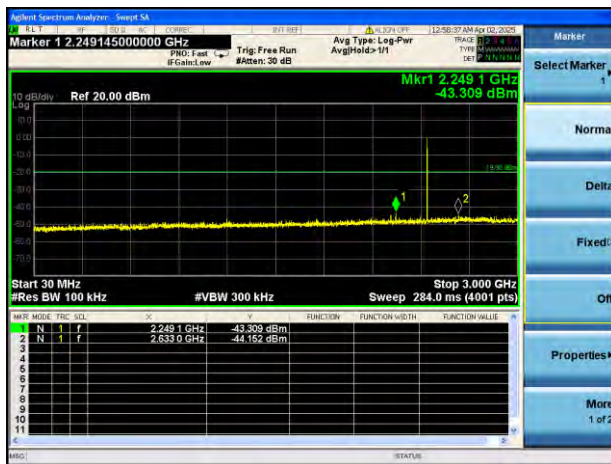
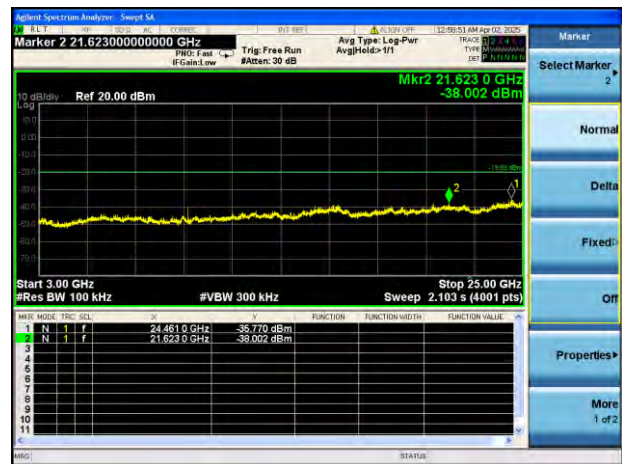


GFSK MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



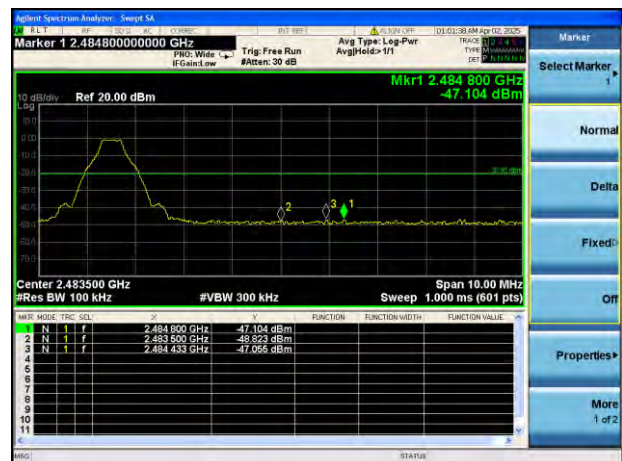
GFSK MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



GFSK HIGH CHANNEL, CARRIER LEVEL



GFSK HIGH CHANNEL, BAND EDGE



GFSK HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



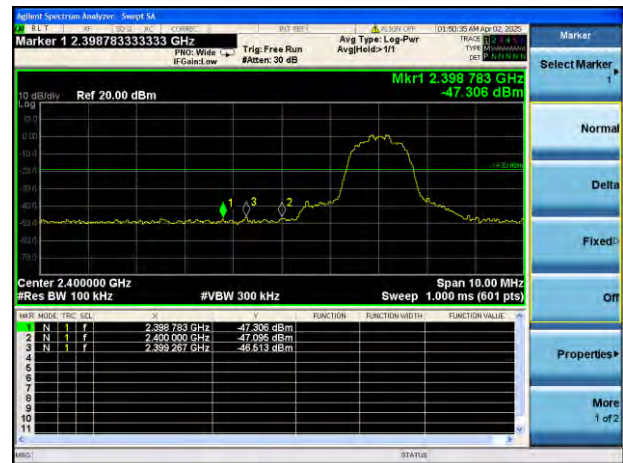
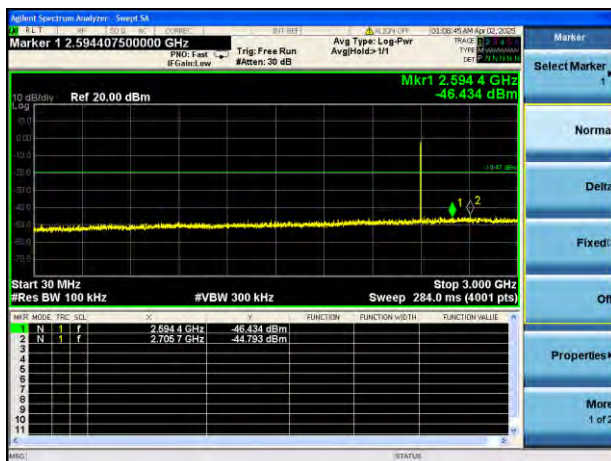
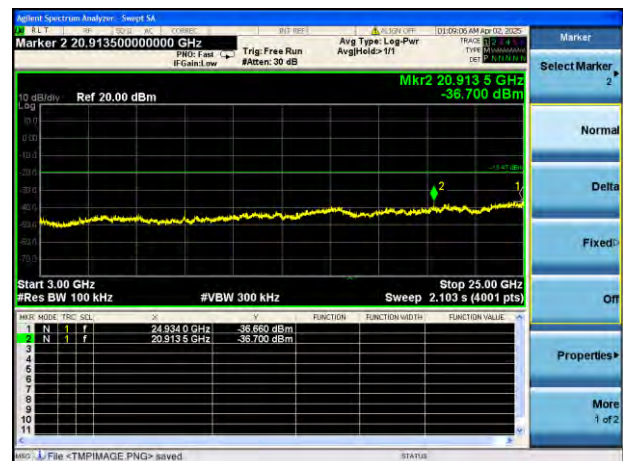
GFSK HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



8-DPSK LOW CHANNEL, CARRIER LEVEL



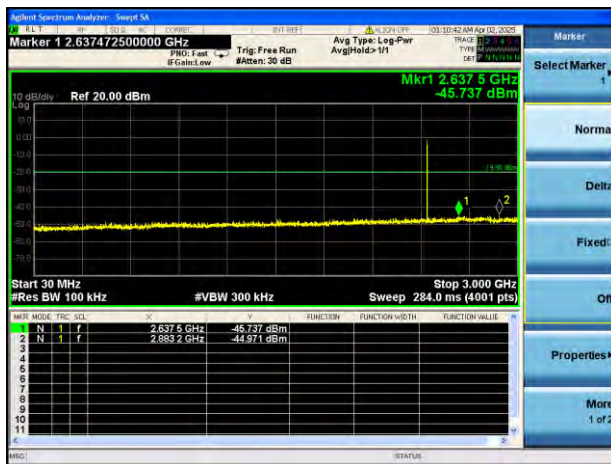
8-DPSK LOW CHANNEL, BAND EDGE

8-DPSK LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz8-DPSK LOW CHANNEL, SPURIOUS
3 GHz ~ 25 GHz

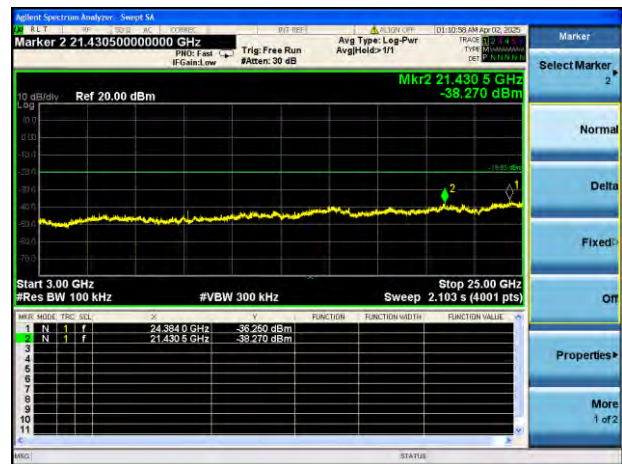
8-DPSK MIDDLE CHANNEL, CARRIER LEVEL



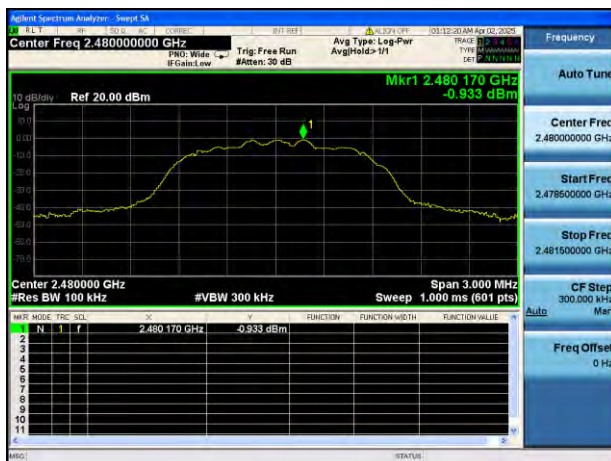
8-DPSK MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



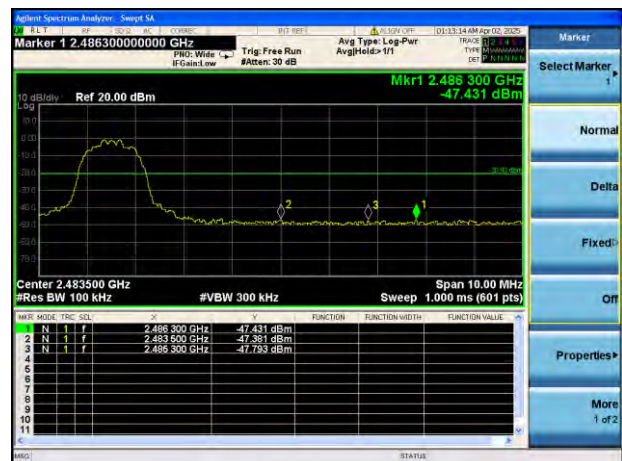
8-DPSK MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



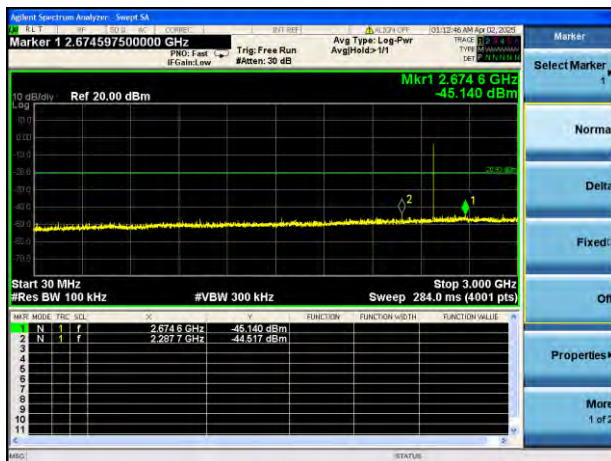
8-DPSK HIGH CHANNEL, CARRIER LEVEL



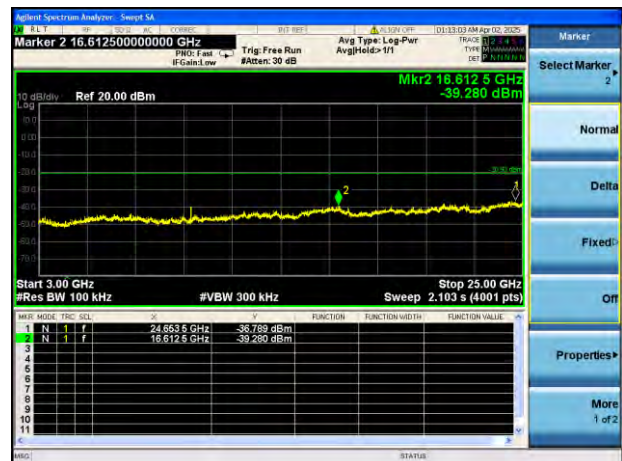
8-DPSK HIGH CHANNEL, BAND EDGE



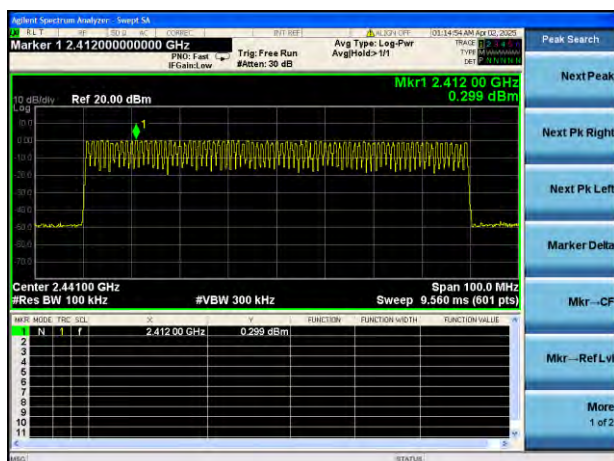
8-DPSK HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



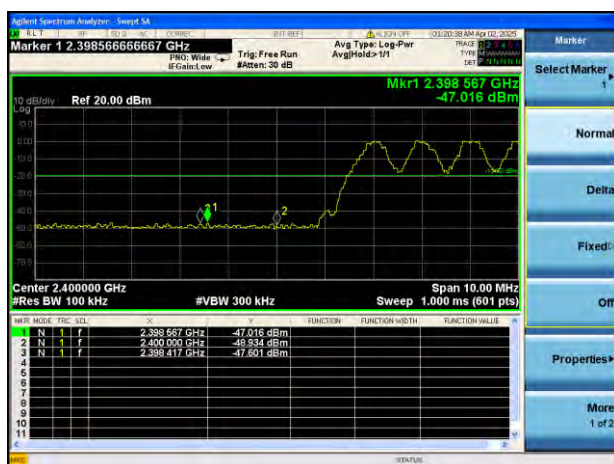
8-DPSK HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



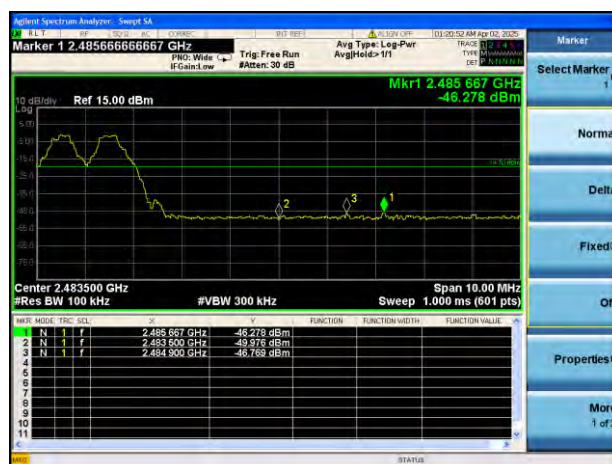
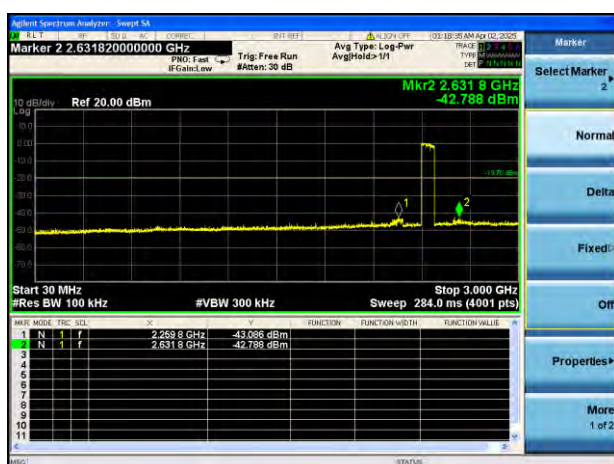
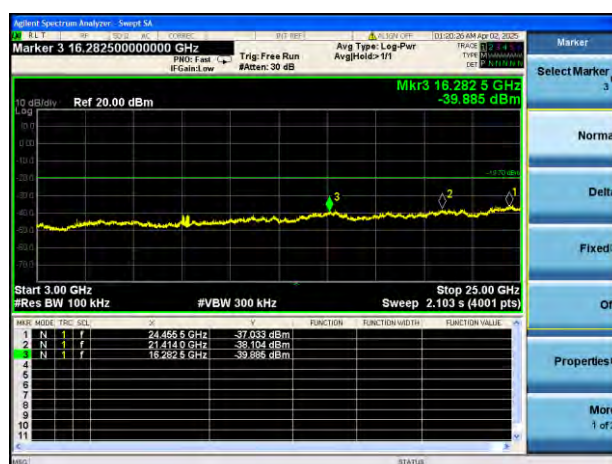
GFSK HOPPING, CARRIER LEVEL



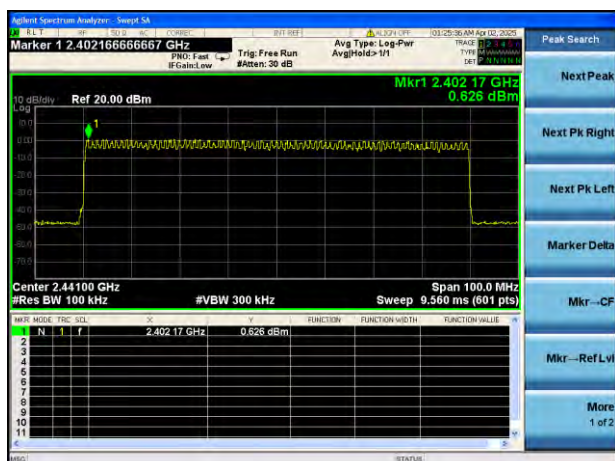
GFSK HOPPING BAND EDGE (LOW)



GFSK HOPPING BAND EDGE (HIGH)

GFSK Hopping Mode, SPURIOUS
30 MHz ~ 3 GHzGFSK Hopping Mode, SPURIOUS
3GHz ~ 25 GHz

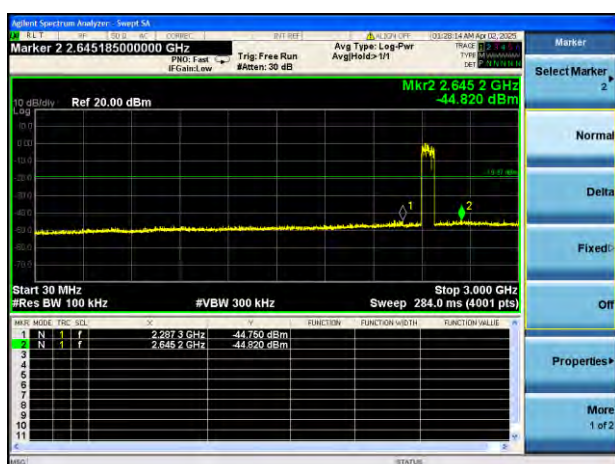
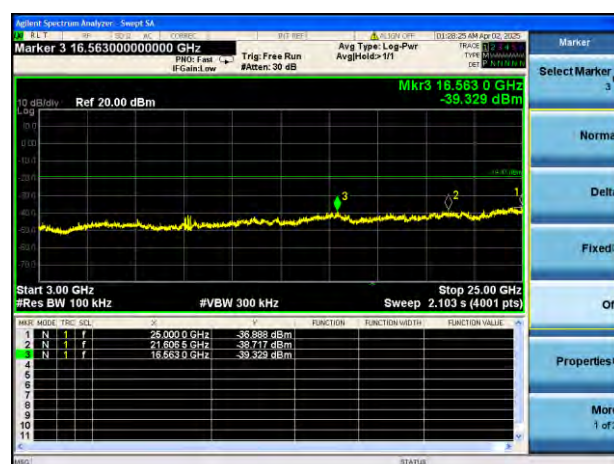
8-DPSK HOPPING, CARRIER LEVEL



8-DPSK Hopping BAND EDGE (LOW)



8-DPSK Hopping BAND EDGE (HIGH)

8-DPSK Hopping Mode, SPURIOUS
30 MHz ~ 3 GHz8-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 μ H/50 Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB μ 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 ¹: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

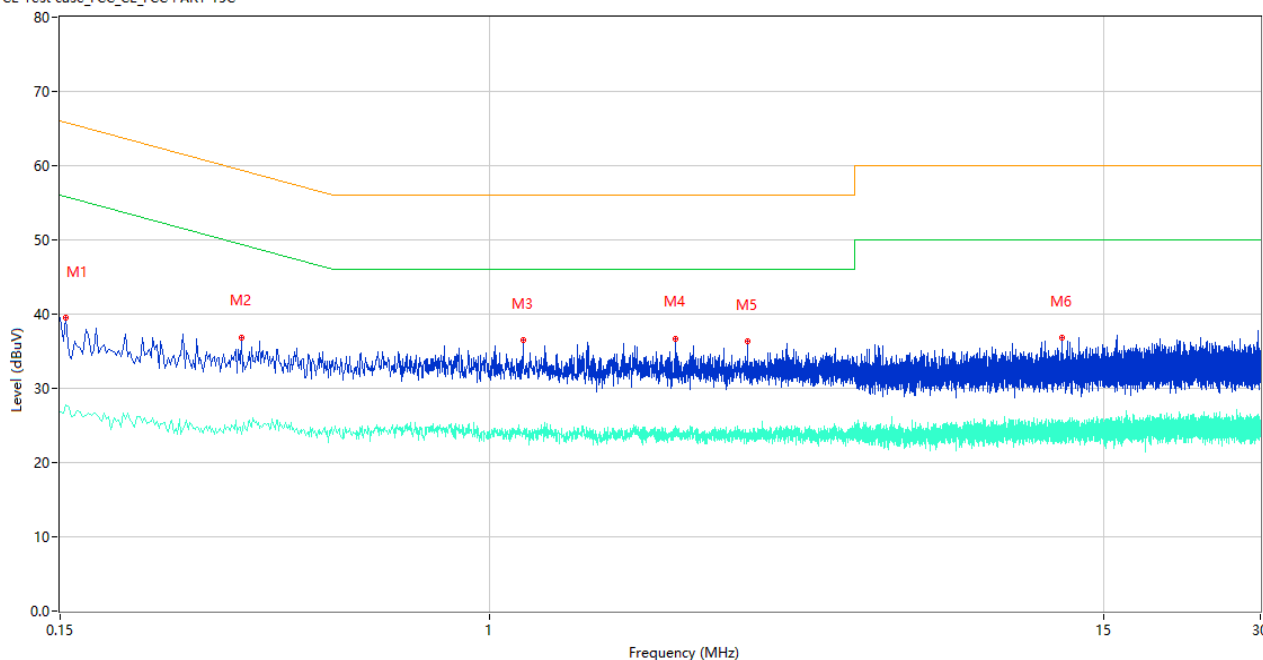
Note ²: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration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

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

Test Data and Plots

PHASE L

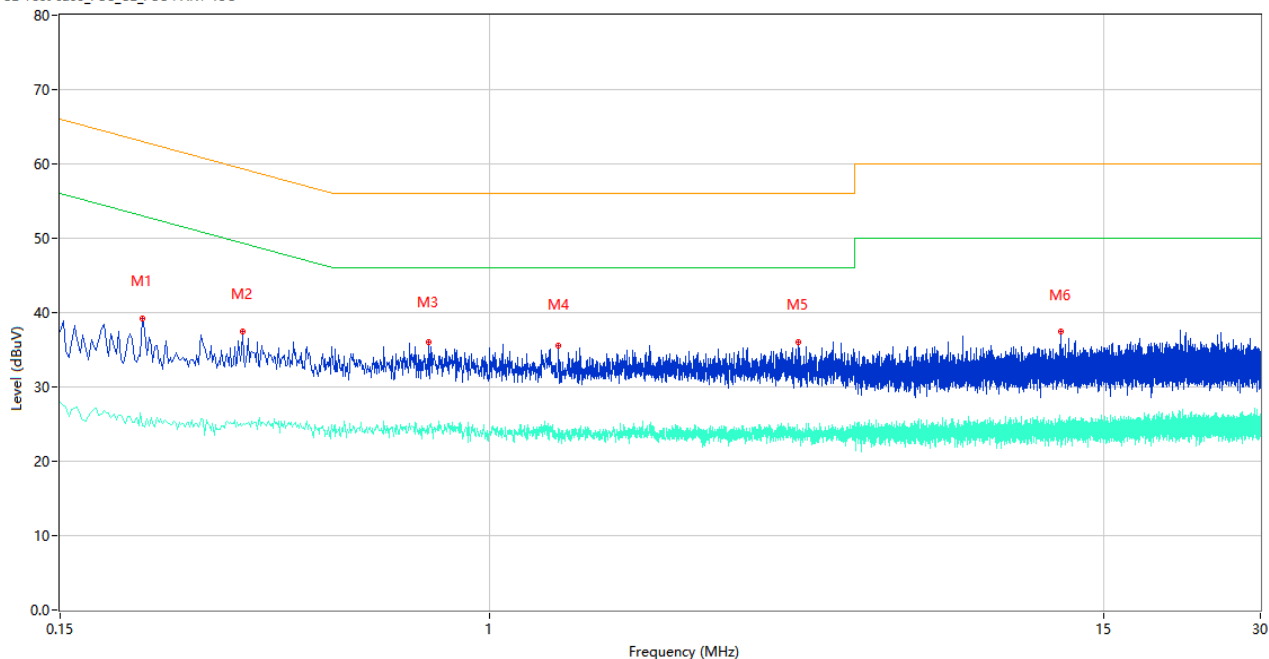
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.154	39.53	9.78	65.78	26.25	Peak	L	Pass
1**	0.154	27.77	9.78	55.78	28.01	AV	L	Pass
2	0.334	36.81	10.44	59.35	22.54	Peak	L	Pass
2**	0.334	23.88	10.44	49.35	25.47	AV	L	Pass
3	1.158	36.57	10.31	56.00	19.43	Peak	L	Pass
3**	1.158	23.86	10.31	46.00	22.14	AV	L	Pass
4	2.264	36.60	10.17	56.00	19.40	Peak	L	Pass
4**	2.264	24.95	10.17	46.00	21.05	AV	L	Pass
5	3.116	36.33	9.90	56.00	19.67	Peak	L	Pass
5**	3.116	23.83	9.90	46.00	22.17	AV	L	Pass
6	12.516	36.80	10.63	60.00	23.20	Peak	L	Pass
6**	12.516	24.71	10.63	50.00	25.29	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	0.216	39.28	9.77	62.97	23.69	Peak	N	Pass
1**	0.216	24.70	9.77	52.97	28.27	AV	N	Pass
2	0.336	37.47	10.48	59.30	21.83	Peak	N	Pass
2**	0.336	24.86	10.48	49.30	24.44	AV	N	Pass
3	0.764	35.99	10.28	56.00	20.01	Peak	N	Pass
3**	0.764	24.20	10.28	46.00	21.80	AV	N	Pass
4	1.352	35.49	10.00	56.00	20.51	Peak	N	Pass
4**	1.352	24.37	10.00	46.00	21.63	AV	N	Pass
5	3.902	36.05	10.29	56.00	19.95	Peak	N	Pass
5**	3.902	22.93	10.29	46.00	23.07	AV	N	Pass
6	12.412	37.42	10.66	60.00	22.58	Peak	N	Pass
6**	12.412	23.80	10.66	50.00	26.20	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 $f \geq 1$ 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 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 was tested in Link mode and the charging.

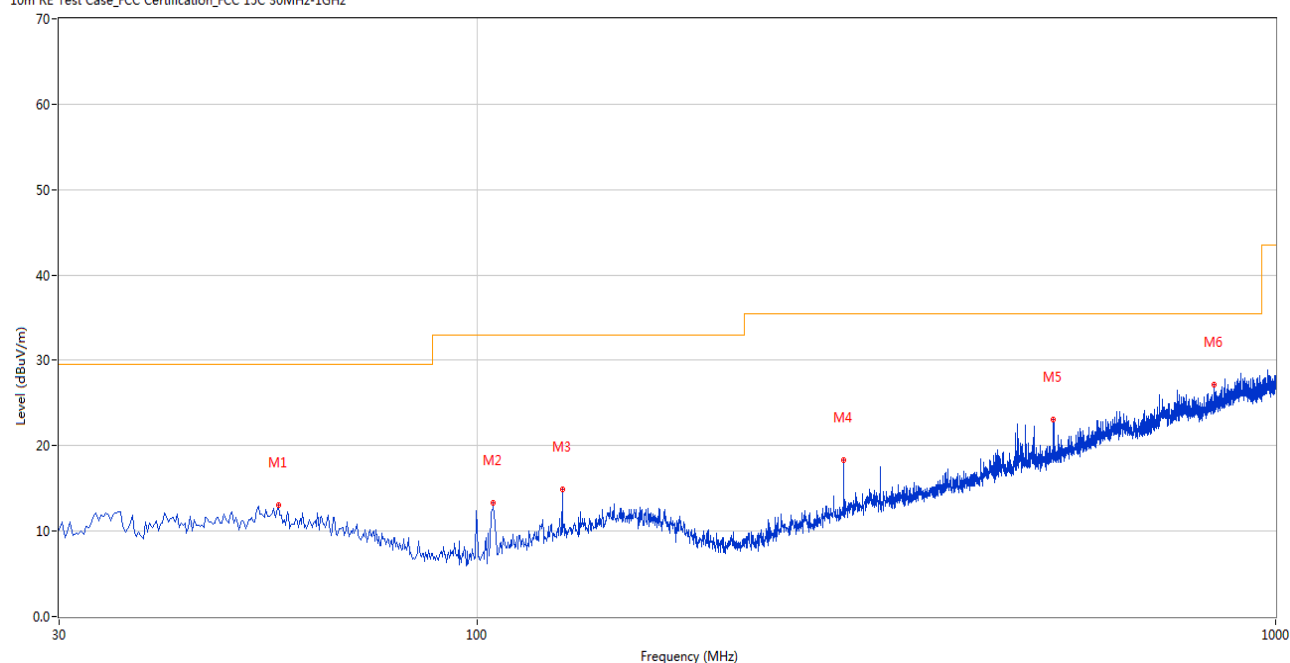
Note ⁴: Results (dBuV/m) = Original reading level of Spectrum Analyzer (dBuV/m) + Factor (dB)

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

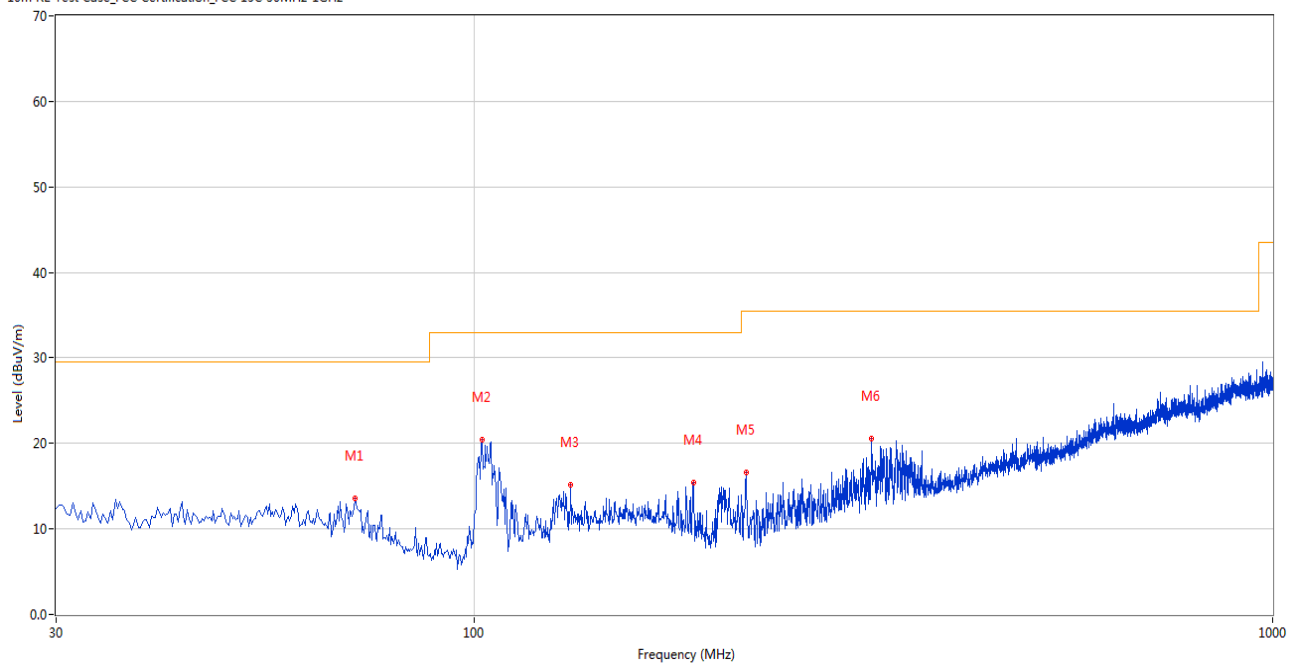
10m RE Test Case_FCC Certification_FCC 15C 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	56.426	13.07	-26.26	29.5	16.43	Peak	7.00	200	Horizontal	Pass
2	104.914	13.34	-29.73	33.0	19.66	Peak	202.00	200	Horizontal	Pass
3	127.946	14.94	-27.27	33.0	18.06	Peak	0.00	200	Horizontal	Pass
4	287.956	18.32	-25.18	35.5	17.18	Peak	239.00	200	Horizontal	Pass
5	527.243	23.10	-18.84	35.5	12.40	Peak	220.00	200	Horizontal	Pass
6	836.596	27.12	-12.49	35.5	8.38	Peak	10.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

10m RE Test Case_FCC Certification_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	70.972	13.55	-28.38	29.5	15.95	Peak	212.00	200	Vertical	Pass
2	102.489	20.42	-30.18	33.0	12.58	Peak	120.00	100	Vertical	Pass
3	132.309	15.19	-26.91	33.0	17.81	Peak	307.00	100	Vertical	Pass
4	188.313	15.40	-28.35	33.0	17.60	Peak	166.00	100	Vertical	Pass
5	219.103	16.63	-28.88	35.5	18.87	Peak	157.00	100	Vertical	Pass
6	314.866	20.51	-24.34	35.5	14.99	Peak	250.00	100	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)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1501.700	42.77	74.0	31.23	Peak	10.00	300	Horizontal	Pass
1**	1501.700	32.82	54.0	21.18	AV	10.00	300	Horizontal	Pass
2	2401.900	95.20	74.0	-21.20	Peak	45.00	100	Horizontal	N/A
2**	2401.900	94.57	54.0	-40.57	AV	45.00	100	Horizontal	N/A
3	4935.750	49.42	74.0	24.58	Peak	191.00	150	Horizontal	Pass
3**	4935.750	39.36	54.0	14.64	AV	191.00	150	Horizontal	Pass
4	9608.112	51.39	74.0	22.61	Peak	100.00	100	Horizontal	Pass
4**	9608.112	48.96	54.0	5.04	AV	100.00	100	Horizontal	Pass
5	12967.349	53.27	74.0	20.73	Peak	181.00	400	Horizontal	Pass
5**	12967.349	43.34	54.0	10.66	AV	181.00	400	Horizontal	Pass
6	14456.776	54.87	74.0	19.13	Peak	360.00	100	Horizontal	Pass
6**	14456.776	45.87	54.0	8.13	AV	360.00	100	Horizontal	Pass

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1162.100	47.13	74.0	26.87	Peak	89.00	200	Vertical	Pass
1**	1162.100	36.10	54.0	17.90	AV	89.00	200	Vertical	Pass
2	2401.800	95.98	74.0	-21.98	Peak	205.00	150	Vertical	N/A
2**	2401.800	95.17	54.0	-41.17	AV	205.00	150	Vertical	N/A
3	4804.500	47.86	74.0	26.14	Peak	189.00	100	Vertical	Pass
3**	4804.500	42.82	54.0	11.18	AV	189.00	100	Vertical	Pass
4	9608.112	49.85	74.0	24.15	Peak	83.00	100	Vertical	Pass
4**	9608.112	43.66	54.0	10.34	AV	83.00	100	Vertical	Pass
5	12809.062	53.07	74.0	20.93	Peak	70.00	100	Vertical	Pass
5**	12809.062	42.35	54.0	11.65	AV	70.00	100	Vertical	Pass
6	17102.775	55.32	74.0	18.68	Peak	294.00	400	Vertical	Pass
6**	17102.775	45.64	54.0	8.36	AV	294.00	400	Vertical	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1328.700	43.81	74.0	30.19	Peak	203.00	200	Horizontal	Pass
1**	1328.700	32.65	54.0	21.35	AV	203.00	200	Horizontal	Pass
2	2440.900	92.46	74.0	-18.46	Peak	52.00	100	Horizontal	N/A
2**	2440.900	91.89	54.0	-37.89	AV	52.00	100	Horizontal	N/A
3	4814.000	49.72	74.0	24.28	Peak	230.00	100	Horizontal	Pass
3**	4814.000	39.44	54.0	14.56	AV	230.00	100	Horizontal	Pass
4	6907.750	53.73	74.0	20.27	Peak	306.00	100	Horizontal	Pass
4**	6907.750	44.18	54.0	9.82	AV	306.00	100	Horizontal	Pass
5	9764.150	54.13	74.0	19.87	Peak	109.00	100	Horizontal	Pass
5**	9764.150	51.35	54.0	2.65	AV	109.00	100	Horizontal	N/A
6	17022.713	54.88	74.0	19.12	Peak	55.00	400	Horizontal	Pass
6**	17022.713	45.74	54.0	8.26	AV	55.00	400	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1162.900	50.08	74.0	23.92	Peak	96.00	400	Vertical	Pass
1**	1162.900	39.26	54.0	14.74	AV	96.00	400	Vertical	Pass
2	2440.900	93.35	74.0	-19.35	Peak	194.00	100	Vertical	N/A
2**	2440.900	92.77	54.0	-38.77	AV	194.00	100	Vertical	N/A
3	4821.750	49.34	74.0	24.66	Peak	92.00	150	Vertical	Pass
3**	4821.750	39.76	54.0	14.24	AV	92.00	150	Vertical	Pass
4	9764.388	49.87	74.0	24.13	Peak	71.00	100	Vertical	Pass
4**	9764.388	46.79	54.0	7.21	AV	71.00	100	Vertical	N/A
5	12988.613	52.90	74.0	21.10	Peak	48.00	400	Vertical	Pass
5**	12988.613	43.42	54.0	10.58	AV	48.00	400	Vertical	Pass
6	16852.613	55.46	74.0	18.54	Peak	182.00	200	Vertical	Pass
6**	16852.613	46.37	54.0	7.63	AV	182.00	200	Vertical	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1569.600	42.39	74.0	31.61	Peak	144.00	100	Horizontal	Pass
1**	1569.600	32.00	54.0	22.00	AV	144.00	100	Horizontal	Pass
2	2480.100	89.81	74.0	-15.81	Peak	45.00	150	Horizontal	N/A
2**	2480.100	89.52	54.0	-35.52	AV	45.00	150	Horizontal	N/A
3	4876.250	49.25	74.0	24.75	Peak	170.00	100	Horizontal	Pass
3**	4876.250	40.18	54.0	13.82	AV	170.00	100	Horizontal	Pass
4	7879.250	53.53	74.0	20.47	Peak	327.00	300	Horizontal	Pass
4**	7879.250	43.50	54.0	10.50	AV	327.00	300	Horizontal	Pass
5	9920.187	53.93	74.0	20.07	Peak	107.00	100	Horizontal	Pass
5**	9920.187	51.24	54.0	2.76	AV	107.00	100	Horizontal	N/A
6	14450.213	55.27	74.0	18.73	Peak	360.00	300	Horizontal	Pass
6**	14450.213	45.94	54.0	8.06	AV	360.00	300	Horizontal	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1332.900	47.11	74.0	26.89	Peak	148.00	300	Vertical	Pass
1**	1332.900	39.73	54.0	14.27	AV	148.00	300	Vertical	Pass
2	2480.100	87.47	74.0	-13.47	Peak	219.00	150	Vertical	N/A
2**	2480.100	87.19	54.0	-33.19	AV	219.00	150	Vertical	N/A
3	4812.250	49.00	74.0	25.00	Peak	264.00	100	Vertical	Pass
3**	4812.250	40.14	54.0	13.86	AV	264.00	100	Vertical	Pass
4	9920.425	49.40	74.0	24.60	Peak	111.00	100	Vertical	Pass
4**	9920.425	47.17	54.0	6.83	AV	111.00	100	Vertical	N/A
5	12013.987	53.26	74.0	20.74	Peak	45.00	400	Vertical	Pass
5**	12013.987	42.35	54.0	11.65	AV	45.00	400	Vertical	Pass
6	15182.325	54.87	74.0	19.13	Peak	360.00	300	Vertical	Pass
6**	15182.325	45.02	54.0	8.98	AV	360.00	300	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1235.500	42.17	74.0	31.83	Peak	253.00	300	Horizontal	Pass
1**	1235.500	32.04	54.0	21.96	AV	253.00	300	Horizontal	Pass
2	2402.100	95.95	74.0	-21.95	Peak	57.00	150	Horizontal	N/A
2**	2402.100	93.01	54.0	-39.01	AV	57.00	150	Horizontal	N/A
3	4888.000	49.41	74.0	24.59	Peak	208.00	150	Horizontal	Pass
3**	4888.000	40.08	54.0	13.92	AV	208.00	150	Horizontal	Pass
4	9608.112	51.29	74.0	22.71	Peak	116.00	100	Horizontal	Pass
4**	9608.112	48.54	54.0	5.46	AV	116.00	100	Horizontal	N/A
5	12766.012	53.47	74.0	20.53	Peak	358.00	100	Horizontal	Pass
5**	12766.012	42.80	54.0	11.20	AV	358.00	100	Horizontal	Pass
6	17034.262	55.30	74.0	18.70	Peak	252.00	200	Horizontal	Pass
6**	17034.262	46.48	54.0	7.52	AV	252.00	200	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1331.200	46.63	74.0	27.37	Peak	290.00	400	Vertical	Pass
1**	1331.200	34.99	54.0	19.01	AV	290.00	400	Vertical	Pass
2	2402.000	96.83	74.0	-22.83	Peak	217.00	150	Vertical	N/A
2**	2402.000	93.84	54.0	-39.84	AV	217.00	150	Vertical	N/A
3	4803.750	49.16	74.0	24.84	Peak	113.00	100	Vertical	Pass
3**	4803.750	40.40	54.0	13.60	AV	113.00	100	Vertical	Pass
4	7967.250	53.48	74.0	20.52	Peak	95.00	400	Vertical	Pass
4**	7967.250	44.73	54.0	9.27	AV	95.00	400	Vertical	Pass
5	12976.275	53.22	74.0	20.78	Peak	180.00	400	Vertical	Pass
5**	12976.275	43.74	54.0	10.26	AV	180.00	400	Vertical	Pass
6	14457.562	55.33	74.0	18.67	Peak	134.00	400	Vertical	Pass
6**	14457.562	46.03	54.0	7.97	AV	134.00	400	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1484.300	42.58	74.0	31.42	Peak	9.00	200	Horizontal	Pass
1**	1484.300	32.92	54.0	21.08	AV	9.00	200	Horizontal	Pass
2	2441.000	93.29	74.0	-19.29	Peak	45.00	100	Horizontal	N/A
2**	2441.000	89.93	54.0	-35.93	AV	45.00	100	Horizontal	N/A
3	4908.500	49.21	74.0	24.79	Peak	94.00	100	Horizontal	Pass
3**	4908.500	40.02	54.0	13.98	AV	94.00	100	Horizontal	Pass
4	7677.750	53.20	74.0	20.80	Peak	328.00	100	Horizontal	Pass
4**	7677.750	43.15	54.0	10.85	AV	328.00	100	Horizontal	Pass
5	9763.912	54.30	74.0	19.70	Peak	93.00	100	Horizontal	Pass
5**	9763.912	51.47	54.0	2.53	AV	93.00	100	Horizontal	N/A
6	16993.574	55.09	74.0	18.91	Peak	114.00	300	Horizontal	Pass
6**	16993.574	46.53	54.0	7.47	AV	114.00	300	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1327.000	46.95	74.0	27.05	Peak	63.00	100	Vertical	Pass
1**	1327.000	34.59	54.0	19.41	AV	63.00	100	Vertical	Pass
2	2441.000	91.11	74.0	-17.11	Peak	214.00	100	Vertical	N/A
2**	2441.000	88.64	54.0	-34.64	AV	214.00	100	Vertical	N/A
3	4842.250	49.09	74.0	24.91	Peak	111.00	150	Vertical	Pass
3**	4842.250	39.90	54.0	14.10	AV	111.00	150	Vertical	Pass
4	6893.750	53.93	74.0	20.07	Peak	288.00	200	Vertical	Pass
4**	6893.750	45.16	54.0	8.84	AV	288.00	200	Vertical	Pass
5	12531.262	53.31	74.0	20.69	Peak	324.00	200	Vertical	Pass
5**	12531.262	43.43	54.0	10.57	AV	324.00	200	Vertical	Pass
6	17016.412	55.24	74.0	18.76	Peak	244.00	300	Vertical	Pass
6**	17016.412	46.16	54.0	7.84	AV	244.00	300	Vertical	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1327.200	42.55	74.0	31.45	Peak	197.00	200	Horizontal	Pass
1**	1327.200	32.75	54.0	21.25	AV	197.00	200	Horizontal	Pass
2	2479.900	90.30	74.0	-16.30	Peak	45.00	150	Horizontal	N/A
2**	2479.900	87.17	54.0	-33.17	AV	45.00	150	Horizontal	N/A
3	4842.500	49.72	74.0	24.28	Peak	271.00	100	Horizontal	Pass
3**	4842.500	40.69	54.0	13.31	AV	271.00	100	Horizontal	Pass
4	7138.000	53.36	74.0	20.64	Peak	55.00	200	Horizontal	Pass
4**	7138.000	42.50	54.0	11.50	AV	55.00	200	Horizontal	Pass
5	9920.187	53.80	74.0	20.20	Peak	101.00	100	Horizontal	Pass
5**	9920.187	51.26	54.0	2.74	AV	101.00	100	Horizontal	N/A
6	16992.525	55.20	74.0	18.80	Peak	152.00	400	Horizontal	Pass
6**	16992.525	46.49	54.0	7.51	AV	152.00	400	Horizontal	Pass

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

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1333.500	44.13	74.0	29.87	Peak	56.00	400	Vertical	Pass
1**	1333.500	33.64	54.0	20.36	AV	56.00	400	Vertical	Pass
2	2479.900	88.17	74.0	-14.17	Peak	207.00	150	Vertical	N/A
2**	2479.900	85.27	54.0	-31.27	AV	207.00	150	Vertical	N/A
3	4805.250	49.28	74.0	24.72	Peak	111.00	150	Vertical	Pass
3**	4805.250	40.16	54.0	13.84	AV	111.00	150	Vertical	Pass
4	7974.250	53.64	74.0	20.36	Peak	0.00	100	Vertical	Pass
4**	7974.250	43.72	54.0	10.28	AV	0.00	100	Vertical	Pass
5	12449.325	52.96	74.0	21.04	Peak	225.00	300	Vertical	Pass
5**	12449.325	43.99	54.0	10.01	AV	225.00	300	Vertical	Pass
6	17076.787	55.44	74.0	18.56	Peak	358.00	300	Vertical	Pass
6**	17076.787	45.03	54.0	8.97	AV	358.00	300	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 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

GFSK LOW CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2344.650	55.07	74.0	18.93	Peak	110.00	150	Vertical	Pass
1**	2344.650	43.57	54.0	10.43	AV	110.00	150	Vertical	Pass
2	2389.950	53.36	74.0	20.64	Peak	329.00	100	Vertical	Pass
2**	2389.950	43.47	54.0	10.53	AV	329.00	100	Vertical	Pass

GFSK HIGH CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.560	54.37	74.0	19.63	Peak	342.00	100	Vertical	Pass
1**	2483.560	43.44	54.0	10.56	AV	342.00	100	Vertical	Pass
2	2491.750	55.73	74.0	18.27	Peak	9.00	200	Vertical	Pass
2**	2491.750	44.03	54.0	9.97	AV	9.00	200	Vertical	Pass

8-DPSK LOW CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2339.400	55.45	74.0	18.55	Peak	278.00	150	Vertical	Pass
1**	2339.400	43.84	54.0	10.16	AV	278.00	150	Vertical	Pass
2	2389.950	53.13	74.0	20.87	Peak	91.00	100	Vertical	Pass
2**	2389.950	43.26	54.0	10.74	AV	91.00	100	Vertical	Pass

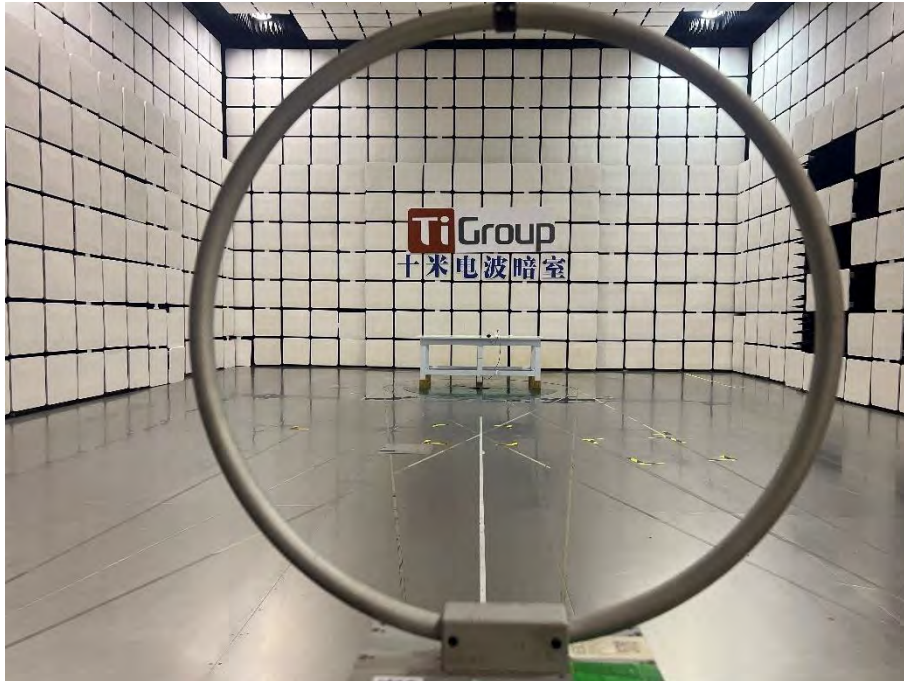
8-DPSK HIGH CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.575	54.12	74.0	19.88	Peak	209.00	150	Vertical	Pass
1**	2483.575	43.48	54.0	10.52	AV	209.00	150	Vertical	Pass
2	2489.470	55.61	74.0	18.39	Peak	240.00	100	Vertical	Pass
2**	2489.470	43.96	54.0	10.04	AV	240.00	100	Vertical	Pass

ANNEX A TEST SETUP PHOTOS

1 Radiated Test Photo

Below 30MHz



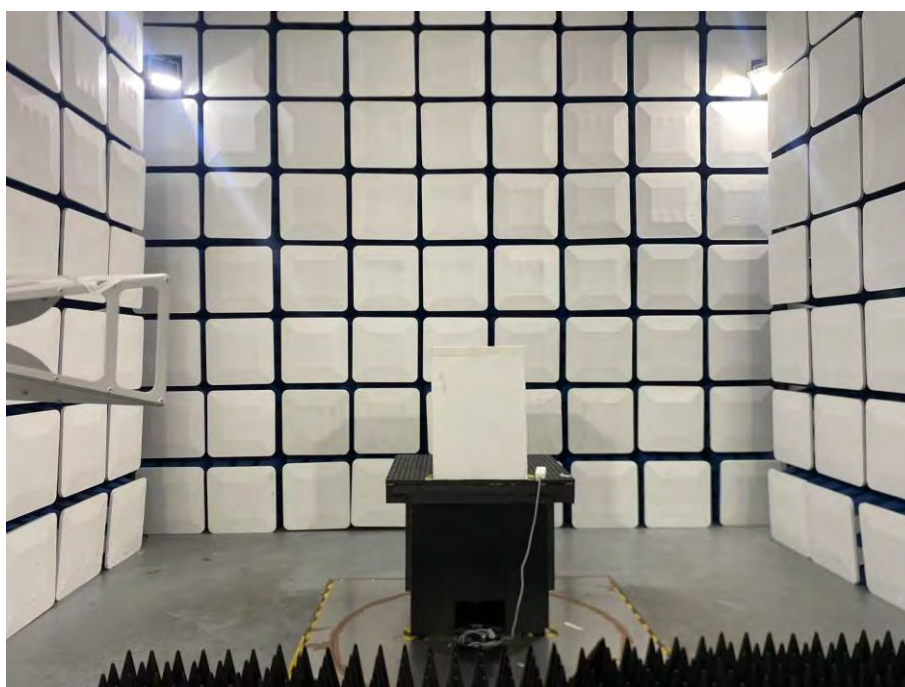
30MHz-1GHz



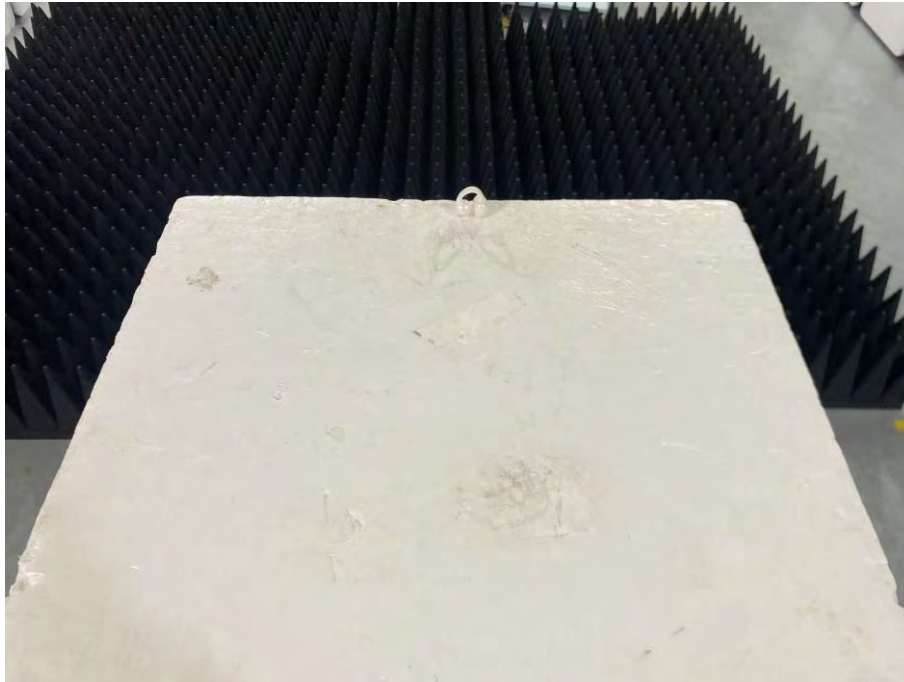
Close-up



Above 1GHz



Close-up



2 Conducted Test Photo

Conducted Test



3 Conducted Emission

Photo 1

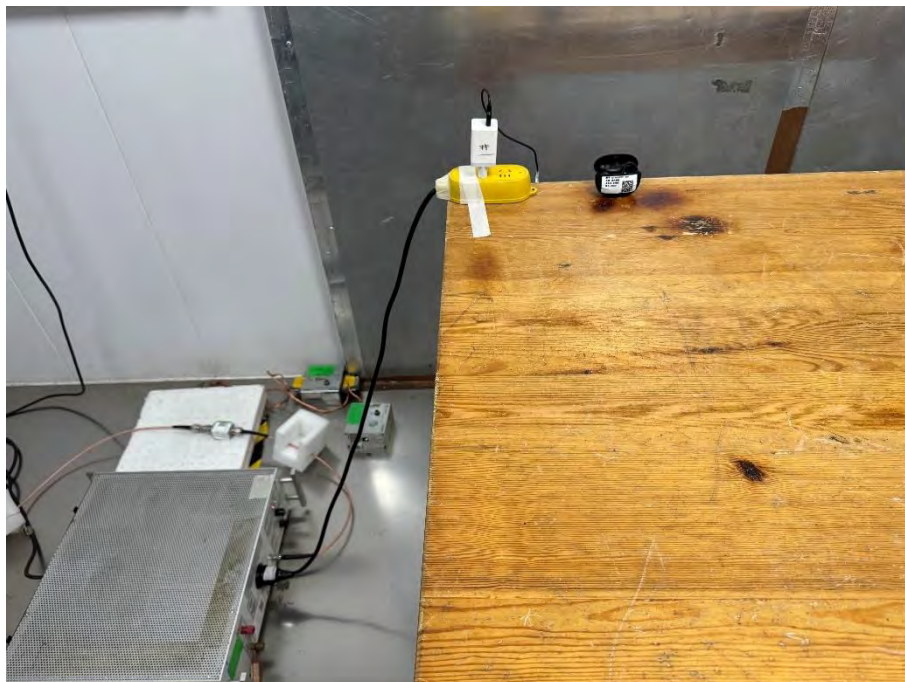


Photo 2



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-USB Cable 1



Accessory-USB Cable 2



Accessory-USB Cable 3



Accessory-Charging case



EUT+USB Cable 1



EUT+USB Cable 2



EUT+USB Cable 3

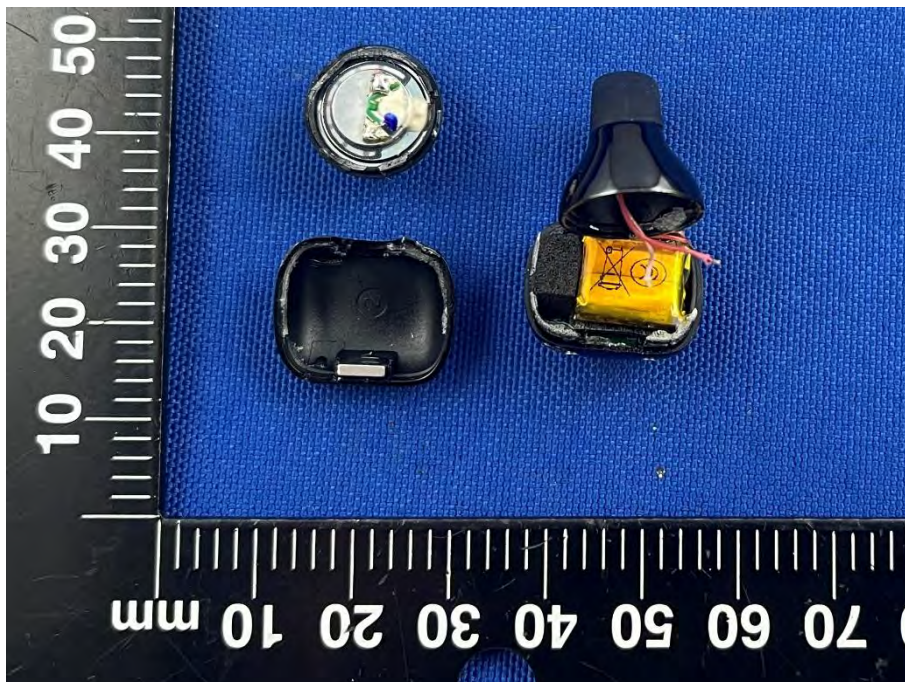


EUT+USB Cable 3

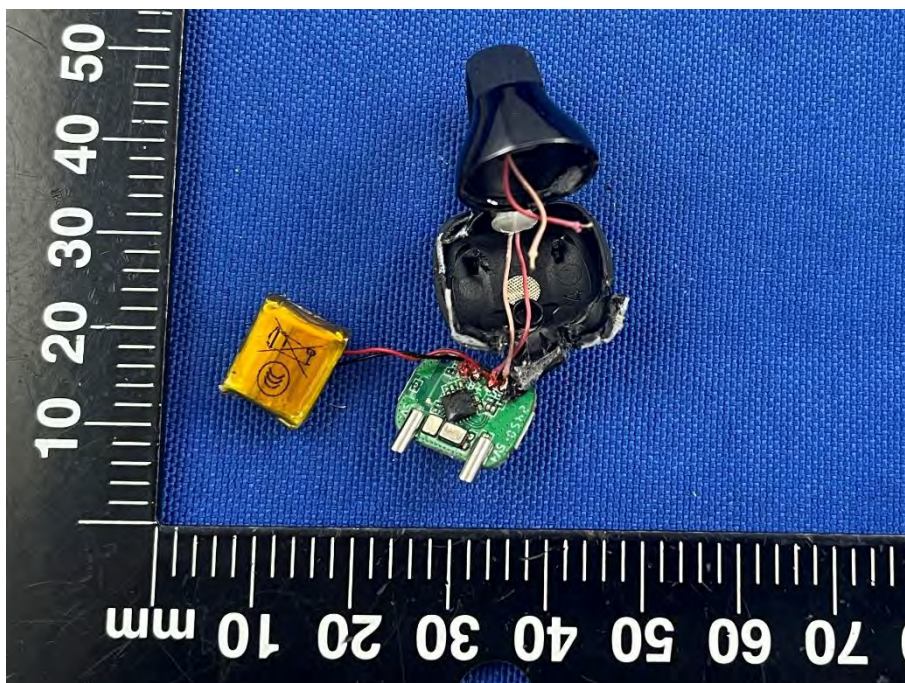


ANNEX C EUT INTERNAL PHOTOS

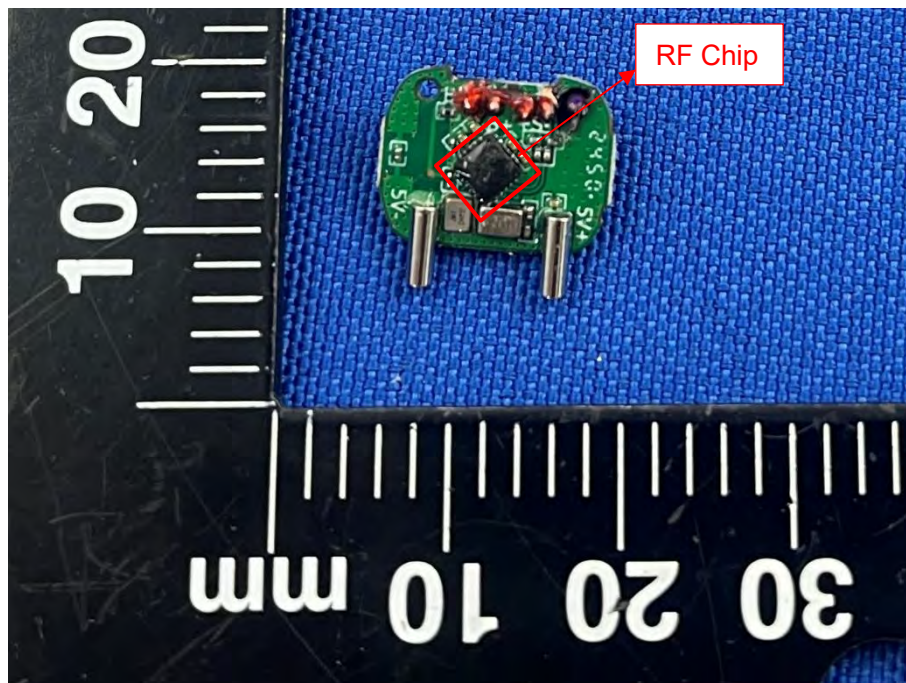
EUT UNCOVER VIEW 1



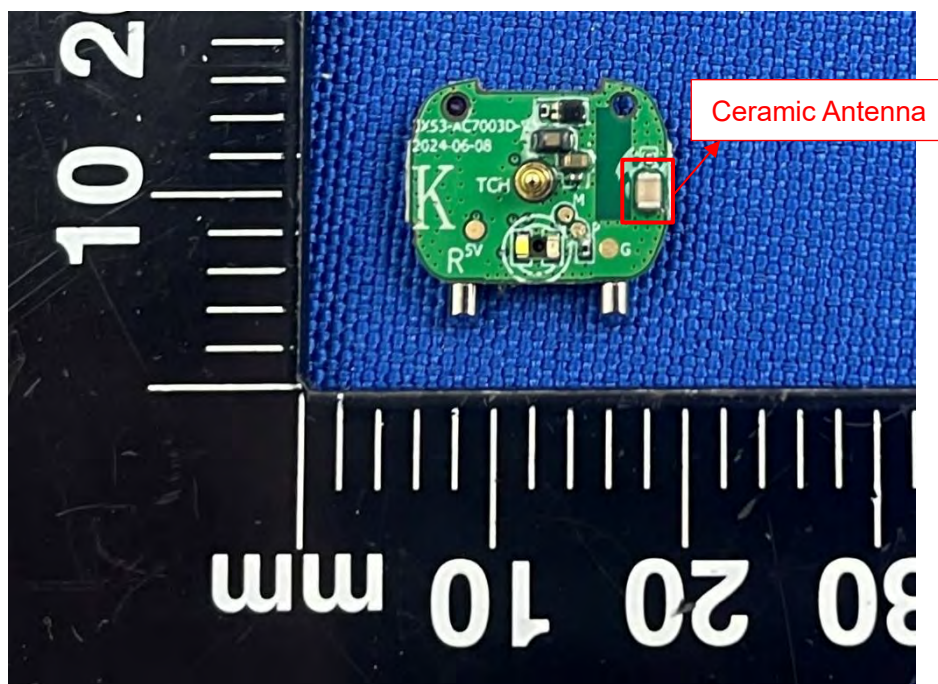
EUT UNCOVER VIEW 2



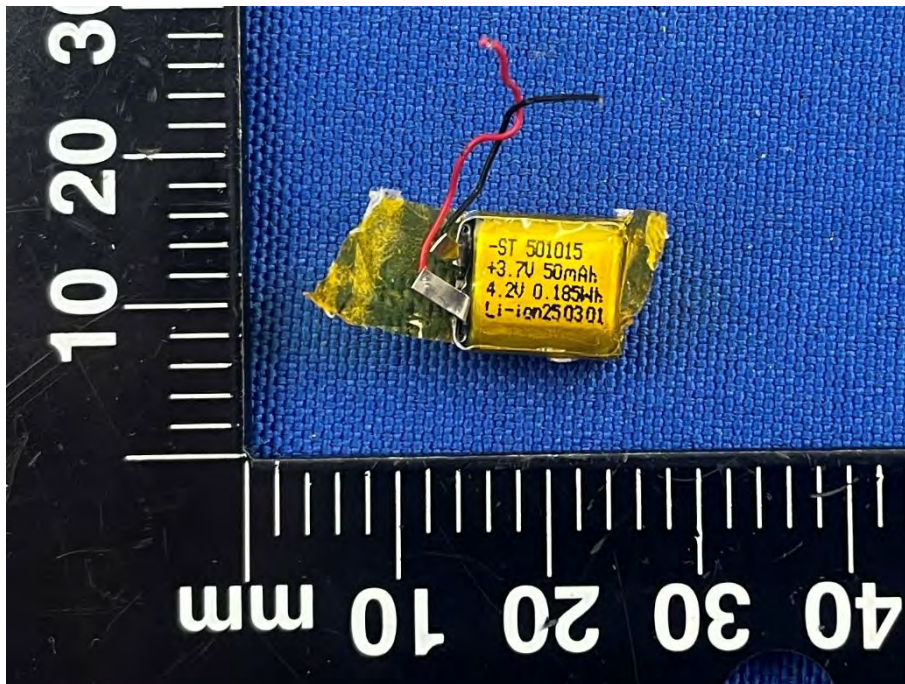
MAIN BOARD TOP VIEW



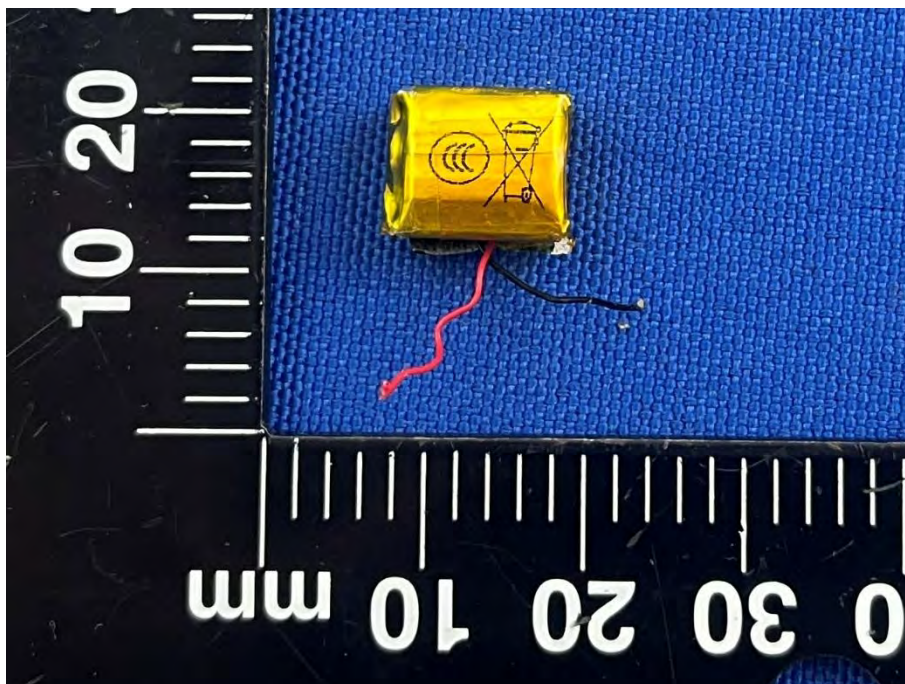
MAIN BOARD REAR VIEW



BATTERY (FRONT)



BATTERY (REAR)



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--END OF REPORT--