Shenzhen Shenchao Communication Electronics Co., Ltd.

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APPROVAL

Client ：

品 名 规 格 DESCRIPTION:	FPC antenna
料　　号 PART　NO.:	
客 户 料 号 CUS PART NO.:	
日　　期 D A T E:	2025.1.8

深超呈样签章

工　程 ENGINEERING DEPARTMENT	品　保 Q C DEPARTMENT	业　务 SALES DEPARTMENT

客户承认签章

工　程 ENGINEERING DEPARTMENT	品　保 Q C DEPARTMENT	采　购 PURCHASING DEPARTMENT

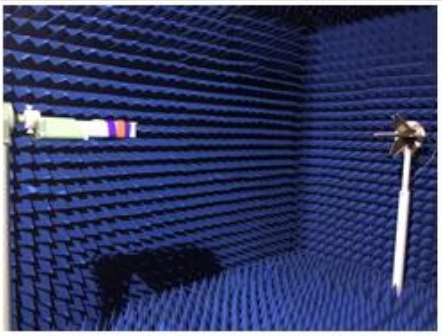
联系电话：

※ 承认书一式三份，惠蒙贵司承认签章

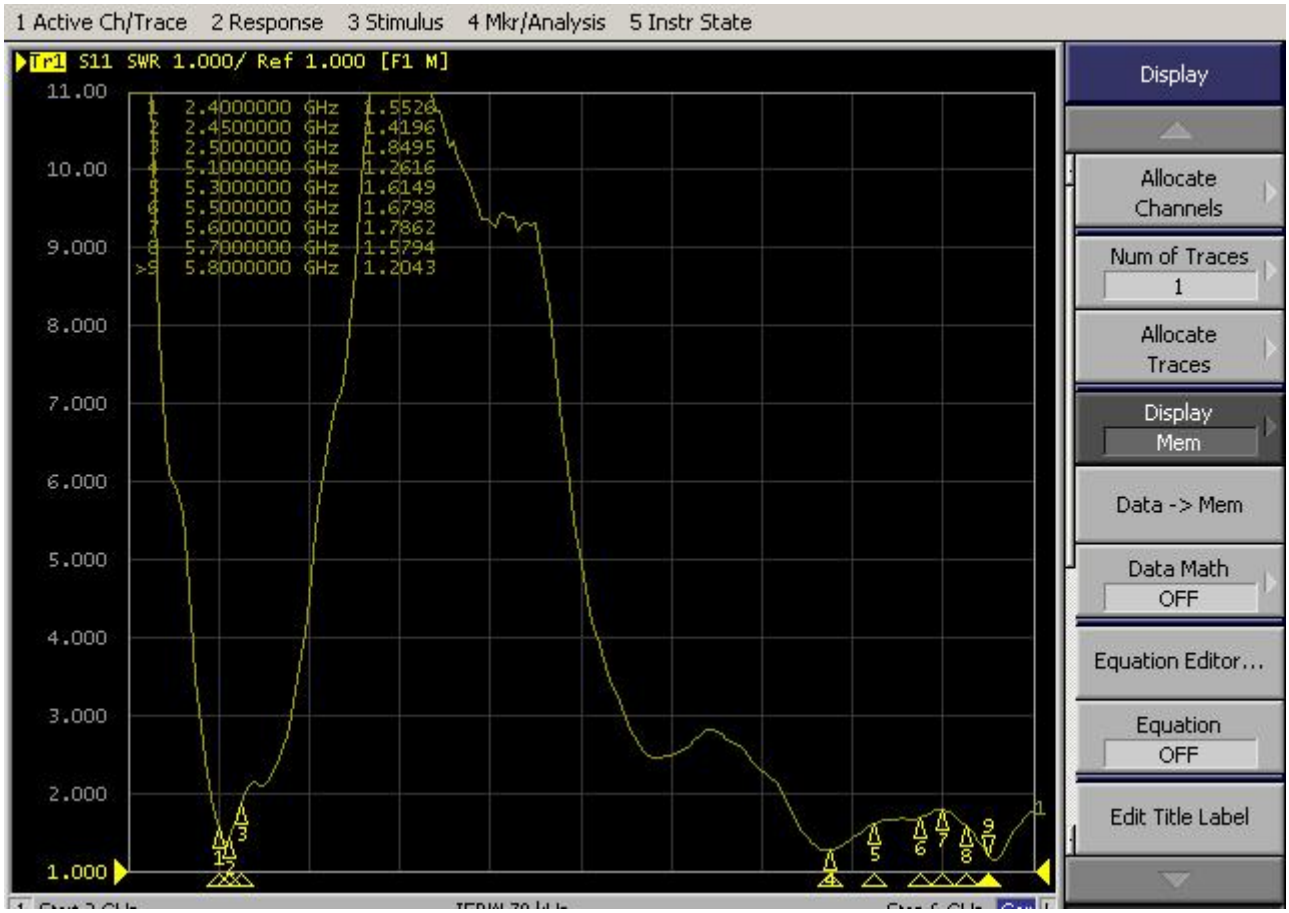
※ Approval in duplicate, please signed by your company.

1.Testing items and equipment

	Test item	Equipment
1. S11 参数 （S-parameter）	1. 回波损耗 （Return Loss） 2. 电压驻波比（VSWR）	网络分析仪: Agilent E5071B HP 8753D
2. 有源测试 （Active ）	1. 发射功率 （TRP） 2. 接收灵敏度（TIS）	1. 暗室：ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2.综合测试仪: Agilent 8960 E5515B ×2 StarPoint SP6011
3.无源测试 （Passive）	1.天线增益 （Gain）2.天线效率 （Efficiency）	1. 暗室：ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 网络分析仪：Agilent E5071B HP 8753D

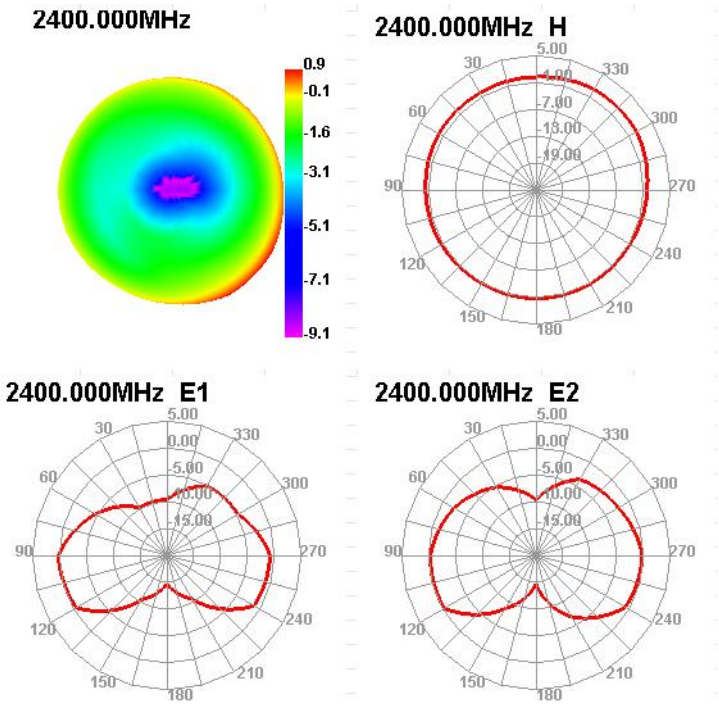


2. Antenna performance



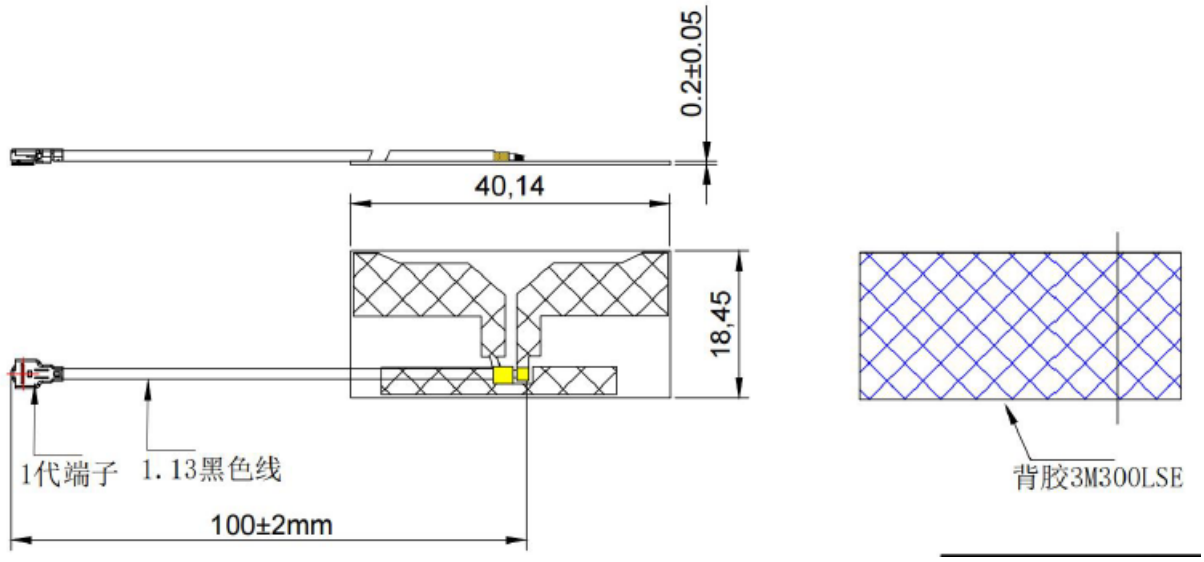
3. Antenna gain and efficiency

Passive Test For BLE			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	60.39	-2.19	0.93
2410	60.45	-2.19	0.94
2420	59.37	-2.26	0.84
2430	61.08	-2.14	0.93
2440	65.59	-1.83	1.25
2450	71.14	-1.48	1.61
2460	72.69	-1.39	1.69
2470	74.23	-1.29	1.69
2480	75.58	-1.22	1.72
2490	78.12	-1.07	1.86
2500	73.51	-1.34	1.58



4.Antenna structure diagram:

Unit (mm)



Electrical technical parameters			
电 性 能 指 标		Electrical Specifications	
频率范围	2400~2500MHz	Frequency Range	2400~2500MHz
电压驻波比	≤2.0	VSWR	≤2.0
输入阻抗	50 Ω	Input Impedance	50 Ω
增益	1.86DB	Gain	1.86DB
辐射方向	全向	Radiation direction	omnidirectional