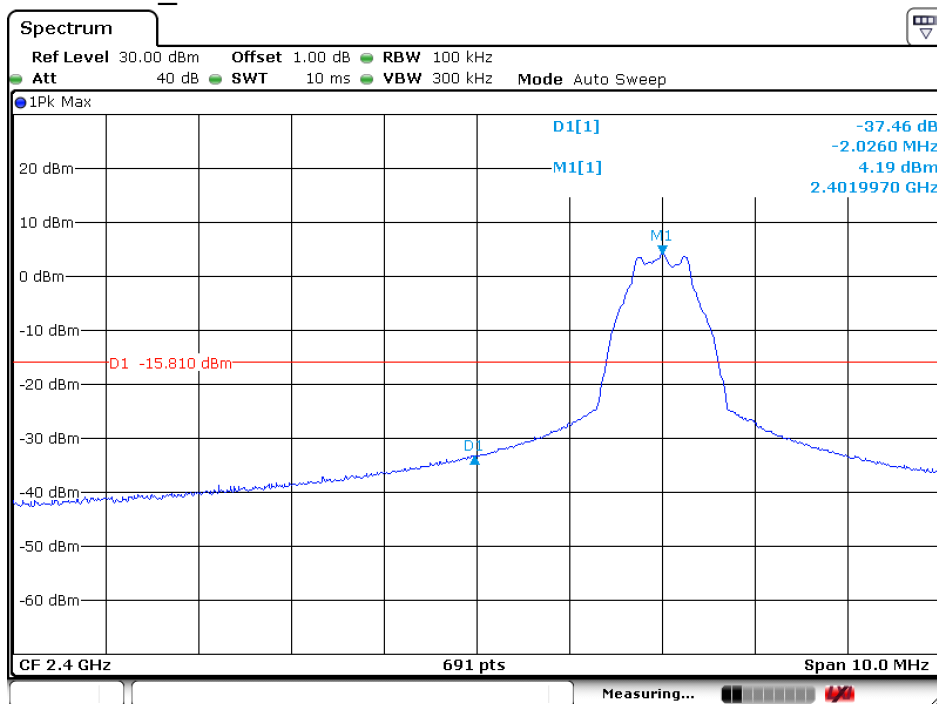


4.7.1

Test plots

4.7.1.1

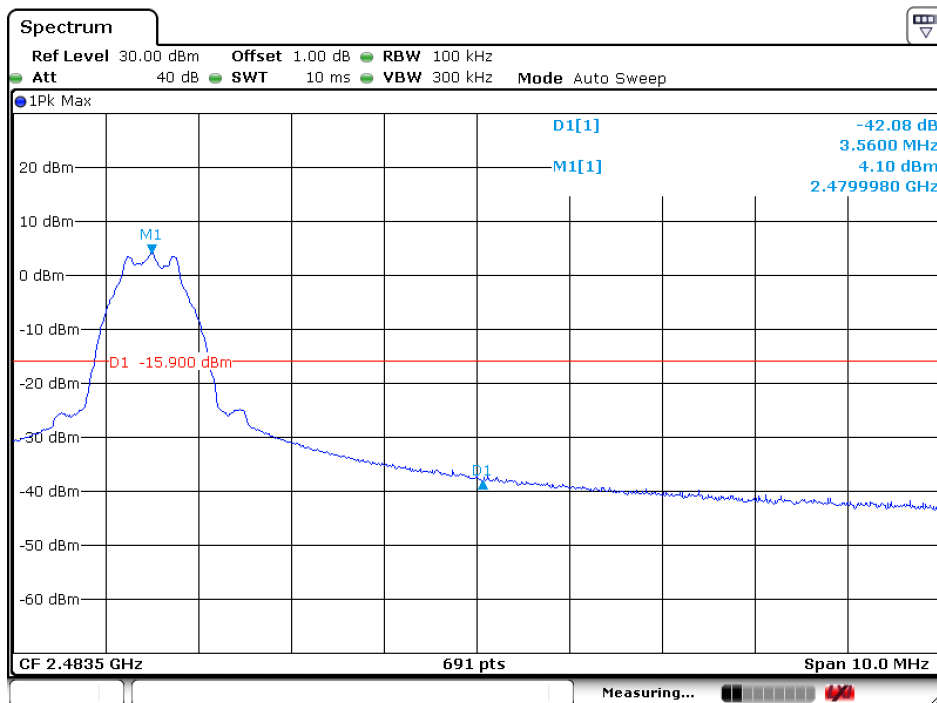
GFSK _Lowest Channel



Date: 18.JUN.2020 03:05:05

4.7.1.2

GFSK _Highest Channel



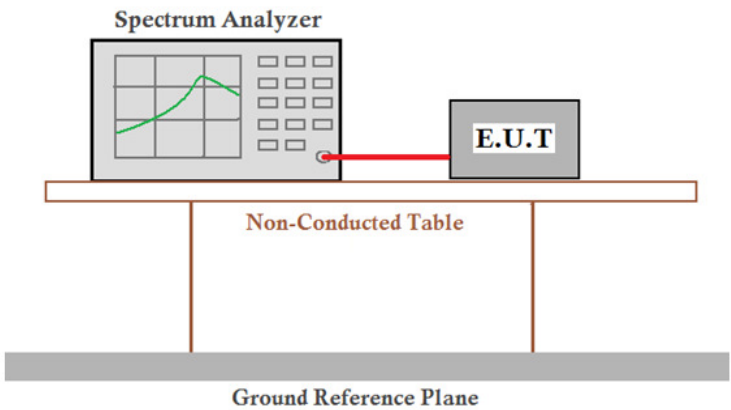
Date: 18.JUN.2020 03:25:28



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4.8 Spurious RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.11
Test Setup:	
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test Mode:	Transmitting with GFSK modulation.
Instruments Used:	Refer to section 5.10 for details.
Test Results:	Pass

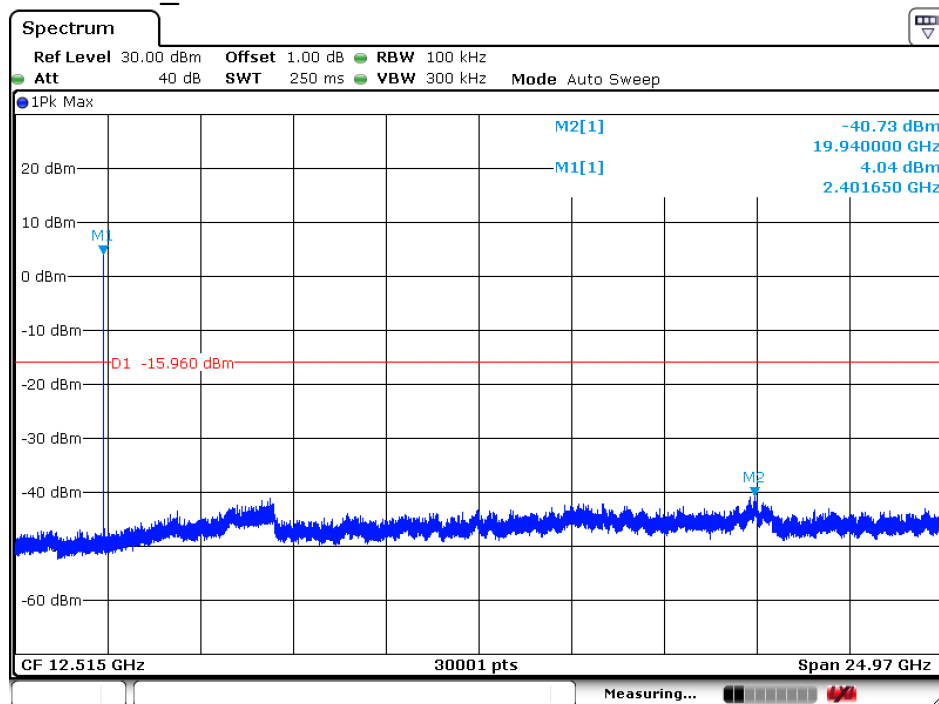


4.8.1

Test plots:

4.8.1.1

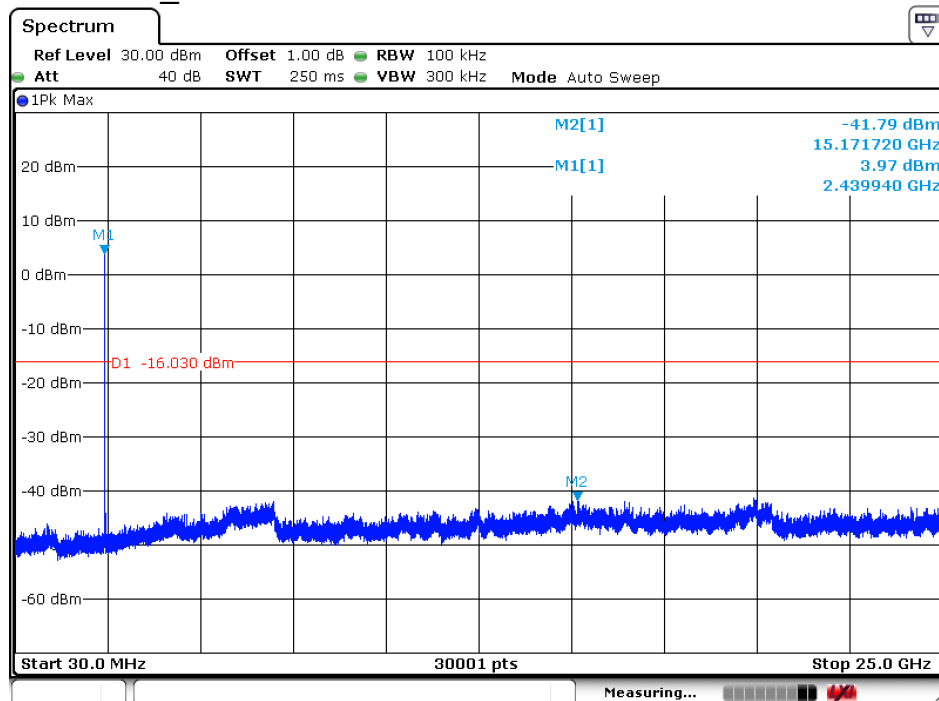
GFSK_Lowest Channel



Date: 18.JUN.2020 03:07:41

4.8.1.2

GFSK_Middle Channel



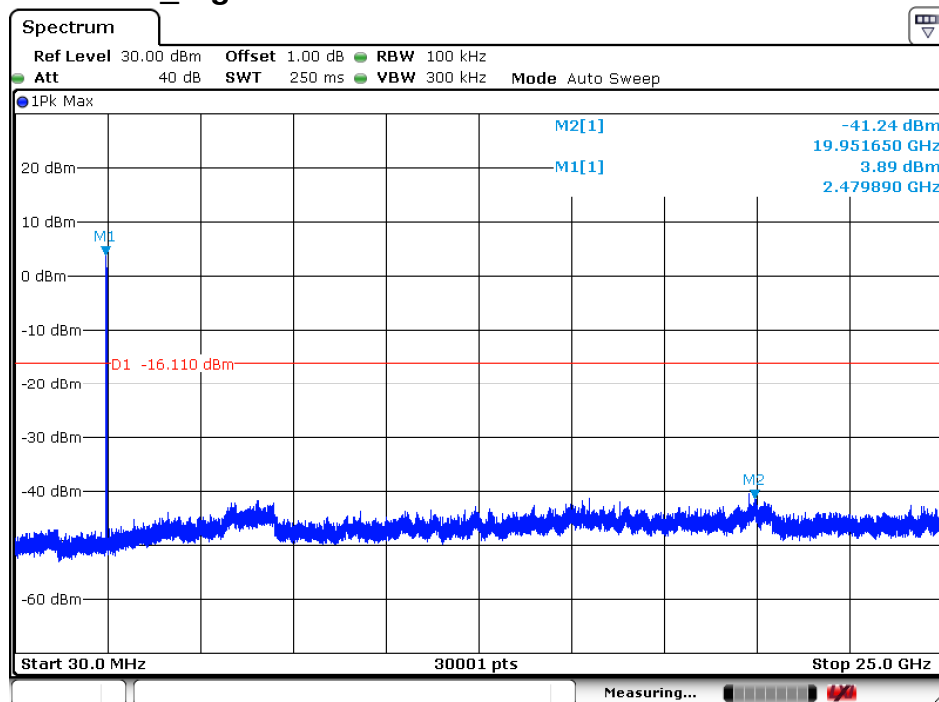
Date: 18.JUN.2020 03:19:11



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4.8.1.3 GFSK_Highest Channel



Date: 18.JUN.2020 03:20:48

Remark:

Scan from 9kHz to 25GHz, the disturbance between 9KHz to 30MHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.



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4.9 Radiated Spurious Emission

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205				
Test Method:	ANSI C63.10 :2013 Section 11.12				
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
Remark: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.					



Test Setup:

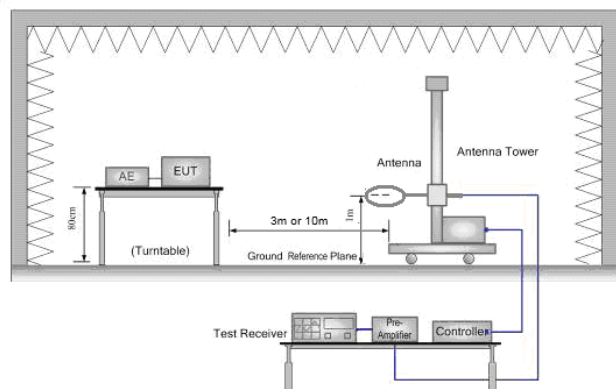


Figure 1. Below 30MHz

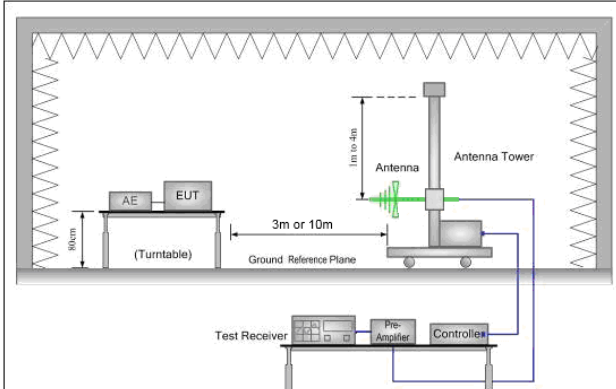


Figure 2. 30MHz to 1GHz

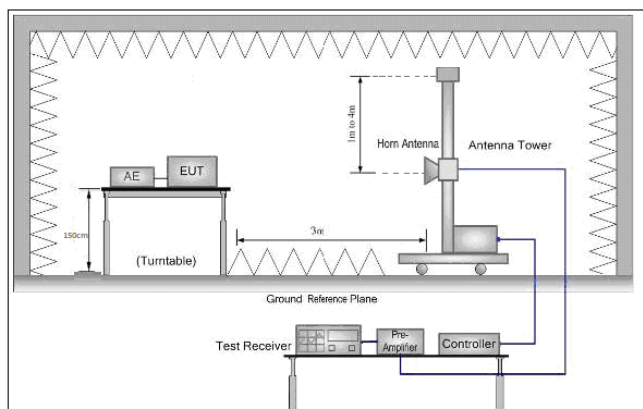


Figure 3. Above 1 GHz

Test Procedure:

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- Use the following spectrum analyzer settings:
 - Span shall wide enough to fully capture the emission being measured;
 - Set RBW=100 kHz for $f < 1$ GHz, RBW=1MHz for $f > 1$ GHz ;
VBW $\geq$ RBW; Sweep = auto;
Detector function = peak; Trace = max hold for peak



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	(3) For average measurement: use duty cycle correction factor method per 15.35(c). Duty cycle = On time/100 milliseconds On time = $N_1 * L_1 + N_2 * L_2 + \dots + N_{n-1} * L_{n-1} + N_n * L_n$ Where N_1 is number of type 1 pulses, L_1 is length of type 1 pulses, etc. Average Emission Level = Peak Emission Level + 20*log(Duty cycle) f. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. g. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. h. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. i. Test the EUT in the lowest channel (2402MHz), the middle channel (2440MHz), the Highest channel (2480MHz) j. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. k. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with GFSK modulation. Charge + Transmitting mode.
Final Test Mode:	Transmitting with GFSK modulation. Pretest the EUT at Charge + Transmitting mode, For below 1GHz part, through pre-scan, the worst case is the lowest channel. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details.
Test Results:	Pass

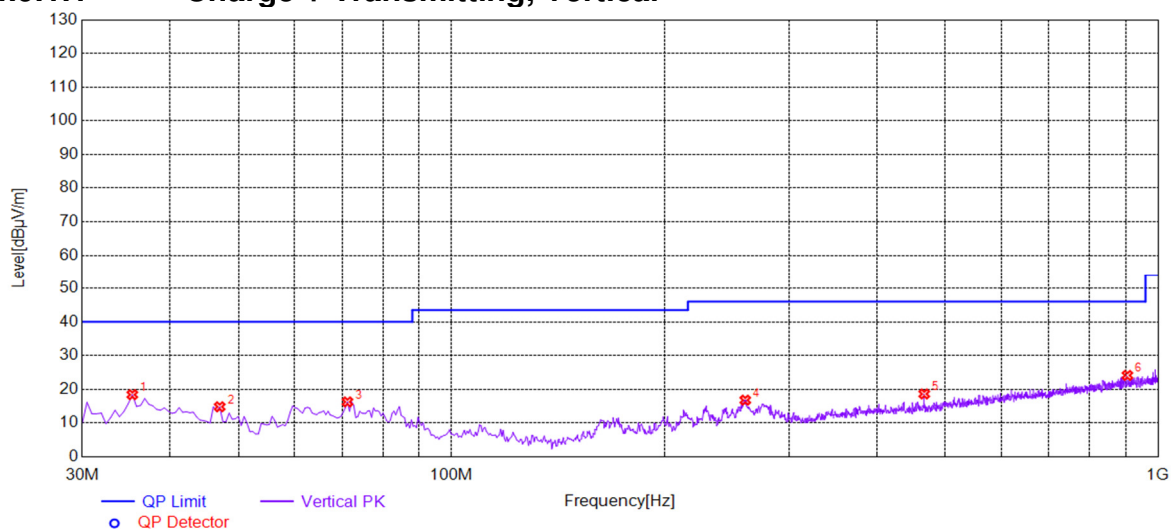


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4.9.1 Radiated Emission below 1GHz

4.9.1.1 Charge + Transmitting, Vertical

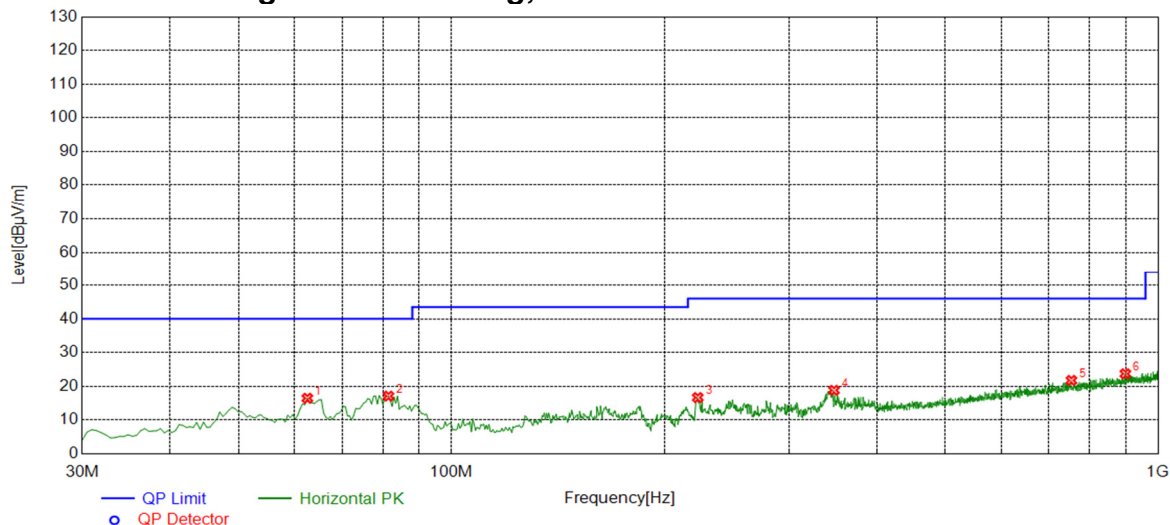


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	35.3377	18.45	-32.65	40.00	21.55	150	186	Vertical
2	46.9835	14.86	-30.20	40.00	25.14	150	344	Vertical
3	71.2456	16.31	-34.37	40.00	23.69	150	157	Vertical
4	260.490	16.83	-28.93	46.00	29.17	150	344	Vertical
5	466.718	18.66	-23.49	46.00	27.34	150	176	Vertical
6	904.892	24.15	-15.16	46.00	21.85	150	61	Vertical



4.9.1.2 Charge + Transmitting, Horizontal



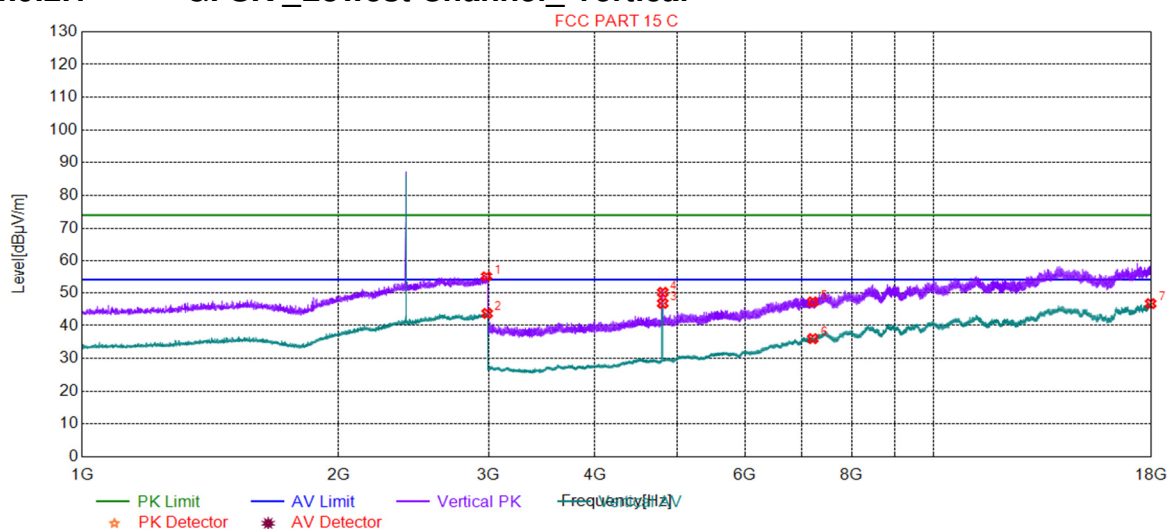
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	62.5113	16.51	-32.29	40.00	23.49	150	117	Horizontal
2	81.4357	17.13	-35.52	40.00	22.87	150	295	Horizontal
3	223.126	16.70	-30.21	46.00	29.30	150	209	Horizontal
4	347.833	18.85	-26.44	46.00	27.15	150	238	Horizontal
5	753.982	21.79	-17.39	46.00	24.21	150	359	Horizontal
6	899.069	23.76	-15.25	46.00	22.24	150	330	Horizontal



4.9.2 Transmitter Emission above 1GHz

4.9.2.1 GFSK _Lowest Channel_ Vertical

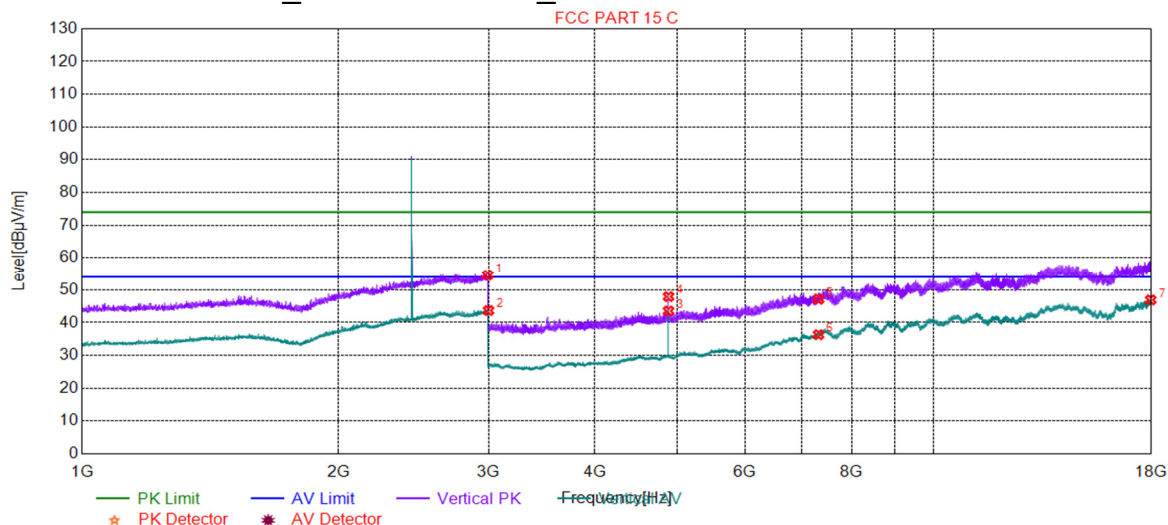


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2982.99	55.15	9.53	74.00	18.85	150	81	Vertical
2	2988.99	43.72	9.50	54.00	10.28	150	218	Vertical
3	4804.00	46.78	-18.30	54.00	7.22	150	46	Vertical
4	4804.00	50.14	-18.30	74.00	23.86	150	46	Vertical
5	7206.00	47.24	-10.09	74.00	26.76	150	191	Vertical
6	7206.00	36.04	-10.09	54.00	17.96	150	191	Vertical
7	17959.8	46.70	0.71	54.00	7.30	150	241	Vertical



4.9.2.2 GFSK _Middle Channel_ Vertical



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2993.99	54.59	9.48	74.00	19.41	150	287	Vertical
2	3000.00	43.70	9.45	54.00	10.30	150	328	Vertical
3	4880.00	43.55	-17.97	54.00	10.45	150	46	Vertical
4	4880.00	47.94	-17.97	74.00	26.06	150	46	Vertical
5	7320.00	47.13	-9.72	74.00	26.87	150	342	Vertical
6	7320.00	36.33	-9.72	54.00	17.67	150	141	Vertical
7	17965.8	46.93	0.71	54.00	7.07	150	241	Vertical

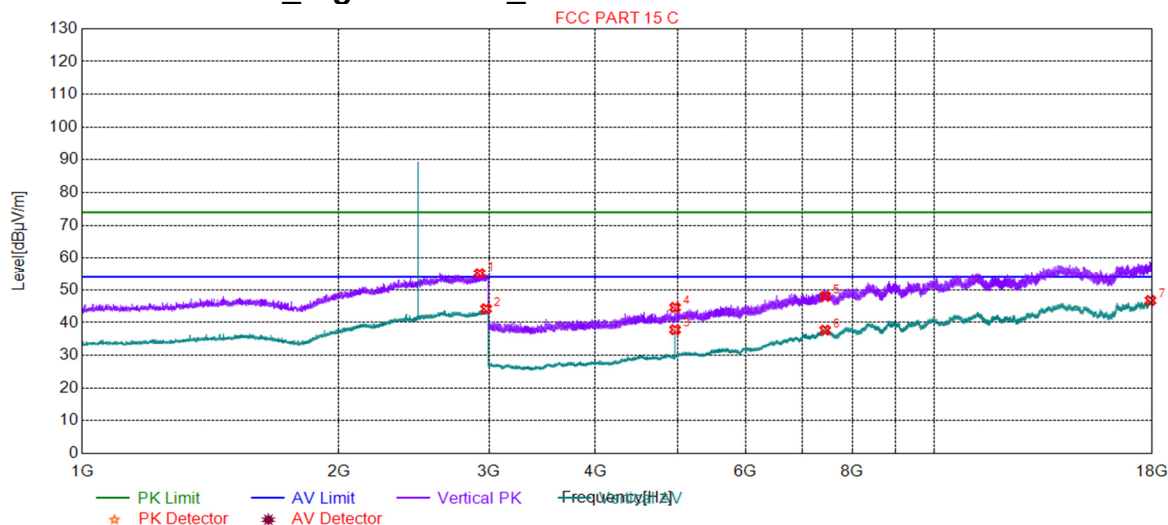


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4.9.2.3 GFSK _High Channel_ Vertical



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2925.98	55.24	9.42	74.00	18.76	150	342	Vertical
2	2976.99	44.24	9.56	54.00	9.76	150	218	Vertical
3	4960.00	37.84	-17.47	54.00	16.16	150	45	Vertical
4	4960.00	44.65	-17.47	74.00	29.35	150	72	Vertical
5	7440.00	48.02	-9.35	74.00	25.98	150	0	Vertical
6	7440.00	37.69	-9.35	54.00	16.31	150	140	Vertical
7	17909.7	46.79	0.69	54.00	7.21	150	191	Vertical

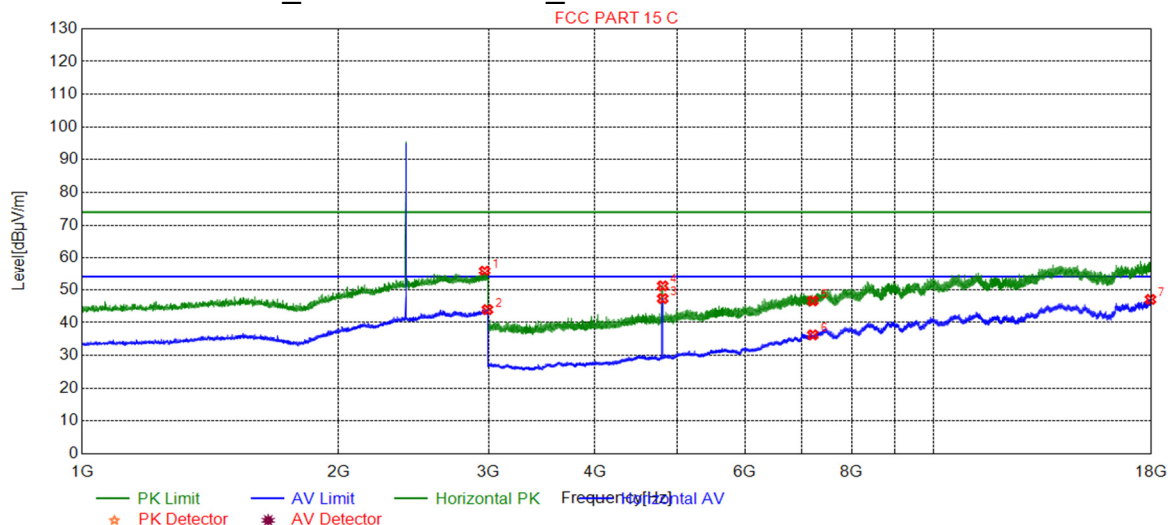


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4.9.2.4 GFSK _Lowest Channel_ Horizontal



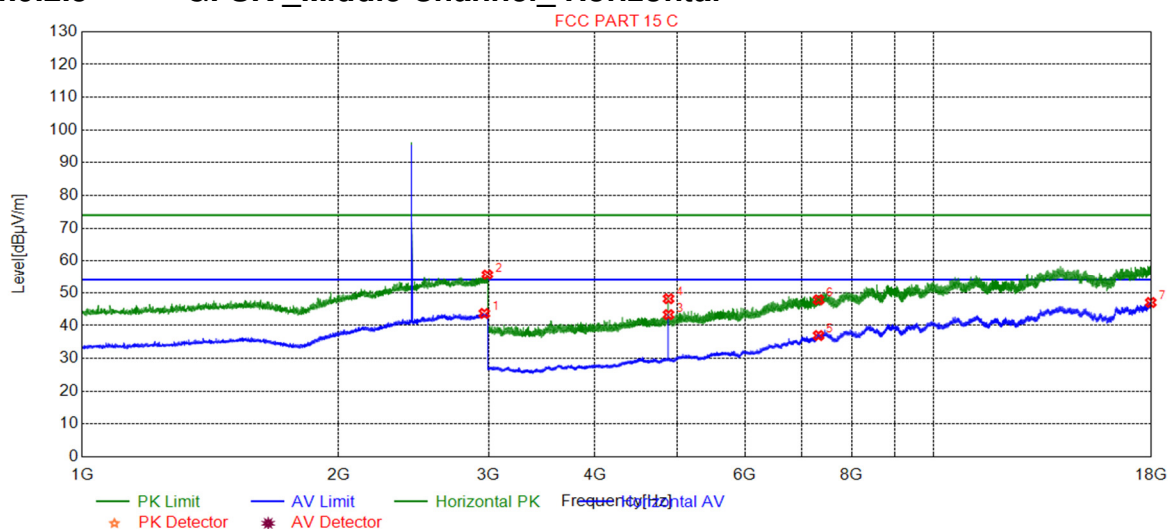
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2968.49	55.96	9.59	74.00	18.04	150	223	Horizontal
2	2990.99	43.96	9.49	54.00	10.04	150	320	Horizontal
3	4804.00	47.32	-18.30	54.00	6.68	150	18	Horizontal
4	4804.00	51.20	-18.30	74.00	22.80	150	18	Horizontal
5	7206.00	46.61	-10.09	74.00	27.39	150	292	Horizontal
6	7206.00	36.27	-10.09	54.00	17.73	150	241	Horizontal
7	17953.2	47.07	0.71	54.00	6.93	150	292	Horizontal



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4.9.2.5 GFSK _Middle Channel_ Horizontal

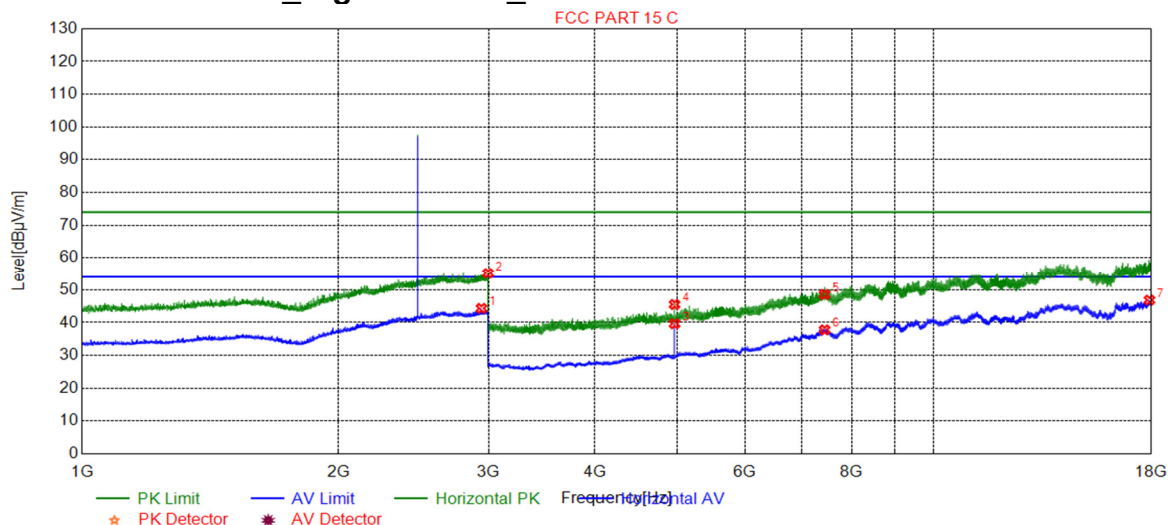


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2965.99	43.71	9.61	54.00	10.29	150	58	Horizontal
2	2990.49	55.71	9.49	74.00	18.29	150	45	Horizontal
3	4880.00	43.35	-17.97	54.00	10.65	150	347	Horizontal
4	4880.00	48.19	-17.97	74.00	25.81	150	347	Horizontal
5	7320.00	36.99	-9.72	54.00	17.01	150	0	Horizontal
6	7320.00	47.88	-9.72	74.00	26.12	150	40	Horizontal
7	17965.3	47.04	0.71	54.00	6.96	150	241	Horizontal



4.9.2.6 GFSK _High Channel_ Horizontal



Suspected List

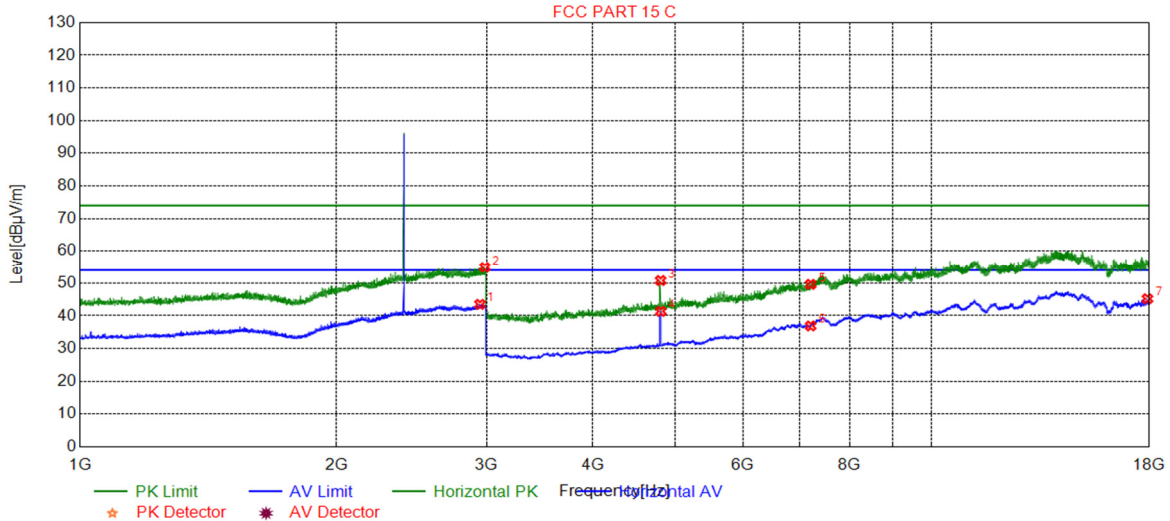
Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2942.98	44.34	9.60	54.00	9.66	150	250	Horizontal
2	2995.99	55.18	9.47	74.00	18.82	150	154	Horizontal
3	4960.00	39.65	-17.47	54.00	14.35	150	360	Horizontal
4	4960.00	45.54	-17.47	74.00	28.46	150	360	Horizontal
5	7440.00	48.61	-9.35	74.00	25.39	150	0	Horizontal
6	7440.00	37.78	-9.35	54.00	16.22	150	0	Horizontal
7	17903.7	46.87	0.69	54.00	7.13	150	140	Horizontal



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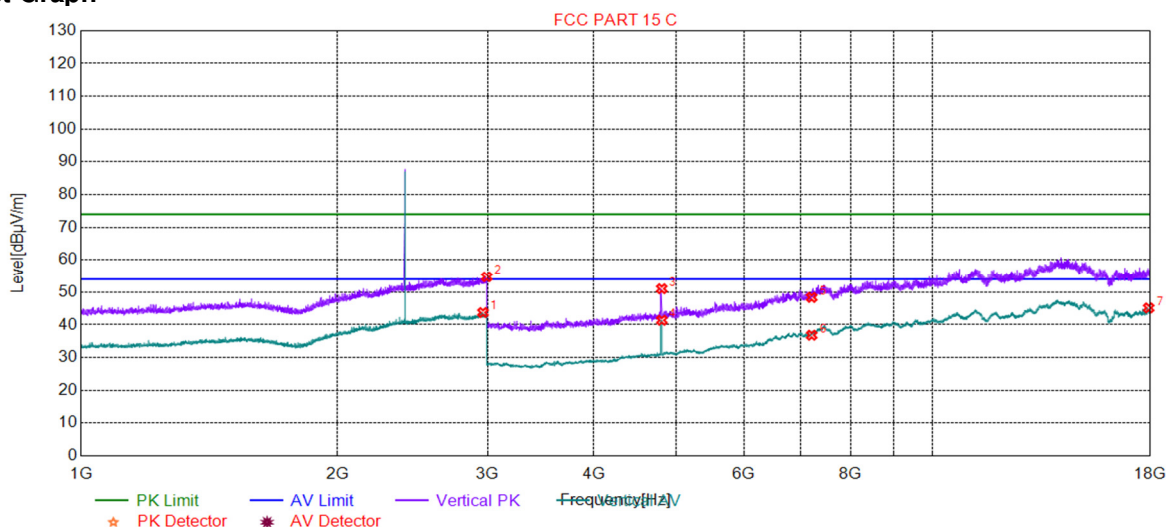
Test on the worst case:
4.9.2.7 BLE 1M_Channel 0**Test Graph****Suspected List**

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2947.48	43.50	9.65	54.00	10.50	150	83	Horizontal
2	2986.49	54.93	9.51	74.00	19.07	150	55	Horizontal
3	4803.18	50.78	-17.19	74.00	23.22	150	101	Horizontal
4	4806.18	41.35	-17.18	54.00	12.65	150	297	Horizontal
5	7206.00	49.61	-8.64	74.00	24.39	150	215	Horizontal
6	7206.00	36.91	-8.64	54.00	17.09	150	232	Horizontal
7	17905.4	45.20	-1.31	54.00	8.80	150	232	Horizontal

Final Data List

4.9.2.8 BLE 1M_Channel 0

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2963.49	43.75	9.62	54.00	10.25	150	196	Vertical
2	2994.49	54.73	9.48	74.00	19.27	150	45	Vertical
3	4804.68	51.05	-17.19	74.00	22.95	150	275	Vertical
4	4806.18	41.39	-17.18	54.00	12.61	150	111	Vertical
5	7206.00	48.38	-8.64	74.00	25.62	150	160	Vertical
6	7206.00	36.83	-8.64	54.00	17.17	150	357	Vertical
7	17917.4	45.17	-1.30	54.00	8.83	150	193	Vertical

Final Data List

Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- 2) Scan from 9kHz to 25GHz, the disturbance between 9KHz to 30MHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.
- 4) All Modes have been tested, but only the worst case data displayed in this report.



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4.10 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205		
Test Method:	ANSI C63.10: 2013 Section 11.12		
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m @3m)	Remark
	30MHz-88MHz	40.0	Quasi-peak Value
	88MHz-216MHz	43.5	Quasi-peak Value
	216MHz-960MHz	46.0	Quasi-peak Value
	960MHz-1GHz	54.0	Quasi-peak Value
	Above 1GHz	54.0	Average Value
		74.0	Peak Value
Test Setup:			

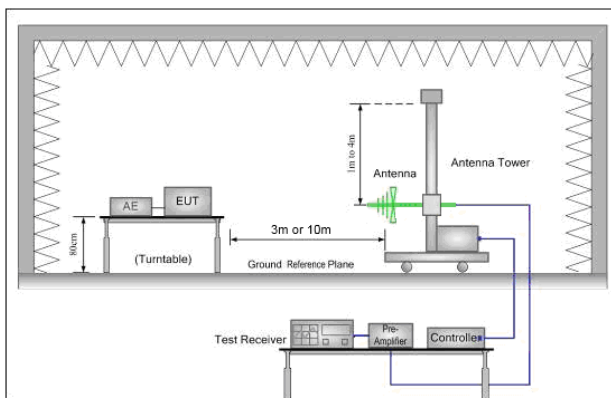


Figure 1. 30MHz to 1GHz

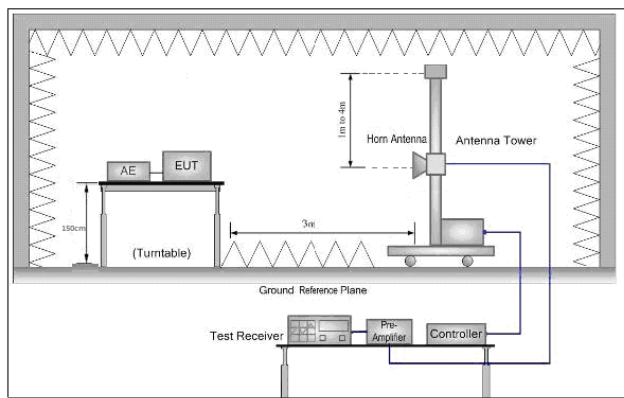


Figure 2. Above 1 GHz

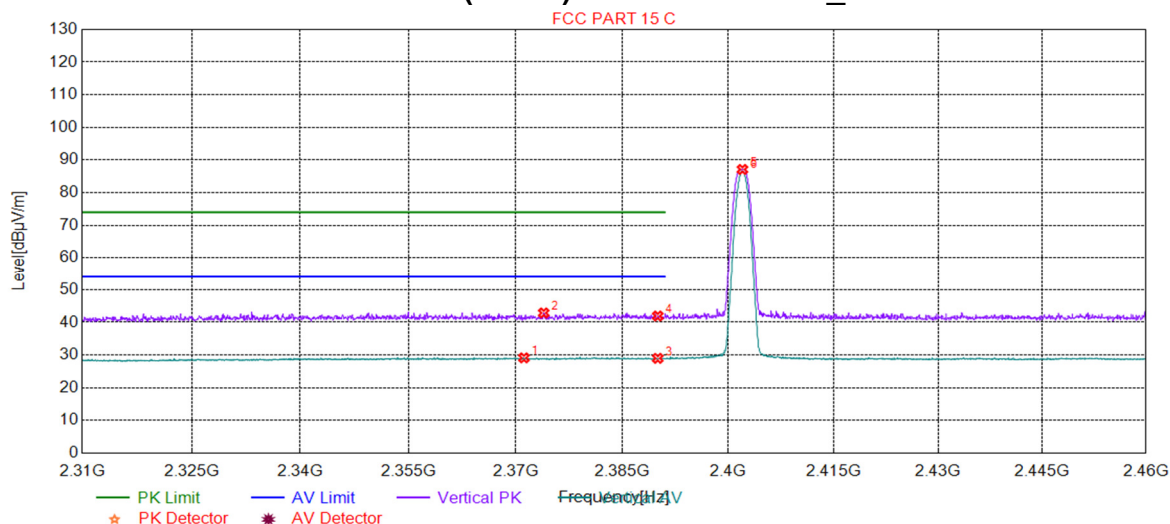
Test Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel h. Test the EUT in the lowest channel, the Highest channel



	i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. j. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with GFSK modulation. Charge + Transmitting mode.
Final Test Mode:	Transmitting with GFSK modulation. Pretest the EUT at Charge + Transmitting mode. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details.
Test Results:	Pass

4.10.1 Test plots

4.10.1.1 Worst Case Mode (GFSK) Lowest Channel_ Vertical



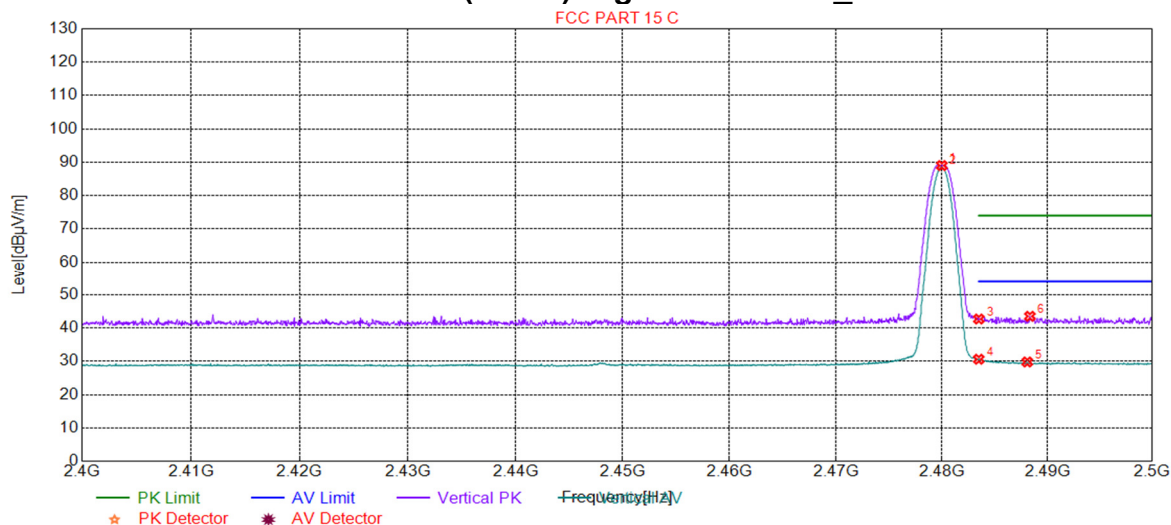
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2371.15	29.15	7.79	54.00	24.85	150	315	Vertical
2	2373.93	42.88	7.79	74.00	31.12	150	126	Vertical
3	2390.00	29.01	7.77	54.00	24.99	150	84	Vertical
4	2390.00	41.94	7.77	74.00	32.06	150	24	Vertical
5	2402.00	87.12	7.77	0.00	-87.12	150	171	Vertical
6	2402.00	86.61	7.77	0.00	-86.61	150	171	Vertical



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4.10.1.2 Worst Case Mode (GFSK) Highest Channel_ Vertical



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2480.00	89.01	8.01	0.00	-89.01	150	164	Vertical
2	2480.00	88.48	8.01	0.00	-88.48	150	170	Vertical
3	2483.50	42.71	8.01	74.00	31.29	150	335	Vertical
4	2483.50	30.65	8.01	54.00	23.35	150	258	Vertical
5	2488.09	29.82	8.02	54.00	24.18	150	247	Vertical
6	2488.34	43.53	8.02	74.00	30.47	150	36	Vertical

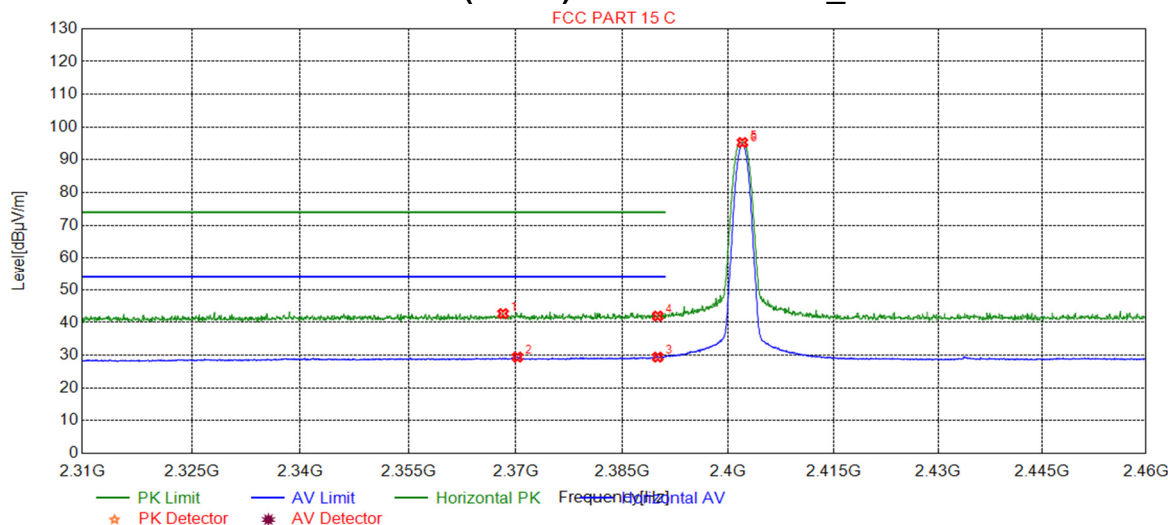


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4.10.1.3 Worst Case Mode (GFSK) Lowest Channel_ Horizontal



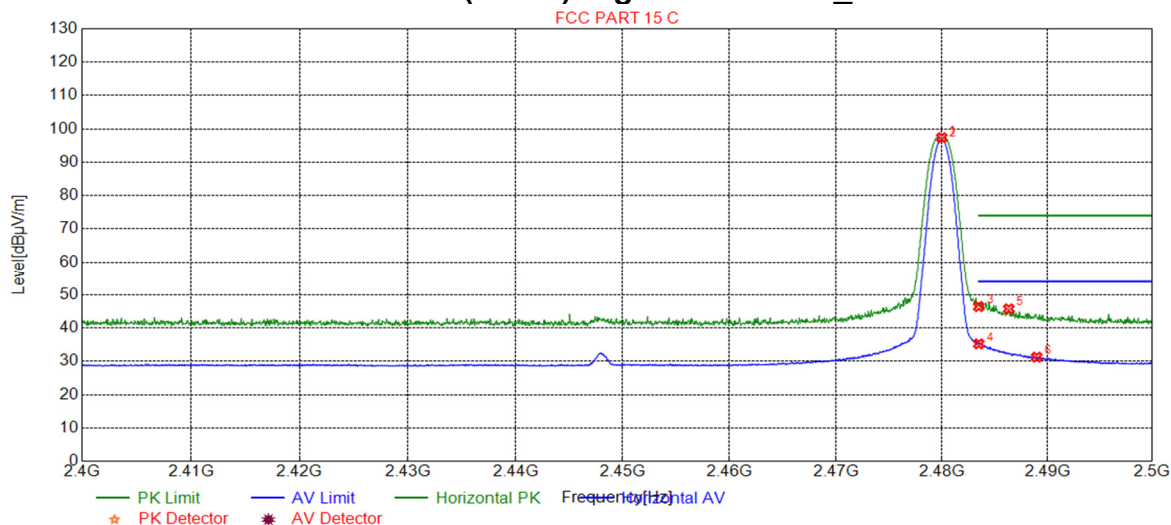
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2368.22	42.73	7.79	74.00	31.27	150	277	Horizontal
2	2370.25	29.44	7.79	54.00	24.56	150	117	Horizontal
3	2390.00	29.43	7.77	54.00	24.57	150	123	Horizontal
4	2390.00	41.98	7.77	74.00	32.02	150	277	Horizontal
5	2402.00	95.28	7.77	0.00	-95.28	150	134	Horizontal
6	2402.00	94.79	7.77	0.00	-94.79	150	128	Horizontal



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4.10.1.4 Worst Case Mode (GFSK) Highest Channel_ Horizontal



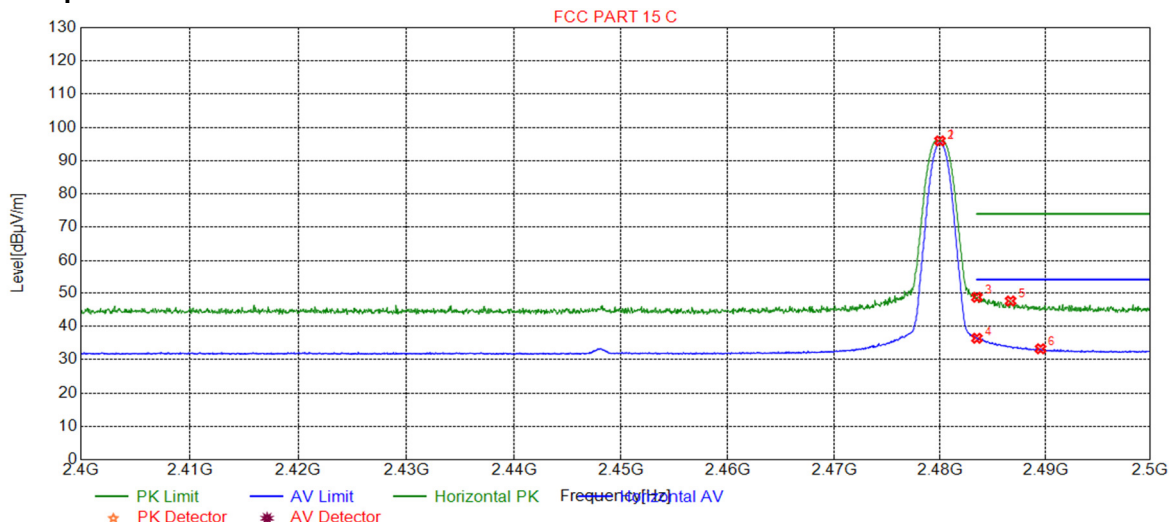
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2480.00	97.36	8.01	0.00	-97.36	150	122	Horizontal
2	2480.00	96.82	8.01	0.00	-96.82	150	122	Horizontal
3	2483.50	46.45	8.01	74.00	27.55	150	138	Horizontal
4	2483.50	35.25	8.01	54.00	18.75	150	122	Horizontal
5	2486.34	45.77	8.01	74.00	28.23	150	122	Horizontal
6	2488.99	31.28	8.02	54.00	22.72	150	122	Horizontal



Test on the worst case: 4.10.1.5 BLE 1M_Channel 39

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2480.00	95.96	8.01	0.00	-95.96	150	66	Horizontal
2	2480.00	95.51	8.01	0.00	-95.51	150	66	Horizontal
3	2483.50	48.69	8.01	74.00	25.31	150	61	Horizontal
4	2483.50	36.42	8.01	54.00	17.58	150	50	Horizontal
5	2486.69	47.58	8.01	74.00	26.42	150	66	Horizontal
6	2489.54	33.27	8.02	54.00	20.73	150	39	Horizontal

Final Data List



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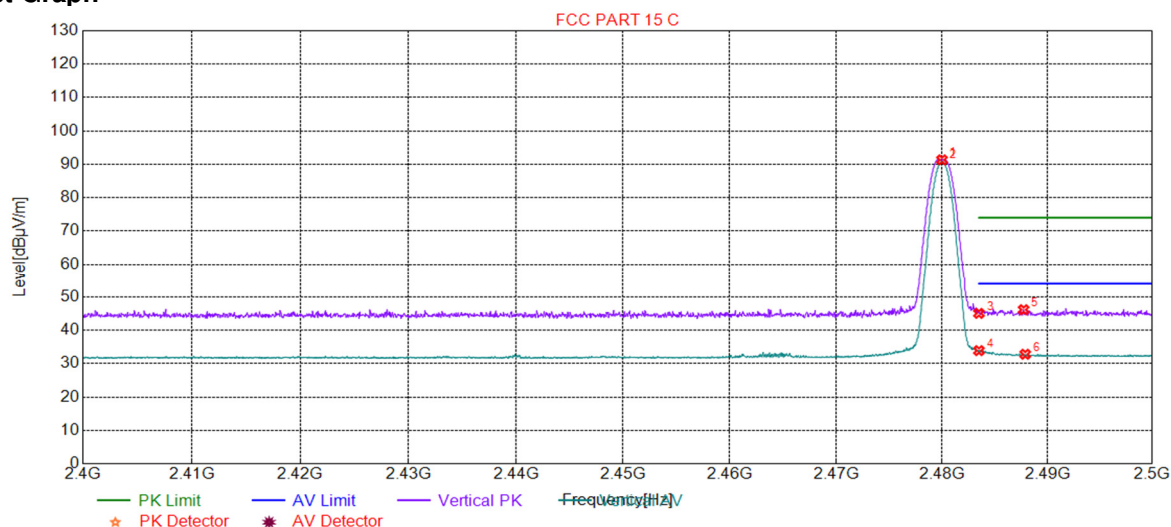
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4.10.1.6 BLE 1M_Channel 39

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2480.00	91.33	8.01	0.00	-91.33	150	193	Vertical
2	2480.00	90.87	8.01	0.00	-90.87	150	193	Vertical
3	2483.50	45.07	8.01	74.00	28.93	150	149	Vertical
4	2483.50	33.92	8.01	54.00	20.08	150	193	Vertical
5	2487.74	46.17	8.02	74.00	27.83	150	193	Vertical
6	2487.89	32.83	8.02	54.00	21.17	150	160	Vertical

Final Data List

Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

All Modes have been tested, but only the worst case data displayed in this report.



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5 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	±0.75dB
2	RF power density, conducted	±2.84dB
3	Spurious emissions, conducted	±0.75dB
4	Radiated Spurious emission test	±4.5dB (30MHz-1GHz)
		±4.8dB (1GHz-25GHz)
5	Conduct emission test	±3.12 dB(9KHz- 30MHz)
6	Temperature test	±1 °C
7	Humidity test	±3%
8	DC and low frequency voltages	±0.5%



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6 Equipment List

Conducted Emission					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Duedate
				(yyyy-mm-dd)	(yyyy-mm-dd)
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2020/5/10	2023/5/9
LISN	Rohde & Schwarz	ENV216	SEM007-01	2020/7/15	2021/7/14
LISN	ETS-LINDGREN	Feb-16	SEM007-02	20120/4/1	2021/3/31
Measurement Software	AUDIX	e3 V5.4.1221d	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2020/6/12	2021/6/11
2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T2-02	EMC0122	2020/2/11	2021/2/10
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2020/3/2	2021/3/1

RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Duedate
				(yyyy-mm-dd)	(yyyy-mm-dd)
DC Power Supply	Agilent Technologies Inc	66311B	W009-09	2020/7/15	2021/7/14
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2020/1/3	2021/1/2
Coaxial Cable	SGS	N/A	SEM031-01	2020/6/12	2021/6/11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020/7/15	2021/7/14
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2020/10/27	2021/10/27
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2020/7/15	2021/7/14



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RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal. Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018/3/13	2021/3/12
Measurement Software	AUDIX	e3V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2020/6/12	2021/6/11
EXA Signal Analyzer (10Hz-26.5GHz)	Agilent Technologies Inc	N9010A	SEM004-09	2020/3/12	2021/3/11
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2019/5/24	2022/5/23
Horn Antenna (0.8-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/4/13	2021/4/12
Pre-amplifier(0.1-1.3GHz)	HP	8447D	SEM005-02	2020/7/15	2021/7/14
Low Noise Amplifier(100MHz-18GHz)	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2020/9/3	2021/9/2
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2020/10/17	2023/10/16
Pre-amplifier(18-26GHz)	Rohde & Schwarz	CH14-H052	SEM005-17	2020/3/2	2021/3/1
Band filter	N/A	N/A	SEM023-01	N/A	N/A

RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal. Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2020/8/5	2023/8/4
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2020/6/12	2021/6/11
MXE EMI Receiver (20Hz-8.4GHz)	Agilent Technologies	N9038A	SEM004-05	2020/7/15	2021/7/14
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2019/5/24	2022/5/23
Pre-amplifier (0.1-1.3GHz)	Agilent Technologies	8447D	SEM005-01	2020/3/2	2021/3/1



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RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2018/3/31	2021/3/30
EMI Test Receiver (9k-7GHz)	Rohde & Schwarz	ESR	SEM004-03	2020/3/2	2021/3/1
Trilog-Broadband Antenna(25M-2GHz)	Schwarzbeck	VULB9168	SEM003-18	2020/3/15	2022/3/14
Pre-amplifier (9k-1GHz)	Sonoma	310N	SEM005-03	2020/3/12	2021/3/11
Loop Antenna (9kHz-30MHz)	ETS-Lindgren	6502	SEM003-08	2020/8/22	2021/8/21
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM029-01	2020/6/12	2021/6/11

7 Photographs - EUT Constructional Details

Refer to Appendix A - Photographs of Set-Up for HR/2021/10008.

The End

