



弗迪科技
FinDreams Technology

5G WIFI 天线

5G WIFI Antenna

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弗迪科技有限公司

FinDreams Technology

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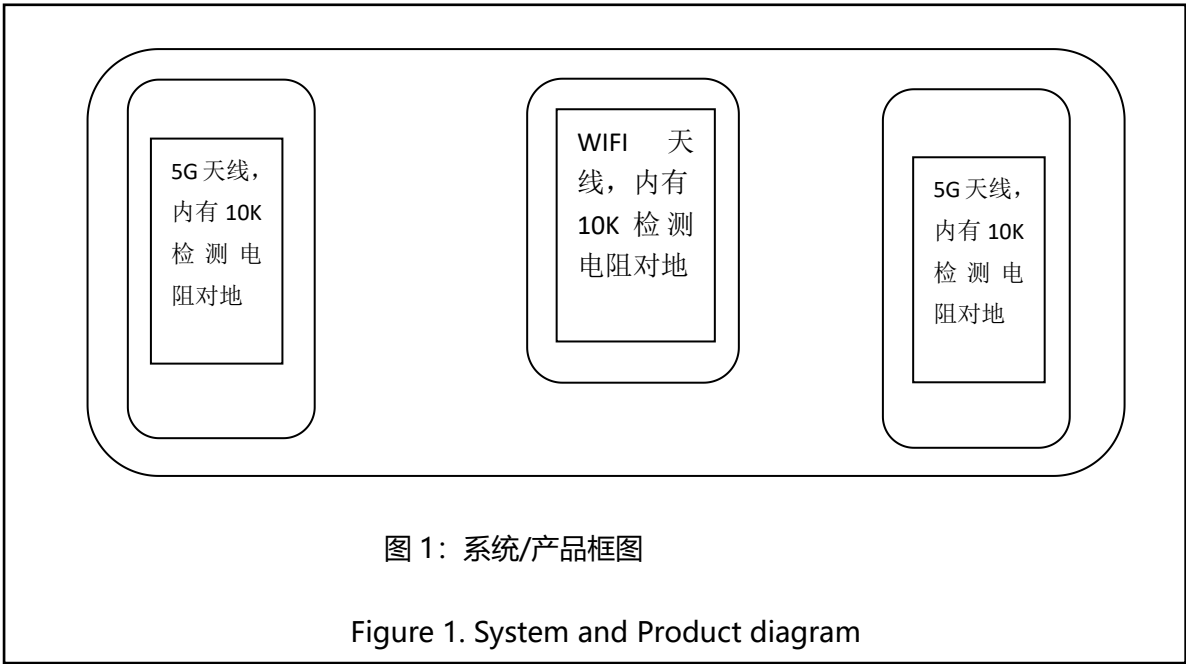
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1 产品概述 General Description

1.1 概述 Application

该 5G 多合一天线包含：5G 主天线*1；5G 副天线*1；WIFI 天线*1。

1.2 系统/产品框图 System and Product diagram



1.3 外形尺寸图 Mechanical Dimensions



1.4 引脚定义

5G Antenna Product Specification

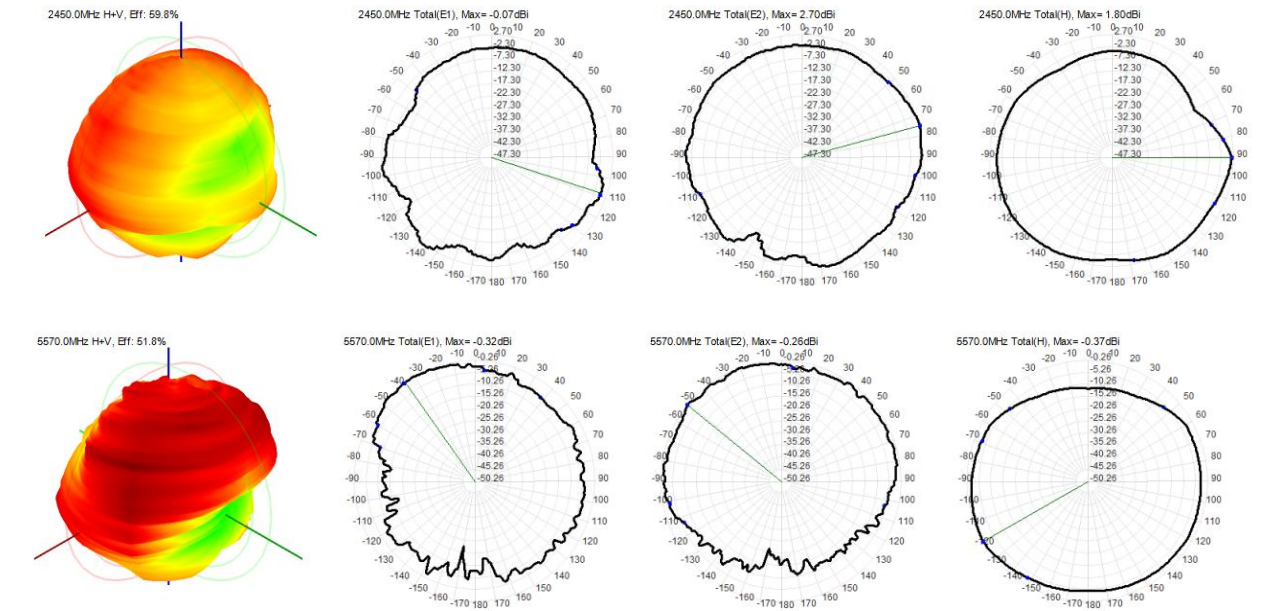
序号	使用位置	电器端			
			连接器型号	附件	品牌
1	5G 主天线		59S2AQ -40MT5-E_1	/	罗森博格
2	WIFI 天线		59S2AQ-40MT5-K_1	/	罗森博格
3	5G 副天线		59S2AQ -40MT5-B_1	/	罗森博格

2 产品参数 Product Specification

2.1 WIFI 天线

效率 Efficiency

	频率	回波损耗（S11）	效率（Efficiency）	
Wifi	@2.4G;	$\leq -10\text{dB}$	$\geq 45\%$	
	@5G	$\leq -6\text{dB}$	$\geq 40\%$	



Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-2.13	-2.44	-2.18	-2.02	-2.04	-2.23	-1.86	-1.96	-2.11	-2.66	-2.30
Efficiency (%)	61.17	56.97	60.52	62.78	62.45	59.79	65.11	63.64	61.49	54.26	58.85

5G Antenna Product Specification

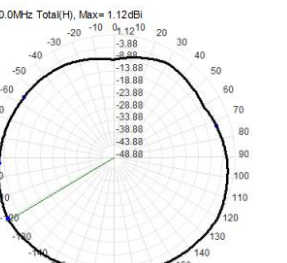
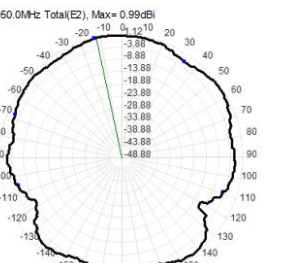
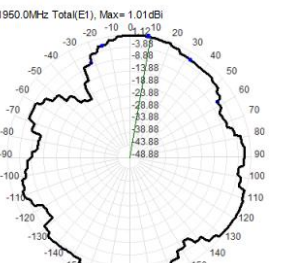
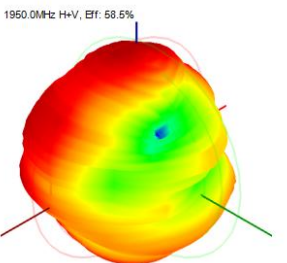
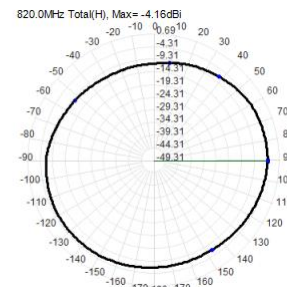
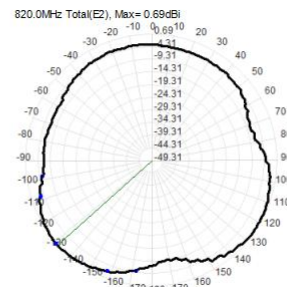
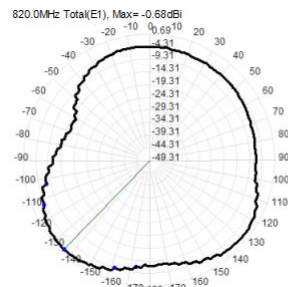
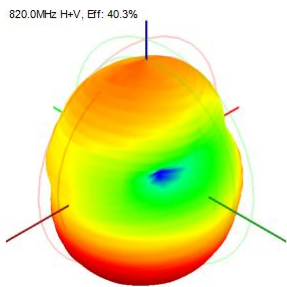
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Frequency (MHz)	5150.0	5185.0	5220.0	5255.0	5290.0	5325.0	5360.0	5395.0	5430.0	5465.0	5500.0	5535.0	5570.0	5605.0
Efficiency (dBi)	-3.08	-3.34	-4.63	-3.71	-3.63	-3.50	-3.85	-2.63	-2.37	-2.07	-2.40	-3.29	-2.86	-3.20
Efficiency (%)	49.23	46.38	34.47	42.60	43.33	44.72	41.22	54.59	57.96	62.09	57.57	46.87	51.82	47.85

Frequency ID	15	16	17	18	19	20	21							
Frequency (MHz)	5675.0	5710.0	5745.0	5780.0	5815.0	5850.0	5925.0							
Efficiency (dBi)	-3.37	-2.18	-2.09	-2.14	-4.58	-3.03	-3.59							
Efficiency (%)	46.05	60.50	61.74	61.04	34.80	49.81	43.72							

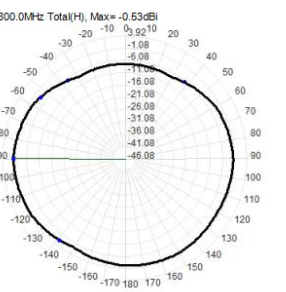
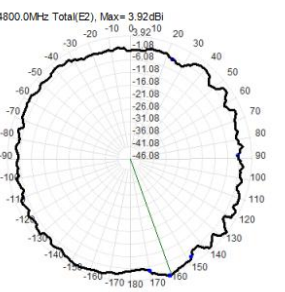
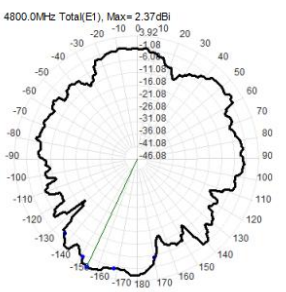
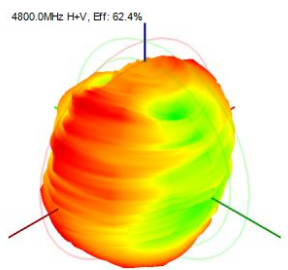
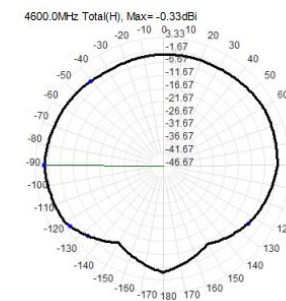
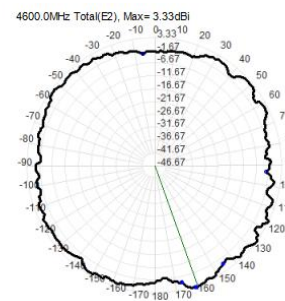
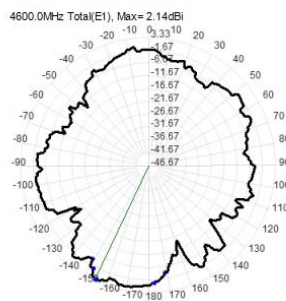
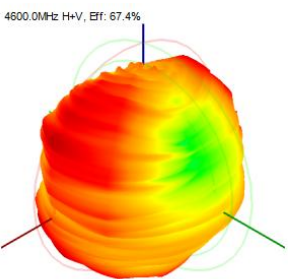
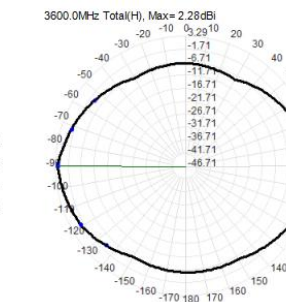
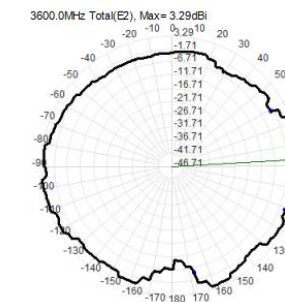
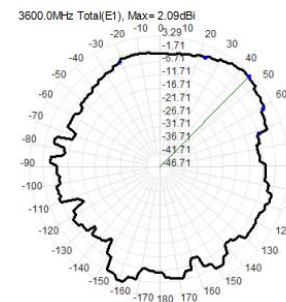
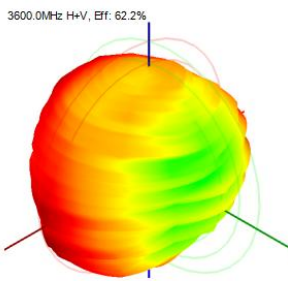
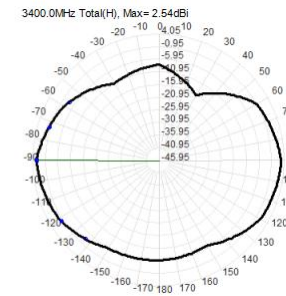
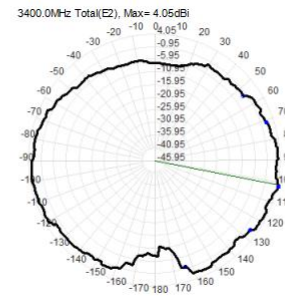
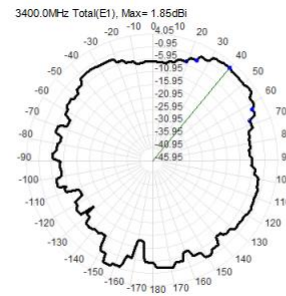
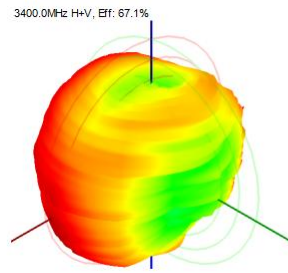
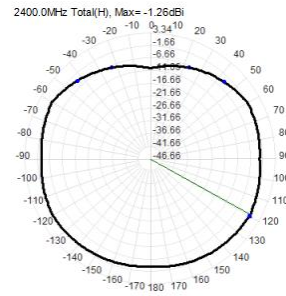
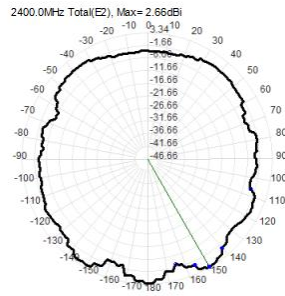
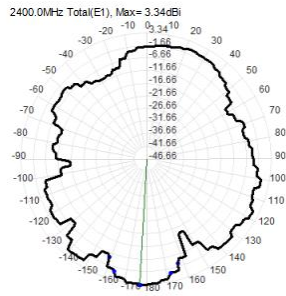
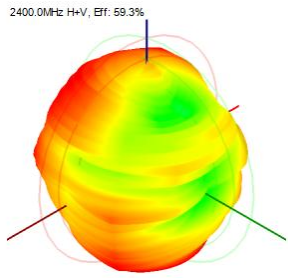
2.2 5G 天线

效率 Efficiency

5G 天线	700MHz~ 960 MHz	1.71~2.69GHz; 3.3~3.8GHz; 4.4~5GHz
5G 主天线	Ave $\geq$ 35%	Ave $\geq$ 50%@1.71~2.69GHz; 3.3~3.8GHz; Ave $\geq$ 45%@4.4~5GHz
5G 副天线	Ave $\geq$ 35%	Ave $\geq$ 45%@1.71~2.69GHz; 3.3~3.8GHz; Ave $\geq$ 40%@4.4~5GHz



5G Antenna Product Specification



Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Frequency (MHz)	700	720	740	760	780	800	820	840	860	880	900	920	940	960
Efficiency (dBi)	-2.5	-3.26	-3.45	-4.03	-4.3	-4.05	-3.95	-3.83	-3.17	-3.02	-3.42	-2.93	-2.67	-3.08
Efficiency (%)	56.21	47.24	45.19	39.53	37.12	39.39	40.28	41.4	48.15	49.85	45.49	50.94	54.12	49.2

5G Antenna Product Specification

Frequency ID	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Frequency (MHz)	1710	1740	1770	1800	1830	1860	1890	1920	1950	1980	2010	2040	2070	2100
Efficiency (dBi)	-2.08	-2.21	-2.33	-2.15	-1.9	-2.37	-2.3	-1.96	-2.33	-1.85	-1.49	-1.98	-2.14	-1.5
Efficiency (%)	61.97	60.14	58.47	60.9	64.53	57.94	58.93	63.74	58.53	65.32	71.04	63.42	61.06	70.75

Frequency ID	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Frequency (MHz)	2130	2160	2190	2220	2250	2280	2310	2340	2370	2400	2430	2460	2490	2520
Efficiency (dBi)	-1.74	-1.81	-1.69	-1.84	-1.74	-1.79	-1.84	-1.72	-1.74	-2.27	-2.08	-1.78	-2.27	-1.96
Efficiency (%)	66.97	65.95	67.82	65.51	67.02	66.16	65.52	67.36	66.98	59.3	61.93	66.35	59.29	63.67

Frequency ID	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Frequency (MHz)	2550	2580	2610	2640	2670	2700	3300.0	3320.0	3340.0	3360.0	3380.0	3400.0	3420.0	3440.0
Efficiency (dBi)	-1.99	-2.51	-2.18	-1.84	-2.09	-2.04	-1.88	-1.98	-1.97	-1.96	-1.93	-1.73	-1.67	-1.99
Efficiency (%)	63.23	56.12	60.47	65.41	61.79	62.59	64.92	63.39	63.52	63.75	64.19	67.08	68.14	63.27

Frequency ID	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Frequency (MHz)	3460.0	3480.0	3500.0	3520.0	3540.0	3560.0	3580.0	3600.0	3620.0	3640.0	3660.0	3680.0	3700.0	3720.0
Efficiency (dBi)	-2.26	-2.21	-1.93	-1.70	-1.67	-1.61	-1.68	-2.07	-2.25	-1.92	-1.58	-1.37	-1.51	-1.41
Efficiency (%)	59.45	60.12	64.07	67.53	68.10	69.01	67.87	62.15	59.57	64.26	69.52	72.97	70.66	72.29

Frequency ID	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Frequency (MHz)	3740.0	3760.0	3760.0	3780.0	3800.0	4400.0	4420.0	4440.0	4460.0	4480.0	4500.0	4520.0	4540.0	4560.0
Efficiency (dBi)	-1.65	-1.66	-1.83	-2.22	-1.95	-1.62	-1.46	-1.65	-1.80	-1.68	-1.45	-1.35	-1.52	-1.60
Efficiency (%)	68.34	68.20	65.64	60.01	63.86	68.89	71.52	68.32	66.11	67.99	71.57	73.27	70.51	69.19

Frequency ID	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Frequency (MHz)	4580.0	4600.0	4620.0	4640.0	4660.0	4680.0	4700.0	4720.0	4740.0	4760.0	4780.0	4800.0	4820.0	4840.0
Efficiency (dBi)	-1.57	-1.72	-1.90	-2.08	-1.98	-1.96	-1.70	-1.42	-1.46	-1.41	-1.62	-2.05	-2.06	-1.89
Efficiency (%)	69.70	67.37	64.62	61.94	63.43	63.63	67.59	72.16	71.49	72.22	68.89	62.43	62.19	64.70

Frequency ID	99	100	101	102	103	104	105	106	107	108	109	110	111	112
Frequency (MHz)	4860.0	4880.0	4900.0	4920.0	4940.0	4960.0	4980.0	5000.0						
Efficiency (dBi)	-1.55	-1.91	-1.97	-1.92	-1.75	-2.50	-2.84	-2.69						
Efficiency (%)	69.93	64.35	63.47	64.22	66.90	56.29	52.01	53.77						

3 可靠性 Reliability

表 9：可靠性规格 Table 9.Reliability Specification		
项目 Items	规格 Specification	备注 Remarks
工作温度 operation temperature	-40°C ~ 85°C	
存储温度 storage temperature	-40°C ~ 90°C	
高温耐久 High Temperature operation	85°C 600h	
低温工作 Low Temperature operation	-40°C 48h(低温保存 24h, 启动工作 24h)	
恒定湿热 Constant Thermal and Humidity	85°C, 85%, 280h	
冷热冲击 Thermal Shock	85°C, -40°C, 温度保持 30min, 170 个循环 85°C, -40°C, 30min, 170 cycles	
振动 vibration	加速度有效值: 27.4m/s ²	
机械冲击 Mechanical Shock	冲击形式: 半正弦, 峰值加速度: 2 5 g , 脉冲时间 10ms, 冲击次数: X、Y、Z 三个 轴向的每个方向各 400 次, 总共 2400 次。	
ESD	接触放电 Contact discharge ±6kV 空气放电 Air discharge ±15kV	

4 安装推荐 Installation recommendation

天线水平安装，下方非金属，如果是金属，需要距离 15mm 以上。

天线上方不允许有金属遮挡

远离强干扰源

Antenna horizontal installation

No metal shielding is allowed above the antenna

Keep away from radiation sources