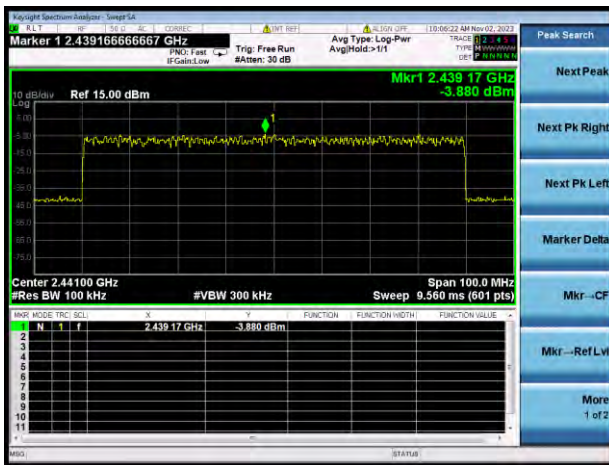


8-DPSK HOPPING, CARRIER LEVEL



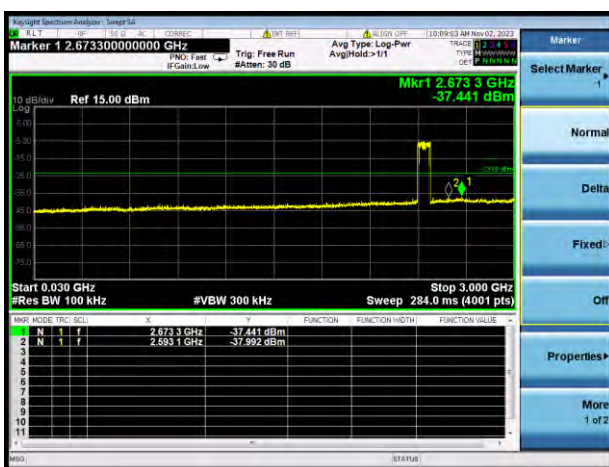
8-DPSK Hopping BAND EDGE (LOW)



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 50 $\mu$ H/50 $\Omega$  line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB $\mu$ V)	
	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 <sup>1</sup>: The EUT was tested in charging mode.

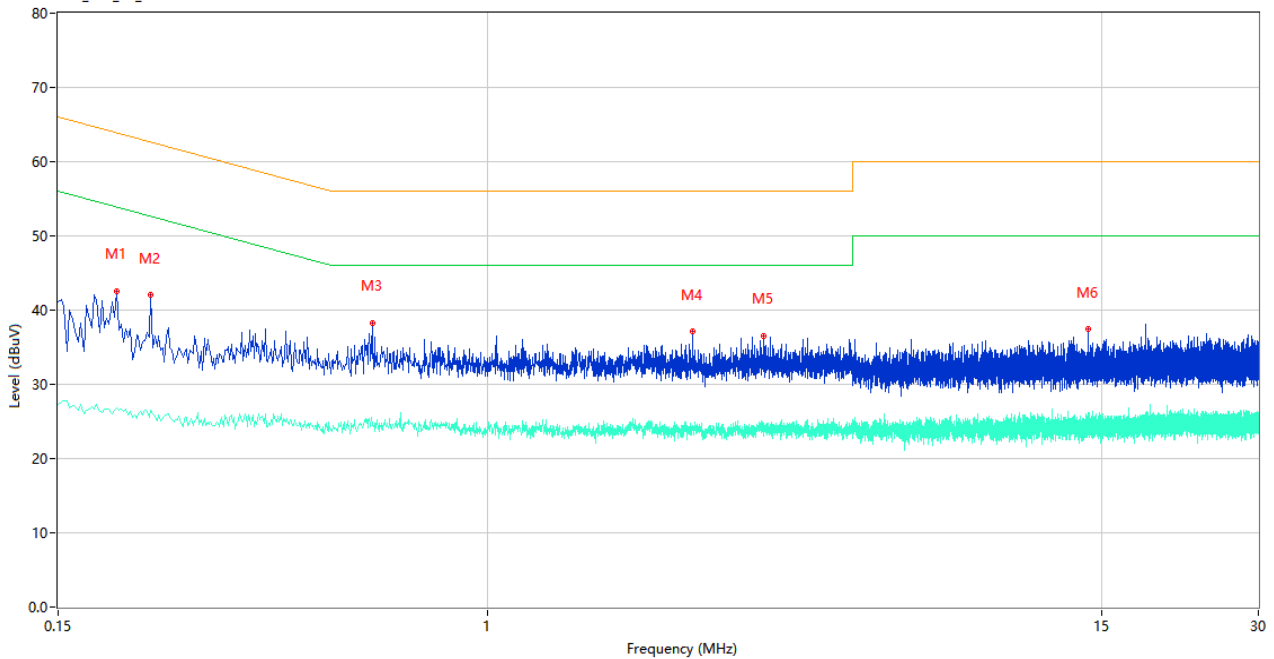
Note <sup>2</sup>: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Note <sup>3</sup>: Results (dBuV) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

#### Test Data and Plots

##### PHASE L

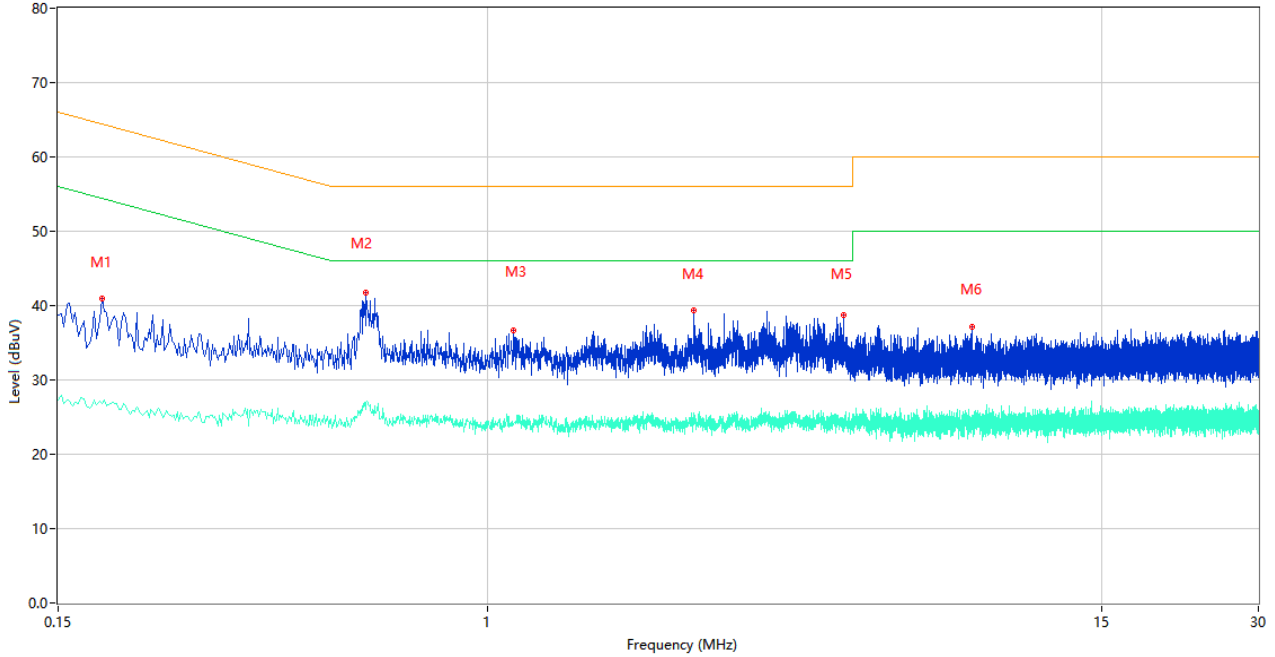
CE Test case\_FCC\_CE\_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.194	42.49	9.77	63.86	21.37	Peak	L	Pass
1**	0.194	26.76	9.77	53.86	27.10	AV	L	Pass
2	0.226	41.99	9.77	62.60	20.61	Peak	L	Pass
2**	0.226	26.58	9.77	52.60	26.02	AV	L	Pass
3	0.600	38.28	10.17	56.00	17.72	Peak	L	Pass
3**	0.600	24.56	10.17	46.00	21.44	AV	L	Pass
4	2.466	37.12	10.18	56.00	18.88	Peak	L	Pass
4**	2.466	24.39	10.18	46.00	21.61	AV	L	Pass
5	3.384	36.58	10.26	56.00	19.42	Peak	L	Pass
5**	3.384	24.72	10.26	46.00	21.28	AV	L	Pass
6	14.144	37.41	10.77	60.00	22.59	Peak	L	Pass
6**	14.144	25.15	10.77	50.00	24.85	AV	L	Pass

PHASE N

CE Test case\_FCC\_CE\_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.182	40.88	9.78	64.39	23.51	Peak	N	Pass
1**	0.182	26.84	9.78	54.39	27.55	AV	N	Pass
2	0.584	41.81	10.12	56.00	14.19	Peak	N	Pass
2**	0.584	26.97	10.12	46.00	19.03	AV	N	Pass
3	1.122	36.71	10.19	56.00	19.29	Peak	N	Pass
3**	1.122	23.96	10.19	46.00	22.04	AV	N	Pass
4	2.486	39.29	10.17	56.00	16.71	Peak	N	Pass
4**	2.486	24.34	10.17	46.00	21.66	AV	N	Pass
5	4.812	38.66	9.92	56.00	17.34	Peak	N	Pass
5**	4.812	24.77	9.92	46.00	21.23	AV	N	Pass
6	8.488	37.19	10.44	60.00	22.81	Peak	N	Pass
6**	8.488	23.74	10.44	50.00	26.26	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 ( $\mu\text{V}/\text{m}$ )	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 (dB $\mu\text{V}/\text{m}$ ) = 20\*log[Field Strength ( $\mu\text{V}/\text{m}$ )].
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  $f \geq 1$  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.

### 5.10.4 Test Result

Note <sup>1</sup>: The symbol of "--" in the table which means not application.

Note <sup>2</sup>: 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 <sup>3</sup>: The EUT was tested in Link mode and the charging.

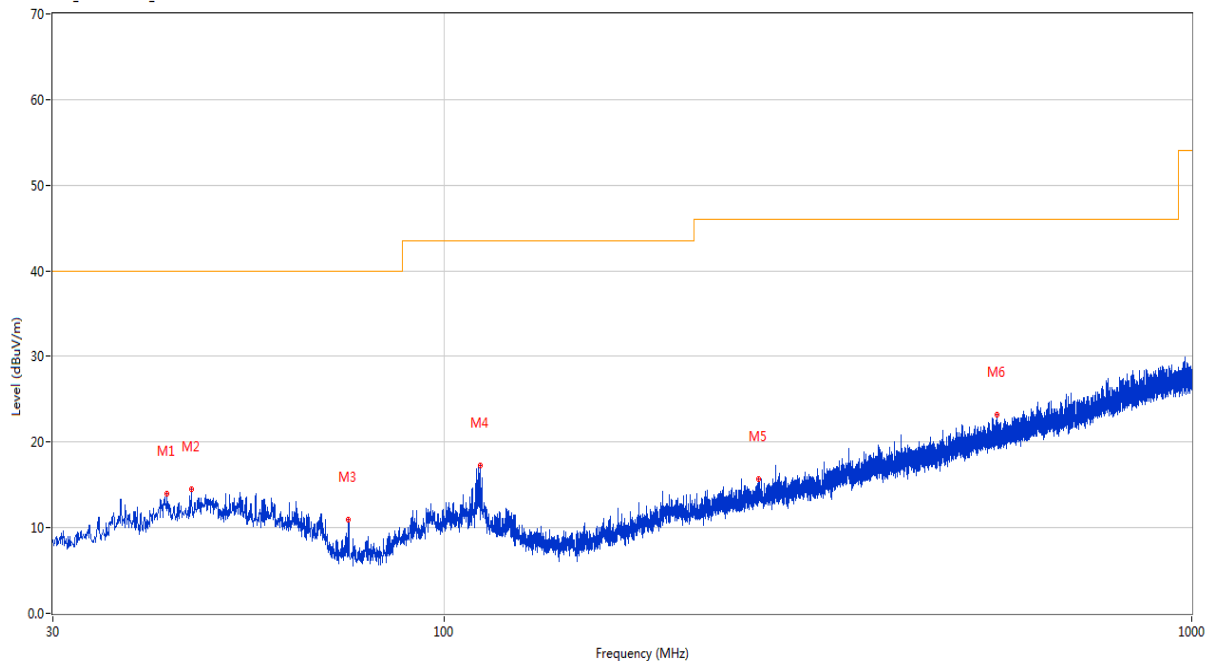
Note <sup>4</sup>: Results (dBuV/m) = Original reading level of Spectrum Analyzer (dBuV/m) + Factor (dB)

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

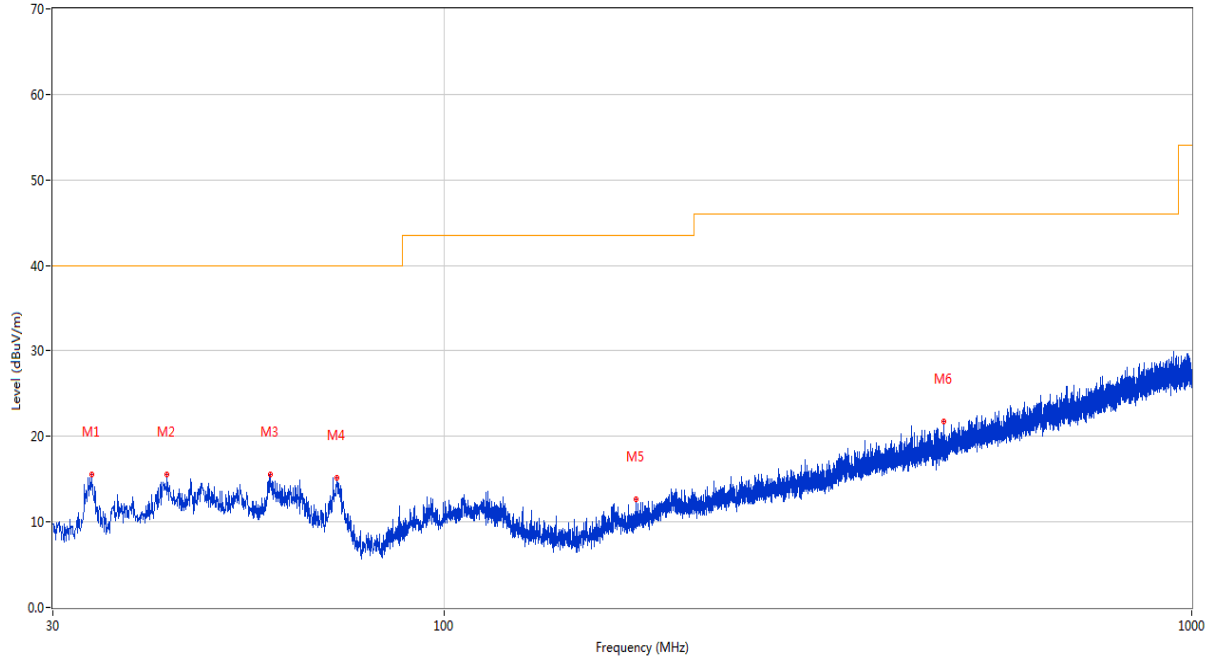
RE Test case\_FCC Part 15C\_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	42.610	14.03	-23.41	40.0	25.97	Peak	352.60	200	Horizontal	Pass
2	45.956	14.55	-23.05	40.0	25.45	Peak	109.40	100	Horizontal	Pass
3	74.572	11.00	-28.52	40.0	29.00	Peak	90.60	100	Horizontal	Pass
4	111.965	17.22	-24.45	43.5	26.28	Peak	358.50	100	Horizontal	Pass
5	263.528	15.73	-22.17	46.0	30.27	Peak	248.70	200	Horizontal	Pass
6	548.998	23.15	-15.40	46.0	22.85	Peak	6.70	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

RE Test case\_FCC Part 15C\_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	33.783	15.59	-26.09	40.0	24.41	Peak	358.20	100	Vertical	Pass
2	42.610	15.54	-23.41	40.0	24.46	Peak	305.50	200	Vertical	Pass
3	58.566	15.52	-24.06	40.0	24.48	Peak	318.20	100	Vertical	Pass
4	71.904	15.18	-28.22	40.0	24.82	Peak	179.90	100	Vertical	Pass
5	180.884	12.72	-25.95	43.5	30.78	Peak	49.90	100	Vertical	Pass
6	465.772	21.74	-17.32	46.0	24.26	Peak	318.50	200	Vertical	Pass

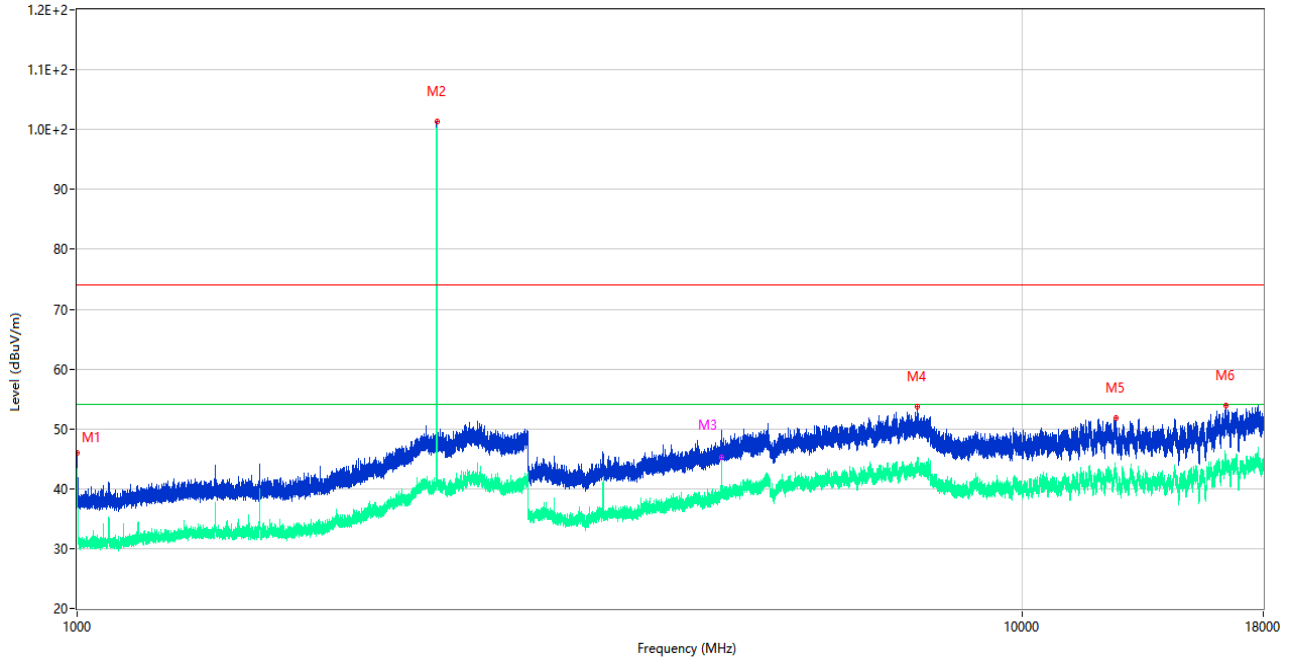


Note 1: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental signal.

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**

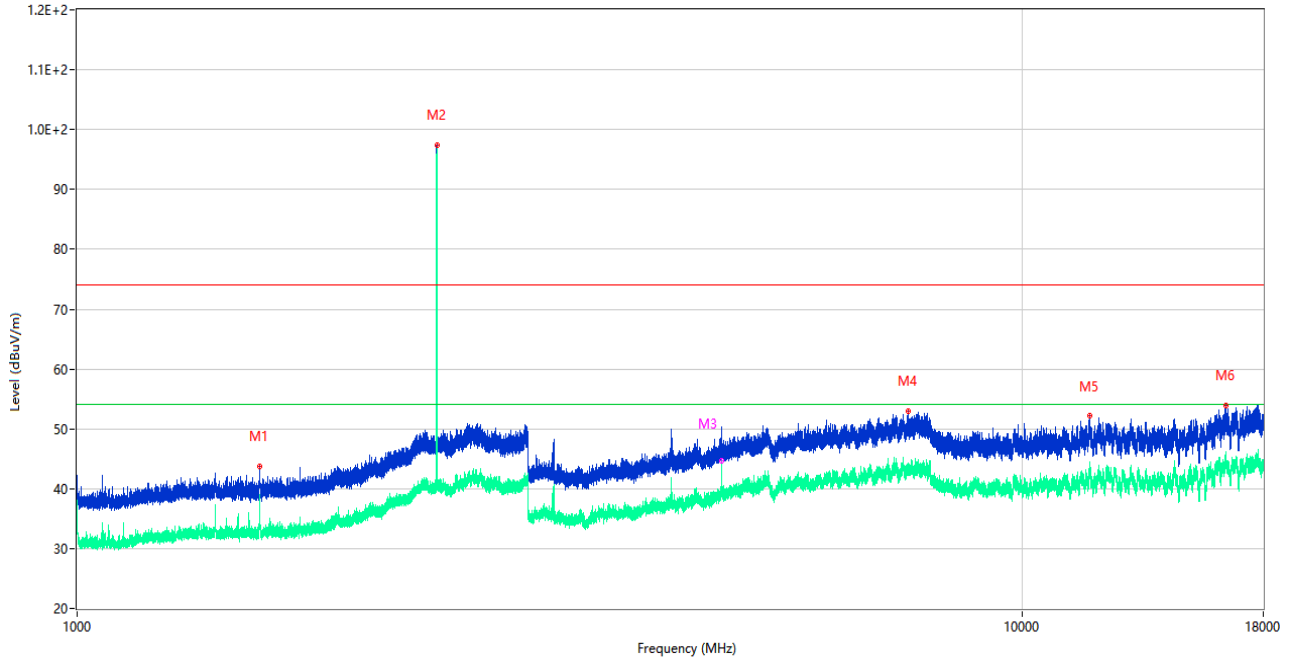
RE Test case\_FCC Part 15C\_FCC 15.247(2.4G)\_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.000	45.96	-18.34	74.0	28.04	Peak	157.00	400	Horizontal	Pass
1**	1000.000	43.09	-18.34	54.0	10.91	AV	157.00	400	Horizontal	Pass
2	2401.800	101.36	-10.63	74.0	-27.36	Peak	12.00	150	Horizontal	N/A
2**	2401.800	100.70	-10.63	54.0	-46.70	AV	12.00	150	Horizontal	N/A
3	4804.500	48.15	-3.20	74.0	25.85	Peak	133.00	150	Horizontal	Pass
3**	4804.500	45.17	-3.20	54.0	8.83	AV	133.00	150	Horizontal	Pass
4	7754.250	53.72	1.15	74.0	20.28	Peak	41.00	100	Horizontal	Pass
4**	7754.250	44.03	1.15	54.0	9.97	AV	41.00	100	Horizontal	Pass
5	12558.812	51.84	1.00	74.0	22.16	Peak	285.00	100	Horizontal	Pass
5**	12558.812	42.26	1.00	54.0	11.74	AV	285.00	100	Horizontal	Pass
6	16426.838	53.91	2.81	74.0	20.09	Peak	160.00	100	Horizontal	Pass
6**	16426.838	45.12	2.81	54.0	8.88	AV	160.00	100	Horizontal	Pass

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

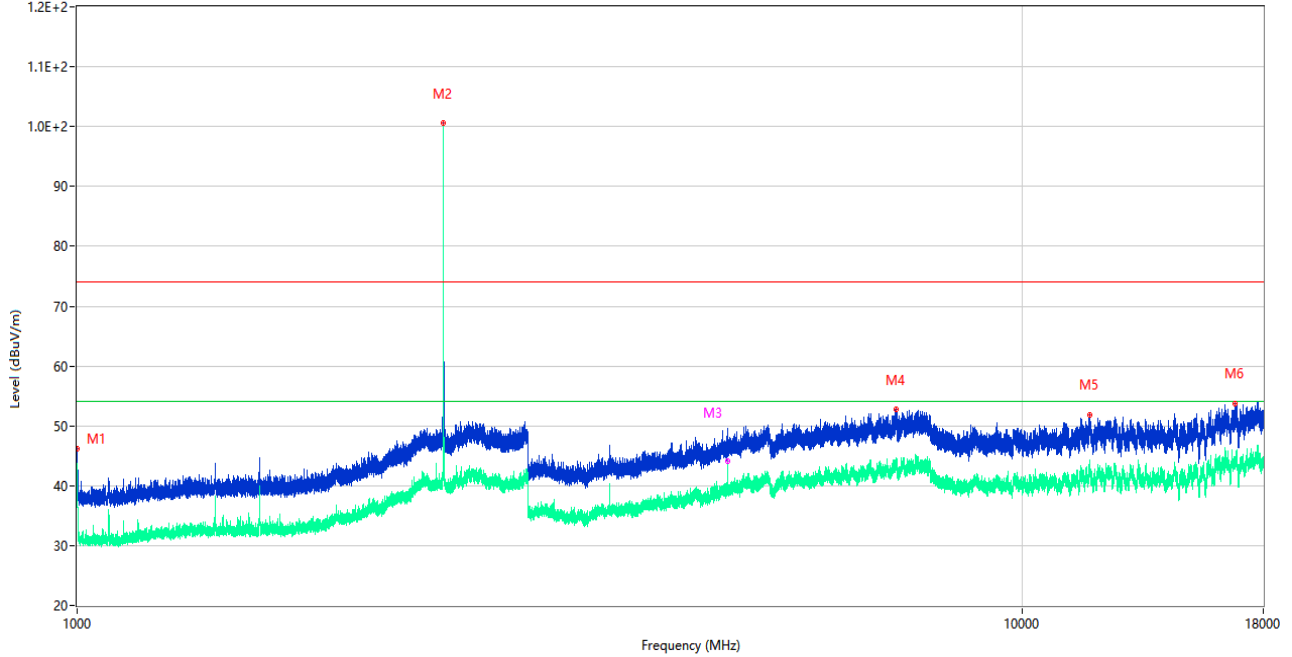
RE Test case\_FCC Part 15C\_FCC 15.247(2.4G)\_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1559.800	43.78	-17.12	74.0	30.22	Peak	178.00	200	Vertical	Pass
1**	1559.800	38.60	-17.12	54.0	15.40	AV	178.00	200	Vertical	Pass
2	2402.100	97.40	-10.60	74.0	-23.40	Peak	337.00	150	Vertical	N/A
2**	2402.100	97.25	-10.60	54.0	-43.25	AV	337.00	150	Vertical	N/A
3	4804.000	48.29	-3.32	74.0	25.71	Peak	140.00	200	Vertical	Pass
3**	4804.000	44.60	-3.32	54.0	9.40	AV	140.00	200	Vertical	Pass
4	7581.250	52.95	0.64	74.0	21.05	Peak	99.00	100	Vertical	Pass
4**	7581.250	43.16	0.64	54.0	10.84	AV	99.00	100	Vertical	Pass
5	11797.625	52.18	-0.15	74.0	21.82	Peak	324.00	400	Vertical	Pass
5**	11797.625	42.04	-0.15	54.0	11.96	AV	324.00	400	Vertical	Pass
6	16417.651	53.94	2.93	74.0	20.06	Peak	315.00	400	Vertical	Pass
6**	16417.651	45.01	2.93	54.0	8.99	AV	315.00	400	Vertical	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

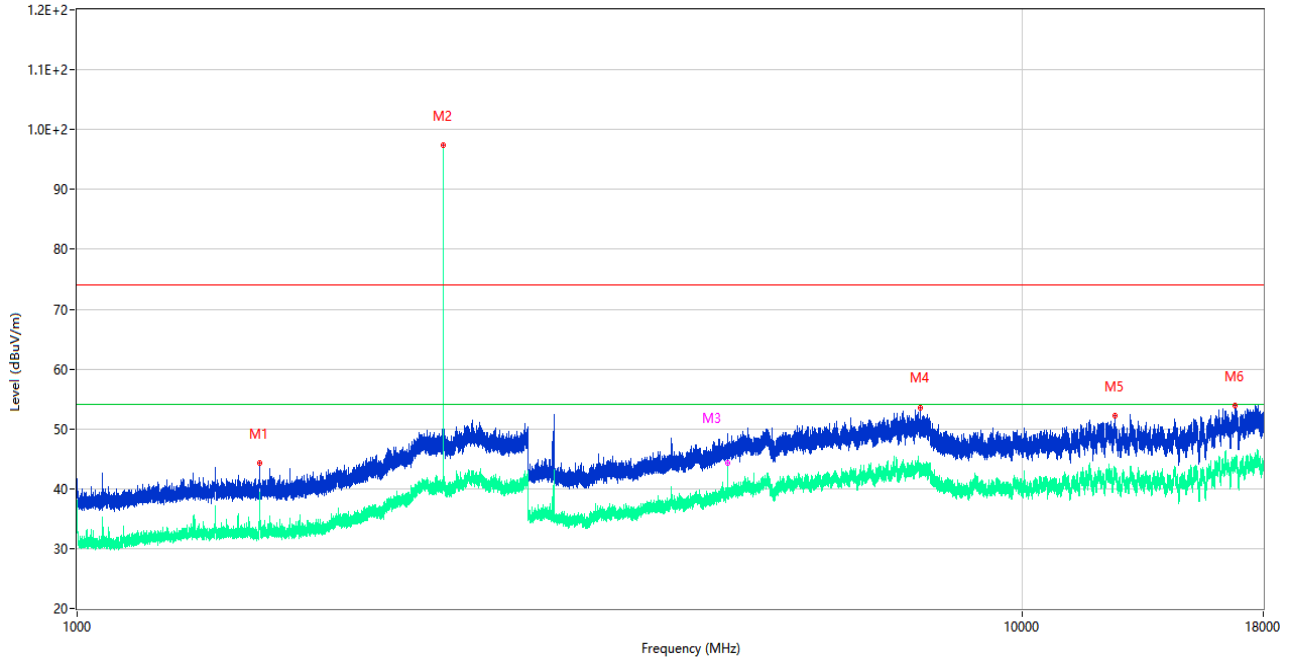
RE Test case\_FCC Part 15C\_FCC 15.247(2.4G)\_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.200	46.26	-18.32	74.0	27.74	Peak	164.00	300	Horizontal	Pass
1**	1000.200	43.36	-18.32	54.0	10.64	AV	164.00	300	Horizontal	Pass
2	2440.900	100.53	-9.79	74.0	-26.53	Peak	14.00	200	Horizontal	N/A
2**	2440.900	99.94	-9.79	54.0	-45.94	AV	14.00	200	Horizontal	N/A
3	4882.000	47.19	-3.73	74.0	26.81	Peak	158.00	200	Horizontal	Pass
3**	4882.000	44.19	-3.73	54.0	9.81	AV	158.00	200	Horizontal	Pass
4	7362.000	52.76	0.82	74.0	21.24	Peak	219.00	300	Horizontal	Pass
4**	7362.000	43.83	0.82	54.0	10.17	AV	219.00	300	Horizontal	Pass
5	11790.737	51.88	-0.15	74.0	22.12	Peak	360.00	200	Horizontal	Pass
5**	11790.737	43.54	-0.15	54.0	10.46	AV	360.00	200	Horizontal	Pass
6	16812.188	53.77	1.98	74.0	20.23	Peak	149.00	100	Horizontal	Pass
6**	16812.188	43.74	1.98	54.0	10.26	AV	149.00	100	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

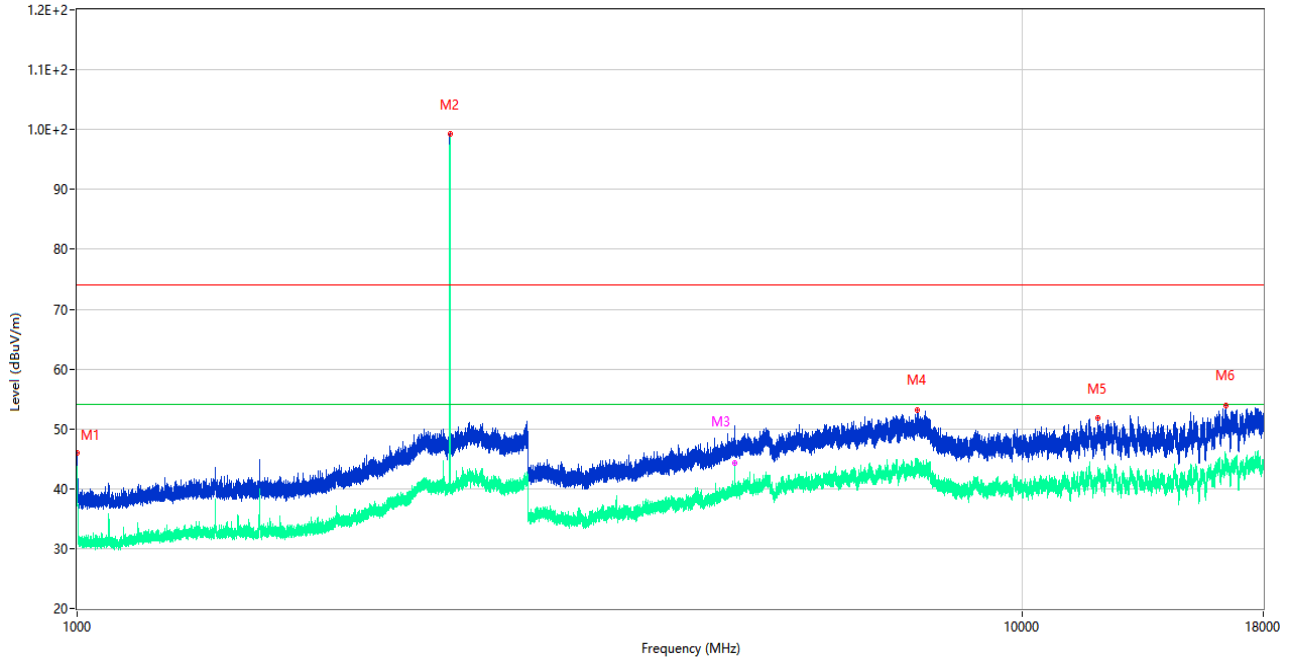
RE Test case\_FCC Part 15C\_FCC 15.247(2.4G)\_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1559.800	44.22	-17.12	74.0	29.78	Peak	199.00	300	Vertical	Pass
1**	1559.800	38.66	-17.12	54.0	15.34	AV	199.00	300	Vertical	Pass
2	2440.900	97.38	-9.79	74.0	-23.38	Peak	345.00	200	Vertical	N/A
2**	2440.900	96.61	-9.79	54.0	-42.61	AV	345.00	200	Vertical	N/A
3	4882.000	48.56	-3.73	74.0	25.44	Peak	136.00	200	Vertical	Pass
3**	4882.000	44.32	-3.73	54.0	9.68	AV	136.00	200	Vertical	Pass
4	7799.000	53.55	0.65	74.0	20.45	Peak	302.00	300	Vertical	Pass
4**	7799.000	43.19	0.65	54.0	10.81	AV	302.00	300	Vertical	Pass
5	12532.924	52.18	1.25	74.0	21.82	Peak	48.00	200	Vertical	Pass
5**	12532.924	42.35	1.25	54.0	11.65	AV	48.00	200	Vertical	Pass
6	16782.788	53.82	1.53	74.0	20.18	Peak	29.00	100	Vertical	Pass
6**	16782.788	43.62	1.53	54.0	10.38	AV	29.00	100	Vertical	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

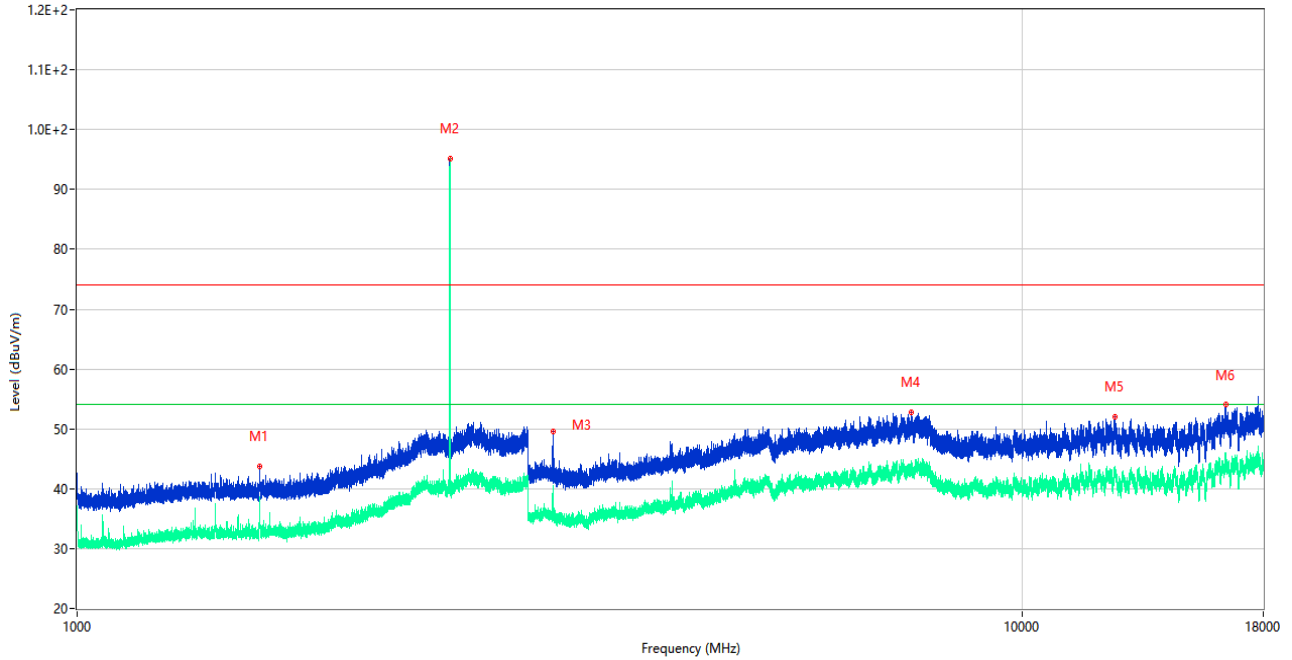
RE Test case\_FCC Part 15C\_FCC 15.247(2.4G)\_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.100	45.99	-18.33	74.0	28.01	Peak	180.00	100	Horizontal	Pass
1**	1000.100	43.66	-18.33	54.0	10.34	AV	180.00	100	Horizontal	Pass
2	2480.100	99.21	-11.10	74.0	-25.21	Peak	15.00	150	Horizontal	N/A
2**	2480.100	99.05	-11.10	54.0	-45.05	AV	15.00	150	Horizontal	N/A
3	4960.250	49.61	-3.64	74.0	24.39	Peak	97.00	150	Horizontal	Pass
3**	4960.250	44.25	-3.64	54.0	9.75	AV	97.00	150	Horizontal	Pass
4	7756.750	53.14	1.48	74.0	20.86	Peak	188.00	100	Horizontal	Pass
4**	7756.750	44.69	1.48	54.0	9.31	AV	188.00	100	Horizontal	Pass
5	12036.312	51.76	-0.02	74.0	22.24	Peak	350.00	300	Horizontal	Pass
5**	12036.312	42.03	-0.02	54.0	11.97	AV	350.00	300	Horizontal	Pass
6	16424.738	53.95	2.84	74.0	20.05	Peak	259.00	400	Horizontal	Pass
6**	16424.738	44.77	2.84	54.0	9.23	AV	259.00	400	Horizontal	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

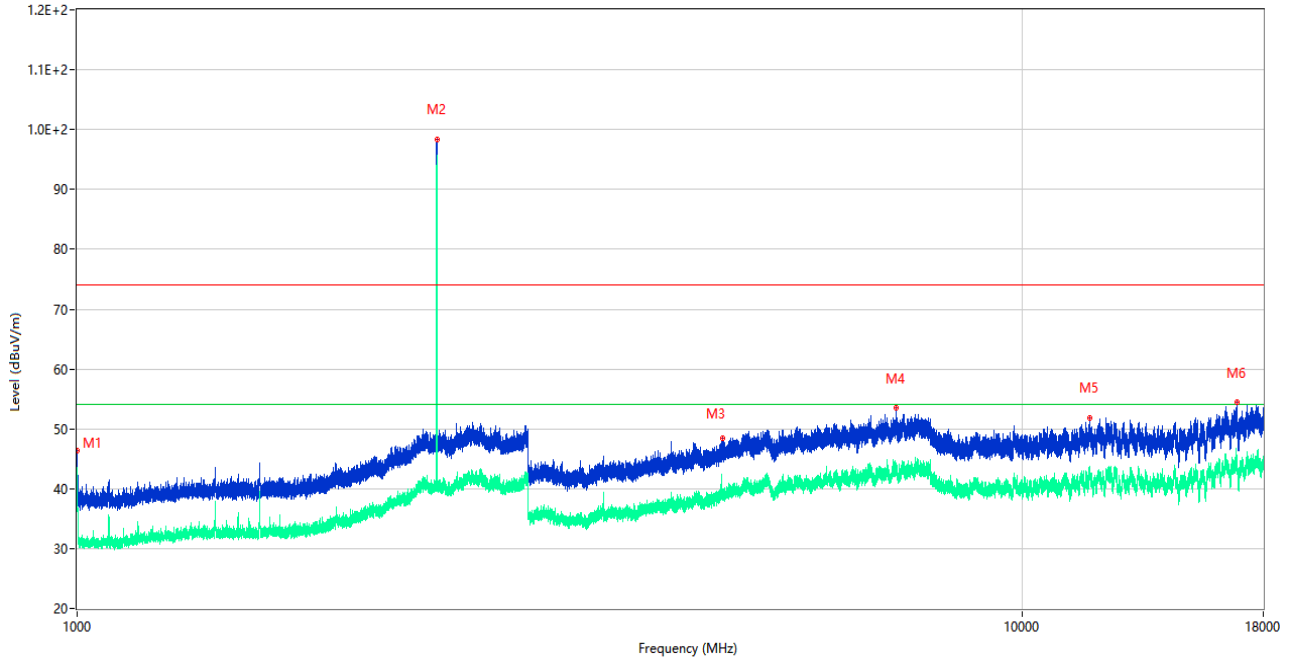
RE Test case\_FCC Part 15C\_FCC 15.247(2.4G)\_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1559.700	43.76	-17.17	74.0	30.24	Peak	200.00	400	Vertical	Pass
1**	1559.700	37.78	-17.17	54.0	16.22	AV	200.00	400	Vertical	Pass
2	2479.800	95.19	-11.14	74.0	-21.19	Peak	351.00	150	Vertical	N/A
2**	2479.800	94.47	-11.14	54.0	-40.47	AV	351.00	150	Vertical	N/A
3	3189.750	49.59	-8.04	74.0	24.41	Peak	287.00	100	Vertical	Pass
3**	3189.750	35.66	-8.04	54.0	18.34	AV	287.00	100	Vertical	Pass
4	7642.750	52.82	0.90	74.0	21.18	Peak	153.00	300	Vertical	Pass
4**	7642.750	44.31	0.90	54.0	9.69	AV	153.00	300	Vertical	Pass
5	12545.988	52.03	1.17	74.0	21.97	Peak	306.00	200	Vertical	Pass
5**	12545.988	42.36	1.17	54.0	11.64	AV	306.00	200	Vertical	Pass
6	16420.801	54.02	2.89	74.0	19.98	Peak	214.00	200	Vertical	Pass
6**	16420.801	44.55	2.89	54.0	9.45	AV	214.00	200	Vertical	Pass

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

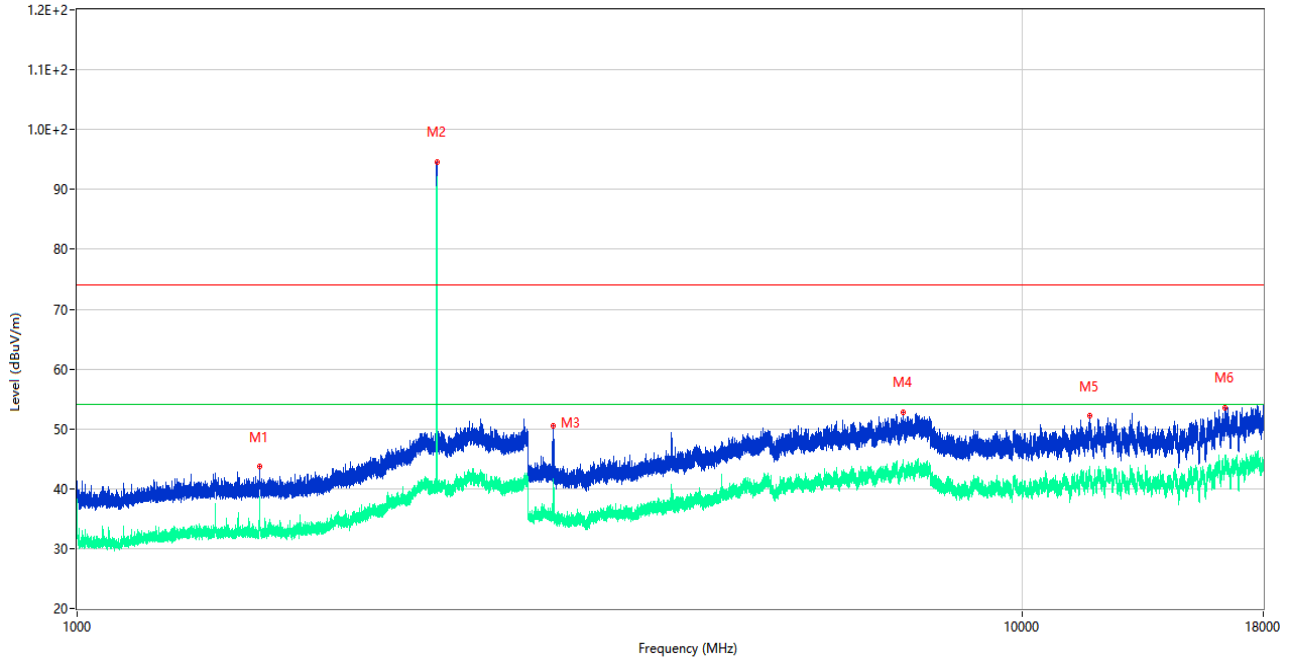
RE Test case\_FCC Part 15C\_FCC 15.247(2.4G)\_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.100	46.32	-18.33	74.0	27.68	Peak	166.00	200	Horizontal	Pass
1**	1000.100	43.52	-18.33	54.0	10.48	AV	166.00	200	Horizontal	Pass
2	2402.100	98.40	-10.60	74.0	-24.40	Peak	13.00	100	Horizontal	N/A
2**	2402.100	95.38	-10.60	54.0	-41.38	AV	13.00	100	Horizontal	N/A
3	4821.750	48.41	-3.52	74.0	25.59	Peak	98.00	200	Horizontal	Pass
3**	4821.750	38.61	-3.52	54.0	15.39	AV	98.00	200	Horizontal	Pass
4	7365.500	53.46	0.90	74.0	20.54	Peak	3.00	100	Horizontal	Pass
4**	7365.500	43.74	0.90	54.0	10.26	AV	3.00	100	Horizontal	Pass
5	11782.901	51.88	-0.16	74.0	22.12	Peak	255.00	300	Horizontal	Pass
5**	11782.901	41.86	-0.16	54.0	12.14	AV	255.00	300	Horizontal	Pass
6	16868.100	54.42	3.26	74.0	19.58	Peak	219.00	300	Horizontal	Pass
6**	16868.100	44.29	3.26	54.0	9.71	AV	219.00	300	Horizontal	Pass

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

RE Test case\_FCC Part 15C\_FCC 15.247(2.4G)\_1GHz-18GHz

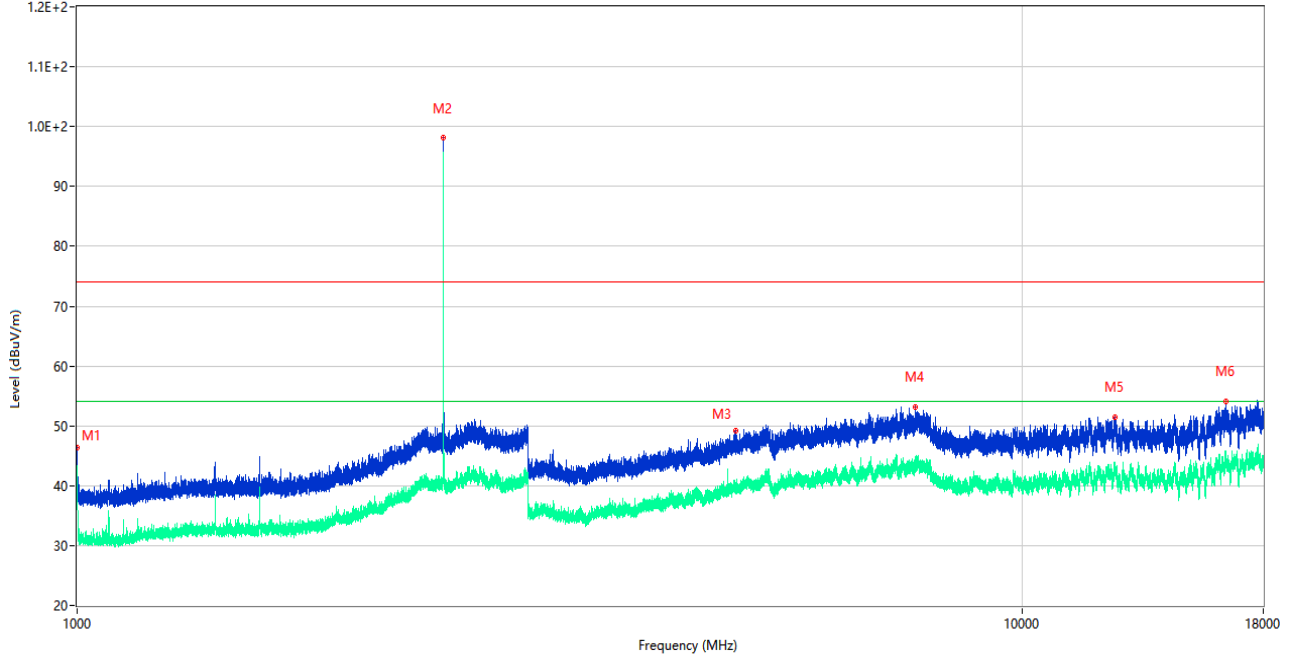


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1559.500	43.72	-17.23	74.0	30.28	Peak	186.00	200	Vertical	Pass
1**	1559.500	36.58	-17.23	54.0	17.42	AV	186.00	200	Vertical	Pass
2	2402.100	94.63	-10.60	74.0	-20.63	Peak	349.00	150	Vertical	N/A
2**	2402.100	92.15	-10.60	54.0	-38.15	AV	349.00	150	Vertical	N/A
3	3191.750	50.51	-8.12	74.0	23.49	Peak	292.00	150	Vertical	Pass
3**	3191.750	39.61	-8.12	54.0	14.39	AV	292.00	150	Vertical	Pass
4	7484.750	52.79	1.30	74.0	21.21	Peak	0.00	200	Vertical	Pass
4**	7484.750	43.43	1.30	54.0	10.57	AV	0.00	200	Vertical	Pass
5	11798.338	52.17	-0.15	74.0	21.83	Peak	277.00	100	Vertical	Pass
5**	11798.338	42.39	-0.15	54.0	11.61	AV	277.00	100	Vertical	Pass
6	16404.262	53.55	3.11	74.0	20.45	Peak	103.00	200	Vertical	Pass
6**	16404.262	44.97	3.11	54.0	9.03	AV	103.00	200	Vertical	Pass



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

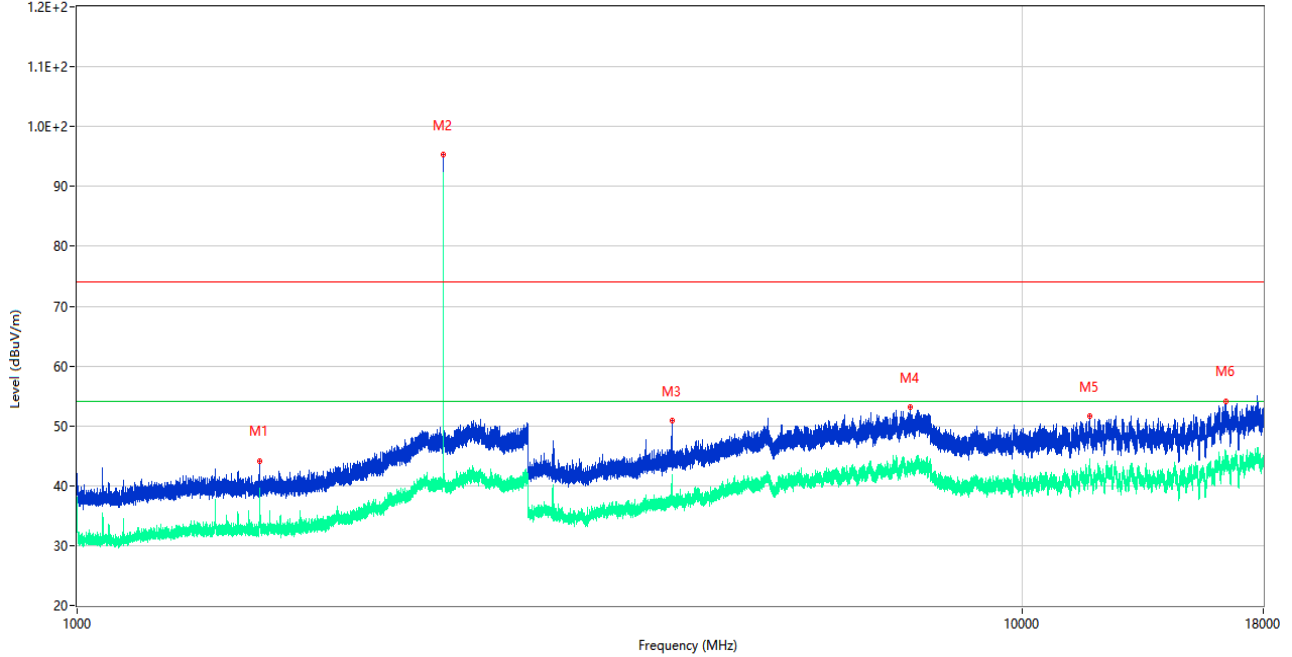
RE Test case\_FCC Part 15C\_FCC 15.247(2.4G)\_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.400	46.28	-18.33	74.0	27.72	Peak	172.00	400	Horizontal	Pass
1**	1000.400	41.97	-18.33	54.0	12.03	AV	172.00	400	Horizontal	Pass
2	2440.900	98.11	-9.79	74.0	-24.11	Peak	14.00	100	Horizontal	N/A
2**	2440.900	94.49	-9.79	54.0	-40.49	AV	14.00	100	Horizontal	N/A
3	4978.250	49.26	-3.44	74.0	24.74	Peak	202.00	100	Horizontal	Pass
3**	4978.250	39.48	-3.44	54.0	14.52	AV	202.00	100	Horizontal	Pass
4	7711.500	53.23	1.98	74.0	20.77	Peak	0.00	100	Horizontal	Pass
4**	7711.500	43.73	1.98	54.0	10.27	AV	0.00	100	Horizontal	Pass
5	12555.250	51.50	1.06	74.0	22.50	Peak	227.00	400	Horizontal	Pass
5**	12555.250	42.78	1.06	54.0	11.22	AV	227.00	400	Horizontal	Pass
6	16416.074	54.12	2.95	74.0	19.88	Peak	237.00	200	Horizontal	Pass
6**	16416.074	45.35	2.95	54.0	8.65	AV	237.00	200	Horizontal	Pass

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

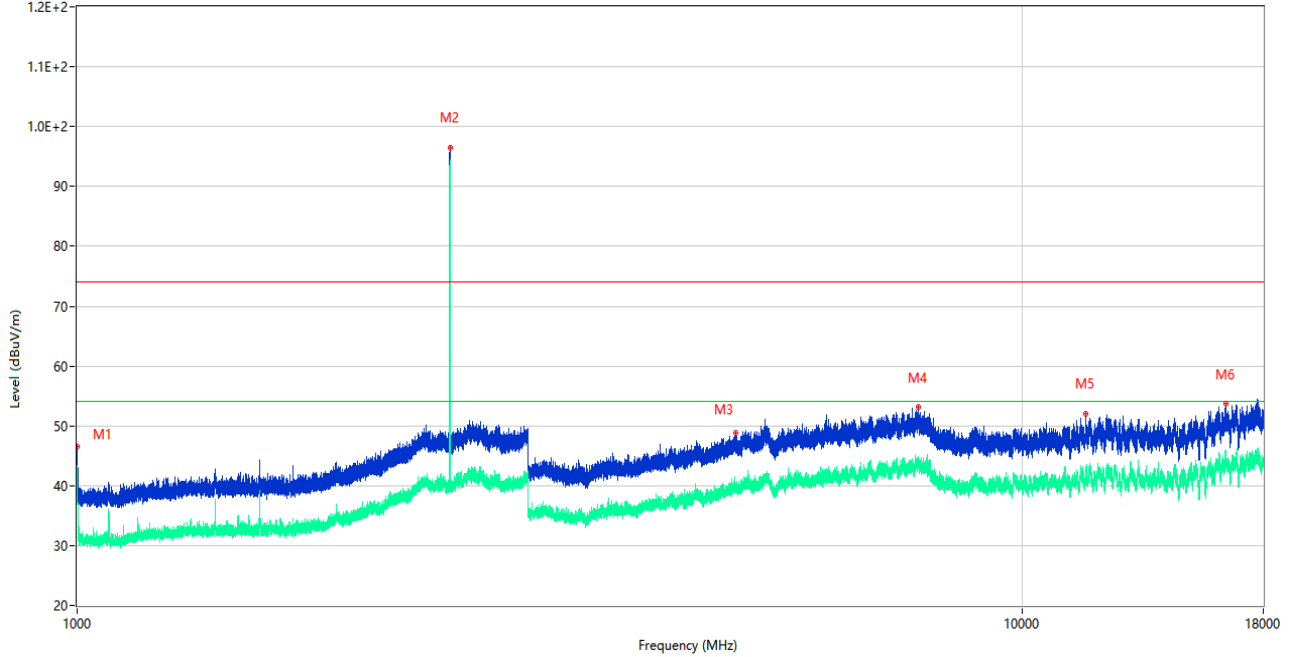
RE Test case\_FCC Part 15C\_FCC 15.247(2.4G)\_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1559.500	44.18	-17.23	74.0	29.82	Peak	360.00	400	Vertical	Pass
1**	1559.500	37.87	-17.23	54.0	16.13	AV	360.00	400	Vertical	Pass
2	2440.900	95.26	-9.79	74.0	-21.26	Peak	349.00	100	Vertical	N/A
2**	2440.900	92.20	-9.79	54.0	-38.20	AV	349.00	100	Vertical	N/A
3	4261.000	50.81	-4.51	74.0	23.19	Peak	324.00	100	Vertical	Pass
3**	4261.000	37.93	-4.51	54.0	16.07	AV	324.00	100	Vertical	Pass
4	7620.500	53.06	0.48	74.0	20.94	Peak	158.00	400	Vertical	Pass
4**	7620.500	42.80	0.48	54.0	11.20	AV	158.00	400	Vertical	Pass
5	11782.901	51.59	-0.16	74.0	22.41	Peak	77.00	100	Vertical	Pass
5**	11782.901	42.24	-0.16	54.0	11.76	AV	77.00	100	Vertical	Pass
6	16418.176	54.17	2.92	74.0	19.83	Peak	310.00	400	Vertical	Pass
6**	16418.176	44.44	2.92	54.0	9.56	AV	310.00	400	Vertical	Pass

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

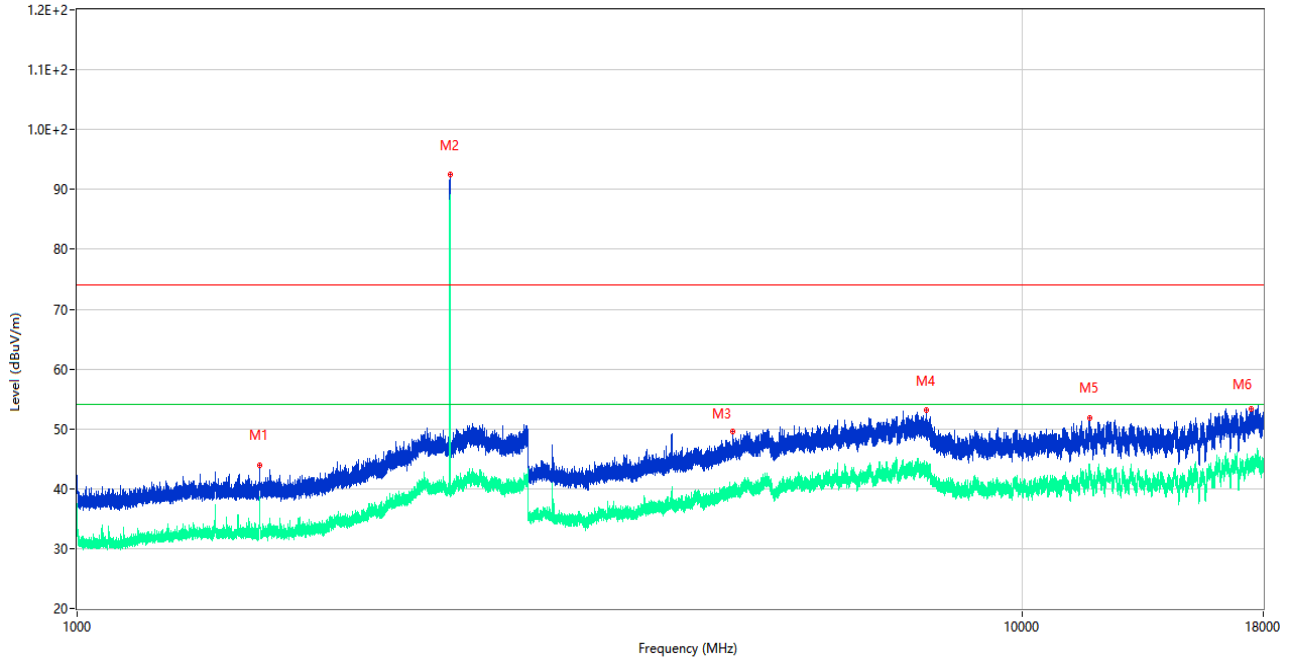
RE Test case\_FCC Part 15C\_FCC 15.247(2.4G)\_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.000	46.48	-18.34	74.0	27.52	Peak	162.00	300	Horizontal	Pass
1**	1000.000	43.27	-18.34	54.0	10.73	AV	162.00	300	Horizontal	Pass
2	2479.800	96.54	-11.14	74.0	-22.54	Peak	6.00	150	Horizontal	N/A
2**	2479.800	94.47	-11.14	54.0	-40.47	AV	6.00	150	Horizontal	N/A
3	4981.750	48.76	-3.26	74.0	25.24	Peak	360.00	200	Horizontal	Pass
3**	4981.750	38.84	-3.26	54.0	15.16	AV	360.00	200	Horizontal	Pass
4	7758.750	53.06	1.59	74.0	20.94	Peak	297.00	400	Horizontal	Pass
4**	7758.750	44.66	1.59	54.0	9.34	AV	297.00	400	Horizontal	Pass
5	11676.975	52.06	-0.90	74.0	21.94	Peak	186.00	100	Horizontal	Pass
5**	11676.975	41.48	-0.90	54.0	12.52	AV	186.00	100	Horizontal	Pass
6	16435.238	53.64	2.70	74.0	20.36	Peak	207.00	100	Horizontal	Pass
6**	16435.238	44.53	2.70	54.0	9.47	AV	207.00	100	Horizontal	Pass

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

RE Test case\_FCC Part 15C\_FCC 15.247(2.4G)\_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1560.000	44.01	-17.04	74.0	29.99	Peak	181.00	300	Vertical	Pass
1**	1560.000	38.21	-17.04	54.0	15.79	AV	181.00	300	Vertical	Pass
2	2480.000	92.46	-11.11	74.0	-18.46	Peak	350.00	100	Vertical	N/A
2**	2480.000	89.12	-11.11	54.0	-35.12	AV	350.00	100	Vertical	N/A
3	4941.500	49.52	-3.63	74.0	24.48	Peak	275.00	150	Vertical	Pass
3**	4941.500	38.80	-3.63	54.0	15.20	AV	275.00	150	Vertical	Pass
4	7927.250	53.11	1.60	74.0	20.89	Peak	207.00	200	Vertical	Pass
4**	7927.250	43.66	1.60	54.0	10.34	AV	207.00	200	Vertical	Pass
5	11789.550	51.84	-0.16	74.0	22.16	Peak	288.00	400	Vertical	Pass
5**	11789.550	42.59	-0.16	54.0	11.41	AV	288.00	400	Vertical	Pass
6	17466.864	53.34	5.25	74.0	20.66	Peak	105.00	200	Vertical	Pass
6**	17466.864	43.88	5.25	54.0	10.12	AV	105.00	200	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  $f \geq 1$  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.

### 5.11.4 Test Result

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

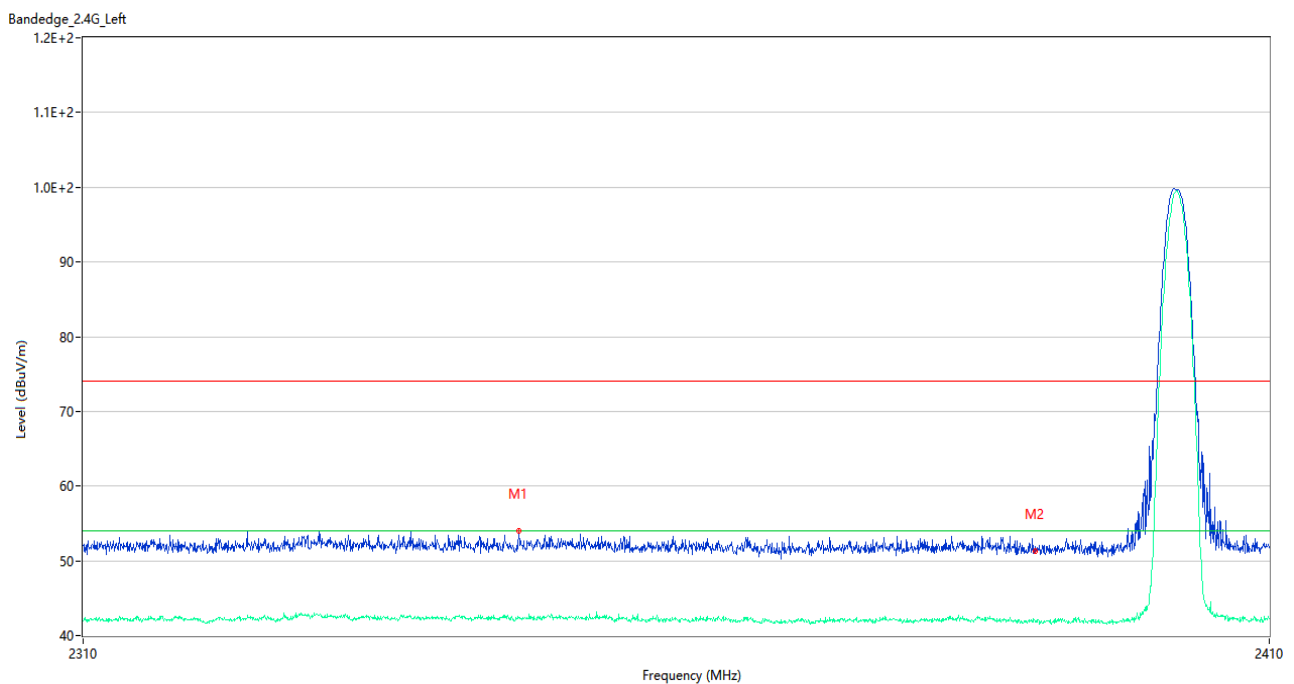
Note <sup>2</sup>: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.

Note <sup>3</sup>: 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 <sup>4</sup>: The Level (dBuV/m) has been corrected by factor.

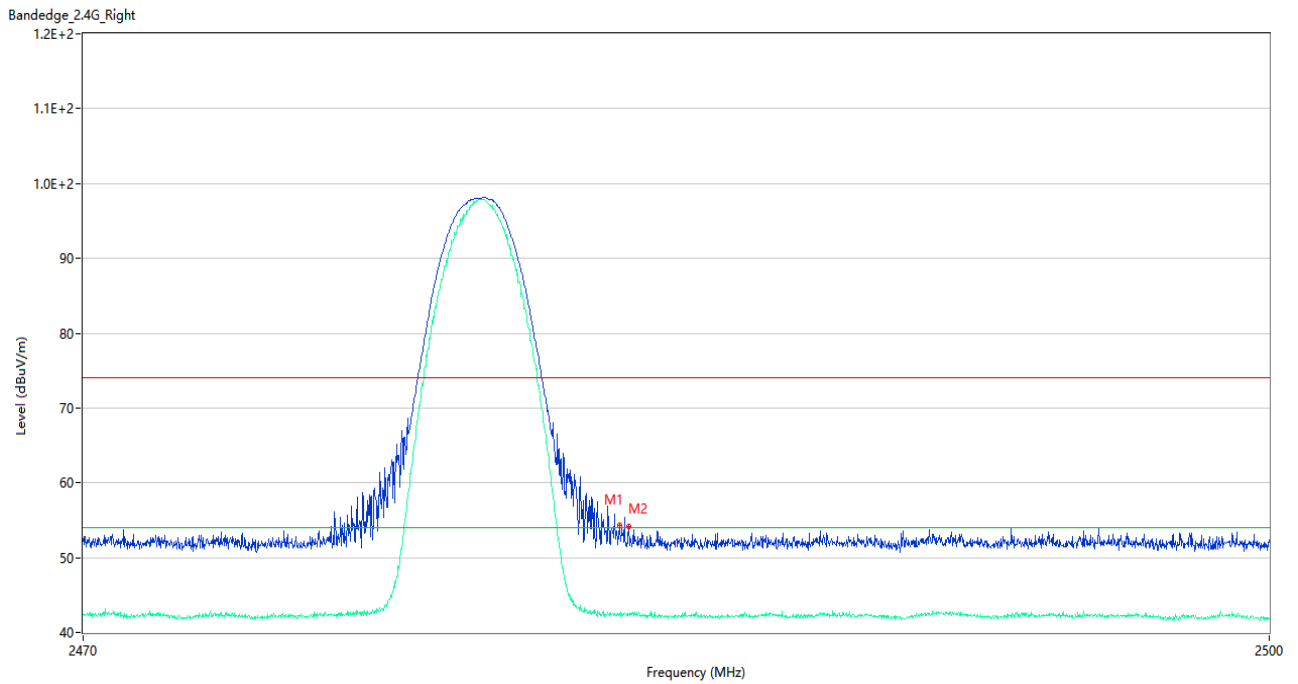
#### Test Data and Plots

##### GFSK LOW CHANNEL



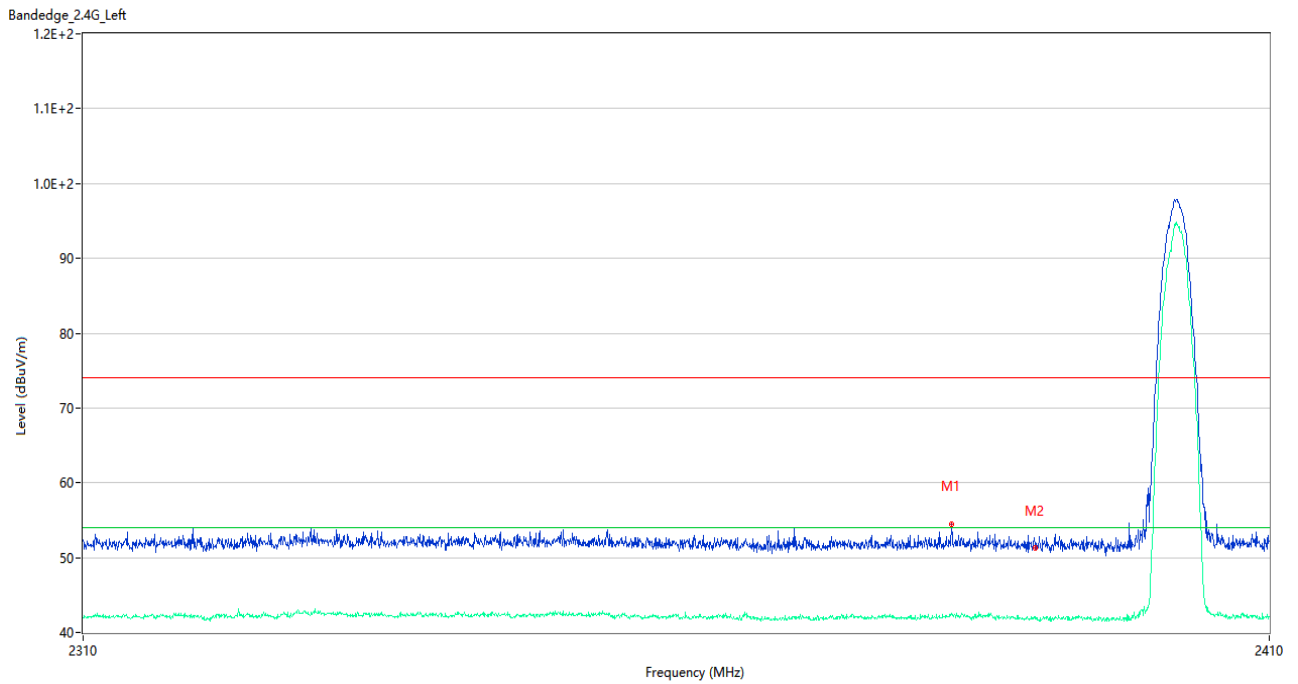
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2346.250	54.04	-0.95	74.0	19.96	Peak	68.00	150	Horizontal	Pass
1**	2346.250	42.40	-0.95	54.0	11.60	AV	68.00	150	Horizontal	Pass
2	2389.950	51.31	-1.82	74.0	22.69	Peak	147.00	200	Horizontal	Pass
2**	2389.950	41.75	-1.82	54.0	12.25	AV	147.00	200	Horizontal	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	2483.515	54.31	-1.10	74.0	19.69	Peak	11.00	150	Horizontal	Pass
1**	2483.515	42.58	-1.10	54.0	11.42	AV	11.00	150	Horizontal	Pass
2	2483.755	54.17	-1.06	74.0	19.83	Peak	0.00	200	Horizontal	Pass
2**	2483.755	42.44	-1.06	54.0	11.56	AV	0.00	200	Horizontal	Pass

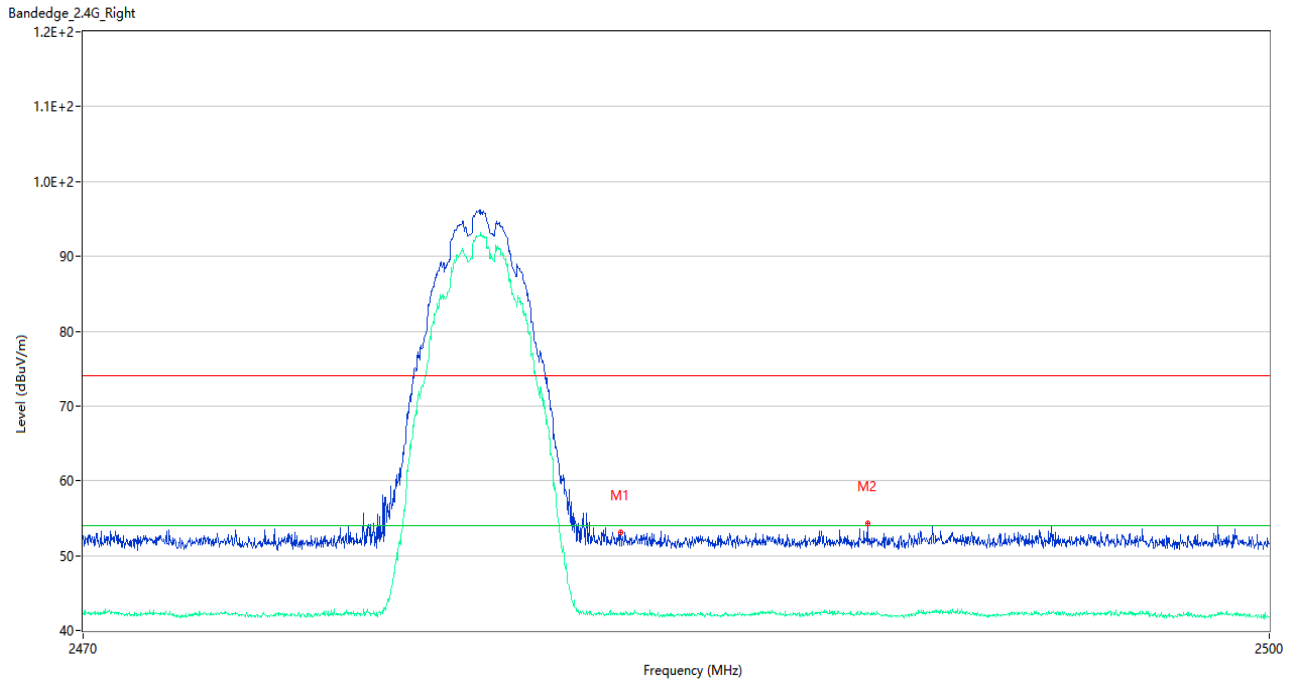
8-DPSK LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2382.800	54.53	-1.38	74.0	19.47	Peak	123.00	100	Horizontal	Pass
1**	2382.800	42.62	-1.38	54.0	11.38	AV	123.00	100	Horizontal	Pass
2	2389.950	51.26	-1.82	74.0	22.74	Peak	279.00	200	Horizontal	Pass
2**	2389.950	42.17	-1.82	54.0	11.83	AV	279.00	200	Horizontal	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	2483.560	53.12	-1.09	74.0	20.88	Peak	166.00	200	Horizontal	Pass
1**	2483.560	42.16	-1.09	54.0	11.84	AV	166.00	200	Horizontal	Pass
2	2489.800	54.26	-0.91	74.0	19.74	Peak	341.00	100	Horizontal	Pass
2**	2489.800	42.35	-0.91	54.0	11.65	AV	341.00	100	Horizontal	Pass

## ANNEX A TEST SETUP PHOTOS

### 1 Radiated Test Photo

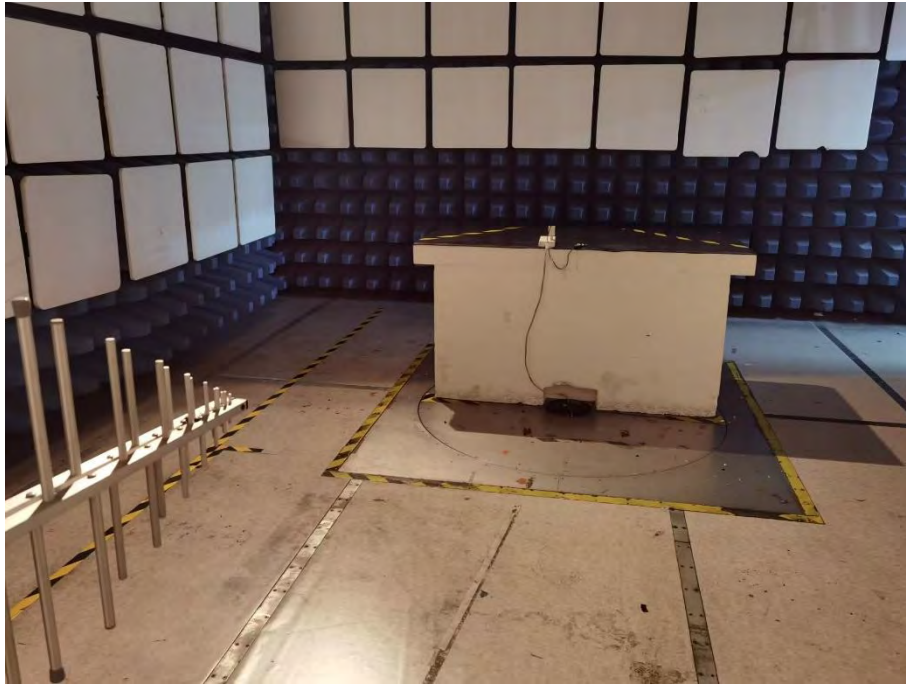
Below 30MHz



Close-up



30MHz-1GHz

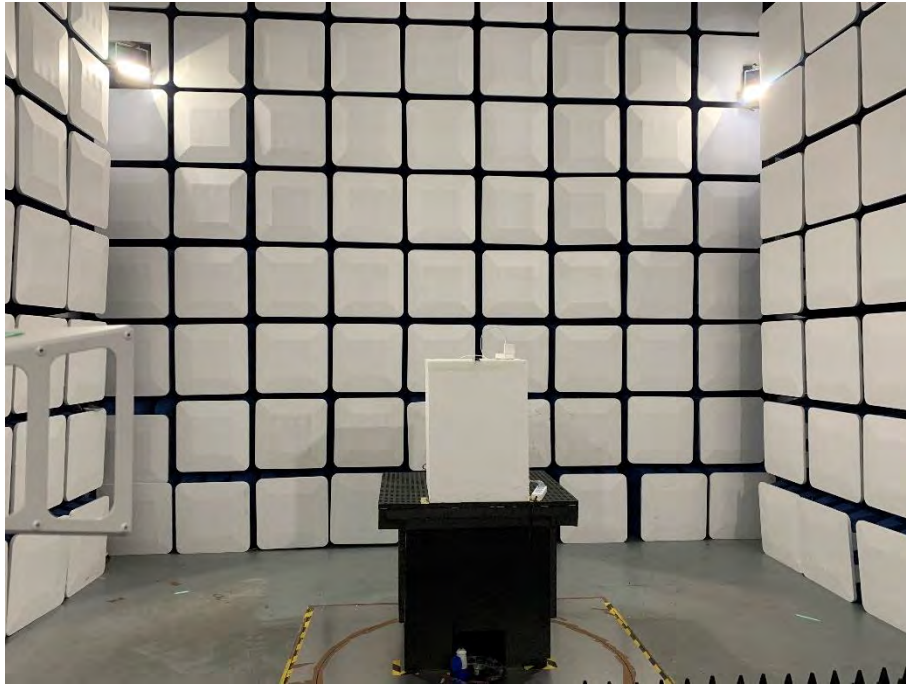


Close-up

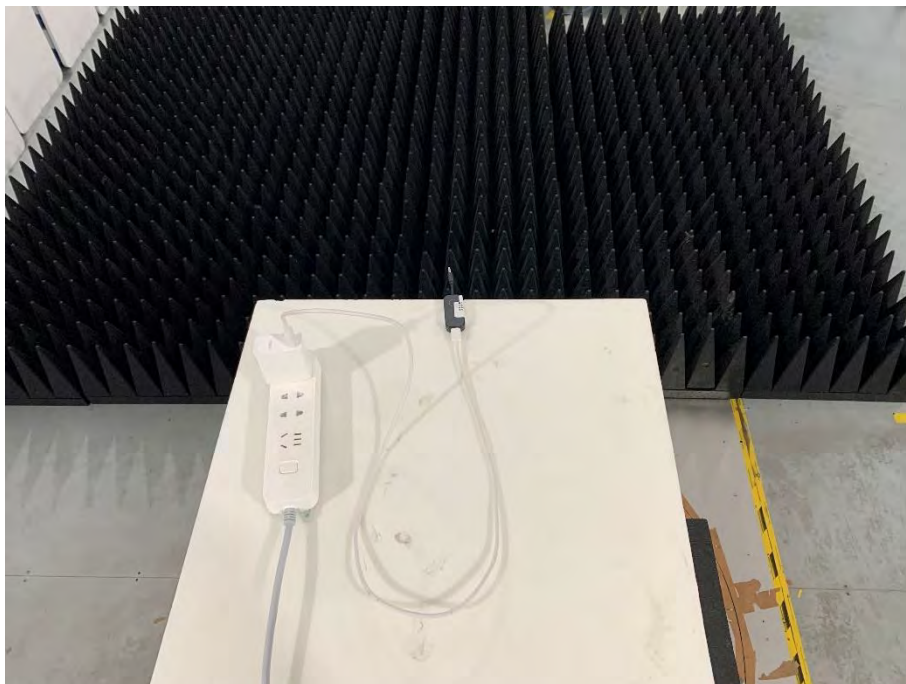




Above 1GHz



Close-up



## 2 Conducted Test Photo

Conducted Test

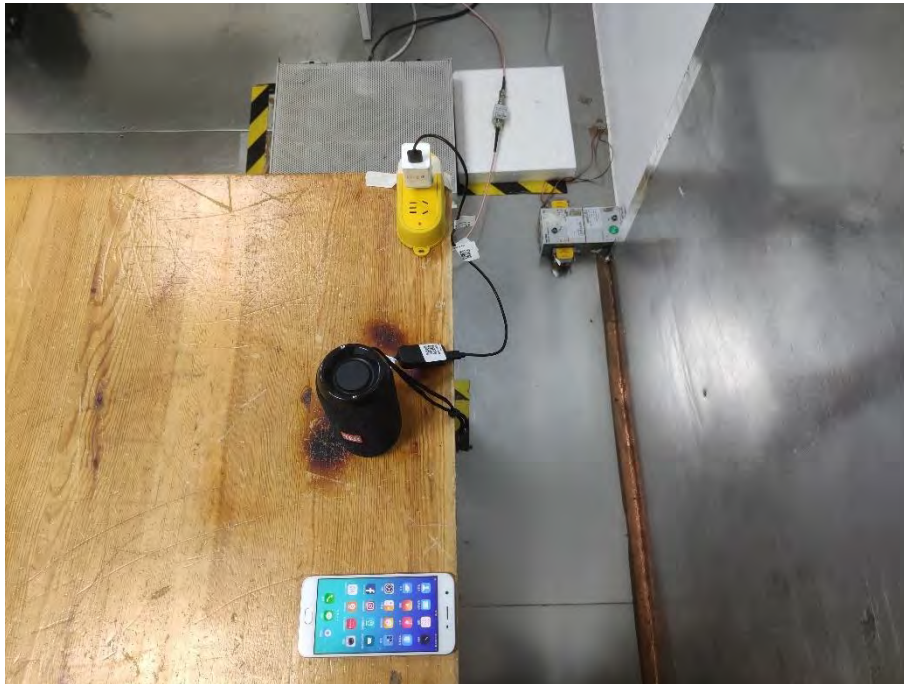


## 3 Conducted Emissions

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





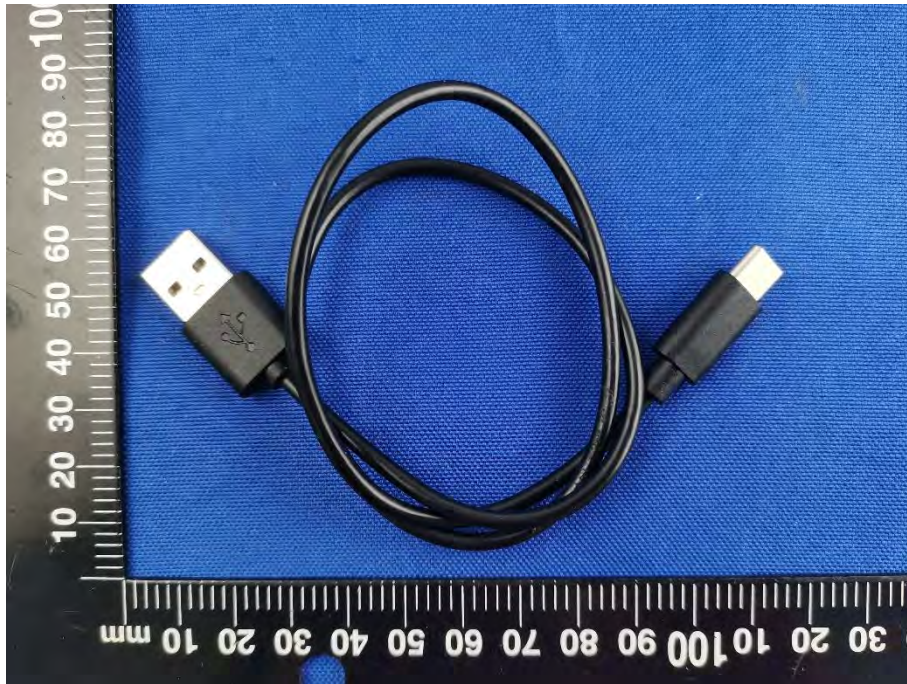
TOP VIEW OF EUT



BOTTOM VIEW OF EUT



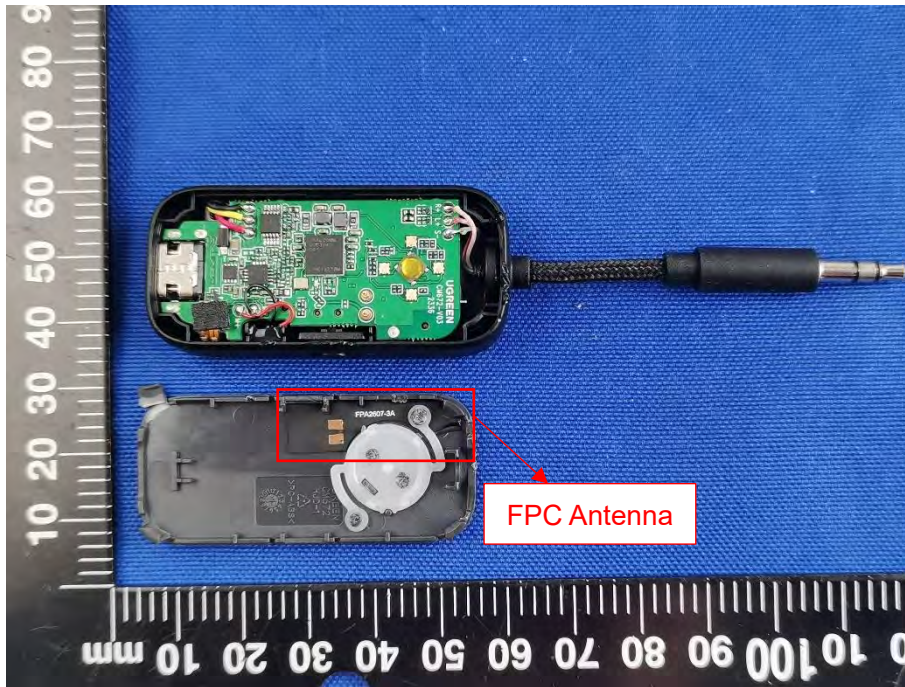
Accessory-Type-C Cable



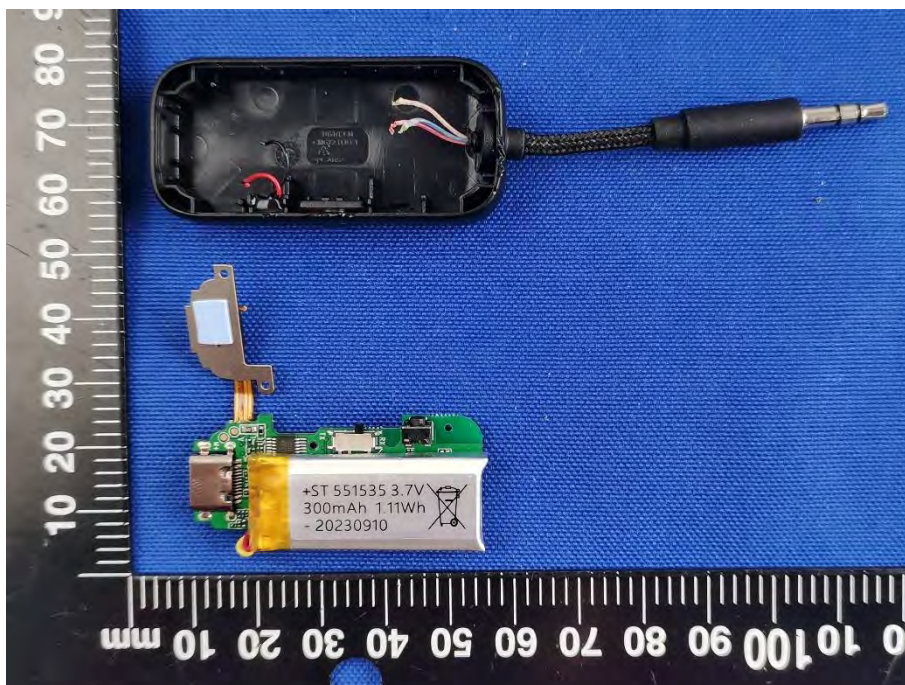


# ANNEX C EUT INTERNAL PHOTOS

EUT UNCOVER VIEW 1

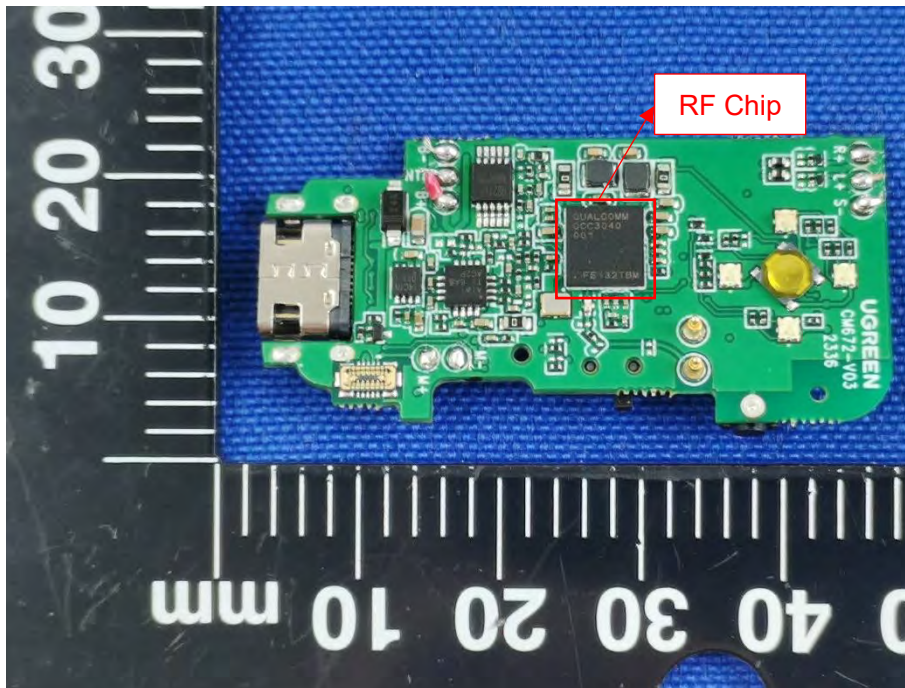


EUT UNCOVER VIEW 2

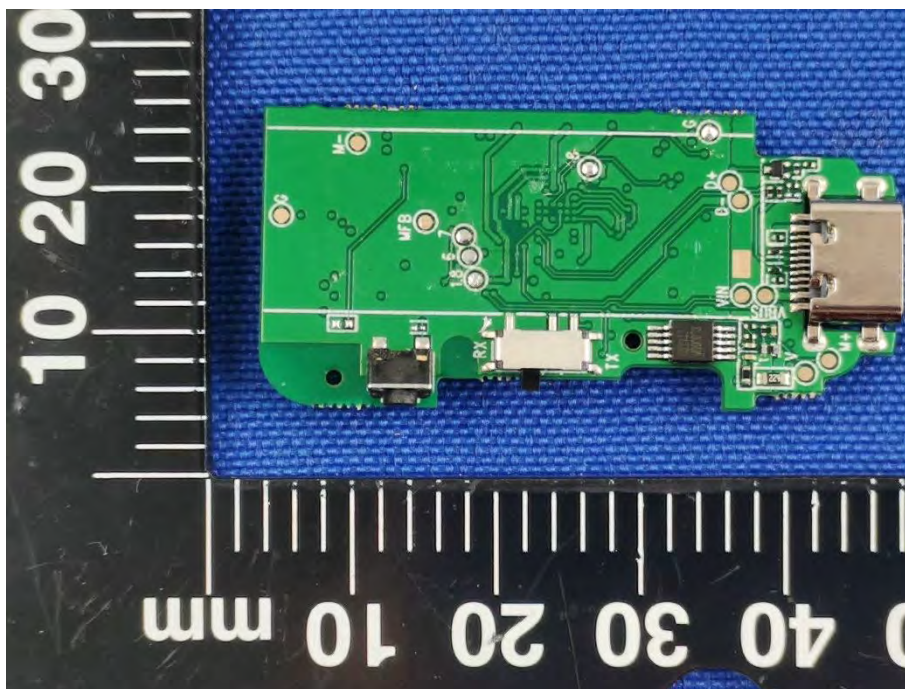




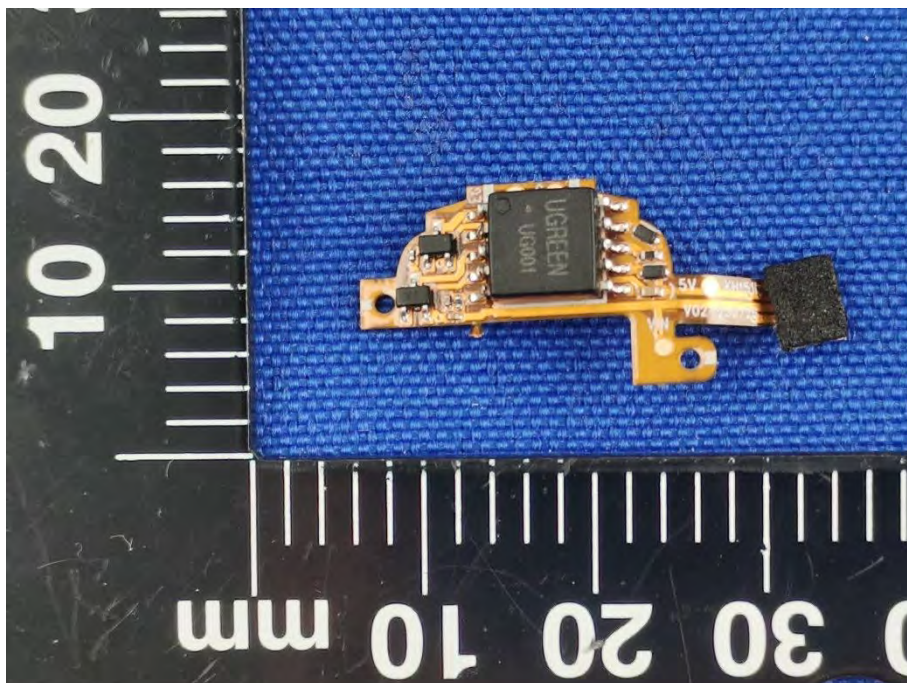
MAIN BOARD TOP VIEW



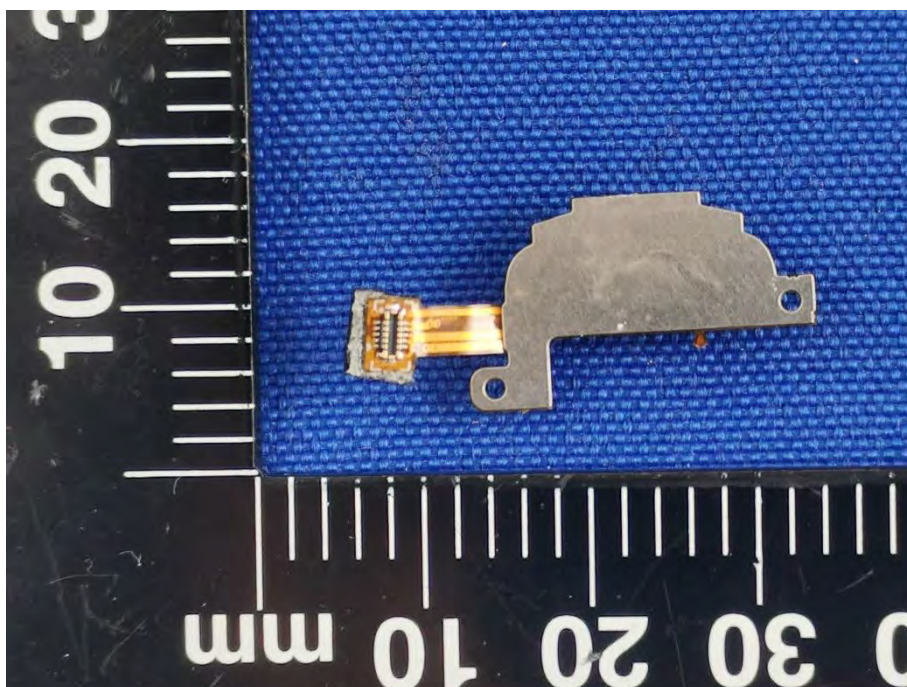
MAIN BOARD REAR VIEW



SECONDARY BOARD 1 TOP VIEW



SECONDARY BOARD 1 REAR VIEW

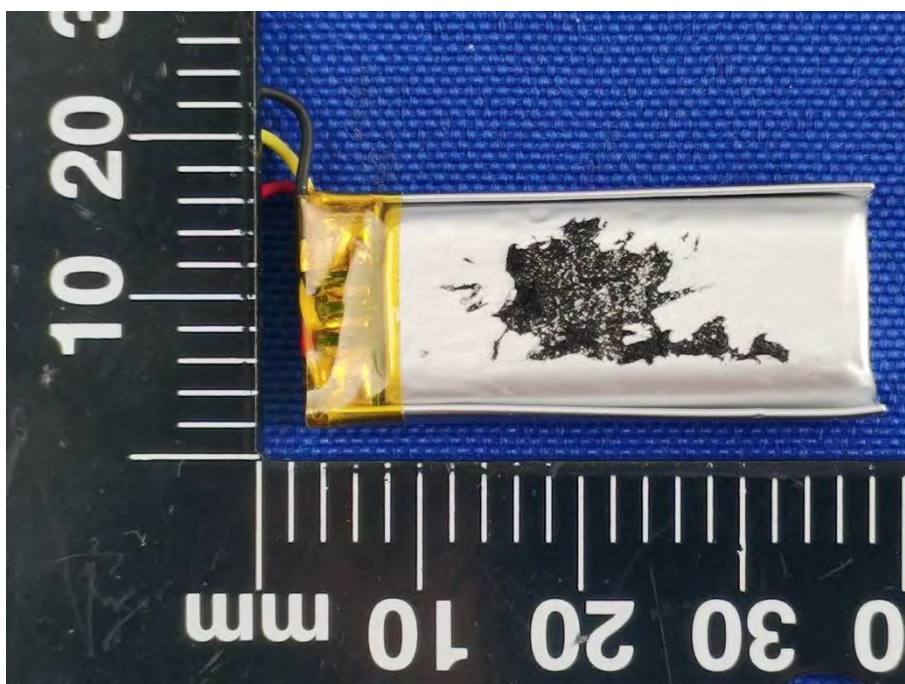




BATTERY (FRONT)



BATTERY (REAR)



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--END OF REPORT--