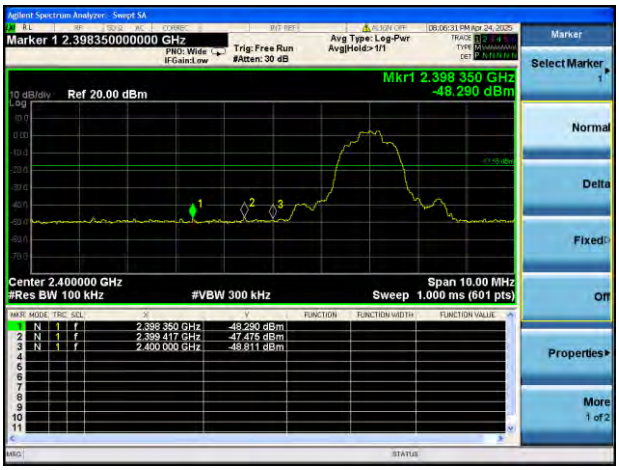
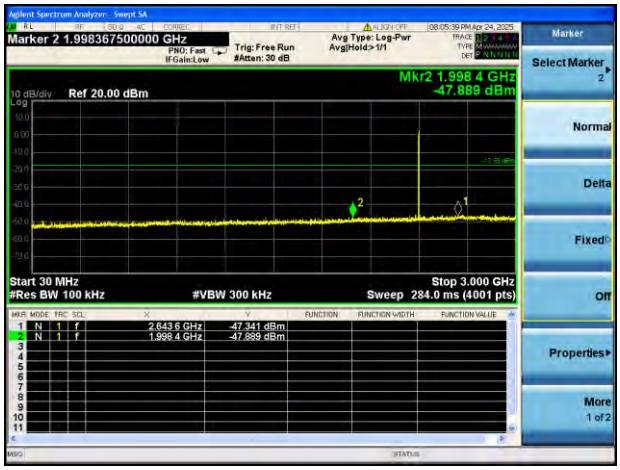
8-DPSK LOW CHANNEL, CARRIER LEVEL

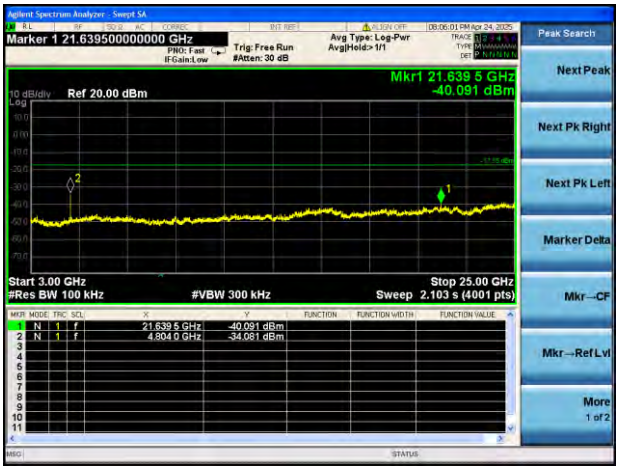
8-DPSK LOW CHANNEL, BAND EDGE



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

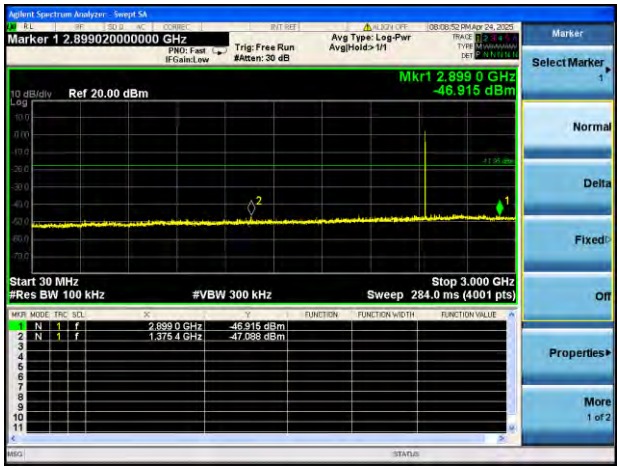


8-DPSK LOW CHANNEL, SPURIOUS 3 GHz ~ 25 GHz

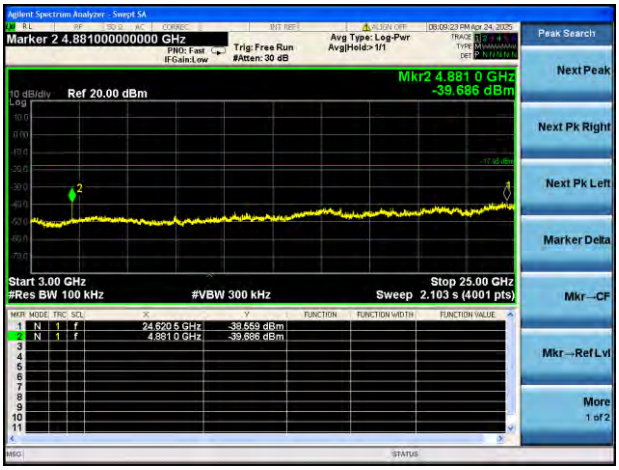


8-DPSK MIDDLE CHANNEL, CARRIER LEVEL

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



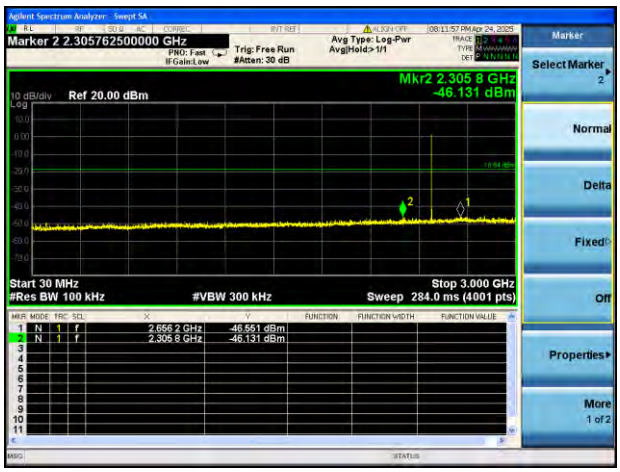
8-DPSK MIDDLE CHANNEL, SPURIOUS
3 GHz ~ 25 GHz



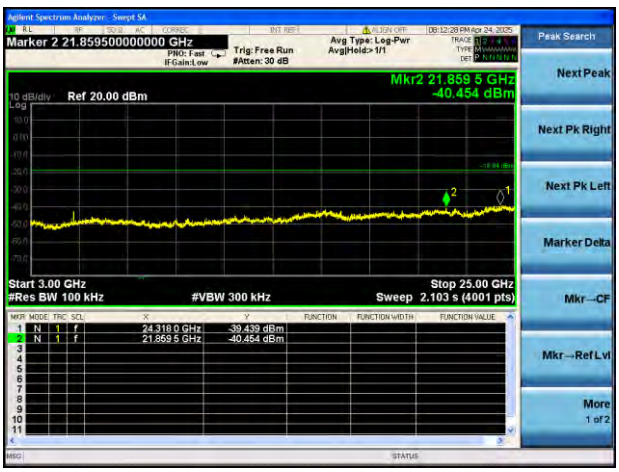
8-DPSK HIGH CHANNEL, CARRIER LEVEL

8-DPSK HIGH CHANNEL, BAND EDGE

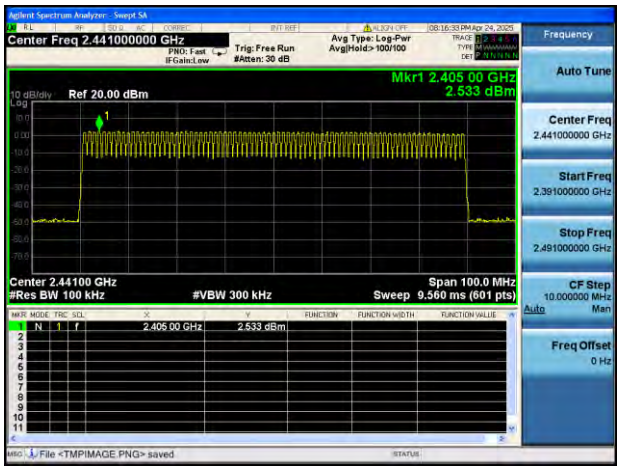
8-DPSK HIGH CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



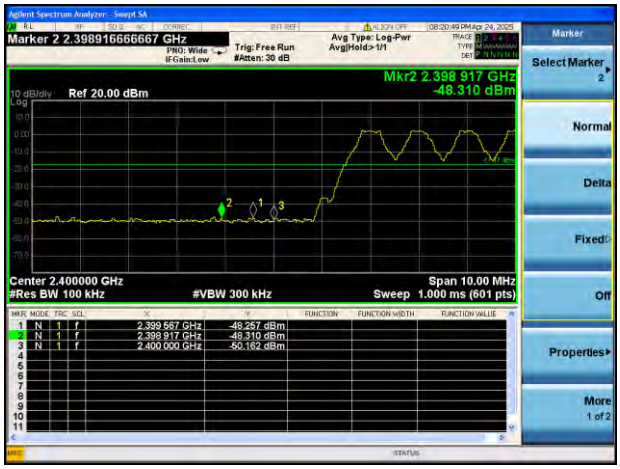
8-DPSK HIGH CHANNEL, SPURIOUS
3 GHz ~ 25 GHz



GFSK HOPPING, CARRIER LEVEL

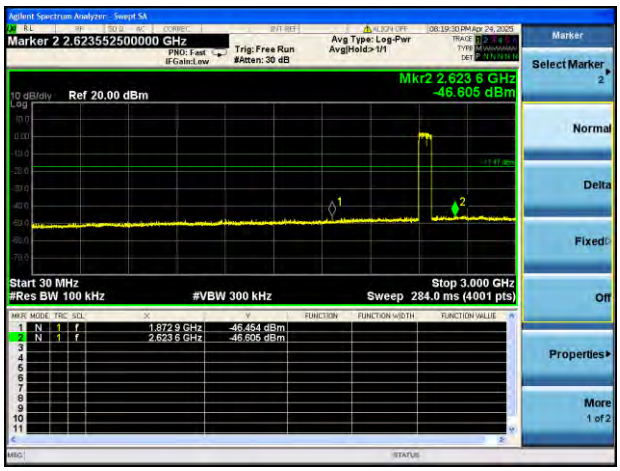


GFSK HOPPING BAND EDGE (LOW)

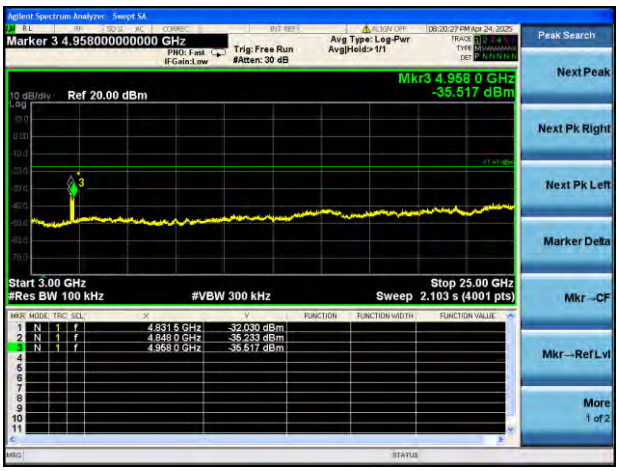


GFSK HOPPING BAND EDGE (HIGH)

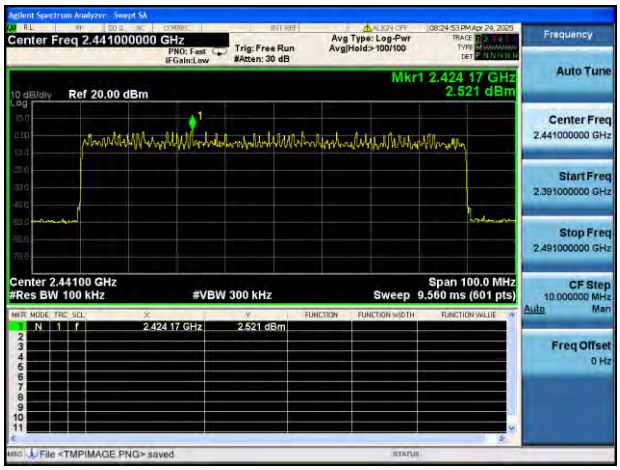
GFSK Hopping Mode, SPURIOUS
30 MHz ~ 3 GHz



GFSK Hopping Mode, SPURIOUS
3GHz ~ 25 GHz



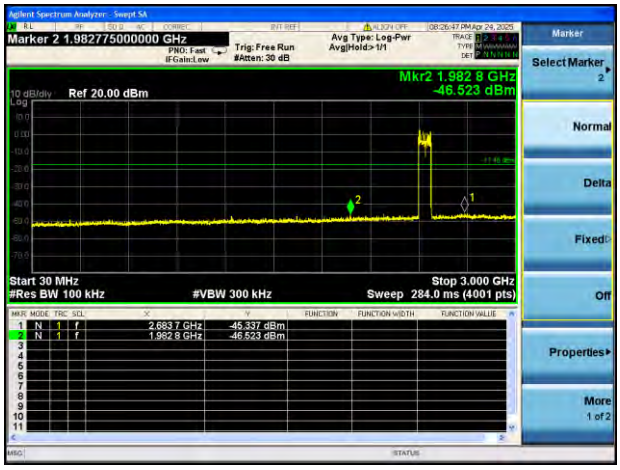
8-DPSK HOPPING, CARRIER LEVEL



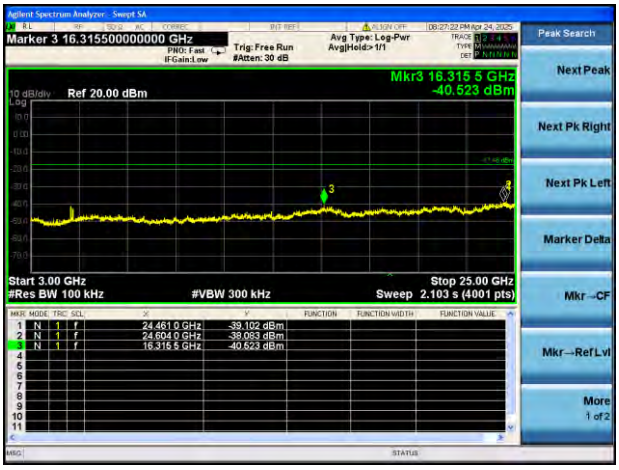
8-DPSK Hopping BAND EDGE (LOW)

8-DPSK Hopping BAND EDGE (HIGH)

8-DPSK Hopping Mode, SPURIOUS 30 MHz ~ 3 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

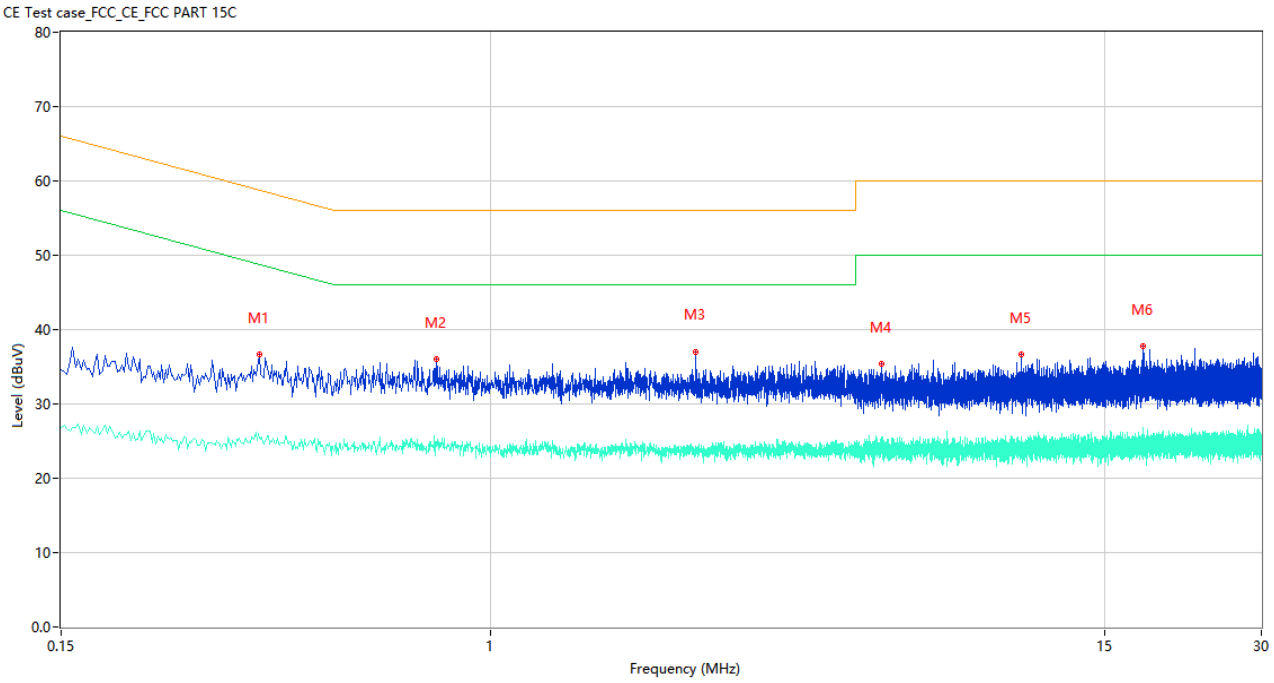
Note [1]: The EUT was tested in Link mode and the charging.

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)

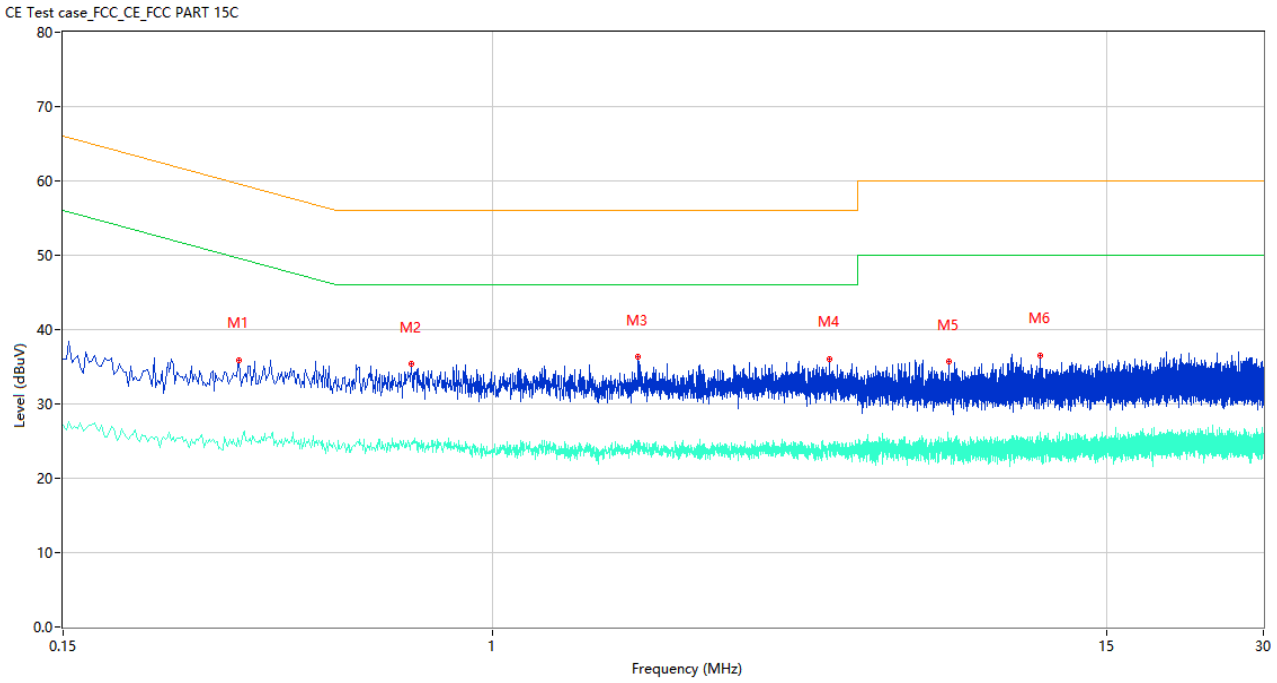
Test Data and Plots

PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.360	36.59	10.72	58.73	22.14	Peak	L	Pass
1**	0.360	25.32	10.72	48.73	23.41	AV	L	Pass
2	0.786	35.97	10.43	56.00	20.03	Peak	L	Pass
2**	0.786	24.92	10.43	46.00	21.08	AV	L	Pass
3	2.468	37.00	10.18	56.00	19.00	Peak	L	Pass
3**	2.468	24.26	10.18	46.00	21.74	AV	L	Pass
4	5.602	35.32	10.41	60.00	24.68	Peak	L	Pass
4**	5.602	23.73	10.41	50.00	26.27	AV	L	Pass
5	10.418	36.61	10.55	60.00	23.39	Peak	L	Pass
5**	10.418	23.87	10.55	50.00	26.13	AV	L	Pass
6	17.818	37.72	10.79	60.00	22.28	Peak	L	Pass
6**	17.818	26.90	10.79	50.00	23.10	AV	L	Pass

PHASE N



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.326	35.95	10.28	59.55	23.60	Peak	N	Pass
1**	0.326	24.85	10.28	49.55	24.70	AV	N	Pass
2	0.698	35.37	10.64	56.00	20.63	Peak	N	Pass
2**	0.698	24.82	10.64	46.00	21.18	AV	N	Pass
3	1.900	36.30	10.73	56.00	19.70	Peak	N	Pass
3**	1.900	24.17	10.73	46.00	21.83	AV	N	Pass
4	4.426	36.09	10.19	56.00	19.91	Peak	N	Pass
4**	4.426	24.71	10.19	46.00	21.29	AV	N	Pass
5	7.476	35.64	10.54	60.00	24.36	Peak	N	Pass
5**	7.476	24.78	10.54	50.00	25.22	AV	N	Pass
6	11.186	36.54	10.71	60.00	23.46	Peak	N	Pass
6**	11.186	23.41	10.71	50.00	26.59	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.

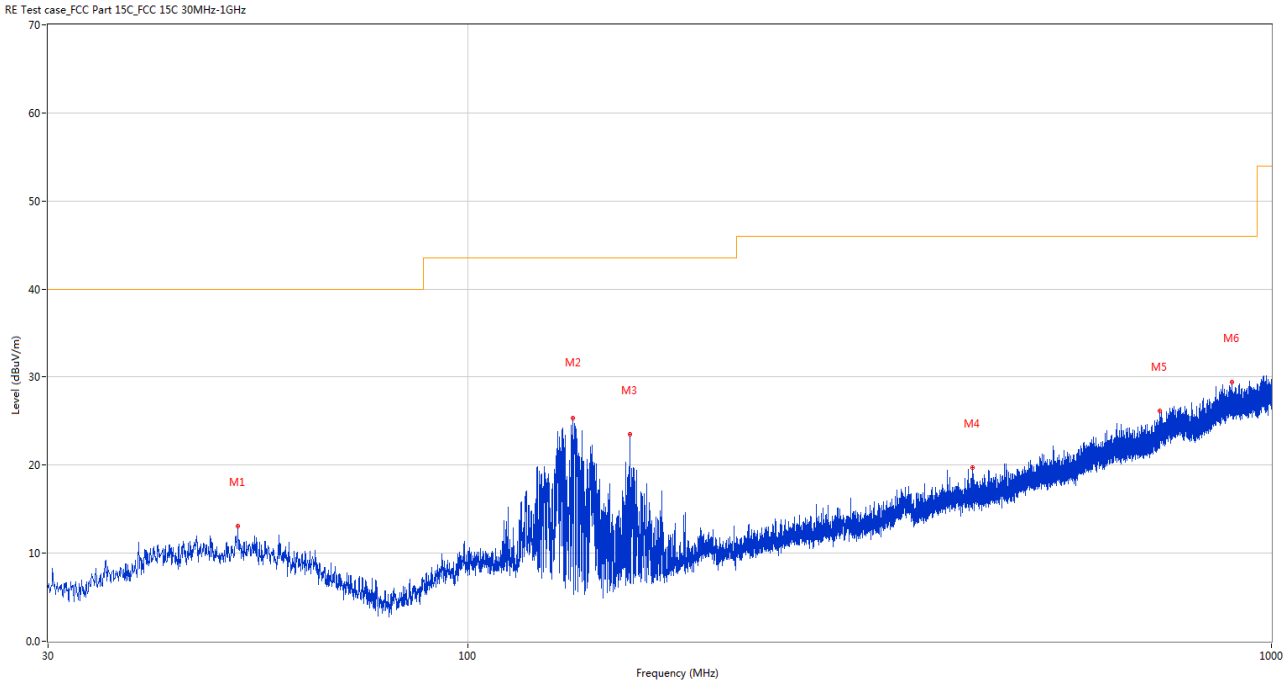
Note [3]: The EUT was tested in Link mode and the charging.

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.

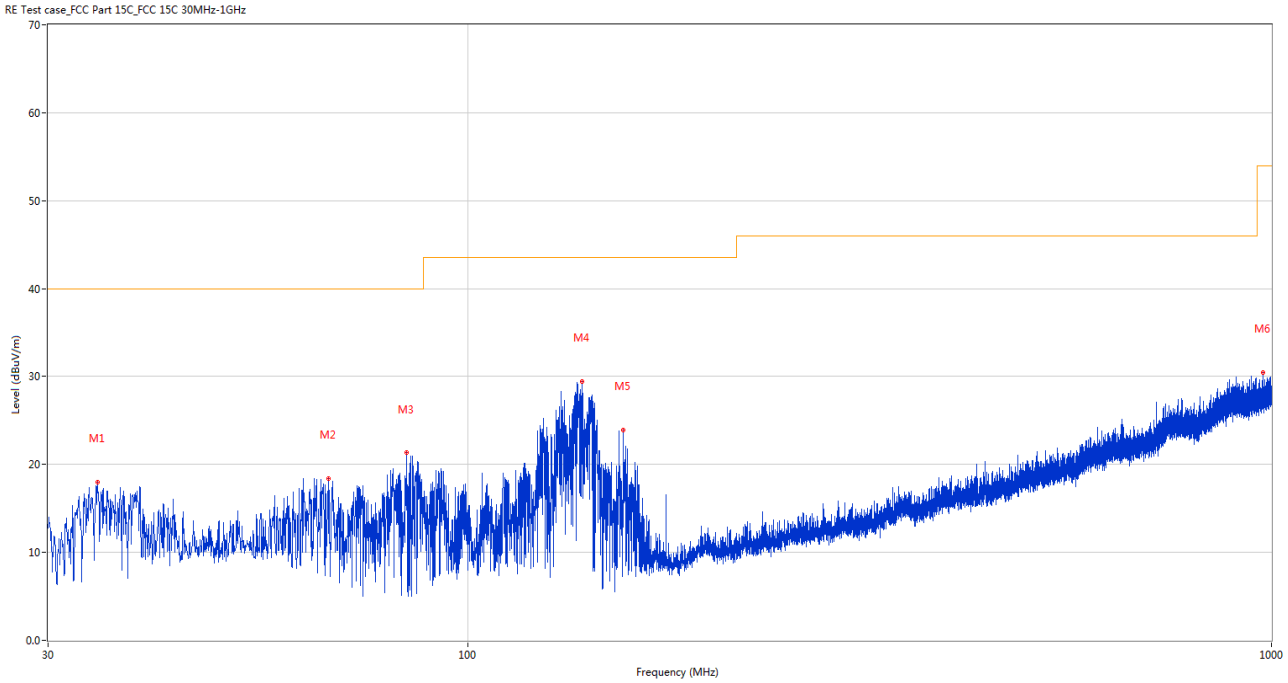
Test Data and Plots

30 MHz to 1 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	51.679	13.11	-24.76	40.0	26.89	Peak	224.10	100	Horizontal	Pass
2	134.954	25.29	-29.63	43.5	18.21	Peak	6.00	100	Horizontal	Pass
3	159.107	23.54	-29.23	43.5	19.96	Peak	199.00	100	Horizontal	Pass
4	424.450	19.75	-19.88	46.0	26.25	Peak	341.40	100	Horizontal	Pass
5	726.460	26.20	-12.92	46.0	19.80	Peak	124.70	100	Horizontal	Pass
6	892.961	29.47	-9.13	46.0	16.53	Peak	228.80	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	34.608	17.99	-28.28	40.0	22.01	Peak	109.50	100	Vertical	Pass
2	66.957	18.42	-28.17	40.0	21.58	Peak	46.10	100	Vertical	Pass
3	83.835	21.31	-30.65	40.0	18.69	Peak	23.70	100	Vertical	Pass
4	138.737	29.45	-29.85	43.5	14.05	Peak	33.80	100	Vertical	Pass
5	156.003	23.91	-29.28	43.5	19.59	Peak	73.40	100	Vertical	Pass
6	976.914	30.43	-7.98	54.0	23.57	Peak	48.30	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	1327.900	42.61	74.0	31.39	Peak	360.00	200	Horizontal	Pass
1**	1327.900	33.38	54.0	20.62	AV	360.00	200	Horizontal	Pass
2	2402.100	91.32	74.0	-17.32	Peak	67.00	150	Horizontal	N/A
2**	2402.100	90.52	54.0	-36.52	AV	67.00	150	Horizontal	N/A
3	4804.250	50.72	74.0	23.28	Peak	336.00	100	Horizontal	Pass
3**	4804.250	45.50	54.0	8.50	AV	336.00	100	Horizontal	Pass
4	6891.750	53.92	74.0	20.08	Peak	234.00	200	Horizontal	Pass
4**	6891.750	45.04	54.0	8.96	AV	234.00	200	Horizontal	Pass
5	13079.437	54.07	74.0	19.93	Peak	185.00	100	Horizontal	Pass
5**	13079.437	44.43	54.0	9.57	AV	185.00	100	Horizontal	Pass
6	17010.637	55.41	74.0	18.59	Peak	33.00	300	Horizontal	Pass
6**	17010.637	45.98	54.0	8.02	AV	33.00	300	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	1329.800	45.66	74.0	28.34	Peak	160.00	400	Vertical	Pass
1**	1329.800	37.15	54.0	16.85	AV	160.00	400	Vertical	Pass
2	2402.100	95.93	74.0	-21.93	Peak	70.00	150	Vertical	N/A
2**	2402.100	95.55	54.0	-41.55	AV	70.00	150	Vertical	N/A
3	2660.000	56.68	74.0	17.32	Peak	242.00	100	Vertical	Pass
3**	2660.000	44.23	54.0	9.77	AV	242.00	100	Vertical	Pass
4	4804.250	51.17	74.0	22.83	Peak	290.00	100	Vertical	Pass
4**	4804.250	45.91	54.0	8.09	AV	290.00	100	Vertical	Pass
5	5325.000	54.47	74.0	19.53	Peak	92.00	100	Vertical	Pass
5**	5325.000	41.69	54.0	12.31	AV	92.00	100	Vertical	Pass
6	17036.625	55.62	74.0	18.38	Peak	163.00	300	Vertical	Pass
6**	17036.625	45.65	54.0	8.35	AV	163.00	300	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	1333.000	42.35	74.0	31.65	Peak	27.00	400	Horizontal	Pass
1**	1333.000	32.14	54.0	21.86	AV	27.00	400	Horizontal	Pass
2	2440.900	90.87	74.0	-16.87	Peak	71.00	150	Horizontal	N/A
2**	2440.900	90.17	54.0	-36.17	AV	71.00	150	Horizontal	N/A
3	4882.000	50.22	74.0	23.78	Peak	0.00	100	Horizontal	Pass
3**	4882.000	46.40	54.0	7.60	AV	0.00	100	Horizontal	Pass
4	7902.750	54.04	74.0	19.96	Peak	334.00	300	Horizontal	Pass
4**	7902.750	44.28	54.0	9.72	AV	334.00	300	Horizontal	Pass
5	12519.151	53.42	74.0	20.58	Peak	360.00	100	Horizontal	Pass
5**	12519.151	43.89	54.0	10.11	AV	360.00	100	Horizontal	Pass
6	17011.950	55.47	74.0	18.53	Peak	132.00	200	Horizontal	Pass
6**	17011.950	46.70	54.0	7.30	AV	132.00	200	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	1330.200	48.55	74.0	25.45	Peak	178.00	400	Vertical	Pass
1**	1330.200	40.41	54.0	13.59	AV	178.00	400	Vertical	Pass
2	2441.000	94.54	74.0	-20.54	Peak	25.00	200	Vertical	N/A
2**	2441.000	94.07	54.0	-40.07	AV	25.00	200	Vertical	N/A
3	2665.400	58.35	74.0	15.65	Peak	214.00	100	Vertical	Pass
3**	2665.400	43.28	54.0	10.72	AV	214.00	100	Vertical	Pass
4	4882.000	49.84	74.0	24.16	Peak	293.00	100	Vertical	Pass
4**	4882.000	44.89	54.0	9.11	AV	293.00	100	Vertical	Pass
5	12467.849	53.91	74.0	20.09	Peak	244.00	100	Vertical	Pass
5**	12467.849	44.22	54.0	9.78	AV	244.00	100	Vertical	Pass
6	16966.800	56.05	74.0	17.95	Peak	64.00	200	Vertical	Pass
6**	16966.800	46.21	54.0	7.79	AV	64.00	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	1330.400	42.37	74.0	31.63	Peak	360.00	200	Horizontal	Pass
1**	1330.400	34.63	54.0	19.37	AV	360.00	200	Horizontal	Pass
2	2480.000	89.64	74.0	-15.64	Peak	69.00	100	Horizontal	N/A
2**	2480.000	88.97	54.0	-34.97	AV	69.00	100	Horizontal	N/A
3	4960.000	49.36	74.0	24.64	Peak	0.00	100	Horizontal	Pass
3**	4960.000	45.22	54.0	8.78	AV	0.00	100	Horizontal	Pass
4	6893.250	53.94	74.0	20.06	Peak	17.00	200	Horizontal	Pass
4**	6893.250	45.29	54.0	8.71	AV	17.00	200	Horizontal	Pass
5	13026.150	54.04	74.0	19.96	Peak	29.00	100	Horizontal	Pass
5**	13026.150	44.92	54.0	9.08	AV	29.00	100	Horizontal	Pass
6	16860.750	55.69	74.0	18.31	Peak	336.00	200	Horizontal	Pass
6**	16860.750	46.20	54.0	7.80	AV	336.00	200	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	1329.400	46.67	74.0	27.33	Peak	180.00	200	Vertical	Pass
1**	1329.400	36.18	54.0	17.82	AV	180.00	200	Vertical	Pass
2	2480.100	94.06	74.0	-20.06	Peak	71.00	150	Vertical	N/A
2**	2480.100	93.28	54.0	-39.28	AV	71.00	150	Vertical	N/A
3	2665.900	57.94	74.0	16.06	Peak	79.00	100	Vertical	Pass
3**	2665.900	45.72	54.0	8.28	AV	79.00	100	Vertical	Pass
4	4960.500	50.29	74.0	23.71	Peak	34.00	200	Vertical	Pass
4**	4960.500	44.80	54.0	9.20	AV	34.00	200	Vertical	Pass
5	5325.000	53.86	74.0	20.14	Peak	73.00	300	Vertical	Pass
5**	5325.000	45.24	54.0	8.76	AV	73.00	300	Vertical	Pass
6	17414.099	55.98	74.0	18.02	Peak	0.00	300	Vertical	Pass
6**	17414.099	46.40	54.0	7.60	AV	0.00	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	1408.300	42.45	74.0	31.55	Peak	25.00	300	Horizontal	Pass
1**	1408.300	32.63	54.0	21.37	AV	25.00	300	Horizontal	Pass
2	2402.300	90.65	74.0	-16.65	Peak	69.00	100	Horizontal	N/A
2**	2402.300	89.70	54.0	-35.70	AV	69.00	100	Horizontal	N/A
3	4804.500	48.79	74.0	25.21	Peak	334.00	100	Horizontal	Pass
3**	4804.500	45.84	54.0	8.16	AV	334.00	100	Horizontal	Pass
4	7895.000	54.06	74.0	19.94	Peak	334.00	200	Horizontal	Pass
4**	7895.000	44.88	54.0	9.12	AV	334.00	200	Horizontal	Pass
5	13200.713	54.09	74.0	19.91	Peak	0.00	100	Horizontal	Pass
5**	13200.713	43.83	54.0	10.17	AV	0.00	100	Horizontal	Pass
6	16875.975	55.47	74.0	18.53	Peak	55.00	200	Horizontal	Pass
6**	16875.975	45.61	54.0	8.39	AV	55.00	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	1328.300	44.65	74.0	29.35	Peak	150.00	400	Vertical	Pass
1**	1328.300	33.26	54.0	20.74	AV	150.00	400	Vertical	Pass
2	2402.300	94.80	74.0	-20.80	Peak	70.00	100	Vertical	N/A
2**	2402.300	93.82	54.0	-39.82	AV	70.00	100	Vertical	N/A
3	2654.200	58.25	74.0	15.75	Peak	223.00	100	Vertical	Pass
3**	2654.200	43.32	54.0	10.68	AV	223.00	100	Vertical	Pass
4	4804.750	48.07	74.0	25.93	Peak	288.00	100	Vertical	Pass
4**	4804.750	44.62	54.0	9.38	AV	288.00	100	Vertical	Pass
5	13059.488	54.22	74.0	19.78	Peak	231.00	100	Vertical	Pass
5**	13059.488	44.96	54.0	9.04	AV	231.00	100	Vertical	Pass
6	16979.662	55.69	74.0	18.31	Peak	290.00	400	Vertical	Pass
6**	16979.662	47.45	54.0	6.55	AV	290.00	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	1444.900	42.45	74.0	31.55	Peak	98.00	300	Horizontal	Pass
1**	1444.900	33.24	54.0	20.76	AV	98.00	300	Horizontal	Pass
2	2441.100	90.89	74.0	-16.89	Peak	70.00	150	Horizontal	N/A
2**	2441.100	90.10	54.0	-36.10	AV	70.00	150	Horizontal	N/A
3	4882.250	49.97	74.0	24.03	Peak	334.00	100	Horizontal	Pass
3**	4882.250	45.17	54.0	8.83	AV	334.00	100	Horizontal	Pass
4	7799.250	54.12	74.0	19.88	Peak	91.00	400	Horizontal	Pass
4**	7799.250	43.83	54.0	10.17	AV	91.00	400	Horizontal	Pass
5	13042.162	54.84	74.0	19.16	Peak	220.00	100	Horizontal	Pass
5**	13042.162	45.22	54.0	8.78	AV	220.00	100	Horizontal	Pass
6	15131.662	55.38	74.0	18.62	Peak	243.00	400	Horizontal	Pass
6**	15131.662	44.62	54.0	9.38	AV	243.00	400	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	1331.200	47.52	74.0	26.48	Peak	161.00	400	Vertical	Pass
1**	1331.200	36.63	54.0	17.37	AV	161.00	400	Vertical	Pass
2	2440.800	93.51	74.0	-19.51	Peak	27.00	150	Vertical	N/A
2**	2440.800	92.76	54.0	-38.76	AV	27.00	150	Vertical	N/A
3	4902.750	49.91	74.0	24.09	Peak	168.00	150	Vertical	Pass
3**	4902.750	40.65	54.0	13.35	AV	168.00	150	Vertical	Pass
4	5312.500	57.22	74.0	16.78	Peak	88.00	200	Vertical	Pass
4**	5312.500	42.24	54.0	11.76	AV	88.00	200	Vertical	Pass
5	11803.800	53.52	74.0	20.48	Peak	26.00	300	Vertical	Pass
5**	11803.800	43.37	54.0	10.63	AV	26.00	300	Vertical	Pass
6	16965.489	55.27	74.0	18.73	Peak	10.00	100	Vertical	Pass
6**	16965.489	46.52	54.0	7.48	AV	10.00	100	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	1330.300	43.53	74.0	30.47	Peak	28.00	100	Horizontal	Pass
1**	1330.300	34.58	54.0	19.42	AV	28.00	100	Horizontal	Pass
2	2480.000	87.84	74.0	-13.84	Peak	73.00	150	Horizontal	N/A
2**	2480.000	84.64	54.0	-30.64	AV	73.00	150	Horizontal	N/A
3	4739.250	50.36	74.0	23.64	Peak	249.00	200	Horizontal	Pass
3**	4739.250	40.57	54.0	13.43	AV	249.00	200	Horizontal	Pass
4	6881.250	54.10	74.0	19.90	Peak	0.00	200	Horizontal	Pass
4**	6881.250	44.26	54.0	9.74	AV	0.00	200	Horizontal	Pass
5	12472.838	53.65	74.0	20.35	Peak	26.00	400	Horizontal	Pass
5**	12472.838	45.21	54.0	8.79	AV	26.00	400	Horizontal	Pass
6	16994.625	55.33	74.0	18.67	Peak	104.00	100	Horizontal	Pass
6**	16994.625	46.43	54.0	7.57	AV	104.00	100	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	1331.300	45.81	74.0	28.19	Peak	188.00	200	Vertical	Pass
1**	1331.300	38.54	54.0	15.46	AV	188.00	200	Vertical	Pass
2	2479.900	93.05	74.0	-19.05	Peak	88.00	100	Vertical	N/A
2**	2479.900	91.62	54.0	-37.62	AV	88.00	100	Vertical	N/A
3	2665.600	57.12	74.0	16.88	Peak	224.00	100	Vertical	Pass
3**	2665.600	45.62	54.0	8.38	AV	224.00	100	Vertical	Pass
4	5323.750	57.04	74.0	16.96	Peak	72.00	400	Vertical	Pass
4**	5323.750	42.36	54.0	11.64	AV	72.00	400	Vertical	Pass
5	13121.175	54.59	74.0	19.41	Peak	109.00	100	Vertical	Pass
5**	13121.175	45.08	54.0	8.92	AV	109.00	100	Vertical	Pass
6	17015.887	56.18	74.0	17.82	Peak	0.00	300	Vertical	Pass
6**	17015.887	46.99	54.0	7.01	AV	0.00	300	Vertical	Pass

5.11Band 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

GFSK LOW CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2326.700	55.86	74.0	18.14	Peak	166.00	100	Vertical	Pass
1**	2326.700	43.76	54.0	10.24	AV	166.00	100	Vertical	Pass
2	2389.950	52.34	74.0	21.66	Peak	333.00	150	Vertical	Pass
2**	2389.950	42.91	54.0	11.09	AV	333.00	150	Vertical	Pass

GFSK HIGH CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.530	54.78	74.0	19.22	Peak	271.00	200	Vertical	Pass
1**	2483.530	43.69	54.0	10.31	AV	271.00	200	Vertical	Pass
2	2489.005	55.11	74.0	18.89	Peak	27.00	100	Vertical	Pass
2**	2489.005	43.87	54.0	10.13	AV	27.00	100	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	2311.300	55.51	74.0	18.49	Peak	360.00	200	Vertical	Pass
1**	2311.300	43.43	54.0	10.57	AV	360.00	200	Vertical	Pass
2	2389.950	52.90	74.0	21.10	Peak	207.00	150	Vertical	Pass
2**	2389.950	43.00	54.0	11.00	AV	207.00	150	Vertical	Pass

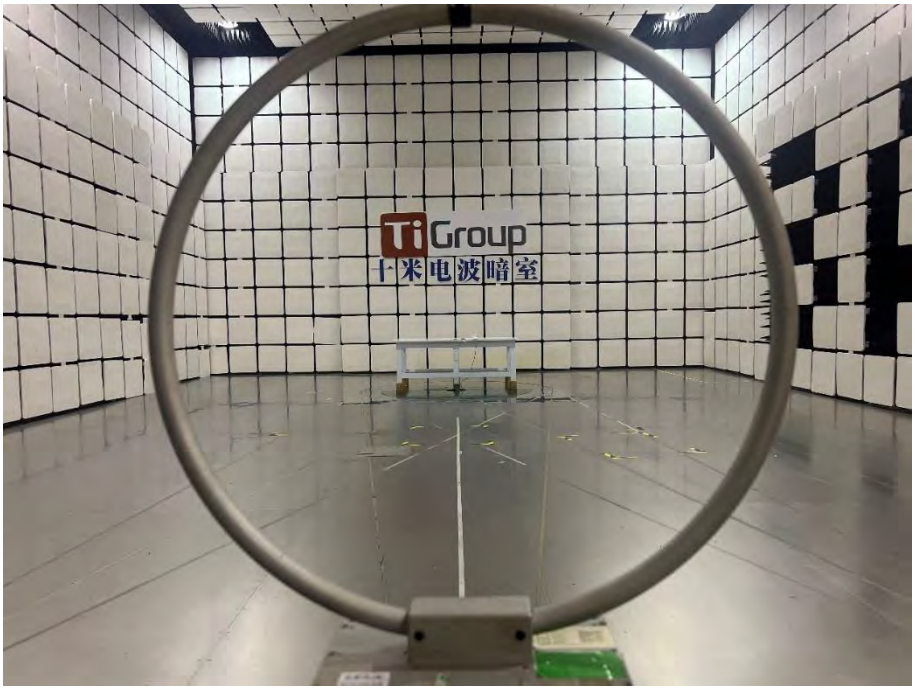
8-DPSK HIGH CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.515	53.87	74.0	20.13	Peak	263.00	200	Vertical	Pass
1**	2483.515	43.48	54.0	10.52	AV	263.00	200	Vertical	Pass
2	2494.720	55.45	74.0	18.55	Peak	121.00	200	Vertical	Pass
2**	2494.720	43.77	54.0	10.23	AV	121.00	200	Vertical	Pass

ANNEX A TEST SETUP PHOTOS

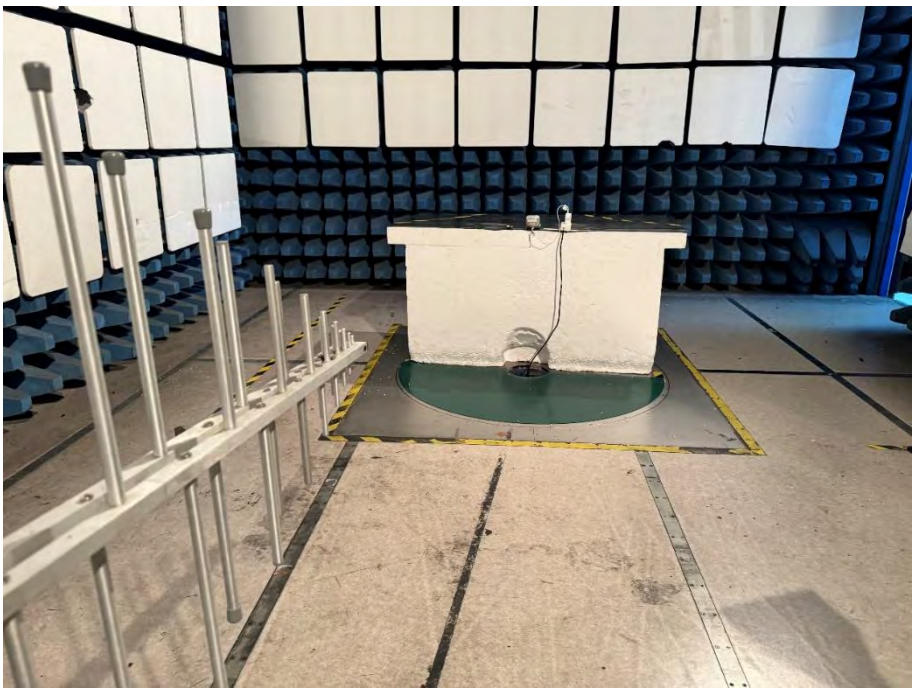
1 Radiated Test Photo

Below 30MHz



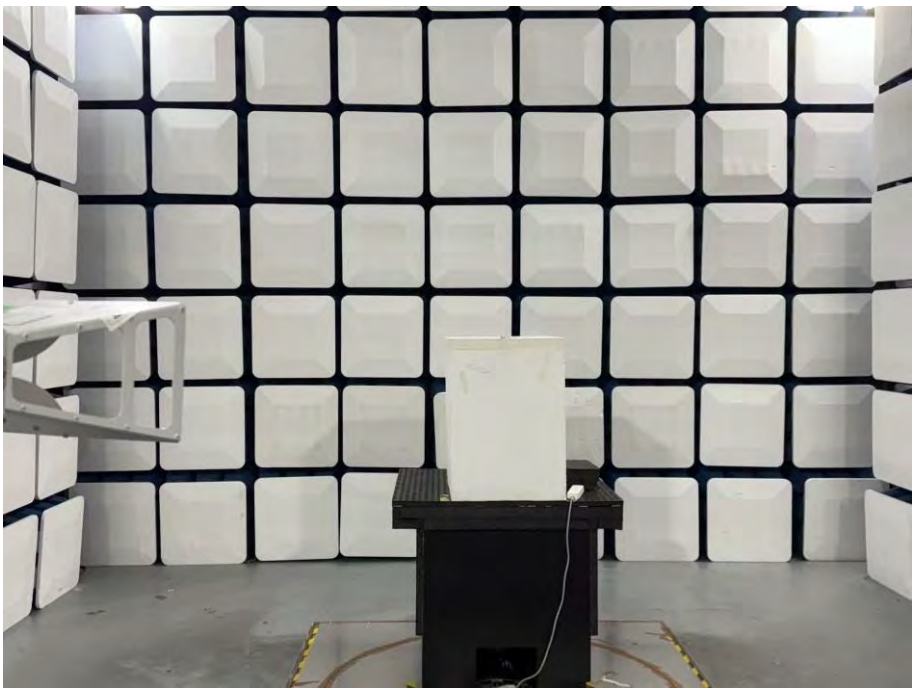
Close-up

30MHz-1GHz

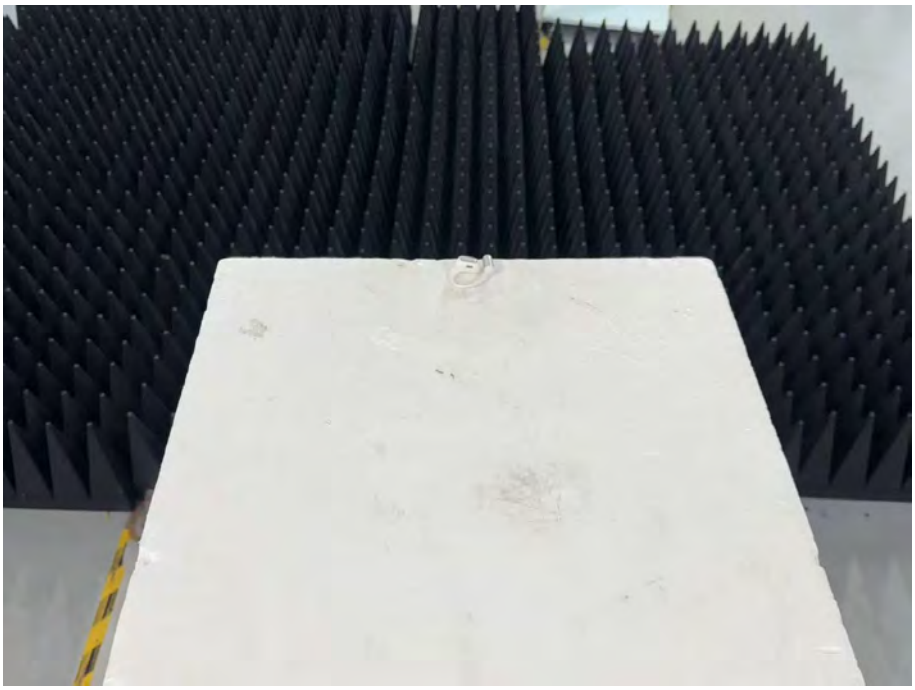


Close-up

Above 1GHz

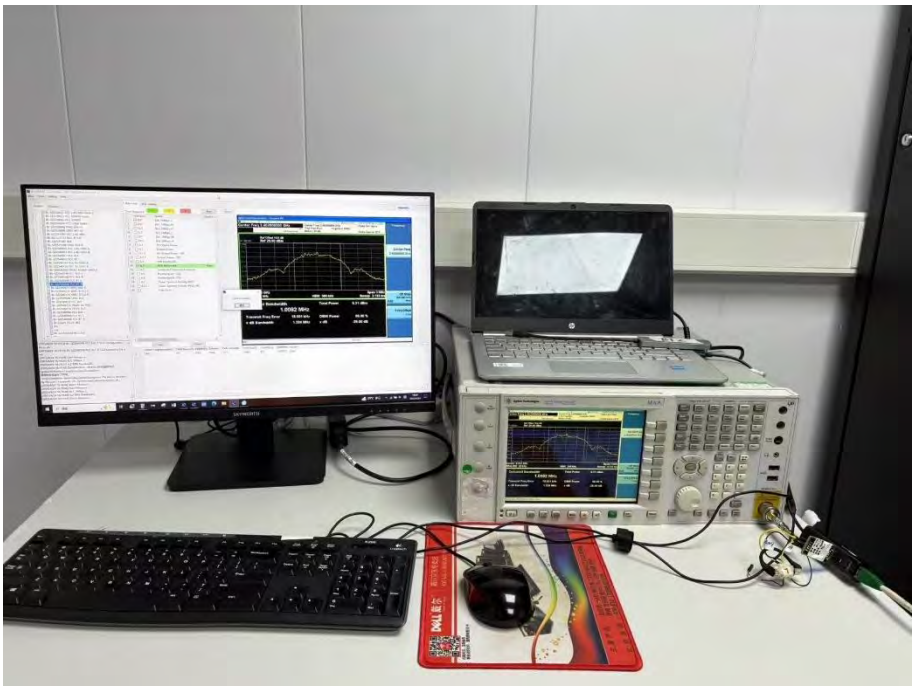


Close-up



2 Conducted Test Photo

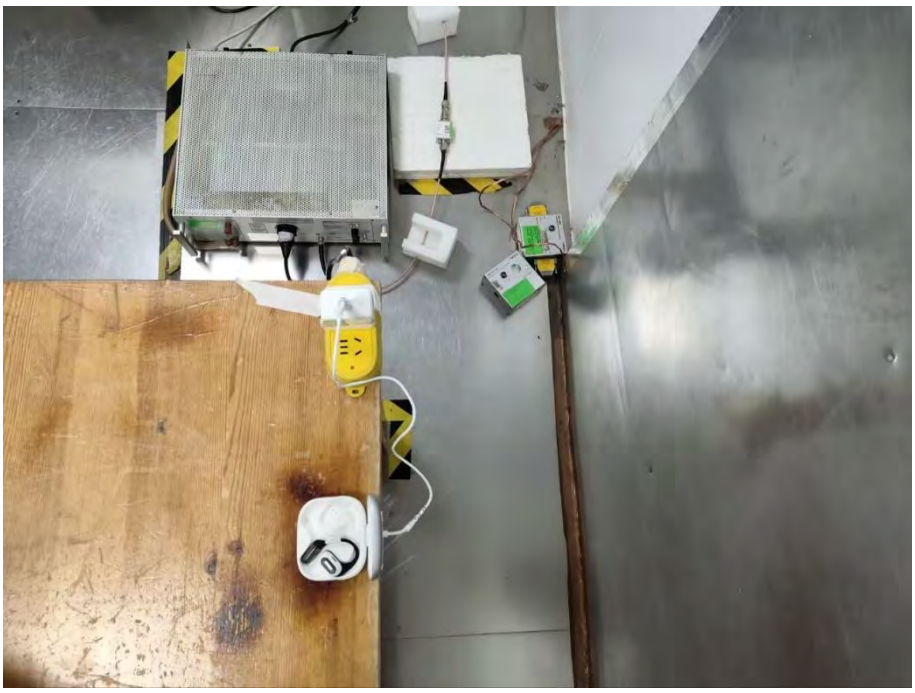
Conducted Test



3 Conducted Emission

Photo 1

Photo 2

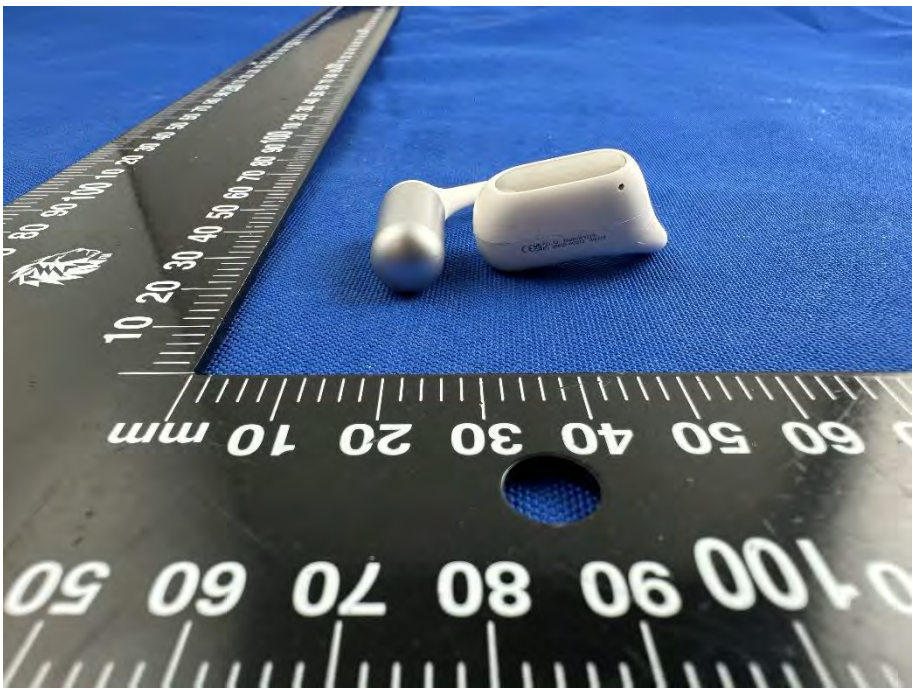


ANNEX B EUT EXTERNAL PHOTOS

FRONT VIEW OF EUT

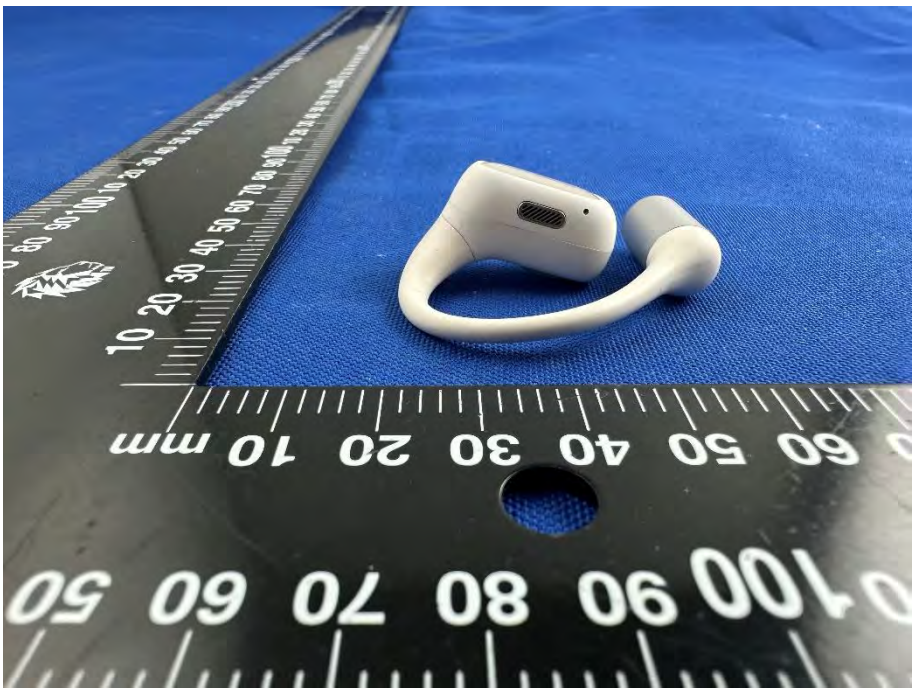
REAR VIEW OF EUT

LEFT VIEW OF EUT



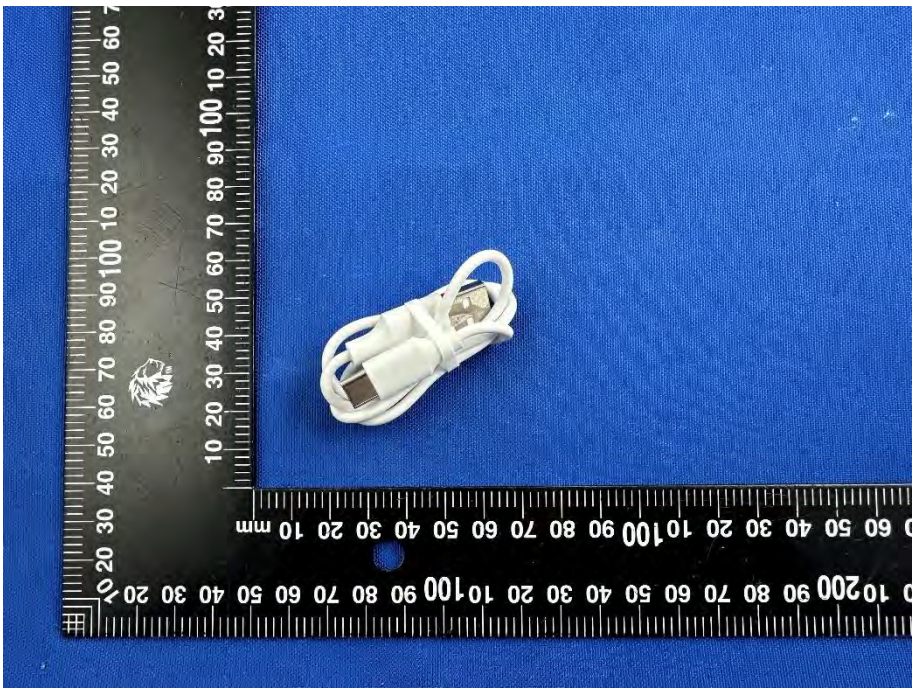
RIGHT VIEW OF EUT

TOP VIEW OF EUT



BOTTOM VIEW OF EUT

Accessory-USB Cable



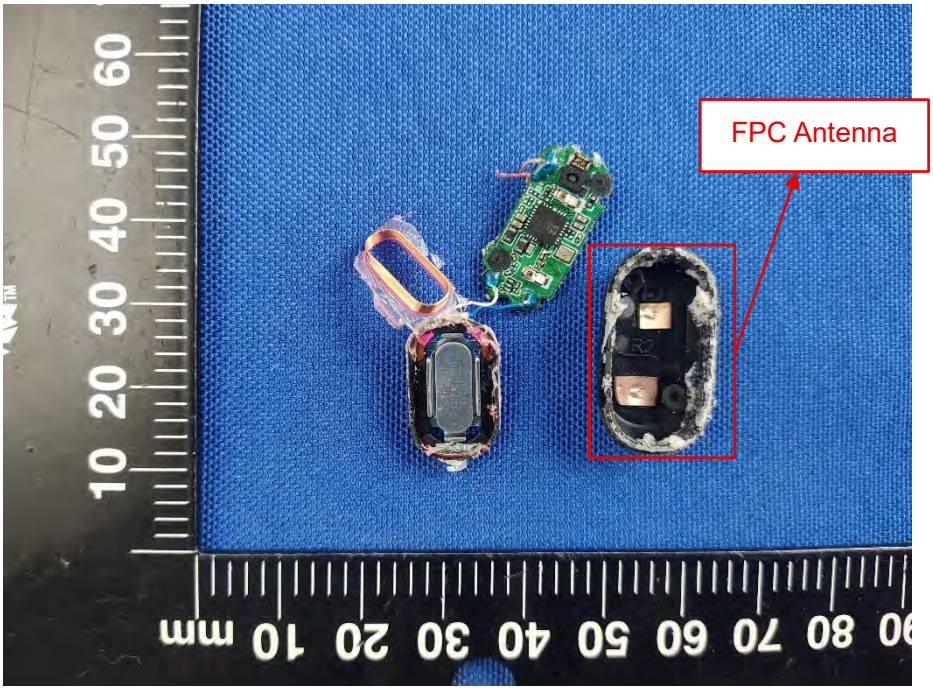
Accessory-USB Cable

Accessory-Charging Case

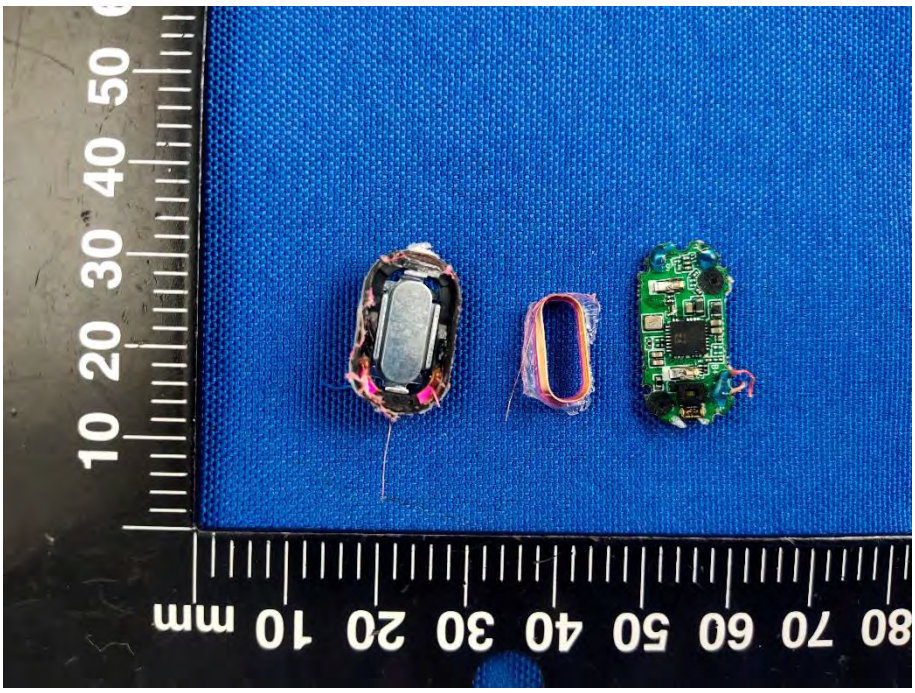
ANNEX C EUT INTERNAL PHOTOS

EUT UNCOVER VIEW 1

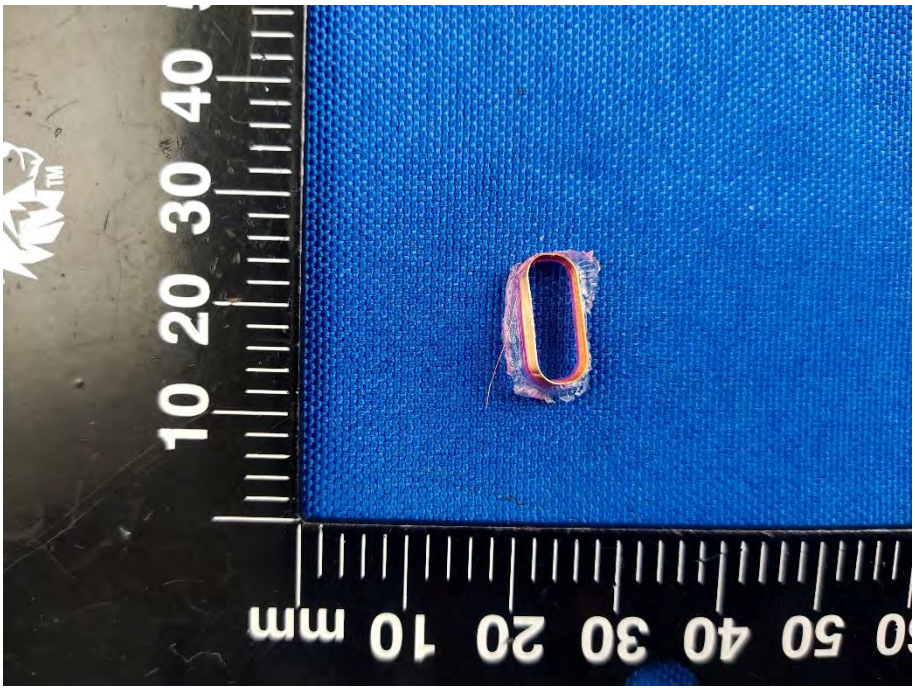
EUT UNCOVER VIEW 2



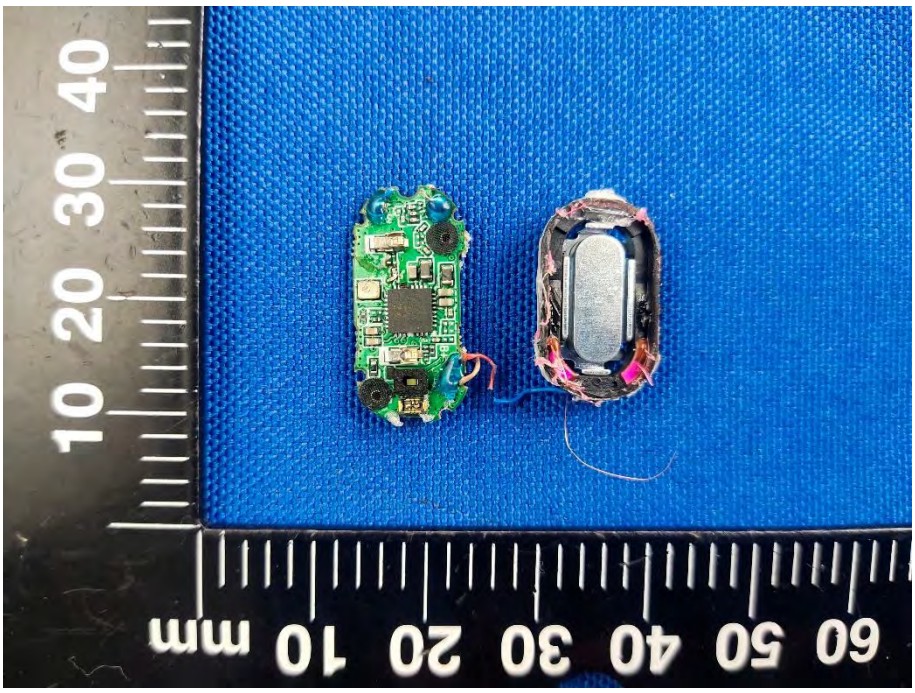
EUT UNCOVER VIEW 3



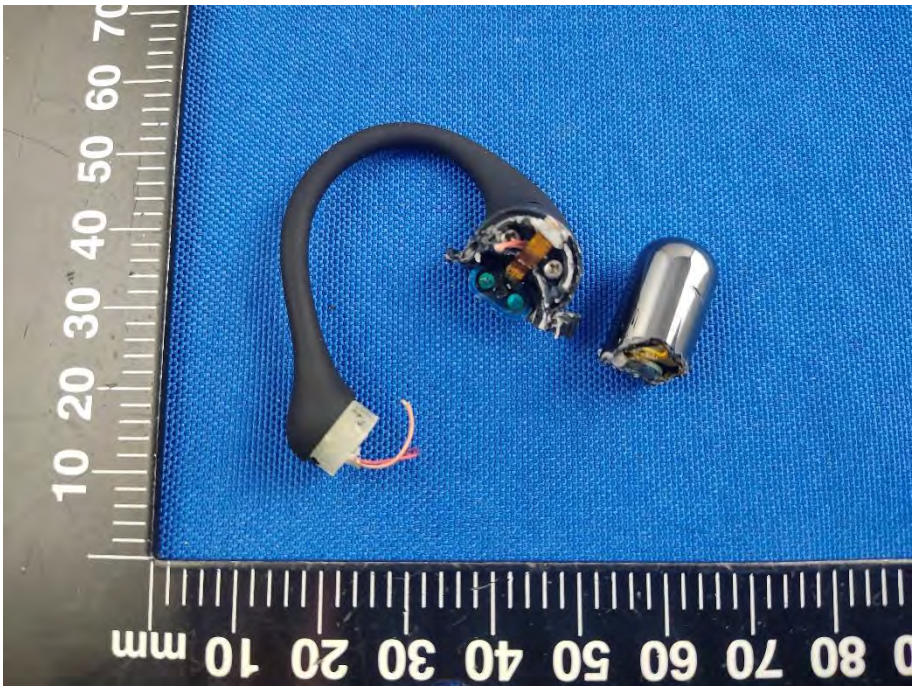
CLOSE-UP



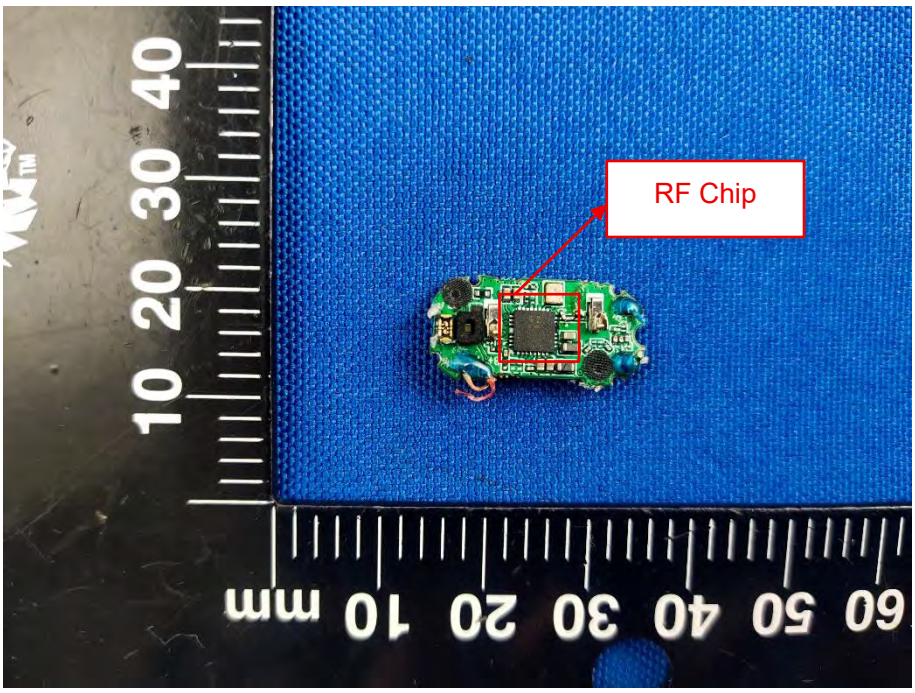
EUT UNCOVER VIEW 4



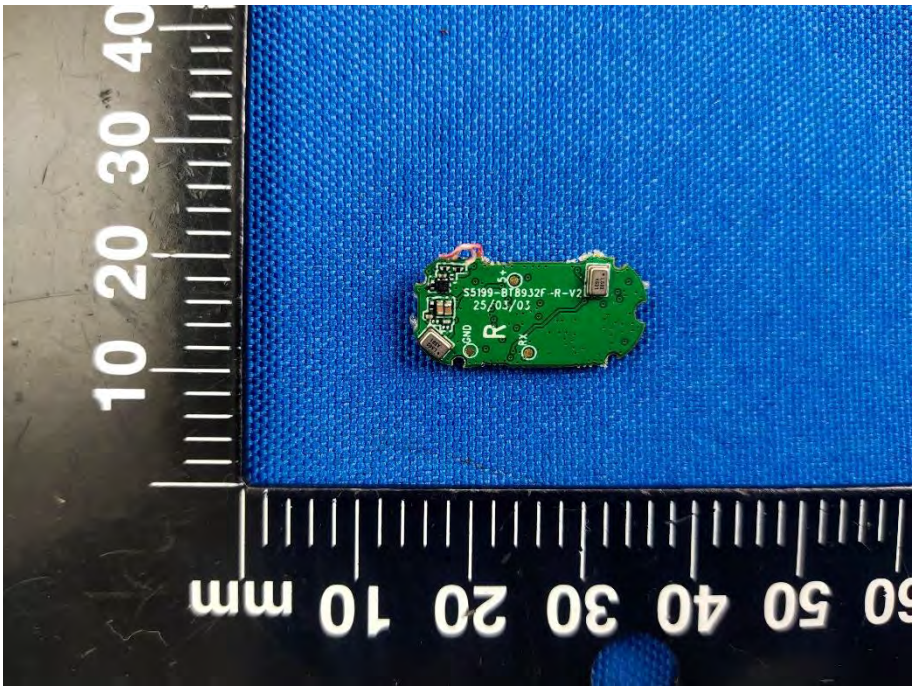
EUT UNCOVER VIEW 4



MAIN BOARD TOP VIEW



MAIN BOARD REAR VIEW



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