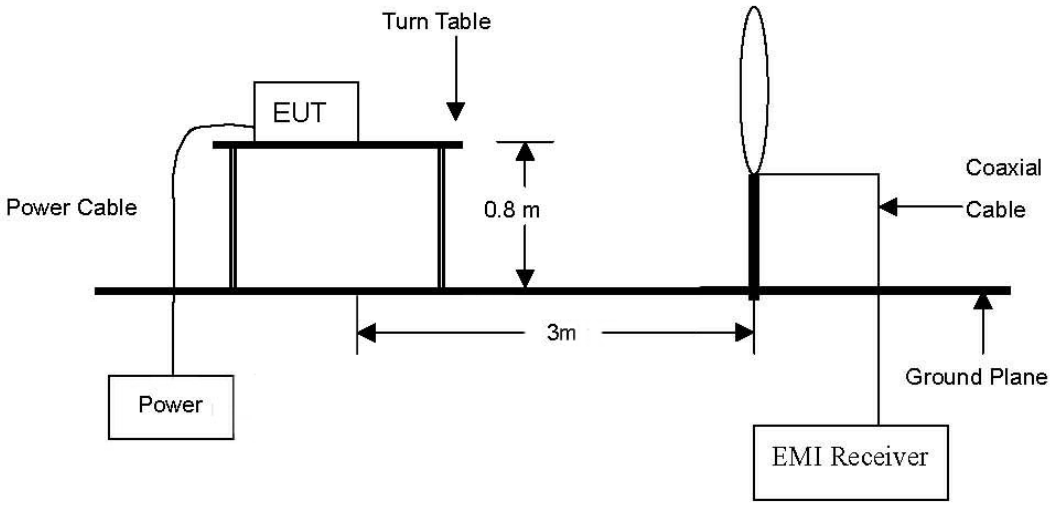
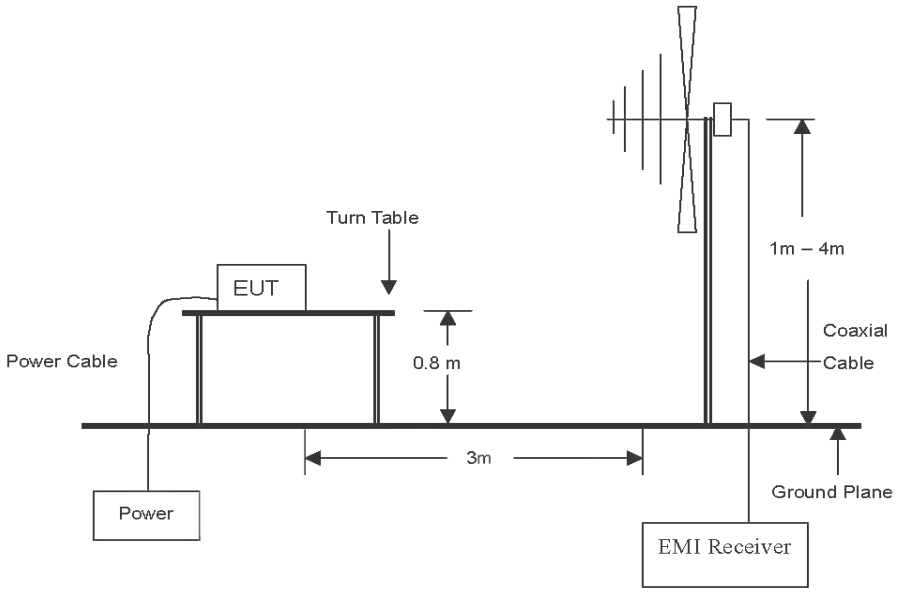
3.6. Radiated restricted band and emissions

Test setup

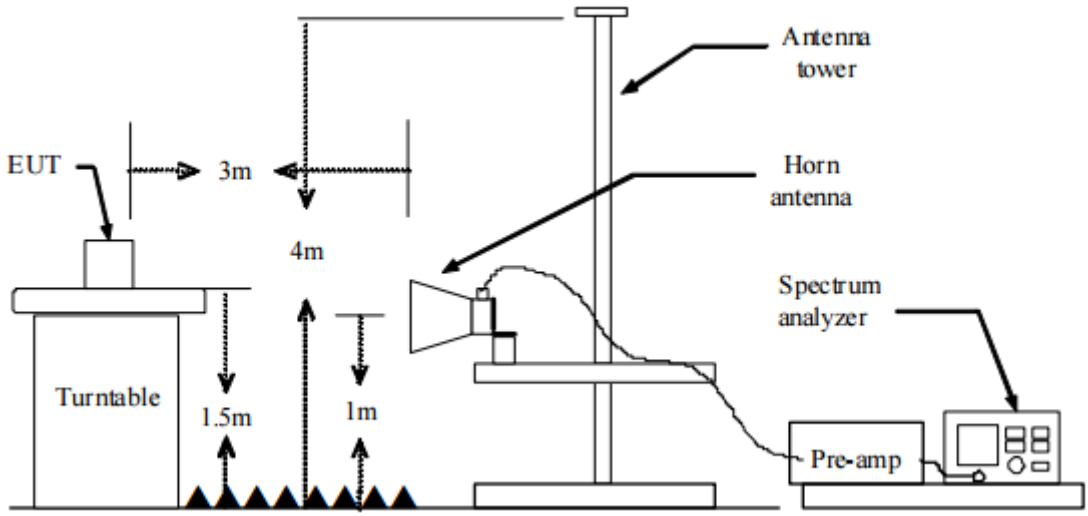
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 ㎑ to 30 ㎒ Emissions.



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



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

3. Spectrum analyzer settings for $f \geq 1$ ㎓: Average
   ① Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
   ② RBW = 1 ㎒
   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 ㏈ 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 ㎒, extrapolation factor of 40 ㏈/decade of distance. $F_d = 40\log(D_m/Ds)$
   $f \geq 30$ ㎒, extrapolation factor of 20 ㏈/decade of distance. $F_d = 20\log(D_m/Ds)$
   Where:
   F_d = Distance factor in ㏈
   D_m = Measurement distance in meters
   D_s = Specification distance in meters
2. CF(Correction factors(㏈)) = Antenna factor(㏈/m) + Cable loss(㏈) + or Amp. gain(㏈) + or F_d(㏈)
4. Field strength(㏈㎶/m) = Level(㏈㎶) + CF (㏈) + or DCF(㏈)
5. Margin(㏈) = Limit(㏈㎶/m) - Field strength(㏈㎶/m)
6. Emissions below 18 ㎓ were measured at a 3 meter test distance while emissions above 18 ㎓ 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 ㏈ of respective limits were not reported.
9. All channels, modes (e.g. 802.11a, 802.11n (20 ㎒/40 ㎒ BW), 802.11ac (20 ㎒/40 ㎒ /80 ㎒)), 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.

10. According to exploratory test no any obvious emission were detected from 9 ㎑ to 30 ㎒. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30 m open field 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.

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.

According to RSS-247 6.2 The equipment output power and e.i.r.p. shall be measured in terms of average value. If the transmission is in bursts, the provisions of RSS-Gen for pulsed operation shall apply.

(1) For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

(2) For transmitters operating in the band 5250-5350 MHz Devices shall comply with the following:
a) All emissions outside the band 5250-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p.; or
b) All emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device, except devices installed in vehicles, shall be labelled or include in the user manual the following text “for indoor use only.”

(3) For transmitters operating in the band 5470-5600 MHz and 5650-5725 MHz, Emissions outside the band 5470-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, devices with bandwidth overlapping the band edge of 5725 MHz can meet the emission limit of -27 dBm/MHz e.i.r.p. at 5850 MHz instead of 5725 MHz.

(4) For the band 5725-5850 MHz, Devices operating in the band 5725-5850 MHz with antenna gain greater than 10 dBi can have unwanted emissions that comply with either the limits in this section or in section 5.5 until six (6) months after the publication date of this standard for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2018.
Devices operating in the band 5725-5850 MHz with antenna gain of 10 dBi or less can have unwanted emissions that comply with either the limits in this section or in section 5.5 until April 1, 2018 for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2020.
Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:
a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;
b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;
c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and
d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

Duty cycle

Regarding to KDB 789033 D02 v02r01, B)2)b), 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, where T is defined in II.B.1.a), and the number of sweep points across duration T exceeds 100.

For the band 5.15-5.25 ㎓

Test mode	T_{on} time (㎳)	Period (㎳)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11ac_VHT20	0.206	0.342	0.602	60.23	2.20
802.11ac_VHT40	0.117	0.275	0.425	42.55	3.71
802.11ac_VHT80	0.078	0.183	0.426	42.62	3.70

For the band 5.250-5.350 ㎓

Test mode	T_{on} time (㎳)	Period (㎳)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11ac_VHT20	0.207	0.310	0.668	66.77	1.75
802.11ac_VHT40	0.120	0.247	0.486	48.58	3.14
802.11ac_VHT80	0.080	0.191	0.419	41.88	3.78

For the band 5.470-5.725 ㎓

Test mode	T_{on} time (㎳)	Period (㎳)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11ac_VHT20	0.210	0.338	0.621	62.13	2.07
802.11ac_VHT40	0.117	0.284	0.412	41.20	3.85
802.11ac_VHT80	0.083	0.235	0.353	35.32	4.52

For the band 5.725-5.85 ㎓

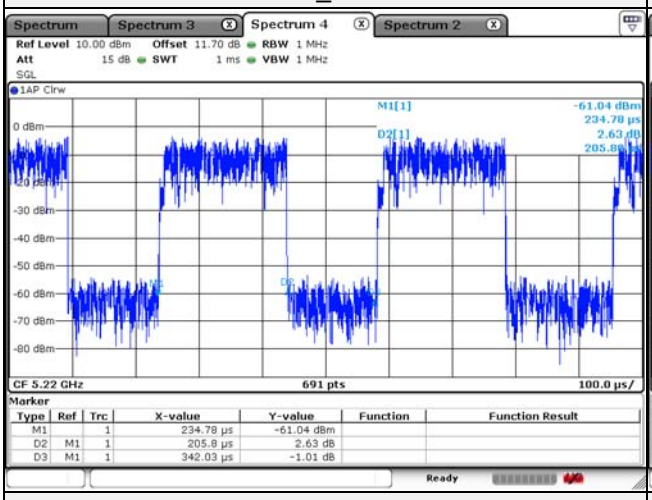
Test mode	T_{on} time (㎳)	Period (㎳)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
802.11ac_VHT20	0.210	0.365	0.575	57.53	2.40
802.11ac_VHT40	0.119	0.267	0.446	44.57	3.51
802.11ac_VHT80	0.078	0.199	0.392	39.20	4.07

Note:

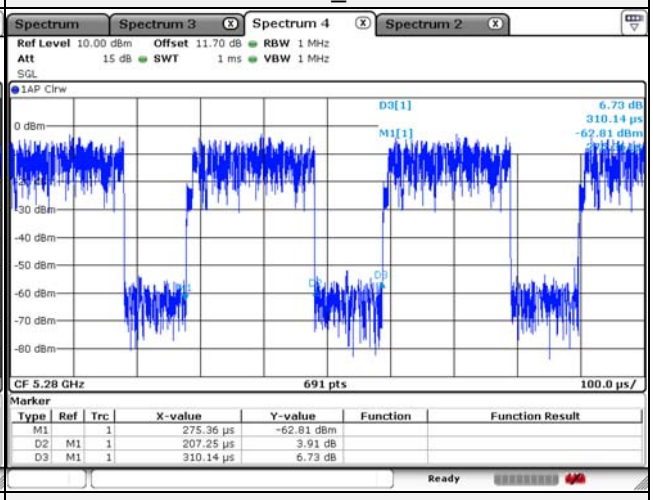
Duty cycle (Linear) = T_{on} time/Period

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

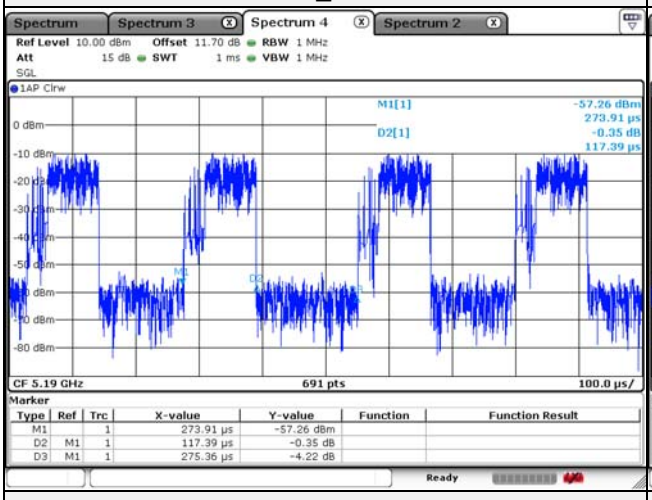
UNII-1_VHT20



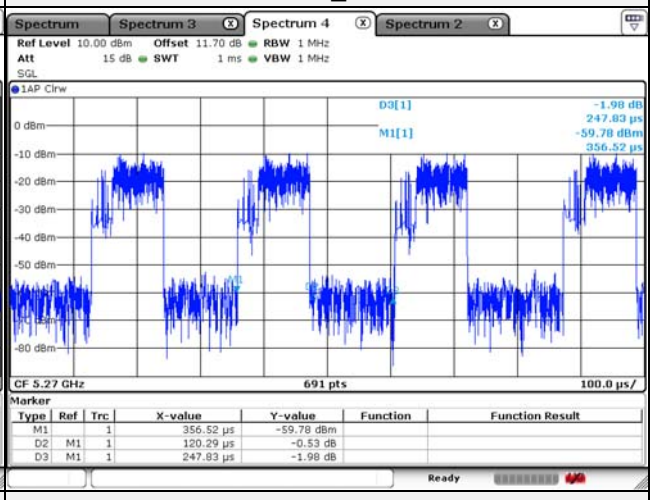
UNII-2A _VHT20



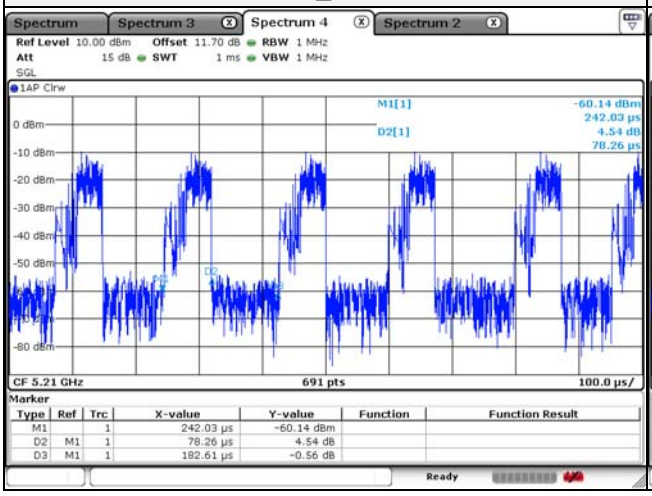
UNII-1_VHT40



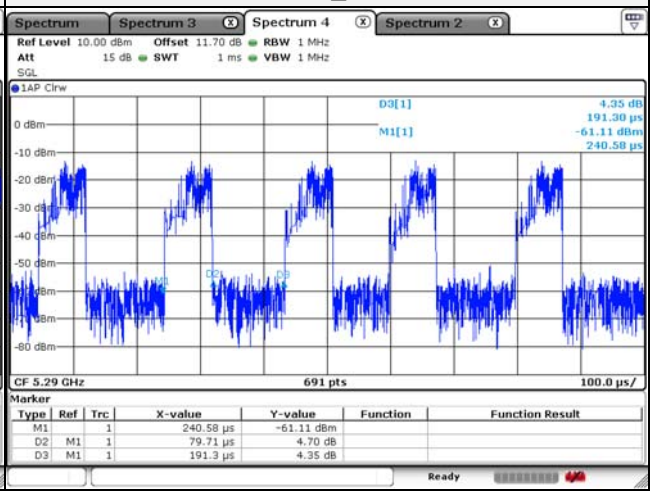
UNII-2A _VHT40



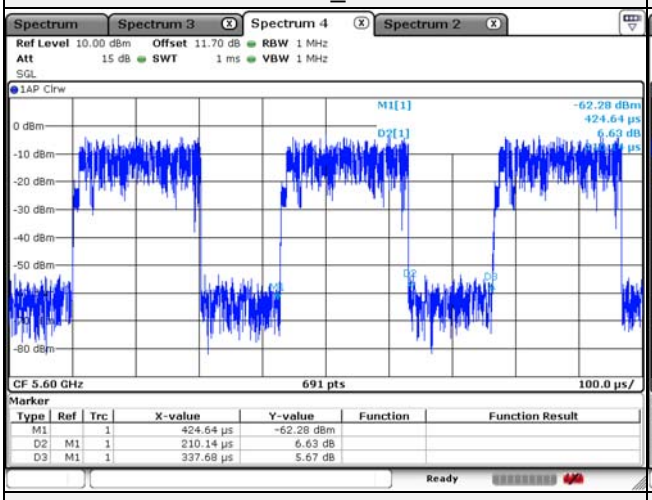
UNII-1_VHT80



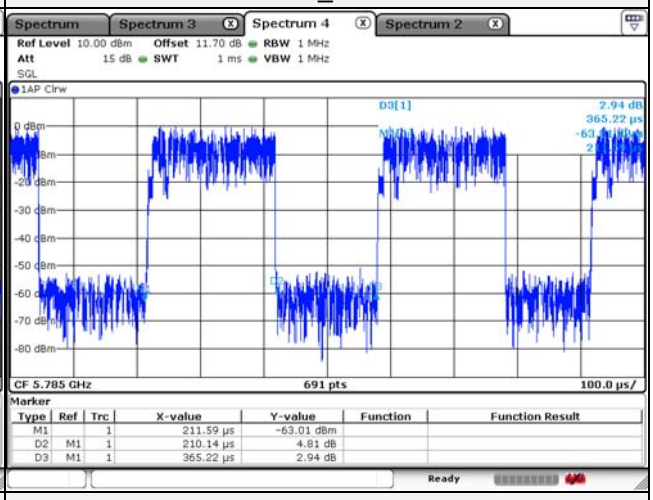
UNII-2A _VHT80



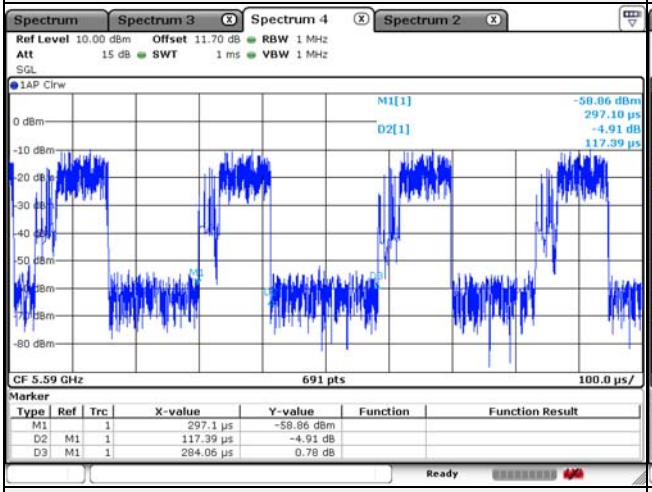
UNII-2C _VHT20



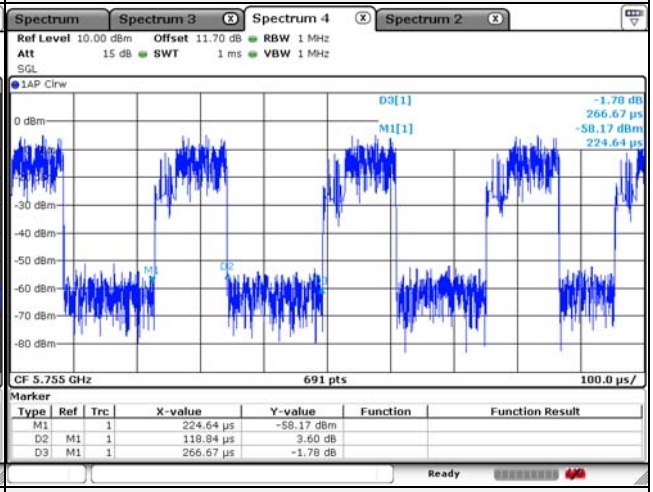
UNII-3_VHT20



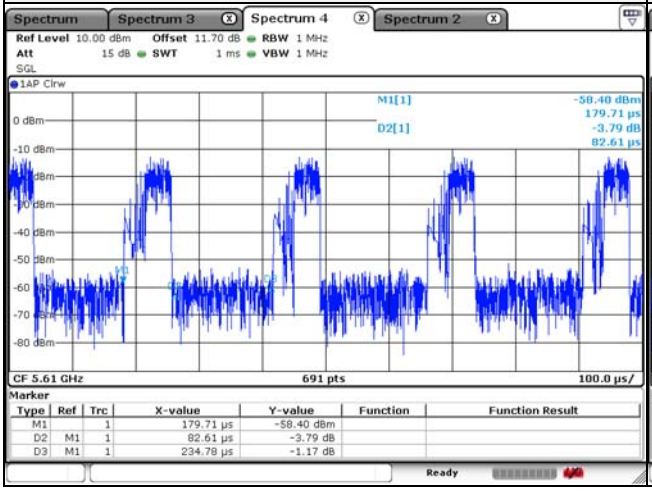
UNII-2C _VHT40



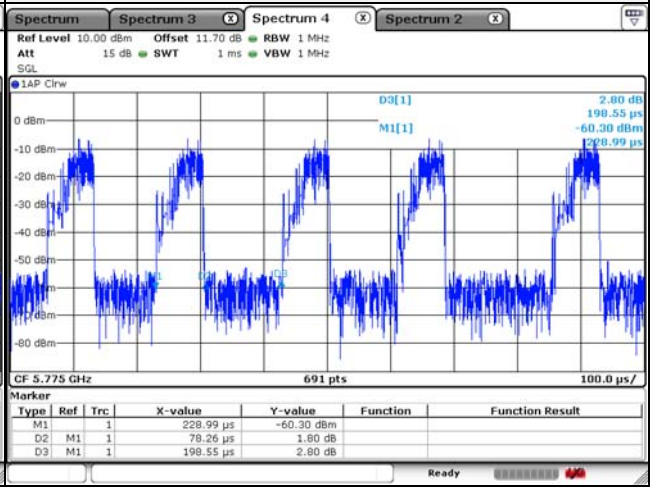
UNII-3_VHT40



UNII-2C _VHT80



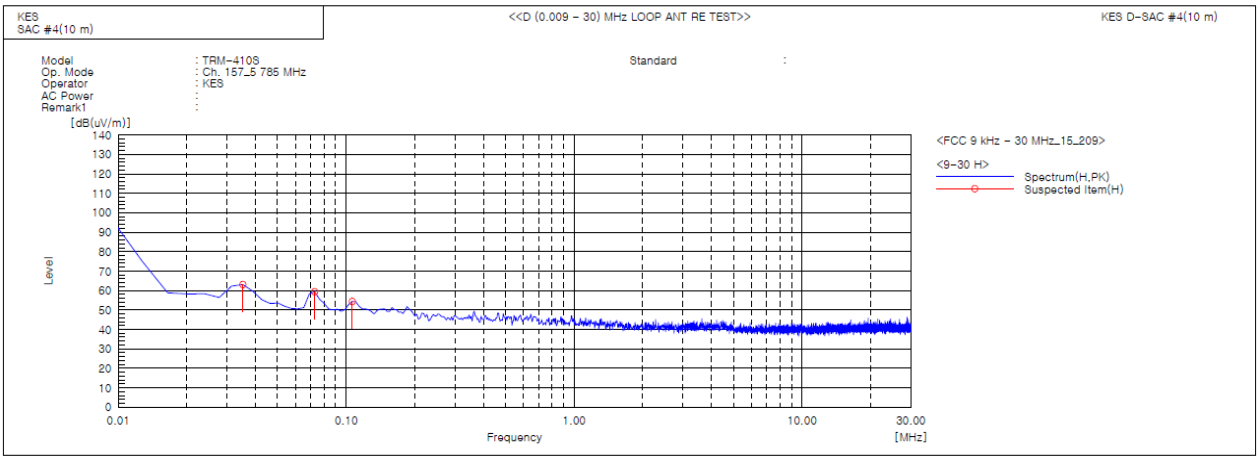
UNII-3_VHT80



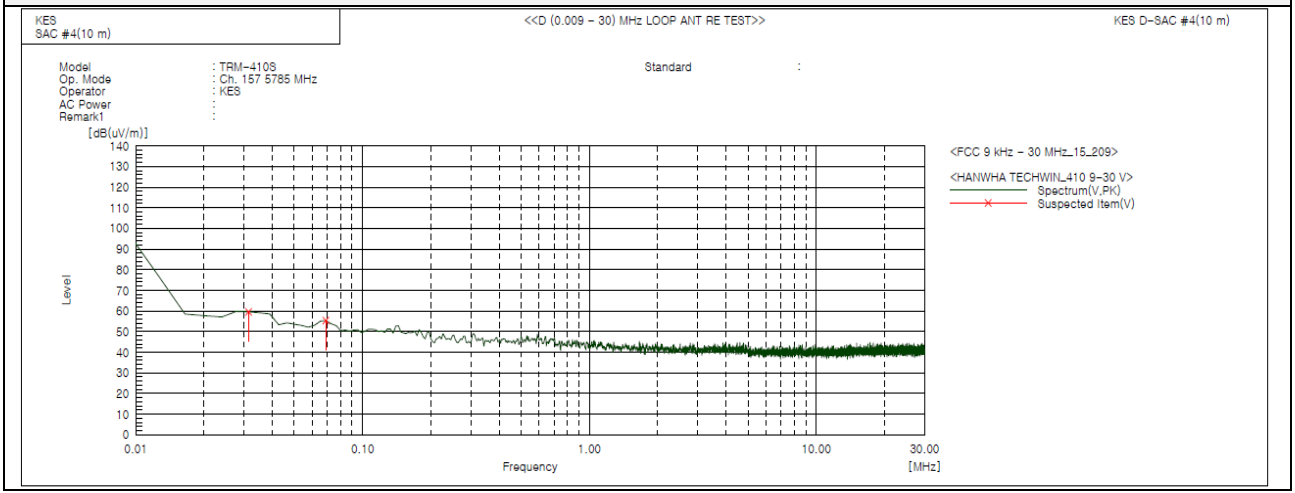
Test results (Below 30 ㎒) – Worst case

Mode:	UNII-3
Distance of measurement:	3 meter
Channel:	157(worst case)

Horizontal



Vertical

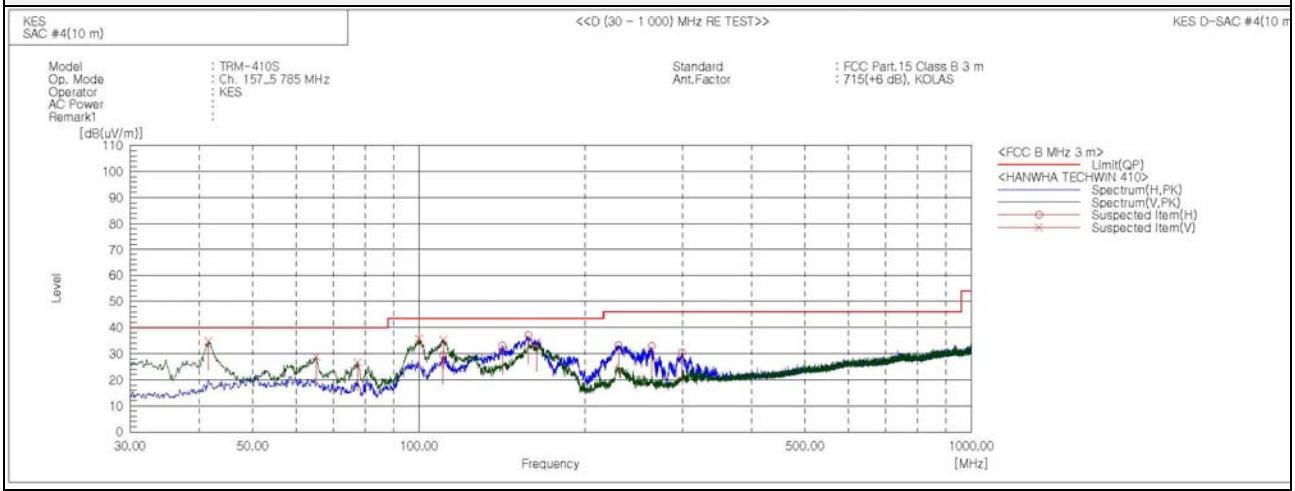


Frequency (㎒)	Level (dB㎶)	Ant. Pol. (H/V)	CF (dB)	Distance factor (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
0.035	43.60	H	19.50	-80	-16.90	36.70	53.60
0.073	39.60	H	19.70	-80	-20.70	30.40	51.10
0.106	34.60	H	19.70	-80	-25.70	27.10	52.80
0.069	35.60	V	19.70	-80	-24.70	30.80	55.50
0.031	40.20	V	19.40	-80	-20.40	37.60	58.00

Test results (Below 1 000 ㎒) – Worst case

Mode:	UNII-3
Distance of measurement:	3 meter
Channel:	157(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]	Height [cm]	Angle [deg]	Remark
1	110.631	H	53.0	-23.6	29.4	43.5	14.1	200.0	147.0	
2	141.671	H	60.1	-27.0	33.1	43.5	10.4	200.0	95.0	
3	157.919	H	63.4	-26.2	37.2	43.5	6.3	200.0	274.0	
4	229.820	H	54.7	-21.5	33.2	46.0	12.8	100.0	142.0	
5	264.013	H	53.9	-21.0	32.9	46.0	13.1	100.0	134.0	
6	299.539	H	50.4	-20.0	30.4	46.0	15.6	100.0	114.0	
7	41.640	V	57.7	-23.0	34.7	40.0	5.3	100.0	248.0	
8	65.284	V	53.0	-24.3	28.7	40.0	11.3	100.0	205.0	
9	77.409	V	54.8	-28.1	26.7	40.0	13.3	150.0	145.0	
10	100.083	V	59.0	-23.3	35.7	43.5	7.8	100.0	4.0	
11	110.753	V	58.9	-23.6	35.3	43.5	8.2	100.0	161.0	
12	163.618	V	59.9	-25.7	34.2	43.5	9.3	100.0	244.0	

Test results (Above 1 000 ㎒)

Mode: UNII-1(VHT20)

Distance of measurement: 3 meter

Channel: 36

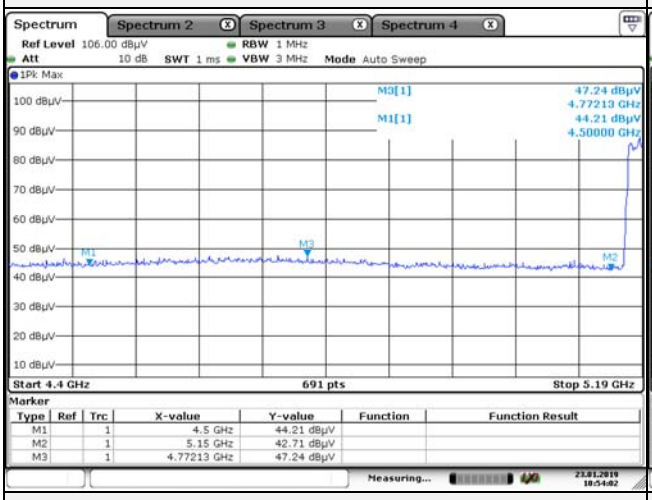
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 010.90	49.15	Peak	H	-8.58	-	40.57	74.00	33.43
1 047.00	49.49	Peak	V	-8.37	-	41.12	74.00	32.88
1 850.20	50.12	Peak	V	-2.35	-	47.77	68.20	20.43
2 125.20	50.72	Peak	V	-0.67	-	50.05	68.20	18.15

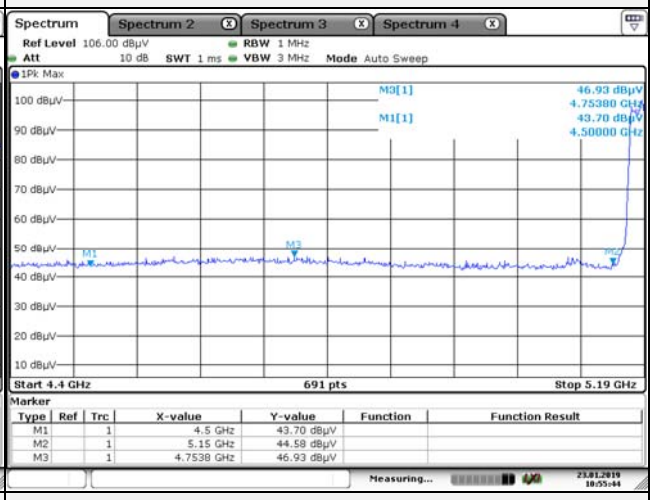
- **Band edge**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
4 772.13	47.24	Peak	H	6.75	-	53.99	74.00	20.01
4 753.80	46.93	Peak	V	6.61	-	53.54	74.00	20.46

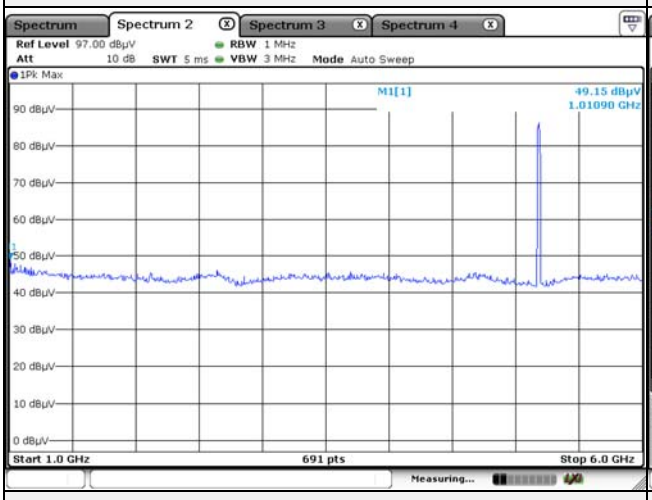
Restricted band // Horizontal // Peak



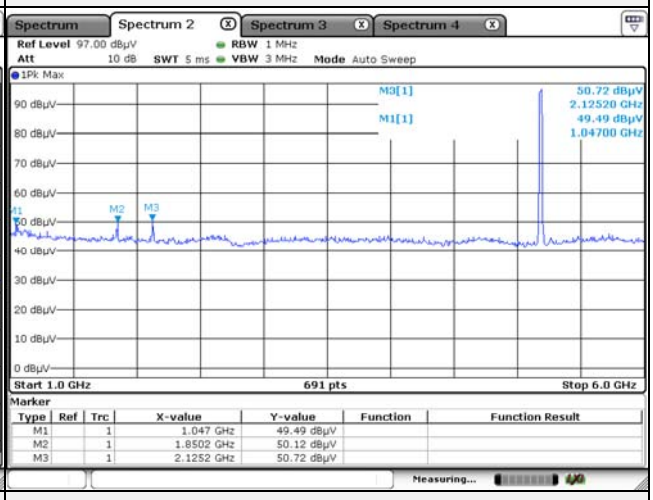
Restricted band // Vertical // Peak



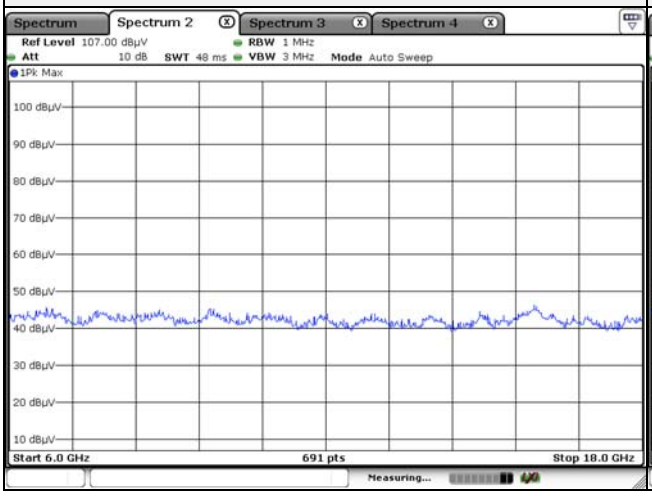
Horizontal // Peak for 1 ㎓ to 6 ㎓



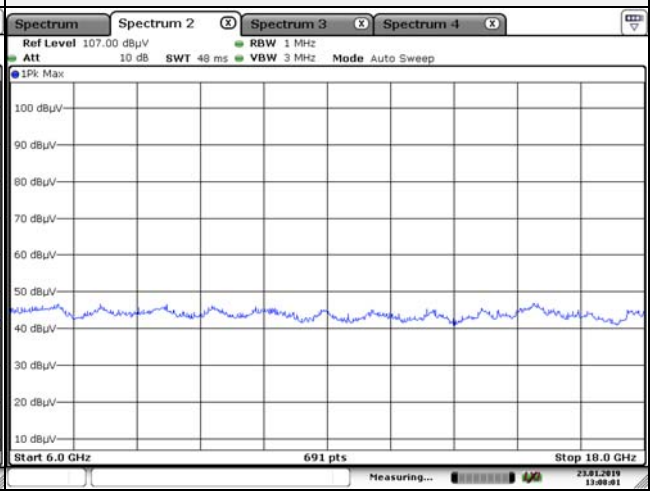
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.

Mode: UNII-1(VHT20)

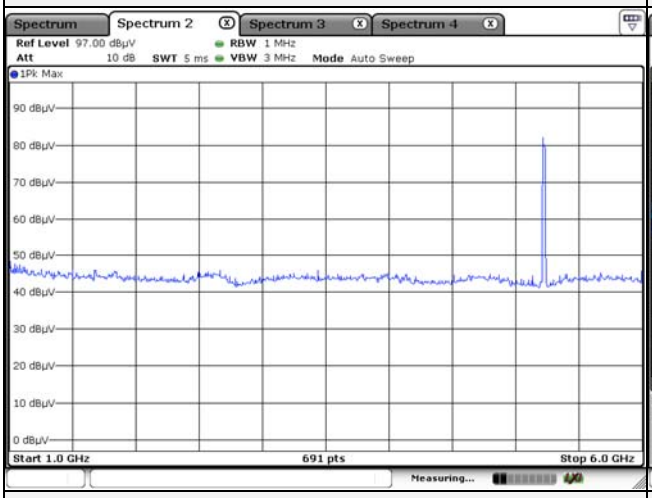
Distance of measurement: 3 meter

Channel: 44

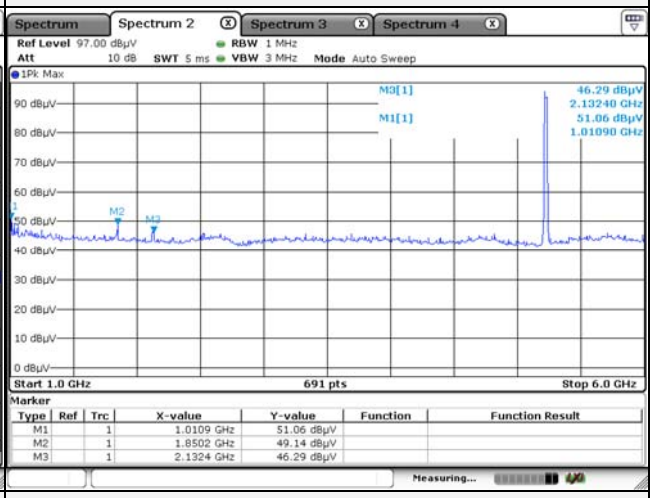
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 010.90	51.06	Peak	V	-8.58	-	42.48	74.00	31.52
1 850.20	49.14	Peak	V	-2.35	-	46.79	68.20	21.41
2 132.40	46.29	Peak	V	-0.66	-	45.63	68.20	22.57

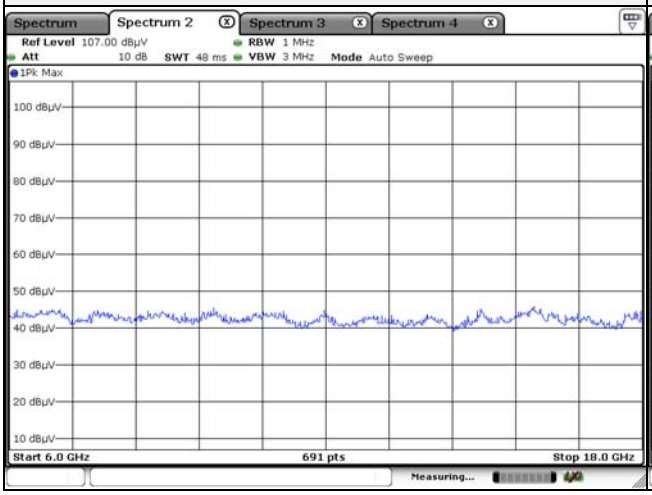
Horizontal // Peak for 1 ㎓ to 6 ㎓



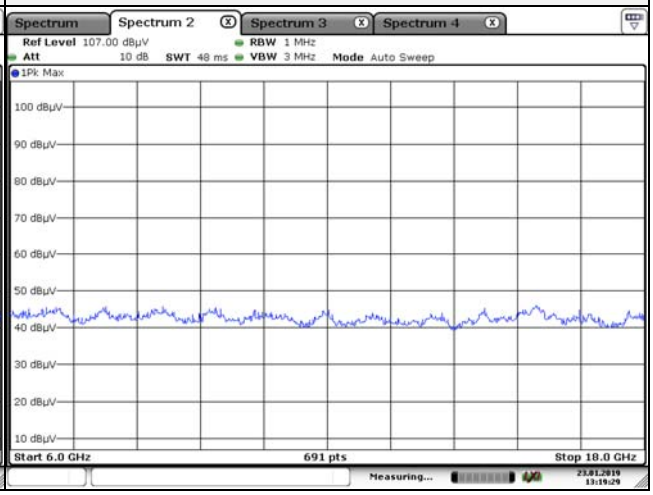
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-1(VHT20)

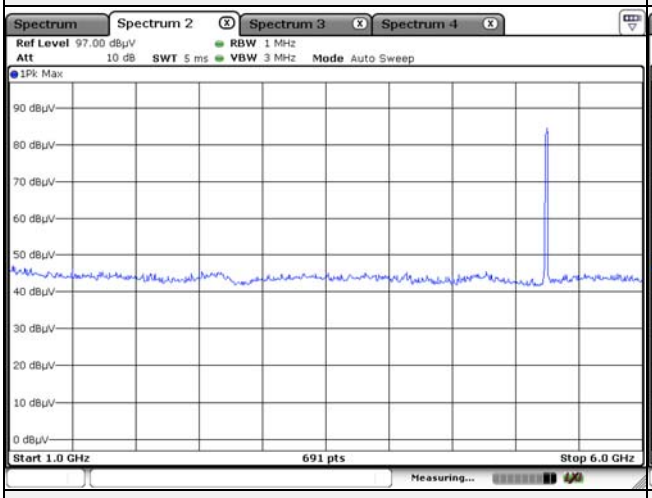
Distance of measurement: 3 meter

Channel: 48

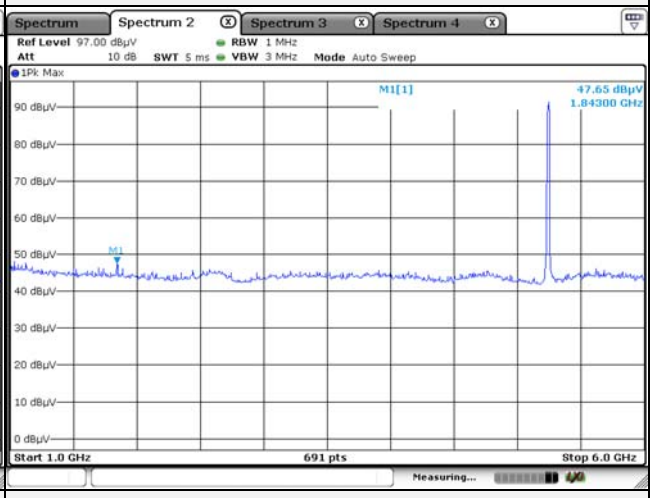
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 843.00	47.65	Peak	V	-2.42	-	45.23	68.20	22.97

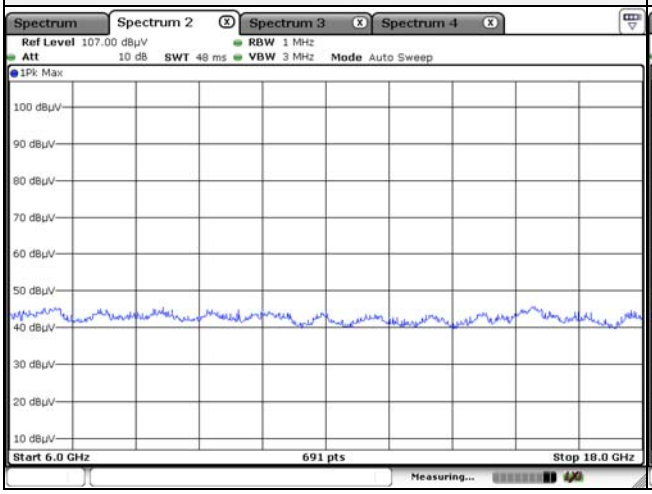
Horizontal // Peak for 1 ㎓ to 6 ㎓



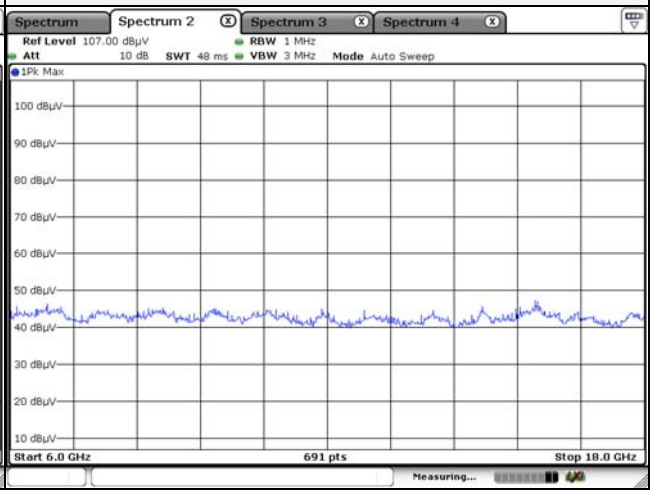
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-2A(VHT20)

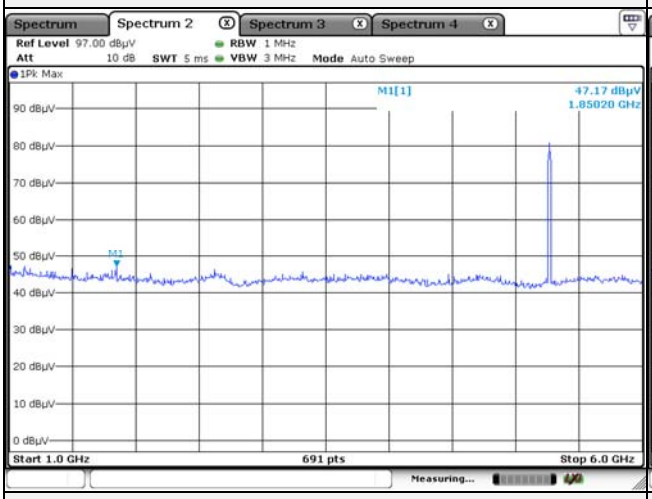
Distance of measurement: 3 meter

Channel: 52

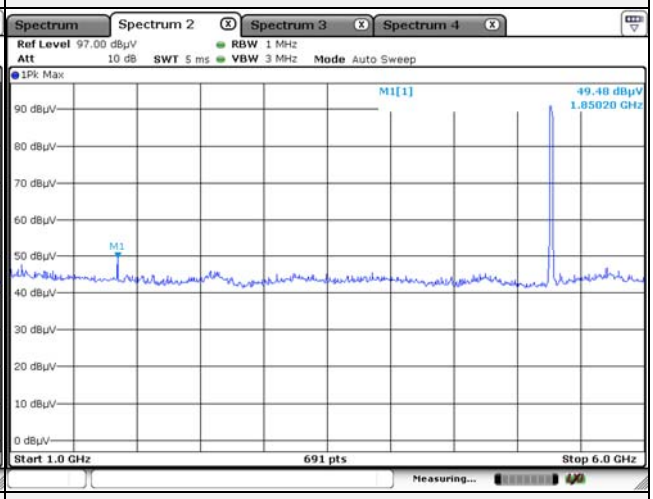
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 850.20	47.17	Peak	H	-2.35	-	44.82	68.20	23.38
1 850.20	49.48	Peak	V	-2.35	-	47.13	68.20	21.07

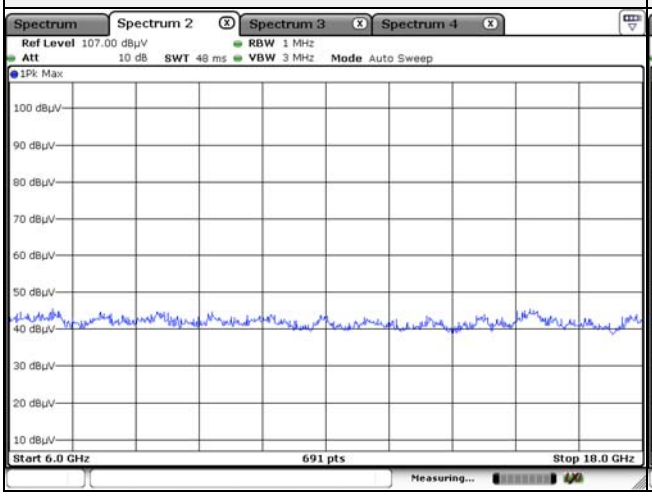
Horizontal // Peak for 1 ㎓ to 6 ㎓



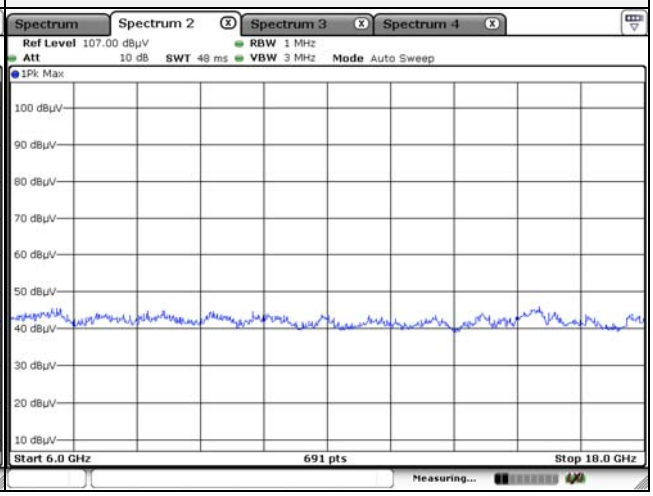
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



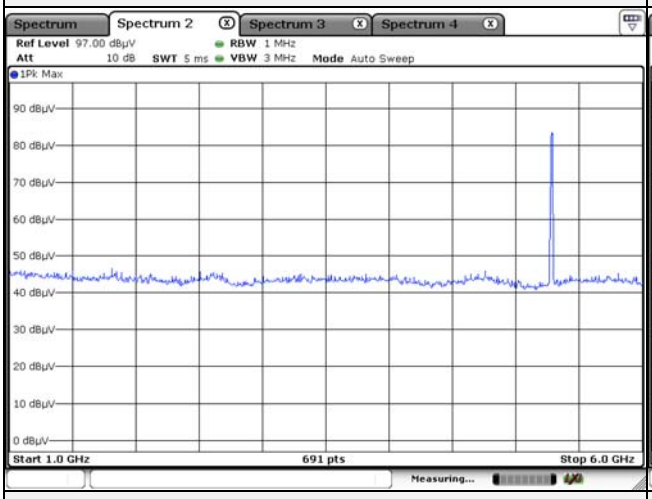
Note.
1. No spurious emission were detected above 6 ㎓.

Mode:	UNII-2A(VHT20)
Distance of measurement:	3 meter
Channel:	56

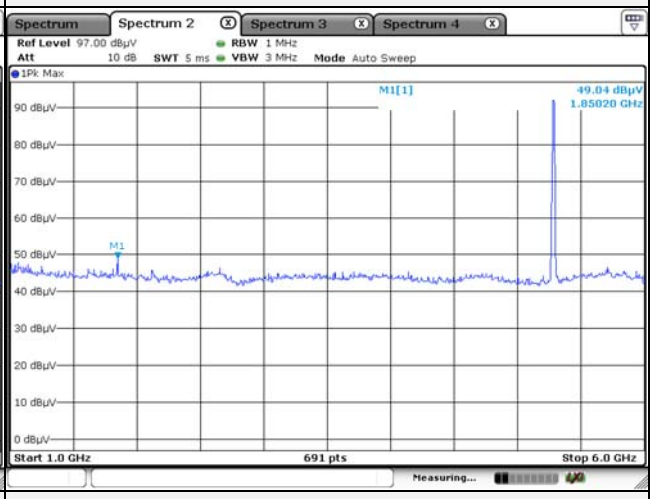
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 850.20	49.04	Peak	V	-2.35	-	46.69	68.20	21.51

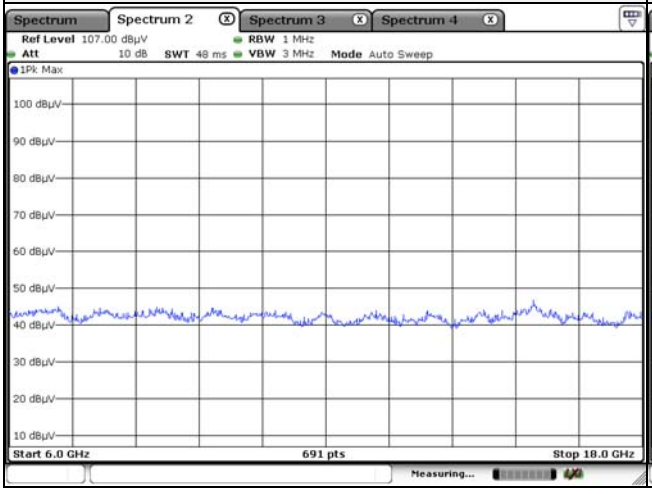
Horizontal // Peak for 1 ㎓ to 6 ㎓



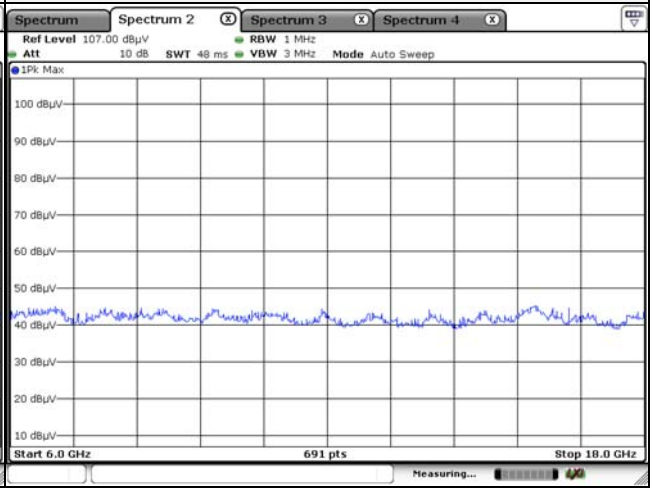
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-2A(VHT20)

Distance of measurement: 3 meter

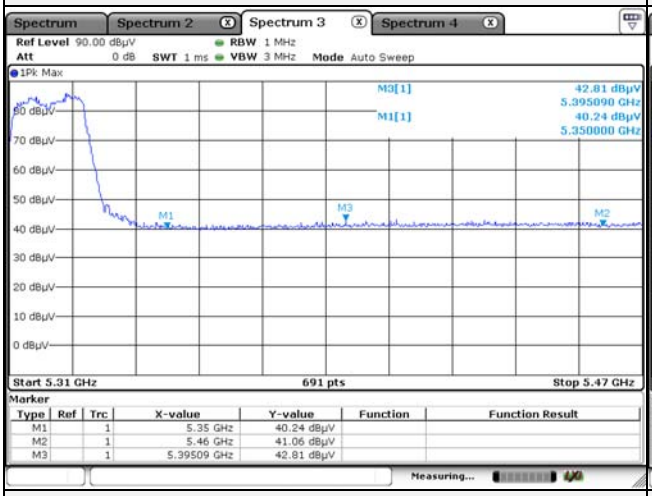
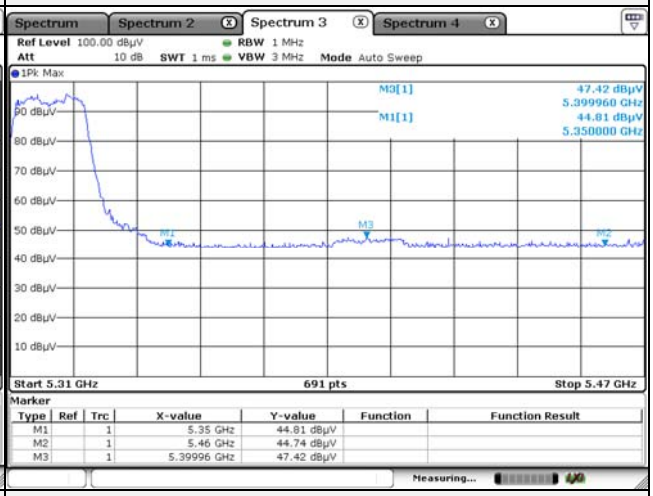
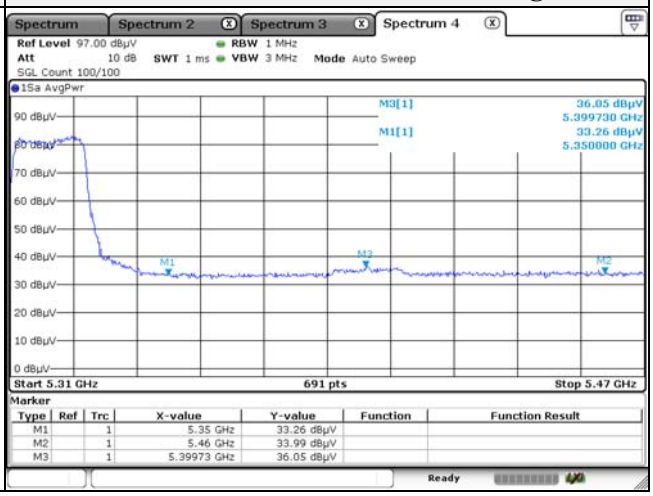
Channel: 64

- **Spurious**

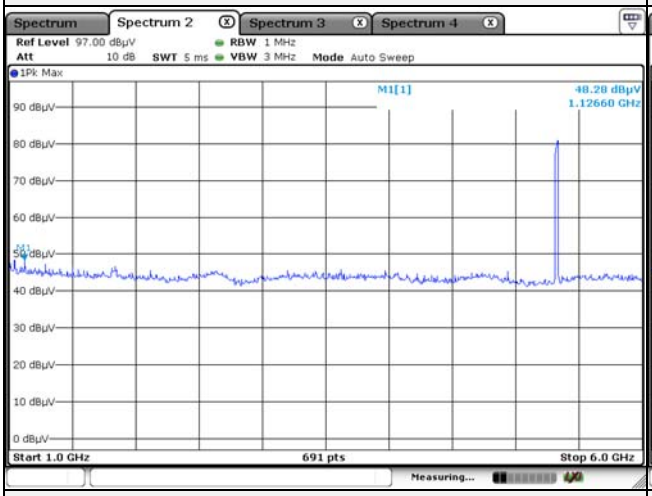
Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 126.60	48.28	Peak	H	-7.93	-	40.35	74.00	33.65
1 843.00	49.12	Peak	V	-2.42	-	46.70	68.20	21.50
2 125.20	47.09	Peak	V	-0.67	-	46.42	68.20	21.78

- **Band edge**

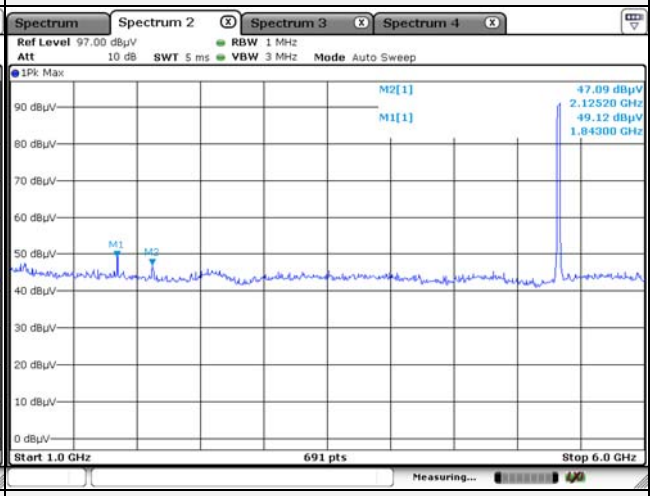
Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 395.09	42.81	Peak	H	7.89	-	50.70	74.00	23.30
5 399.96	47.42	Peak	V	7.88	-	55.30	74.00	18.70
5 399.73	36.05	Average	H	7.88	1.75	45.68	54.00	8.32

Restricted band // Horizontal // Peak	Restricted band // Vertical // Peak
	
Restricted band // Horizontal // Average	**Restricted band // Vertical // Average**
Blank	

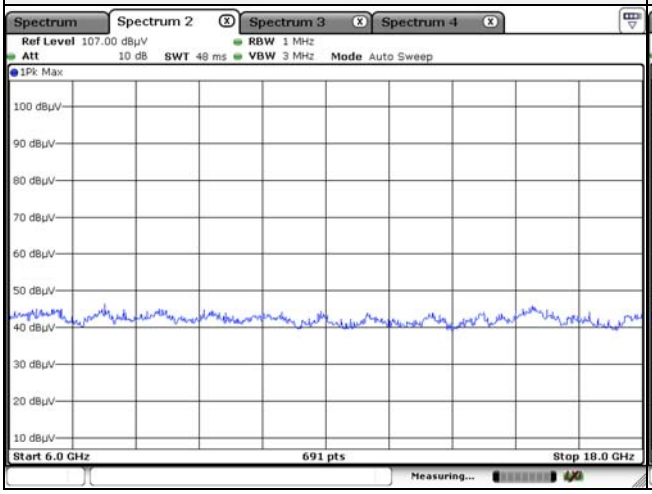
Horizontal // Peak for 1 ㎓ to 6 ㎓



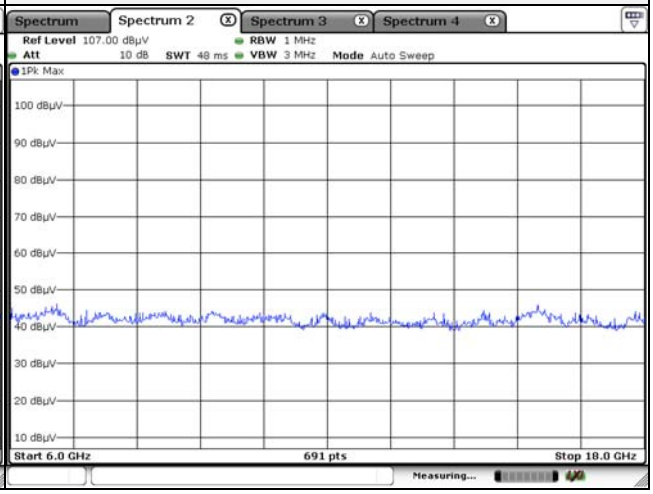
Vertical // Peak for 1 ㎓ to 6 ㎓



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.

Mode: UNII-2C(VHT20)

Distance of measurement: 3 meter

Channel: 100

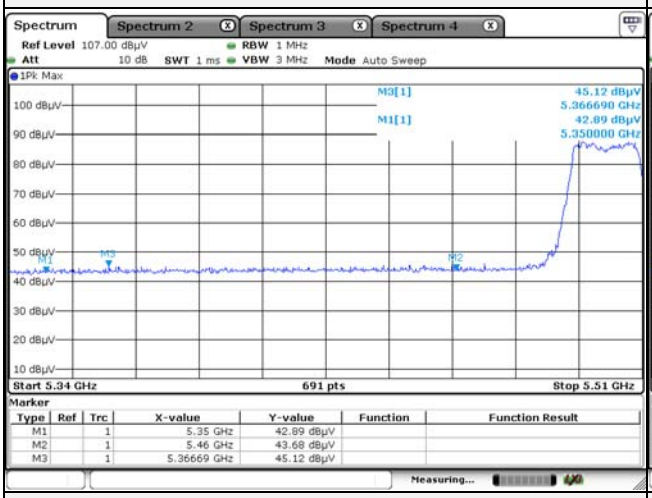
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 018.10	48.72	Peak	V	-8.54	-	40.18	74.00	33.82
1 850.20	48.05	Peak	V	-2.35	-	45.70	68.20	22.50
2 117.90	46.76	Peak	V	-0.69	-	46.07	68.20	22.13

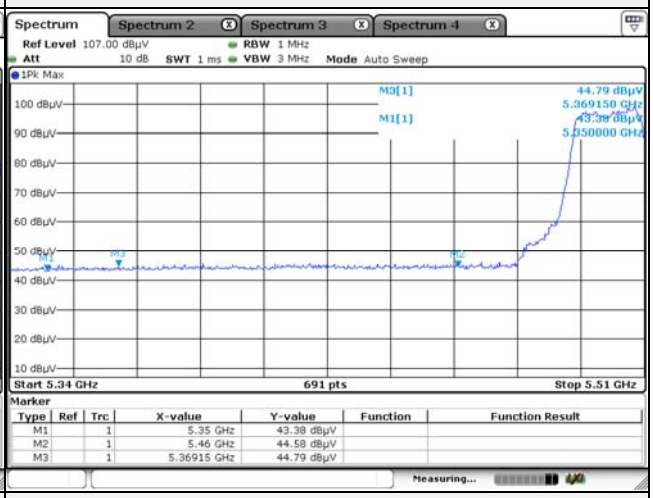
- **Band edge**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 366.69	45.12	Peak	H	7.92	-	53.04	74.00	20.96
5 369.15	44.79	Peak	H	7.92	-	52.71	74.00	21.29

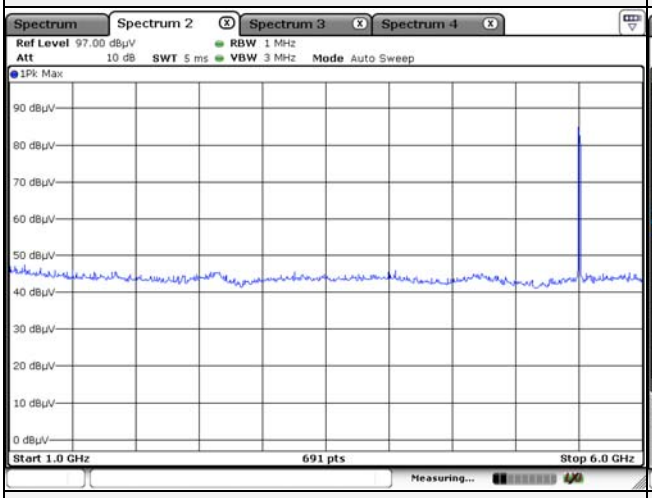
Restricted band // Horizontal // Peak



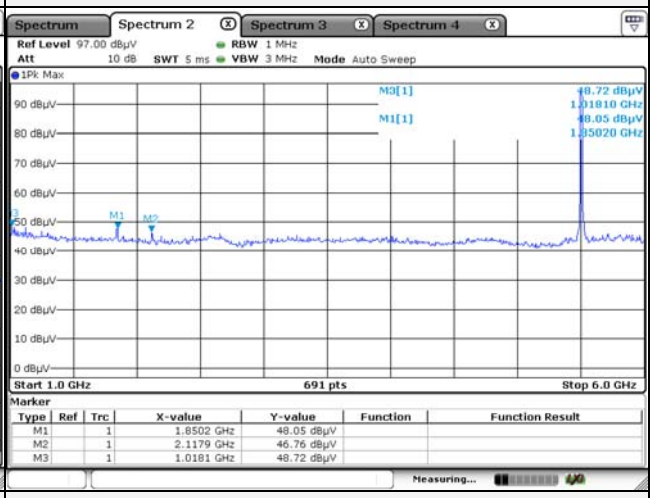
Restricted band // Vertical // Peak



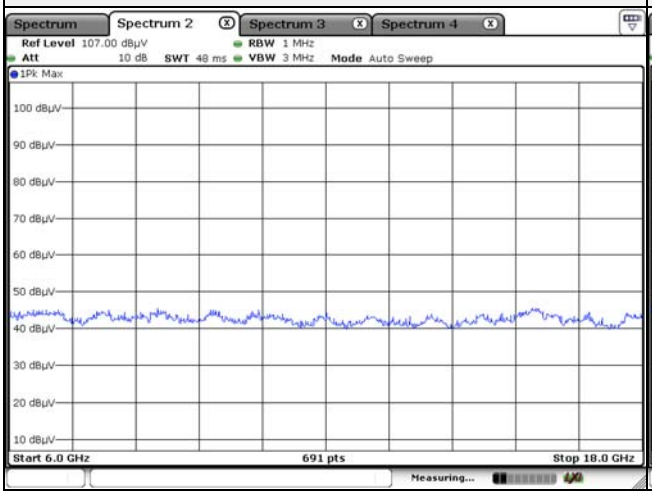
Horizontal // Peak for 1 ㎓ to 6 ㎓



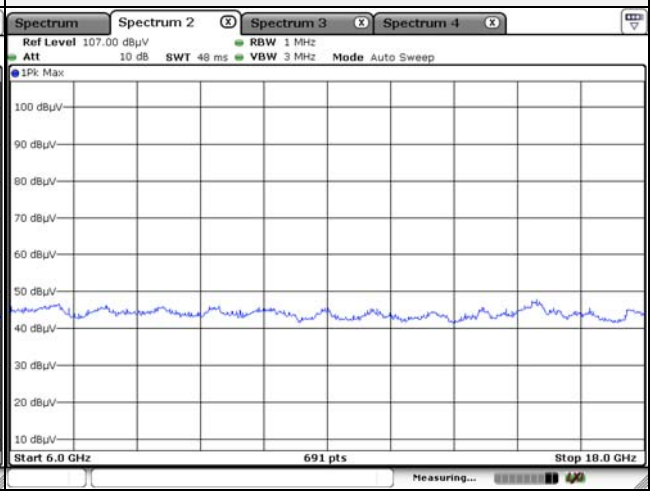
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.

Mode: UNII-2C(VHT20)

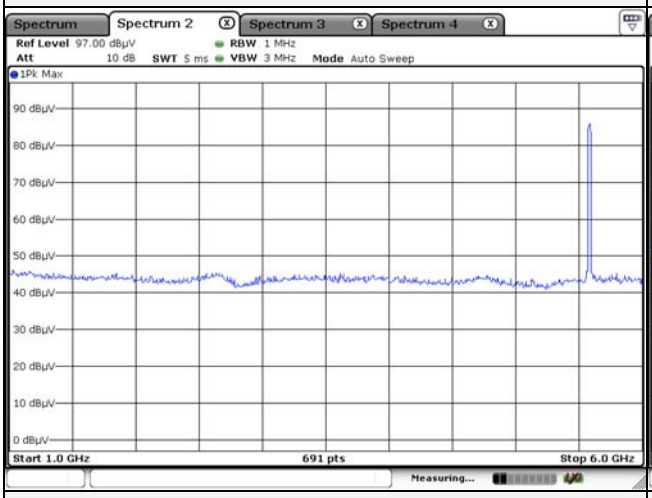
Distance of measurement: 3 meter

Channel: 120

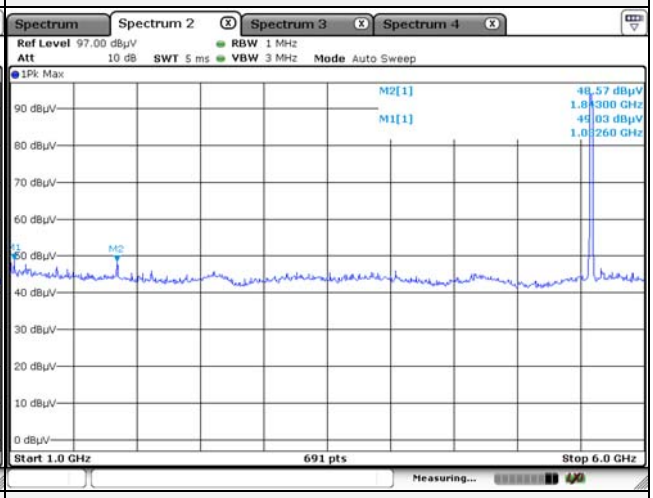
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 032.60	49.03	Peak	V	-8.46	-	40.57	74.00	33.43
1 843.00	48.57	Peak	V	-2.42	-	46.15	68.20	22.05

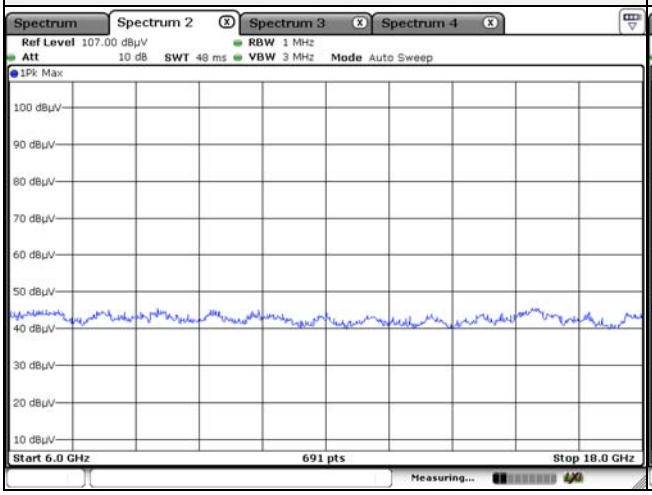
Horizontal // Peak for 1 ㎓ to 6 ㎓



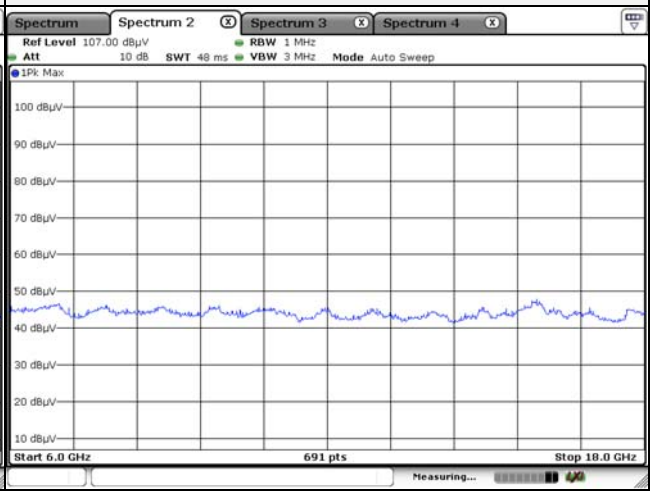
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-2C(VHT20)

Distance of measurement: 3 meter

Channel: 140

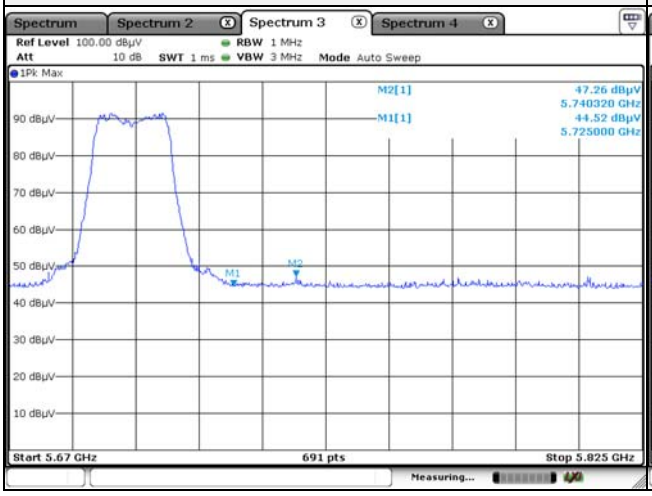
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 495.70	49.74	Peak	V	-5.69	-	44.05	74.00	29.95
1 850.20	47.63	Peak	V	-2.35	-	45.28	68.20	22.92

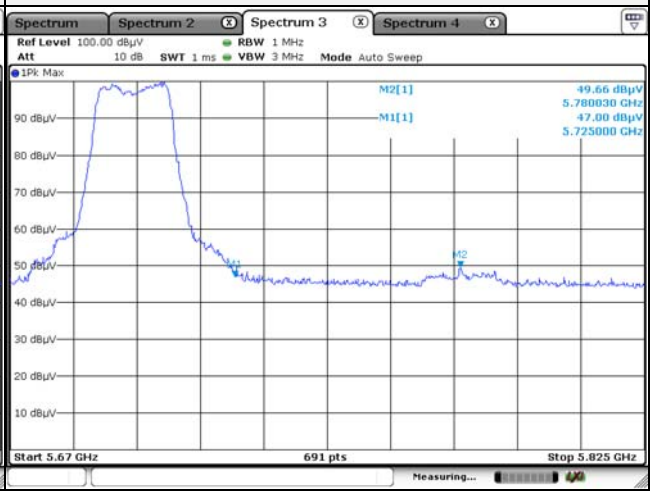
- **Band edge**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 740.32	47.26	Peak	H	8.85	-	56.11	68.20	12.09
5 780.03	49.66	Peak	V	9.04	-	58.70	68.20	9.50

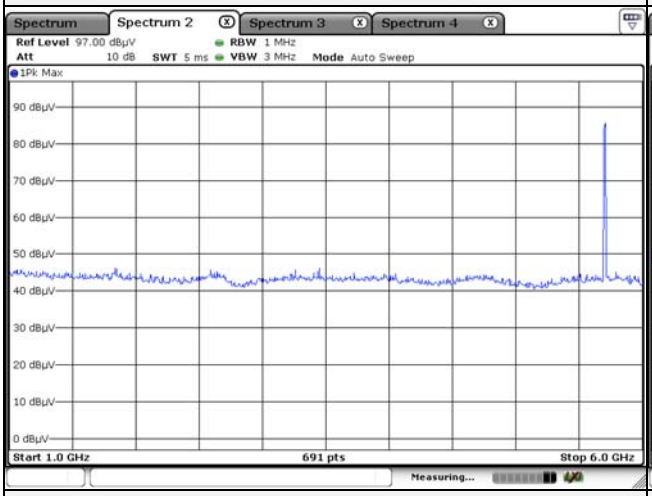
Restricted band // Horizontal // Peak



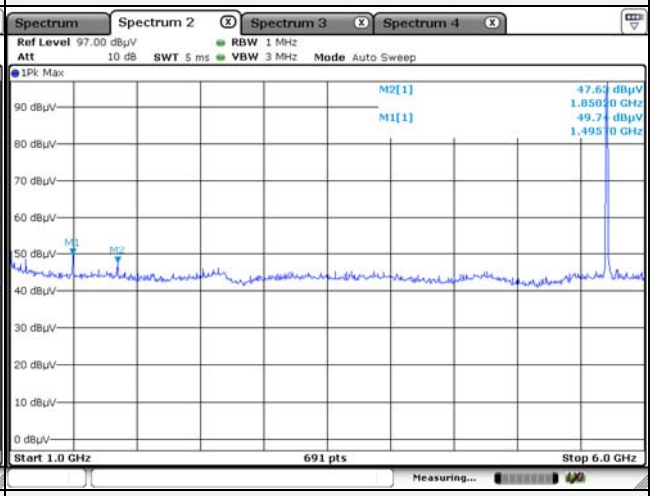
Restricted band // Vertical // Peak



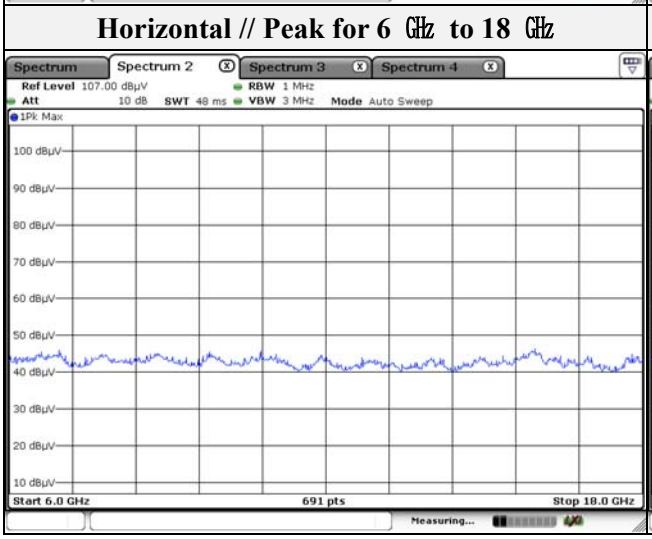
Horizontal // Peak for 1 ㎓ to 6 ㎓



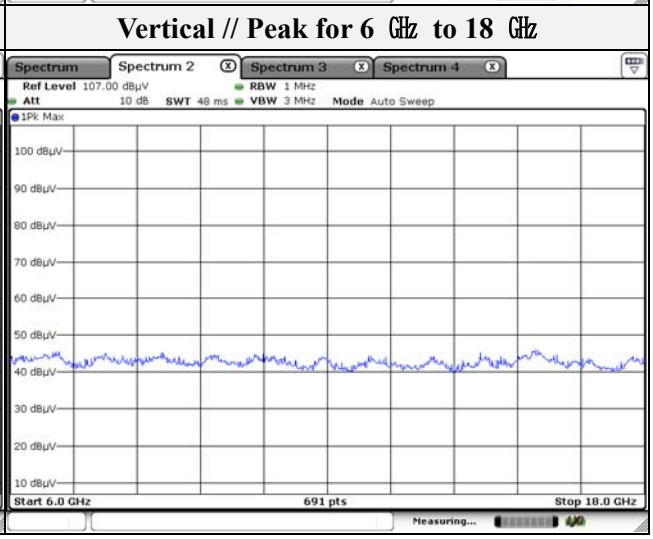
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-2C(VHT20)

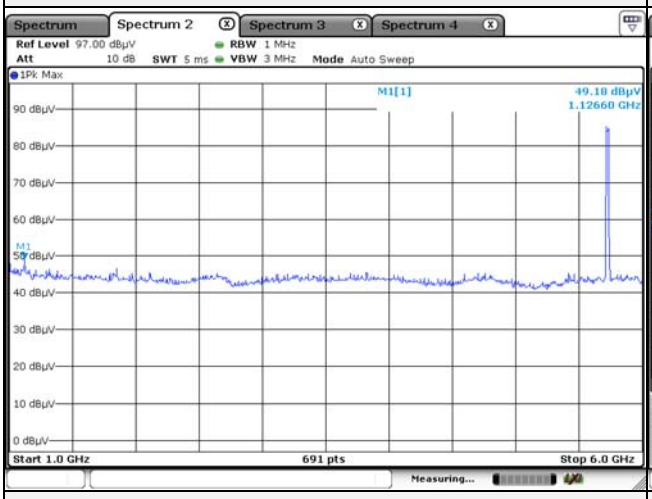
Distance of measurement: 3 meter

Channel: 144

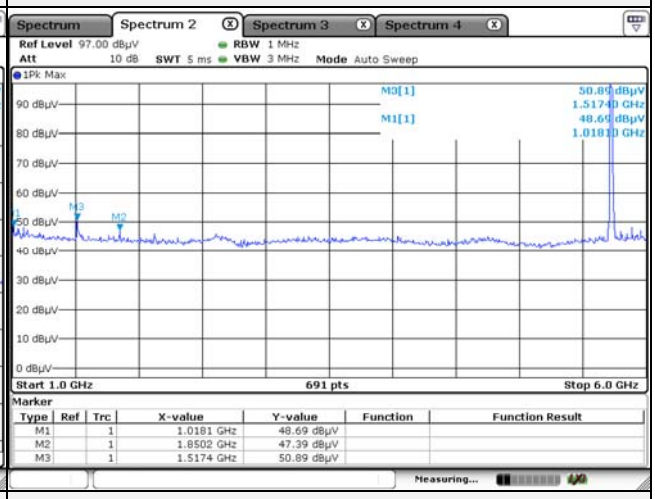
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 126.60	49.18	Peak	H	-7.93	-	41.25	74.00	32.75
1 018.10	48.69	Peak	V	-8.54	-	40.15	74.00	33.85
1 517.40	50.89	Peak	V	-5.51	-	45.38	74.00	28.62
1 850.20	47.39	Peak	V	-2.35	-	45.04	68.20	23.16

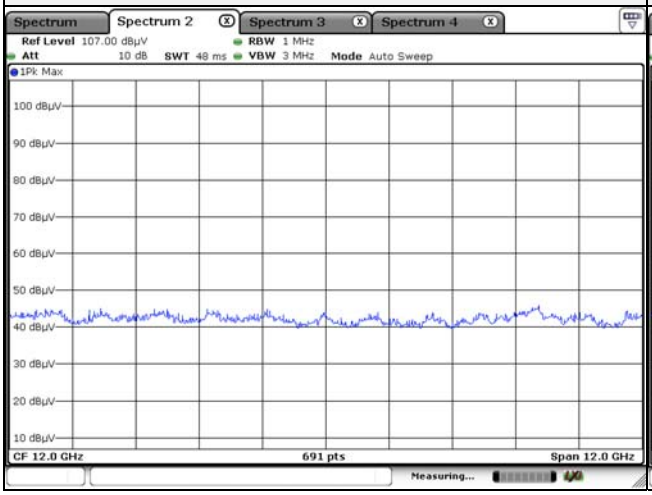
Horizontal // Peak for 1 ㎓ to 6 ㎓



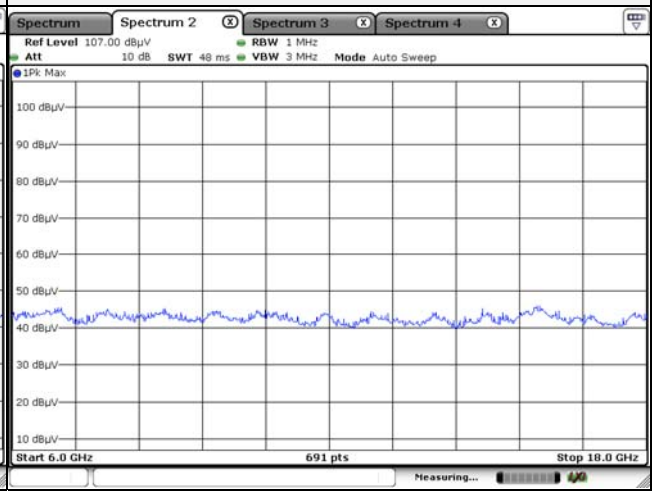
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-3(VHT20)

Distance of measurement: 3 meter

Channel: 149

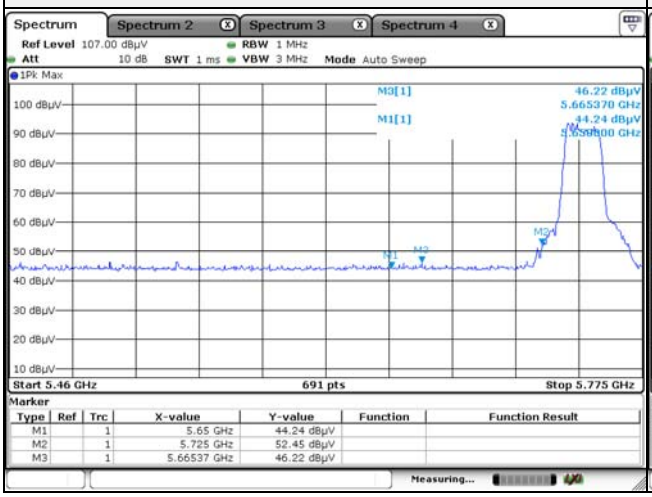
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 850.20	47.79	Peak	V	-2.35	-	45.44	68.20	22.76

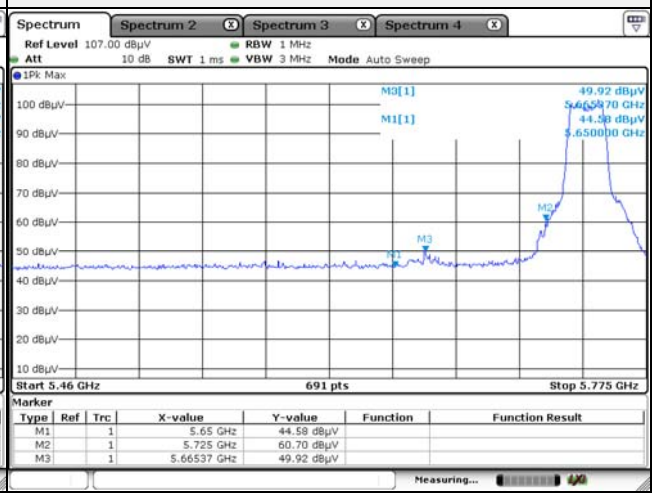
- **Band edge**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 665.37	46.22	Peak	H	8.49	-	54.71	79.57	24.86
5 725.00	52.45	Peak	H	8.77	-	61.22	122.20	60.98
5 665.37	49.92	Peak	V	8.49	-	58.41	79.57	21.16
5 725.00	60.70	Peak	V	8.77	-	69.47	122.20	52.73

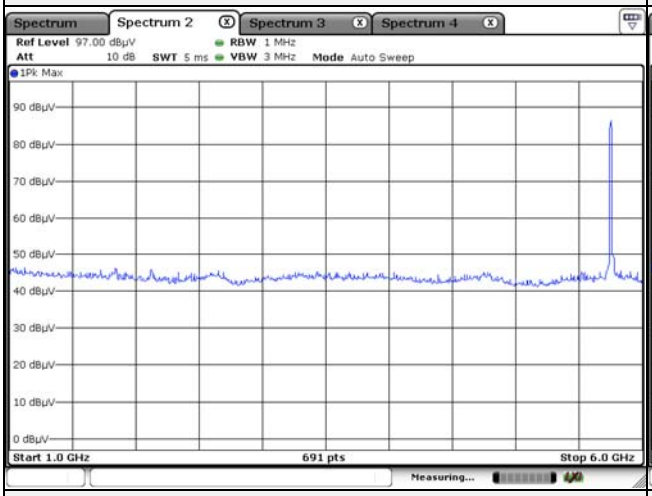
Restricted band // Horizontal // Peak



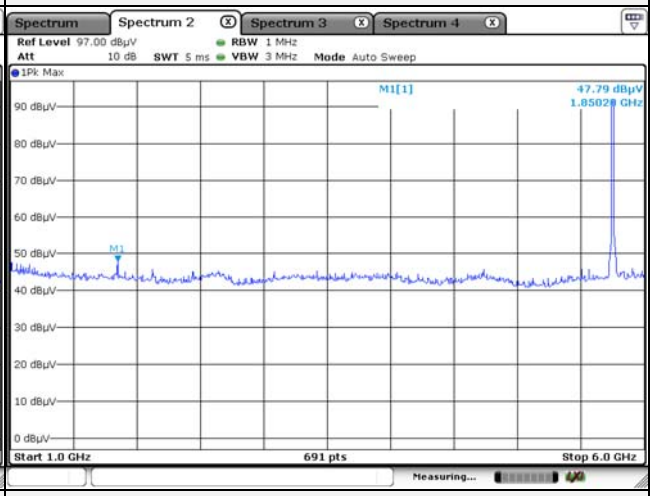
Restricted band // Vertical // Peak



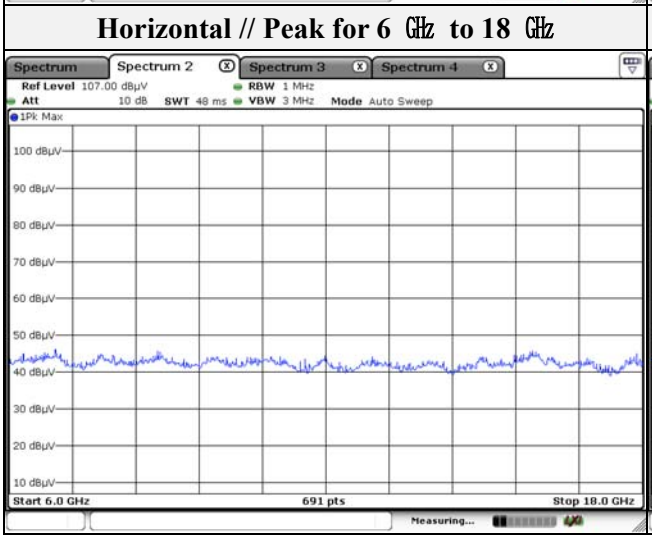
Horizontal // Peak for 1 ㎓ to 6 ㎓



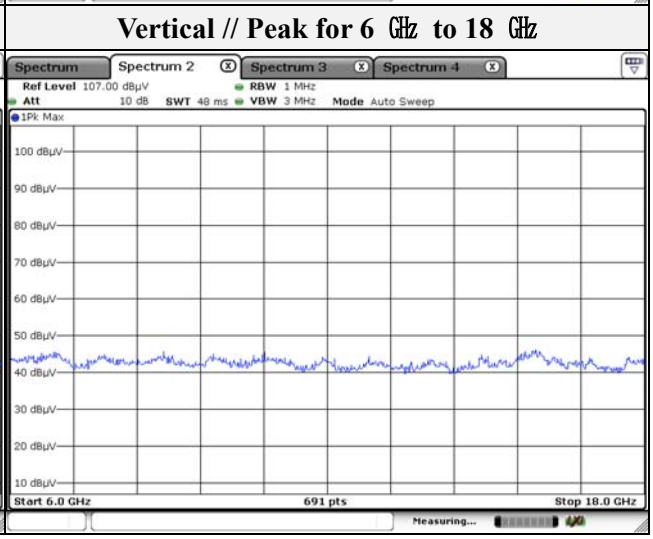
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-3(VHT20)

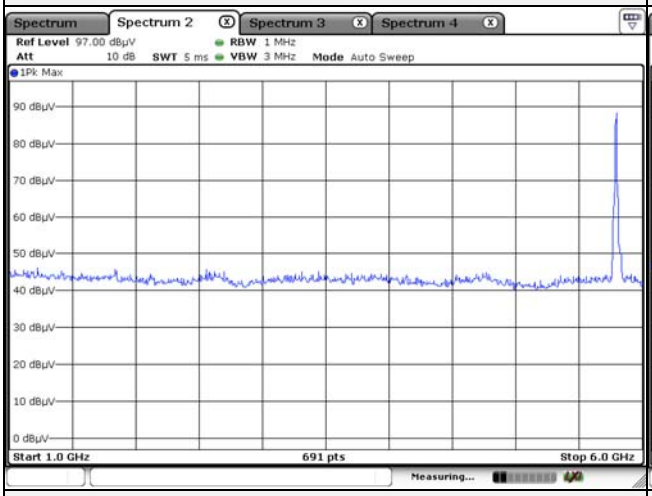
Distance of measurement: 3 meter

Channel: 157

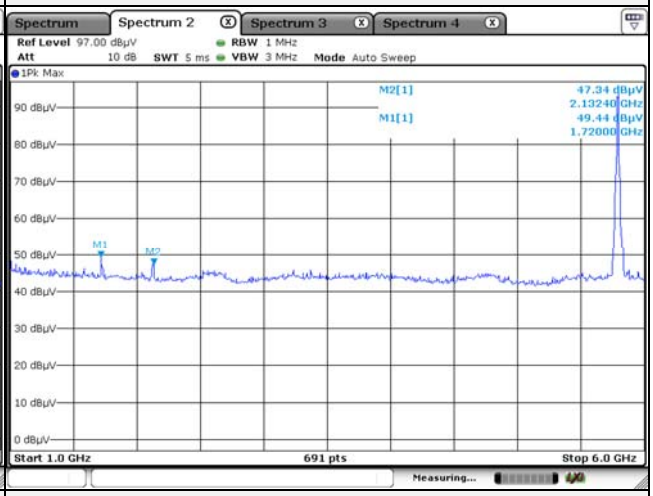
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 720.00	49.44	Peak	V	-3.59	-	45.85	74.00	28.15
2 132.40	47.34	Peak	V	-0.66	-	46.68	68.20	21.52

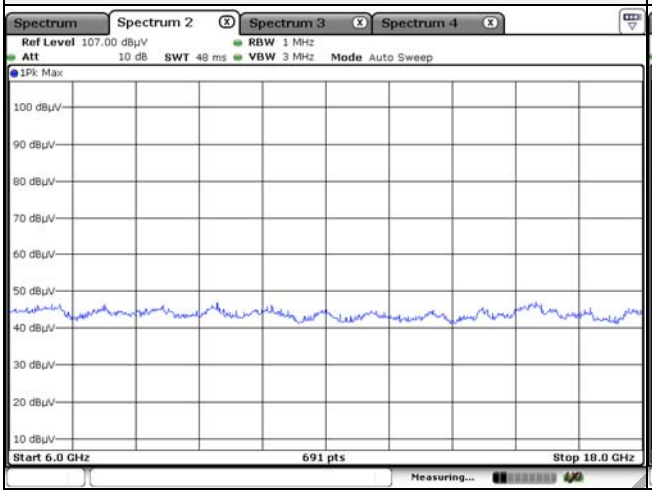
Horizontal // Peak for 1 ㎓ to 6 ㎓



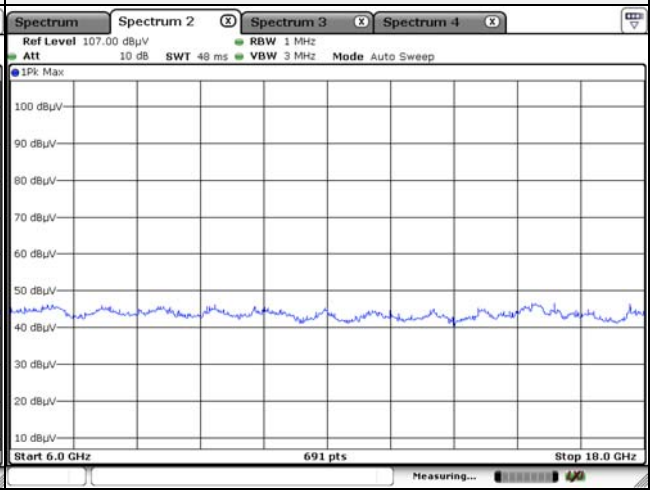
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-3(VHT20)

Distance of measurement: 3 meter

Channel: 165

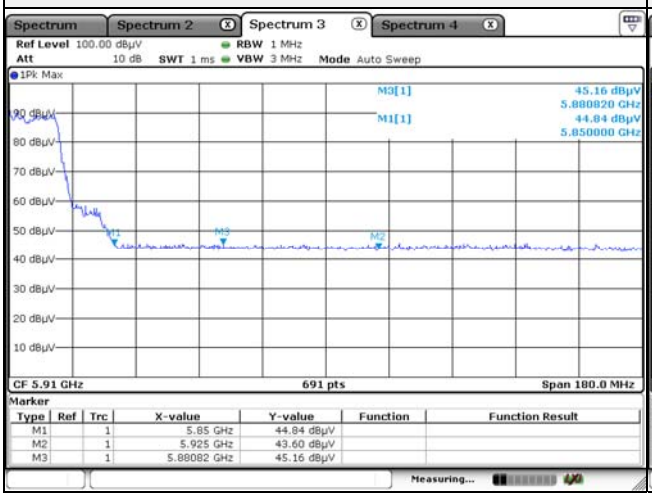
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 625.90	47.01	Peak	V	-4.51	-	42.50	74.00	31.50
2 125.20	46.60	Peak	V	-0.67	-	45.93	68.20	22.27

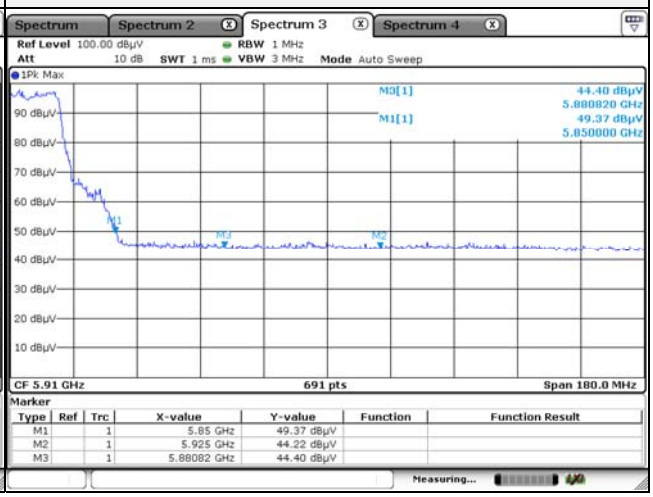
- **Band edge**

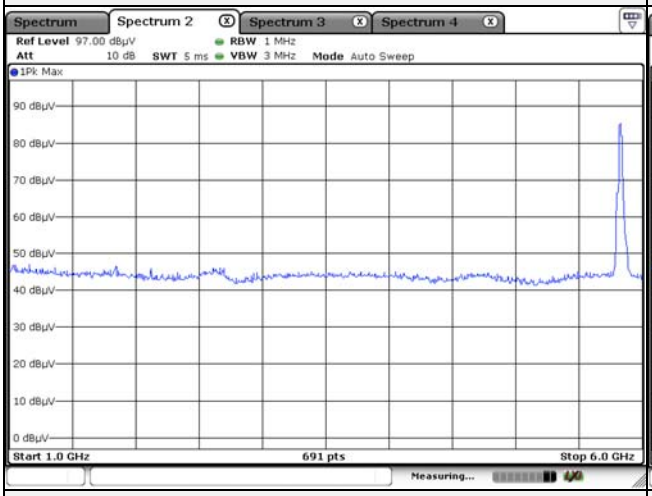
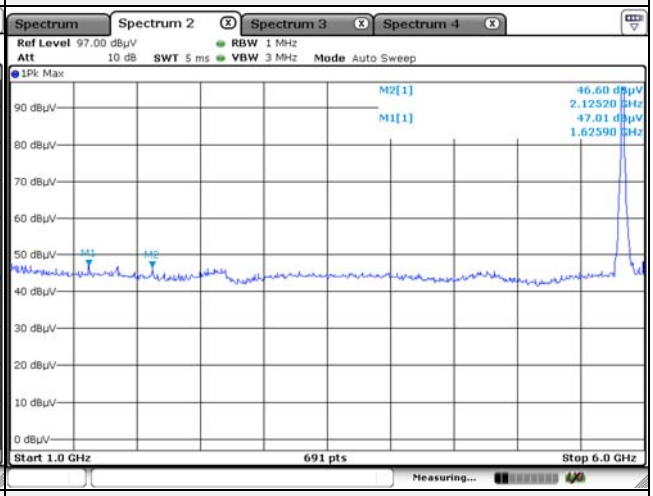
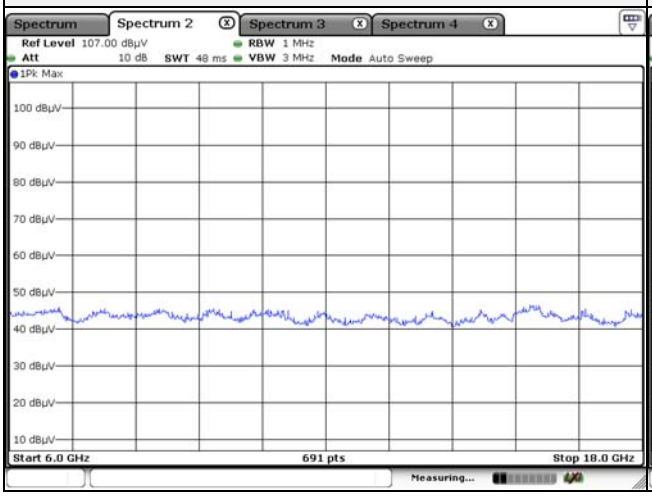
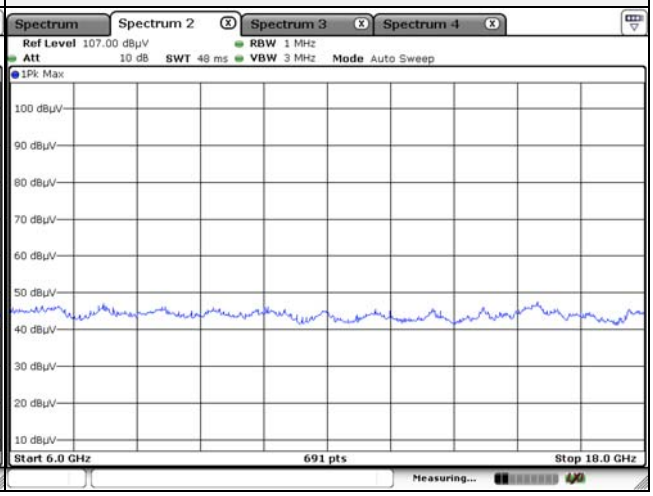
Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 850.00	44.48	Peak	H	9.32	-	53.80	122.20	68.40
5 880.82	45.16	Peak	H	9.44	-	54.60	100.41	45.81
5 850.00	49.37	Peak	V	9.32	-	58.69	122.20	63.51
5 880.82	44.40	Peak	V	9.44	-	53.84	100.41	46.57

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 ㎓.

Mode: UNII-1(VHT40)

Distance of measurement: 3 meter

Channel: 38

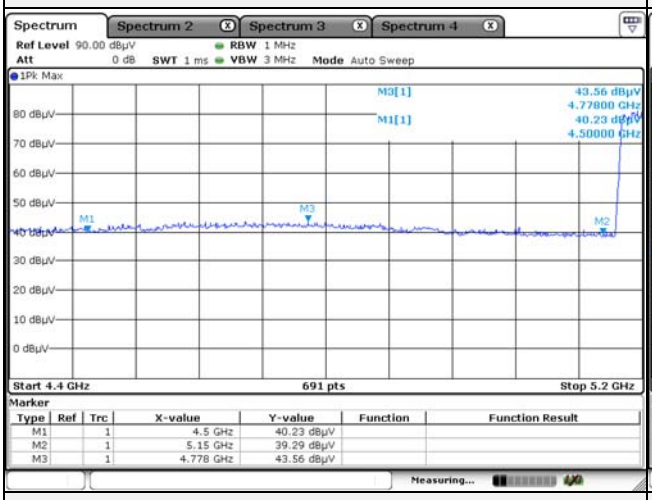
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 850.20	46.05	Peak	H	-2.35	-	43.70	68.20	24.50
1 850.20	48.81	Peak	V	-2.35	-	46.46	68.20	21.74
2 125.20	46.51	Peak	V	-0.67	-	45.84	68.20	22.36

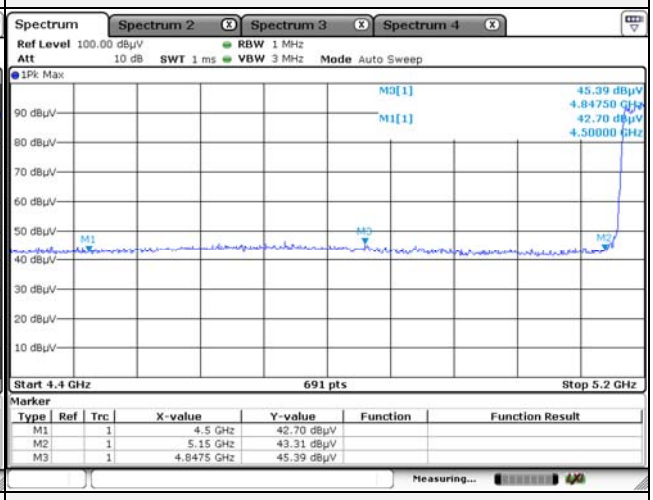
- **Band edge**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
4 778.00	43.56	Peak	H	6.80	-	50.36	74.00	23.64
4 847.50	45.39	Peak	V	7.32	-	52.71	74.00	21.29

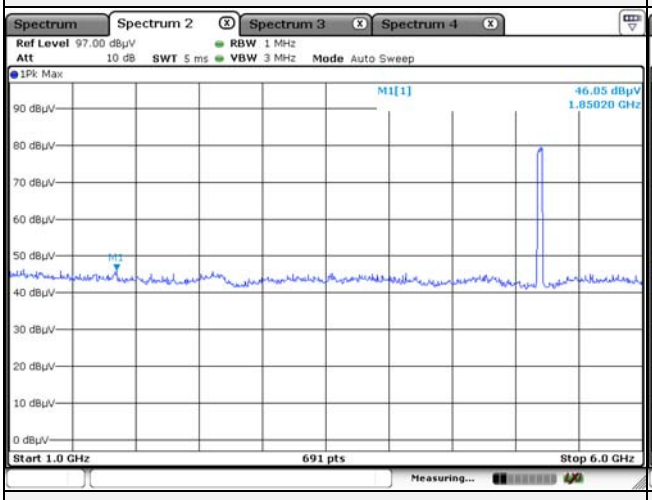
Restricted band // Horizontal // Peak



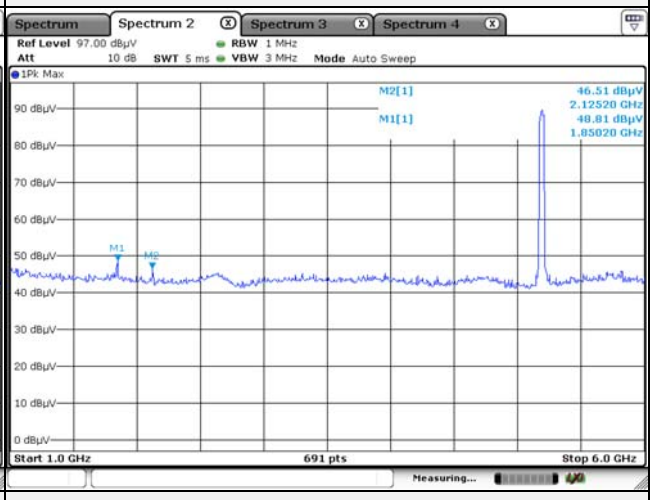
Restricted band // Vertical // Peak



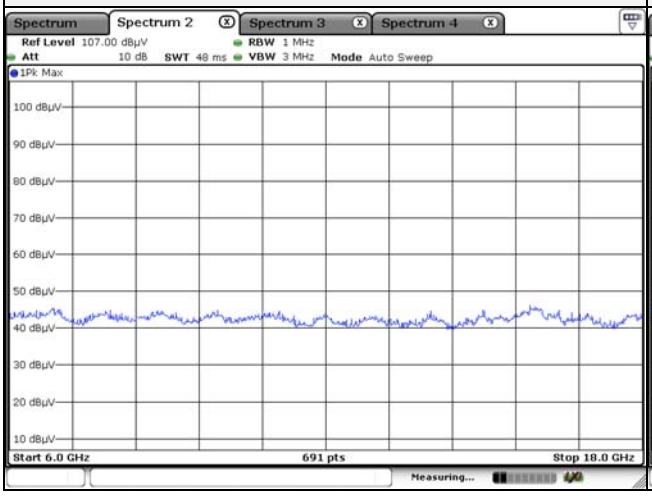
Horizontal // Peak for 1 ㎓ to 6 ㎓



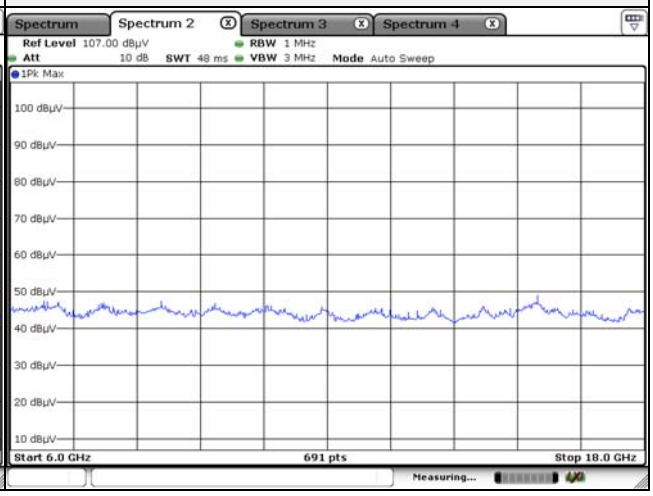
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.

Mode: UNII-1(VHT40)

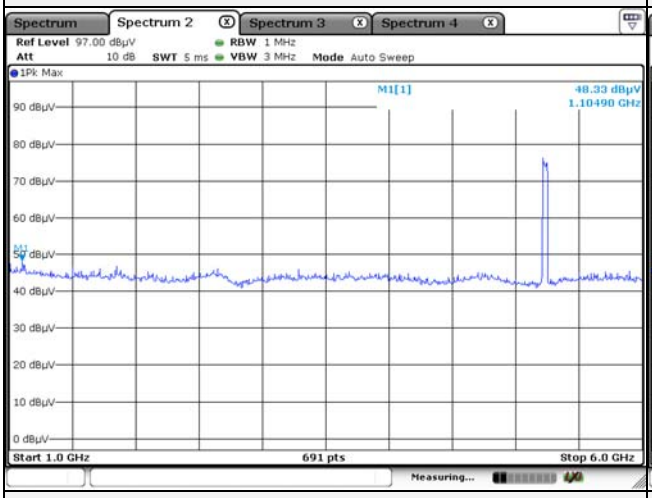
Distance of measurement: 3 meter

Channel: 46

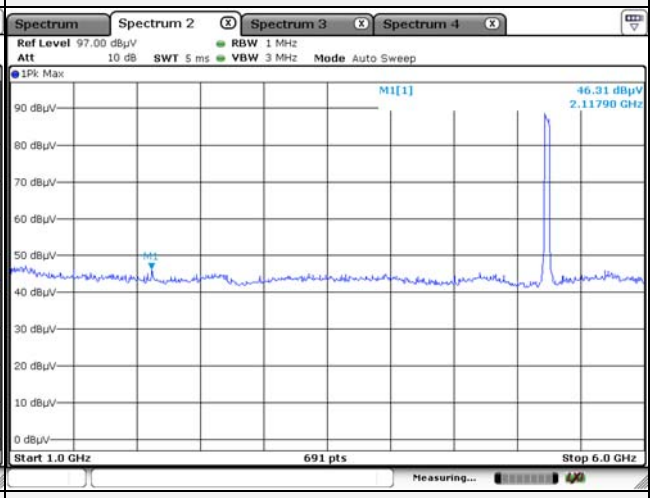
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 104.90	48.33	Peak	H	-8.05	-	40.28	74.00	33.72
2 117.90	46.31	Peak	V	-0.69	-	45.62	68.20	22.58

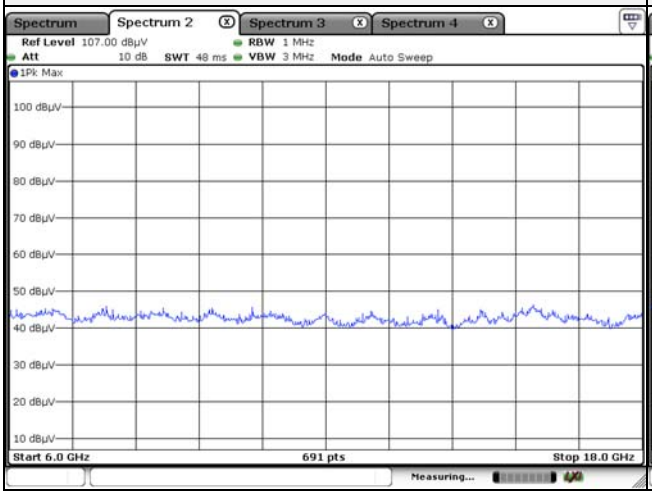
Horizontal // Peak for 1 ㎓ to 6 ㎓



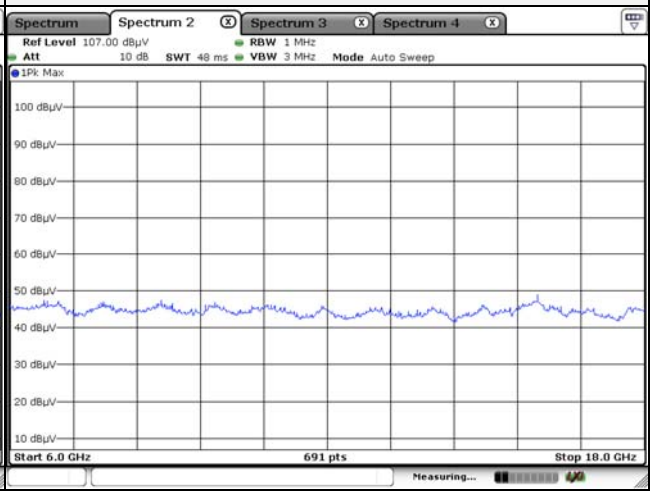
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.

Mode: UNII-2A(VHT40)

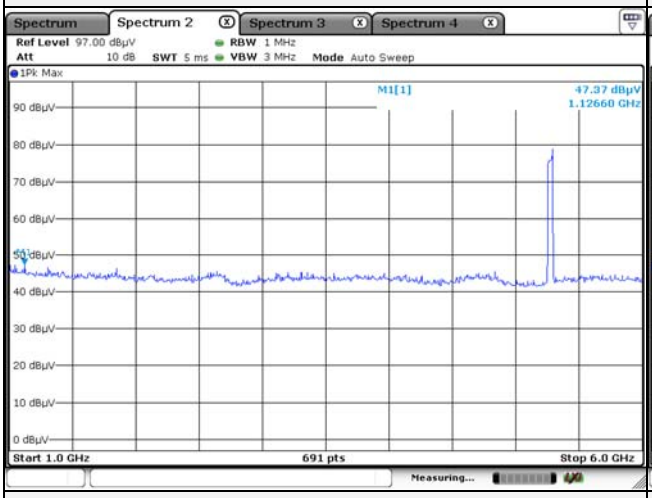
Distance of measurement: 3 meter

Channel: 54

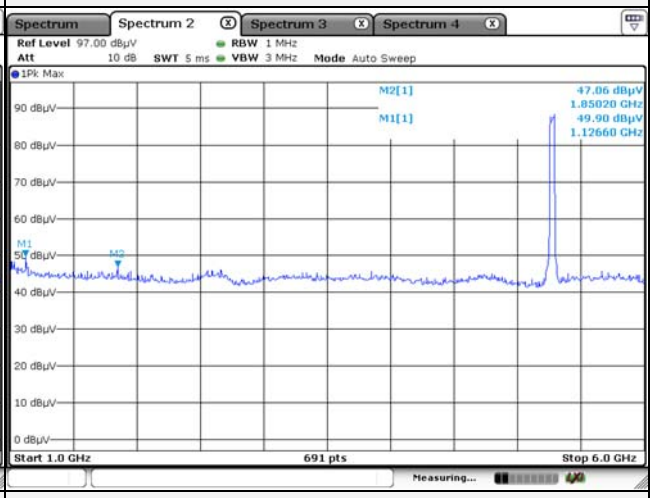
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 126.60	47.37	Peak	H	-7.93	-	39.44	74.00	34.56
1 126.60	49.90	Peak	V	-7.93	-	41.97	74.00	32.03
1 850.20	47.06	Peak	V	-2.35	-	44.71	68.20	23.49

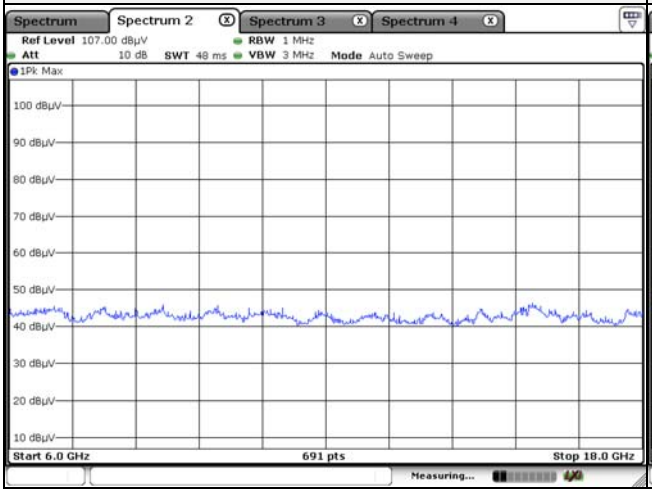
Horizontal // Peak for 1 ㎓ to 6 ㎓



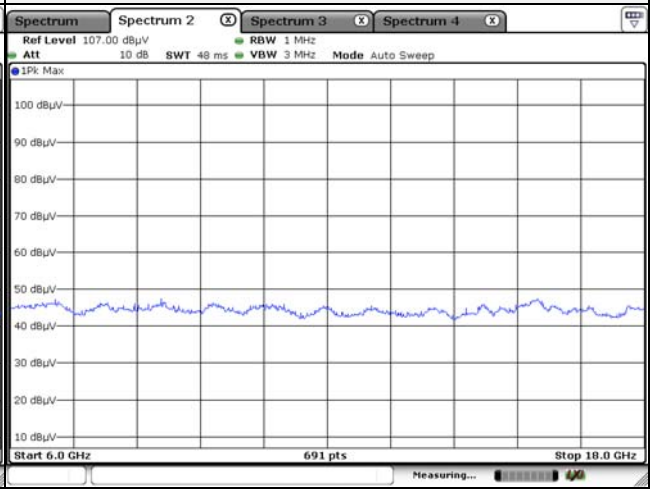
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.

Mode: UNII-2A(VHT40)

Distance of measurement: 3 meter

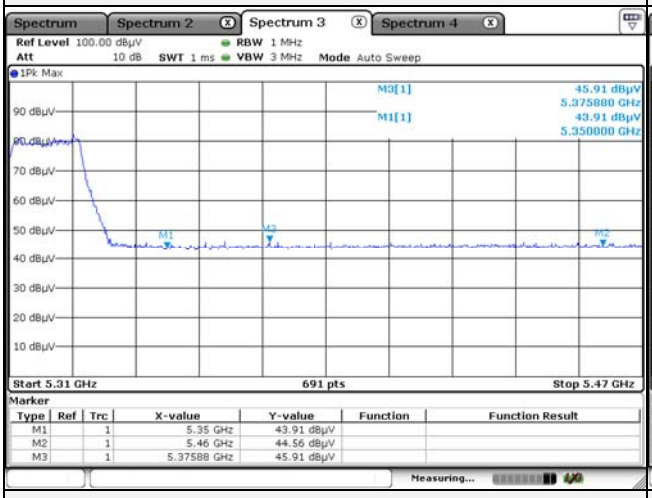
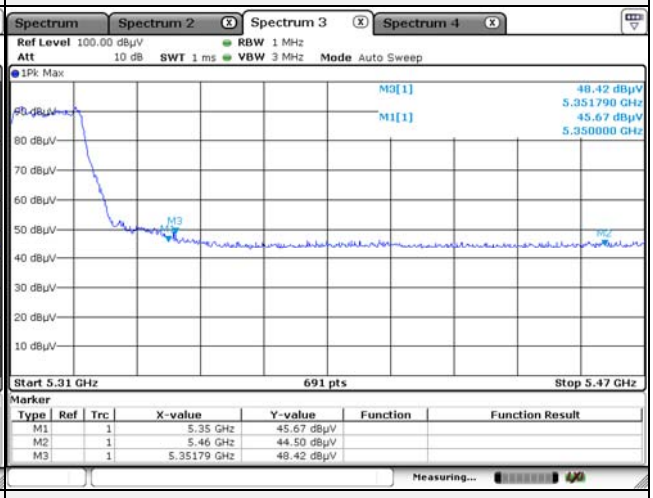
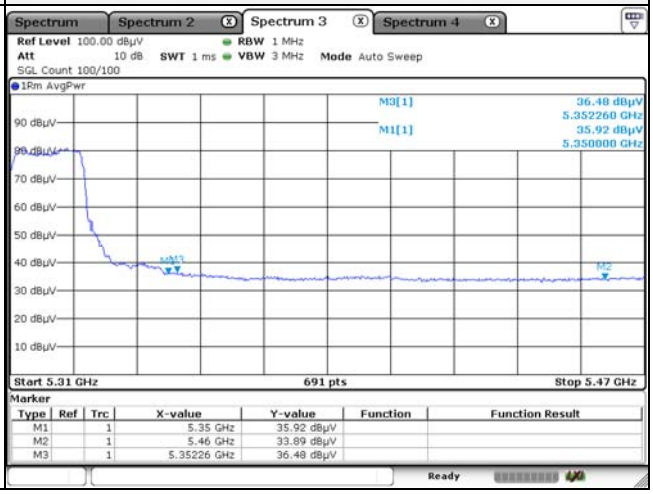
Channel: 62

- **Spurious**

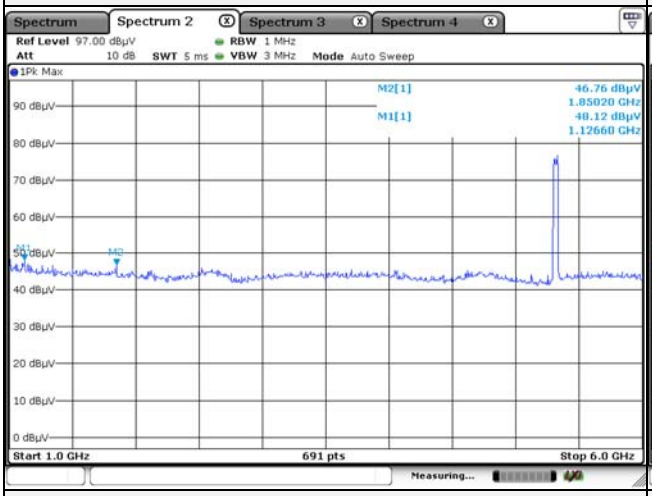
Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 126.60	48.12	Peak	H	-7.93	-	40.19	74.00	33.81
1 850.20	46.76	Peak	H	-2.35	-	44.41	68.20	23.79
1 054.30	48.65	Peak	V	-8.33	-	40.32	74.00	33.68
1 843.00	46.97	Peak	V	-2.42	-	44.55	68.20	23.65

- **Band edge**

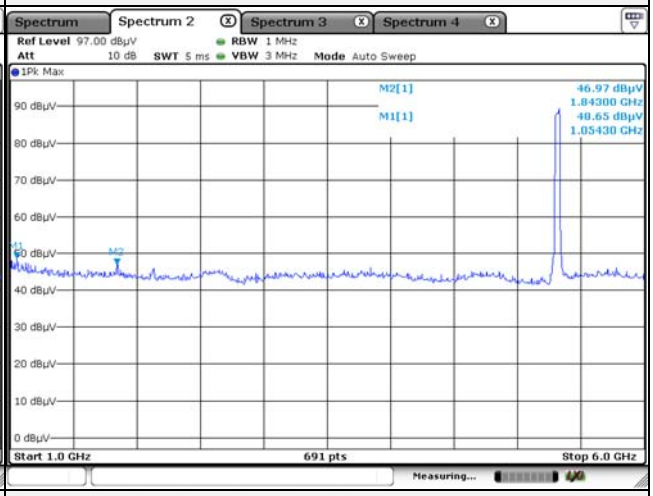
Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 375.88	45.91	Peak	H	7.91	-	53.82	74.00	20.18
5 351.79	48.42	Peak	V	7.95	-	56.37	74.00	17.63
5 352.26	36.48	Average	V	7.94	3.14	47.56	54.00	6.44

Restricted band // Horizontal // Peak	Restricted band // Vertical // Peak
	
Restricted band // Horizontal // Peak	**Restricted band // Vertical // Peak**
Blank	

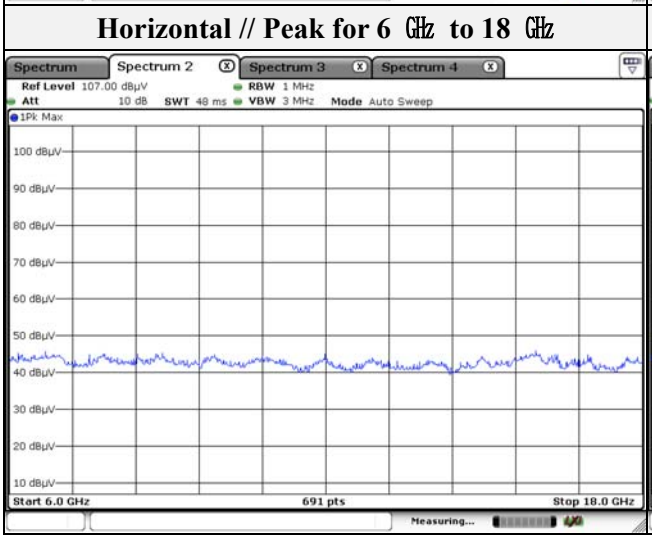
Horizontal // Peak for 1 ㎓ to 6 ㎓



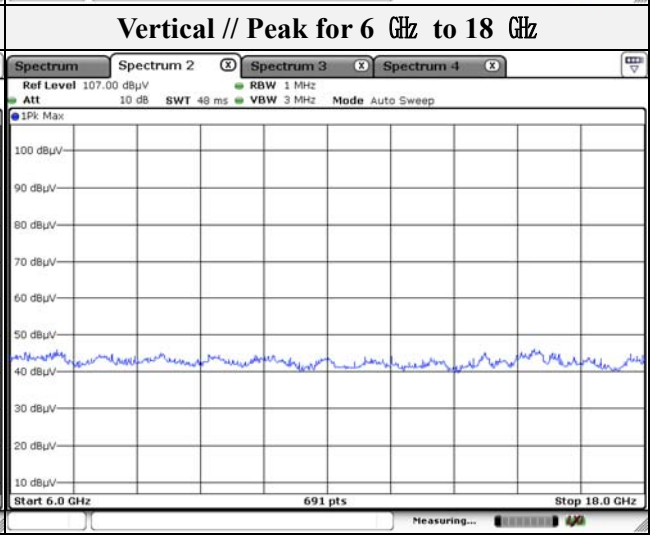
Vertical // Peak for 1 ㎓ to 6 ㎓



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.

Mode: UNII-2C(VHT40)

Distance of measurement: 3 meter

Channel: 102

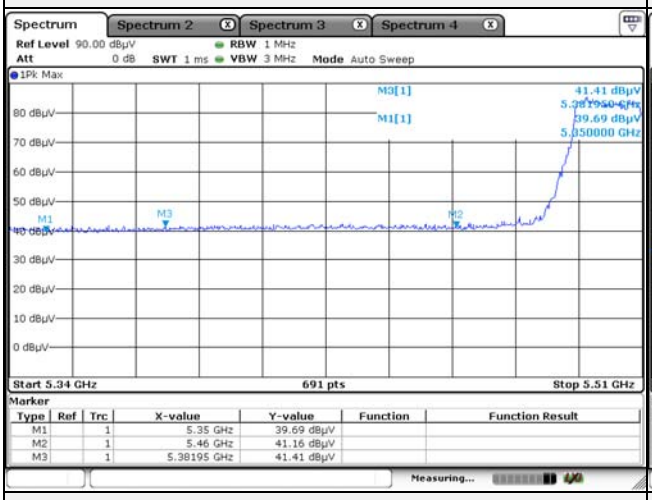
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 843.00	46.86	Peak	H	-2.42	-	44.44	68.20	23.76
1 835.70	46.76	Peak	V	-2.48	-	44.28	68.20	23.92

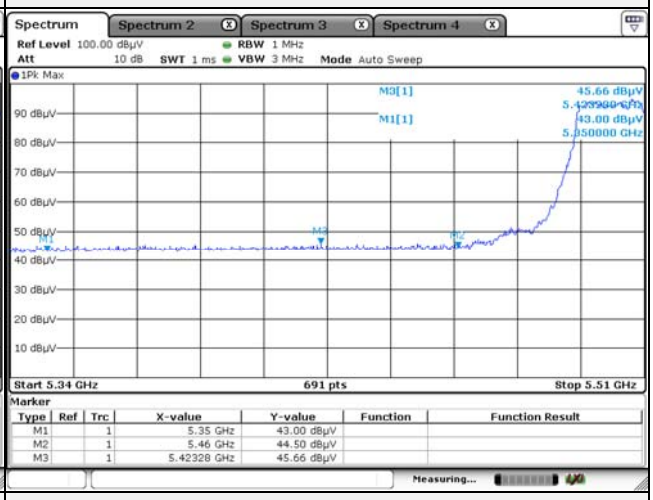
- **Band edge**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 381.95	41.41	Peak	H	7.90	-	49.31	74.00	24.69
5 423.28	45.66	Peak	V	7.85	-	53.51	74.00	20.49

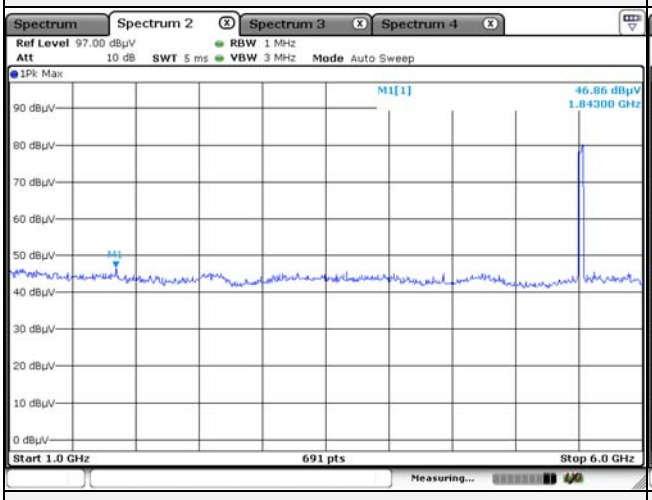
Restricted band // Horizontal // Peak



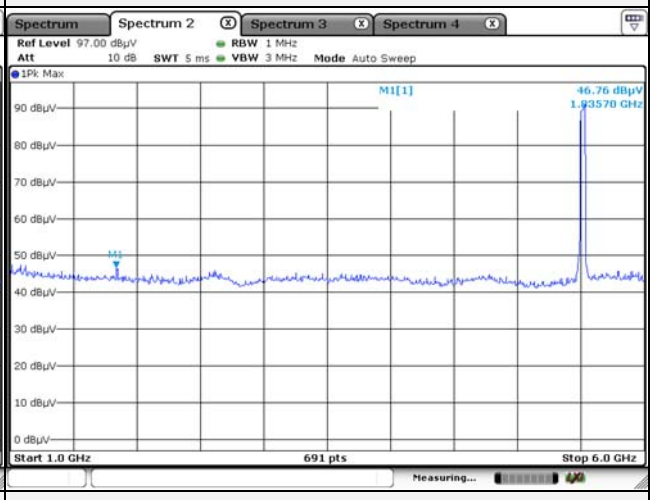
Restricted band // Vertical // Peak



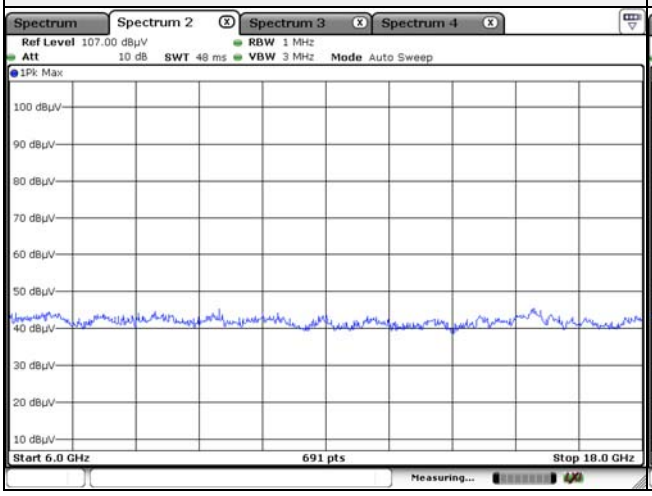
Horizontal // Peak for 1 ㎓ to 6 ㎓



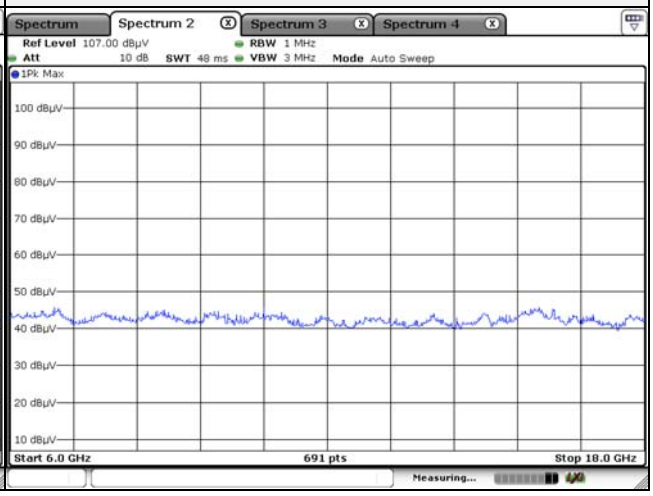
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.

Mode: UNII-2C(VHT40)

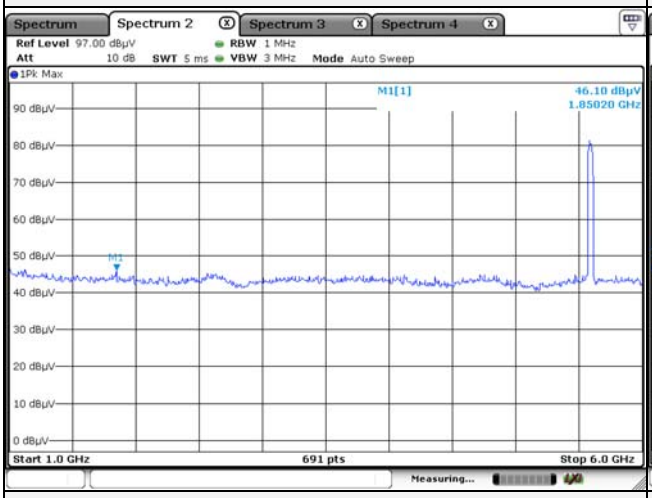
Distance of measurement: 3 meter

Channel: 118

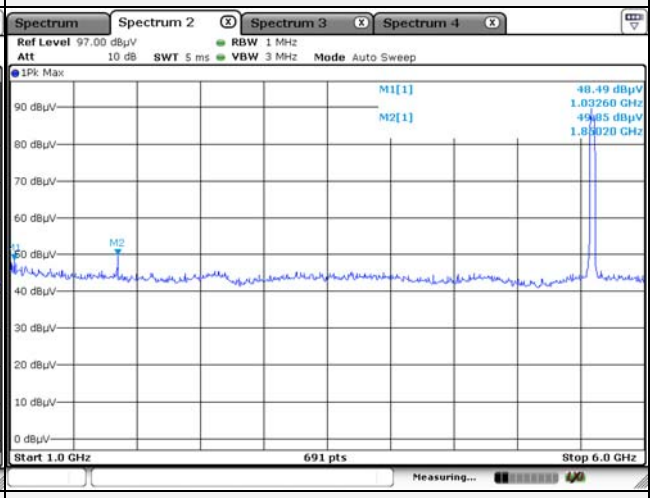
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 850.20	46.10	Peak	H	-2.35	-	43.75	68.20	24.45
1 032.60	48.49	Peak	V	-8.46	-	40.03	74.00	33.97
1 850.20	49.85	Peak	V	-2.35	-	47.50	68.20	20.70

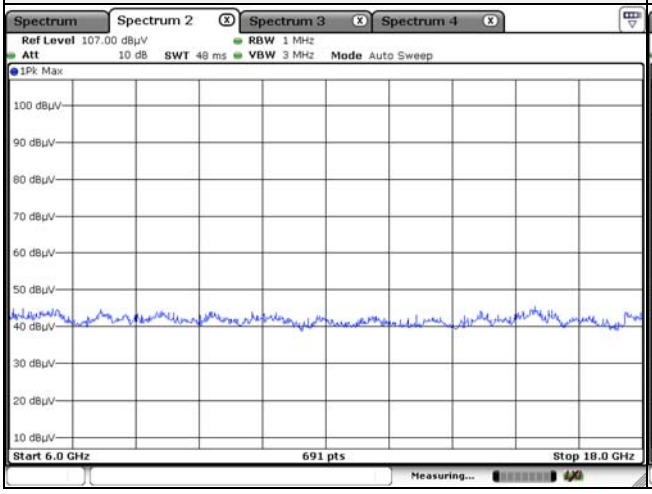
Horizontal // Peak for 1 ㎓ to 6 ㎓



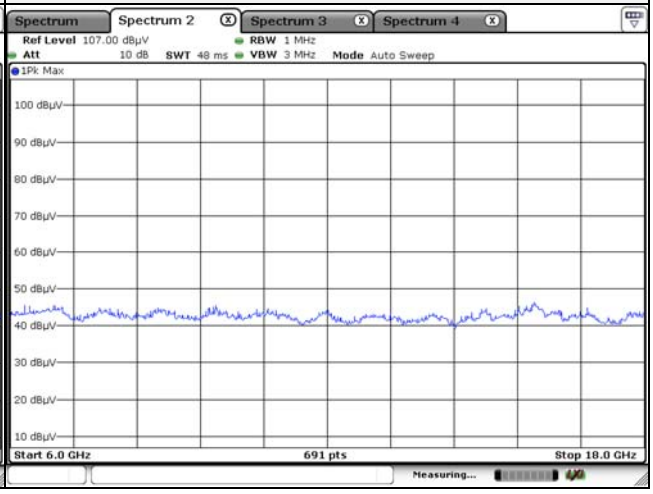
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-2C(VHT40)

Distance of measurement: 3 meter

Channel: 134

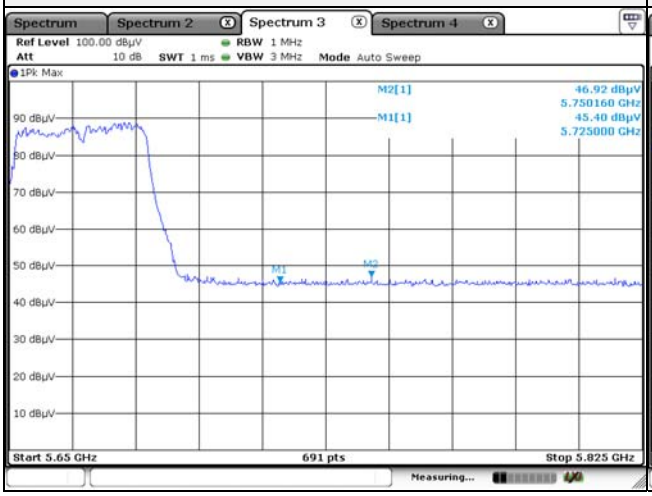
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 850.20	47.30	Peak	H	-2.35	-	44.95	68.20	23.25
1 850.20	48.36	Peak	V	-2.35	-	46.01	68.20	22.19

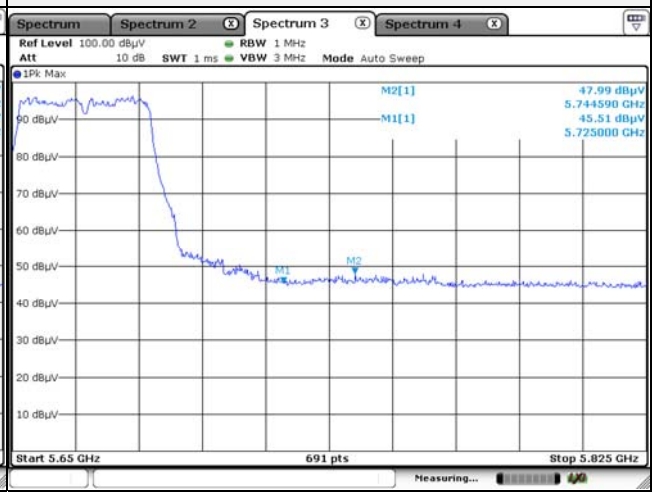
- **Band edge**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 750.16	46.92	Peak	H	8.89	-	55.81	68.20	12.39
5 744.59	47.99	Peak	V	8.87	-	56.86	68.20	11.34

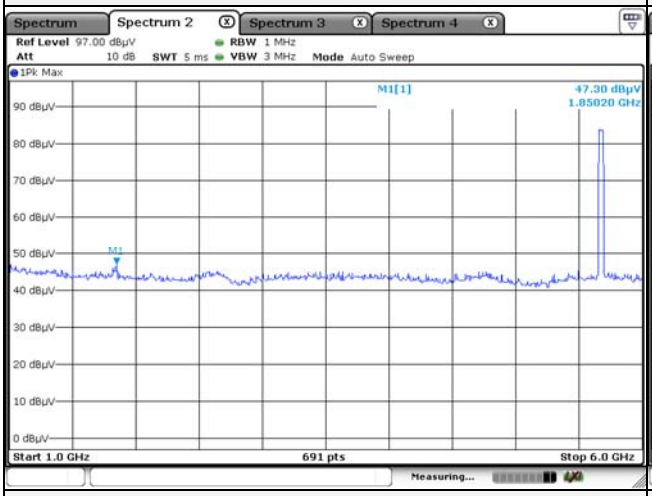
Restricted band // Horizontal // Peak



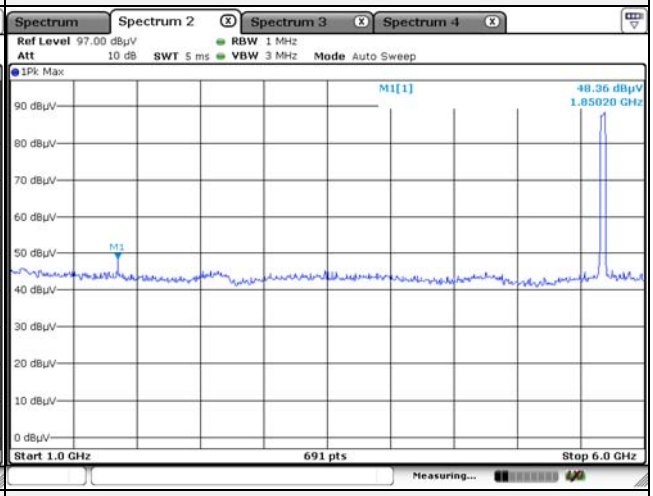
Restricted band // Vertical // Peak



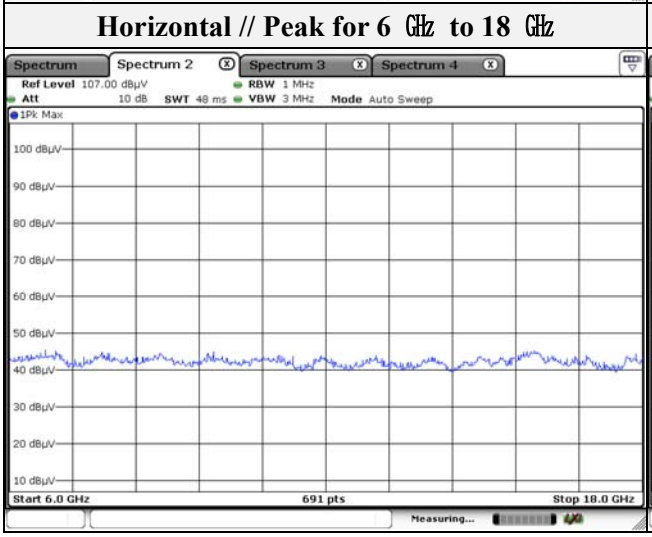
Horizontal // Peak for 1 ㎓ to 6 ㎓



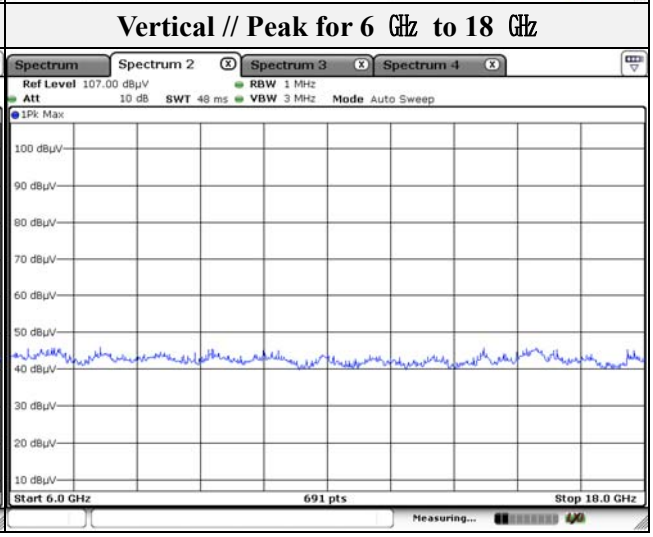
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-2C(VHT40)

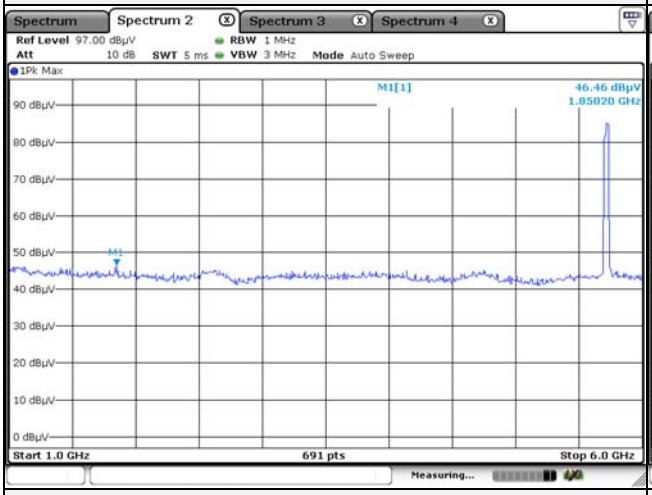
Distance of measurement: 3 meter

Channel: 142

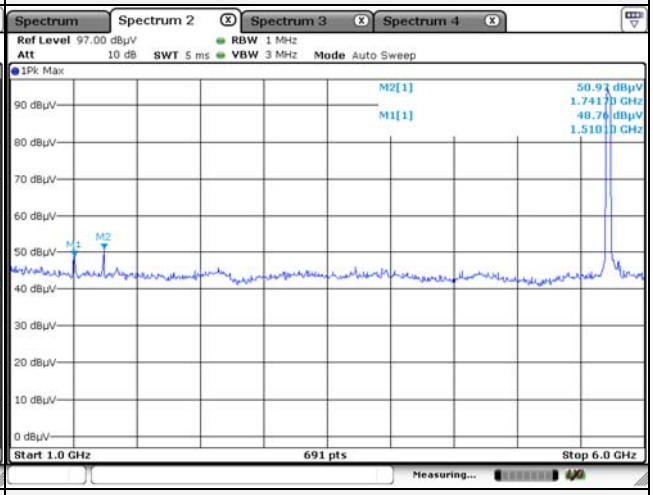
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 850.20	46.46	Peak	H	-2.35	-	44.11	68.20	24.09
1 510.10	48.76	Peak	V	-5.58	-	43.18	74.00	30.82
1 741.70	50.97	Peak	V	-3.38	-	47.59	68.20	20.61

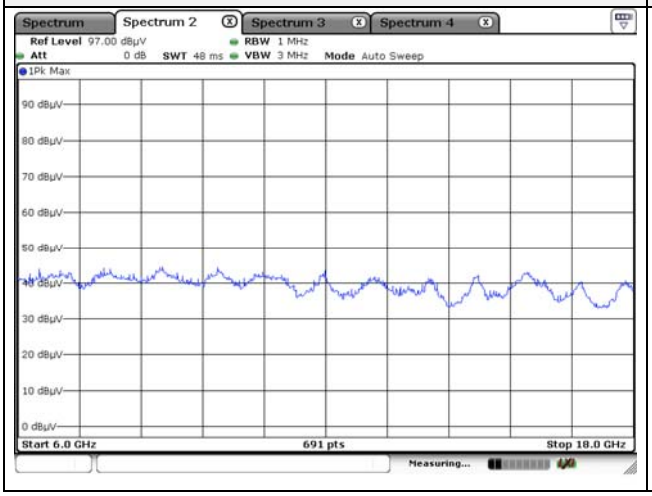
Horizontal // Peak for 1 ㎓ to 6 ㎓



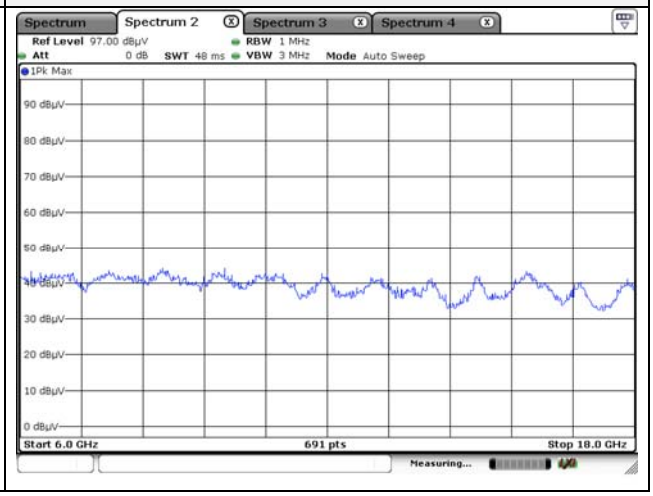
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-3(VHT40)

Distance of measurement: 3 meter

Channel: 151

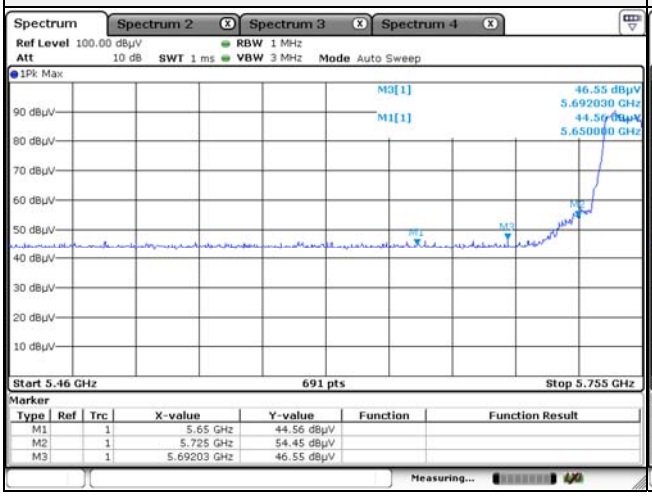
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 850.20	49.08	Peak	H	-2.35	-	46.73	68.20	21.47
1 850.20	47.79	Peak	V	-2.35	-	45.44	68.20	22.76
2 125.20	47.87	Peak	V	-0.67	-	47.20	68.20	21.00

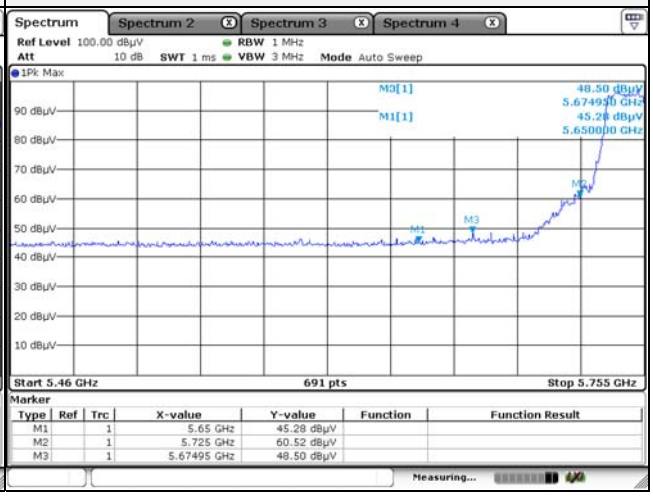
- **Band edge**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 692.03	46.55	Peak	H	8.62	-	55.17	99.30	44.13
5 725.00	54.45	Peak	H	8.77	-	63.22	122.20	58.98
5 674.95	48.50	Peak	V	8.54	-	57.04	86.66	29.62
5 725.00	60.52	Peak	V	8.77	-	69.29	122.20	52.91

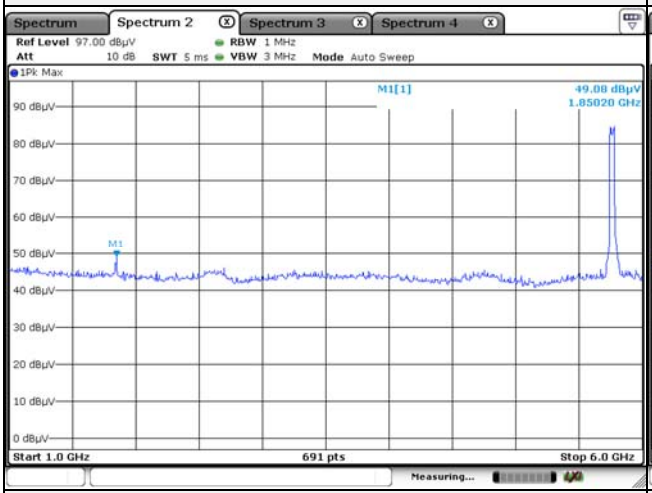
Restricted band // Horizontal // Peak



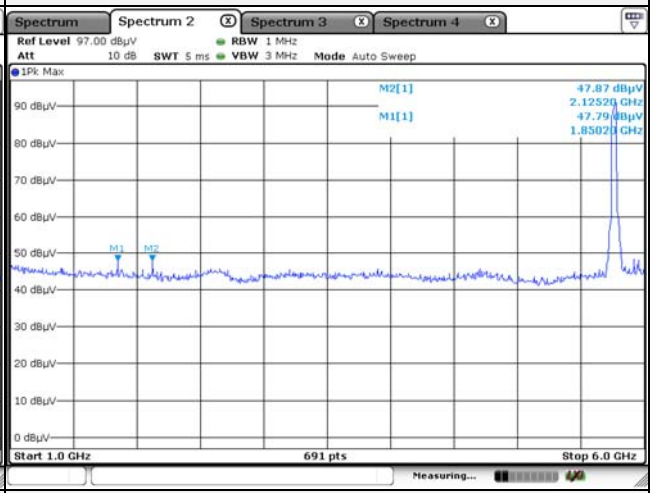
Restricted band // Vertical // Peak



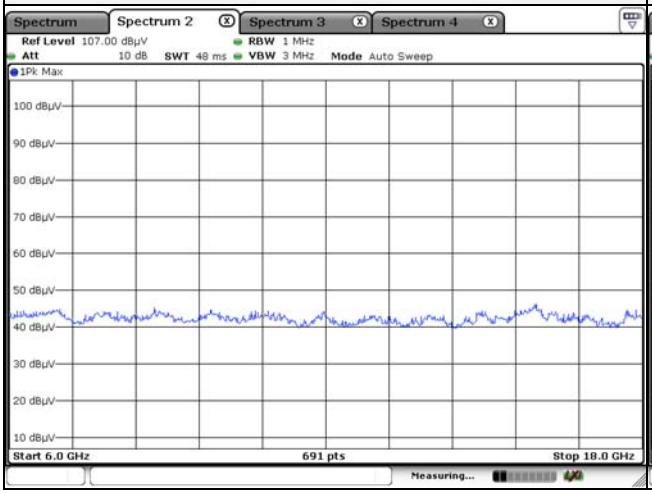
Horizontal // Peak for 1 ㎓ to 6 ㎓



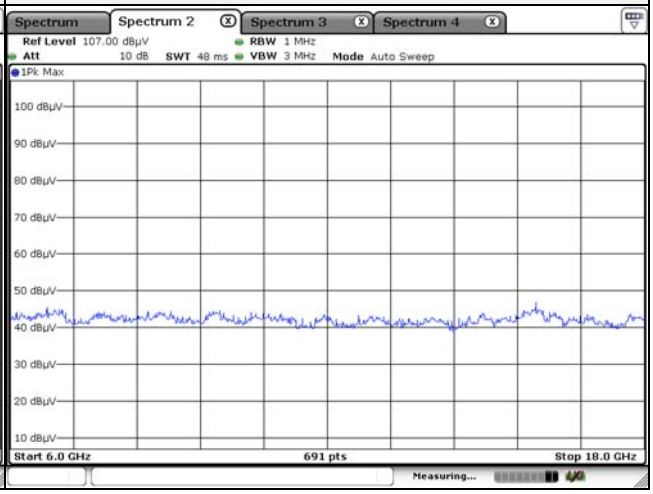
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-3(VHT40)

Distance of measurement: 3 meter

Channel: 159

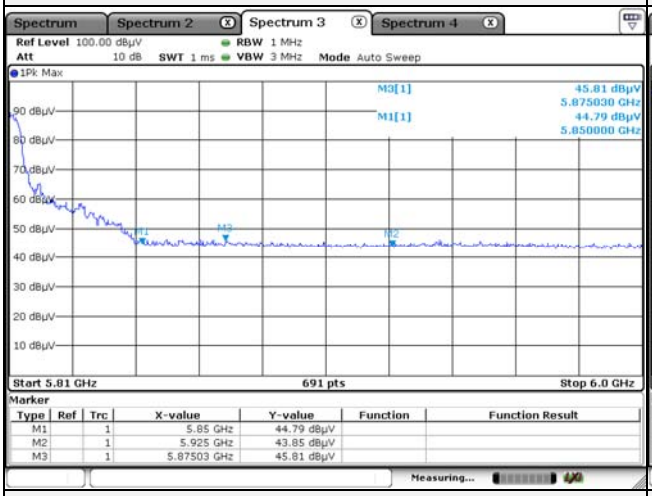
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 850.20	46.63	Peak	H	-6.98	-	44.28	68.20	23.92
1 589.70	47.91	Peak	V	-5.95	-	43.06	74.00	30.94
2 125.20	47.11	Peak	V	-4.32	-	46.44	68.20	21.76

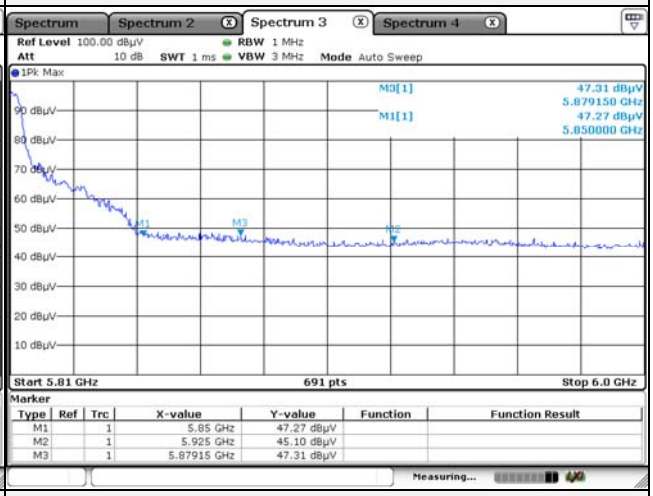
- **Band edge**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 875.03	45.81	Peak	H	9.42	-	55.23	105.18	49.95
5 879.15	47.31	Peak	V	9.43	-	56.74	101.79	45.05

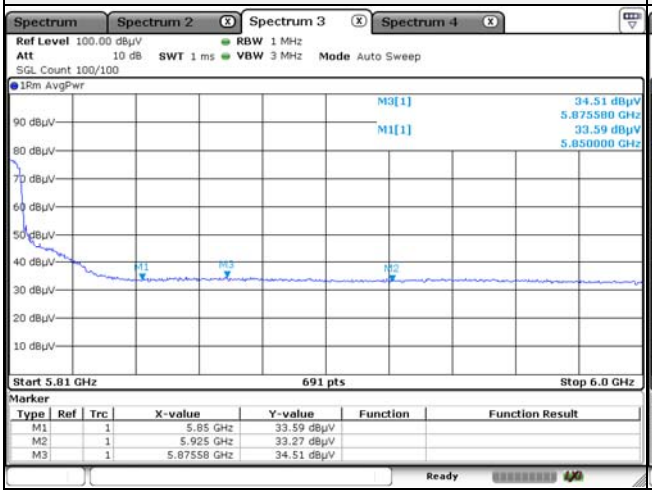
Restricted band // Horizontal // Peak



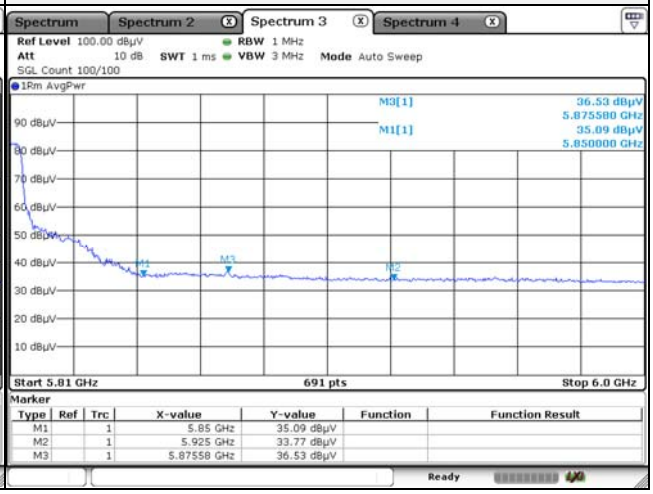
Restricted band // Vertical // Peak



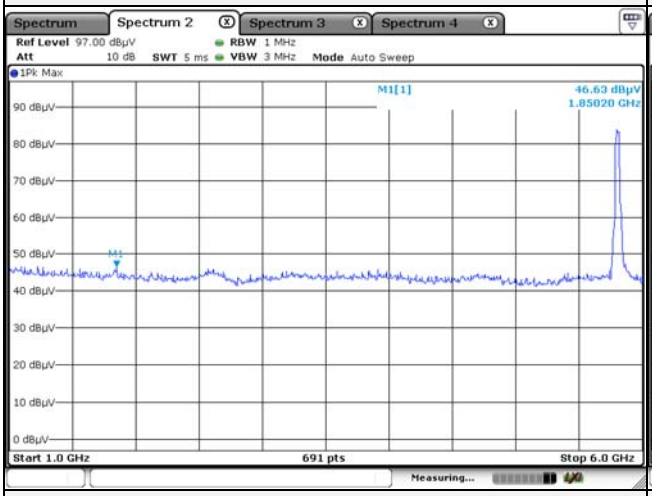
Restricted band // Horizontal // Average



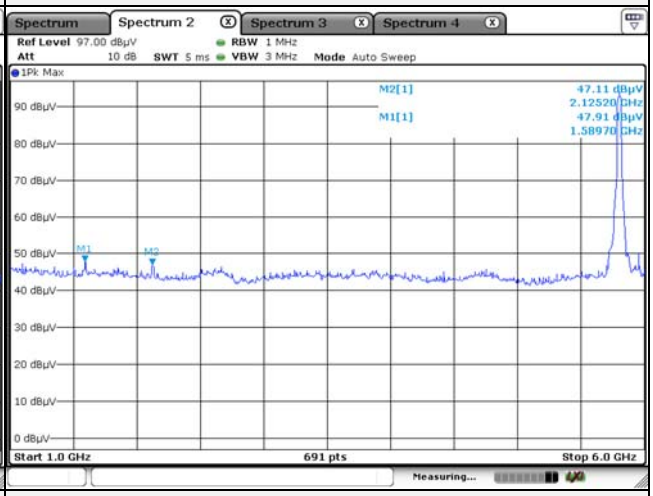
Restricted band // Vertical // Average



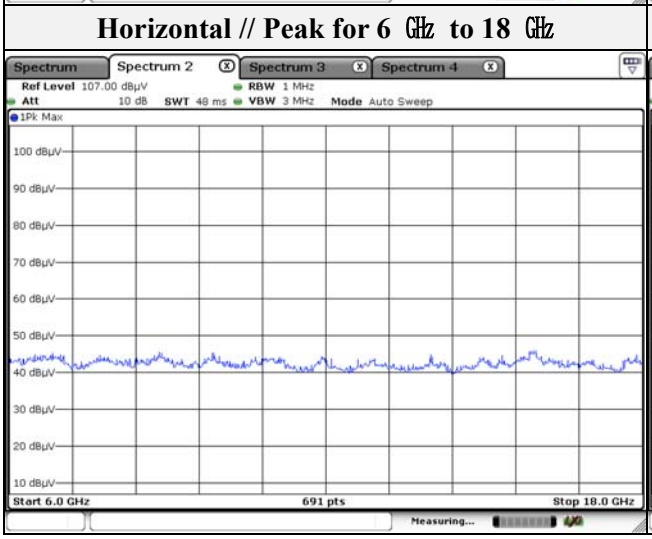
Horizontal // Peak for 1 ㎓ to 6 ㎓



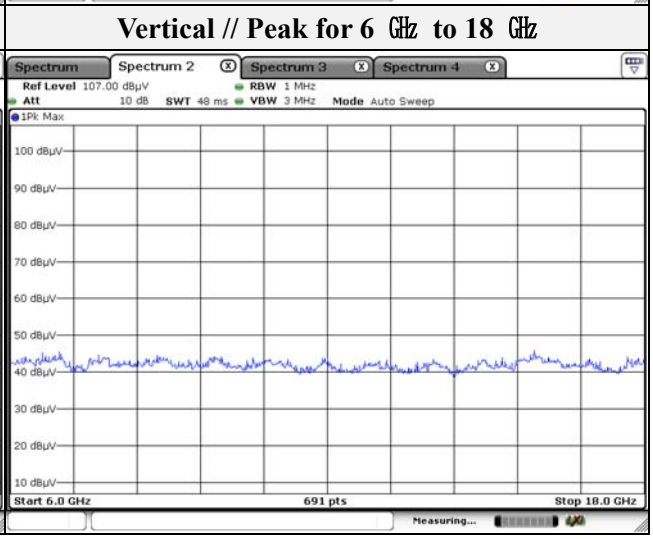
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

Mode: UNII-1(VHT80)

Distance of measurement: 3 meter

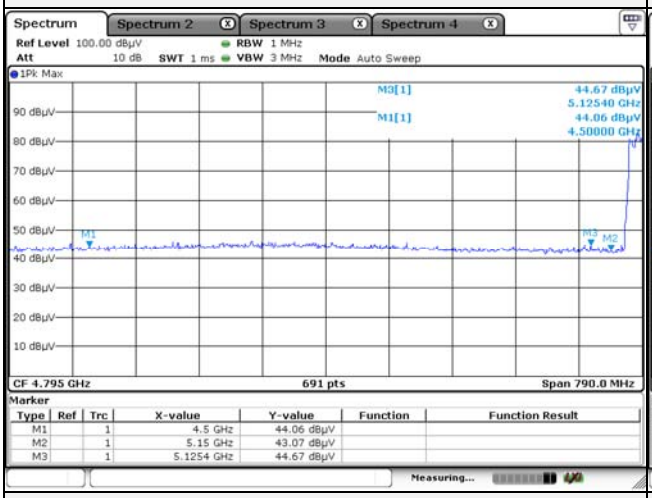
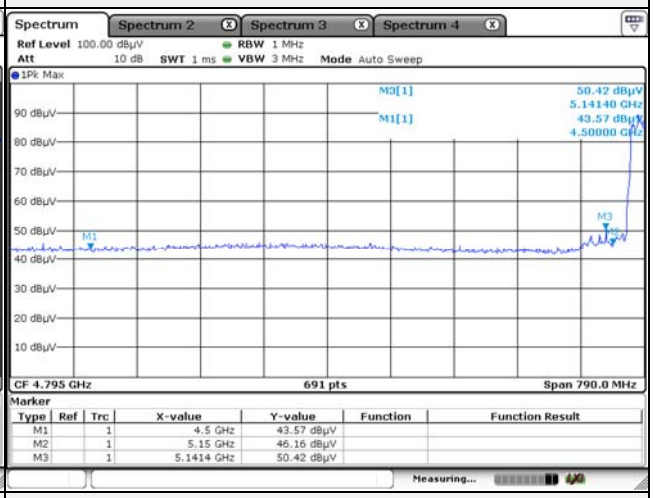
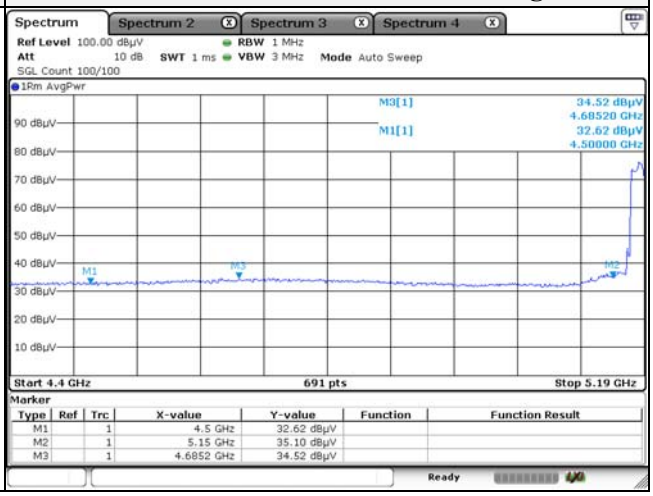
Channel: 42

- **Spurious**

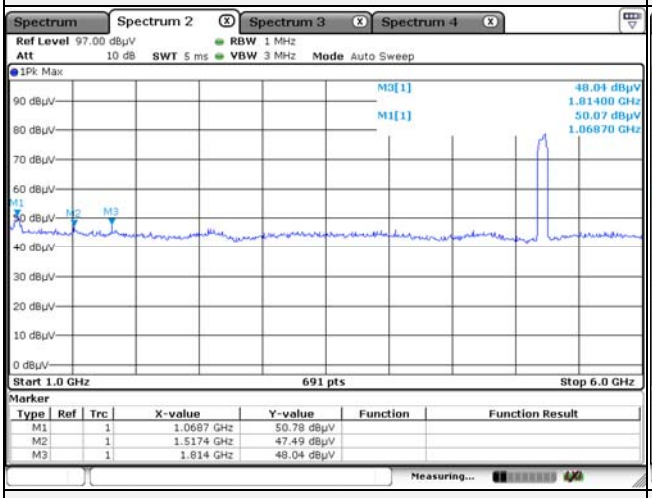
Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 068.70	50.78	Peak	H	-8.25	-	42.53	74.00	31.47
1 517.40	47.49	Peak	H	-5.51	-	41.98	74.00	32.02
1 814.00	48.04	Peak	H	-2.68	-	45.36	68.20	22.84
1 061.50	55.33	Peak	V	-8.29	-	47.04	74.00	26.96
1 517.40	48.68	Peak	V	-5.51	-	43.17	74.00	30.83
1 850.20	47.64	Peak	V	-2.35	-	45.29	68.20	22.91

- **Band edge**

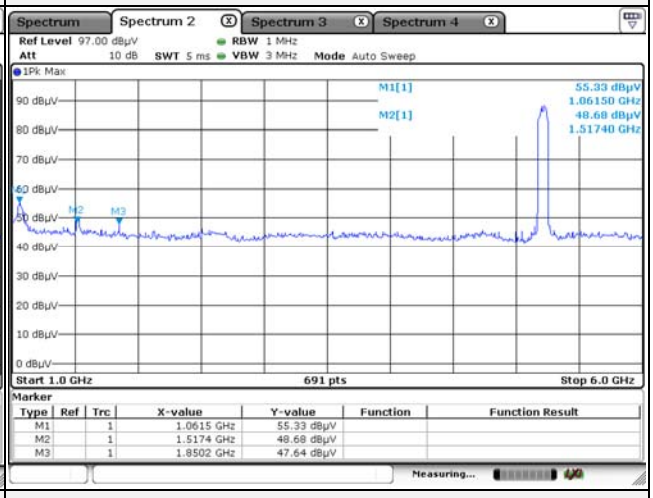
Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 125.40	44.67	Peak	H	8.26	-	52.93	74.00	21.07
5 141.40	50.42	Peak	V	8.23	-	58.65	74.00	15.35
4 685.20	34.53	Average	V	6.09	3.70	44.32	54.00	9.87
5 150.00	35.10	Average	V	8.22	3.70	47.02	54.00	7.17

Restricted band // Horizontal // Peak	Restricted band // Vertical // Peak
	
Restricted band // Horizontal // Average	**Restricted band // Vertical // Average**
Blank	

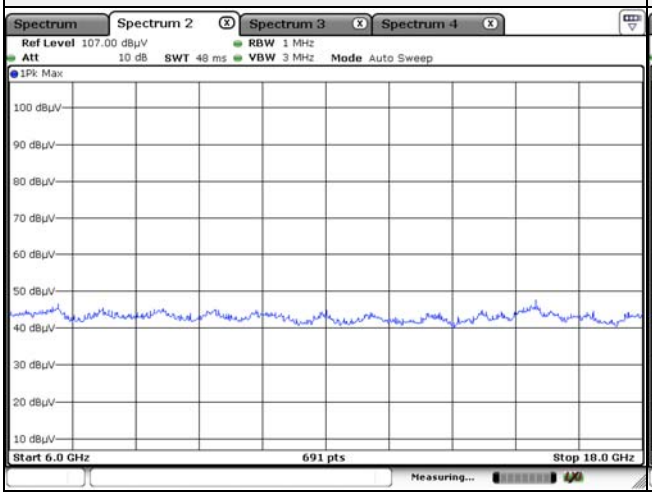
Horizontal // Peak for 1 ㎓ to 6 ㎓



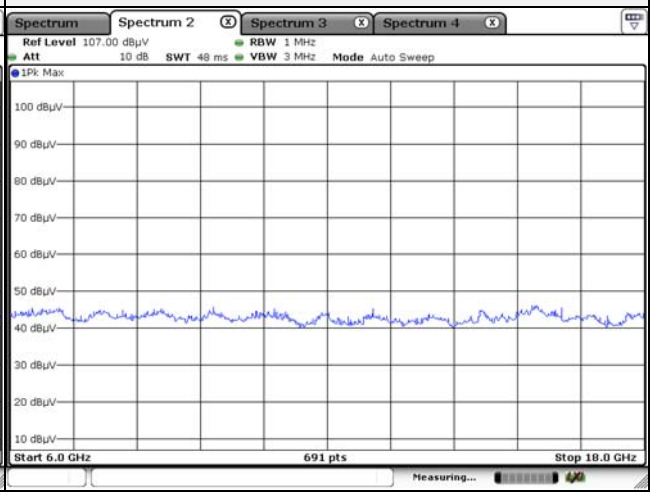
Vertical // Peak for 1 ㎓ to 6 ㎓



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.

Mode: UNII-2A(VHT80)

Distance of measurement: 3 meter

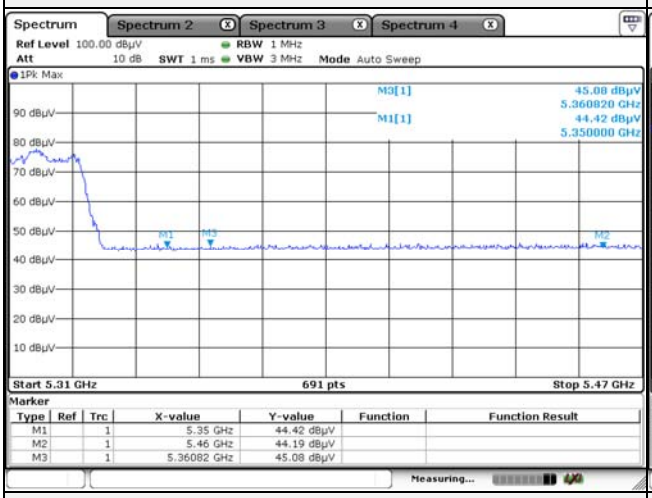
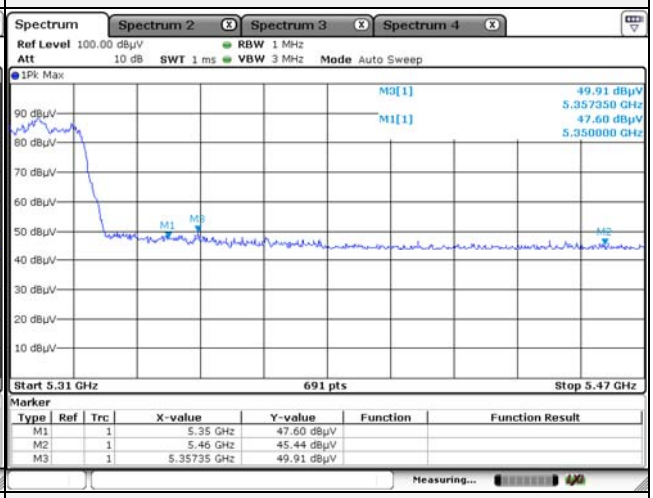
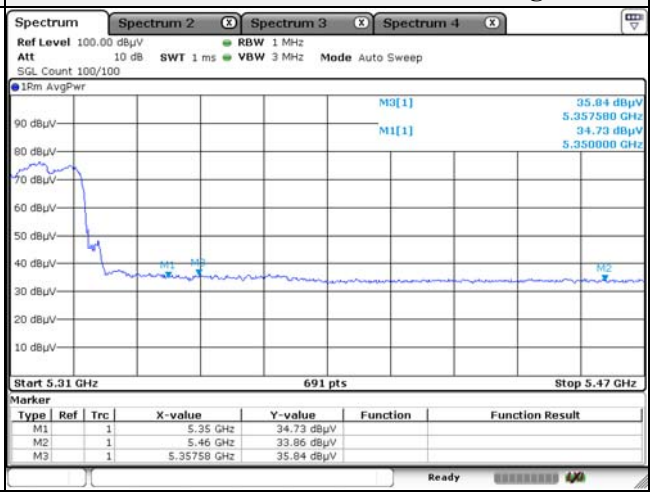
Channel: 58

- **Spurious**

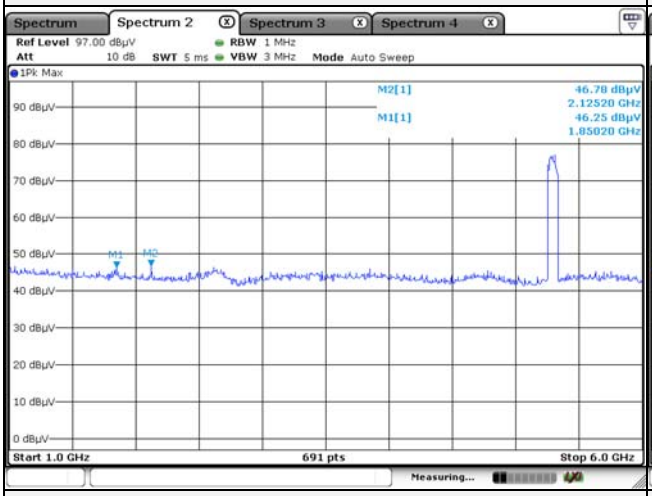
Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 850.20	46.25	Peak	H	-2.35	-	43.90	68.20	24.30
2 125.20	46.78	Peak	H	-0.67	-	46.11	68.20	22.09
1 950.20	49.45	Peak	V	-1.42	-	48.03	68.20	20.17
2 125.20	46.34	Peak	V	-0.67	-	45.67	68.20	22.53

- **Band edge**

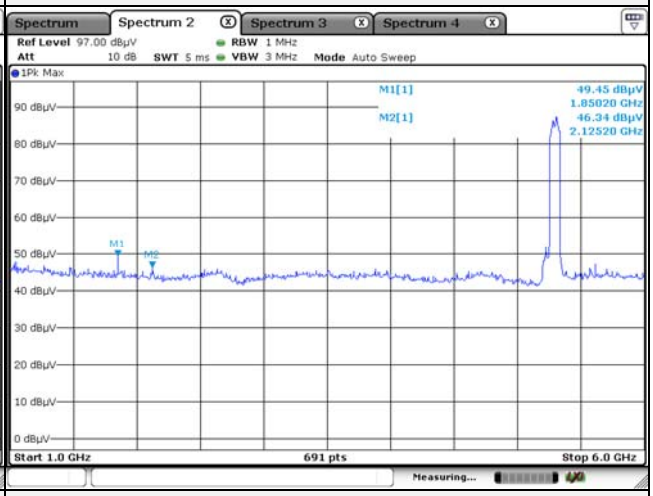
Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 360.82	45.08	Peak	H	7.93	-	53.74	74.00	20.26
5 357.35	49.91	Peak	H	7.94	-	53.52	74.00	20.48
5 357.58	35.84	Average	V	7.94	3.78	47.56	54.00	6.44

Restricted band // Horizontal // Peak	Restricted band // Vertical // Peak
	
Restricted band // Horizontal // Average	**Restricted band // Vertical // Average**
Blank	

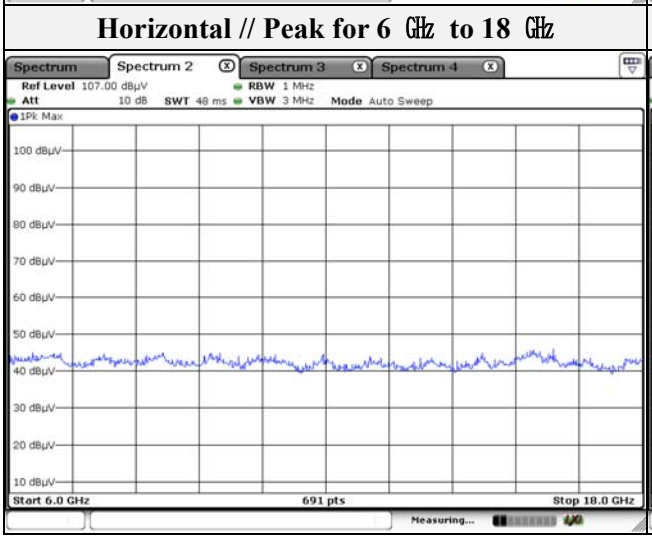
Horizontal // Peak for 1 ㎓ to 6 ㎓



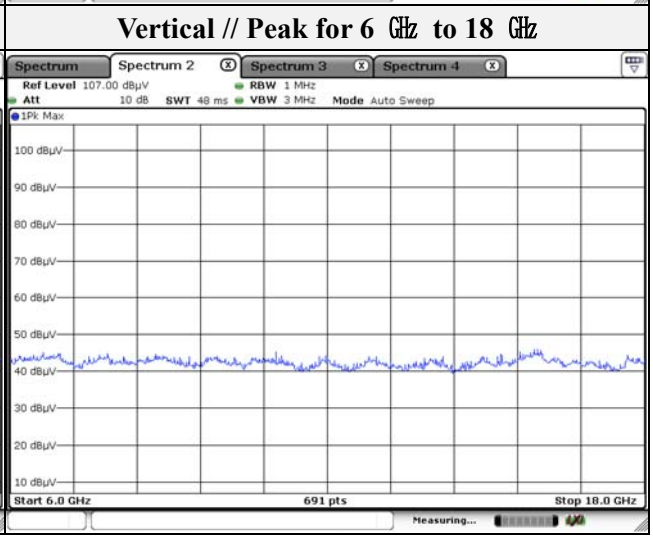
Vertical // Peak for 1 ㎓ to 6 ㎓



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.

Mode: UNII-2C(VHT80)

Distance of measurement: 3 meter

Channel: 106

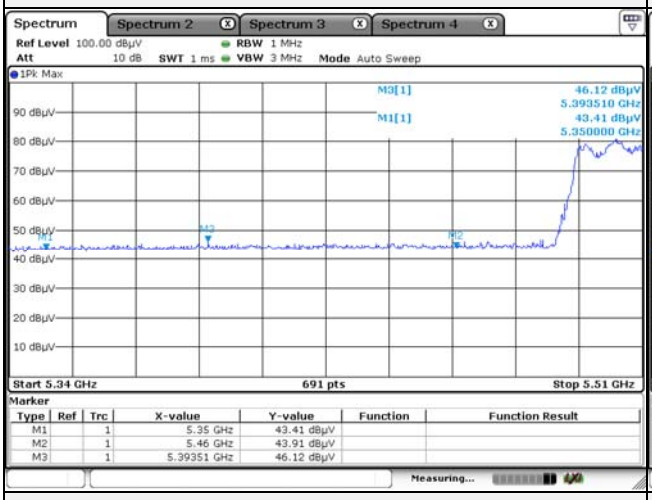
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 068.70	52.73	Peak	H	-8.25	-	44.48	74.00	29.52
1 720.00	51.82	Peak	H	-3.59	-	48.23	74.00	25.77
1 068.70	54.54	Peak	V	-8.25	-	46.29	74.00	27.71
1 517.40	52.82	Peak	V	-5.51	-	47.31	74.00	26.69
2 125.20	48.49	Peak	V	-0.67	-	47.82	68.20	20.38

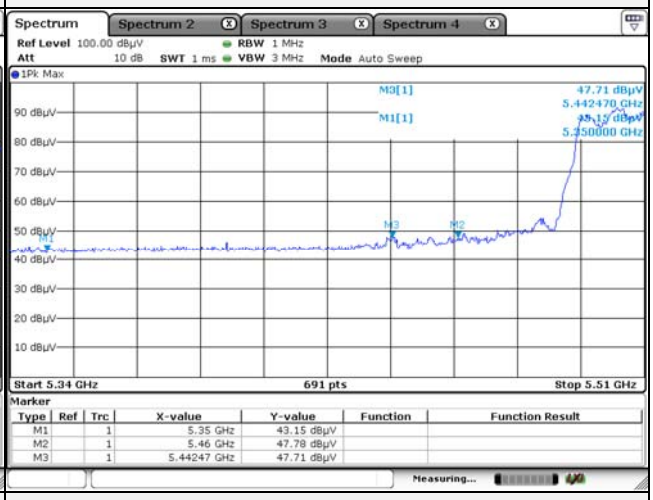
- **Band edge**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 393.51	46.12	Peak	H	7.89	-	54.01	74.00	19.99
5 442.47	47.71	Peak	V	7.83	-	55.54	74.00	18.46
5 460.00	47.78	Peak	V	7.81	-	55.59	74.00	18.41
5 447.88	33.94	Average	H	7.83	4.52	46.29	54.00	7.71
5 460.00	33.99	Average	H	7.81	4.52	46.32	54.00	7.68
5 454.28	33.93	Average	V	7.82	4.52	46.27	54.00	7.73
5 460.00	33.78	Average	V	7.81	4.52	46.11	54.00	7.89

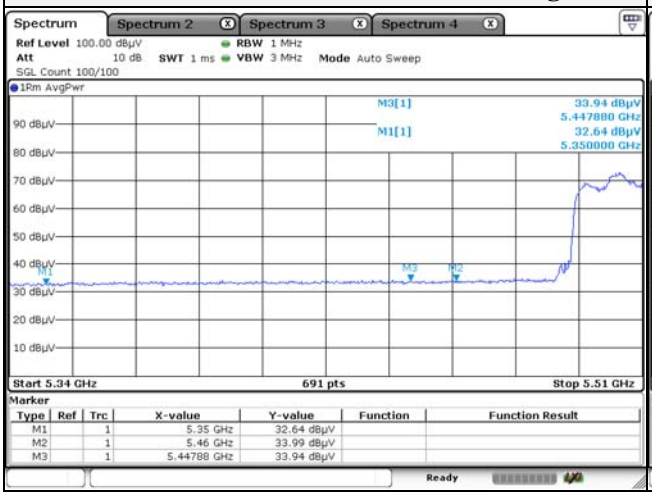
Restricted band // Horizontal // Peak



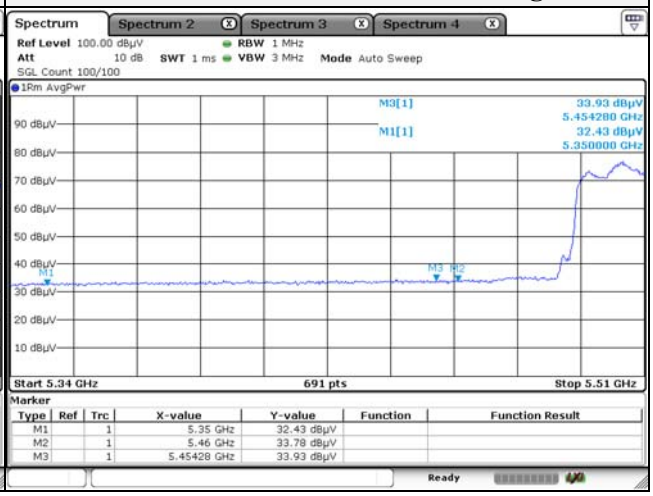
Restricted band // Vertical // Peak



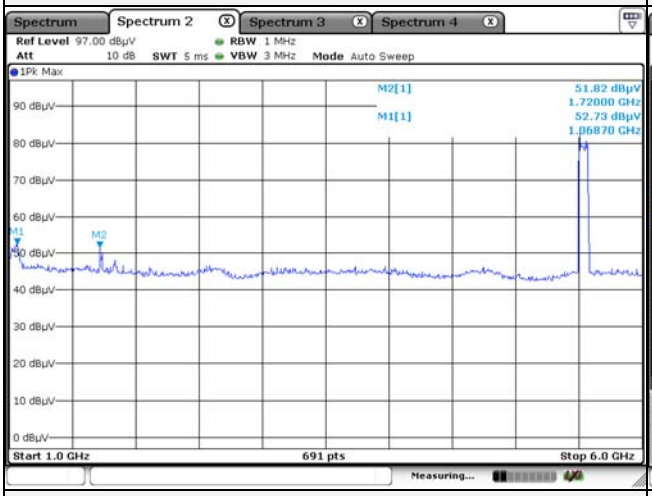
Restricted band // Horizontal // Average



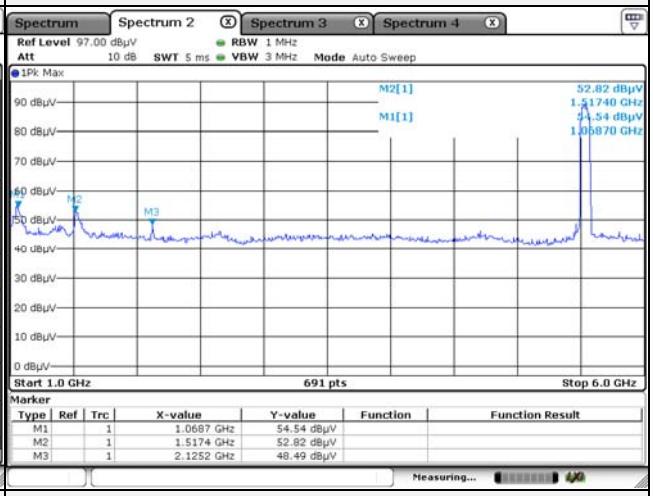
Restricted band // Vertical // Average



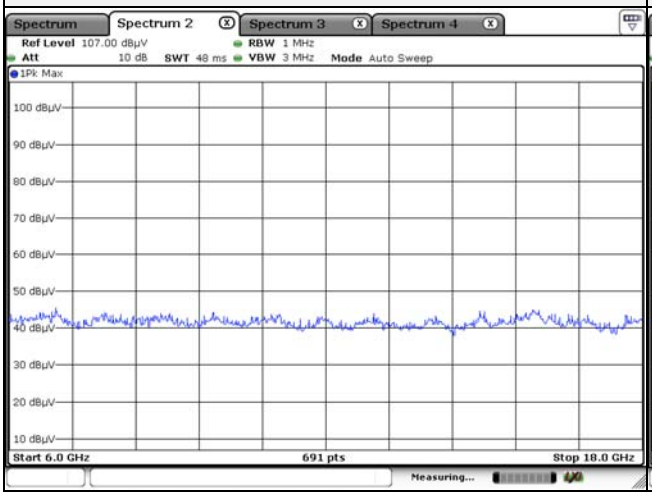
Horizontal // Peak for 1 ㎓ to 6 ㎓



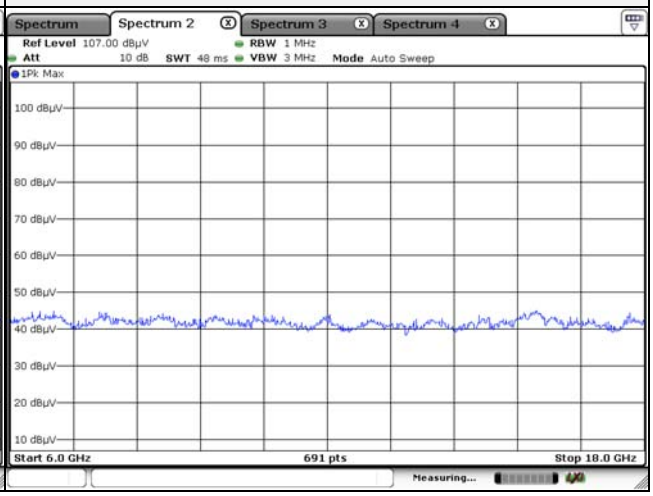
Vertical // Peak for 1 ㎓ to 6 ㎓



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.

Mode: UNII-2C(VHT80)

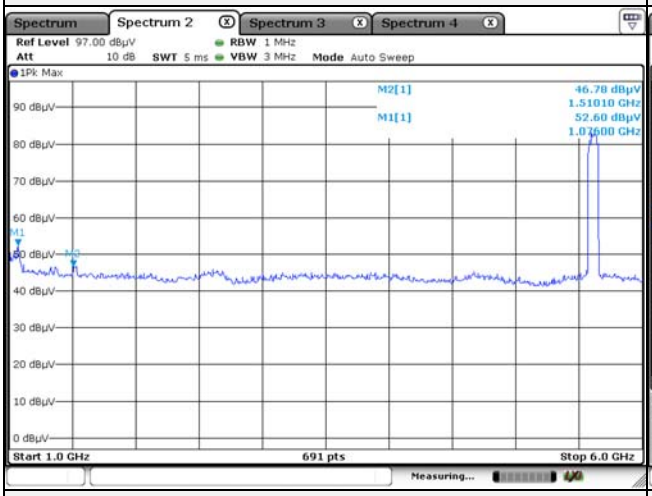
Distance of measurement: 3 meter

Channel: 122

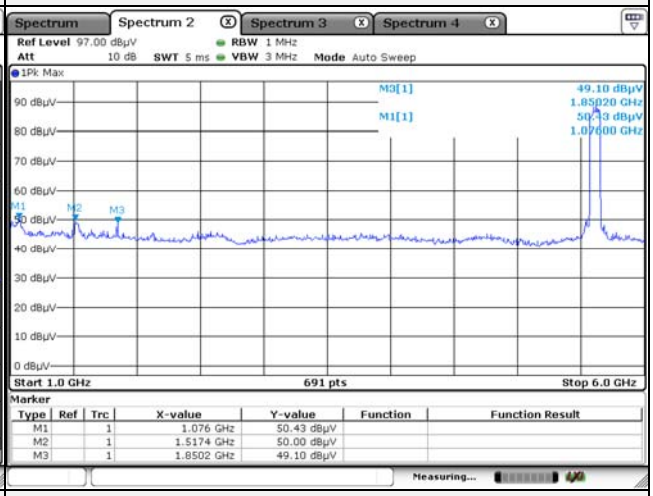
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 076.00	52.60	Peak	H	-8.21	-	44.39	74.00	29.61
1 510.10	46.78	Peak	H	-5.58	-	41.20	74.00	32.80
1 076.00	50.43	Peak	V	-8.21	-	42.22	74.00	31.78
1 517.40	50.00	Peak	V	-5.51	-	44.49	74.00	29.51
1 850.20	49.10	Peak	V	-2.35	-	46.75	68.20	21.45

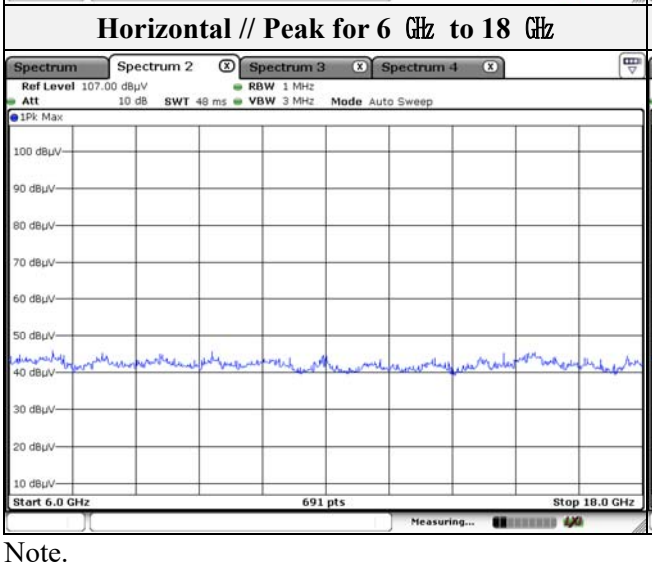
Horizontal // Peak for 1 ㎓ to 6 ㎓



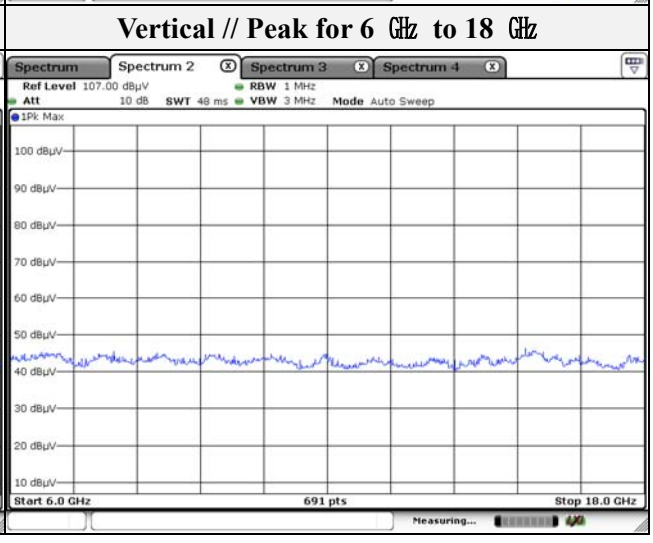
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.

Mode: UNII-2C(VHT80)

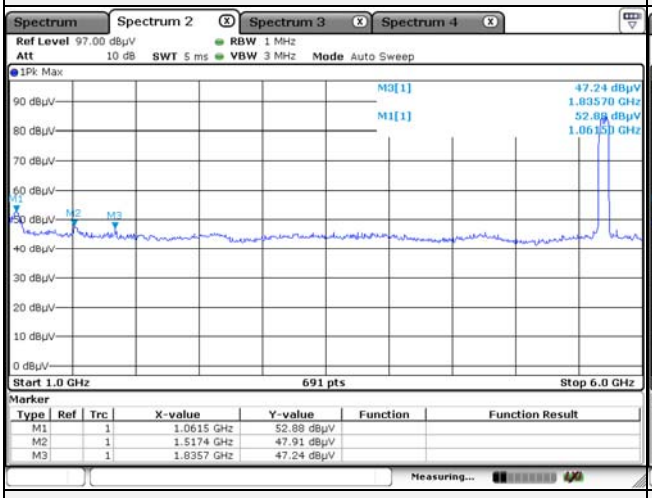
Distance of measurement: 3 meter

Channel: 138

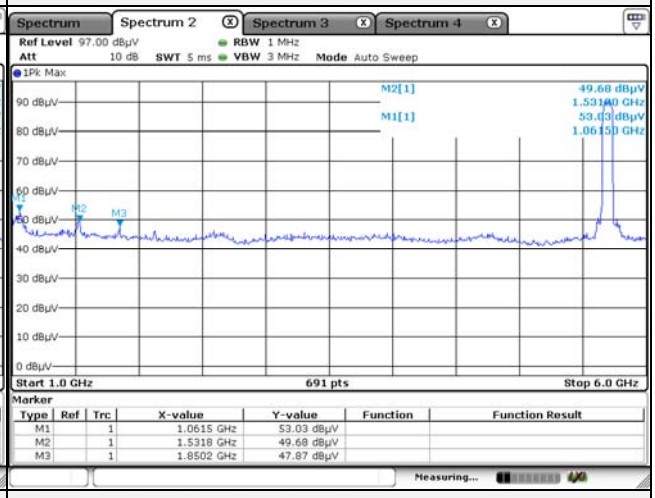
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 061.50	52.88	Peak	H	-8.29	-	44.59	74.00	29.41
1 517.40	47.91	Peak	H	-5.51	-	42.40	74.00	31.60
1 835.70	47.24	Peak	H	-2.48	-	44.76	68.20	23.44
1 061.50	53.03	Peak	V	-8.29	-	44.74	74.00	29.26
1 531.80	49.68	Peak	V	-5.38	-	44.30	74.00	29.70
1 850.20	47.87	Peak	V	-2.35	-	45.52	68.20	22.68

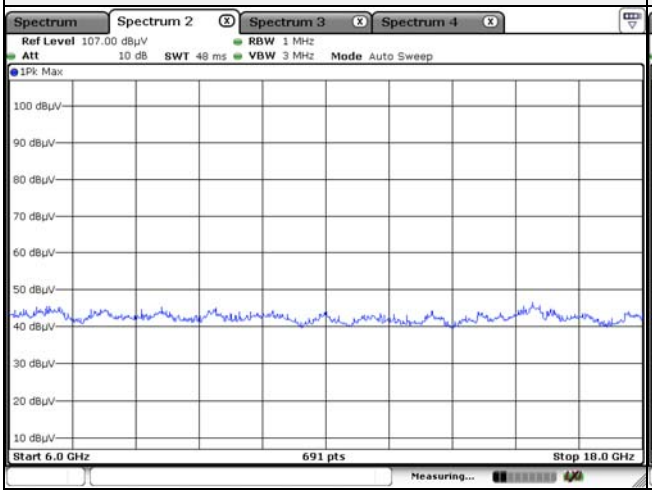
Horizontal // Peak for 1 ㎓ to 6 ㎓



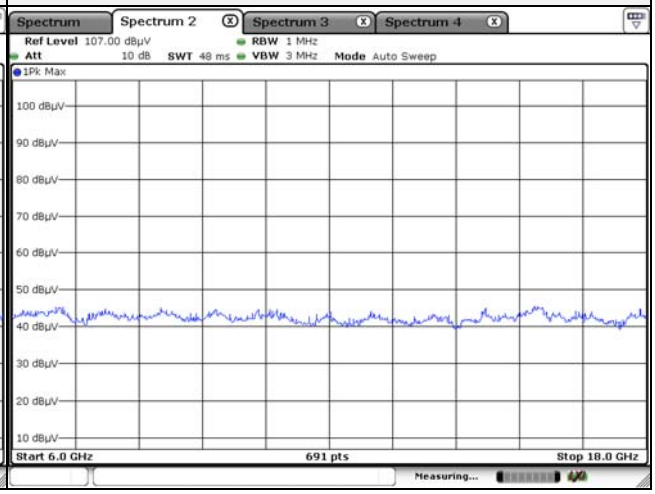
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



Vertical // Peak for 6 ㎓ to 18 ㎓



Note.

1. No spurious emission were detected above 6 ㎓.

Mode: UNII-3(VHT80)

Distance of measurement: 3 meter

Channel: 155

- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 843.00	46.66	Peak	H	-2.42	-	44.24	68.20	23.96
2 139.70	45.53	Peak	H	-0.64	-	44.89	68.20	23.31
1 850.20	48.08	Peak	V	-2.35		45.73	68.20	22.47
2 125.20	48.46	Peak	V	-0.67		47.79	68.20	20.41

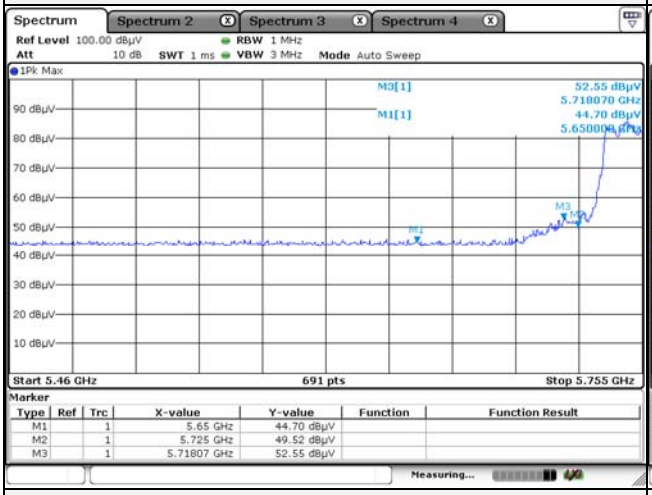
- **Band edge // Below 5725 ㎒**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 718.07	52.55	Peak	H	8.74	-	61.29	110.26	48.97
5 725.00	49.52	Peak	H	8.77	-	58.29	122.20	63.91
5 718.07	58.19	Peak	V	8.74	-	66.93	110.26	43.33
5 725.00	56.10	Peak	V	8.77	-	64.87	122.20	57.33

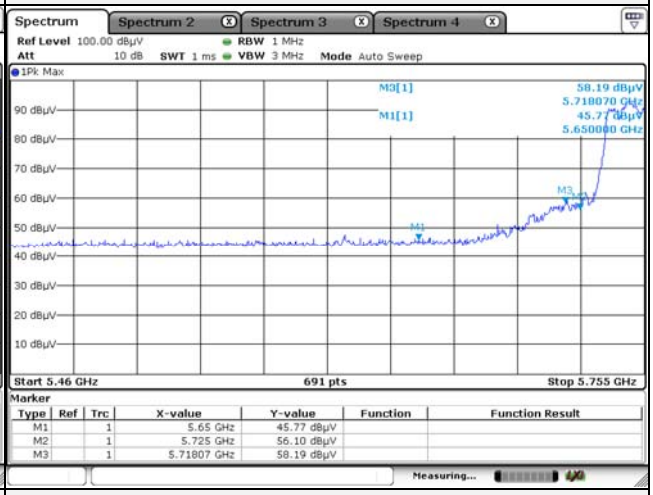
- **Band edge // Above 5850 ㎒**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
5 866.51	50.36	Peak	H	9.38	-	59.74	107.58	47.84
5 850.00	52.84	Peak	V	9.32	-	62.16	122.20	60.04
5 867.33	56.77	Peak	V	9.39	-	66.16	107.35	41.19

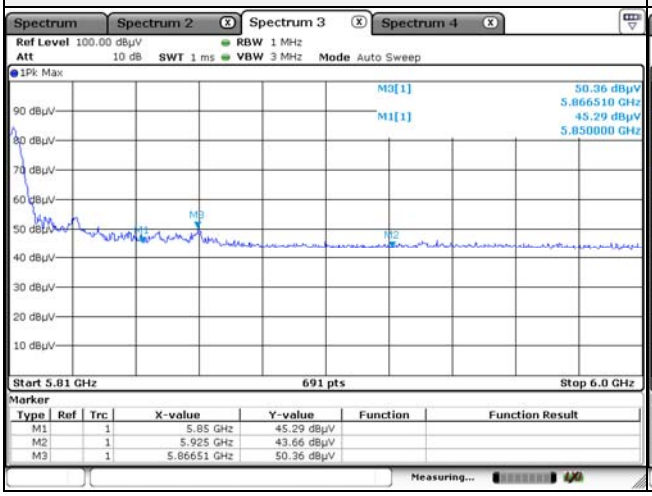
Restricted band // Horizontal // Peak // Below 5725 ㎒



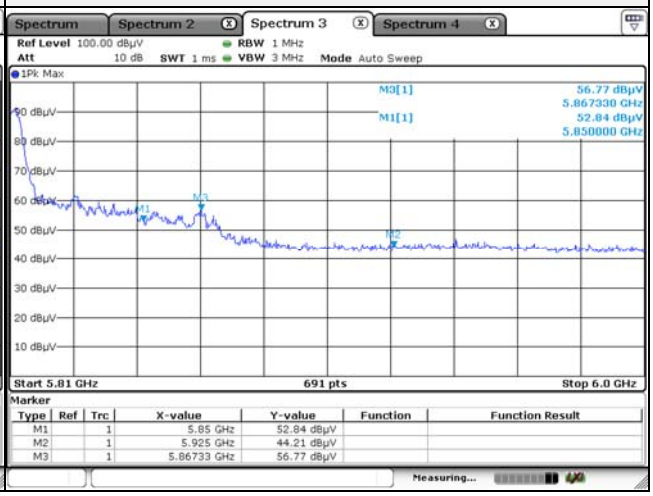
Restricted band // Vertical // Peak // Below 5725 ㎒



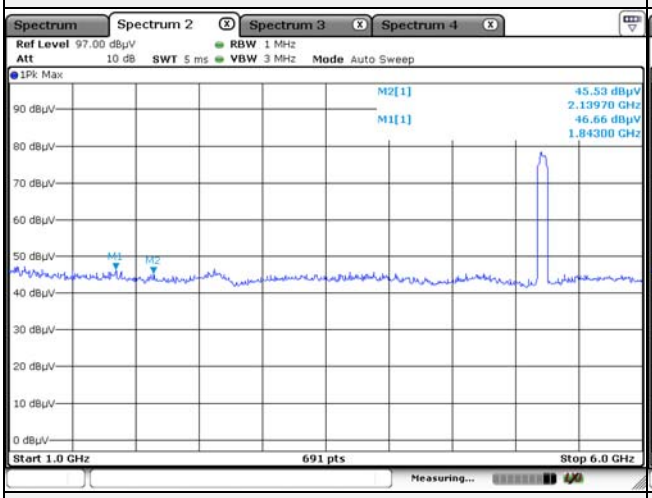
Restricted band // Horizontal // Peak // Above 5850 ㎒



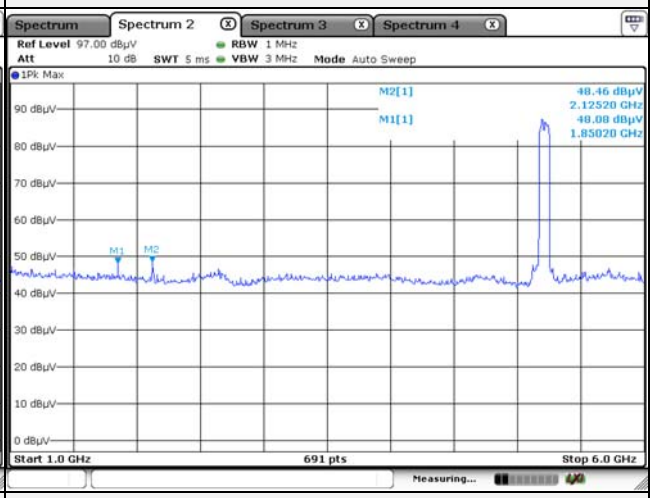
Restricted band // Vertical // Peak // Above 5850 ㎒



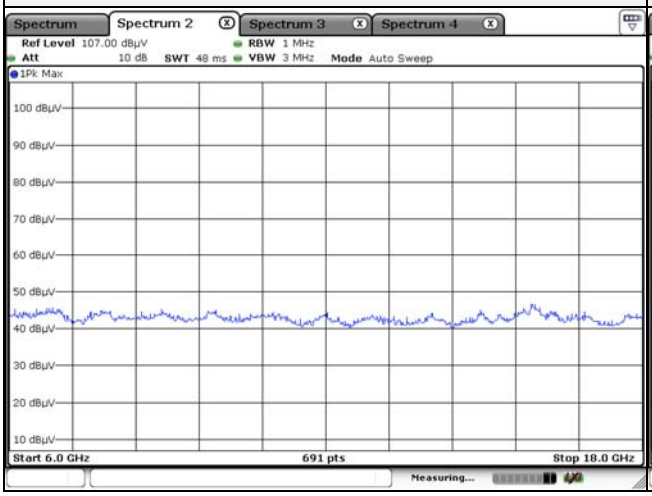
Horizontal // Peak for 1 ㎓ to 6 ㎓



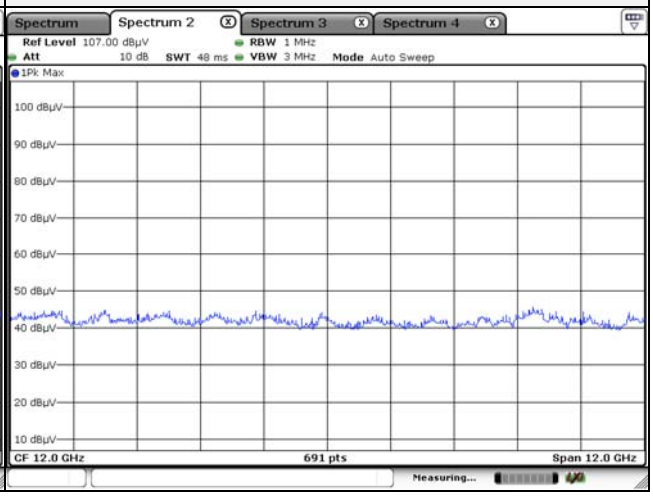
Vertical // Peak for 1 ㎓ to 6 ㎓



Horizontal // Peak for 6 ㎓ to 18 ㎓



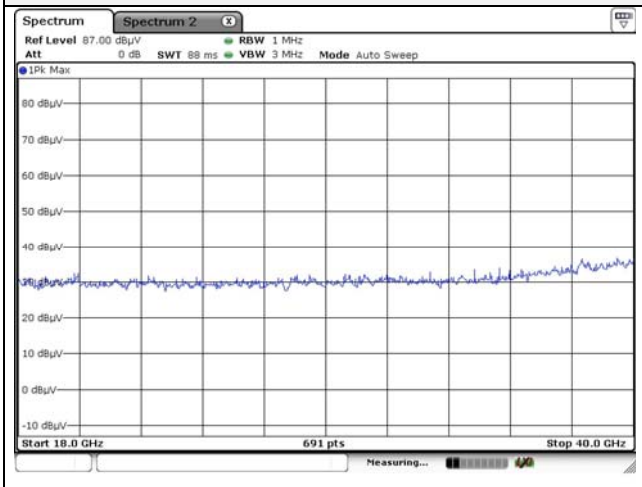
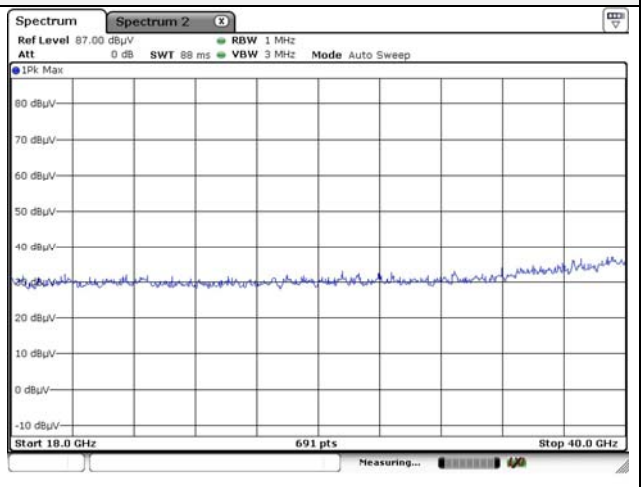
Vertical // Peak for 6 ㎓ to 18 ㎓



Note.
1. No spurious emission were detected above 6 ㎓.

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

Mode:	UNII-3
Distance of measurement:	3 meter
Channel:	157(worst case)

Horizontal	Vertical
	

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

Appendix A. Measurement equipment

Equipment	Manufacturer	Model	Serial No.	Calibration interval	Calibration date.	Calibration due.
Spectrum Analyzer	R&S	FSV30	100736	1 year	2018.06.28	2019.06.28
					2019.01.09	2020.01.09
Spectrum Analyzer	R&S	FSV40	101002	1 year	2018.06.29	2019.06.29
8360B Series Swept Signal Generator	HP	83630B	3844A00786	1 year	2018.01.22	2019.01.22
					2019.01.15	2020.01.15
Power Meter	Anritsu	ML2495A	1438001	1 year	2018.01.25	2019.01.25
					2019.01.15	2020.01.15
Pulse Power Sensor	Anritsu	MA2411B	1339205	1 year	2018.01.25	2019.01.25
					2019.01.15	2020.01.15
Attenuator	HP	8494B	2630A12857	1 year	2018.01.18	2019.01.18
					2019.01.15	2020.01.15
Loop Antenna	Schwarzbeck	FMZB1513	225	2 years	2017.05.10	2019.05.10
Trilog-broadband antenna	SCHWARZBECK	VULB 9163	9168-714	2 years	2018.11.26	2020.11.26
Horn Antenna	A.H	SAS-571	414	2 years	2017.02.15	2019.02.15
Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1802	2 years	2017.09.04	2019.09.04
High Pass Filter	Wainwright Instrument Gmbh	WHJS3000-10TT	1	1 year	2018.06.29	2019.06.29
Amplifier	R&S	SCU 01	100603	1 year	2018.11.26	2019.11.26
Preamplifier	AGILENT	8449B	3008A01742	1 year	2018.01.11	2019.01.11
					2019.01.08	2020.01.08
EMI Test Receiver	R&S	ESR3	101781	1 year	2018.04.25	2019.04.25
EMI Test Receiver	R&S	ESU26	100551	1 year	2018.04.11	2019.04.11
Pulse Limiter	R&S	ESH3-Z2	101915	1 year	2018.11.26	2019.11.26
LISN	R&S	ENV216	101787	1 year	2018.01.31	2019.01.31
					2019.01.04	2020.01.04
DC Power supply	EXTENDED	EX-1500H2	405410100030	1 year	2018.04.13	2019.04.13

Peripheral devices

Device	Manufacturer	Model No.	Serial No.
Notebook Computer	SAMSUNG	NT-R519	ZKPA93ES900086Z