

1、Summary of the report

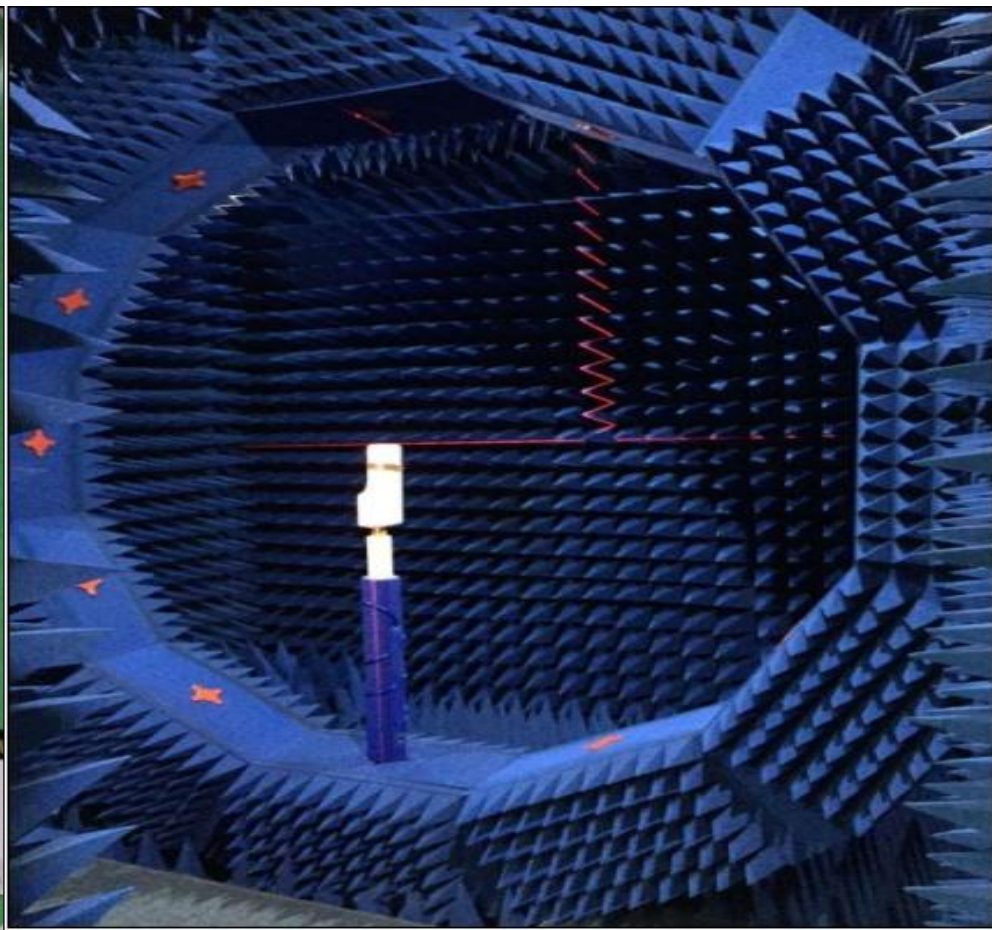
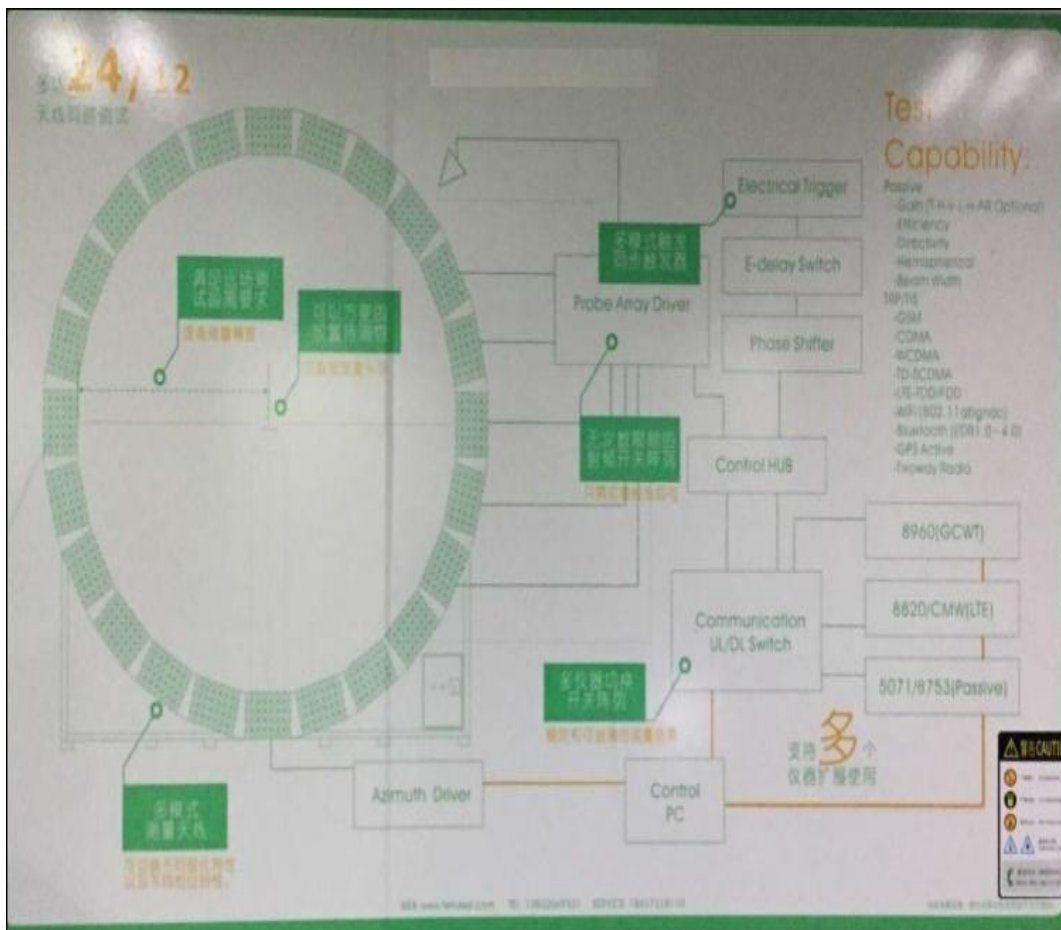
Version	Date	Content overview
V1	20250214	Antenna debugging data
V2		
V3		



深圳信格诺通讯科技有限公司

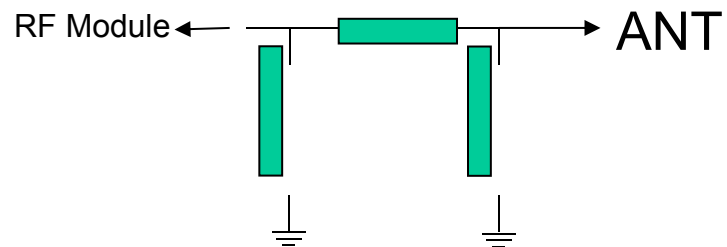
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2、 Test equipment information



3、Main road antenna matching (no change)

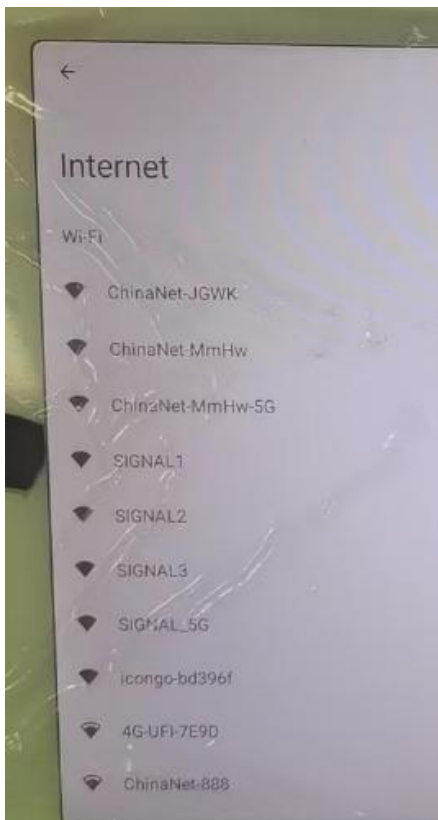
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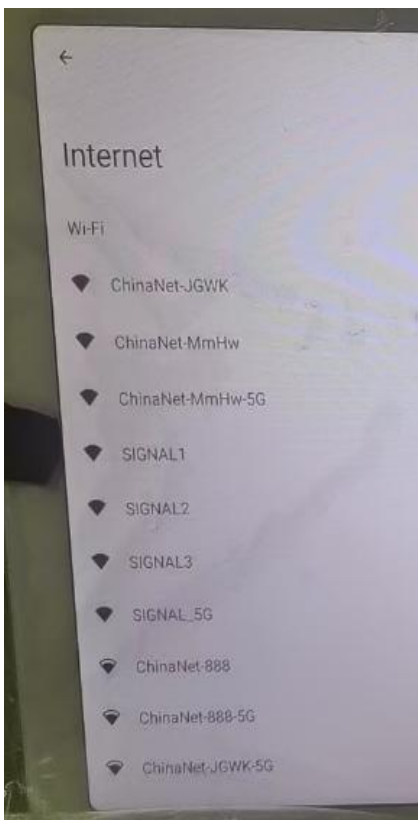
4、2.4G WIFI/5G WIFI Active antenna test data

Band	Channel	TRP	TIS
2.4G(802.11b)	1	12.40	-80.97
	6	13.56	-78.77
	13	12.89	-80.20
5G(802.11a)	149	13.63	-67.81
	157	14.85	-68.09
	165	14.42	-69.27

5、2.4G/5G WIFI actual test data



不隔墙5米



不隔墙10米



隔墙10米

SIGNAL3 为2.4G WIFI,SIGNAL_5G为5G WIFI



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Shenzhen Signal Communication Technology Co., Ltd.

6、2.4G WIFI Passive test data

Test Point ID	Freq. (MHz)	TRP (dBm)	Gain (dBi)	Directivity (dBi)	Efficiency (%)	Efficiency (dB)	Max (dBm)	Theta of Max	Phi of Max	Min (dBm)	Theta of Min	Phi of Min	AVG (dBm)	Max/Min (dB)	Max/AVG (dB)	Min/AVG (dB)
1	2350.0	2350.00	-0.08	6.40	22.5%	-6.47	-0.08	15000	180	-36.87	18000	3000	-6.99	36.79	6.91	-29.88
2	2355.0	2355.00	0.01	6.42	22.9%	-6.40	0.01	15000	180	-35.42	18000	3000	-6.92	35.44	6.93	-28.50
3	2360.0	2360.00	0.19	6.41	23.9%	-6.22	0.19	15000	180	-32.84	18000	3000	-6.73	33.02	6.92	-26.11
4	2365.0	2365.00	0.35	6.46	24.5%	-6.11	0.35	15000	15000	-32.70	18000	3000	-6.62	33.05	6.97	-26.08
5	2370.0	2370.00	0.52	6.49	25.3%	-5.98	0.52	15000	15000	-32.61	18000	3000	-6.47	33.12	6.99	-26.13
6	2375.0	2375.00	0.88	6.66	26.4%	-5.78	0.88	15000	15000	-33.25	18000	3000	-6.27	34.12	7.15	-26.97
7	2380.0	2380.00	0.97	6.68	26.8%	-5.71	0.97	15000	15000	-32.60	18000	3000	-6.20	33.57	7.17	-26.39
8	2385.0	2385.00	1.19	6.73	27.9%	-5.54	1.19	15000	15000	-30.60	18000	6000	-6.03	31.79	7.22	-24.57
9	2390.0	2390.00	1.48	6.82	29.2%	-5.34	1.48	15000	15000	-28.72	18000	6000	-5.83	30.20	7.30	-22.89
10	2395.0	2395.00	1.66	6.89	30.0%	-5.24	1.66	15000	15000	-28.14	18000	6000	-5.72	29.80	7.37	-22.43
11	2400.0	2400.00	1.91	6.94	31.4%	-5.03	1.91	15000	15000	-29.19	18000	6000	-5.51	31.10	7.42	-23.68
12	2405.0	2405.00	2.13	6.98	32.8%	-4.85	2.13	15000	15000	-29.88	18000	6000	-5.32	32.01	7.46	-24.56
13	2410.0	2410.00	2.26	7.04	33.3%	-4.78	2.26	15000	15000	-30.65	18000	6000	-5.26	32.90	7.52	-25.39
14	2415.0	2415.00	2.34	7.06	33.7%	-4.72	2.34	15000	15000	-31.19	18000	6000	-5.21	33.53	7.54	-25.99
15	2420.0	2420.00	2.51	7.14	34.5%	-4.62	2.51	15000	15000	-29.13	18000	6000	-5.11	31.64	7.62	-24.02
16	2425.0	2425.00	2.68	7.18	35.4%	-4.50	2.68	15000	15000	-27.00	18000	6000	-4.98	29.67	7.66	-22.01
17	2430.0	2430.00	2.86	7.24	36.4%	-4.38	2.86	15000	15000	-27.88	18000	6000	-4.87	30.74	7.72	-23.02
18	2435.0	2435.00	2.96	7.27	37.1%	-4.30	2.96	15000	15000	-28.84	18000	6000	-4.79	31.80	7.75	-24.05
19	2440.0	2440.00	3.16	7.32	38.4%	-4.16	3.16	15000	15000	-29.61	18000	6000	-4.64	32.77	7.80	-24.97
20	2445.0	2445.00	3.26	7.34	39.1%	-4.07	3.26	15000	15000	-30.93	18000	0	-4.55	34.19	7.81	-26.38
21	2450.0	2450.00	3.22	7.28	39.2%	-4.06	3.22	15000	15000	-30.20	18000	0	-4.54	33.42	7.76	-25.66
22	2455.0	2455.00	3.27	7.29	39.6%	-4.02	3.27	15000	15000	-29.61	18000	0	-4.49	32.88	7.76	-25.12
23	2460.0	2460.00	3.25	7.21	40.2%	-3.96	3.25	15000	15000	-29.96	18000	0	-4.42	33.21	7.67	-25.54
24	2465.0	2465.00	3.19	7.13	40.4%	-3.94	3.19	15000	15000	-32.34	18000	0	-4.40	35.53	7.59	-27.93
25	2470.0	2470.00	3.18	7.07	40.9%	-3.89	3.18	15000	15000	-33.22	18000	0	-4.35	36.40	7.53	-28.87
26	2475.0	2475.00	3.07	6.99	40.6%	-3.92	3.07	15000	15000	-33.94	18000	0	-4.39	37.01	7.46	-29.55
27	2480.0	2480.00	3.03	7.00	40.1%	-3.97	3.03	12000	9000	-33.00	18000	0	-4.44	36.03	7.47	-28.56
28	2485.0	2485.00	3.02	7.04	39.6%	-4.03	3.02	12000	9000	-31.90	18000	0	-4.50	34.92	7.51	-27.40
29	2490.0	2490.00	2.98	7.08	38.9%	-4.10	2.98	12000	9000	-31.87	18000	0	-4.57	34.85	7.55	-27.30
30	2495.0	2495.00	2.94	7.12	38.2%	-4.18	2.94	12000	9000	-32.99	18000	0	-4.66	35.93	7.59	-28.34
31	2500.0	2500.00	2.93	7.17	37.6%	-4.24	2.93	12000	9000	-36.79	18000	0	-4.72	39.72	7.65	-32.07

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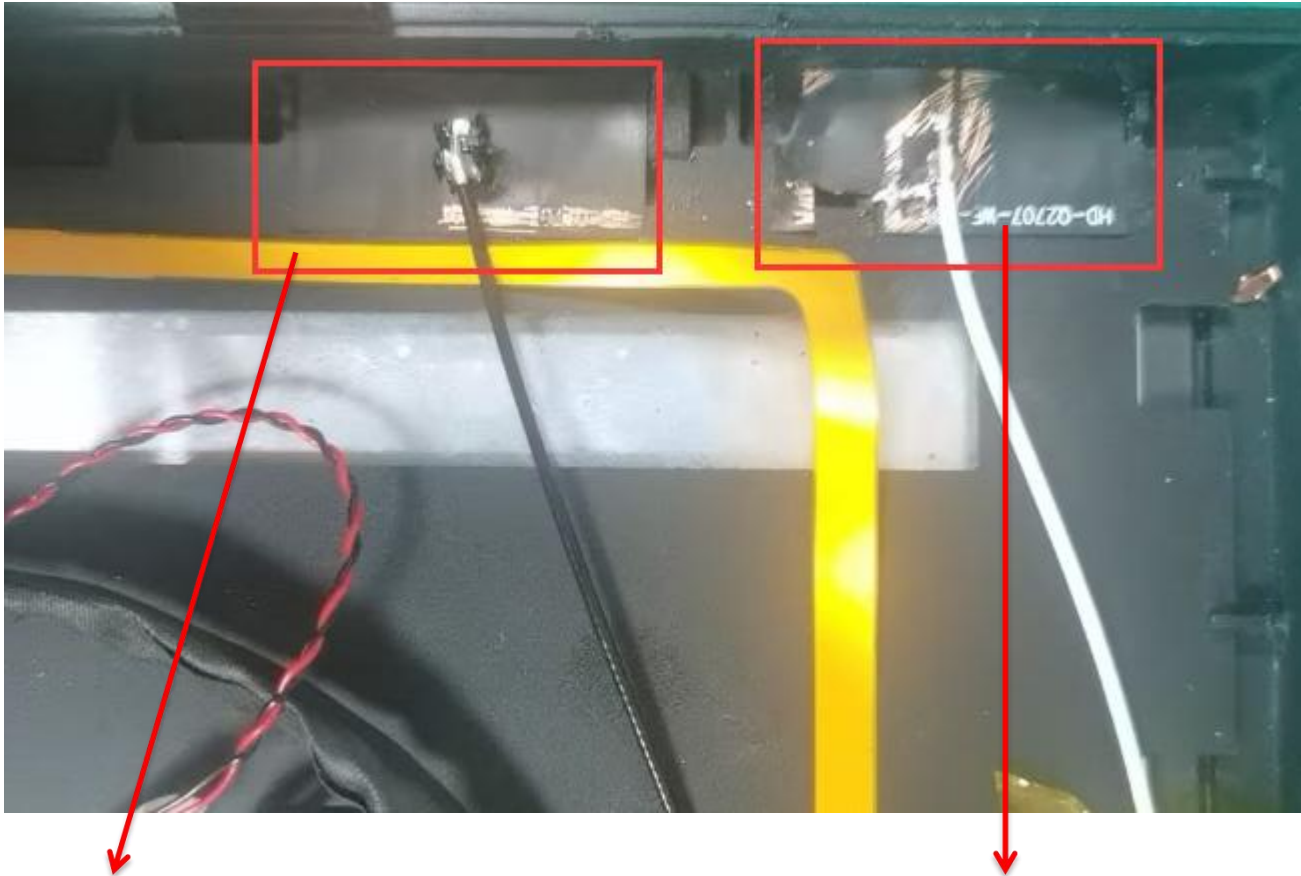
7、5G WIFI Passive test data

Test Point ID	Freq. (MHz)	TRP (dBm)	Gain (dBi)	Directivity (dBi)	Efficiency (%)	Efficiency (dB)	Max (dBm)	Theta of Max	Phi of Max	Min (dBm)	Theta of Min	Phi of Min	AVG (dBm)	Max/Min (dB)	Max/AVG (dB)	Min/AVG (dB)
1	5120.0	5120.00	-0.11	5.57	27.1%	-5.68	-0.11	15000	3180	-34.30	18000	9000	-5.74	34.20	5.63	-28.57
2	5140.0	5140.00	0.60	6.01	28.8%	-5.41	0.60	15000	3180	-34.34	18000	12000	-5.48	34.94	6.07	-28.86
3	5160.0	5160.00	0.83	6.05	30.1%	-5.22	0.83	15000	3180	-34.90	18000	12000	-5.32	35.73	6.15	-29.58
4	5180.0	5180.00	-0.62	4.87	28.3%	-5.49	-0.62	15000	3180	-34.00	18000	9000	-5.67	33.39	5.05	-28.34
5	5200.0	5200.00	-1.11	4.61	26.8%	-5.72	-1.11	15000	3180	-34.62	18000	12000	-5.85	33.51	4.74	-28.77
6	5220.0	5220.00	-1.55	4.41	25.4%	-5.95	-1.55	15000	3180	-34.86	18000	9000	-6.06	33.31	4.51	-28.80
7	5240.0	5240.00	-0.11	5.22	29.3%	-5.33	-0.11	15000	3180	-34.17	18000	12000	-5.45	34.06	5.34	-28.72
8	5260.0	5260.00	0.35	5.85	28.2%	-5.50	0.35	15000	3180	-34.38	18000	9000	-5.53	34.73	5.88	-28.85
9	5280.0	5280.00	0.49	5.64	30.5%	-5.15	0.49	15000	3180	-34.40	18000	12000	-5.25	34.89	5.74	-29.15
10	5300.0	5300.00	-0.10	5.27	29.1%	-5.37	-0.10	15000	3180	-34.67	18000	12000	-5.49	34.58	5.39	-29.18
11	5320.0	5320.00	-0.10	5.26	29.1%	-5.37	-0.10	15000	3180	-34.31	18000	12000	-5.51	34.21	5.40	-28.80
12	5340.0	5340.00	-0.50	4.92	28.7%	-5.42	-0.50	15000	3180	-34.45	18000	9000	-5.60	33.95	5.10	-28.86
13	5360.0	5360.00	-0.48	4.85	29.4%	-5.32	-0.48	15000	3180	-35.42	18000	12000	-5.53	34.94	5.05	-29.90
14	5380.0	5380.00	-0.95	4.77	26.8%	-5.71	-0.95	15000	3180	-34.82	18000	9000	-5.83	33.88	4.88	-28.99
15	5400.0	5400.00	-1.33	4.43	26.5%	-5.76	-1.33	15000	3180	-33.86	18000	12000	-5.88	32.53	4.55	-27.99
16	5420.0	5420.00	-1.58	4.29	25.9%	-5.86	-1.58	15000	3180	-34.08	18000	9000	-5.97	32.50	4.39	-28.10
17	5440.0	5440.00	-0.80	4.85	27.2%	-5.65	-0.80	12000	3180	-34.11	18000	9000	-5.74	33.31	4.94	-28.37
18	5460.0	5460.00	0.30	5.47	30.4%	-5.17	0.30	12000	3180	-34.40	18000	9000	-5.33	34.70	5.63	-29.07
19	5480.0	5480.00	0.16	5.35	30.2%	-5.19	0.16	12000	3180	-33.67	18000	12000	-5.36	33.83	5.52	-28.31
20	5500.0	5500.00	0.15	5.33	30.3%	-5.18	0.15	12000	3180	-33.82	18000	12000	-5.44	33.97	5.59	-28.38
21	5520.0	5520.00	-0.89	4.73	27.4%	-5.62	-0.89	12000	3180	-33.83	18000	9000	-5.78	32.95	4.90	-28.05
22	5540.0	5540.00	-1.25	4.59	26.1%	-5.84	-1.25	12000	3180	-33.88	18000	9000	-5.93	32.62	4.68	-27.94
23	5560.0	5560.00	-1.60	4.50	24.6%	-6.09	-1.60	12000	3180	-33.10	18000	12000	-6.12	31.51	4.52	-26.98
24	5580.0	5580.00	-1.38	4.48	25.9%	-5.86	-1.38	12000	3180	-34.40	18000	9000	-5.93	33.02	4.55	-28.47
25	5600.0	5600.00	-1.17	4.70	25.9%	-5.87	-1.17	12000	3180	-33.27	18000	9000	-5.94	32.10	4.77	-27.33
26	5620.0	5620.00	-1.36	4.55	25.7%	-5.91	-1.36	12000	3180	-33.68	18000	9000	-5.95	32.32	4.59	-27.73
27	5640.0	5640.00	-1.16	4.68	26.0%	-5.84	-1.16	12000	3180	-33.91	18000	9000	-5.93	32.75	4.77	-27.98
28	5660.0	5660.00	-1.06	4.64	26.9%	-5.70	-1.06	12000	3180	-33.13	18000	9000	-5.83	32.07	4.77	-27.30
29	5680.0	5680.00	-0.90	4.86	26.6%	-5.76	-0.90	12000	3180	-34.45	18000	9000	-5.90	33.55	4.99	-28.56
30	5700.0	5700.00	-0.81	4.72	28.0%	-5.53	-0.81	12000	3180	-35.07	18000	12000	-5.73	34.25	4.92	-29.33
31	5720.0	5720.00	-1.13	4.78	25.6%	-5.92	-1.13	15000	3180	-34.66	18000	9000	-6.00	33.52	4.86	-28.66
32	5740.0	5740.00	-1.52	4.51	25.0%	-6.03	-1.52	15000	3180	-35.07	18000	9000	-6.15	33.55	4.63	-28.92
33	5760.0	5760.00	-1.52	4.35	25.9%	-5.87	-1.52	15000	3180	-34.62	18000	12000	-6.02	33.10	4.50	-28.60
34	5780.0	5780.00	-1.36	4.62	25.3%	-5.98	-1.36	15000	3180	-33.82	18000	9000	-6.06	32.46	4.71	-27.76
35	5800.0	5800.00	-0.68	4.82	28.2%	-5.50	-0.68	15000	3180	-34.47	18000	9000	-5.68	33.79	5.00	-28.80
36	5820.0	5820.00	-0.72	4.93	27.3%	-5.64	-0.72	15000	3180	-35.16	18000	9000	-5.77	34.45	5.05	-29.39

8、2.4G BT passive test data

Test Point ID	Freq. (MHz)	TRP (dBm)	Gain (dBi)	Directivity (dBi)	Efficiency (%)	Efficiency (dB)	Max (dBm)	Theta of Max	Phi of Max	Min (dBm)	Theta of Min	Phi of Min	AVG (dBm)	Max/Min (dB)	Max/AVG (dB)	Min/AVG (dB)
1	2350.0	2350.00	-0.35	5.88	23.8%	-6.23	-0.35	15000	9000	-39.67	18000	15000	-6.76	39.32	6.41	-32.92
2	2355.0	2355.00	-0.25	5.84	24.6%	-6.09	-0.25	15000	9000	-41.90	18000	15000	-6.62	41.66	6.37	-35.29
3	2360.0	2360.00	-0.20	5.76	25.3%	-5.97	-0.20	15000	9000	-39.27	18000	15000	-6.50	39.06	6.30	-32.76
4	2365.0	2365.00	-0.15	5.74	25.7%	-5.90	-0.15	15000	9000	-39.81	18000	15000	-6.43	39.66	6.28	-33.38
5	2370.0	2370.00	0.08	5.75	27.1%	-5.67	0.08	15000	9000	-36.98	18000	15000	-6.21	37.05	6.28	-30.77
6	2375.0	2375.00	0.19	5.75	27.8%	-5.56	0.19	15000	9000	-35.98	18000	15000	-6.09	36.18	6.29	-29.89
7	2380.0	2380.00	0.02	5.65	27.3%	-5.64	0.02	15000	9000	-36.86	18000	15000	-6.18	36.88	6.20	-30.68
8	2385.0	2385.00	0.18	5.66	28.3%	-5.48	0.18	15000	9000	-32.93	18000	15000	-6.02	33.11	6.20	-26.91
9	2390.0	2390.00	0.41	5.67	29.8%	-5.26	0.41	15000	9000	-31.28	18000	15000	-5.79	31.69	6.20	-25.49
10	2395.0	2395.00	0.47	5.65	30.3%	-5.18	0.47	15000	9000	-31.22	18000	15000	-5.71	31.70	6.19	-25.51
11	2400.0	2400.00	0.48	5.53	31.3%	-5.05	0.48	15000	9000	-31.82	18000	15000	-5.59	32.30	6.07	-26.23
12	2405.0	2405.00	0.40	5.37	31.8%	-4.97	0.40	15000	9000	-34.41	18000	15000	-5.51	34.81	5.91	-28.89
13	2410.0	2410.00	0.33	5.31	31.7%	-4.98	0.33	15000	9000	-35.44	18000	15000	-5.52	35.77	5.85	-29.92
14	2415.0	2415.00	0.18	5.17	31.7%	-4.99	0.18	15000	9000	-34.70	18000	15000	-5.52	34.88	5.70	-29.18
15	2420.0	2420.00	-0.01	4.99	31.6%	-5.00	-0.01	15000	9000	-32.96	18000	15000	-5.52	32.96	5.51	-27.45
16	2425.0	2425.00	0.26	5.23	31.8%	-4.97	0.26	15000	12180	-31.52	18000	15000	-5.48	31.78	5.74	-26.04
17	2430.0	2430.00	0.55	5.44	32.4%	-4.89	0.55	15000	12180	-31.07	18000	15000	-5.39	31.61	5.94	-25.68
18	2435.0	2435.00	0.77	5.59	33.0%	-4.81	0.77	15000	12180	-32.04	18000	12000	-5.30	32.82	6.07	-26.75
19	2440.0	2440.00	0.96	5.77	33.0%	-4.81	0.96	15000	12180	-33.52	18000	12000	-5.27	34.48	6.23	-28.25
20	2445.0	2445.00	1.04	5.93	32.5%	-4.88	1.04	15000	12180	-32.89	18000	12000	-5.32	33.93	6.37	-27.57
21	2450.0	2450.00	1.10	6.02	32.3%	-4.91	1.10	15000	12180	-32.58	18000	12000	-5.33	33.68	6.43	-27.25
22	2455.0	2455.00	1.18	6.02	32.8%	-4.84	1.18	15000	12180	-31.50	18000	12000	-5.22	32.68	6.40	-26.28
23	2460.0	2460.00	1.25	6.08	32.9%	-4.83	1.25	15000	12180	-32.50	18000	12000	-5.18	33.75	6.43	-27.31
24	2465.0	2465.00	1.19	6.07	32.5%	-4.88	1.19	15000	12180	-33.34	18000	12000	-5.21	34.53	6.41	-28.13
25	2470.0	2470.00	1.31	6.18	32.7%	-4.86	1.31	15000	9000	-35.94	18000	12000	-5.17	37.25	6.49	-30.77
26	2475.0	2475.00	1.50	6.35	32.7%	-4.85	1.50	15000	9000	-37.83	18000	12000	-5.14	39.32	6.64	-32.69
27	2480.0	2480.00	1.46	6.39	32.1%	-4.93	1.46	15000	9000	-33.85	18000	12000	-5.21	35.31	6.67	-28.64
28	2485.0	2485.00	1.19	6.26	31.1%	-5.07	1.19	15000	9000	-32.03	18000	15000	-5.34	33.21	6.53	-26.69
29	2490.0	2490.00	1.00	6.15	30.6%	-5.14	1.00	15000	9000	-30.68	18000	15000	-5.41	31.68	6.41	-25.27
30	2495.0	2495.00	0.99	6.11	30.8%	-5.12	0.99	15000	9000	-30.53	18000	15000	-5.38	31.52	6.37	-25.14
31	2500.0	2500.00	0.78	6.01	30.0%	-5.23	0.78	15000	9000	-31.84	18000	15000	-5.49	32.63	6.27	-26.36

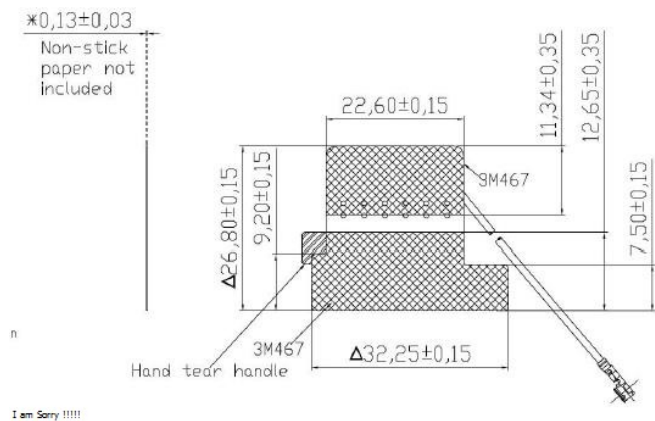
9、The placement of antennas and coaxial lines



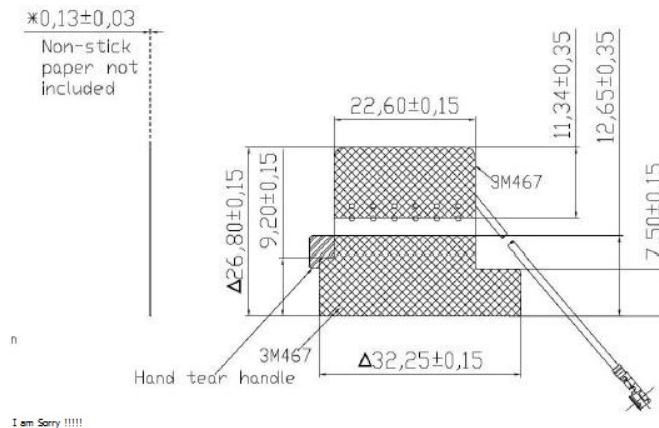
BT Antenna placement

2.4G/5G WIFI Antenna placement

八、Antenna Size



BT ANTENNA SIZE



WIFI ANTENNA SIZE