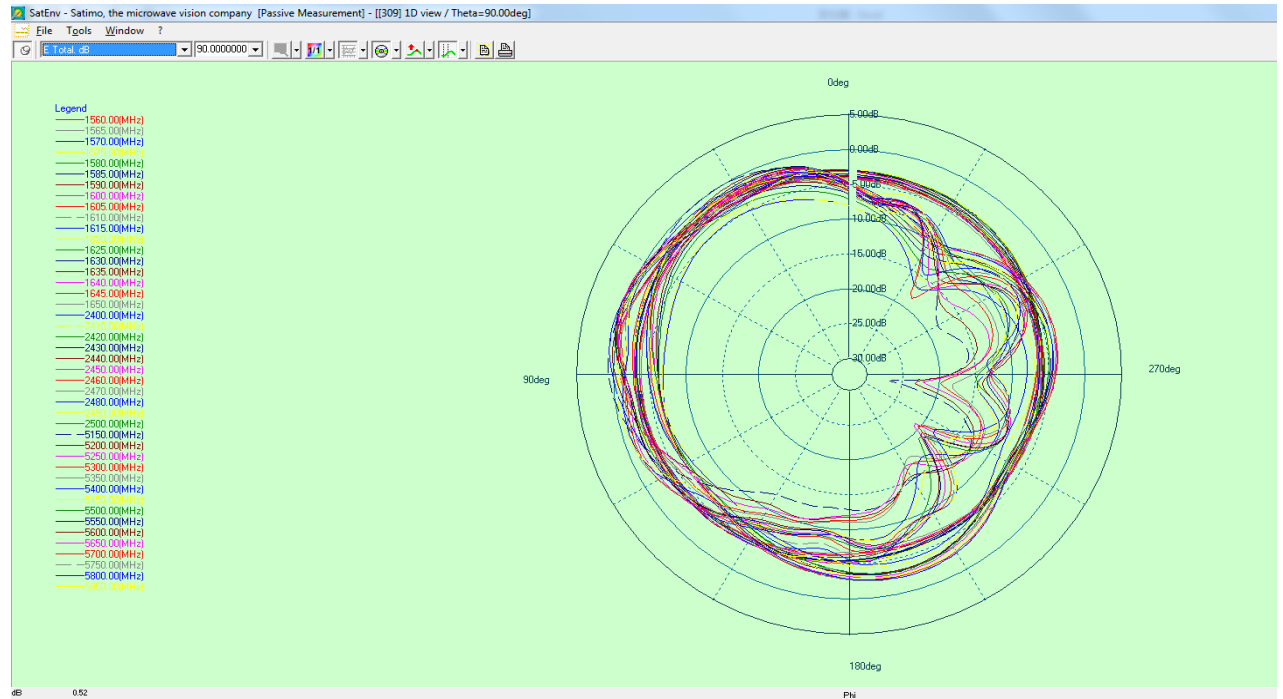
WiFi				GP			
Frequency	Efficiency (%)	Efficiency (dB)	Gain (dBi)	Frequency	Efficiency (%)	Efficiency (dB)	Gain (dBi)
2400	29%	-5.42	-0.96	1560	51%	-2.96	0.17
2410	30%	-5.19	-0.85	1565	50%	-3.02	-0.17
2420	36%	-4.39	-0.05	1570	53%	-2.76	0.28
2430	39%	-4.04	0.19	1575	54%	-2.66	0.42
2440	41%	-3.90	0.18	1580	55%	-2.61	0.49
2450	44%	-3.59	0.47	1585	53%	-2.72	0.15
2460	45%	-3.42	0.64	1590	54%	-2.71	0.13
2470	45%	-3.44	0.69				
2480	44%	-3.58	0.64				
2490	40%	-4.00	0.30				
2500	38%	-4.22	0.19				
5150	25%	-6.05	0.96				
5200	22%	-6.59	0.38				
5250	21%	-6.78	-0.20				
5300	21%	-6.76	-0.35				
5350	22%	-6.64	-0.66				
5400	31%	-5.14	1.01				
5450	28%	-5.49	0.67				
5500	28%	-5.49	0.74				
5550	29%	-5.38	0.85				
5600	28%	-5.51	0.74				
5650	29%	-5.33	0.72				
5700	31%	-5.11	0.82				
5750	30%	-5.24	0.70				
5800	28%	-5.49	0.84				
5850	29%	-5.41	1.11				



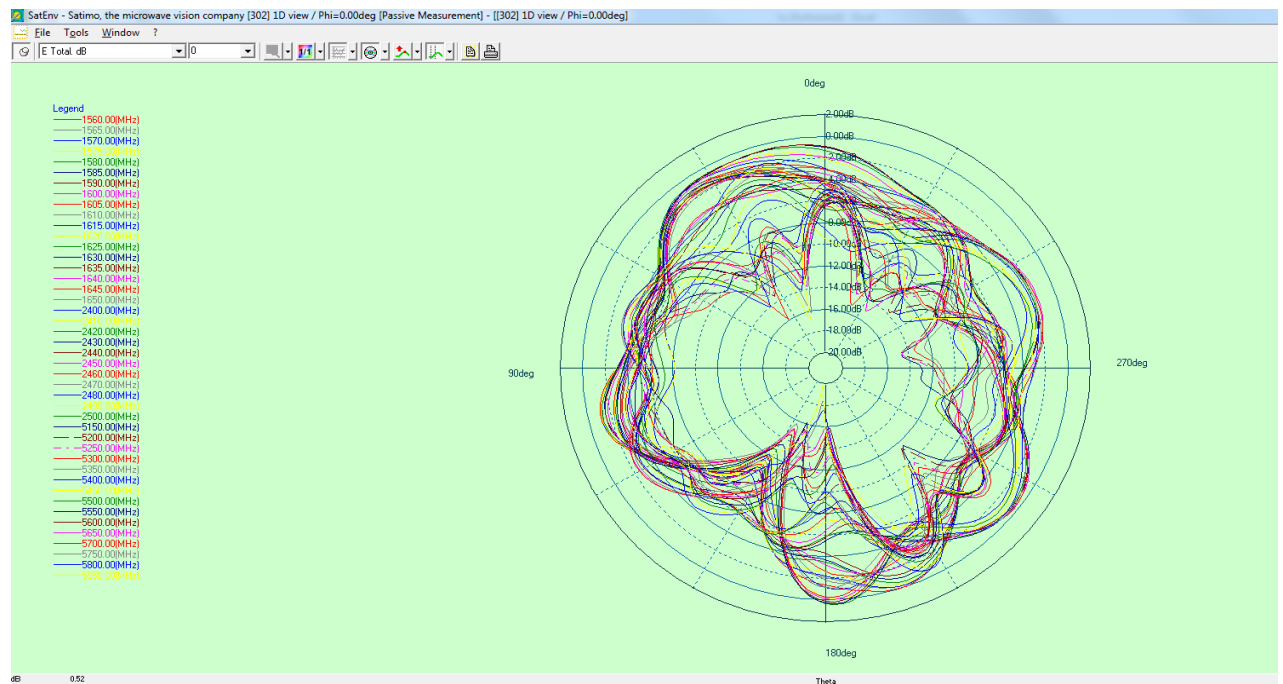
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1D view:

Theta = 90



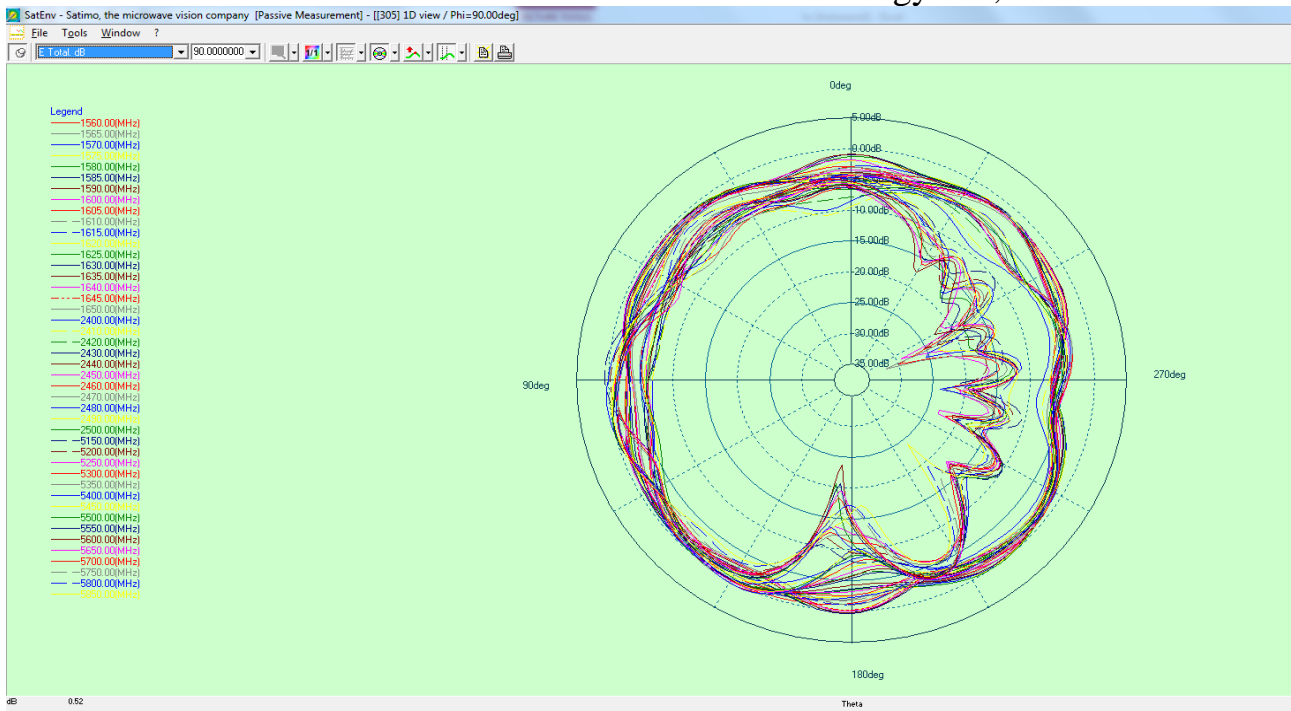
Theta = 0



Phi = 90

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General Specification	
<b>Supplier</b>	ShenZhen Demam Electronics Technology Co., Ltd
<b>Address</b>	3rd Floor, Building C, Shunluo Industrial Park, Dafuyuan Industrial Zone, Guanlan Sub-district, Longhua New District, Shenzhen City
<b>Model</b>	DIV&3IN1
<b>Antenna type</b>	FPC

Size

