

Antenna Sample Datasheet

customer:	Raytheon
entry name:	BTE-690
Material category:	BT antenna
edition:	A5-L
Date:	2024. 4. 12

Directory

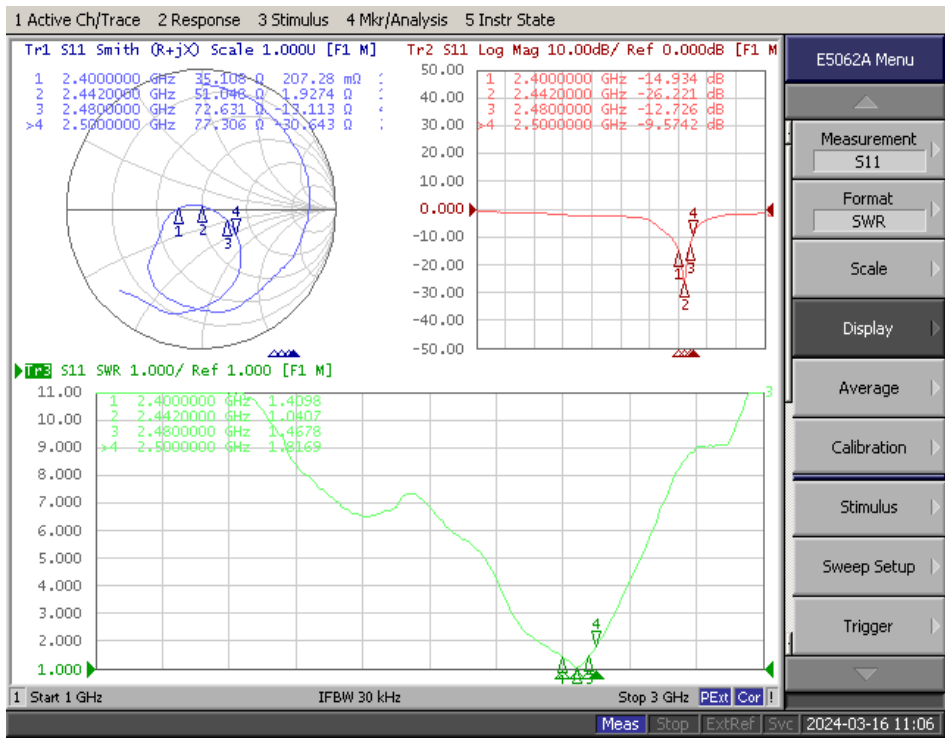
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四： Structural drawings.....	6

一： Passive test report

network analyzer(5071B)



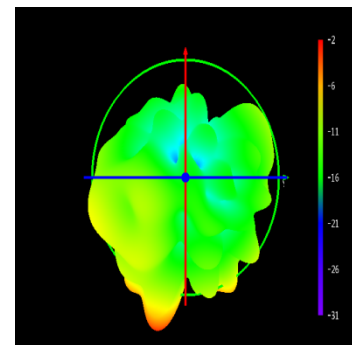
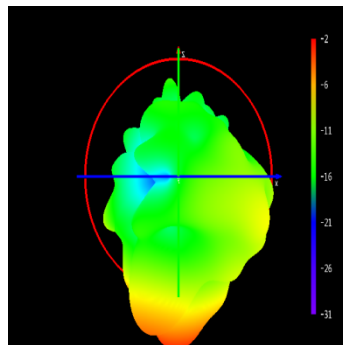
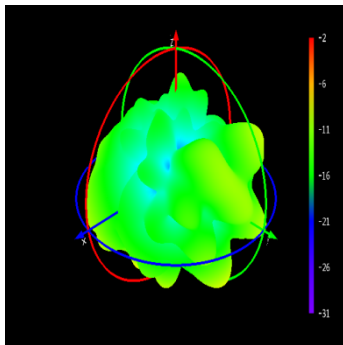
BT antenna S11 parameters



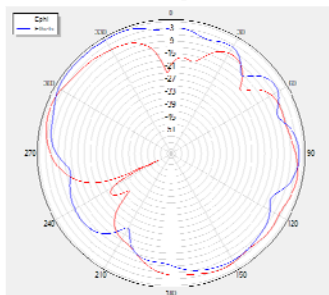
Passive efficiency of antenna

2400-2480MHz				
Freq(MHz)	Gain(dBi)	Efficiency(%)	Gain(dBi)	Efficiency(%)
	free space	free space	Second generation head mold	Second generation head mold
2400	-3.32	33.29	-5.2	14.17
2410	-3.08	34.99	-4.83	14.91
2420	-2.82	37.72	-4.09	15.92
2430	-2.59	39.35	-3.49	17.08
2440	-2.34	38.3	-3.7	16.89
2450	-2.15	37.11	-3.83	16.5
2460	-2.13	36.59	-4.06	15.94
2470	-2.26	35.46	-4.37	15.08
2480	-2.35	33.74	-4.44	14.42

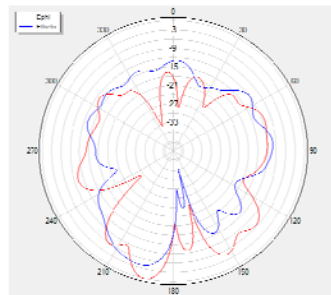
Passive pattern of BT antenna



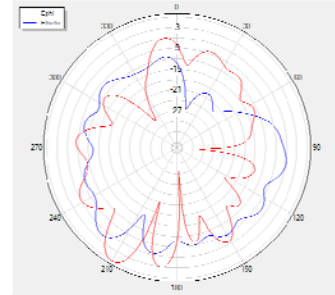
Theta=90 freq=2440MHz



Phi=90 freq=2440MHz



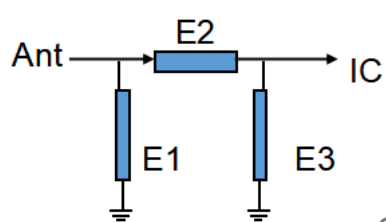
Phi=0 freq=2440MHz



二： BT antenna OTA parameters

BT	Channel	TRP(dBm)	TIS(dBm)
FS	0	5.45	-89.1
	39	6.12	-89.52
	78	5.59	-88.75
BT	Channel	TRP(dBm)	TIS(dBm)
Ear&head	0	0.38	-83.57
	39	0.87	-84.37
	78	0.54	-83.54

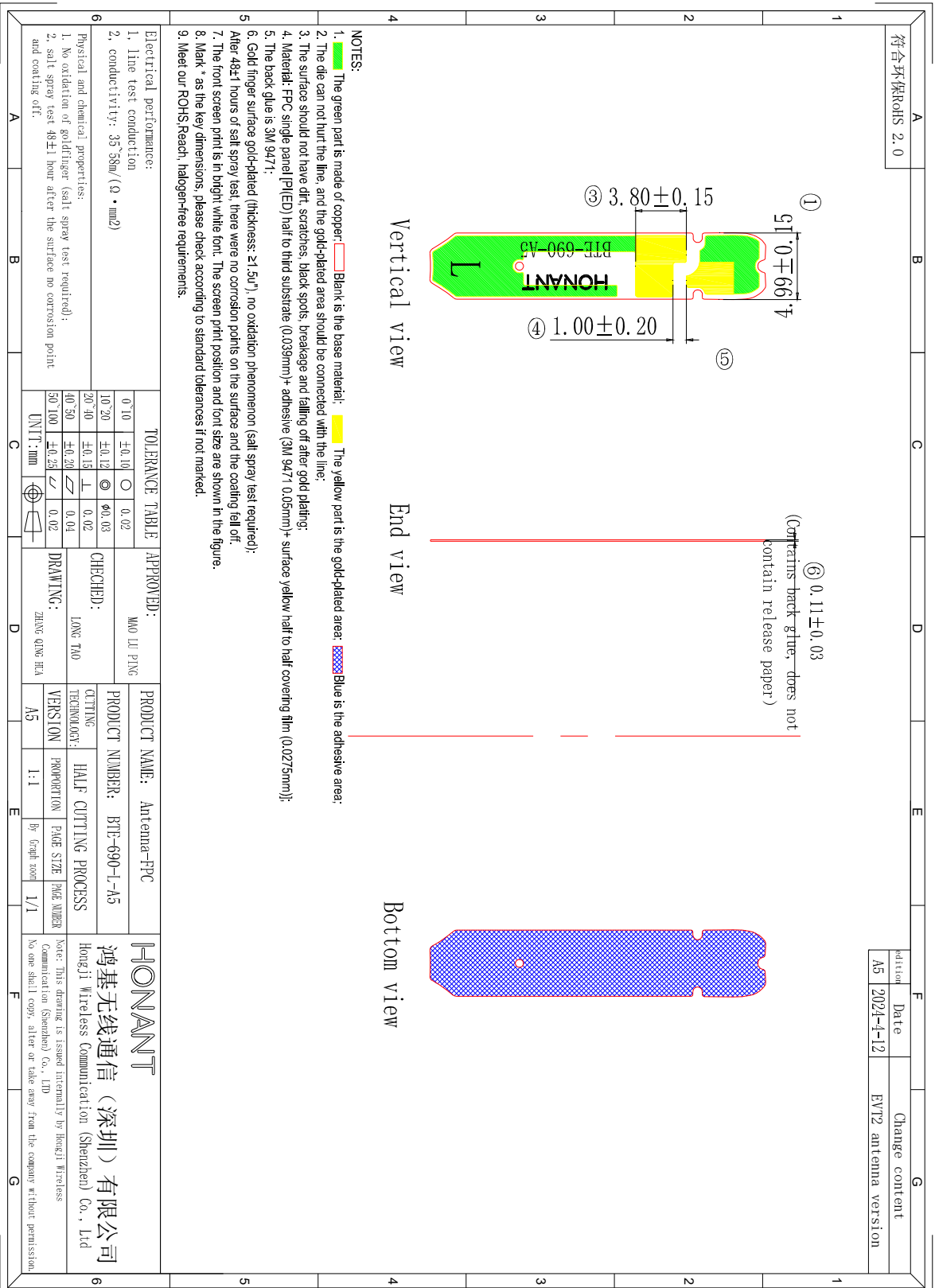
三： Matching circuit



Element	Value
E1	N/A
E2	0Ω
E3	1PF



四： Structure diagram



符合环保RoHS 2.0		A		B		C		D		E		F		G			
												Edition		Date		Change content	
												A5		2024-4-12		EVT2 antenna version	
Electrical performance:		TOLERANCE TABLE		APPROVED:		PRODUCT NAME:		PRODUCT NUMBER:		CUTTING TECHNOLOGY:		HALF CUTTING PROCESS		HONANT			
1. Line test conduction		0~10 ±0.10 ○ 0.02		WU LI PING		Antenna-FPC		BTE-690-L-A5		ETCHING		PAGE SIZE		鸿基无线通信 (深圳) 有限公司			
2. conductivity: 35~55mΩ (Ω • mm ²)		10~20 ±0.12 ◎ 0.03		CHECKED:		LONG TAO		PROPORTION		PAGE NUMBER		Version		鸿基无线通信 (深圳) 有限公司			
Physical and chemical properties:		20~40 ±0.15 上 0.02		DRAWING:		ZHAO QING HUA		1:1		1/1		A5		Note: This drawing is issued internally by Hongji Wireless Communication (Shenzhen) Co., Ltd. No one shall copy, alter or take away from the company without permission.			
1. No oxidation of goldfinger (salt spray test required);		40~50 ±0.20 上 0.04		UNIT: mm		A5		1:1		1/1		A5					
2. salt spray test 48±1 hour after the surface no corrosion point and coating off.		50~100 ±0.25 上 0.02		DRAWING:		ZHAO QING HUA		1:1		1/1		A5					

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edition:	A5-R
Date:	2024. 4. 12

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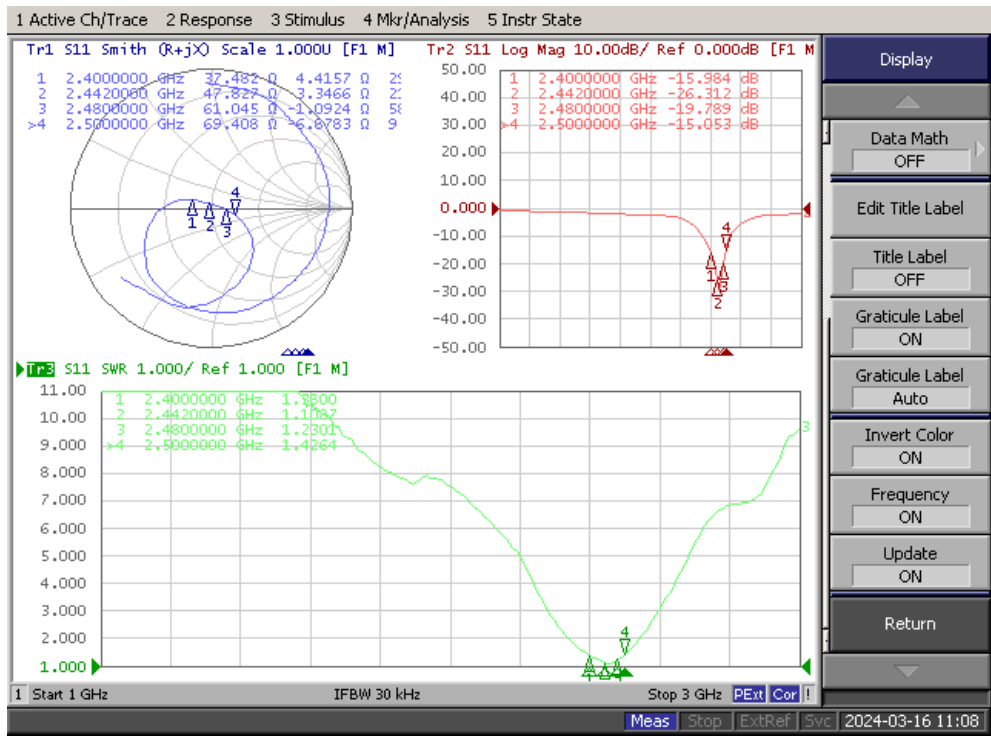
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一： Passive test report

network analyzer(5071B)



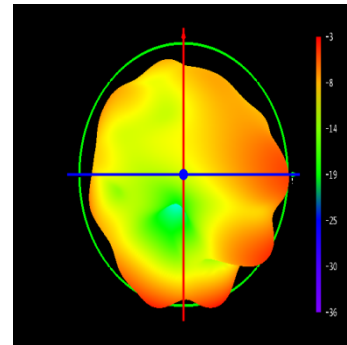
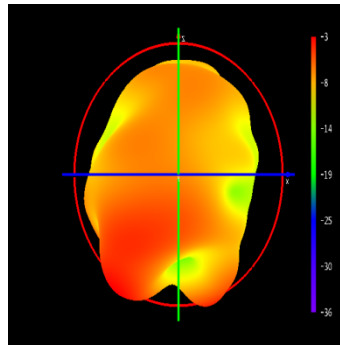
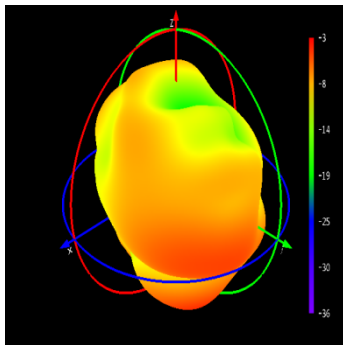
BT antenna S11 parameters



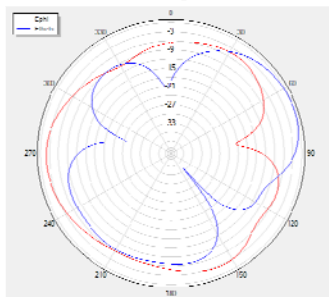
Passive efficiency of antenna

2400-2480MHz				
Freq(MHz)	Gain(dBi)	Efficiency(%)	Gain(dBi)	Efficiency(%)
	free space	free space	Second generation head mold	Second generation head mold
2400	-3.02	32.53	-4.88	14.89
2410	-3.07	34.17	-4.44	16.2
2420	-3.07	36.22	-4.48	16.52
2430	-3.04	37.13	-4.46	16.37
2440	-2.96	36.55	-4.59	16.13
2450	-2.92	33.93	-4.57	15.72
2460	-3.06	33.6	-4.72	15.06
2470	-3.3	32.64	-4.74	14.75
2480	-3.5	30.98	-5.17	14.3

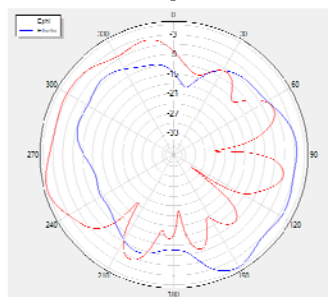
Passive pattern of BT antenna



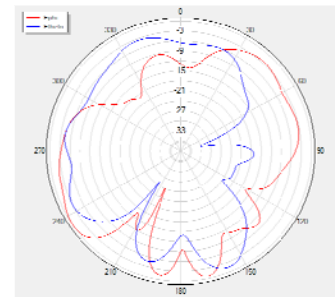
Theta=90 freq=2440MHz



Phi=90 freq=2440MHz



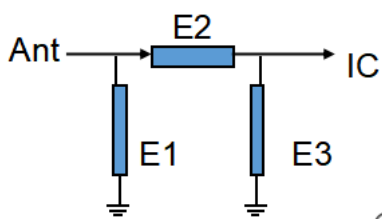
Phi=0 freq=2440MHz



二： BT antenna OTA parameters

BT	Channel	TRP(dBm)	TIS(dBm)
FS	0	6.14	-89.51
	39	6.64	-90.11
	78	6.07	-89.68
BT	Channel	TRP(dBm)	TIS(dBm)
Ear&head	0	0.78	-83.66
	39	1.24	-84.77
	78	0.89	-83.53

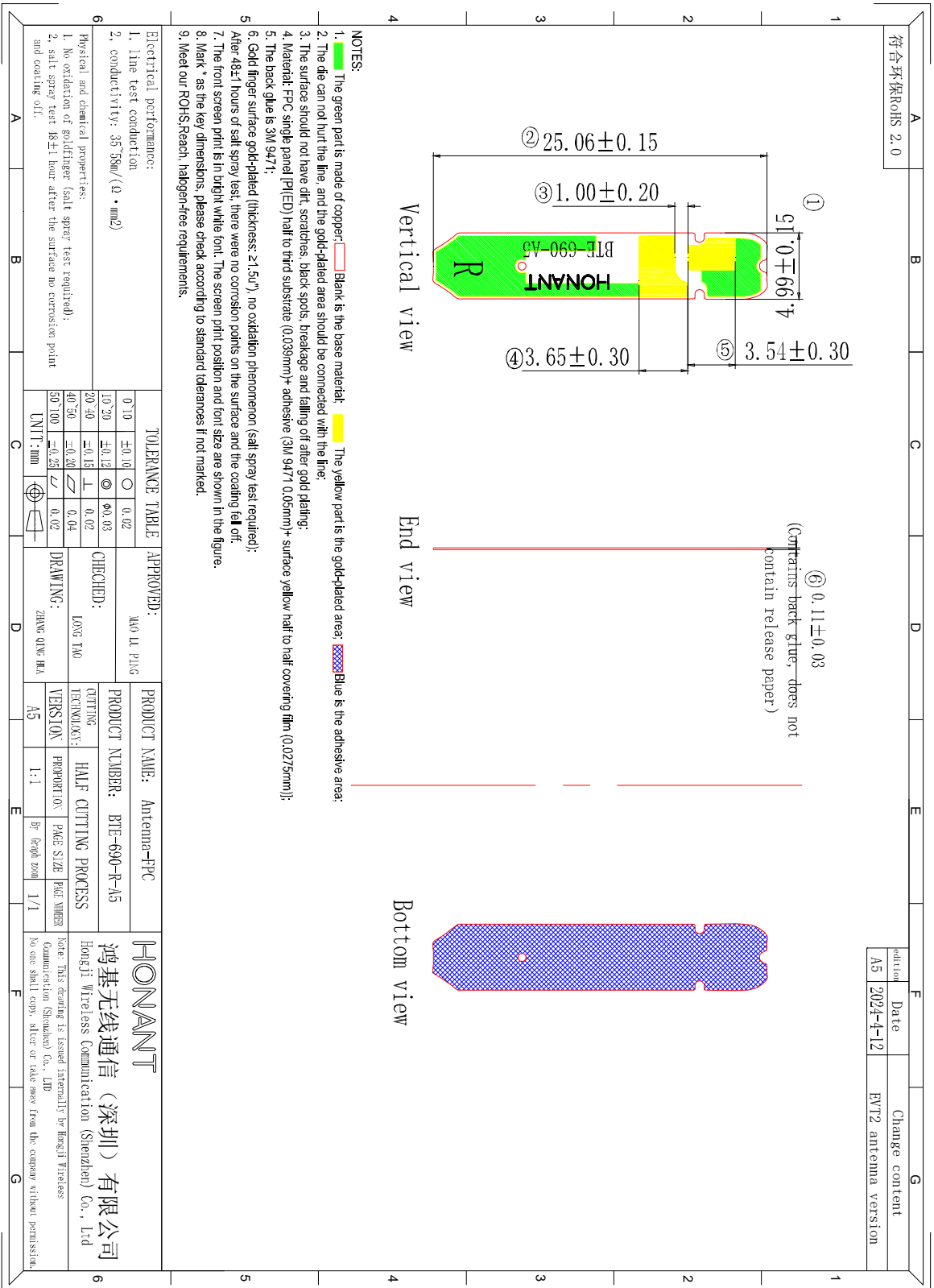
三： Matching circuit



Element	Value
E1	N/A
E2	0Ω
E3	1PF



四：Structure diagram



- NOTES:
- The green part is made of copper; Blank is the base material.
 - The die can not hurt the line, and the gold-plated area should be connected with the line.
 - The surface should not have dirt, scratches, black spots, breakage and falling off after gold plating.
 - Material: FPC single panel (PI/EP) half to third substrate (0.039mm)+ adhesive (3M 9471 0.05mm)+ surface yellow half to half covering film (0.0275mm);
 - The back glue is 3M 9471;
 - Gold finger surface gold-plated (thickness: $\geq 1.5\mu$), no oxidation phenomenon (salt spray test required); After 48±1 hours of salt spray test, there were no corrosion points on the surface and the coating fell off.
 - The front screen print is in bright white font. The screen print position and font size are shown in the figure.
 - Mark * as the key dimensions, please check according to standard tolerances if not marked.
 - Meet our ROHS/Reach, halogen-free requirements.

Electrical performance:

- Line test conduction
- conductivity: $35 \sim 55m\Omega / (\Omega \cdot mm^2)$

Physical and chemical properties:

- No oxidation of goldfinger (salt spray test required);
- salt spray test 18±1 hour after the surface no corrosion point and coating off.

TOLERANCE TABLE	
0~10	±0.10
10~20	±0.15
20~40	±0.15
40~50	±0.20
50~100	±0.20

APPROVED:	MAO LI PING
CHECKED:	LONG TAO
DRAWING:	ZHANG QING MA

PRODUCT NAME:	Antenna-FPC
PRODUCT NUMBER:	BTE-690-R-A5
CUTTING TECHNOLOGY:	HALF CUTTING PROCESS
VERSION:	A5
PROPORTION:	1:1
PAGE SIZE:	A5
PAGE NUMBER:	1/1

HONANT
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 Hongji Wireless Communication (Shenzhen) Co., Ltd
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