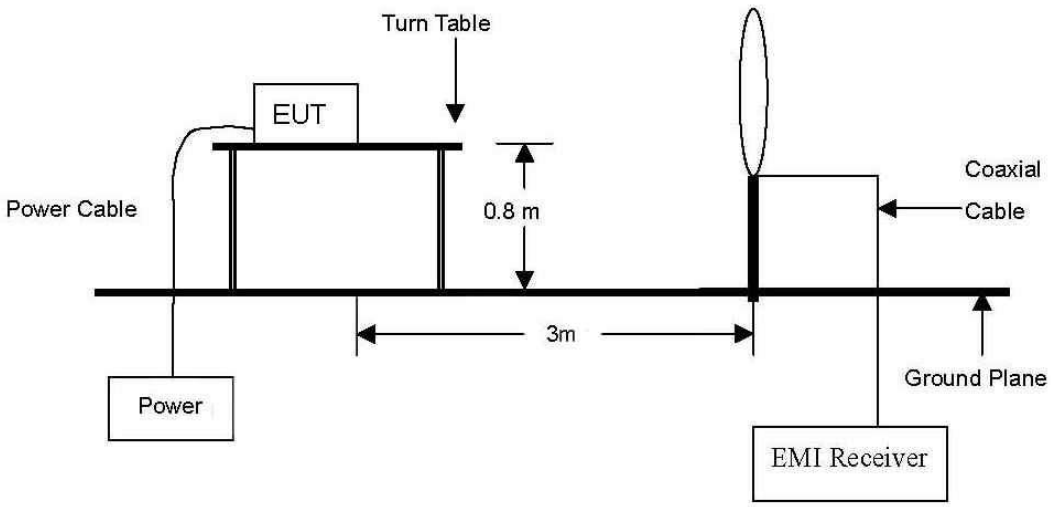
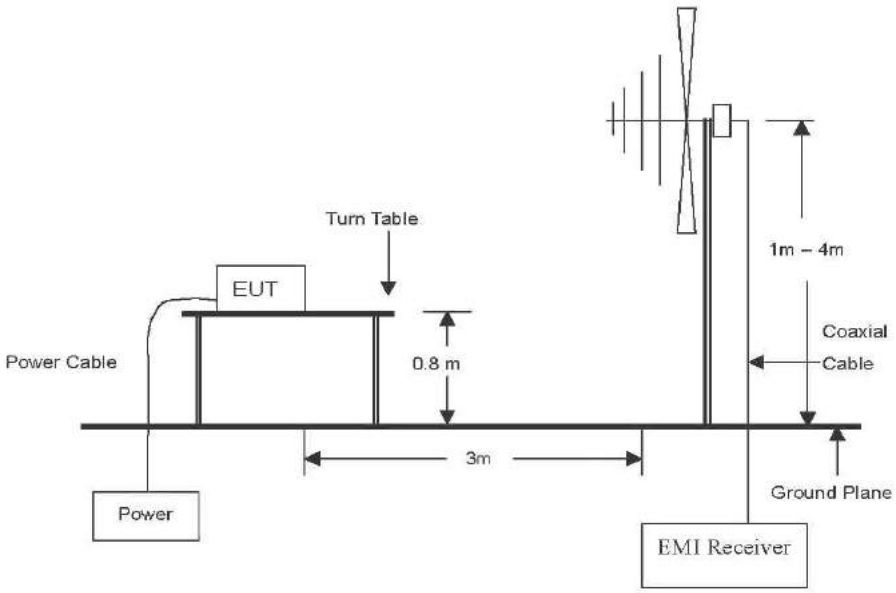
3.6. Radiated restricted band and emissions

Test setup

The diagram below shows the test setup that is utilized to make the measurements for emission from 9 ㎑ to 30 ㎒ Emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ emissions.



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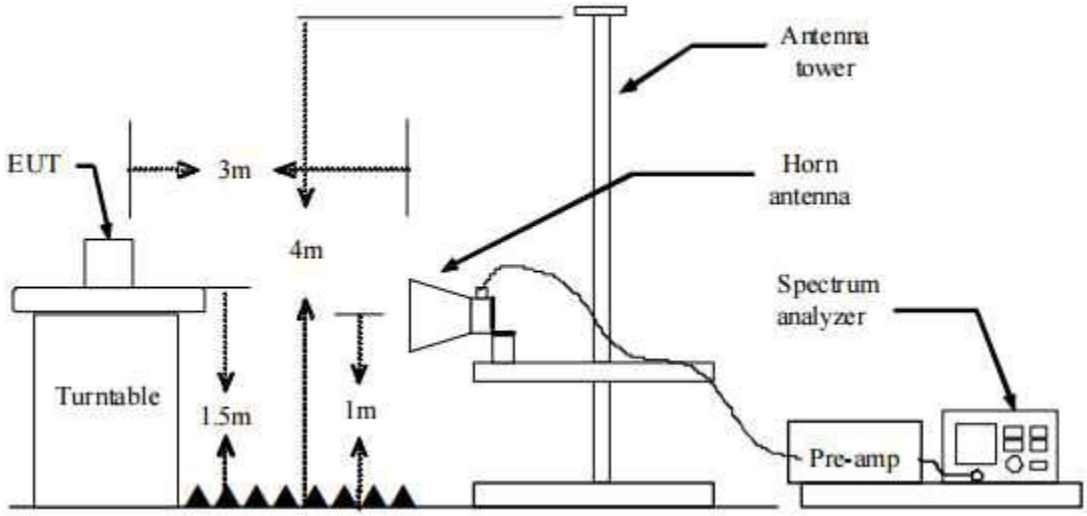
The diagram below shows the test setup that is utilized to make the measurements for emission from 1 ㎓ to the tenth harmonic of the highest fundamental frequency or to 40 ㎓ emissions, whichever is lower.



Test procedure below 30 ㎒

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
2. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
3. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
4. The test-receiver system was set to average or quasi peak detect function and Specified Bandwidth with Maximum hold mode.

Test procedure above 30 ㎒

1. Spectrum analyzer settings for f < 1 ㎓:
   ① Span = wide enough to fully capture the emission being measured
   ② RBW = 120 ㎑
   ③ VBW ≥ RBW
   ④ Detector = quasi peak
   ⑤ Sweep time = auto
   ⑥ Trace = max hold
2. Spectrum analyzer settings for f ≥1 ㎓: Peak
   ① Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
   ② RBW = 1 ㎒
   ③ VBW = 3 ㎒ (≥ 3 x RBW)
   ④ Detector = peak
   ⑤ Sweep time = auto
   ⑥ Trace = max hold
   ⑦ Trace was allowed to stabilize

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3. Spectrum analyzer settings for $f \geq 1$ GHz: Average
   ① Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
   ② RBW = 1 MHz
   ③ VBW ≥ 3 × RBW
   ④ Detector = RMS, if span/(# of points in sweep) ≤ (RBW/2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
   ⑤ Averaging type = power(i.e., RMS)
      1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
      2) Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.
   ⑥ Sweep = auto
   ⑦ Trace = max hold
   ⑧ Perform a trace average of at least 100 traces.
   ⑨ A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:

      1) If power averaging (RMS) mode was used in step ⑤, then the applicable correction factor is 10 log(1/x), where x is the duty cycle.
      2) If linear voltage averaging mode was used in step ⑤, then the applicable correction factor is 20 log(1/x), where x is the duty cycle.
      3) If a specific emission is demonstrated to be continuous (≥ 98 percent duty cycle) rather than turning on and off with the transmit cycle, then no duty cycle correction is required for that emission.

Note.

1. f<30 MHz, extrapolation factor of 40 dB/decade of distance. $F_d = 40\log(D_m/Ds)$
   $f \geq 30$ MHz, extrapolation factor of 20 dB/decade of distance. $F_d = 20\log(D_m/Ds)$
   Where:
   F_d = Distance factor in dB
   D_m = Measurement distance in meters
   D_s = Specification distance in meters
2. CF(Correction factors(dB)) = Antenna factor(dB/m) + Cable loss(dB) + or Amp. gain(dB) + or F_d(dB)
4. Field strength(dBμV/m) = Level(dBμV) + CF (dB) + or DCF(dB)
5. Margin(dB) = Limit(dBμV/m) - Field strength(dBμV/m)
6. Emissions below 18 GHz were measured at a 3 meter test distance while emissions above 18 GHz were measured at a 1 meter test distance with the application of a distance correction factor.
7. The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z, it was determined that **X orientation** was worst-case orientation; therefore, all final radiated testing was performed with the EUT in **X orientation.**
8. The worst-case emissions are reported however emissions whose levels were not within 20 dB of respective limits were not reported.
9. All channels, modes (e.g. 802.11ac (20 MHz/40 MHz /80 MHz)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

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10. According to exploratory test no any obvious emission were detected from 9 ㎑ to 30 ㎒. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

Limit

According to 15.209(a), for an intentional radiator devices, the general required of field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values：

Frequency (㎒)	Distance (Meters)	Radiated (㎶/m)
0.009 ~ 0.490	300	2400/F(㎑)
0.490 ~ 1.705	30	24000/F(㎑)
1.705 ~ 30.0	30	30
30 ~ 88	3	100**
88 ~ 216	3	150**
216 ~ 960	3	200**
Above 960	3	500

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54 ~ 72 ㎒, 76 ~ 88 ㎒, 174 ~ 216 ㎒ or 470 ~ 806 ㎒. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

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According to 15.407(b), (b) Undesirable emission limits: Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15–5.25 ㎓ band: all emissions outside of the 5.15–5.35 ㎓ band shall not exceed an e.i.r.p of –27 ㏈m/㎒.
(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(4) For transmitters operating in the 5.725-5.85 GHz band:
i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.
(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 ㎒.
A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 ㎒.
(6) Unwanted emissions below 1 ㎓ must comply with the general field strength limits set forth in § 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in § 15.207.
(7) The provisions of §15.205 apply to intentional radiators operating under this section.
(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

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Duty cycle

Regarding to KDB 558074 D01_v04, 6.0, the maximum duty cycles of all modes were investigated and set the spectrum analyzer as below.

Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100.

For the band 5.15-5.25 GHz

Test mode	T_{on} time (㎳)	Period (㎳)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11n_VHT20	10.00	10.00	1	100	0
802.11n_VHT40	10.00	10.00	1	100	0
802.11n_VHT80	10.00	10.00	1	100	0

For the band 5.250-5.350 GHz

Test mode	T_{on} time (㎳)	Period (㎳)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11n_VHT20	10.00	10.00	1	100	0
802.11n_VHT40	10.00	10.00	1	100	0
802.11n_VHT80	10.00	10.00	1	100	0

For the band 5.470-5.725 GHz

Test mode	T_{on} time (㎳)	Period (㎳)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11n_VHT20	10.00	10.00	1	100	0
802.11n_VHT40	10.00	10.00	1	100	0
802.11n_VHT80	10.00	10.00	1	100	0

For the band 5.725-5.85 GHz

Test mode	T_{on} time (㎳)	Period (㎳)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11n_VHT20	10.00	10.00	1	100	0
802.11n_VHT40	10.00	10.00	1	100	0
802.11n_VHT80	10.00	10.00	1	100	0

Note:

Duty cycle (Linear) = T_{on} time/Period

DCF(Duty cycle correction factor (㏈)) = 10log(1/duty cycle)

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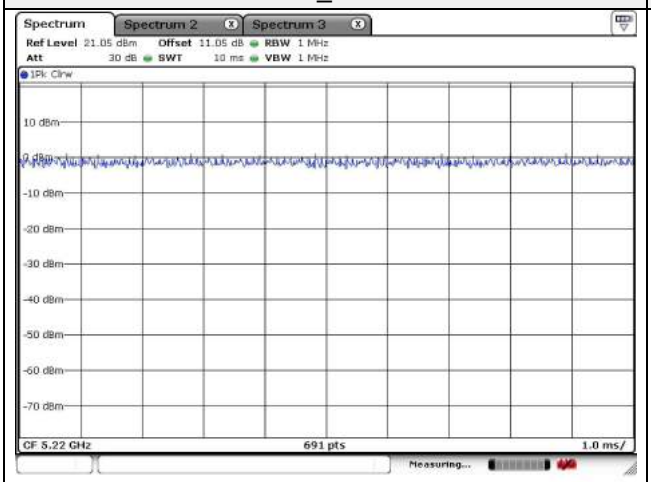
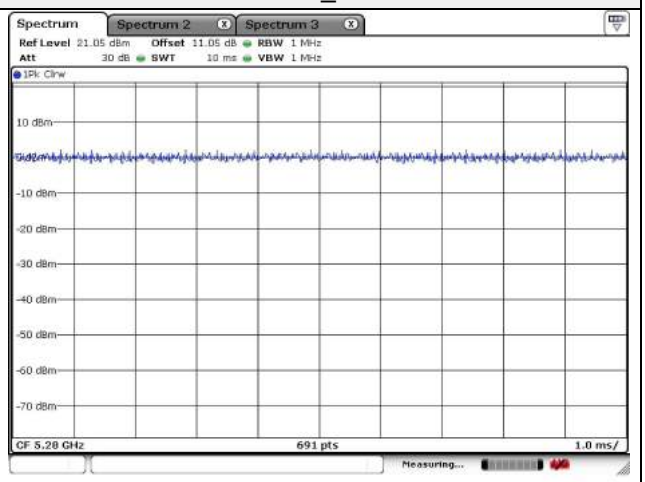
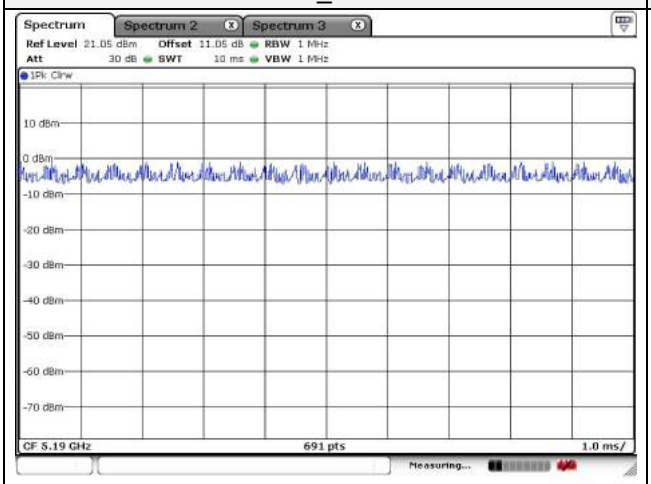
UNII-1_VHT20



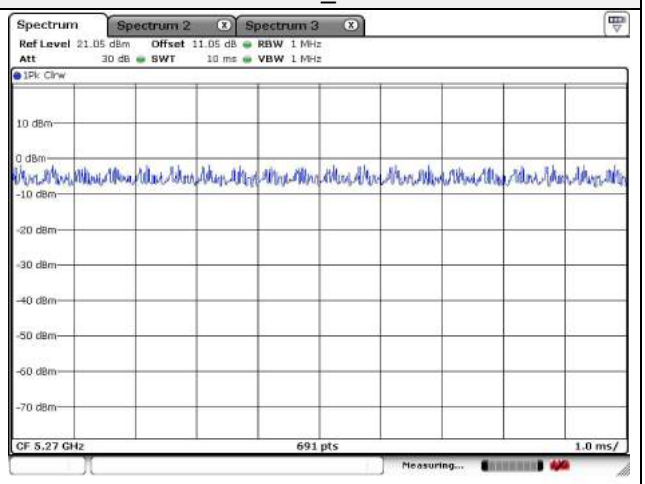
UNII-2A_VHT20



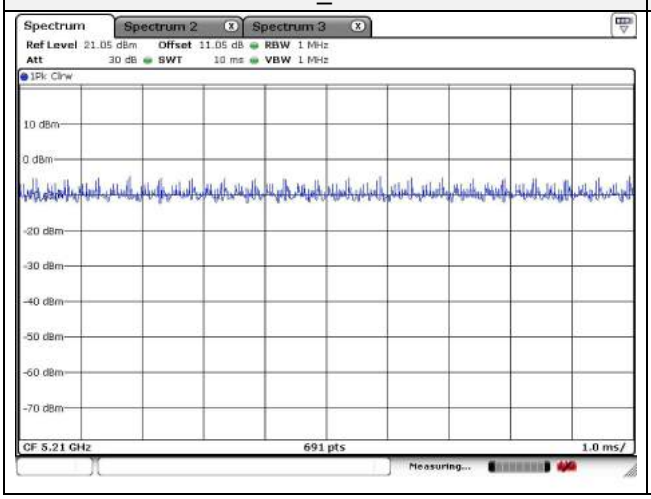
UNII-1_VHT40



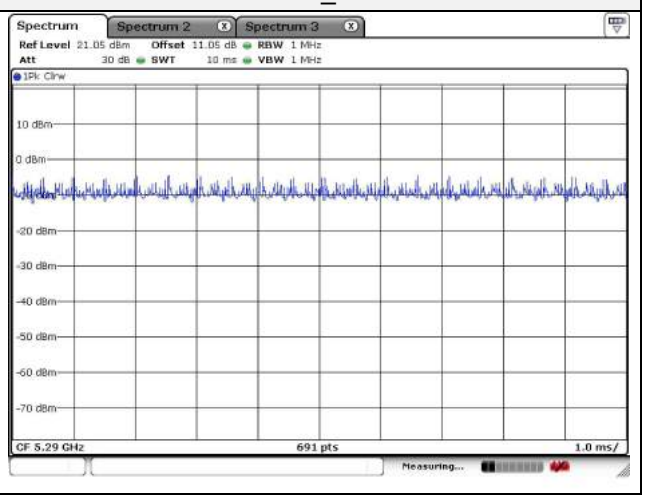
UNII-2A_VHT40



UNII-1_VHT80



UNII-2A_VHT80



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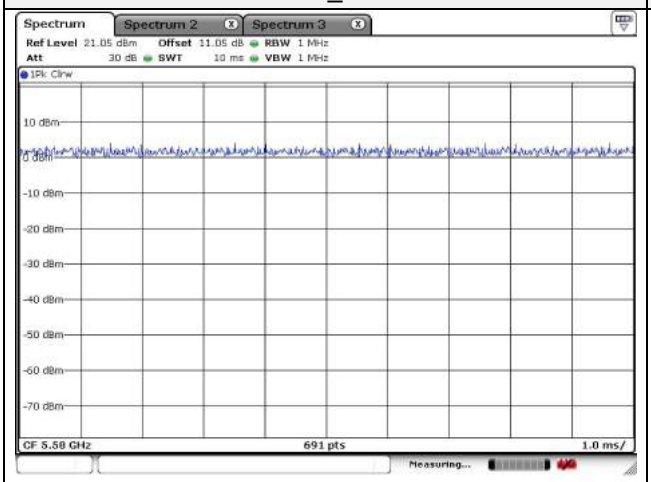
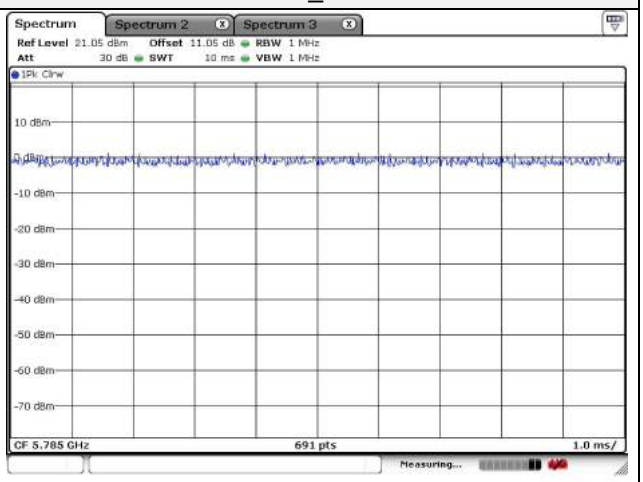
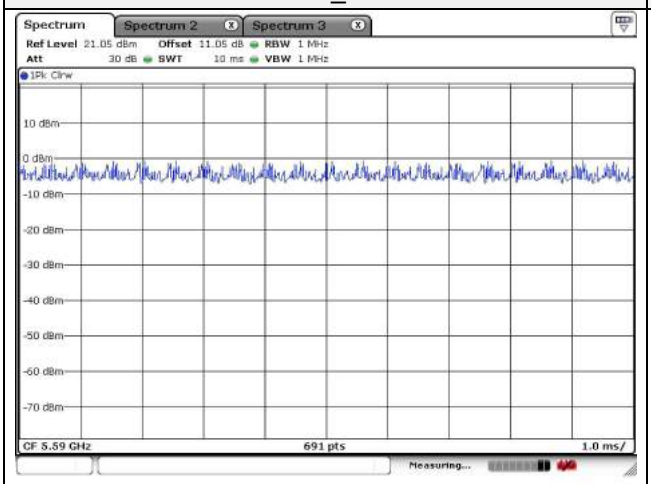
UNII-2C_VHT20



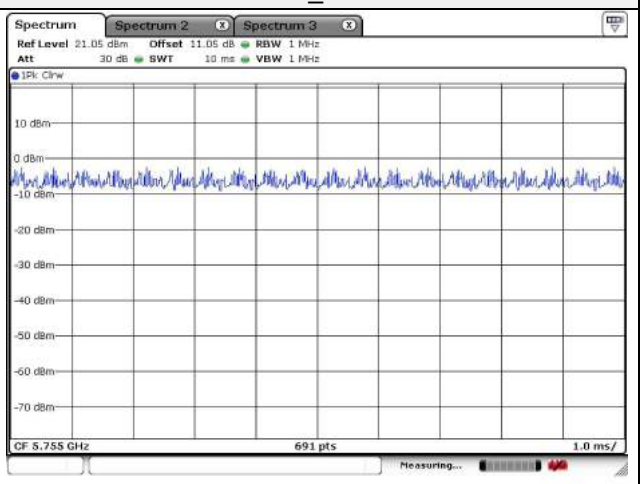
UNII-3_VHT20



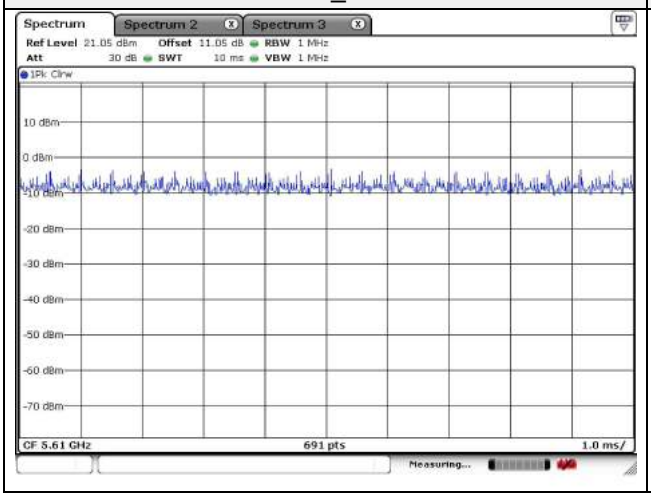
UNII-2C _VHT40



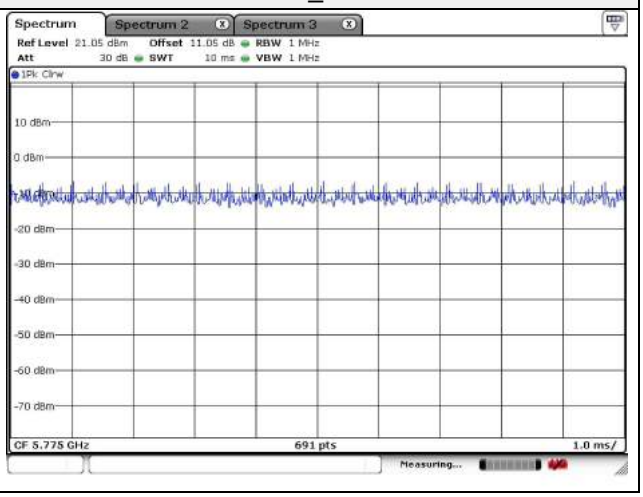
UNII-3_VHT40



UNII-2C _VHT80



UNII-3_VHT80



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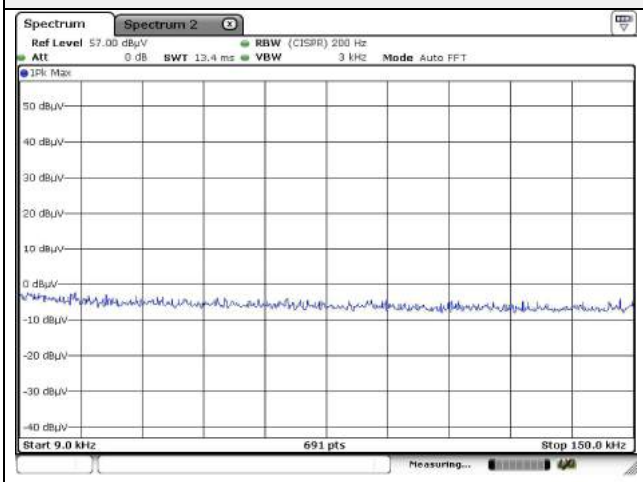
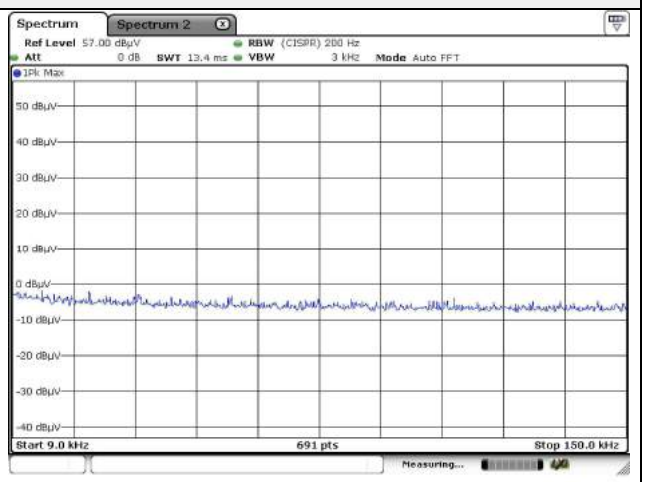
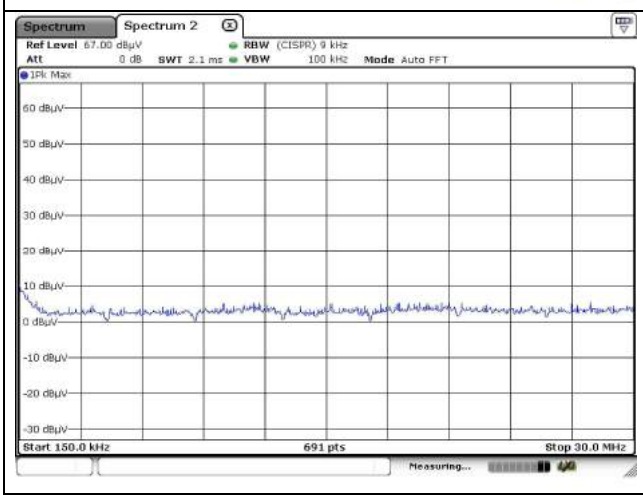
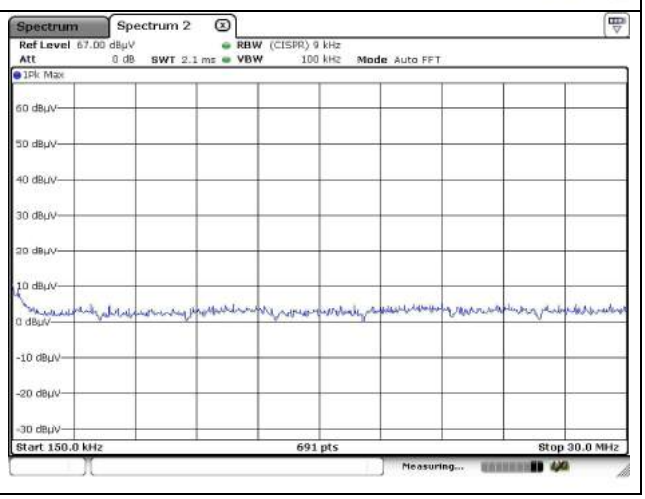
Test results (Below 30 ㎒) – Worst case

Mode:	UNII-1 VHT40
Distance of measurement:	3 meter
Channel:	38 (Worst case)

Horizontal	Vertical
	
	

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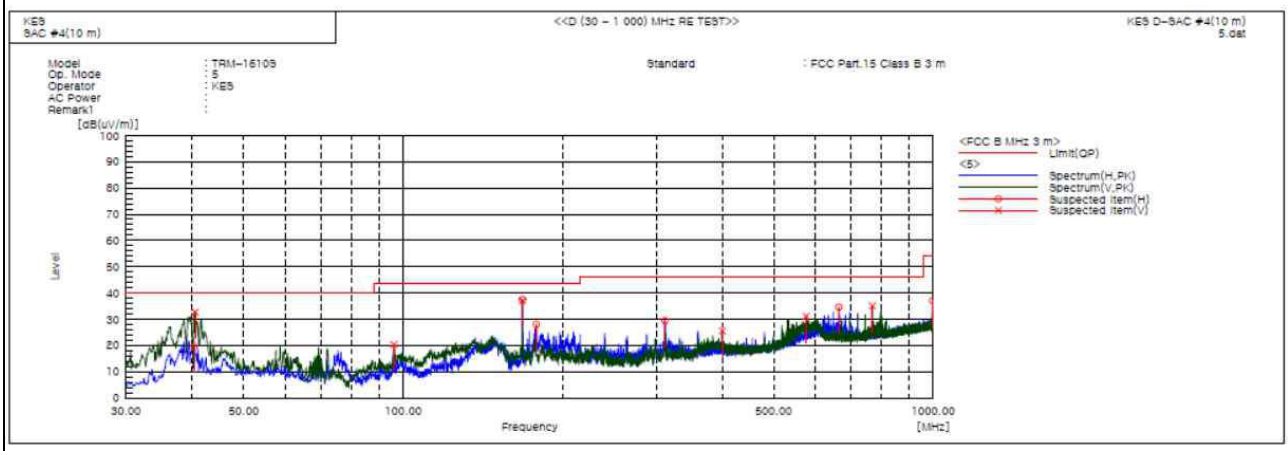
Test results (Below 1 000 ㎒) – Worst case

Mode:	UNII-1 VHT40
Distance of measurement:	3 meter
Channel:	38 (Worst case)

Horizontal // Vertical



No.	Frequency [MHz]	(P)	Reading [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]
1	40.306	H	48.9	-29.3	19.6	40.0	20.4
2	167.983	H	68.7	-31.2	37.5	43.5	6.0
3	178.289	H	58.5	-30.5	28.0	43.5	15.5
4	312.028	H	53.4	-24.0	29.4	46.0	16.6
5	663.774	H	48.9	-14.3	34.6	46.0	11.4
6	996.726	H	46.1	-9.0	37.1	54.0	16.9
7	40.549	V	62.0	-29.3	32.7	40.0	7.3
8	96.081	V	50.1	-29.8	20.3	43.5	23.2
9	167.983	V	68.2	-31.2	37.0	43.5	6.5
10	400.055	V	46.4	-20.9	25.5	46.0	20.5
11	575.989	V	46.9	-15.8	31.1	46.0	14.9
12	768.049	V	48.3	-13.2	35.1	46.0	10.9

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Test results (Above 1 000 ㎒)

Mode: UNII-1(VHT20)

Distance of measurement: 3 meter

Channel: 36

- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	49.15	Peak	H	-5.95	-	43.20	74.00	30.80
1835.70	49.39	Peak	H	-2.70	-	46.69	74.00	27.31
1502.90	53.58	Peak	V	-5.95	-	47.63	74.00	26.37
3000.70	50.27	Peak	V	1.80	-	52.07	74.00	21.93

- **Band edge**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4708.10	45.59	Peak	H	6.80	-	52.39	74.00	21.61
4671.50	45.25	Peak	V	6.49	-	51.74	74.00	22.26

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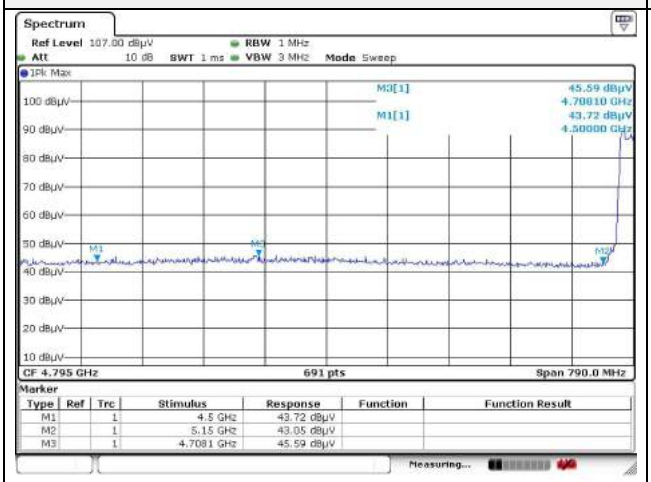
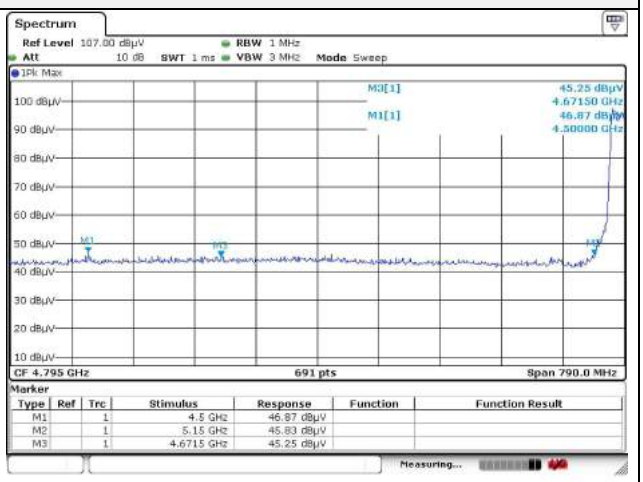
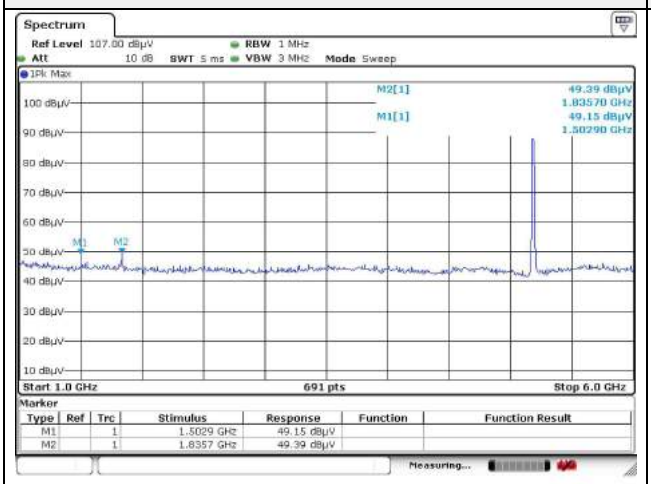
Restricted band // Horizontal // Peak



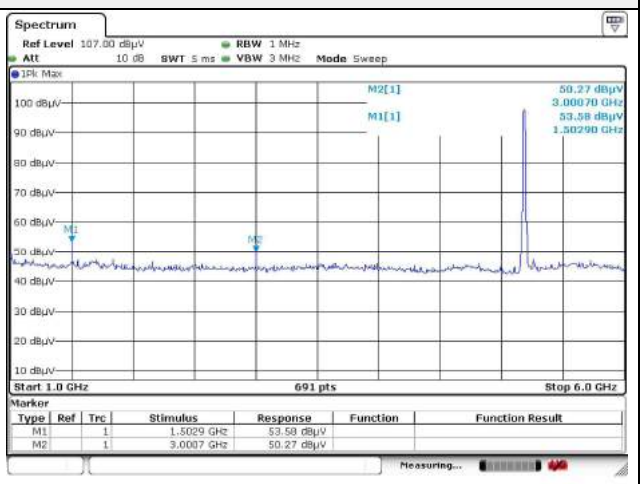
Restricted band // Vertical // Peak



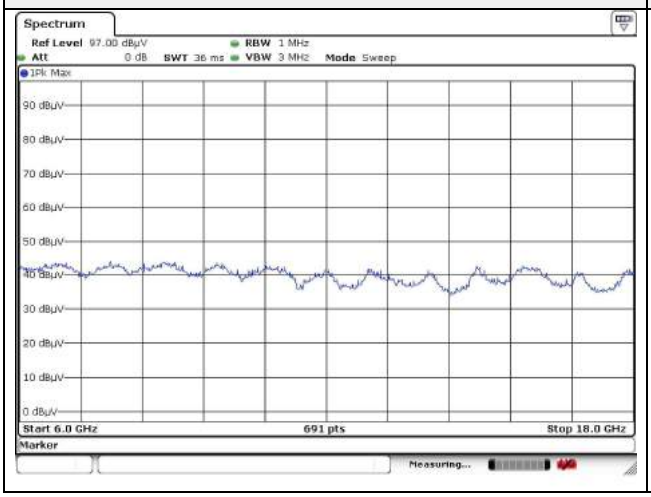
Horizontal // Peak for 1 ㎓ to 6 ㎓



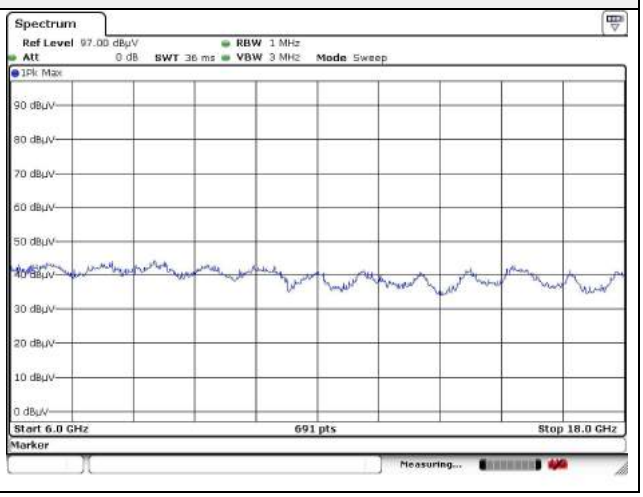
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-1(VHT20)

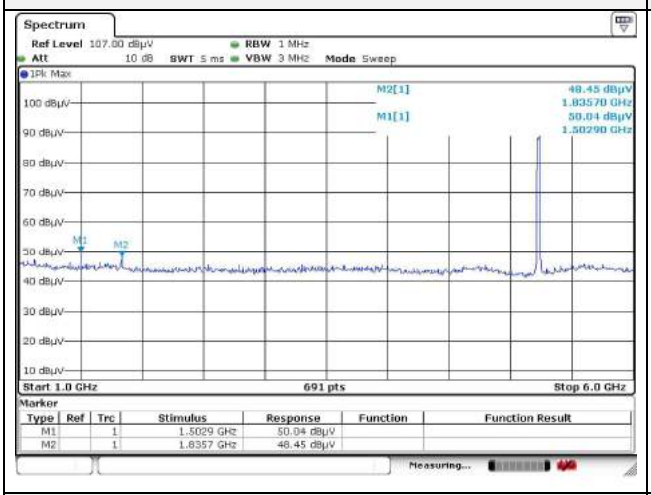
Distance of measurement: 3 meter

Channel: 44

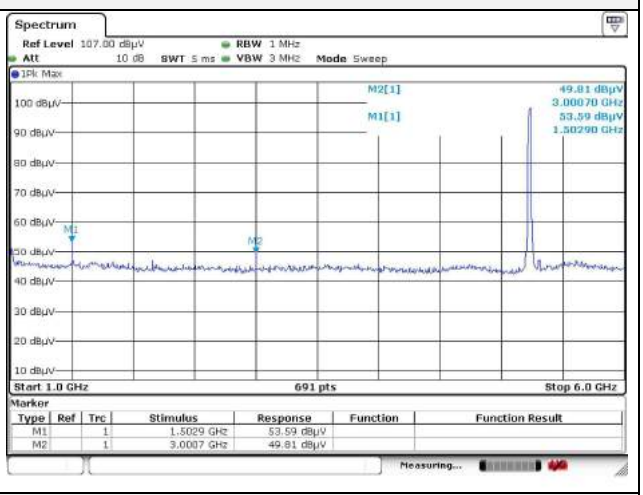
- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.04	Peak	H	-5.95	-	44.09	74.00	29.91
1835.70	48.45	Peak	H	-2.70	-	45.75	74.00	28.25
1502.90	53.59	Peak	V	-5.95	-	47.64	74.00	26.36
3000.70	49.81	Peak	V	1.80	-	51.61	74.00	22.39

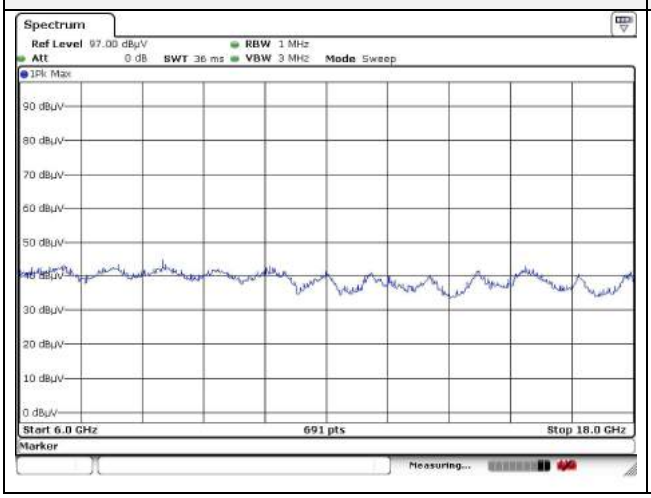
Horizontal // Peak for 1 ㎓ to 6 ㎓



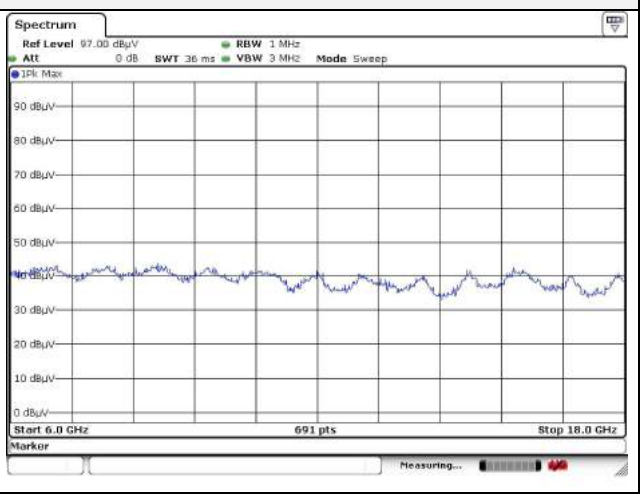
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-1(VHT20)

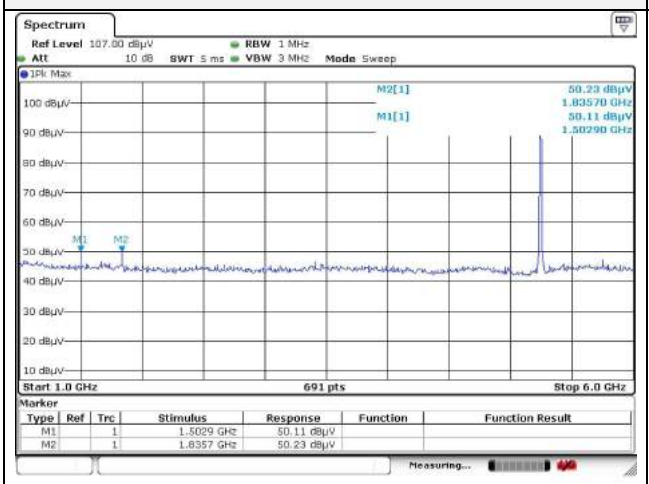
Distance of measurement: 3 meter

Channel: 48

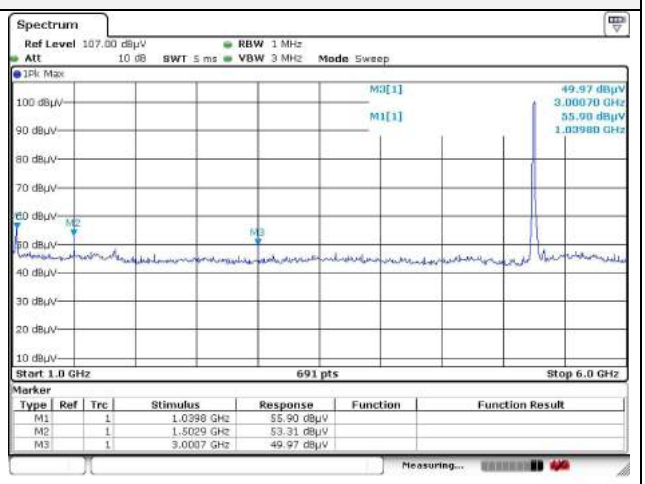
- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.11	Peak	H	-5.95	-	44.16	74.00	29.84
1835.70	50.23	Peak	H	-2.70	-	47.53	74.00	26.47
1039.80	55.90	Peak	V	-8.88	-	47.02	74.00	26.98
1502.90	53.31	Peak	V	-5.95	-	47.36	74.00	26.64
3000.70	49.97	Peak	V	1.80	-	51.77	74.00	22.23

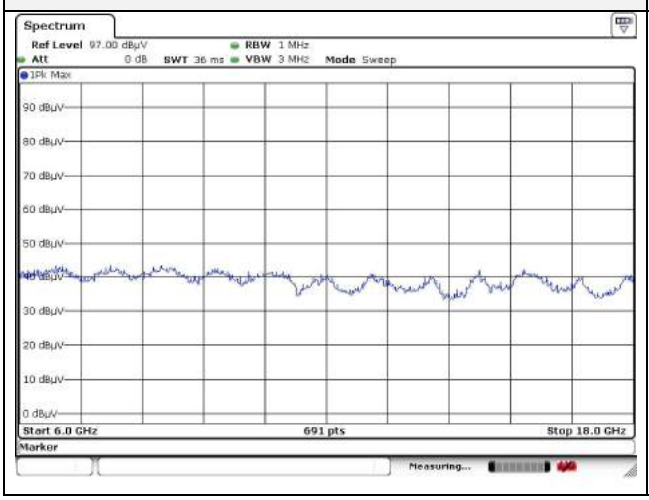
Horizontal // Peak for 1 ㎓ to 6 ㎓



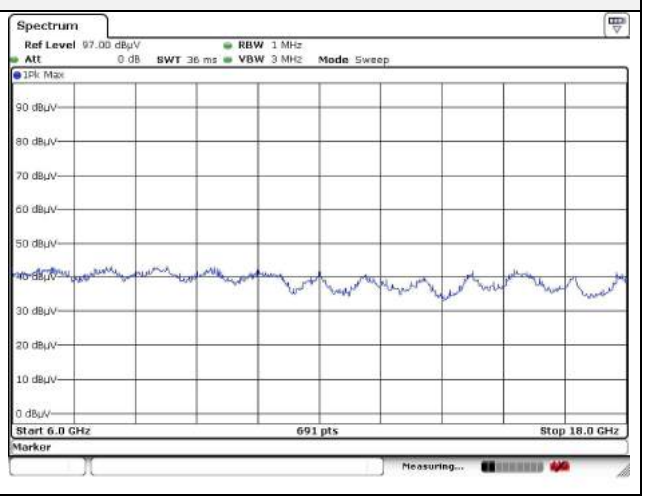
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2A(VHT20)

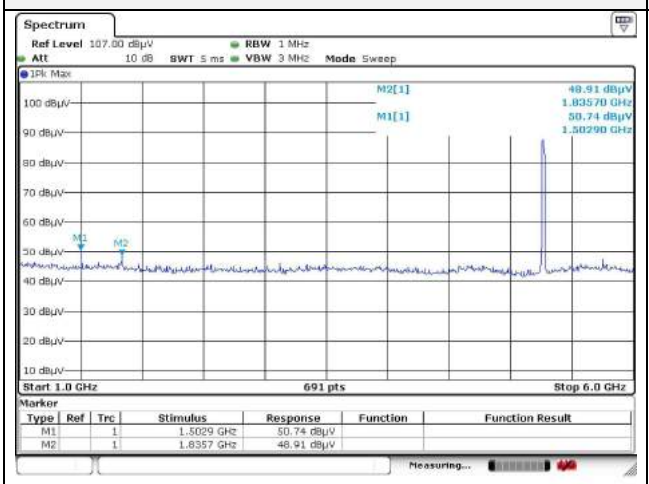
Distance of measurement: 3 meter

Channel: 52

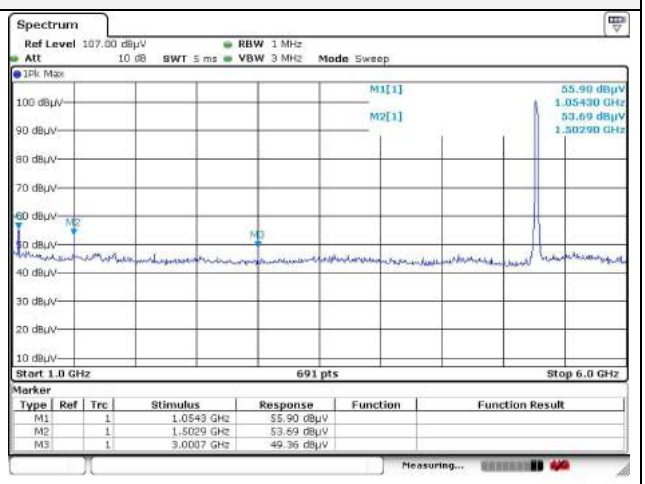
- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.74	Peak	H	-5.95	-	44.79	74.00	29.21
1835.70	48.91	Peak	H	-2.70	-	46.21	74.00	27.79
1054.30	55.90	Peak	V	-8.79	-	47.11	74.00	26.89
1502.90	53.69	Peak	V	-5.95	-	47.74	74.00	26.26
3000.70	49.36	Peak	V	1.80	-	51.16	74.00	22.84

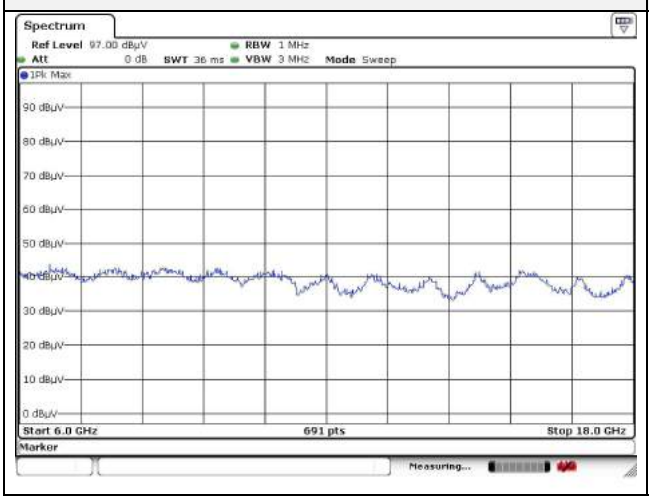
Horizontal // Peak for 1 ㎓ to 6 ㎓



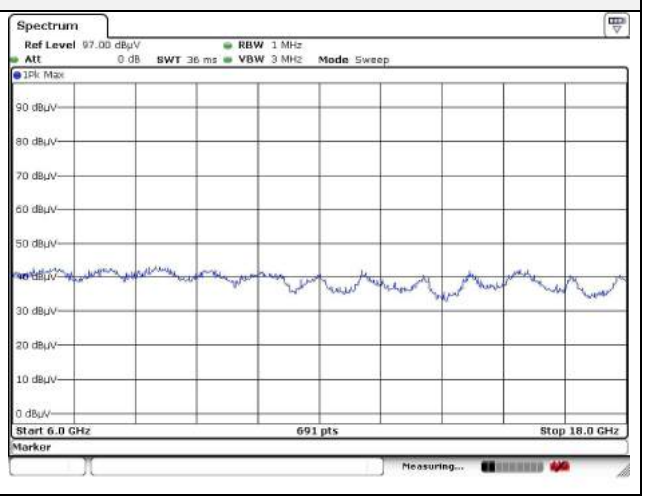
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2A(VHT20)

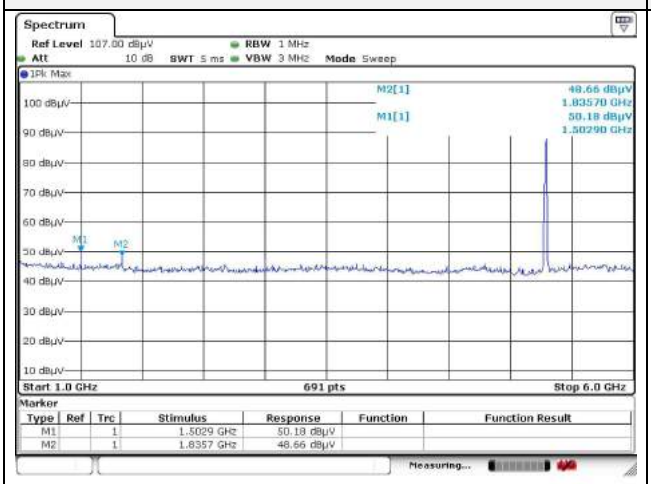
Distance of measurement: 3 meter

Channel: 56

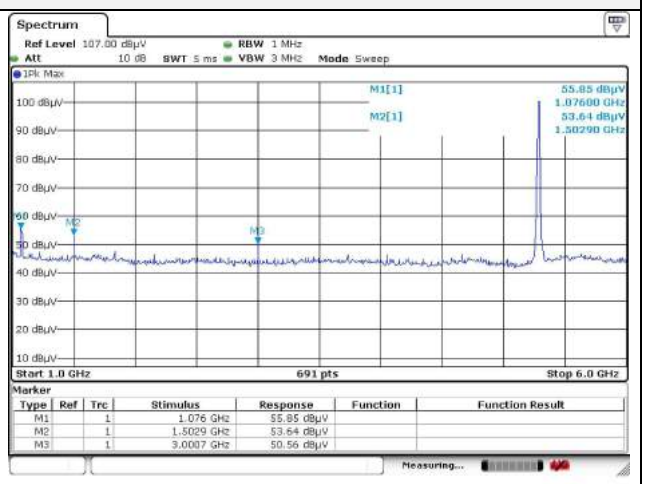
- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.18	Peak	H	-5.95	-	44.23	74.00	29.77
1835.70	48.66	Peak	H	-2.70	-	45.96	74.00	28.04
1076.00	55.85	Peak	V	-8.65	-	47.20	74.00	26.80
1502.90	53.64	Peak	V	-5.95	-	47.69	74.00	26.31
3000.70	50.56	Peak	V	1.80	-	52.36	74.00	21.64

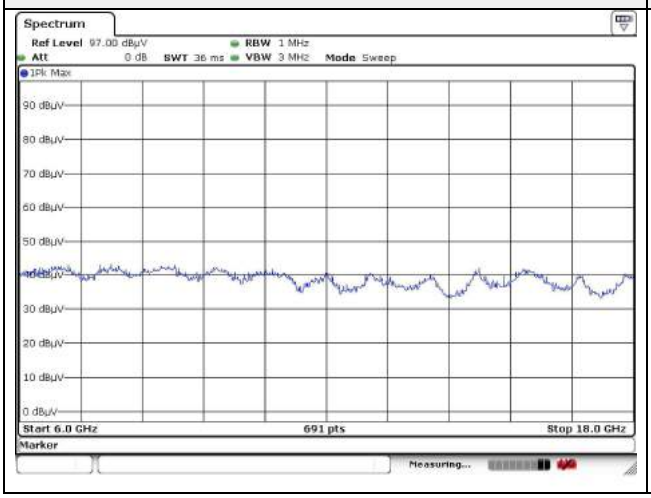
Horizontal // Peak for 1 ㎓ to 6 ㎓



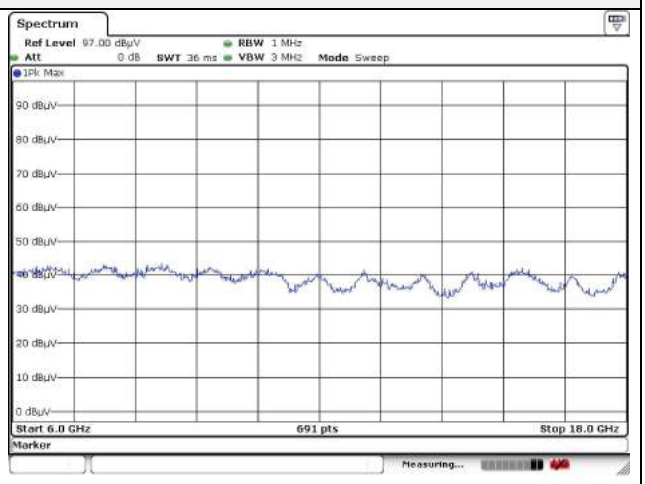
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2A(VHT20)

Distance of measurement: 3 meter

Channel: 64

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	49.90	Peak	H	-5.95	-	43.95	74.00	30.05
1835.70	48.82	Peak	H	-2.70	-	46.12	74.00	27.88
1119.40	53.78	Peak	V	-8.37	-	45.41	74.00	28.59
1502.90	53.20	Peak	V	-5.95	-	47.25	74.00	26.75
3000.70	49.72	Peak	V	1.80	-	51.52	74.00	22.48

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5398.57	45.65	Peak	H	9.01	-	54.66	74.00	19.34
5398.57	34.94	Average	H	9.01	-	43.95	54.00	10.05
5399.96	49.42	Peak	V	9.01	-	58.43	74.00	15.57
5399.96	39.49	Average	V	9.01	-	48.50	54.00	5.50

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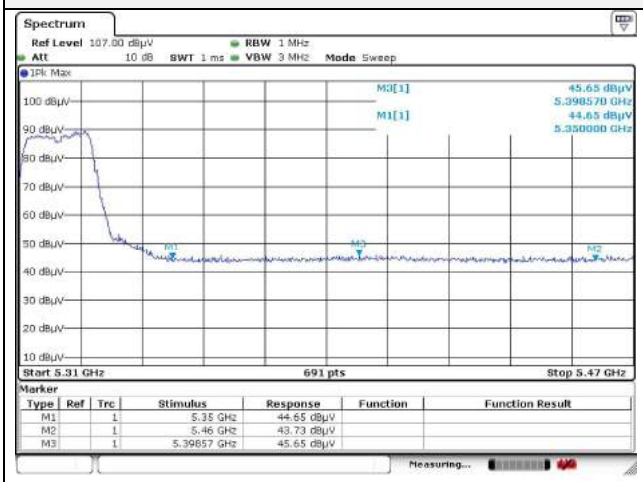
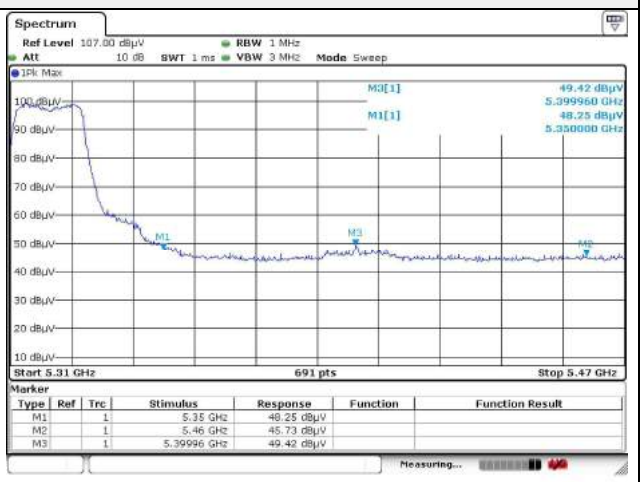
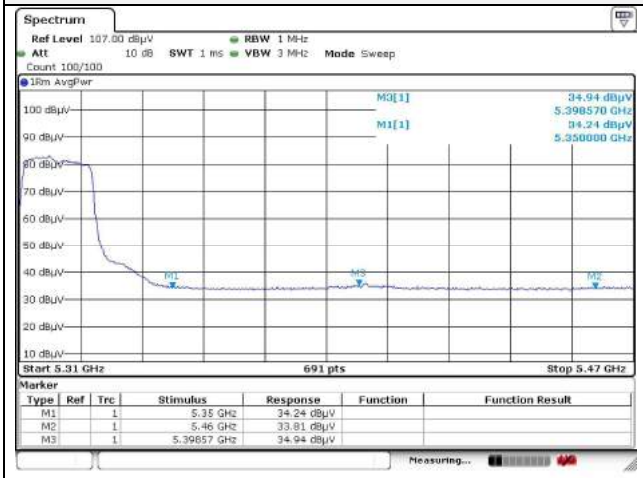
Restricted band // Horizontal // Peak



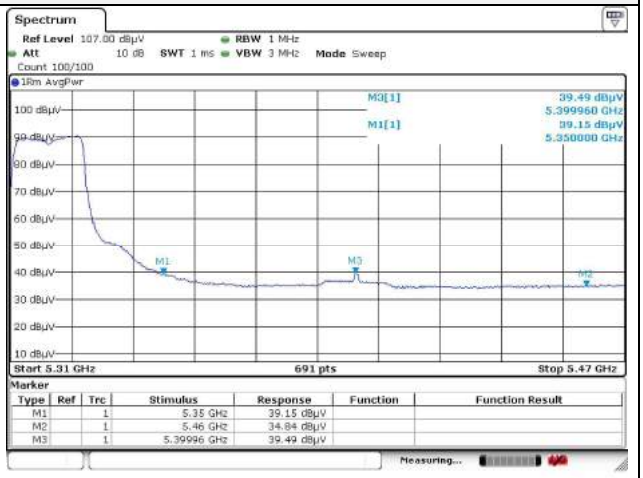
Restricted band // Vertical // Peak



Restricted band // Horizontal // Average



Restricted band // Vertical // Average



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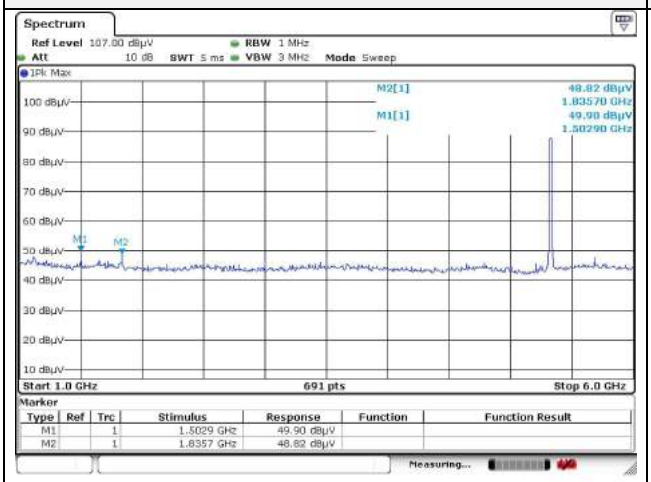
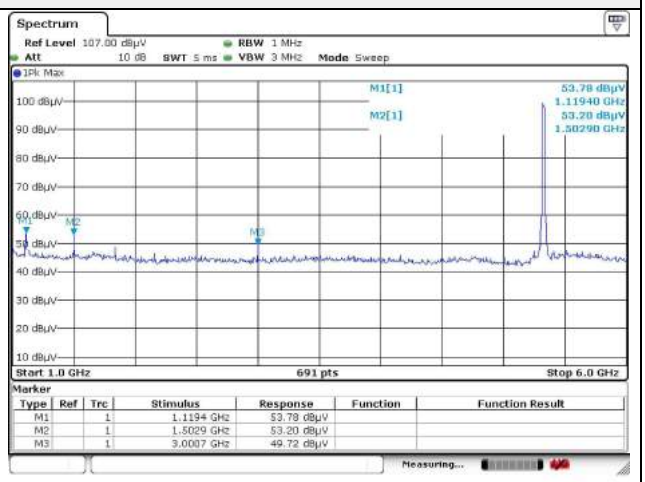
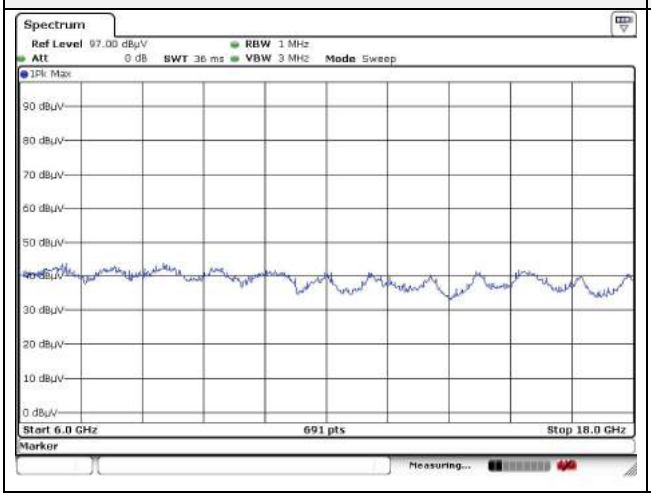
Horizontal // Peak for 1 ㎓ to 6 ㎓



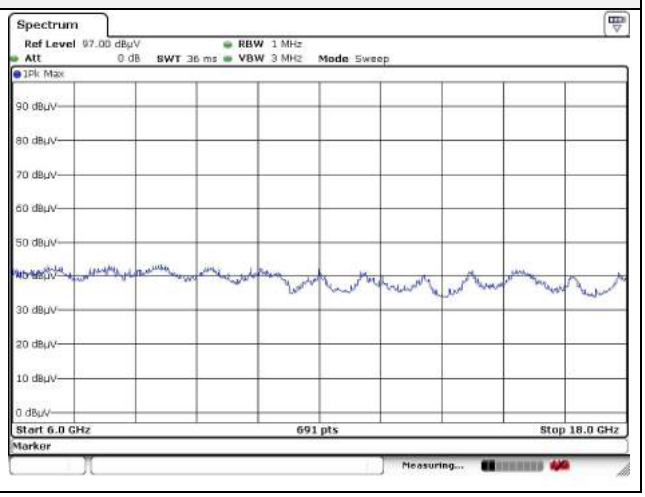
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2C(VHT20)

Distance of measurement: 3 meter

Channel: 100

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	49.78	Peak	H	-5.95	-	43.83	74.00	30.17
1835.70	48.61	Peak	H	-2.70	-	45.91	74.00	28.09
1293.10	58.52	Peak	V	-7.26	-	51.26	74.00	22.74
1502.90	53.28	Peak	V	-5.95	-	47.33	74.00	26.67
3000.70	49.12	Peak	V	1.80	-	50.92	74.00	23.08

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5450.27	46.54	Peak	H	9.07	-	55.61	74.00	18.39
5450.27	33.69	Average	H	9.07	-	42.76	54.00	11.24
5411.90	47.18	Peak	V	9.02	-	56.20	74.00	17.80
5411.90	34.25	Average	V	9.02	-	43.27	54.00	10.73

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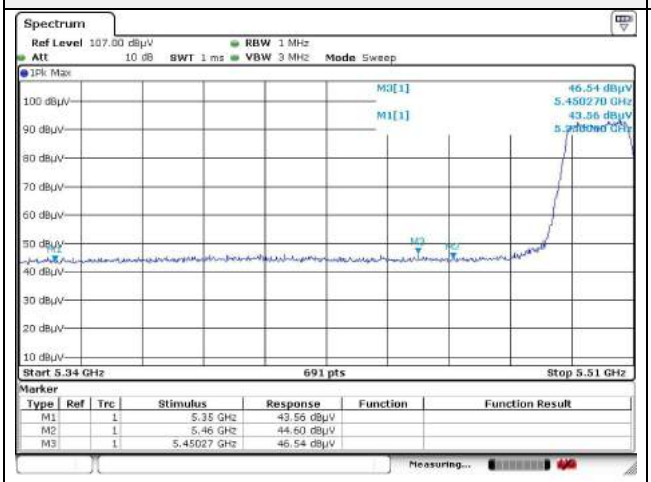
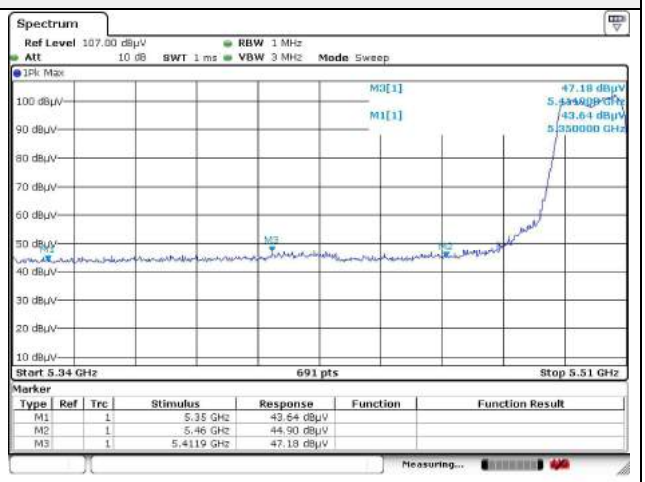
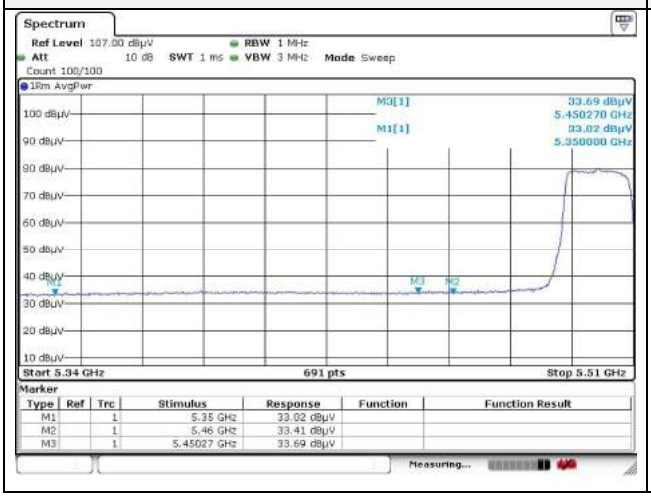
Restricted band // Horizontal // Peak



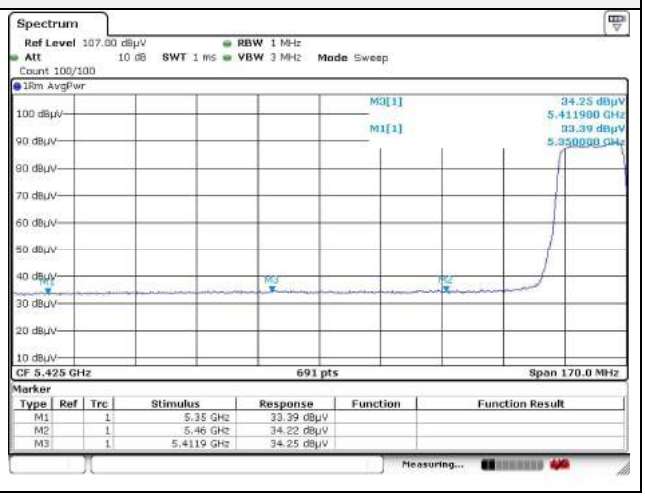
Restricted band // Vertical // Peak



Restricted band // Horizontal // Average



Restricted band // Vertical // Average



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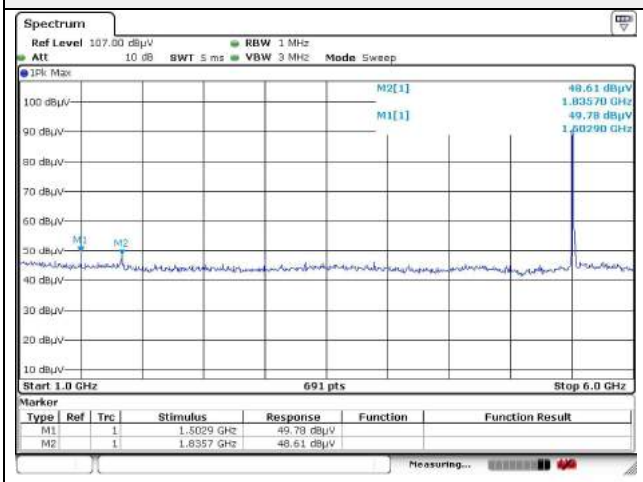
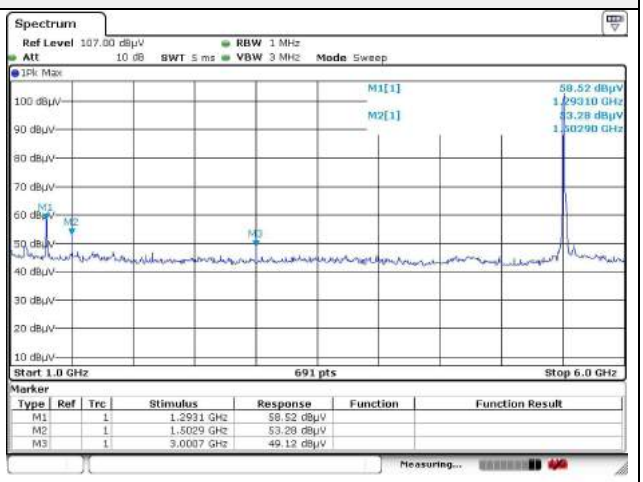
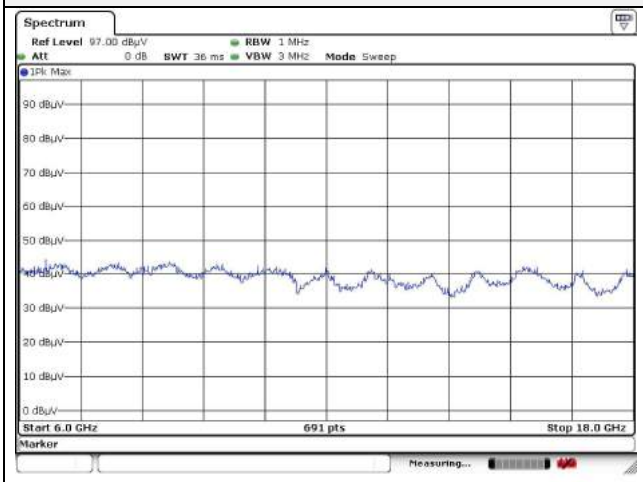
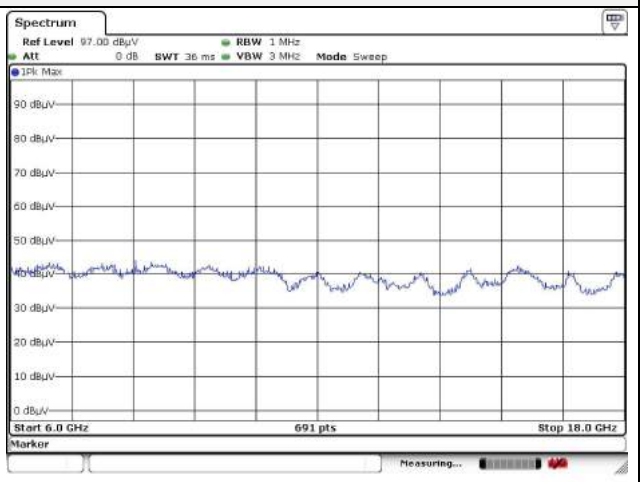
Horizontal // Peak for 1 ㎓ to 6 ㎓	Vertical // Peak for 1 ㎓ to 6 ㎓
	
Horizontal // Peak for 6 ㎓ to 18 ㎓	**Vertical // Peak for 6 ㎓ to 18 ㎓**
	

Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2C(VHT20)

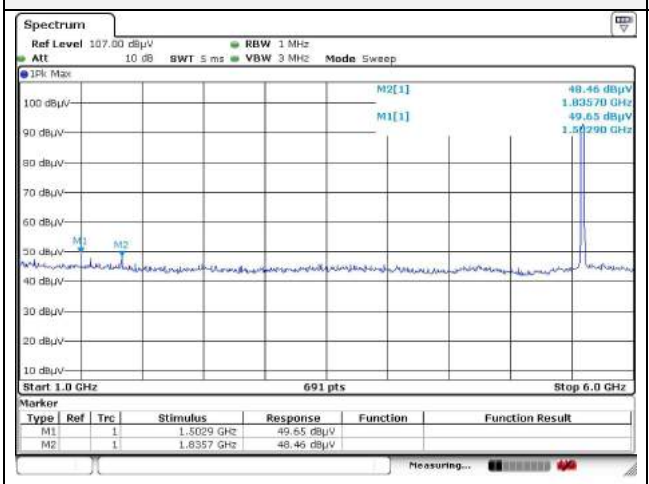
Distance of measurement: 3 meter

Channel: 116

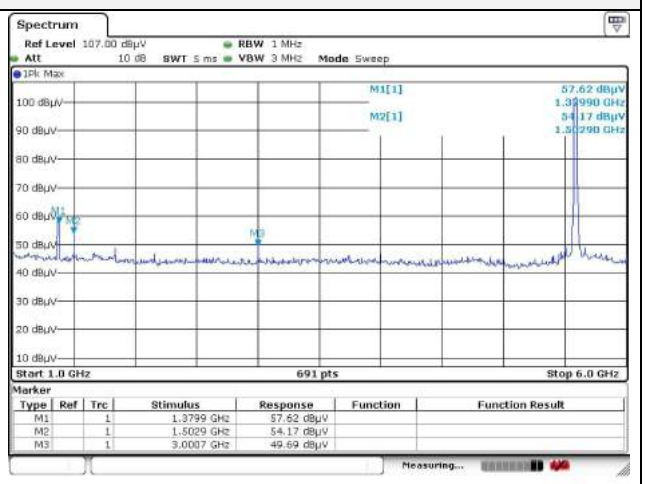
- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	49.65	Peak	H	-5.95	-	43.70	74.00	30.30
1835.70	48.46	Peak	H	-2.70	-	45.76	74.00	28.24
1379.90	57.62	Peak	V	-6.70	-	50.92	74.00	23.08
1502.90	54.17	Peak	V	-5.95	-	48.22	74.00	25.78
3000.70	49.69	Peak	V	1.80	-	51.49	74.00	22.51

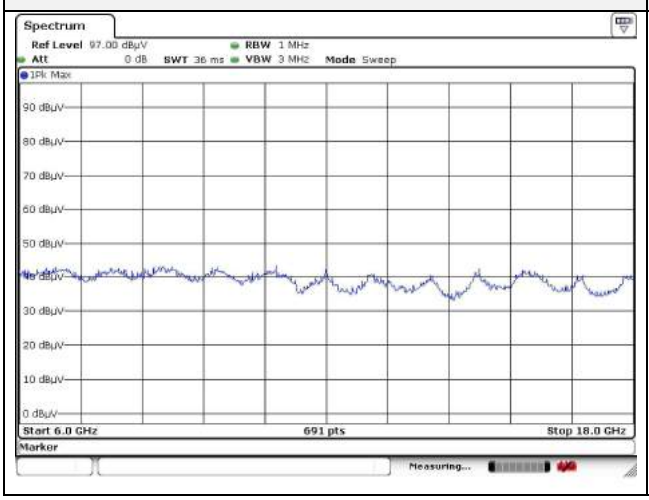
Horizontal // Peak for 1 ㎓ to 6 ㎓



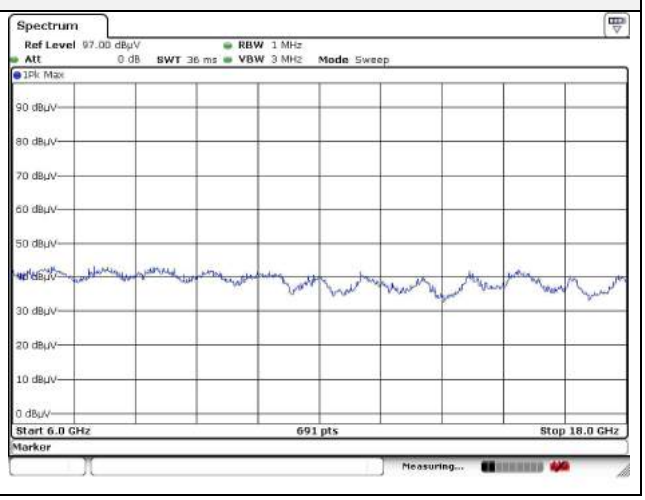
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2C(VHT20)

Distance of measurement: 3 meter

Channel: 140

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.91	Peak	H	-5.95	-	44.96	74.00	29.04
1835.70	49.24	Peak	H	-2.70	-	46.54	74.00	27.46
1502.90	56.27	Peak	V	-5.95	-	50.32	74.00	23.68
1835.70	48.60	Peak	V	-2.70	-	45.90	74.00	28.10
3000.70	49.91	Peak	V	1.80	-	51.71	74.00	22.29

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5755.80	46.48	Peak	H	11.13	-	57.61	68.20	10.59
5732.70	49.17	Peak	V	10.94	-	60.11	68.20	8.09

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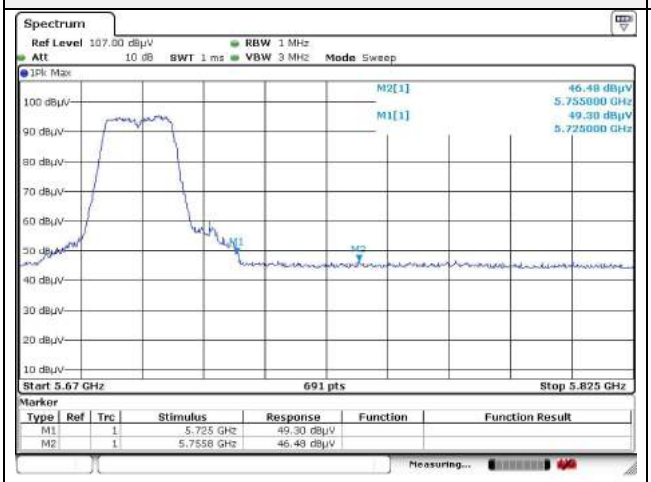
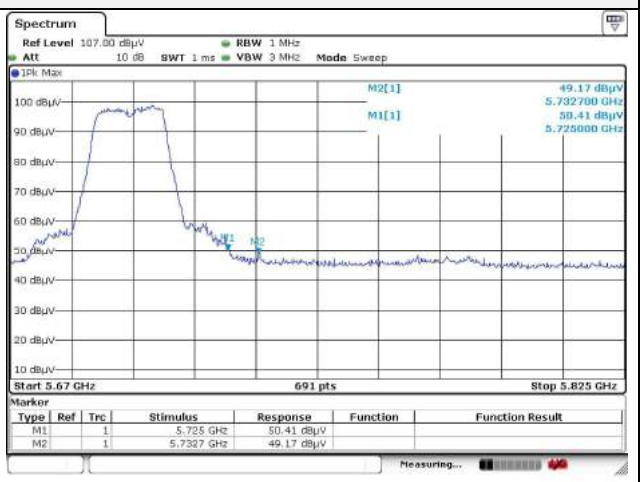
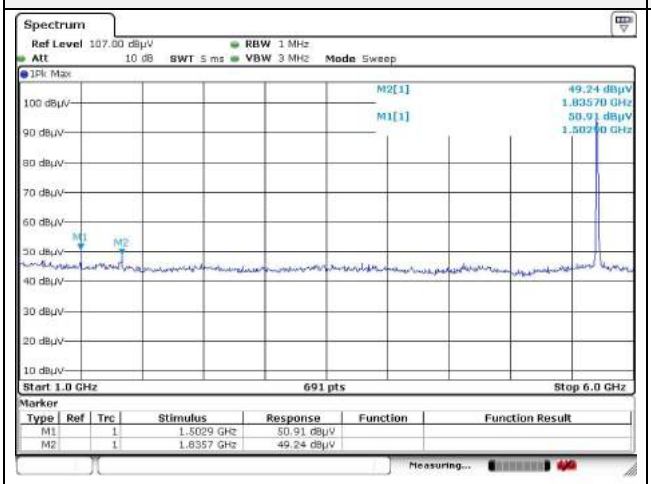
Restricted band // Horizontal // Peak



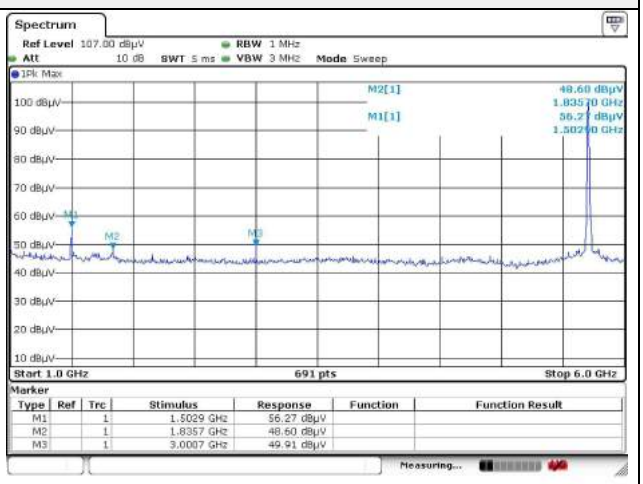
Restricted band // Vertical // Peak



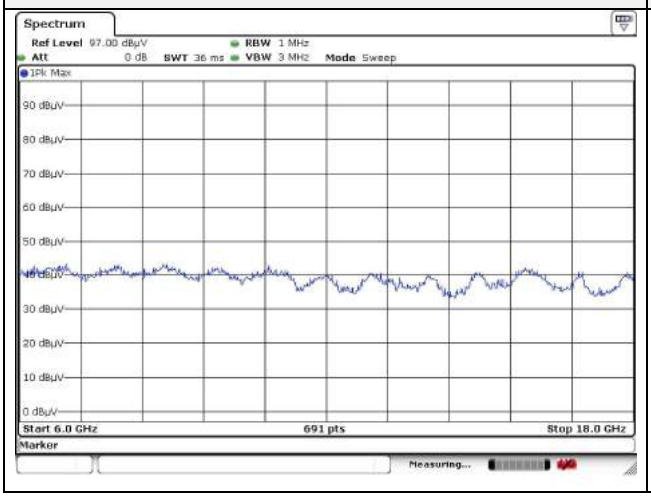
Horizontal // Peak for 1 ㎓ to 6 ㎓



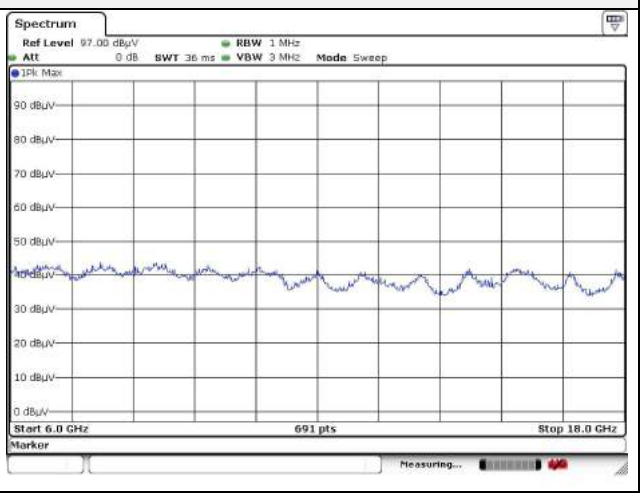
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2C(VHT20)

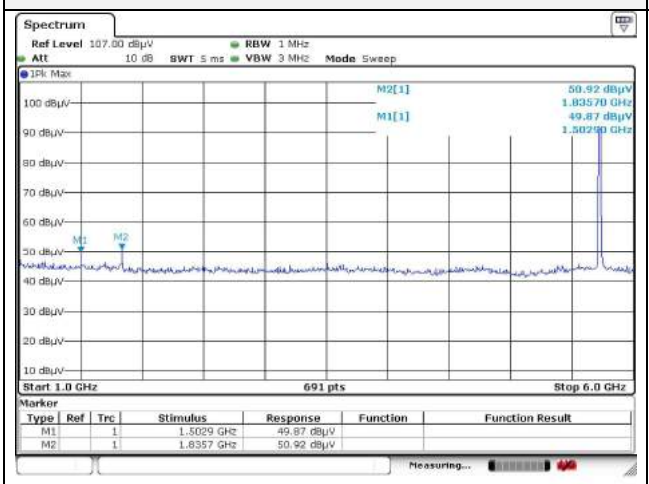
Distance of measurement: 3 meter

Channel: 144

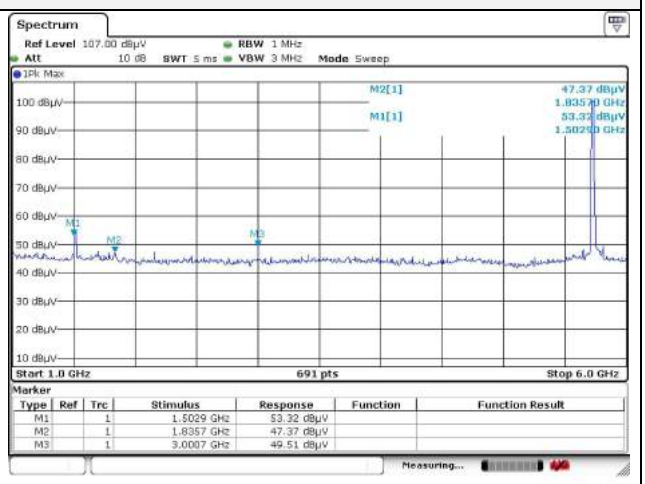
- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	49.87	Peak	H	-5.95	-	43.92	74.00	30.08
1835.70	50.92	Peak	H	-2.70	-	48.22	74.00	25.78
1502.90	53.32	Peak	V	-5.95	-	47.37	74.00	26.63
1835.70	47.37	Peak	V	-2.70	-	44.67	74.00	29.33
3000.70	49.51	Peak	V	1.80	-	51.31	74.00	22.69

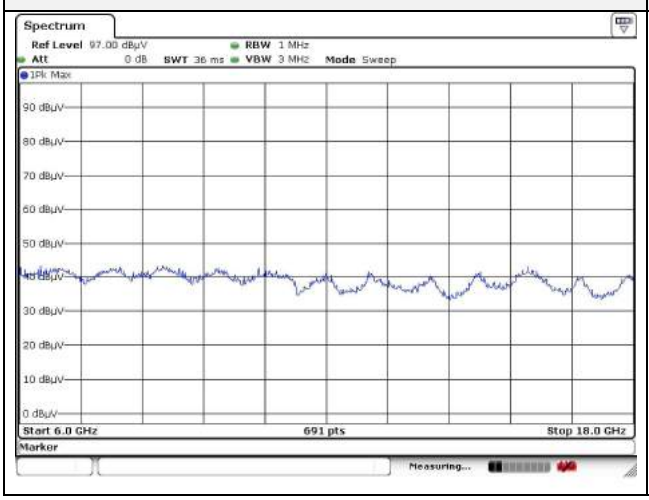
Horizontal // Peak for 1 GHz to 6 GHz



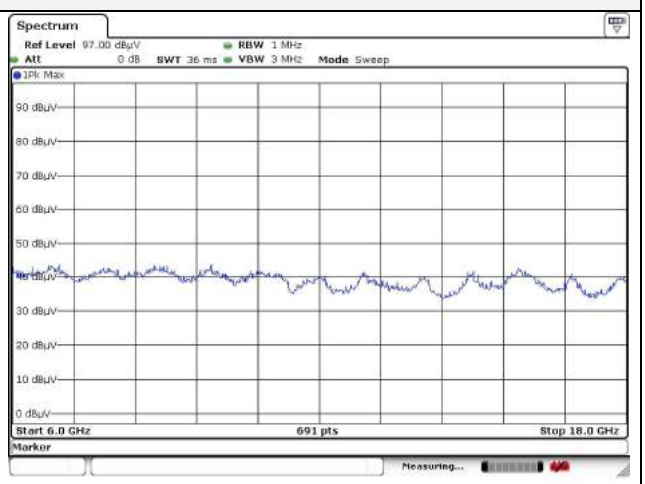
Vertical // Peak for 1 GHz to 6 GHz



Horizontal // Peak for 6 GHz to 18 GHz



Vertical // Peak for 6 GHz to 18 GHz



Note.

1. No spurious emission were detected above 6 GHz.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-3(VHT20)

Distance of measurement: 3 meter

Channel: 149

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.54	Peak	H	-5.95	-	44.59	74.00	29.41
1835.70	48.93	Peak	H	-2.70	-	46.23	74.00	27.77
1502.90	53.20	Peak	V	-5.95	-	47.25	74.00	26.75
1546.30	57.49	Peak	V	-5.52	-	51.97	74.00	22.03
3000.70	49.68	Peak	V	1.80	-	51.48	74.00	22.52

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5725.00	48.54	Peak	H	10.87	-	59.41	122.20	62.79
5724.05	47.76	Peak	H	10.87	-	58.63	120.03	61.40
5725.00	52.12	Peak	V	10.87	-	62.99	122.20	59.21
5722.34	51.78	Peak	V	10.85	-	62.63	116.14	53.51

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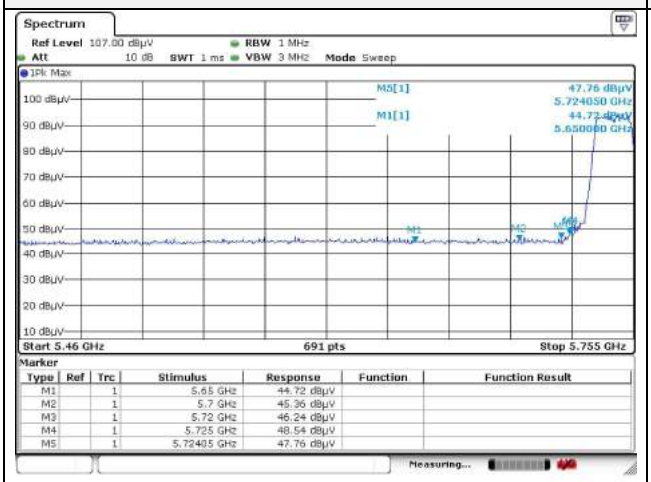
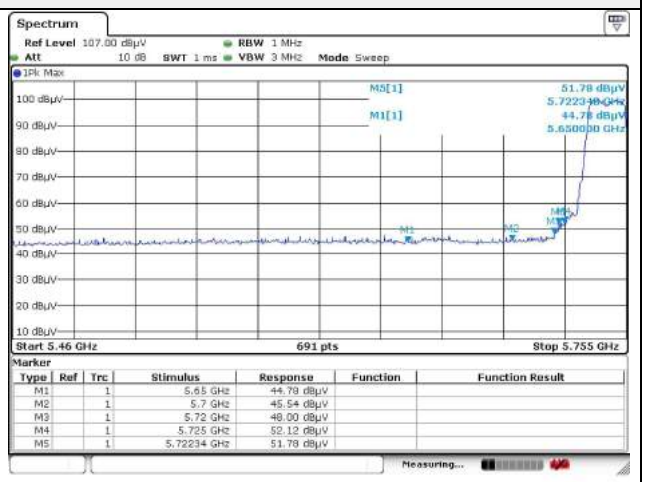
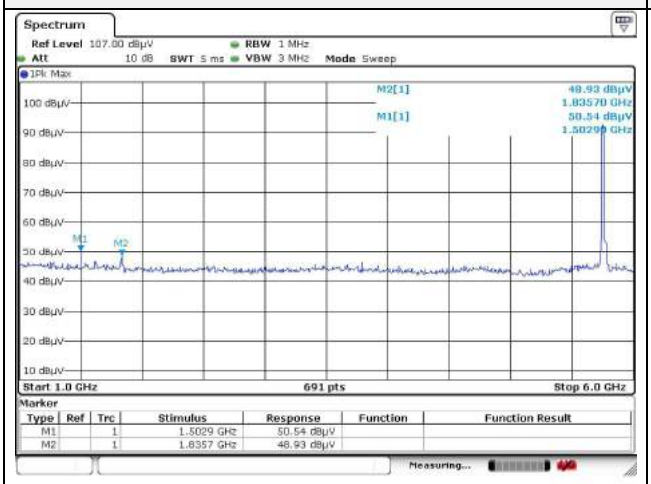
Restricted band // Horizontal // Peak



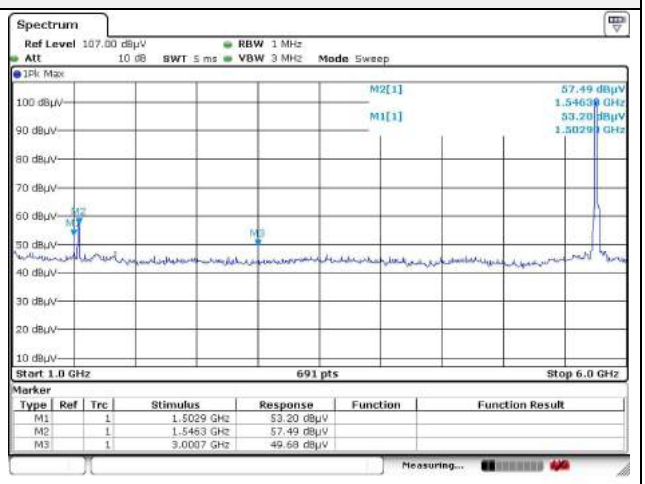
Restricted band // Vertical // Peak



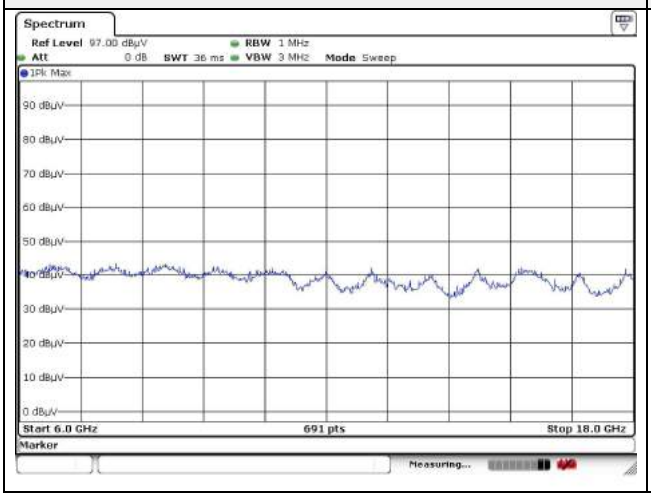
Horizontal // Peak for 1 ㎓ to 6 ㎓



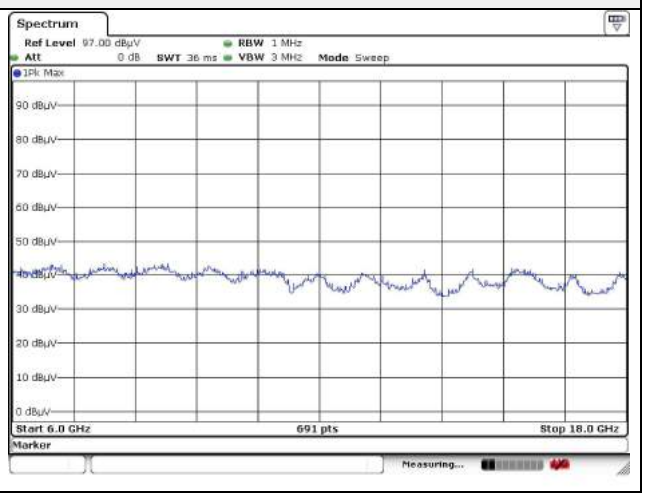
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-3(VHT20)

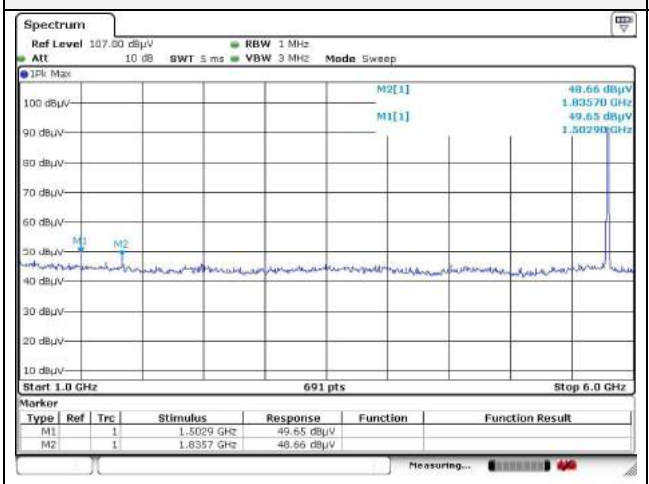
Distance of measurement: 3 meter

Channel: 157

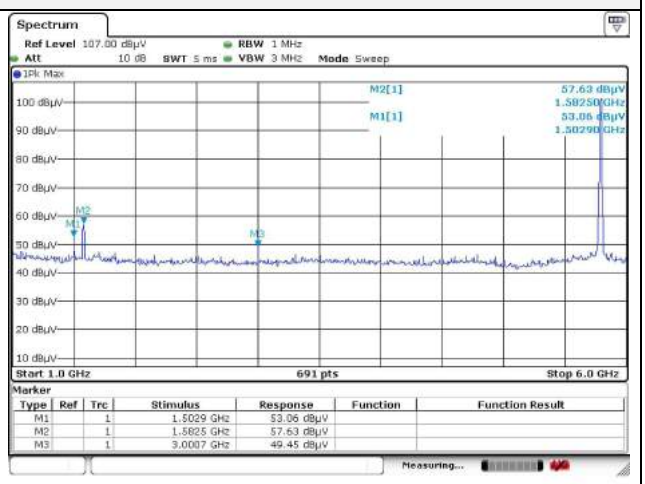
- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	49.65	Peak	H	-5.95	-	43.70	74.00	30.30
1835.70	48.66	Peak	H	-2.70	-	45.96	74.00	28.04
1502.90	53.06	Peak	V	-5.95	-	47.11	74.00	26.89
1582.50	57.63	Peak	V	-5.16	-	52.47	74.00	21.53
3000.70	49.45	Peak	V	1.80	-	51.25	74.00	22.75

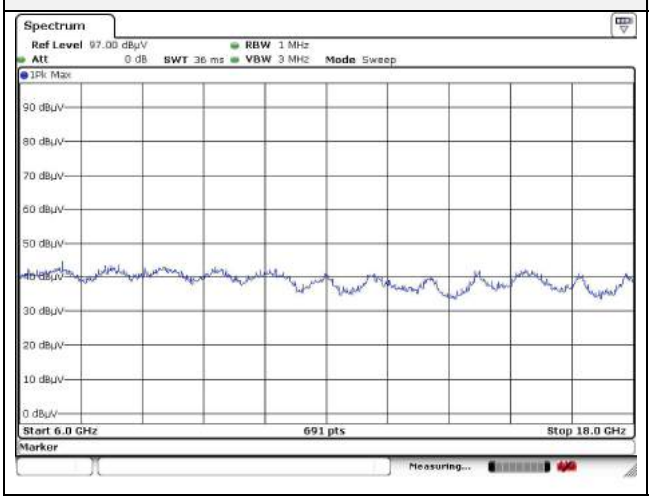
Horizontal // Peak for 1 ㎓ to 6 ㎓



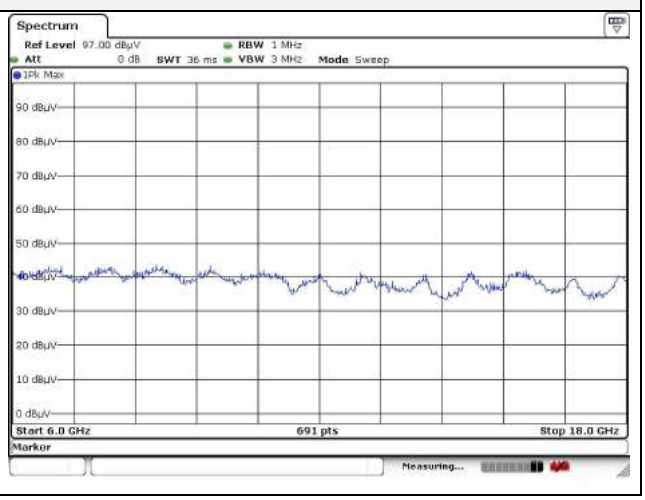
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-3(VHT20)

Distance of measurement: 3 meter

Channel: 165

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	49.57	Peak	H	-5.95	-	43.62	74.00	30.38
1835.70	49.51	Peak	H	-2.70	-	46.81	74.00	27.19
1502.90	52.89	Peak	V	-5.95	-	46.94	74.00	27.06
1618.70	49.90	Peak	V	-4.81	-	45.09	74.00	28.91
3000.70	49.29	Peak	V	1.80	-	51.09	74.00	22.91

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5875.00	45.51	Peak	H	11.91	-	57.42	105.20	47.78
5891.06	45.80	Peak	H	12.00	-	57.80	92.00	34.20
5850.00	46.49	Peak	V	11.78	-	58.27	122.20	63.94
5905.12	47.01	Peak	V	12.08	-	59.09	80.43	21.34

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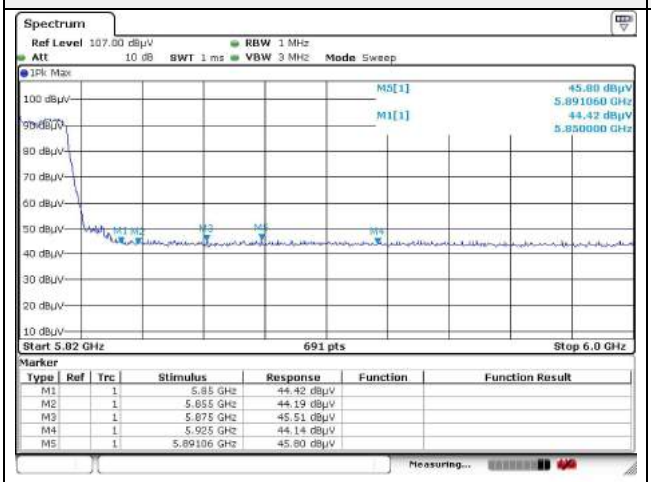
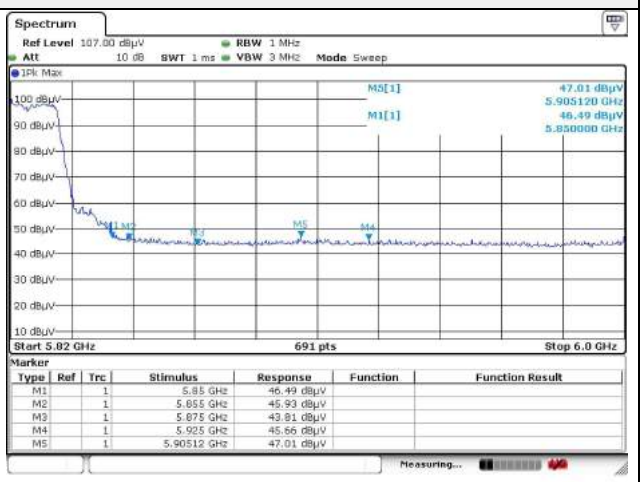
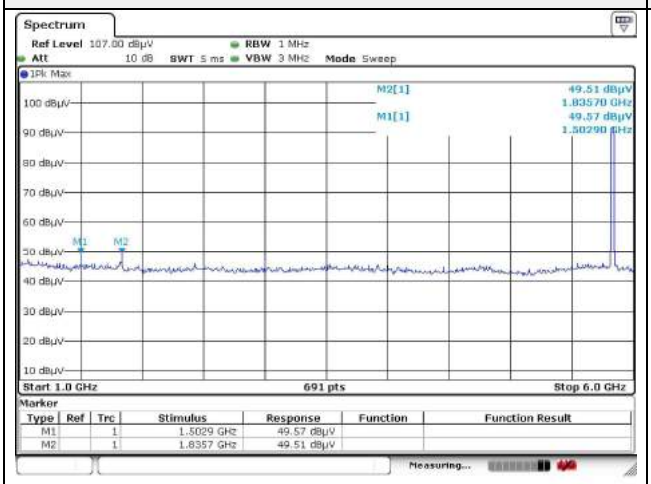
Restricted band // Horizontal // Peak



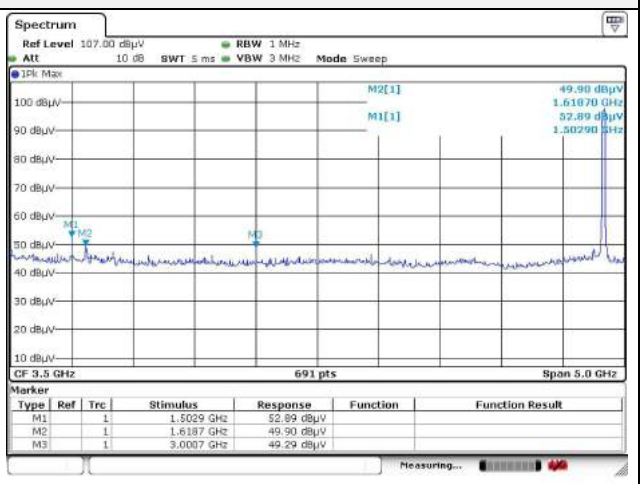
Restricted band // Vertical // Peak



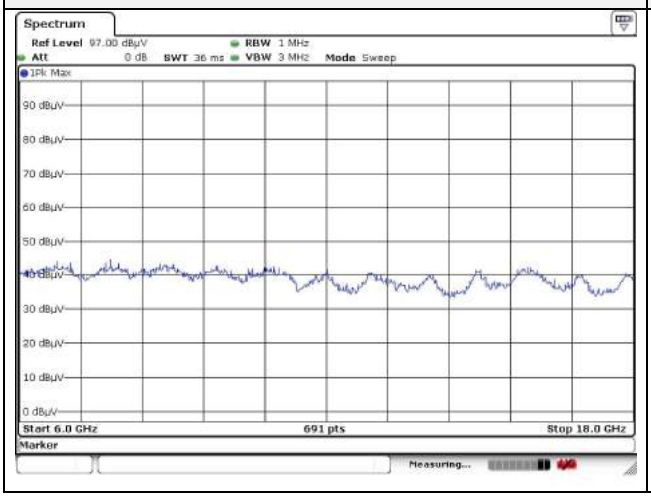
Horizontal // Peak for 1 ㎓ to 6 ㎓



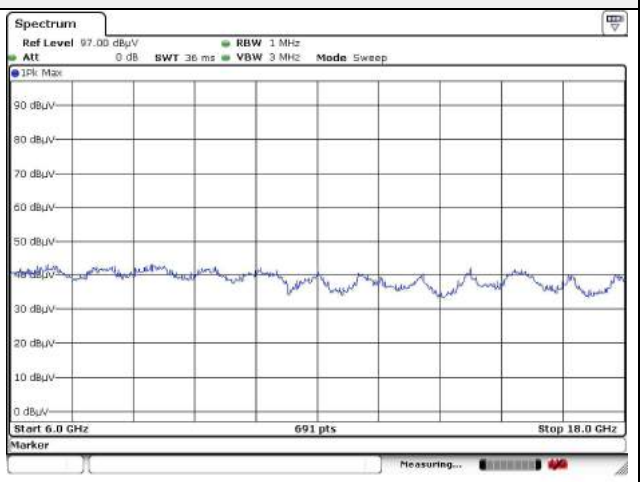
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-1(VHT40)

Distance of measurement: 3 meter

Channel: 38

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	49.56	Peak	H	-5.95	-	43.61	74.00	30.39
1835.70	51.22	Peak	H	-2.70	-	48.52	74.00	25.48
1502.90	53.67	Peak	V	-5.95	-	47.72	74.00	26.28
2161.40	46.78	Peak	V	-0.65	-	46.13	74.00	27.87
3000.70	49.87	Peak	V	1.80	-	51.67	74.00	22.33

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5150.00	45.80	Peak	H	8.99	-	54.79	74.00	19.21
5150.00	34.88	Average	H	8.99	-	43.87	54.00	10.13
5150.00	49.62	Peak	V	8.99	-	58.61	74.00	15.39
5150.00	39.47	Average	V	8.99	-	48.46	54.00	5.54

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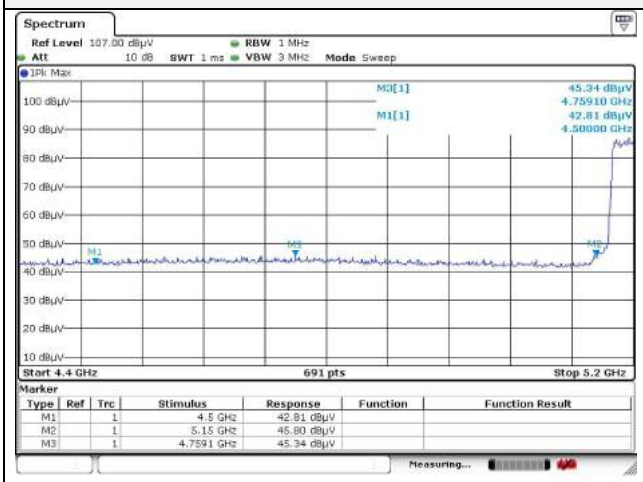
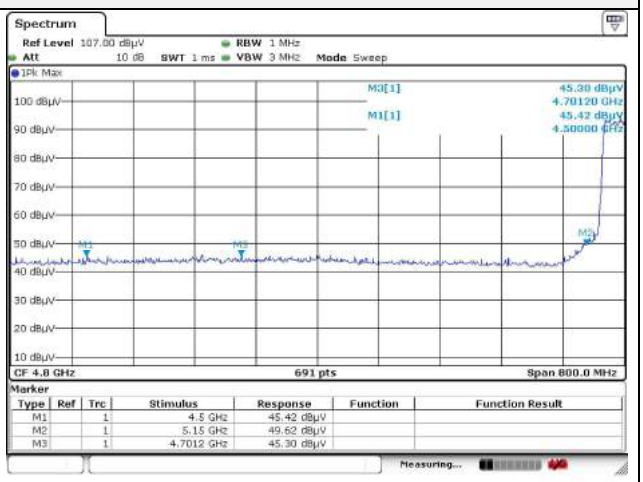
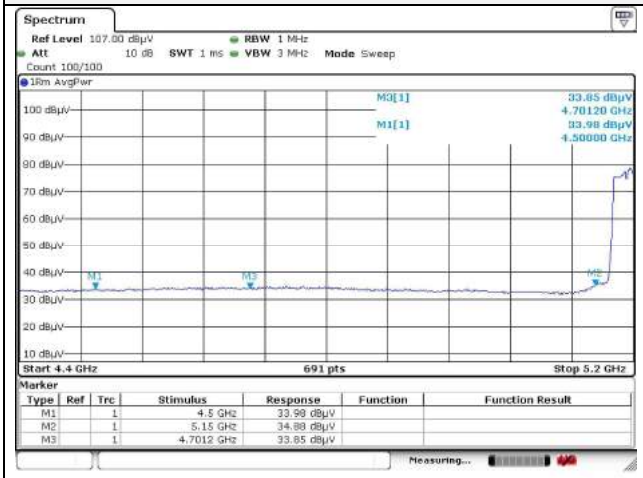
Restricted band // Horizontal // Peak



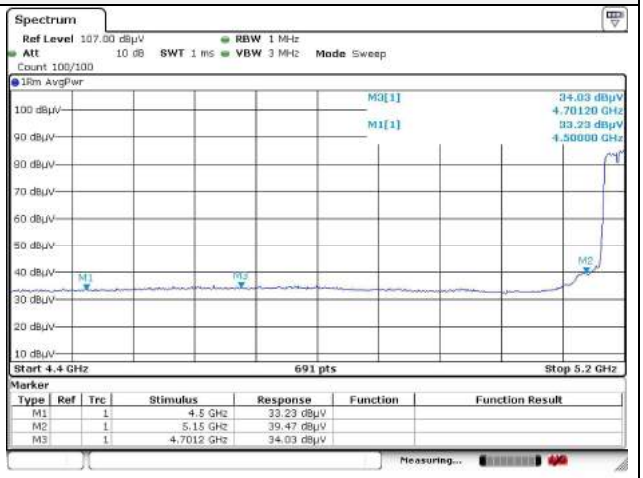
Restricted band // Vertical // Peak



Restricted band // Horizontal // Average



Restricted band // Vertical // Average



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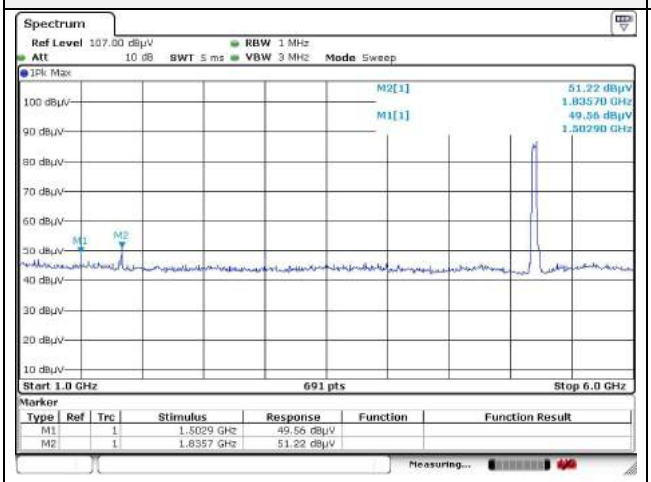
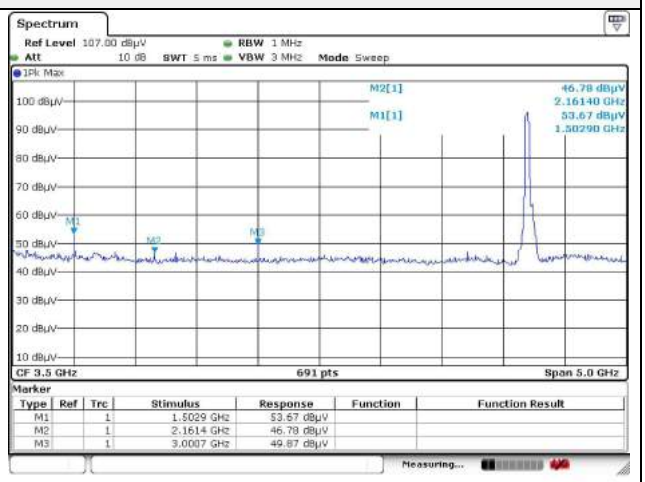
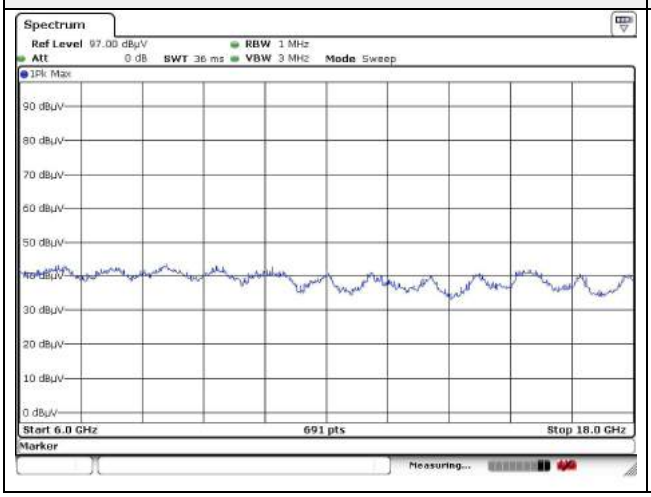
Horizontal // Peak for 1 ㎓ to 6 ㎓



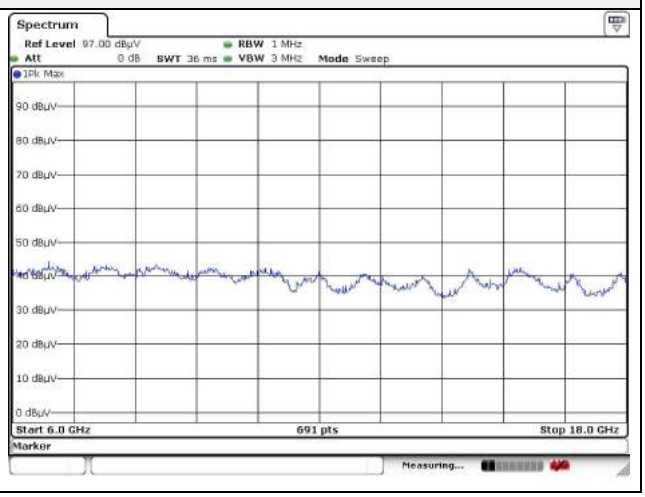
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-1(VHT40)

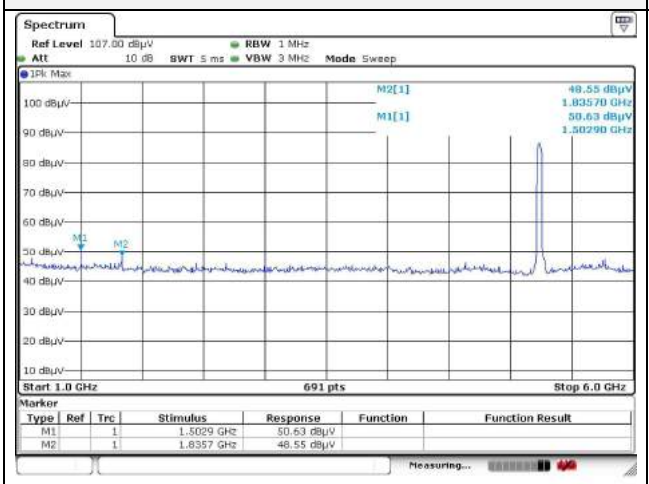
Distance of measurement: 3 meter

Channel: 46

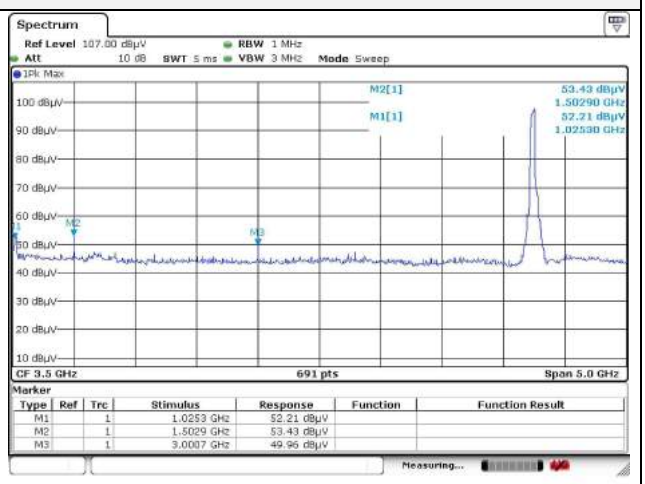
- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.63	Peak	H	-5.95	-	44.68	74.00	29.32
1835.70	48.55	Peak	H	-2.70	-	45.85	74.00	28.15
1025.30	52.21	Peak	V	-8.98	-	43.23	74.00	30.77
1502.90	53.43	Peak	V	-5.95	-	47.48	74.00	26.52
3000.70	49.96	Peak	V	1.80	-	51.76	74.00	22.24

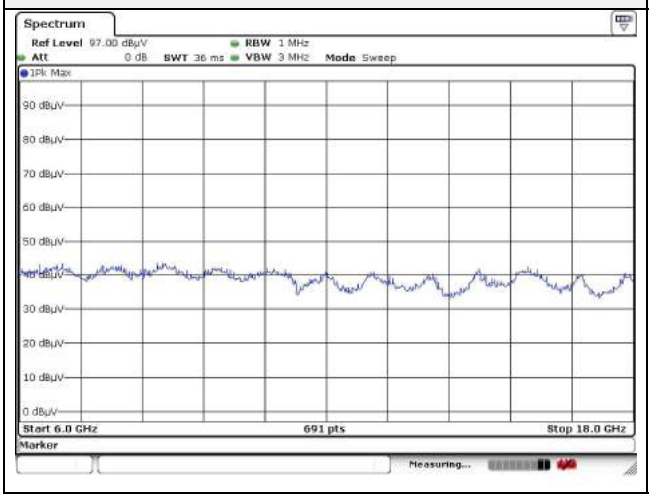
Horizontal // Peak for 1 ㎓ to 6 ㎓



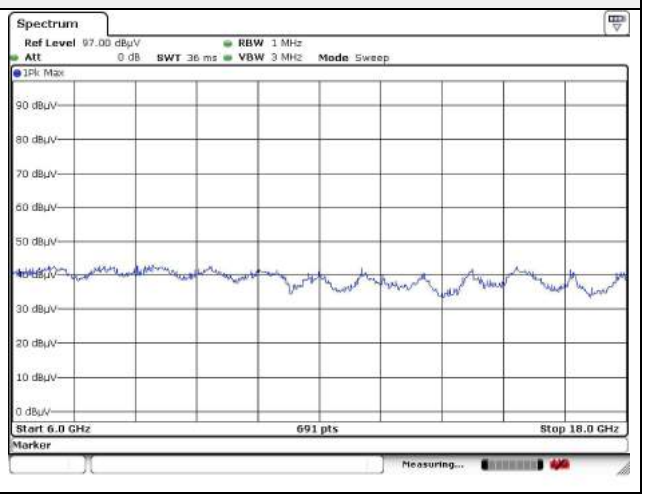
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2A(VHT40)

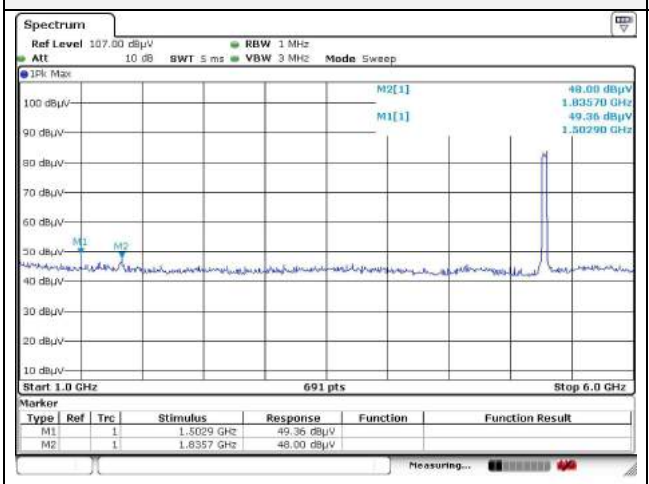
Distance of measurement: 3 meter

Channel: 54

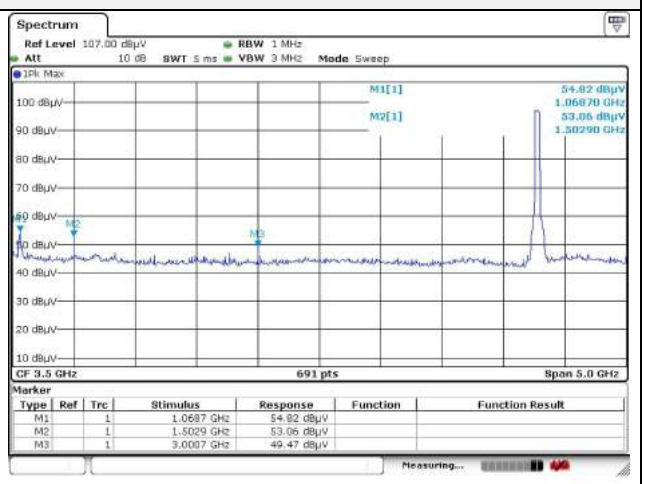
- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	49.36	Peak	H	-5.95	-	43.41	74.00	30.59
1835.70	48.00	Peak	H	-2.70	-	45.30	74.00	28.70
1068.70	54.82	Peak	V	-8.70	-	46.12	74.00	27.88
1502.90	53.06	Peak	V	-5.95	-	47.11	74.00	26.89
3000.70	49.47	Peak	V	1.80	-	51.27	74.00	22.73

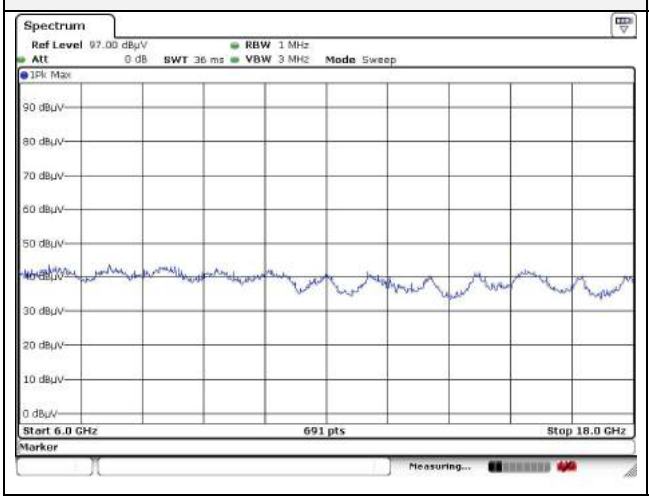
Horizontal // Peak for 1 ㎓ to 6 ㎓



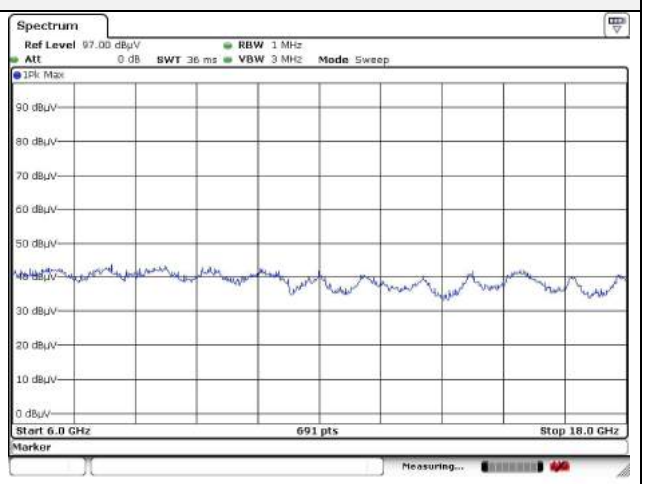
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2A(VHT40)

Distance of measurement: 3 meter

Channel: 62

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.60	Peak	H	-5.95	-	44.65	74.00	29.35
1835.70	48.10	Peak	H	-2.70	-	45.40	74.00	28.60
1104.90	50.61	Peak	V	-8.47	-	42.14	74.00	31.86
1502.90	53.40	Peak	V	-5.95	-	47.45	74.00	26.55
3000.70	49.61	Peak	V	1.80	-	51.41	74.00	22.59

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5352.95	47.76	Peak	H	8.99	-	56.75	74.00	17.25
5352.95	36.78	Average	H	8.99	-	45.77	54.00	8.23
5352.95	57.75	Peak	V	8.99	-	66.74	74.00	7.26
5352.95	43.68	Average	V	8.99	-	52.67	54.00	1.33

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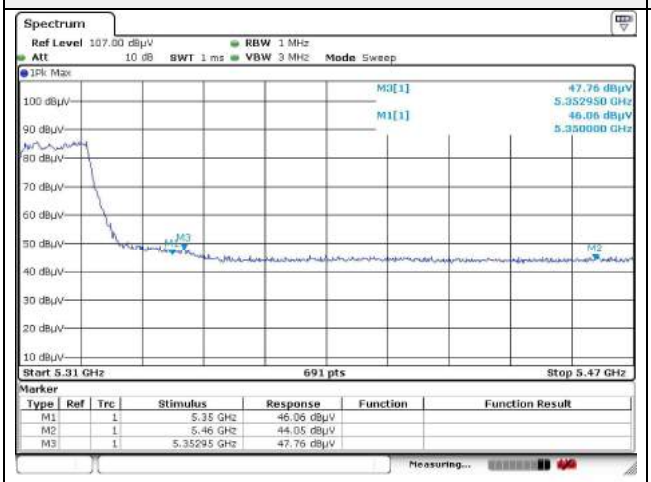
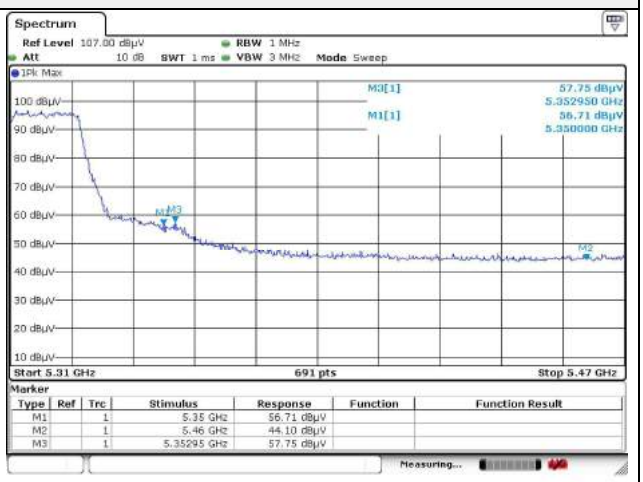
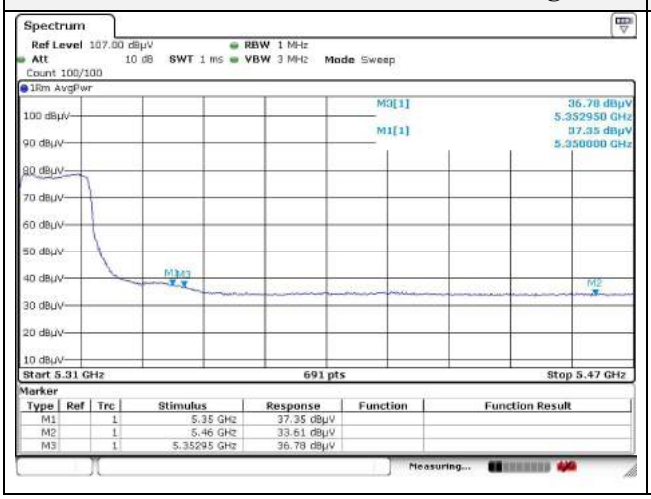
Restricted band // Horizontal // Peak



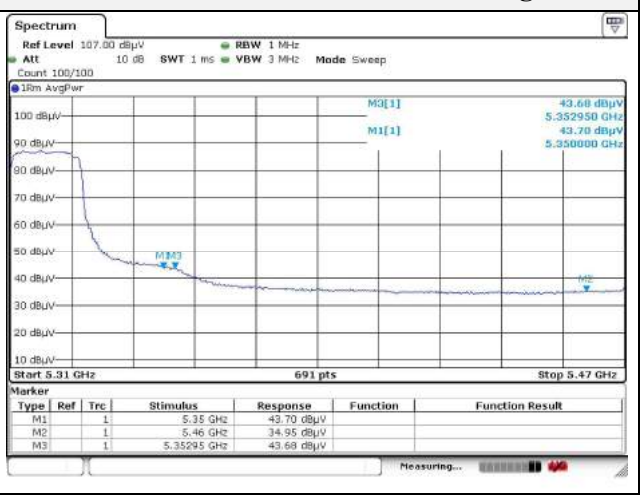
Restricted band // Vertical // Peak



Restricted band // Horizontal // Average



Restricted band // Vertical // Average



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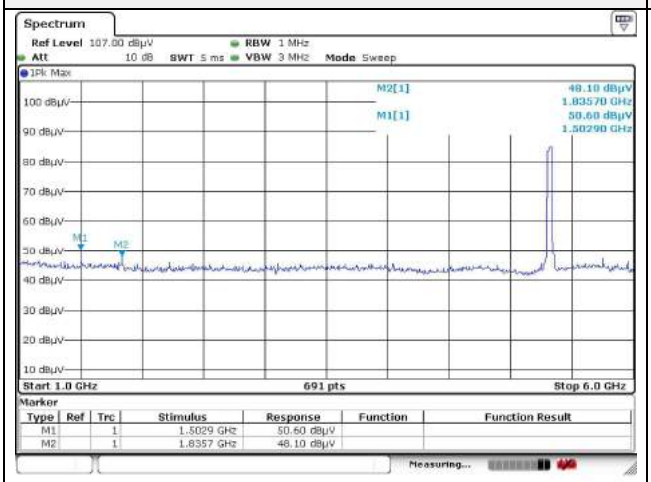
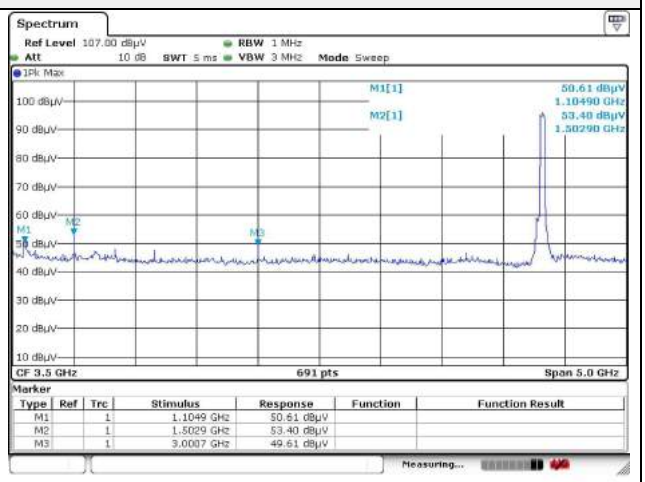
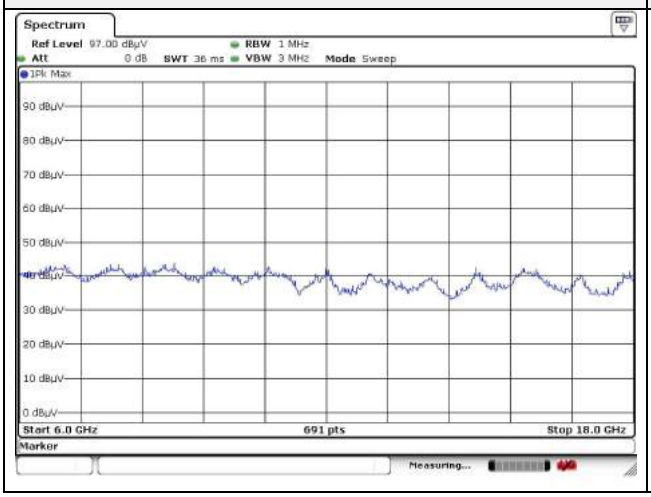
Horizontal // Peak for 1 ㎓ to 6 ㎓



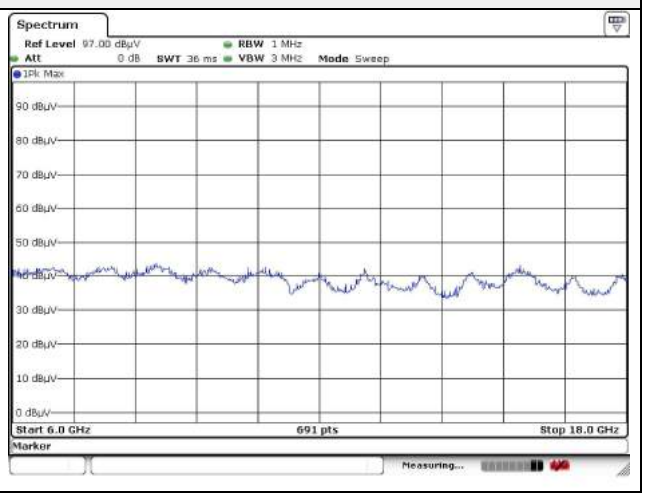
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2C(VHT40)

Distance of measurement: 3 meter

Channel: 102

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.66	Peak	H	-5.95	-	44.71	74.00	29.29
1835.70	48.43	Peak	H	-2.70	-	45.73	74.00	28.27
1307.50	56.74	Peak	V	-7.17	-	49.57	74.00	24.43
1502.90	53.34	Peak	V	-5.95	-	47.39	74.00	26.61
3000.70	49.69	Peak	V	1.80	-	51.49	74.00	22.51

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5400.00	45.30	Peak	H	9.01	-	54.31	74.00	19.69
5400.00	34.00	Average	H	9.01	-	43.01	54.00	10.99
5455.48	49.33	Peak	V	9.08	-	58.41	74.00	15.59
5455.48	35.17	Average	V	9.08	-	44.25	54.00	9.75

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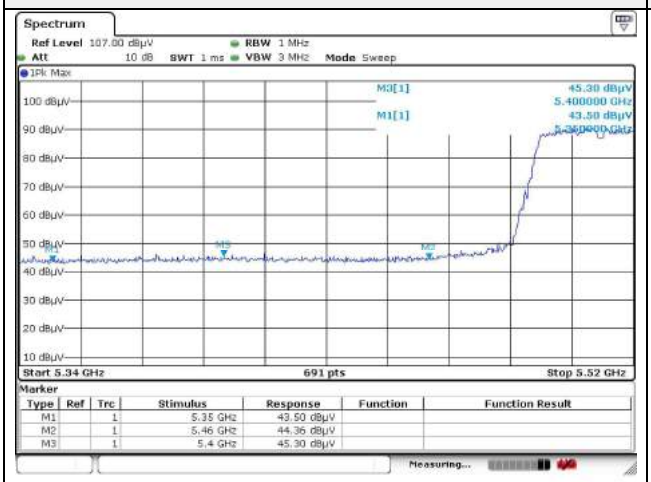
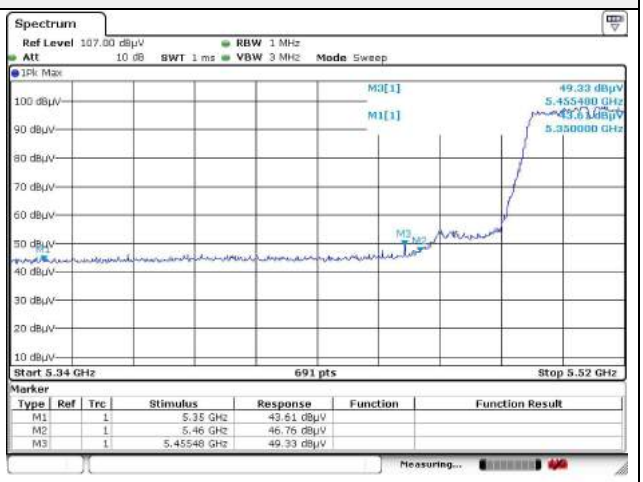
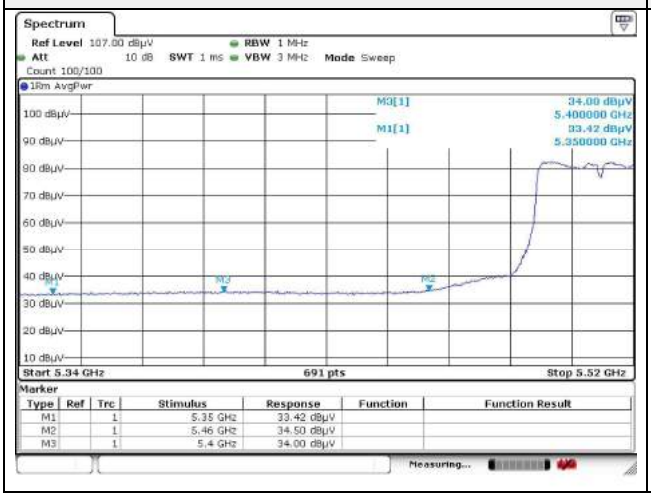
Restricted band // Horizontal // Peak



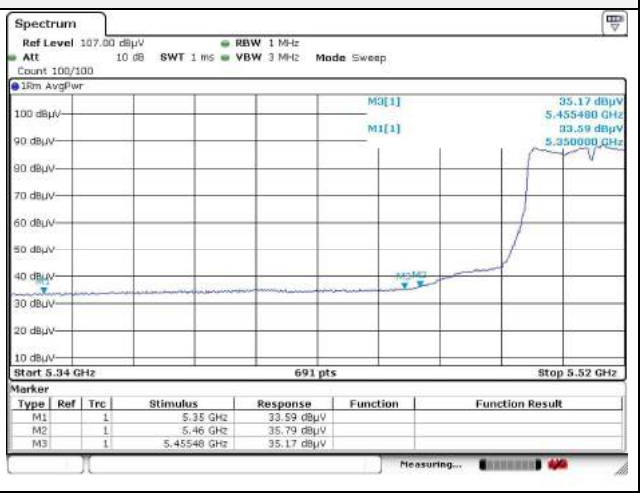
Restricted band // Vertical // Peak



Restricted band // Horizontal // Average



Restricted band // Vertical // Average



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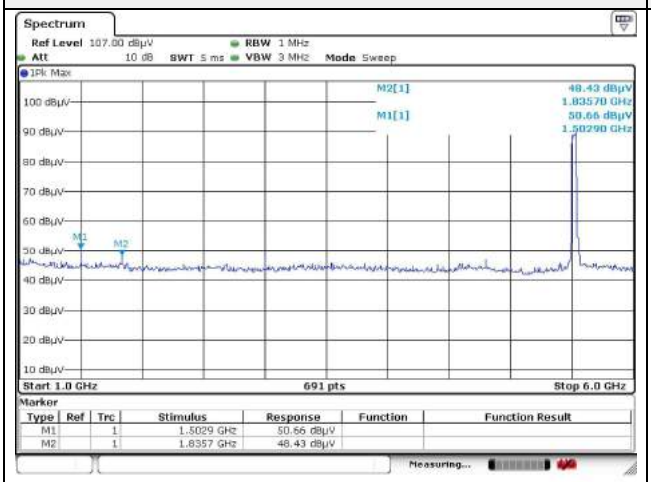
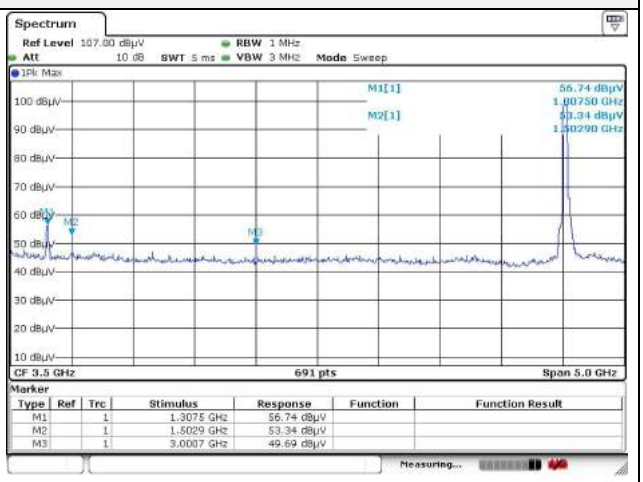
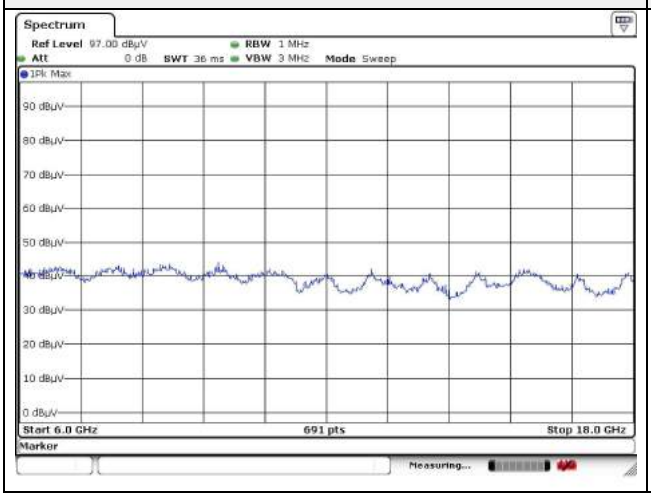
Horizontal // Peak for 1 ㎓ to 6 ㎓



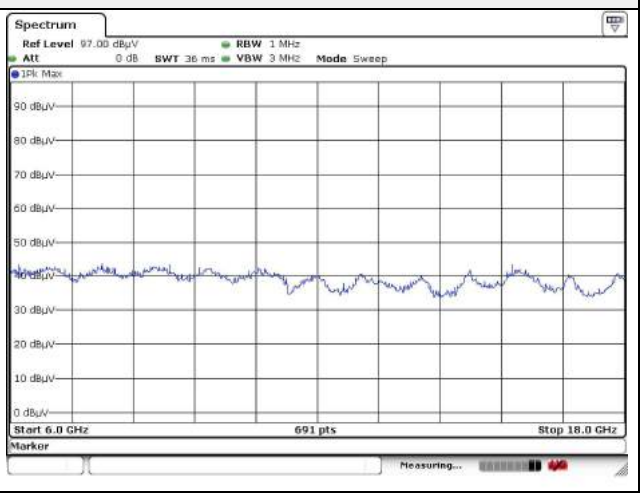
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2C(VHT40)

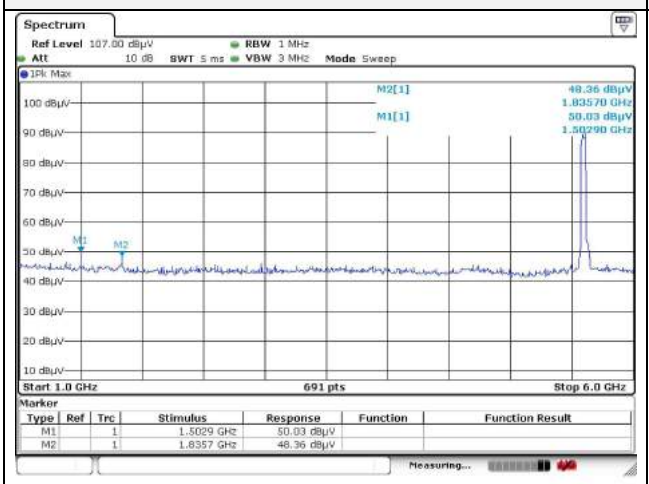
Distance of measurement: 3 meter

Channel: 118

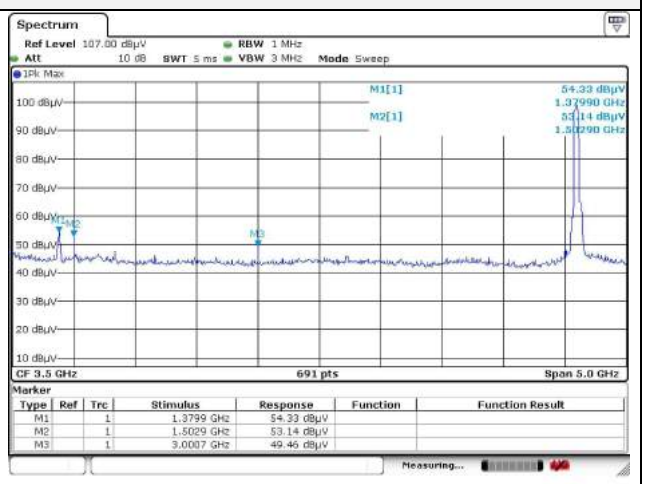
- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.03	Peak	H	-5.95	-	44.08	74.00	29.92
1835.70	48.36	Peak	H	-2.70	-	45.66	74.00	28.34
1379.90	54.33	Peak	V	-6.70	-	47.63	74.00	26.37
1502.90	53.14	Peak	V	-5.95	-	47.19	74.00	26.81
3000.70	49.46	Peak	V	1.80	-	51.26	74.00	22.74

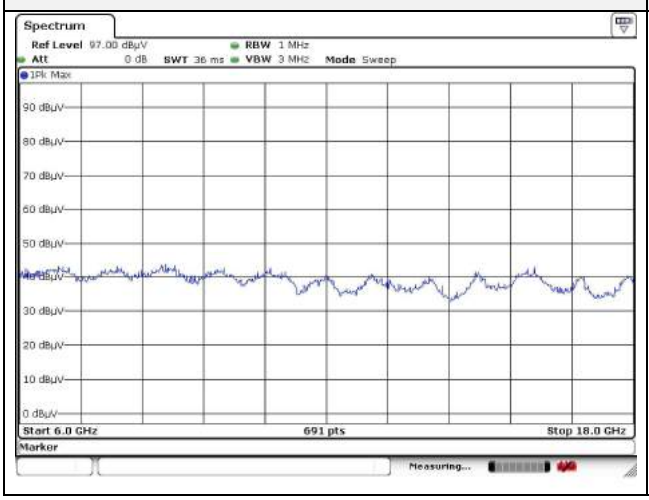
Horizontal // Peak for 1 ㎓ to 6 ㎓



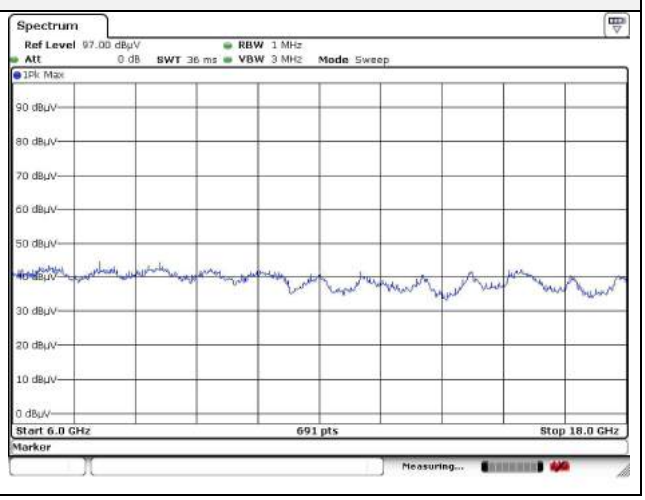
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2C(VHT40)

Distance of measurement: 3 meter

Channel: 134

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.06	Peak	H	-5.95	-	44.11	74.00	29.89
1835.70	49.58	Peak	H	-2.70	-	46.88	74.00	27.12
1459.50	48.99	Peak	V	-6.22	-	42.77	74.00	31.23
1502.90	53.23	Peak	V	-5.95	-	47.28	74.00	26.72
3000.70	49.40	Peak	V	1.80	-	51.20	74.00	22.80

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5725.86	47.02	Peak	H	10.88	-	57.90	68.20	10.30
5762.07	48.10	Peak	V	11.18	-	59.28	68.20	8.92

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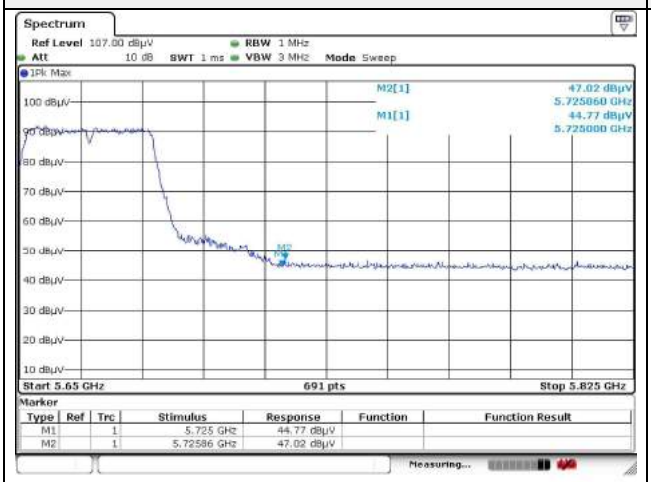
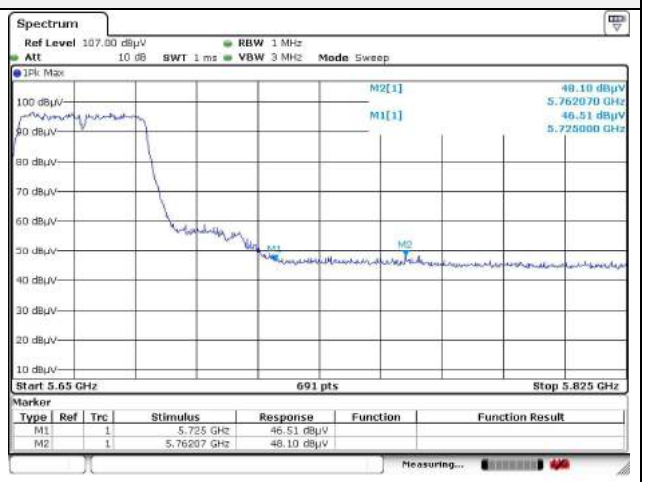
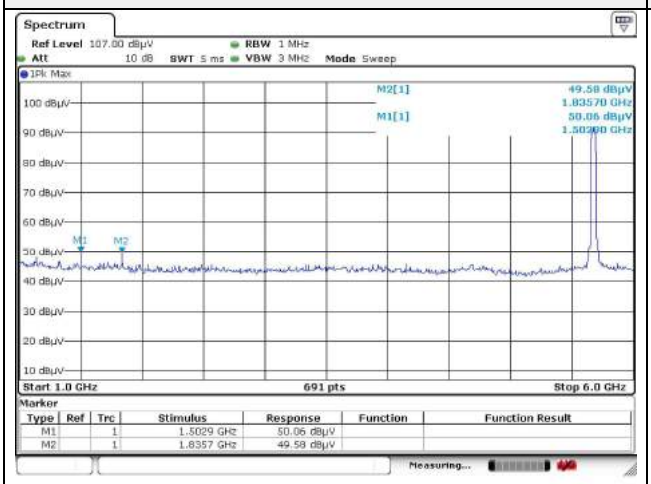
Restricted band // Horizontal // Peak



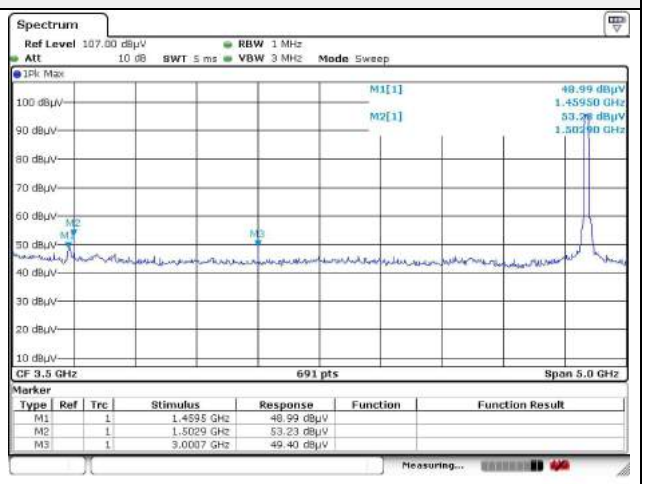
Restricted band // Vertical // Peak



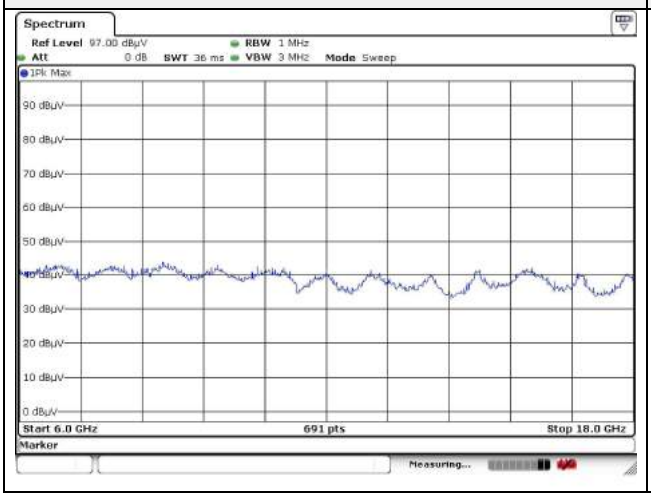
Horizontal // Peak for 1 ㎓ to 6 ㎓



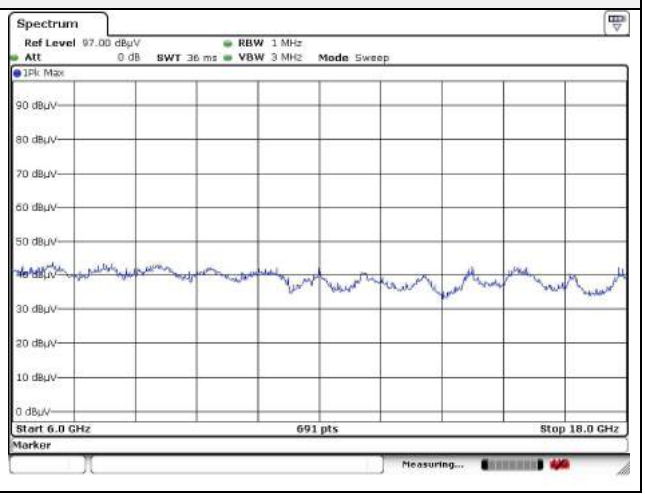
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2C(VHT40)

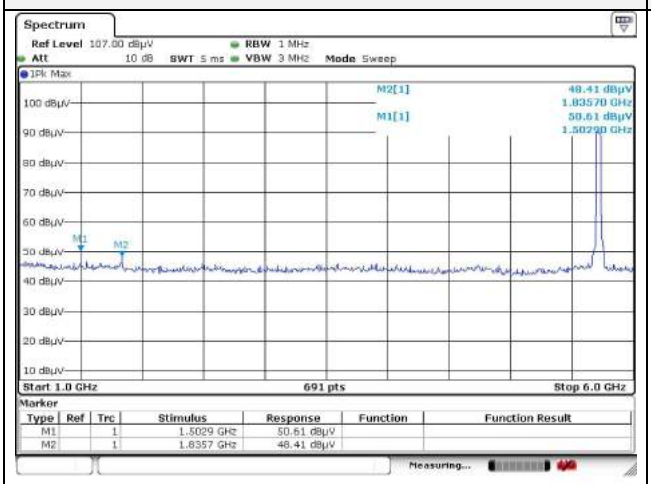
Distance of measurement: 3 meter

Channel: 142

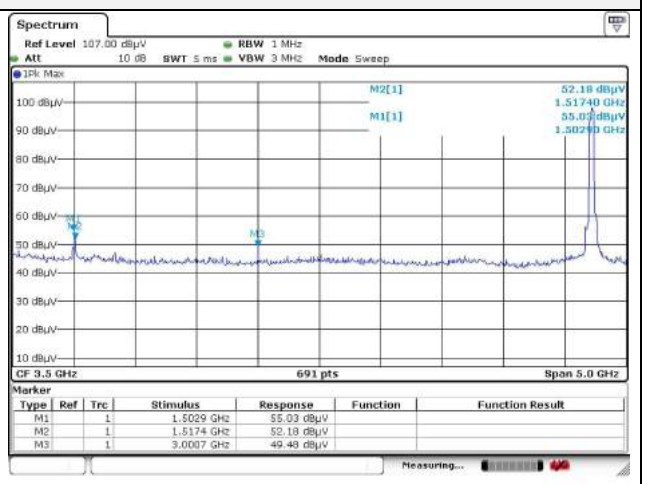
- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.61	Peak	H	-5.95	-	44.66	74.00	29.34
1835.70	48.41	Peak	H	-2.70	-	45.71	74.00	28.29
1502.90	55.03	Peak	V	-5.95	-	49.08	74.00	24.92
1517.40	52.18	Peak	V	-5.80	-	46.38	74.00	27.62
3000.70	49.48	Peak	V	1.80	-	51.28	74.00	22.72

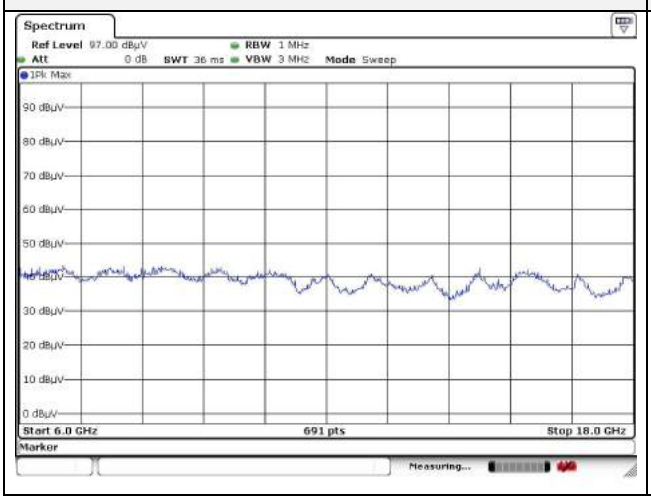
Horizontal // Peak for 1 ㎓ to 6 ㎓



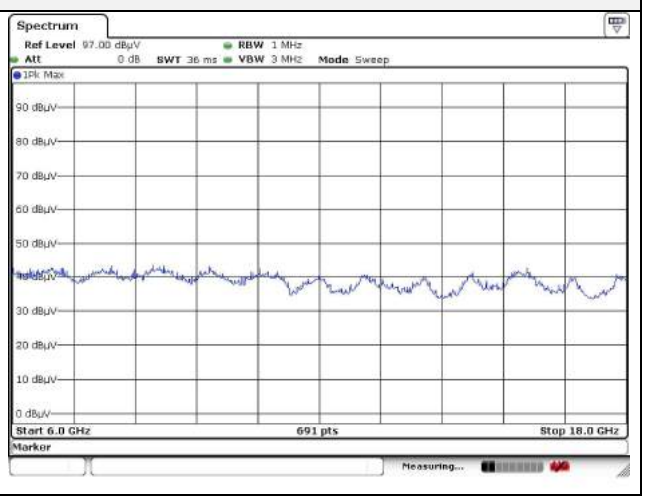
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-3(VHT40)

Distance of measurement: 3 meter

Channel: 151

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.91	Peak	H	-5.95	-	44.96	74.00	29.04
1835.70	49.80	Peak	H	-2.70	-	47.10	74.00	26.90
1502.90	53.04	Peak	V	-5.95	-	47.09	74.00	26.91
1553.50	54.45	Peak	V	-5.45	-	49.00	74.00	25.00
3000.70	49.57	Peak	V	1.80	-	51.37	74.00	22.63

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5725.00	50.84	Peak	H	10.87	-	61.71	122.20	60.49
5723.62	51.55	Peak	H	10.86	-	62.41	119.05	56.64
5725.00	55.93	Peak	V	10.87	-	66.80	122.20	55.40
5723.19	57.34	Peak	V	10.86	-	68.20	118.07	49.87

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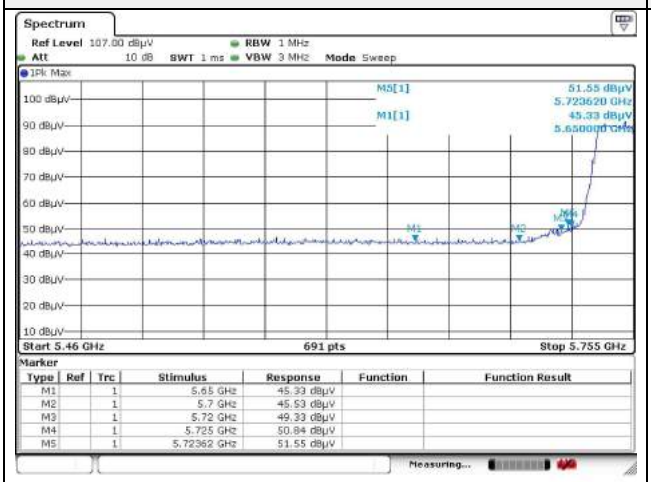
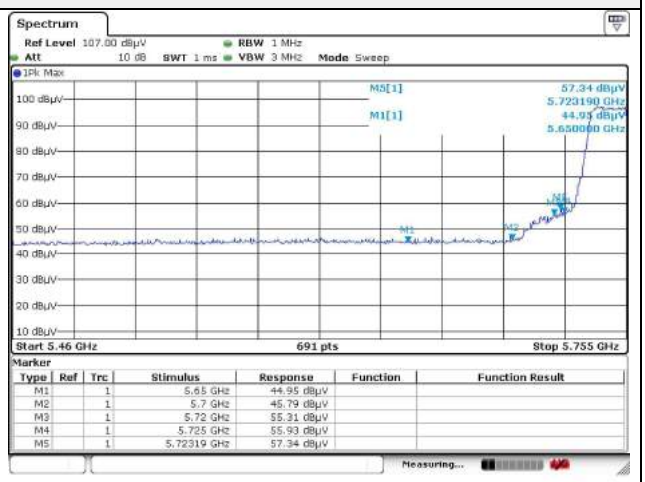
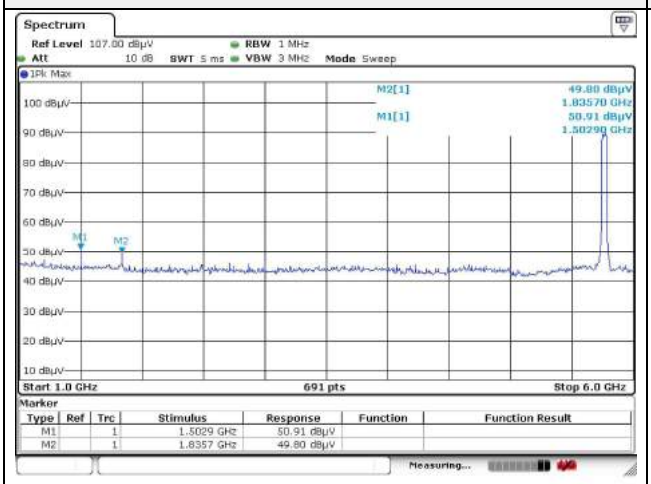
Restricted band // Horizontal // Peak



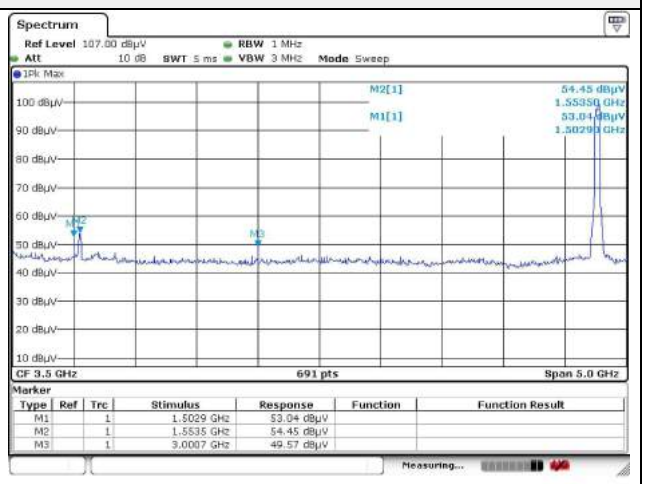
Restricted band // Vertical // Peak



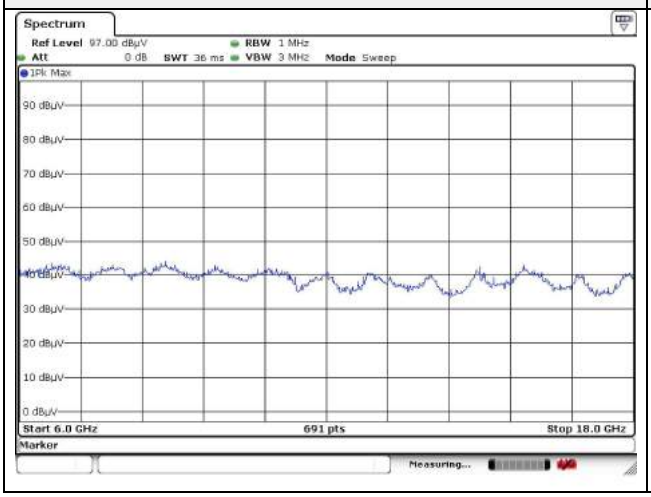
Horizontal // Peak for 1 ㎓ to 6 ㎓



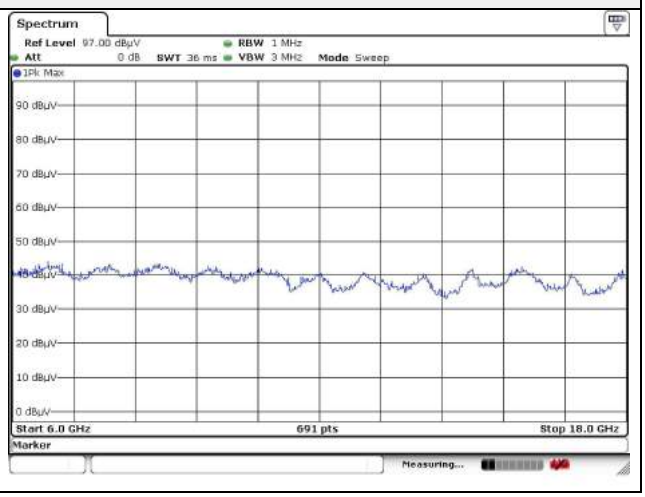
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-3(VHT40)

Distance of measurement: 3 meter

Channel: 159

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	49.88	Peak	H	-5.95	-	43.93	74.00	30.07
1835.70	48.55	Peak	H	-2.70	-	45.85	74.00	28.15
1502.90	53.48	Peak	V	-5.95	-	47.53	74.00	26.47
1582.50	52.87	Peak	V	-5.16	-	47.71	74.00	26.29
3000.70	49.73	Peak	V	1.80	-	51.53	74.00	22.47

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5875.00	44.69	Peak	H	11.91	-	56.60	105.20	48.60
5959.41	45.69	Peak	H	12.38	-	58.07	68.20	10.13
5855.00	45.97	Peak	V	11.80	-	57.77	110.80	53.03
5858.49	46.64	Peak	V	11.82	-	58.46	109.82	51.36

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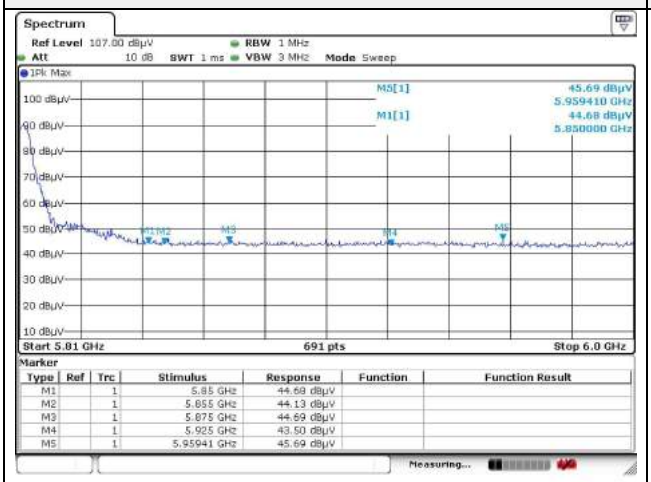
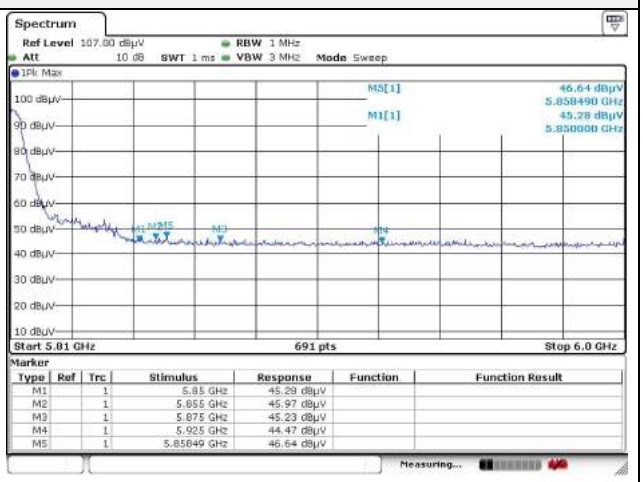
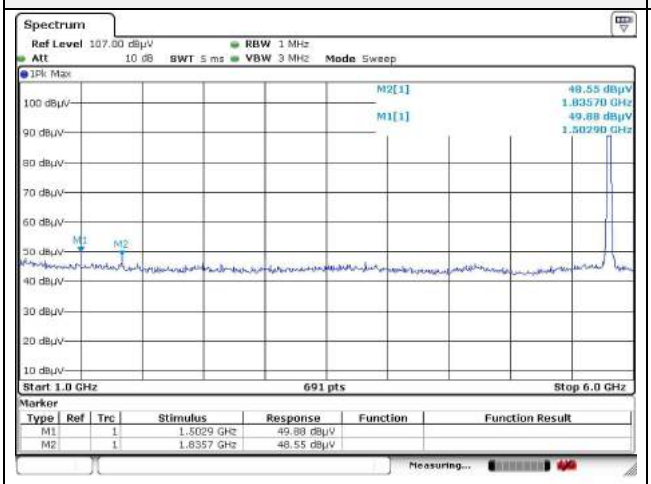
Restricted band // Horizontal // Peak



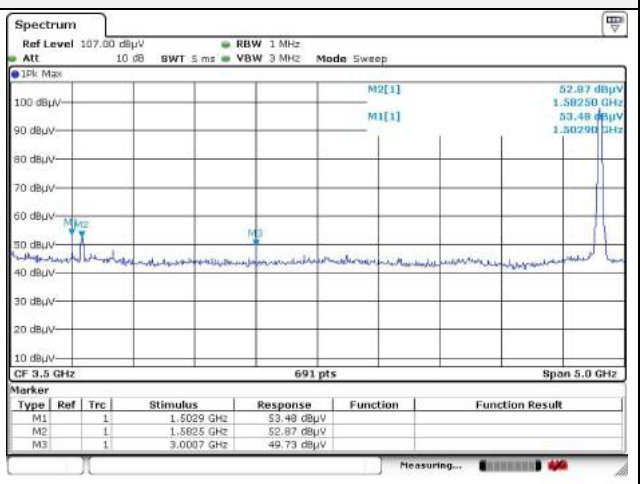
Restricted band // Vertical // Peak



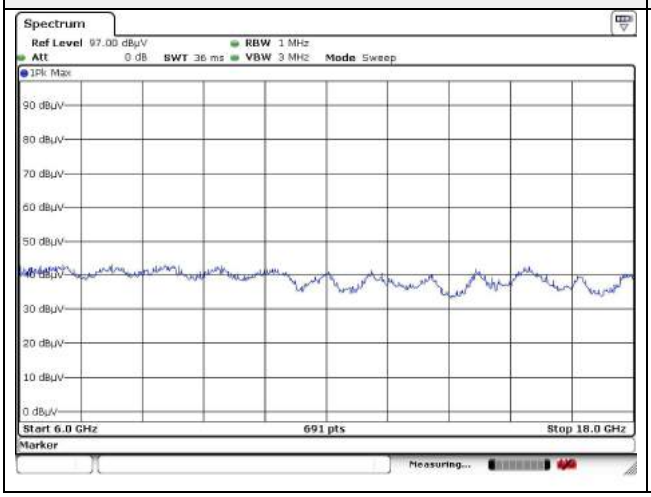
Horizontal // Peak for 1 ㎓ to 6 ㎓



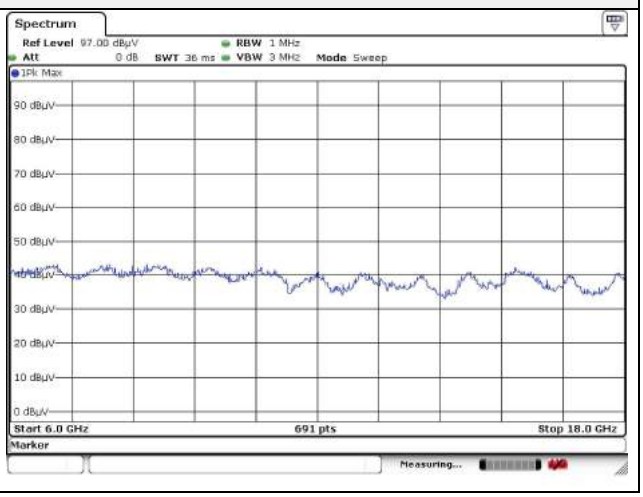
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-1(VHT80)

Distance of measurement: 3 meter

Channel: 42

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.53	Peak	H	-5.95	-	44.58	74.00	29.42
1835.70	49.74	Peak	H	-2.70	-	47.04	74.00	26.96
1502.90	54.37	Peak	V	-5.95	-	48.42	74.00	25.58
1568.00	50.59	Peak	V	-5.30	-	45.29	74.00	28.71
3000.70	48.39	Peak	V	1.80	-	50.19	74.00	23.81

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4621.70	45.80	Peak	H	6.08	-	51.88	74.00	22.12
4621.70	33.75	Average	H	6.08	-	39.83	54.00	14.17
5150.00	47.86	Peak	V	8.99	-	56.85	74.00	17.15
5150.00	37.96	Average	V	8.99	-	46.95	54.00	7.05

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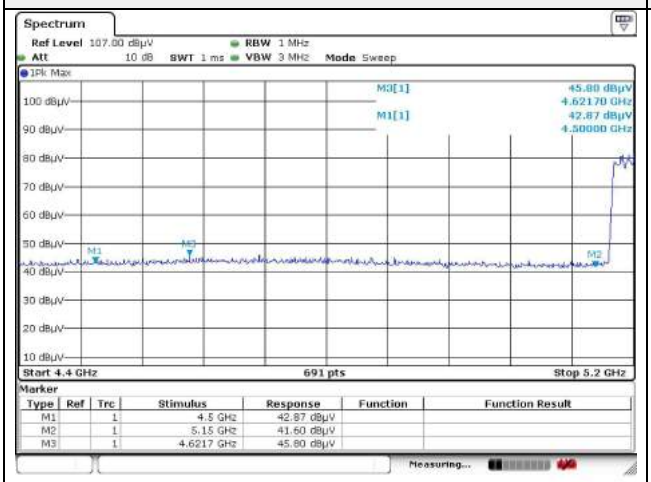
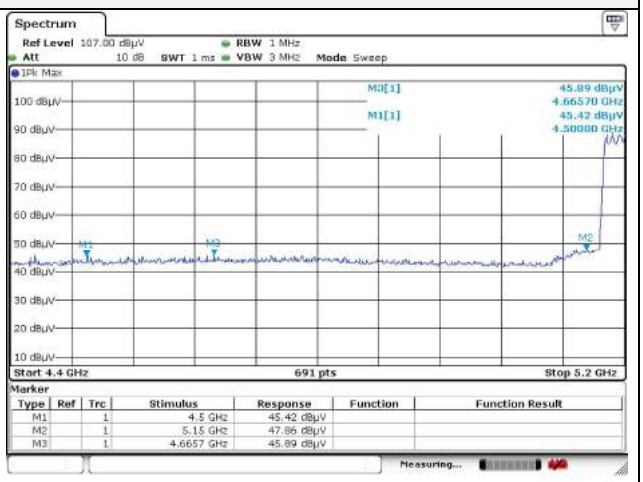
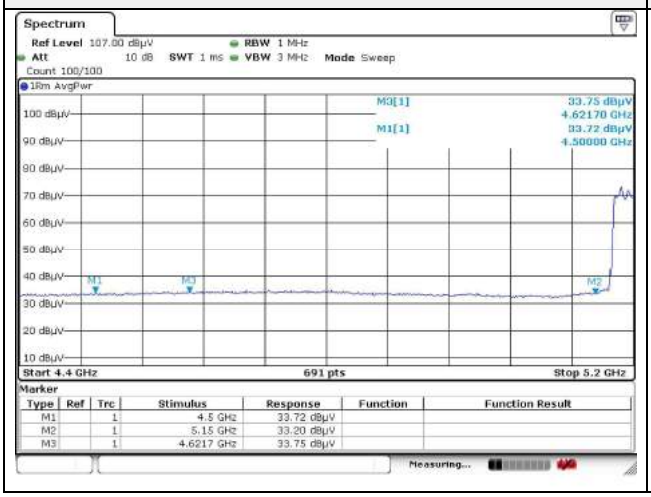
Restricted band // Horizontal // Peak



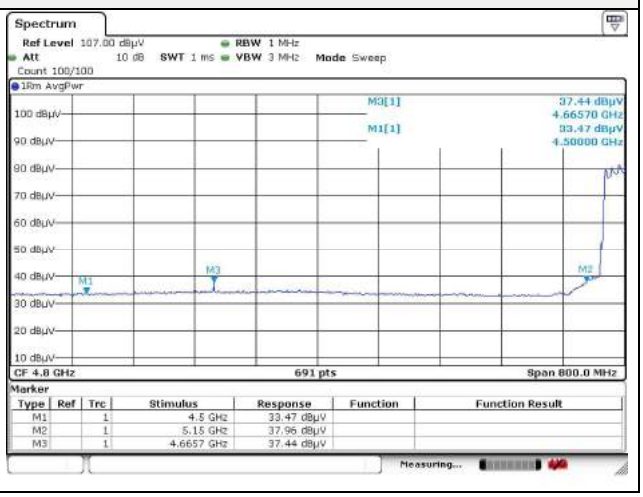
Restricted band // Vertical // Peak



Restricted band // Horizontal // Average



Restricted band // Vertical // Average



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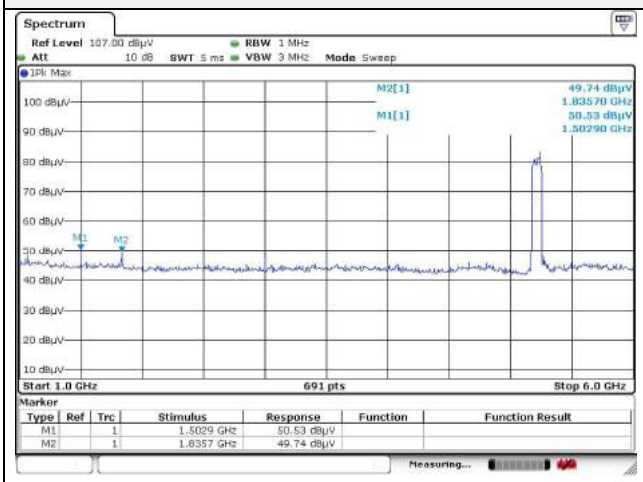
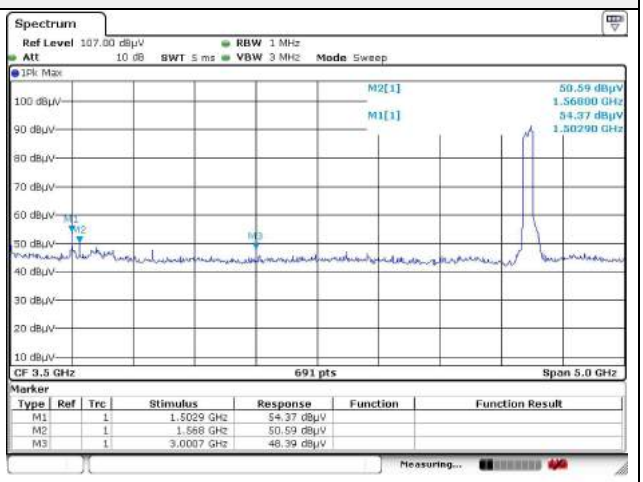
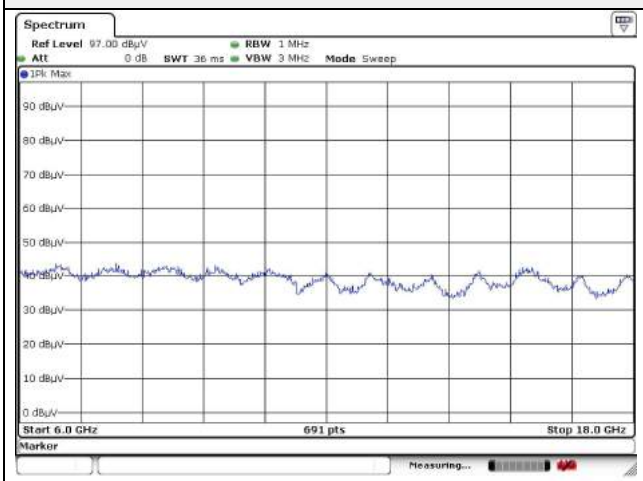
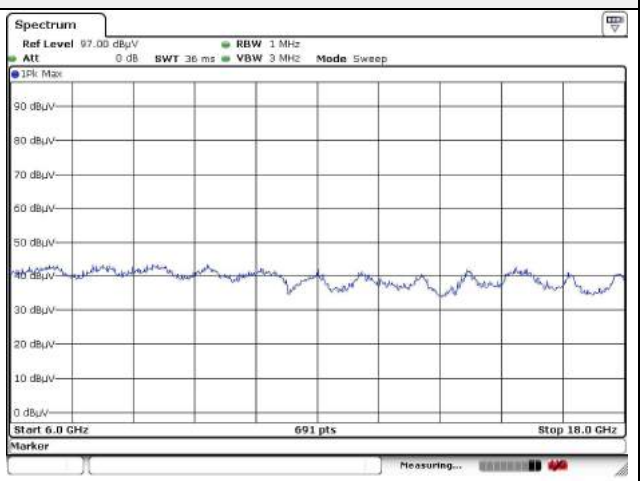
Horizontal // Peak for 1 ㎓ to 6 ㎓	Vertical // Peak for 1 ㎓ to 6 ㎓
	
Horizontal // Peak for 6 ㎓ to 18 ㎓	**Vertical // Peak for 6 ㎓ to 18 ㎓**
	

Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2A(VHT80)

Distance of measurement: 3 meter

Channel: 58

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.11	Peak	H	-5.95	-	44.16	74.00	29.84
1835.70	49.31	Peak	H	-2.70	-	46.61	74.00	27.39
1083.20	48.58	Peak	V	-8.61	-	39.97	74.00	34.03
1502.90	54.07	Peak	V	-5.95	-	48.12	74.00	25.88
3000.70	48.98	Peak	V	1.80	-	50.78	74.00	23.22

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5358.28	49.30	Peak	H	8.99	-	58.29	74.00	15.71
5358.28	38.09	Average	H	8.99	-	47.08	54.00	6.92
5370.32	55.05	Peak	V	9.00	-	64.05	74.00	9.95
5370.32	41.30	Average	V	9.00	-	50.30	54.00	3.70

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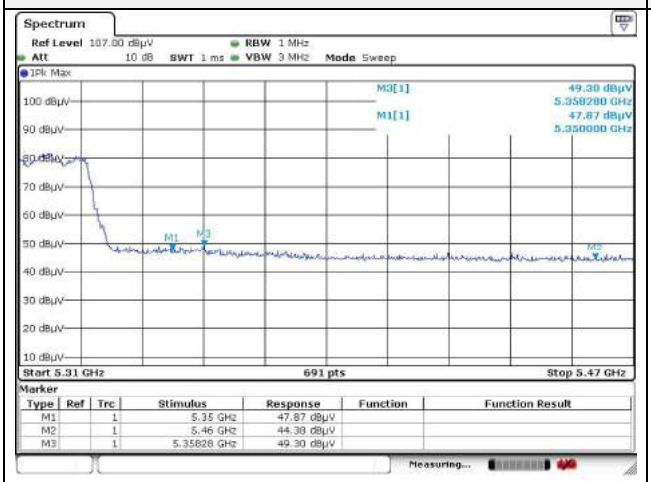
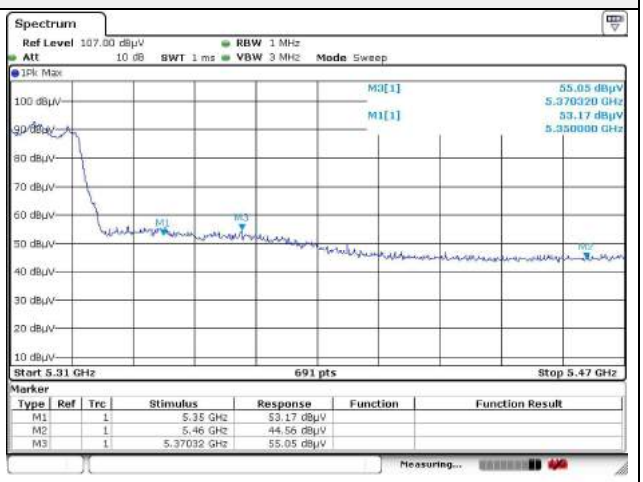
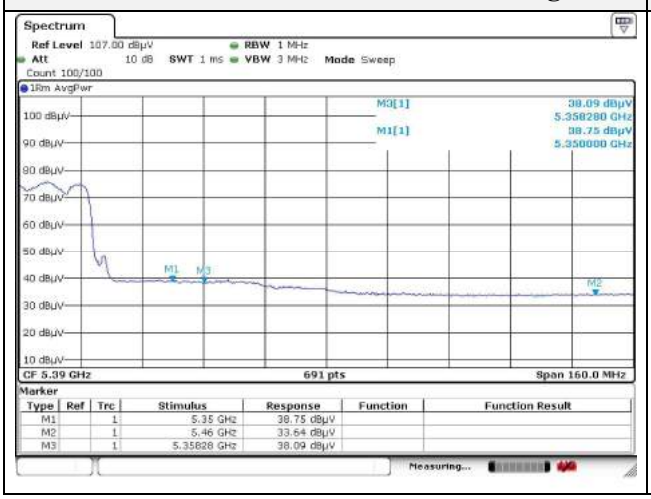
Restricted band // Horizontal // Peak



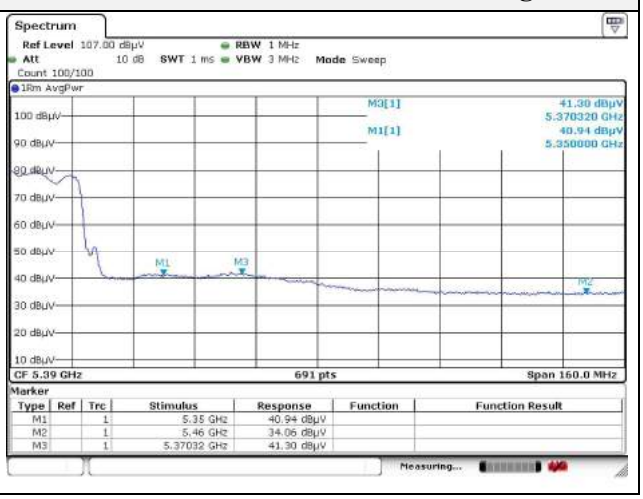
Restricted band // Vertical // Peak



Restricted band // Horizontal // Average



Restricted band // Vertical // Average



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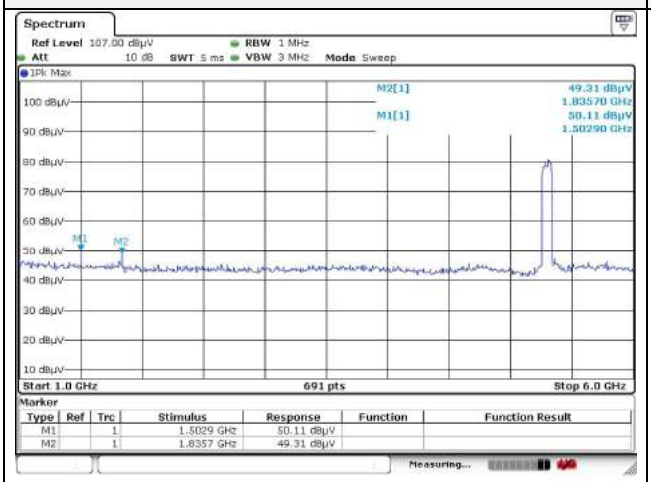
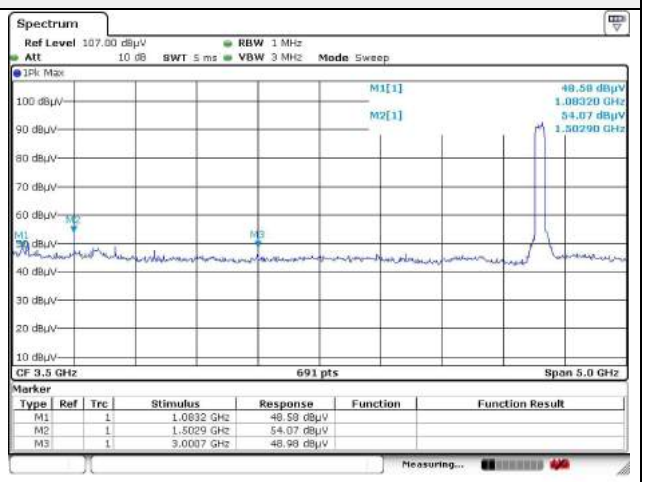
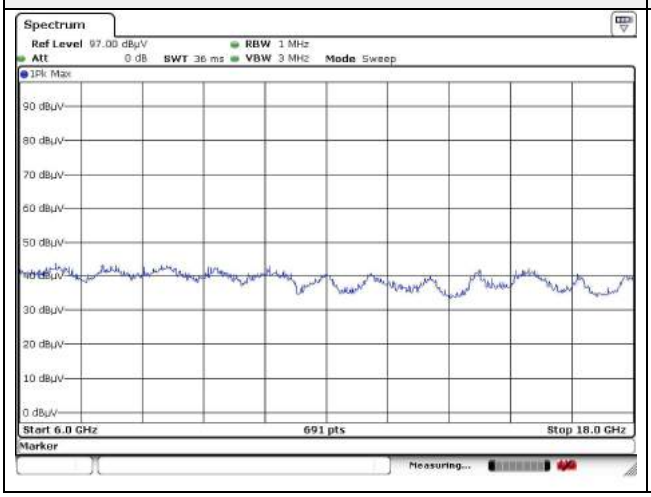
Horizontal // Peak for 1 ㎓ to 6 ㎓



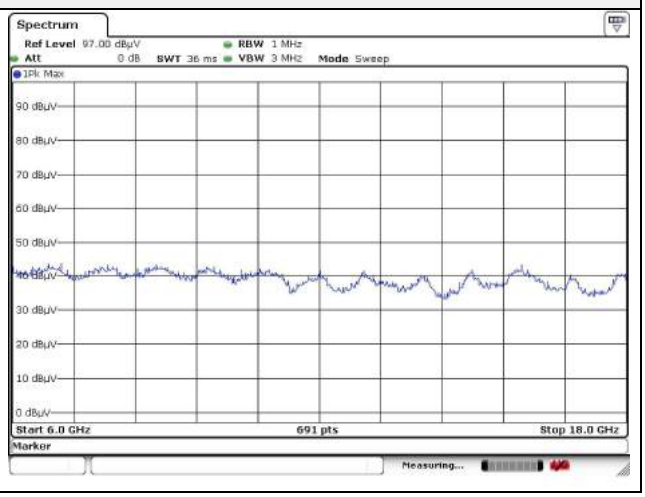
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2C(VHT80)

Distance of measurement: 3 meter

Channel: 106

- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	49.79	Peak	H	-5.95	-	43.84	74.00	30.16
1835.70	49.46	Peak	H	-2.70	-	46.76	74.00	27.24
1336.50	49.32	Peak	V	-6.98	-	42.34	74.00	31.66
1502.90	54.04	Peak	V	-5.95	-	48.09	74.00	25.91
3000.70	47.82	Peak	V	1.80	-	49.62	74.00	24.38

- **Band edge**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5458.35	46.42	Peak	H	9.08	-	55.50	74.00	18.50
5458.35	36.08	Average	H	9.08	-	45.16	54.00	8.84
5455.48	52.99	Peak	V	9.08	-	62.07	74.00	11.93
5455.48	39.72	Average	V	9.08	-	48.80	54.00	5.20

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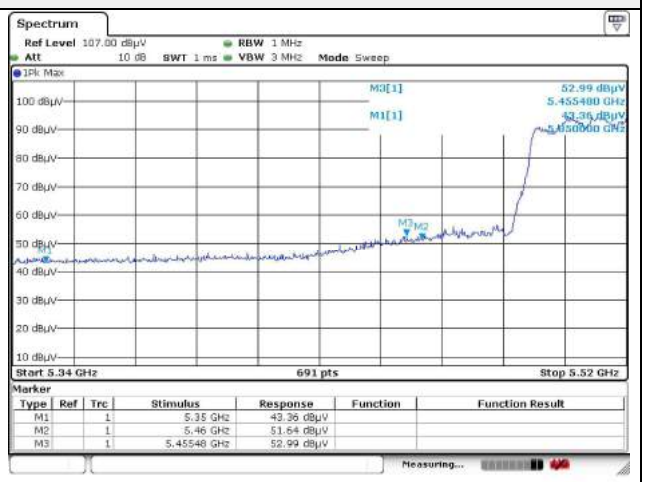
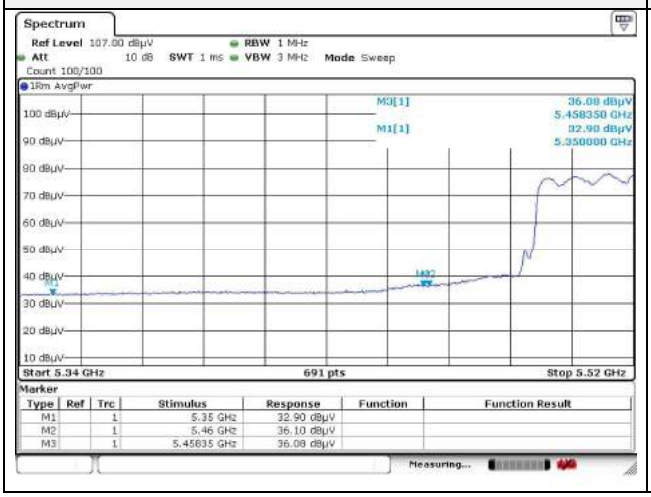
Restricted band // Horizontal // Peak

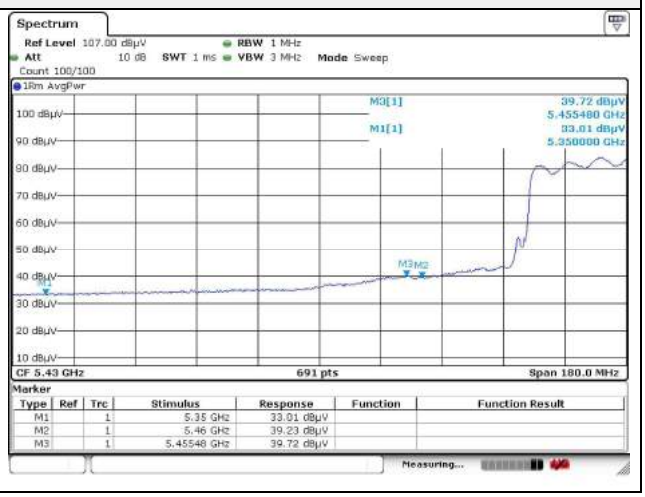
Restricted band // Vertical // Peak



Restricted band // Horizontal // Average



Restricted band // Vertical // Average



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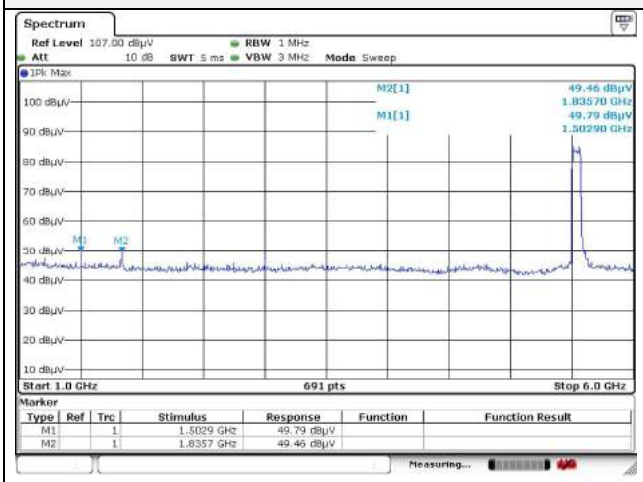
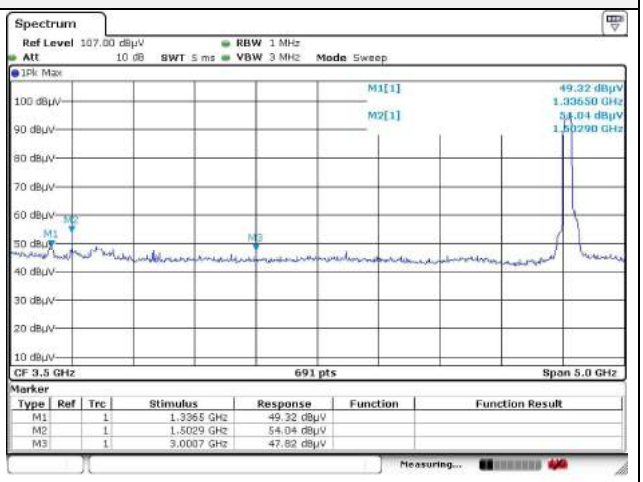
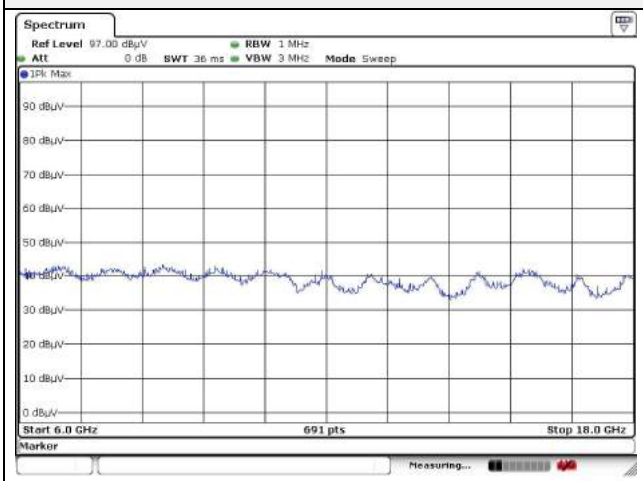
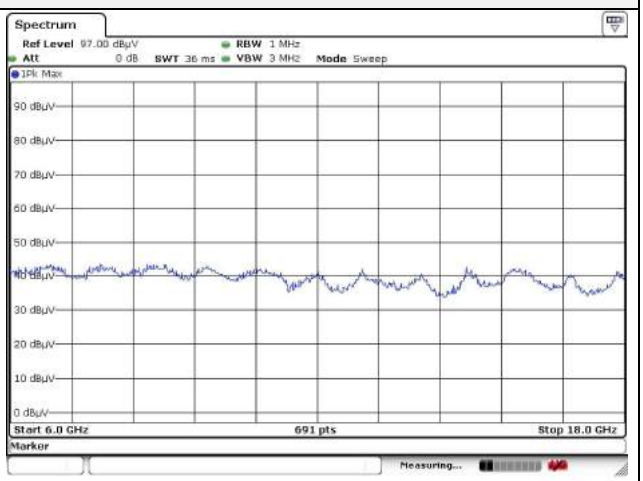
Horizontal // Peak for 1 ㎓ to 6 ㎓	Vertical // Peak for 1 ㎓ to 6 ㎓
	
Horizontal // Peak for 6 ㎓ to 18 ㎓	**Vertical // Peak for 6 ㎓ to 18 ㎓**
	

Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2C(VHT80)

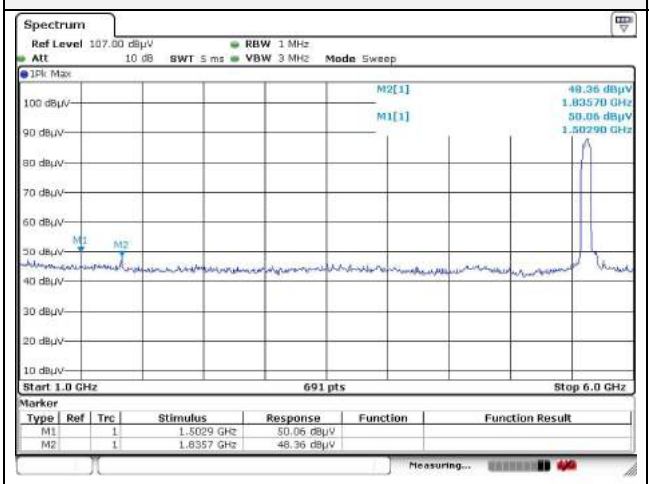
Distance of measurement: 3 meter

Channel: 122

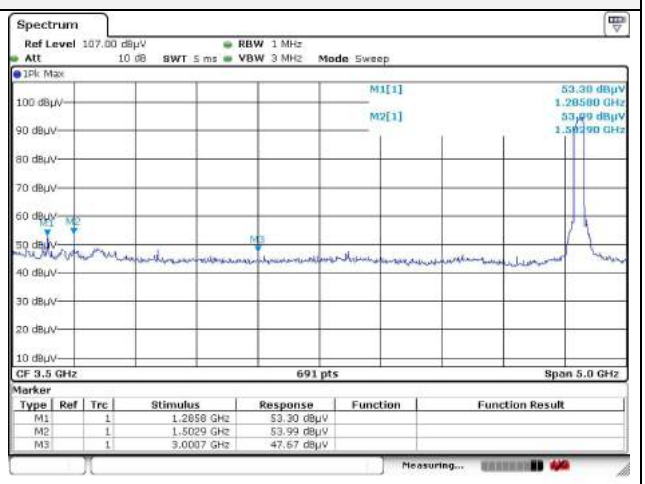
- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.06	Peak	H	-5.95	-	44.11	74.00	29.89
1835.70	48.36	Peak	H	-2.70	-	45.66	74.00	28.34
1285.80	53.30	Peak	V	-7.31	-	45.99	74.00	28.01
1502.90	53.99	Peak	V	-5.95	-	48.04	74.00	25.96
3000.70	47.67	Peak	V	1.80	-	49.47	74.00	24.53

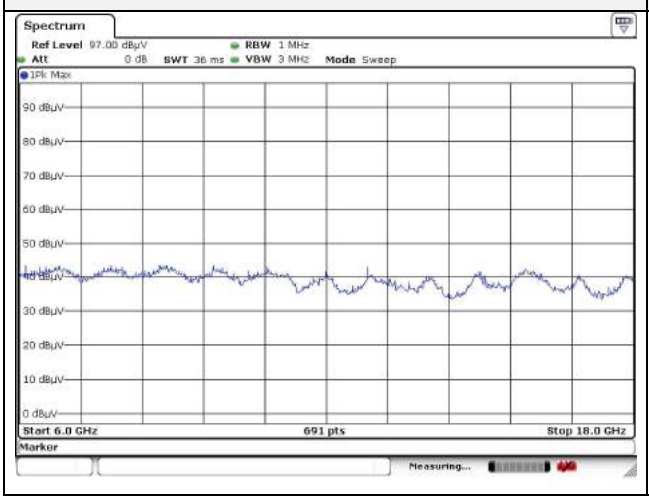
Horizontal // Peak for 1 ㎓ to 6 ㎓



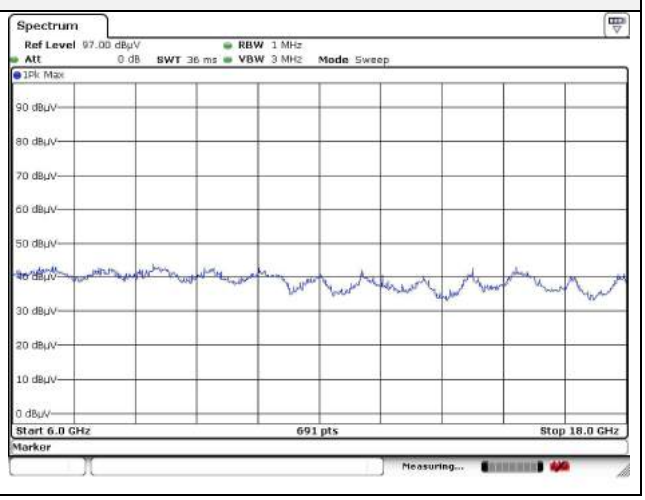
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-2C(VHT80)

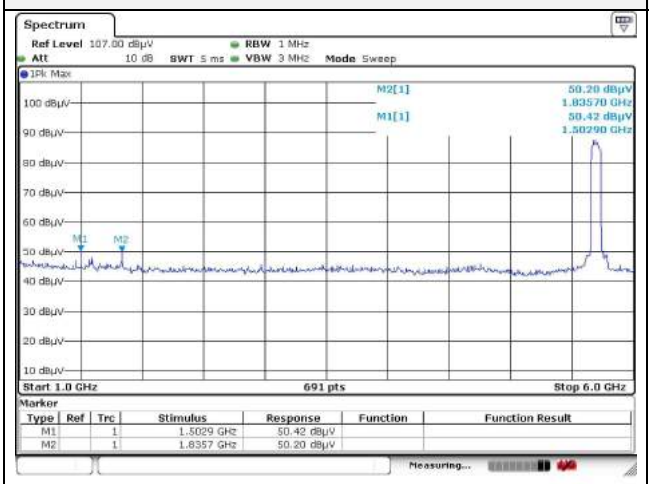
Distance of measurement: 3 meter

Channel: 138

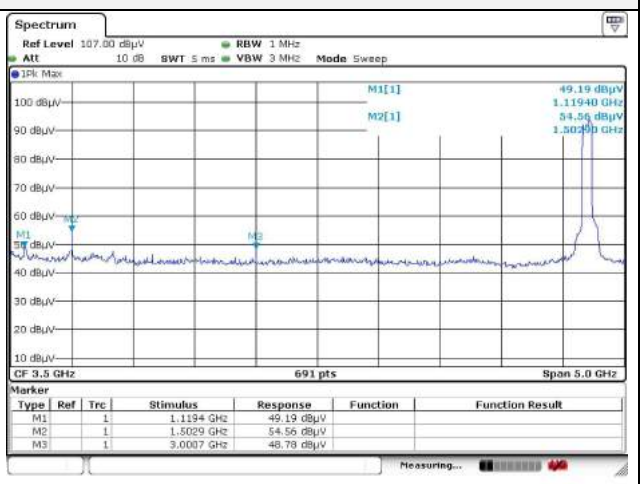
- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.42	Peak	H	-5.95	-	44.47	74.00	29.53
1835.70	50.20	Peak	H	-2.70	-	47.50	74.00	26.50
1119.40	49.19	Peak	V	-8.37	-	40.82	74.00	33.18
1502.90	54.56	Peak	V	-5.95	-	48.61	74.00	25.39
3000.70	48.78	Peak	V	1.80	-	50.58	74.00	23.42

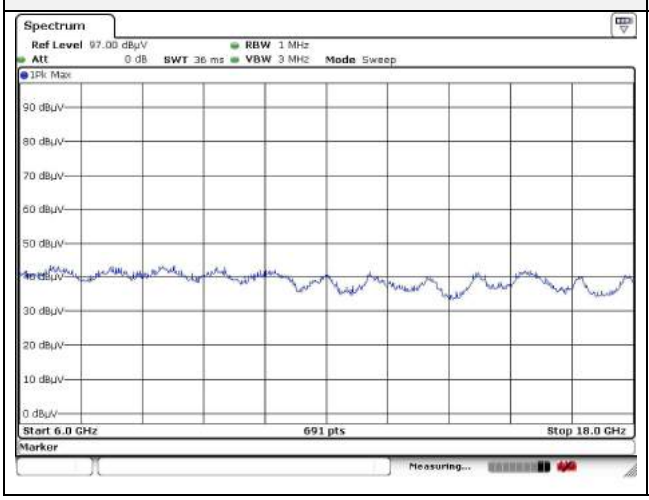
Horizontal // Peak for 1 ㎓ to 6 ㎓



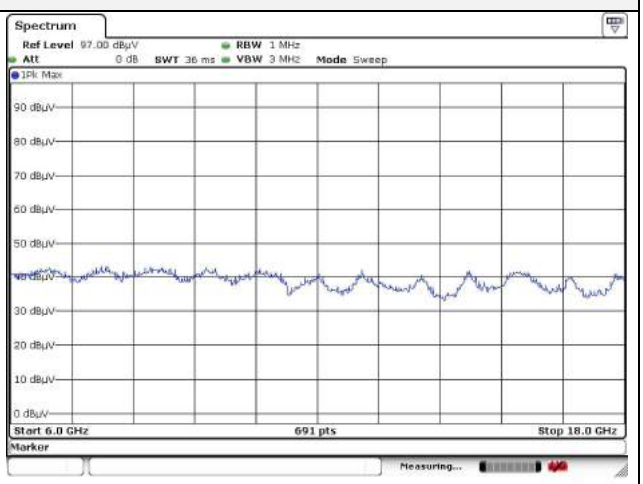
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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Mode: UNII-3(VHT80)

Distance of measurement: 3 meter

Channel: 155

- **Spurious**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1502.90	50.50	Peak	H	-5.95	-	44.55	74.00	29.45
1835.70	49.15	Peak	H	-2.70	-	46.45	74.00	27.55
1502.90	54.50	Peak	V	-5.95	-	48.55	74.00	25.45
1835.70	47.67	Peak	V	-2.70	-	44.97	74.00	29.03
3000.70	48.19	Peak	V	1.80	-	49.99	74.00	24.01

- **Band edge // Below 5725 ㎒**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5725.00	49.47	Peak	H	10.87	-	60.34	122.20	61.86
5713.38	49.29	Peak	H	10.78	-	60.07	108.95	48.88
5720.00	50.90	Peak	V	10.83	-	61.73	110.80	49.07
5725.00	51.48	Peak	V	10.87	-	62.35	122.20	59.85

- **Band edge // Above 5850 ㎒**

Frequency (㎒)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5850.00	45.35	Peak	H	11.78	-	57.13	122.20	65.08
5962.43	45.99	Peak	H	12.39	-	58.38	68.20	9.82
5850.00	47.40	Peak	V	11.78	-	59.18	122.20	63.03
5858.49	48.94	Peak	V	11.82	-	60.76	109.82	49.06

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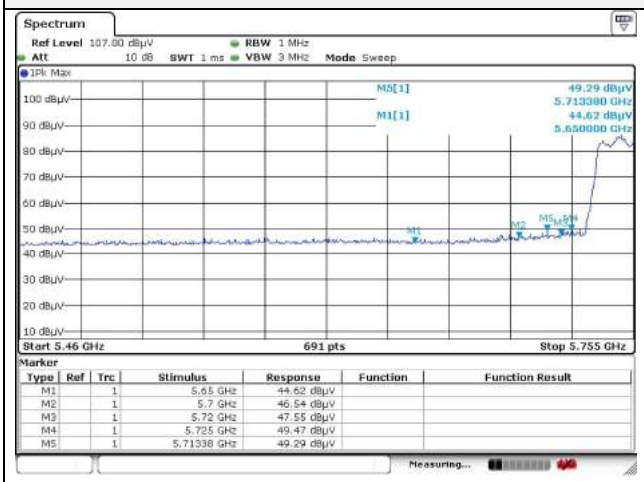
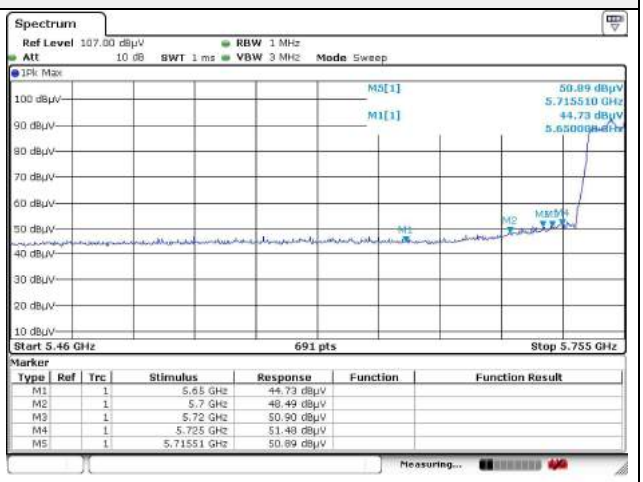
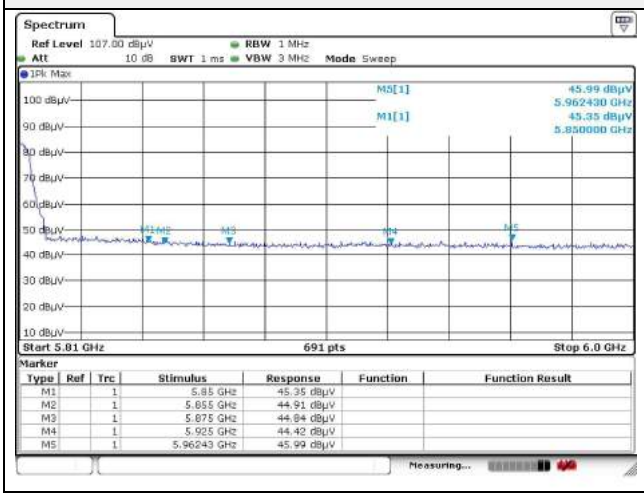
Restricted band // Horizontal // Peak // Below 5725 ㎒



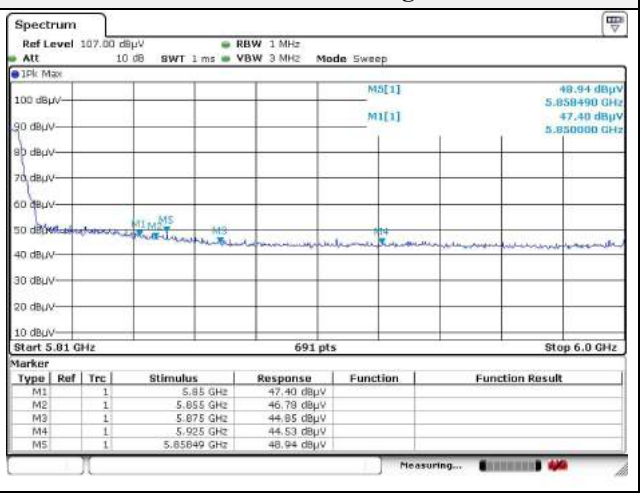
Restricted band // Vertical // Peak // Below 5725 ㎒



Restricted band // Horizontal // Peak // Above 5850 ㎒



Restricted band // Vertical // Average // Above 5850 ㎒



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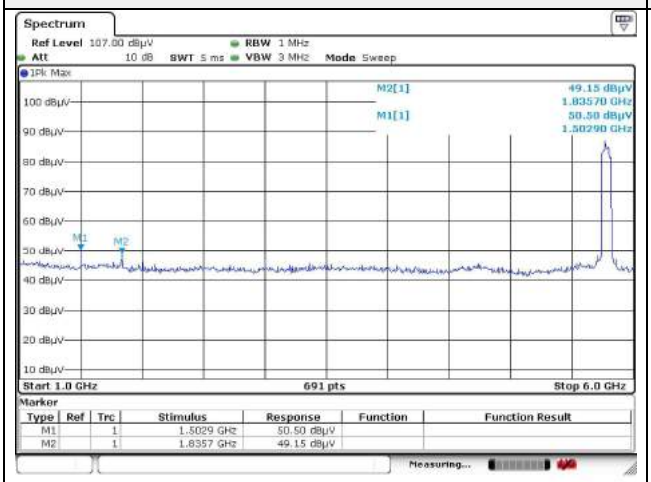
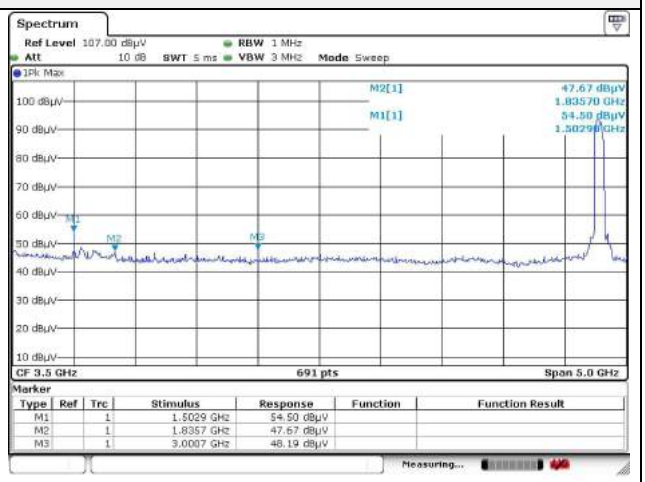
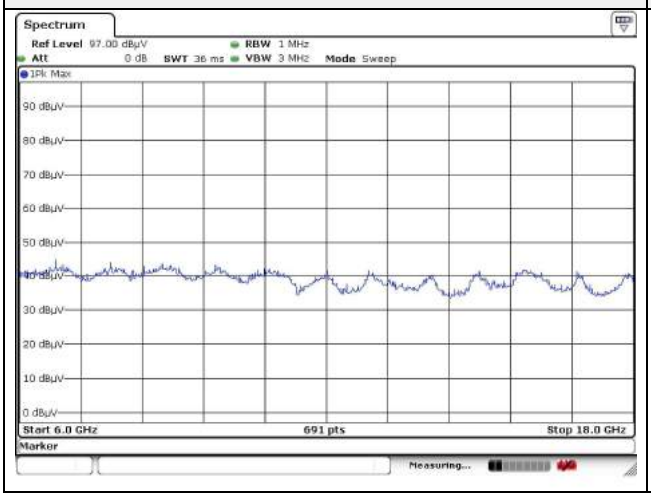
Horizontal // Peak for 1 ㎓ to 6 ㎓



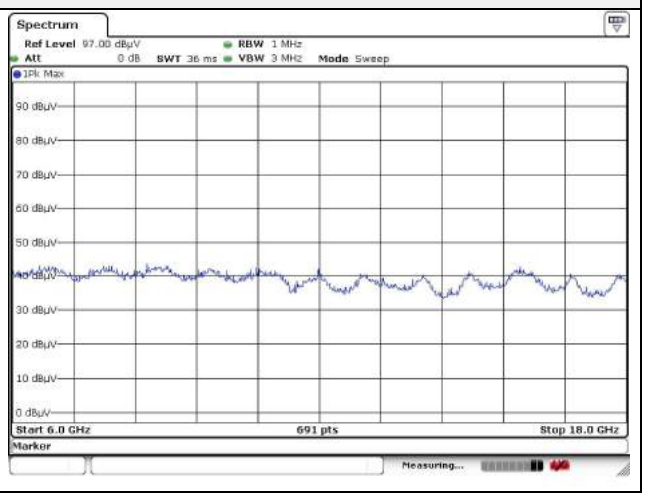
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.
2. Average test would be performed if the peak result were greater than the average limit.

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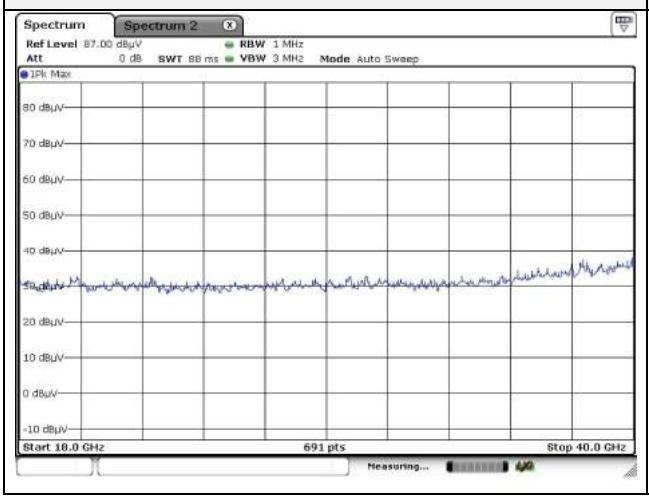
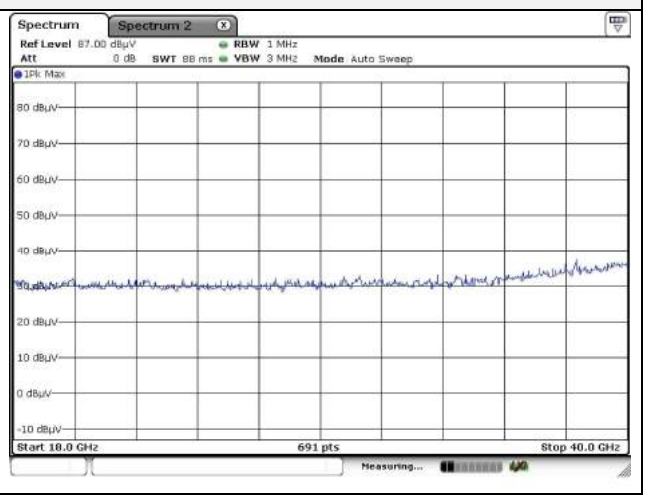
Test results (18 ㎓ to 40 ㎓) – Worst case

Mode:	UNII-1 VHT40
Distance of measurement:	3 meter
Channel:	38 (Worst case)

Horizontal	Vertical
	

Note.
1. No spurious emission were detected above 18 ㎓.

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Appendix A.
Measurement equipment

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Equipment	Manufacturer	Model	Serial No.	Calibration interval	Calibration due.
Spectrum Analyzer	R&S	FSV30	100736	1 year	2018.07.04
Spectrum Analyzer	R&S	FSV40	101002	1 year	2018.07.04
8360B Series Swept Signal Generator	HP	83630B	3844A00786	1 year	2018.01.23
Signal Generator	Anritsu	68369B	992113	1 year	2018.02.20
Power Meter	Anritsu	ML2495A	1438001	1 year	2018.01.23
Pulse Power Sensor	Anritsu	MA2411B	1339205	1 year	2018.01.23
Attenuator	Agilent	8493C	51401	1 year	2018.07.04
Loop Antenna	Schwarzbeck	FMZB1513	225	2 years	2019.05.10
Trilog-broadband antenna	SCHWARZBECK	VULB 9163	9168-714	2 years	2018.11.28
Horn Antenna	A.H	SAS-571	414	2 years	2019.02.15
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170550	2 years	2019.02.15
High Pass Filter	Wainwright Instrument Gmbh	WHJS3000-10TT	1	1 year	2018.07.03
High Pass Filter	Wainwright Instrument Gmbh	WHNX6.0/26.5G-6SS	1	1 year	2018.07.04
Low Pass Filter	Wainwright Instrument Gmbh	WLK1.0/18G-10TT	1	1 year	2018.07.03
Preamplifier	HP	8449B	3008A00538	1 year	2018.01.19
Broadband Amplifier	SCHWARZBECK	BBV-9721	PS9721-003	1 year	2018.01.23
DC Power supply	HP	6674A	US36370369	1 year	2018.07.03
EMI Test Receiver	R&S	ESR3	101781	1 year	2018.04.27
EMI Test Receiver	R&S	ESU26	100552	1 year	2018.04.19
Temperature & Humidity Chamber	Daehan Engineering	DH-1000	DH1000060628	1 year	2018.01.20

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Peripheral devices

Device	Manufacturer	Model No.	Serial No.
Notebook Computer	LG	LG15U47	701QCPY564416
Speaker	Britz	BR-1000A CUVE	-
Mouse	LG	XM-1600	302NMBRT19357
Controller	Samsung	SPC-1010	C5OE67WQ10100FN
Monitor	Samsung	LS23C340	ZXPCHTMFA02346H
Monitor	Samsung	LS23C340	ZXPCHTMFA02348H
Camera	Hanwha Techwin	-	-
USB 3.0	Sandisk	SDCZ48-016G	-
USB	Sandisk	SDCZ52-008G	-

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The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

Appendix B.
Test setup photos

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