

**Duty cycle**

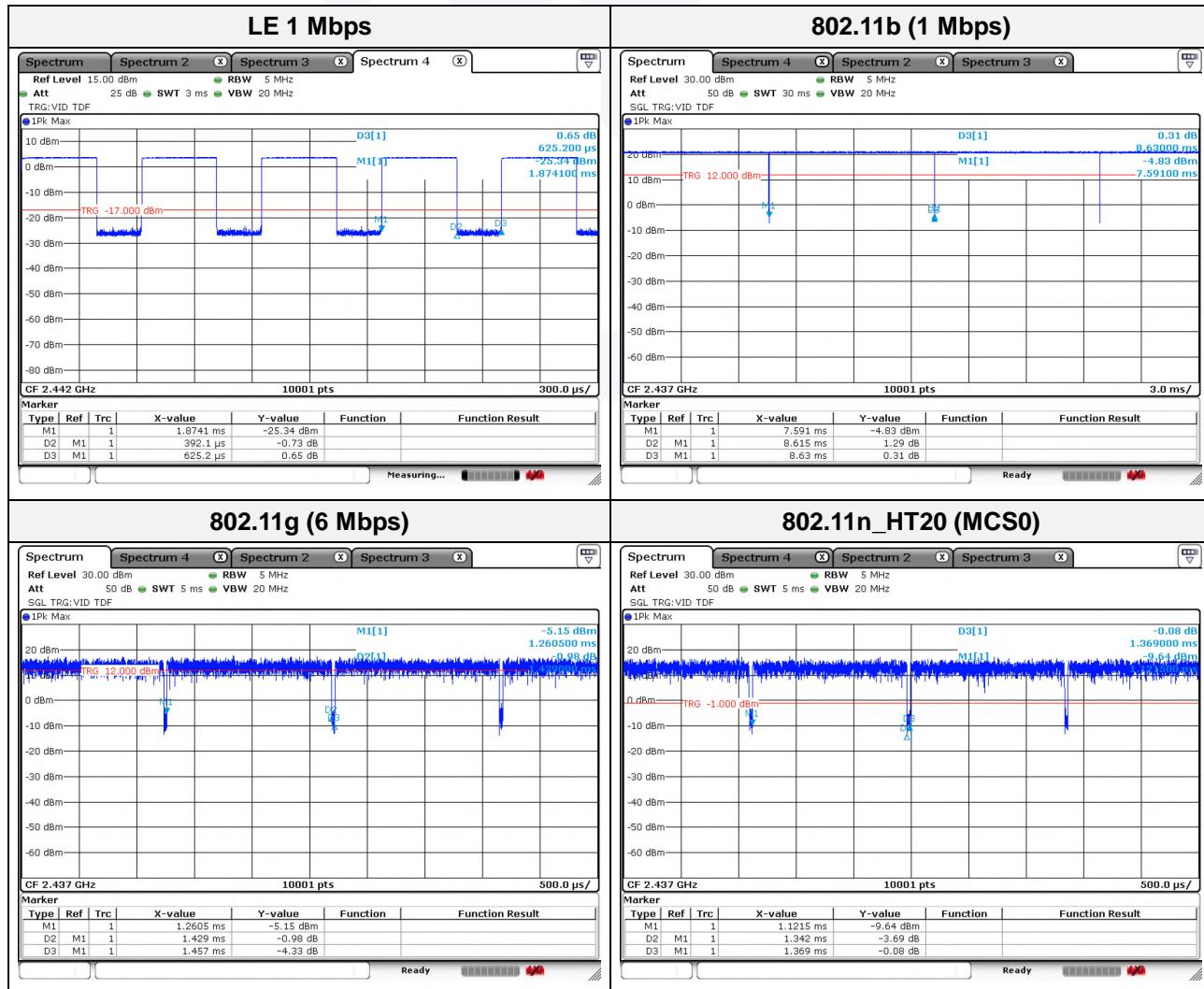
Regarding to KDB 558074 D01\_v05 r02, 6. Measurements of duty cycle and transmission duration shall be performed using one of the following techniques:

- A diode detector and an oscilloscope that together have sufficiently short response time to permit accurate measurements of the on- and off-times of the transmitted signal.
- The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on- and off-times of the transmitted signal.

Mode	T <sub>on</sub> time (ms)	Period (ms)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
LE 1 Mbps	0.392	0.625	0.63	62.72	2.01
802.11b (1 Mbps)	8.615	8.630	1.00	99.83	-
802.11g (6 Mbps)	1.429	1.457	0.98	98.08	-
802.11n_HT20 (MCS0)	1.342	1.369	0.98	98.03	-

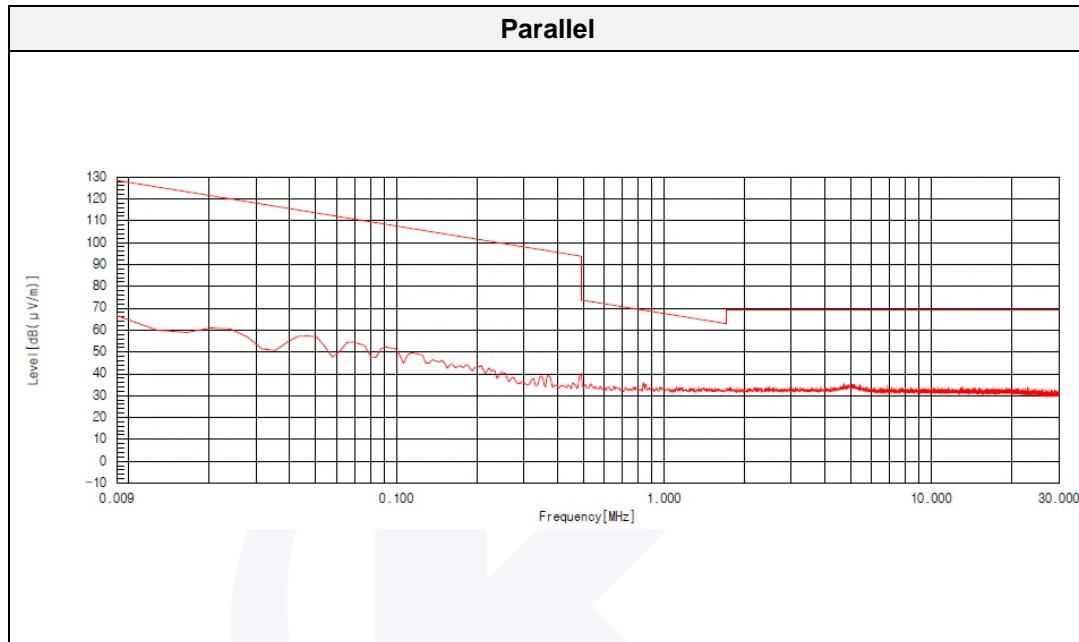
Duty cycle (Linear) = T<sub>on</sub> time/Period

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



**Test results (Below 30 MHz)**

Mode: LE 1 Mbps  
Distance of measurement: 3 meter  
Channel: 39 (Worst case)

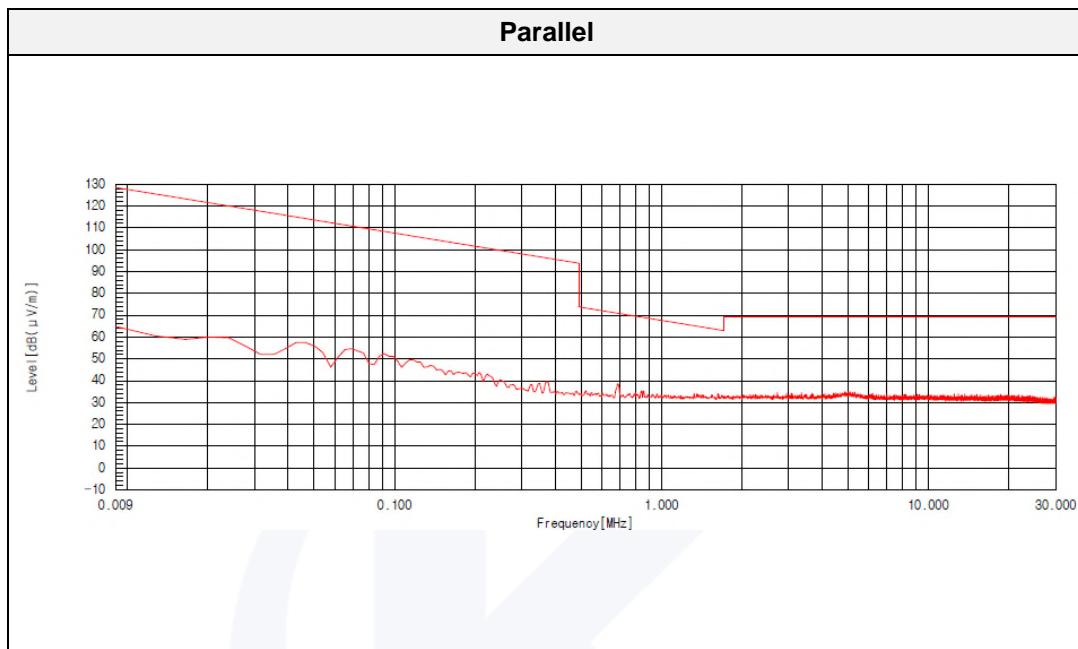


Note.

1. No spurious emission were detected under 30 MHz.



Mode: 802.11n\_HT20 (MCS0) (Worst case)  
Distance of measurement: 3 meter  
Channel: 11 (Worst case)

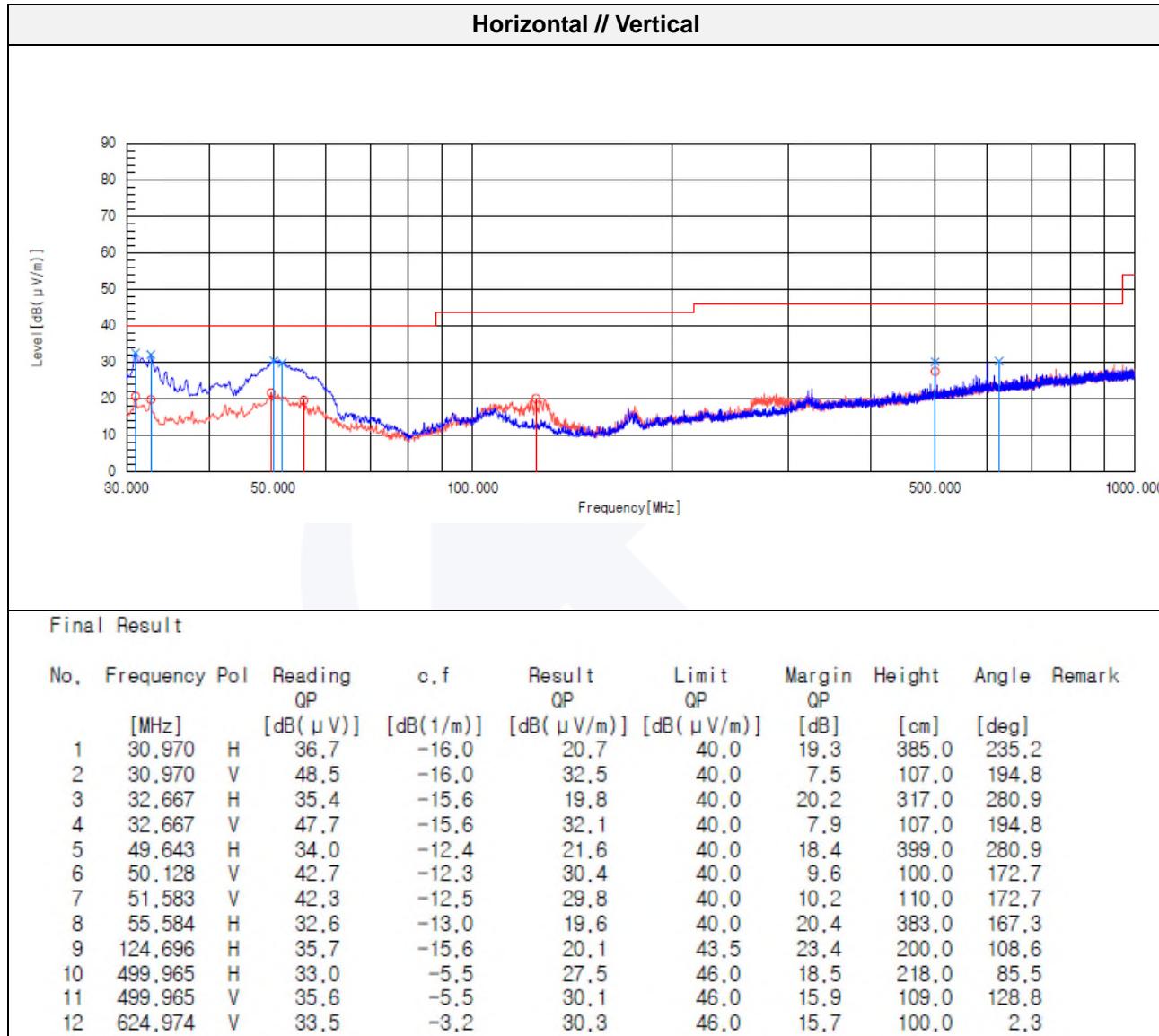


Note.

1. No spurious emission were detected under 30 MHz.

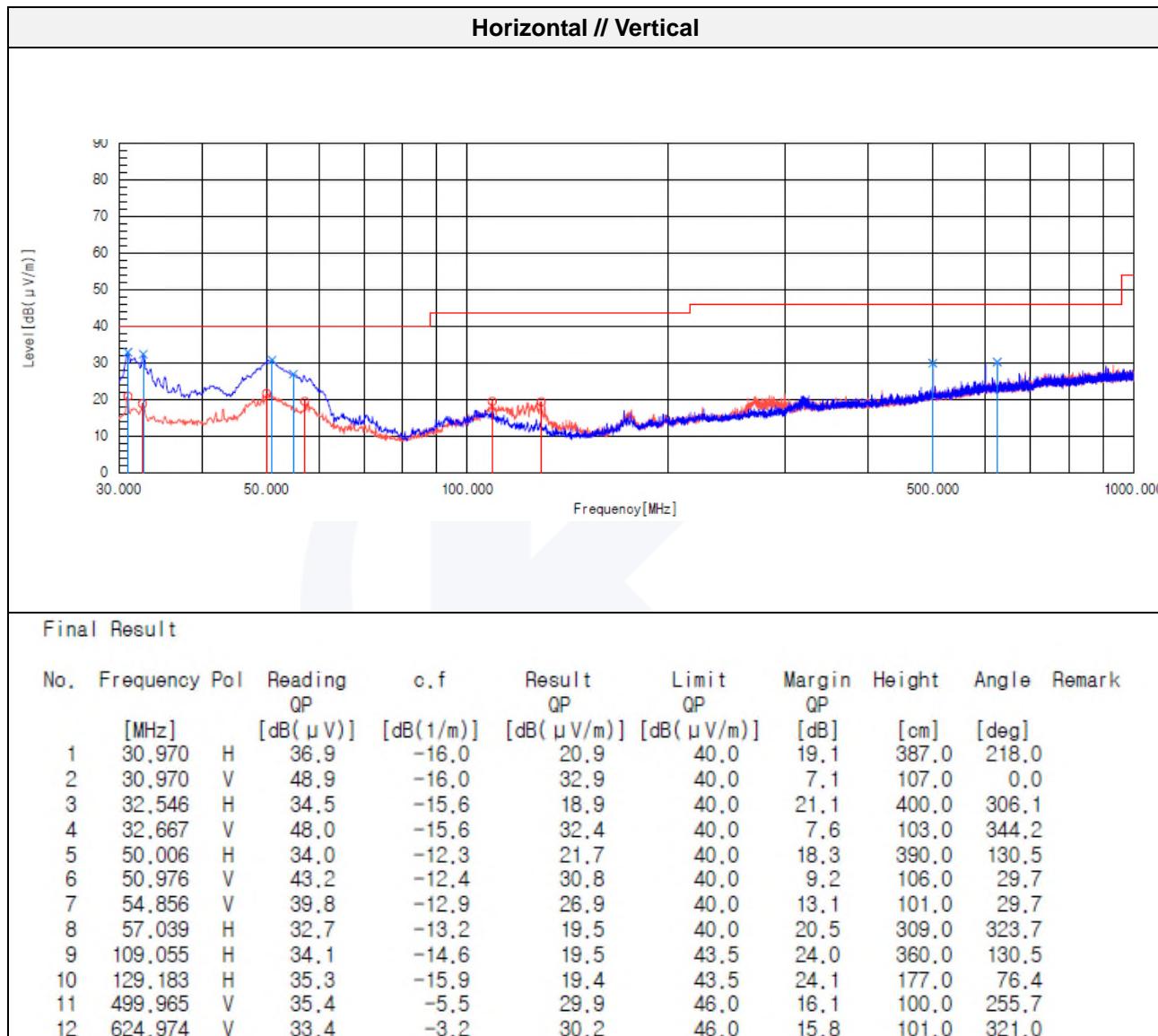
**Test results (Below 1 000 MHz)**

Mode: LE 1 Mbps  
Distance of measurement: 3 meter  
Channel: 39 (Worst case)





Mode: 802.11n\_HT20 (MCS0) (Worst case)  
Distance of measurement: 3 meter  
Channel: 11 (Worst case)



**Test results (Above 1 000 MHz)**

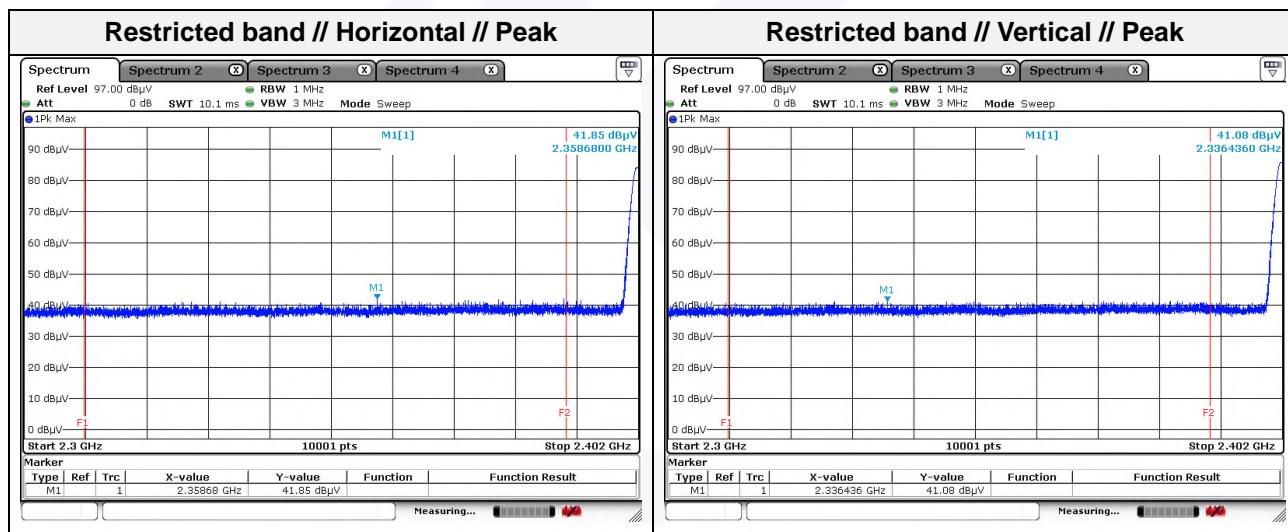
Mode: LE 1 Mbps  
Distance of measurement: 3 meter  
Channel: 00

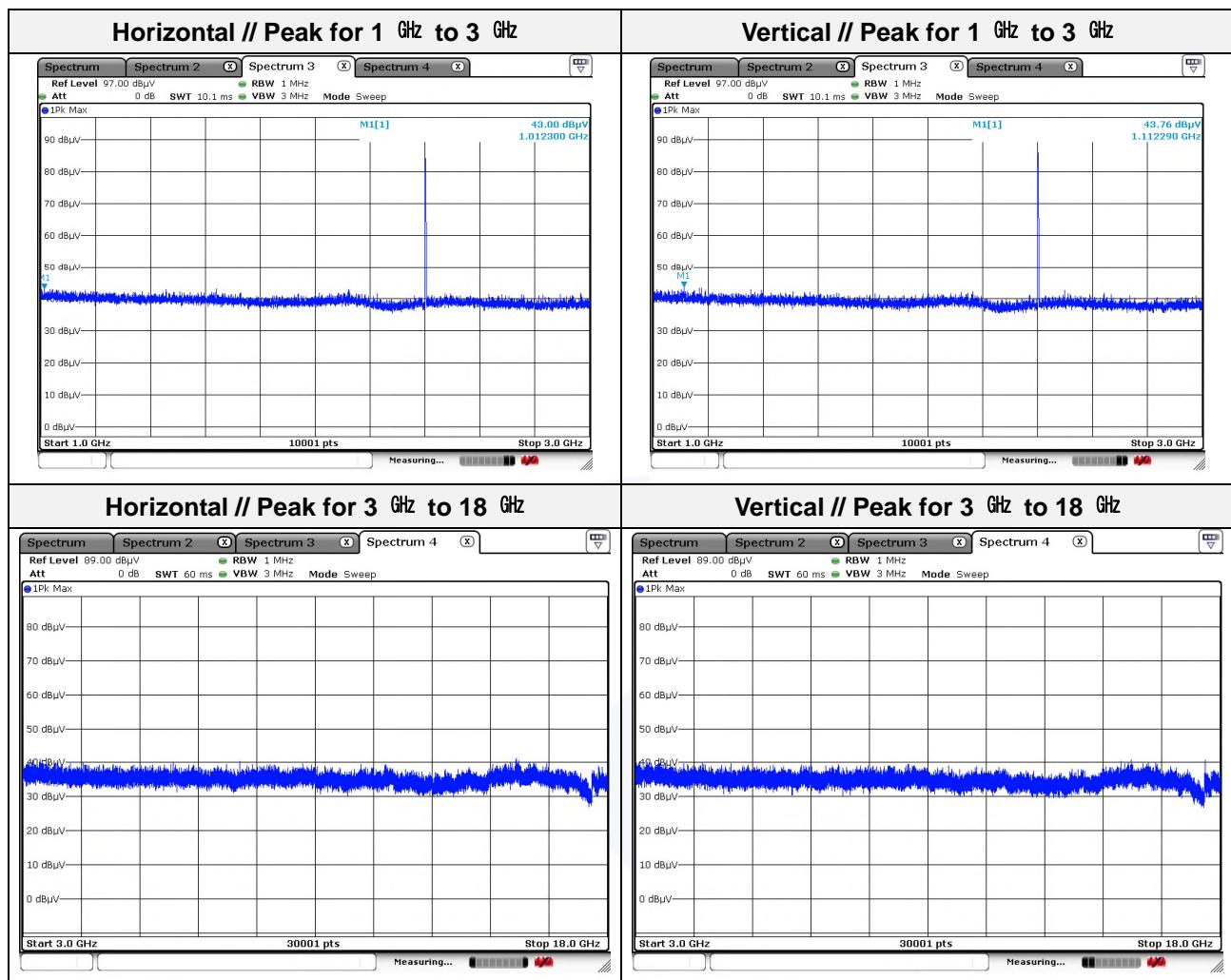
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 012.30	43.00	Peak	H	-6.82	-	36.18	74.00	37.82
1 112.29	43.76	Peak	V	-6.31	-	37.45	74.00	36.55

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
2 336.44	41.08	Peak	V	-1.61	-	39.47	74.00	34.53
2 358.68	41.85	Peak	H	-1.52	-	40.33	74.00	33.67





Note.

1. Average test would be performed if the peak result were greater than the average limit.



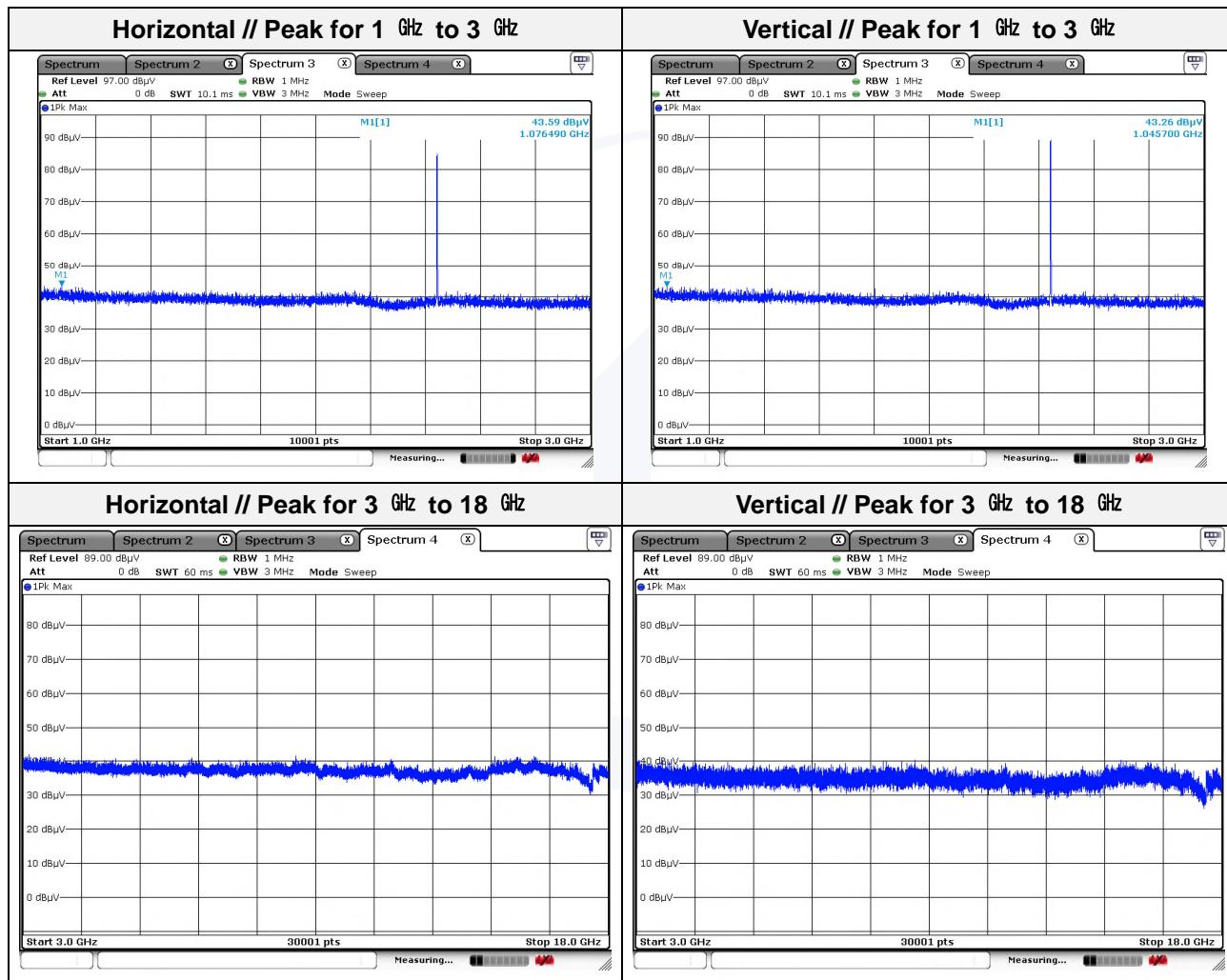
Mode: LE 1 Mbps

Distance of measurement: 3 meter

Channel: 20

## - Spurious

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
1 045.70	43.26	Peak	V	-6.65	-	36.61	74.00	37.39
1 076.49	43.59	Peak	H	-6.49	-	37.10	74.00	36.90



## Note.

1. No spurious emission were detected above 3 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



Mode: LE 1 Mbps

Distance of measurement: 3 meter

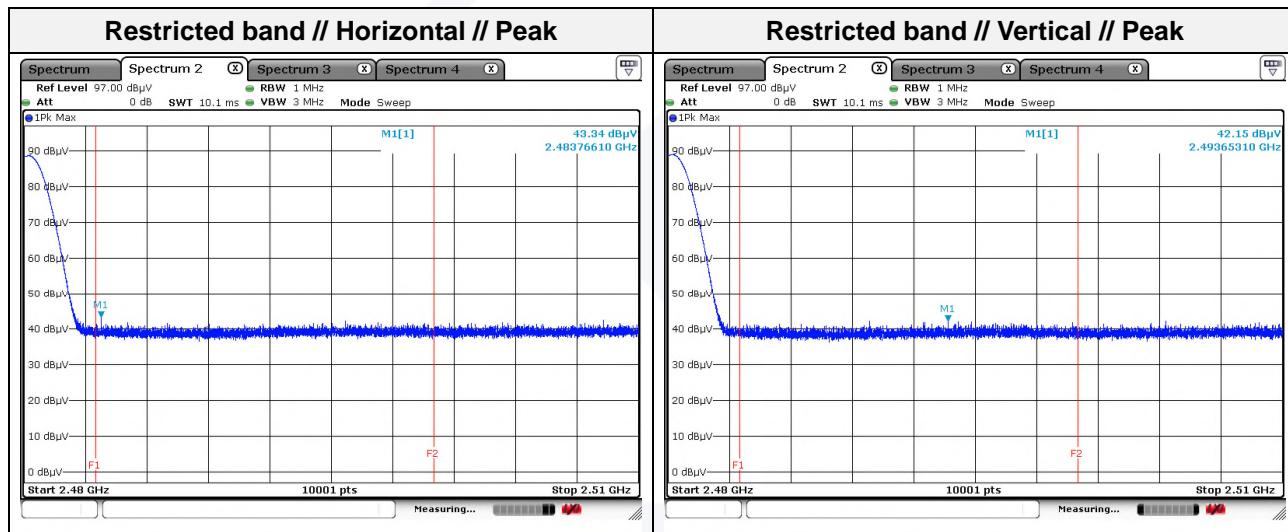
Channel: 39

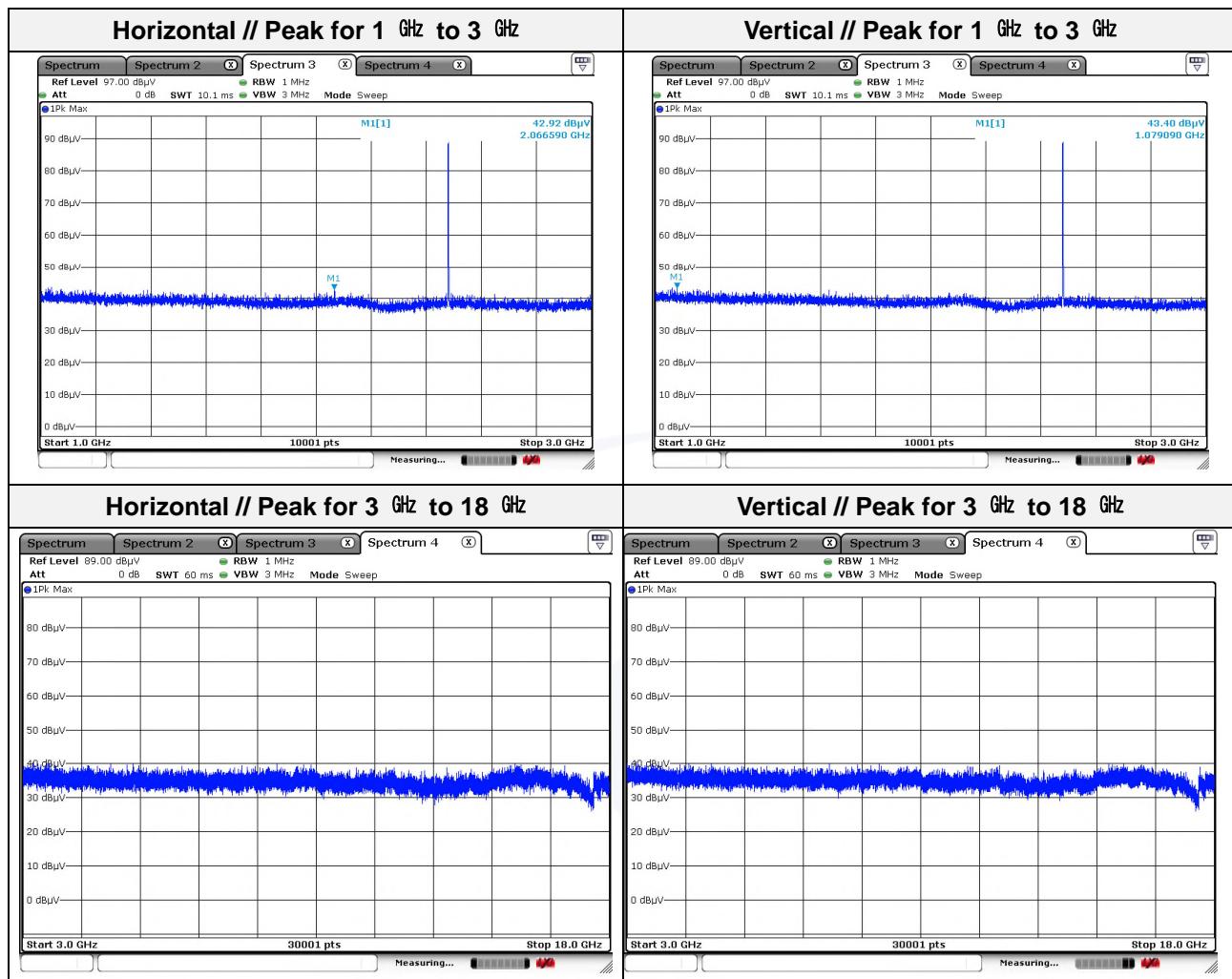
## - Spurious

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
1 079.09	43.40	Peak	V	-6.48	-	36.92	74.00	37.08
2 066.59	42.92	Peak	H	-2.68	-	40.24	74.00	33.76

## - Band edge

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
2 483.77	43.34	Peak	H	-1.06	-	42.28	74.00	31.72
2 493.65	42.15	Peak	V	-1.03	-	41.12	74.00	32.88





Note.

1. No spurious emission were detected above 3 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



Mode: 802.11b (1 Mbps)

Distance of measurement: 3 meter

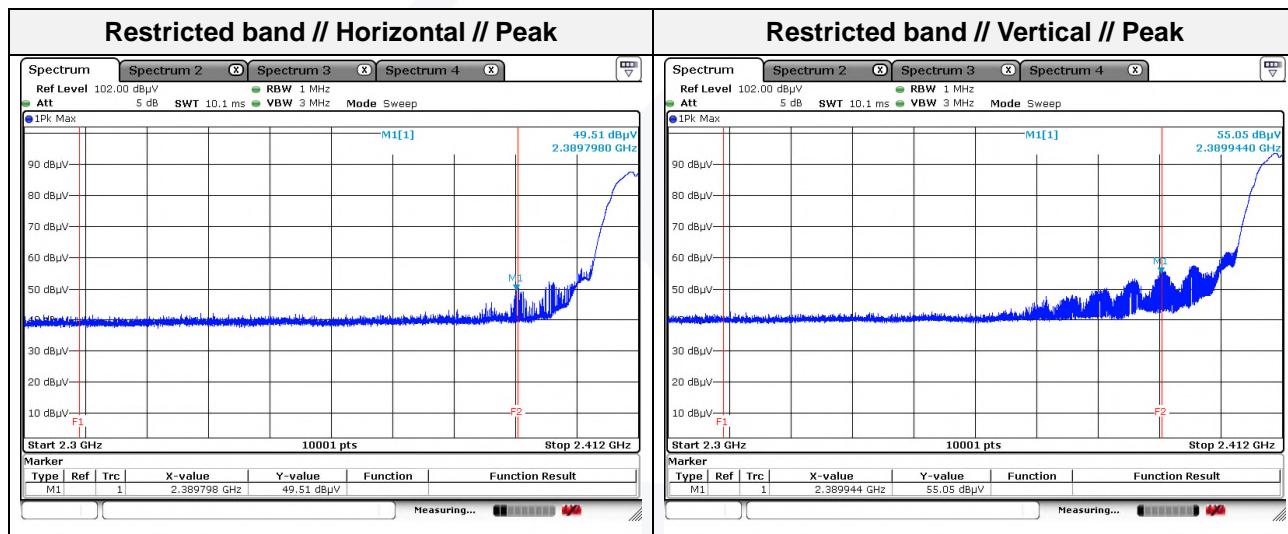
Channel: 1

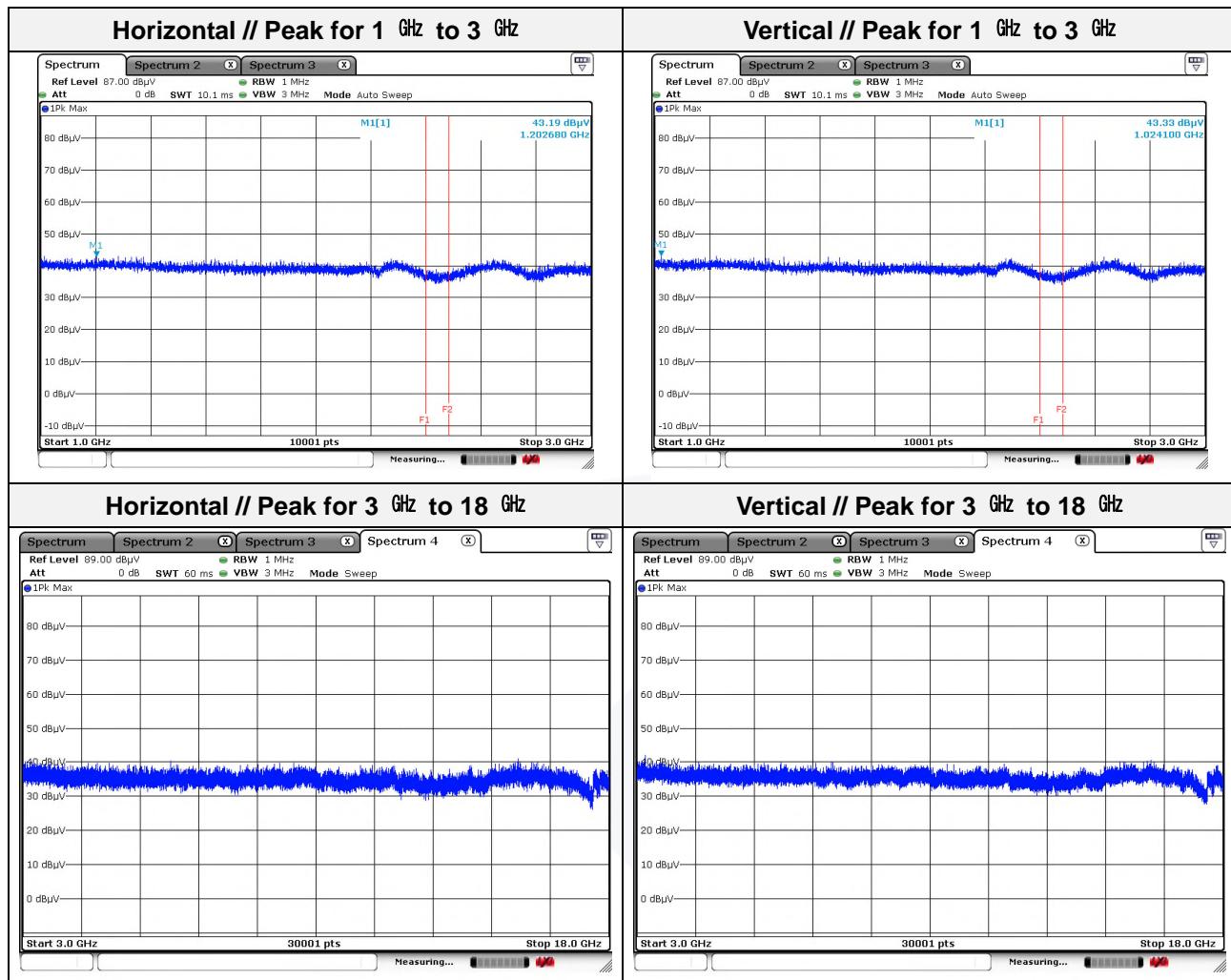
## - Spurious

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
1 024.10	43.33	Peak	V	-6.76	-	36.57	74.00	37.43
1 202.68	43.19	Peak	H	-5.85	-	37.34	74.00	36.66

## - Band edge

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
2 389.80	49.51	Peak	H	-1.39	-	48.12	74.00	25.88
2 389.94	55.05	Peak	V	-1.39	-	53.66	74.00	20.34





Note.

1. No spurious emission were detected above 3 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



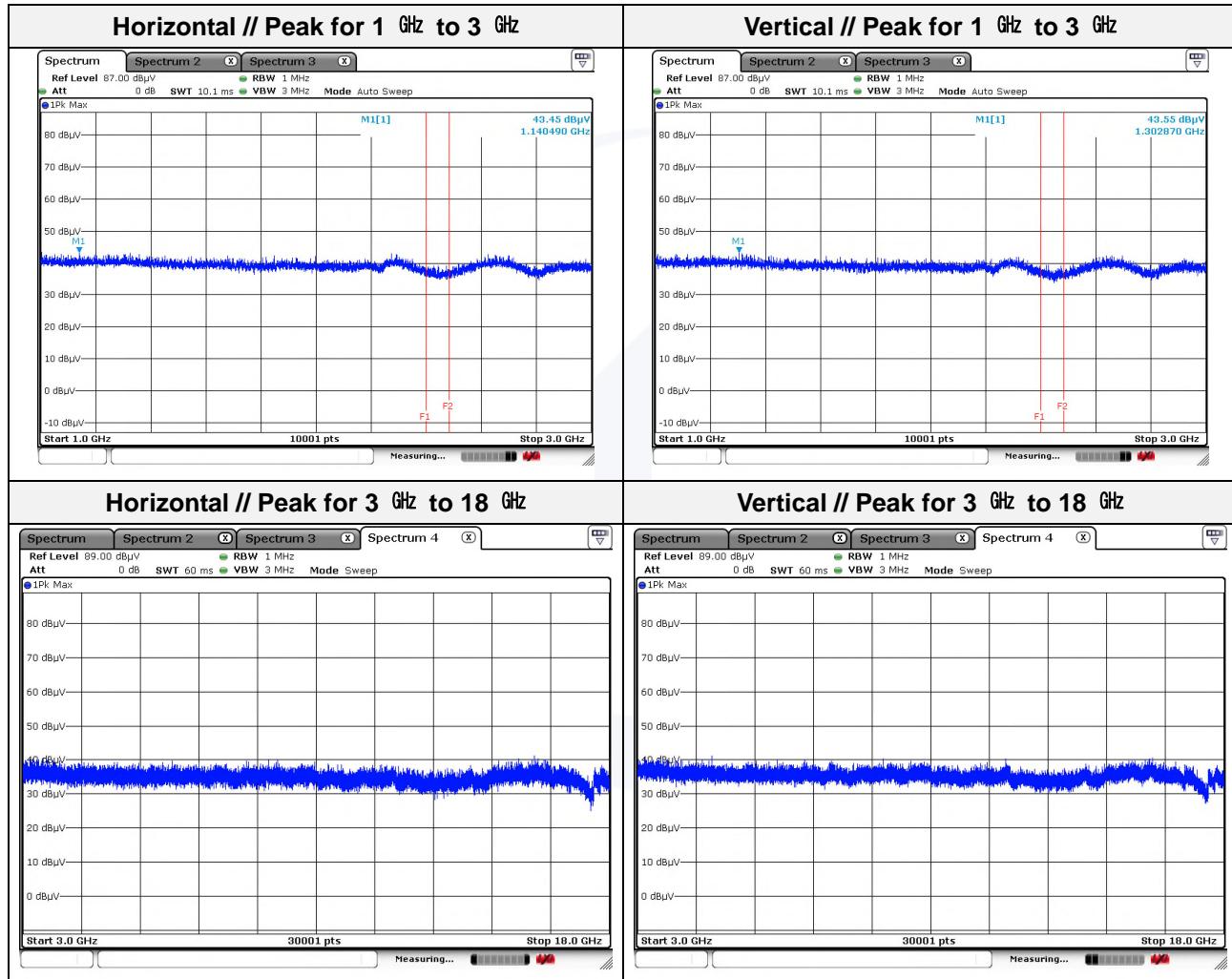
Mode: 802.11b (1 Mbps)

Distance of measurement: 3 meter

Channel: 6

## - Spurious

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
1 140.49	43.45	Peak	H	-6.17	-	37.28	74.00	36.72
1 302.87	43.55	Peak	V	-5.30	-	38.25	74.00	35.75



## Note.

1. No spurious emission were detected above 3 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



Mode: 802.11b (1 Mbps)

Distance of measurement: 3 meter

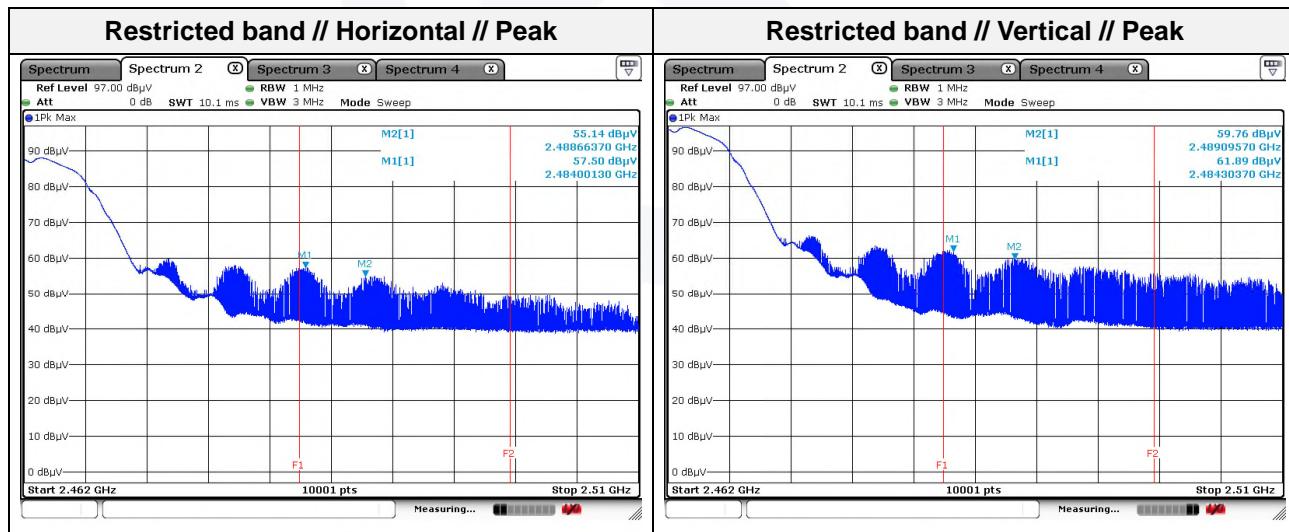
Channel: 11

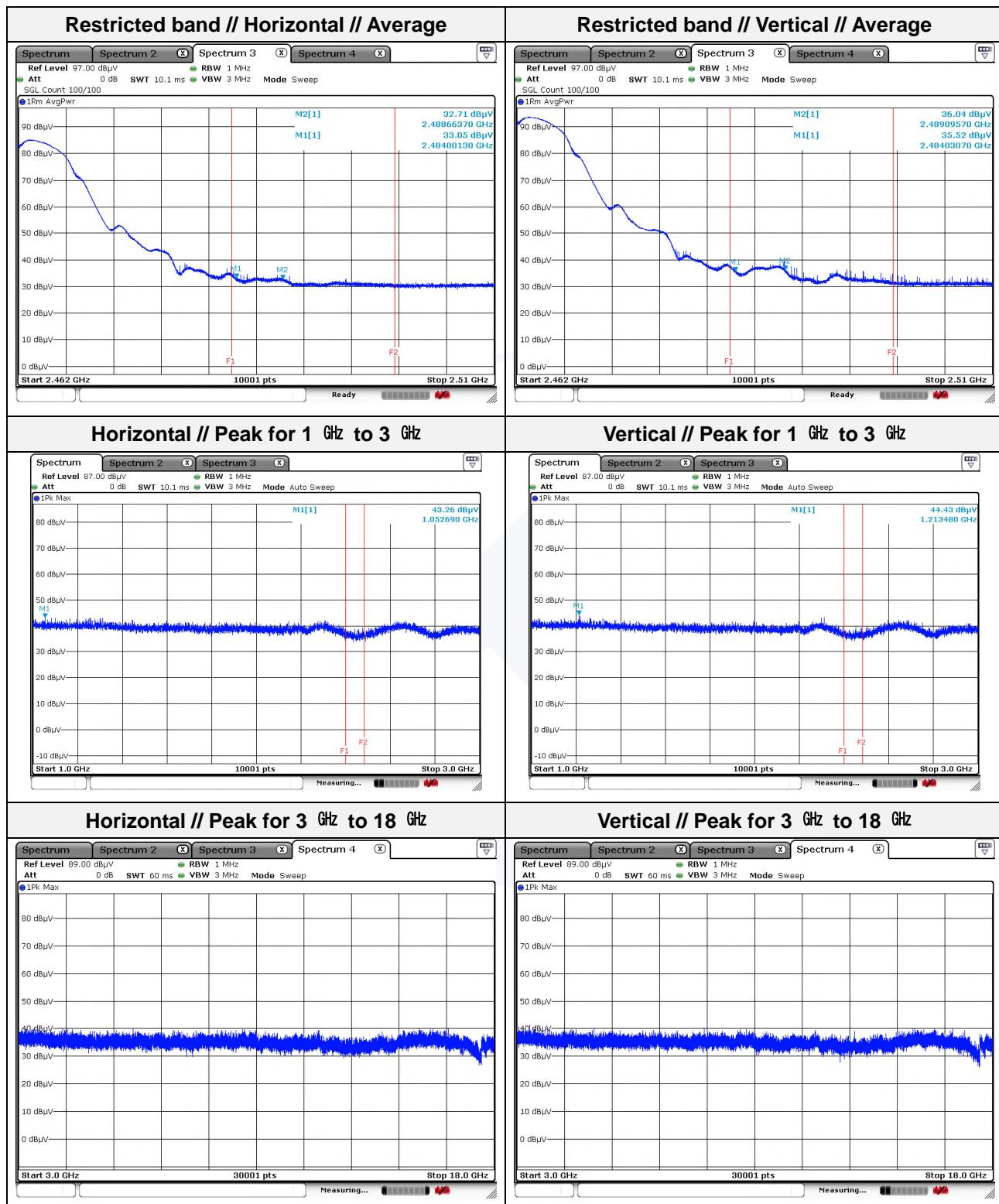
## - Spurious

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
1 052.69	43.26	Peak	H	-6.61	-	36.65	74.00	37.35
1 213.48	44.43	Peak	V	-5.79	-	38.64	74.00	35.36

## - Band edge

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
2 484.00	57.50	Peak	H	-1.06	-	56.44	74.00	17.56
2 484.00	33.05	Average	H	-1.06	-	31.99	54.00	22.01
2 484.30	61.89	Peak	V	-1.06	-	60.83	74.00	13.17
2 484.30	35.52	Average	V	-1.06	-	34.46	54.00	19.54
2 488.66	55.14	Peak	H	-1.04	-	54.10	74.00	19.90
2 488.66	32.71	Average	H	-1.04	-	31.67	54.00	22.33
2 489.10	59.76	Peak	V	-1.04	-	58.72	74.00	15.28
2 489.10	36.04	Average	V	-1.04	-	35.00	54.00	19.00





Note.

1. No spurious emission were detected above 3 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



Mode: 802.11g (6 Mbps)

Distance of measurement: 3 meter

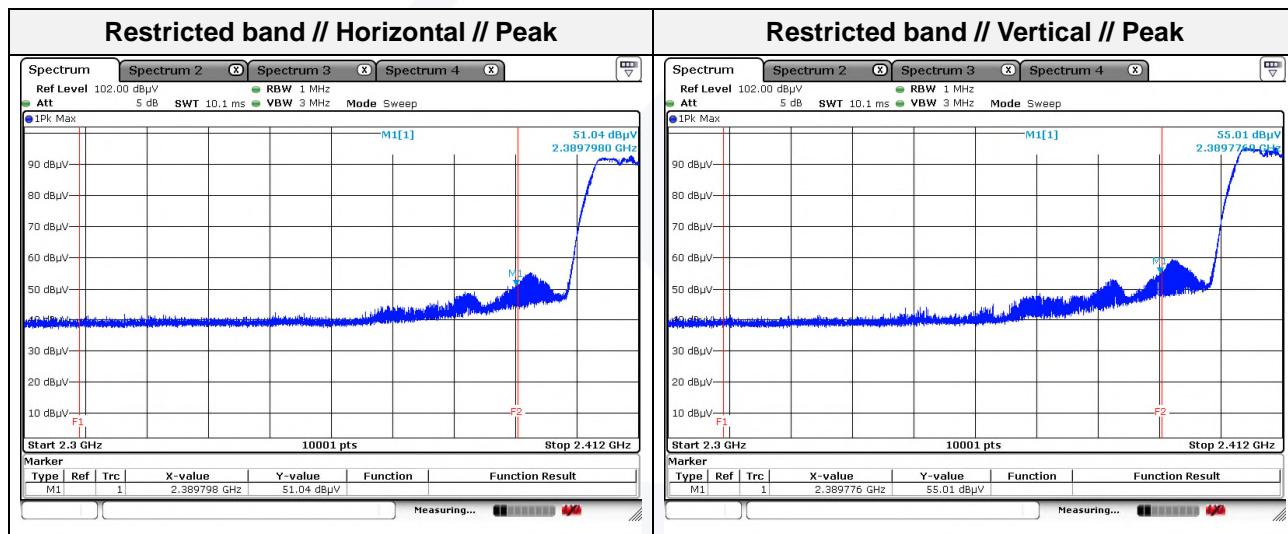
Channel: 1

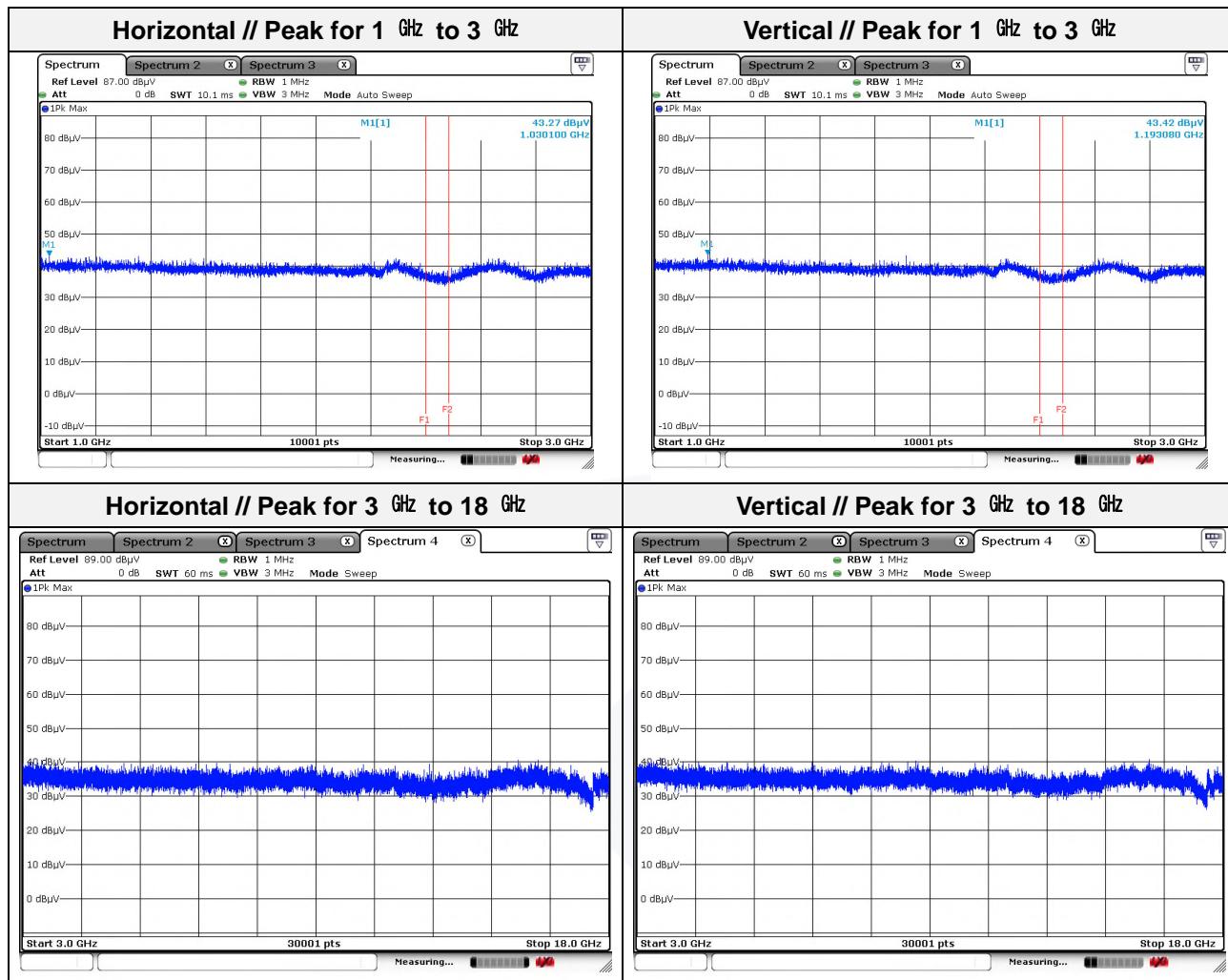
## - Spurious

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
1 030.10	43.27	Peak	H	-6.73	-	36.54	74.00	37.46
1 193.08	43.42	Peak	V	-5.90	-	37.52	74.00	36.48

## - Band edge

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
2 389.78	55.01	Peak	V	-1.39	-	53.62	74.00	20.38
2 389.80	51.04	Peak	H	-1.39	-	49.65	74.00	24.35





Note.

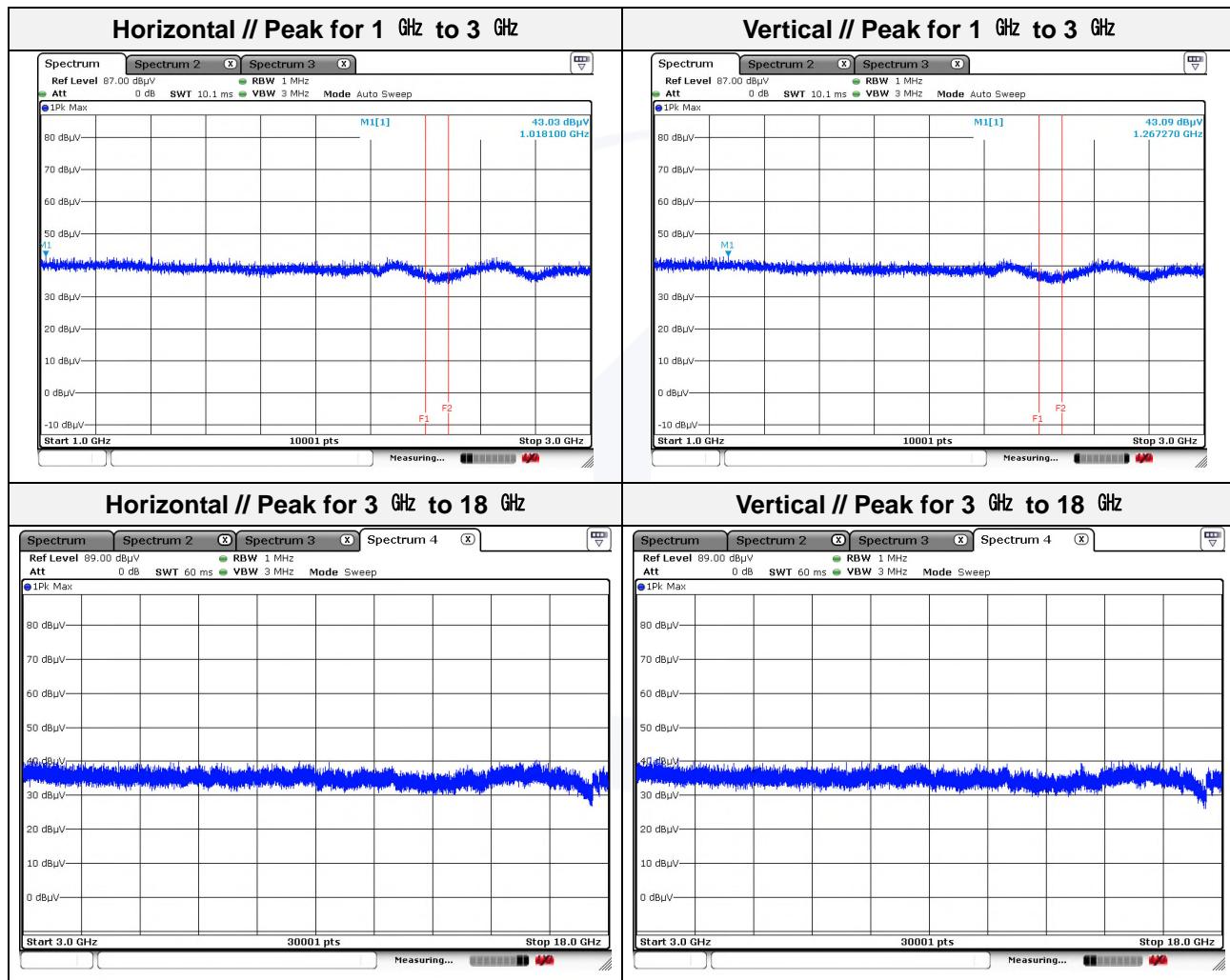
1. No spurious emission were detected above 3 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



Mode: 802.11g (6 Mbps)  
Distance of measurement: 3 meter  
Channel: 6

**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
1 018.10	43.03	Peak	H	-6.79	-	36.24	74.00	37.76
1 267.27	43.09	Peak	V	-5.49	-	37.60	74.00	36.40

**Note.**

1. No spurious emission were detected above 3 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



Mode: 802.11g (6 Mbps)

Distance of measurement: 3 meter

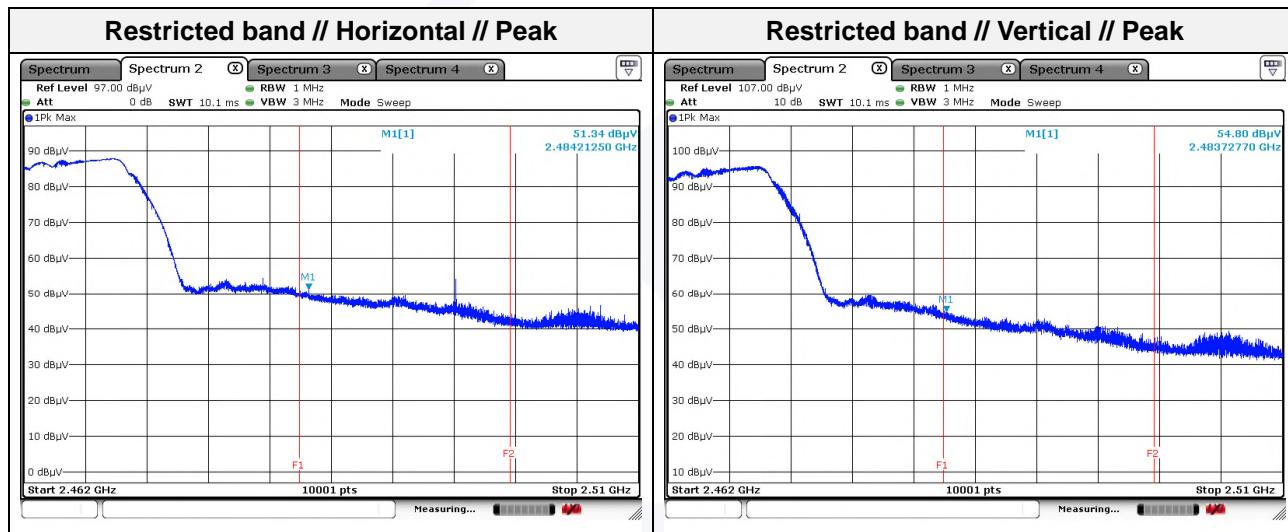
Channel: 11

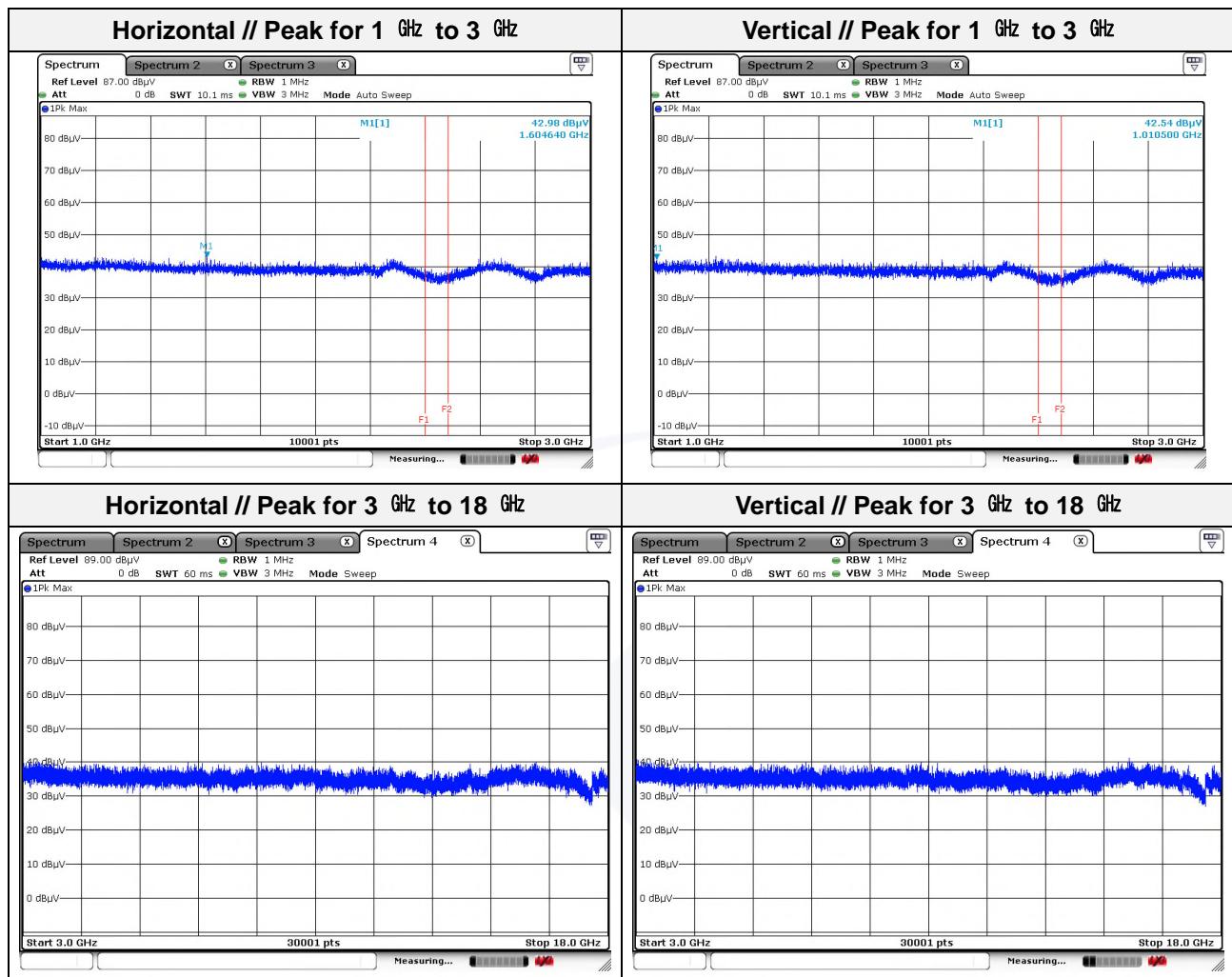
**- Spurious**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
1 010.50	42.54	Peak	V	-6.82	-	35.72	74.00	38.28
1 604.64	42.98	Peak	H	-3.91	-	39.07	74.00	34.93

**- Band edge**

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ N/m)	Limit (dB $\mu$ N/m)	Margin (dB)
2 483.73	54.80	Peak	V	-1.06	-	53.74	74.00	20.26
2 484.21	51.34	Peak	H	-1.06	-	50.28	74.00	23.72





Note.

1. No spurious emission were detected above 3 GHz.
2. Average test would be performed if the peak result were greater than the average limit.



Mode: 802.11n\_HT20 (MCS0)

Distance of measurement: 3 meter

Channel: 1

## - Spurious

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1 033.10	42.95	Peak	H	-6.71	-	36.24	74.00	37.76
2 607.34	43.34	Peak	V	-0.79	-	42.55	74.00	31.45

## - Band edge

Frequency (MHz)	Level (dB $\mu$ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
2 389.29	62.60	Peak	H	-1.40	-	61.20	74.00	12.80
2 389.29	36.27	Average	H	-1.40	-	34.87	54.00	19.13
2 389.69	58.95	Peak	H	-1.39	-	57.56	74.00	16.44
2 389.69	34.66	Average	H	-1.39	-	33.27	54.00	20.73

