

X19 Antenna Test Report

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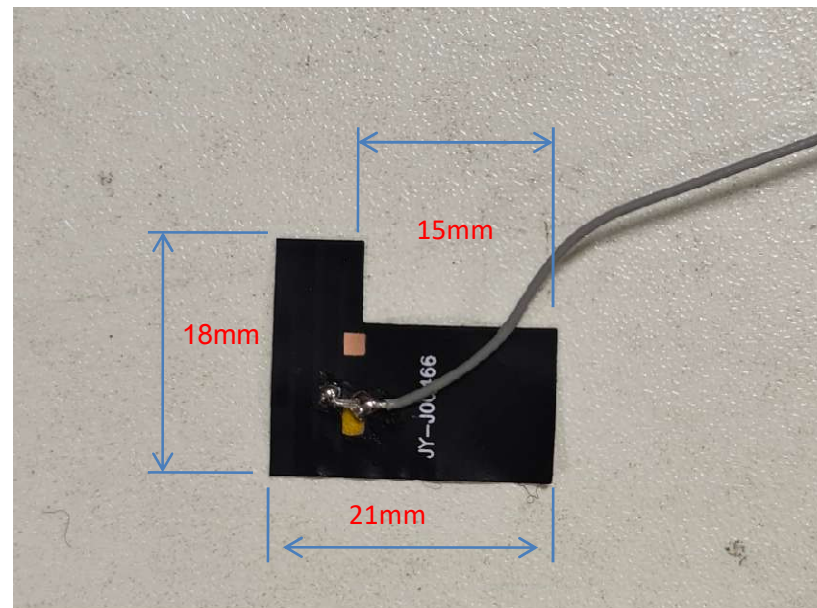
6. Antenna radiation pattern



2. Antenna debugging requirements

radio frequency	Technical drafting	WiFi	
	Frequency band requirements	WIFI-2.4G/WIFI-5.8G	
	Number of communication antennas	2	WIFI

3. Antenna Dimension Drawing





4.Passive efficiency of the main antenna

WIF Antenna

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	21.93	-6.59	-1.54
2410	22.99	-6.39	-1.36
2420	23.81	-6.23	-1.29
2430	23.77	-6.24	-1.4
2440	23.9	-6.22	-1.42
2450	23.04	-6.37	-1.68
2460	22.22	-6.53	-1.74
2470	21.98	-6.58	-1.81
2480	21.56	-6.66	-1.76
2490	21.01	-6.78	-1.87
2500	19.86	-7.02	-2.04

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)
5150	8.29	-10.82	-6.45	-8.6
5160	8.07	-10.93	-6.55	-8.7
5170	8.44	-10.74	-6.79	-8.94
5180	8.49	-10.71	-6.26	-8.41
5190	8.34	-10.79	-6.24	-8.39
5200	7.96	-10.99	-6.37	-8.52
5210	8.41	-10.75	-6.04	-8.19
5220	8.44	-10.74	-5.95	-8.1
5230	9.13	-10.39	-5.45	-7.6
5240	9.12	-10.4	-5.48	-7.63
5250	8.82	-10.55	-5.36	-7.51
5260	8.97	-10.47	-5.29	-7.44
5270	9.04	-10.44	-5.13	-7.28
5280	9.22	-10.35	-5.03	-7.18
5290	9.92	-10.04	-4.36	-6.51
5300	9.29	-10.32	-4.64	-6.79
5310	9.26	-10.33	-4.74	-6.89
5320	9.69	-10.14	-4.53	-6.68
5330	9.97	-10.01	-4.48	-6.63
5340	11.07	-9.56	-3.69	-5.84
5350	11.72	-9.31	-3.47	-5.62
5360	11.09	-9.55	-3.76	-5.91
5370	10.93	-9.62	-3.97	-6.12
5380	11.44	-9.42	-3.73	-5.88
5390	11.03	-9.57	-3.97	-6.12
5400	13.49	-8.7	-3	-5.15
5410	13.49	-8.7	-3.25	-5.4
5420	13.19	-8.8	-3.27	-5.42
5430	13.23	-8.78	-3.29	-5.44
5440	13.47	-8.71	-3.4	-5.55
5450	13.85	-8.58	-3.16	-5.31
5460	14.18	-8.48	-3.2	-5.35
5470	13.61	-8.66	-3.26	-5.41
5480	13.26	-8.78	-3.58	-5.73
5490	13.24	-8.78	-3.48	-5.61
5500	14.01	-8.54	-3.19	-5.34
5510	14.52	-8.38	-3.27	-5.42
5520	14.66	-8.34	-3.11	-5.26
5530	14.98	-8.25	-2.94	-5.09
5540	15.08	-8.21	-2.93	-5.08
5550	15.19	-8.18	-2.76	-4.91

5500	14.01	-8.54	-3.19
5510	14.52	-8.38	-3.27
5520	14.66	-8.34	-3.11
5530	14.98	-8.25	-2.94
5540	15.08	-8.21	-2.93
5550	15.19	-8.18	-2.76
5560	15.73	-8.03	-2.48
5570	16.38	-7.86	-2.19
5580	16.41	-7.85	-2.2
5590	16.46	-7.83	-2.08
5600	16.85	-7.73	-1.77
5610	17.02	-7.69	-1.73
5620	17.63	-7.54	-1.46
5630	17.74	-7.51	-1.45
5640	18.24	-7.39	-1.29
5650	18.62	-7.3	-0.95
5660	19.51	-7.1	-0.76
5670	19.8	-7.03	-0.61
5680	20.22	-6.94	-0.41
5690	20.19	-6.95	-0.45
5700	20.24	-6.94	-0.42
5710	19.82	-7.03	-0.61
5720	20.16	-6.95	-0.38
5730	20.69	-6.84	-0.31
5740	21.07	-6.76	-0.13
5750	21.44	-6.69	-0.26
5760	21.38	-6.7	0.02
5770	21.68	-6.64	-0.07
5780	21.62	-6.65	-0.03
5790	21.24	-6.73	-0.27
5800	20.86	-6.81	-0.26
5810	21.93	-6.59	0.01
5820	22.68	-6.44	0.05
5830	23.49	-6.29	0.24
5840	24.75	-6.06	0.39
5850	25.58	-5.92	0.56



4. Passive efficiency of the main antenna

BT Antenna

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	17.09	-7.67	-3.34
2410	18.36	-7.36	-3.08
2420	21.23	-6.73	-2.41
2430	22.72	-6.44	-2.01
2440	24.25	-6.15	-1.58
2450	25.89	-5.87	-1.27
2460	25.69	-5.9	-1.36
2470	25.97	-5.85	-1.28
2480	26.57	-5.76	-1.33
2490	27.48	-5.61	-1.18
2500	27.79	-5.56	-1.18

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	11.21	-9.51	-5.95
5160	11.2	-9.51	-5.64
5170	10.47	-9.8	-5.61
5180	10.05	-9.98	-5.83
5190	9.62	-10.17	-6.07
5200	9.59	-10.18	-5.75
5210	10.27	-9.89	-5.63
5220	10.55	-9.77	-5.42
5230	10.81	-9.66	-5.17
5240	10.36	-9.85	-5.4
5250	9.93	-10.03	-5.4
5260	10.62	-9.74	-5.14
5270	10.72	-9.7	-4.88
5280	10.53	-9.77	-4.82
5290	11.16	-9.53	-4.7
5300	10.64	-9.73	-4.65
5310	10.64	-9.73	-4.55
5320	11.77	-9.29	-4.28
5330	11.99	-9.21	-4.03
5340	12.65	-8.98	-3.93
5350	13.33	-8.75	-3.68
5360	12.74	-8.95	-4.31
5370	13.13	-8.82	-4.16
5380	13.63	-8.66	-3.96
5390	12.6	-9	-4.38
5400	14.78	-8.3	-3.83
5410	15.09	-8.21	-4.01
5420	15.19	-8.19	-4.18
5430	15.24	-8.17	-4.2
5440	14.78	-8.3	-4.25
5450	14.08	-8.51	-4.36
5460	14.51	-8.38	-4.08
5470	13.95	-8.56	-3.96
5480	14.12	-8.5	-4.1
5490	14.26	-8.46	-4
5500	14.31	-8.44	-4.12
5510	14.3	-8.45	-4.33
5520	14.25	-8.46	-4.24
5530	14.3	-8.45	-4.25
5540	14.38	-8.42	-4.27
5550	14.21	-8.48	-4.4

5550	14.21	-8.48	-4.4
5560	14.34	-8.43	-4.24
5570	14.68	-8.33	-4.36
5580	14.71	-8.32	-4.26
5590	14.93	-8.26	-4.35
5600	15.65	-8.05	-3.77
5610	15.25	-8.17	-4
5620	15.27	-8.16	-3.97
5630	15.31	-8.15	-3.84
5640	15.1	-8.21	-3.8
5650	15.07	-8.22	-3.73
5660	15.26	-8.17	-3.45
5670	14.88	-8.27	-3.76
5680	14.83	-8.29	-3.43
5690	14.46	-8.4	-3.22
5700	14.28	-8.45	-3
5710	13.79	-8.6	-3.18
5720	13.76	-8.61	-3.1
5730	13.13	-8.82	-2.86
5740	13.45	-8.71	-2.79
5750	13.76	-8.61	-2.69
5760	14.07	-8.52	-2.42
5770	14.02	-8.53	-2.3
5780	13.7	-8.63	-2.33
5790	13.65	-8.65	-2.37
5800	13.82	-8.59	-2.44
5810	14.67	-8.34	-2.24
5820	15.35	-8.14	-2.19
5830	15.69	-8.04	-2.04
5840	16.26	-7.89	-1.64
5850	16.74	-7.76	-1.66



5.OTA test data



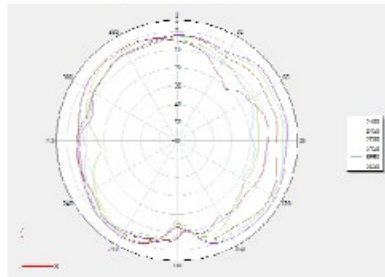
Entry Name	X19	Antenna Label		Tester		
Test status	Free Space		Antenna Status			
Test Frequency	WIFI-B (2. 4G)			WIFI-B (5. 8G)		
CH	1	7	13	36	149	157
TRP	5.6	6.3	6.8			
TIS						

During OTA testing, the cable was disconnected and complete data could not be measured. The overall test result showed that the signal of the device was one grid weaker than that of the mobile phone, and the full grid signal was 20 meters away from the router.

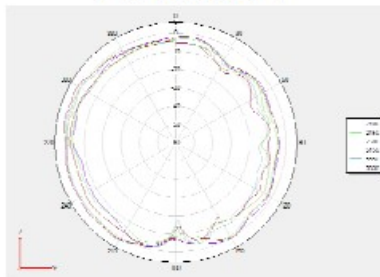


6. Antenna Radiation Pattern

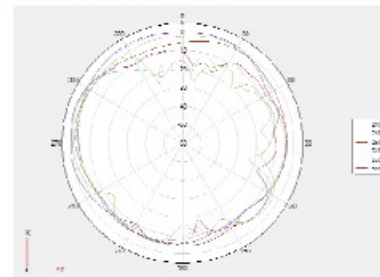
Phi 0 2D图



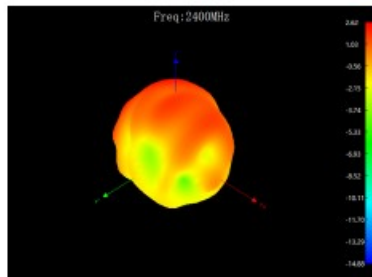
Phi 90 2D图



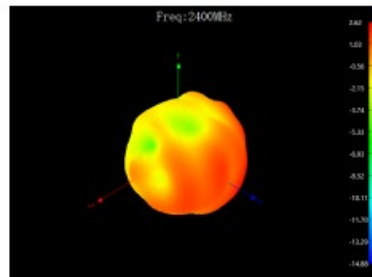
Theta 90 2D图



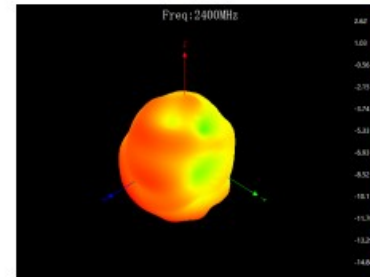
2400MHz



2400MHz



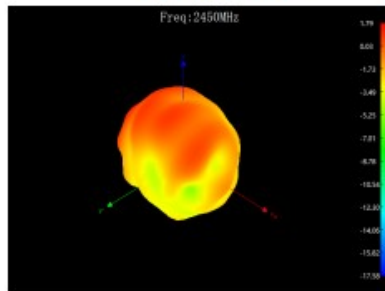
2400MHz



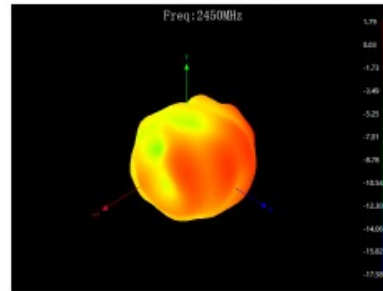


6. Antenna Radiation Pattern

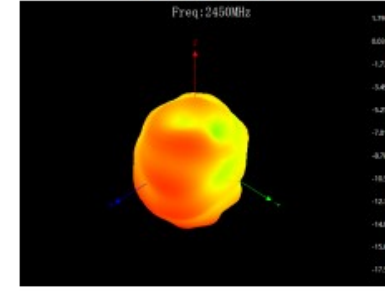
2450MHz



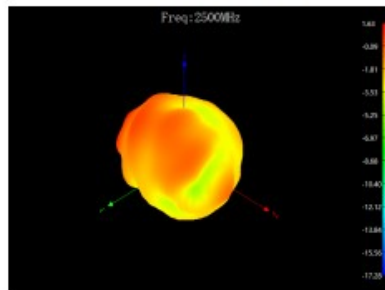
2450MHz



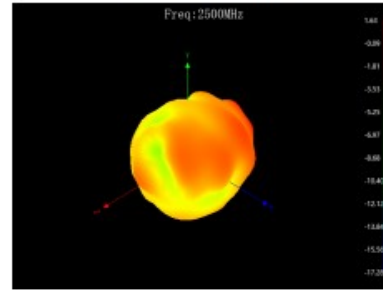
2450MHz



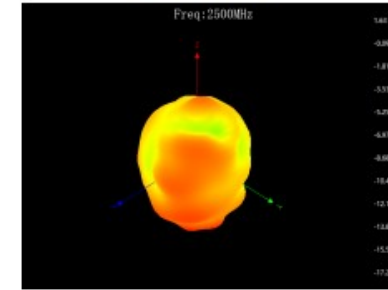
2500MHz



2500MHz



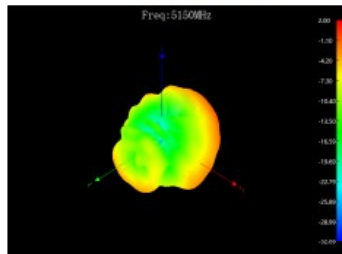
2500MHz



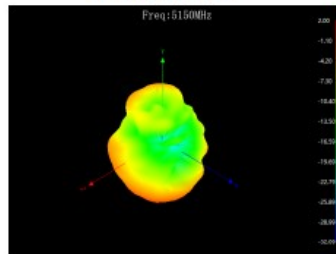


6. Antenna Radiation Pattern

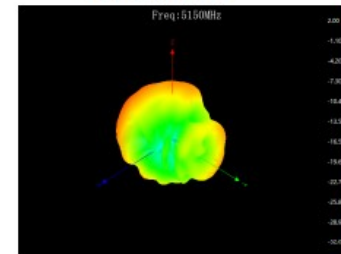
5150MHz



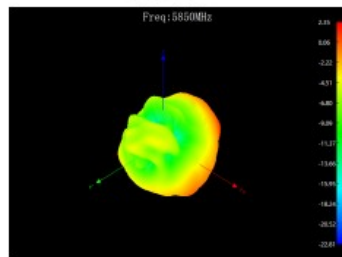
5150MHz



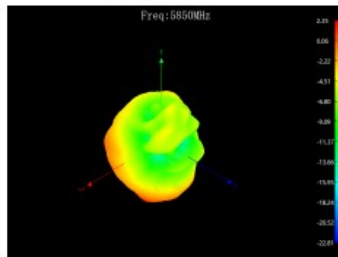
5150MHz



5850MHz



5850MHz



5850MHz

