Antenna Approval Sheet

For
M50 Project

Customer	EKEN INNOVA TION	Project	M50
Band	WiFi 2.4GHZ\433MHZ		
ZC PN	T21-031\AC020-XD-16		
Version	R:A	Data	2024-10-22

RF	
Checked By	
Confirmed By	
Cust Confirm	

1.Manufacturer information

Company name: Shenzhen Zhongcheng communication products Co., Ltd

Address: 5th floor, building C, Huafeng Industrial Zone, Liuxian Road, 71 District, Bao'an, Shenzhen

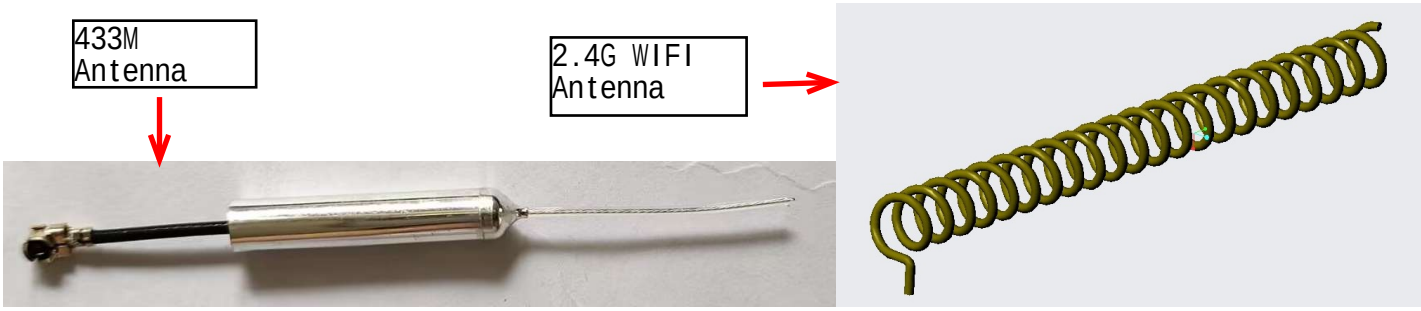
Tel: 0755-29995224

Fax: 0755-27863505

2. Summary of the DUT

M50 Picture

Antenna Picture



3. Electrical Specification:

Antenna types	Built-in WIFI Antenna\433M Antenna
Frequency	2400-2500 MHZ, 433MHZ
Impedance	50 Ω
VSWR	< 2.0
PeaK Gain	WIFI: 2.99dBi, 433MHZ 0.8dbi
Antenna Material	铜管+同轴线\弹簧铜线圈
Connector Type	1.13 MHF-1-Plug\Soldering

4. Test Condition

4.1	TEST ITEM	TESTING INSTRUMENT	REMARKS
ACTIVE TEST	1. Antenna Gain 2. S.W.R 3. Return Loss 4. Radiation Pattern	1. Network analyzer （R&S ZVL6） 2. Network analyzer （HP 8753D）	

4.2 Matching Circuit The matching circuit was Default

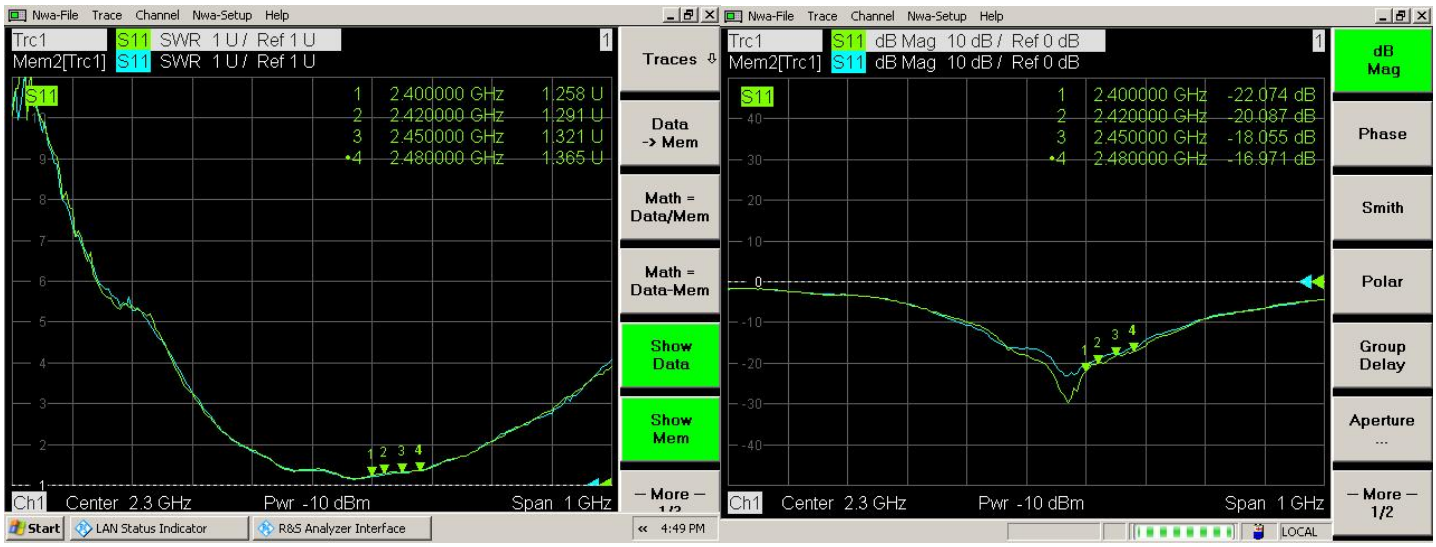
5.1 RF Performance-WIFI Antenna

5.1.1 Passive parameters

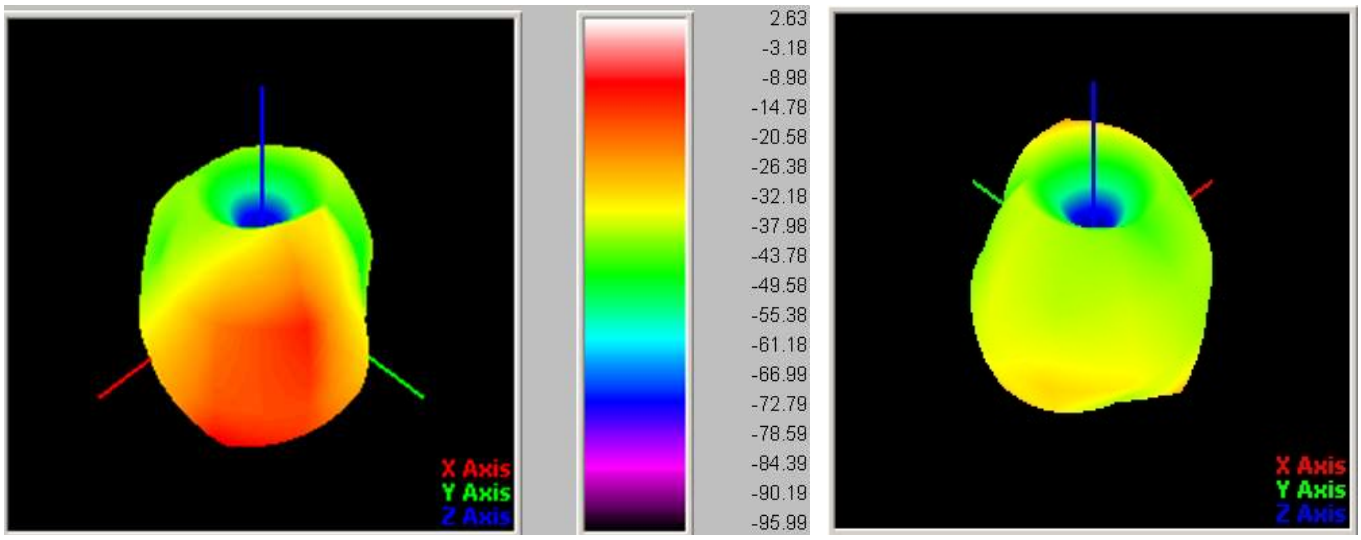
Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	2.63	2.68	2.71	2.99	2.6	2.23	2.6	2.49	1.96	1.77	1.7

5.1.2 S Parameter

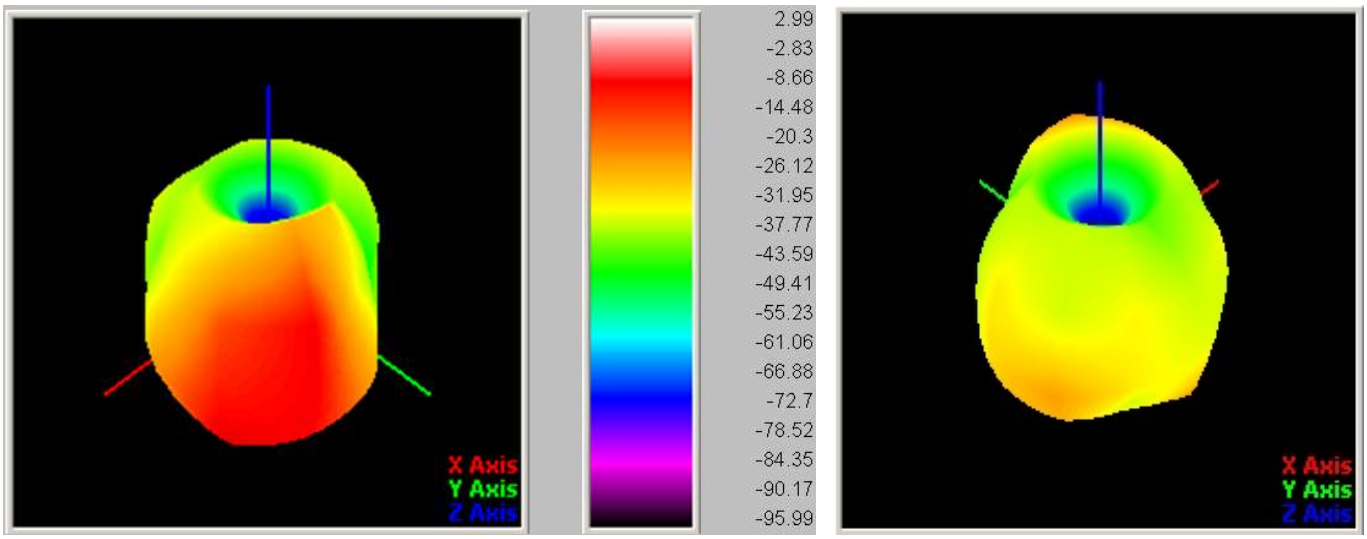
Frequency (MHz)	2400	2450	2480
Return Loss(dB)	-22	-18	-16.9
VSWR	1.25	1.32	1.36



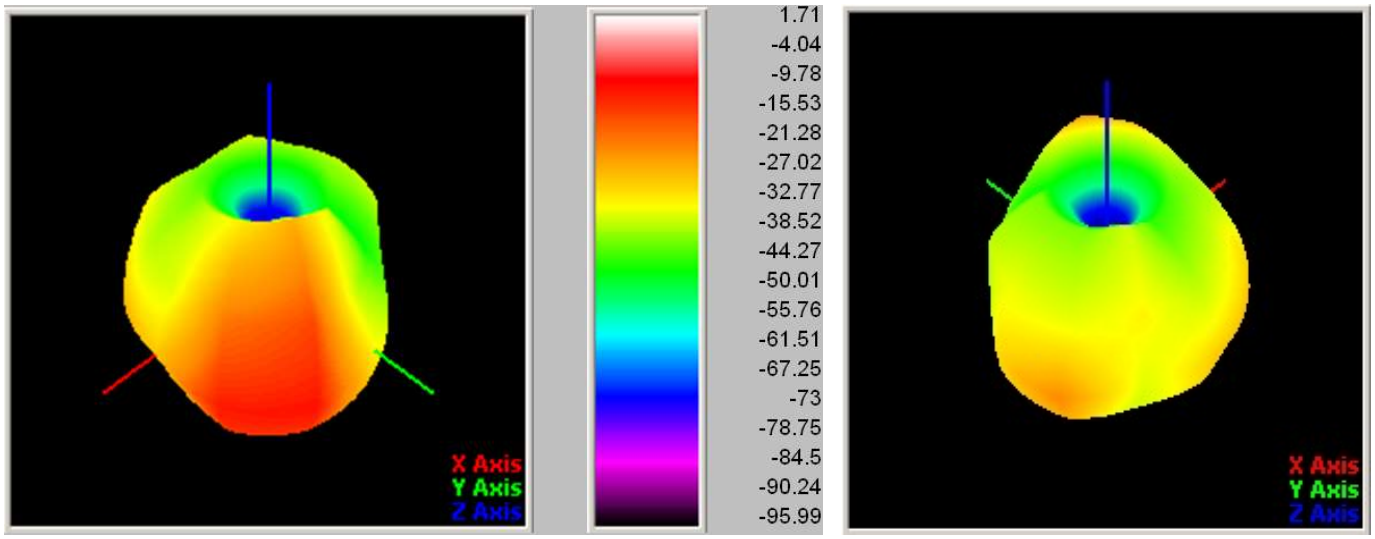
5.1.3 Antenna 3D Radiation Pattern (Unit:dbi)



Freq2400.00MHZ



Freq2430.00MHZ

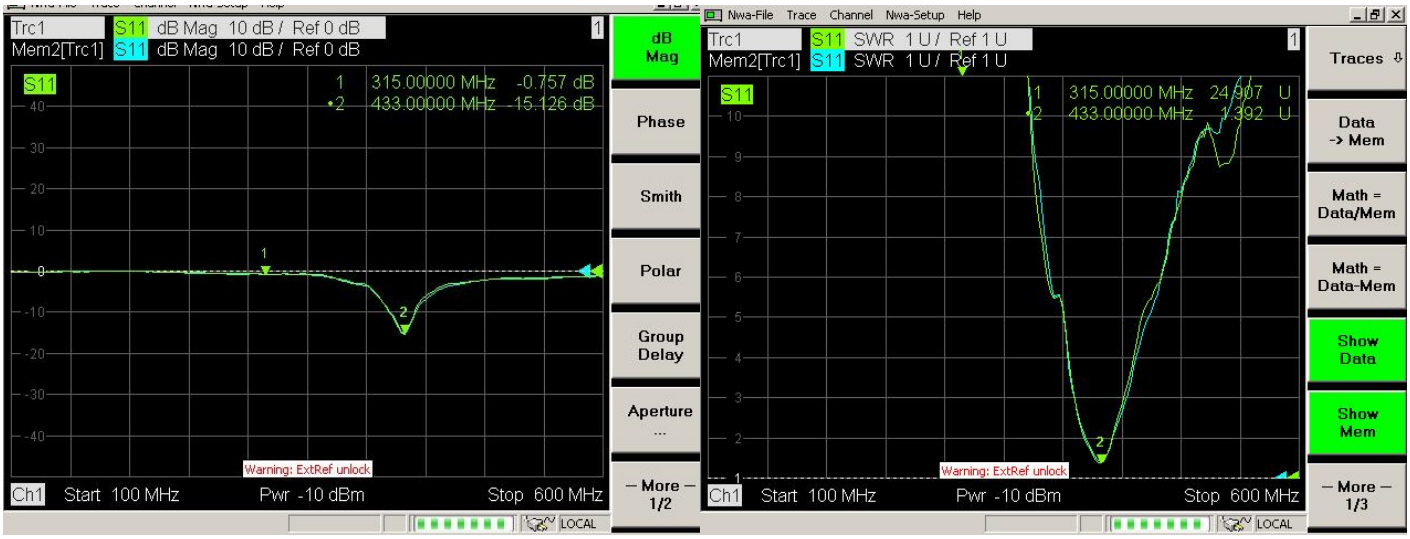


Freq2500.00MHZ

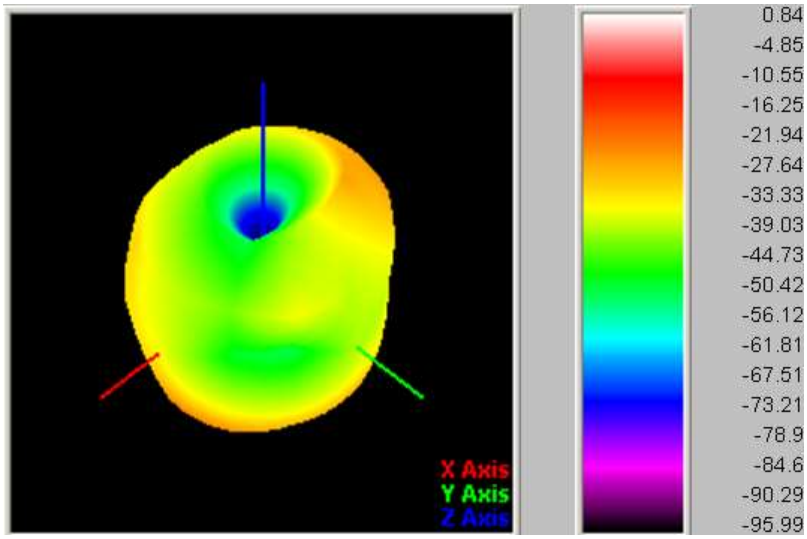
5.2 RF Performance-433 Antenna

5.1.1 Passive parameters

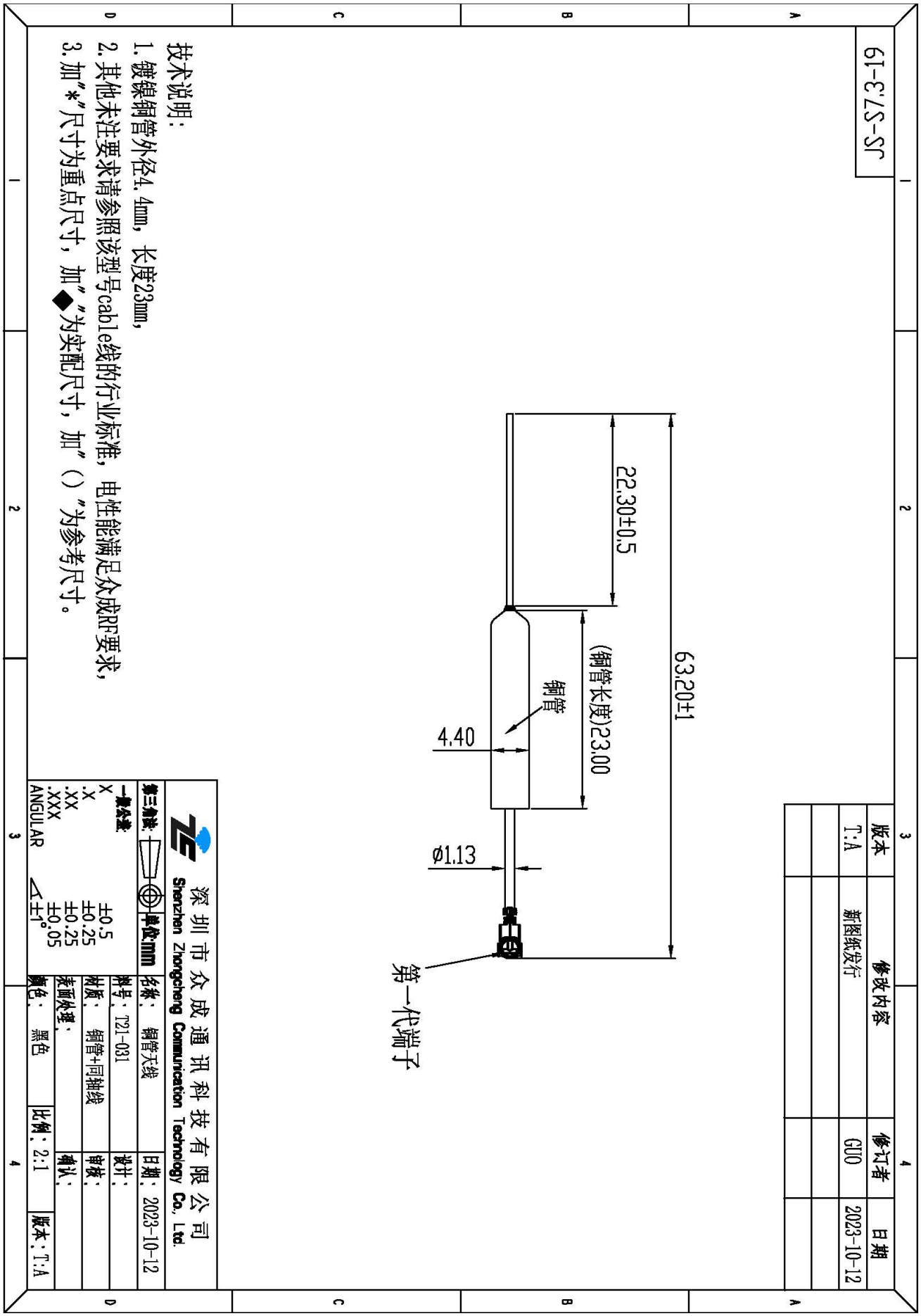
Frequency (MHz)	Return Loss(dB)	VSWR	Gain (dBi)
433	-15.12	1.39	0.84



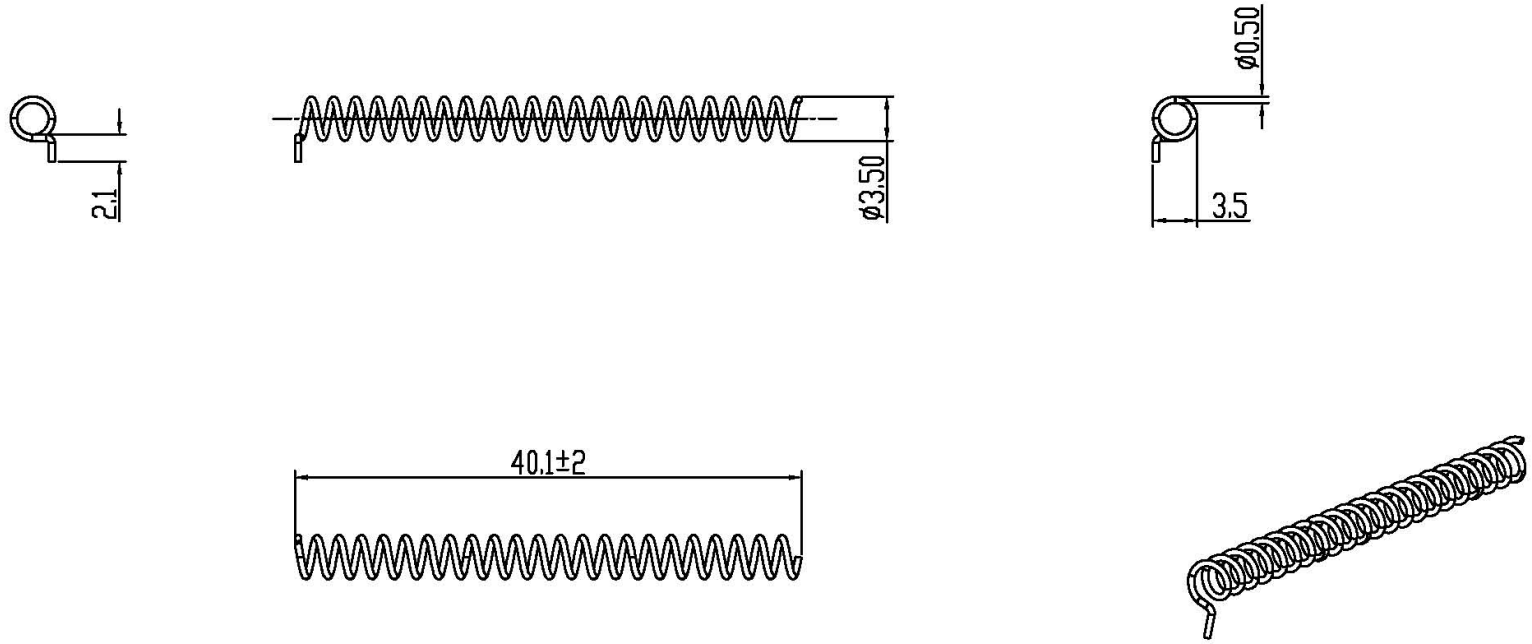
5.2.2 Radiation Pattern (Unit:dbi)



6. ME Drawing for the antenna



版本	修改内容	修订者	日期
T:A	新图纸发行	GUO	2023-10-16



技术说明:

1. 一段螺距，每段螺距要等距,
2. 外径要一致，不能变形,不能有脏污、色斑、氧化，
3. 加"*"尺寸为重点尺寸，加"◆"为实配尺寸，加"()"为参考尺寸，
4. 未注公差按一般公差，未注圆角R0.2,

深圳市众成通讯科技有限公司
Shenzhen Zhongcheng Communication Technology Co., Ltd.

第三角法	单位:mm	名称: 弹簧线圈	日期: 2023-10-16
一般公差:		料号: AC020-XA-16-TA	设计:
X ±0.5		材质: 黄铜	审核:
.X ±0.3		表面处理:	确认:
.XX ±0.2		颜色:	比例: 2:1
.XXX ±0.1			版本: T:A
ANGULAR ∡±1°			