



Antenna test report

Customer:吉声

Model Name: IB100

Frequency: LTE(824~2690MHz)
BT(2402~2480MHz)
GNSS(1559~1602MHz)

Date: 2025.03.20

Number: 20250320001

Producer: FAE



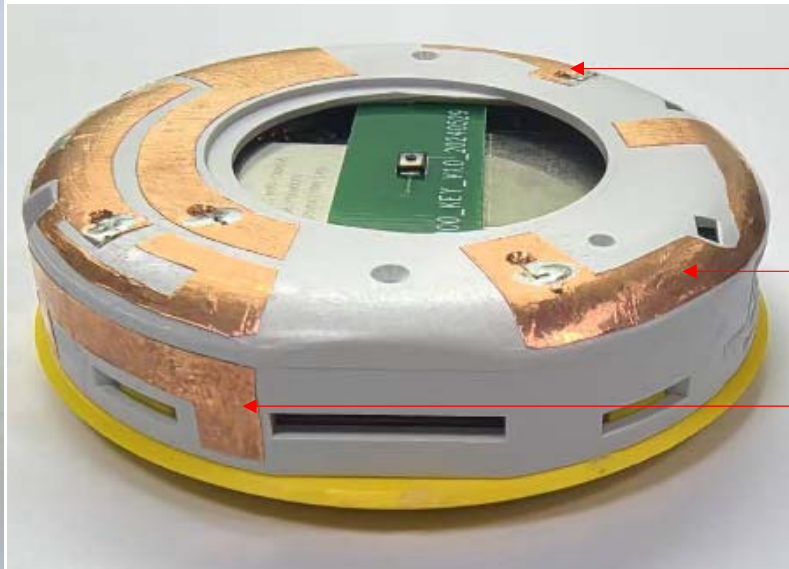
Outline

NO	PROJECT	Pagination
1	Appearance of customer Sample	Page 3
2	Antenna matching parameters-BT	Page 4
3	Antenna S parameters-BT	Page 5
4	Antenna S parameters-LTE	Page 6
5	Antenna Passive parameter-BT	Page 7
6	Antenna Passive parameter-LTE	Page 8
7	Conclusion	Page 9





Appearance of customer Sample



BT Antenna

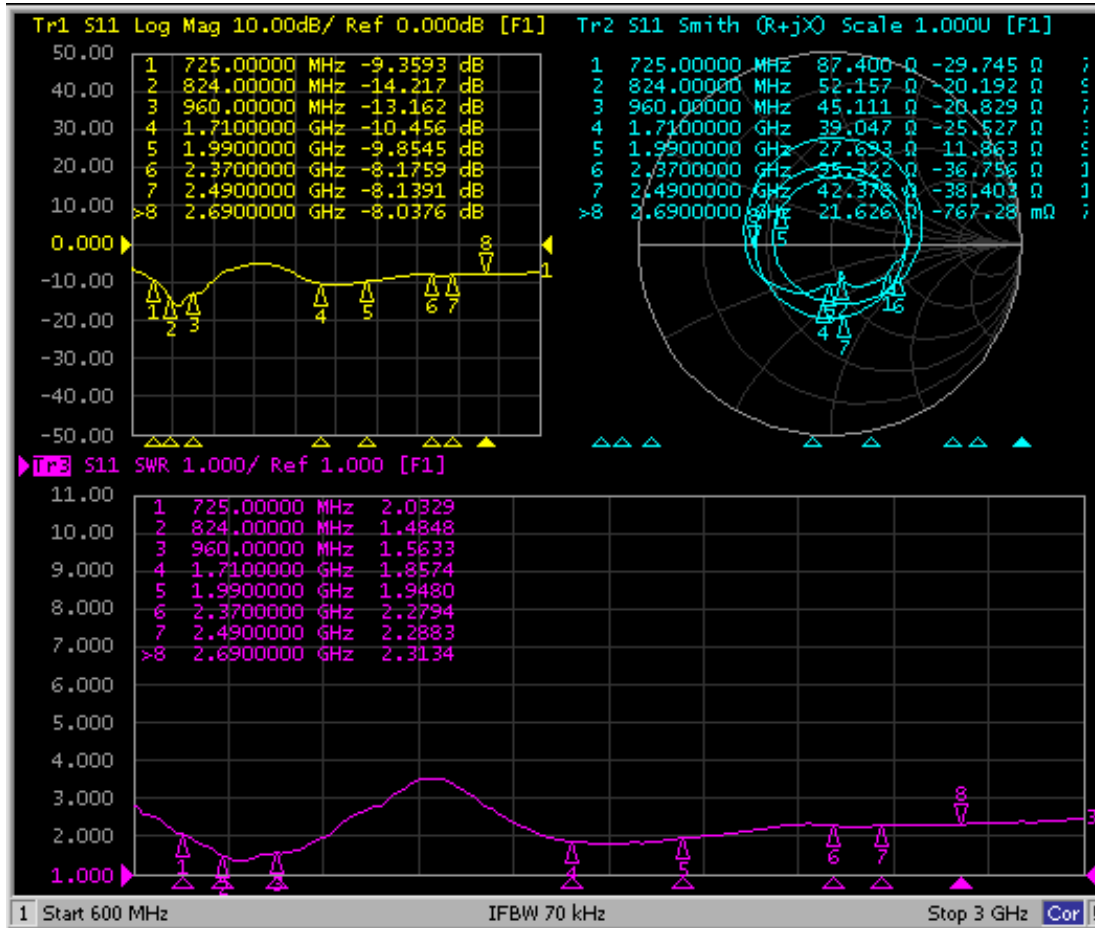
GNSS Antenna

LTE Antenna





Antenna S parameters-LTE



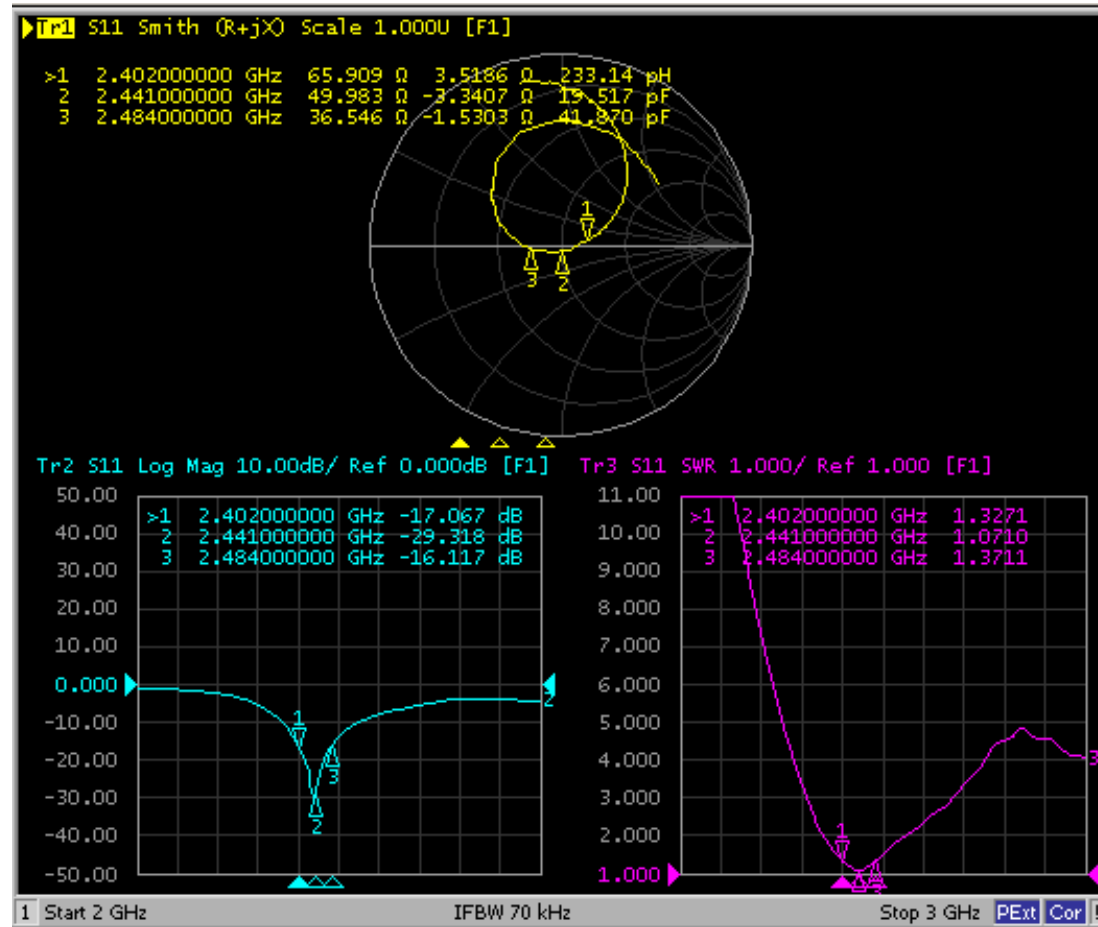
Item	Value			
	725(MHz)	824(MHz)	960(MHz)	1710(MHz)
Smith(Ω)	87.40	52.15	45.11	39.04
Return loss(dB)	-9.35	-14.21	-13.16	-10.45
VSWR	2.03	1.48	1.56	1.85

Item	Value			
	1990(MHz)	2370(MHz)	2490(MHz)	2690(MHz)
Smith(Ω)	27.69	35.32	42.37	21.62
Return loss(dB)	-9.85	-8.17	-8.13	-8.03
VSWR	1.94	2.27	2.28	2.31





Antenna S parameters-BT

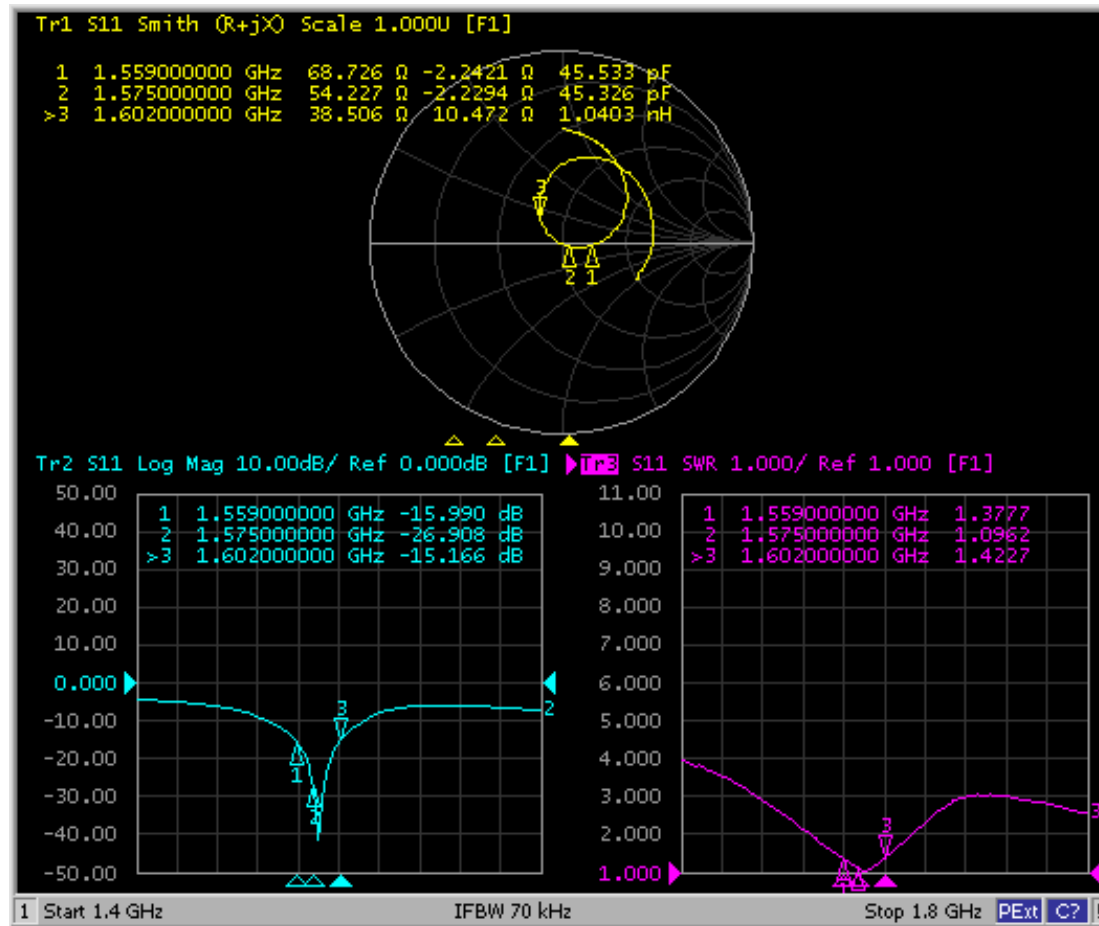


Item	Value		
	2402(MHz)	2441(MHz)	2484(MHz)
Smith(Ω)	65.90	49.98	36.54
Return loss(dB)	-17.06	-29.31	-16.11
VSWR	1.32	1.07	1.37





Antenna S parameters-GNSS



Item	Value		
	1559(MHz)	1575(MHz)	1602(MHz)
Smith(Ω)	68.72	54.22	38.50
Return loss(dB)	-15.99	-26.90	-15.16
VSWR	1.37	1.09	1.42





Antenna Passive parameter-LTE

Frequency (MHz)	Efficiency (%)	Mean gain (dbi)	Peak Gain (dBi)
725	30.86	-5.11	-1.13
824	29.95	-5.24	-0.11
960	39.84	-4	0.87
1710	50.39	-2.98	1.33
1990	54.93	-2.6	1.55
2170	68.06	-1.67	2.01
2370	60.37	-2.19	3.31
2490	64.51	-1.9	3.17
2690	51.21	-2.91	2.81





Antenna Passive parameter-BT

Frequency (MHz)	Efficiency (%)	Mean gain (dbi)	Peak Gain (dBi)
2400	53.13	-2.75	1.06
2410	53.99	-2.68	1.24
2420	53.93	-2.68	1.29
2430	55.38	-2.57	1.39
2440	54.76	-2.62	1.41
2450	54.68	-2.62	1.54
2460	59.06	-2.29	1.89
2470	59.54	-2.25	2.05
2480	59.53	-2.25	2.1





Antenna Passive parameter-GNSS

Frequency (MHz)	Efficiency (%)	Mean gain (dbi)	Peak Gain (dBi)
1556	39.29	-4.06	-0.01
1559	42.35	-3.73	0.24
1562	40.02	-3.98	-0.09
1572	42.41	-3.73	0.18
1575	45.31	-3.44	0.45
1578	45.98	-3.37	0.48
1599	46.62	-3.31	0.62
1602	46.2	-3.35	0.22
1605	48.77	-3.12	0.62





Conclusion

- In this work, we have carried out antenna design for IB100's LTE antenna, Bluetooth antenna,GNSS antenna.
- The designed antenna bandwidth S parameter meets the radiation requirement.
- The test efficiency of all antennas in the anechoic chamber of HEK is greater than 25%, meeting the radiation requirements.
- Please make the final confirmation.
- If you have any questions, please feel free to contact us.



Thanks

