

1. Antenna Specification/天线标准

Antenna Specification/天线技术参数		
Electrical Specification/电气特性		
Item/目录	Specification/规格	Comment/备注
Freq. Range/频段范围	700-960、1700-2700 (MHz)	
Impedance/阻抗	50 (Ω)	
VSWR/驻波比	≤ 4.2 、 ≤ 1.7	
Directional/辐射方向	Omni directional	
Polarization/极化形式	Vertical	
Peak Gain/峰值增益	0.96、2.76 (dBi)	
Test condition/测试条件	passive test (无源测试)	
Total Efficiency/无源效率	> 25%/ > 50%	
Mechanical Specification/机械指标		
Antenna type/天线类型	FPC	
Connector Type/连接器类型	N/A	
RF Cable Type/射频线型号	N/A	
Connector Torque Test/连接器扭力	N/A	
Connector Pull Test/连接器拉力	N/A	
Salt Spray/盐雾测试	48 (H)	
Environmental Specification /环境指标		
Operating temp/工作温度	-40°C ~ +80°C	
Storage temp/存储温度	-40°C ~ +80°C	

P/N:

81800U967

Rev.:

X1

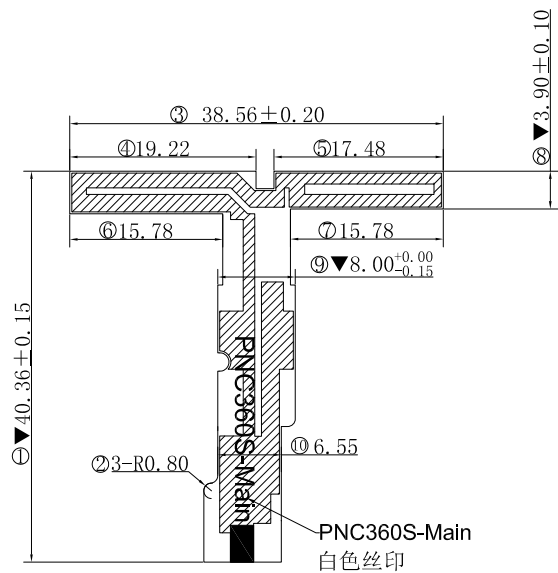
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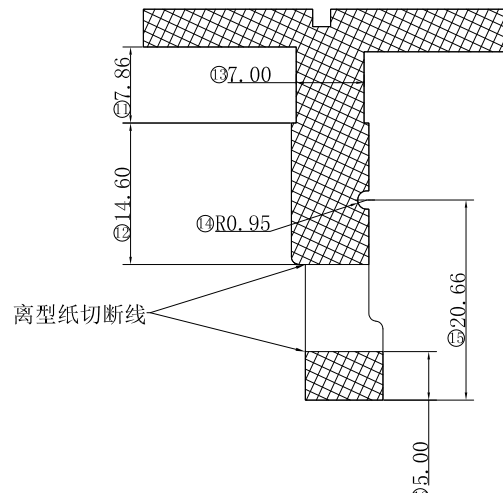
2. Antenna Picture/天线图片



REV.	ECN NUMBER	DESCRIPTION	DATE	DRAWN	CHECKED	APPROVED
X1	ECN213496	初版发行	11/05' 21	梁兑泉	丁第斌	牛宝星



正面(油墨+镀金)



反面(背胶+离型纸)

说明:

- 图中 为线路区域, 为镀金区域, 为背胶区域, 外形轮廓为基材区域。
- 天线频率: 700-960 MHz/1710-2700 MHz
- 标有“▼”为QC重点检测尺寸, 未注尺寸按照公差表要求。
- 有害物质须符合ECT《QE-Q-19-001-环境有害物质管理基准》管控标准。

NOTES:

- The diagram As the line area, for gilded area, for back glue area, the outline for the base material.
- The antenna frequency: 700-960 MHz/1710-2700 MHz
- Marked with “▼” key size detection for QC, not note size according to the tolerance table.
- HSF shall conform to the standard QE-Q-19-001 Environmental Hazardous Substances Management.

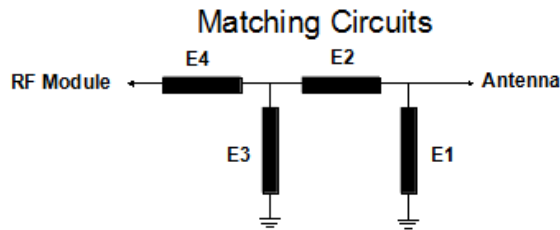
a	FPC	1	PNC360S_MAIN-ANT-1L_FPC_40.36*38.56
ITEM	PART NAME	Q' TY	MATERIAL / FINISH



GENERAL TOLERANCE		SCALE: 1:1	DRAWN: 梁兑泉	DATE: 11/05' 21	DWG. NO: 600-U967-01	TITLE: ANT_IN_7-27_40.36*38.56_PNC360S_MAIN-ANT	REV. X1
XX. ± 0.30	XX. ° ± 3°	UNIT: mm	CHECK:	DATE:			PARTS NO. (INTENDED USE): 81800U967
X. ± 0.20	X. ° ± 2°	SIZE: A4	APPROVE:	DATE:			
. X ± 0.10	. X ° ± 1°						

5. Antenna test result/测试结果

5.1 The matching circuits/匹配电路



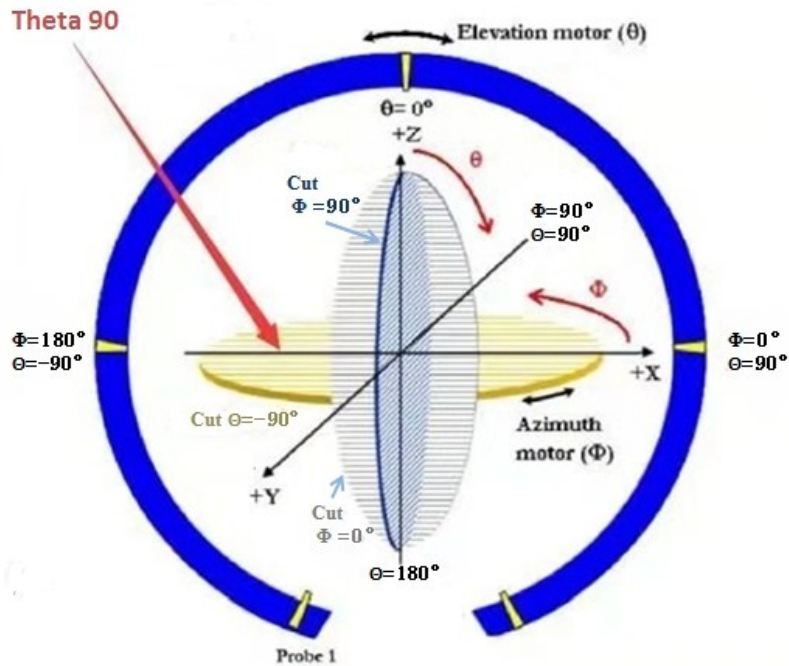
Element	Value
E1(0201)	NC
E2(0201)	0 Ω
E3(0201)	NC
E4(0201)	0 Ω

5.1 Return loss/Smith chart/VSWR/回波损耗/史密斯图/驻波比



5.2 The gain and total efficiency test/增益和效率测试

5.2.1 The definition of coordinate system/坐标系定义-Satimo SG24



The coordinate system of Chamber/暗室坐标系



The production test position/天线测试放置位置

5.2.2 The test result of total efficiency and total gain/天线效率及增益测试结果
700MHz-960MHz

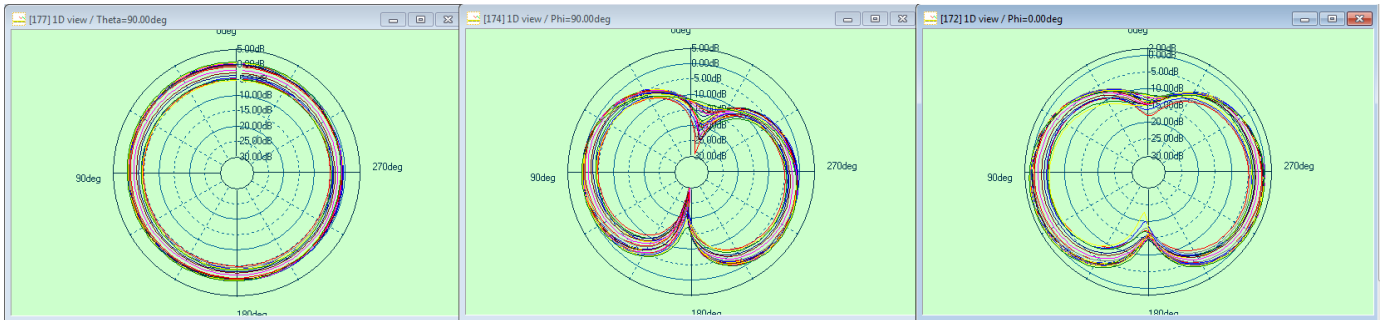
Frequency	Efficiency(%)	Gain (dBi)
700MHz	25%	-3.92
713MHz	26%	-3.39
726MHz	28%	-2.95
739MHz	27%	-3.00
752MHz	28%	-2.93
765MHz	33%	-2.36
778MHz	38%	-1.94
791MHz	46%	-1.11
804MHz	57%	-0.13
817MHz	61%	0.10
830MHz	65%	0.50
843MHz	65%	0.53
856MHz	66%	0.54
869MHz	67%	0.58
882MHz	64%	0.39
895MHz	70%	0.86
908MHz	69%	0.68
921MHz	68%	0.48
934MHz	69%	0.63
947MHz	69%	0.67
960MHz	71%	0.96
AVG	53%	-0.71

1700MHz-2700MHz

Frequency	Efficiency(%)	Gain (dBi)
1700MHz	50%	2.09
1750MHz	55%	2.41
1800MHz	58%	2.14
1850MHz	56%	2.03
1900MHz	59%	2.28
1950MHz	61%	2.73
2000MHz	59%	2.19
2050MHz	59%	1.91
2100MHz	64%	1.89
2150MHz	63%	2.61
2200MHz	65%	2.76
2250MHz	62%	2.53
2300MHz	63%	2.56
2350MHz	58%	2.41
2400MHz	54%	2.16
2450MHz	53%	2.16
2500MHz	54%	2.28
2550MHz	59%	2.91
2600MHz	58%	2.81
2650MHz	58%	2.36
2700MHz	66%	1.85
AVG	59%	2.34

5.2.3 The antenna radiation pattern(2D)/天线辐射方向图 (2D)

700MHz-960MHz

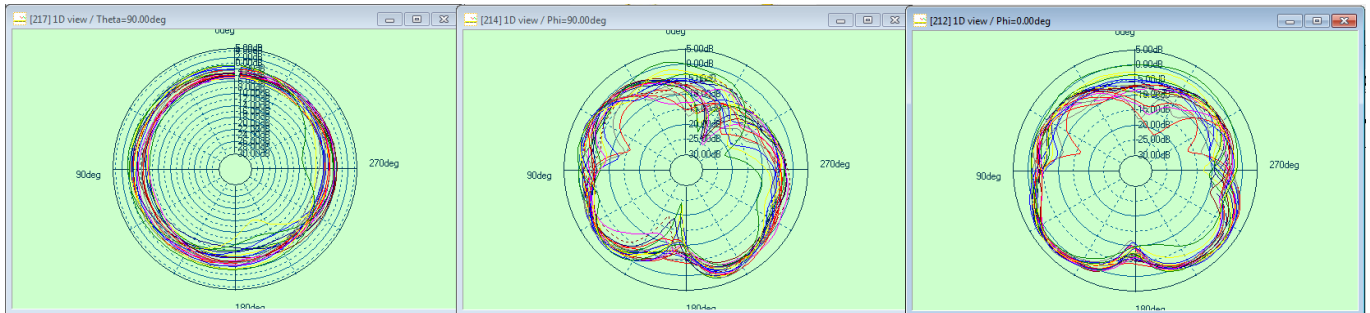


XOY

YOZ

XOZ

1700MHz-2700MHz



XOY

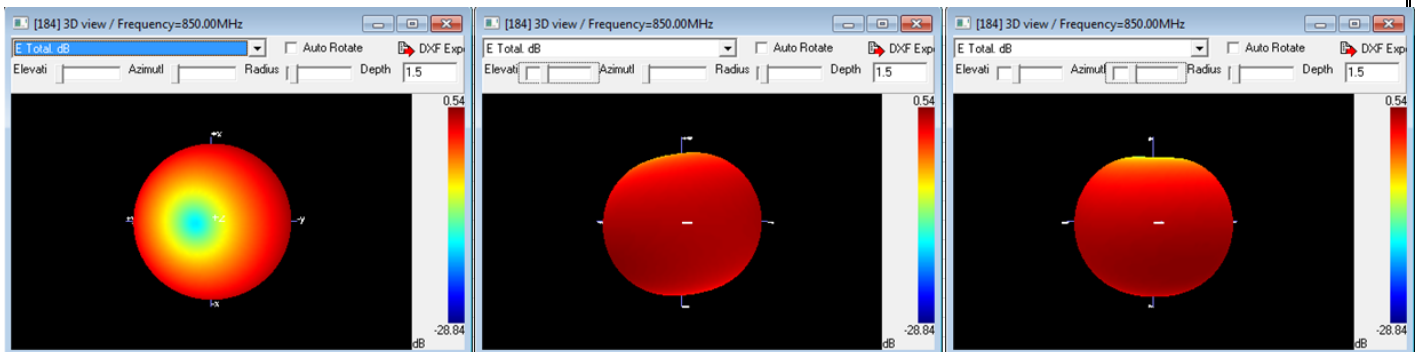
YOZ

XOZ

5.2.4 The antenna radiation pattern(3D)/天线辐射方向图 (3D)

Frequency/频点

850MHz

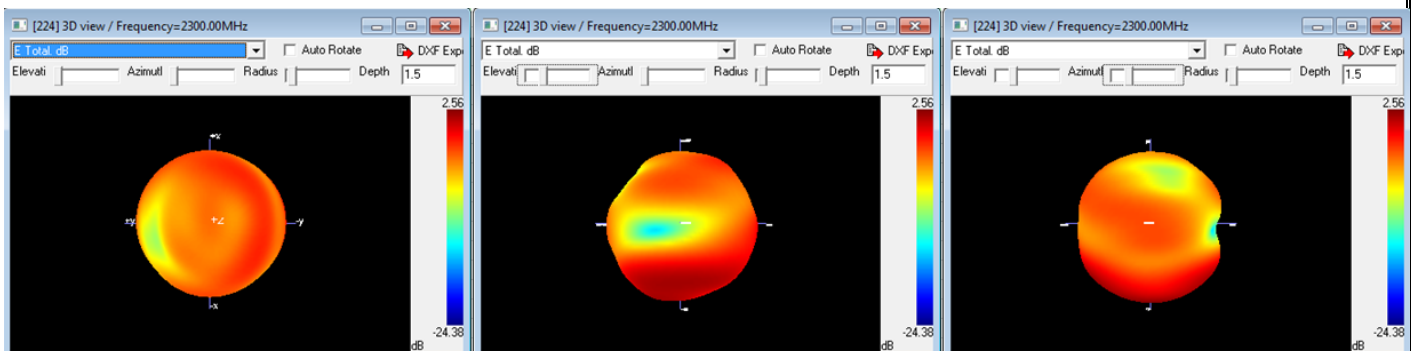


XOY

YOZ

XOZ

Frequency/频点 2300MHz



XOY

YOZ

XOZ

6. OTA test result/OTA 测试结果

Measurement	Band	Channel	Frequency	Total
TRP	FDD_B1	18050	1925	18.98
TRP	FDD_B1	18300	1950	19.6
TRP	FDD_B1	18550	1975	22
TRP	FDD_B3	19250	1715	18.76
TRP	FDD_B3	19575	1747.5	18.41
TRP	FDD_B3	19900	1780	19.53
TRP	FDD_B5	20450	829	24.13
TRP	FDD_B5	20525	836.5	23.75
TRP	FDD_B5	20600	844	23.7
TRP	FDD_B7	20800	2505	19.64
TRP	FDD_B7	21100	2535	19.31
TRP	FDD_B7	21400	2565	18.43
TRP	FDD_B8	21500	885	22.85
TRP	FDD_B8	21625	897.5	22.64
TRP	FDD_B8	21750	910	21.81
TRP	FDD_B20	24200	837	23.53
TRP	FDD_B20	24300	847	23.47
TRP	FDD_B20	24400	857	23.1
TRP	FDD_B26	26740	819	25.19
TRP	FDD_B26	26865	831.5	24.92
TRP	FDD_B26	26990	844	24.04
TRP	FDD_B28	27260	708	19.39
TRP	FDD_B28	27435	725.5	18.85
TRP	FDD_B28	27610	743	19
TRP	TDD_B38	37850	2580	18.2

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TRP	TDD_B38	38000	2595	18.05
TRP	TDD_B38	38150	2610	18.64
TRP	TDD_B39	38350	1890	23.84
TRP	TDD_B39	38450	1900	23.81
TRP	TDD_B39	38550	1910	24.49
TRP	TDD_B40	38750	2310	22.01
TRP	TDD_B40	39150	2350	21.57
TRP	TDD_B40	39550	2390	20.9
TRP	TDD_B41	39750	2506	21.9
TRP	TDD_B41	40620	2593	21.31
TRP	TDD_B41	41490	2680	21.38
TIS with RSSI	FDD_B1	550	2165	97.33
TIS with RSSI	FDD_B3	1900	1875	92.51
TIS with RSSI	FDD_B5	2600	889	92.82
TIS with RSSI	FDD_B7	3400	2685	90.14
TIS with RSSI	FDD_B8	3750	955	91.06
TIS with RSSI	FDD_B20	6400	816	90.23
TIS with RSSI	FDD_B26	8990	889	90.02
TIS with RSSI	FDD_B28	9610	798	91.32
TIS with RSSI	TDD_B38	38150	2610	88
TIS with RSSI	TDD_B39	38550	1910	91.78
TIS with RSSI	TDD_B40	39550	2390	91.66
TIS with RSSI	TDD_B41	41490	2680	94.38
TRP	WCDMA_B1	9612	1922.4	21.24
TRP	WCDMA_B1	9750	1950	21.37
TRP	WCDMA_B1	9888	1977.6	21.53
TRP	WCDMA_B3	937	1712.4	20.48
TRP	WCDMA_B3	1113	1747.6	20.97

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TRP	WCDMA_B3	1288	1782.6	21.99
TRP	WCDMA_B5	4132	826.4	23.11
TRP	WCDMA_B5	4183	836.6	23.18
TRP	WCDMA_B5	4233	846.6	23.12
TRP	WCDMA_B8	2712	882.4	22.53
TRP	WCDMA_B8	2787	897.4	21.78
TRP	WCDMA_B8	2863	912.6	21.65
TIS with RSSI	WCDMA_B1	10838	2167.6	111.19
TIS with RSSI	WCDMA_B3	1513	1877.6	105.65
TIS with RSSI	WCDMA_B5	4458	891.6	108.41
TIS with RSSI	WCDMA_B8	3088	957.6	109.59
TRP	GSM850	128	824.2	28.98
TRP	GSM850	190	836.6	28.86
TRP	GSM850	251	848.8	28.57
TRP	GSM900	975	880.2	28.93
TRP	GSM900	38	897.6	29.57
TRP	GSM900	124	914.8	29.1
TRP	DCS1800	512	1710.2	27.58
TRP	DCS1800	699	1747.6	26.28
TRP	DCS1800	885	1784.8	27.05
TRP	PCS1900	512	1850.2	26.79
TRP	PCS1900	661	1880	25.7
TRP	PCS1900	810	1909.8	25.72
TIS with RSSI	GSM850	251	893.8	105.58
TIS with RSSI	GSM900	124	959.8	103.22
TIS with RSSI	DCS1800	885	1879.8	103.68
TIS with RSSI	PCS1900	810	1989.8	104.55
TRP	CDMA800	1013	824.7	25.79

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TRP	CDMA800	384	836.52	25.63
TRP	CDMA800	777	848.31	24.69
TIS	CDMA800	777	893.31	103.19
TRP	TDSCDMA_A	10054	2010.8	17.6
TRP	TDSCDMA_A	10087	2017.4	17
TRP	TDSCDMA_A	10121	2024.2	16.64
TRP	TDSCDMA_F	9404	1880.8	17.63
TRP	TDSCDMA_F	9500	1900	17.59
TRP	TDSCDMA_F	9596	1919.2	18.17
TIS with RSSI	TDSCDMA_A	10121	2024.2	109.67
TIS with RSSI	TDSCDMA_F	9596	1919.2	109.96