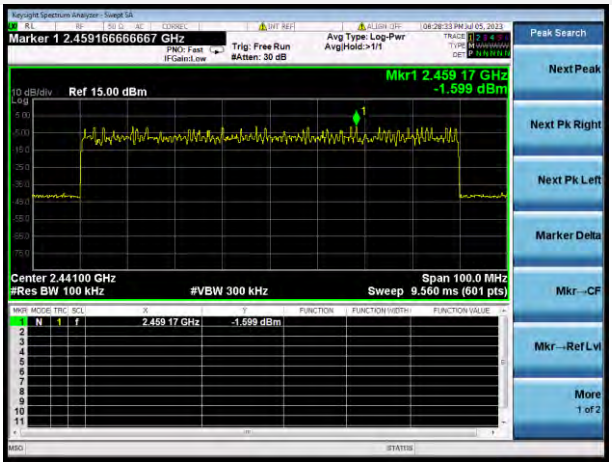
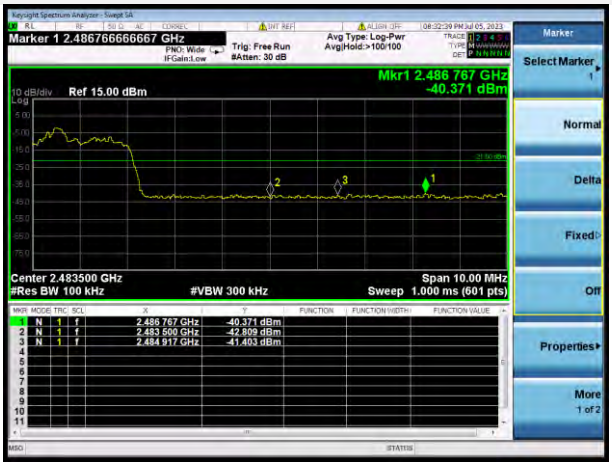
8-DPSK HOPPING, CARRIER LEVEL

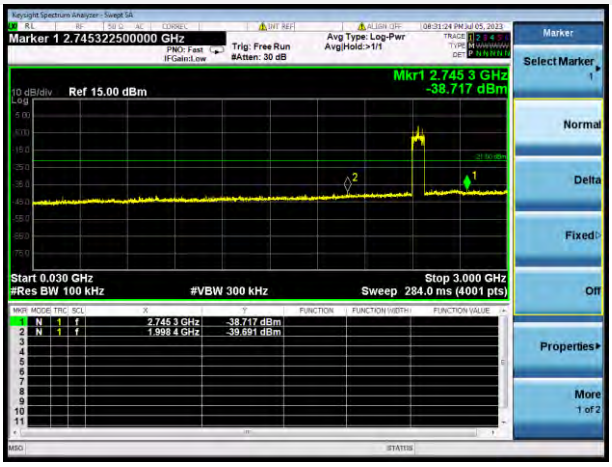


8-DPSK Hopping BAND EDGE (LOW)

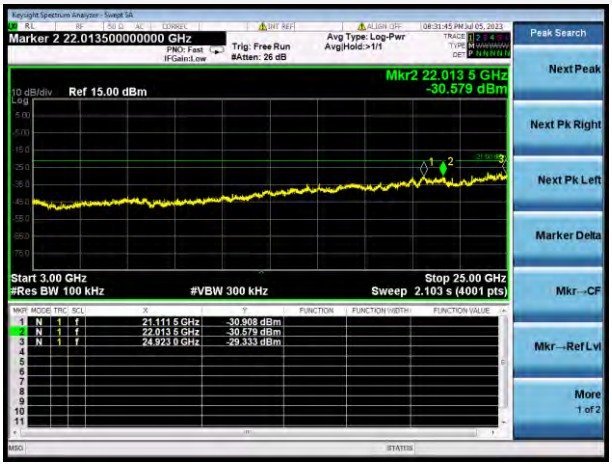
8-DPSK Hopping BAND EDGE (HIGH)



8-DPSK Hopping Mode, SPURIOUS 30 MHz ~ 3 GHz



8-DPSK Hopping Mode, SPURIOUS 3GHz ~ 25 GHz



5.9 Conducted Emission

5.9.1 Limit

FCC §15.207

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50μH/50Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dBμV)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

5.9.2 Test Setup

See section 4.5.2 for test setup description for the AC power supply port. The photo of test setup please refer to ANNEX A.

5.9.3 Test Procedure

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.
Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

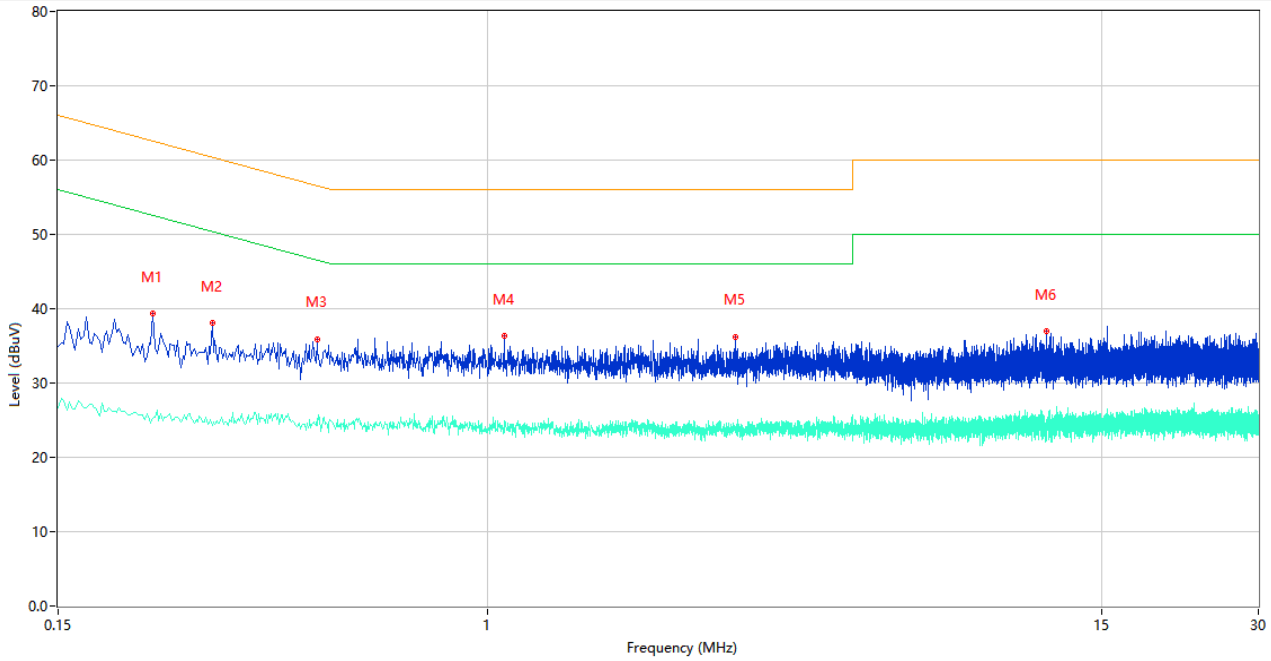
5.9.4 Test Result

Note [1]: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

Note [2]: Results (dBuV) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

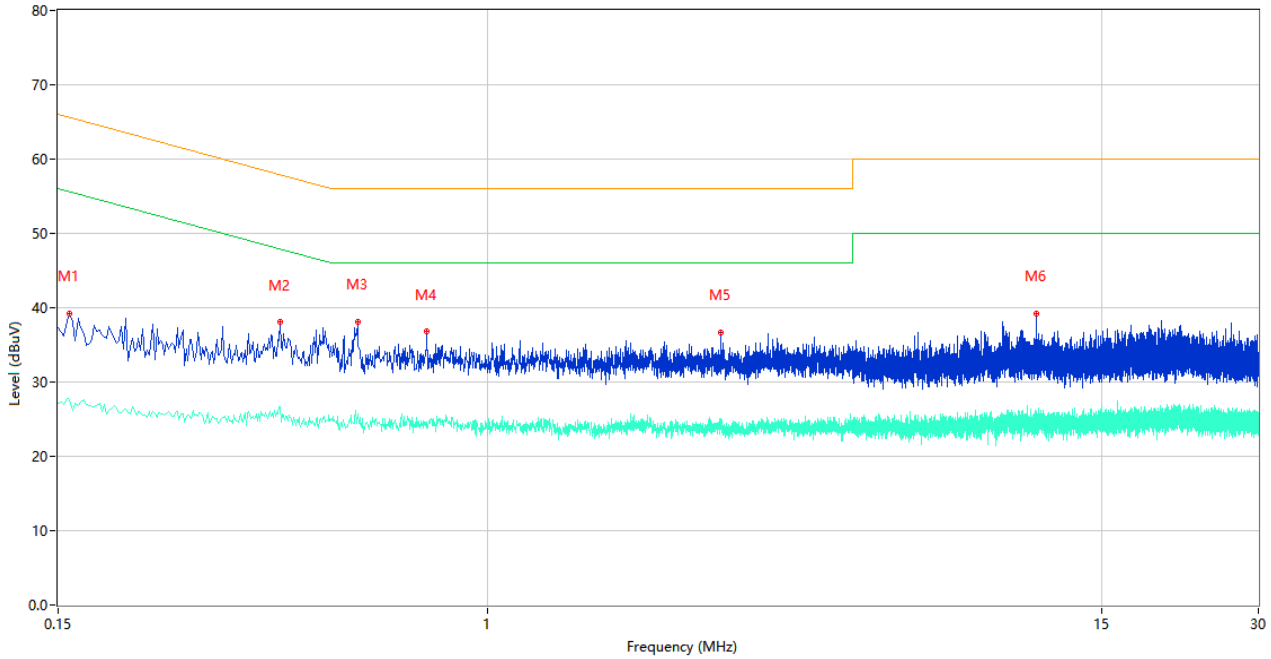
Test Data and Plots

PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.228	39.34	9.77	62.52	23.18	Peak	L	Pass
1**	0.228	25.21	9.77	52.52	27.31	AV	L	Pass
2	0.296	38.05	9.76	60.35	22.30	Peak	L	Pass
2**	0.296	24.31	9.76	50.35	26.04	AV	L	Pass
3	0.470	35.91	10.01	56.51	20.60	Peak	L	Pass
3**	0.470	25.28	10.01	46.51	21.23	AV	L	Pass
4	1.074	36.34	10.08	56.00	19.66	Peak	L	Pass
4**	1.074	24.97	10.08	46.00	21.03	AV	L	Pass
5	2.978	36.24	10.25	56.00	19.76	Peak	L	Pass
5**	2.978	23.97	10.25	46.00	22.03	AV	L	Pass
6	11.778	36.97	10.42	60.00	23.03	Peak	L	Pass
6**	11.778	24.10	10.42	50.00	25.90	AV	L	Pass

PHASE N



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.158	39.25	9.78	65.57	26.32	Peak	N	Pass
1**	0.158	27.54	9.78	55.57	28.03	AV	N	Pass
2	0.400	38.08	10.55	57.85	19.77	Peak	N	Pass
2**	0.400	26.73	10.55	47.85	21.12	AV	N	Pass
3	0.562	38.06	10.06	56.00	17.94	Peak	N	Pass
3**	0.562	25.64	10.06	46.00	20.36	AV	N	Pass
4	0.764	36.75	10.28	56.00	19.25	Peak	N	Pass
4**	0.764	24.64	10.28	46.00	21.36	AV	N	Pass
5	2.800	36.71	10.34	56.00	19.29	Peak	N	Pass
5**	2.800	25.12	10.34	46.00	20.88	AV	N	Pass
6	11.240	39.21	10.69	60.00	20.79	Peak	N	Pass
6**	11.240	24.31	10.69	50.00	25.69	AV	N	Pass

5.10 Radiated Spurious Emission

5.10.1 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).

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note:

1. Field Strength (dBμV/m) = 20*log[Field Strength (μV/m)].
2. In the emission tables above, the tighter limit applies at the band edges.
3. For Above 1000 MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.
4. For above 1000 MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK).

5.10.2 Test Setup

See section 4.5.3 to 4.5.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX A.

5.10.3 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 ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ 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.

5.10.4 Test Result

Note [1]: The symbol of "--" in the table which means not application.

Note [2]: For the test data above 1 GHz, 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.

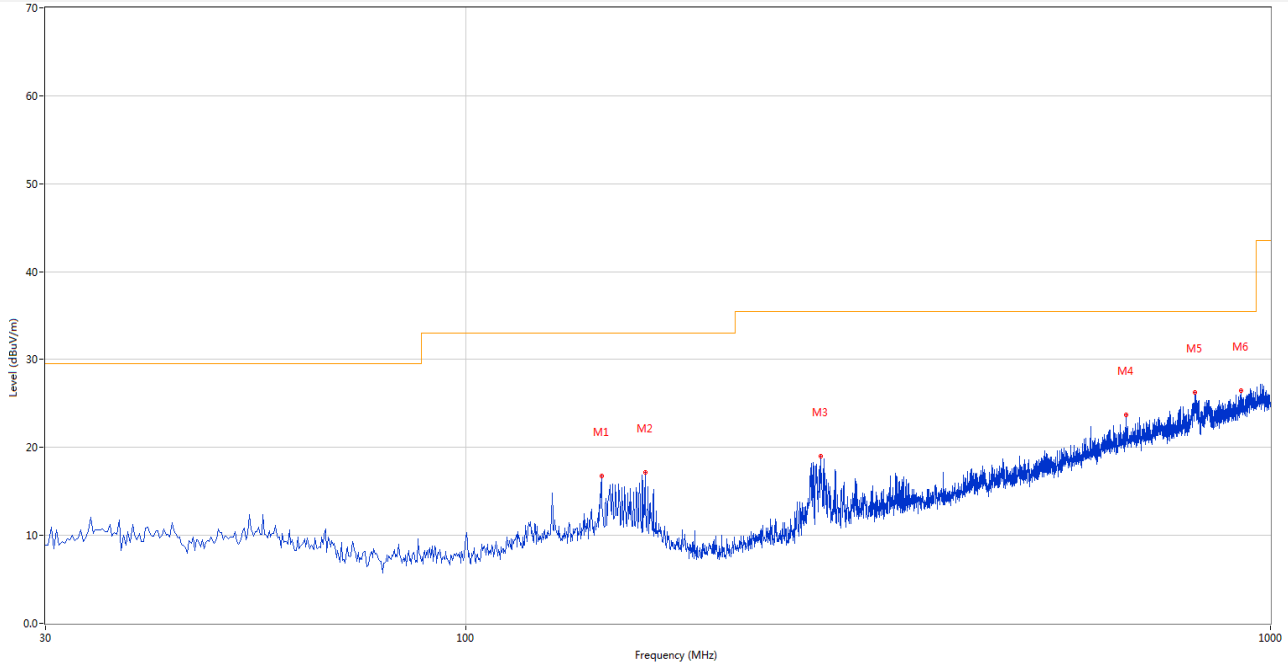
Note [3]: The EUT is working in the Normal link mode below 1 GHz. All modes have been tested and DH5-Hopping mode is the worst.

Note [4]: Results (dBuV/m) = Original reading level of Spectrum Analyzer (dBuV/m) + Factor (dB)

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

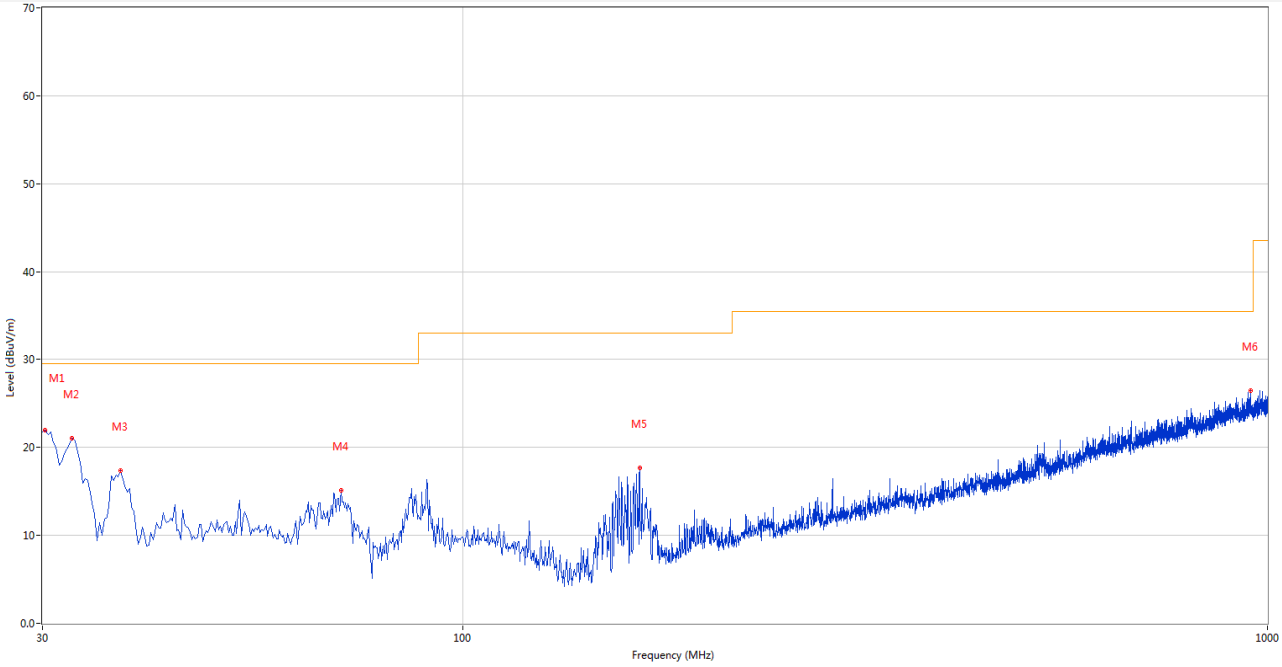
Test Data and Plots

30 MHz to 1 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	147.341	16.71	-25.87	33.0	16.29	Peak	360.00	200	Horizontal	Pass
2	166.978	17.16	-26.30	33.0	15.84	Peak	195.00	200	Horizontal	Pass
3	275.834	18.99	-26.38	35.5	16.51	Peak	295.00	200	Horizontal	Pass
4	660.827	23.68	-16.50	35.5	11.82	Peak	0.00	200	Horizontal	Pass
5	806.291	26.22	-14.02	35.5	9.28	Peak	158.00	100	Horizontal	Pass
6	919.268	26.45	-11.64	35.5	9.05	Peak	238.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

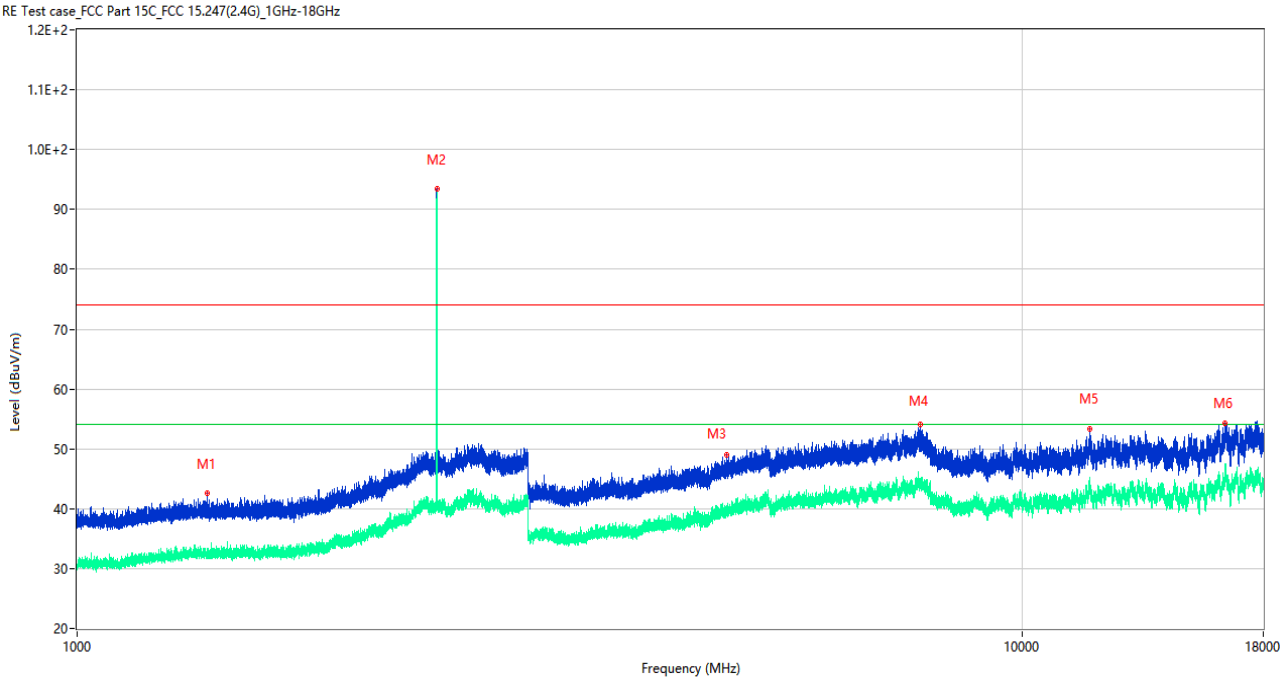


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	30.242	21.98	-29.40	29.5	7.52	Peak	139.00	100	Vertical	Pass
2	32.667	21.01	-29.13	29.5	8.49	Peak	28.00	100	Vertical	Pass
3	37.516	17.35	-27.91	29.5	12.15	Peak	65.00	100	Vertical	Pass
4	70.487	15.09	-30.73	29.5	14.41	Peak	202.00	200	Vertical	Pass
5	165.766	17.64	-30.60	33.0	15.36	Peak	313.00	100	Vertical	Pass
6	951.997	26.48	-11.89	35.5	9.02	Peak	0.00	200	Vertical	Pass

Note 1: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental signal.

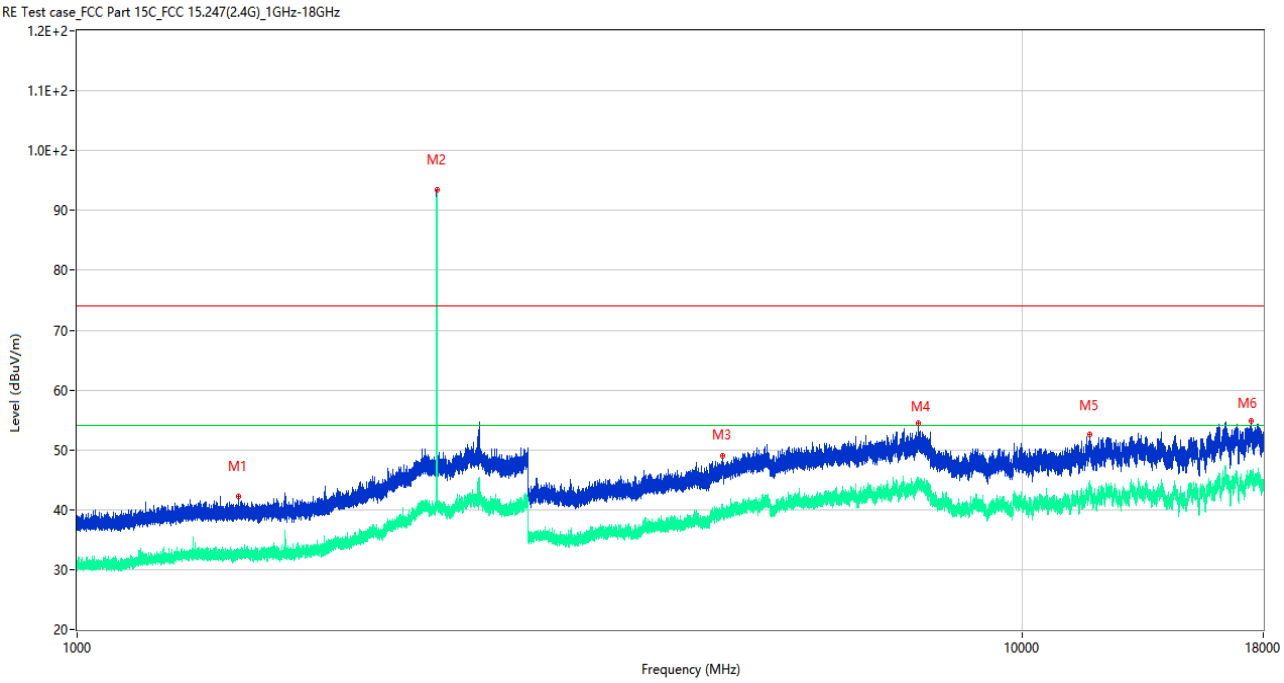
Note 2: The spurious from 18GHz-25GHz is noise only, do not show on the report.

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT H



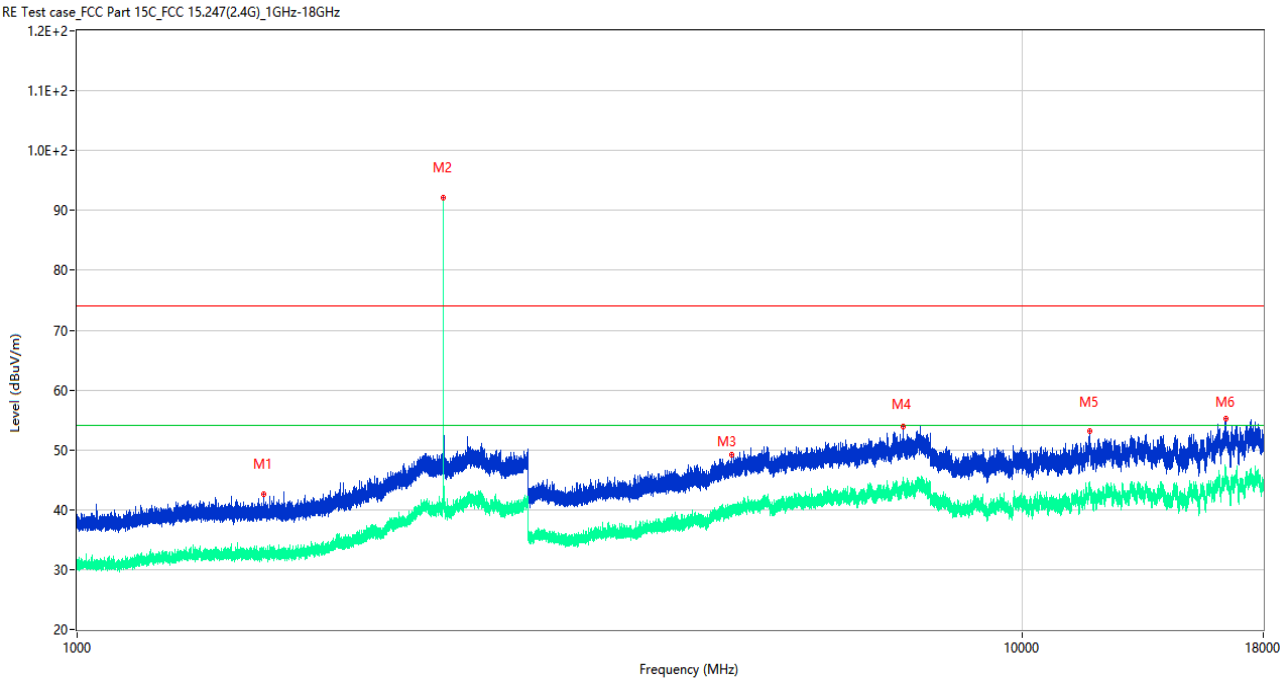
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1372.300	42.54	-17.16	74.0	31.46	Peak	287.00	300	Horizontal	Pass
1**	1372.300	32.23	-17.16	54.0	21.77	AV	287.00	300	Horizontal	Pass
2	2401.900	93.37	-10.62	74.0	-19.37	Peak	249.00	100	Horizontal	N/A
2**	2401.900	92.30	-10.62	54.0	-38.30	AV	249.00	100	Horizontal	N/A
3	4874.500	49.06	-3.42	74.0	24.94	Peak	302.00	150	Horizontal	Pass
3**	4874.500	40.07	-3.42	54.0	13.93	AV	302.00	150	Horizontal	Pass
4	7800.000	54.04	0.62	74.0	19.96	Peak	237.00	400	Horizontal	Pass
4**	7800.000	43.94	0.62	54.0	10.06	AV	237.00	400	Horizontal	Pass
5	11796.200	53.33	-0.15	74.0	20.67	Peak	342.00	100	Horizontal	Pass
5**	11796.200	43.14	-0.15	54.0	10.86	AV	342.00	100	Horizontal	Pass
6	16407.412	54.27	3.07	74.0	19.73	Peak	222.00	300	Horizontal	Pass
6**	16407.412	46.16	3.07	54.0	7.84	AV	222.00	300	Horizontal	Pass

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT V



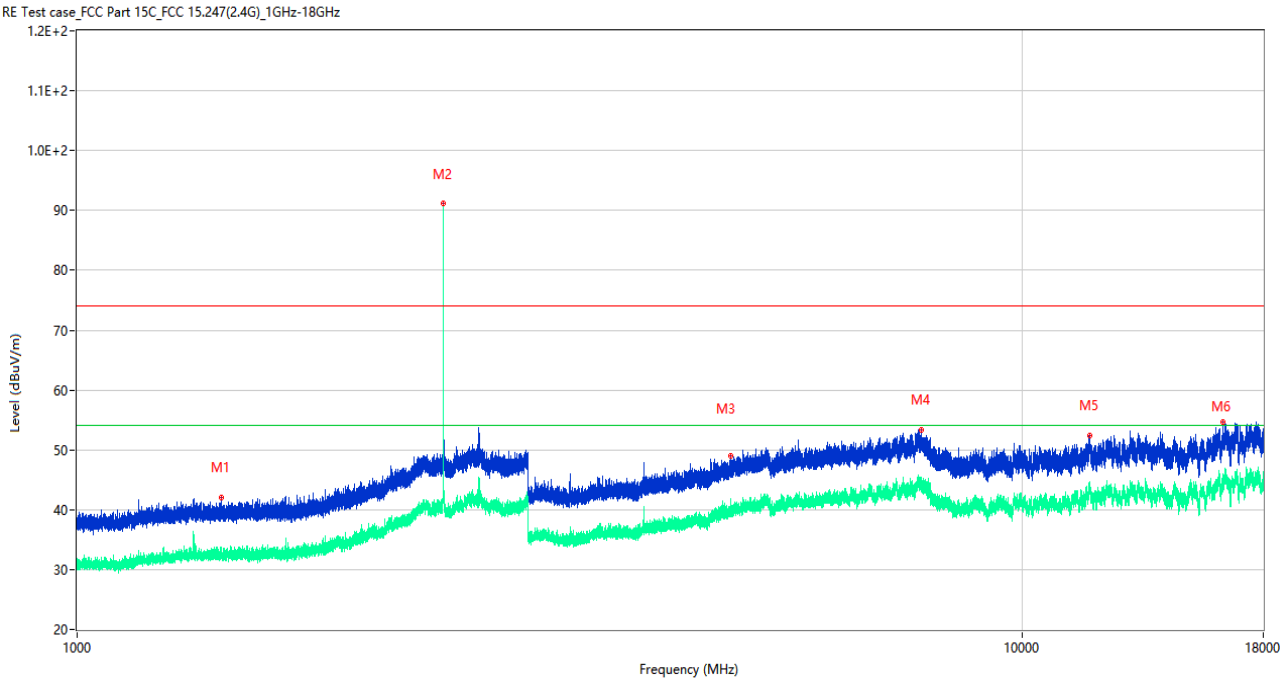
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1480.700	42.26	-16.80	74.0	31.74	Peak	164.00	300	Vertical	Pass
1**	1480.700	32.89	-16.80	54.0	21.11	AV	164.00	300	Vertical	Pass
2	2402.100	93.51	-10.60	74.0	-19.51	Peak	16.00	100	Vertical	N/A
2**	2402.100	93.13	-10.60	54.0	-39.13	AV	16.00	100	Vertical	N/A
3	4817.250	48.91	-2.92	74.0	25.09	Peak	280.00	200	Vertical	Pass
3**	4817.250	40.20	-2.92	54.0	13.80	AV	280.00	200	Vertical	Pass
4	7768.250	54.48	1.31	74.0	19.52	Peak	342.00	200	Vertical	Pass
4**	7768.250	43.73	1.31	54.0	10.27	AV	342.00	200	Vertical	Pass
5	11788.363	52.56	-0.16	74.0	21.44	Peak	30.00	400	Vertical	Pass
5**	11788.363	43.79	-0.16	54.0	10.21	AV	30.00	400	Vertical	Pass
6	17481.300	54.82	4.99	74.0	19.18	Peak	310.00	300	Vertical	Pass
6**	17481.300	45.52	4.99	54.0	8.48	AV	310.00	300	Vertical	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H



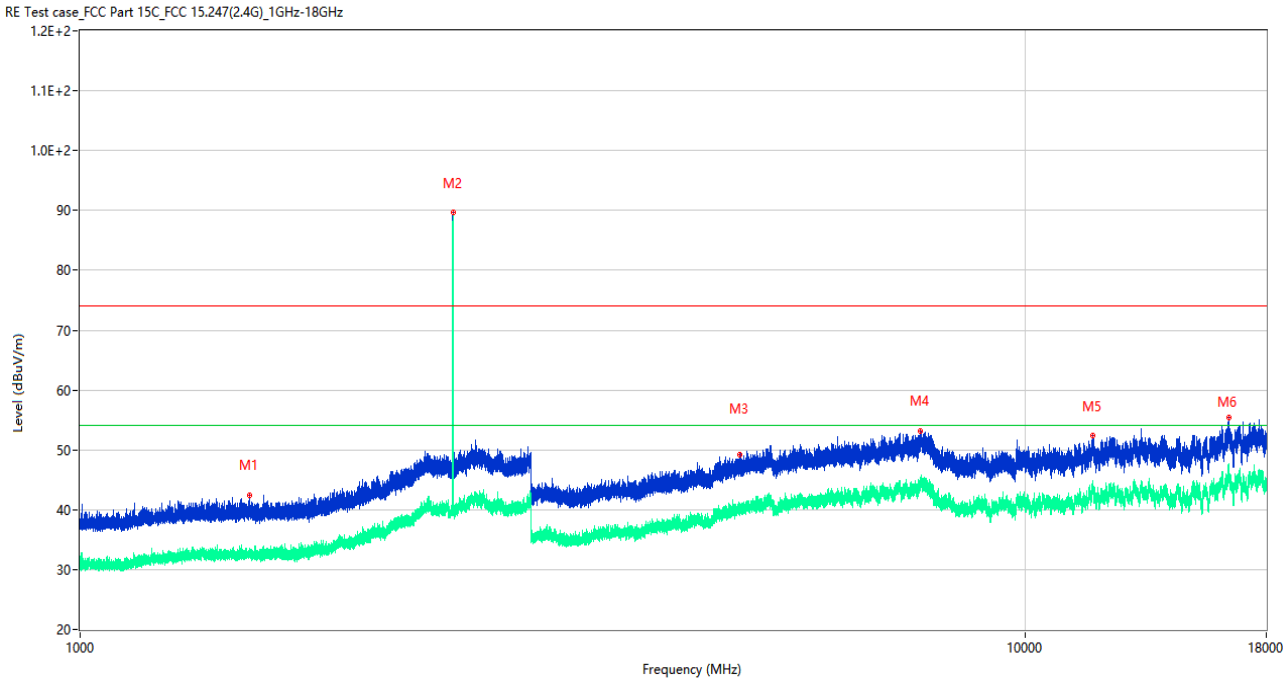
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1575.500	42.61	-16.90	74.0	31.39	Peak	82.00	300	Horizontal	Pass
1**	1575.500	32.47	-16.90	54.0	21.53	AV	82.00	300	Horizontal	Pass
2	2441.200	92.12	-9.79	74.0	-18.12	Peak	72.00	150	Horizontal	N/A
2**	2441.200	91.49	-9.79	54.0	-37.49	AV	72.00	150	Horizontal	N/A
3	4931.500	49.16	-3.59	74.0	24.84	Peak	164.00	200	Horizontal	Pass
3**	4931.500	39.91	-3.59	54.0	14.09	AV	164.00	200	Horizontal	Pass
4	7485.750	53.98	1.39	74.0	20.02	Peak	101.00	400	Horizontal	Pass
4**	7485.750	43.95	1.39	54.0	10.05	AV	101.00	400	Horizontal	Pass
5	11800.950	53.08	-0.16	74.0	20.92	Peak	298.00	300	Horizontal	Pass
5**	11800.950	43.56	-0.16	54.0	10.44	AV	298.00	300	Horizontal	Pass
6	16416.863	55.28	2.94	74.0	18.72	Peak	74.00	200	Horizontal	Pass
6**	16416.863	46.92	2.94	54.0	7.08	AV	74.00	200	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V



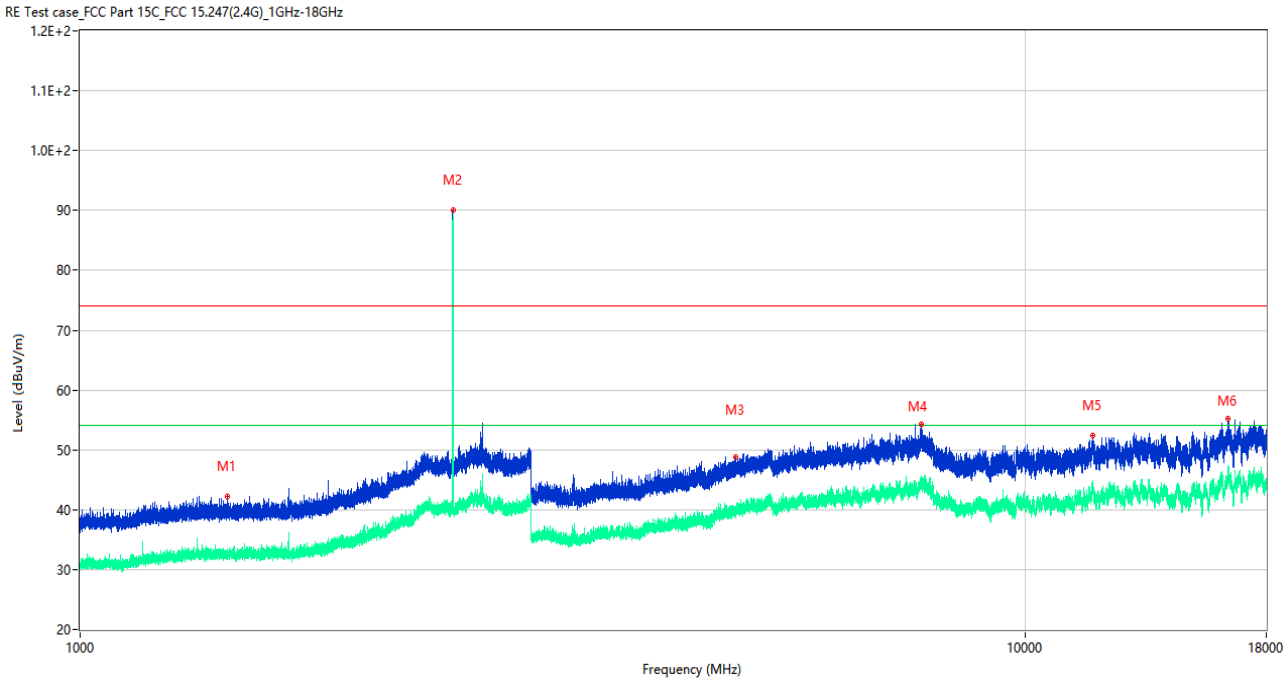
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1420.300	42.13	-16.86	74.0	31.87	Peak	82.00	100	Vertical	Pass
1**	1420.300	32.92	-16.86	54.0	21.08	AV	82.00	100	Vertical	Pass
2	2440.800	91.15	-9.79	74.0	-17.15	Peak	132.00	200	Vertical	N/A
2**	2440.800	90.10	-9.79	54.0	-36.10	AV	132.00	200	Vertical	N/A
3	4922.000	49.04	-3.23	74.0	24.96	Peak	281.00	150	Vertical	Pass
3**	4922.000	39.88	-3.23	54.0	14.12	AV	281.00	150	Vertical	Pass
4	7817.750	53.43	1.29	74.0	20.57	Peak	218.00	200	Vertical	Pass
4**	7817.750	44.76	1.29	54.0	9.24	AV	218.00	200	Vertical	Pass
5	11784.325	52.47	-0.16	74.0	21.53	Peak	103.00	400	Vertical	Pass
5**	11784.325	43.60	-0.16	54.0	10.40	AV	103.00	400	Vertical	Pass
6	16329.450	54.69	1.04	74.0	19.31	Peak	31.00	300	Vertical	Pass
6**	16329.450	44.57	1.04	54.0	9.43	AV	31.00	300	Vertical	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H



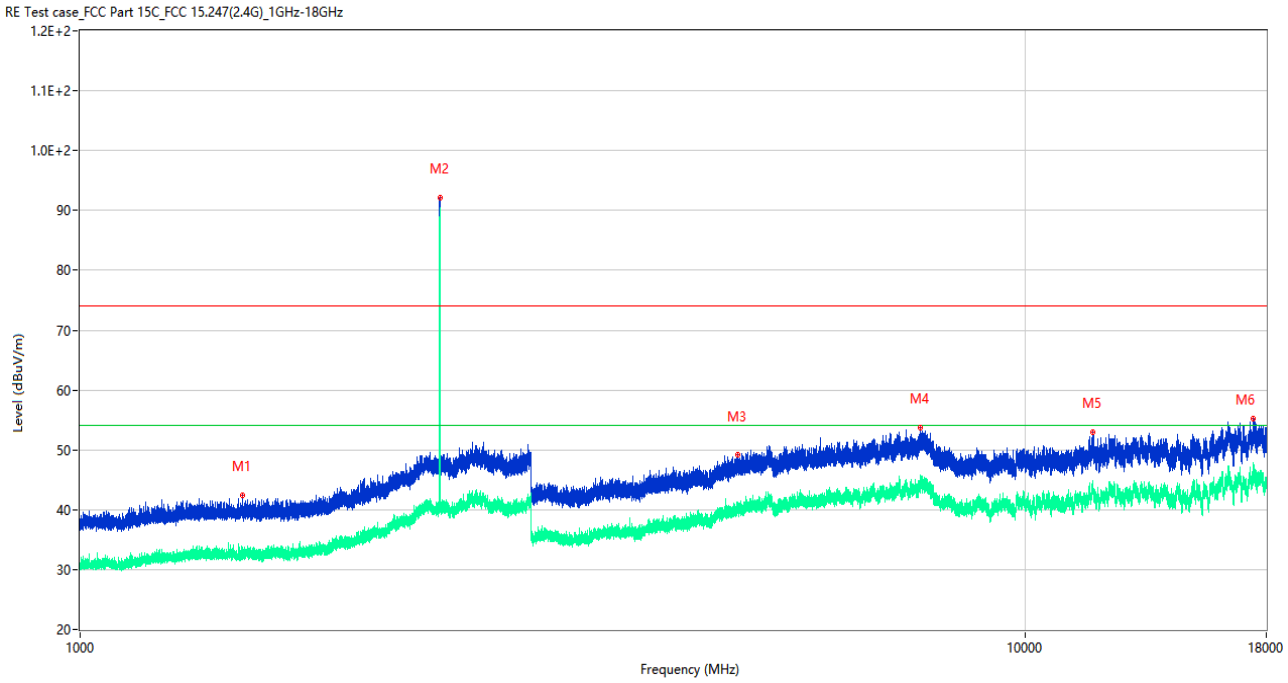
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1511.900	42.40	-16.59	74.0	31.60	Peak	210.00	100	Horizontal	Pass
1**	1511.900	33.53	-16.59	54.0	20.47	AV	210.00	100	Horizontal	Pass
2	2480.100	89.60	-11.10	74.0	-15.60	Peak	77.00	100	Horizontal	N/A
2**	2480.100	89.03	-11.10	54.0	-35.03	AV	77.00	100	Horizontal	N/A
3	4987.750	49.13	-3.16	74.0	24.87	Peak	351.00	200	Horizontal	Pass
3**	4987.750	40.29	-3.16	54.0	13.71	AV	351.00	200	Horizontal	Pass
4	7756.750	53.15	1.48	74.0	20.85	Peak	276.00	300	Horizontal	Pass
4**	7756.750	45.22	1.48	54.0	8.78	AV	276.00	300	Horizontal	Pass
5	11780.050	52.37	-0.17	74.0	21.63	Peak	195.00	200	Horizontal	Pass
5**	11780.050	43.34	-0.17	54.0	10.66	AV	195.00	200	Horizontal	Pass
6	16415.813	55.41	2.96	74.0	18.59	Peak	121.00	200	Horizontal	Pass
6**	16415.813	46.20	2.96	54.0	7.80	AV	121.00	200	Horizontal	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V



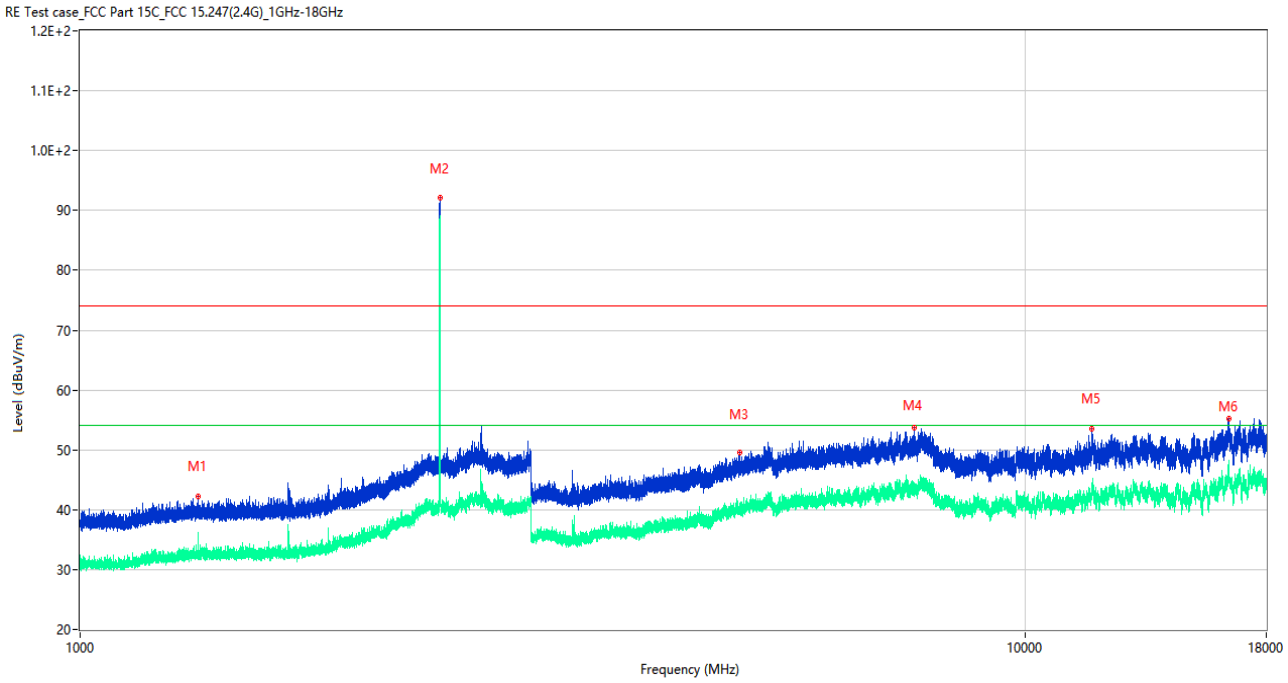
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1433.300	42.28	-16.94	74.0	31.72	Peak	23.00	200	Vertical	Pass
1**	1433.300	32.67	-16.94	54.0	21.33	AV	23.00	200	Vertical	Pass
2	2480.200	90.12	-11.20	74.0	-16.12	Peak	223.00	100	Vertical	N/A
2**	2480.200	89.32	-11.20	54.0	-35.32	AV	223.00	100	Vertical	N/A
3	4939.000	48.79	-3.51	74.0	25.21	Peak	360.00	100	Vertical	Pass
3**	4939.000	39.54	-3.51	54.0	14.46	AV	360.00	100	Vertical	Pass
4	7762.250	54.27	1.73	74.0	19.73	Peak	60.00	100	Vertical	Pass
4**	7762.250	45.48	1.73	54.0	8.52	AV	60.00	100	Vertical	Pass
5	11795.724	52.48	-0.15	74.0	21.52	Peak	358.00	100	Vertical	Pass
5**	11795.724	43.65	-0.15	54.0	10.35	AV	358.00	100	Vertical	Pass
6	16408.989	55.16	3.05	74.0	18.84	Peak	360.00	400	Vertical	Pass
6**	16408.989	46.89	3.05	54.0	7.11	AV	360.00	400	Vertical	Pass

8-DPSK LOW CHANNEL 1 GHz to 18 GHz, ANT H



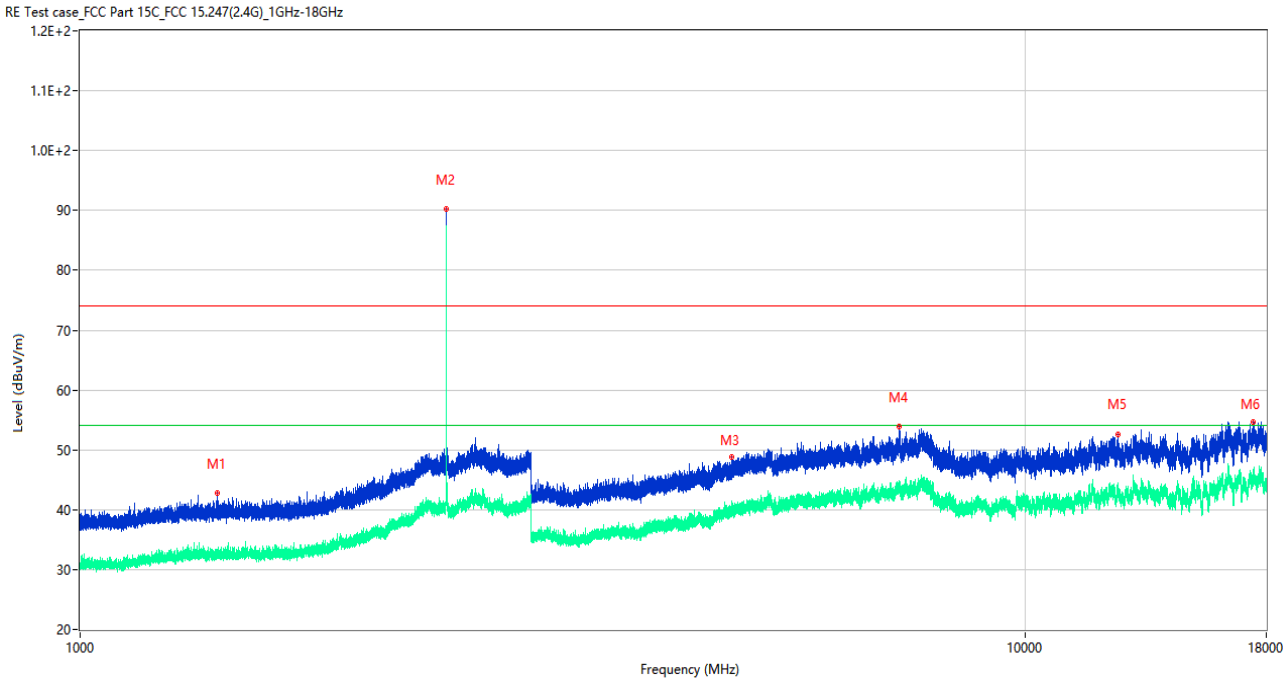
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1486.900	42.33	-16.96	74.0	31.67	Peak	187.00	200	Horizontal	Pass
1**	1486.900	32.98	-16.96	54.0	21.02	AV	187.00	200	Horizontal	Pass
2	2402.200	92.11	-10.59	74.0	-18.11	Peak	235.00	200	Horizontal	N/A
2**	2402.200	90.42	-10.59	54.0	-36.42	AV	235.00	200	Horizontal	N/A
3	4962.000	49.13	-3.60	74.0	24.87	Peak	143.00	200	Horizontal	Pass
3**	4962.000	40.43	-3.60	54.0	13.57	AV	143.00	200	Horizontal	Pass
4	7738.500	53.65	0.20	74.0	20.35	Peak	143.00	100	Horizontal	Pass
4**	7738.500	44.77	0.20	54.0	9.23	AV	143.00	100	Horizontal	Pass
5	11791.450	52.92	-0.15	74.0	21.08	Peak	181.00	100	Horizontal	Pass
5**	11791.450	44.15	-0.15	54.0	9.85	AV	181.00	100	Horizontal	Pass
6	17449.275	55.30	5.57	74.0	18.70	Peak	351.00	100	Horizontal	Pass
6**	17449.275	45.91	5.57	54.0	8.09	AV	351.00	100	Horizontal	Pass

8-DPSK LOW CHANNEL 1 GHz to 18 GHz, ANT V



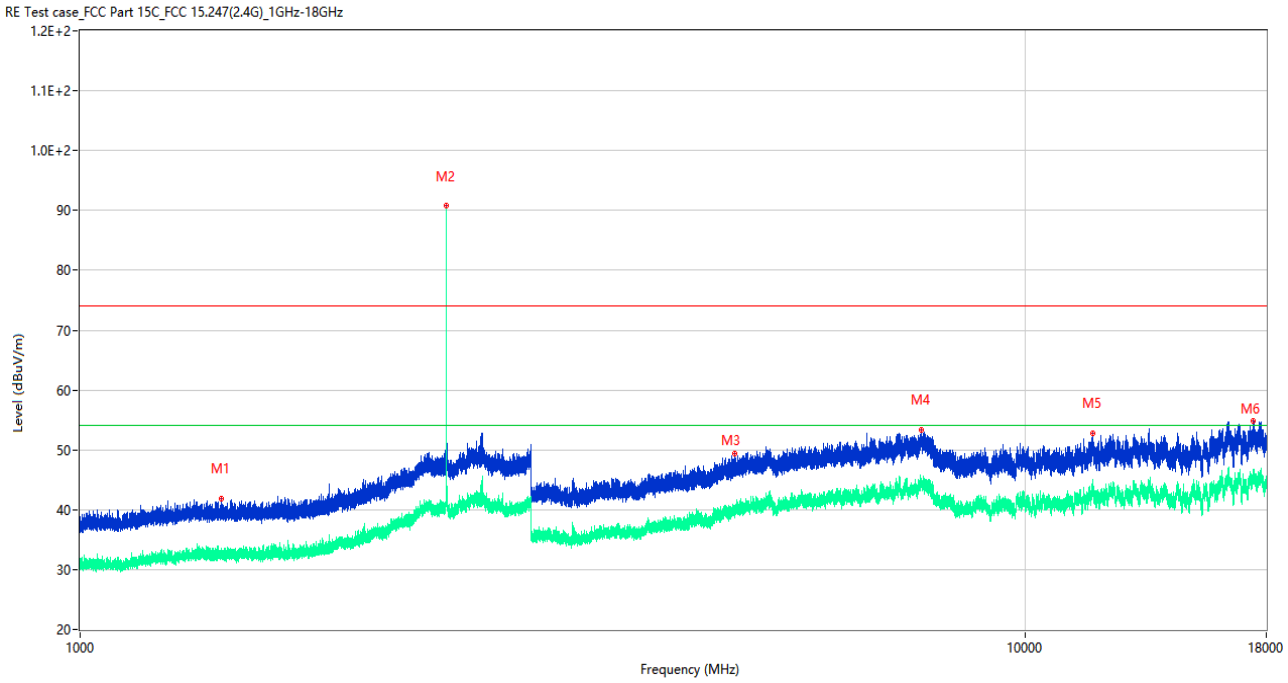
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1332.800	42.31	-17.15	74.0	31.69	Peak	167.00	100	Vertical	Pass
1**	1332.800	32.37	-17.15	54.0	21.63	AV	167.00	100	Vertical	Pass
2	2402.100	92.06	-10.60	74.0	-18.06	Peak	223.00	200	Vertical	N/A
2**	2402.100	88.91	-10.60	54.0	-34.91	AV	223.00	200	Vertical	N/A
3	4995.500	49.50	-3.18	74.0	24.50	Peak	315.00	150	Vertical	Pass
3**	4995.500	39.28	-3.18	54.0	14.72	AV	315.00	150	Vertical	Pass
4	7641.750	53.76	0.58	74.0	20.24	Peak	16.00	300	Vertical	Pass
4**	7641.750	43.97	0.58	54.0	10.03	AV	16.00	300	Vertical	Pass
5	11778.150	53.52	-0.17	74.0	20.48	Peak	283.00	400	Vertical	Pass
5**	11778.150	43.73	-0.17	54.0	10.27	AV	283.00	400	Vertical	Pass
6	16416.600	55.24	2.94	74.0	18.76	Peak	143.00	200	Vertical	Pass
6**	16416.600	46.56	2.94	54.0	7.44	AV	143.00	200	Vertical	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H



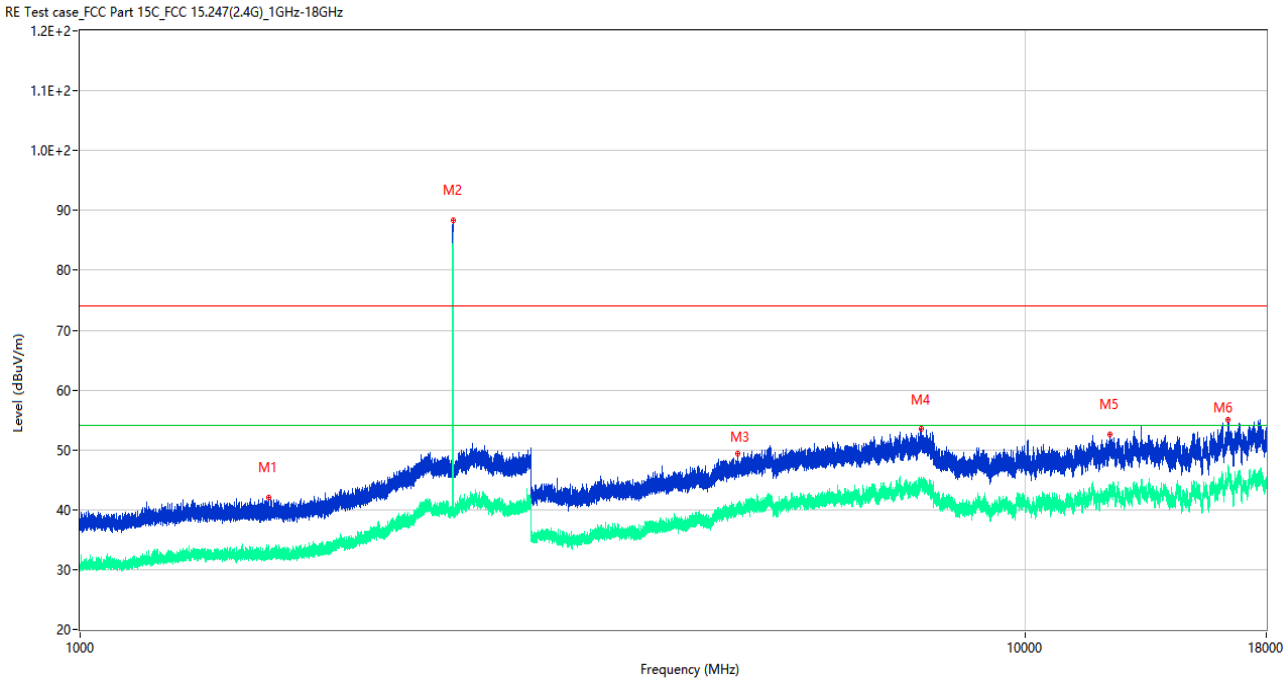
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1396.200	42.71	-17.08	74.0	31.29	Peak	229.00	300	Horizontal	Pass
1**	1396.200	32.80	-17.08	54.0	21.20	AV	229.00	300	Horizontal	Pass
2	2441.000	90.21	-9.79	74.0	-16.21	Peak	62.00	150	Horizontal	N/A
2**	2441.000	87.41	-9.79	54.0	-33.41	AV	62.00	150	Horizontal	N/A
3	4896.750	48.78	-3.41	74.0	25.22	Peak	318.00	150	Horizontal	Pass
3**	4896.750	39.92	-3.41	54.0	14.08	AV	318.00	150	Horizontal	Pass
4	7361.000	53.81	0.77	74.0	20.19	Peak	341.00	300	Horizontal	Pass
4**	7361.000	44.29	0.77	54.0	9.71	AV	341.00	300	Horizontal	Pass
5	12545.275	52.62	1.18	74.0	21.38	Peak	276.00	200	Horizontal	Pass
5**	12545.275	43.31	1.18	54.0	10.69	AV	276.00	200	Horizontal	Pass
6	17451.375	54.70	5.54	74.0	19.30	Peak	59.00	100	Horizontal	Pass
6**	17451.375	46.24	5.54	54.0	7.76	AV	59.00	100	Horizontal	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V



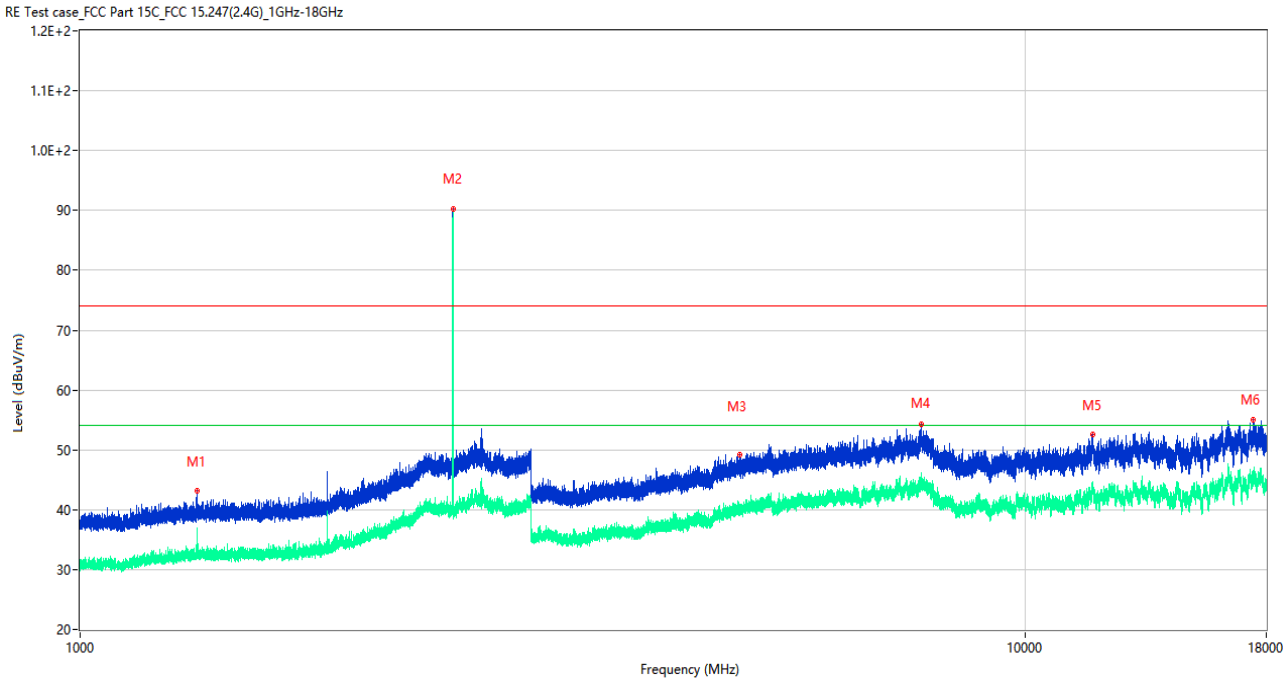
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1411.700	41.85	-17.00	74.0	32.15	Peak	19.00	400	Vertical	Pass
1**	1411.700	32.20	-17.00	54.0	21.80	AV	19.00	400	Vertical	Pass
2	2440.800	90.77	-9.79	74.0	-16.77	Peak	132.00	100	Vertical	N/A
2**	2440.800	88.78	-9.79	54.0	-34.78	AV	132.00	100	Vertical	N/A
3	4929.250	49.37	-3.70	74.0	24.63	Peak	289.00	200	Vertical	Pass
3**	4929.250	39.10	-3.70	54.0	14.90	AV	289.00	200	Vertical	Pass
4	7763.500	53.37	1.58	74.0	20.63	Peak	342.00	400	Vertical	Pass
4**	7763.500	44.48	1.58	54.0	9.52	AV	342.00	400	Vertical	Pass
5	11793.112	52.86	-0.15	74.0	21.14	Peak	252.00	400	Vertical	Pass
5**	11793.112	44.60	-0.15	54.0	9.40	AV	252.00	400	Vertical	Pass
6	17448.489	54.83	5.56	74.0	19.17	Peak	0.00	400	Vertical	Pass
6**	17448.489	45.88	5.56	54.0	8.12	AV	0.00	400	Vertical	Pass

8-DPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1581.700	42.11	-16.73	74.0	31.89	Peak	141.00	400	Horizontal	Pass
1**	1581.700	33.08	-16.73	54.0	20.92	AV	141.00	400	Horizontal	Pass
2	2480.100	88.36	-11.10	74.0	-14.36	Peak	76.00	150	Horizontal	N/A
2**	2480.100	85.26	-11.10	54.0	-31.26	AV	76.00	150	Horizontal	N/A
3	4970.500	49.35	-3.46	74.0	24.65	Peak	360.00	100	Horizontal	Pass
3**	4970.500	40.38	-3.46	54.0	13.62	AV	360.00	100	Horizontal	Pass
4	7759.000	53.48	1.62	74.0	20.52	Peak	103.00	100	Horizontal	Pass
4**	7759.000	44.66	1.62	54.0	9.34	AV	103.00	100	Horizontal	Pass
5	12306.113	52.60	0.59	74.0	21.40	Peak	89.00	400	Horizontal	Pass
5**	12306.113	43.39	0.59	54.0	10.61	AV	89.00	400	Horizontal	Pass
6	16407.412	55.11	3.07	74.0	18.89	Peak	18.00	200	Horizontal	Pass
6**	16407.412	46.52	3.07	54.0	7.48	AV	18.00	200	Horizontal	Pass

8-DPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1329.700	43.09	-16.79	74.0	30.91	Peak	152.00	400	Vertical	Pass
1**	1329.700	32.72	-16.79	54.0	21.28	AV	152.00	400	Vertical	Pass
2	2480.100	90.24	-11.10	74.0	-16.24	Peak	216.00	150	Vertical	N/A
2**	2480.100	89.81	-11.10	54.0	-35.81	AV	216.00	150	Vertical	N/A
3	4995.250	49.13	-3.21	74.0	24.87	Peak	60.00	150	Vertical	Pass
3**	4995.250	39.72	-3.21	54.0	14.28	AV	60.00	150	Vertical	Pass
4	7766.250	54.24	1.56	74.0	19.76	Peak	190.00	300	Vertical	Pass
4**	7766.250	44.88	1.56	54.0	9.12	AV	190.00	300	Vertical	Pass
5	11789.312	52.50	-0.16	74.0	21.50	Peak	155.00	300	Vertical	Pass
5**	11789.312	43.78	-0.16	54.0	10.22	AV	155.00	300	Vertical	Pass
6	17451.901	55.05	5.53	74.0	18.95	Peak	165.00	400	Vertical	Pass
6**	17451.901	45.32	5.53	54.0	8.68	AV	165.00	400	Vertical	Pass

5.11 Band Edge (Restricted-band band-edge)

5.11.1 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).

5.11.2 Test Setup

See section 4.5.3 to 4.5.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX A.

5.11.3 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 ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

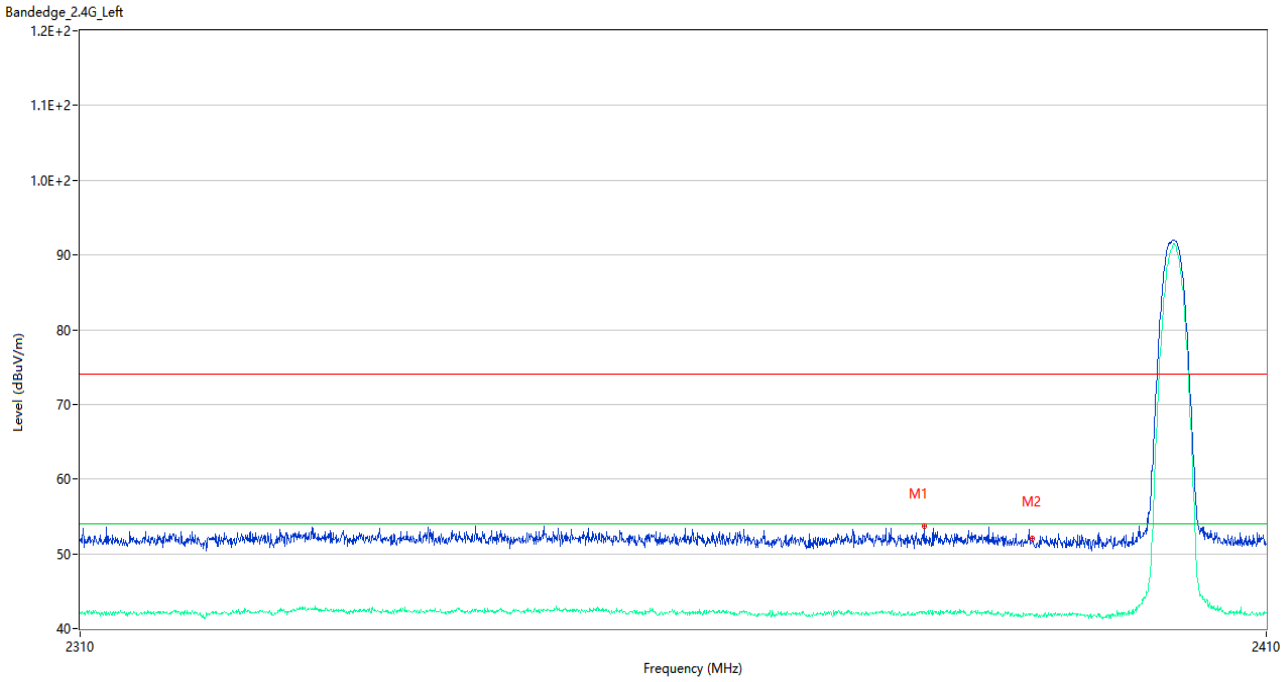
For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

5.11.4 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.
Note [4]: The Level (dBuV/m) has been corrected by factor.

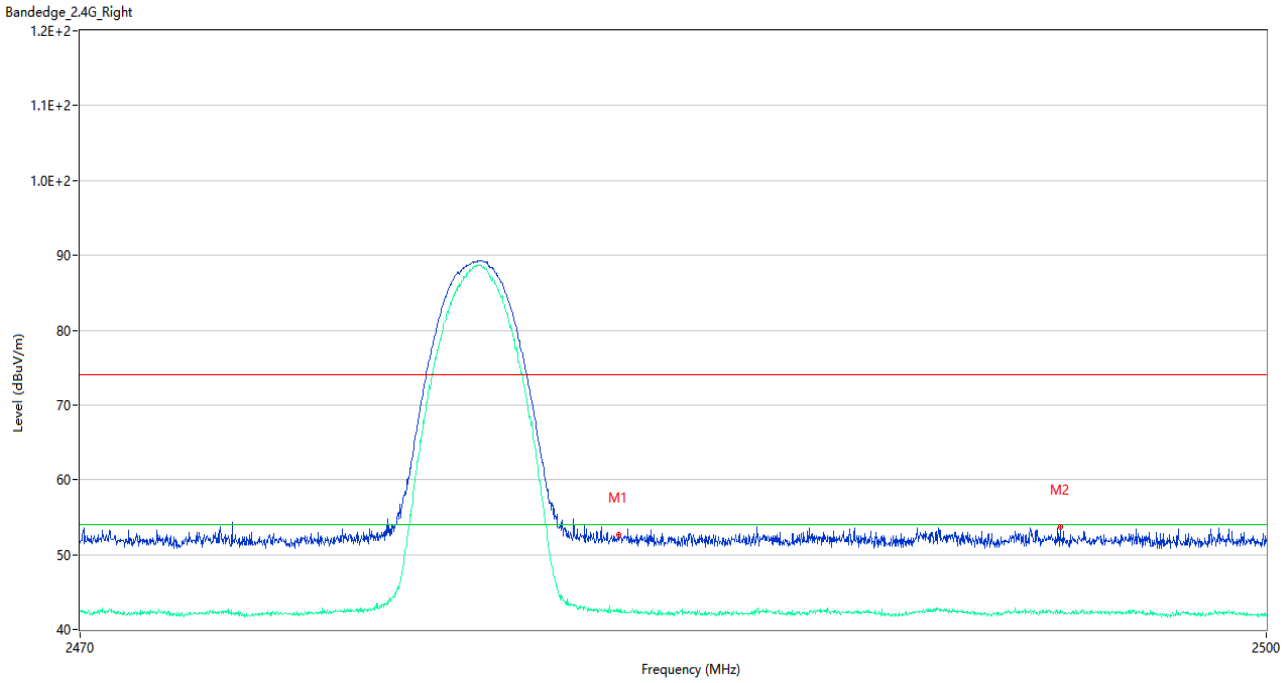
Test Data and Plots

GFSK LOW CHANNEL



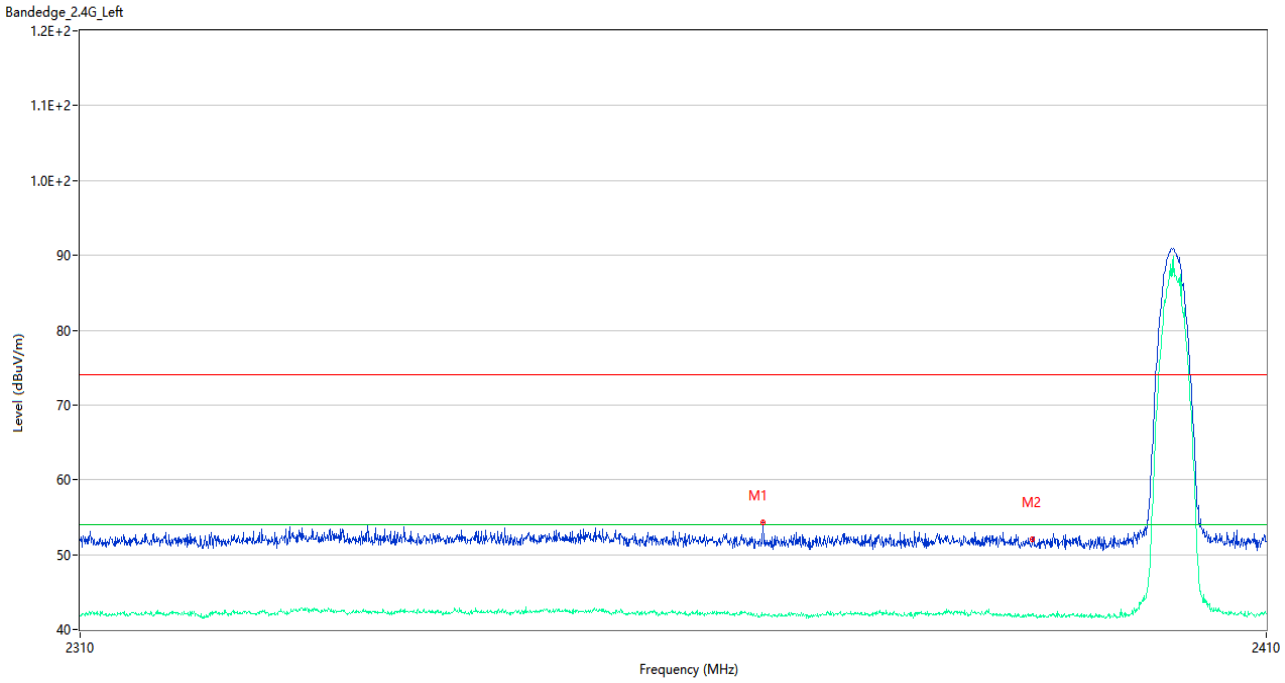
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2380.700	53.77	-1.58	74.0	20.23	Peak	327.00	100	Vertical	Pass
1**	2380.700	42.29	-1.58	54.0	11.71	AV	327.00	100	Vertical	Pass
2	2389.950	52.03	-1.82	74.0	21.97	Peak	317.00	150	Vertical	Pass
2**	2389.950	41.91	-1.82	54.0	12.09	AV	317.00	150	Vertical	Pass

GFSK HIGH CHANNEL



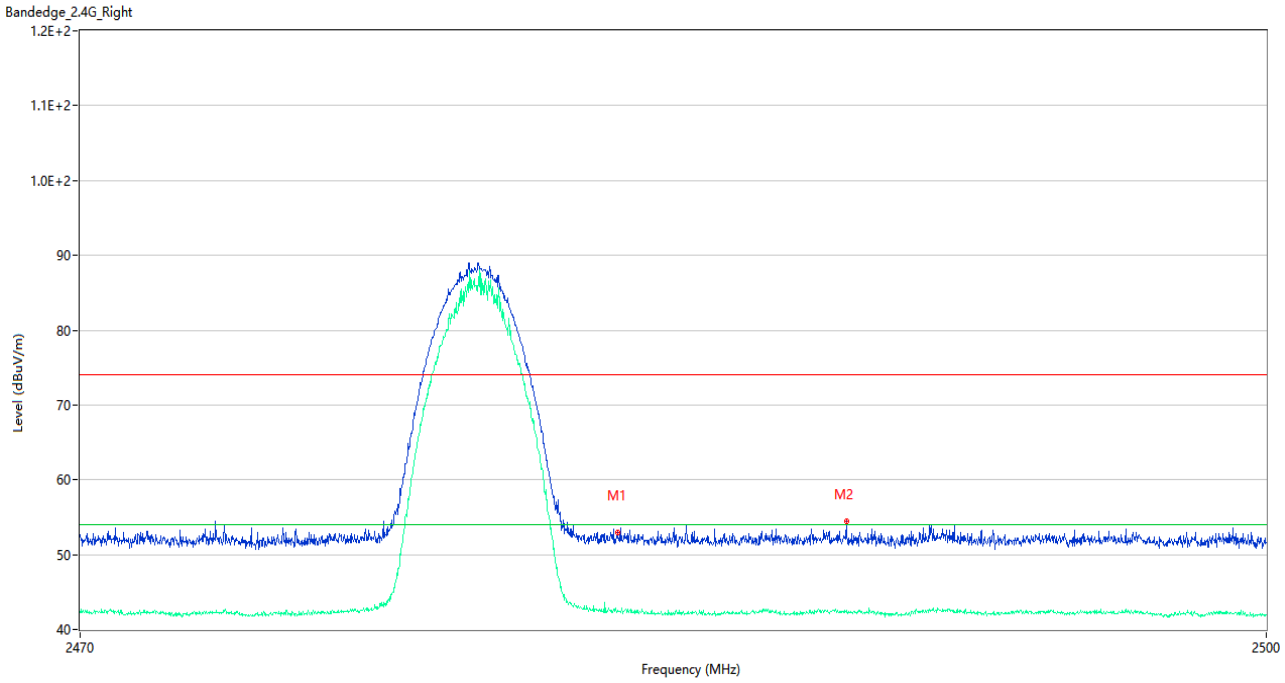
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.575	52.70	-1.09	74.0	21.30	Peak	26.00	100	Vertical	Pass
1**	2483.575	42.58	-1.09	54.0	11.42	AV	26.00	100	Vertical	Pass
2	2494.765	53.75	-0.92	74.0	20.25	Peak	55.00	100	Vertical	Pass
2**	2494.765	42.24	-0.92	54.0	11.76	AV	55.00	100	Vertical	Pass

8-DPSK LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2367.050	54.25	-1.68	74.0	19.75	Peak	92.00	150	Vertical	Pass
1**	2367.050	41.98	-1.68	54.0	12.02	AV	92.00	150	Vertical	Pass
2	2389.950	51.98	-1.82	74.0	22.02	Peak	305.00	150	Vertical	Pass
2**	2389.950	42.12	-1.82	54.0	11.88	AV	305.00	150	Vertical	Pass

8-DPSK HIGH CHANNEL

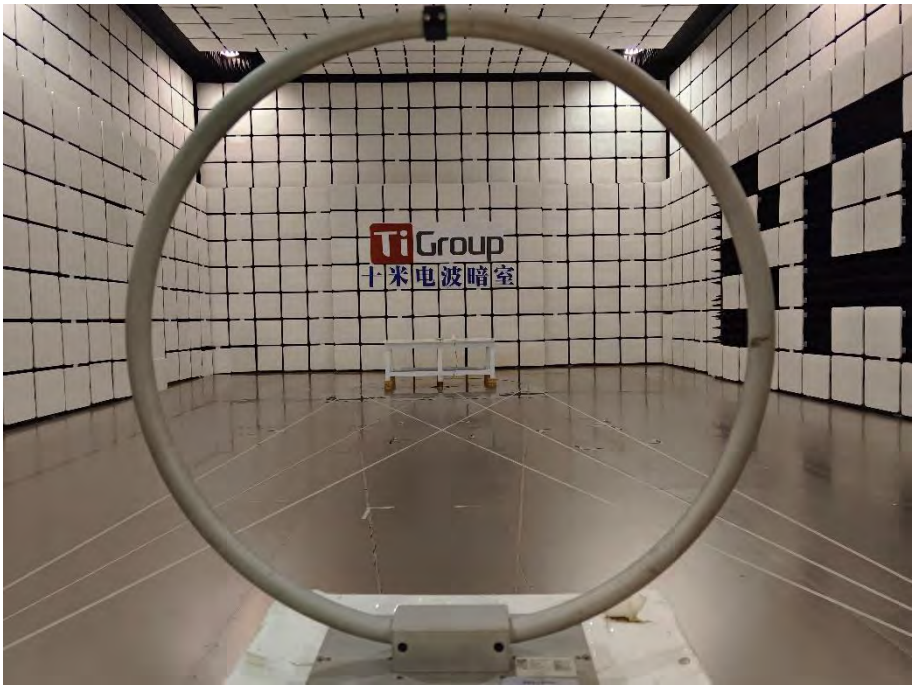


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.545	52.93	-1.09	74.0	21.07	Peak	222.00	200	Vertical	Pass
1**	2483.545	42.40	-1.09	54.0	11.60	AV	222.00	200	Vertical	Pass
2	2489.335	54.39	-0.96	74.0	19.61	Peak	142.00	200	Vertical	Pass
2**	2489.335	42.50	-0.96	54.0	11.50	AV	142.00	200	Vertical	Pass

ANNEX A TEST SETUP PHOTOS

1 Radiated Test Photo

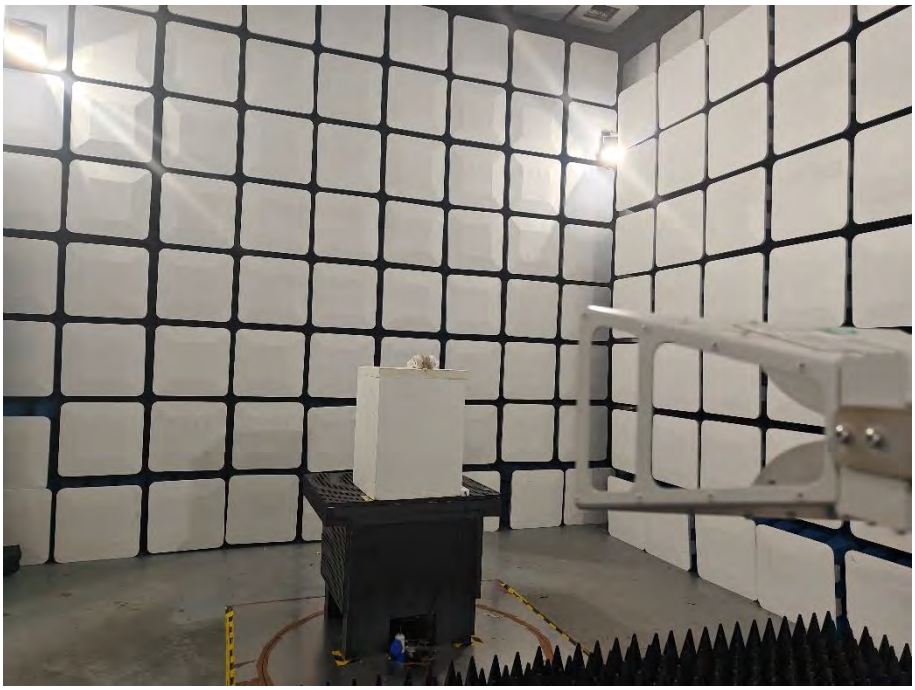
Below 30MHz



30MHz-1GHz

Close-up

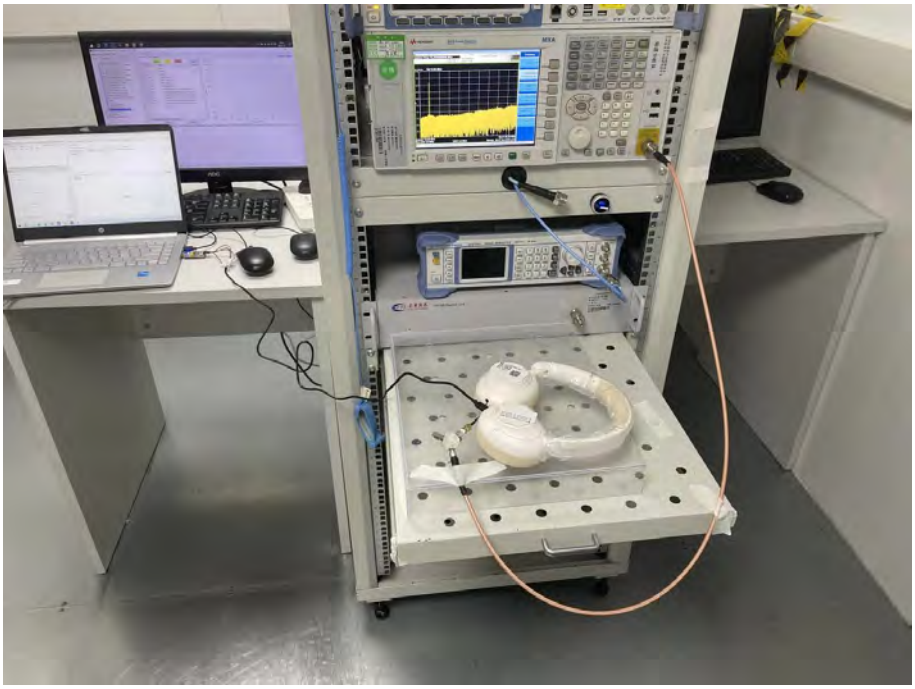
Above 1GHz



Close-up

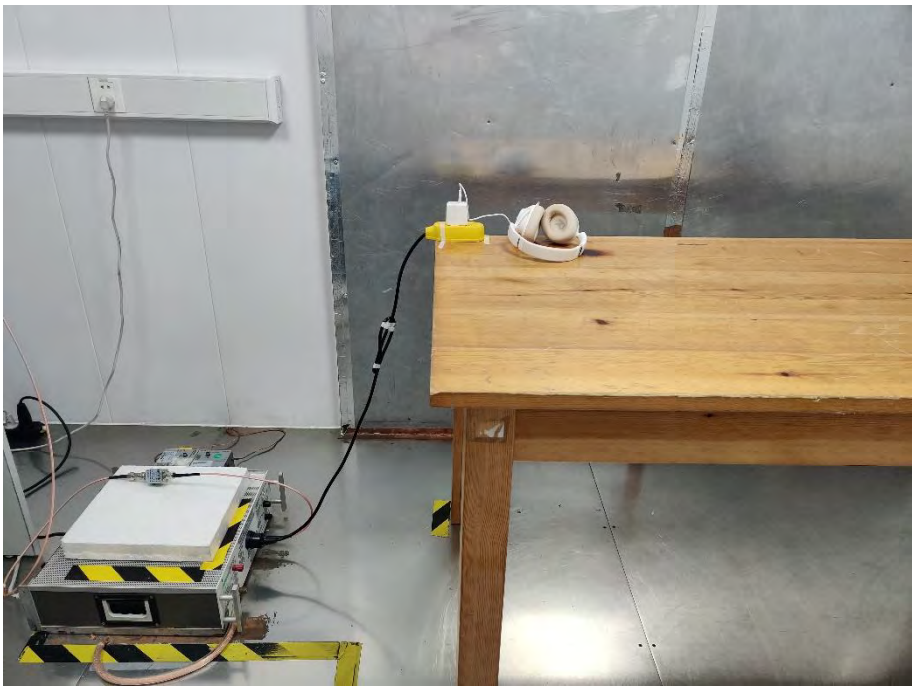
2 Conducted Test Photo

Conducted Test



3 Conducted Emissions

Test Photo 1



Test Photo 2

ANNEX B EUT EXTERNAL PHOTOS

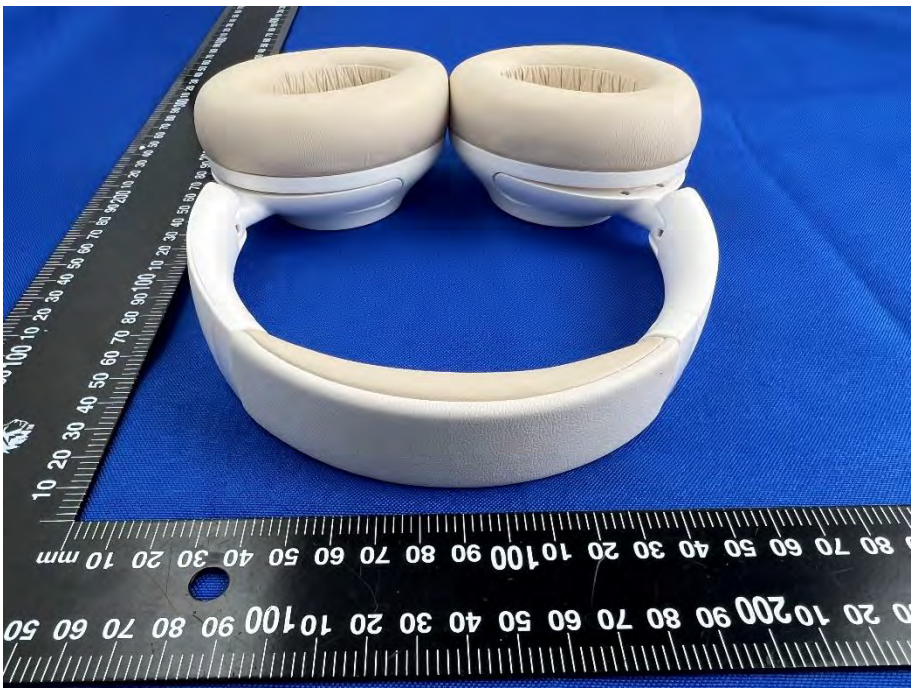
FRONT VIEW OF EUT

REAR VIEW OF EUT

LEFT VIEW OF EUT

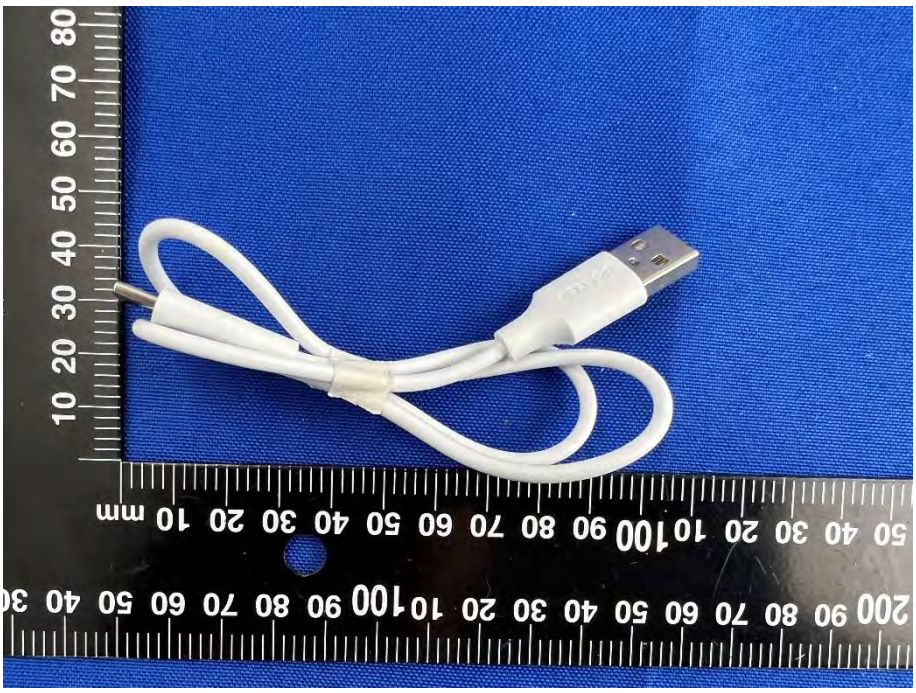
RIGHT VIEW OF EUT

TOP VIEW OF EUT

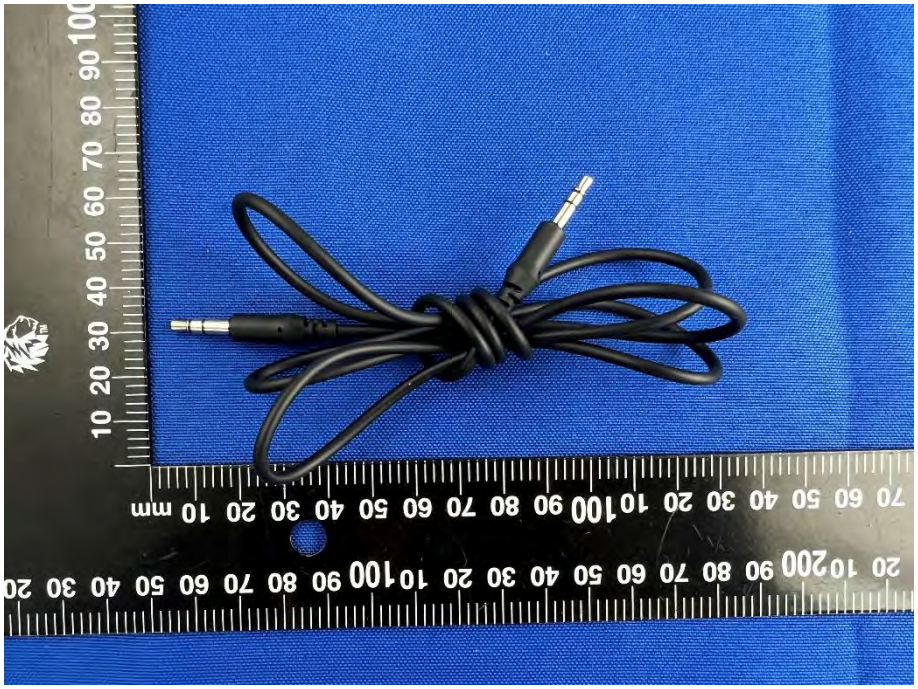


BOTTOM VIEW OF EUT

Accessory-Type-c Cable



Accessory-AUX Cable



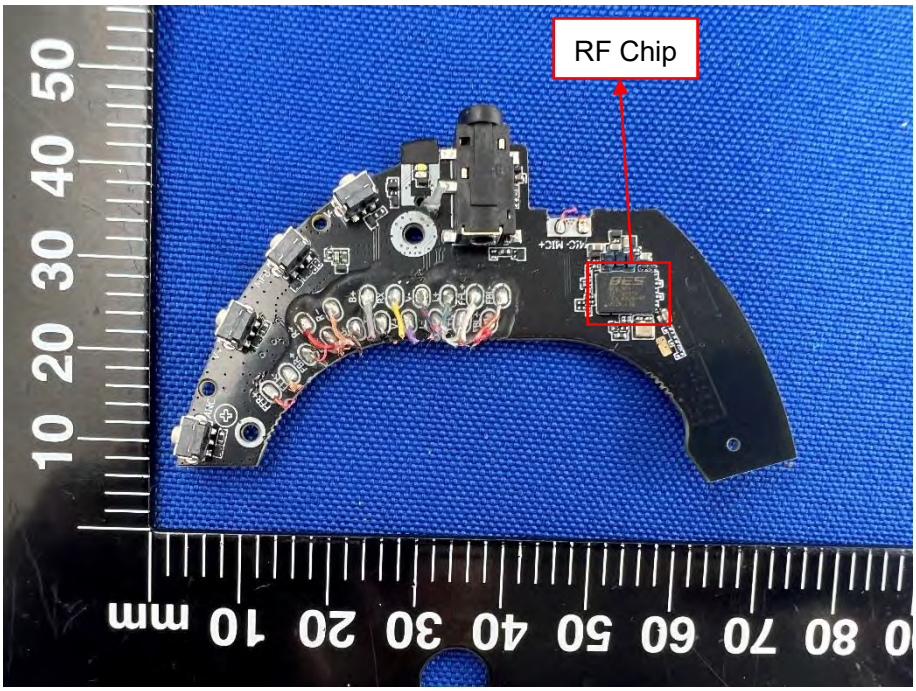
ANNEX C EUT INTERNAL PHOTOS

EUT UNCOVER VIEW 1

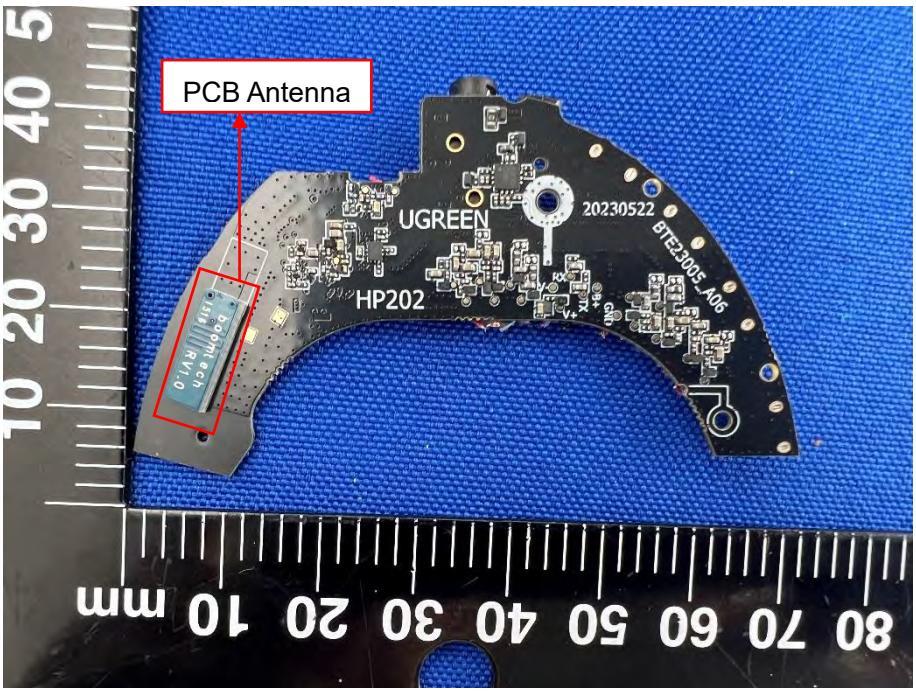
EUT UNCOVER VIEW 2

EUT UNCOVER VIEW 3

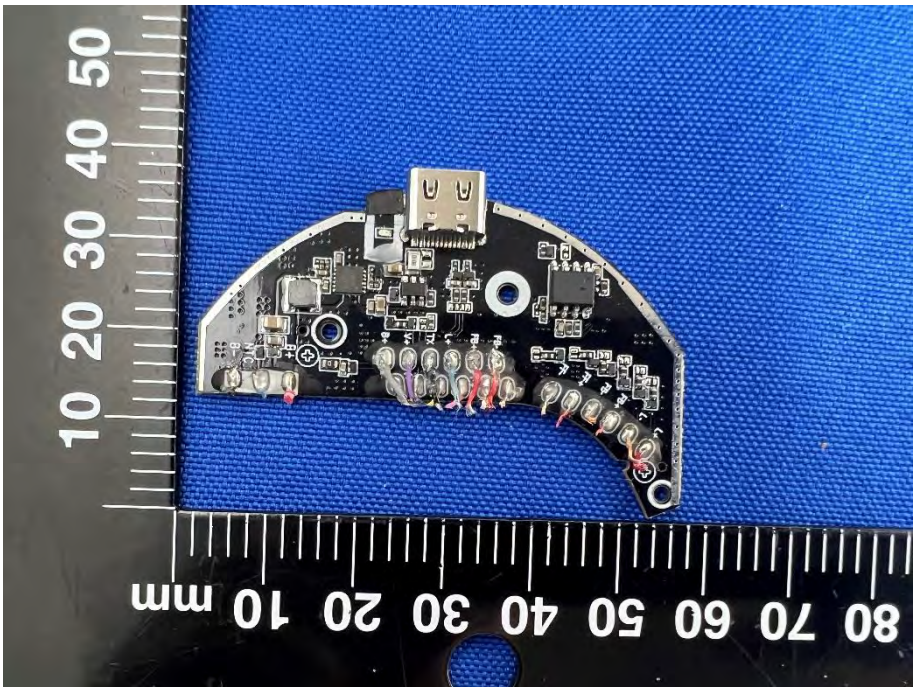
MAIN BOARD TOP VIEW



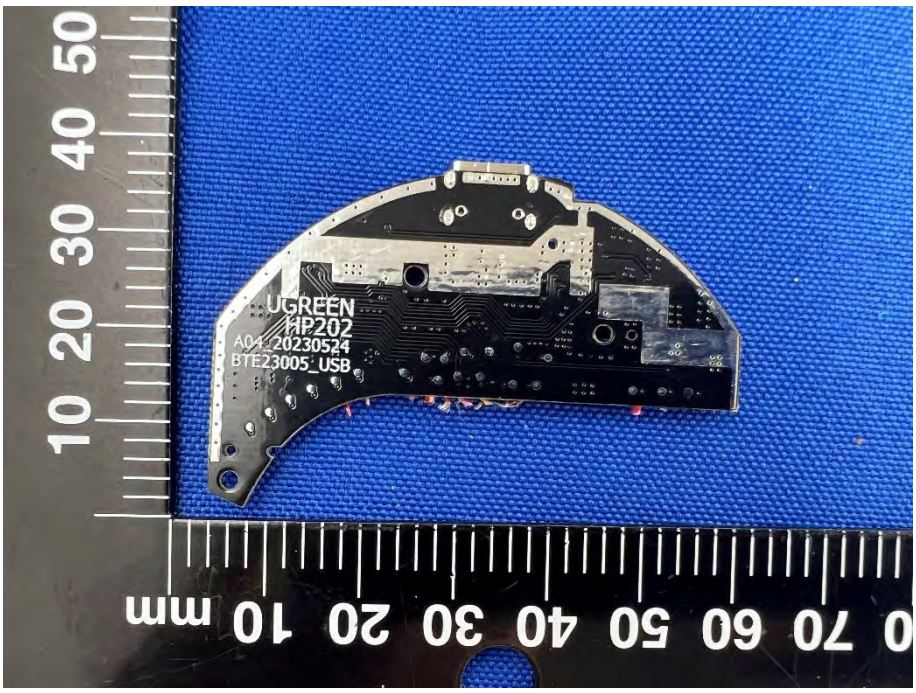
MAIN BOARD REAR VIEW



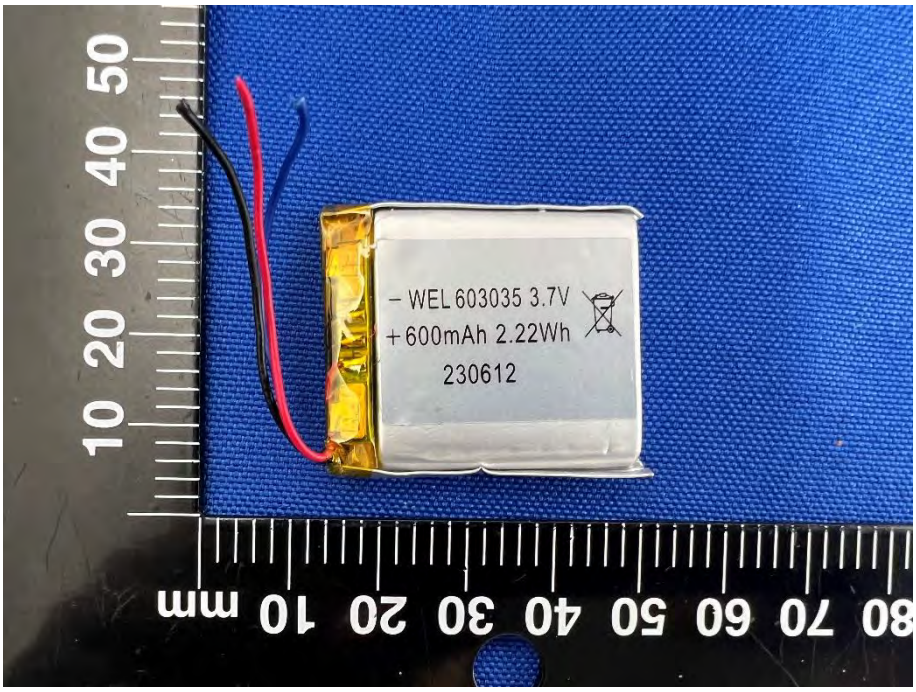
MAIN BOARD TOP VIEW



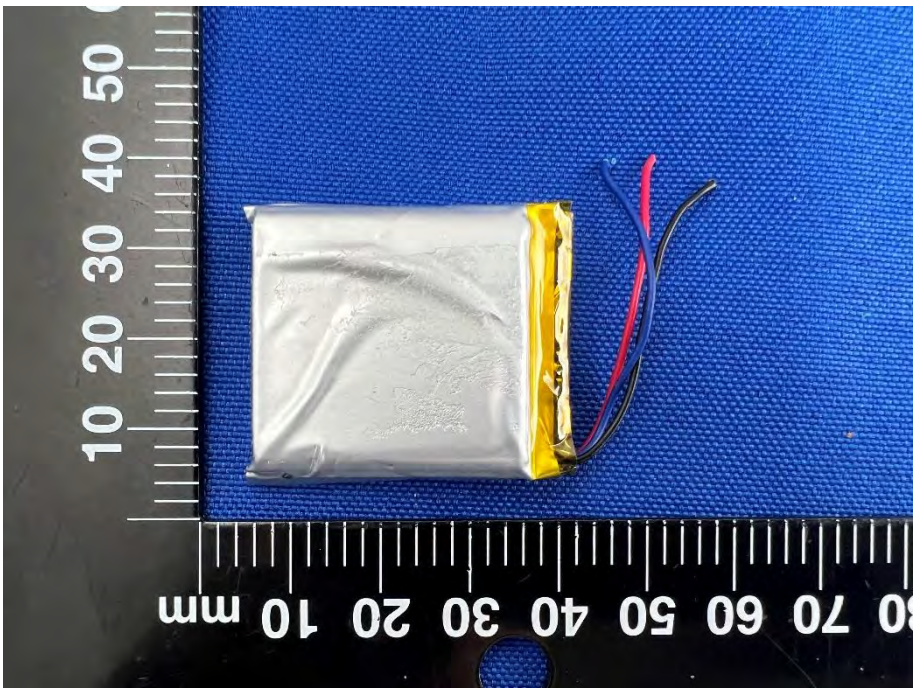
MAIN BOARD REAR VIEW



BATTERY (FRONT)



BATTERY (REAR)



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2. The report without China inspection body and laboratory Mandatory Approval (CMA) mark has no effect of proving to the society.
3. For the report with CNAS mark or A2LA mark, the items marked with "☆" are not within the accredited scope.
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--END OF REPORT--