

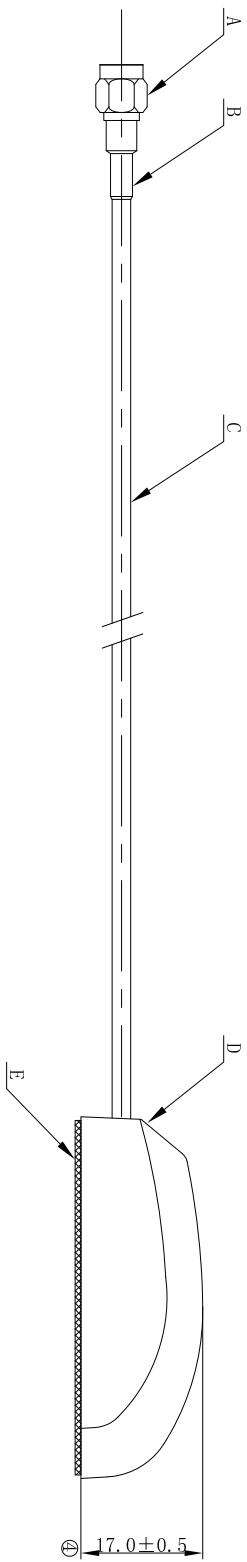
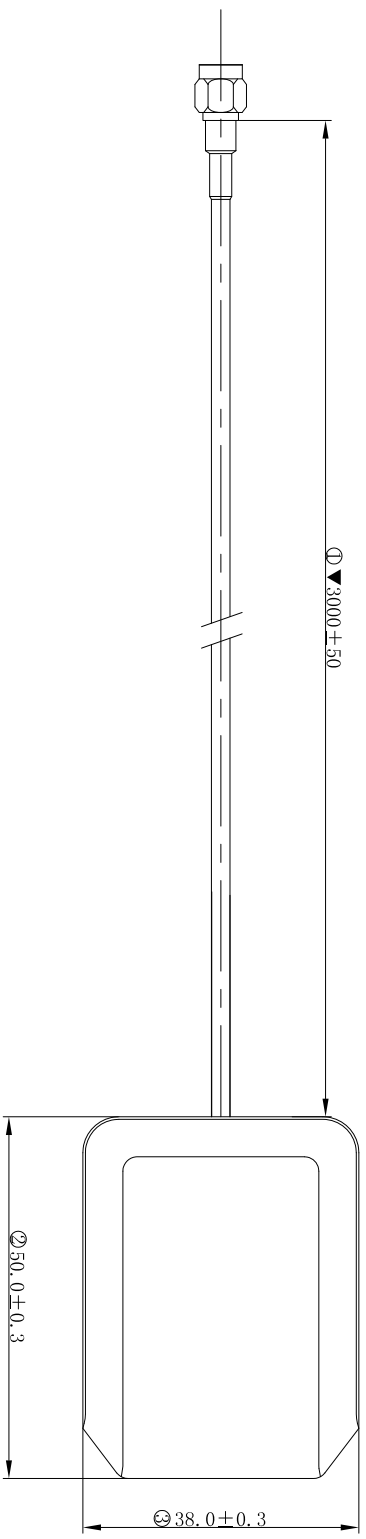
1. Antenna specification/天线标准

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	1575.42MHz、1561 MHz、1602 MHz	
Impedance/阻抗	50 (Ω)	
VSWR/驻波比	≤ 2	
Directional/辐射方向	Omni directional/全向天线	
Polarization/极化形式	Vertical/垂直	
Peak gain/峰值增益	34.6dBi	
Test condition/测试条件	Active test/有源测试	
Total efficiency/有源效率	$\geq 25.5\%$	
Mechanical Specification/机械指标		
Antenna type/天线类型	GPS antenna	
Connector type/连接器类型	SMA-J	
RF cable type/射频线型号	RG174	
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	

2. Antenna picture/天线图片



REV.	ECN NUMBER	DESCRIPTION	DATE	DRAWN	CHECKED	APPROVED
X1	ECN211759	初版发行	03/08'22	梁克泉	丁第斌	牛宝星

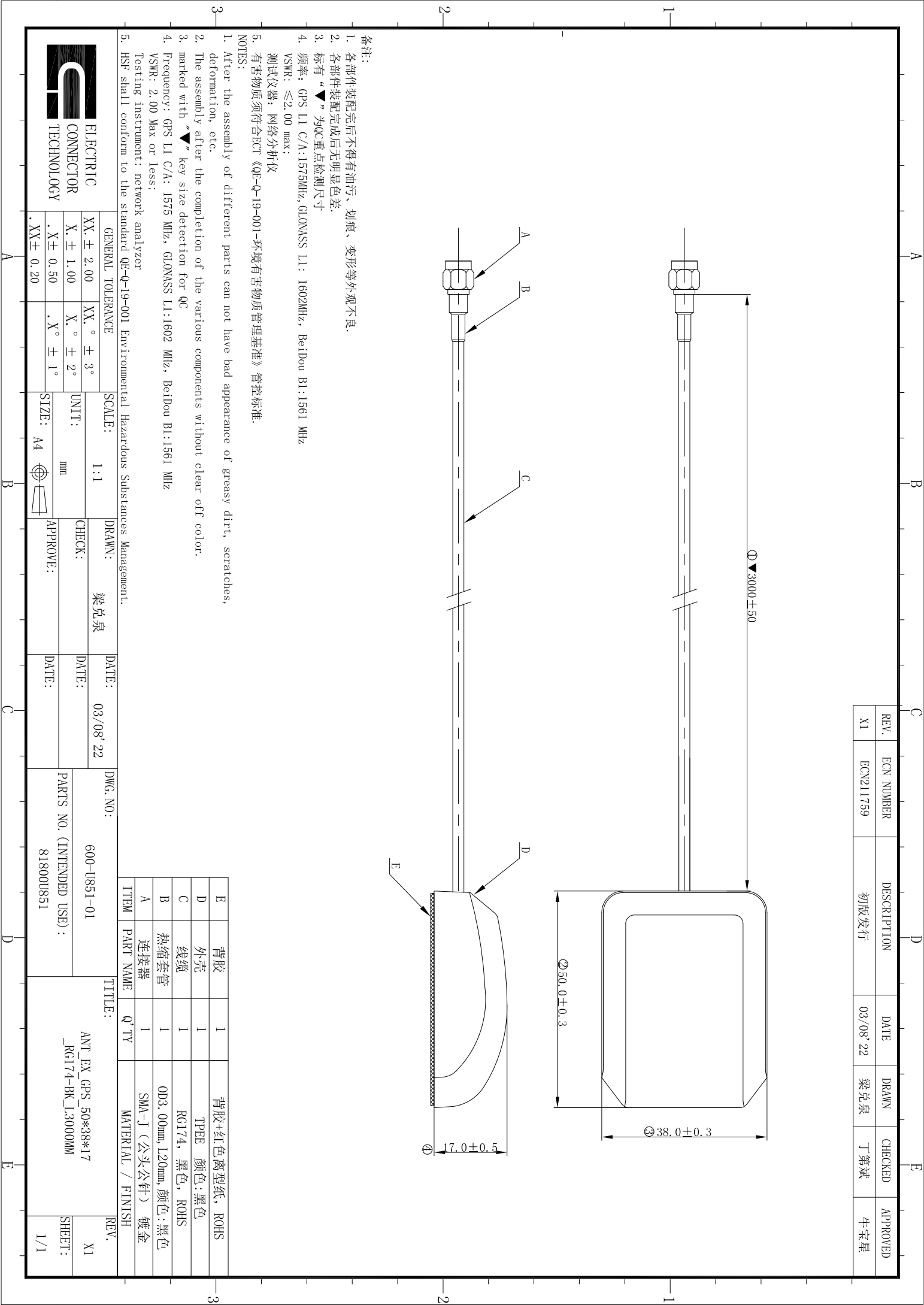


- 备注:
1. 各部件装配完后不得有油污、划痕、变形等外观不良。
 2. 各部件装配完成后无明显色差。
 3. 标有“▼”为QC重点检测尺寸
 4. 频率: GPS L1 C/A: 1575MHz, GLONASS L1: 1602MHz, BeiDou B1: 1561 MHz
VSWR: ≤2.00 max;
 5. 测试仪器: 网络分析仪
 6. 有害物质须符合ECT《QE-Q-19-001-环境有害物质管理基准》管控标准。

- NOTES:
1. After the assembly of different parts can not have bad appearance of greasy dirt, scratches, deformation, etc.
 2. The assembly after the completion of the various components without clear off color.
 3. marked with “▼” key size detection for QC
 4. Frequency: GPS L1 C/A: 1575 MHz, GLONASS L1: 1602 MHz, BeiDou B1: 1561 MHz
VSWR: 2.00 Max or Less;
 5. HSF shall conform to the standard QE-Q-19-001 Environmental Hazardous Substances Management.

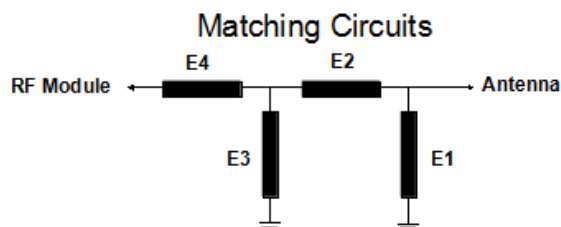
E	D	C	B	A
背胶	外壳	线缆	热缩套管	连接器
1	1	1	1	1
背胶+红色离型纸, ROHS	TPEE 颜色: 黑色	RG174, 黑色, ROHS	OD3.00mm, L20mm, 颜色: 黑色	SMA-J (公头公针) 镀金
ITEM		PART NAME		Q'TY
		MATERIAL / FINISH		

	GENERAL TOLERANCE	SCALE: 1:1	DRAWN: 梁克泉	DATE: 03/08'22	DWG. NO.: 600-U851-01	TITLE: ANT_EX_GPS_50*38*17_R6174-BK_L3000MM	REV. X1
	XX. ± 2.00 X. ± 1.00 .X ± 0.50 .XX ± 0.20	XX. ° ± 3° X. ° ± 2° .X ° ± 1°	UNIT: mm	CHECK:	DATE:	PARTS NO. (INTENDED USE): 818000851	SHEET: 1/1
SIZE: A4		APPROVE:	DATE:				



4. Antenna test result/测试结果

4.1 The matching circuits/匹配电路



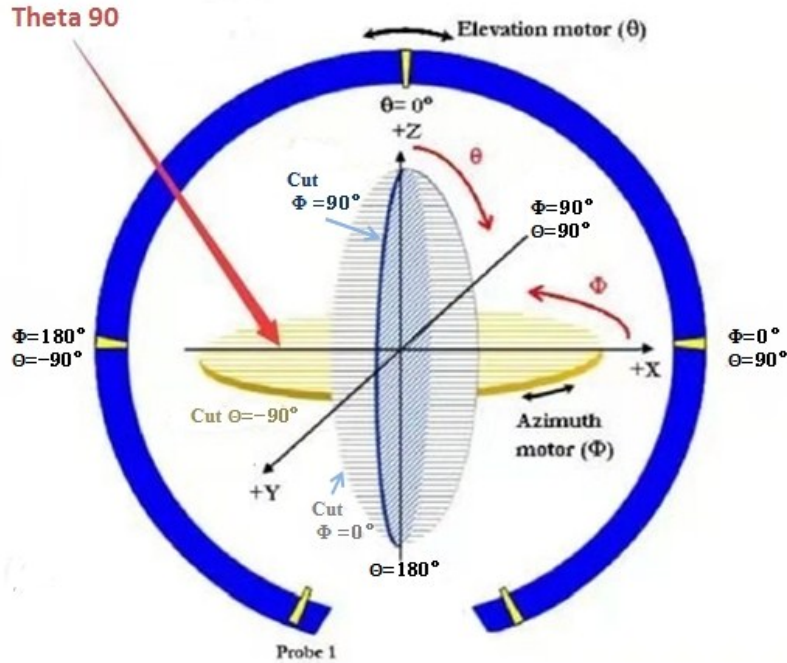
Element	Value
E1(0201)	NC
E2(0201)	0Ω
E3(0201)	NC
E4(0201)	0Ω

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



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

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



The coordinate system of Chamber/暗室坐标系

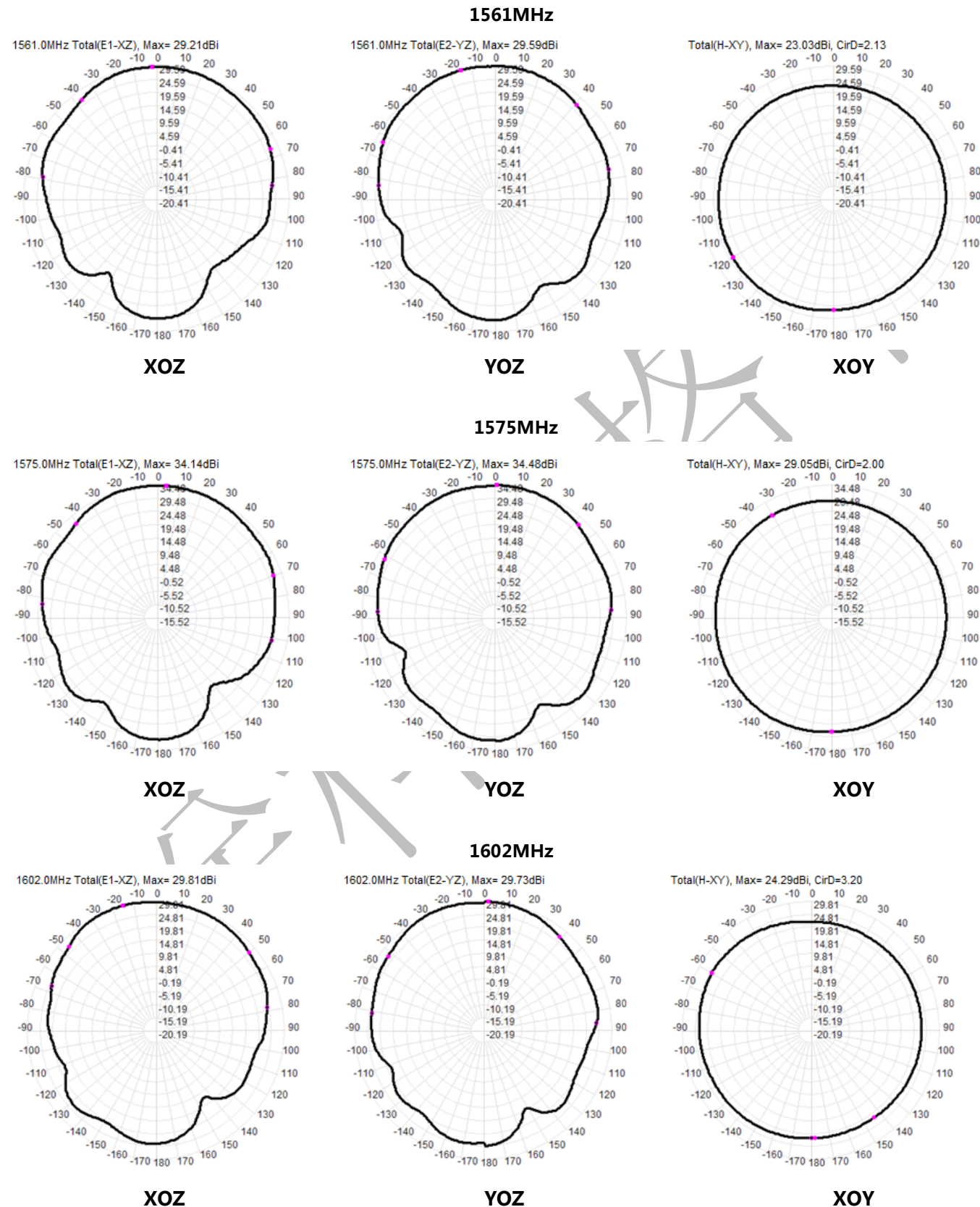


The production test position/天线测试放置位置

4.3.2 The test result of total efficiency and total gain/天线效率及增益测试结果
1555MHz-1610MHz

Frequency	Efficiency (%)	Gain (dBi)
1555.0	22.72	28.29
1557.0	23.18	28.68
1559.0	23.58	29.14
1561.0	24.12	29.60
1563.0	24.76	30.28
1565.0	25.47	31.03
1567.0	26.27	31.75
1569.0	27.11	32.54
1571.0	27.95	33.34
1573.0	28.75	33.97
1575.0	29.29	34.48
1577.0	29.30	34.60
1579.0	28.77	34.19
1580.0	28.33	33.89
1582.0	27.22	32.92
1584.0	26.24	32.08
1586.0	25.38	31.39
1588.0	24.72	30.88
1590.0	24.29	30.56
1592.0	24.05	30.37
1594.0	23.84	30.13
1596.0	23.72	29.97
1598.0	23.75	29.85
1600.0	23.80	29.90
1602.0	23.93	30.06
1604.0	24.30	30.29
1606.0	24.69	30.67
1608.0	24.92	30.64
1610.0	25.00	30.95
AVG	25.50	34.6

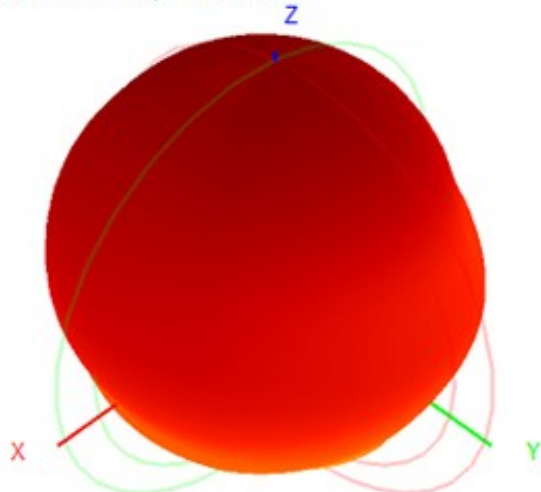
4.3.3 The antenna radiation pattern(2D View)/天线辐射方向图 (2D View)



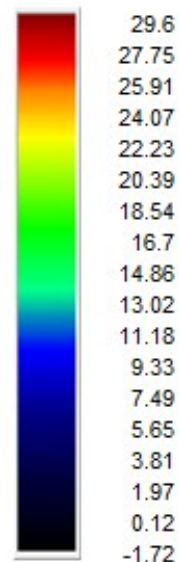
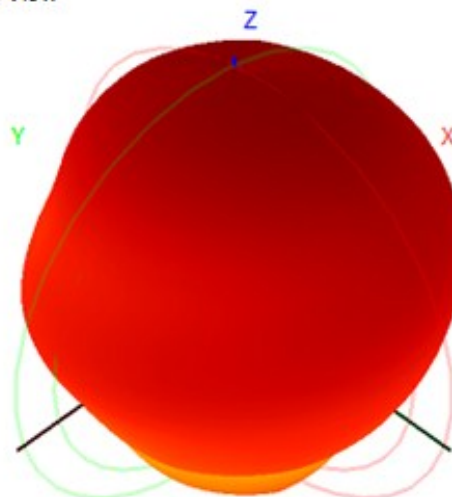
4.3.4 The antenna radiation pattern(3D View)/天线辐射方向图 (3D View)

Frequency/频点 1561MHz

1561.0MHz H+V, Eff: 25849.1%

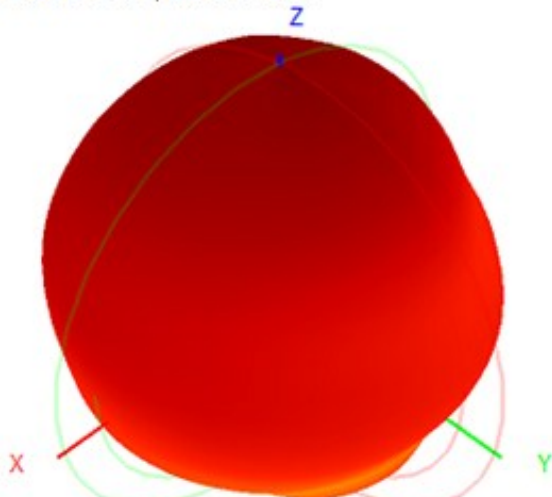


Back View

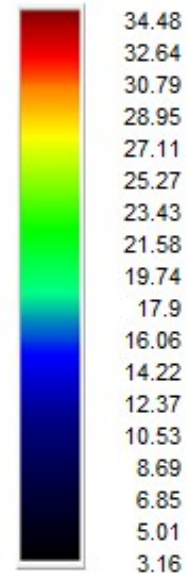
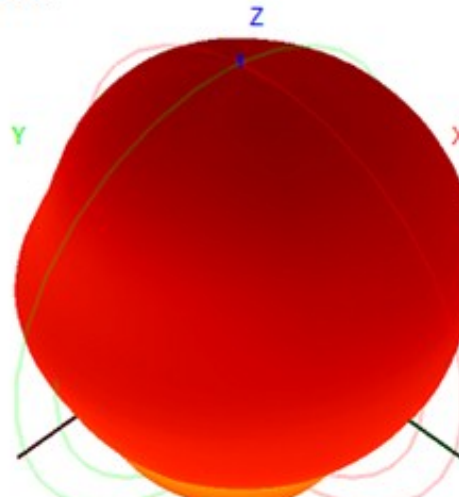


Frequency/频点 1575MHz

1575.0MHz H+V, Eff: 84976.6%



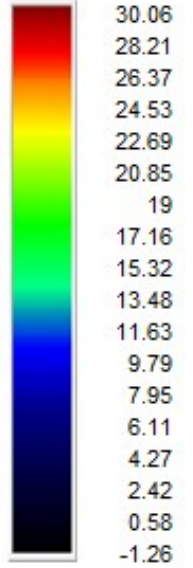
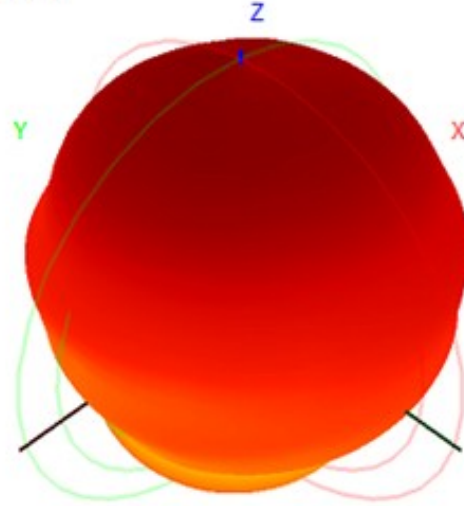
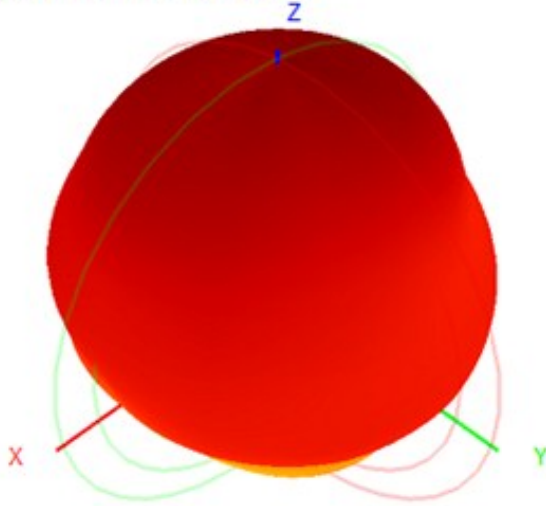
Back View



Frequency/频点 1602MHz

1602.0MHz H+V, Eff. 24718.3%

Back View



海泰规范