

**1. Antenna specification/天线标准**

<b>Antenna specification/天线技术参数</b>		
<b>Electrical specification/电气特性</b>		
<b>Item/目录</b>	<b>Specification/规格</b>	<b>Comment/备注</b>
Freq. range/频段范围	600-960MHZ/1710-2690MHZ 3300-5000MHZ	
Impedance/阻抗	50 ( $\Omega$ )	
VSWR/驻波比	$\leq 3.5$	
Directional/辐射方向	Omni directional	
Polarization/极化形式	Vertical	
Peak gain/峰值增益	0.9 (dBi)/2.8(dBi)/4.9(dBi)	
Test condition/测试条件	passive test ( 无源测试 )	
Total efficiency/无源效率	$\geq 30\%$ / $\geq 50\%$ / $\geq 60\%$	
<b>Mechanical Specification/机械指标</b>		
Antenna type/天线类型	Omni antenna	
Connector type/连接器类型	N-J	
RF cable type/射频线型号	RG-141	
Connector torque test/连接器扭力	N/A	
Connector pull test/连接器拉力	$\geq 3.0\text{Kgf}$	
Salt spray/盐雾测试	48(H)	
Waterproof grade/防水等级	IP66	对锁母头后测试
<b>Environmental specification /环境指标</b>		
Operating temp/工作温度	$-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$	
Storage temp/存储温度	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$	

**2. Antenna picture/天线图片**



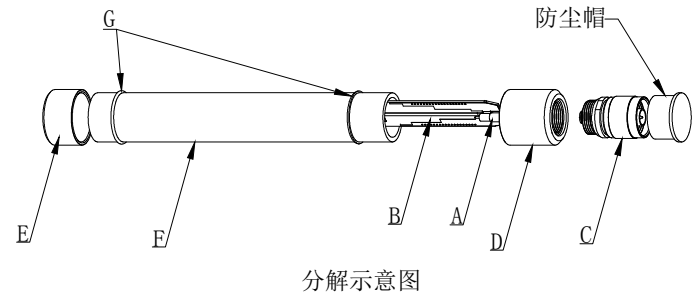
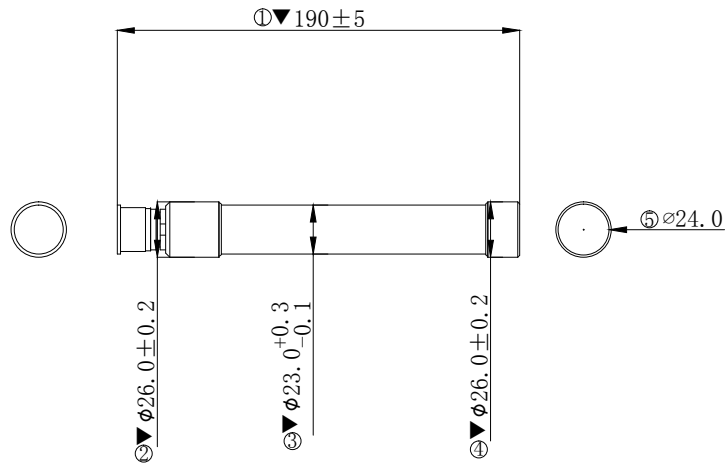
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处

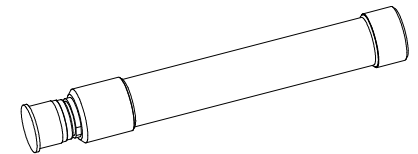
插入天线图片

**3. DWG/工程图纸**

REV.	ECN NUMBER	DESCRIPTION	DATE	DRAWN	CHECKED	APPROVED
X1	ECN231366	REASE FOR PRODUCTION	05/22' 23	刘晓峰	丁第斌	牛宝星



分解示意图



3D示意图

NOTES:

1. NO OBVIOUS INDENTATION, NO BURR, SCRATCHES, DEFORMATION AND OTHER BAD.
2. SALT SPRAY:48H.
3. VSWR TEST:600-960MHz≤3.5, 1710-2690MHz≤3.5  
3300-5000MHz≤3.5.
4. MARK "⊕" WAS FAI DIMENSIONS.
5. MARK "▼" WAS CRITICAL DIMENSIONS.
6. HSF SHALL CONFORM TO THE STANDARD QE-Q-19-001 ENVIRONMENTAL HAZARDOUS SUBSTANCES MANAGEMENT.

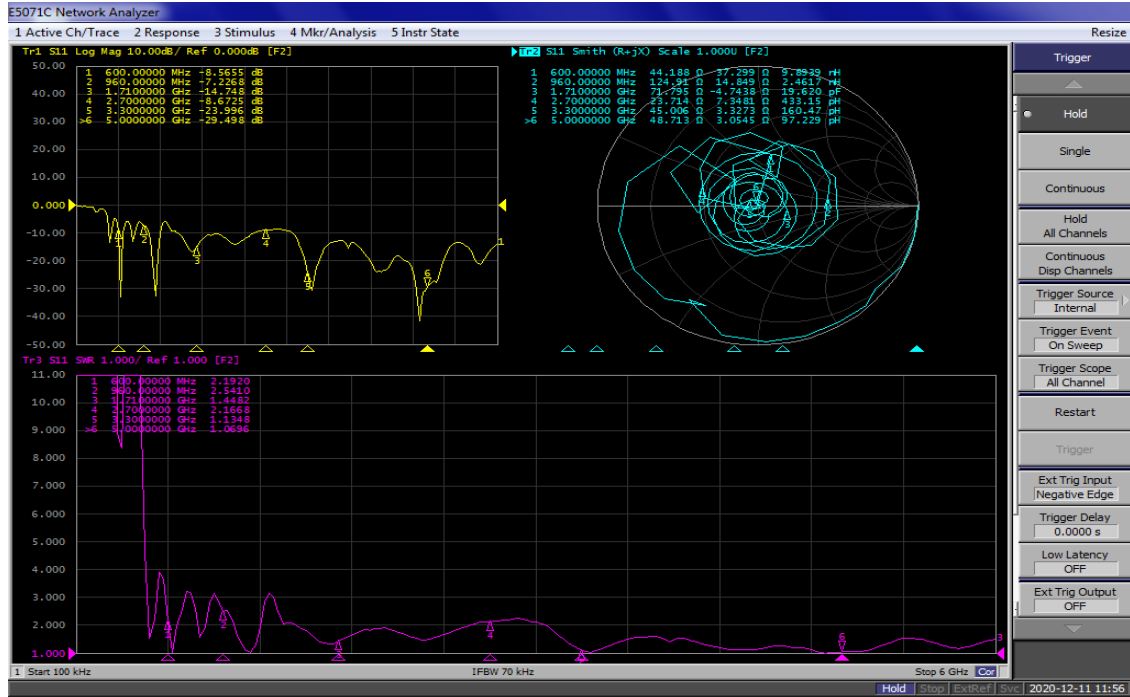
G	胶水	1	AB胶, NO. 660-4, 50ML/支, 华麟电子
F	玻璃钢管	1	玻璃钢管, 白色, OD23*158mm
E	顶帽	1	顶帽, 15*OD26mm, 接OD23mm玻璃钢, 48H盐雾
D	铝管固定件	1	铝管固定件, OD26*25mm, 接OD23mm玻璃钢, 48H盐雾
C	N头连接器	1	N公头公针, FOR RG141, 主体黄铜镀镍, 中心针镀金, 48H盐雾
B	PCB	1	PCB_FR4双面板_绿油_121.6*18.1*T1.0mm
A	CABLE	1	RG141/50欧姆, 镀银铜线, 蓝色表皮, L=44MM
ITEM	PART NAME	Q' TY	MATERIAL / FINISH

	GENERAL TOLERANCE		SCALE: 1:1	DRAWN: 刘晓峰	DATE: 05/22' 23	DWG. NO: 600-V371-01	TITLE: ANT_EX_0650_HG26*190mm_N-J	REV. X1
	X±0.20	X.°±1°	UNIT: mm	CHECK:	DATE:	PARTS NO. (INTENDED USE): 81800V371	Customer Figure	SHEET: 1/1
	.XX±0.10	XX.°±1°	SIZE: A4	APPROVE:	DATE:			

## 4. Antenna test result/测试结果

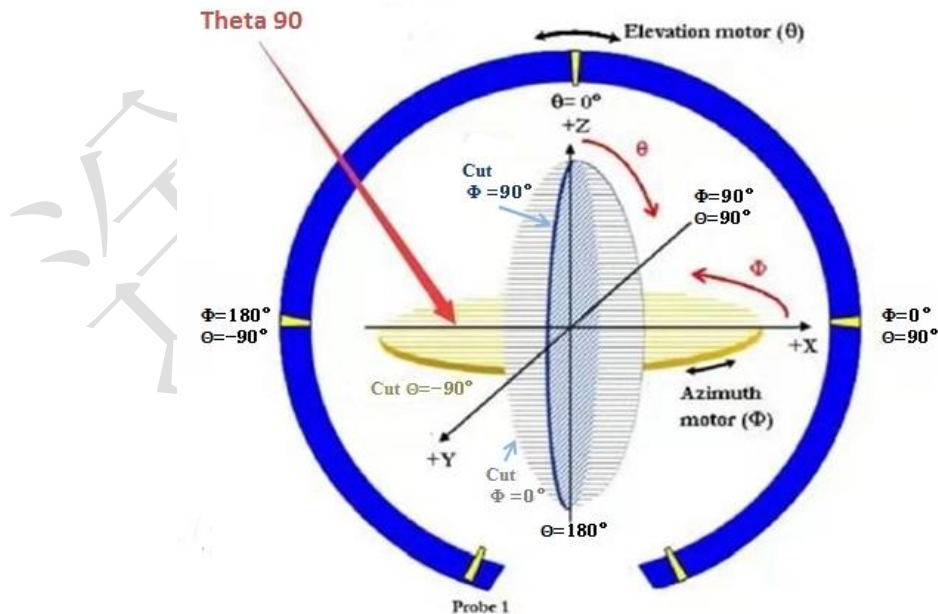
### 4.1 Return loss/Smith chart/VSWR/回波损耗/史密斯图/驻波比

600-5000MHZ

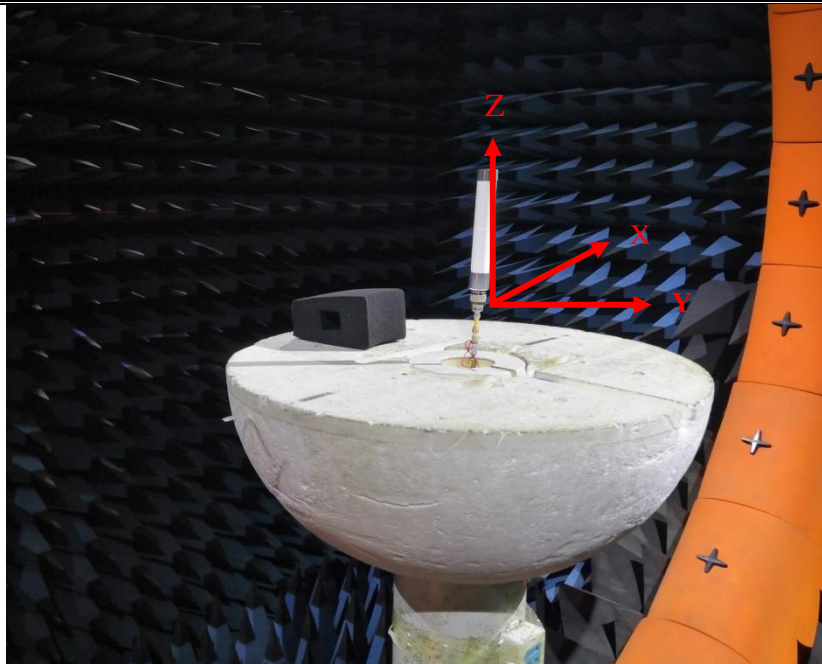


### 4.2 The gain and total efficiency test/增益和效率测试

#### 4.2.1 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

#### 4.2.2 The test result of total efficiency and total gain/天线效率及增益测试结果

600-960MHZ					
Frequency / MHz	Efficiency / %	Gain/ dBi	Frequency / MHz	Efficiency / %	Gain/ dBi
600MHz	33%	-1.24	800MHz	35%	0.22
620MHz	35%	-0.89	820MHz	35%	0.19
640MHz	35%	-0.53	840MHz	35%	0.41
660MHz	34%	-0.56	860MHz	35%	0.38
680MHz	33%	-0.49	880MHz	35%	0.44
700MHz	34%	-0.19	900MHz	35%	0.21
720MHz	38%	0.28	920MHz	35%	0.31
740MHz	38%	0.54	940MHz	37%	0.64
760MHz	37%	0.53	960MHz	38%	0.93
780MHz	35%	0.54			

## 1710-2700MHZ

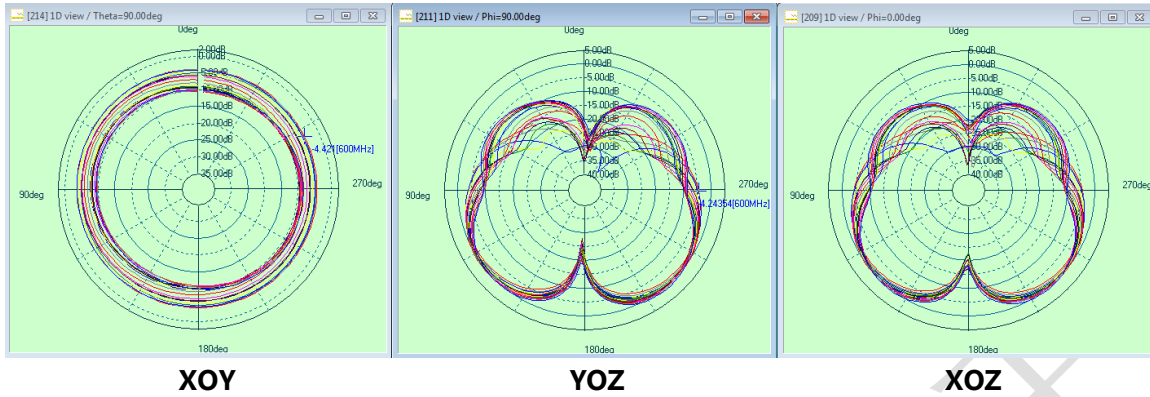
Frequency / MHz	Efficiency / %	Gain/ dBi	Frequency / MHz	Efficiency / %	Gain/ dBi
1710MHz	80%	1.59	2220MHz	65%	2.79
1740MHz	81%	1.85	2250MHz	66%	2.83
1770MHz	82%	1.94	2280MHz	71%	2.77
1800MHz	87%	2.25	2310MHz	73%	2.39
1830MHz	90%	2.53	2340MHz	72%	2.14
1860MHz	85%	2.58	2370MHz	69%	1.80
1890MHz	82%	2.38	2400MHz	74%	2.01
1920MHz	83%	2.51	2430MHz	74%	2.16
1950MHz	80%	2.54	2460MHz	68%	1.83
1980MHz	73%	2.24	2490MHz	64%	1.46
2010MHz	61%	1.74	2520MHz	62%	1.34
2040MHz	61%	1.93	2550MHz	61%	1.55
2070MHz	62%	2.30	2580MHz	59%	1.29
2100MHz	62%	2.51	2610MHz	54%	0.93
2130MHz	62%	2.52	2640MHz	53%	1.06
2160MHz	63%	2.72	2670MHz	52%	1.10
2190MHz	67%	3.00	2700MHz	53%	1.41

## 3300-5000MHZ

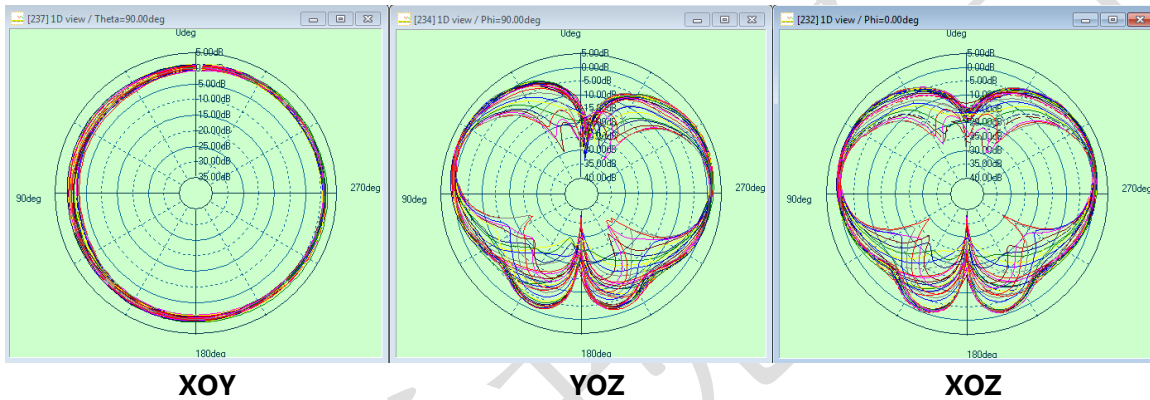
Frequency / MHz	Efficiency / %	Gain/ dBi	Frequency / MHz	Efficiency / %	Gain/ dBi
3300MHz	70%	3.21	4200MHz	78%	4.72
3350MHz	70%	3.21	4250MHz	83%	4.95
3400MHz	75%	3.68	4300MHz	82%	4.71
3450MHz	74%	3.74	4350MHz	82%	4.84
3500MHz	68%	3.15	4400MHz	79%	4.13
3550MHz	66%	3.26	4450MHz	76%	3.50
3600MHz	69%	3.18	4500MHz	78%	3.69
3650MHz	72%	3.46	4550MHz	78%	3.55
3700MHz	72%	3.40	4600MHz	75%	3.68
3750MHz	74%	3.72	4650MHz	75%	3.61
3800MHz	70%	3.67	4700MHz	74%	3.96
3850MHz	64%	3.58	4750MHz	74%	3.91
3900MHz	67%	3.66	4800MHz	73%	3.72
3950MHz	72%	4.07	4850MHz	73%	3.88
4000MHz	72%	4.23	4900MHz	66%	3.29
4050MHz	71%	4.17	4950MHz	61%	2.74
4100MHz	73%	4.40	5000MHz	61%	3.18
4150MHz	76%	4.62			

## 4.2.3 The antenna radiation pattern(1D View)/天线辐射方向图 ( 1D View )

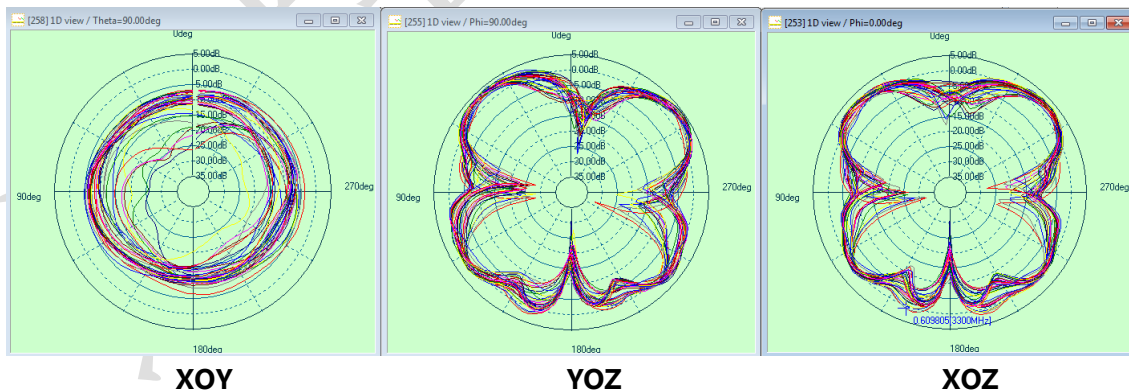
### 600-960MHz



### 1710-2700MHz

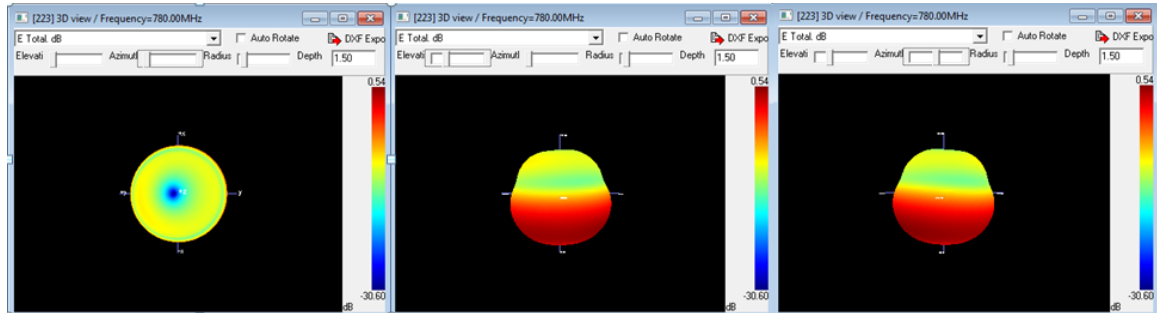


### 3300-5000MHz



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

### 600-960MHZ

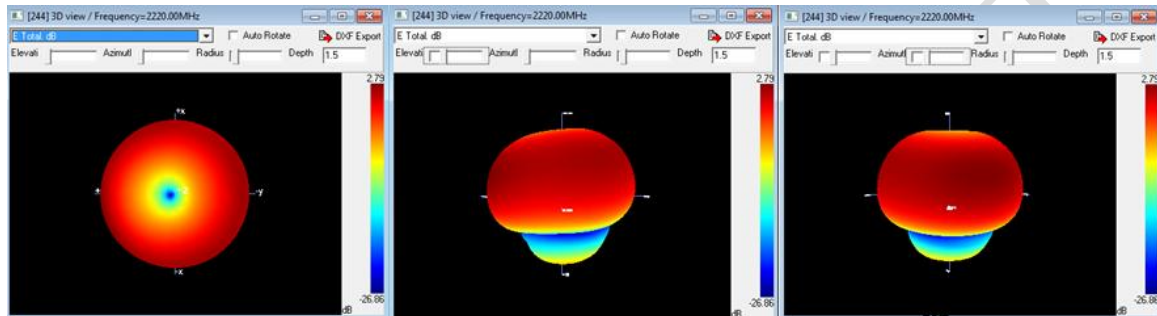


XOY

YOZ

XOZ

### 1710-2700MHZ

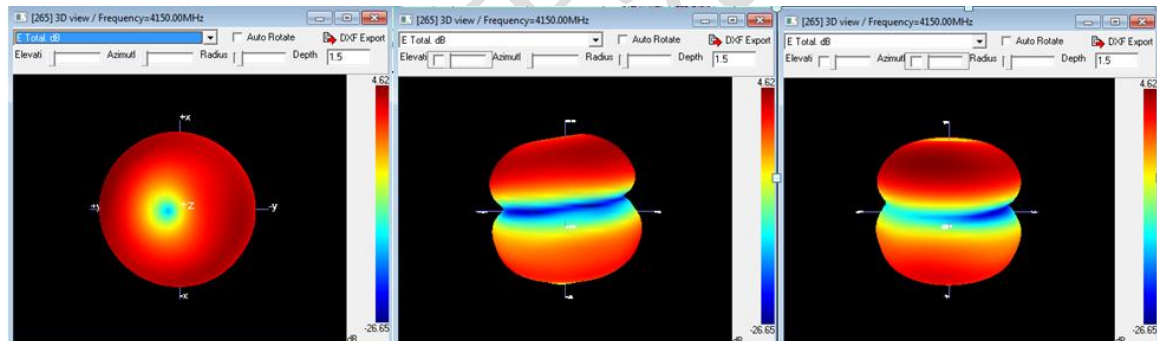


XOY

YOZ

XOZ

### 3300-5000MHZ



XOY

YOZ

XOZ