

1 GHz to 18 GHz, ANT H 802.11n20 Middle Channel

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.400	41.87	-18.21	74.0	-32.13	Peak	211.00	300	Horizontal	Pass
1**	1000.400	28.65	-18.21	54.0	-25.35	AV	211.00	300	Horizontal	Pass
2	2432.400	93.82	-12.84	74.0	19.82	Peak	198.00	200	Horizontal	N/A
2**	2432.400	86.58	-12.84	54.0	32.58	AV	198.00	200	Horizontal	N/A
3	4983.000	51.18	-2.91	74.0	-22.82	Peak	274.00	150	Horizontal	Pass
3**	4983.000	41.41	-2.91	54.0	-12.59	AV	274.00	150	Horizontal	Pass
4	6681.400	54.32	-0.50	74.0	-19.68	Peak	61.00	400	Horizontal	Pass
4**	6681.400	44.99	-0.50	54.0	-9.01	AV	61.00	400	Horizontal	Pass
5	12058.849	53.87	0.95	74.0	-20.13	Peak	107.00	300	Horizontal	Pass
5**	12058.849	44.86	0.95	54.0	-9.14	AV	107.00	300	Horizontal	Pass
6	17415.150	52.99	3.64	74.0	-21.01	Peak	95.00	300	Horizontal	Pass
6**	17415.150	45.08	3.64	54.0	-8.92	AV	95.00	300	Horizontal	Pass

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No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1200.500	41.61	-17.86	74.0	-32.39	Peak	187.00	400	Vertical	Pass
1**	1200.500	29.74	-17.86	54.0	-24.26	AV	187.00	400	Vertical	Pass
2	2444.100	103.19	-12.77	74.0	29.19	Peak	62.00	100	Vertical	N/A
2**	2444.100	95.72	-12.77	54.0	41.72	AV	62.00	100	Vertical	N/A
3	3249.400	53.91	-8.56	74.0	-20.09	Peak	179.00	150	Vertical	Pass
3**	3249.400	52.42	-8.56	54.0	-1.58	AV	179.00	150	Vertical	N/A
4	6278.800	54.12	-0.21	74.0	-19.88	Peak	66.00	200	Vertical	Pass
4**	6278.800	44.17	-0.21	54.0	-9.83	AV	66.00	200	Vertical	Pass
5	12737.925	52.95	1.30	74.0	-21.05	Peak	114.00	300	Vertical	Pass
5**	12737.925	43.74	1.30	54.0	-10.26	AV	114.00	300	Vertical	Pass
6	17417.775	52.63	3.70	74.0	-21.37	Peak	196.00	100	Vertical	Pass
6**	17417.775	45.13	3.70	54.0	-8.87	AV	196.00	100	Vertical	Pass

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No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1393.900	43.42	-17.56	74.0	-30.58	Peak	345.00	400	Horizontal	Pass
1**	1393.900	29.82	-17.56	54.0	-24.18	AV	345.00	400	Horizontal	Pass
2	2455.400	92.70	-12.68	74.0	18.70	Peak	199.00	150	Horizontal	N/A
2**	2455.400	85.12	-12.68	54.0	31.12	AV	199.00	150	Horizontal	N/A
3	4812.400	51.29	-3.05	74.0	-22.71	Peak	65.00	150	Horizontal	Pass
3**	4812.400	41.06	-3.05	54.0	-12.94	AV	65.00	150	Horizontal	Pass
4	6682.400	54.42	-0.45	74.0	-19.58	Peak	332.00	200	Horizontal	Pass
4**	6682.400	45.11	-0.45	54.0	-8.89	AV	332.00	200	Horizontal	Pass
5	12577.500	52.97	1.68	74.0	-21.03	Peak	43.00	300	Horizontal	Pass
5**	12577.500	42.93	1.68	54.0	-11.07	AV	43.00	300	Horizontal	Pass
6	16101.599	52.85	1.13	74.0	-21.15	Peak	35.00	400	Horizontal	Pass
6**	16101.599	44.00	1.13	54.0	-10.00	AV	35.00	400	Horizontal	Pass

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No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1398.800	42.62	-17.48	74.0	-31.38	Peak	153.00	400	Vertical	Pass
1**	1398.800	29.36	-17.48	54.0	-24.64	AV	153.00	400	Vertical	Pass
2	2468.700	102.46	-12.59	74.0	28.46	Peak	250.00	150	Vertical	N/A
2**	2468.700	95.21	-12.59	54.0	41.21	AV	250.00	150	Vertical	N/A
3	3283.000	53.34	-8.14	74.0	-20.66	Peak	18.00	150	Vertical	Pass
3**	3283.000	52.38	-8.14	54.0	-1.62	AV	18.00	150	Vertical	N/A
4	6679.200	54.00	-0.54	74.0	-20.00	Peak	232.00	400	Vertical	Pass
4**	6679.200	45.61	-0.54	54.0	-8.39	AV	232.00	400	Vertical	Pass
5	12728.438	53.35	1.28	74.0	-20.65	Peak	296.00	400	Vertical	Pass
5**	12728.438	43.28	1.28	54.0	-10.72	AV	296.00	400	Vertical	Pass
6	17419.614	52.97	3.75	74.0	-21.03	Peak	172.00	200	Vertical	Pass
6**	17419.614	45.11	3.75	54.0	-8.89	AV	172.00	200	Vertical	Pass

1 GHz to 18 GHz, ANT H 802.11n40 Low Channel

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1194.200	40.31	-17.87	74.0	-33.69	Peak	183.00	100	Horizontal	Pass
1**	1194.200	28.85	-17.87	54.0	-25.15	AV	183.00	100	Horizontal	Pass
2	2407.200	91.42	-12.30	74.0	17.42	Peak	278.00	100	Horizontal	N/A
2**	2407.200	84.60	-12.30	54.0	30.60	AV	278.00	100	Horizontal	N/A
3	4910.000	50.71	-2.44	74.0	-23.29	Peak	119.00	200	Horizontal	Pass
3**	4910.000	41.11	-2.44	54.0	-12.89	AV	119.00	200	Horizontal	Pass
4	6423.600	53.33	-0.83	74.0	-20.67	Peak	208.00	200	Horizontal	Pass
4**	6423.600	43.31	-0.83	54.0	-10.69	AV	208.00	200	Horizontal	Pass
5	12557.950	53.06	1.65	74.0	-20.94	Peak	144.00	300	Horizontal	Pass
5**	12557.950	43.19	1.65	54.0	-10.81	AV	144.00	300	Horizontal	Pass
6	17419.350	53.49	3.74	74.0	-20.51	Peak	321.00	100	Horizontal	Pass
6**	17419.350	45.51	3.74	54.0	-8.49	AV	321.00	100	Horizontal	Pass

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No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1196.900	44.32	-17.93	74.0	-29.68	Peak	270.00	200	Vertical	Pass
1**	1196.900	29.40	-17.93	54.0	-24.60	AV	270.00	200	Vertical	Pass
2	2435.500	99.87	-12.82	74.0	25.87	Peak	198.00	150	Vertical	N/A
2**	2435.500	91.65	-12.82	54.0	37.65	AV	198.00	150	Vertical	N/A
3	3229.600	53.70	-7.29	74.0	-20.30	Peak	183.00	150	Vertical	Pass
3**	3229.600	52.43	-7.29	54.0	-1.57	AV	183.00	150	Vertical	N/A
4	6681.600	54.19	-0.49	74.0	-19.81	Peak	40.00	400	Vertical	Pass
4**	6681.600	45.36	-0.49	54.0	-8.64	AV	40.00	400	Vertical	Pass
5	12437.775	53.12	1.74	74.0	-20.88	Peak	92.00	100	Vertical	Pass
5**	12437.775	43.23	1.74	54.0	-10.77	AV	92.00	100	Vertical	Pass
6	17459.511	52.80	2.84	74.0	-21.20	Peak	151.00	100	Vertical	Pass
6**	17459.511	43.53	2.84	54.0	-10.47	AV	151.00	100	Vertical	Pass

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No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1397.400	41.55	-17.48	74.0	-32.45	Peak	153.00	200	Horizontal	Pass
1**	1397.400	29.98	-17.48	54.0	-24.02	AV	153.00	200	Horizontal	Pass
2	2421.100	93.25	-12.45	74.0	19.25	Peak	25.00	100	Horizontal	N/A
2**	2421.100	86.01	-12.45	54.0	32.01	AV	25.00	100	Horizontal	N/A
3	4874.000	51.49	-3.34	74.0	-22.51	Peak	348.00	150	Horizontal	Pass
3**	4874.000	41.96	-3.34	54.0	-12.04	AV	348.00	150	Horizontal	Pass
4	6690.400	54.06	-0.28	74.0	-19.94	Peak	133.00	200	Horizontal	Pass
4**	6690.400	45.55	-0.28	54.0	-8.45	AV	133.00	200	Horizontal	Pass
5	12598.487	53.27	1.86	74.0	-20.73	Peak	347.00	200	Horizontal	Pass
5**	12598.487	43.17	1.86	54.0	-10.83	AV	347.00	200	Horizontal	Pass
6	17420.401	52.83	3.75	74.0	-21.17	Peak	258.00	400	Horizontal	Pass
6**	17420.401	46.15	3.75	54.0	-7.85	AV	258.00	400	Horizontal	Pass

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No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1396.100	40.22	-17.48	74.0	-33.78	Peak	261.00	100	Vertical	Pass
1**	1396.100	32.66	-17.48	54.0	-21.34	AV	261.00	100	Vertical	Pass
2	2453.400	99.58	-12.68	74.0	25.58	Peak	55.00	150	Vertical	N/A
2**	2453.400	91.99	-12.68	54.0	37.99	AV	55.00	150	Vertical	N/A
3	3249.600	54.09	-8.56	74.0	-19.91	Peak	0.00	150	Vertical	Pass
3**	3249.600	52.59	-8.56	54.0	-1.41	AV	0.00	150	Vertical	N/A
4	6670.800	54.17	-0.74	74.0	-19.83	Peak	279.00	400	Vertical	Pass
4**	6670.800	44.09	-0.74	54.0	-9.91	AV	279.00	400	Vertical	Pass
5	12235.088	52.91	1.16	74.0	-21.09	Peak	205.00	300	Vertical	Pass
5**	12235.088	44.04	1.16	54.0	-9.96	AV	205.00	300	Vertical	Pass
6	17201.738	53.37	1.81	74.0	-20.63	Peak	171.00	200	Vertical	Pass
6**	17201.738	44.64	1.81	54.0	-9.36	AV	171.00	200	Vertical	Pass

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No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.900	42.04	-18.21	74.0	-31.96	Peak	171.00	400	Horizontal	Pass
1**	1000.900	29.50	-18.21	54.0	-24.50	AV	171.00	400	Horizontal	Pass
2	2465.300	95.97	-12.73	74.0	21.97	Peak	31.00	100	Horizontal	N/A
2**	2465.300	88.96	-12.73	54.0	34.96	AV	31.00	100	Horizontal	N/A
3	4505.400	50.45	-4.32	74.0	-23.55	Peak	84.00	150	Horizontal	Pass
3**	4505.400	40.26	-4.32	54.0	-13.74	AV	84.00	150	Horizontal	Pass
4	6677.800	53.66	-0.57	74.0	-20.34	Peak	185.00	200	Horizontal	Pass
4**	6677.800	44.47	-0.57	54.0	-9.53	AV	185.00	200	Horizontal	Pass
5	12209.212	53.01	0.99	74.0	-20.99	Peak	7.00	100	Horizontal	Pass
5**	12209.212	43.71	0.99	54.0	-10.29	AV	7.00	100	Horizontal	Pass
6	17214.075	53.69	1.41	74.0	-20.31	Peak	288.00	100	Horizontal	Pass
6**	17214.075	45.36	1.41	54.0	-8.64	AV	288.00	100	Horizontal	Pass

1 GHz to 18 GHz, ANT V 802.11n40 High Channel

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1398.100	40.60	-17.49	74.0	-33.40	Peak	292.00	300	Vertical	Pass
1**	1398.100	29.96	-17.49	54.0	-24.04	AV	292.00	300	Vertical	Pass
2	2465.000	101.09	-12.74	74.0	27.09	Peak	178.00	150	Vertical	N/A
2**	2465.000	93.87	-12.74	54.0	39.87	AV	178.00	150	Vertical	N/A
3	3269.600	53.80	-8.50	74.0	-20.20	Peak	186.00	150	Vertical	Pass
3**	3269.600	52.65	-8.50	54.0	-1.35	AV	186.00	150	Vertical	N/A
4	6604.600	54.36	0.02	74.0	-19.64	Peak	7.00	100	Vertical	Pass
4**	6604.600	44.08	0.02	54.0	-9.92	AV	7.00	100	Vertical	Pass
5	12738.500	53.48	1.30	74.0	-20.52	Peak	262.00	100	Vertical	Pass
5**	12738.500	43.61	1.30	54.0	-10.39	AV	262.00	100	Vertical	Pass
6	17494.161	53.02	2.06	74.0	-20.98	Peak	152.00	100	Vertical	Pass
6**	17494.161	44.03	2.06	54.0	-9.97	AV	152.00	100	Vertical	Pass

5.8 Band Edge (Restricted-band band-edge)

5.8.1 Limit

FCC §15.209&15.247(d)

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

5.8.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX A.

5.8.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW \geq RBW

Sweep = auto

Detector function = peak

Trace = max hold

For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

For transmitters operating above 1 GHz repeat the measurement with an average detector.

5.8.4 Test Result

Note ¹: The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.

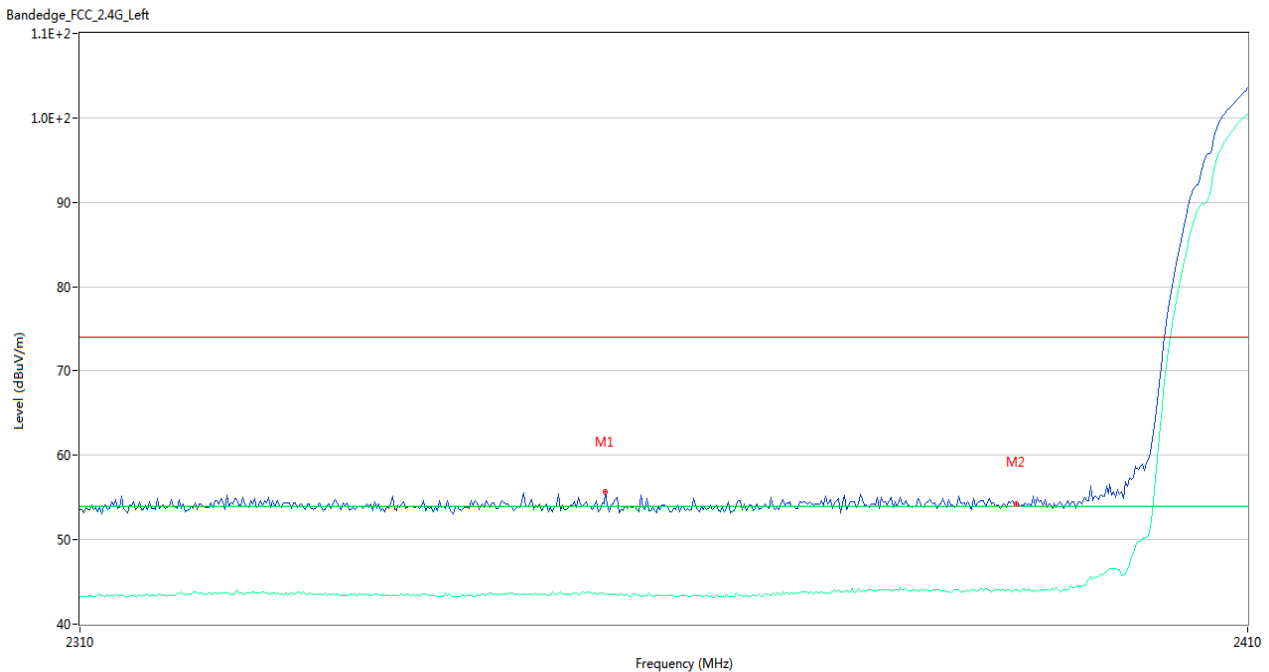
Note ²: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.

Note ³: According the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Test Data and Plots

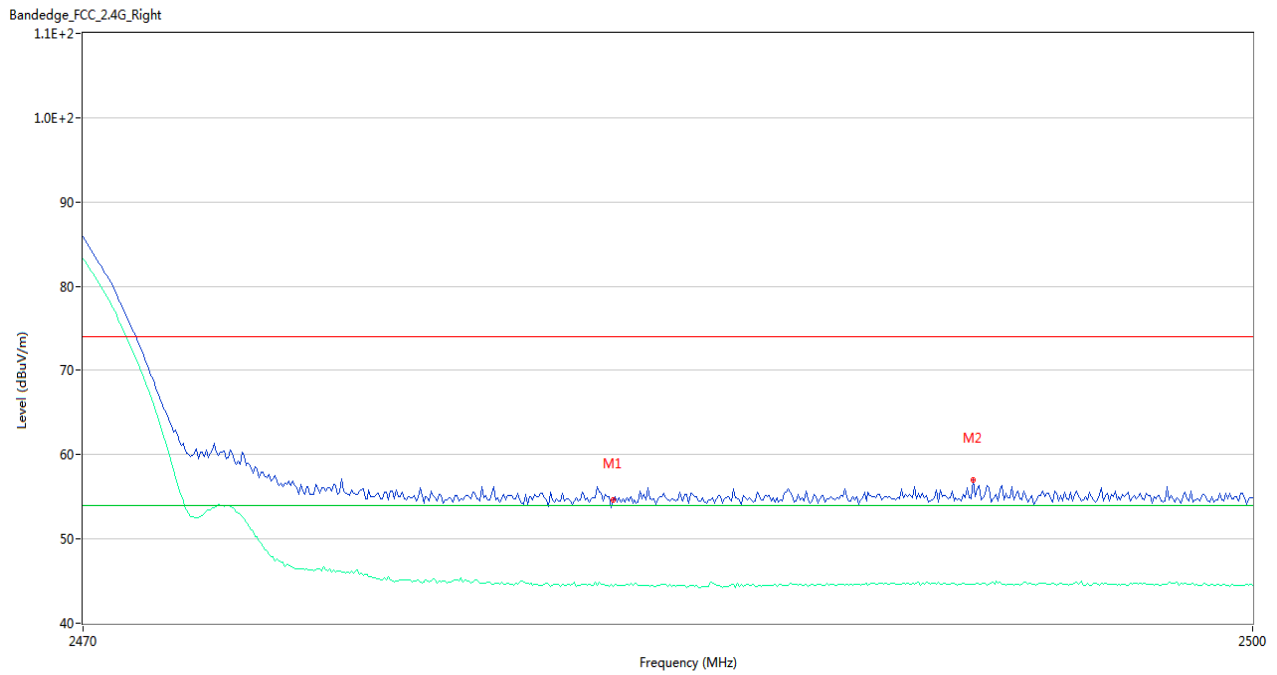
Main Antenna

802.11b LOW CHANNEL



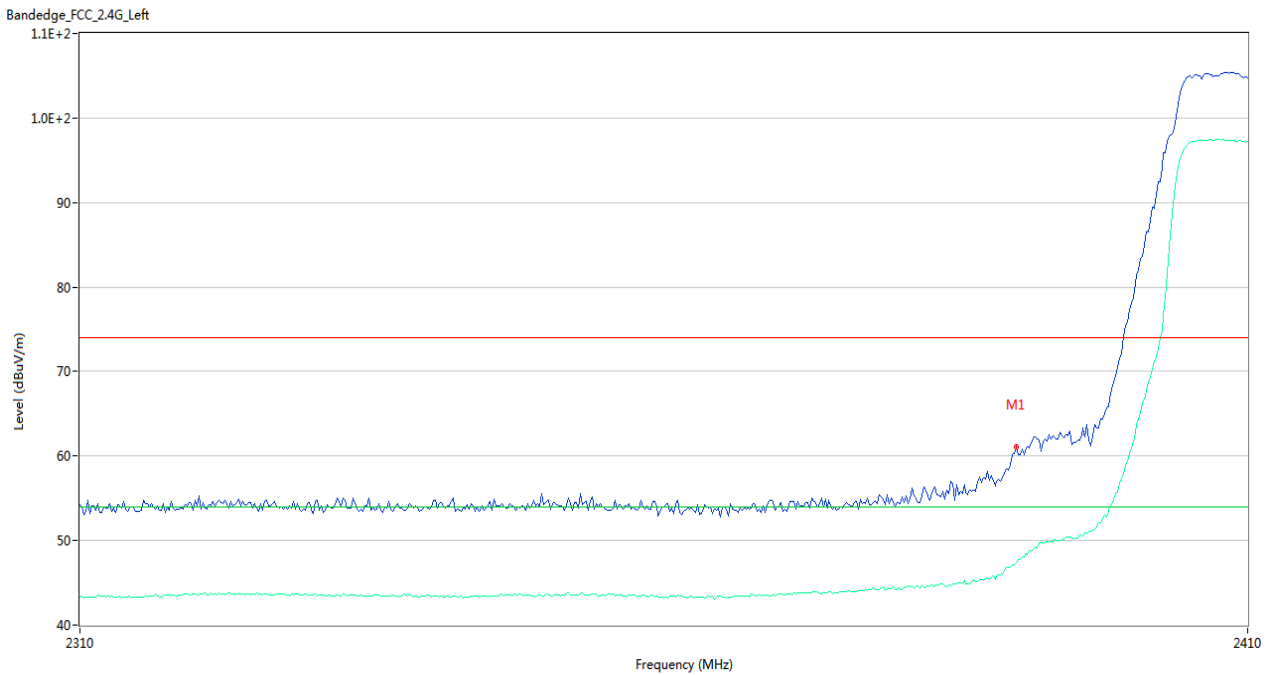
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2354.500	55.67	-0.68	74.0	-18.33	Peak	194.00	200	Vertical	Pass
1**	2354.500	43.49	-0.68	54.0	-10.51	AV	194.00	200	Vertical	Pass
2	2389.833	54.30	-0.50	74.0	-19.70	Peak	267.00	100	Vertical	Pass
2**	2389.833	44.12	-0.50	54.0	-9.88	AV	267.00	100	Vertical	Pass

802.11b HIGH CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.550	54.64	-0.36	74.0	-19.36	Peak	112.00	200	Vertical	Pass
1**	2483.550	44.36	-0.36	54.0	-9.64	AV	112.00	200	Vertical	Pass
2	2492.800	56.95	-0.06	74.0	-17.05	Peak	64.00	200	Vertical	Pass
2**	2492.800	44.68	-0.06	54.0	-9.32	AV	64.00	200	Vertical	Pass

802.11g LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.833	61.08	-0.50	74.0	-12.92	Peak	187.00	200	Vertical	Pass
1**	2389.833	47.38	-0.50	54.0	-6.62	AV	187.00	200	Vertical	Pass

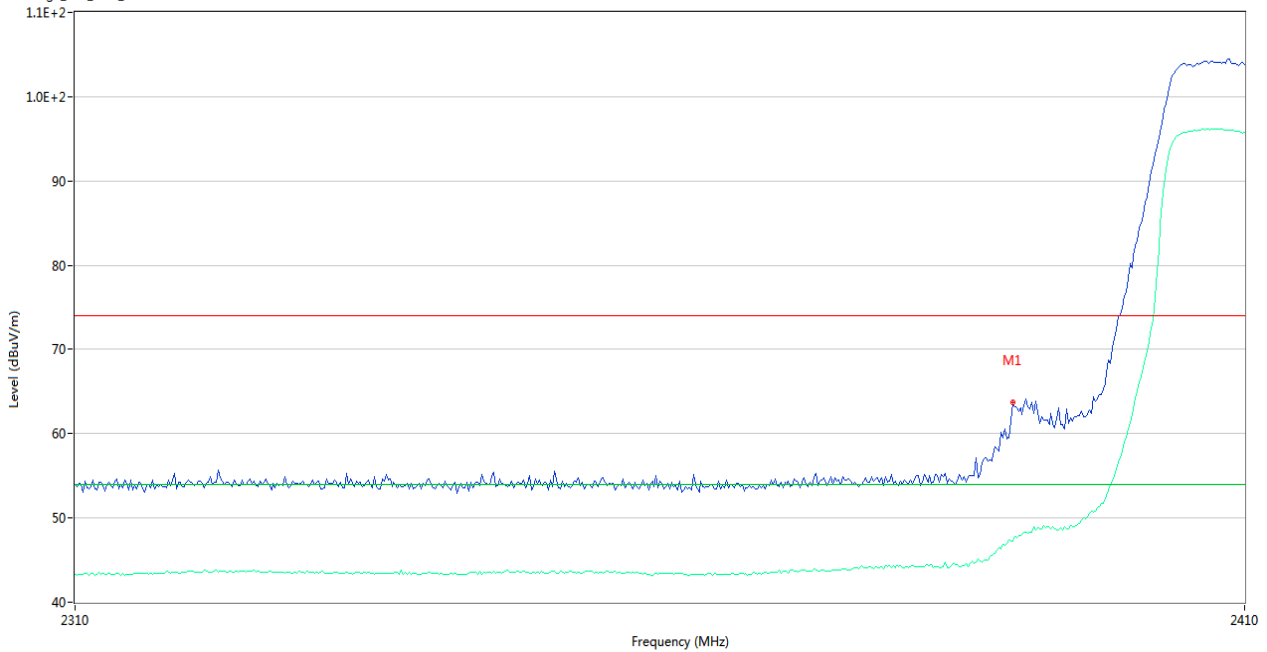
802.11g HIGH CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.550	62.49	-0.36	74.0	-11.51	Peak	189.00	100	Vertical	Pass
1**	2483.550	48.33	-0.36	54.0	-5.67	AV	189.00	100	Vertical	Pass
2	2483.750	62.31	-0.35	74.0	-11.69	Peak	189.00	100	Vertical	Pass
2**	2483.750	48.03	-0.35	54.0	-5.97	AV	189.00	100	Vertical	Pass

802.11n20 LOW CHANNEL

Bandedge_FCC_2.4G_Left



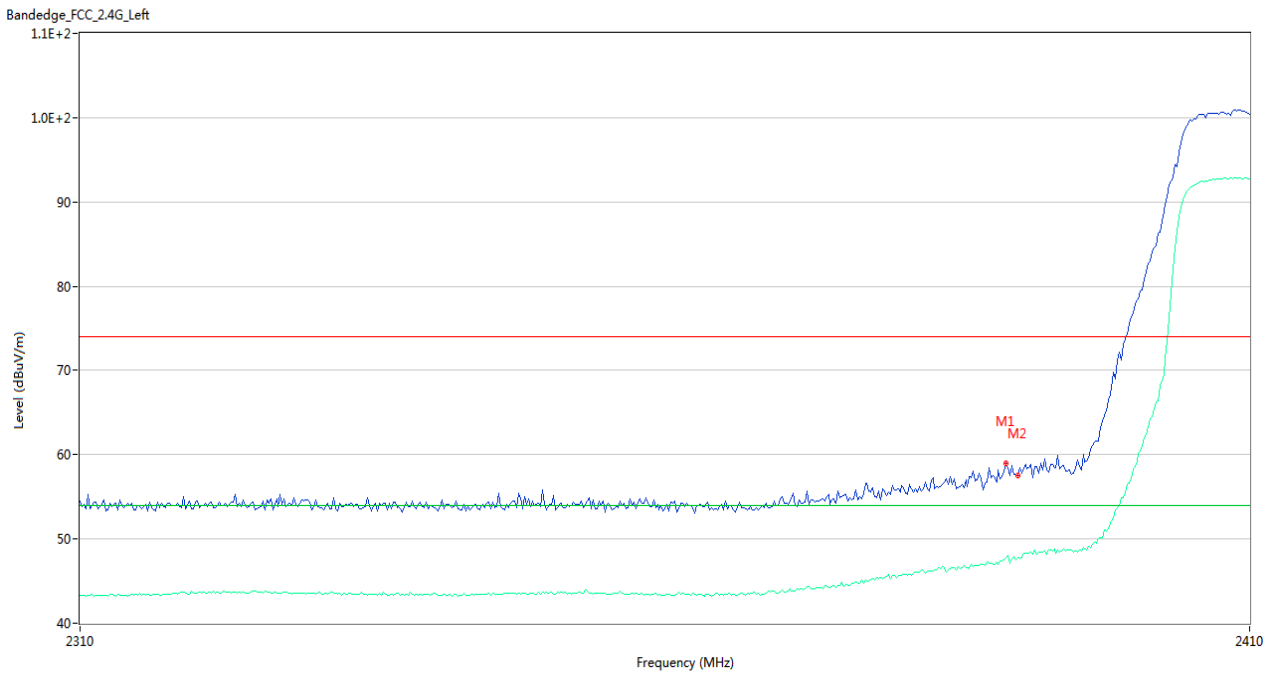
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.833	63.68	-0.50	74.0	-10.32	Peak	190.00	150	Vertical	Pass
1**	2389.833	47.28	-0.50	54.0	-6.72	AV	190.00	150	Vertical	Pass

802.11n20 HIGH CHANNEL



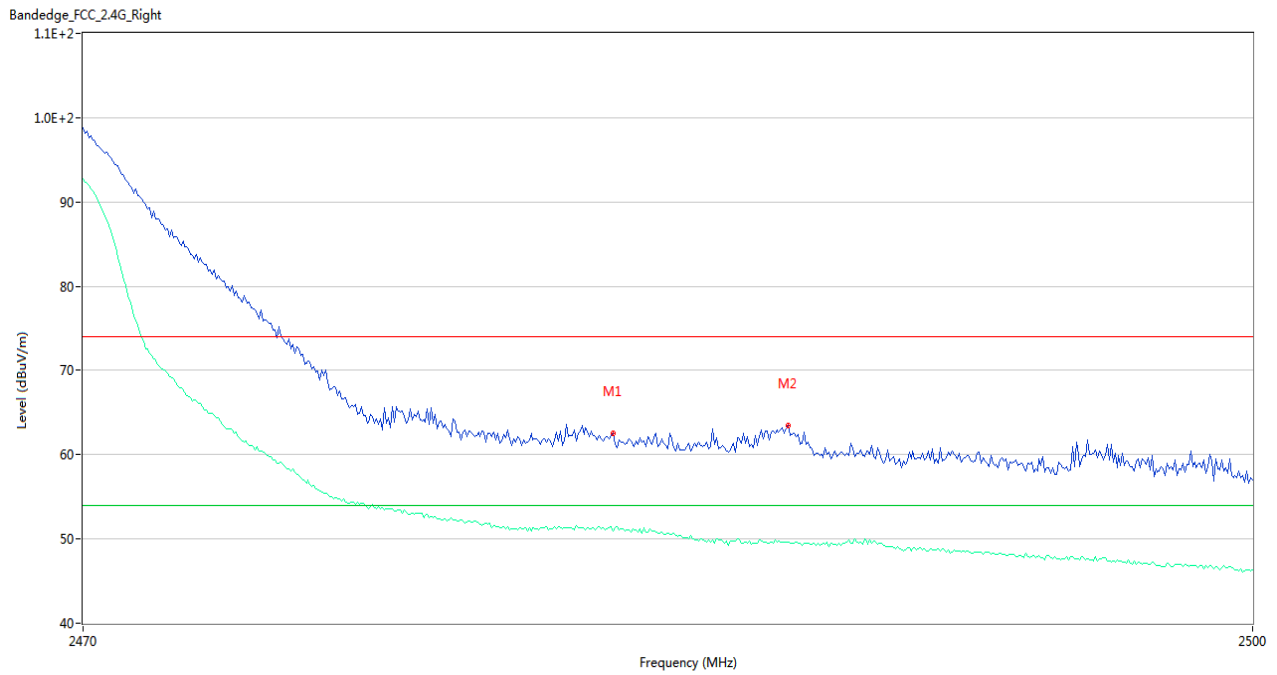
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	59.59	-0.36	74.0	-14.41	Peak	68.00	150	Vertical	Pass
1**	2483.500	47.19	-0.36	54.0	-6.81	AV	68.00	150	Vertical	Pass
2	2484.450	60.78	-0.33	74.0	-13.22	Peak	56.00	200	Vertical	Pass
2**	2484.450	47.14	-0.33	54.0	-6.86	AV	56.00	200	Vertical	Pass

802.11n40 LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2388.833	59.01	-0.49	74.0	-14.99	Peak	183.00	100	Vertical	Pass
1**	2388.833	47.75	-0.49	54.0	-6.25	AV	183.00	100	Vertical	Pass
2	2389.833	57.53	-0.50	74.0	-16.47	Peak	183.00	150	Vertical	Pass
2**	2389.833	47.80	-0.50	54.0	-6.20	AV	183.00	150	Vertical	Pass

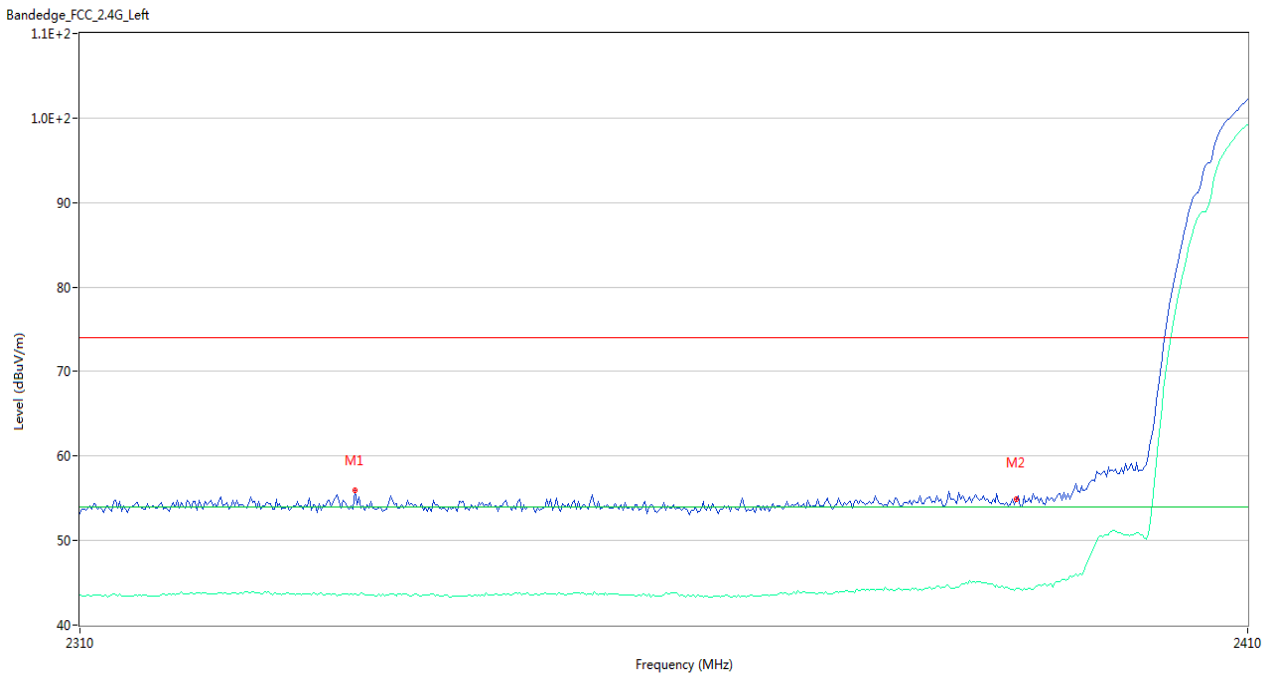
802.11n40 HIGH CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.550	62.55	-0.36	74.0	-11.45	Peak	184.00	100	Vertical	Pass
1**	2483.550	50.90	-0.36	54.0	-3.10	AV	184.00	100	Vertical	Pass
2	2488.050	63.51	-0.26	74.0	-10.49	Peak	66.00	150	Vertical	Pass
2**	2488.050	49.66	-0.26	54.0	-4.34	AV	66.00	150	Vertical	Pass

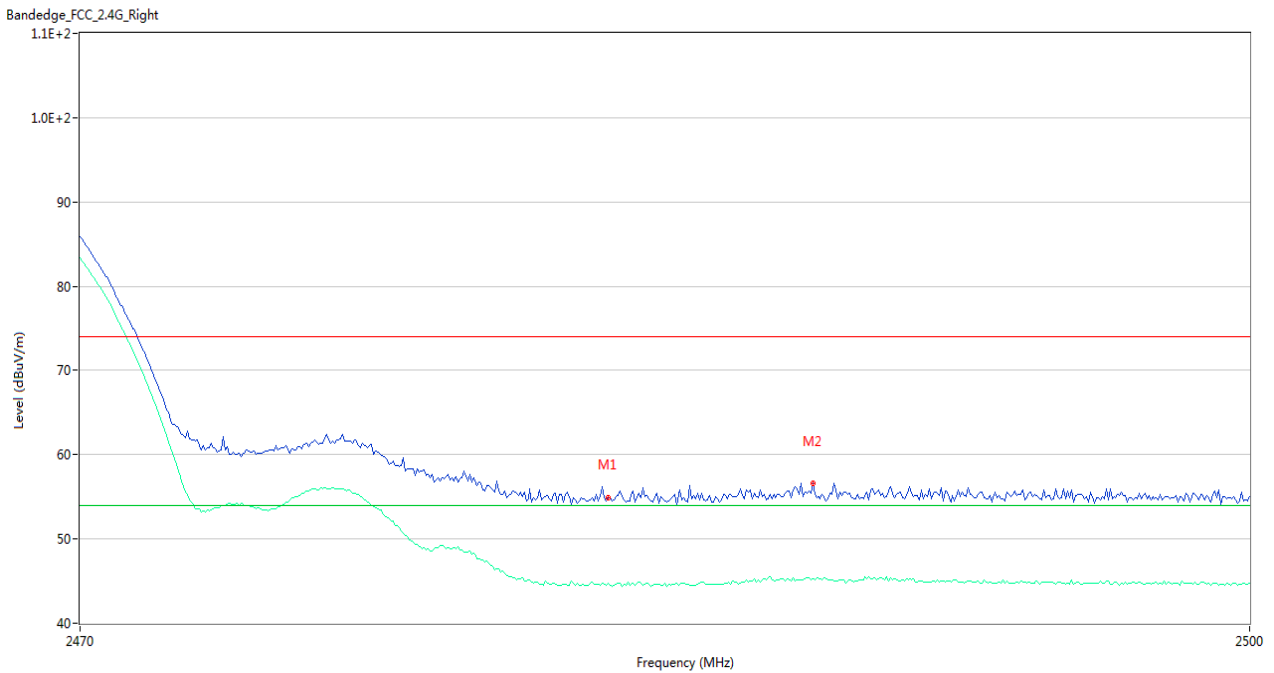
Aux. Antenna

802.11b LOW CHANNEL



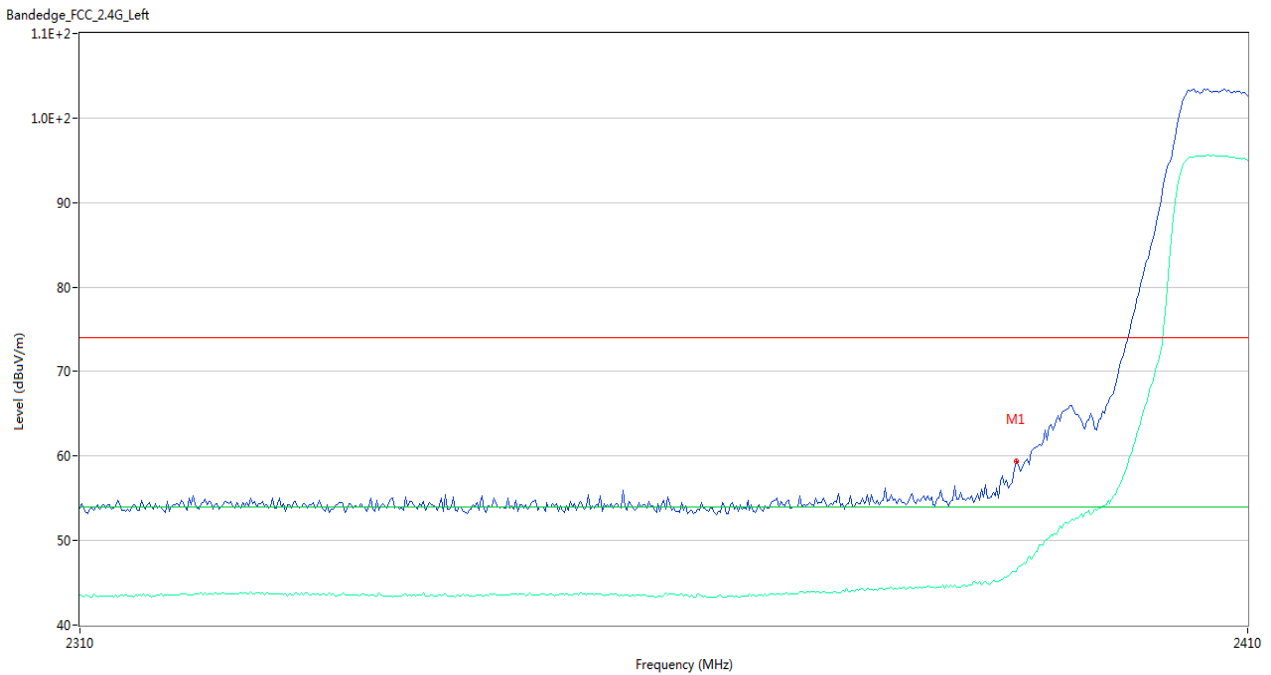
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2333.167	55.99	-0.66	74.0	-18.01	Peak	290.00	200	Vertical	Pass
1**	2333.167	43.69	-0.66	54.0	-10.31	AV	290.00	200	Vertical	Pass
2	2389.833	54.86	-0.50	74.0	-19.14	Peak	186.00	200	Vertical	Pass
2**	2389.833	44.36	-0.50	54.0	-9.64	AV	186.00	200	Vertical	Pass

802.11b HIGH CHANNEL



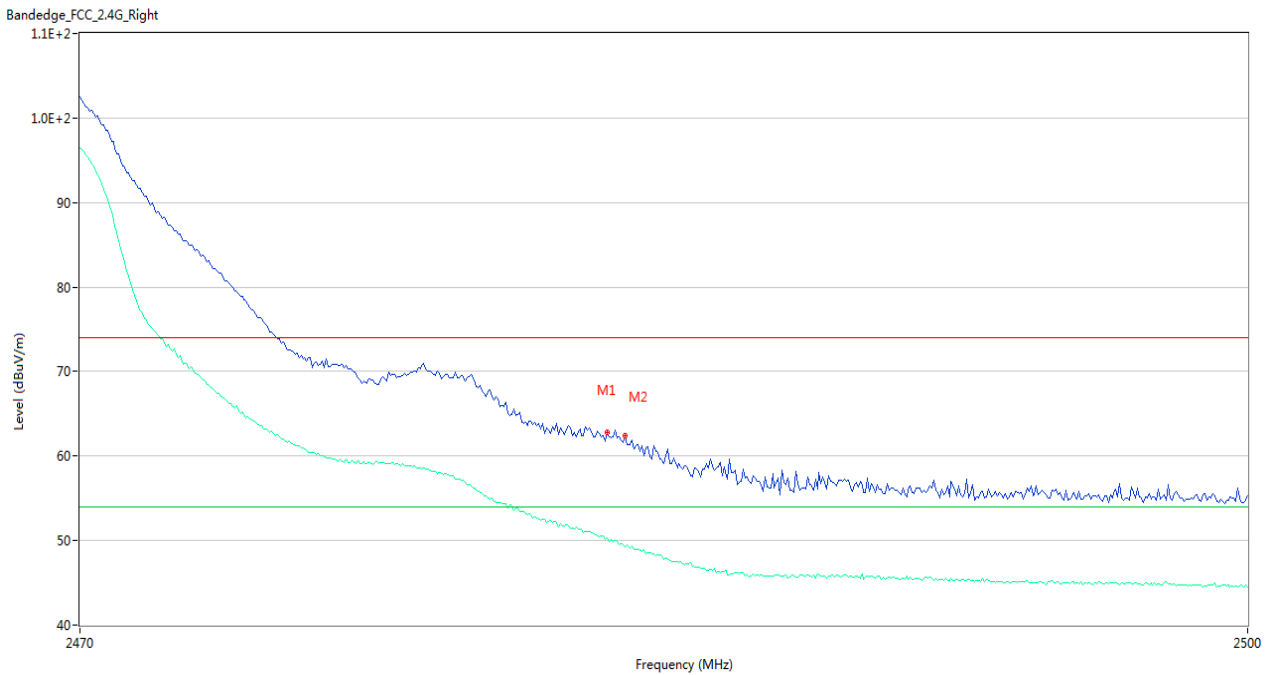
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	54.91	-0.36	74.0	-19.09	Peak	204.00	200	Vertical	Pass
1**	2483.500	44.72	-0.36	54.0	-9.28	AV	204.00	200	Vertical	Pass
2	2488.750	56.61	-0.21	74.0	-17.39	Peak	326.00	200	Vertical	Pass
2**	2488.750	45.24	-0.21	54.0	-8.76	AV	326.00	200	Vertical	Pass

802.11g LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.833	59.34	-0.50	74.0	-14.66	Peak	198.00	200	Vertical	Pass
1**	2389.833	46.37	-0.50	54.0	-7.63	AV	198.00	200	Vertical	Pass

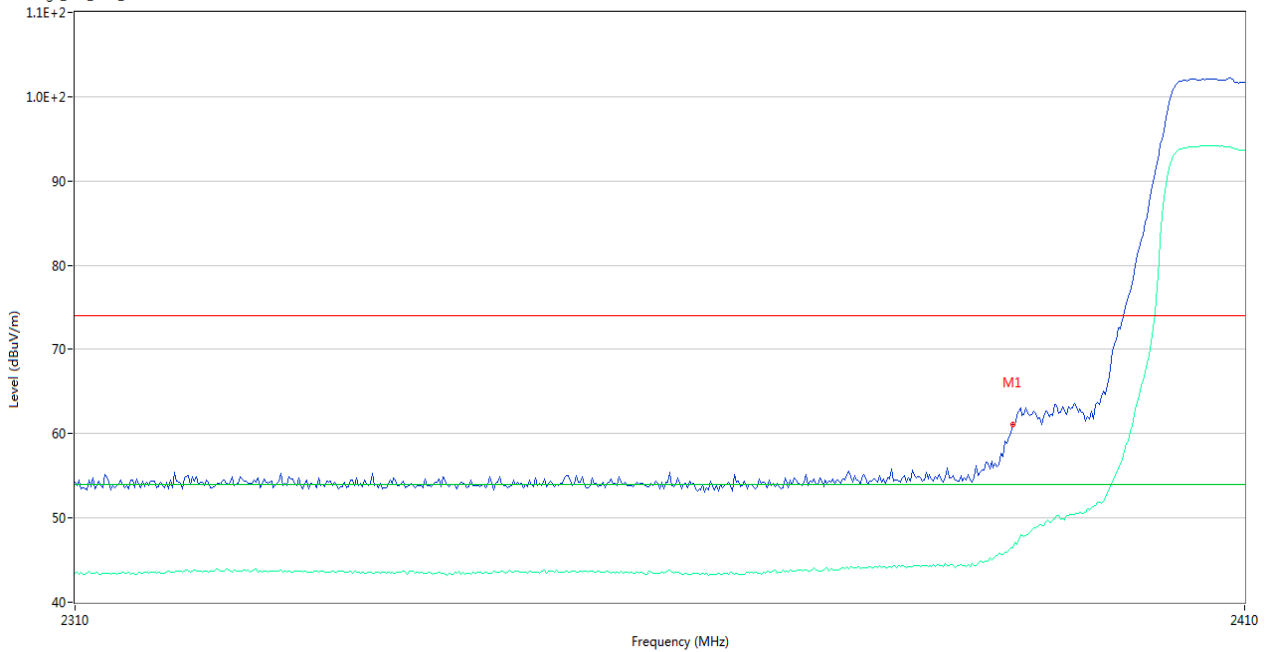
802.11g HIGH CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	62.76	-0.36	74.0	-11.24	Peak	201.00	100	Vertical	Pass
1**	2483.500	50.29	-0.36	54.0	-3.71	AV	201.00	100	Vertical	Pass
2	2483.950	62.43	-0.35	74.0	-11.57	Peak	204.00	200	Vertical	Pass
2**	2483.950	49.26	-0.35	54.0	-4.74	AV	204.00	200	Vertical	Pass

802.11n20 LOW CHANNEL

Bandedge_FCC_2.4G_Left



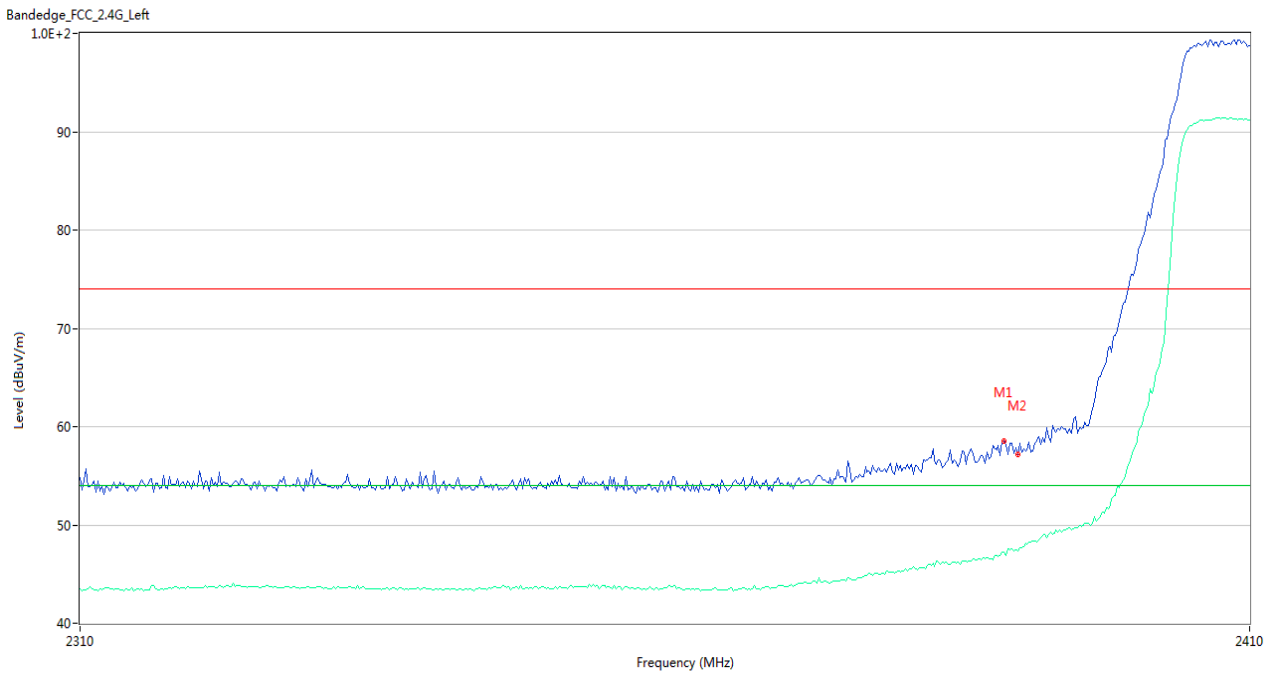
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2389.833	61.11	-0.50	74.0	-12.89	Peak	214.00	100	Vertical	Pass
1**	2389.833	46.50	-0.50	54.0	-7.50	AV	214.00	100	Vertical	Pass

802.11n20 HIGH CHANNEL



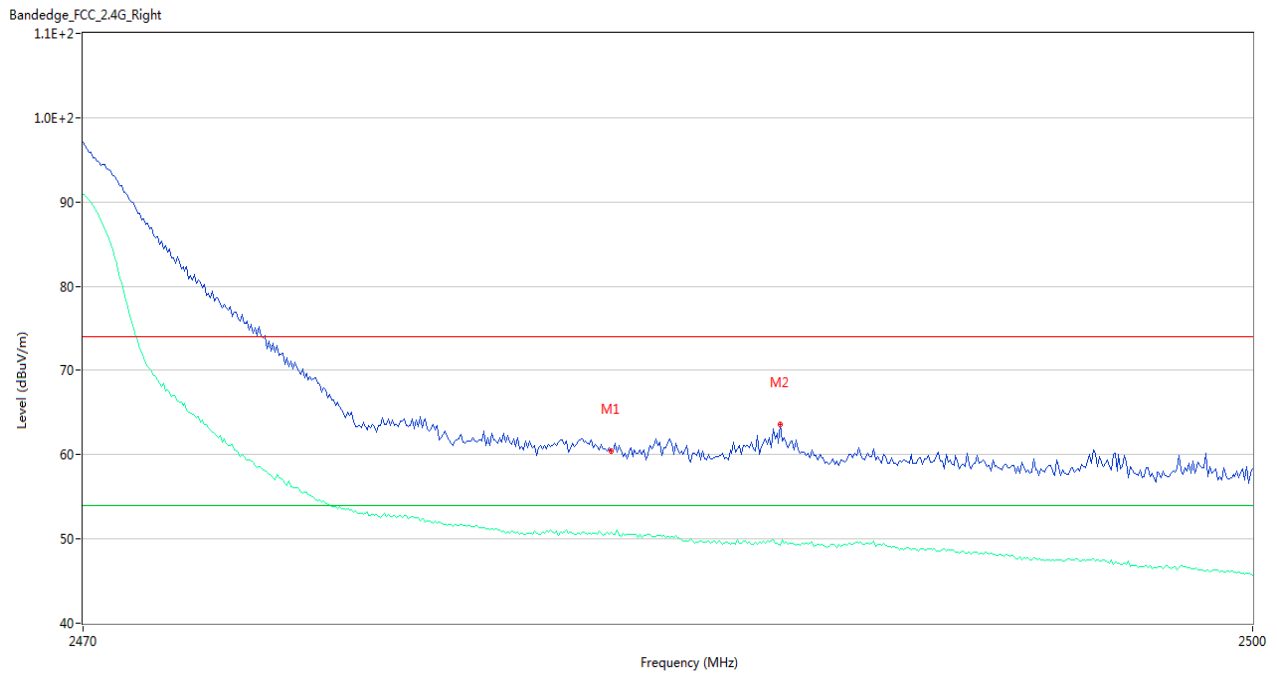
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.550	65.20	-0.36	74.0	-8.80	Peak	198.00	150	Vertical	Pass
1**	2483.550	50.58	-0.36	54.0	-3.42	AV	198.00	150	Vertical	Pass
2	2484.650	63.93	-0.34	74.0	-10.07	Peak	197.00	100	Vertical	Pass
2**	2484.650	49.83	-0.34	54.0	-4.17	AV	197.00	100	Vertical	Pass

802.11n40 LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2388.667	58.49	-0.49	74.0	-15.51	Peak	199.00	150	Vertical	Pass
1**	2388.667	47.19	-0.49	54.0	-6.81	AV	199.00	150	Vertical	Pass
2	2389.833	57.19	-0.50	74.0	-16.81	Peak	198.00	100	Vertical	Pass
2**	2389.833	47.40	-0.50	54.0	-6.60	AV	198.00	100	Vertical	Pass

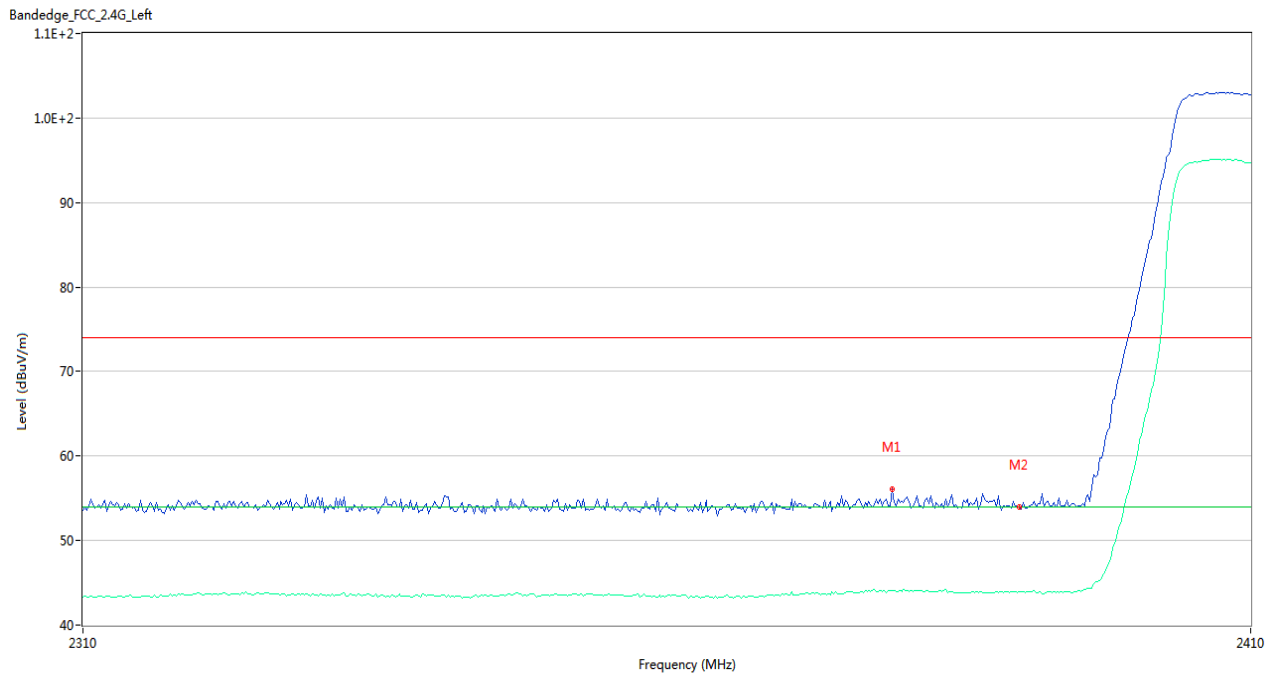
802.11n40 HIGH CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	60.47	-0.36	74.0	-13.53	Peak	201.00	200	Vertical	Pass
1**	2483.500	50.78	-0.36	54.0	-3.22	AV	201.00	200	Vertical	Pass
2	2487.850	63.64	-0.27	74.0	-10.36	Peak	203.00	100	Vertical	Pass
2**	2487.850	49.28	-0.27	54.0	-4.72	AV	203.00	100	Vertical	Pass

MIMO

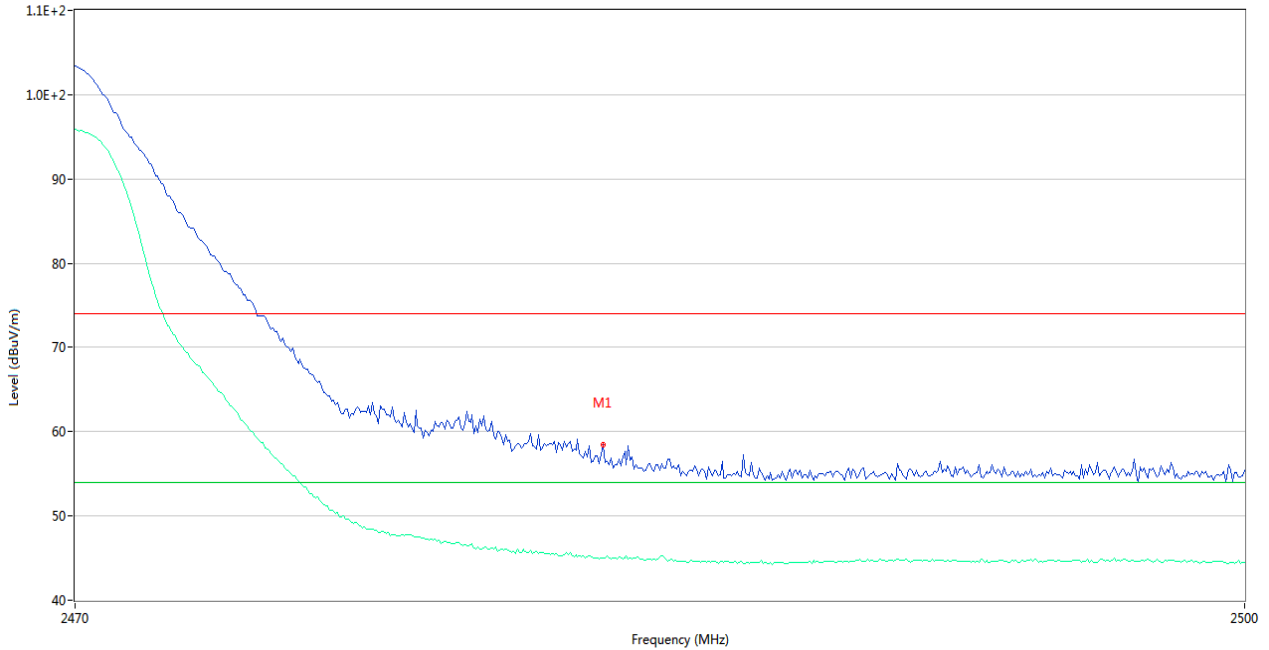
802.11n20 LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2378.833	56.06	-0.52	74.0	-17.94	Peak	283.00	150	Vertical	Pass
1**	2378.833	44.07	-0.52	54.0	-9.93	AV	283.00	150	Vertical	Pass
2	2389.833	53.94	-0.50	74.0	-20.06	Peak	51.00	200	Vertical	Pass
2**	2389.833	43.93	-0.50	54.0	-10.07	AV	51.00	200	Vertical	Pass

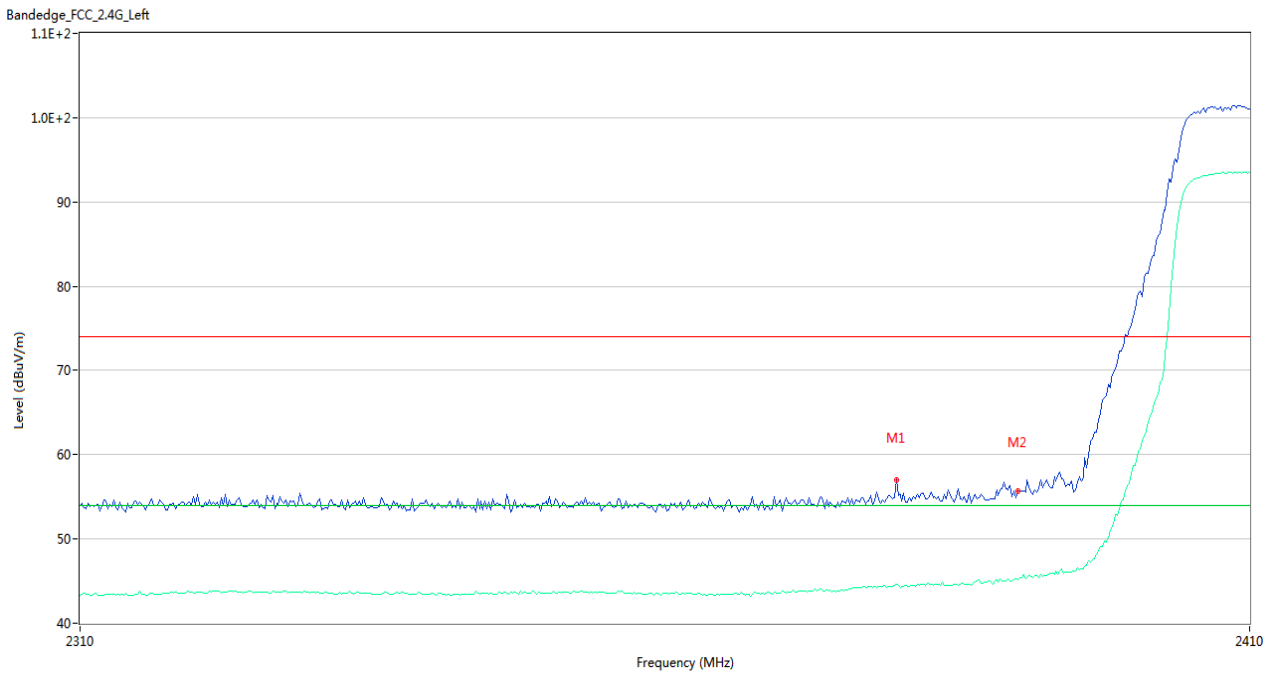
802.11n20 HIGH CHANNEL

Bandedge_FCC_2.4G_Right



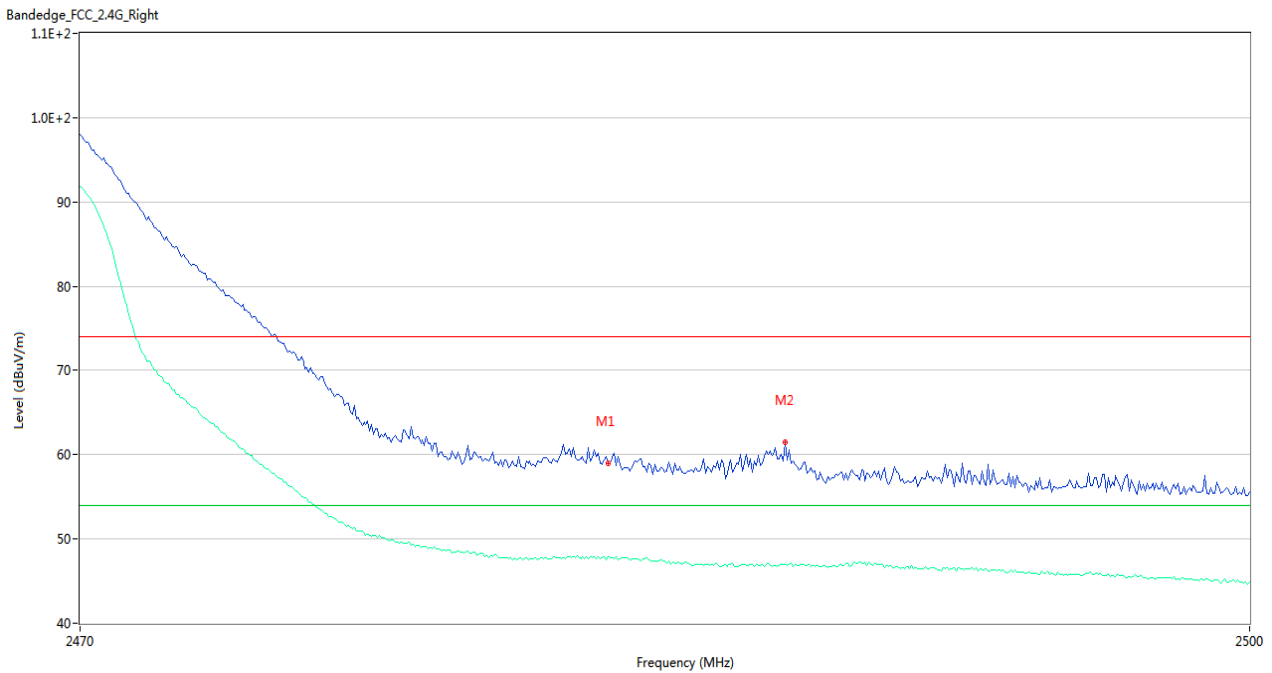
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	58.48	-0.36	74.0	-15.52	Peak	343.00	200	Vertical	Pass
1**	2483.500	44.99	-0.36	54.0	-9.01	AV	343.00	200	Vertical	Pass

802.11n40 LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2379.333	57.04	-0.54	74.0	-16.96	Peak	182.00	150	Vertical	Pass
1**	2379.333	44.55	-0.54	54.0	-9.45	AV	182.00	150	Vertical	Pass
2	2389.833	55.70	-0.50	74.0	-18.30	Peak	286.00	150	Vertical	Pass
2**	2389.833	45.20	-0.50	54.0	-8.80	AV	286.00	150	Vertical	Pass

802.11n40 HIGH CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	59.01	-0.36	74.0	-14.99	Peak	313.00	100	Vertical	Pass
1**	2483.500	47.88	-0.36	54.0	-6.12	AV	313.00	100	Vertical	Pass
2	2488.050	61.52	-0.26	74.0	-12.48	Peak	325.00	100	Vertical	Pass
2**	2488.050	46.99	-0.26	54.0	-7.01	AV	325.00	100	Vertical	Pass

5.9 Power Spectral density (PSD)

5.9.1 Limit

FCC §15.247(e)

The same method of determining the conducted output power shall be used to determine the power spectral density. If a peak output power is measured, then a peak power spectral density measurement is required. If an average output power is measured, then an average power spectral density measurement should be used.

5.9.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX A.

5.9.3 Test Procedure

Set analyzer center frequency to DTS channel center frequency.

Set the span to 1.5 times the DTS bandwidth.

Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.

Set the VBW $\geq 3 \text{ RBW}$.

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

5.9.4 Test Result

Test Data

Main Antenna

802.11b Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-19.36	8
Middle	-18.87	8
High	-19.34	8

802.11g Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-21.11	8
Middle	-21.24	8
High	-21.54	8

802.11n-20 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-22.71	8
Middle	-22.70	8
High	-23.30	8

802.11n-40 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-26.08	8
Middle	-26.20	8
High	-26.30	8

Aux. Antenna

802.11b Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-19.44	8
Middle	-19.44	8
High	-21.42	8

802.11g Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-22.00	8
Middle	-22.24	8
High	-22.16	8

802.11n-20 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-23.07	8
Middle	-23.14	8
High	-23.03	8

802.11n-40 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-26.43	8
Middle	-26.43	8
High	-26.21	8

MIMO-Main Antenna

802.11n-20 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-26.91	8
Middle	-26.91	8
High	-27.22	8

802.11n-40 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-29.93	8
Middle	-29.60	8
High	-28.52	8

MIMO-Aux. Antenna

802.11n-20 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-27.27	8
Middle	-26.44	8
High	-27.13	8

802.11n-40 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-29.44	8
Middle	-29.55	8
High	-29.97	8

MIMO

802.11n-20 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-24.08	8
Middle	-23.66	8
High	-24.16	8

802.11n-40 MHz Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-26.67	8
Middle	-26.56	8
High	-26.17	8

Test Plots

Main Antenna

802.11b LOW CHANNEL



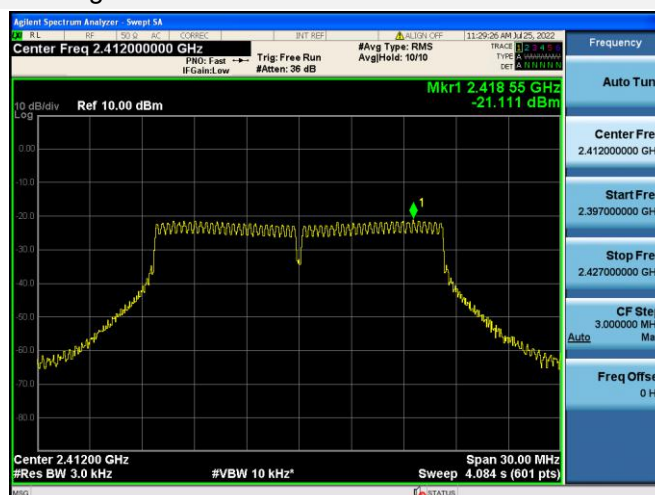
802.11b MIDDLE CHANNEL



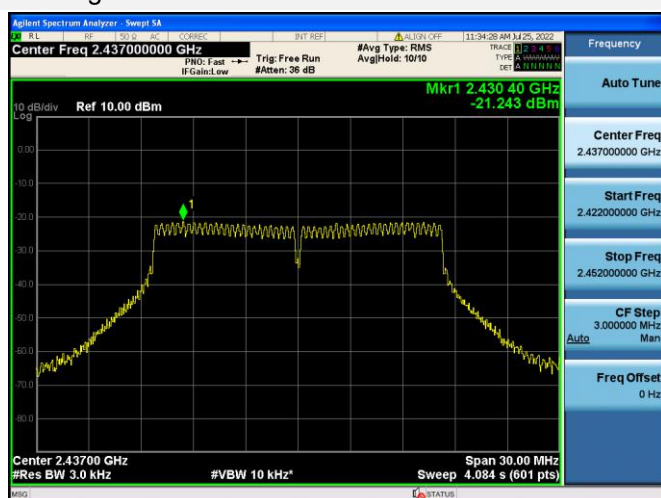
802.11b HIGH CHANNEL



802.11g LOW CHANNEL



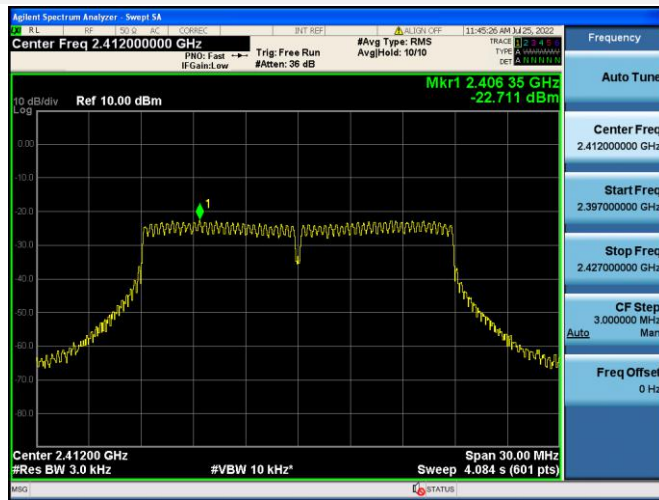
802.11g MIDDLE CHANNEL



802.11g HIGH CHANNEL



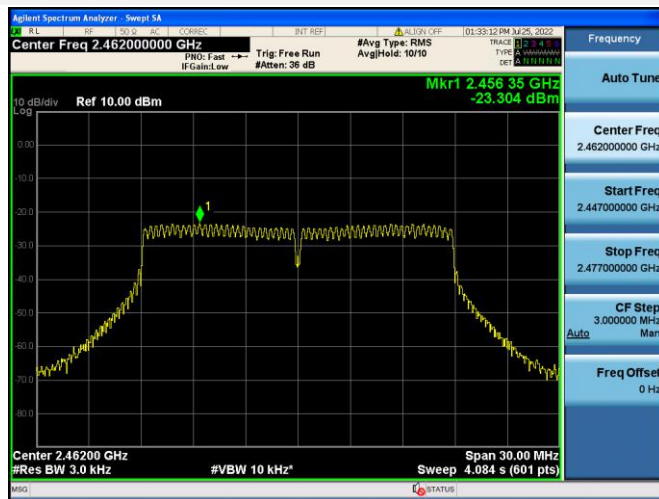
802.11n-20 MHz LOW CHANNEL



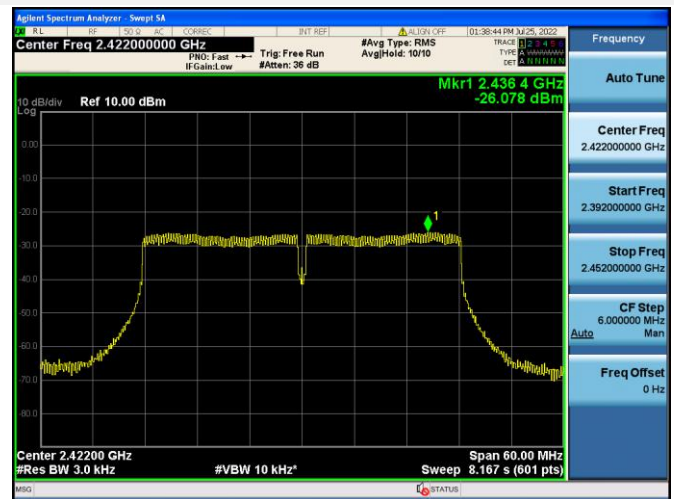
802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



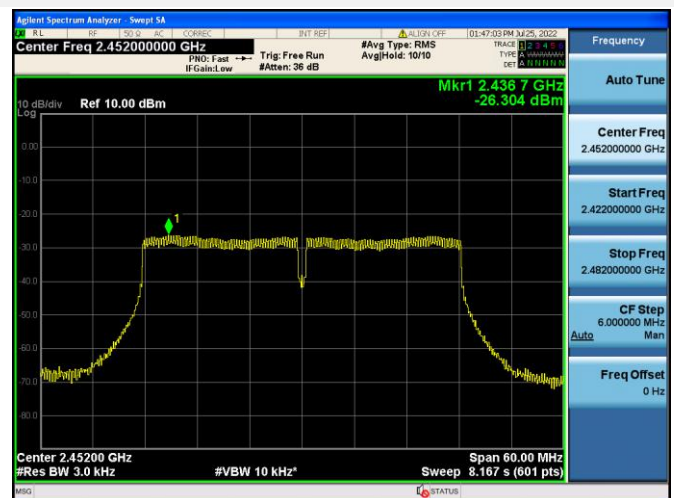
802.11n-40 MHz LOW CHANNEL



802.11n-40 MHz MIDDLE CHANNEL



802.11n-40 MHz HIGH CHANNEL



Aux. Antenna

802.11b LOW CHANNEL



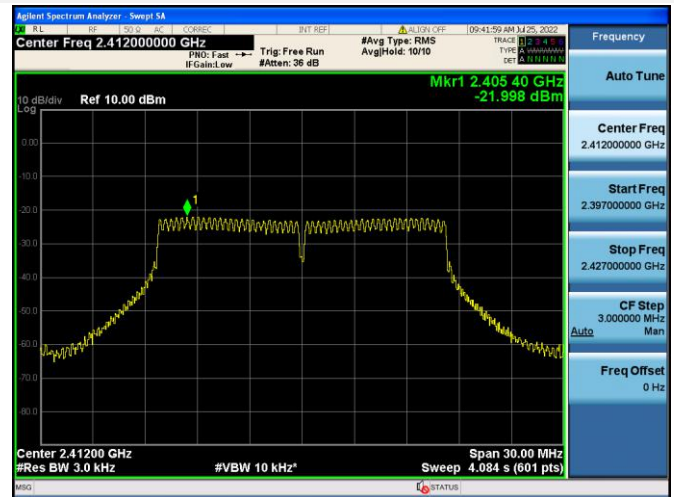
802.11b MIDDLE CHANNEL



802.11b HIGH CHANNEL



802.11g LOW CHANNEL



802.11g MIDDLE CHANNEL



802.11g HIGH CHANNEL



802.11n-20 MHz LOW CHANNEL



802.11n-20 MHz MIDDLE CHANNEL



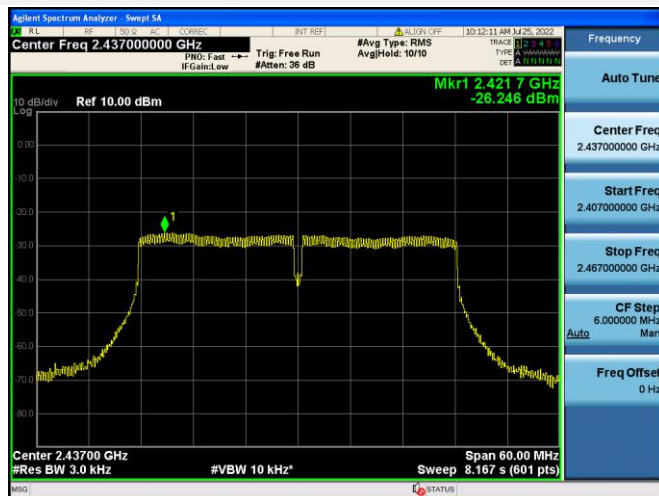
802.11n-20 MHz HIGH CHANNEL



802.11n-40 MHz LOW CHANNEL



802.11n-40 MHz MIDDLE CHANNEL



802.11n-40 MHz HIGH CHANNEL



MIMO-Main Antenna

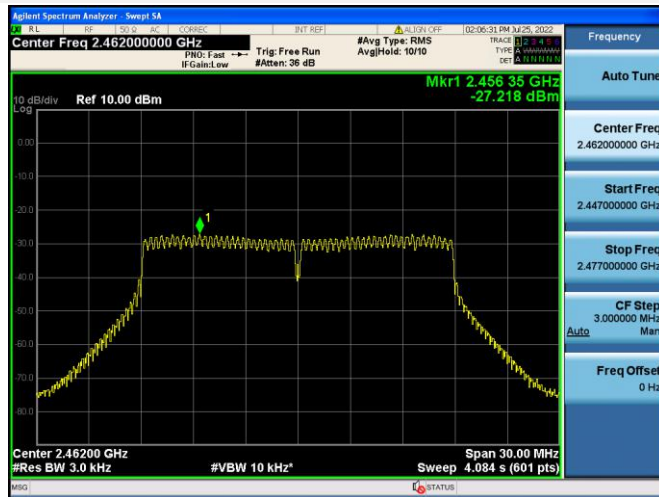
802.11n-20 MHz LOW CHANNEL



802.11n-20 MHz MIDDLE CHANNEL



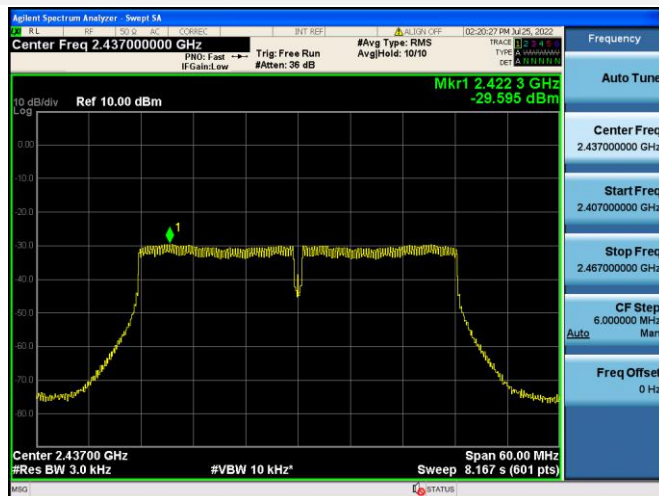
802.11n-20 MHz HIGH CHANNEL



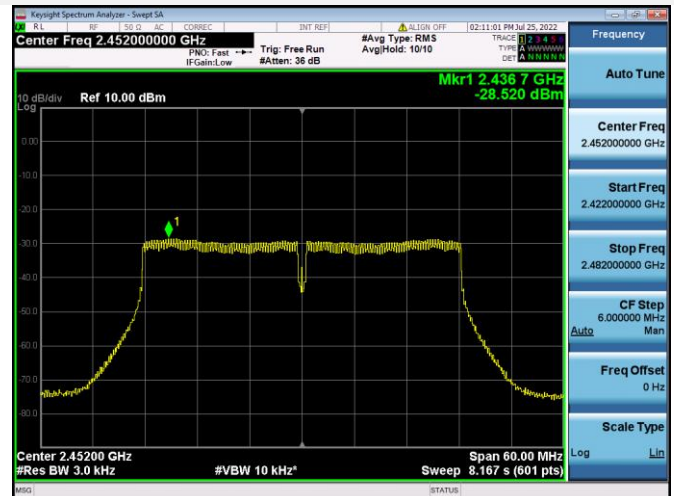
802.11n-40 MHz LOW CHANNEL



802.11n-40 MHz MIDDLE CHANNEL



802.11n-40 MHz HIGH CHANNEL



MIMO-Aux. Antenna

802.11n-20 MHz LOW CHANNEL



802.11n-20 MHz MIDDLE CHANNEL



802.11n-20 MHz HIGH CHANNEL



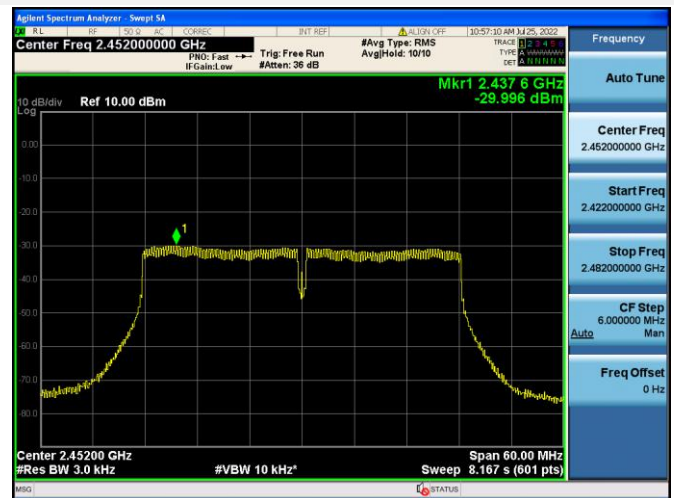
802.11n-40 MHz LOW CHANNEL



802.11n-40 MHz MIDDLE CHANNEL



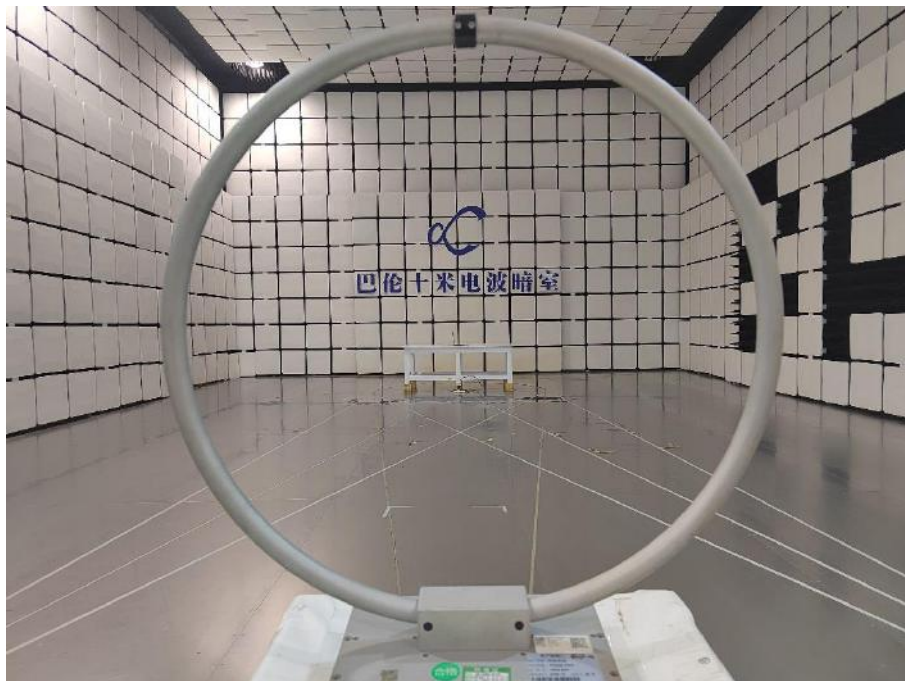
802.11n-40 MHz HIGH CHANNEL



ANNEX A TEST SETUP PHOTOS

A.1 Radiated Test Photo

Below 30MHz



Close-up



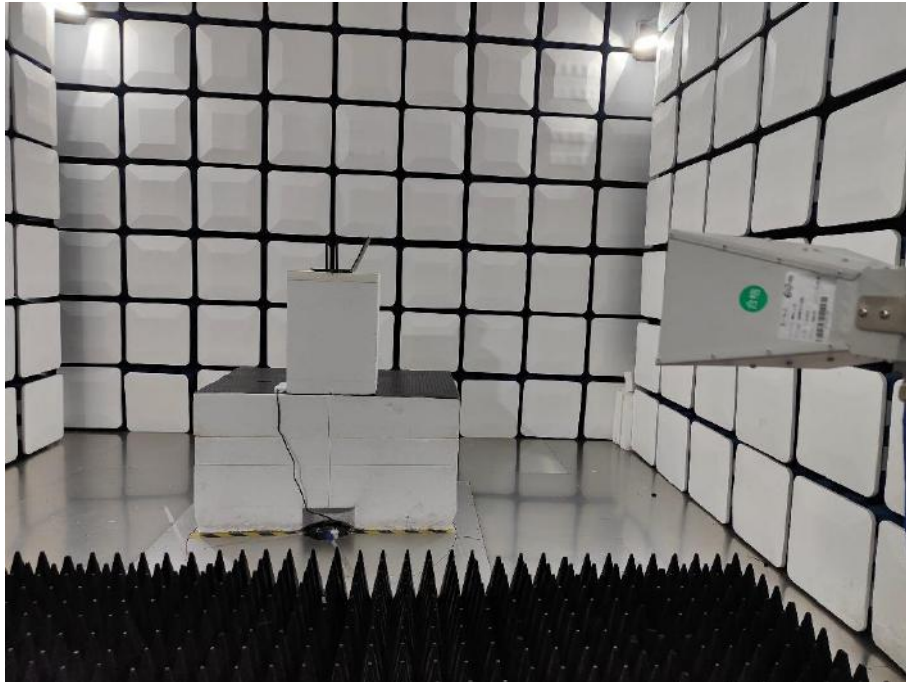
30MHz-1GHz



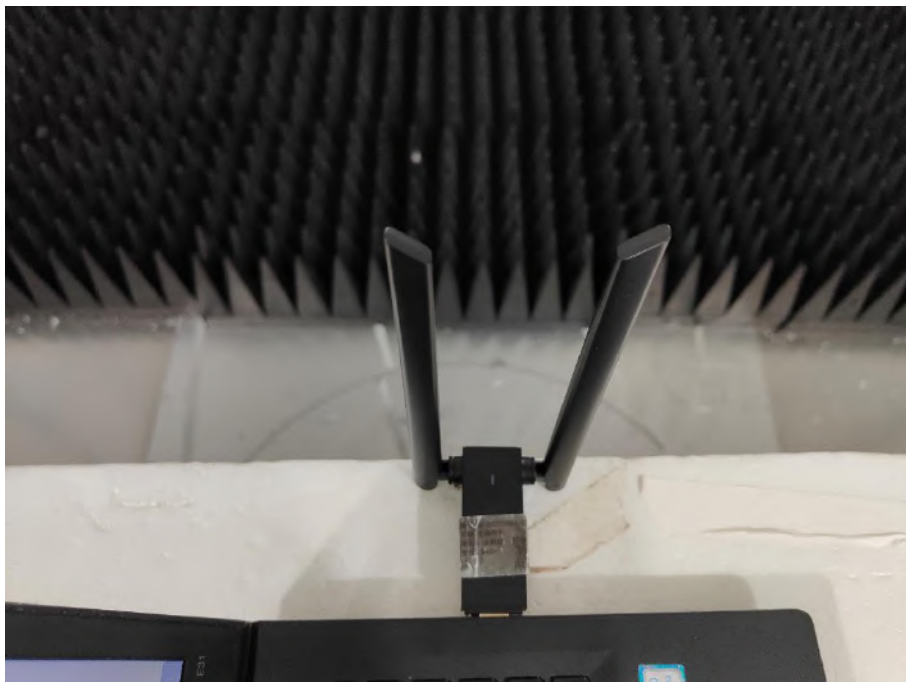
Close-up



Above 1GHz



Close-up



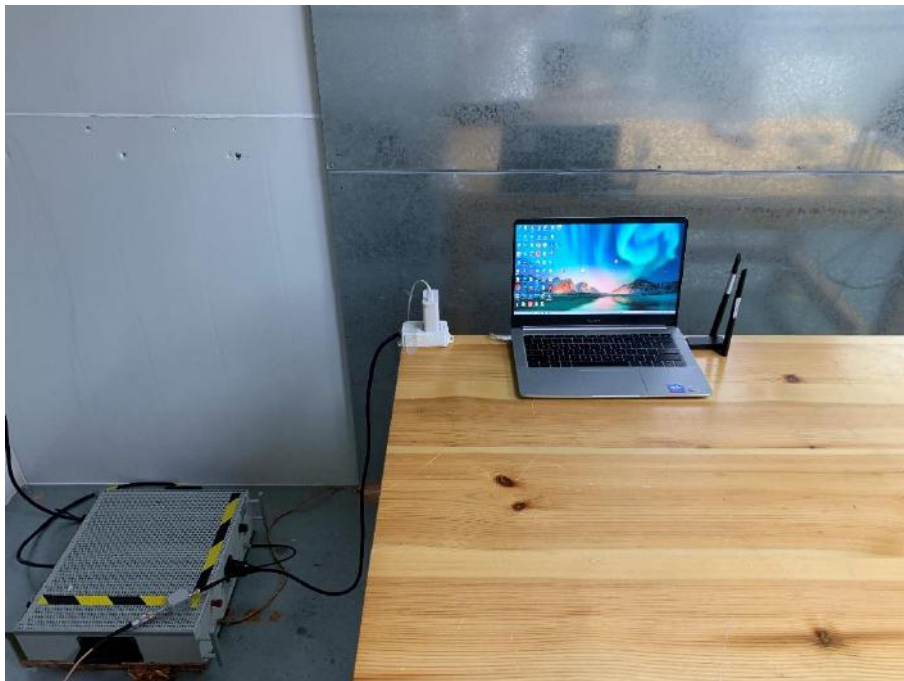
A.2 Conducted Test Photo

Conducted Test



A.3 Conducted Emissions

Test Photo 1



Test Photo 2



ANNEX B EUT EXTERNAL PHOTOS

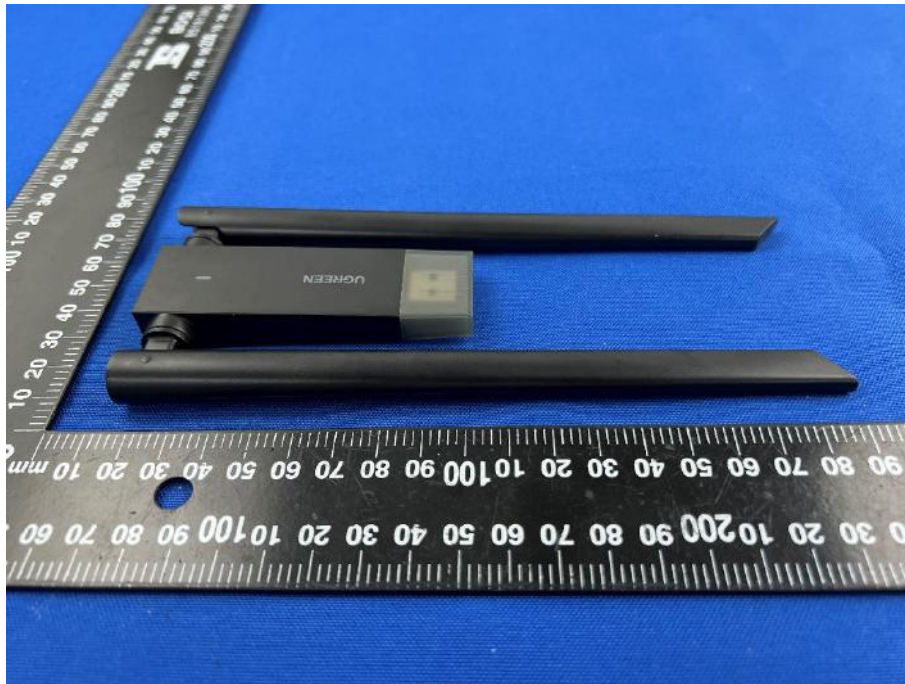
FRONT VIEW OF EUT



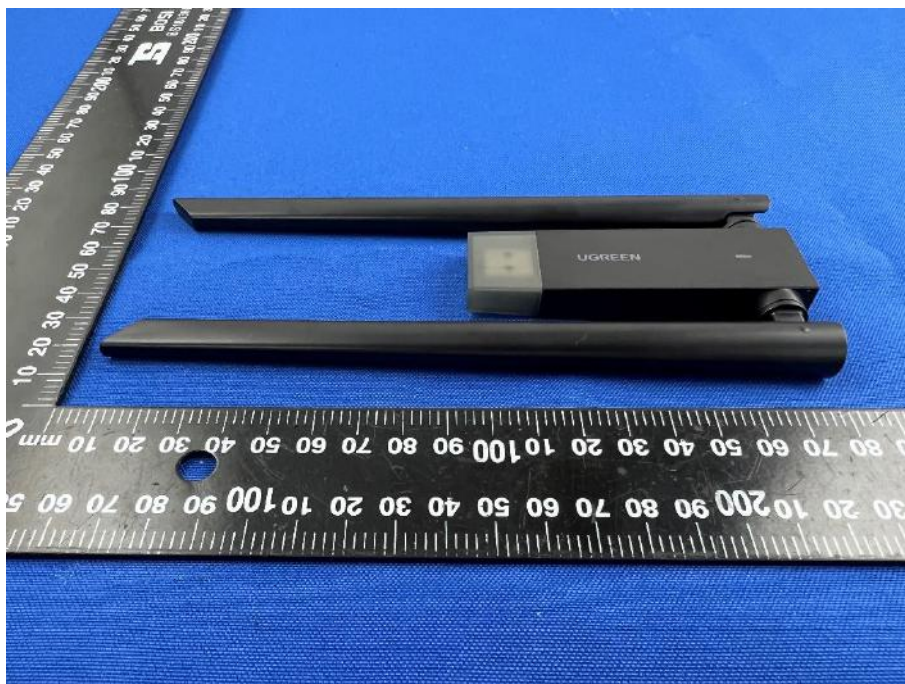
REAR VIEW OF EUT



LEFT VIEW OF EUT



RIGHT VIEW OF EUT



TOP VIEW OF EUT



BOTTOM VIEW OF EUT



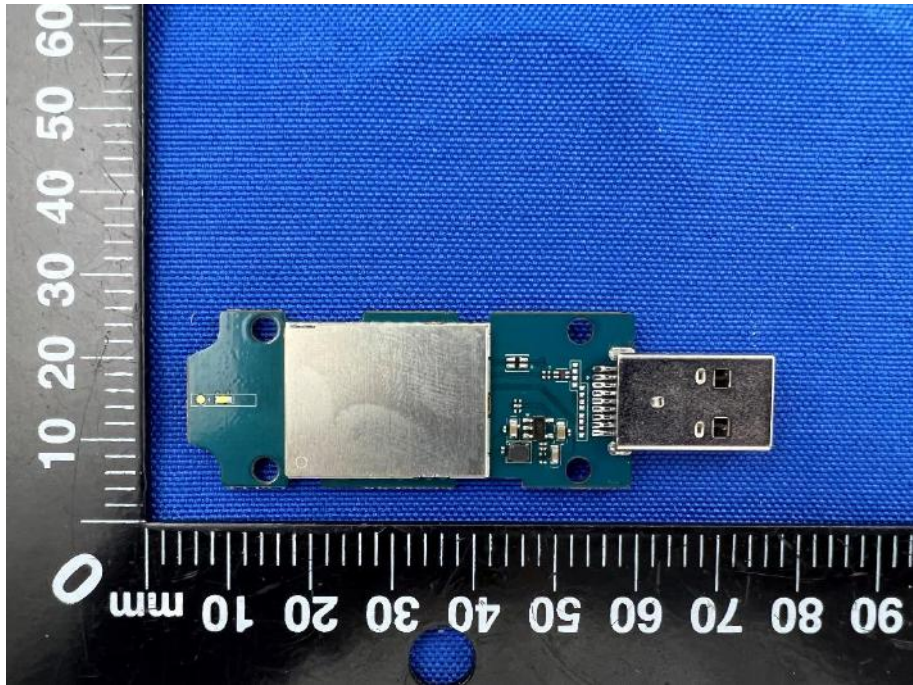
ANNEX C EUT INTERNAL PHOTOS

EUT UNCOVER VIEW

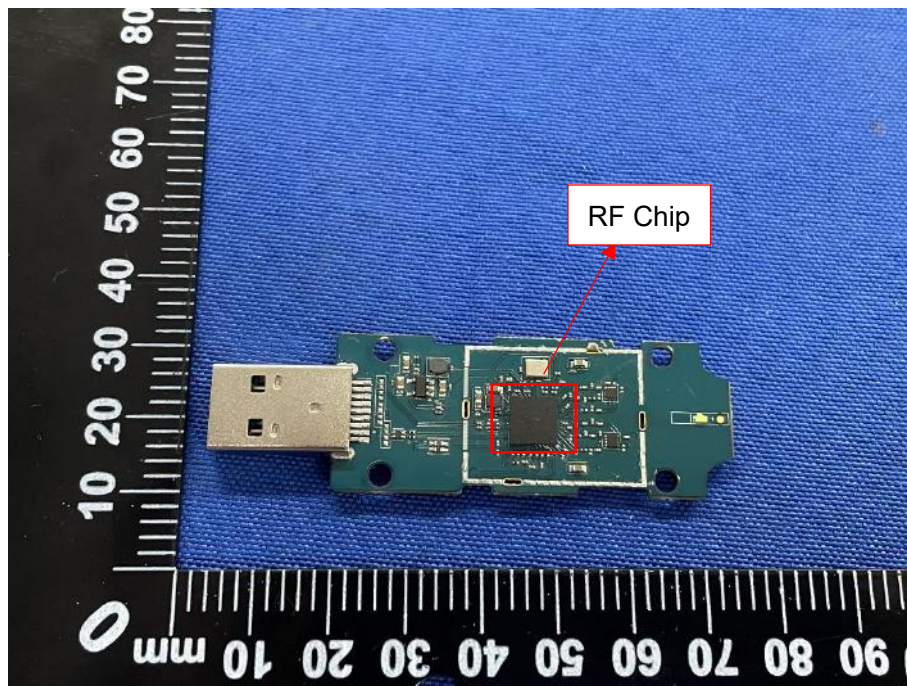


Dipole Antenna

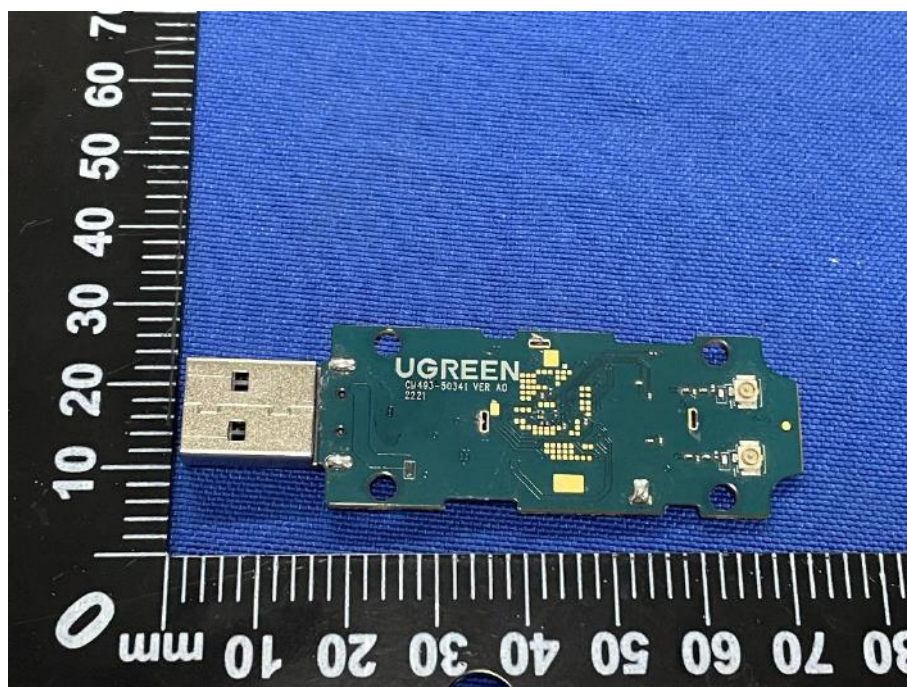
MAIN BOARD TOP VIEW (WITH SHIELDING)



MAIN BOARD TOP VIEW (WITHOUT SHIELDING)



MAIN BOARD REAR VIEW



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