

STE-7903840 5G WIFI 天线

STE-7903840 5G WIFI Antenna

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第十五事业部

Division 15

STE 5G WiFi Antenna Product Specification

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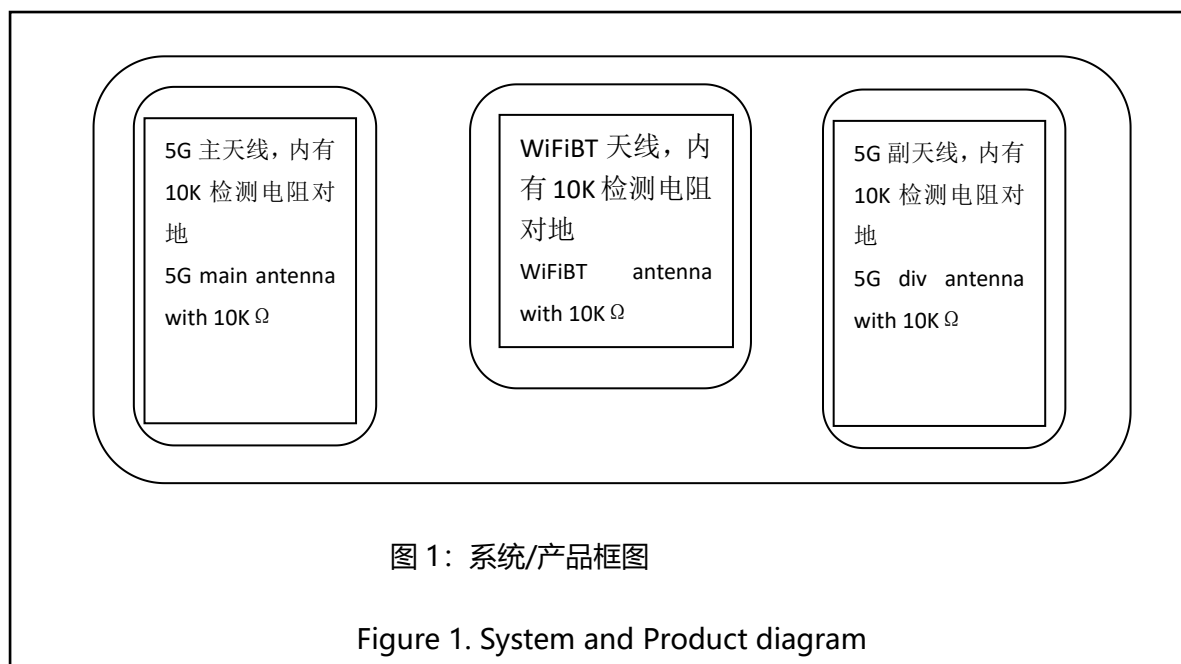
1 产品概述 General Description

1.1 概述 Application

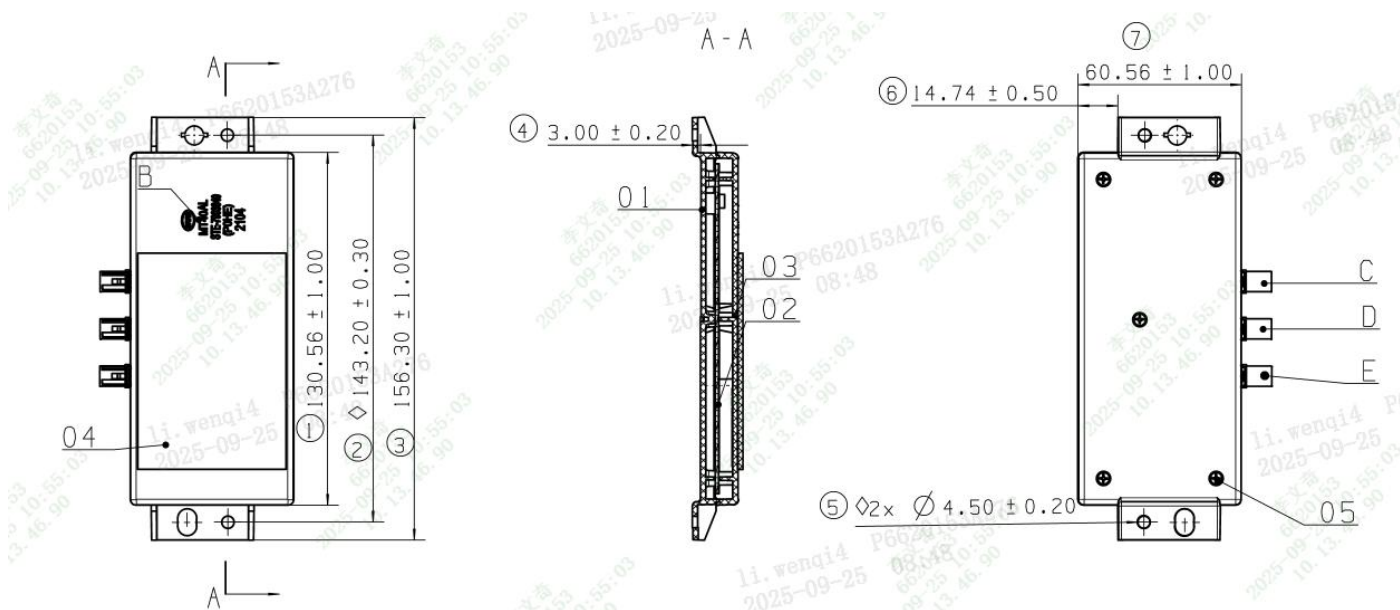
该 5G 多合一天线包含：5G 主天线*1；5G 副天线*1；WiFiBT 天线*1。

Antenna setup: 5G main antenna ×1, 5G div antenna ×1, WiFiBT antenna ×1.

1.2 系统/产品框图 System and Product diagram



1.3 外形尺寸图 Mechanical Dimensions



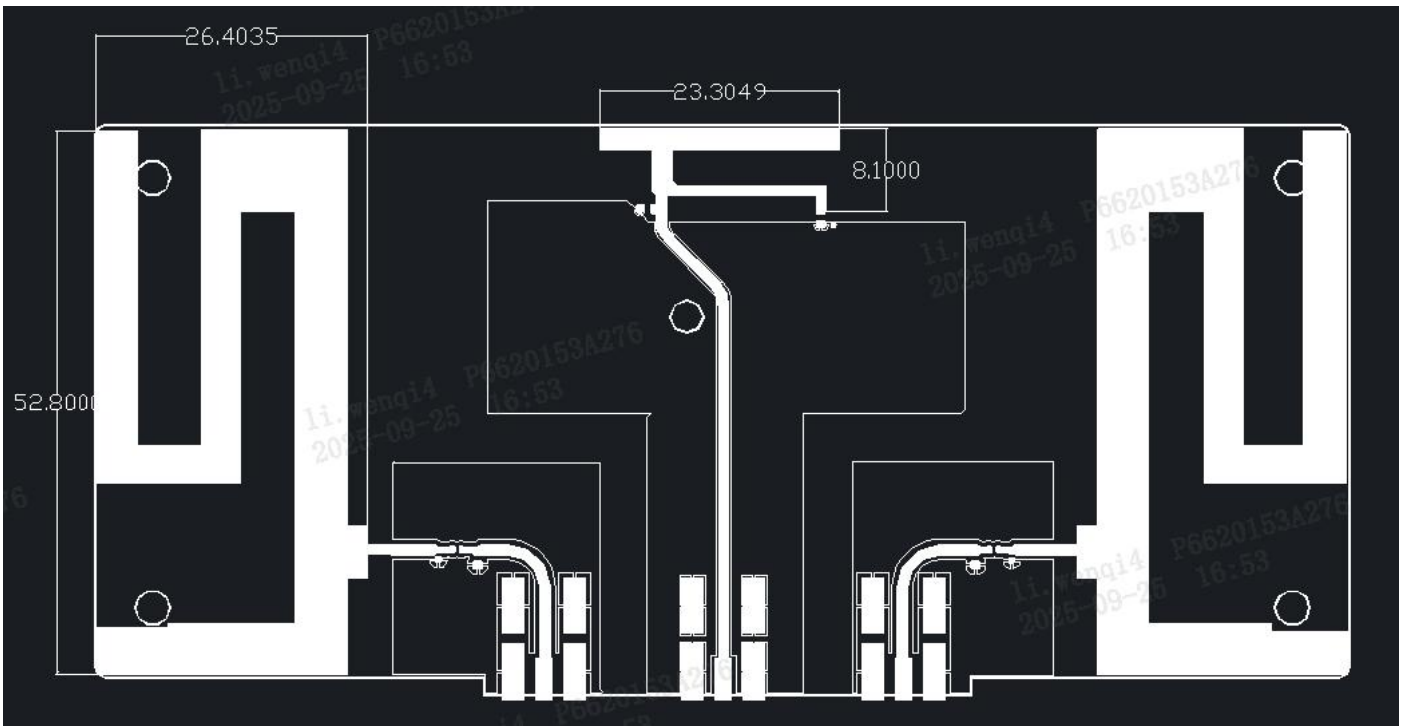


图 2：外形图

Figure 2. Mechanical Dimension

1.4 引脚定义 Pin Definition



序号	使用位置	电器端		护套端	
		连接器型号	品牌	连接器型号	品牌
1	5G 主天线	59S2AQ-40MT5-E-1	罗森博格 Ronsenberger	59z113-000-E	罗森博格 Ronsenberger
2	WIFI BT 天线	59S2AQ-40MT5-K-1	罗森博格 Ronsenberger	59z113-000-K	罗森博格 Ronsenberger
	5G 副天线	59S2AQ-40MT5-B-1	罗森博格 Ronsenberger	59z113-000-B	罗森博格 Ronsenberger

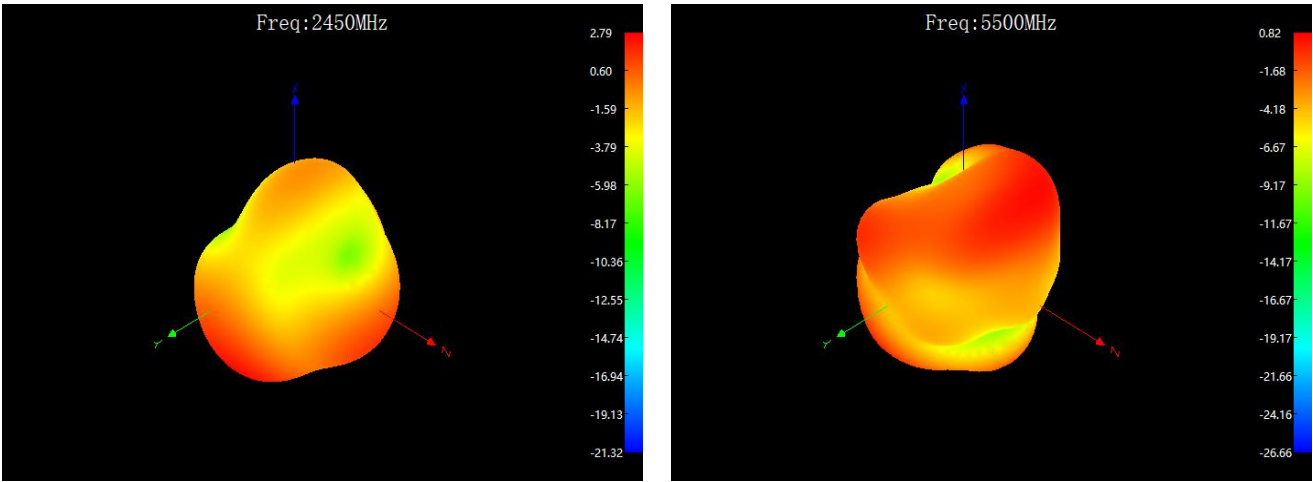
2 产品参数 Product Specification

2.1 WIFIBT 天线 WiFiBT Antenna

	频率 Frequency	驻波 SWR	峰值增益 Peak Gain	平均效率 Average Efficiency
WiFi 天线	2400~2500MHz	≤3	2.93dBi	68.10%
WiFi Antenna	5150~5850MHz	≤3	2.2dBi	52.47%

Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	2.05	2.32	2.59	2.69	2.84	2.79	2.8	2.68	2.76	2.93	2.83
Efficiency (%)	59.7	63.1	66.53	68.23	70.79	70.31	70.79	69.34	69.66	69.18	71.45
Frequency (MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650
Gain (dBi)	1.58	1.31	1.75	2.2	1.49	1.47	1.41	0.82	1.81	2.02	1.76
Efficiency (%)	55.59	55.08	54.95	61.09	52.84	51.29	50	50.35	50.58	51.64	47.32
Frequency (MHz)	5700	5750	5800	5850							
Gain (dBi)	1.91	1.9	1.84	2.12							
Efficiency (%)	50.7	49.77	52.84	52.97							

方向图 Radiation Pattern



2.2 5G 天线 5G antenna

	频率 Frequency	驻波 SWR	峰值增益 Peak Gain	平均效率 Average Efficiency
5G 主天线	617Mhz~ 960 MHz	≤3	0.89dBi	36.46%
5G Main antenna	1.45~2.69GHz,3.3~3.8GHz,4.4~5GHz	≤3	4.2dBi	62.28%

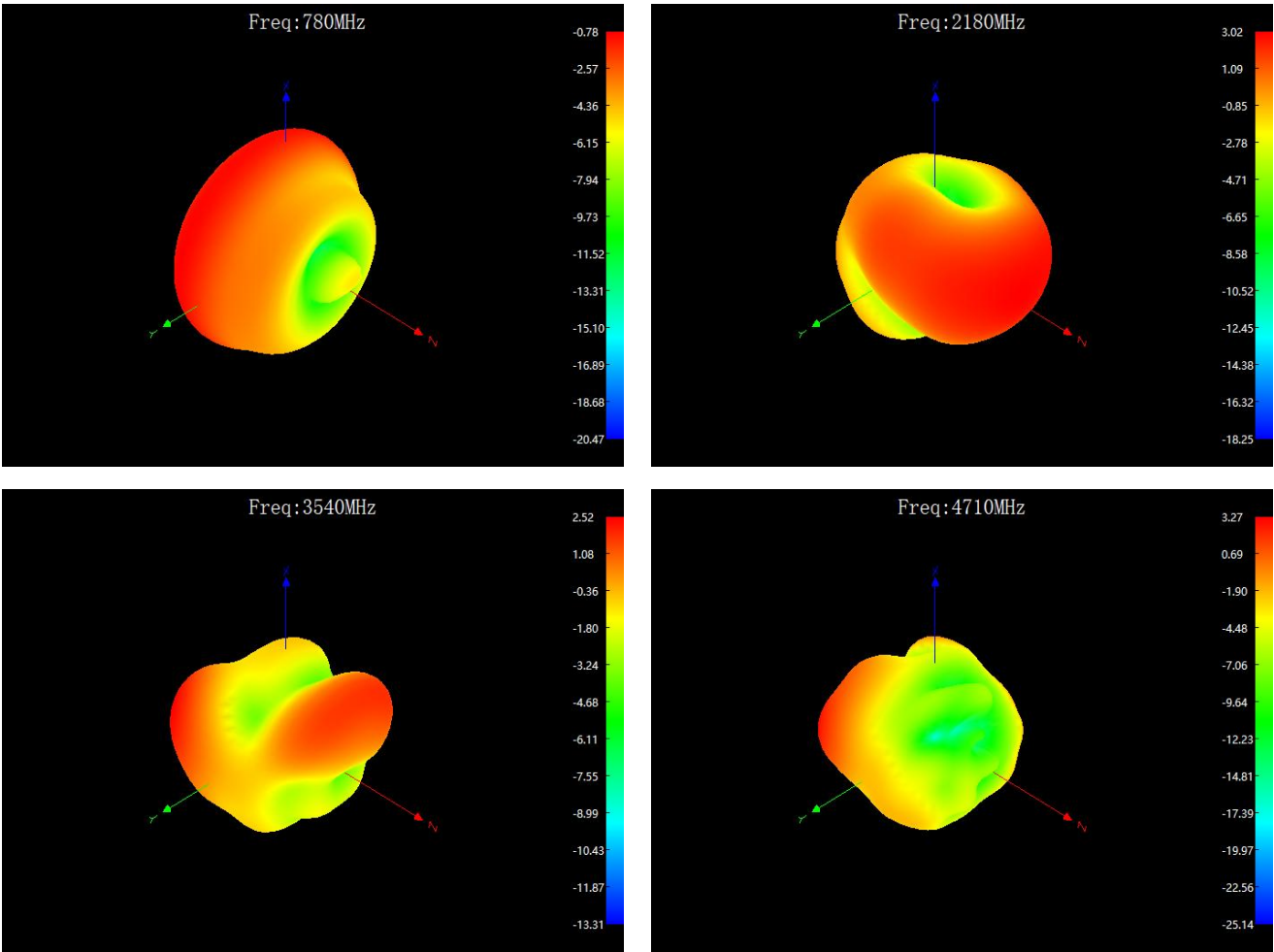
STE 5G WiFi Antenna Product Specification

Frequency (MHz): 617~960MHz													
Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13
Frequency (MHz)	620	630	640	650	660	670	680	690	700	710	720	730	740
Efficiency (%)	26.18	27.16	29.99	33.88	37.58	39.54	39.45	35.48	31.55	30.76	31.62	32.51	33.04
Gain (dBi)	-1.13	-0.88	-0.48	-0.45	-0.32	-0.35	0.09	0.05	-0.81	-0.59	-0.38	-0.22	-0.24
Frequency ID	14	15	16	17	18	19	20	21	22	23	24	25	26
Frequency (MHz)	750	760	770	780	790	800	810	820	830	840	850	860	870
Efficiency (%)	33.04	33.42	33.81	34.12	35.24	36.98	38.37	38.99	38.19	37.5	37.41	37.93	38.28
Gain (dBi)	-0.33	-0.42	-0.63	-0.76	-0.48	0.19	0.53	0.8	0.72	0.42	0.23	0.12	0.22
Frequency ID	29	30	31	32	33	34	35						
Frequency (MHz)	900	910	920	930	940	950	960						
Efficiency (%)	40.83	41.69	42.17	42.46	42.95	41.88	37.24						
Gain (dBi)	0.88	0.57	0.11	0.14	0.23	0.33	0.05						
Frequency (MHz): 1450~2690、3300~3800、4400~5000MHz													
Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13
Frequency (MHz)	1440	1460	1480	1500	1520	1540	1560	1580	1600	1620	1640	1660	
Efficiency (%)	38.99	26.36	29.58	31.77	42.27	61.38	74.3	77.45	67.76	65.16	64.71	66.83	
Gain (dBi)	2.93	-0.17	0.37	-0.08	1.97	2.29	2.69	3.24	2.33	1.72	1.63	1.37	
Frequency ID	14	15	16	17	18	19	20	21	22	23	24	25	26
Frequency (MHz)	1680	1700	1720	1740	1760	1780	1800	1820	1840	1860	1880	1900	1920
Efficiency (%)	67.45	63.97	61.8	56.1	55.98	52.84	50.82	50	49.09	49.55	48.75	52.72	54.08
Gain (dBi)	1.27	1.4	1.45	1.2	1.54	1.82	1.58	2.1	1.67	1.34	1.07	1.22	0.1
Frequency ID	27	28	29	30	31	32	33	34	35	36	37	38	39
Frequency (MHz)	1940	1960	1980	2000	2020	2040	2060	2080	2100	2120	2140	2160	2180
Efficiency (%)	56.36	57.02	57.54	59.98	62.37	63.83	64.57	66.99	67.45	68.23	69.98	67.3	65.31
Gain (dBi)	-0.05	0.39	0.93	1.81	2.09	2.29	2.1	2.28	2.6	2.83	2.94	3.43	3.02
Frequency ID	40	41	42	43	44	45	46	47	48	49	50	51	52
Frequency (MHz)	2200	2220	2240	2260	2280	2300	2320	2340	2360	2380	2400	2420	2440
Efficiency (%)	68.23	68.08	69.98	70.31	68.08	68.71	69.82	70.79	70.79	69.66	67.76	67.76	70.63
Gain (dBi)	2.51	2.41	2.45	1.98	1.86	1.64	1.3	1.52	1.82	2.17	2.01	2.01	2.11
Frequency ID	53	54	55	56	57	58	59	60	61	62	63	64	65
Frequency (MHz)	2460	2480	2500	2520	2540	2560	2580	2600	2620	2640	2660	2680	2700
Efficiency (%)	71.61	74.99	77.45	80.72	82.79	85.51	89.13	85.9	91.2	88.31	85.7	80.17	76.91
Gain (dBi)	1.99	2.43	2.55	2.72	2.74	2.61	2.67	2.73	2.73	2.48	1.71	1.3	1.13
Frequency ID	66	67	68	69	70	71	72	73	74	75	76	77	78
Frequency (MHz)	3300	3330	3360	3390	3420	3450	3480	3510	3540	3570	3600	3630	3660
Efficiency (%)	64.57	64.42	67.45	66.53	66.07	66.83	66.68	65.01	64.57	64.12	64.27	62.09	62.09
Gain (dBi)	1.14	1.34	2.08	1.58	1.68	2.25	2.46	2.17	2.53	2.33	1.97	2.06	2.55

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Frequency ID	79	80	81	82	83	84	85	86	87	88	89	90	79
Frequency (MHz)	3690	3720	3750	3780	3810	4410	4440	4470	4500	4530	4560	4590	4620
Efficiency (%)	62.52	60.26	59.16	59.29	58.75	54.08	53.33	54.7	50.82	51.88	53.58	49.2	49.43
Gain (dBi)	2.24	1.87	1.96	2.25	2.81	2.96	2.24	2.24	1.53	2.24	2.35	1.77	1.68
Frequency ID	79	80	81	82	83	84	85	86	87	88	89	90	
Frequency (MHz)	4650	4680	4710	4740	4770	4800	4830	4860	4890	4920	4950	4980	
Efficiency (%)	50.7	53.33	58.21	53.33	51.52	51.17	49.55	50.58	53.7	53.83	52.84	55.08	
Gain (dBi)	2.16	2.79	3.26	2.98	3.04	3.2	3.41	3.71	3.61	4.2	3.9	3.94	

方向图 Radiation Pattern



3 可靠性 Reliability

表 9：可靠性规格 Table 9.Reliability Specification		
项目	规格	备注
Items	Specification	Remarks

STE 5G WiFi Antenna Product Specification

工作温度 operation temperature	-40℃ ~ 85℃	
存储温度 storage temperature	-40℃ ~ 90℃	
高温耐久 High Temperature operation	85℃ 1340h	
低温工作 Low Temperature operation	-40℃ 48h(低温保存 24h, 启动工作 24h)	
恒定湿热 Constant Thermal and Humidity	85℃, 85%, 700h	
冷热冲击 Thermal Shock	85℃, -40℃, 温度保持 30min, 80 个循环 85℃, -40℃, 30min, 80cycles	
振动 vibration	加速度有效值: 27.4m/s ² RMS Acceleration: 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。	

4 安装推荐 Installation recommendation

1. 与天线相连的转接延长线束需使用低损耗 50 欧姆同轴线, 推荐线材型号: 莱尼 dacar 302-3。

The adapter extension harness connected to the antenna should be a low-loss 50Ω coaxial cable,with the recommended cable model :dacar 302-3.

2. 天线安装于塑料面板上方, 天线上方不允许有金属遮挡。如果天线安装在金属面板上方, 天线下方的金属面板需要挖空或者把天线的安装点垫高 15mm, 保证天线的效率。

The antenna should be installed above the plastic panel,and no metal should be allowed to cover the antenna.If the antenna is installed above a metal panel,the metal panel below the antenna needs to be hollowed out or the mounting position of antenna should be raised by 15mm to ensure its efficiency.

3. 远离强干扰源

Keep away from radiation sources.