Cicent 思讯通信

Antenna Part Specification

Project name:	Runner
Material category:	BT antenna
Version:	V2.0
Date:	2023.10.27

APPROVAL: Dolly Li

CHECK: Tom Chen

DESIGN: Kevin Liu

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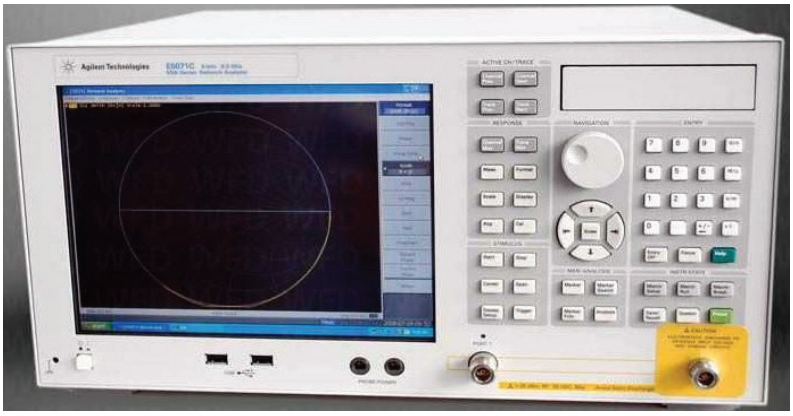
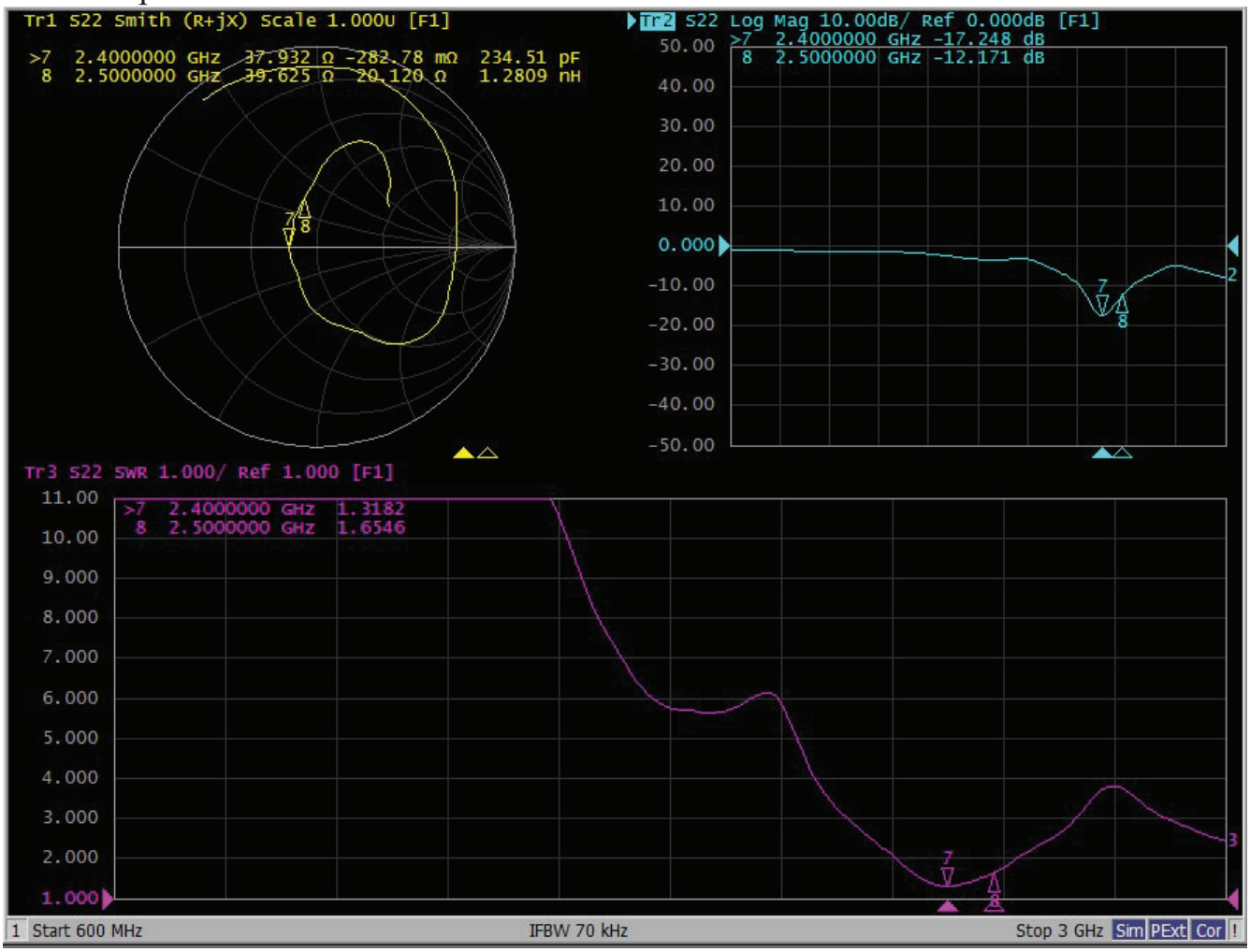
Change record			
Compile / change date	Reason for change	Changed content	Version

I: The report of passive data



Angilent E5071C

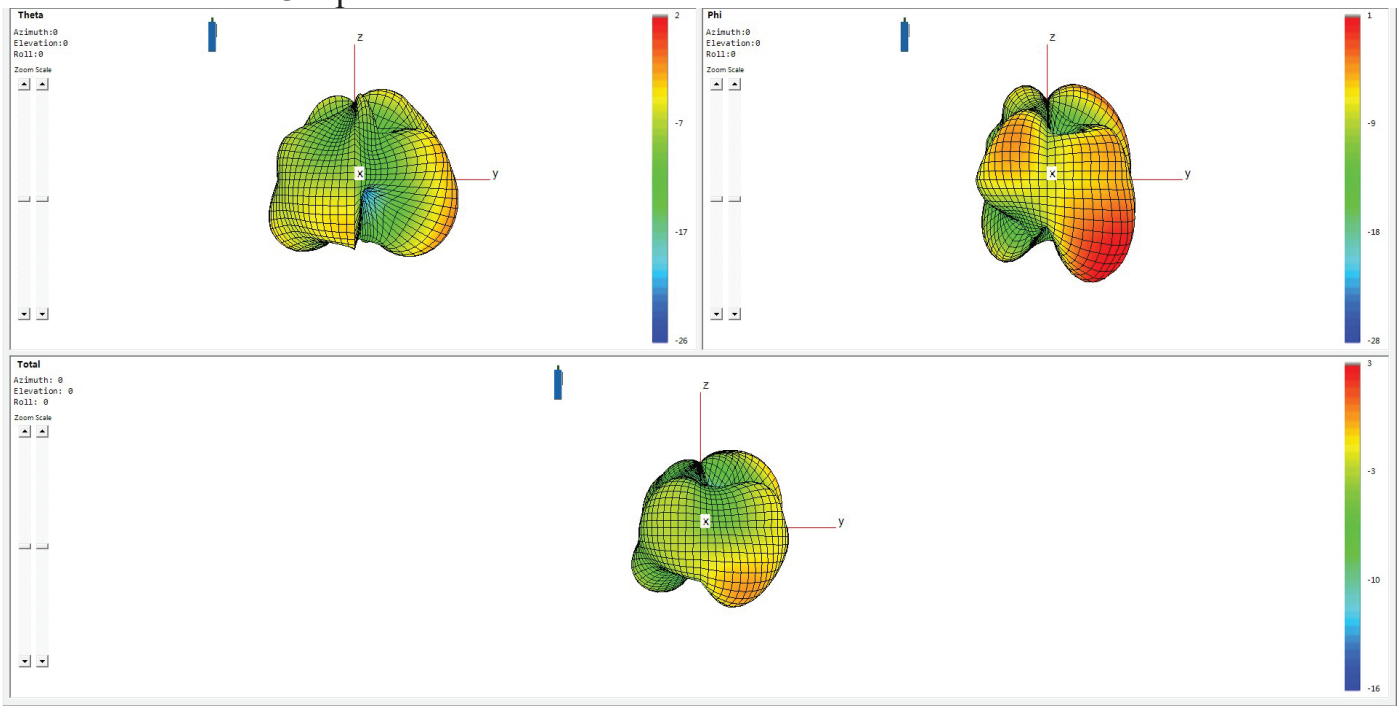
VSWR parameter:



Efficiency：

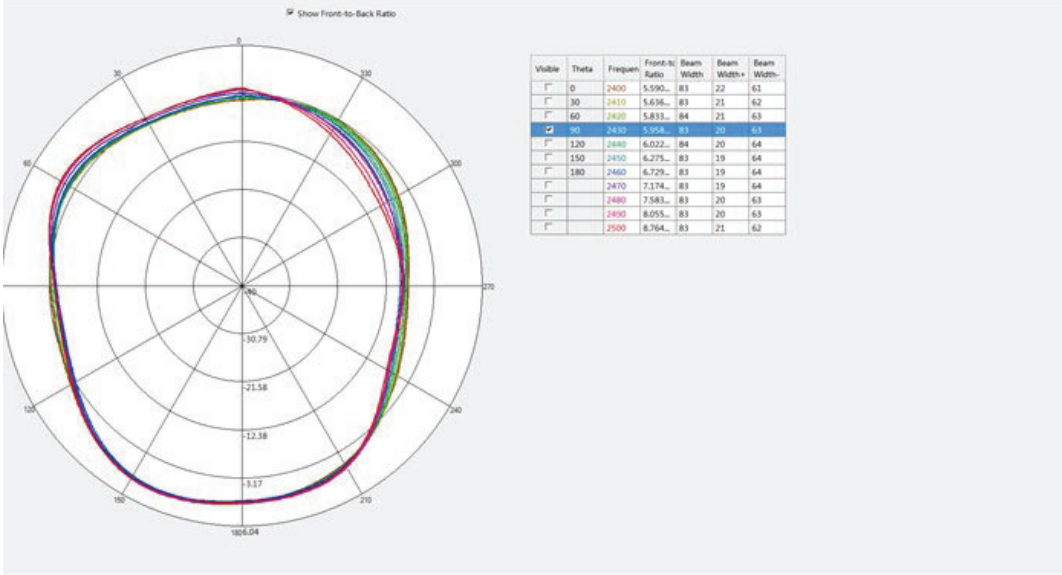
Frequency（MHz）	Gain (dBi)	Efficiency (dB)	Efficiency
2400	2.1	-3.9	44.7%
2410	2.3	-3.8	45.3%
2420	2.4	-3.7	45.6%
2430	2.3	-3.6	47.0%
2440	2.4	-3.4	46.3%
2450	2.3	-3.5	45.7%
2460	2.1	-3.7	44.8%
2470	2.1	-3.8	43.9%
2480	2.1	-3.8	43.1%
Average value	2.2	-3.7	45.2%

Antenna radiation 3D pattern:



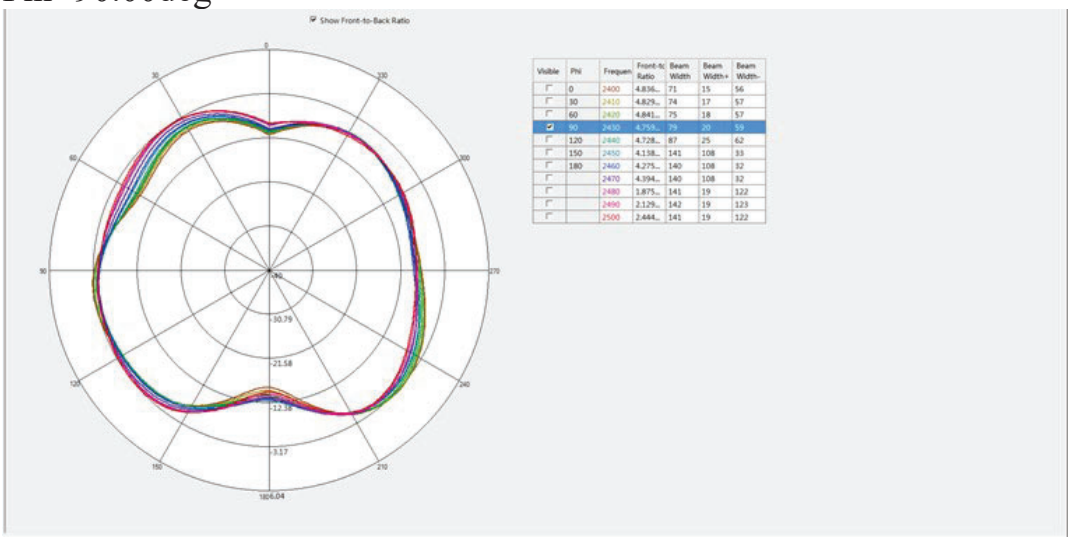
Antenna radiation 2D pattern:

Theta=90.00deg



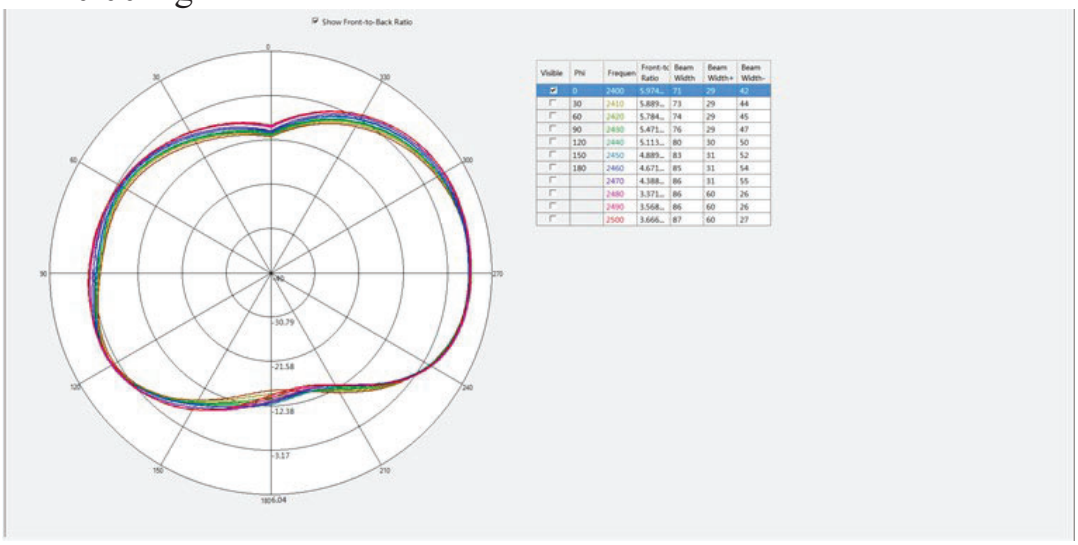
Visible	Theta	Frequen	Front-to Ratio	Beam Width	Beam Width+	Beam Width-
☐	0	2400	5.590...	83	22	61
☐	30	2410	5.636...	83	21	62
☐	60	2420	5.833...	84	21	63
☑	90	2430	5.958...	83	20	63
☐	120	2440	6.022...	84	20	64
☐	150	2450	6.275...	83	19	64
☐	180	2460	6.729...	83	19	64
☐		2470	7.174...	83	19	64
☐		2480	7.583...	83	20	63
☐		2490	8.055...	83	20	63
☐		2500	8.764...	83	21	62

Phi=90.00deg



Visible	Phi	Frequen	Front-to Ratio	Beam Width	Beam Width+	Beam Width-
☐	0	2400	4.836...	71	15	56
☐	30	2410	4.829...	74	17	57
☐	60	2420	4.841...	75	18	57
☑	90	2430	4.759...	79	20	59
☐	120	2440	4.728...	87	25	62
☐	150	2450	4.158...	141	108	33
☐	180	2460	4.275...	140	108	32
☐		2470	4.394...	140	108	32
☐		2480	1.875...	141	19	122
☐		2490	2.129...	142	19	123
☐		2500	2.444...	141	19	122

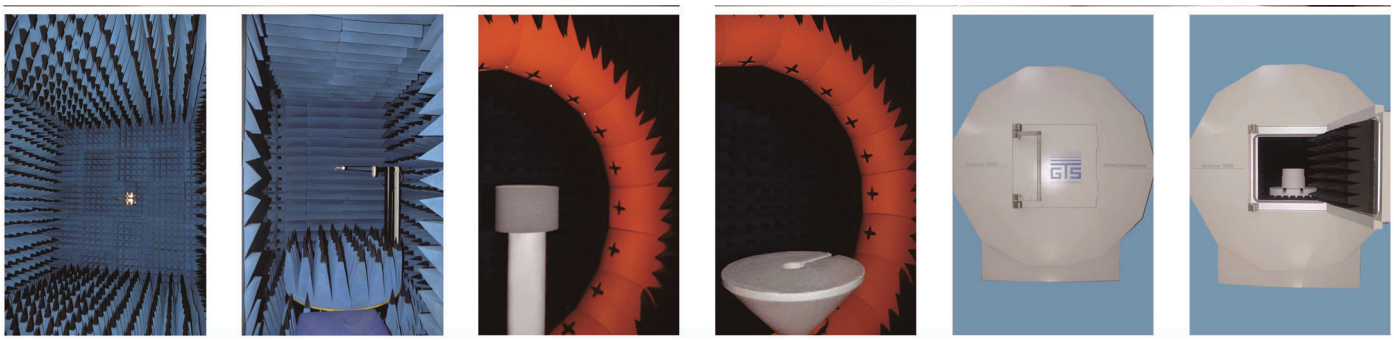
Phi=0.00deg



Visible	Phi	Frequen	Front-to Ratio	Beam Width	Beam Width+	Beam Width-
☑	0	2400	5.974...	71	29	42
☐	30	2410	5.889...	73	29	44
☐	60	2420	5.784...	74	29	45
☐	90	2430	5.471...	76	29	47
☐	120	2440	5.113...	80	30	50
☐	150	2450	4.889...	83	31	52
☐	180	2460	4.671...	85	31	54
☐		2470	4.388...	86	31	55
☐		2480	3.571...	86	60	26
☐		2490	3.568...	86	60	26
☐		2500	3.666...	87	60	27

II：3D Active test report of antenna

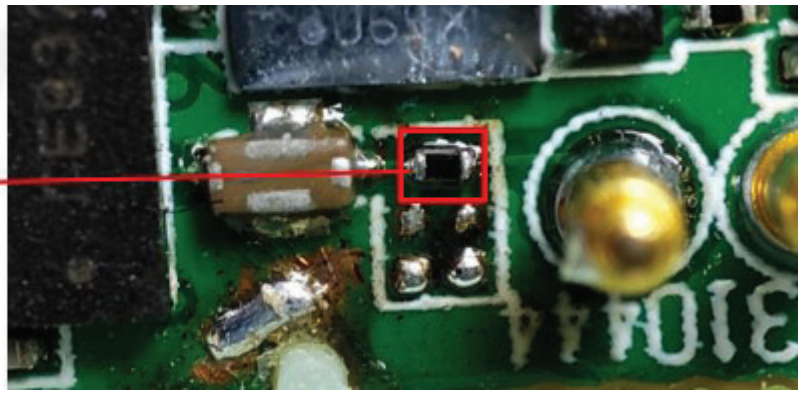
free space	Channel	TRP（dBm）	TIS（dBm）
BT	CH 0	4.7	-90.3
	CH 39	5.0	-90.9
	CH 78	4.7	-90.4

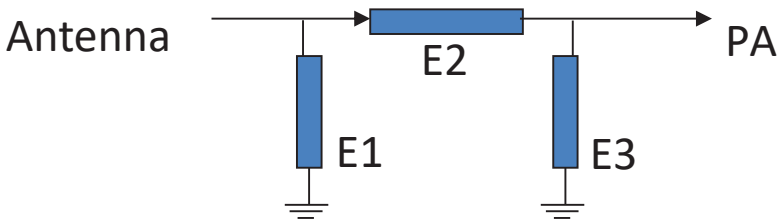


OTA Standard Chamber

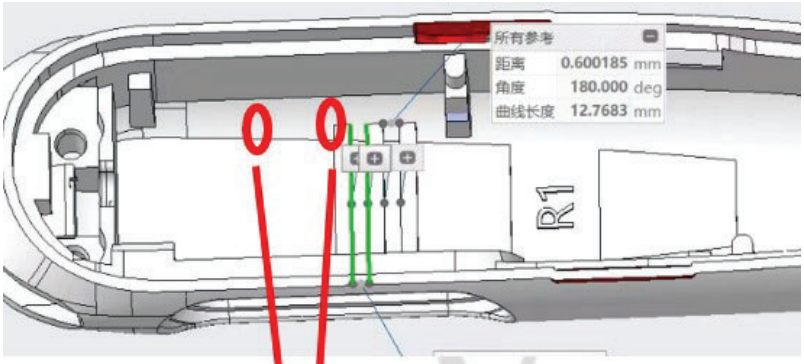
III：Matching circuit

Number	Value
E1	N/A
E2	0Ω
E3	N/A



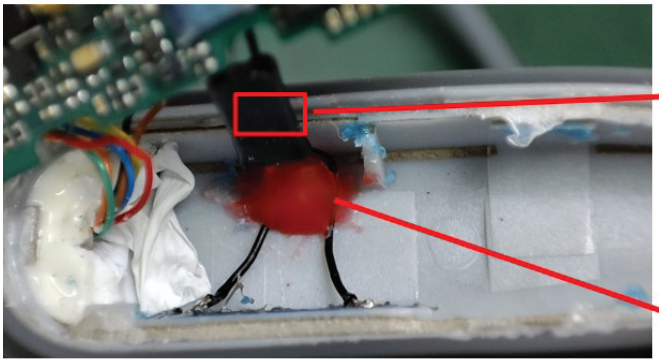


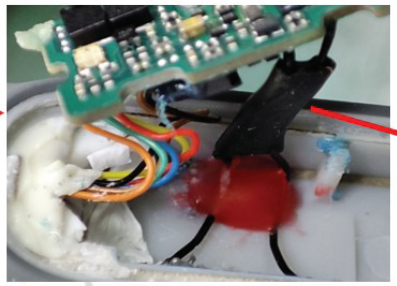
IV：Environmental treatment



As shown in the figure, there are two small protrusions or positioning columns at the red circle, which are convenient for gluing and fixing the

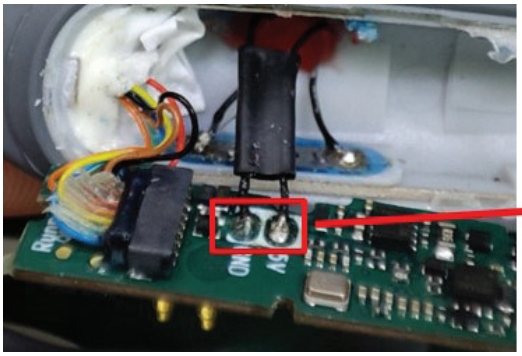
The length and welding requirements of the charging line are as follows:

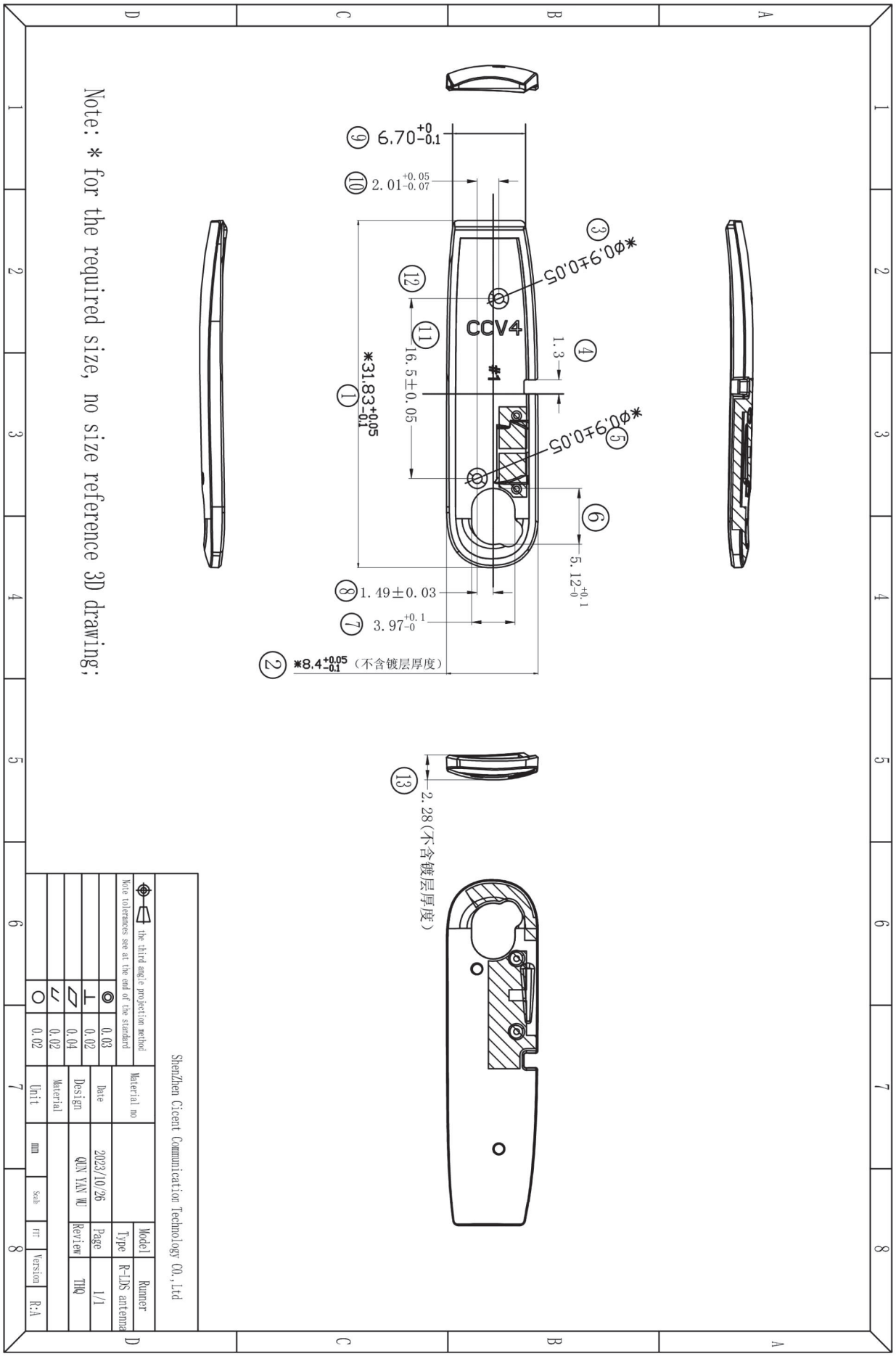




As shown in the figure, the charging cable is covered with a silicone sleeve for easy fixing of the cable length

As shown in the figure, the length of the charging line is 22.5mm, and then glue it at the charging line to fix it, otherwise it will seriously affect the antenna performance and actual measurement.



As shown in the figure, the charging cable is soldered to the right side of the motherboard

V：Structure file：