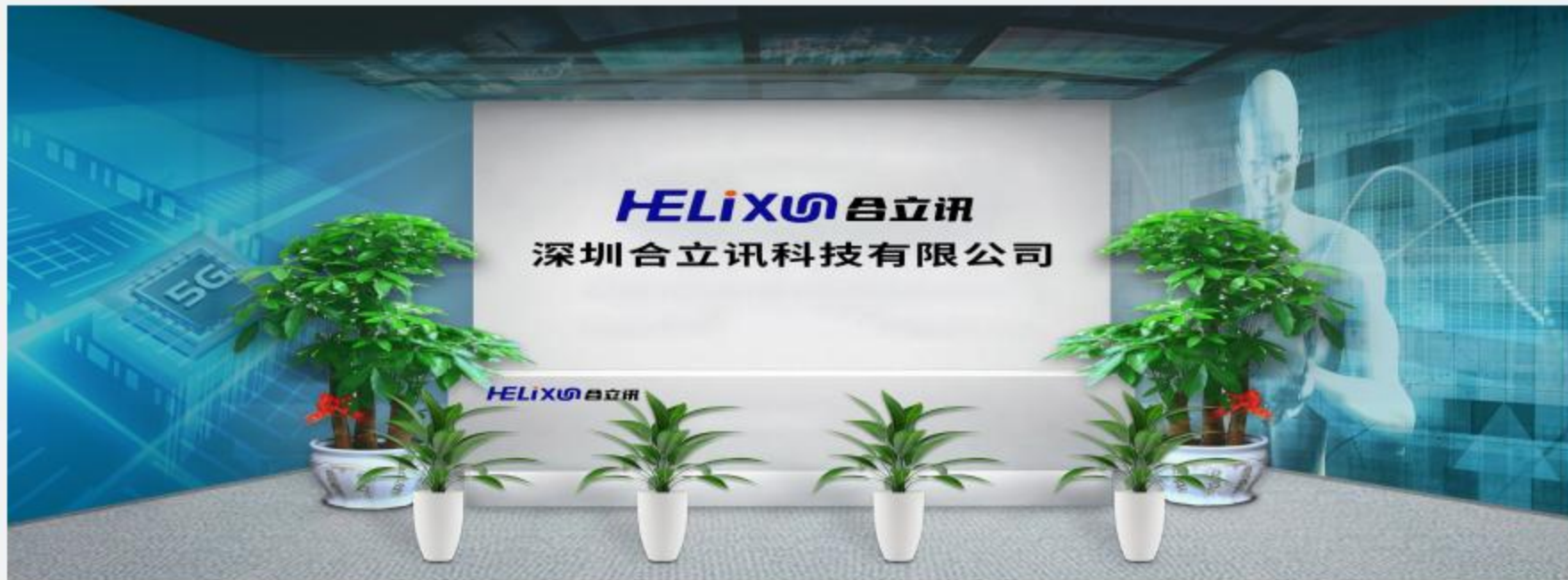


Antenna Test Report



supplier	Shenzhen Helixun Technology Co., LTD
Customer	长音电子
Project	HLX0028-BT
Antenna Revision	A0
Prepared by	
Checked by	17279710721 2022.06.20

Purpose

This report is to measure the performance of antenna for **HLX0028-BT** The antenna operating frequency at 2400-2500MHz, All test data are showed as below.

Content

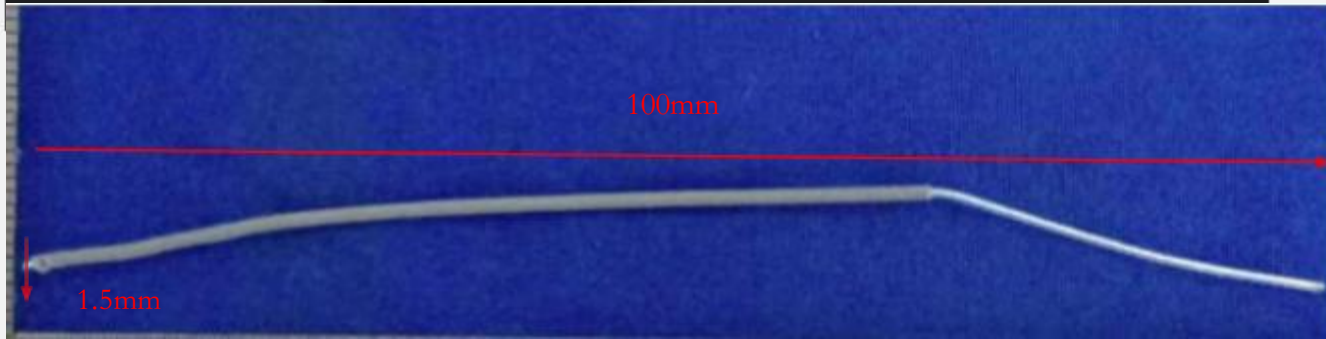
- 1 . est system
- 2 . Product Overview Dimension
- 3 . Test Result
 - 3 . 1 S11 Parameter
 - 3 . 2 Gain & Efficiency
 - 3.3 2D Pattern

1. Test System

Sequence Number	Test Item	equipment
S parameter	VSWR	Agilent 5071C & Agilent 5071B
OTA Test	TRP&TIS	Agilent 8960 & CMW500 STIMO
Gain & Efficiency	Gain & Efficiency	SATIMO Agilent 5071C



2.Product Overview & Dimension



3. Test Result

3.1 S11 Parameter-VSWR

Tr2 S11 SWR 1.000 / Ref 1.000 [F1]

11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000

1	2.4000000	GHz	1.6328
2	2.4500000	GHz	1.5228
3	2.4800000	GHz	1.4499
4	2.5000000	GHz	1.4161



frequency (MHz)	2400	2450	2480	2500
VSWR	1.63	1.52	1.44	1.41

3. Test Result

3.1 S11 Parameter-Log Mag



Frequency (MHz)	2400	2450	2480	2500
Log Mag	- 12.38	- 13.67	- 14.72	- 15.27

3. Test Result

3.1 S11 Parameter-Smith

Tr3 S11 Smith (R+jX) Scale 1.000U [F1]

Point	Frequency (GHz)	Real (Ω)	Imag (Ω)	Capacitance (pF)
1	2.4000000	31.332	-5.9786	11.092
2	2.4500000	33.535	-5.4663	11.884
3	2.4800000	35.454	-5.9950	10.705
4	2.5000000	36.661	-6.8004	9.3615



Frequency (MHz)	2400	2450	2480	2500
Smith(Ω)	31.33	33.53	35.45	36.66

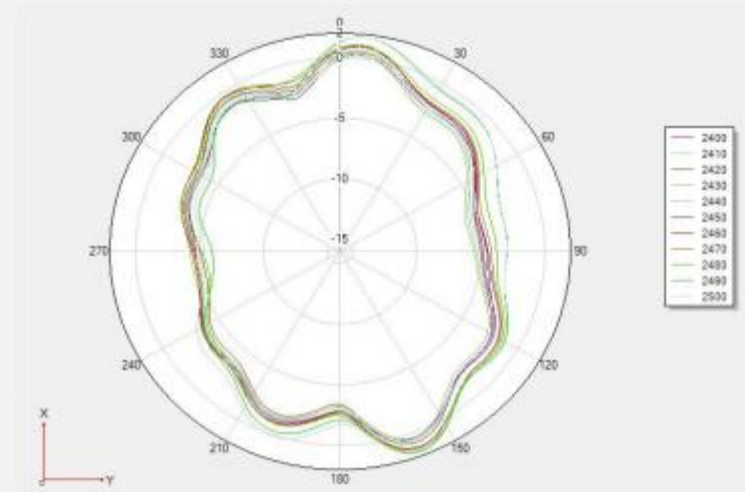
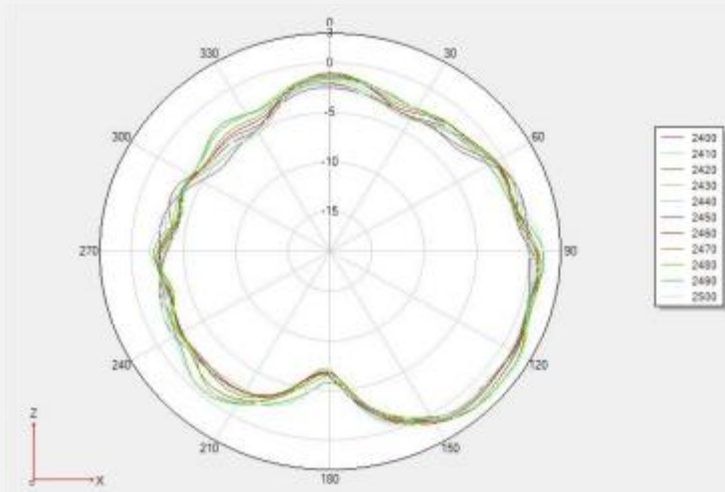
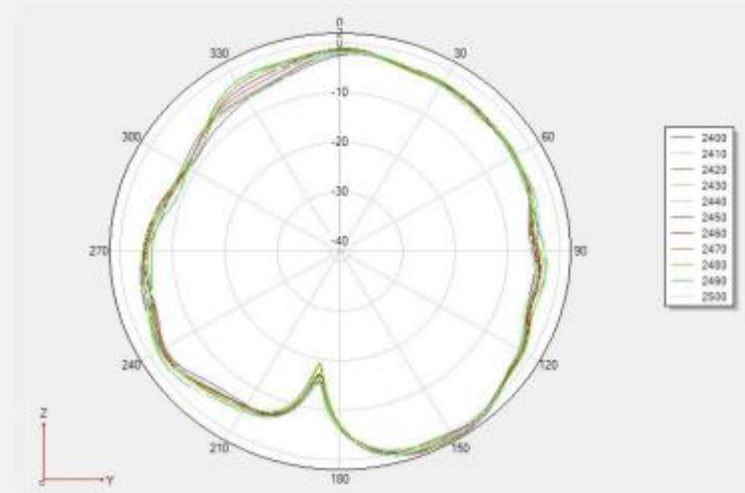
3. Test Result

3.2 Gain & Efficiency——**ANT**

Frequency (MHz)	Efficiency (%)	Max GAIN (dBi)
2400	55.85	2.75
2410	57.02	2.79
2420	56.89	2.94
2430	56.49	2.79
2440	57.15	2.96
2450	59.29	3.24
2460	61.52	3.57
2470	59.98	3.55
2480	60.67	3.73
2490	60.26	3.62
2500	59.98	3.35

3. Test Result

3.3 2D Pattern——BT ANT



Thank you!