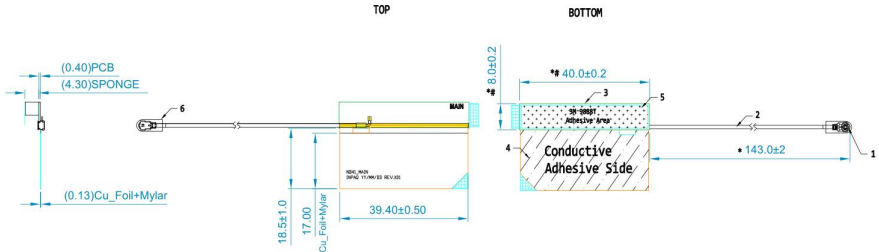
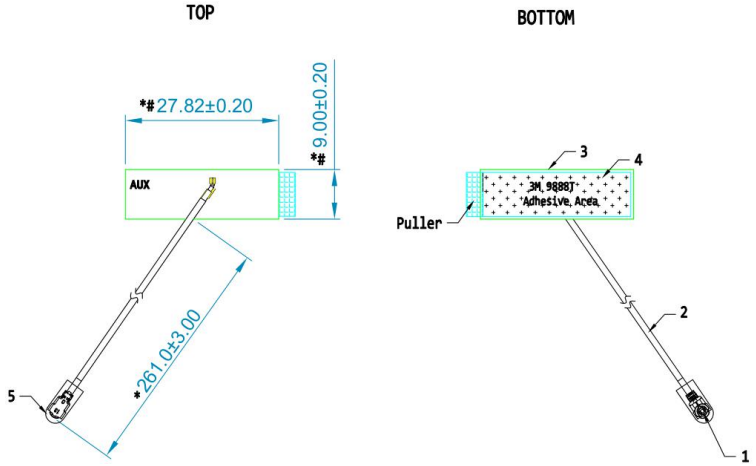


Antenna Specification

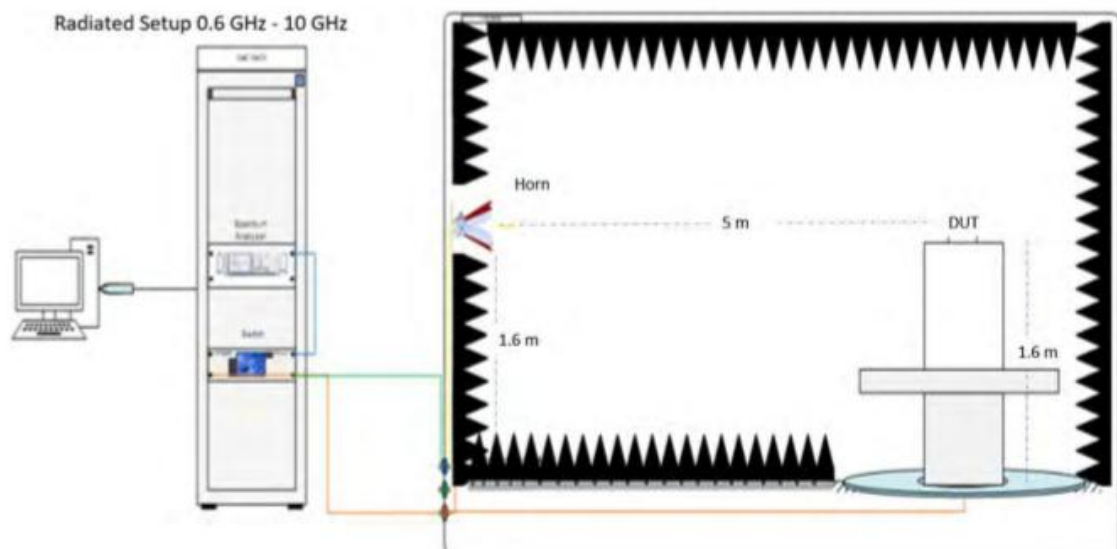
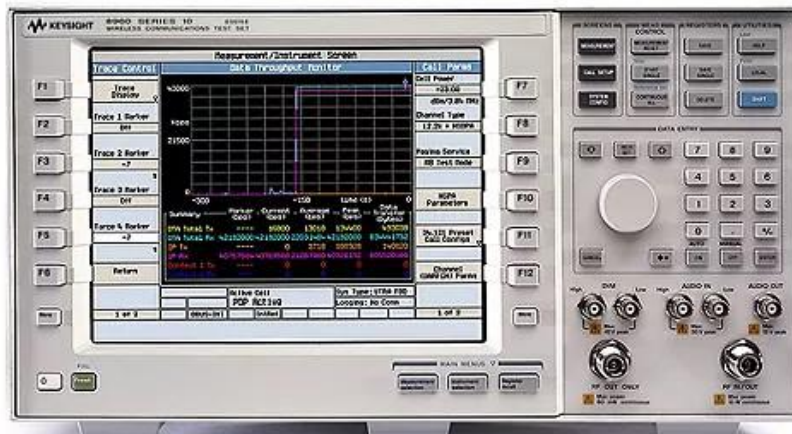
Antenna model	W-R-QW0018-02
Antenna Material	FR4 PCB
Antenna size	Main: 40x8x0.4mm(without cable) Aux: 27.82x9x0.4mm(without cable)
Frequency range	As below table
VSWR	≤ 10
Isolation	≤ 20
Efficiency	$> 60\%$
Impedance	50 Ohm Nominal
Return Loss	-10 dB Max
Radiation	Omni-directional
Manufacturer	Taiwan Anjie Electronic Co., Ltd
Address	1F, No.236, Sec. 3, Huanbei Rd., Jubei City, Hsinchu County, 30265, Taiwan
Main Antenna Information	 The diagram shows the main antenna structure with TOP and BOTTOM views. Key dimensions include a length of 143.0±2 mm, a width of 40.0±0.2 mm, and a thickness of 8.0±0.2 mm. Materials specified include (0.40)PCB, (4.30)SPONGE, (0.13)Cu_Foil+Mylar, and Cu_Foil+Mylar. A note indicates 'NEW DESIGN, PLEASE TEST BEFORE RELEASE'.
Aux Antenna Information	 The diagram shows the auxiliary antenna structure with TOP and BOTTOM views. Key dimensions include a length of 27.82±0.20 mm, a width of 9.00±0.20 mm, and a diagonal length of 281.0±3.00 mm. The material is specified as 3M 9880 Adhesive Antenna. A puller is also indicated.

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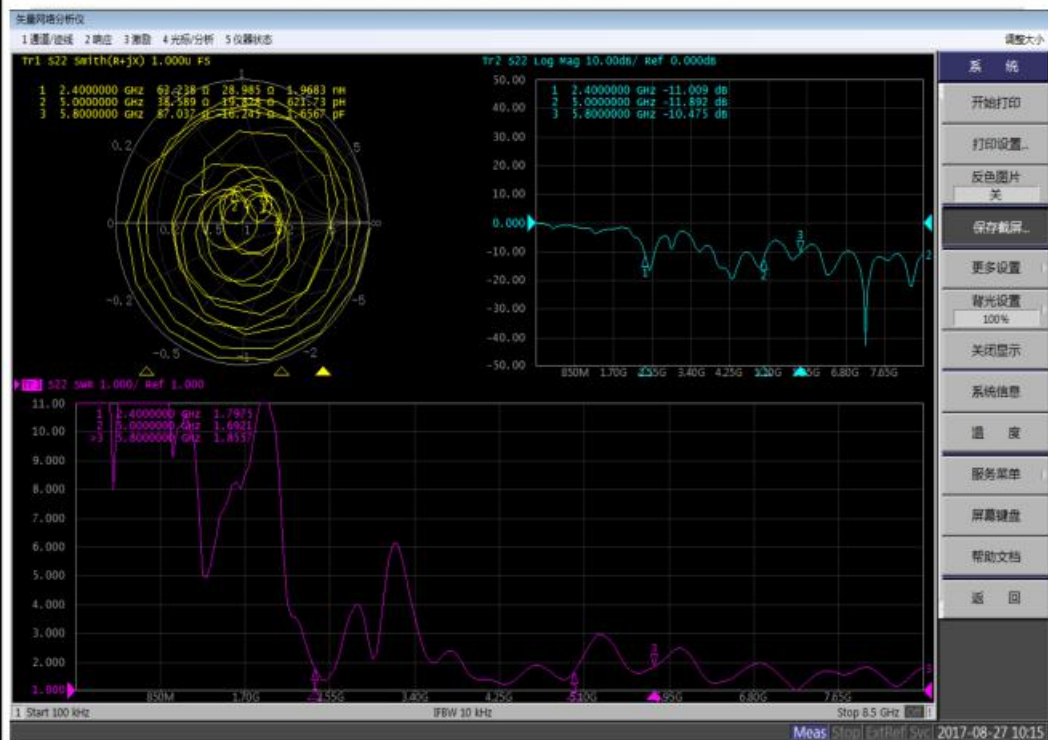
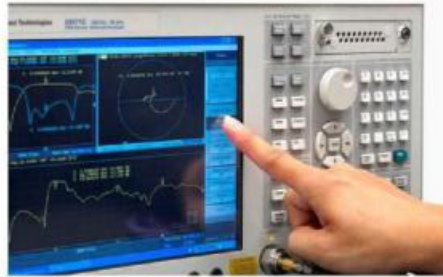
1. Parameter Test

- (1) Network Analyzers: Keysight E5063A ENA
- (2) Communications Test Set: Agilent E5071C
- (3) OTA Test System: 743 far-field method darkroom

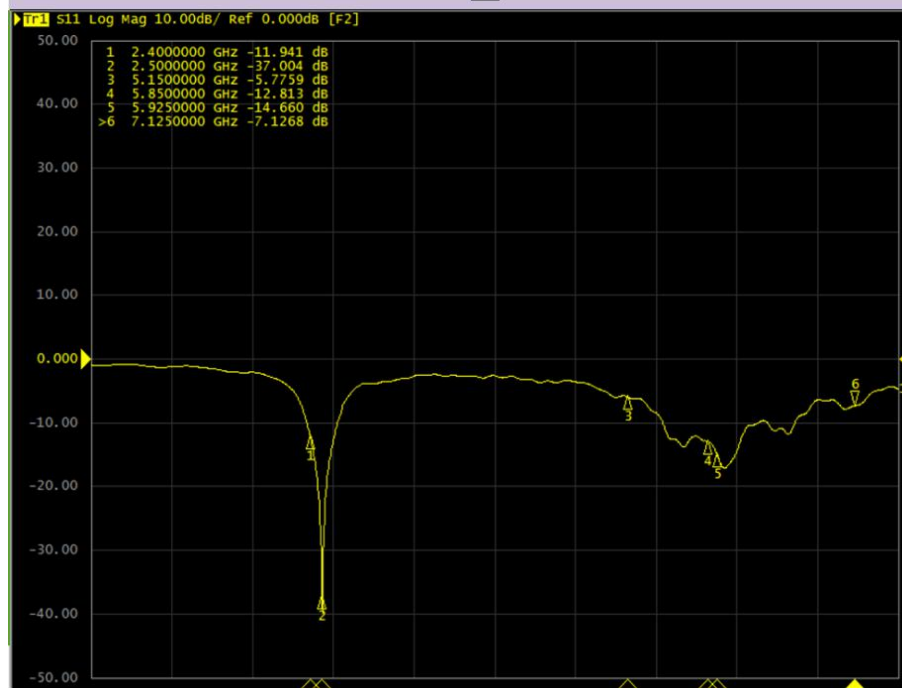


2. Test Data

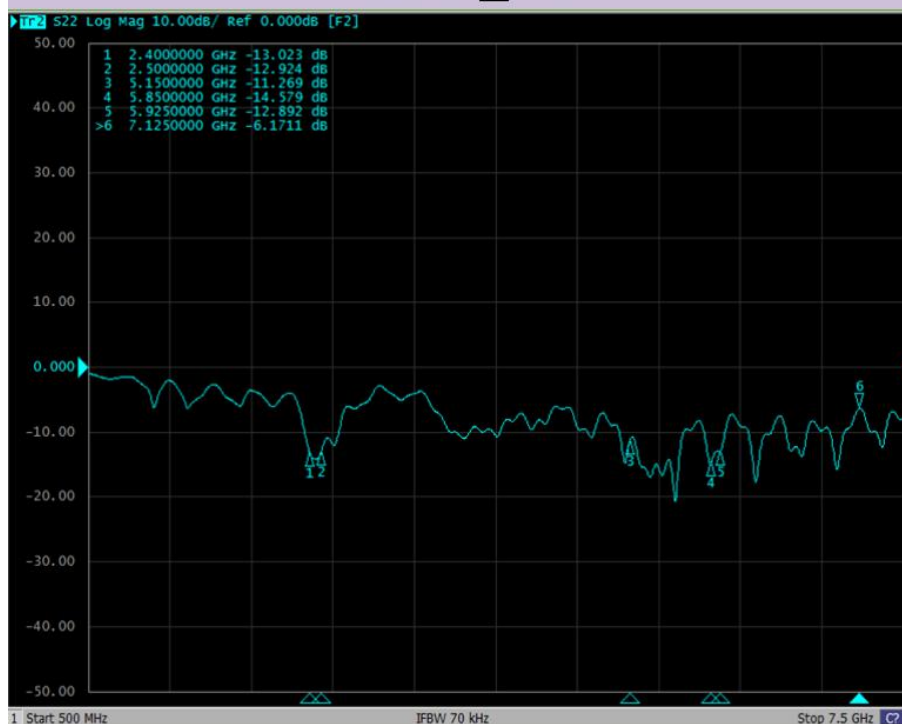
Agilent E5071C



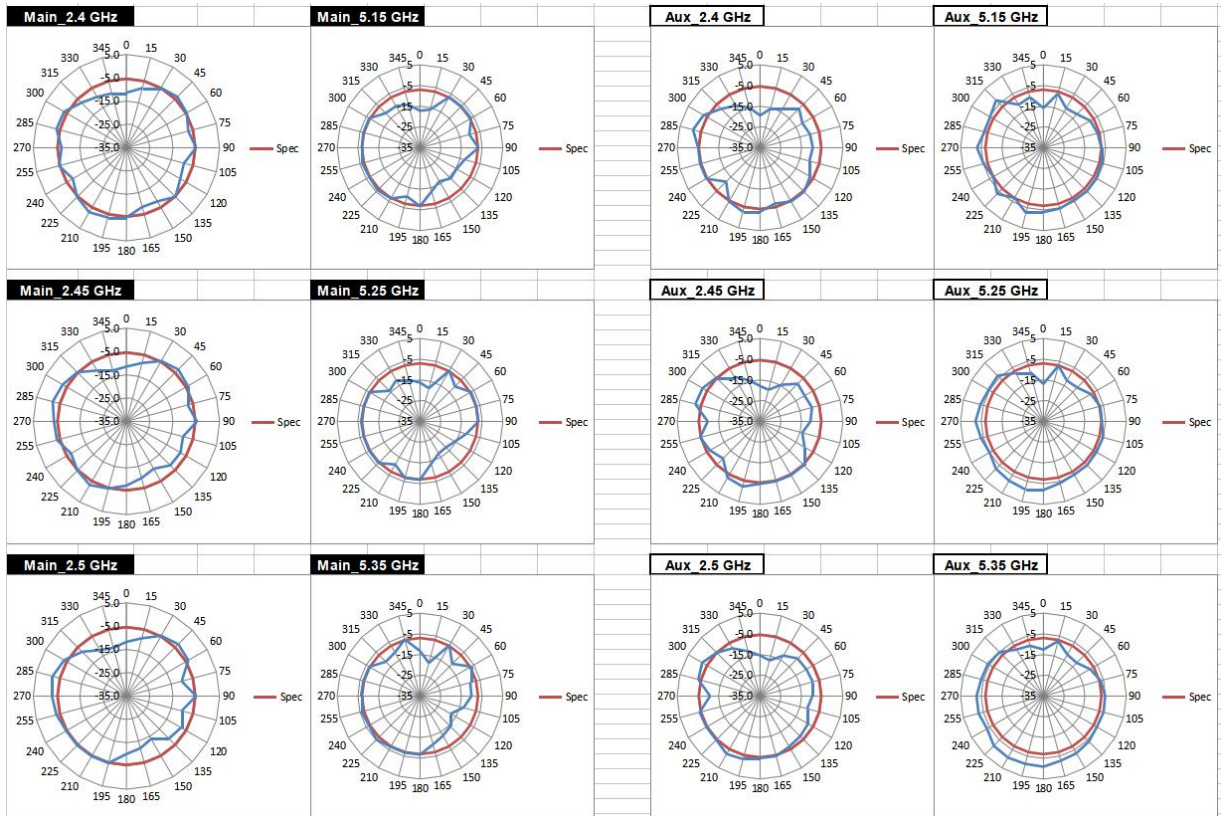
WLAN_Main



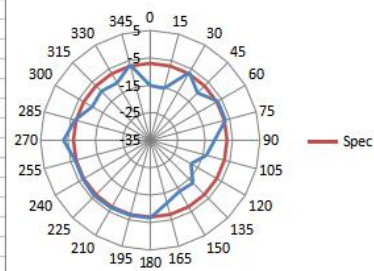
WLAN_Aux



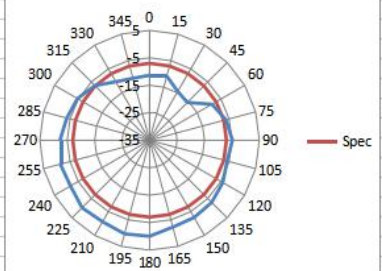
	2.4 GHz		2.45 GHz		2.5 GHz		5.15 GHz		5.25 GHz		5.35 GHz		5.47 GHz		5.6 GHz		5.725 GHz		5.785 GHz		5.85 GHz	
Angle	WLAN_M	WLAN_A	WLAN_M	WLAN_A	WLAN_M	WLAN_A	WLAN_M	WLAN_A	WLAN_M	WLAN_A	WLAN_M	WLAN_A	WLAN_M	WLAN_A	WLAN_M	WLAN_A	WLAN_M	WLAN_A	WLAN_M	WLAN_A	WLAN_M	WLAN_A
0	-11.40	-19.45	-11.49	-17.92	-11.75	-15.42	-17.20	-15.87	-16.26	-18.93	-13.28	-12.59	-15.07	-11.37	-16.14	-13.09	-14.29	-15.62	-17.75	-15.67	-18.30	-16.98
15	-8.52	-15.61	-9.06	-19.21	-9.34	-17.19	-15.91	-8.00	-18.44	-7.13	-18.49	-7.57	-15.44	-10.81	-12.42	-14.53	-18.20	-18.95	-17.44	-17.94	-16.14	-19.94
30	-5.34	-13.21	-5.08	-14.61	-5.13	-12.46	-6.75	-13.07	-6.75	-12.32	-6.65	-11.90	-6.51	-14.48	-6.88	-17.29	-9.54	-15.92	-10.88	-15.72	-12.60	-16.11
45	-4.10	-8.37	-3.47	-9.30	-3.52	-9.37	-6.83	-12.11	-11.13	-11.91	-13.01	-13.01	-12.35	-10.61	-15.56	-6.66	-13.88	-10.22	-10.83	-9.83	-10.77	-10.64
60	-5.08	-11.38	-4.57	-10.16	-4.31	-9.20	-6.51	-8.92	-6.58	-8.61	-6.60	-9.03	-6.60	-8.78	-5.51	-8.73	-5.63	-7.77	-5.47	-8.35	-5.38	-8.12
75	-7.52	-10.01	-7.78	-9.05	-10.42	-8.65	-10.37	-7.96	-8.86	-6.87	-9.92	-6.41	-6.59	-6.18	-5.97	-6.54	-6.01	-6.29	-6.04	-6.73	-5.91	-5.86
90	-5.08	-9.85	-4.73	-10.68	-5.08	-9.75	-6.78	-7.05	-6.77	-6.77	-10.13	-5.26	-11.55	-4.82	-10.72	-6.32	-6.71	-5.42	-8.66	-6.12	-8.96	-5.86
105	-9.41	-10.33	-9.84	-13.90	-10.43	-11.45	-12.71	-5.94	-11.86	-5.21	-13.31	-4.96	-13.78	-5.76	-10.80	-4.99	-10.79	-3.74	-10.42	-3.73	-10.37	-3.22
120	-8.30	-7.15	-8.18	-10.19	-7.91	-6.23	-14.61	-5.53	-15.61	-5.72	-17.99	-5.25	-17.86	-4.18	-13.84	-3.68	-11.61	-3.17	-11.24	-2.90	-11.02	-2.02
135	-5.21	-4.94	-8.38	-5.14	-9.21	-7.60	-14.05	-5.45	-17.29	-5.18	-14.30	-4.01	-12.99	-2.99	-12.41	-2.68	-9.21	-2.93	-6.61	-3.02	-6.52	-2.16
150	-8.43	-5.07	-11.56	-5.12	-13.79	-6.85	-16.31	-5.77	-17.10	-5.41	-12.89	-3.17	-13.57	-2.52	-13.72	-3.07	-14.09	-2.91	-13.07	-2.70	-11.76	-2.15
165	-6.70	-7.14	-9.66	-5.16	-11.83	-5.05	-13.26	-4.63	-14.01	-4.18	-10.82	-2.73	-11.36	-2.26	-12.80	-2.72	-16.52	-1.92	-14.13	-1.78	-11.49	-1.42
180	-5.08	-4.15	-7.49	-4.89	-10.14	-5.07	-6.81	-3.94	-8.85	-1.96	-6.77	-0.94	-6.68	-0.05	-6.52	0.02	-6.70	0.50	-6.65	0.71	-6.57	0.09
195	-4.02	-3.02	-5.22	-2.50	-5.26	-3.52	-10.67	-2.47	-6.79	-1.06	-6.72	-1.17	-6.71	0.28	-11.33	0.77	-14.51	0.38	-13.67	0.62	-10.23	-0.19
210	-3.04	-5.10	-3.50	-3.67	-5.21	-2.76	-6.78	-7.08	-11.03	-1.97	-6.69	-0.76	-6.56	-0.75	-5.38	0.60	-6.20	0.11	-6.17	0.14	-5.23	-0.66
225	-5.11	-11.84	-5.26	-9.76	-5.14	-5.12	-6.11	-3.52	-6.65	-2.64	-5.33	-1.14	-6.26	-0.22	-6.55	-0.03	-5.08	-0.40	-5.04	0.16	-4.32	-0.43
240	-8.41	-5.11	-7.57	-7.12	-5.17	-5.13	-6.73	-7.05	-6.72	-5.02	-6.59	-3.56	-6.68	-1.72	-5.93	-0.90	-5.23	-1.08	-4.40	-0.64	-4.22	-0.79
255	-5.07	-5.05	-4.14	-5.12	-3.92	-4.87	-6.16	-5.13	-6.80	-3.86	-5.79	-2.65	-6.71	-1.32	-6.54	-1.53	-6.37	-2.11	-6.94	-1.59	-6.19	-1.11
270	-7.20	-5.13	-3.88	-9.72	-3.04	-10.89	-6.85	-2.96	-6.56	-2.21	-6.52	-2.74	-3.40	-2.34	-1.87	-1.80	-3.50	-1.54	-4.19	-1.35	-5.15	-1.53
285	-3.92	-1.52	-2.27	-2.68	-2.19	-4.18	-6.89	-5.54	-6.83	-3.53	-6.89	-3.92	-6.62	-3.76	-6.20	-3.07	-4.02	-4.12	-3.59	-4.25	-3.72	-4.29
300	-4.12	-3.56	-3.41	-2.99	-4.16	-2.78	-6.66	-5.30	-6.73	-4.49	-6.75	-4.04	-10.59	-4.66	-10.05	-5.15	-5.19	-7.38	-4.68	-7.87	-4.38	-9.07
315	-7.69	-8.50	-5.19	-5.20	-8.13	-5.44	-11.48	-2.68	-14.15	-3.77	-11.61	-5.13	-9.78	-6.87	-6.56	-5.47	-6.57	-5.93	-6.52	-6.20	-6.69	-7.36
330	-9.82	-11.56	-9.79	-10.22	-12.24	-8.41	-11.84	-11.05	-12.02	-8.08	-10.74	-9.10	-10.89	-10.41	-13.02	-13.49	-13.69	-13.49	-13.67	-11.87	-15.24	-11.03
345	-10.91	-14.98	-12.41	-14.48	-13.52	-12.65	-13.49	-9.80	-14.23	-10.46	-6.70	-9.88	-6.53	-11.64	-11.81	-14.14	-10.41	-19.00	-11.37	-19.17	-11.05	-21.86
coverage	50.0%	41.7%	50.0%	41.7%	50.0%	41.7%	50.0%	54.3%	50.0%	70.9%	50.0%	70.9%	50.0%	70.9%	50.0%	70.9%	50.0%	66.7%	50.0%	66.7%	50.0%	63.3%



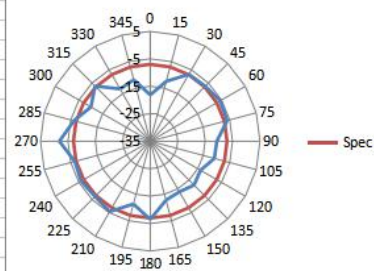
Main_5.47 GHz



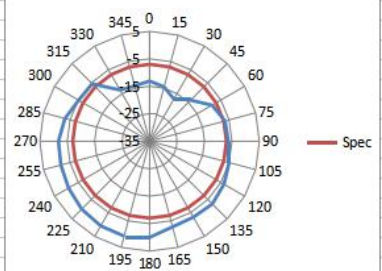
Aux_5.47 GHz



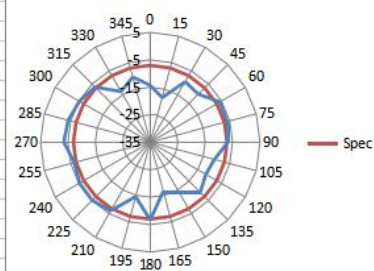
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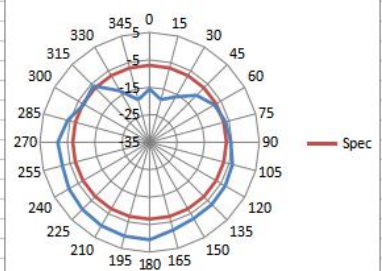
Aux_5.6 GHz



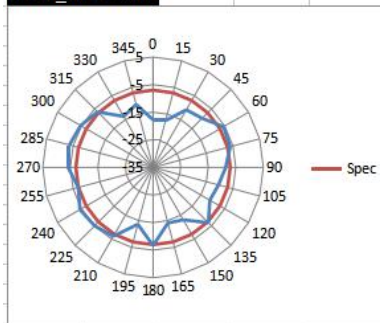
Main_5.725 GHz



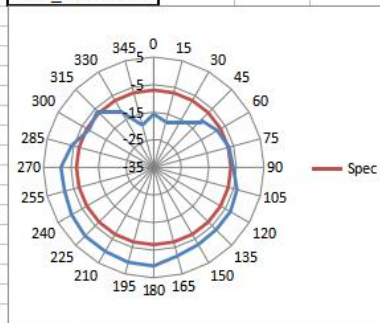
Aux_5.725 GHz



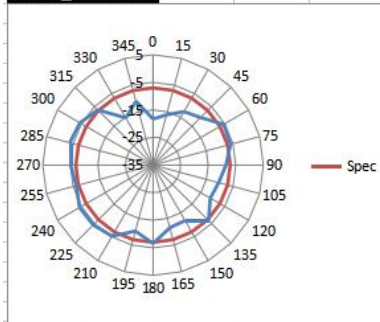
Main_5.785 GHz



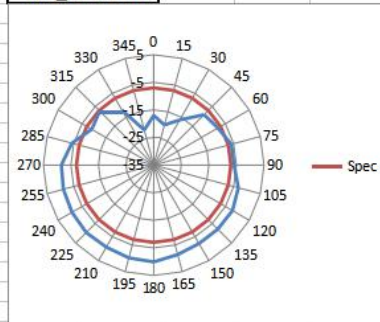
Aux_5.785 GHz



Main_5.85 GHz



Aux_5.85 GHz



Antenna Gain Information:

WLAN Antenna Peak Gain spec.				Measured Data	
Wi-Fi_6E		Freq	Peak Gain (dBi)		Peak Gain (dBi)
		(MHz)	Main	Aux	Main Aux
WLAN	802.11 b/g	2400	2.89	2.89	0.16 0.38
		2450	2.89	2.89	0.27 0.74
		2500	2.89	2.89	0.71 0.66
	802.11a / ac	5150	2.92	2.92	1.69 0.69
		5250	2.92	2.92	2.85 2.33
		5350	3.19	3.19	3.09 2.89
		5470	4.41	4.41	4.33 3.94
		5600	4.41	4.41	4.37 4.33
		5650	4.41	4.41	4.17 3.01
		5725	4.22	4.22	4.09 3.40
		5785	4.22	4.22	4.19 3.48
		5850	4.22	4.22	4.09 3.21
	WIFI_6E	5865	4.22	4.22	4.12 3.60
		5885	4.22	4.22	4.10 3.29
		5905	4.22	4.22	4.17 3.04
		5925	4.83	4.83	4.35 2.78
		6000	4.83	4.83	4.67 2.64
		6125	4.83	4.83	4.81 3.28
		6225	4.83	4.83	4.72 3.29
		6325	4.83	4.83	4.71 2.78
		6425	4.30	4.30	4.21 2.07
		6525	4.30	4.30	4.01 1.58
		6625	4.49	4.49	3.17 1.50
		6725	4.49	4.49	3.18 1.31
		6875	4.49	4.49	3.37 0.62
		6925	5.34	5.34	4.17 0.49
		7000	5.34	5.34	3.17 0.66
		7125	5.34	5.34	3.15 0.43

3. EUT Photo and test setup

Please see the appendix file 'Antenna Test Setup Photos'.

----- The End -----