



深圳市东信通电子科技有限公司

ShenZhen Eastong Electronic technology Co., LTD

APPROVAL SHEET
FOR
1038C
(internal antenna)

WWAN Main ANT:1038C-260606-MAIN-V1.0
Antenna Model: WWAN DIV ANT: J00204 FJ-DXT
BT/Wi-Fi/GNSS ANT: 1038C-260605-GWB-V1.0

Project: 1038C		Author: 李凯	File Name: 1038C-APP-RA
Date: 2026-06-13			
Rev:	Language:	Check:	
A	ENG		
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Revision History

Date	Revision	Description of Changes
2026-06-13	R:A	Antenna performance approved by customer

1 SUMMARY

2 GENERAL DESCRIPTION

2.1 Definitions

3 MECHANICAL DESCRIPTION

4 ELECTRICAL PERFORMANCE

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1 Summary

This report summarizes the electrical results of the proposed antenna to support the 1038C program. We test the antenna with the latest version handset .

2 General Description

2.1 Definitions

VSWR: Voltage Standing Wave Rate

3 Mechanical Description

4 Electrical Performance

4.1 Set-up

4.1.1 VSWR and return loss

VSWR measurements (S_{11}) were performed using an Agilent E5070B Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

4.1.2 Efficiency, Gain and TRP/TIS

The gain of the antenna was measured in Dong Xin's 3D anechoic chamber in Shenzhen. The chamber is capable of doing tests from 380MHz to 6GHz. Coaxial chokes on the feed cable were used to mitigate surface currents. The measurement results are calibrated using dipole standards. For TRP and TIS the chamber uses a Agilent 8960 to establish the connection with the mobile device. During TRP tests the 8960 reads the power received through the chamber probes whilst during TIS tests the 8960 transmits through the probe. All data is afterwards corrected by a calibration table.

4.1.3 Matching Circuit Description

No matching.

4.2 Measurement Data

Effective Radiated Power Summation

5 Mechanical drawing

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GSM	900			1800		
Let	1	62	124	512	690	885
TRP	22.5	22.3	22.1	22.2	22.3	22.5
TIS			-96.8			-99.5

GSM	850			1900		
Let	128	190	251	512	661	810
TRP	22.7	22.6	22.7	23.3	23.2	23.1
TIS			-98.5			-100.1

WCDMA	2			5		
Let	L	M	H	L	M	H
TRP	15.7	15.4	15.2	14.3	14.1	14.0
TIS			-101.2			-98.5

LTE	B2			B4		
Let	L	M	H	L	M	H
TRP	14.6	14.4	14.2	13.5	13.6	13.8
TIS			-84.6			-84.5

LTE	B7			B28		
Let	L	M	H	L	M	H
TRP	14.6	13.9	13.5	12.5	12.6	12.8
TIS			-84.3			-83.8

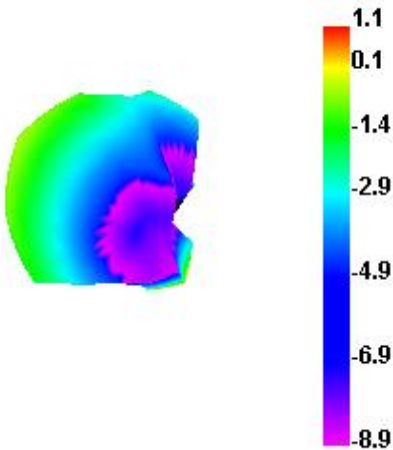
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BT/Wi-Fi antenna efficiency, gain:

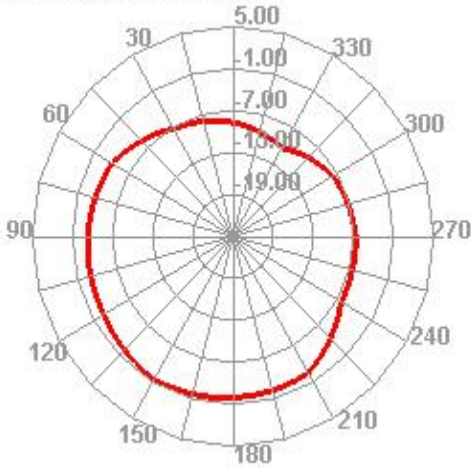
Freq (MHz)	Effi (%)	Gain (dBi)
2400	31.25	1.09
2410	30.58	0.86
2420	30.77	0.75
2430	32.25	0.88
2440	32.17	0.94
2450	31.83	0.83
2460	30.55	0.92
2470	30.26	1.07
2480	31.2	1.11
2490	30.35	1.23
2500	30.63	1.58

Freq (MHz)	Effi (%)	Gain (dBi)
5100	23.22	-1.66
5150	22.74	-2.1
5200	22.38	-1.43
5810	23.6	-2.25
5820	25.17	-2.38
5830	25.36	-1.96
5850	24.34	-1.88
5870	23.81	-2.74
5880	24.33	-2.63
5890	24.17	-3.85
5900	22.5	-2.29

2400.000MHz

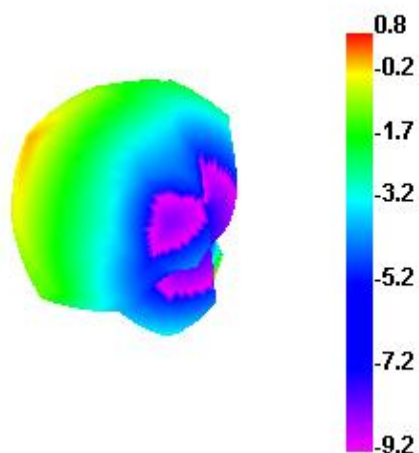


2400.000MHz H

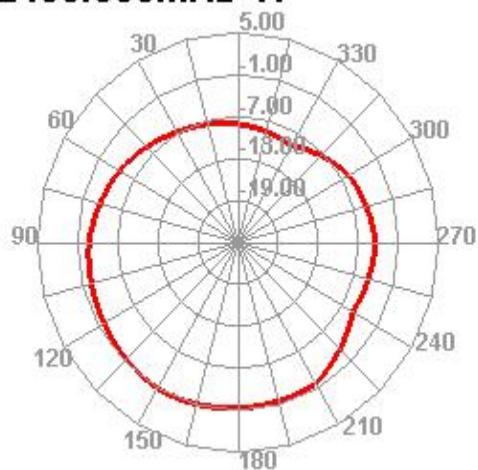


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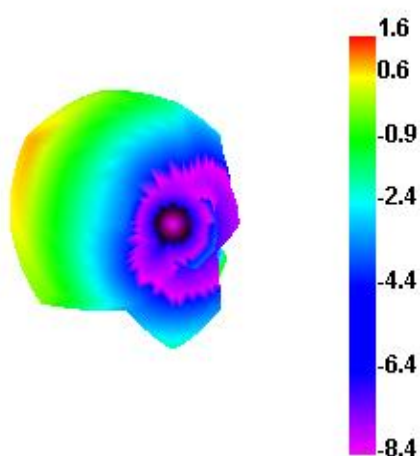
2450.000MHz



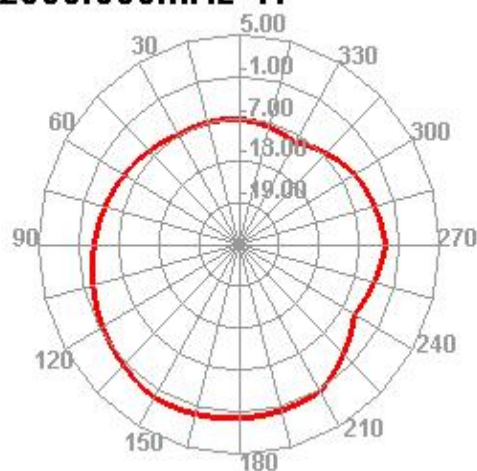
2450.000MHz H



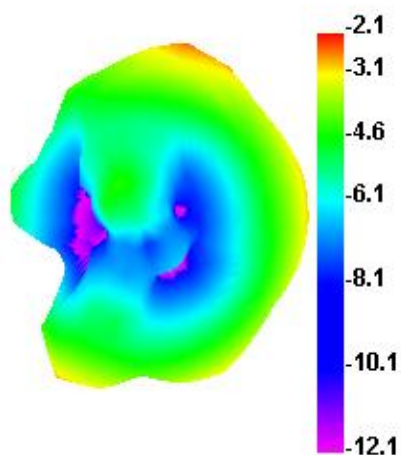
2500.000MHz



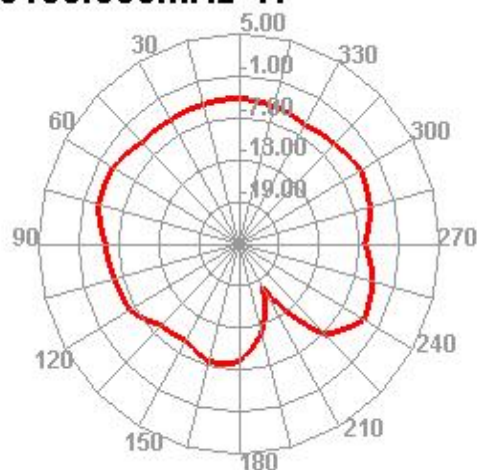
2500.000MHz H



5150.000MHz

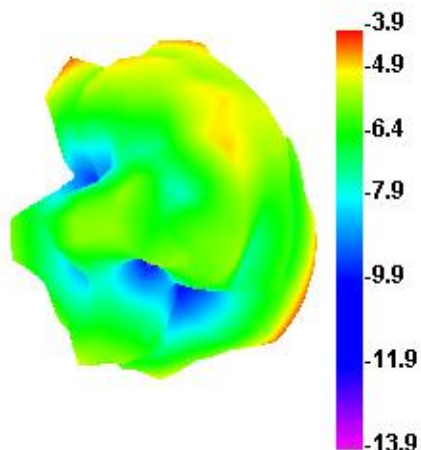


5150.000MHz H

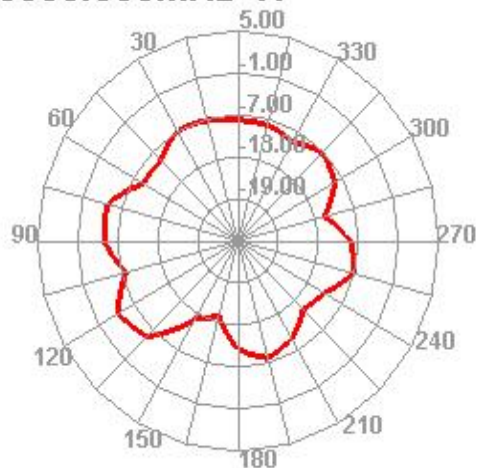


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5800.000MHz



5800.000MHz H

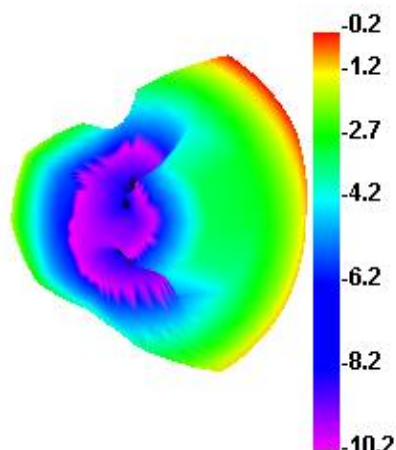


WIFI	2.4G (802.11b)			5G (802.11a)		
Let	1	6	12	36	60	161
TRP	12.4	12.3	12.1	10.6	10.5	9.9
TIS			-79.8			-77.5

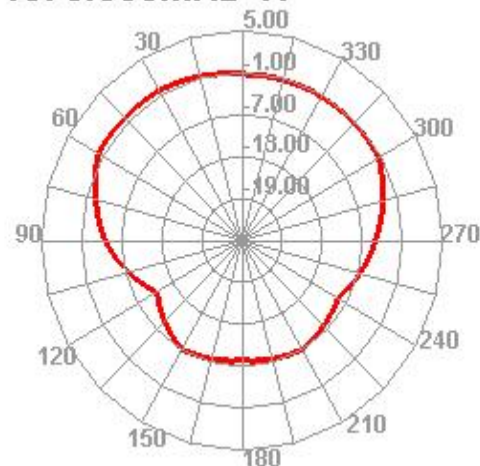
GPS antenna efficiency, gain:

Freq (MHz)	Effi (%)	Gain (dBi)
1500	29.25	-0.28
1575	30.01	-0.22
1600	27.36	-0.49

1575.000MHz



1575.000MHz H

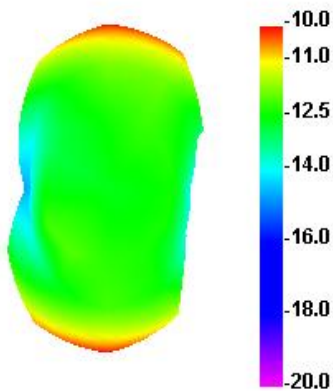


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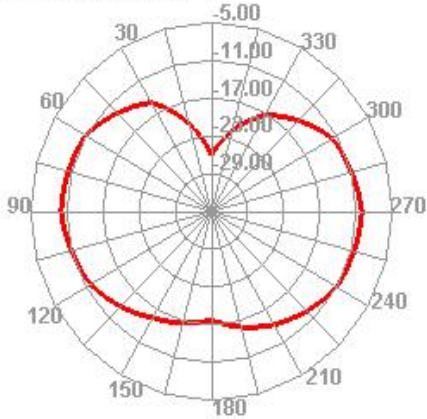
MAIN antenna efficiency, gain:

Freq (MHz)	Effi (%)	Gain (dBi)
2G: 850	18.14	-1.7
2G: 900	15.78	-1.3
2G: 1800	28.63	1.4
2G: 1900	29.45	2.0
3G: 1900	29.45	2.0
3G: 850	18.14	-1.7
4G: B2 (1900)	29.45	2.0
4G: B4 (1700)	23.5	1.6
4G: B7 (2600)	19.83	-1.7
4G: B28 (700)	22.71	-10

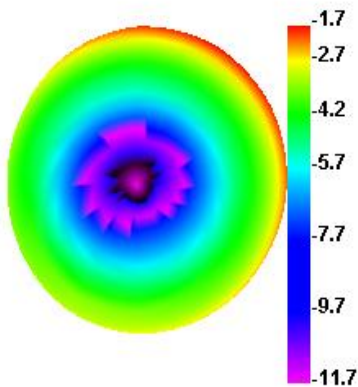
700.000MHz



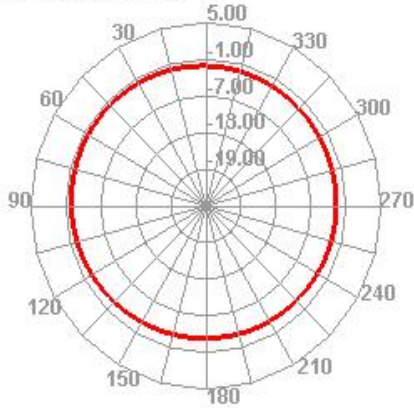
700.000MHz H



850.000MHz

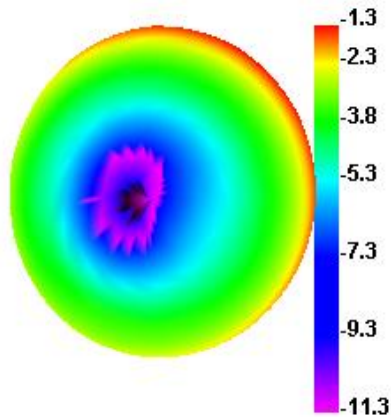


850.000MHz H

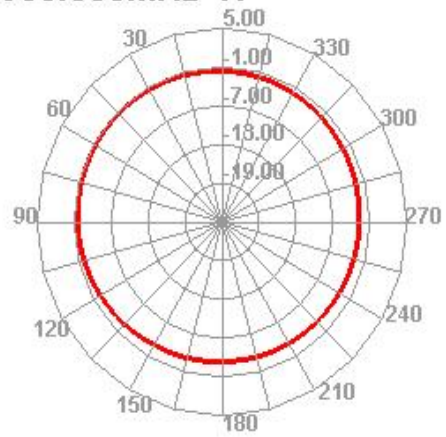


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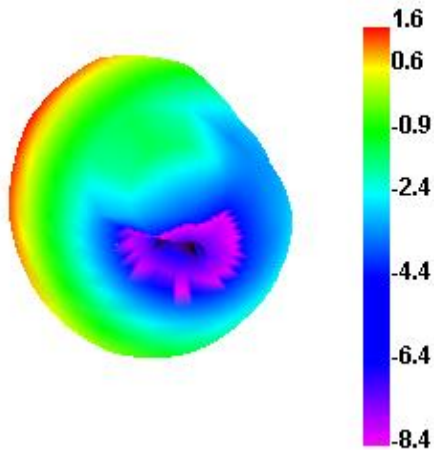
900.000MHz



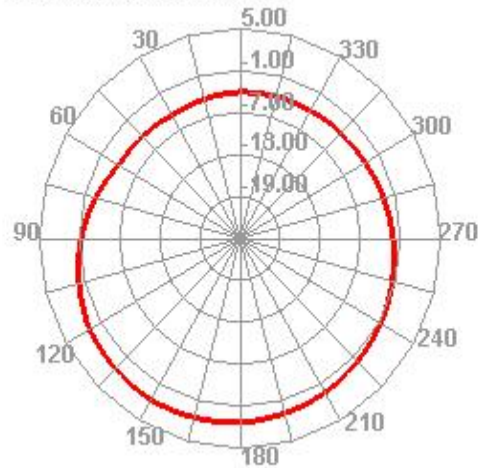
900.000MHz H



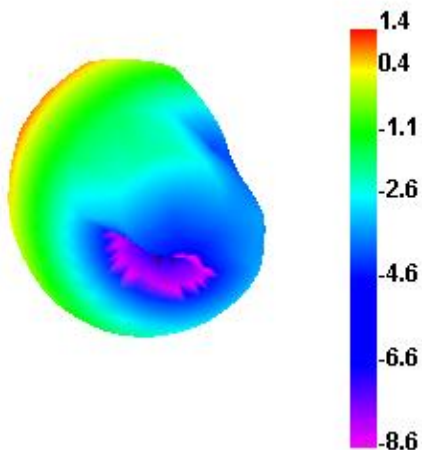
1700.000MHz



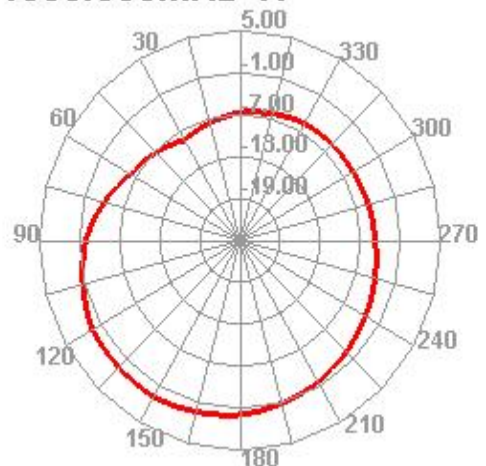
1700.000MHz H



1800.000MHz



1800.000MHz H

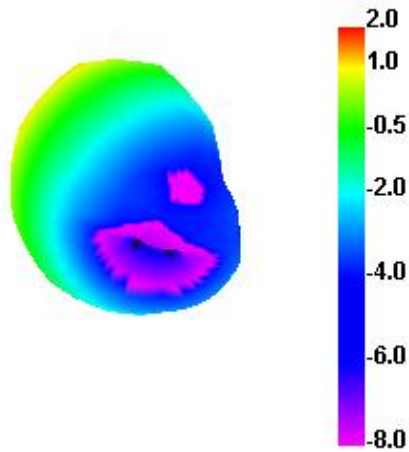


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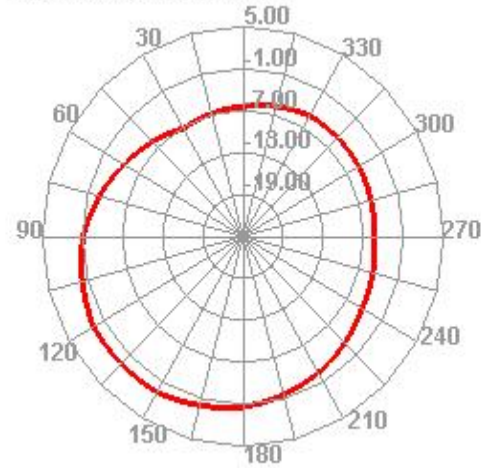
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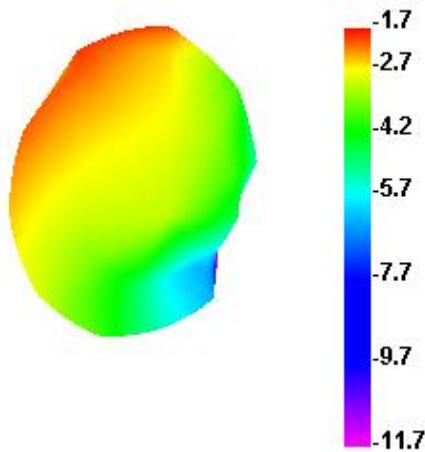
1900.000MHz



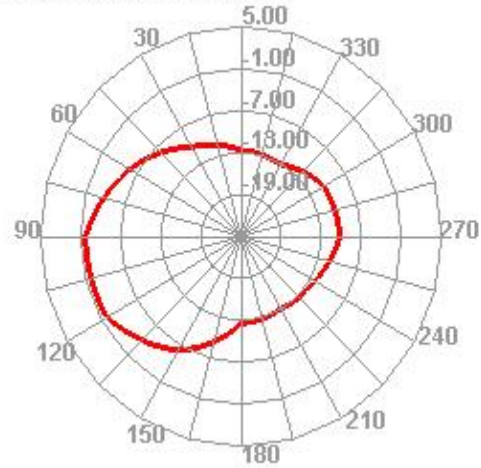
1900.000MHz H



2600.000MHz



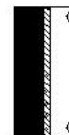
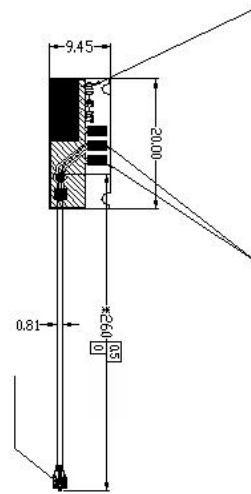
2600.000MHz H



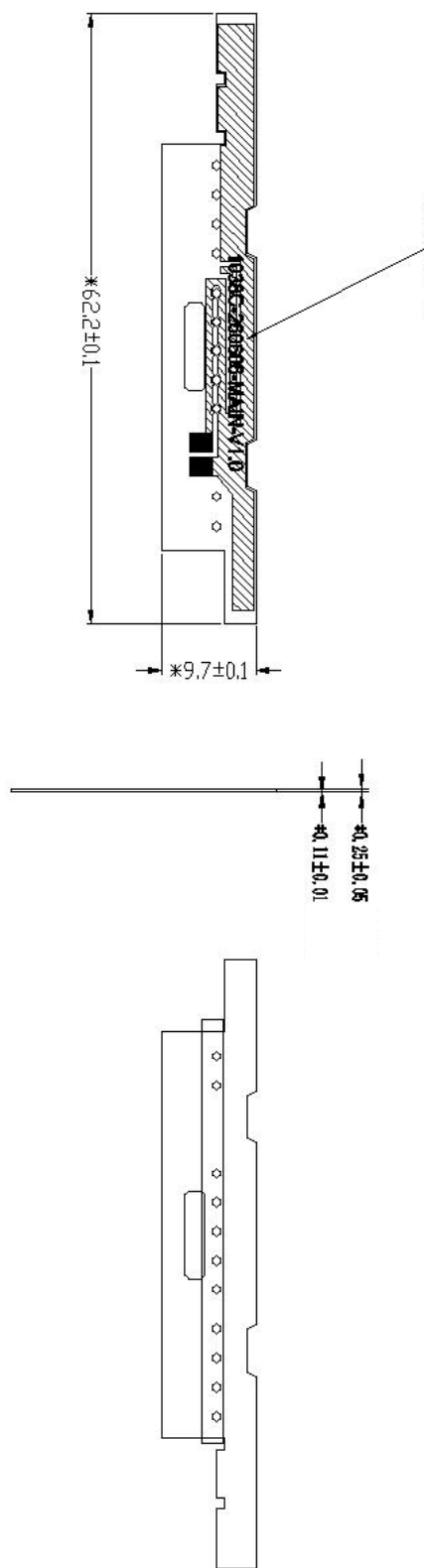
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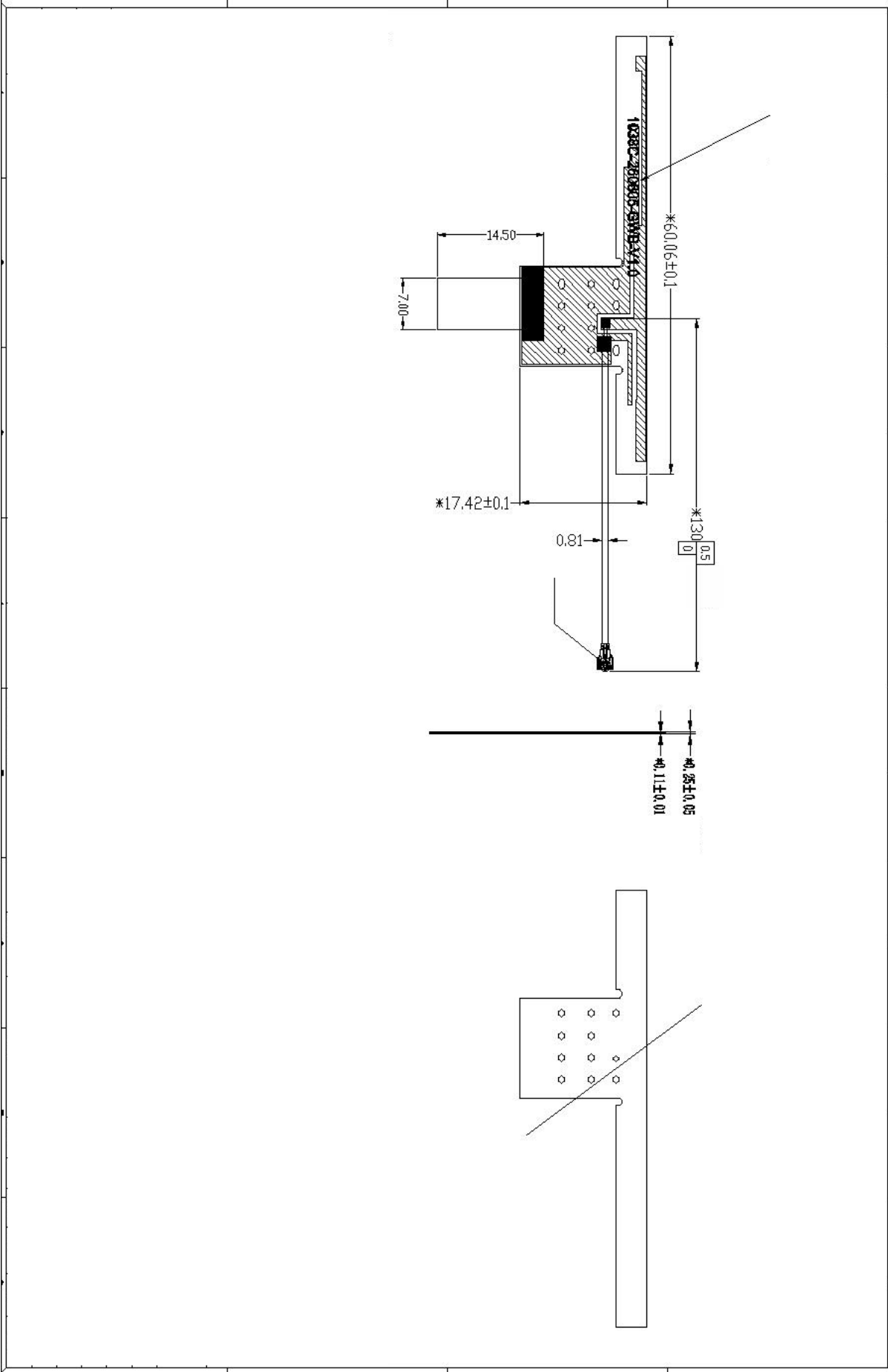
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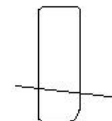
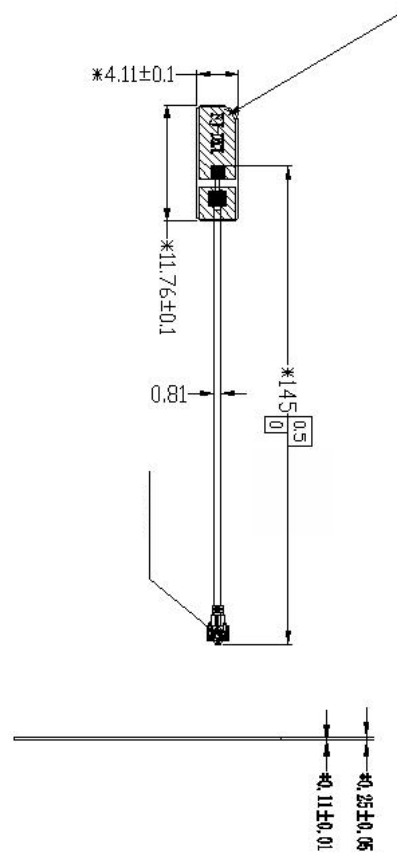
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