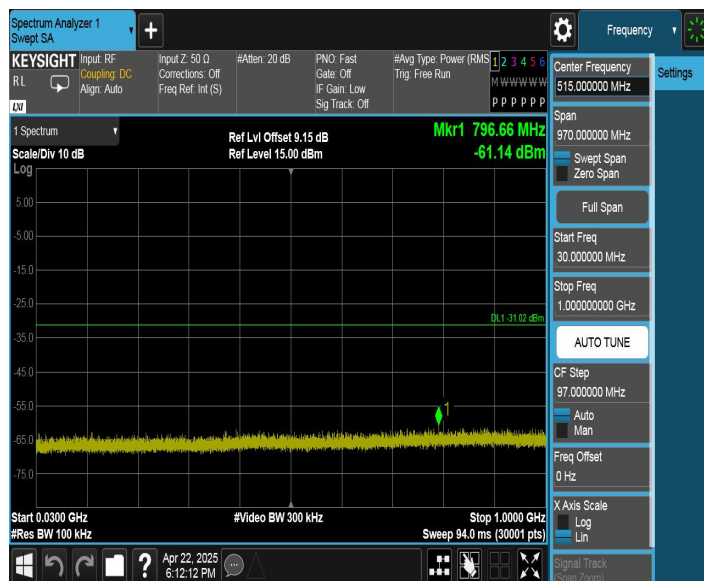
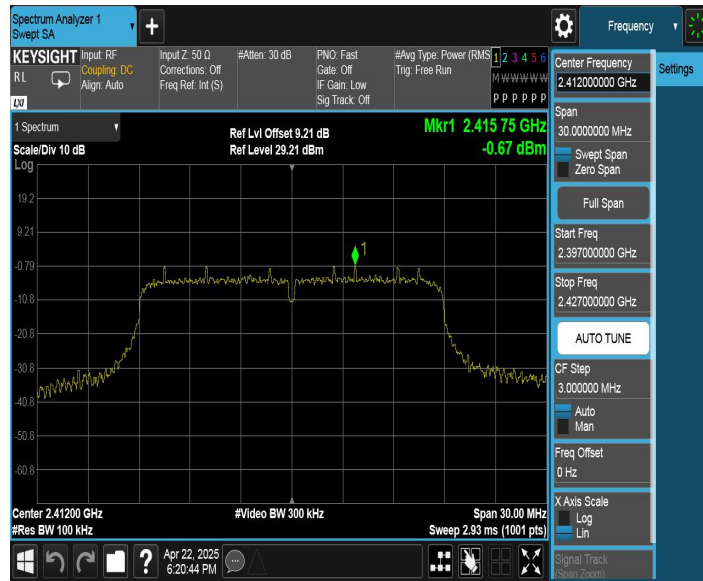




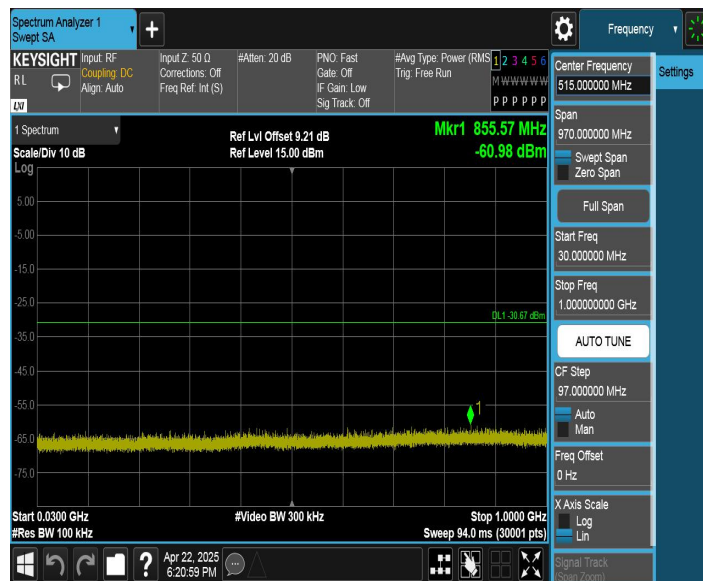
11G_Ant1_2462_1000~26500



11N20SISO_Ant1_2412_0~Reference



11N20SISO_Ant1_2412_30~1000



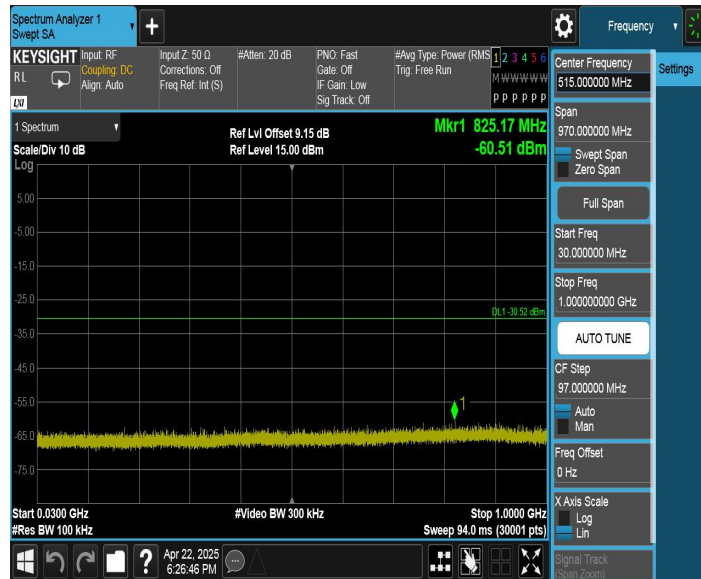
11N20SISO_Ant1_2412_1000~26500



11N20SISO_Ant1_2437_0~Reference



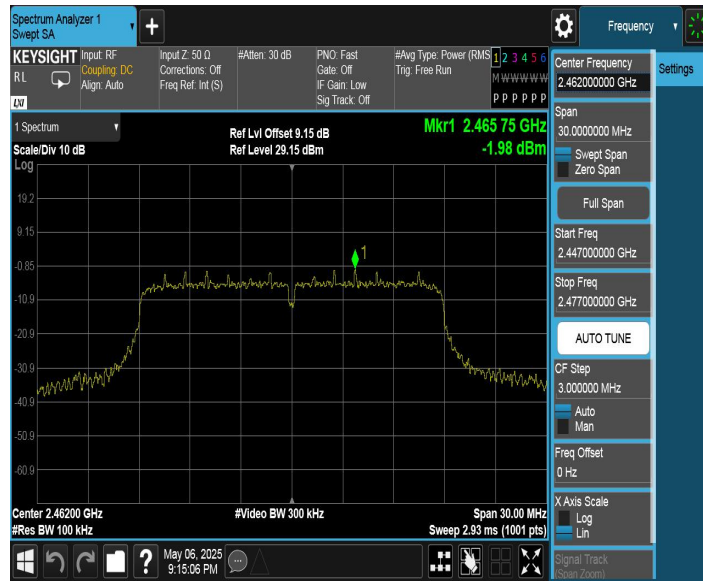
11N20SISO_Ant1_2437_30~1000



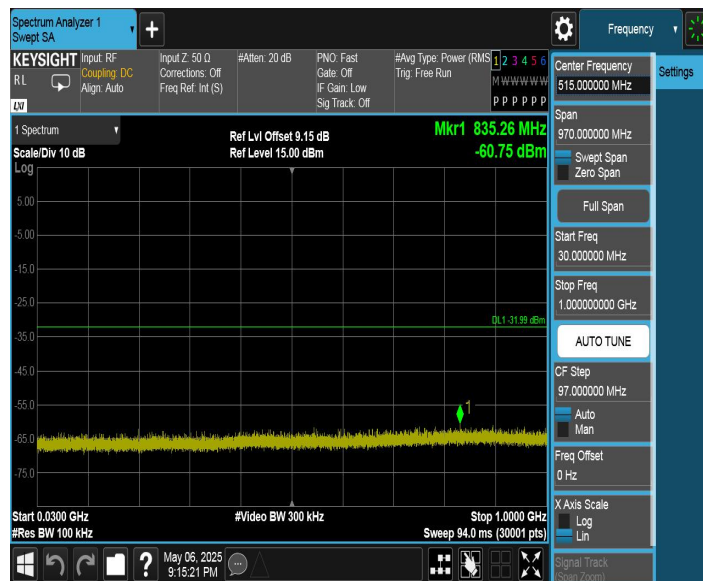
11N20SISO_Ant1_2437_1000~26500



11N20SISO_Ant1_2462_0~Reference



11N20SISO_Ant1_2462_30~1000



11N20SISO_Ant1_2462_1000~26500



7.6. Radiated Spurious Emission Measurement

7.6.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 – 0.490	2400/F (kHz)	300
0.490 – 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

7.6.2. Test Procedure Used

ANSI C63.10-2013 – Section 6.6.4.3

7.6.3. Test Setting

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in Table 1
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold

- Trace was allowed to stabilize

Table 1 - RBW as a function of frequency

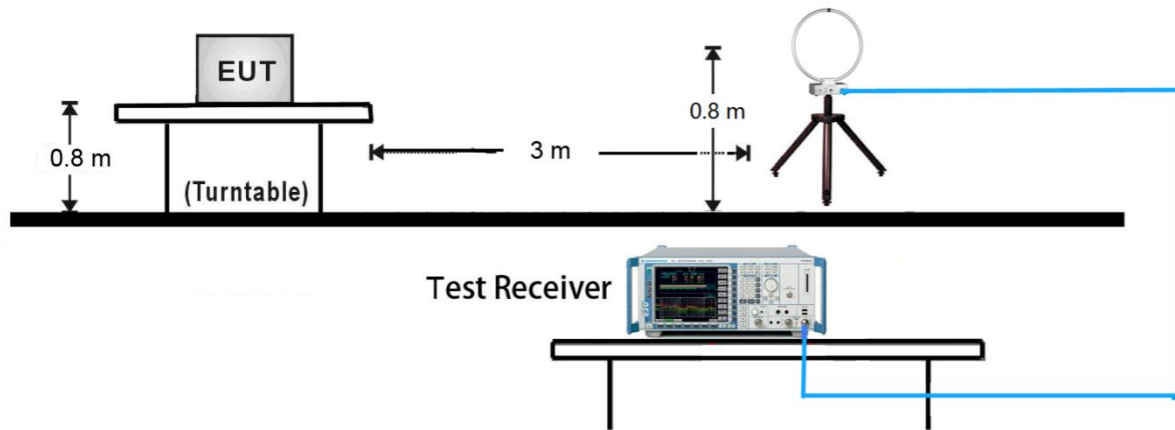
Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Average Field Strength Measurements

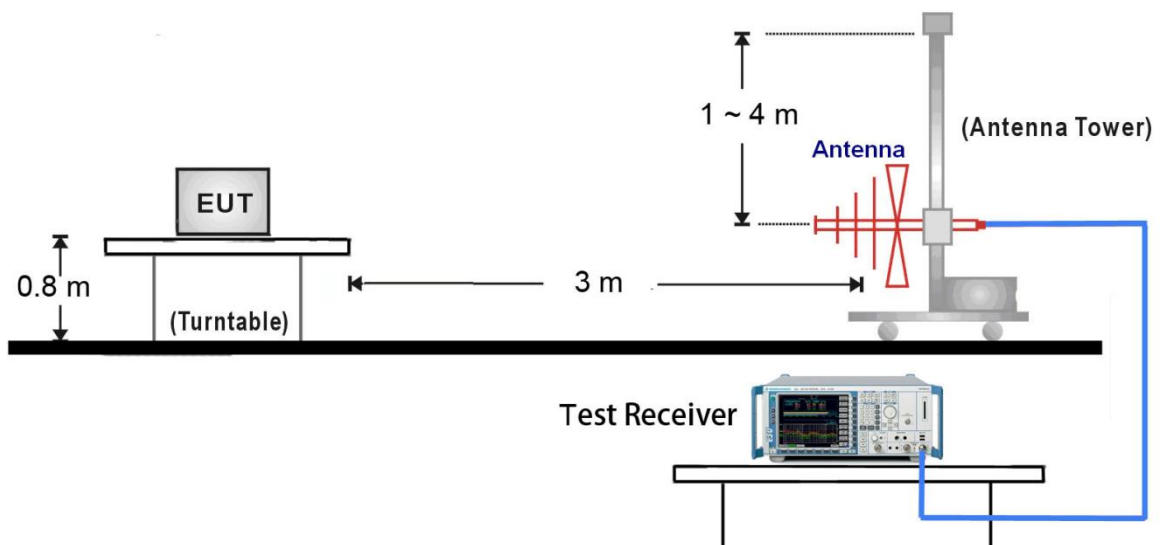
- Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- RBW = 1MHz
- VBW = 3MHz
- Detector = Power Average (RMS)
- Number of sweep point = 2001 (Number of sweep points must be $\geq 2 \times \text{span} / \text{RBW}$)
- Sweep time = auto
- Trace (RMS) averaging was performed over at least 100 traces.

7.6.4. Test Setup

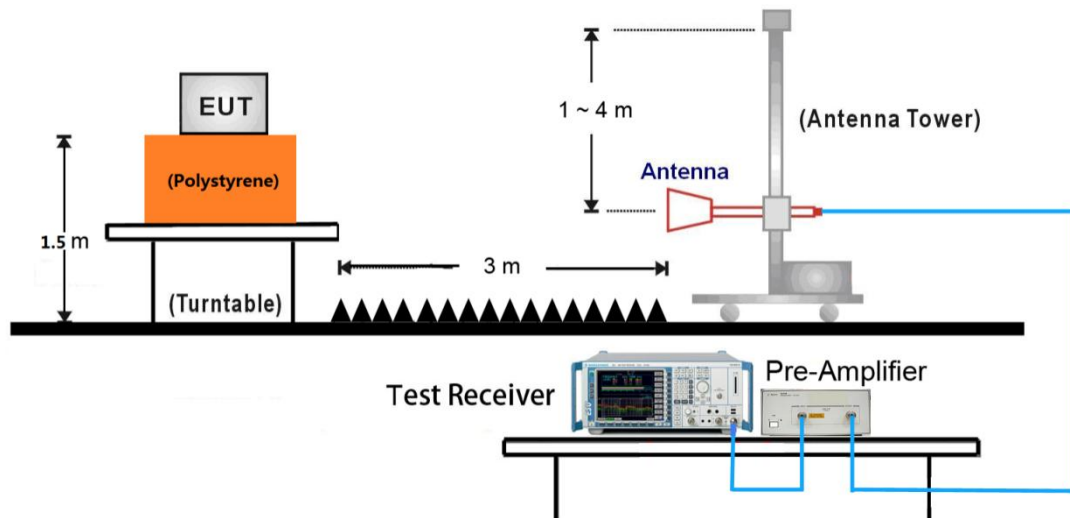
9kHz ~ 30MHz Test Setup:



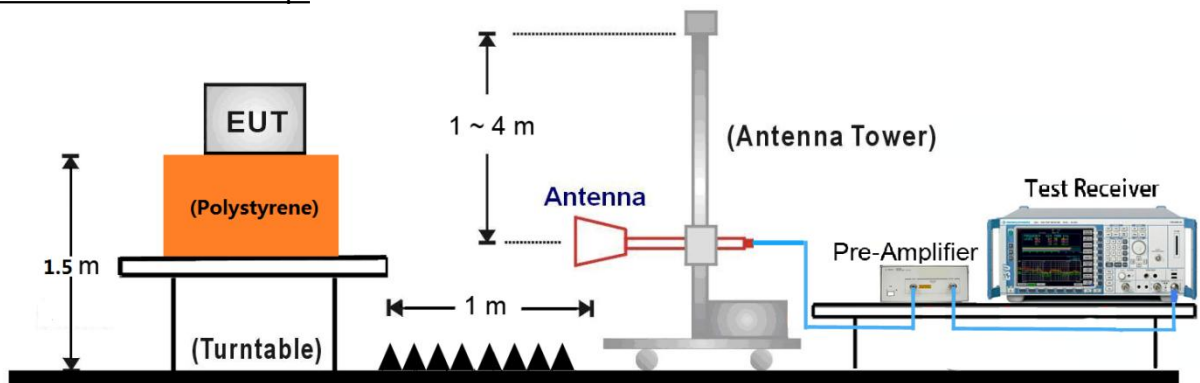
30MHz ~ 1GHz Test Setup:



1GHz ~ 18GHz Test Setup:



18GHz ~ 25GHz Test Setup:



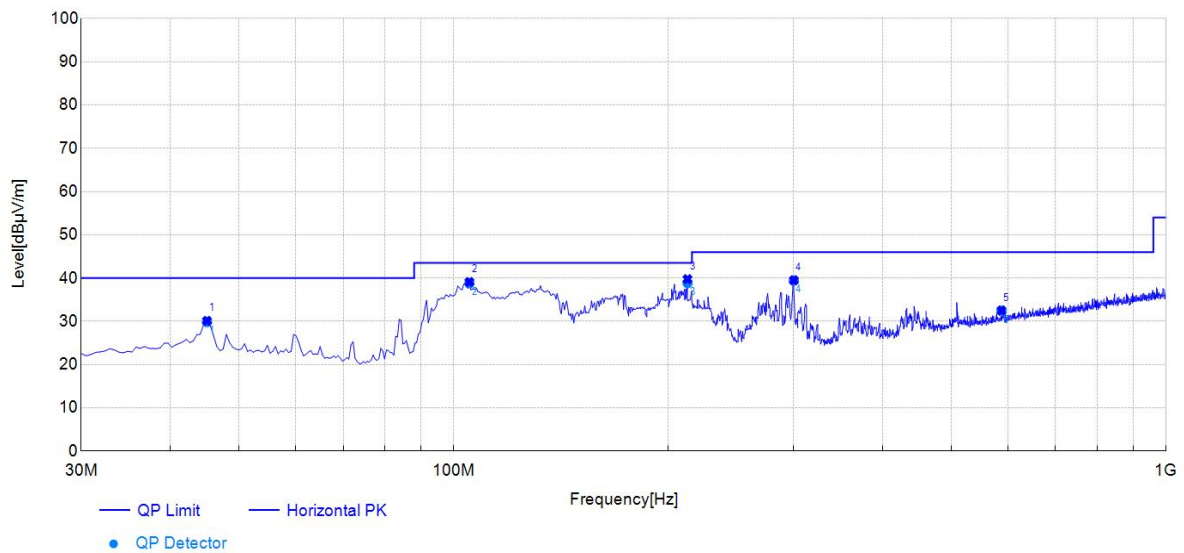
7.6.5. Test Result

The worst case of Radiated Emission below 1GHz:

30MHz – 1GHz Test Data

EUT:	GPS Tracker	Polarity:	Horizontal
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2412MHz	Voltage:	DC 12V
Environment:	Temp: 26.3℃; Humi: 45%	Test Date:	2025-04-22

Test Graph



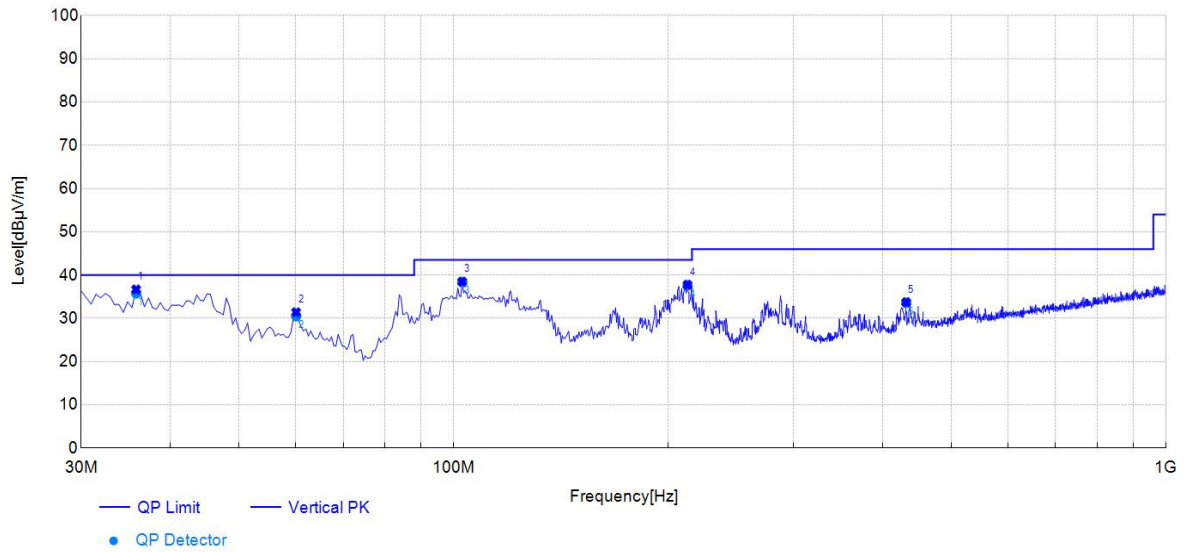
Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	45.04	14.58	29.86	40.00	10.14	150	66	Horizontal
2	105.21	12.10	38.84	43.50	4.66	150	31	Horizontal
3	212.94	12.29	38.87	43.50	4.63	150	75	Horizontal
4	300.28	15.24	39.44	46.00	6.56	150	99	Horizontal
5	587.54	21.43	32.45	46.00	13.55	150	1	Horizontal

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

EUT:	GPS Tracker	Polarity:	Vertical
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2412MHz	Voltage:	DC 12V
Environment:	Temp: 26.3°C; Humi: 45%	Test Date:	2025-04-22

Test Graph



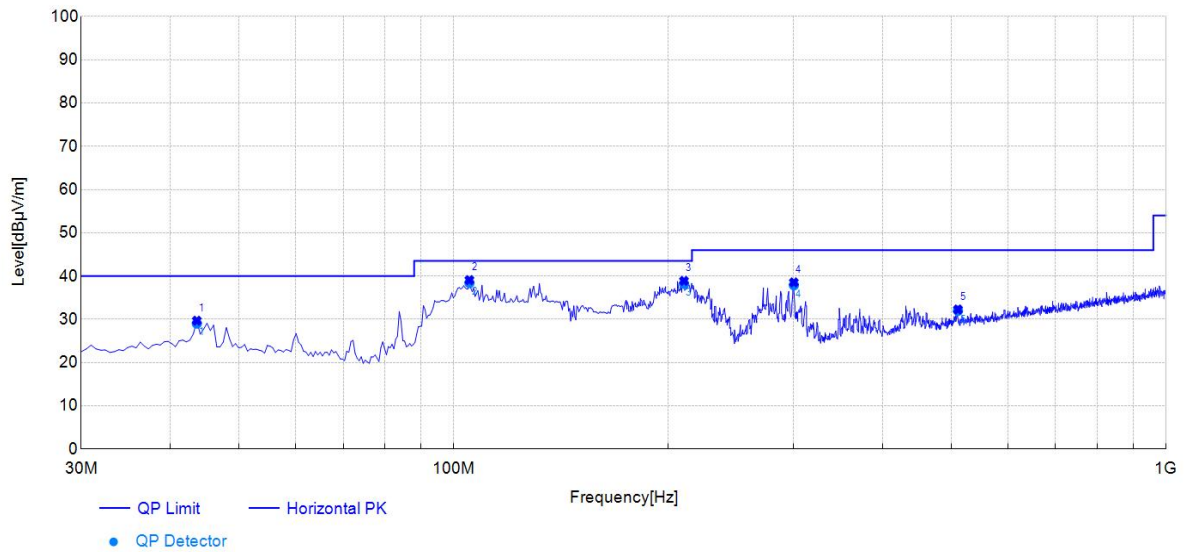
Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	35.82	14.28	35.78	40.00	4.22	150	223	Vertical
2	60.09	13.82	30.50	40.00	9.50	150	171	Vertical
3	102.79	11.82	38.41	43.50	5.09	150	171	Vertical
4	212.94	12.29	37.68	43.50	5.82	150	130	Vertical
5	431.78	18.30	33.64	46.00	12.36	150	223	Vertical

30MHz – 1GHz Test Data

EUT:	GPS Tracker	Polarity:	Horizontal
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2437MHz	Voltage:	DC 12V
Environment:	Temp: 26.3℃; Humi: 45%	Test Date:	2025-04-22

Test Graph

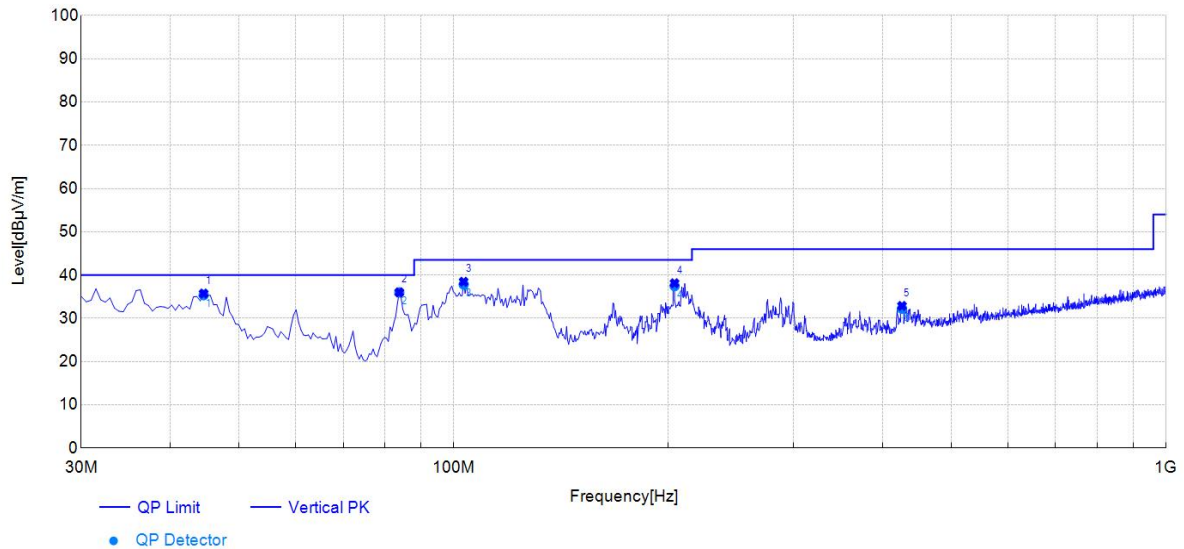


Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	43.59	14.68	29.04	40.00	10.96	150	33	Horizontal
2	105.21	12.10	38.43	43.50	5.07	150	37	Horizontal
3	210.51	12.20	38.25	43.50	5.25	150	71	Horizontal
4	300.28	15.24	37.90	46.00	8.10	150	102	Horizontal
5	510.39	19.79	32.00	46.00	14.00	150	85	Horizontal

EUT:	GPS Tracker	Polarity:	Vertical
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2437MHz	Voltage:	DC 12V
Environment:	Temp: 26.3°C; Humi: 45%	Test Date:	2025-04-22

Test Graph



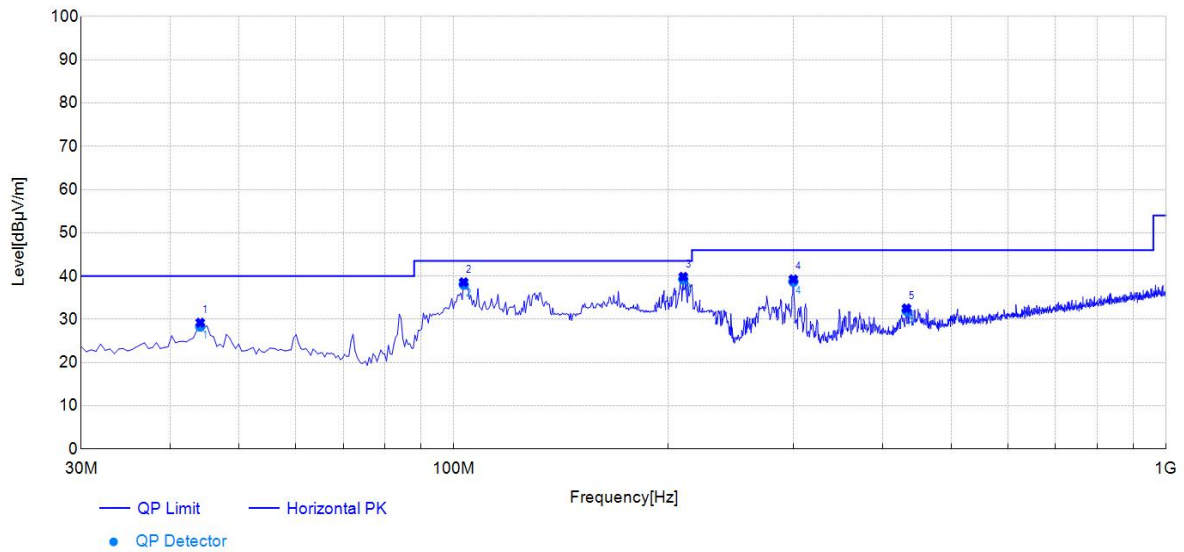
Final Data List								
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	44.56	14.61	35.38	40.00	4.62	150	72	Vertical
2	83.86	10.59	35.99	40.00	4.01	150	338	Vertical
3	103.27	11.88	37.82	43.50	5.68	150	168	Vertical
4	204.20	11.94	37.47	43.50	6.03	150	134	Vertical
5	425.96	18.14	32.23	46.00	13.77	150	126	Vertical

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

30MHz – 1GHz Test Data

EUT:	GPS Tracker	Polarity:	Horizontal
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2462MHz	Voltage:	DC 12V
Environment:	Temp: 26.3°C; Humi: 45%	Test Date:	2025-04-22

Test Graph

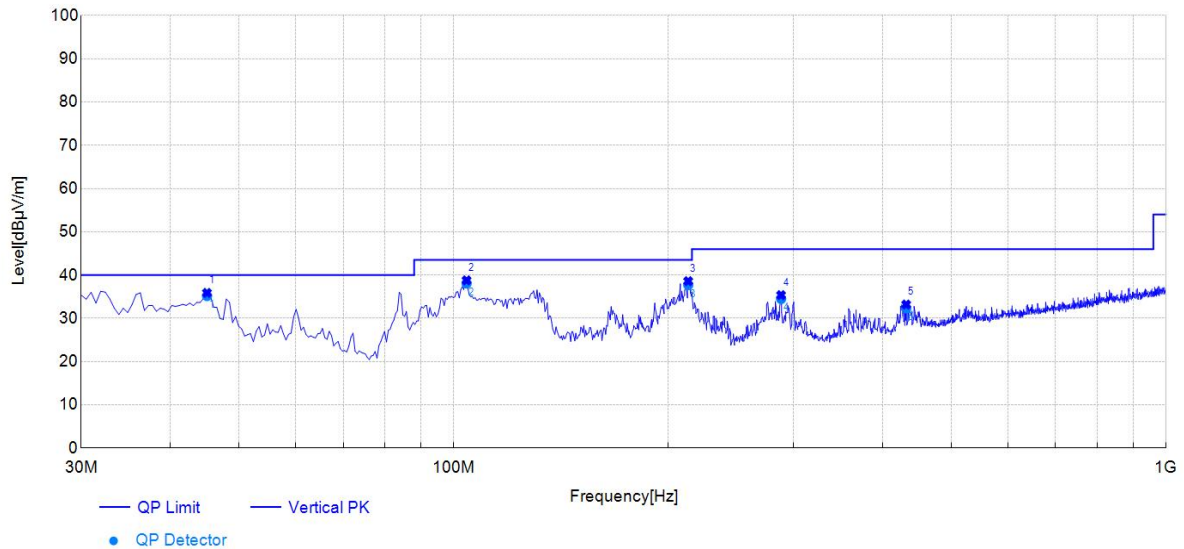


Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	44.07	14.64	28.32	40.00	11.68	150	36	Horizontal
2	103.27	11.88	38.03	43.50	5.47	150	78	Horizontal
3	210.03	12.18	39.29	43.50	4.21	150	85	Horizontal
4	299.79	15.22	38.70	46.00	7.30	150	91	Horizontal
5	432.27	18.32	31.98	46.00	14.02	150	13	Horizontal

EUT:	GPS Tracker	Polarity:	Vertical
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2462MHz	Voltage:	DC 12V
Environment:	Temp: 26.3℃; Humi: 45%	Test Date:	2025-04-22

Test Graph



Final Data List								
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	45.04	14.58	35.19	40.00	4.81	150	34	Vertical
2	104.24	12.00	38.09	43.50	5.41	150	181	Vertical
3	213.42	12.31	37.72	43.50	5.78	150	118	Vertical
4	288.15	14.75	34.50	46.00	11.50	150	149	Vertical
5	431.78	18.30	32.32	46.00	13.68	150	232	Vertical

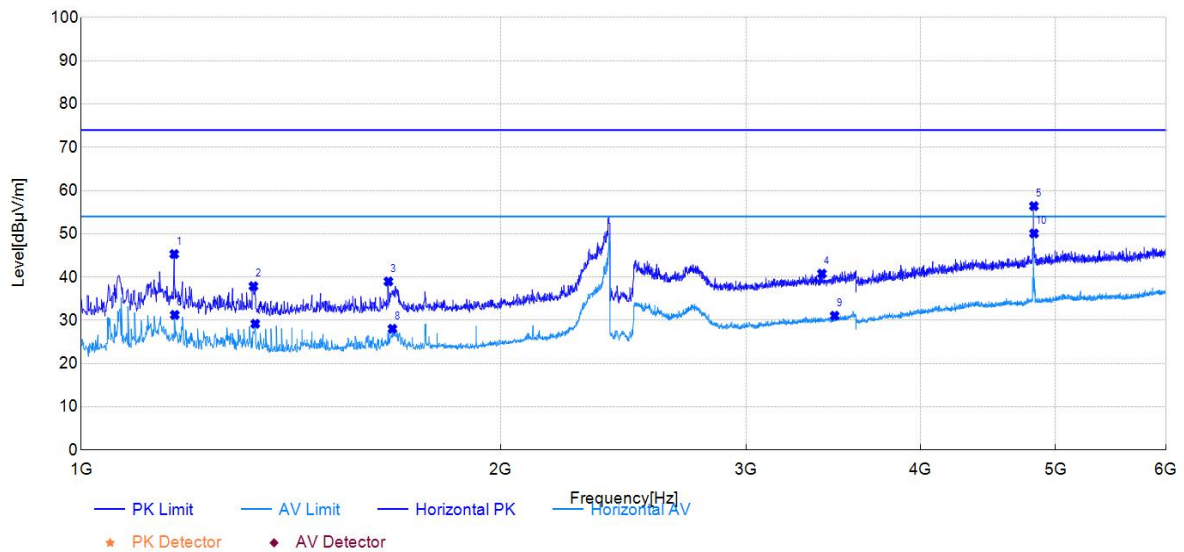
Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

The worst case of Radiated Emission above 1GHz:

1GHz – 6GHz Test Data

EUT:	GPS Tracker	Polarity:	Horizontal
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2412MHz	Voltage:	DC 12V
Environment:	Temp: 26.3°C; Humi: 45%	Test Date:	2025-04-22

Test Graph

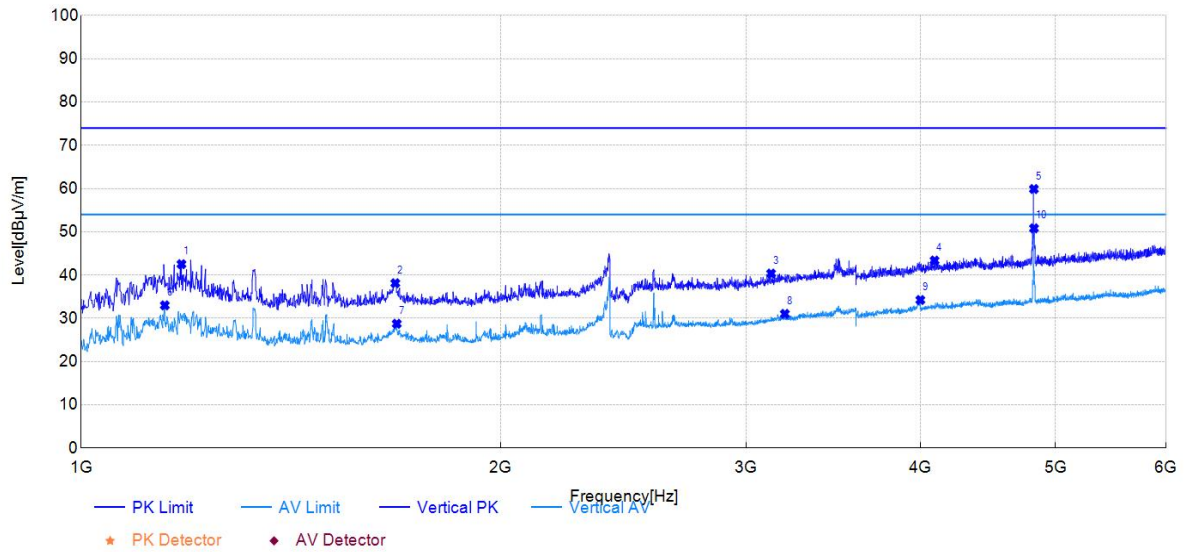


Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
1166.00	45.31	-23.59	74.00	28.69	PK	Horizontal
1329.00	37.88	-22.69	74.00	36.12	PK	Horizontal
1661.00	38.98	-20.62	74.00	35.02	PK	Horizontal
3399.00	40.78	-12.78	74.00	33.22	PK	Horizontal
4824.00	56.41	-6.72	74.00	17.59	PK	Horizontal
1167.00	31.25	-23.58	54.00	22.75	AV	Horizontal
1333.00	29.20	-22.66	54.00	24.80	AV	Horizontal
1672.00	28.03	-20.54	54.00	25.97	AV	Horizontal
3471.00	31.05	-12.49	54.00	22.95	AV	Horizontal
4825.00	50.08	-6.71	54.00	3.92	AV	Horizontal

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 26.5GHz), therefore no data appear in the report.

EUT:	GPS Tracker	Polarity:	Vertical
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2412MHz	Voltage:	DC 12V
Environment:	Temp: 26.3°C; Humi: 45%	Test Date:	2025-04-22

Test Graph



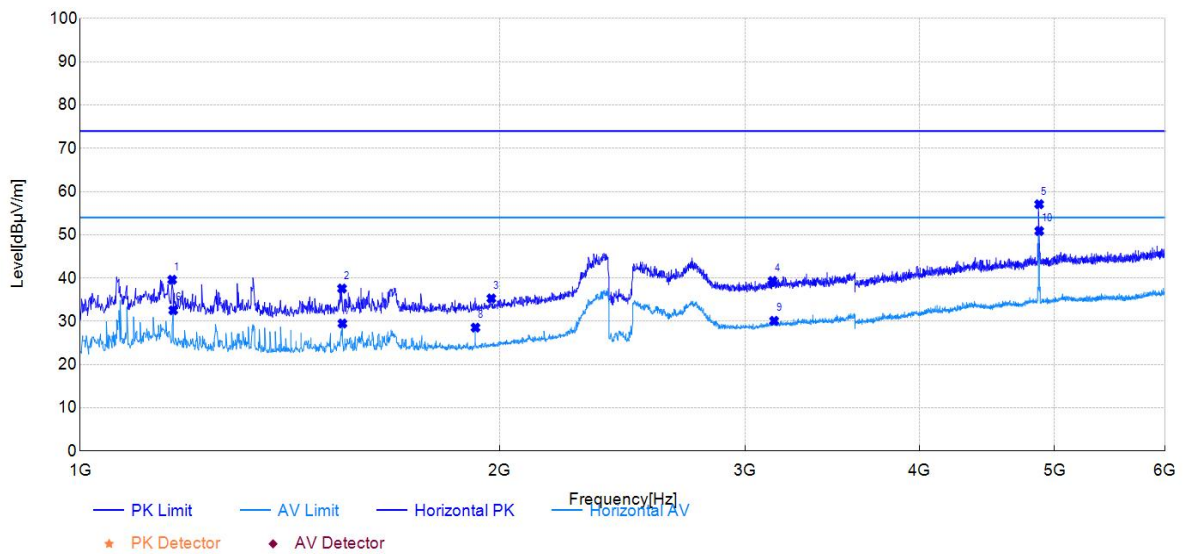
Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
1180.00	42.52	-22.54	74.00	31.48	PK	Vertical
1680.00	38.11	-19.82	74.00	35.89	PK	Vertical
3125.00	40.35	-13.62	74.00	33.65	PK	Vertical
4094.00	43.36	-7.93	74.00	30.64	PK	Vertical
4824.00	59.89	-7.28	74.00	14.11	PK	Vertical
1148.00	33.00	-22.64	54.00	21.00	AV	Vertical
1684.00	28.74	-19.80	54.00	25.26	AV	Vertical
3197.00	31.02	-13.18	54.00	22.98	AV	Vertical
3999.00	34.24	-8.28	54.00	19.76	AV	Vertical
4825.00	50.81	-7.27	54.00	3.19	AV	Vertical

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 26.5GHz), therefore no data appear in the report.

1GHz – 6GHz Test Data

EUT:	GPS Tracker	Polarity:	Horizontal
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2437MHz	Voltage:	DC 12V
Environment:	Temp: 26.3℃; Humi: 45%	Test Date:	2025-04-22

Test Graph

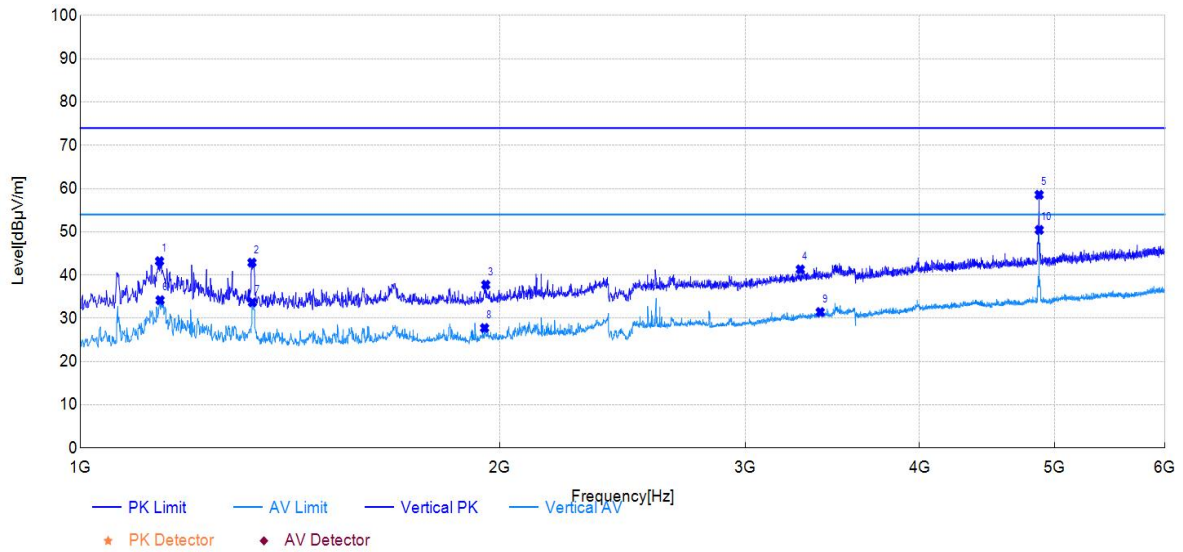


Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
1164.00	39.60	-23.59	74.00	34.40	PK	Horizontal
1541.00	37.58	-21.48	74.00	36.42	PK	Horizontal
1972.00	35.29	-18.41	74.00	38.71	PK	Horizontal
3138.00	39.33	-13.91	74.00	34.67	PK	Horizontal
4874.00	57.07	-6.58	74.00	16.93	PK	Horizontal
1166.00	32.55	-23.59	54.00	21.45	AV	Horizontal
1542.00	29.49	-21.47	54.00	24.51	AV	Horizontal
1921.00	28.54	-18.85	54.00	25.46	AV	Horizontal
3146.00	30.11	-13.87	54.00	23.89	AV	Horizontal
4875.00	50.87	-6.57	54.00	3.13	AV	Horizontal

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 26.5GHz), therefore no data appear in the report.

EUT:	GPS Tracker	Polarity:	Vertical
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2437MHz	Voltage:	DC 12V
Environment:	Temp: 26.3°C; Humi: 45%	Test Date:	2025-04-22

Test Graph



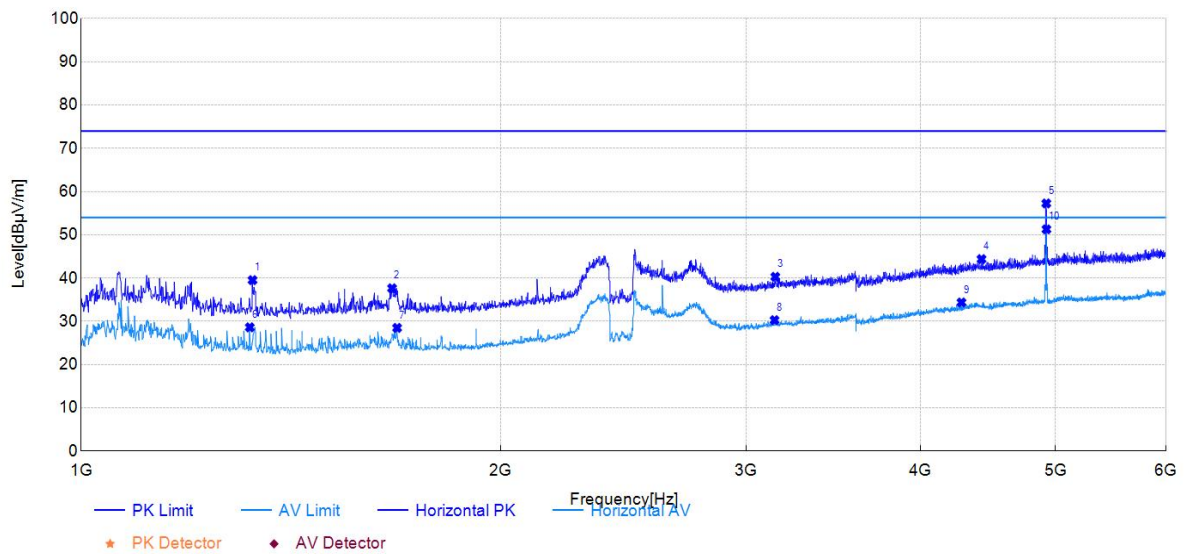
Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
1140.00	43.21	-22.67	74.00	30.79	PK	Vertical
1328.00	42.87	-21.79	74.00	31.13	PK	Vertical
1954.00	37.75	-18.13	74.00	36.25	PK	Vertical
3285.00	41.30	-12.65	74.00	32.70	PK	Vertical
4874.00	58.56	-7.18	74.00	15.44	PK	Vertical
1141.00	34.18	-22.67	54.00	19.82	AV	Vertical
1329.00	33.68	-21.78	54.00	20.32	AV	Vertical
1950.00	27.75	-18.16	54.00	26.25	AV	Vertical
3395.00	31.44	-12.13	54.00	22.56	AV	Vertical
4875.00	50.44	-7.17	54.00	3.56	AV	Vertical

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 26.5GHz), therefore no data appear in the report.

1GHz – 6GHz Test Data

EUT:	GPS Tracker	Polarity:	Horizontal
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2462MHz	Voltage:	DC 12V
Environment:	Temp: 26.3℃; Humi: 45%	Test Date:	2025-04-22

Test Graph

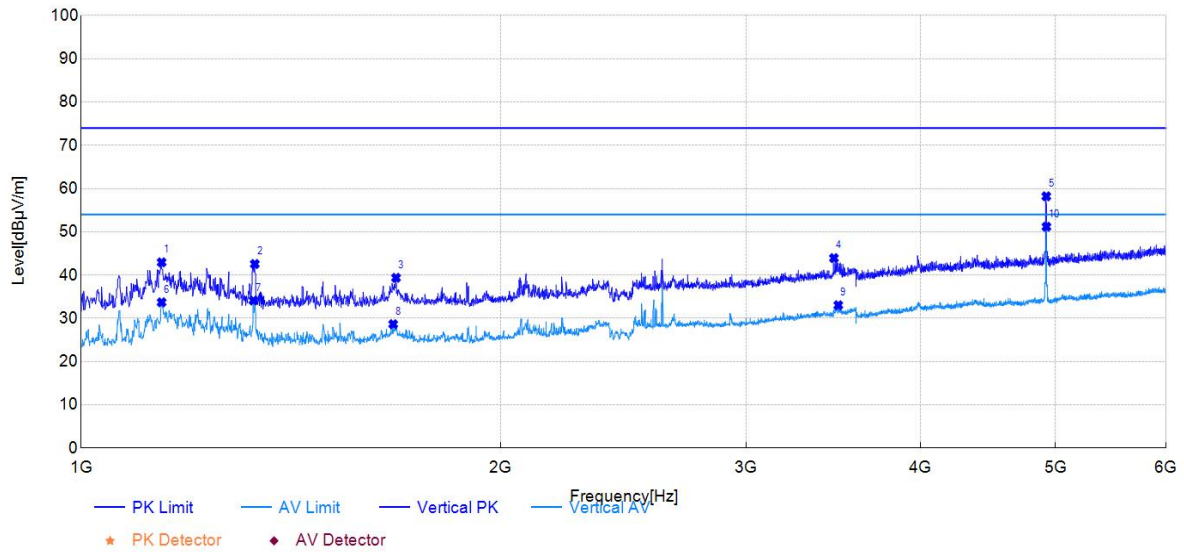


Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
1327.00	39.52	-22.71	74.00	34.48	PK	Horizontal
1671.00	37.64	-20.55	74.00	36.36	PK	Horizontal
3147.00	40.29	-13.86	74.00	33.71	PK	Horizontal
4424.00	44.38	-7.45	74.00	29.62	PK	Horizontal
4924.00	57.26	-6.39	74.00	16.74	PK	Horizontal
1321.00	28.61	-22.74	54.00	25.39	AV	Horizontal
1685.00	28.47	-20.44	54.00	25.53	AV	Horizontal
3143.00	30.26	-13.88	54.00	23.74	AV	Horizontal
4280.00	34.36	-7.69	54.00	19.64	AV	Horizontal
4925.00	51.27	-6.38	54.00	2.73	AV	Horizontal

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 26.5GHz), therefore no data appear in the report.

EUT:	GPS Tracker	Polarity:	Vertical
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2462MHz	Voltage:	DC 12V
Environment:	Temp: 26.3°C; Humi: 45%	Test Date:	2025-04-22

Test Graph



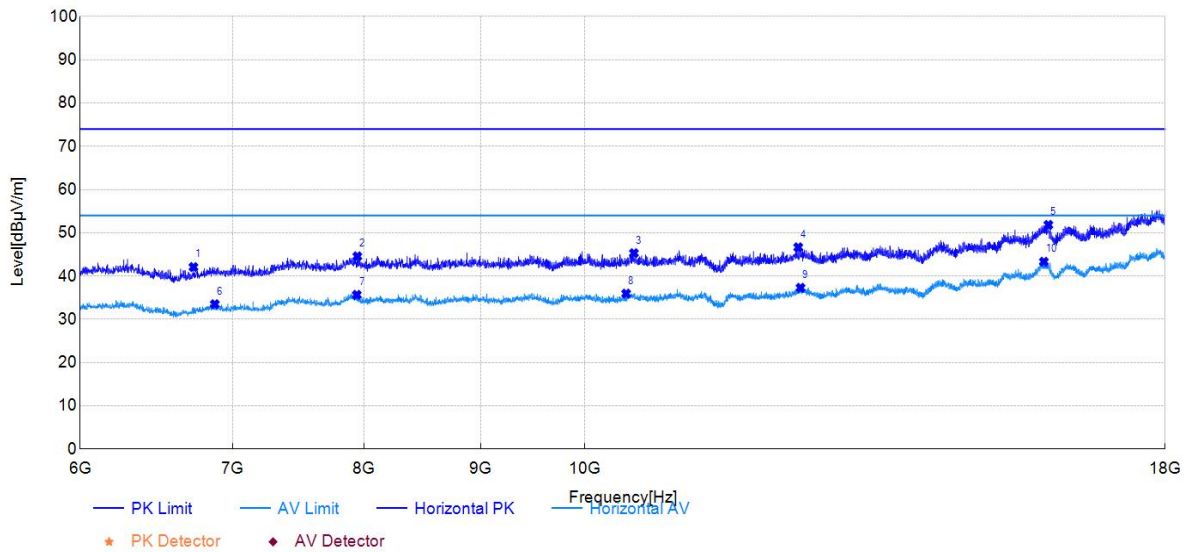
Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
1142.00	42.94	-22.66	74.00	31.06	PK	Vertical
1332.00	42.56	-21.76	74.00	31.44	PK	Vertical
1682.00	39.37	-19.81	74.00	34.63	PK	Vertical
3467.00	43.92	-11.75	74.00	30.08	PK	Vertical
4924.00	58.21	-7.03	74.00	15.79	PK	Vertical
1142.00	33.70	-22.66	54.00	20.30	AV	Vertical
1329.00	34.12	-21.78	54.00	19.88	AV	Vertical
1674.00	28.64	-19.87	54.00	25.36	AV	Vertical
3492.00	33.03	-11.61	54.00	20.97	AV	Vertical
4925.00	51.18	-7.02	54.00	2.82	AV	Vertical

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 26.5GHz), therefore no data appear in the report.

6GHz – 18GHz Test Data

EUT:	GPS Tracker	Polarity:	Horizontal
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2412MHz	Voltage:	DC 12V
Environment:	Temp: 26.3℃; Humi: 45%	Test Date:	2025-04-22

Test Graph

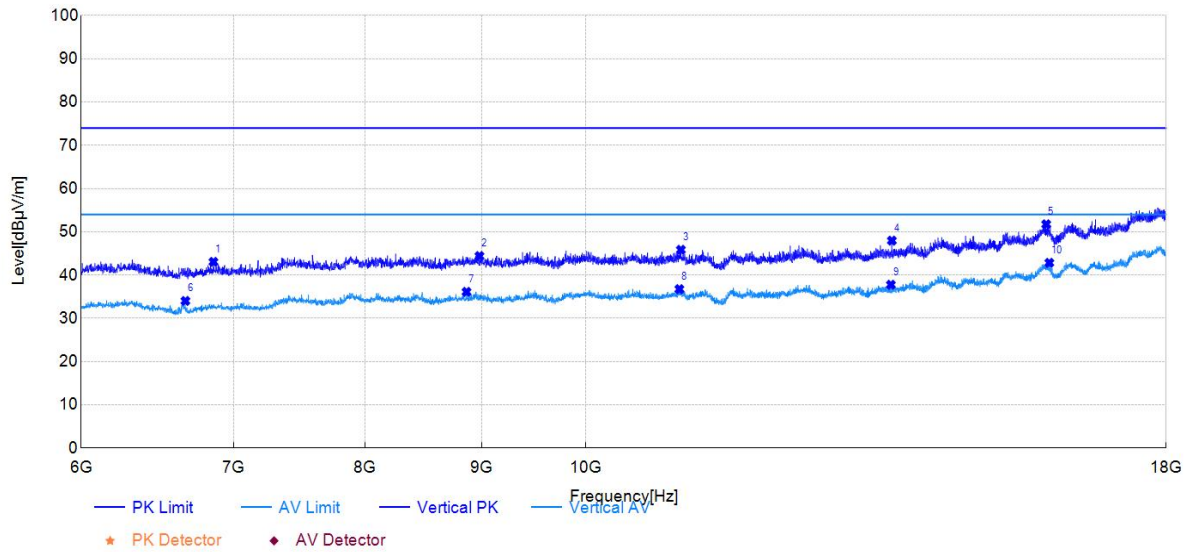


Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
6729.00	42.08	-5.54	74.00	31.92	PK	Horizontal
7944.00	44.56	-1.20	74.00	29.44	PK	Horizontal
10512.00	45.30	0.85	74.00	28.70	PK	Horizontal
12415.50	46.65	2.31	74.00	27.35	PK	Horizontal
15994.50	51.83	9.78	74.00	22.17	PK	Horizontal
6876.00	33.49	-4.51	54.00	20.51	AV	Horizontal
7939.50	35.66	-1.17	54.00	18.34	AV	Horizontal
10429.50	35.95	0.39	54.00	18.05	AV	Horizontal
12444.00	37.28	2.36	54.00	16.72	AV	Horizontal
15922.50	43.31	9.78	54.00	10.69	AV	Horizontal

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 26.5GHz), therefore no data appear in the report.

EUT:	GPS Tracker	Polarity:	Vertical
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2412MHz	Voltage:	DC 12V
Environment:	Temp: 26.3℃; Humi: 45%	Test Date:	2025-04-22

Test Graph



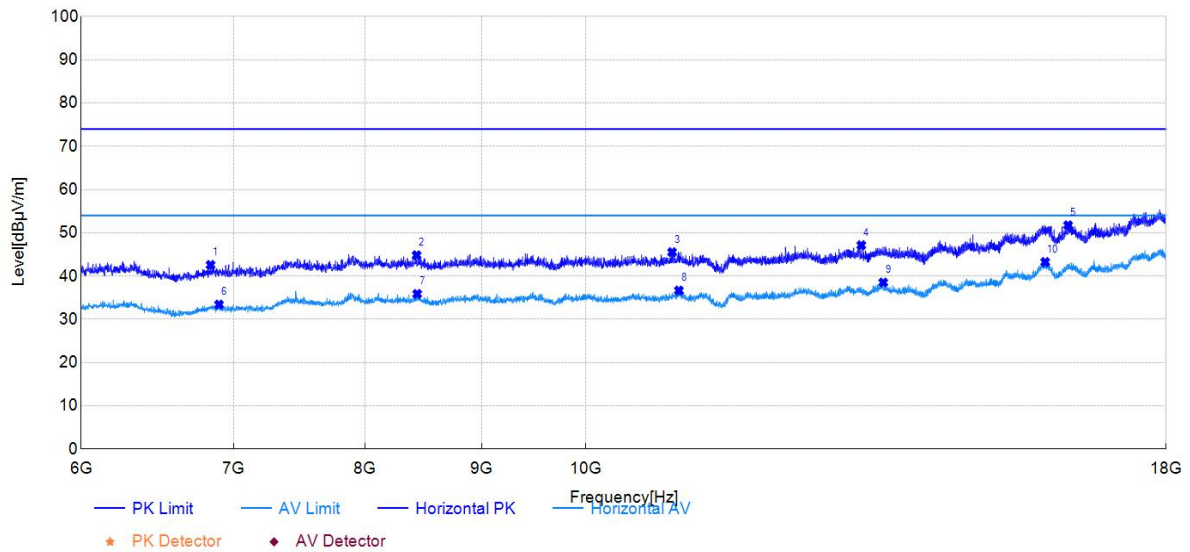
Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
6859.50	43.05	-4.51	74.00	30.95	PK	Vertical
8980.50	44.40	-0.86	74.00	29.60	PK	Vertical
11013.00	45.84	1.34	74.00	28.16	PK	Vertical
13636.50	47.96	2.97	74.00	26.04	PK	Vertical
15943.50	51.74	9.29	74.00	22.26	PK	Vertical
6667.50	34.02	-5.58	54.00	19.98	AV	Vertical
8863.50	36.11	-1.13	54.00	17.89	AV	Vertical
10996.50	36.74	1.40	54.00	17.26	AV	Vertical
13623.00	37.76	2.91	54.00	16.24	AV	Vertical
15994.50	42.83	9.28	54.00	11.17	AV	Vertical

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 26.5GHz), therefore no data appear in the report.

6GHz – 18GHz Test Data

EUT:	GPS Tracker	Polarity:	Horizontal
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2437MHz	Voltage:	DC 12V
Environment:	Temp: 26.3°C; Humi: 45%	Test Date:	2025-04-22

Test Graph

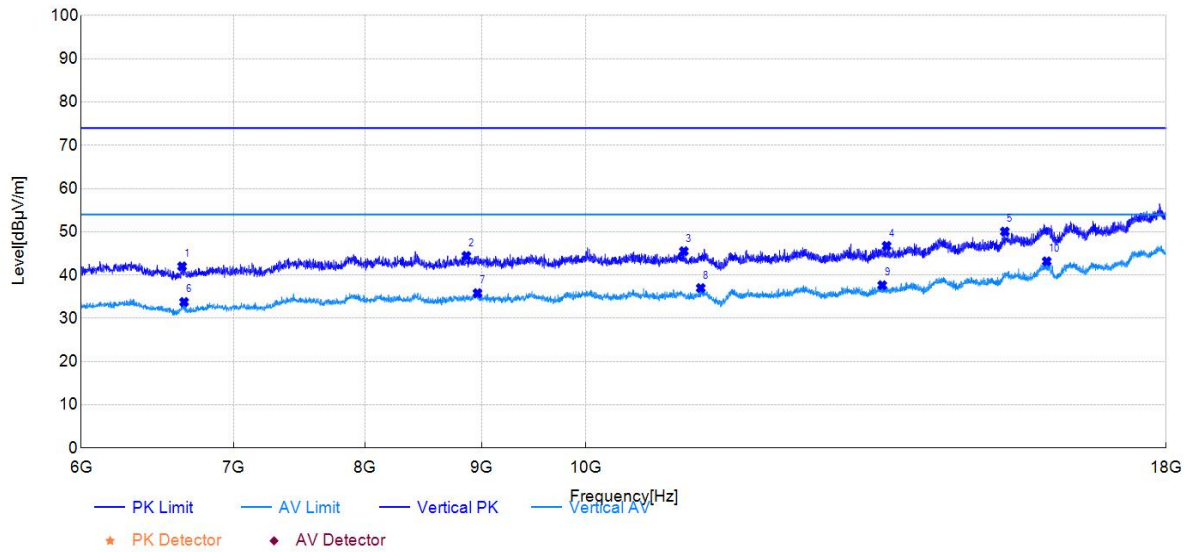


Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
6840.00	42.57	-4.70	74.00	31.43	PK	Horizontal
8427.00	44.81	-1.15	74.00	29.19	PK	Horizontal
10915.50	45.52	1.02	74.00	28.48	PK	Horizontal
13221.00	47.13	3.28	74.00	26.87	PK	Horizontal
16300.50	51.74	9.25	74.00	22.26	PK	Horizontal
6898.50	33.41	-4.40	54.00	20.59	AV	Horizontal
8431.50	35.87	-1.19	54.00	18.13	AV	Horizontal
10990.50	36.65	1.28	54.00	17.35	AV	Horizontal
13518.00	38.50	3.29	54.00	15.50	AV	Horizontal
15927.00	43.25	9.78	54.00	10.75	AV	Horizontal

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 26.5GHz), therefore no data appear in the report.

EUT:	GPS Tracker	Polarity:	Vertical
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2437MHz	Voltage:	DC 12V
Environment:	Temp: 26.3°C; Humi: 45%	Test Date:	2025-04-22

Test Graph



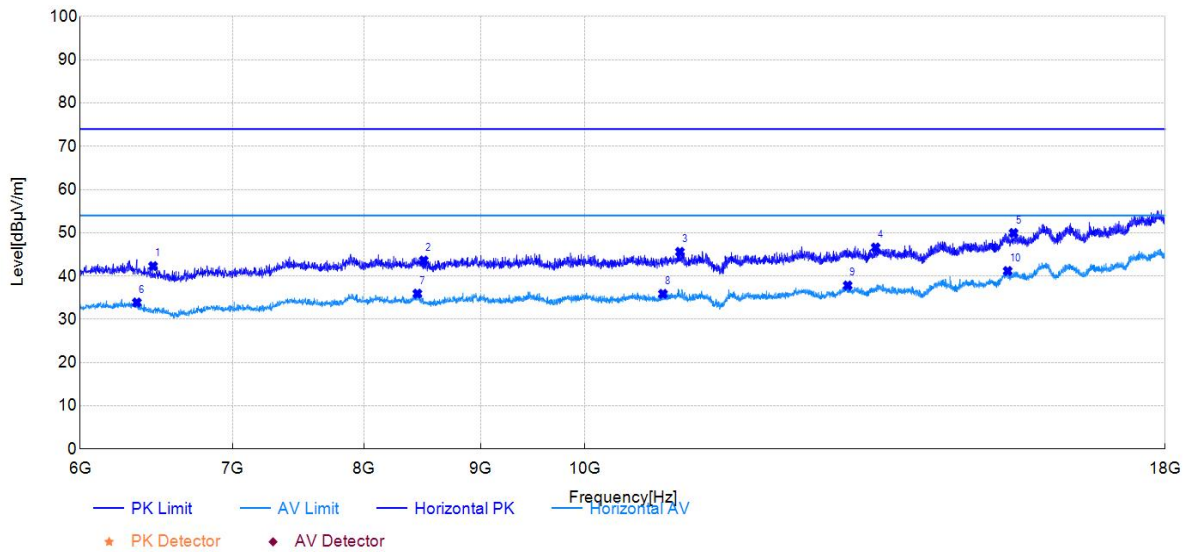
Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
6645.00	42.01	-5.54	74.00	31.99	PK	Vertical
8862.00	44.42	-1.13	74.00	29.58	PK	Vertical
11046.00	45.51	1.14	74.00	28.49	PK	Vertical
13564.50	46.74	2.78	74.00	27.26	PK	Vertical
15289.50	50.05	6.92	74.00	23.95	PK	Vertical
6658.50	33.76	-5.56	54.00	20.24	AV	Vertical
8962.50	35.81	-0.93	54.00	18.19	AV	Vertical
11236.50	36.99	1.04	54.00	17.01	AV	Vertical
13504.50	37.64	2.75	54.00	16.36	AV	Vertical
15952.50	43.16	9.29	54.00	10.84	AV	Vertical

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 26.5GHz), therefore no data appear in the report.

6GHz – 18GHz Test Data

EUT:	GPS Tracker	Polarity:	Horizontal
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2462MHz	Voltage:	DC 12V
Environment:	Temp: 26.3℃; Humi: 45%	Test Date:	2025-04-22

Test Graph

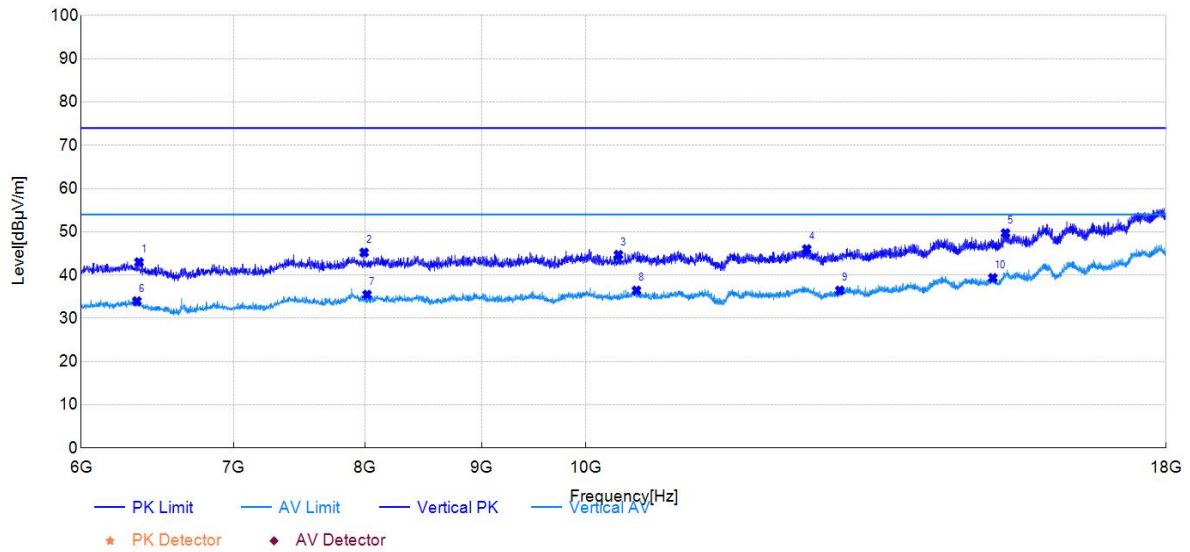


Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
6459.00	42.29	-5.22	74.00	31.71	PK	Horizontal
8496.00	43.60	-1.58	74.00	30.40	PK	Horizontal
11013.00	45.59	1.23	74.00	28.41	PK	Horizontal
13428.00	46.60	3.01	74.00	27.40	PK	Horizontal
15441.00	49.96	7.16	74.00	24.04	PK	Horizontal
6354.00	33.89	-4.66	54.00	20.11	AV	Horizontal
8442.00	35.93	-1.25	54.00	18.07	AV	Horizontal
10825.50	35.88	0.66	54.00	18.12	AV	Horizontal
13053.00	37.82	2.81	54.00	16.18	AV	Horizontal
15349.50	41.17	7.09	54.00	12.83	AV	Horizontal

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 26.5GHz), therefore no data appear in the report.

EUT:	GPS Tracker	Polarity:	Vertical
Model:	GV650MG-FF	Test Engineer:	Chuang Li
Mode:	Transmit by 802.11b at Channel 2462MHz	Voltage:	DC 12V
Environment:	Temp: 26.3℃; Humi: 45%	Test Date:	2025-04-22

Test Graph



Frequency (MHz)	Level (dBμV/m)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
6361.50	42.97	-4.54	74.00	31.03	PK	Vertical
7990.50	45.21	-1.45	74.00	28.79	PK	Vertical
10338.00	44.68	0.47	74.00	29.32	PK	Vertical
12510.00	46.00	2.52	74.00	28.00	PK	Vertical
15300.00	49.69	7.09	74.00	24.31	PK	Vertical
6348.00	33.95	-4.41	54.00	20.05	AV	Vertical
8014.50	35.47	-1.44	54.00	18.53	AV	Vertical
10528.50	36.43	1.12	54.00	17.57	AV	Vertical
12936.00	36.44	1.73	54.00	17.56	AV	Vertical
15105.00	39.34	5.80	54.00	14.66	AV	Vertical

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 26.5GHz), therefore no data appear in the report.

7.7. Restricted Band Edge Measurement

7.7.1. Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.25 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41	--	--	--

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

7.7.2. Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

7.7.3. Test Setting

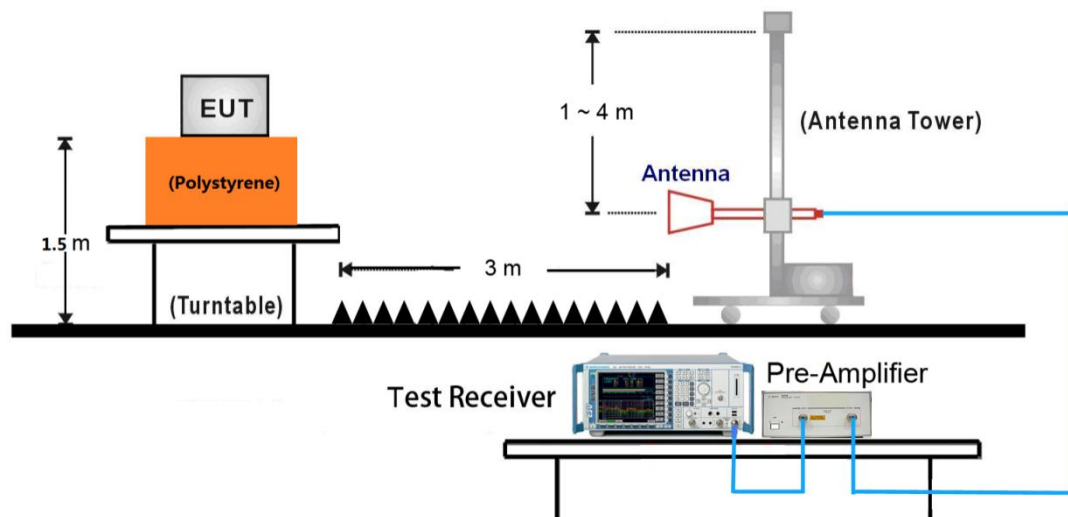
Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = Power Average (RMS)
5. Number of sweep point = 2001 (Number of sweep points must be $\geq 2 \times \text{span} / \text{RBW}$)
6. Sweep time = auto
7. Trace (RMS) averaging was performed over at least 100 traces.

7.7.4. Test Setup

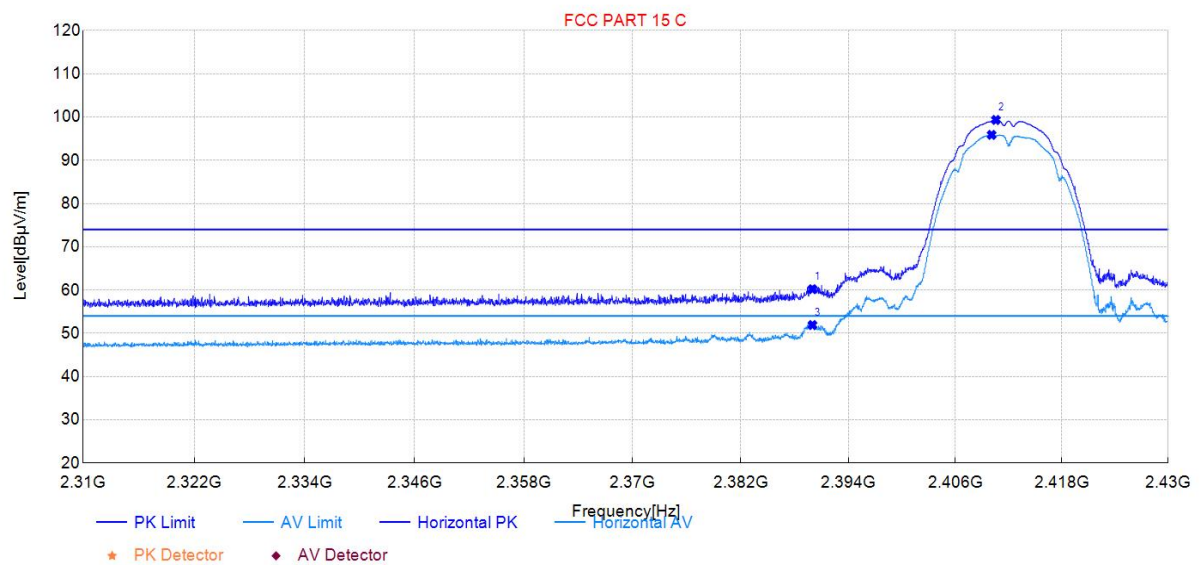


7.7.5. Test Result

802.11b

Test Mode:	802.11b	Test Date:	2025-04-22
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

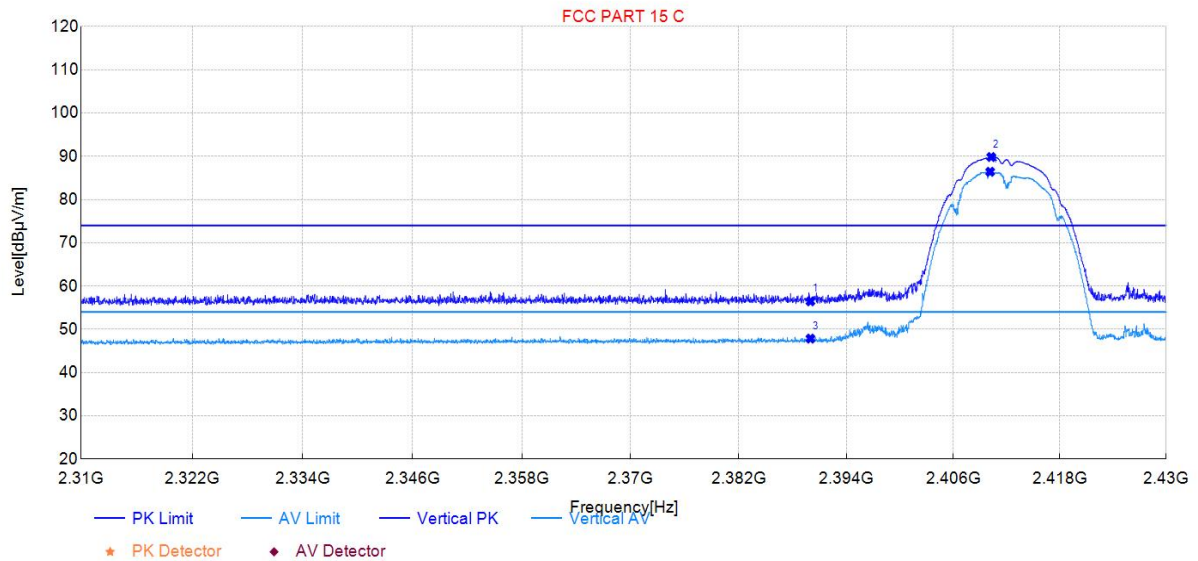
Test Graph



Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	60.20	36.10	74.00	13.80	150	359	Peak	Horizontal
2410.56	99.34	36.18	74.00	-25.34	150	348	Peak	Horizontal
2390.00	51.91	36.10	54.00	2.09	150	343	Average	Horizontal
2410.08	95.89	36.17	54.00	-41.89	150	2	Average	Horizontal

Test Mode:	802.11b	Test Date:	2025-04-22
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

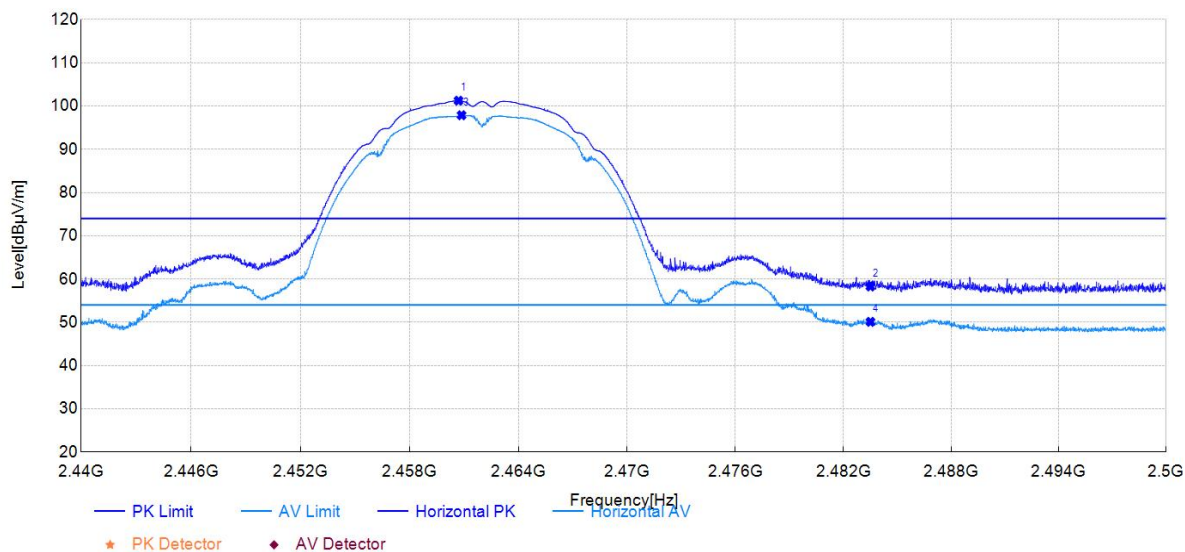
Test Graph



Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	56.47	35.95	74.00	17.53	150	193	Peak	Vertical
2410.26	89.84	36.00	74.00	-15.84	150	0	Peak	Vertical
2390.00	47.85	35.95	54.00	6.15	150	0	Average	Vertical
2410.14	86.43	36.00	54.00	-32.43	150	0	Average	Vertical

Test Mode:	802.11b	Test Date:	2025-04-22
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

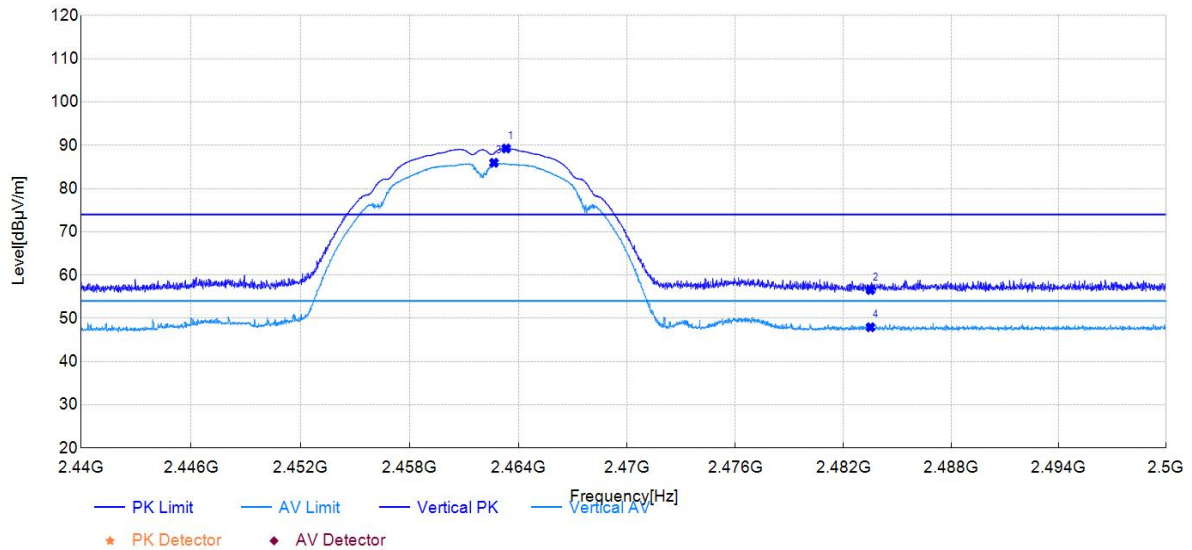
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2460.71	101.25	36.31	74.00	-27.25	150	352	Peak	Horizontal
2483.51	58.29	36.36	74.00	15.71	150	0	Peak	Horizontal
2460.87	97.89	36.31	54.00	-43.89	150	352	Average	Horizontal
2483.51	50.11	36.36	54.00	3.89	150	360	Average	Horizontal

Test Mode:	802.11b	Test Date:	2025-04-22
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

Test Graph

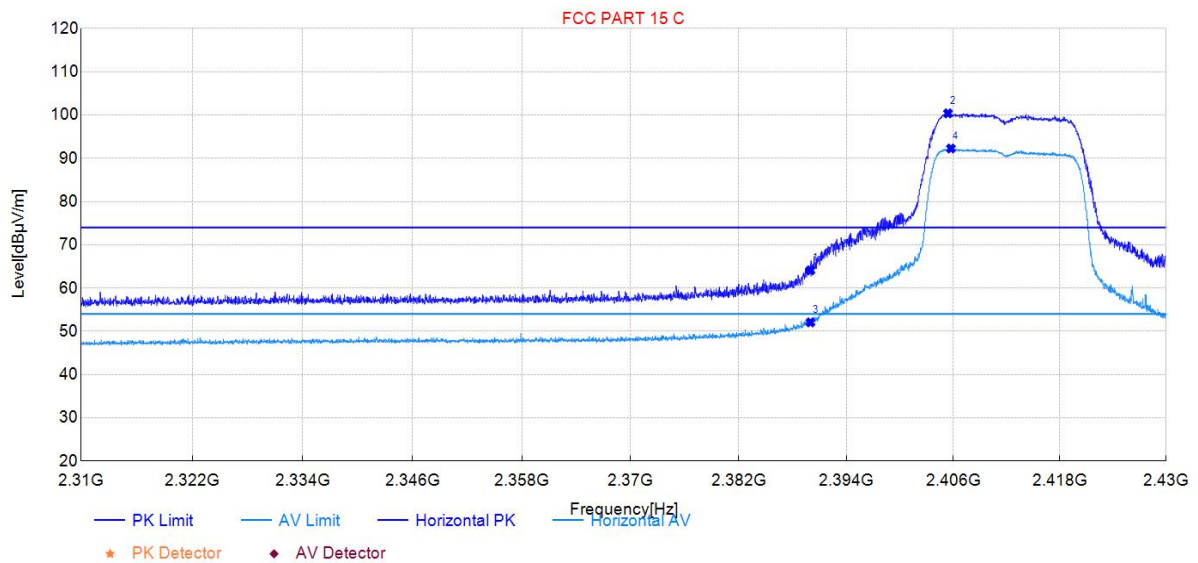


Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2463.33	89.27	36.06	74.00	-15.27	150	73	46	Vertical
2483.51	56.55	36.08	74.00	17.45	150	61	147	Vertical
2462.66	85.96	36.06	54.00	-31.96	150	73	46	Vertical
2483.51	47.93	36.08	54.00	6.07	150	90	46	Vertical

802.11g

Test Mode:	802.11g	Test Date:	2025-04-22
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

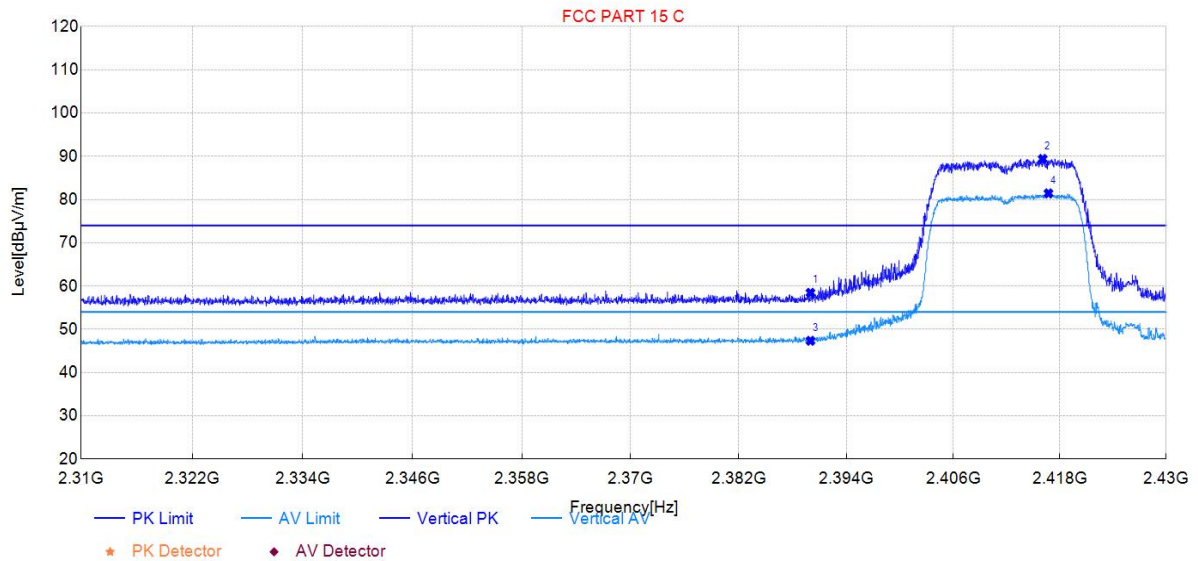
Test Graph



Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	64.10	36.10	74.00	9.90	150	0	Peak	Horizontal
2405.39	100.41	36.16	74.00	-26.41	150	1	Peak	Horizontal
2390.00	52.07	36.10	54.00	1.93	150	0	Average	Horizontal
2405.72	92.28	36.16	54.00	-38.28	150	1	Average	Horizontal

Test Mode:	802.11g	Test Date:	2025-04-22
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

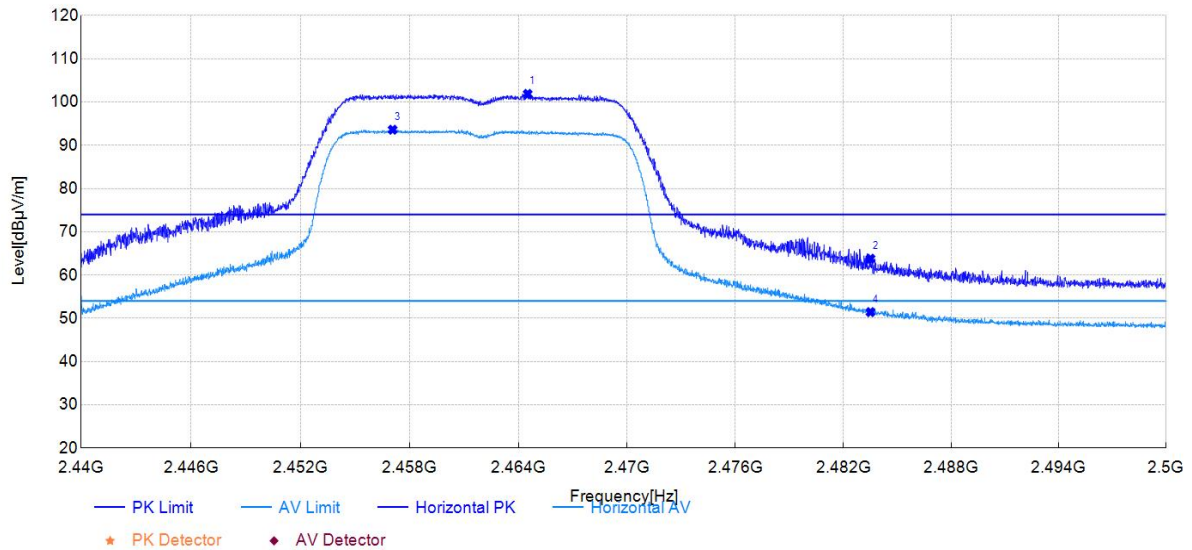
Test Graph



Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	58.45	35.95	74.00	15.55	150	94	Peak	Vertical
2416.05	89.40	36.01	74.00	-15.40	150	94	Peak	Vertical
2390.00	47.35	35.95	54.00	6.65	150	344	Average	Vertical
2416.71	81.44	36.01	54.00	-27.44	150	94	Average	Vertical

Test Mode:	802.11g	Test Date:	2025-04-22
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

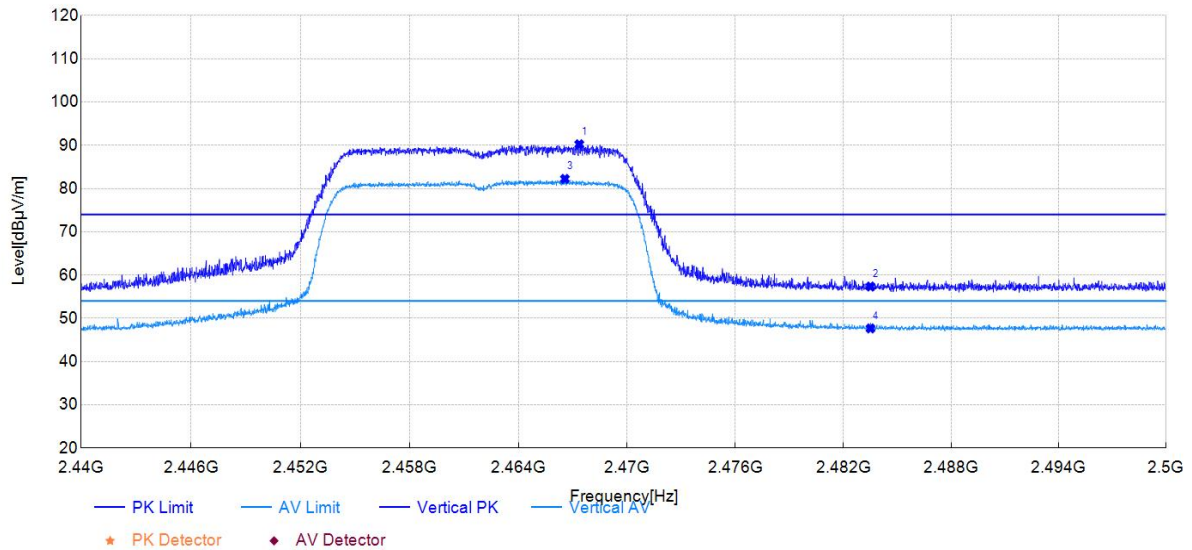
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2464.52	101.90	36.31	74.00	-27.90	150	352	Peak	Horizontal
2483.51	63.79	36.36	74.00	10.21	150	0	Peak	Horizontal
2457.07	93.61	36.30	54.00	-39.61	150	7	Average	Horizontal
2483.51	51.43	36.36	54.00	2.57	150	0	Average	Horizontal

Test Mode:	802.11g	Test Date:	2025-04-22
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

Test Graph

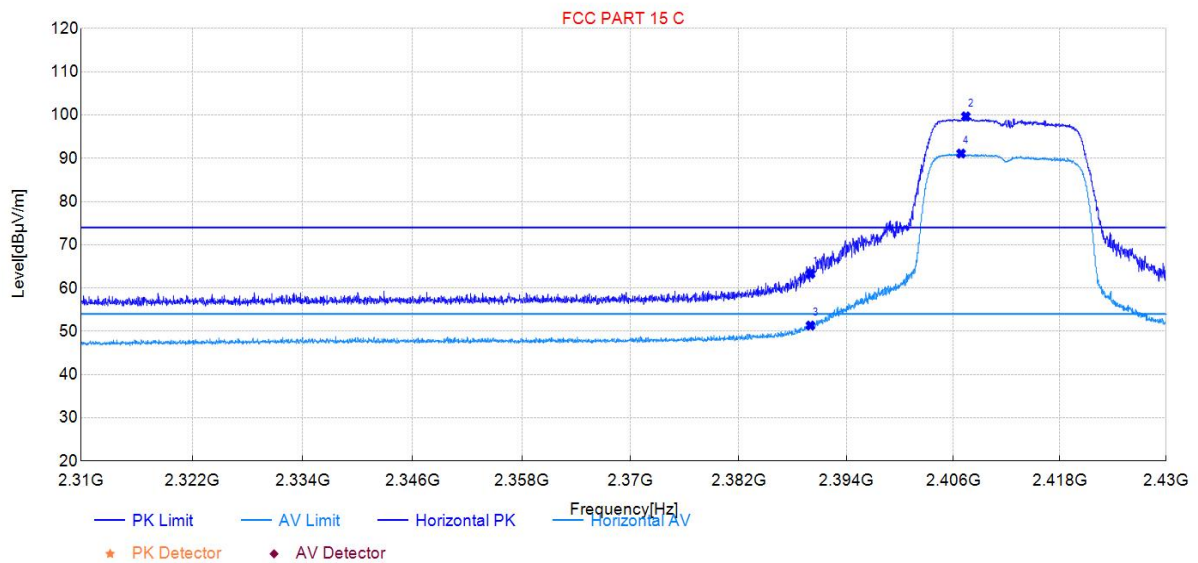


Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2467.37	90.24	36.07	74.00	-16.24	150	74	Peak	Vertical
2483.51	57.35	36.08	74.00	16.65	150	267	Peak	Vertical
2466.57	82.24	36.07	54.00	-28.24	150	74	Average	Vertical
2483.51	47.66	36.08	54.00	6.34	150	74	Average	Vertical

802.11n20SISO

Test Mode:	802.11n20SISO	Test Date:	2025-04-22
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

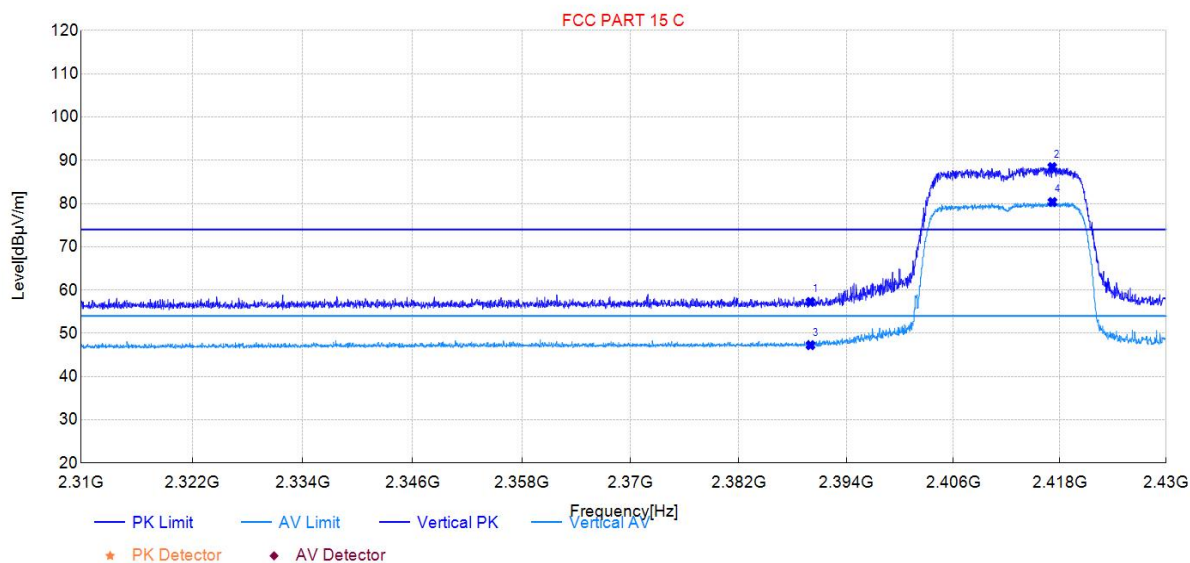
Test Graph



Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	63.27	36.10	74.00	10.73	150	0	Peak	Horizontal
2407.40	99.70	36.17	74.00	-25.70	150	2	Peak	Horizontal
2390.00	51.33	36.10	54.00	2.67	150	1	Average	Horizontal
2406.86	91.11	36.17	54.00	-37.11	150	3	Average	Horizontal

Test Mode:	802.11n20SISO	Test Date:	2025-04-22
Test Channel:	2412	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

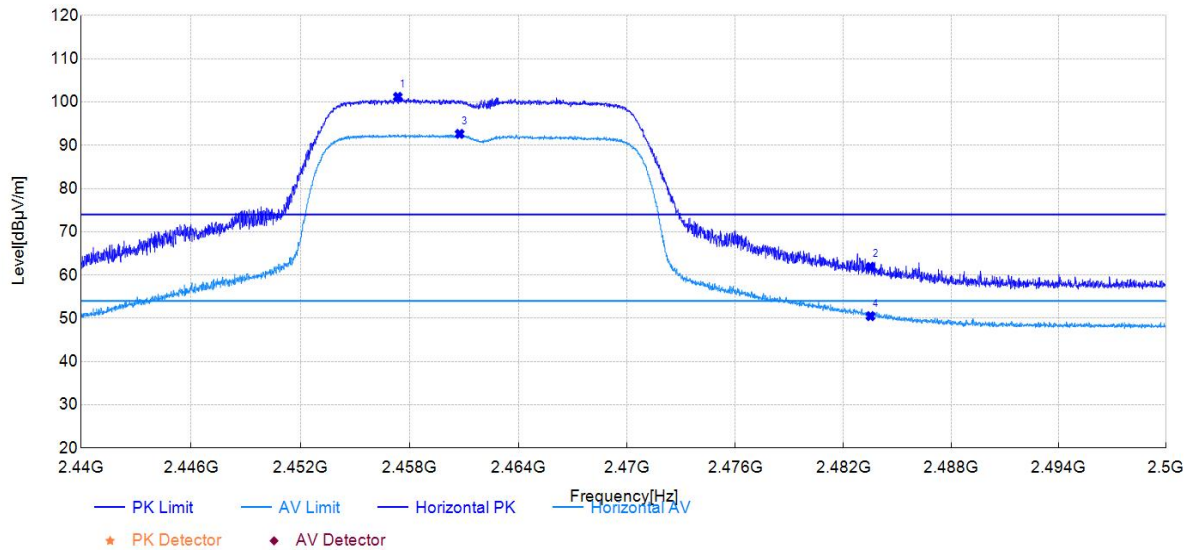
Test Graph



Freq. [MHz]	Level [dBuV/m]	Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2390.00	57.25	35.95	74.00	16.75	150	25	Peak	Vertical
2417.13	88.44	36.01	74.00	-14.44	150	94	Peak	Vertical
2390.00	47.25	35.95	54.00	6.75	150	4	Average	Vertical
2417.16	80.35	36.01	54.00	-26.35	150	94	Average	Vertical

Test Mode:	802.11n20SISO	Test Date:	2025-04-22
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

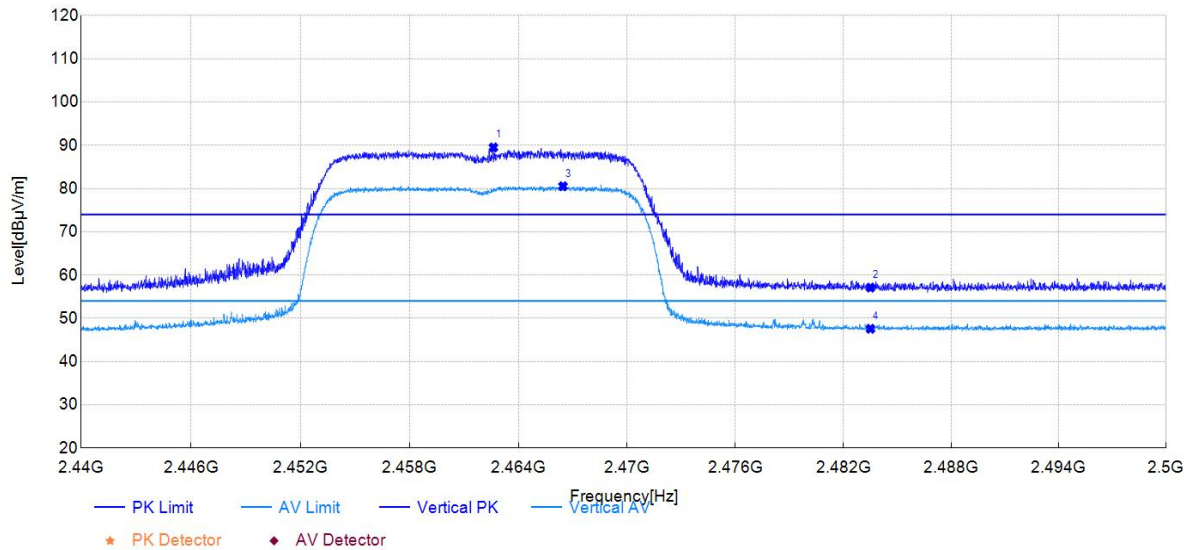
Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2457.36	101.21	36.30	74.00	-27.21	150	352	Peak	Horizontal
2483.51	61.88	36.36	74.00	12.12	150	13	Peak	Horizontal
2460.77	92.65	36.31	54.00	-38.65	150	357	Average	Horizontal
2483.51	50.50	36.36	54.00	3.50	150	360	Average	Horizontal

Test Mode:	802.11n20SISO	Test Date:	2025-04-22
Test Channel:	2462	Test Engineer:	Chuang Li
Remark:	The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.		

Test Graph



Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity
2462.63	89.51	36.06	74.00	-15.51	150	73	Peak	Vertical
2483.51	57.10	36.08	74.00	16.90	150	283	Peak	Vertical
2466.47	80.54	36.07	54.00	-26.54	150	73	Average	Vertical
2483.51	47.58	36.08	54.00	6.42	150	300	Average	Vertical

7.8. AC Conducted Emissions Measurement

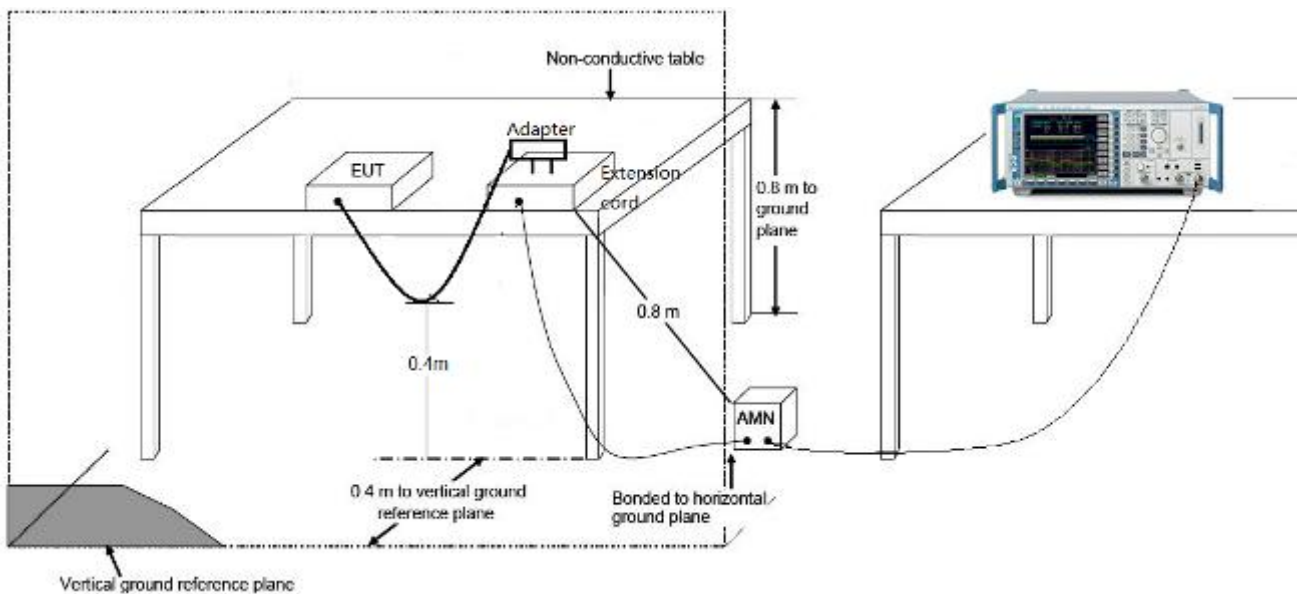
7.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 – 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

7.8.2. Test Setup



7.8.3. Test Result

Not Applicable . The device is only powered by DC 8~90V.

8. CONCLUSION

The data collected relate only the item(s) tested and show that the **GPS Tracker (Model: GV650MG-FF)** is in compliance with Part 15C of the FCC Rules.

Statement

1. This report is invalid for the following states: without the special inspection and testing stamp or the official stamp of our institution; without the signature of the report authorized officer; if the report is altered.
2. It is forbidden to copy partial contents of the report except in full without the approval of our institution.
3. The client shall provide the test sample(s) and commission information and be responsible for their authenticity.
4. The report content is only applicable to the tested sample(s) this time.
5. If there are any objections to the report content, please submit them to our company in writing within 15 days from the date of receiving the report.
6. If the reports include both Chinese and English versions, when there are any inconsistencies caused by language, the Chinese version shall prevail.
7. Information about laboratory sites involved in our company:

No.2, Fangda Road, Yunpu Industrial Zone, Huangpu District, Guangzhou, Guangdong, China (Huangpu Laboratory)

Building 2 and Building 3, GRGTest Science and Technology Industrial Park, No.8, Chuangyun Road, Panyu District, Guangzhou, Guangdong, China (Panyu Laboratory)

Building G9, China Sensor Network International Innovation Park, No.200, Linghu Avenue, Wuxi, Jiangsu, China (Wuxi Innovation Park Laboratory)

Building 3, Maoxuan Industrial Park, No.81, Jinma Road, Hongshan Subdistrict, Xinwu District, Wuxi, Jiangsu, China (Maoxuan Industrial Park Laboratory)

3/F., Comprehensive Laboratory Building, No.8, Ningyun Road, Xinwu District, Wuxi, Jiangsu, China (Ningyun Road Laboratory)

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