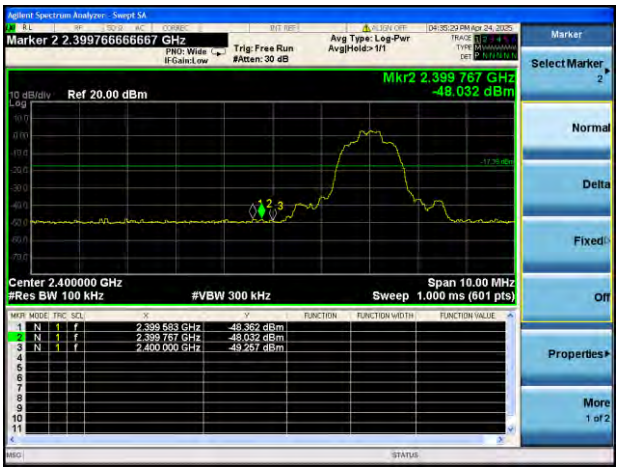
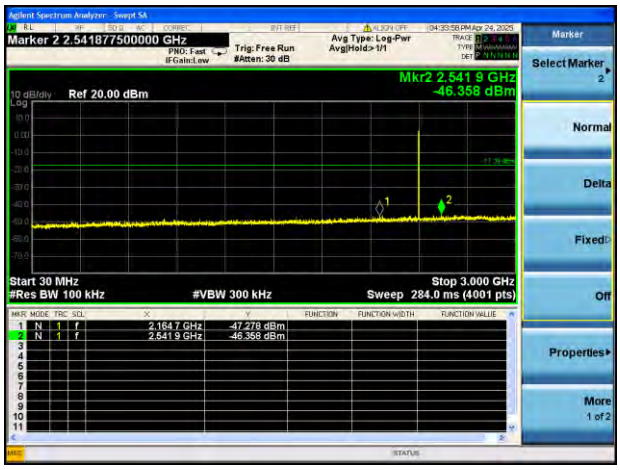
8-DPSK LOW CHANNEL, CARRIER LEVEL

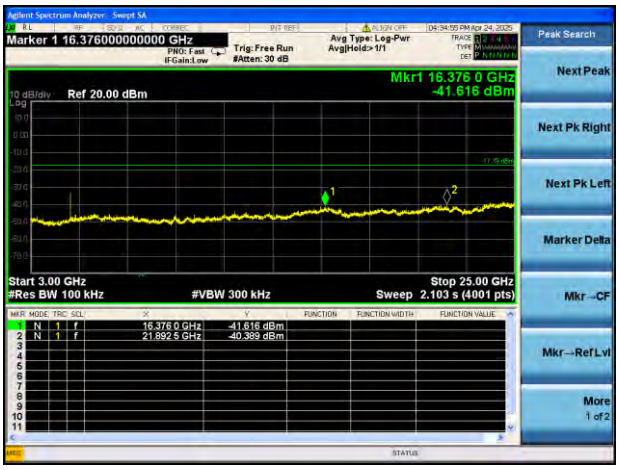
8-DPSK LOW CHANNEL, BAND EDGE



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

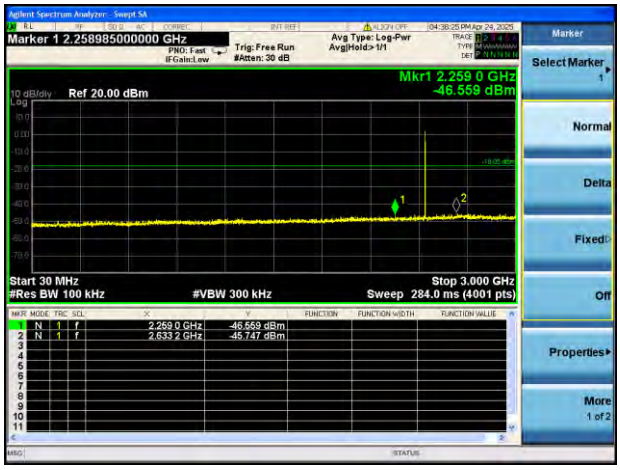


8-DPSK LOW CHANNEL, SPURIOUS
3 GHz ~ 25 GHz

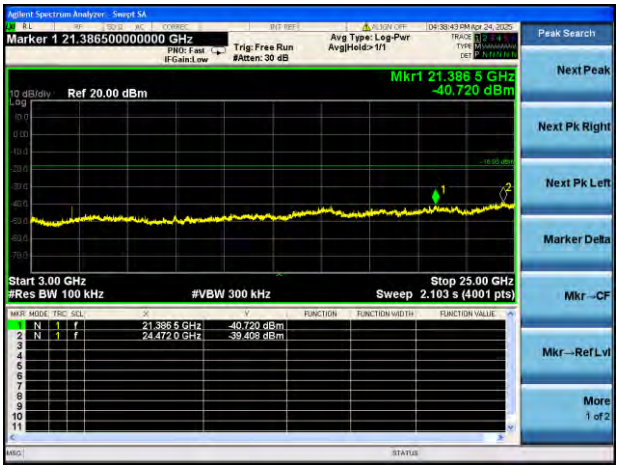


8-DPSK MIDDLE CHANNEL, CARRIER LEVEL

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

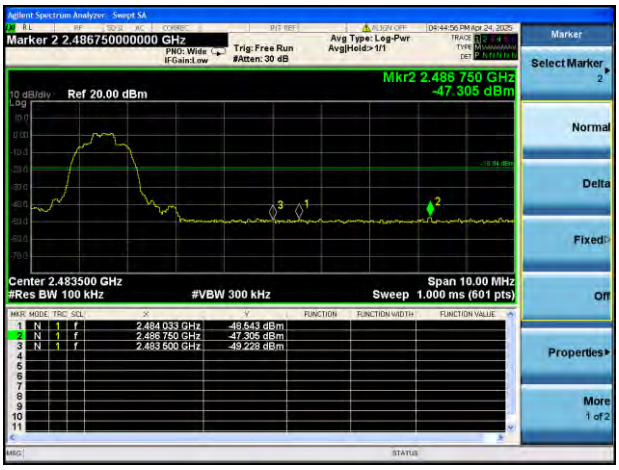


8-DPSK MIDDLE CHANNEL, SPURIOUS
3 GHz ~ 25 GHz

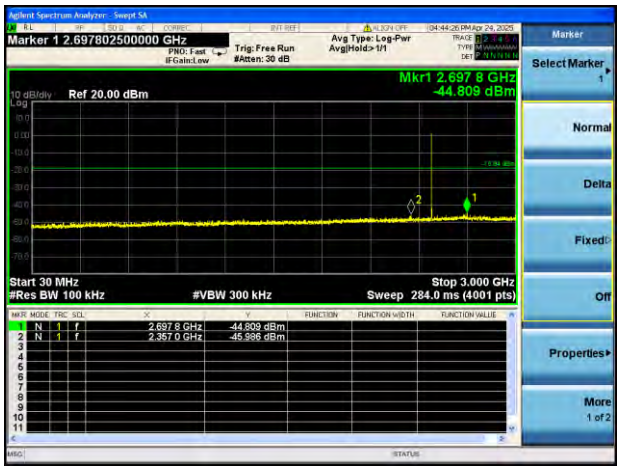


8-DPSK HIGH CHANNEL, CARRIER LEVEL

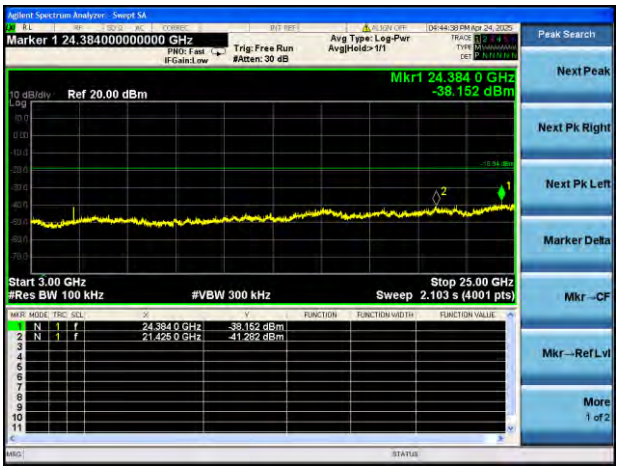
8-DPSK HIGH CHANNEL, BAND EDGE



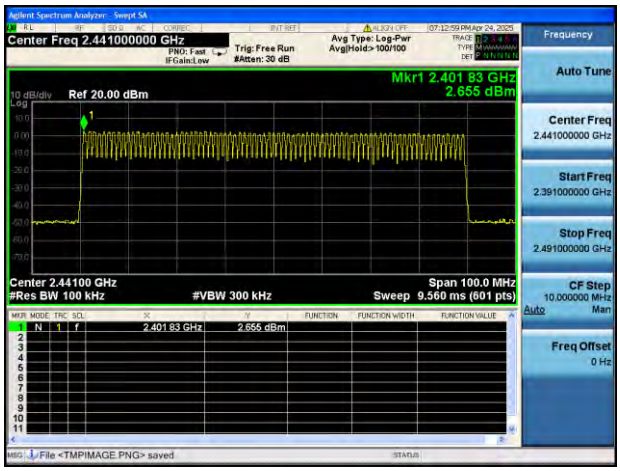
8-DPSK HIGH CHANNEL, SPURIOUS
30 MHz ~ 3 GHz



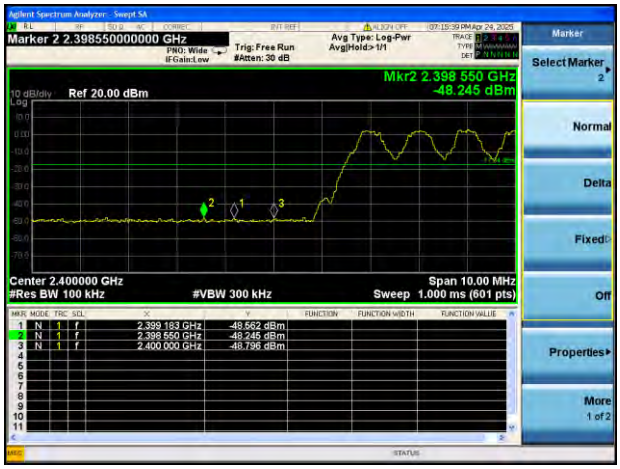
8-DPSK HIGH CHANNEL, SPURIOUS
3 GHz ~ 25 GHz



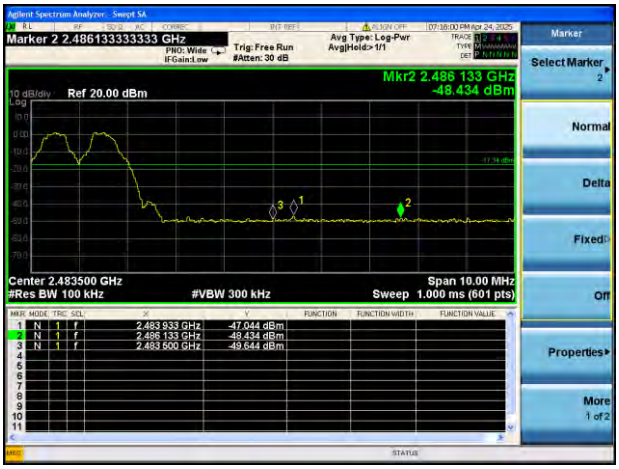
GFSK HOPPING, CARRIER LEVEL



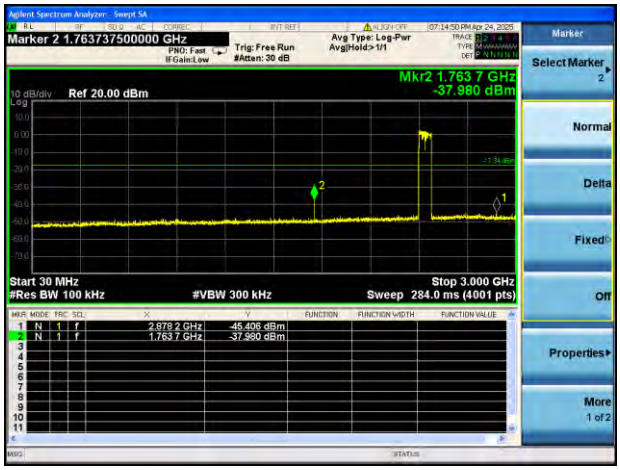
GFSK HOPPING BAND EDGE (LOW)



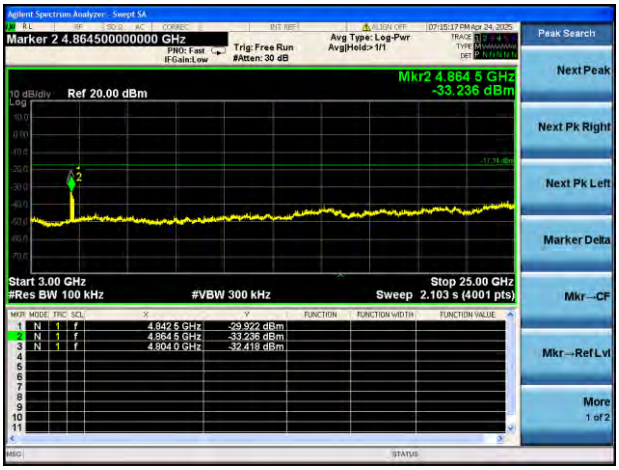
GFSK HOPPING BAND EDGE (HIGH)



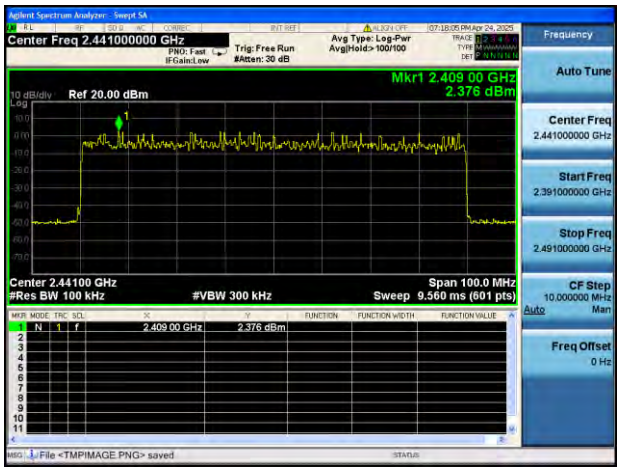
GFSK Hopping Mode, SPURIOUS 30 MHz ~ 3 GHz



GFSK Hopping Mode, SPURIOUS 3GHz ~ 25 GHz

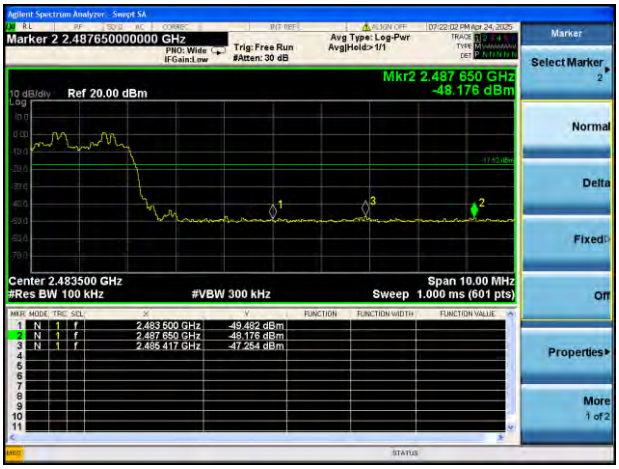


8-DPSK HOPPING, CARRIER LEVEL

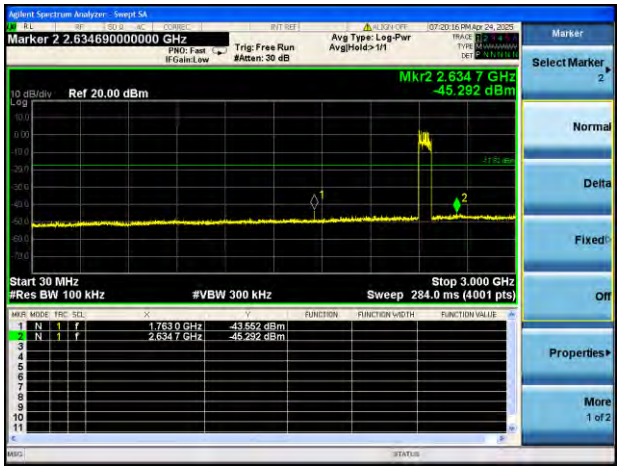


8-DPSK Hopping BAND EDGE (LOW)

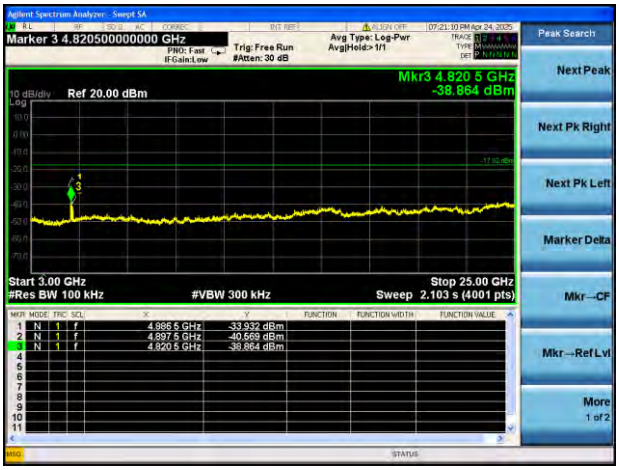
8-DPSK Hopping BAND EDGE (HIGH)



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

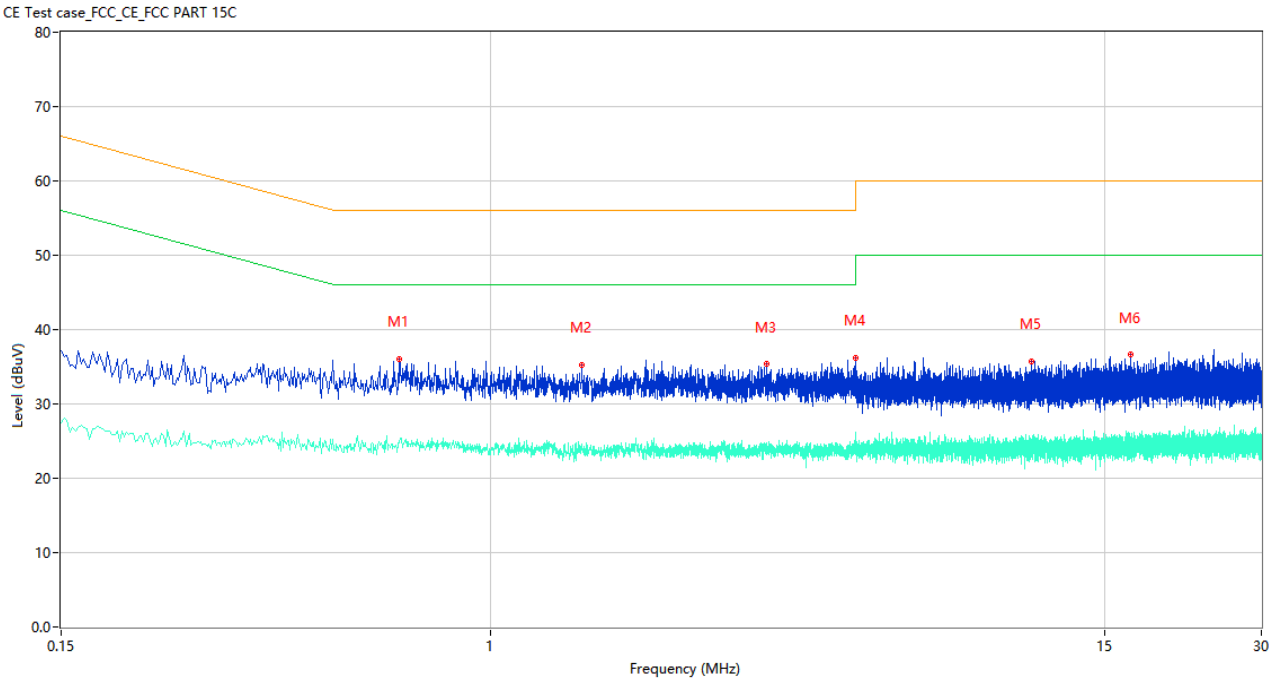
Note [1]: The EUT was tested in Link mode and the charging.

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)

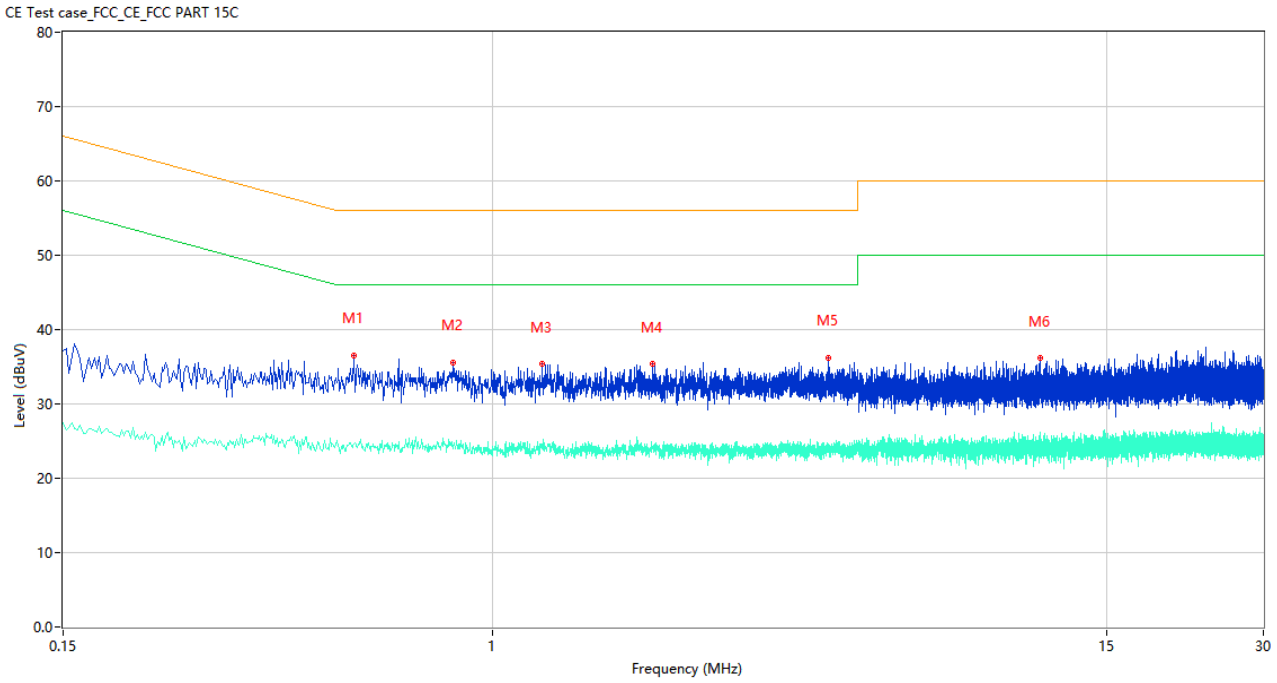
Test Data and Plots

PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.666	36.10	10.36	56.00	19.90	Peak	L	Pass
1**	0.666	25.03	10.36	46.00	20.97	AV	L	Pass
2	1.496	35.24	10.26	56.00	20.76	Peak	L	Pass
2**	1.496	24.53	10.26	46.00	21.47	AV	L	Pass
3	3.372	35.37	10.32	56.00	20.63	Peak	L	Pass
3**	3.372	23.79	10.32	46.00	22.21	AV	L	Pass
4	5.016	36.26	10.37	60.00	23.74	Peak	L	Pass
4**	5.016	25.03	10.37	50.00	24.97	AV	L	Pass
5	10.870	35.78	10.40	60.00	24.22	Peak	L	Pass
5**	10.870	23.88	10.40	50.00	26.12	AV	L	Pass
6	16.858	36.62	10.63	60.00	23.38	Peak	L	Pass
6**	16.858	23.75	10.63	50.00	26.25	AV	L	Pass

PHASE N



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.542	36.54	10.02	56.00	19.46	Peak	N	Pass
1**	0.542	24.62	10.02	46.00	21.38	AV	N	Pass
2	0.838	35.57	10.60	56.00	20.43	Peak	N	Pass
2**	0.838	24.01	10.60	46.00	21.99	AV	N	Pass
3	1.242	35.35	10.37	56.00	20.65	Peak	N	Pass
3**	1.242	24.40	10.37	46.00	21.60	AV	N	Pass
4	2.024	35.33	10.36	56.00	20.67	Peak	N	Pass
4**	2.024	24.35	10.36	46.00	21.65	AV	N	Pass
5	4.406	36.19	10.33	56.00	19.81	Peak	N	Pass
5**	4.406	24.42	10.33	46.00	21.58	AV	N	Pass
6	11.188	36.18	10.71	60.00	23.82	Peak	N	Pass
6**	11.188	24.95	10.71	50.00	25.05	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.

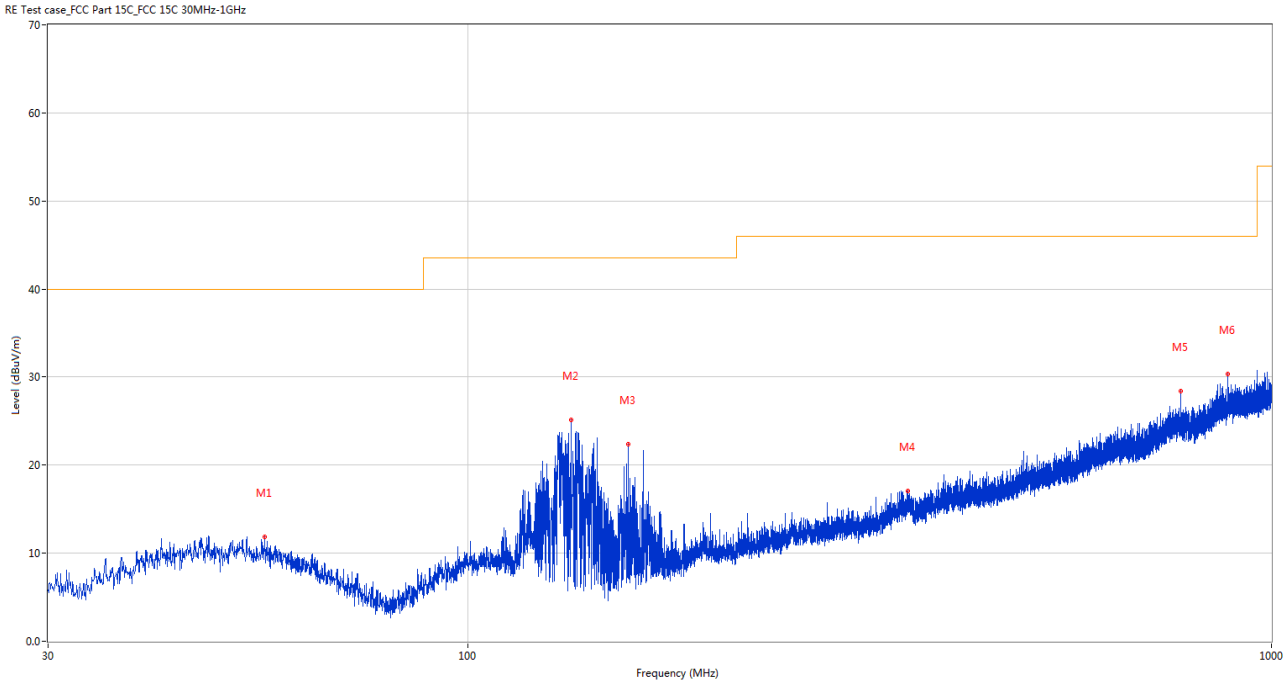
Note [3]: The EUT was tested in Link mode and the charging.

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.

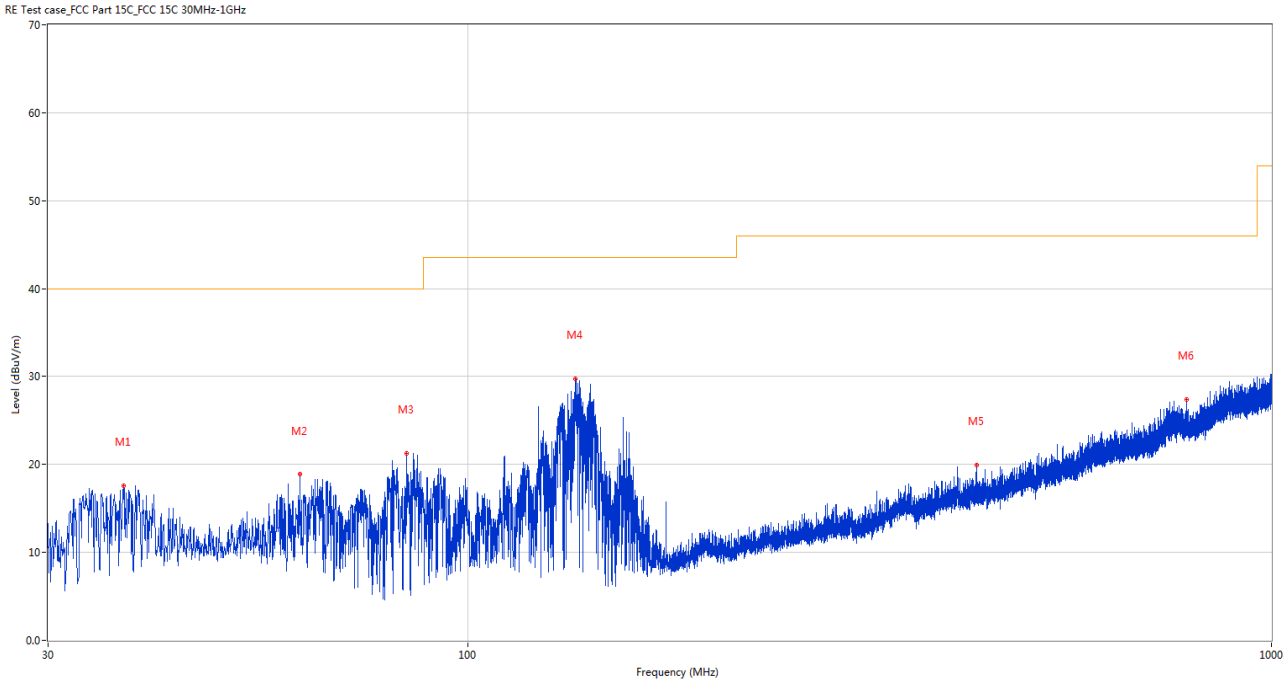
Test Data and Plots

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	55.850	11.90	-25.09	40.0	28.10	Peak	0.00	100	Horizontal	Pass
2	134.420	25.15	-29.66	43.5	18.35	Peak	175.80	100	Horizontal	Pass
3	158.234	22.36	-29.12	43.5	21.14	Peak	161.40	100	Horizontal	Pass
4	352.670	17.08	-21.03	46.0	28.92	Peak	2.00	100	Horizontal	Pass
5	770.304	28.40	-11.71	46.0	17.60	Peak	182.30	100	Horizontal	Pass
6	881.417	30.30	-9.57	46.0	15.70	Peak	146.40	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	37.275	17.59	-27.15	40.0	22.41	Peak	246.70	100	Vertical	Pass
2	61.767	18.86	-26.40	40.0	21.14	Peak	218.00	100	Vertical	Pass
3	83.835	21.27	-30.65	40.0	18.73	Peak	58.00	100	Vertical	Pass
4	136.118	29.73	-29.70	43.5	13.77	Peak	44.10	100	Vertical	Pass
5	429.155	19.92	-19.66	46.0	26.08	Peak	270.10	100	Vertical	Pass
6	783.351	27.35	-11.73	46.0	18.65	Peak	86.60	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	1333.200	44.01	74.0	29.99	Peak	28.00	100	Horizontal	Pass
1**	1333.200	33.55	54.0	20.45	AV	28.00	100	Horizontal	Pass
2	2402.100	96.54	74.0	-22.54	Peak	28.00	200	Horizontal	N/A
2**	2402.100	96.04	54.0	-42.04	AV	28.00	200	Horizontal	N/A
3	4804.000	52.21	74.0	21.79	Peak	0.00	150	Horizontal	Pass
3**	4804.000	48.89	54.0	5.11	AV	0.00	150	Horizontal	Pass
4	6903.250	53.97	74.0	20.03	Peak	229.00	200	Horizontal	Pass
4**	6903.250	44.77	54.0	9.23	AV	229.00	200	Horizontal	Pass
5	13012.237	54.70	74.0	19.30	Peak	141.00	150	Horizontal	Pass
5**	13012.237	45.76	54.0	8.24	AV	141.00	150	Horizontal	Pass
6	17015.625	55.22	74.0	18.78	Peak	134.00	300	Horizontal	Pass
6**	17015.625	46.51	54.0	7.49	AV	134.00	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	1332.300	46.83	74.0	27.17	Peak	175.00	400	Vertical	Pass
1**	1332.300	41.38	54.0	12.62	AV	175.00	400	Vertical	Pass
2	2402.000	95.14	74.0	-21.14	Peak	300.00	150	Vertical	N/A
2**	2402.000	94.61	54.0	-40.61	AV	300.00	150	Vertical	N/A
3	2656.800	58.77	74.0	15.23	Peak	227.00	150	Vertical	Pass
3**	2656.800	50.58	54.0	3.42	AV	227.00	150	Vertical	Pass
4	4804.000	52.11	74.0	21.89	Peak	130.00	150	Vertical	Pass
4**	4804.000	49.30	54.0	4.70	AV	130.00	150	Vertical	Pass
5	5322.750	55.58	74.0	18.42	Peak	71.00	300	Vertical	Pass
5**	5322.750	43.63	54.0	10.37	AV	71.00	300	Vertical	Pass
6	17445.337	55.23	74.0	18.77	Peak	332.00	200	Vertical	Pass
6**	17445.337	47.92	54.0	6.08	AV	332.00	200	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	1329.300	42.93	74.0	31.07	Peak	360.00	200	Horizontal	Pass
1**	1329.300	33.34	54.0	20.66	AV	360.00	200	Horizontal	Pass
2	2441.200	93.49	74.0	-19.49	Peak	360.00	150	Horizontal	N/A
2**	2441.200	92.82	54.0	-38.82	AV	360.00	150	Horizontal	N/A
3	4882.250	49.40	74.0	24.60	Peak	0.00	100	Horizontal	Pass
3**	4882.250	44.68	54.0	9.32	AV	0.00	100	Horizontal	Pass
4	7886.500	53.72	74.0	20.28	Peak	286.00	300	Horizontal	Pass
4**	7886.500	44.45	54.0	9.55	AV	286.00	300	Horizontal	Pass
5	11799.287	53.81	74.0	20.19	Peak	360.00	400	Horizontal	Pass
5**	11799.287	44.54	54.0	9.46	AV	360.00	400	Horizontal	Pass
6	17447.438	55.10	74.0	18.90	Peak	151.00	300	Horizontal	Pass
6**	17447.438	46.07	54.0	7.93	AV	151.00	300	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	1330.700	47.65	74.0	26.35	Peak	182.00	400	Vertical	Pass
1**	1330.700	37.41	54.0	16.59	AV	182.00	400	Vertical	Pass
2	2441.000	91.79	74.0	-17.79	Peak	289.00	200	Vertical	N/A
2**	2441.000	91.28	54.0	-37.28	AV	289.00	200	Vertical	N/A
3	2662.200	57.82	74.0	16.18	Peak	217.00	100	Vertical	Pass
3**	2662.200	46.51	54.0	7.49	AV	217.00	100	Vertical	Pass
4	4882.250	49.13	74.0	24.87	Peak	48.00	100	Vertical	Pass
4**	4882.250	44.32	54.0	9.68	AV	48.00	100	Vertical	Pass
5	5320.250	54.32	74.0	19.68	Peak	108.00	200	Vertical	Pass
5**	5320.250	40.98	54.0	13.02	AV	108.00	200	Vertical	Pass
6	16967.325	55.58	74.0	18.42	Peak	241.00	300	Vertical	Pass
6**	16967.325	46.76	54.0	7.24	AV	241.00	300	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	1330.000	43.92	74.0	30.08	Peak	34.00	200	Horizontal	Pass
1**	1330.000	33.63	54.0	20.37	AV	34.00	200	Horizontal	Pass
2	2480.100	92.63	74.0	-18.63	Peak	34.00	200	Horizontal	N/A
2**	2480.100	92.29	54.0	-38.29	AV	34.00	200	Horizontal	N/A
3	4960.500	50.35	74.0	23.65	Peak	8.00	100	Horizontal	Pass
3**	4960.500	44.27	54.0	9.73	AV	8.00	100	Horizontal	Pass
4	6883.500	54.59	74.0	19.41	Peak	188.00	400	Horizontal	Pass
4**	6883.500	44.33	54.0	9.67	AV	188.00	400	Horizontal	Pass
5	12461.438	53.44	74.0	20.56	Peak	360.00	400	Horizontal	Pass
5**	12461.438	44.78	54.0	9.22	AV	360.00	400	Horizontal	Pass
6	17415.150	55.82	74.0	18.18	Peak	3.00	400	Horizontal	Pass
6**	17415.150	46.96	54.0	7.04	AV	3.00	400	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	1333.300	47.13	74.0	26.87	Peak	171.00	100	Vertical	Pass
1**	1333.300	35.40	54.0	18.60	AV	171.00	100	Vertical	Pass
2	2479.900	90.63	74.0	-16.63	Peak	305.00	100	Vertical	N/A
2**	2479.900	89.85	54.0	-35.85	AV	305.00	100	Vertical	N/A
3	2655.200	58.86	74.0	15.14	Peak	224.00	100	Vertical	Pass
3**	2655.200	42.28	54.0	11.72	AV	224.00	100	Vertical	Pass
4	4960.250	50.28	74.0	23.72	Peak	108.00	100	Vertical	Pass
4**	4960.250	46.32	54.0	7.68	AV	108.00	100	Vertical	Pass
5	5309.500	58.05	74.0	15.95	Peak	88.00	100	Vertical	Pass
5**	5309.500	41.46	54.0	12.54	AV	88.00	100	Vertical	Pass
6	16996.988	55.93	74.0	18.07	Peak	334.00	100	Vertical	Pass
6**	16996.988	46.52	54.0	7.48	AV	334.00	100	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	1330.700	43.64	74.0	30.36	Peak	28.00	200	Horizontal	Pass
1**	1330.700	37.05	54.0	16.95	AV	28.00	200	Horizontal	Pass
2	2402.200	97.10	74.0	-23.10	Peak	28.00	150	Horizontal	N/A
2**	2402.200	96.39	54.0	-42.39	AV	28.00	150	Horizontal	N/A
3	4804.000	51.22	74.0	22.78	Peak	0.00	100	Horizontal	Pass
3**	4804.000	46.20	54.0	7.80	AV	0.00	100	Horizontal	Pass
4	7612.000	54.29	74.0	19.71	Peak	0.00	300	Horizontal	Pass
4**	7612.000	44.48	54.0	9.52	AV	0.00	300	Horizontal	Pass
5	13056.338	54.30	74.0	19.70	Peak	332.00	100	Horizontal	Pass
5**	13056.338	45.45	54.0	8.55	AV	332.00	100	Horizontal	Pass
6	17038.725	55.21	74.0	18.79	Peak	90.00	300	Horizontal	Pass
6**	17038.725	45.76	54.0	8.24	AV	90.00	300	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	1328.100	47.58	74.0	26.42	Peak	179.00	300	Vertical	Pass
1**	1328.100	40.48	54.0	13.52	AV	179.00	300	Vertical	Pass
2	2401.700	94.45	74.0	-20.45	Peak	306.00	100	Vertical	N/A
2**	2401.700	93.83	54.0	-39.83	AV	306.00	100	Vertical	N/A
3	2662.700	57.43	74.0	16.57	Peak	217.00	100	Vertical	Pass
3**	2662.700	48.01	54.0	5.99	AV	217.00	100	Vertical	Pass
4	4804.250	50.84	74.0	23.16	Peak	103.00	100	Vertical	Pass
4**	4804.250	48.00	54.0	6.00	AV	103.00	100	Vertical	Pass
5	5330.750	54.71	74.0	19.29	Peak	83.00	400	Vertical	Pass
5**	5330.750	44.95	54.0	9.05	AV	83.00	400	Vertical	Pass
6	17428.802	55.80	74.0	18.20	Peak	217.00	300	Vertical	Pass
6**	17428.802	46.06	54.0	7.94	AV	217.00	300	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	1327.600	43.52	74.0	30.48	Peak	360.00	200	Horizontal	Pass
1**	1327.600	34.54	54.0	19.46	AV	360.00	200	Horizontal	Pass
2	2440.300	93.87	74.0	-19.87	Peak	360.00	200	Horizontal	N/A
2**	2440.300	93.01	54.0	-39.01	AV	360.00	200	Horizontal	N/A
3	4879.750	50.91	74.0	23.09	Peak	0.00	200	Horizontal	Pass
3**	4879.750	46.15	54.0	7.85	AV	0.00	200	Horizontal	Pass
4	6911.500	53.63	74.0	20.37	Peak	25.00	100	Horizontal	Pass
4**	6911.500	44.36	54.0	9.64	AV	25.00	100	Horizontal	Pass
5	12484.000	53.77	74.0	20.23	Peak	349.00	300	Horizontal	Pass
5**	12484.000	44.71	54.0	9.29	AV	349.00	300	Horizontal	Pass
6	16988.324	55.86	74.0	18.14	Peak	0.00	100	Horizontal	Pass
6**	16988.324	46.66	54.0	7.34	AV	0.00	100	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	1331.000	48.38	74.0	25.62	Peak	179.00	300	Vertical	Pass
1**	1331.000	36.04	54.0	17.96	AV	179.00	300	Vertical	Pass
2	2440.300	91.78	74.0	-17.78	Peak	288.00	100	Vertical	N/A
2**	2440.300	90.41	54.0	-36.41	AV	288.00	100	Vertical	N/A
3	2664.400	57.72	74.0	16.28	Peak	225.00	100	Vertical	Pass
3**	2664.400	48.69	54.0	5.31	AV	225.00	100	Vertical	Pass
4	4879.750	50.29	74.0	23.71	Peak	126.00	100	Vertical	Pass
4**	4879.750	44.43	54.0	9.57	AV	126.00	100	Vertical	Pass
5	13031.137	54.57	74.0	19.43	Peak	285.00	100	Vertical	Pass
5**	13031.137	45.04	54.0	8.96	AV	285.00	100	Vertical	Pass
6	16860.225	55.91	74.0	18.09	Peak	225.00	100	Vertical	Pass
6**	16860.225	46.13	54.0	7.87	AV	225.00	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	1331.000	43.97	74.0	30.03	Peak	360.00	200	Horizontal	Pass
1**	1331.000	35.40	54.0	18.60	AV	360.00	200	Horizontal	Pass
2	2479.900	94.08	74.0	-20.08	Peak	28.00	100	Horizontal	N/A
2**	2479.900	93.36	54.0	-39.36	AV	28.00	100	Horizontal	N/A
3	4866.750	49.66	74.0	24.34	Peak	247.00	100	Horizontal	Pass
3**	4866.750	40.83	54.0	13.17	AV	247.00	100	Horizontal	Pass
4	6883.250	54.08	74.0	19.92	Peak	0.00	400	Horizontal	Pass
4**	6883.250	45.27	54.0	8.73	AV	0.00	400	Horizontal	Pass
5	12956.588	54.33	74.0	19.67	Peak	286.00	200	Horizontal	Pass
5**	12956.588	44.75	54.0	9.25	AV	286.00	200	Horizontal	Pass
6	17450.324	55.73	74.0	18.27	Peak	332.00	100	Horizontal	Pass
6**	17450.324	46.23	54.0	7.77	AV	332.00	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	1329.400	47.65	74.0	26.35	Peak	172.00	300	Vertical	Pass
1**	1329.400	33.58	54.0	20.42	AV	172.00	300	Vertical	Pass
2	2480.000	89.90	74.0	-15.90	Peak	317.00	150	Vertical	N/A
2**	2480.000	87.85	54.0	-33.85	AV	317.00	150	Vertical	N/A
3	2662.900	57.71	74.0	16.29	Peak	227.00	100	Vertical	Pass
3**	2662.900	45.65	54.0	8.35	AV	227.00	100	Vertical	Pass
4	5333.250	52.46	74.0	21.54	Peak	186.00	100	Vertical	Pass
4**	5333.250	43.00	54.0	11.00	AV	186.00	100	Vertical	Pass
5	12996.487	54.18	74.0	19.82	Peak	151.00	100	Vertical	Pass
5**	12996.487	44.36	54.0	9.64	AV	151.00	100	Vertical	Pass
6	16995.412	56.00	74.0	18.00	Peak	0.00	300	Vertical	Pass
6**	16995.412	46.54	54.0	7.46	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	2351.750	55.09	74.0	18.91	Peak	290.00	200	Horizontal	Pass
1**	2351.750	43.58	54.0	10.42	AV	290.00	200	Horizontal	Pass
2	2389.950	53.50	74.0	20.50	Peak	360.00	200	Horizontal	Pass
2**	2389.950	43.05	54.0	10.95	AV	360.00	200	Horizontal	Pass

GFSK HIGH CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.545	54.97	74.0	19.03	Peak	51.00	200	Horizontal	Pass
1**	2483.545	43.74	54.0	10.26	AV	51.00	200	Horizontal	Pass
2	2494.375	56.12	74.0	17.88	Peak	262.00	150	Horizontal	Pass
2**	2494.375	43.82	54.0	10.18	AV	262.00	150	Horizontal	Pass

8-DPSK LOW CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2331.350	55.38	74.0	18.62	Peak	303.00	150	Horizontal	Pass
1**	2331.350	43.84	54.0	10.16	AV	303.00	150	Horizontal	Pass
2	2389.950	52.59	74.0	21.41	Peak	345.00	200	Horizontal	Pass
2**	2389.950	43.14	54.0	10.86	AV	345.00	200	Horizontal	Pass

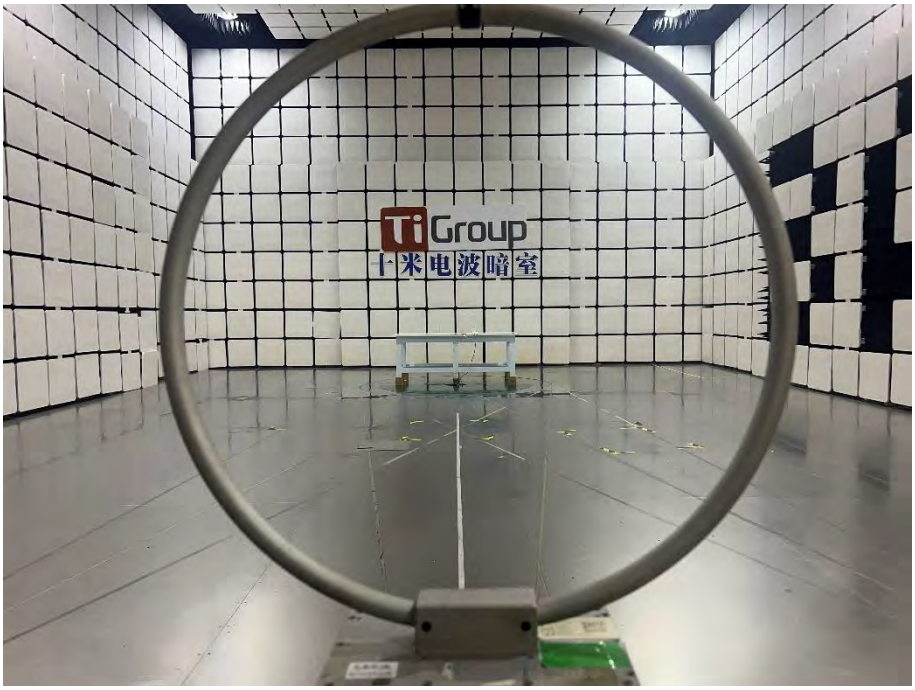
8-DPSK HIGH CHANNEL

No.	Frequency (MHz)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.515	54.55	74.0	19.45	Peak	121.00	150	Horizontal	Pass
1**	2483.515	43.59	54.0	10.41	AV	121.00	150	Horizontal	Pass
2	2493.595	56.39	74.0	17.61	Peak	76.00	100	Horizontal	Pass
2**	2493.595	44.21	54.0	9.79	AV	76.00	100	Horizontal	Pass

ANNEX A TEST SETUP PHOTOS

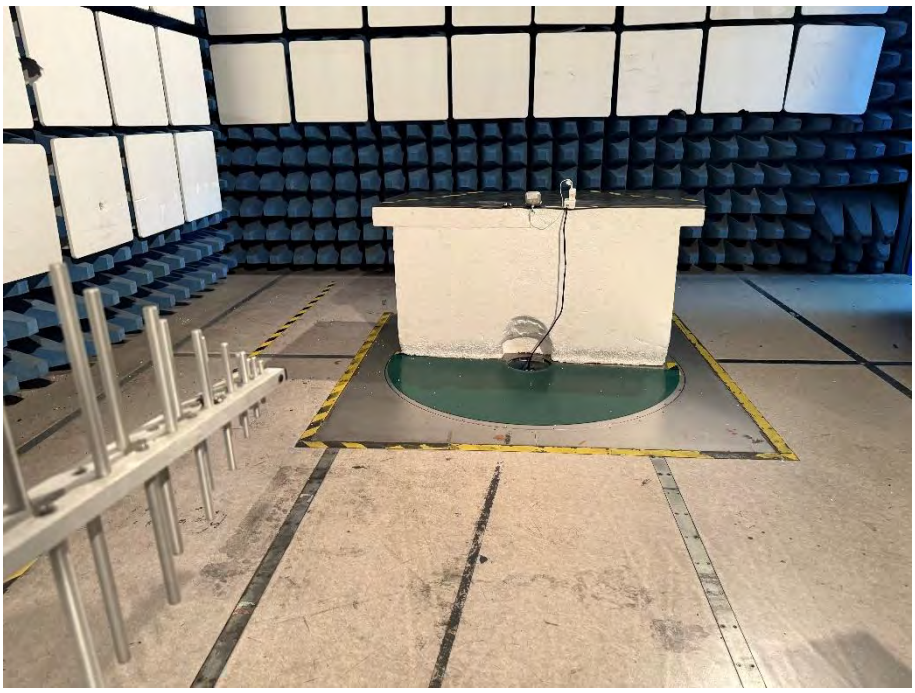
1 Radiated Test Photo

Below 30MHz



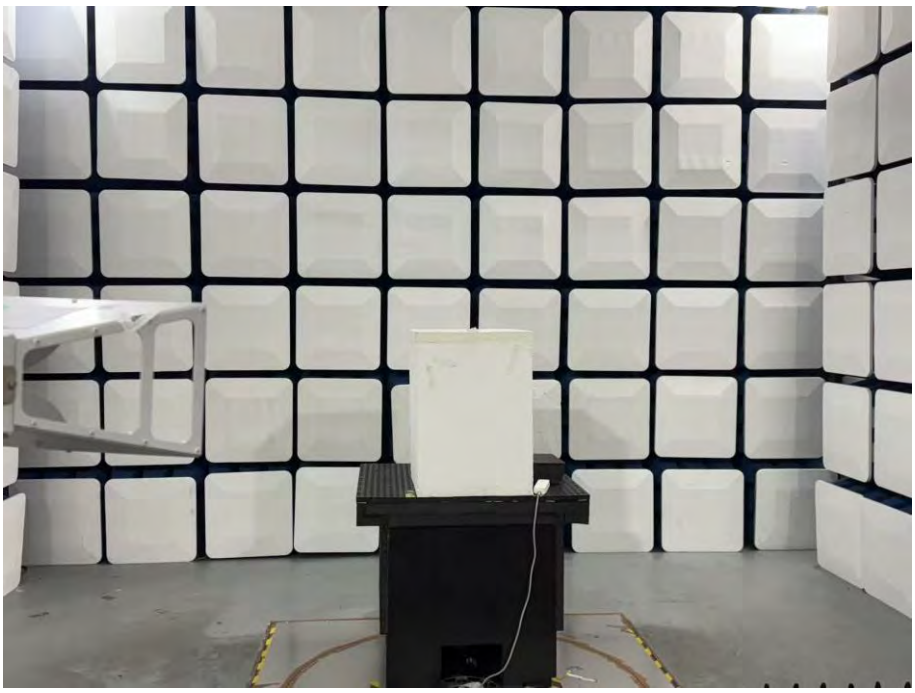
Close-up

30MHz-1GHz

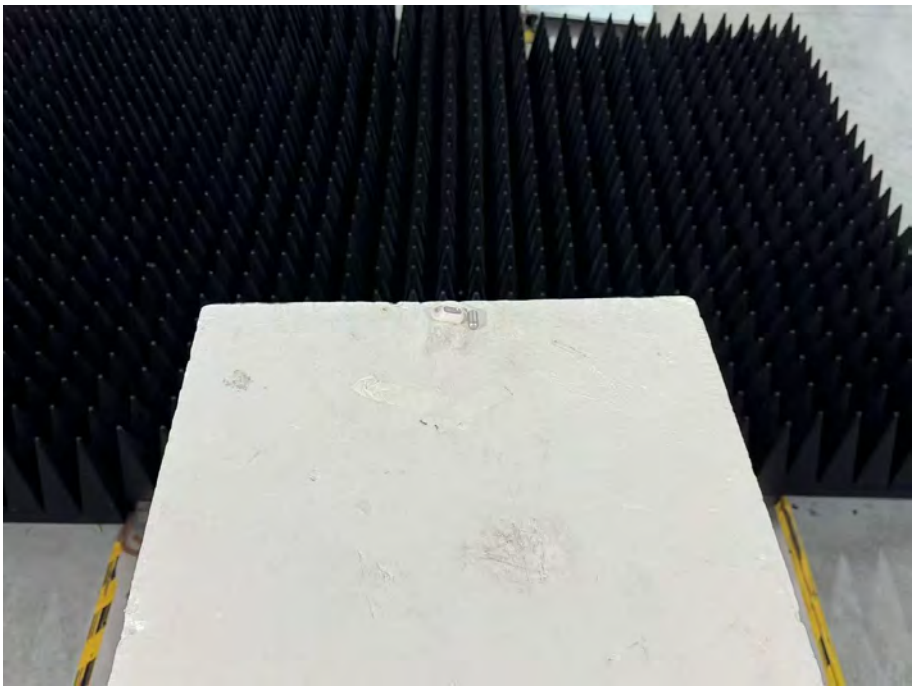


Close-up

Above 1GHz

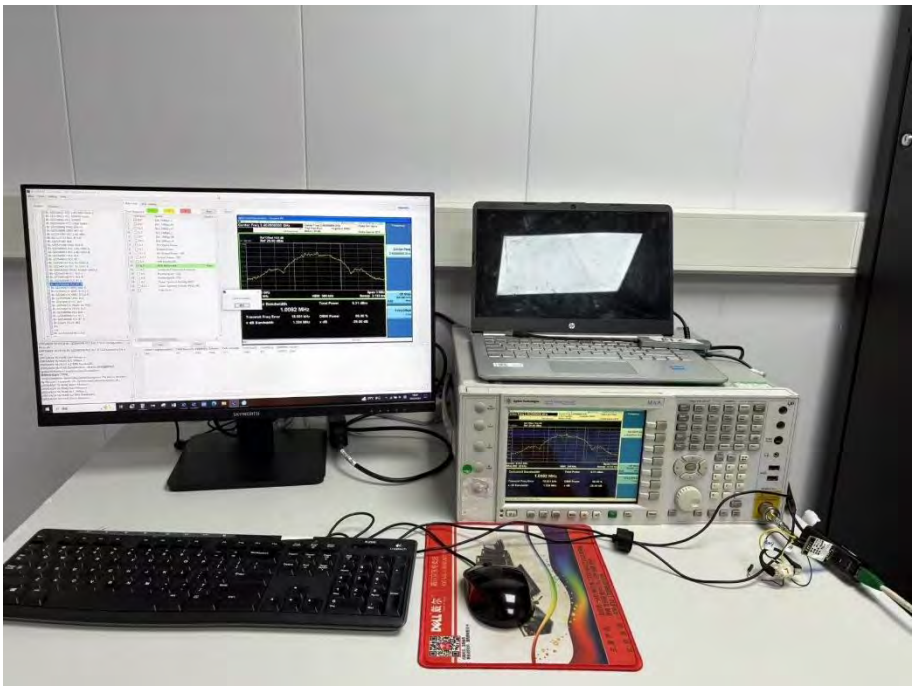


Close-up



2 Conducted Test Photo

Conducted Test



3 Conducted Emission

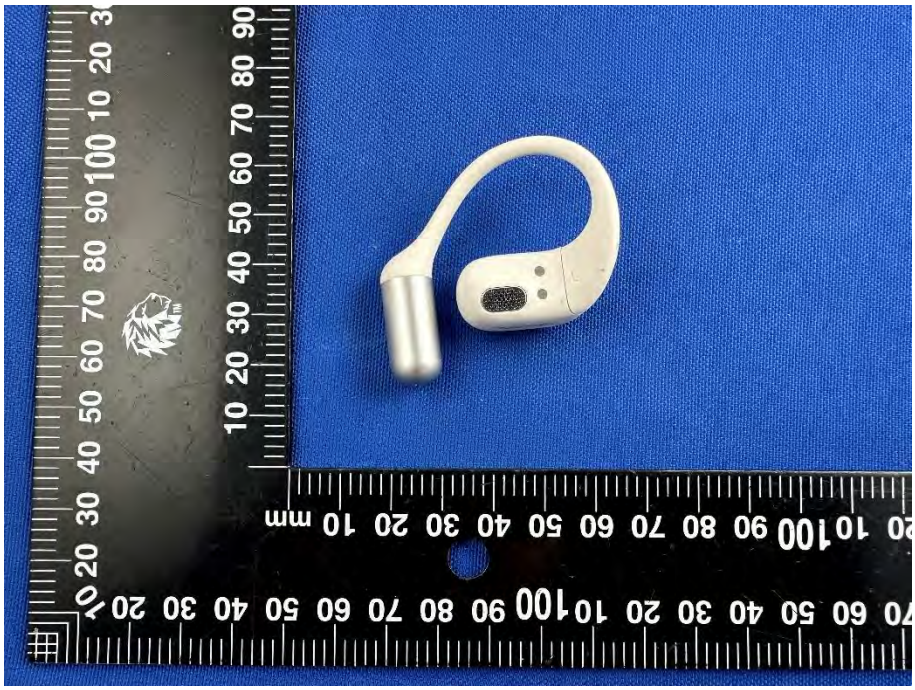
Photo 1

Photo 2

ANNEX B EUT EXTERNAL PHOTOS

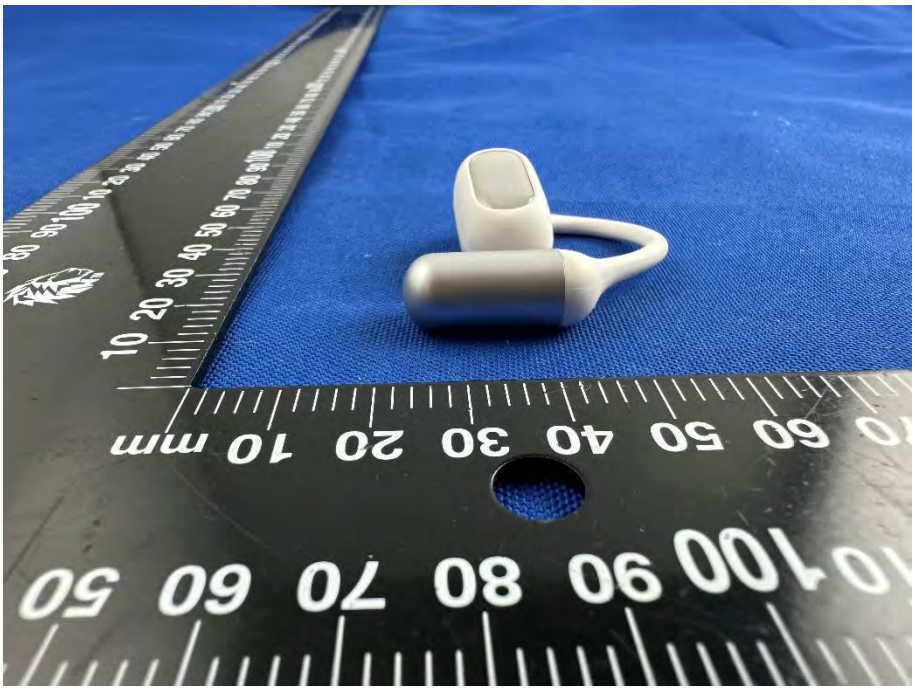
FRONT VIEW OF EUT

REAR VIEW OF EUT

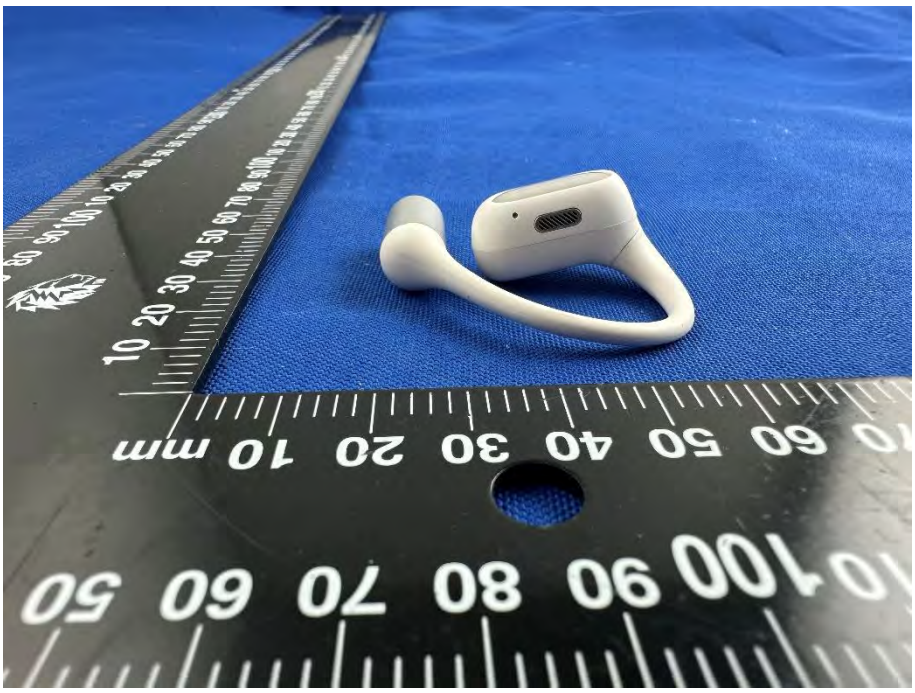


LEFT VIEW OF EUT

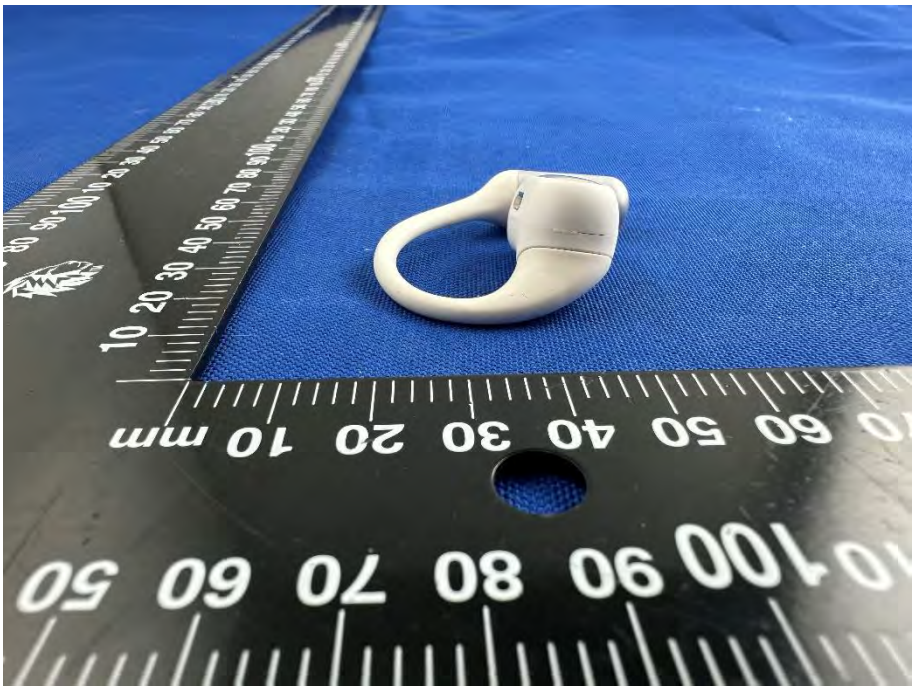
RIGHT VIEW OF EUT



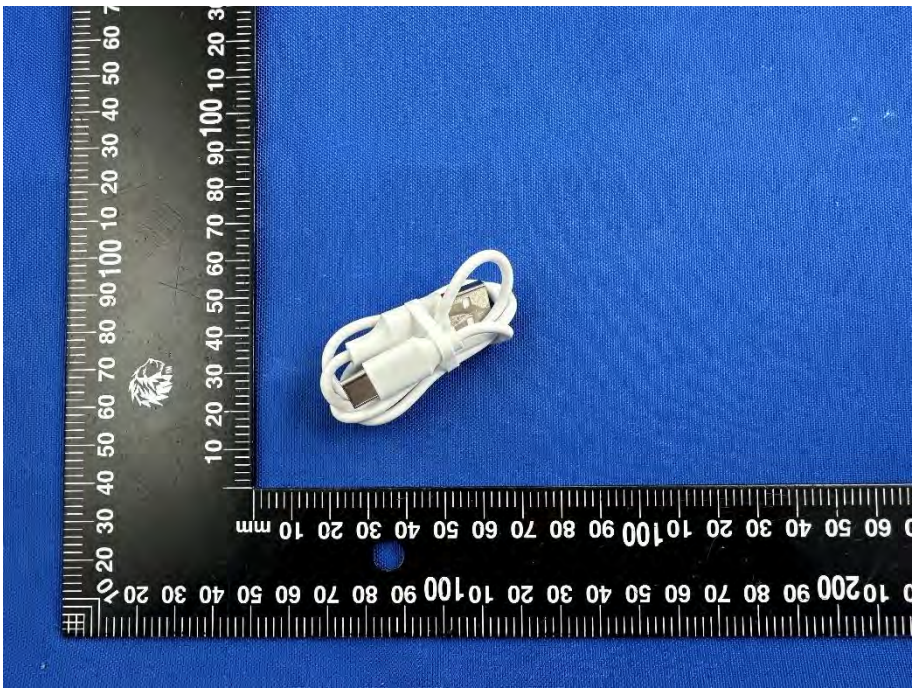
TOP VIEW OF EUT



BOTTOM VIEW OF EUT



Accessory-USB Cable



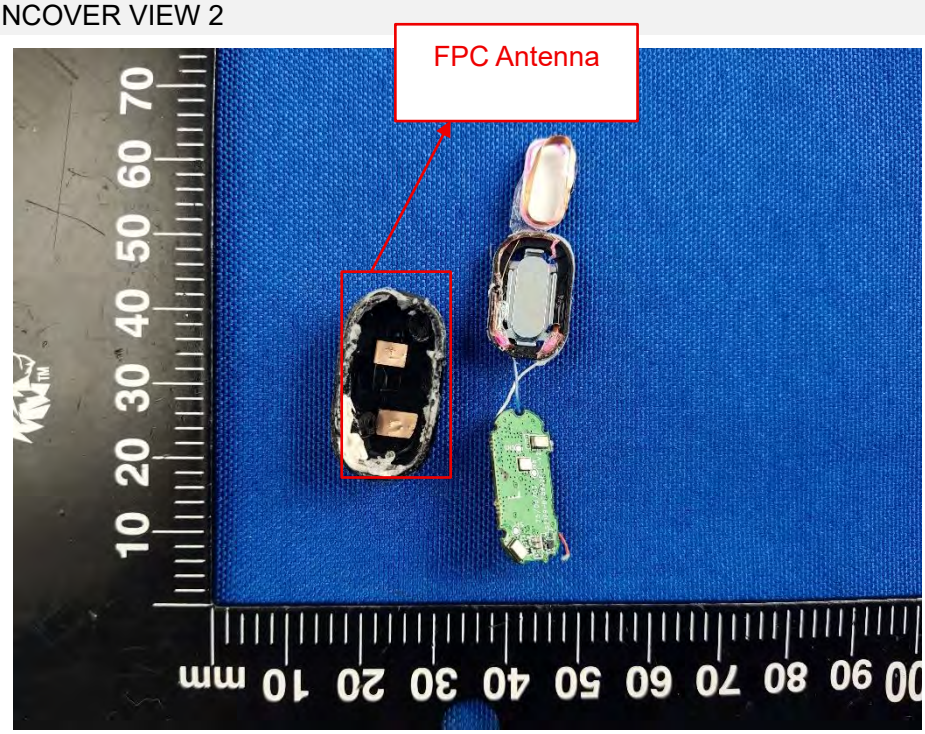
Accessory-USB Cable

Accessory-Charging Case

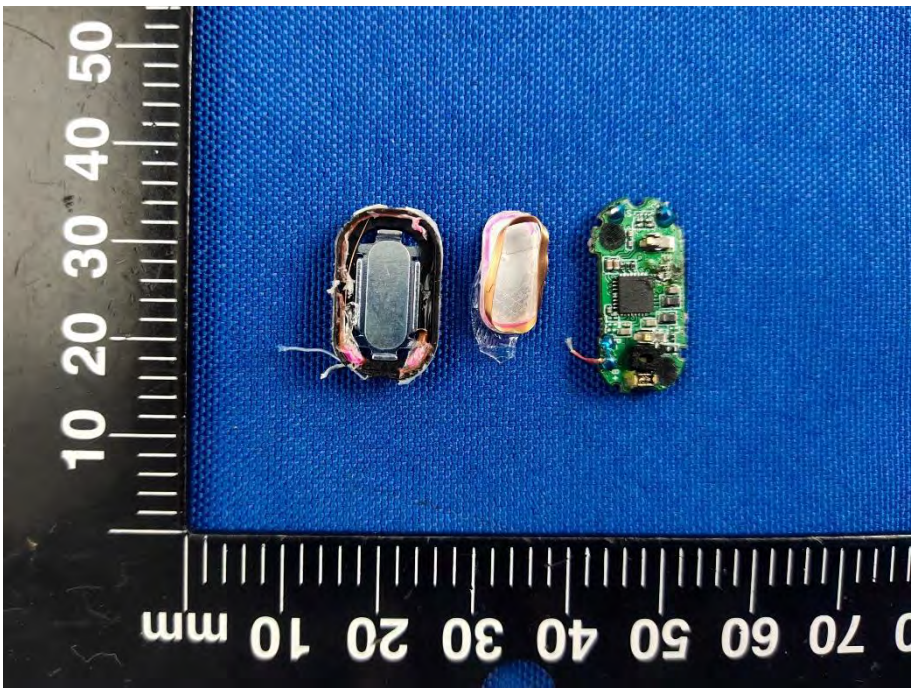
ANNEX C EUT INTERNAL PHOTOS

EUT UNCOVER VIEW 1

EUT UNCOVER VIEW 2

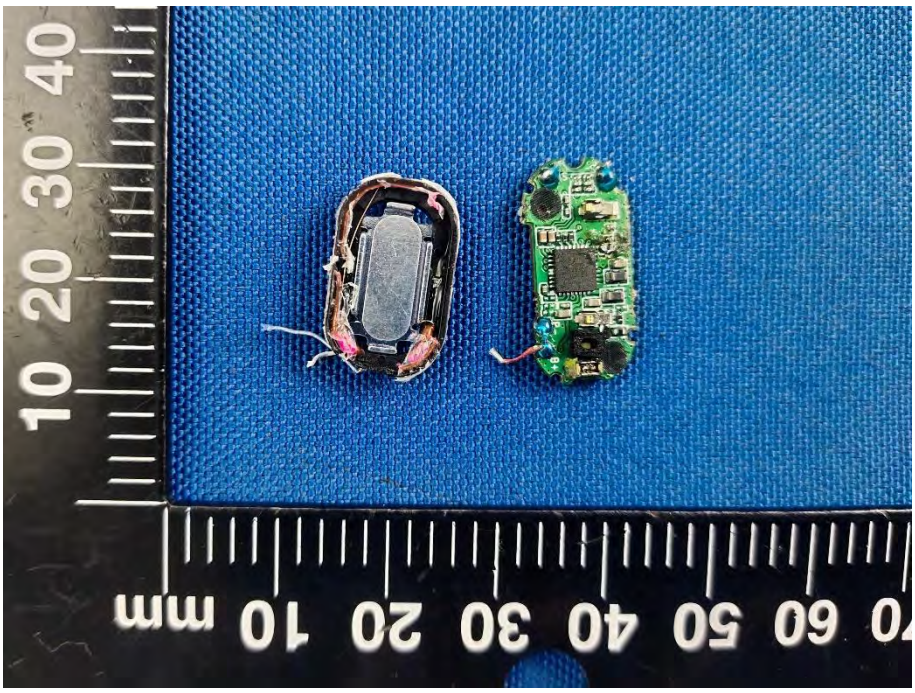


EUT UNCOVER VIEW 3

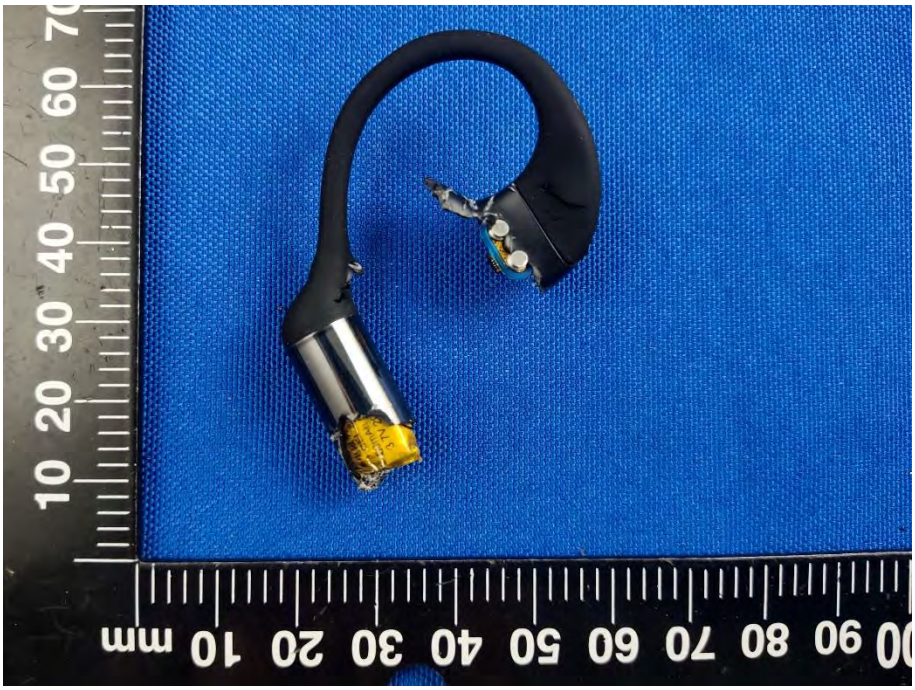


CLOSE-UP

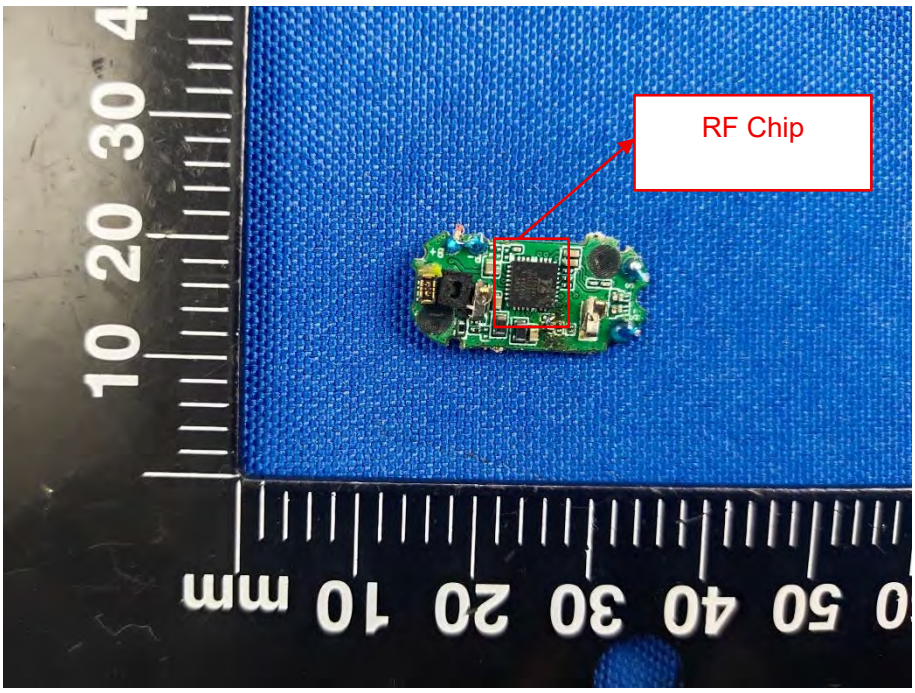
EUT UNCOVER VIEW 4



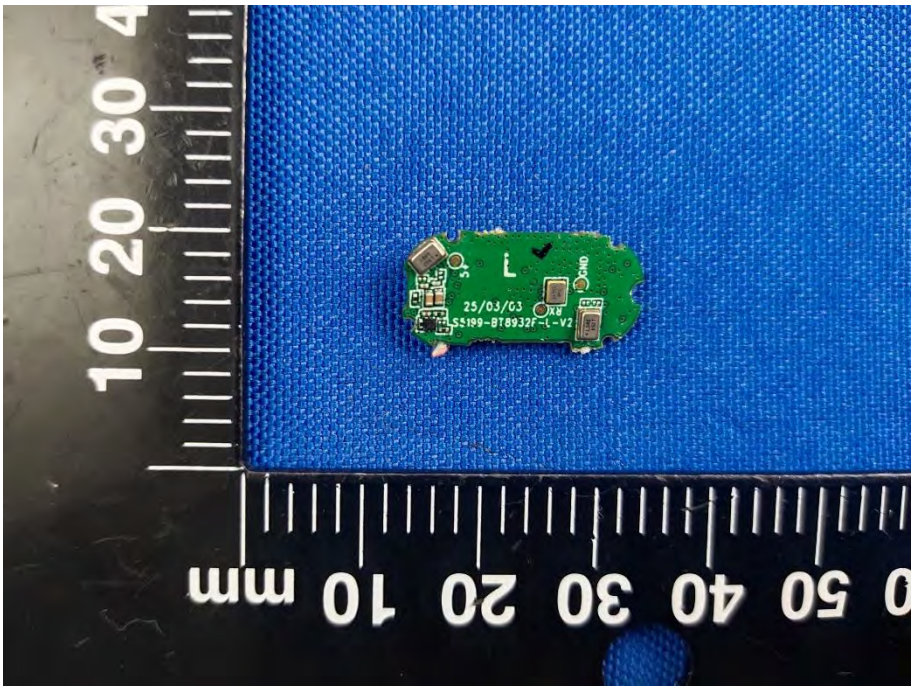
EUT UNCOVER VIEW 5



MAIN BOARD TOP VIEW



MAIN BOARD REAR VIEW



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