Kunshan Innowave Communication Technology Co., LTD

Antenna Assessment Report For 2.4G&Wifi

- Project Type:
  2.4G&Wifi Antenna

Product Description

24000-2500MHz
5150-5850MHz
5950-7125MHz

- Report Date: 2022.12.08
- Report Version: 1.0
- Prepared by:
- Approved by:

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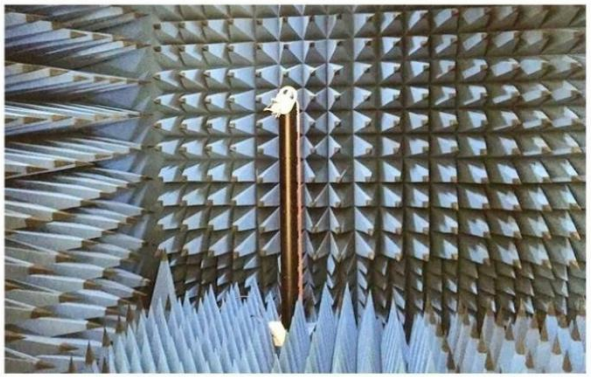
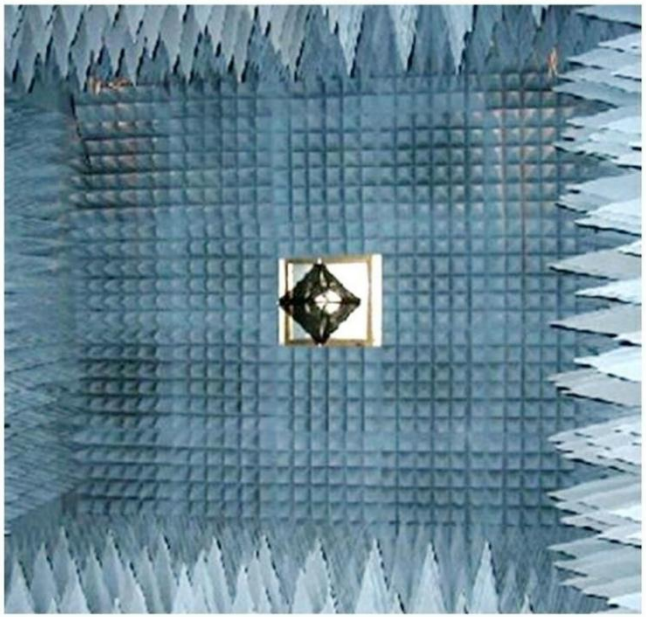
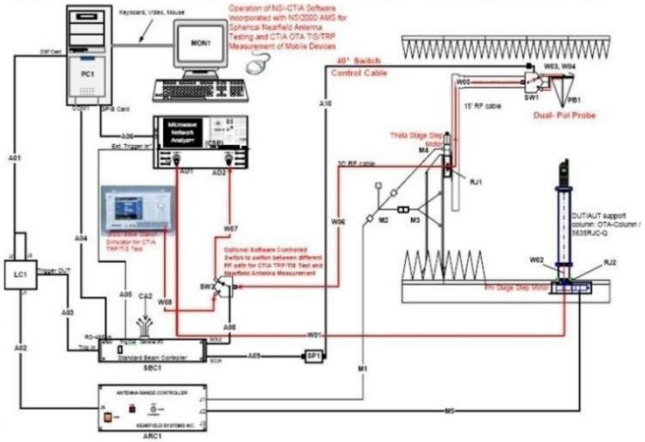
1. Device





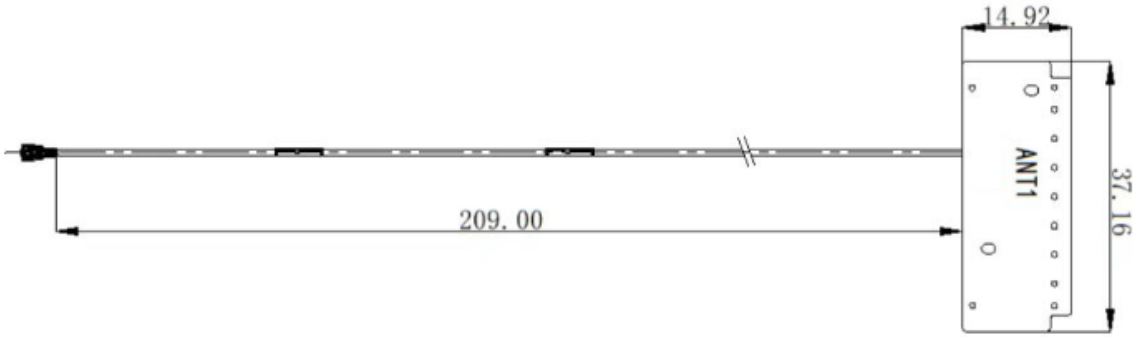

Keyboard, Video, Mouse
Operation of NSI-CTIA Software Incorporated with NSI2000 AMS for Spherical Nearfield Antenna Testing and CTIA OTA TIS/TRP Measurement of Mobile Devices
MON1
PC1
40° Switch Control Cable
Dual- Pol Probe
Theta Stage Step Motor
Simulator for CTIA TRP/TIS Test
Standard Beam Controller
SBC1
ARC1
LC1
SP1
SW1
SW2
PB1
RJ1
RJ2
M1
M2
M3
M4
M5

2. Antenna appearance figure

Type of antenna:FPC

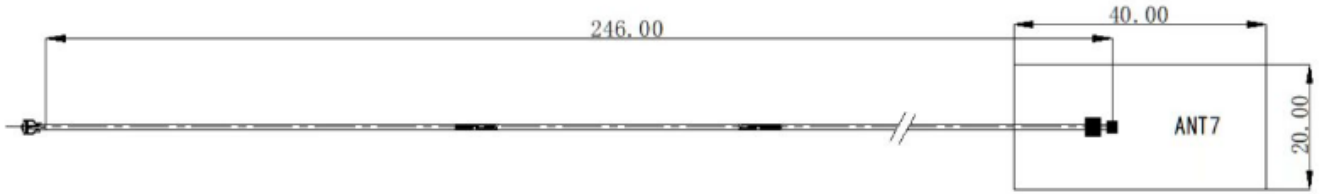
2.4G Antenna Gain :3.66dBi

Frequency range：2400-2500MHz



WiFi 1 Antenna Gain :2.29dBi

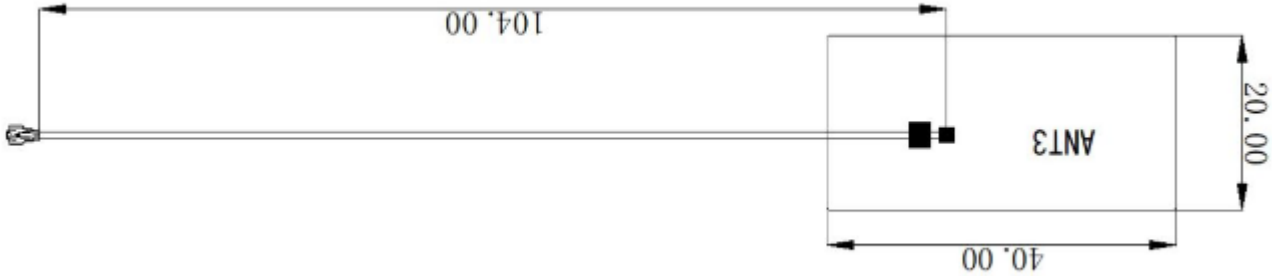
Frequency range：2400-2500MHz、5150-5850MHz、5950MHz-7125MHz



WiFi 2 Antenna Gain :1.26dBi

Frequency range：2400-2500MHz、5150-5850MHz

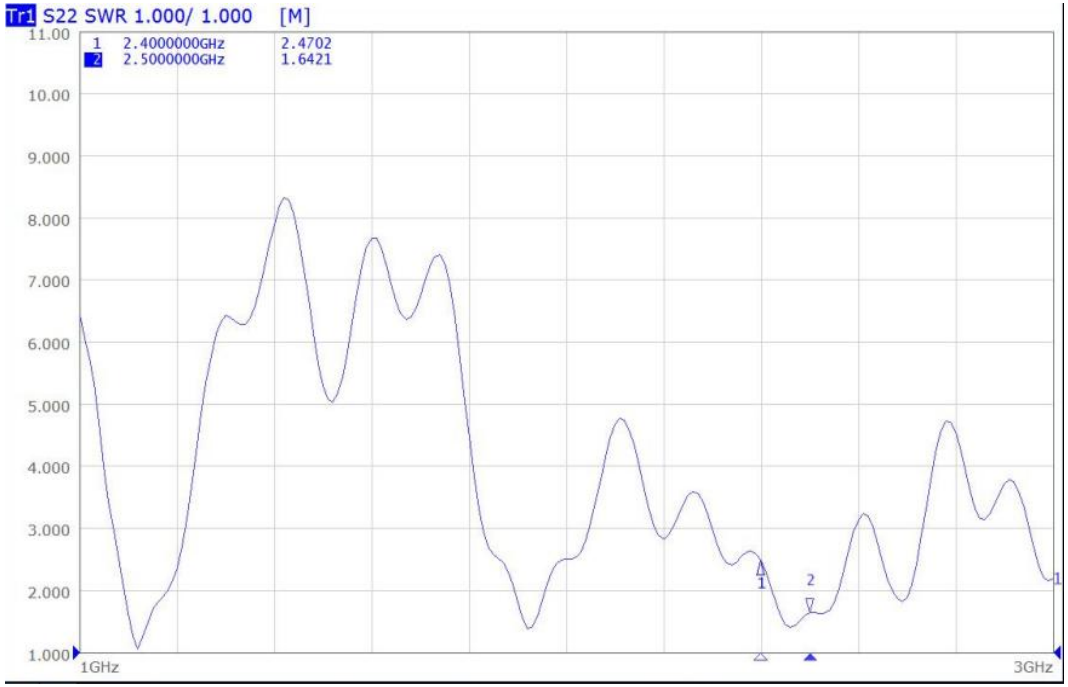
、5950MHz-7125MHz



3. The antenna performance

3.1 Antenna**SWR**

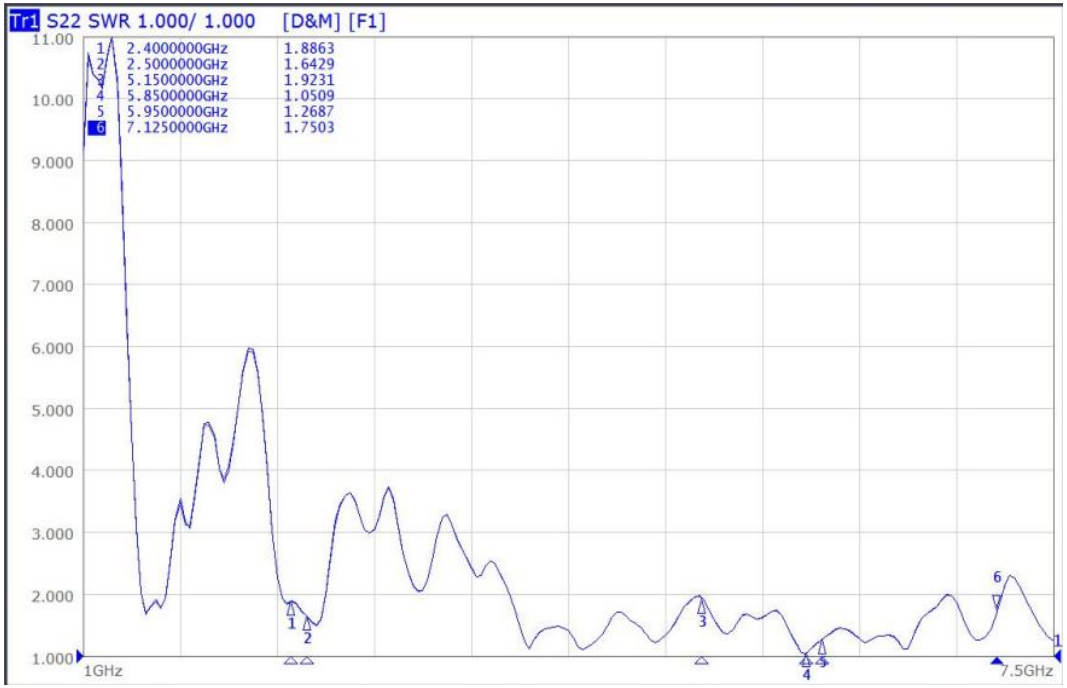
2.4G



WiFiAnt1

Tr1 S22 SWR 1.000/ 1.000 [D&M] [F1]
1 2.4000000GHz 1.5208
2 2.5000000GHz 1.7243
3 5.1500000GHz 1.8146
4 5.8500000GHz 2.7152
5 5.9500000GHz 3.2567
6 7.1250000GHz 1.4264
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
1GHz
7.5GHz

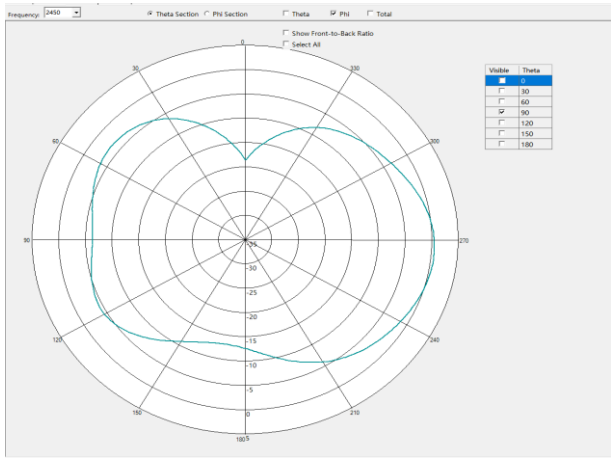
WiFiAnt2


Tr1 S22 SWR 1.000/ 1.000 [D&M] [F1]
1 2.4000000GHz 1.8863
2 2.5000000GHz 1.6429
3 5.1500000GHz 1.9231
4 5.8500000GHz 1.0509
5 5.9500000GHz 1.2687
6 7.1250000GHz 1.7503
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
1GHz
7.5GHz

3.2 Antenna radiation pattern

2.4G

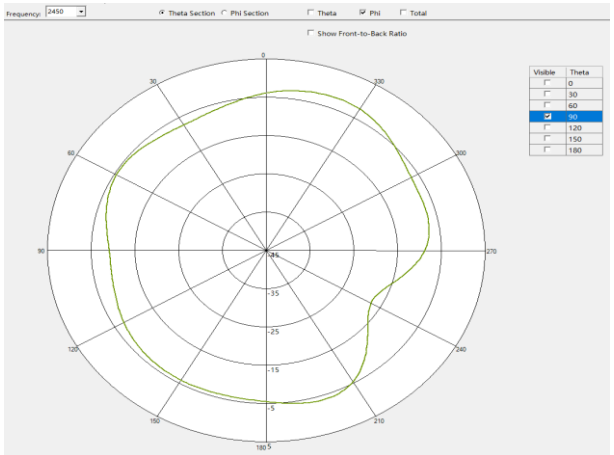
2D 2450MHz



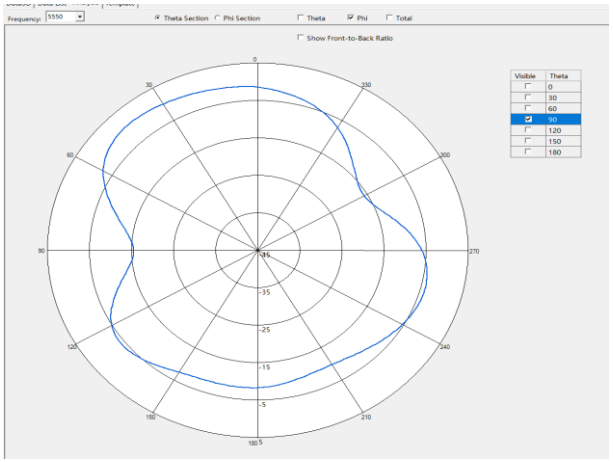
WiFiAnt1

2D

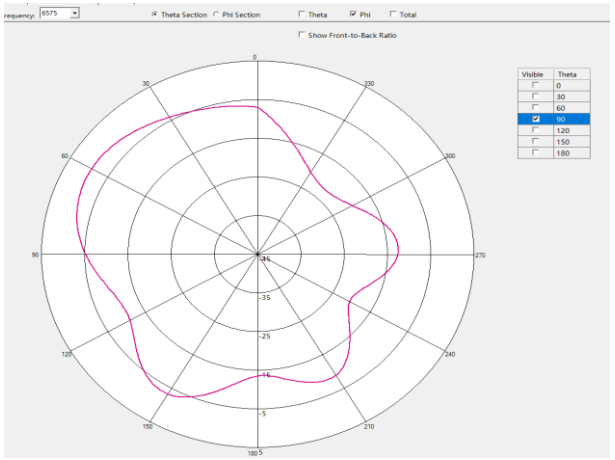
2450MHz



5550MHz

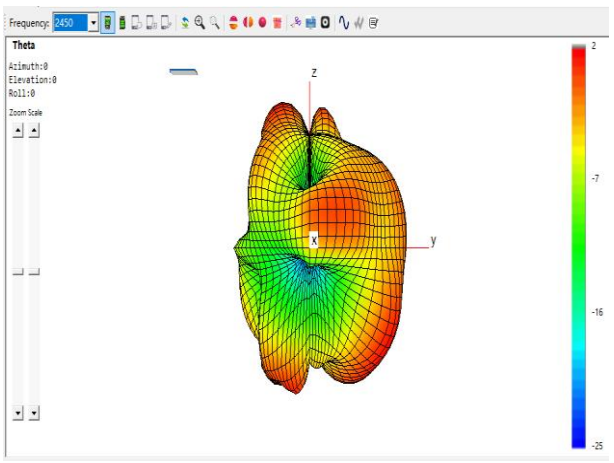


6575MHz

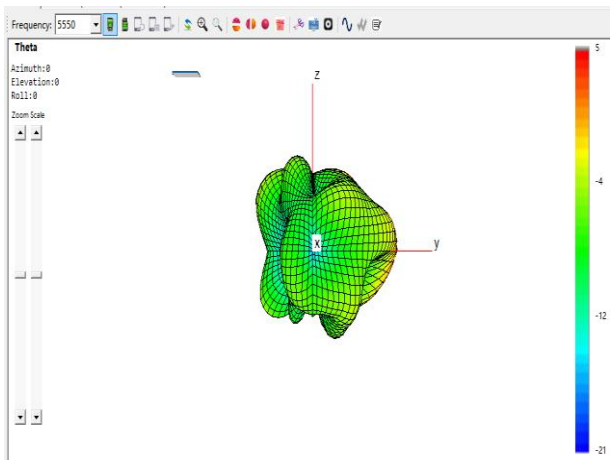


WiFiAnt2

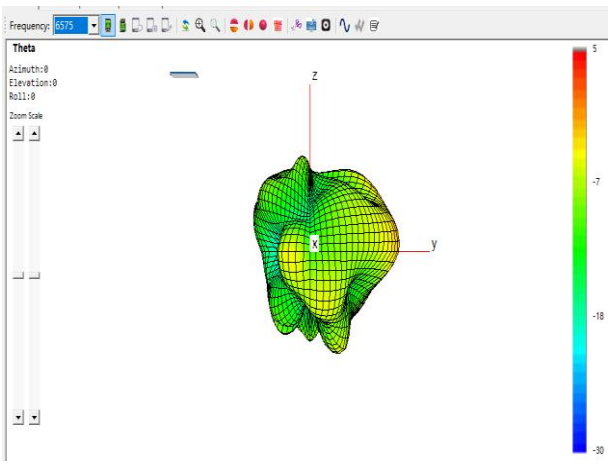
3D



2450MHz



5500MHz



6575MHz

4 Antenna efficiency gain

2.4G

Freq (MHz)	Avg.Gin (dB)	Pik.Gin (dB)
2400	-5.0	-0.2
2410	-4.8	2.01
2420	-4.5	1.64
2430	-4.5	2.75
2440	-4.4	2.92
2450	-4.2	3.66
2460	-4.0	2.42
2470	-3.8	2.56
2480	-3.7	2.41
2490	-3.7	2.36
2500	-3.8	2.04

WiFiAnt0

Freq (MHz)	Avg.Gin (dB)	Pik.Gin (dB)	Freq (MHz)	Avg.Gin (dB)	Pik.Gin (dB)
2400	-3.9	0.3	5925	-6.3	-0.1
2410	-3.8	1.5	5975	-6.5	-0.4
2420	-3.8	1.8	6025	-5.8	-0.3
2430	-3.6	2.2	6075	-5.7	-0.5
2440	-3.6	2.29	6125	-5.8	-0.5
2450	-3.6	2.54	6175	-5.3	1.6
2460	-3.6	2.18	6225	-5.2	1.7
2470	-3.7	2.08	6275	-5.4	1.1
2480	-3.6	2.1	6325	-5.3	1.5
2490	-3.8	1.9	6375	-5.1	1.7
2500	-3.6	2.1	6425	-4.9	1.8
5150	-4.9	1.5	6475	-4.8	1.9
5200	-4.7	2.0	6525	-4.4	1.45
5250	-4.8	2.0	6575	-5.5	1.24
5300	-5.0	1.8	6625	-5.6	2.21
5350	-5.3	1.5	6675	-5.5	2.29
5400	-5.2	1.9	6725	-4.7	2.24
5450	-5.6	2.2	6775	-4.9	1.8
5500	-5.7	2.02	6825	-5.2	1.6
5550	-5.6	2.29	6875	-5.2	1.4
5600	-5.6	1.8	6925	-5.8	1.5
5650	-5.6	1.4	6975	-6.0	2.1
5700	-5.8	0.4	7025	-6.0	1.6
5750	-5.5	0.7	7075	-5.7	1.3
5800	-5.5	0.7	7125	-5.6	1.6
5850	-5.4	0.4			

WiFiAnt1

Freq (MHz)	Avg.Gin (dB)	Pik.Gin (dB)	Freq (MHz)	Avg.Gin (dB)	Pik.Gin (dB)
2400	-3.3	1.21	5925	-5.2	1.25
2410	-3.3	1.09	5975	-5.6	1.24
2420	-3.3	1.2	6025	-5.2	1.16
2430	-3.2	1.18	6075	-5.1	1.12
2440	-3.3	1.26	6125	-5.2	1.13
2450	-3.5	1.14	6175	-4.8	1.17
2460	-3.5	1.25	6225	-4.6	1.13
2470	-3.7	1.24	6275	-4.6	1.19
2480	-3.6	1.16	6325	-4.6	1.22
2490	-4.0	1.12	6375	-4.7	0.93
2500	-3.8	1.13	6425	-4.7	1.25
5150	-4.4	1.17	6475	-4.9	1.26
5200	-4.2	1.13	6525	-4.5	1.25
5250	-4.4	1.19	6575	-5.5	1.13
5300	-4.4	1.22	6625	-5.5	1.14
5350	-4.5	0.93	6675	-5.3	0.8
5400	-4.1	1.25	6725	-4.6	1.0
5450	-4.2	1.26	6775	-5.0	1.0
5500	-4.3	1.26	6825	-5.2	0.9
5550	-4.3	1.1	6875	-4.9	1.22
5600	-4.4	0.89	6925	-5.3	1.03
5650	-4.5	0.93	6975	-5.5	1.21
5700	-5.0	1.01	7025	-5.5	1.18
5750	-4.7	1.21	7075	-5.1	1.03
5800	-4.6	1.12	7125	-5.2	1.05
5850	-4.6	1.21			