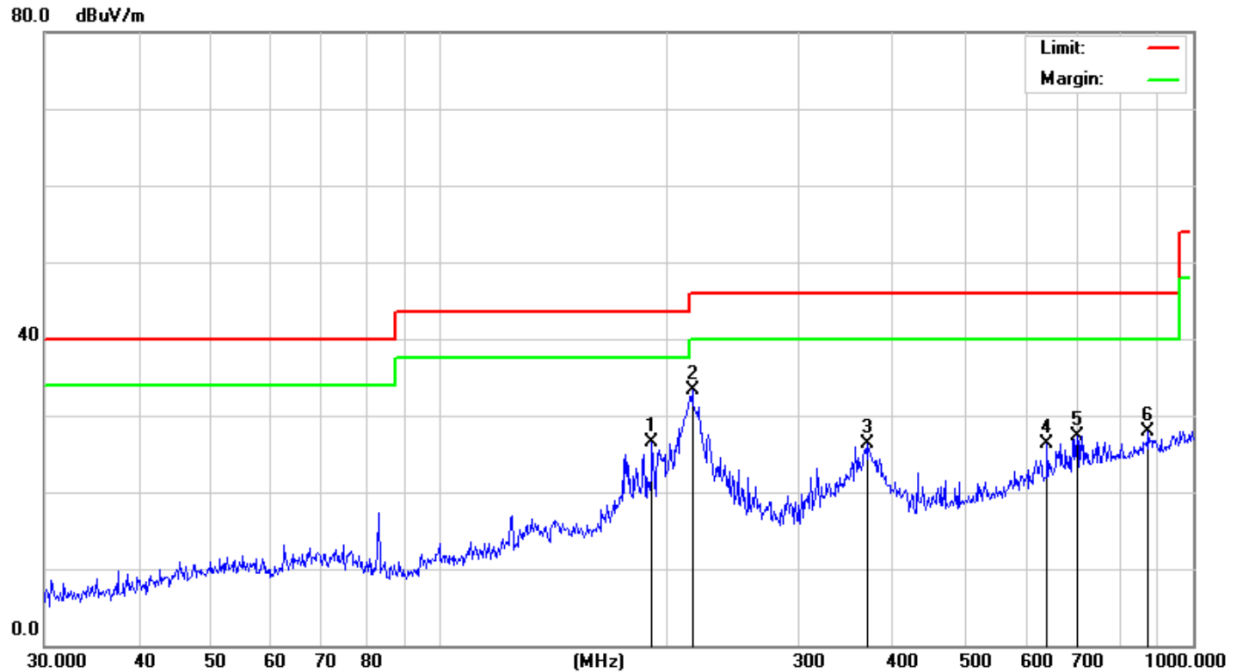


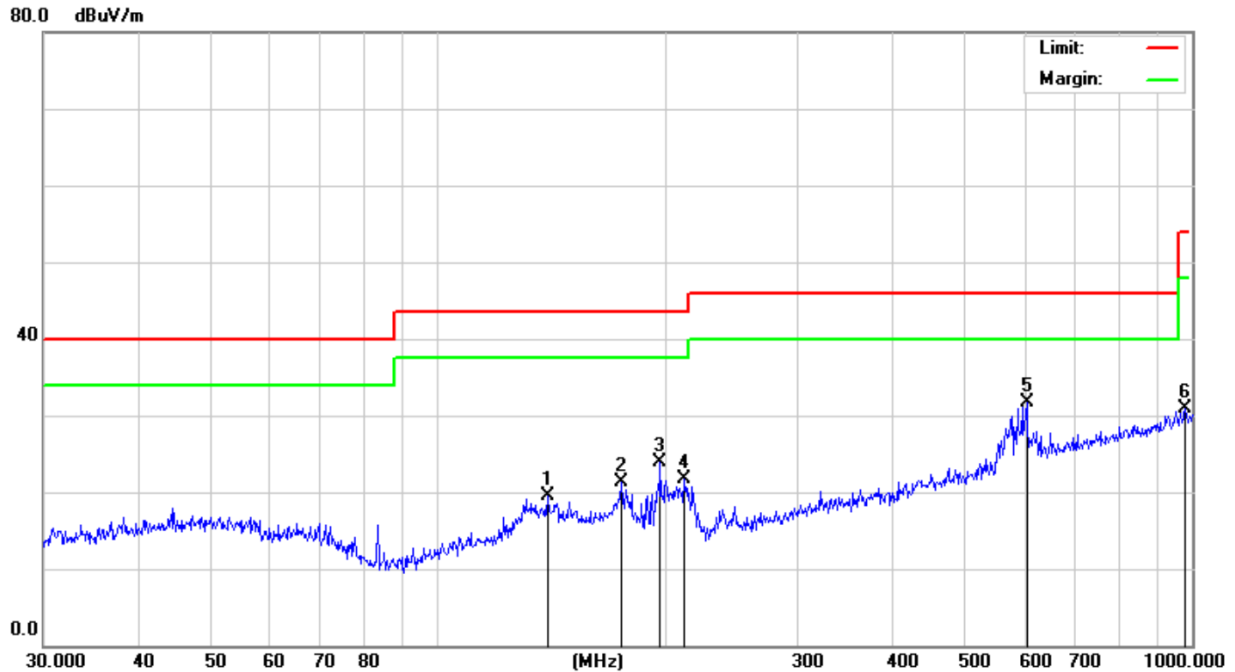
Temperature:	23.1℃	Relative Humidity:	60%
Test Voltage:	DC 14.8V	Phase:	Horizontal
Test Mode:	TX Mode of ANT 2		



Frequency [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
191.7450	26.41	-24.31	43.50	17.09	peak	Horizontal
216.7828	33.33	-24.79	46.00	12.67	peak	Horizontal
370.7023	26.29	-19.78	46.00	19.71	peak	Horizontal
640.6110	26.28	-15.63	46.00	19.72	peak	Horizontal
701.7610	27.37	-14.59	46.00	18.63	peak	Horizontal
872.1832	27.95	-12.30	46.00	18.05	peak	Horizontal

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Temperature:	23.1℃	Relative Humidity:	60%
Test Voltage:	DC 14.8V	Phase:	Vertical
Test Mode:	TX Mode of ANT 2		



Frequency [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
139.8508	19.54	-21.40	43.50	23.96	peak	Vertical
175.0368	21.22	-21.94	43.50	22.28	peak	Vertical
197.2001	23.88	-23.70	43.50	19.62	peak	Vertical
212.2695	21.64	-24.03	43.50	21.86	peak	Vertical
603.5392	31.64	-13.90	46.00	14.36	peak	Vertical
979.1804	31.00	-9.25	54.00	23.0	peak	Vertical

RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

2. All test modes had been pre-tested. The mode 3(Antenna 1) is the worst case and recorded in the report.

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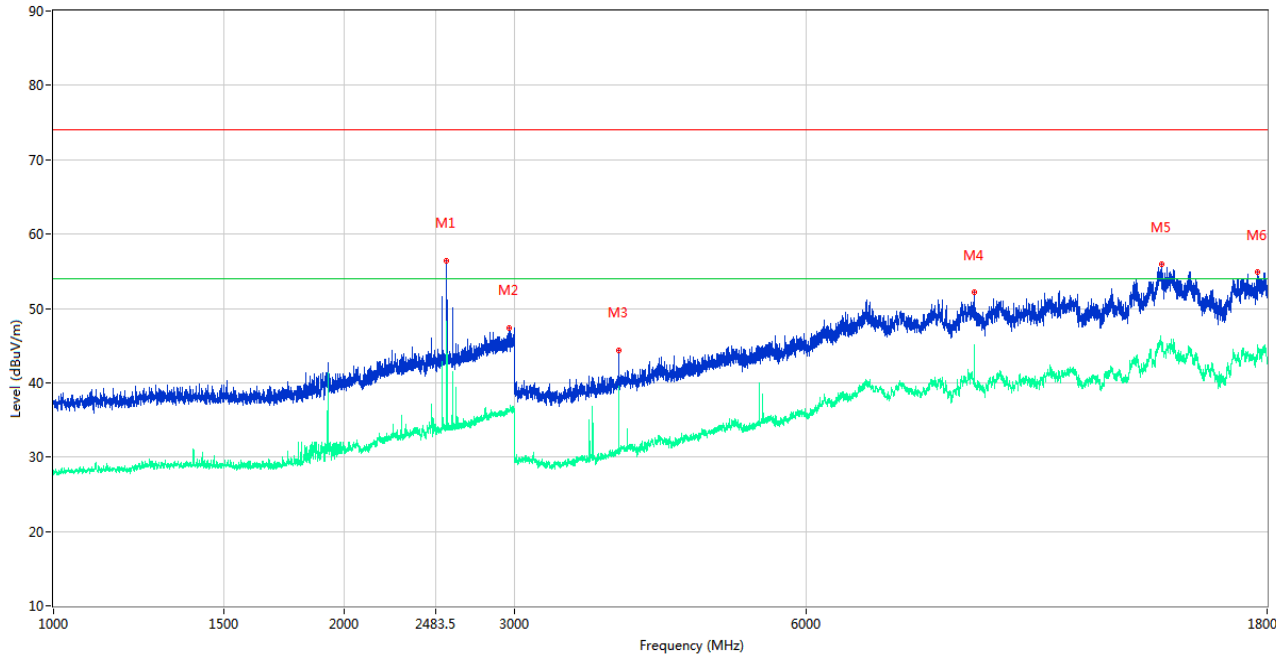
Radiated Emission Above 1GHz

Module A

GFSK-Low-ANT 1

Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	2551.000	56.45	3.55	74.0	17.55	Peak	18.80	Horizontal	Pass
1**	2551.000	48.26	3.55	54.0	5.74	AV	18.80	Horizontal	Pass
2	2963.500	47.42	5.28	74.0	26.58	Peak	328.00	Horizontal	Pass
2**	2963.500	36.26	5.28	54.0	17.74	AV	328.00	Horizontal	Pass
3	3844.000	44.42	-10.26	74.0	29.58	Peak	0.20	Horizontal	Pass
3**	3844.000	36.31	-10.26	54.0	17.69	AV	0.20	Horizontal	Pass
4	8958.000	52.12	0.60	74.0	21.88	Peak	310.20	Horizontal	Pass
4**	8958.000	45.11	0.60	54.0	8.89	AV	310.20	Horizontal	Pass
5	13987.750	55.90	8.30	74.0	18.10	Peak	314.30	Horizontal	Pass
5**	13987.750	45.06	8.30	54.0	8.94	AV	314.30	Horizontal	Pass
6	17587.499	54.91	6.44	74.0	19.09	Peak	111.50	Horizontal	Pass
6**	17587.499	43.98	6.44	54.0	10.02	AV	111.50	Horizontal	Pass

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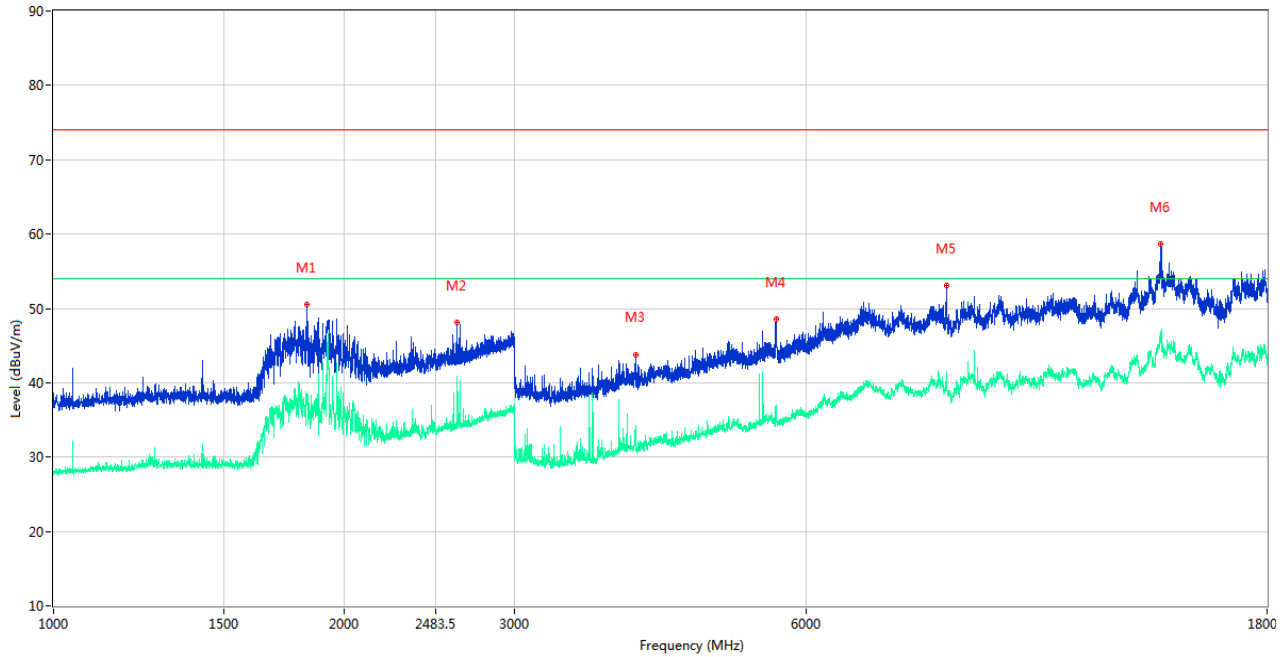
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Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 24G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1830.500	50.56	-0.34	74.0	23.44	Peak	340.40	Vertical	Pass
1**	1830.500	37.95	-0.34	54.0	16.05	AV	340.40	Vertical	Pass
2	2611.500	48.13	3.56	74.0	25.87	Peak	285.00	Vertical	Pass
2**	2611.500	34.35	3.56	54.0	19.65	AV	285.00	Vertical	Pass
3	4001.000	43.82	-9.67	74.0	30.18	Peak	345.50	Vertical	Pass
3**	4001.000	34.20	-9.67	54.0	19.80	AV	345.50	Vertical	Pass
4	5596.000	48.51	-4.83	74.0	25.49	Peak	4.00	Vertical	Pass
4**	5596.000	36.66	-4.83	54.0	17.34	AV	4.00	Vertical	Pass
5	8386.000	53.13	-1.25	74.0	20.87	Peak	276.20	Vertical	Pass
5**	8386.000	40.79	-1.25	54.0	13.21	AV	276.20	Vertical	Pass
6	13954.750	58.66	7.88	74.0	15.34	Peak	259.10	Vertical	Pass
6**	13954.750	46.53	7.88	54.0	7.47	AV	259.10	Vertical	Pass

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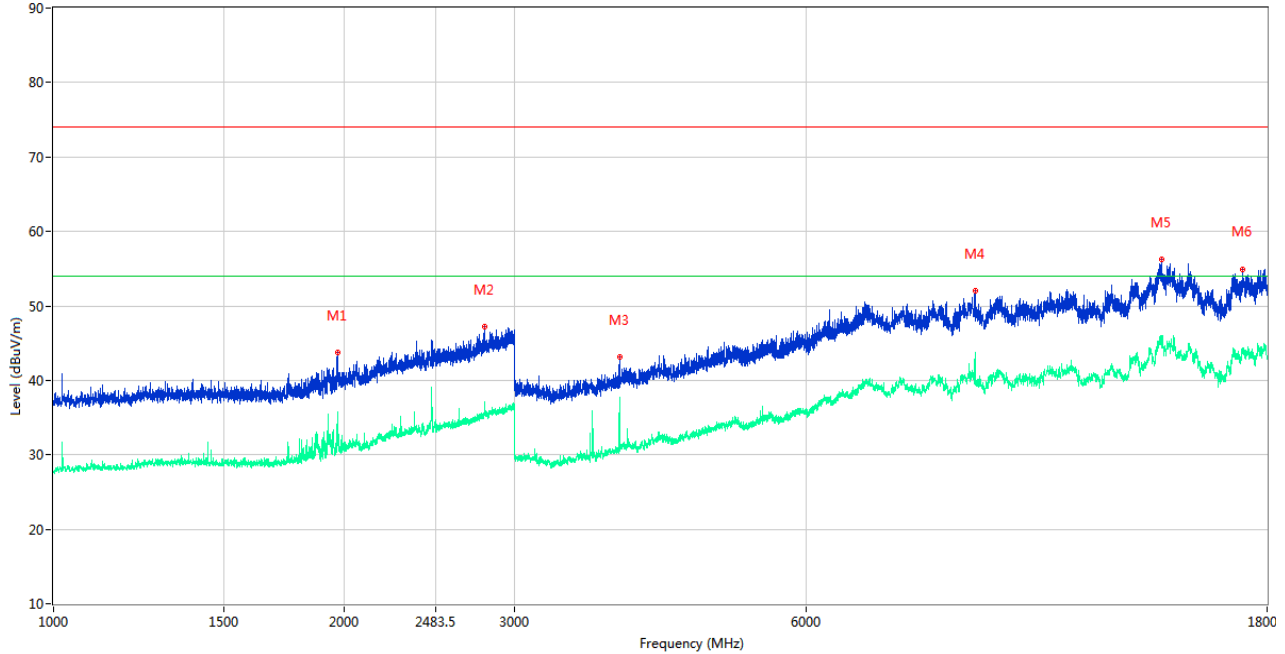
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GFSK-Mid-ANT 1

Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1966.000	43.67	0.12	74.0	30.33	Peak	52.40	Horizontal	Pass
1**	1966.000	34.69	0.12	54.0	19.31	AV	52.40	Horizontal	Pass
2	2790.500	47.22	4.69	74.0	26.78	Peak	249.10	Horizontal	Pass
2**	2790.500	37.05	4.69	54.0	16.95	AV	249.10	Horizontal	Pass
3	3849.000	43.14	-10.22	74.0	30.86	Peak	246.20	Horizontal	Pass
3**	3849.000	37.75	-10.22	54.0	16.25	AV	246.20	Horizontal	Pass
4	8977.250	51.97	0.25	74.0	22.03	Peak	310.10	Horizontal	Pass
4**	8977.250	43.77	0.25	54.0	10.23	AV	310.10	Horizontal	Pass
5	13987.750	56.30	8.30	74.0	17.70	Peak	255.50	Horizontal	Pass
5**	13987.750	46.04	8.30	54.0	7.96	AV	255.50	Horizontal	Pass
6	16985.250	54.97	5.43	74.0	19.03	Peak	275.20	Horizontal	Pass
6**	16985.250	43.88	5.43	54.0	10.12	AV	275.20	Horizontal	Pass

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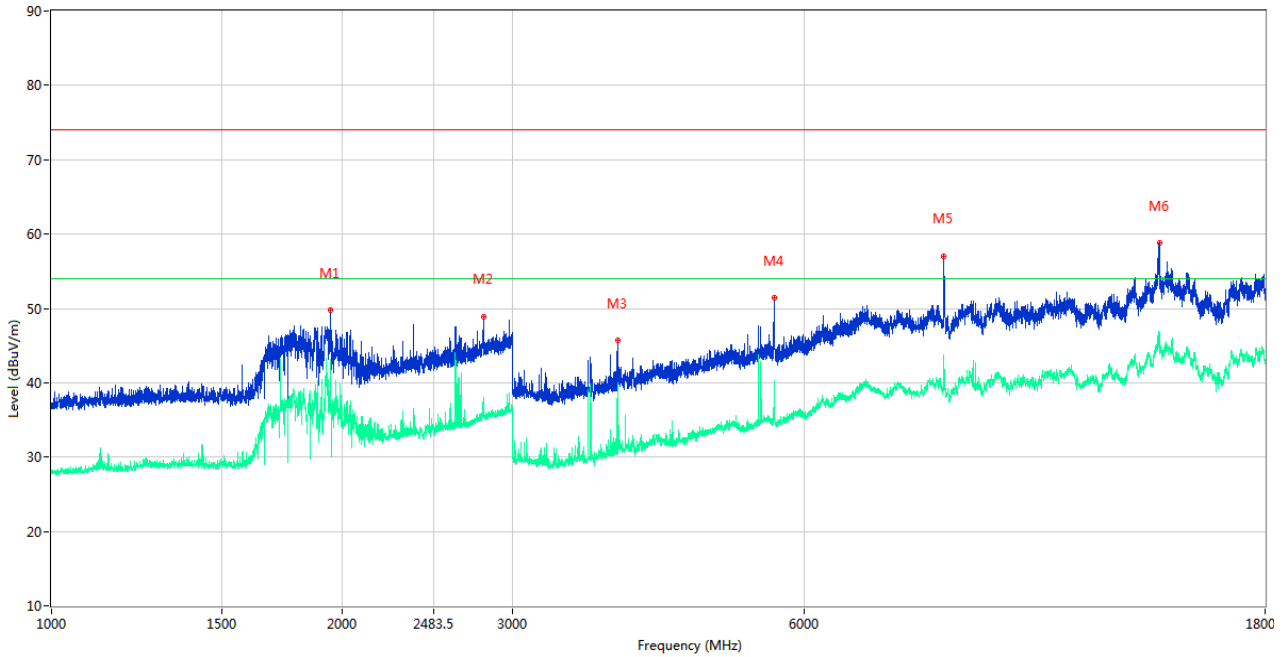
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Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 24G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1944.000	49.76	-0.03	74.0	24.24	Peak	325.40	Vertical	Pass
1**	1944.000	43.18	-0.03	54.0	10.82	AV	325.40	Vertical	Pass
2	2800.000	48.82	4.75	74.0	25.18	Peak	138.60	Vertical	Pass
2**	2800.000	37.05	4.75	54.0	16.95	AV	138.60	Vertical	Pass
3	3849.000	45.69	-10.22	74.0	28.31	Peak	275.50	Vertical	Pass
3**	3849.000	40.04	-10.22	54.0	13.96	AV	275.50	Vertical	Pass
4	5590.000	51.44	-4.82	74.0	22.56	Peak	329.40	Vertical	Pass
4**	5590.000	40.26	-4.82	54.0	13.74	AV	329.40	Vertical	Pass
5	8375.000	57.07	-1.12	74.0	16.93	Peak	46.30	Vertical	Pass
5**	8375.000	43.72	-1.12	54.0	10.28	AV	46.30	Vertical	Pass
6	13987.750	58.80	8.30	74.0	15.20	Peak	252.40	Vertical	Pass
6**	13987.750	46.76	8.30	54.0	7.24	AV	252.40	Vertical	Pass

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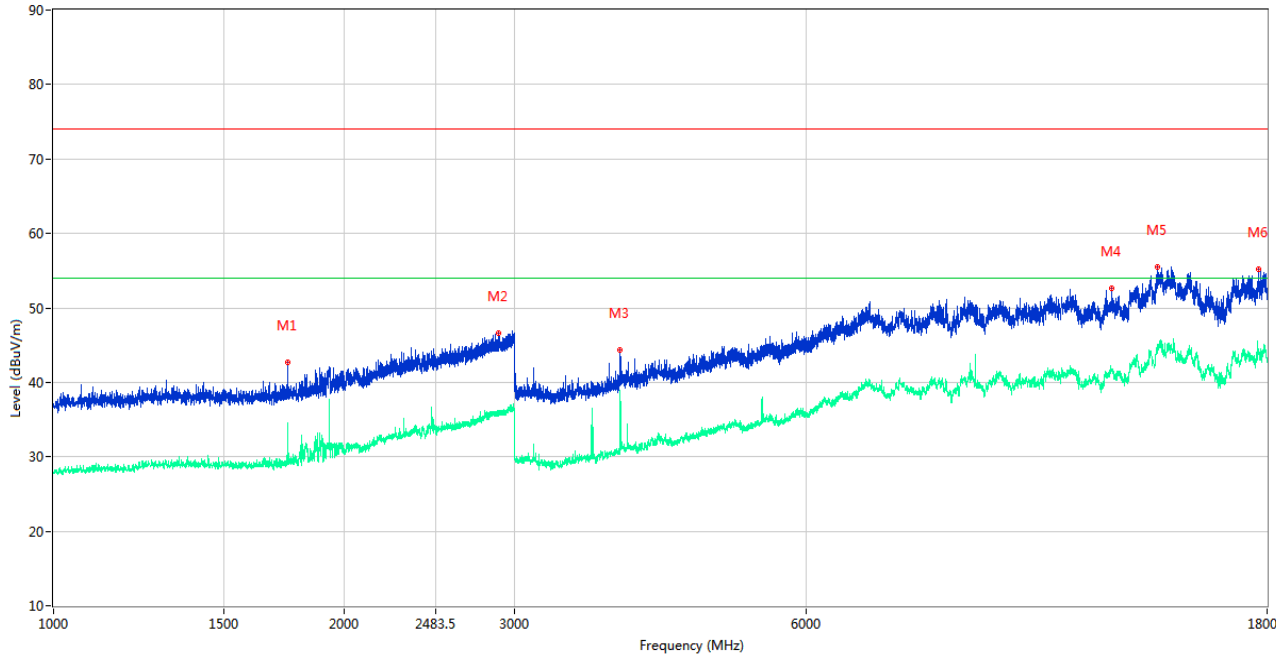
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GFSK-High-ANT 1

Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1746.000	42.64	-0.56	74.0	31.36	Peak	333.20	Horizontal	Pass
1**	1746.000	34.53	-0.56	54.0	19.47	AV	333.20	Horizontal	Pass
2	2888.500	46.55	4.92	74.0	27.45	Peak	70.50	Horizontal	Pass
2**	2888.500	35.59	4.92	54.0	18.41	AV	70.50	Horizontal	Pass
3	3856.000	44.32	-10.16	74.0	29.68	Peak	2.60	Horizontal	Pass
3**	3856.000	37.90	-10.16	54.0	16.10	AV	2.60	Horizontal	Pass
4	12439.500	52.57	2.78	74.0	21.43	Peak	259.90	Horizontal	Pass
4**	12439.500	41.63	2.78	54.0	12.37	AV	259.90	Horizontal	Pass
5	13866.750	55.54	6.71	74.0	18.46	Peak	351.80	Horizontal	Pass
5**	13866.750	44.67	6.71	54.0	9.33	AV	351.80	Horizontal	Pass
6	17625.999	55.24	6.43	74.0	18.76	Peak	68.20	Horizontal	Pass
6**	17625.999	43.90	6.43	54.0	10.10	AV	68.20	Horizontal	Pass

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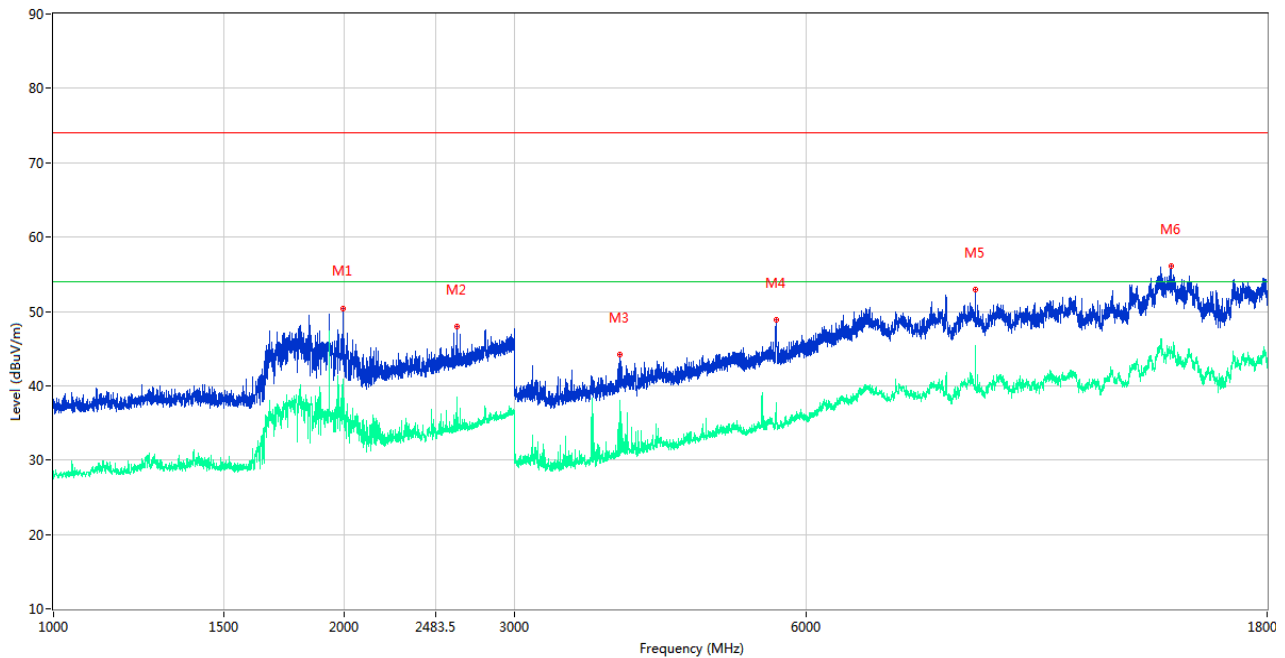
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Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 24G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1991.000	50.32	0.32	74.0	23.68	Peak	307.80	Vertical	Pass
1**	1991.000	40.49	0.32	54.0	13.51	AV	307.80	Vertical	Pass
2	2616.000	48.02	3.61	74.0	25.98	Peak	278.10	Vertical	Pass
2**	2616.000	38.54	3.61	54.0	15.46	AV	278.10	Vertical	Pass
3	3856.000	44.22	-10.16	74.0	29.78	Peak	264.00	Vertical	Pass
3**	3856.000	36.24	-10.16	54.0	17.76	AV	264.00	Vertical	Pass
4	5595.000	48.91	-4.83	74.0	25.09	Peak	328.40	Vertical	Pass
4**	5595.000	37.66	-4.83	54.0	16.34	AV	328.40	Vertical	Pass
5	8993.750	52.95	-0.06	74.0	21.05	Peak	0.30	Vertical	Pass
5**	8993.750	45.34	-0.06	54.0	8.66	AV	0.30	Vertical	Pass
6	14334.250	56.04	6.92	74.0	17.96	Peak	259.90	Vertical	Pass
6**	14334.250	44.46	6.92	54.0	9.54	AV	259.90	Vertical	Pass

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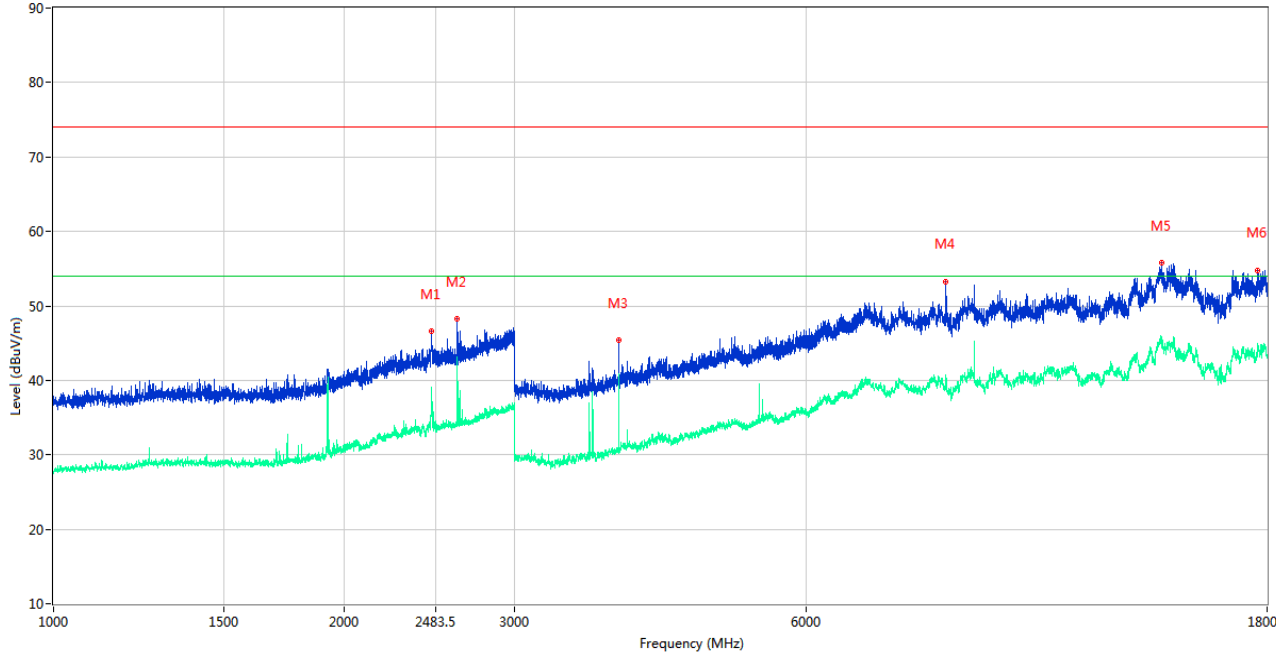
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GFSK-Low-ANT 2

Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	2459.000	46.56	3.22	74.0	27.44	Peak	270.60	Horizontal	Pass
1**	2459.000	38.57	3.22	54.0	15.43	AV	270.60	Horizontal	Pass
2	2616.500	48.24	3.62	74.0	25.76	Peak	52.00	Horizontal	Pass
2**	2616.500	43.12	3.62	54.0	10.88	AV	52.00	Horizontal	Pass
3	3843.000	45.34	-10.26	74.0	28.66	Peak	113.30	Horizontal	Pass
3**	3843.000	40.88	-10.26	54.0	13.12	AV	113.30	Horizontal	Pass
4	8372.250	53.31	-1.09	74.0	20.69	Peak	19.20	Horizontal	Pass
4**	8372.250	40.73	-1.09	54.0	13.27	AV	19.20	Horizontal	Pass
5	14001.500	55.81	8.43	74.0	18.19	Peak	243.00	Horizontal	Pass
5**	14001.500	45.09	8.43	54.0	8.91	AV	243.00	Horizontal	Pass
6	17612.249	54.82	6.53	74.0	19.18	Peak	193.20	Horizontal	Pass
6**	17612.249	44.31	6.53	54.0	9.69	AV	193.20	Horizontal	Pass

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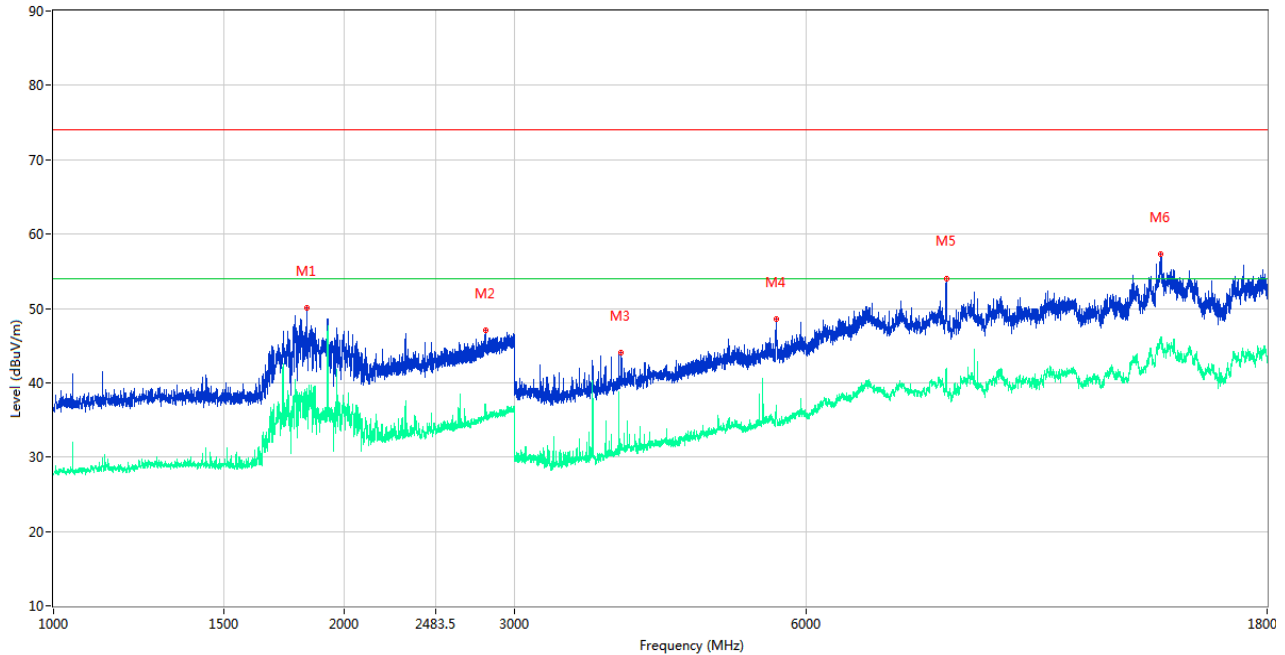
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Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 24G



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1828.000	50.07	-0.37	74.0	23.93	Peak	300.50	Vertical	Pass
1**	1828.000	39.27	-0.37	54.0	14.73	AV	300.50	Vertical	Pass
2	2797.000	47.03	4.73	74.0	26.97	Peak	138.70	Vertical	Pass
2**	2797.000	36.71	4.73	54.0	17.29	AV	138.70	Vertical	Pass
3	3867.000	44.06	-10.08	74.0	29.94	Peak	359.90	Vertical	Pass
3**	3867.000	31.61	-10.08	54.0	22.39	AV	359.90	Vertical	Pass
4	5594.000	48.55	-4.83	74.0	25.45	Peak	253.50	Vertical	Pass
4**	5594.000	36.29	-4.83	54.0	17.71	AV	253.50	Vertical	Pass
5	8383.250	54.06	-1.22	74.0	19.94	Peak	348.10	Vertical	Pass
5**	8383.250	41.95	-1.22	54.0	12.05	AV	348.10	Vertical	Pass
6	13952.000	57.31	7.85	74.0	16.69	Peak	251.70	Vertical	Pass
6**	13952.000	45.58	7.85	54.0	8.42	AV	251.70	Vertical	Pass

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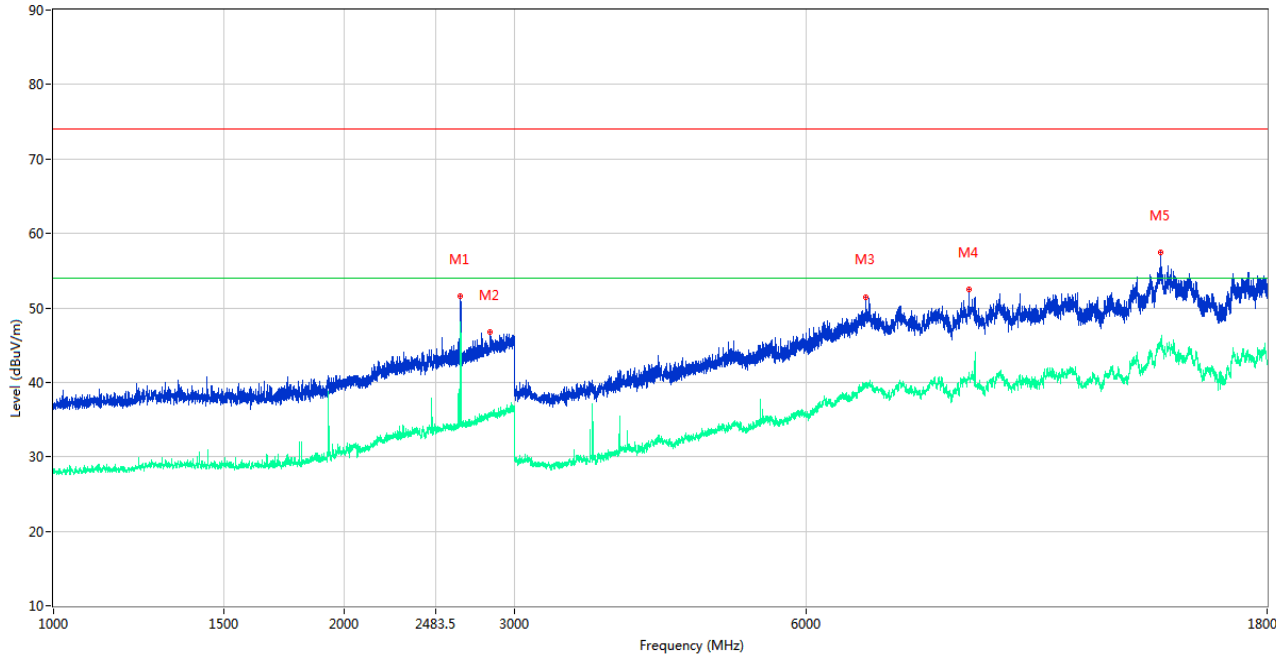
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GFSK-Mid-ANT 2

Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G



No .	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	2637.000	51.60	3.84	74.0	22.40	Peak	0.00	Horizontal	Pass
1**	2637.000	48.07	3.84	54.0	5.93	AV	0.00	Horizontal	Pass
2	2831.000	46.75	4.90	74.0	27.25	Peak	196.20	Horizontal	Pass
2**	2831.000	35.68	4.90	54.0	18.32	AV	196.20	Horizontal	Pass
3	6925.000	51.49	0.71	74.0	22.51	Peak	259.90	Horizontal	Pass
3**	6925.000	40.04	0.71	54.0	13.96	AV	259.90	Horizontal	Pass
4	8850.750	52.48	0.90	74.0	21.52	Peak	116.30	Horizontal	Pass
4**	8850.750	40.72	0.90	54.0	13.28	AV	116.30	Horizontal	Pass
5	13954.750	57.45	7.88	74.0	16.55	Peak	254.30	Horizontal	Pass
5**	13954.750	45.79	7.88	54.0	8.21	AV	254.30	Horizontal	Pass

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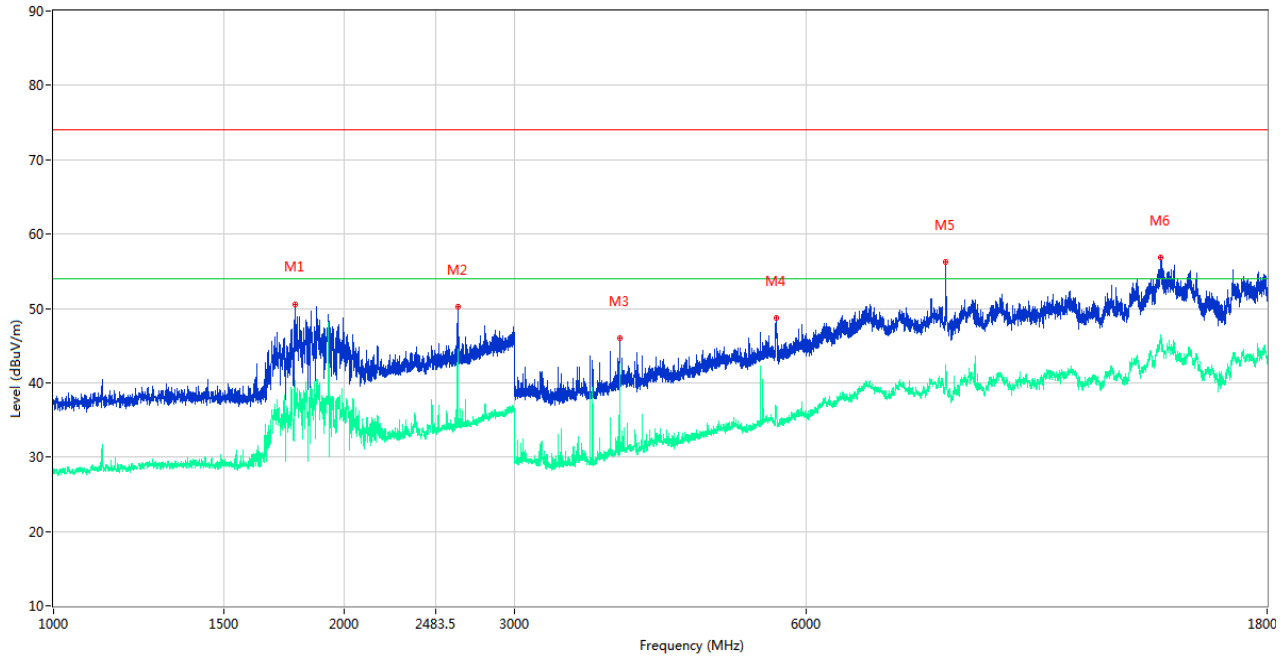
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Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 24G



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1776.500	50.58	-0.65	74.0	23.42	Peak	227.50	Vertical	Pass
1**	1776.500	40.29	-0.65	54.0	13.71	AV	227.50	Vertical	Pass
2	2618.000	50.20	3.63	74.0	23.80	Peak	286.90	Vertical	Pass
2**	2618.000	40.39	3.63	54.0	13.61	AV	286.90	Vertical	Pass
3	3849.000	46.03	-10.22	74.0	27.97	Peak	350.90	Vertical	Pass
3**	3849.000	39.66	-10.22	54.0	14.34	AV	350.90	Vertical	Pass
4	5600.000	48.72	-4.84	74.0	25.28	Peak	255.80	Vertical	Pass
4**	5600.000	35.71	-4.84	54.0	18.29	AV	255.80	Vertical	Pass
5	8377.750	56.26	-1.15	74.0	17.74	Peak	281.00	Vertical	Pass
5**	8377.750	42.45	-1.15	54.0	11.55	AV	281.00	Vertical	Pass
6	13985.000	56.81	8.26	74.0	17.19	Peak	252.80	Vertical	Pass
6**	13985.000	46.00	8.26	54.0	8.00	AV	252.80	Vertical	Pass

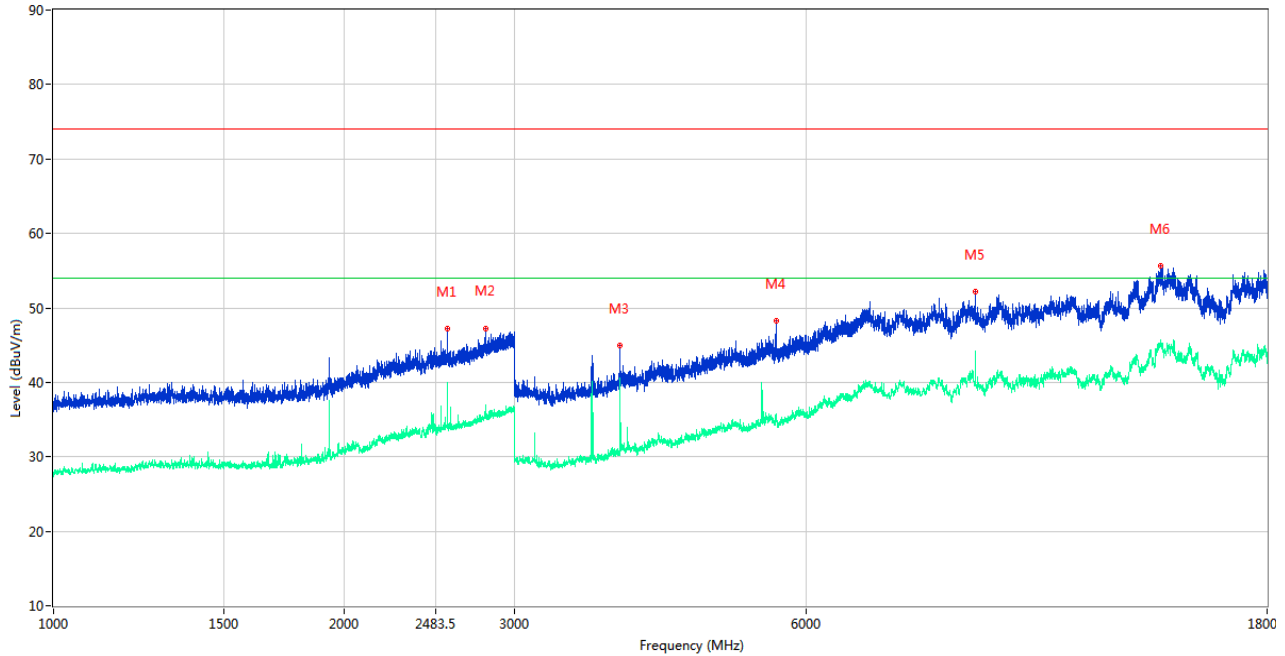
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GFSK-High-ANT 2

Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	2554.500	47.19	3.54	74.0	26.81	Peak	40.90	Horizontal	Pass
1**	2554.500	40.05	3.54	54.0	13.95	AV	40.90	Horizontal	Pass
2	2799.500	47.28	4.75	74.0	26.72	Peak	323.80	Horizontal	Pass
2**	2799.500	36.90	4.75	54.0	17.10	AV	323.80	Horizontal	Pass
3	3856.000	44.91	-10.16	74.0	29.09	Peak	76.10	Horizontal	Pass
3**	3856.000	40.64	-10.16	54.0	13.36	AV	76.10	Horizontal	Pass
4	5592.000	48.27	-4.82	74.0	25.73	Peak	31.40	Horizontal	Pass
4**	5592.000	35.83	-4.82	54.0	18.17	AV	31.40	Horizontal	Pass
5	8993.750	52.22	-0.06	74.0	21.78	Peak	88.40	Horizontal	Pass
5**	8993.750	44.26	-0.06	54.0	9.74	AV	88.40	Horizontal	Pass
6	13960.250	55.61	7.95	74.0	18.39	Peak	155.80	Horizontal	Pass
6**	13960.250	44.84	7.95	54.0	9.16	AV	155.80	Horizontal	Pass

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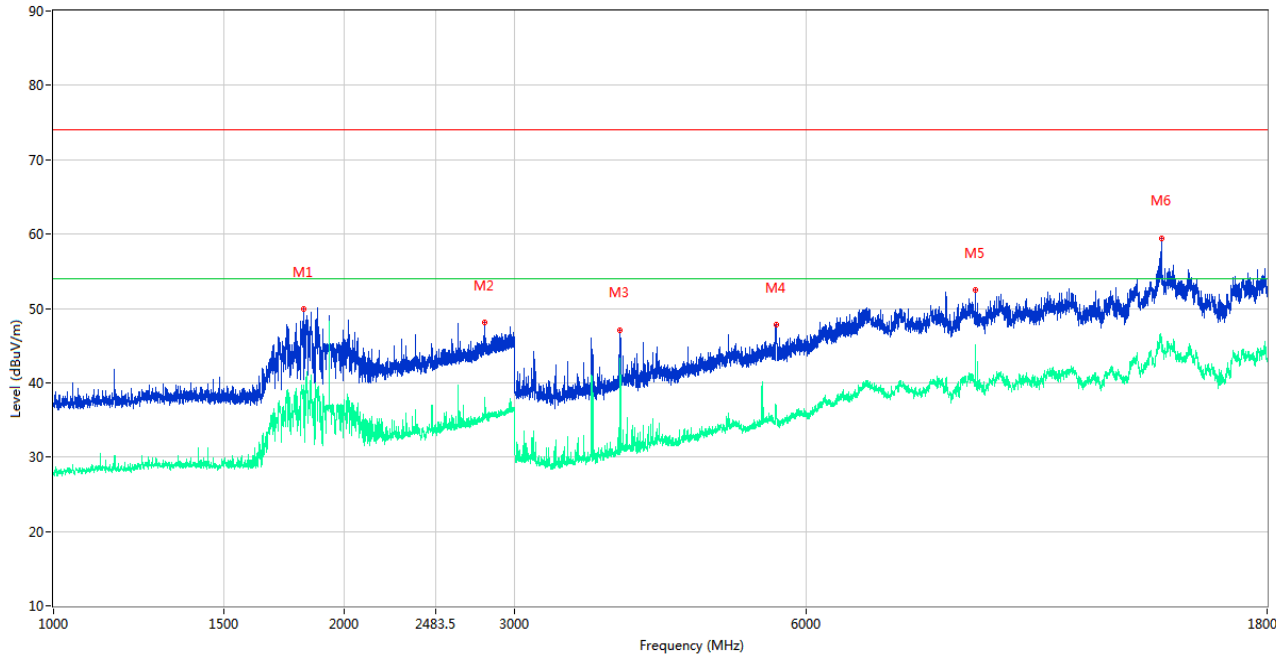
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Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 24G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1813.500	49.96	-0.58	74.0	24.04	Peak	234.60	Vertical	Pass
1**	1813.500	37.85	-0.58	54.0	16.15	AV	234.60	Vertical	Pass
2	2794.500	48.16	4.71	74.0	25.84	Peak	127.80	Vertical	Pass
2**	2794.500	38.06	4.71	54.0	15.94	AV	127.80	Vertical	Pass
3	3856.000	47.00	-10.16	74.0	27.00	Peak	203.10	Vertical	Pass
3**	3856.000	42.50	-10.16	54.0	11.50	AV	203.10	Vertical	Pass
4	5593.000	47.74	-4.83	74.0	26.26	Peak	316.10	Vertical	Pass
4**	5593.000	36.23	-4.83	54.0	17.77	AV	316.10	Vertical	Pass
5	8993.750	52.51	-0.06	74.0	21.49	Peak	1.50	Vertical	Pass
5**	8993.750	45.16	-0.06	54.0	8.84	AV	1.50	Vertical	Pass
6	13993.250	59.48	8.37	74.0	14.52	Peak	258.10	Vertical	Pass
6**	13993.250	46.16	8.37	54.0	7.84	AV	258.10	Vertical	Pass

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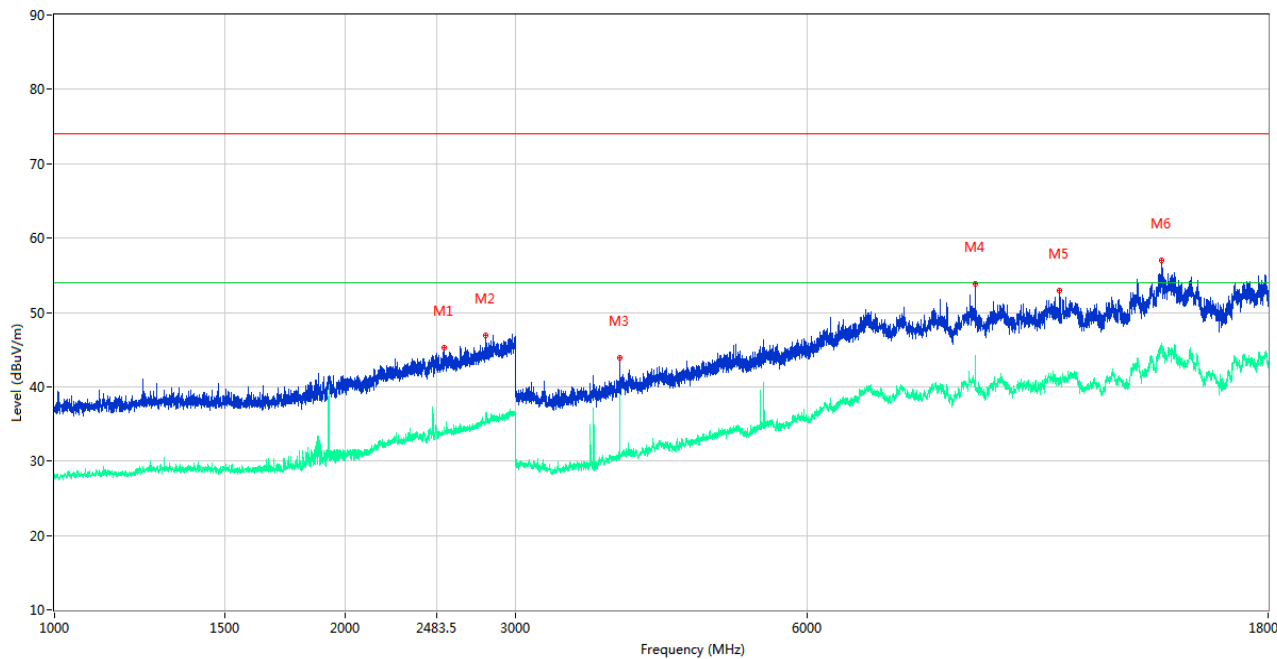
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Module B
GFSK-Low-ANT 1
Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G

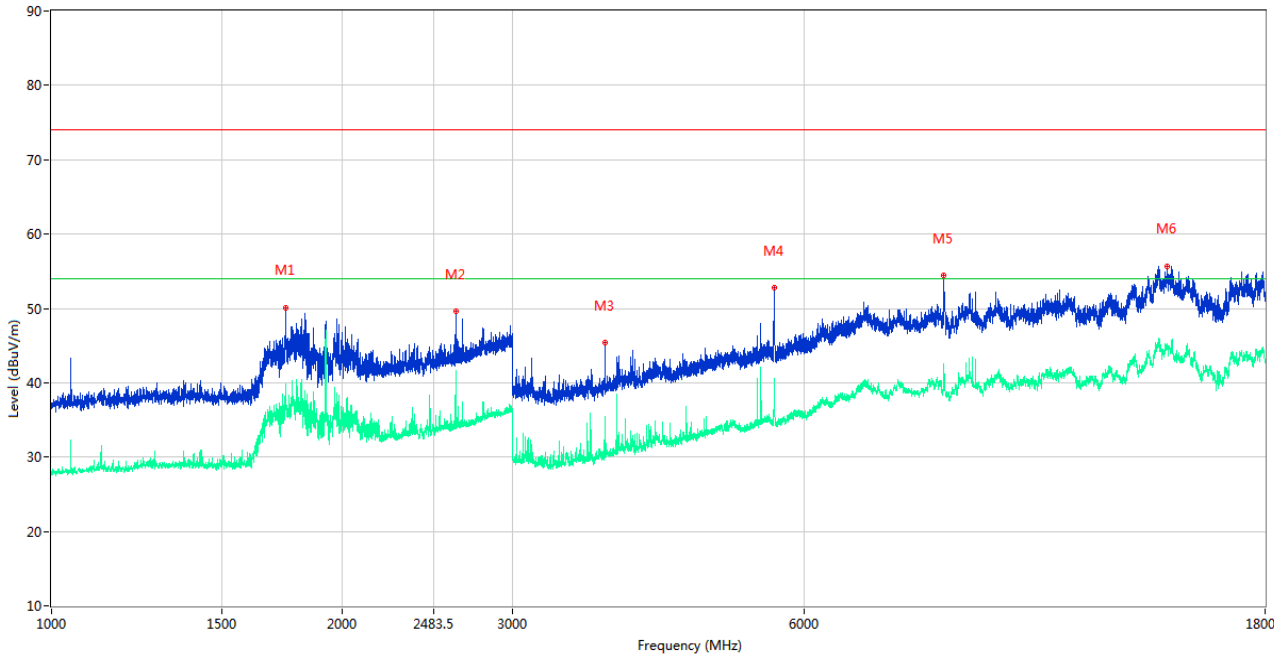


No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	2529.000	45.30	3.38	74.0	28.70	Peak	62.30	Horizontal	Pass
1**	2529.000	33.87	3.38	54.0	20.13	AV	62.30	Horizontal	Pass
2	2790.500	46.93	4.69	74.0	27.07	Peak	245.80	Horizontal	Pass
2**	2790.500	36.54	4.69	54.0	17.46	AV	245.80	Horizontal	Pass
3	3844.000	43.87	-10.26	74.0	30.13	Peak	4.80	Horizontal	Pass
3**	3844.000	34.33	-10.26	54.0	19.67	AV	4.80	Horizontal	Pass
4	8958.000	53.82	0.60	74.0	20.18	Peak	330.60	Horizontal	Pass
4**	8958.000	44.27	0.60	54.0	9.73	AV	330.60	Horizontal	Pass
5	10960.000	52.90	1.77	74.0	21.10	Peak	309.00	Horizontal	Pass
5**	10960.000	41.00	1.77	54.0	13.00	AV	309.00	Horizontal	Pass
6	13954.750	56.98	7.88	74.0	17.02	Peak	257.30	Horizontal	Pass
6**	13954.750	45.71	7.88	54.0	8.29	AV	257.30	Horizontal	Pass

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Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 24G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1747.000	50.15	-0.55	74.0	23.85	Peak	233.10	Vertical	Pass
1**	1747.000	38.00	-0.55	54.0	16.00	AV	233.10	Vertical	Pass
2	2618.000	49.59	3.63	74.0	24.41	Peak	284.40	Vertical	Pass
2**	2618.000	41.61	3.63	54.0	12.39	AV	284.40	Vertical	Pass
3	3735.000	45.33	-10.66	74.0	28.67	Peak	285.60	Vertical	Pass
3**	3735.000	35.40	-10.66	54.0	18.60	AV	285.60	Vertical	Pass
4	5598.000	52.83	-4.84	74.0	21.17	Peak	325.80	Vertical	Pass
4**	5598.000	40.58	-4.84	54.0	13.42	AV	325.80	Vertical	Pass
5	8377.750	54.41	-1.15	74.0	19.59	Peak	276.20	Vertical	Pass
5**	8377.750	42.61	-1.15	54.0	11.39	AV	276.20	Vertical	Pass
6	14246.250	55.71	6.92	74.0	18.29	Peak	272.10	Vertical	Pass
6**	14246.250	45.06	6.92	54.0	8.94	AV	272.10	Vertical	Pass

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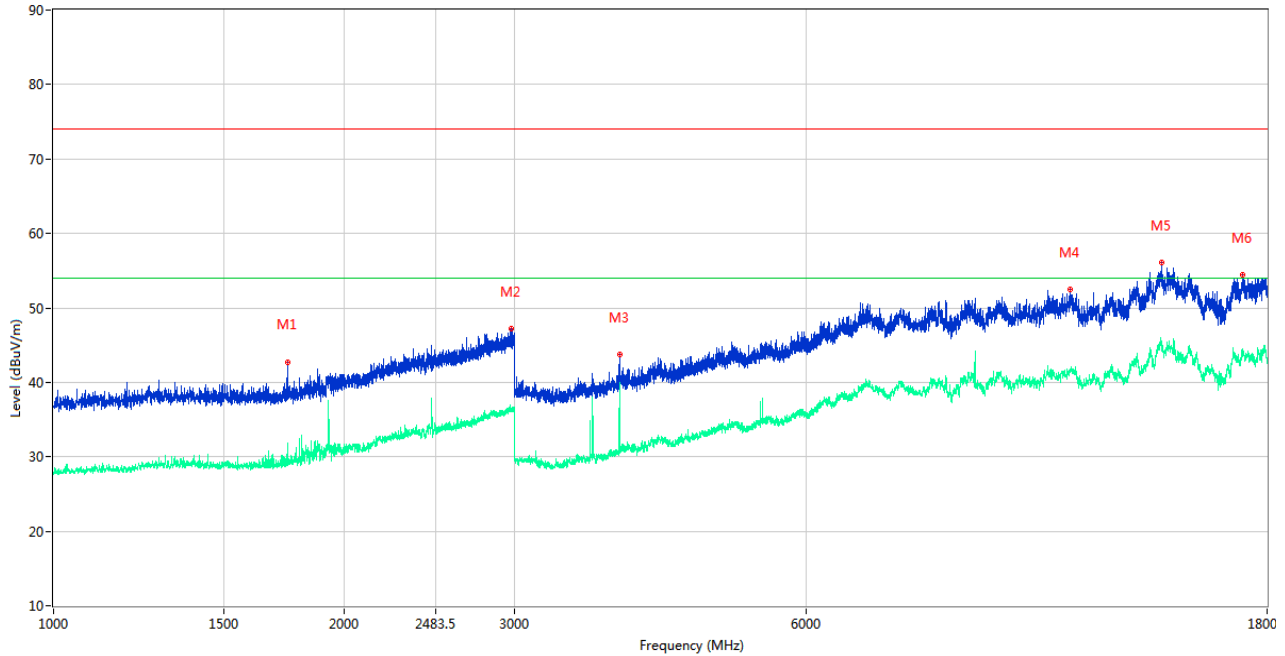
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GFSK-Mid-ANT 1

Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1746.000	42.76	-0.56	74.0	31.24	Peak	36.80	Horizontal	Pass
1**	1746.000	31.84	-0.56	54.0	22.16	AV	36.80	Horizontal	Pass
2	2977.000	47.17	5.35	74.0	26.83	Peak	0.60	Horizontal	Pass
2**	2977.000	36.40	5.35	54.0	17.60	AV	0.60	Horizontal	Pass
3	3850.000	43.75	-10.21	74.0	30.25	Peak	0.00	Horizontal	Pass
3**	3850.000	38.23	-10.21	54.0	15.77	AV	0.00	Horizontal	Pass
4	11257.000	52.46	2.43	74.0	21.54	Peak	359.70	Horizontal	Pass
4**	11257.000	41.86	2.43	54.0	12.14	AV	359.70	Horizontal	Pass
5	13998.750	56.13	8.43	74.0	17.87	Peak	316.30	Horizontal	Pass
5**	13998.750	44.88	8.43	54.0	9.12	AV	316.30	Horizontal	Pass
6	16968.750	54.44	5.26	74.0	19.56	Peak	28.20	Horizontal	Pass
6**	16968.750	43.91	5.26	54.0	10.09	AV	28.20	Horizontal	Pass

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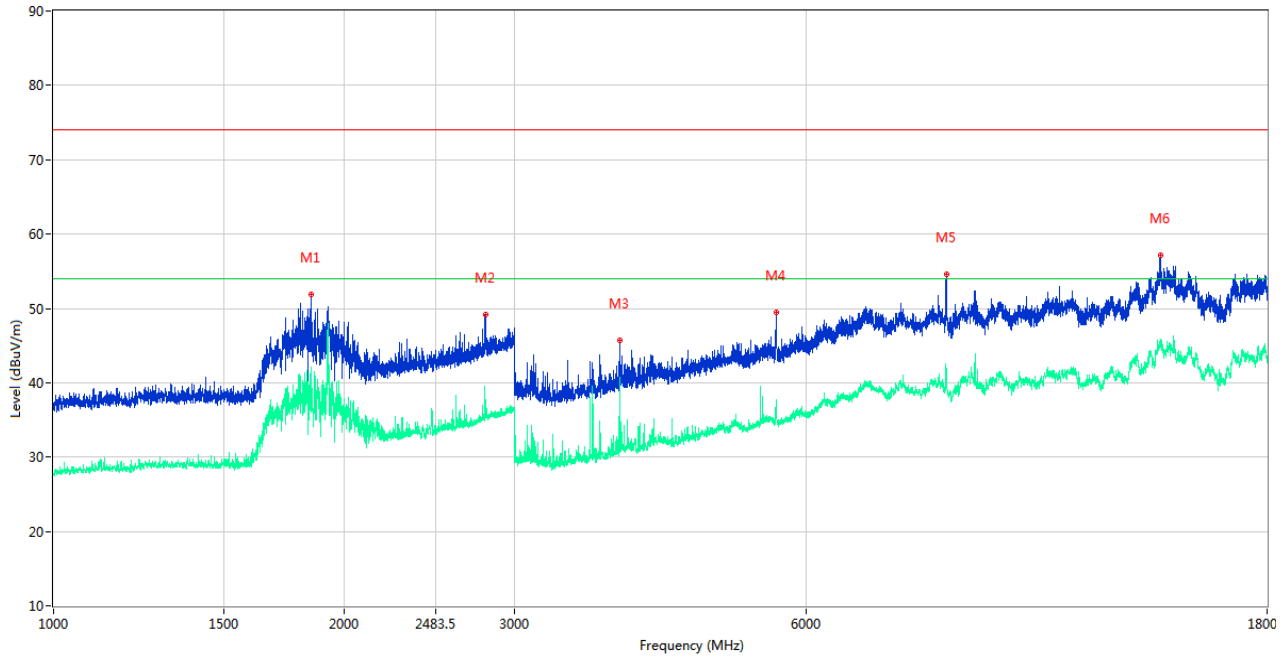
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Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 24G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1845.000	51.85	-0.13	74.0	22.15	Peak	99.20	Vertical	Pass
1**	1845.000	42.11	-0.13	54.0	11.89	AV	99.20	Vertical	Pass
2	2799.000	49.18	4.74	74.0	24.82	Peak	143.40	Vertical	Pass
2**	2799.000	37.21	4.74	54.0	16.79	AV	143.40	Vertical	Pass
3	3850.000	45.72	-10.21	74.0	28.28	Peak	60.90	Vertical	Pass
3**	3850.000	40.79	-10.21	54.0	13.21	AV	60.90	Vertical	Pass
4	5590.000	49.50	-4.82	74.0	24.50	Peak	328.50	Vertical	Pass
4**	5590.000	37.71	-4.82	54.0	16.29	AV	328.50	Vertical	Pass
5	8397.000	54.62	-1.38	74.0	19.38	Peak	275.30	Vertical	Pass
5**	8397.000	41.04	-1.38	54.0	12.96	AV	275.30	Vertical	Pass
6	13968.500	57.15	8.06	74.0	16.85	Peak	360.00	Vertical	Pass
6**	13968.500	45.50	8.06	54.0	8.50	AV	360.00	Vertical	Pass

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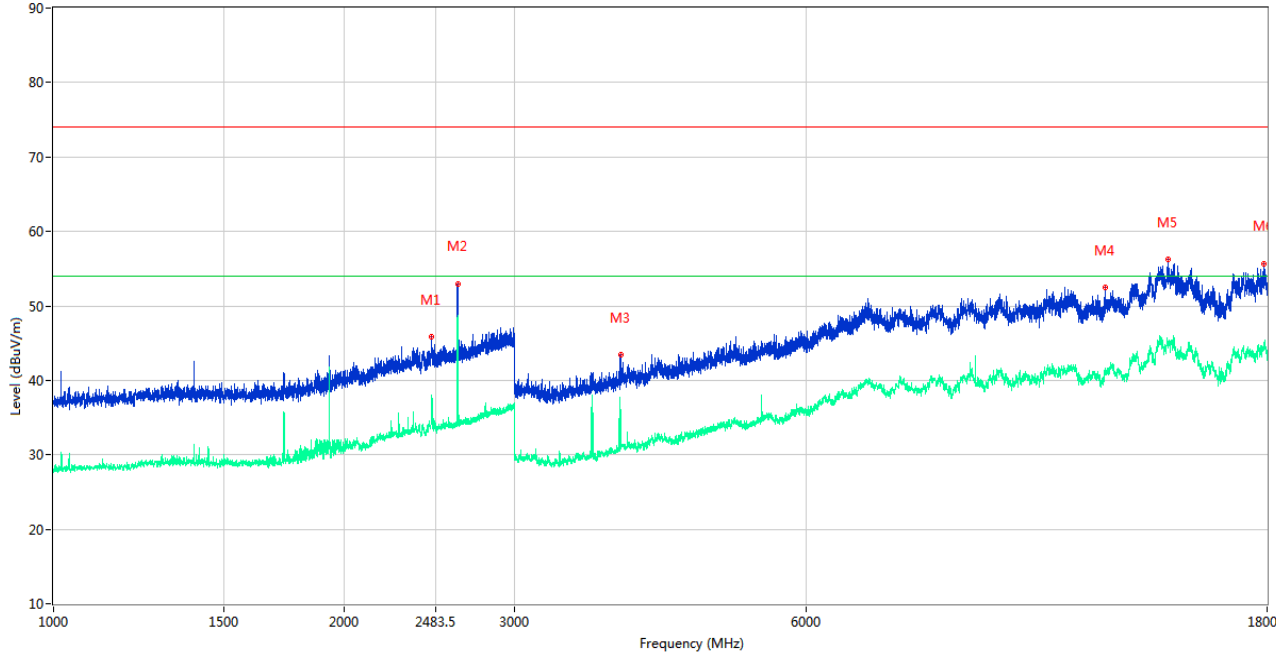
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GFSK-High-ANT 1

Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	2460.000	45.83	3.22	74.0	28.17	Peak	130.80	Horizontal	Pass
1**	2460.000	38.08	3.22	54.0	15.92	AV	130.80	Horizontal	Pass
2	2618.500	52.99	3.64	74.0	21.01	Peak	5.90	Horizontal	Pass
2**	2618.500	48.71	3.64	54.0	5.29	AV	5.90	Horizontal	Pass
3	3858.000	43.38	-10.15	74.0	30.62	Peak	359.10	Horizontal	Pass
3**	3858.000	34.50	-10.15	54.0	19.50	AV	359.10	Horizontal	Pass
4	12249.750	52.54	2.87	74.0	21.46	Peak	67.20	Horizontal	Pass
4**	12249.750	41.07	2.87	54.0	12.93	AV	67.20	Horizontal	Pass
5	14202.250	56.18	6.96	74.0	17.82	Peak	301.20	Horizontal	Pass
5**	14202.250	45.32	6.96	54.0	8.68	AV	301.20	Horizontal	Pass
6	17862.500	55.70	6.92	74.0	18.30	Peak	316.50	Horizontal	Pass
6**	17862.500	44.97	6.92	54.0	9.03	AV	316.50	Horizontal	Pass

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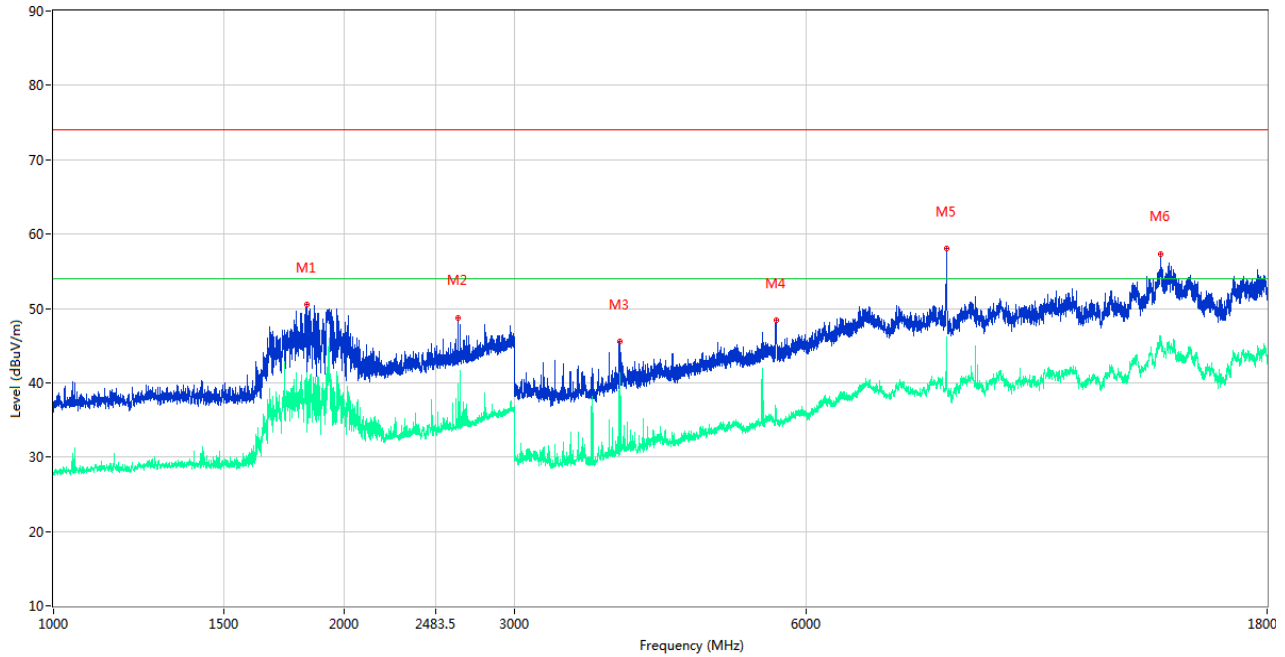
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Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 24G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1827.500	50.58	-0.38	74.0	23.42	Peak	100.20	Vertical	Pass
1**	1827.500	40.80	-0.38	54.0	13.20	AV	100.20	Vertical	Pass
2	2618.500	48.77	3.64	74.0	25.23	Peak	341.10	Vertical	Pass
2**	2618.500	39.78	3.64	54.0	14.22	AV	341.10	Vertical	Pass
3	3856.000	45.56	-10.16	74.0	28.44	Peak	271.10	Vertical	Pass
3**	3856.000	41.09	-10.16	54.0	12.91	AV	271.10	Vertical	Pass
4	5590.000	48.44	-4.82	74.0	25.56	Peak	253.20	Vertical	Pass
4**	5590.000	35.96	-4.82	54.0	18.04	AV	253.20	Vertical	Pass
5	8394.250	58.08	-1.34	74.0	15.92	Peak	273.90	Vertical	Pass
5**	8394.250	46.15	-1.34	54.0	7.85	AV	273.90	Vertical	Pass
6	13976.750	57.36	8.16	74.0	16.64	Peak	32.90	Vertical	Pass
6**	13976.750	45.99	8.16	54.0	8.01	AV	32.90	Vertical	Pass

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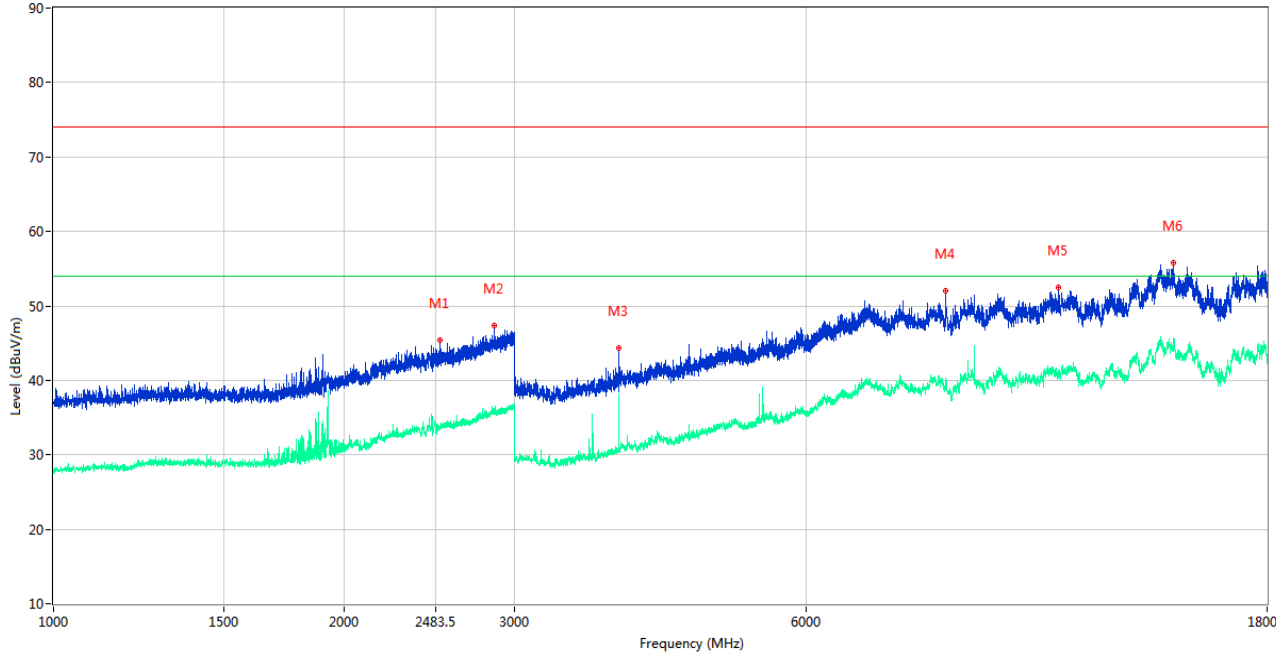
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GFSK-Low-ANT 2

Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	2513.000	45.39	3.25	74.0	28.61	Peak	107.10	Horizontal	Pass
1**	2513.000	33.91	3.25	54.0	20.09	AV	107.10	Horizontal	Pass
2	2856.000	47.29	4.98	74.0	26.71	Peak	261.40	Horizontal	Pass
2**	2856.000	35.87	4.98	54.0	18.13	AV	261.40	Horizontal	Pass
3	3842.000	44.34	-10.27	74.0	29.66	Peak	0.00	Horizontal	Pass
3**	3842.000	38.14	-10.27	54.0	15.86	AV	0.00	Horizontal	Pass
4	8369.500	52.07	-1.06	74.0	21.93	Peak	259.50	Horizontal	Pass
4**	8369.500	40.33	-1.06	54.0	13.67	AV	259.50	Horizontal	Pass
5	10962.750	52.50	1.77	74.0	21.50	Peak	126.80	Horizontal	Pass
5**	10962.750	41.21	1.77	54.0	12.79	AV	126.80	Horizontal	Pass
6	14405.750	55.74	6.95	74.0	18.26	Peak	92.50	Horizontal	Pass
6**	14405.750	45.63	6.95	54.0	8.37	AV	92.50	Horizontal	Pass

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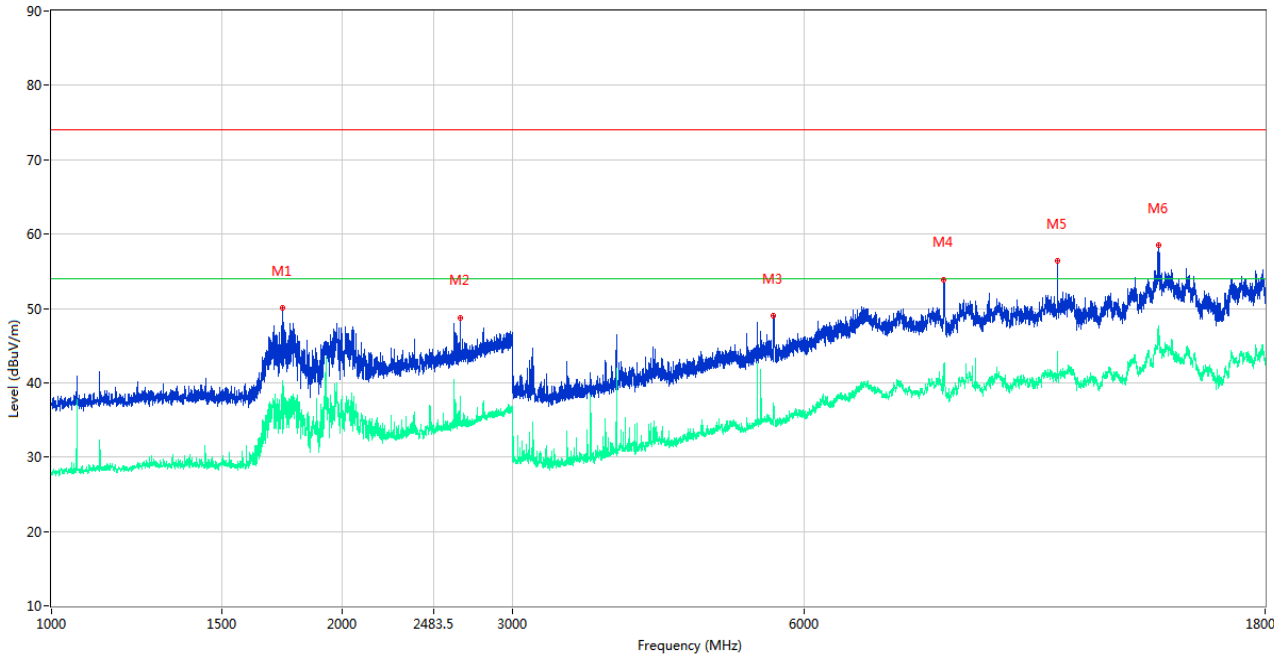
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Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 24G



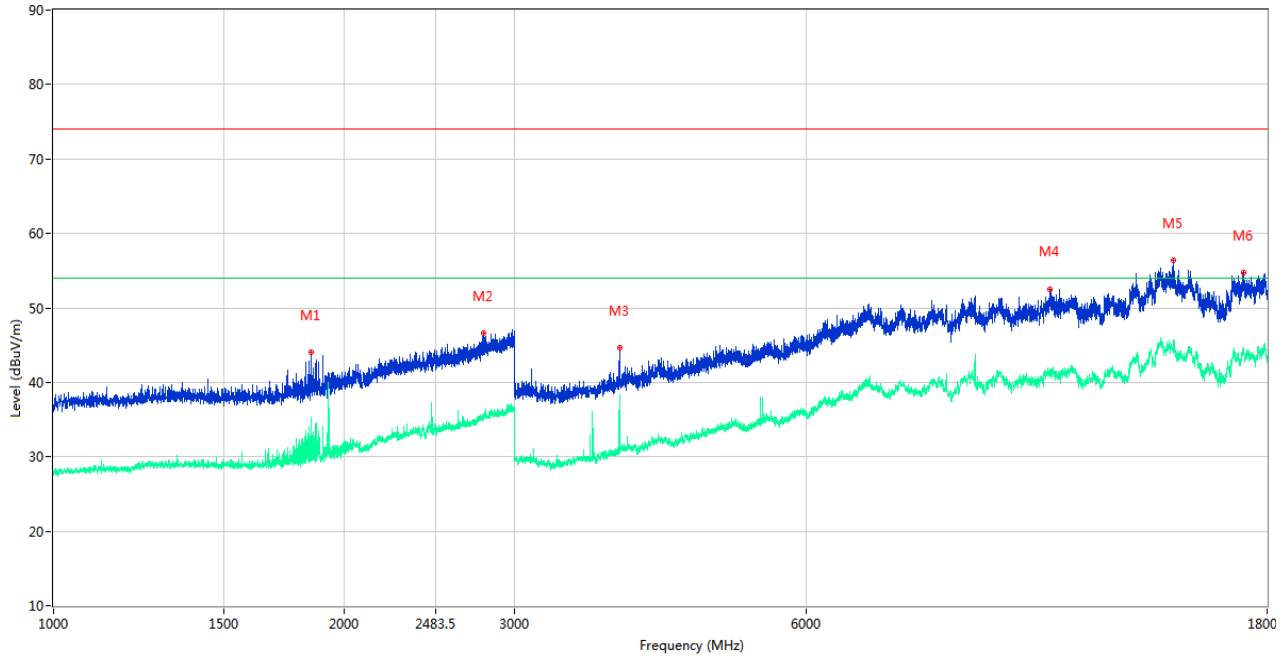
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1733.500	50.08	-0.67	74.0	23.92	Peak	101.00	Vertical	Pass
1**	1733.500	38.73	-0.67	54.0	15.27	AV	101.00	Vertical	Pass
2	2645.500	48.79	3.93	74.0	25.21	Peak	252.10	Vertical	Pass
2**	2645.500	38.21	3.93	54.0	15.79	AV	252.10	Vertical	Pass
3	5582.000	48.99	-4.81	74.0	25.01	Peak	4.10	Vertical	Pass
3**	5582.000	37.21	-4.81	54.0	16.79	AV	4.10	Vertical	Pass
4	8380.500	53.80	-1.18	74.0	20.20	Peak	253.60	Vertical	Pass
4**	8380.500	42.59	-1.18	54.0	11.41	AV	253.60	Vertical	Pass
5	10982.000	56.35	1.77	74.0	17.65	Peak	339.90	Vertical	Pass
5**	10982.000	44.18	1.77	54.0	9.82	AV	339.90	Vertical	Pass
6	13982.250	58.44	8.23	74.0	15.56	Peak	257.70	Vertical	Pass
6**	13982.250	47.73	8.23	54.0	6.27	AV	257.70	Vertical	Pass

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GFSK-Mid-ANT 2

Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1846.000	44.04	-0.12	74.0	29.96	Peak	67.90	Horizontal	Pass
1**	1846.000	35.21	-0.12	54.0	18.79	AV	67.90	Horizontal	Pass
2	2783.500	46.63	4.64	74.0	27.37	Peak	40.40	Horizontal	Pass
2**	2783.500	35.17	4.64	54.0	18.83	AV	40.40	Horizontal	Pass
3	3849.000	44.58	-10.22	74.0	29.42	Peak	238.00	Horizontal	Pass
3**	3849.000	37.39	-10.22	54.0	16.61	AV	238.00	Horizontal	Pass
4	10731.750	52.54	1.43	74.0	21.46	Peak	151.70	Horizontal	Pass
4**	10731.750	41.74	1.43	54.0	12.26	AV	151.70	Horizontal	Pass
5	14397.500	56.36	6.99	74.0	17.64	Peak	129.30	Horizontal	Pass
5**	14397.500	45.14	6.99	54.0	8.86	AV	129.30	Horizontal	Pass
6	17023.750	54.77	5.30	74.0	19.23	Peak	217.90	Horizontal	Pass
6**	17023.750	44.15	5.30	54.0	9.85	AV	217.90	Horizontal	Pass

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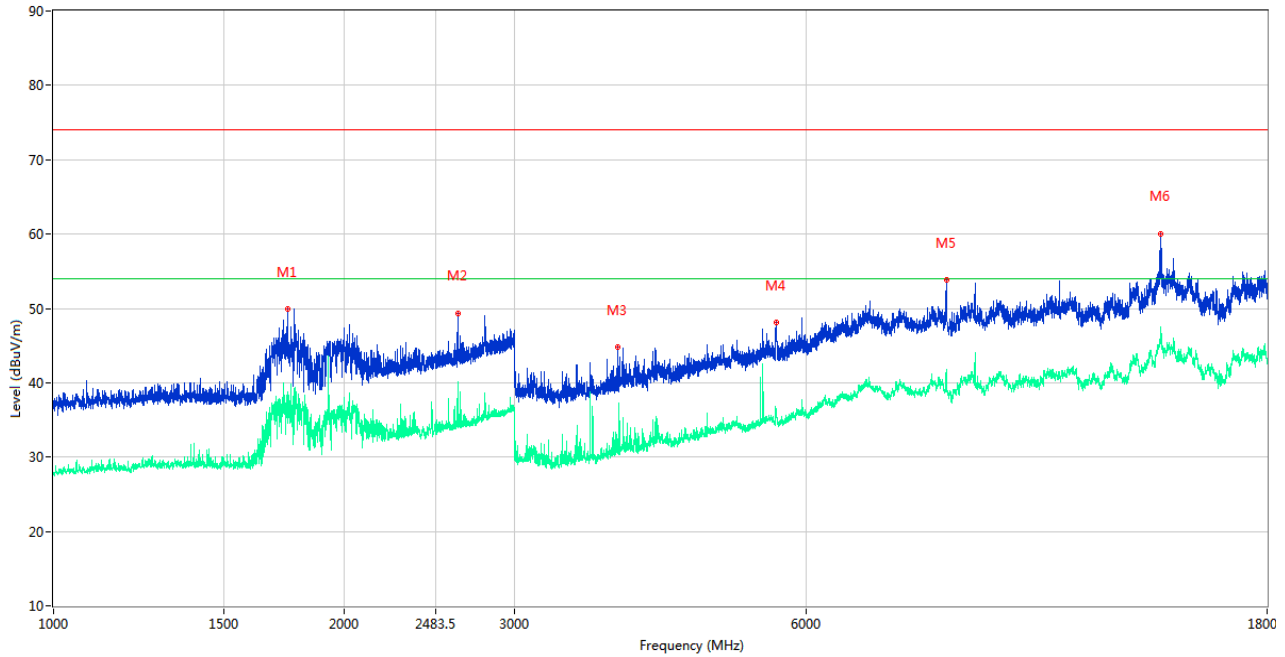
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Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 24G



No	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1745.500	49.91	-0.56	74.0	24.09	Peak	242.40	Vertical	Pass
1**	1745.500	38.75	-0.56	54.0	15.25	AV	242.40	Vertical	Pass
2	2619.500	49.39	3.65	74.0	24.61	Peak	287.10	Vertical	Pass
2**	2619.500	40.10	3.65	54.0	13.90	AV	287.10	Vertical	Pass
3	3835.000	44.77	-10.33	74.0	29.23	Peak	360.00	Vertical	Pass
3**	3835.000	30.53	-10.33	54.0	23.47	AV	360.00	Vertical	Pass
4	5588.000	48.07	-4.82	74.0	25.93	Peak	258.40	Vertical	Pass
4**	5588.000	36.47	-4.82	54.0	17.53	AV	258.40	Vertical	Pass
5	8397.000	53.84	-1.38	74.0	20.16	Peak	138.30	Vertical	Pass
5**	8397.000	40.71	-1.38	54.0	13.29	AV	138.30	Vertical	Pass
6	13976.750	60.08	8.16	74.0	13.92	Peak	255.40	Vertical	Pass
6**	13976.750	47.41	8.16	54.0	6.59	AV	255.40	Vertical	Pass

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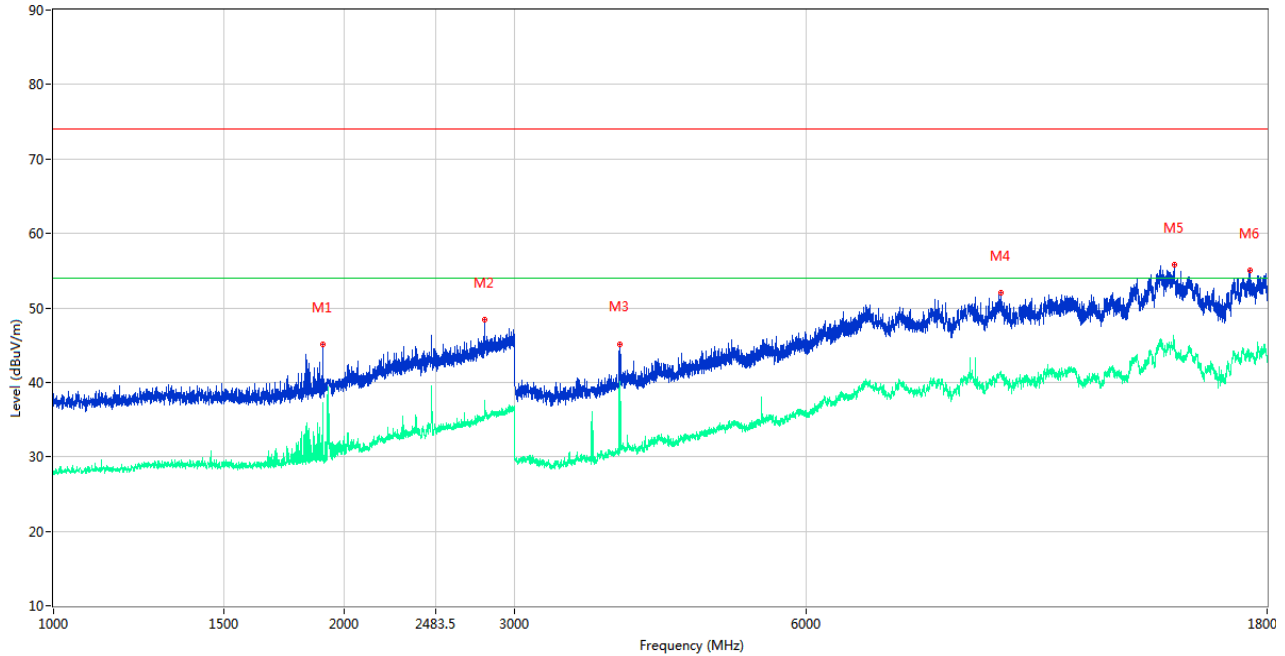
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GFSK-High-ANT 2

Horizontal

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 2.4G



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1900.500	45.18	-0.16	74.0	28.82	Peak	70.30	Horizontal	Pass
1**	1900.500	37.25	-0.16	54.0	16.75	AV	70.30	Horizontal	Pass
2	2791.500	48.43	4.70	74.0	25.57	Peak	252.10	Horizontal	Pass
2**	2791.500	37.61	4.70	54.0	16.39	AV	252.10	Horizontal	Pass
3	3857.000	45.17	-10.16	74.0	28.83	Peak	8.80	Horizontal	Pass
3**	3857.000	40.08	-10.16	54.0	13.92	AV	8.80	Horizontal	Pass
4	9538.250	52.00	1.18	74.0	22.00	Peak	105.60	Horizontal	Pass
4**	9538.250	41.13	1.18	54.0	12.87	AV	105.60	Horizontal	Pass
5	14441.500	55.76	6.70	74.0	18.24	Peak	208.90	Horizontal	Pass
5**	14441.500	44.52	6.70	54.0	9.48	AV	208.90	Horizontal	Pass
6	17271.251	55.02	6.02	74.0	18.98	Peak	66.20	Horizontal	Pass
6**	17271.251	43.42	6.02	54.0	10.58	AV	66.20	Horizontal	Pass

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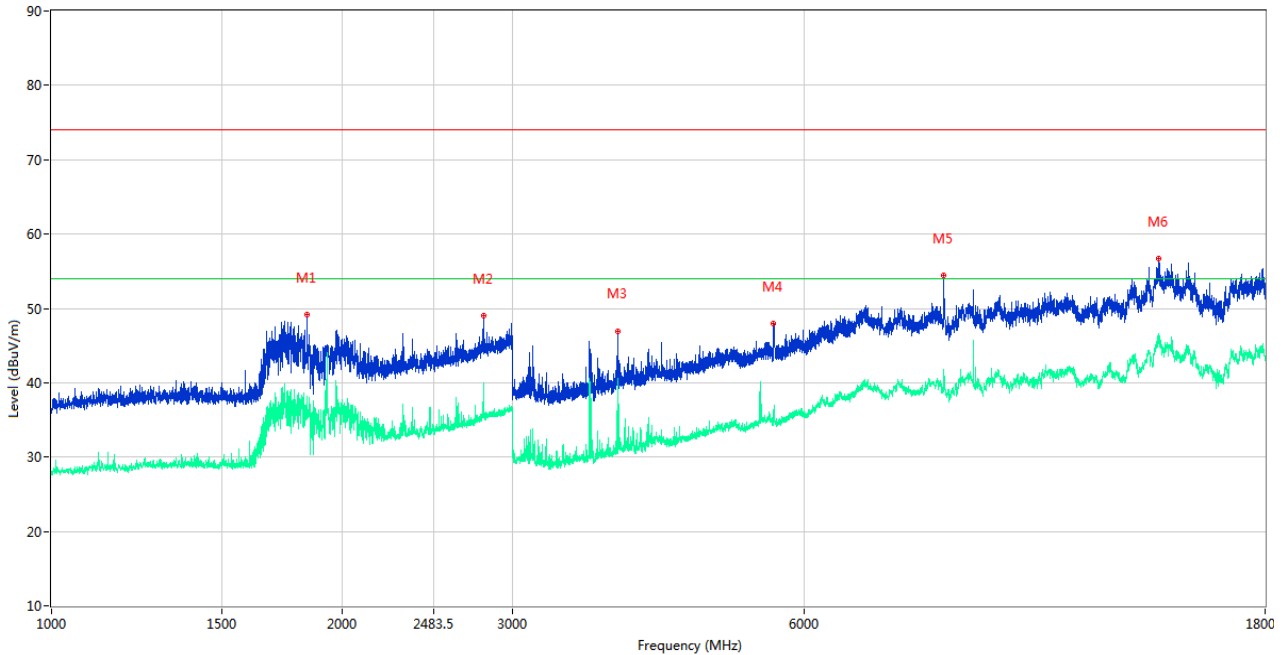
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Vertical

RE_FCC Test Case_FCC 15C 1GHz-18GHz - 24G



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Antenna	Verdict
1	1838.000	49.11	-0.23	74.0	24.89	Peak	308.30	Vertical	Pass
1**	1838.000	37.30	-0.23	54.0	16.70	AV	308.30	Vertical	Pass
2	2797.000	49.02	4.73	74.0	24.98	Peak	253.20	Vertical	Pass
2**	2797.000	39.98	4.73	54.0	14.02	AV	253.20	Vertical	Pass
3	3856.000	46.97	-10.16	74.0	27.03	Peak	206.80	Vertical	Pass
3**	3856.000	40.35	-10.16	54.0	13.65	AV	206.80	Vertical	Pass
4	5586.000	48.00	-4.81	74.0	26.00	Peak	5.40	Vertical	Pass
4**	5586.000	36.03	-4.81	54.0	17.97	AV	5.40	Vertical	Pass
5	8369.500	54.44	-1.06	74.0	19.56	Peak	90.70	Vertical	Pass
5**	8369.500	41.79	-1.06	54.0	12.21	AV	90.70	Vertical	Pass
6	13974.000	56.73	8.12	74.0	17.27	Peak	264.40	Vertical	Pass
6**	13974.000	45.88	8.12	54.0	8.12	AV	264.40	Vertical	Pass

RESULT: PASS

Note:

1. The amplitude of other spurious emissions from 1G to 20 GHz which are attenuated more than 20 dB below the permissible value need not be reported.
2. Factor = Antenna Factor + Cable loss - Amplifier gain, Margin=Measure result-Limit.
3. The "Factor" value can be calculated automatically by software of measurement system.
4. All test modes had been pre-tested. Antenna 1 is the worst case and recorded in the report.

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12. AC Power Line Conducted Emission

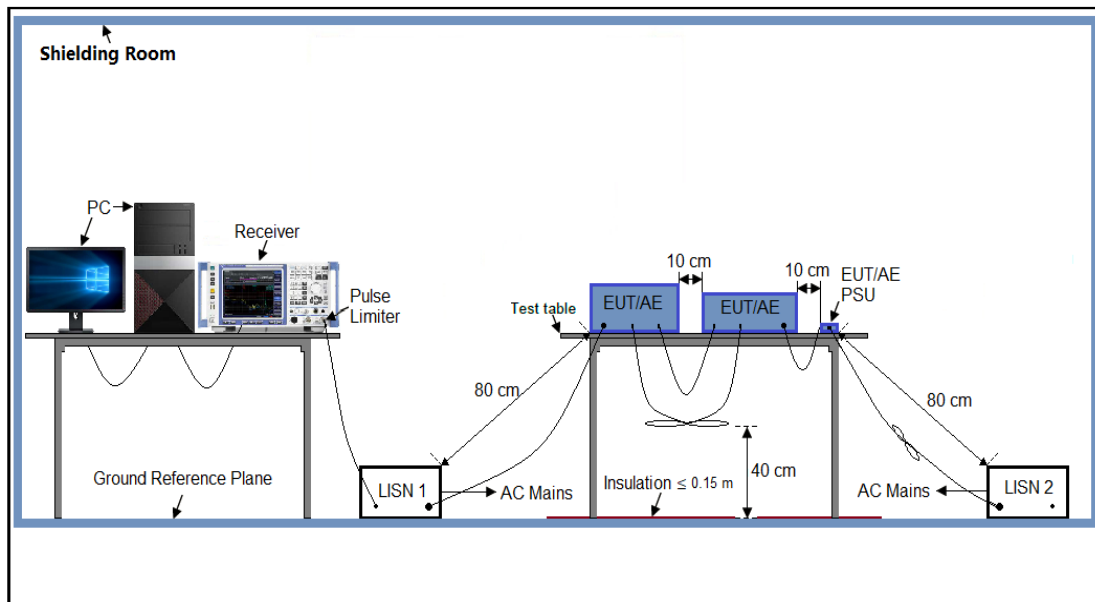
12.1 Limits of Line Conducted Emission Test

Frequency	Maximum RF Line Voltage	
	Q.P. (dBμV)	Average (dBμV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Note:

1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

12.2 Measurement Setup (Block Diagram of Configuration)



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12.3 Preliminary Procedure of Line Conducted Emission Test

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.10.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4. All support equipment received AC120V/60Hz power from a LISN, if any.
5. The EUT received DC 5V power from adapter which received AC120V/60Hz power from a LISN.
6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

12.4 Final Procedure of Line Conducted Emission Test

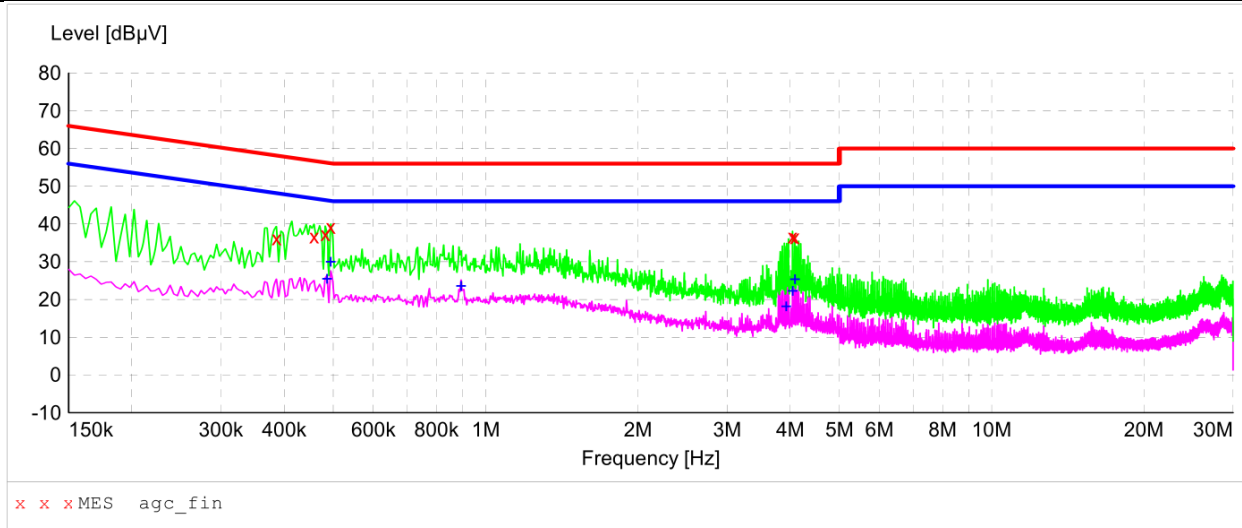
1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less – 2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
3. The test data of the worst case condition(s) was reported on the Summary Data page.

12.5 Measurement Result

Remark: The data only records the worst data under the transmission status of antenna 1

AC Power Line Conducted Emission Test

Temperature:	25.1℃	Relative Humidity:	59%
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 1		



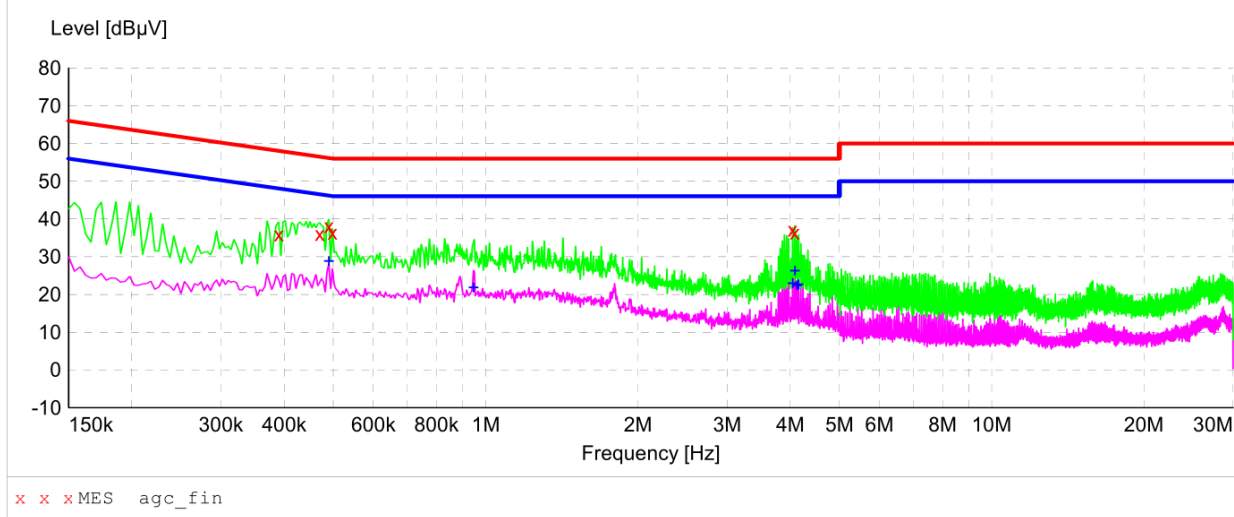
Frequency[MHz]	Level[dBμV]	Factor[dB]	Limit[dBμV]	Margin[dB]	Detector
0.386000	36.2	10.3	58.1	21.9	QP
0.458000	36.7	10.3	56.7	20.0	QP
0.482000	37.3	10.3	56.3	19.0	QP
0.494000	39.2	10.3	56.1	16.9	QP
4.042000	36.7	10.7	56.0	19.3	QP
4.082000	36.5	10.7	56.0	19.5	QP
0.486000	25.4	10.3	46.2	20.8	AV
0.494000	29.9	10.3	46.1	16.2	AV
0.894000	23.5	10.4	46.0	22.5	AV
3.926000	18.1	10.7	46.0	27.9	AV
4.042000	22.2	10.7	46.0	23.8	AV
4.082000	25.3	10.7	46.0	20.7	AV

Remark:

1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result = Reading + Factor) – Limit
3. Factor = LISN factor + Cable loss + Limiter (10dB)

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Temperature:	25.1℃	Relative Humidity:	59%
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 1		



Frequency[MHz]	Level[dBμV]	Factor[dB]	Limit[dBμV]	Margin[dB]	Detector
0.390000	35.9	10.3	58.1	22.2	QP
0.470000	36.0	10.3	56.5	20.5	QP
0.490000	38.1	10.3	56.2	18.1	QP
0.498000	36.4	10.3	56.0	19.6	QP
4.042000	37.1	10.7	56.0	18.9	QP
4.082000	36.4	10.7	56.0	19.6	QP
0.490000	28.8	10.3	46.2	17.4	AV
0.946000	21.8	10.4	46.0	24.2	AV
4.042000	22.9	10.7	46.0	23.1	AV
4.082000	26.2	10.7	46.0	19.8	AV
4.122000	22.3	10.7	46.0	23.7	AV
4.154000	22.6	10.7	46.0	23.4	AV

Remark:

1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result = Reading + Factor) – Limit
3. Factor = LISN factor + Cable loss + Limiter (10dB)

RESULT: PASS

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13. Carrier Frequency Stability

13.1 Provisions Applicable

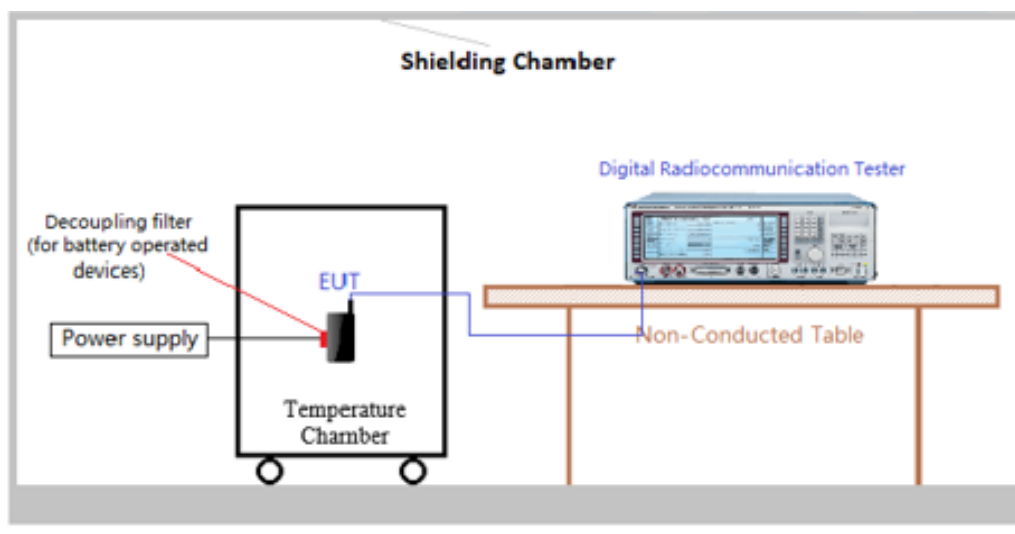
Please refer to FCC 47 CFR Part 15.319(c) & 15.319(e) for specification details:

The frequency stability of the carrier frequency of the intentional radiator shall be maintained within ± 10 ppm over 1 hour or the interval between channel access monitoring, whichever is shorter. The frequency stability shall be maintained over a temperature variation of -20° to $+45^{\circ}$ °C at normal supply voltage, and over a variation in the primary supply voltage of 85 percent to 115 percent of the rated supply voltage at a temperature of 20° °C. For equipment that is capable only of operating from a battery, the frequency stability tests shall be performed using a new battery without any further requirement to vary supply voltage.

13.2 Measurement Procedure

The testing follows the ANSI C63.17-2013 Section 6.2.1

13.3 Measurement Setup (Block Diagram of Configuration)



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13.4 Measurement Result

Module A

Antenna 1

Low Channel					
Reference Frequency (MHz)	Voltage (V)	Temperature (℃)	Frequency (MHz)	Deviation (ppm)	Limit (ppm)
1921.536	14.4	50	1921.52281	6.86	±10
		40	1921.52445	6.01	
		30	1921.52981	3.22	
		20	1921.53826	-1.18	
		10	1921.53780	-0.94	
		0	1921.53598	0.01	
		-10	1921.54858	-6.55	
		-20	1921.54514	-4.76	
	12.24	20	1921.54845	-6.48	
	16.56	20	1921.54448	-4.41	
Mid Channel					
Reference Frequency (MHz)	Voltage (V)	Temperature (℃)	Frequency (MHz)	Deviation (ppm)	Limit (ppm)
1924.992	14.4	50	1924.99513	-1.63	±10
		40	1924.99439	-1.24	
		30	1924.99807	-3.15	
		20	1925.00101	-4.68	
		10	1924.99815	-3.19	
		0	1924.99903	-3.65	
		-10	1924.98408	4.11	
		-20	1924.98721	2.49	
	12.24	20	1924.98572	3.26	
	16.56	20	1924.98988	1.10	
High Channel					
Reference Frequency (MHz)	Voltage (V)	Temperature (℃)	Frequency (MHz)	Deviation (ppm)	Limit (ppm)
1928.448	14.4	50	1928.44159	3.32	±10
		40	1928.44300	2.59	
		30	1928.44135	3.45	
		20	1928.43891	4.71	
		10	1928.44628	0.89	
		0	1928.44869	-0.36	
		-10	1928.45026	-1.17	
		-20	1928.45304	-2.61	
	12.24	20	1928.45141	-1.77	
	16.56	20	1928.45229	-2.22	

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Antenna 2

Low Channel					
Reference Frequency (MHz)	Voltage (V)	Temperature (℃)	Frequency (MHz)	Deviation (ppm)	Limit (ppm)
1921.536	14.4	50	1921.52755	4.40	±10
		40	1921.52436	6.06	
		30	1921.52488	5.79	
		20	1921.53407	1.00	
		10	1921.53713	-0.59	
		0	1921.53649	-0.26	
		-10	1921.54653	-5.48	
		-20	1921.54458	-4.47	
	12.24	20	1921.54444	-4.39	
	16.56	20	1921.55036	-7.47	
Mid Channel					
Reference Frequency (MHz)	Voltage (V)	Temperature (℃)	Frequency (MHz)	Deviation (ppm)	Limit (ppm)
1924.992	14.4	50	1924.99671	-2.45	±10
		40	1924.99573	-1.94	
		30	1924.99579	-1.97	
		20	1924.99911	-3.69	
		10	1924.99671	-2.45	
		0	1924.99863	-3.44	
		-10	1924.98858	1.78	
		-20	1924.98465	3.82	
	12.24	20	1924.98356	4.38	
	16.56	20	1924.98686	2.67	
High Channel					
Reference Frequency (MHz)	Voltage (V)	Temperature (℃)	Frequency (MHz)	Deviation (ppm)	Limit (ppm)
1928.448	14.4	50	1928.44410	2.02	±10
		40	1928.44401	2.07	
		30	1928.44160	3.32	
		20	1928.44087	3.70	
		10	1928.44527	1.42	
		0	1928.44957	-0.81	
		-10	1928.44814	-0.07	
		-20	1928.44833	-0.17	
	12.24	20	1928.44831	-0.16	
	16.56	20	1928.44844	-0.23	

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Module B

Antenna 1

Low Channel					
Reference Frequency (MHz)	Voltage (V)	Temperature (℃)	Frequency (MHz)	Deviation (ppm)	Limit (ppm)
1921.536	14.4	50	1921.52903	3.63	±10
		40	1921.52516	5.64	
		30	1921.52624	5.08	
		20	1921.53493	0.56	
		10	1921.53593	0.04	
		0	1921.53454	0.76	
		-10	1921.54842	-6.46	
		-20	1921.54860	-6.56	
	12.24	20	1921.54875	-6.64	
	16.56	20	1921.54402	-4.17	
Mid Channel					
Reference Frequency (MHz)	Voltage (V)	Temperature (℃)	Frequency (MHz)	Deviation (ppm)	Limit (ppm)
1924.992	14.4	50	1924.99556	-1.85	±10
		40	1924.99904	-3.66	
		30	1924.99452	-1.31	
		20	1924.99985	-4.08	
		10	1925.00086	-4.60	
		0	1924.99884	-3.55	
		-10	1924.98560	3.32	
		-20	1924.98658	2.82	
	12.24	20	1924.98376	4.28	
	16.56	20	1924.98453	3.88	
High Channel					
Reference Frequency (MHz)	Voltage (V)	Temperature (℃)	Frequency (MHz)	Deviation (ppm)	Limit (ppm)
1928.448	14.4	50	1928.43885	4.74	±10
		40	1928.44059	3.84	
		30	1928.44244	2.88	
		20	1928.44219	3.01	
		10	1928.44784	0.08	
		0	1928.44997	-1.02	
		-10	1928.45073	-1.42	
		-20	1928.45434	-3.29	
	12.24	20	1928.45480	-3.53	
	16.56	20	1928.44799	0.01	

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Antenna 2

Low Channel					
Reference Frequency (MHz)	Voltage (V)	Temperature (°C)	Frequency (MHz)	Deviation (ppm)	Limit (ppm)
1921.536	14.4	50	1921.52295	6.79	±10
		40	1921.52814	4.09	
		30	1921.52604	5.18	
		20	1921.53740	-0.73	
		10	1921.53695	-0.49	
		0	1921.53948	-1.81	
		-10	1921.54542	-4.90	
		-20	1921.54317	-3.73	
	12.24	20	1921.54597	-5.19	
	16.56	20	1921.54530	-4.84	

Mid Channel					
Reference Frequency (MHz)	Voltage (V)	Temperature (°C)	Frequency (MHz)	Deviation (ppm)	Limit (ppm)
1924.992	14.4	50	1924.99532	-1.72	±10
		40	1924.99626	-2.21	
		30	1924.99685	-2.52	
		20	1924.99841	-3.33	
		10	1925.00285	-5.64	
		0	1925.00222	-5.31	
		-10	1924.98397	4.17	
		-20	1924.98416	4.07	
	12.24	20	1924.98604	3.10	
	16.56	20	1924.98412	4.09	

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High Channel					
Reference Frequency (MHz)	Voltage (V)	Temperature (°C)	Frequency (MHz)	Deviation (ppm)	Limit (ppm)
1928.448	14.4	50	1928.44079	3.74	±10
		40	1928.44007	4.11	
		30	1928.44437	1.88	
		20	1928.44230	2.96	
		10	1928.45000	-1.04	
		0	1928.44535	1.37	
		-10	1928.44612	0.97	
		-20	1928.45012	-1.10	
	12.24	20	1928.45165	-1.89	
	16.56	20	1928.45220	-2.18	

Note 1: Max Dev. (ppm) = [(Max. Diff. - Min. Diff.) / Average Mean Carrier Freq.]*10⁶

Note 2: Difference (kHz) = Measured Carrier Freq. - Carrier Freq.

Note 3: Deviation (ppm) = [Difference (MHz) / Carrier Freq.] x 10⁶

Note 4: Set the Measured Carrier Frequency (MHz) T = +20°C as Ref Level

Note 5: Difference (kHz) = Measured Carrier Freq. T = -20°C - Measured Carrier Freq. T = +20°C or Measured Carrier Freq. T = +45°C - Measured Carrier Freq. T = +20°C

Note 6: Deviation (ppm) = [Difference (MHz) / Carrier Freq.] x 10⁶.

Note 7: Carrier frequency offset error only records the worst mode data (antenna 1)

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14. Specific Requirements for UPCS Device

14.1 Monitoring Time Requirements

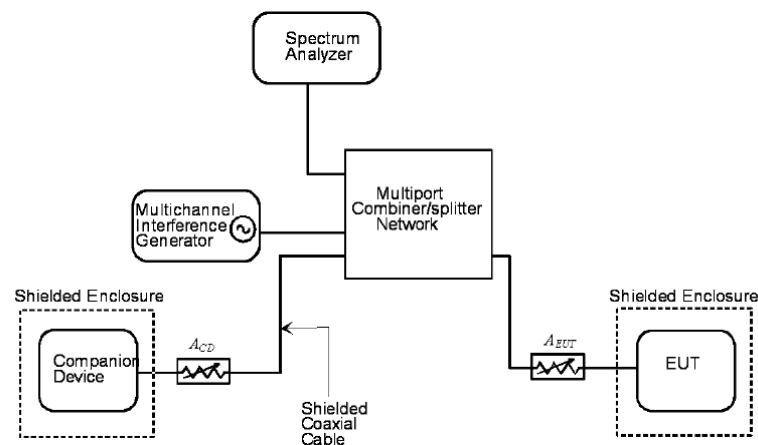
According to the requirements of FCC Part 15.323(c)(1) as follows:

Immediately prior to initiating transmission, devices must monitor the combined time and spectrum window in which they intend to transmit. For a period of at least 10 milliseconds for systems designed to use a 10 milliseconds or shorter frame period or at least 20 milliseconds for systems designed to use a 20 milliseconds frame period.

14.1.1 Measurement Procedure

For detailed test methods, please refer to ANSI C63.17-2013 Clause 7.3.4, 7.5

14.1.2 Measurement Setup



13.1.2 Measurement Result

Initial transmit channel and Interferer level	Final transmit Channel	Results
Apply the interference on f1 at level TU+UM, and no interference on f2. Initiate transmission and verify the transmission on f2.	f2	Pass
Apply the interference on f2 at level TU+UM, at the same time, no interference on f1. After about 20ms, initiate transmission and verify the transmission on f1.	f1	Pass

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14.2 Lowest Monitoring Threshold Requirements

According to the requirements of FCC Part 15.323(c)(2) as follows:

The monitoring threshold must not be more than 30 dB above the thermal noise power for a bandwidth equivalent to the emission bandwidth used by the device.

14.2.1 Measurement Procedure

For detailed test methods, please refer to ANSI C63.17-2013 Clause 7.3.1

14.2.2 Measurement Result

Not Applicable

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14.3 Acknowledgements and Transmission Duration Requirements

According to the requirements of FCC Part 15.323(c)(3)(4) as follows:

Occupation of the same combined time and spectrum windows by a device or group of cooperating devices continuously over a period of time longer than 8 hours is not permitted without repeating the access criteria.

Once access to specific combined time and spectrum windows is obtained an acknowledgement from a system participant must be received by the initiating transmitter within one second or transmission must cease.

Periodic acknowledgements must be received at least every 30 seconds or transmission must cease. Channels used exclusively for control and signaling information may transmit continuously for 30 seconds without receiving an acknowledgement, at which time the access criteria must be repeated.

14.3.1 Measurement Procedure

For detailed test methods, please refer to ANSI C63.17-2013 Clause 8.2.1& 8.2.2.

14.3.2 Measurement Result

Test ref. to ANSI C63.17 clause 8.2.1	Observation	Verdict
Initial transmission without acknowledgements	Not applicable for EUT that transmits control and signaling information	N/A
Transmission time after loss of acknowledgements	10.0	Pass

Test ref. to ANSI C63.17 clause 8.2.2	Observation	Verdict
Transmission duration on same time and frequency window	Only for initiating device that controls which time slot is used	N/A

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14.4 Least Interfered Channel (LIC) Selection Requirements

According to the requirements of FCC Part 15.323(c)(5) as follows:

Occupation of the same combined time and spectrum windows by a device or group of cooperating devices
If access to spectrum is not available as determined by the above, and a minimum of 40 duplex system access channels are defined for the system, the time and spectrum windows with the lowest power level below a monitoring threshold of 50 dB above the thermal noise power determined for the emission bandwidth may be accessed.

Calculation of monitoring threshold limits for isochroous devices:

Lowest threshold: $TL = -174 + 10\log_{10}B + M_u + P_{MAX} - P_{EUT}(\text{dBm})$

Upper threshold: $TU = -174 + 10\log_{10}B + M_u + P_{MAX} - P_{EUT}(\text{dBm})$

Where: B=Emission bandwidth (Hz)

M_u =dB the threshold may exceed thermal noise (30 for TL& 50 for TU)

$P_{MAX}=5*Log_{10}B-10(\text{dBm})$

P_{EUT} =Transmitted power (dBm)

Module A

● For Antenna 1

Monitor Threshold	B (MHz)	M_u (dB)	P_{MAX} (dBm)	P_{EUT} (dBm)	Threshold (dBm)
TL	1.41	30	19.78	20.746	-81.54
TU	1.41	50	19.78	20.746	-61.54

● For Antenna 2

Monitor Threshold	B (MHz)	M_u (dB)	P_{MAX} (dBm)	P_{EUT} (dBm)	Threshold (dBm)
TL	1.41	30	19.93	20.746	-81.69
TU	1.41	50	19.93	20.746	-61.69

Module B

● For Antenna 1

Monitor Threshold	B (MHz)	M_u (dB)	P_{MAX} (dBm)	P_{EUT} (dBm)	Threshold (dBm)
TL	1.41	30	19.47	20.746	-81.23
TU	1.41	50	19.47	20.746	-61.23

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- For Antenna 2

Monitor Threshold	B (MHz)	M _U (dB)	P _{MAX} (dBm)	P _{EUT} (dBm)	Threshold (dBm)
TL	1.41	30	19.53	20.746	-81.29
TU	1.41	50	19.53	20.746	-61.29

The EUT must not transmit until the interference level is less than or equal to: Measured Threshold Level $\leq$ TU
Where: TU=Upper threshold level

14.4.1 Measurement Procedure

For detailed test methods, please refer to ANSI C63.17-2013 Clause 7.3.2& 7.3.3& 7.3.4.

14.4.2 Measurement Result

Module A

- For Antenna 1

Monitor threshold	Measured Threshold Level	Limit (dBm)
Lowest Threshold (dBm)	N/A	-81.54
Upper Threshold (dBm)	N/A	-61.54

- For Antenna 2

Monitor threshold	Measured Threshold Level	Limit (dBm)
Lowest Threshold (dBm)	N/A	-81.69
Upper Threshold (dBm)	N/A	-61.69

Module B

- For Antenna 1

Monitor threshold	Measured Threshold Level	Limit (dBm)
Lowest Threshold (dBm)	N/A	-81.23
Upper Threshold (dBm)	N/A	-61.23

- For Antenna 2

Monitor threshold	Measured Threshold Level	Limit (dBm)
Lowest Threshold (dBm)	N/A	-81.29
Upper Threshold (dBm)	N/A	-61.29

Note: N/A Not applicable - EUT which supports at least of 40 duplex system access channels and implements Least Interfered Channel (LIC) algorithm is permitted to use an upper monitoring threshold.

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14.5 Random Waiting Requirements

According to the requirements of FCC Part 15.323(c)(6) as follows:

If the selected combined time and spectrum windows are unavailable, the device may either monitor and select different windows or seek to use the same window after waiting an amount of time, randomly chosen from a uniform random distribution between 10 and 150 milliseconds, commencing when the channel becomes available.

14.5.1 Measurement Procedure

For detailed test methods, please refer to ANSI C63.17-2013 Clause 8.1.3.

14.5.2 Measurement Result

Not Applicable

Note: The manufacturer declares that this provision is not utilized by the EUT.

14.6 Monitoring Bandwidth Requirements

According to the requirements of FCC Part 15.323(c)(7) as follows:

The monitoring system bandwidth must be equal to or greater than the occupied bandwidth of the intended transmission. Note: Testing of the monitoring system bandwidth is not required if the designed bandwidth from the manufacturer is available and given in the test report.

The maximum reaction time of the monitor shall be less than $50 \cdot \sqrt{1.25/\text{EBW or OBW}[\text{MHz}]}$ μs for signals at the applicable threshold level but shall not be required to be less than $50\mu\text{s}$.

If a signal of 6 dB or more above the threshold level is detected, the maximum reaction time shall be $35 \cdot \sqrt{1.25/\text{EBW or OBW}[\text{MHz}]}$ μs but shall not be required to be less than $35\mu\text{s}$.

14.6.1 Measurement Procedure

For detailed test methods, please refer to ANSI C63.17-2013 Clause 7.5.

14.6.2 Measurement Result

Module A

● For Antenna 1

Test Equation (μs)	EBW (MHz)	Pulse width(μs)	Limit (us)	Result
$50 (1.25/B)^{1/2}$	1.410	47.078	50	Pass
$25 (1.25/B)^{1/2}$	1.410	32.954	35	Pass

● For Antenna 2

Test Equation (μs)	EBW (MHz)	Pulse width(μs)	Limit (us)	Result
$50 (1.25/B)^{1/2}$	1.410	47.078	50	Pass
$25 (1.25/B)^{1/2}$	1.410	32.954	35	Pass

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Module B

● For Antenna 1

Test Equation (μs)	EBW (MHz)	Pulse width(μs)	Limit (us)	Result
$50 (1.25/B)^{1/2}$	1.410	47.078	50	Pass
$25 (1.25/B)^{1/2}$	1.410	32.954	35	Pass

● For Antenna 2

Test Equation (μs)	EBW (MHz)	Pulse width(μs)	Limit (us)	Result
$50 (1.25/B)^{1/2}$	1.410	47.078	50	Pass
$25 (1.25/B)^{1/2}$	1.410	32.954	35	Pass

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14.7 Monitoring Antenna Requirements

According to the requirements of FCC Part 15.323(c)(8)(9) as follows:

The monitoring system shall use the same antenna used for transmission, or an antenna that yields equivalent reception at that location.

14.7.1 Measurement Procedure

For detailed test methods, please refer to ANSI C63.17-2013 paragraph 4.

14.7.2 Measurement Result

Not Applicable

Note: The antenna of the EUT used for transmission is the same interior antenna that used for monitoring.

14.8 Dual Access Criteria Check Requirements

According to the requirements of FCC Part 15.323(c)(10) as follows:

A device initiating a communication (hereafter called an initiating device) may attempt to establish a duplex connection by monitoring both its intended transmit and receive time and spectrum windows.

If both the intended transmit and receive time and spectrum windows meet the access criteria, then the initiating device can initiate a transmission in the intended transmit time and spectrum window.

If the power detected by the responding device can be decoded as a duplex connection signal from the initiating device, then the responding device may immediately begin transmitting in the receive time and spectrum window monitored by the initiating device.

14.8.1 Measurement Procedure

For detailed test methods, please refer to ANSI C63.17-2013 Clause 8.3.1&8.3.2.

14.8.2 Measurement Result

EUT that do NOT implements the LIC procedure:

Test ref. to ANSI C63.17 clause 8.3.1	Observation	Verdict
b) EUT is restricted to a single carrier f_1 for TDMA systems. The Test is Pass if EUT can transmit	EUT can transmit	Pass
c) d) Interference at level $T_L + U_M$ on all timeslots except one receive slot where interference is at least 10 dB below T_L	No connection possible	N/A
e) f) Interference at level $T_L + U_M$ on all timeslots except one transmit slot where interference is at least 10 dB below T_L	No connection possible	N/A

EUTs that implements the LIC procedure:

Test ref. to ANSI C63.17 clause 8.3.1	Observation	Verdict
b) EUT is restricted to a single carrier f_1 for TDMA systems. The Test is Pass if EUT can transmit	EUT can transmit	Pass
c) d) Transmission on interference-free receive time/spectrum window	Connected on the target Rx window and its duplex mate.	Pass
e) f) Transmission on interference-free transmit time/spectrum window	Connected on the target Tx window and its duplex mate.	Pass

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14.9 Alternative Monitoring Interval for Co-Located Devices Requirements

According to the requirements of FCC Part 15.323(c)(11) as follows:

An initiating device that is prevented from monitoring during its intended transmit window due to monitoring system blocking from the transmissions of a co-located (within 1 m) transmitter of the same system, may monitor the portions of the time and spectrum window in which they are to receive over a period of at least 10 ms.

The monitored time and spectrum window must total at least 50% of the 10 ms frame interval and the monitored spectrum must be within 1.25 MHz of the centre frequency of channel(s) already occupied by that device or co-located cooperating devices.

If the access criteria are met for the intended receive time and spectrum window under the above conditions, then transmission in the intended transmit window by the initiating device may commence.

14.9.1 Measurement Procedure

For detailed test methods, please refer to ANSI C63.17-2013 Clause 8.4.

14.9.2 Measurement Result

Not Applicable

Note: The manufacturer declares that this provision is not utilized by the EUT.

14.10 Frame Repetition Stability And Period And Jitter

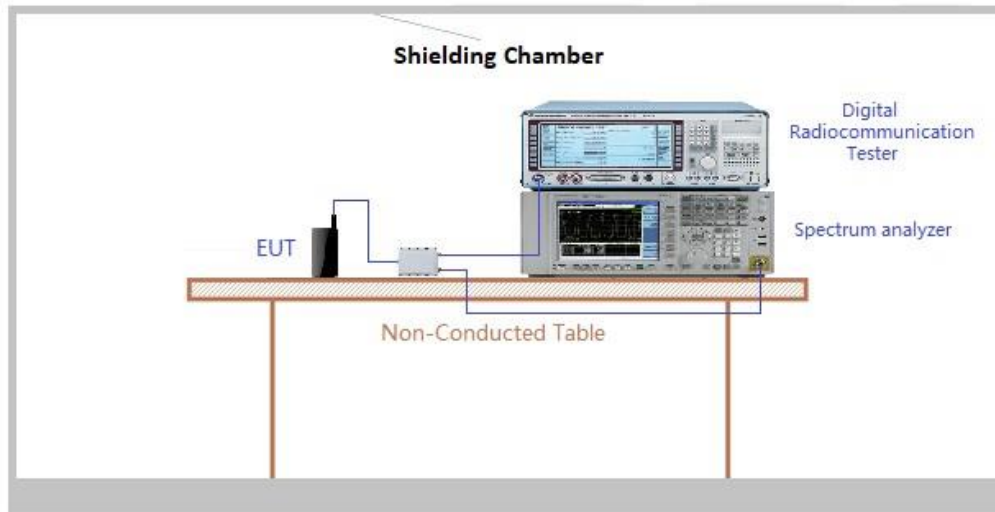
According to the requirements of FCC Part 15.323(c)(13) as follows:

The frame period (a set of consecutive time slots in which the position of each time slot can be identified by reference to a synchronizing source) of an intentional radiator operating in this band shall be 20 milliseconds or 10 milliseconds/X where X is a positive whole number. Each device that implements time division for the purposes of maintaining a duplex connection on a given frequency carrier shall maintain a frame repetition rate with a frequency stability of at least 50 parts per million (ppm). Each device which further divides access in time in order to support multiple communication links on a given frequency carrier shall maintain a frame repetition rate with a frequency stability of at least 10 ppm. The jitter (time-related, abrupt, spurious variations in the duration of the frame interval) introduced at the two ends of such a communication link shall not exceed 25 microseconds for any two consecutive transmissions. Transmissions shall be continuous in every time and spectrum window during the frame period defined for the device.

14.10.1 Measurement Procedure

For detailed test methods, please refer to ANSI C63.17-2013 Clause 6.2.2&6.2.3

14.10.2 Measurement Setup



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14.10.3 Measurement Result

- For Antenna 1

Module A

Channel	Standard Deviation(ppm)	Frame Repetition	The limit of Frame Repetition Stability(ppm)	Verdict
Middle	0.6737	2.0211	±10	Pass

Channel	Frame Period(ms)	Max Jitter(μs)	3xStandard Deviation of Jitter(μs)	Limit(μs)		Verdict
				Max Jitter	3 times St.Dev.of Jitter	
Middle	10.0000	-0.5000	2.0211	25	12.5	Pass

Module B

Channel	Standard Deviation(ppm)	Frame Repetition	The limit of Frame Repetition Stability(ppm)	Verdict
Middle	0.5854	1.7562	±10	Pass

Channel	Frame Period(ms)	Max Jitter(μs)	3xStandard Deviation of Jitter(μs)	Limit(μs)		Verdict
				Max Jitter	3 times St.Dev.of Jitter	
Middle	10.0000	-0.5000	1.7562	25	12.5	Pass

- For Antenna 2

Module A

Channel	Standard Deviation(ppm)	Frame Repetition	The limit of Frame Repetition Stability(ppm)	Verdict
Middle	0.5353	1.6059	±10	Pass

Channel	Frame Period(ms)	Max Jitter(μs)	3xStandard Deviation of Jitter(μs)	Limit(μs)		Verdict
				Max Jitter	3 times St.Dev.of Jitter	
Middle	10.0000	-0.5000	1.6059	25	12.5	Pass

Module B

Channel	Standard Deviation(ppm)	Frame Repetition	The limit of Frame Repetition Stability(ppm)	Verdict
Middle	0.6455	1.9365	±10	Pass

Channel	Frame Period(ms)	Max Jitter(μs)	3xStandard Deviation of Jitter(μs)	Limit(μs)		Verdict
				Max Jitter	3 times St.Dev.of Jitter	
Middle	10.0000	-0.5000	1.9365	25	12.5	Pass

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Appendix I: Photographs of Test Setup

Refer to the Report No.: AGC02787260302AP01

Appendix II: Photographs of Test EUT

Refer to the Report No.: AGC02787260302AP02

-----End of Report-----

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3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
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6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

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