

**Duty cycle**

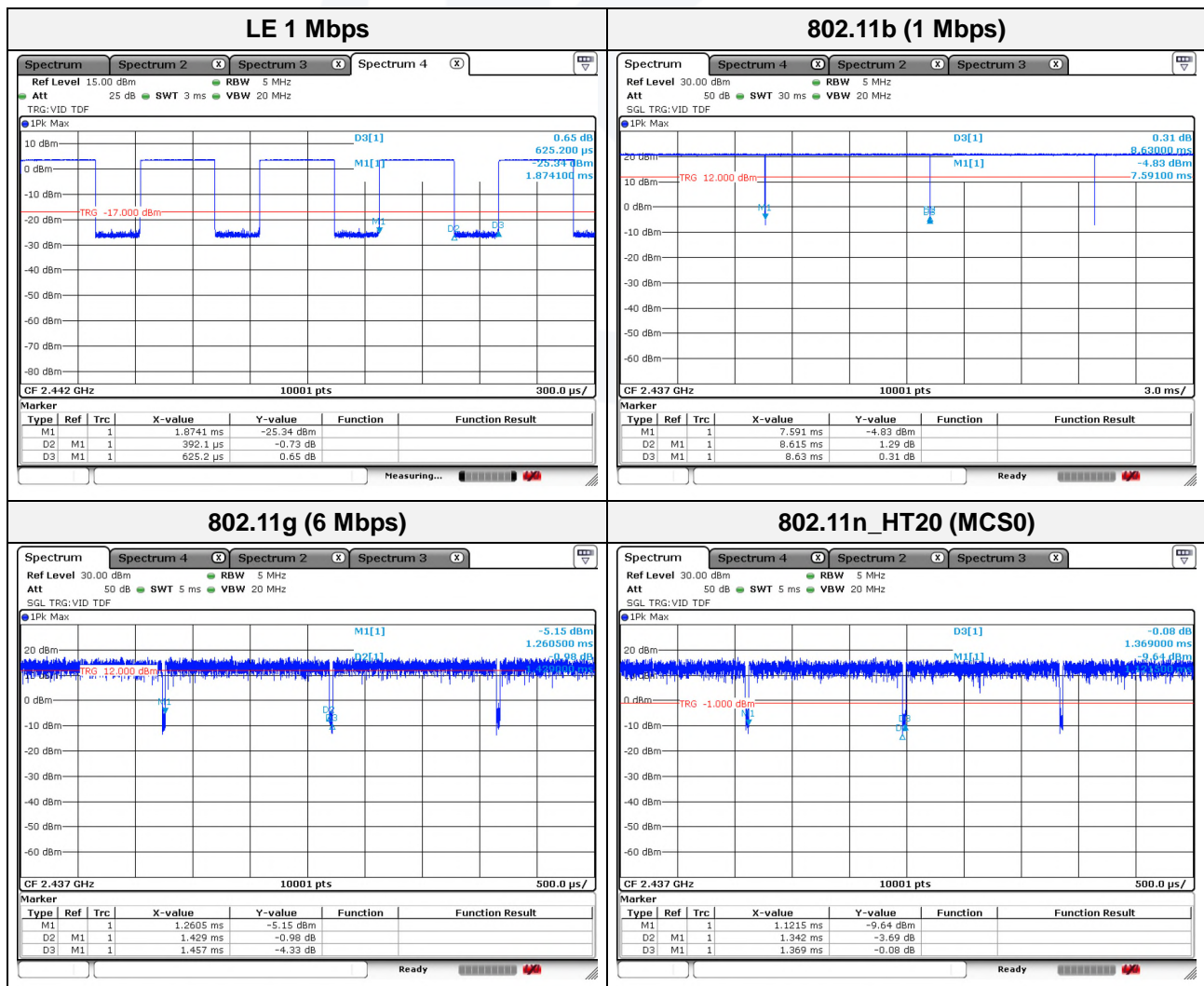
Regarding to KDB 558074 D01_v05 r02, 6. Measurements of duty cycle and transmission duration shall be performed using one of the following techniques:

- 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 _{on} 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_{on} time/Period

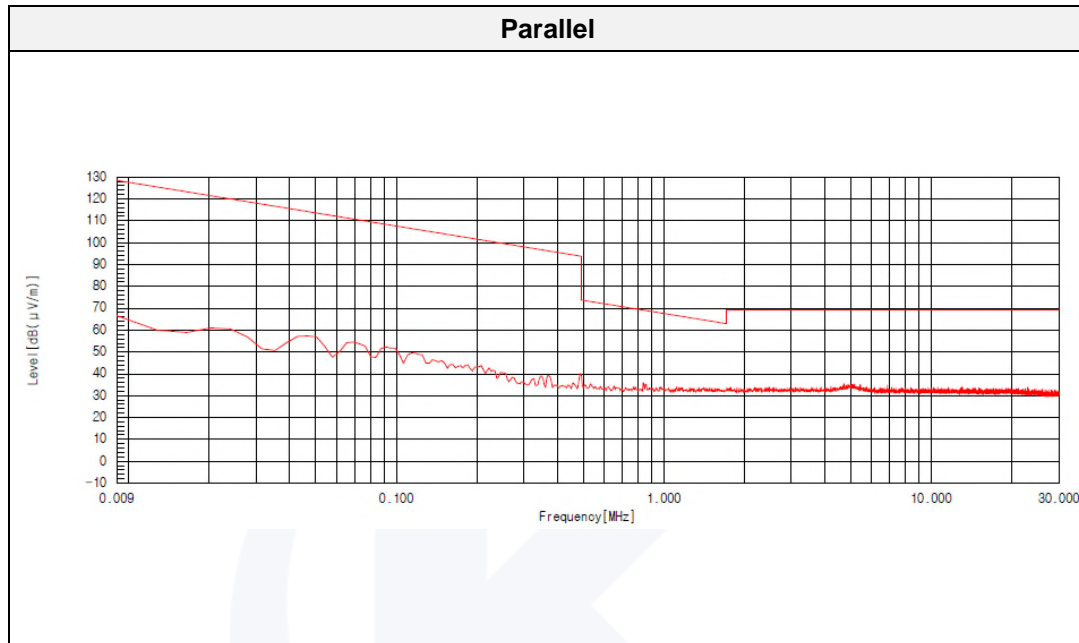
DCF(Duty cycle correction factor (dB)) = 10log(1/duty cycle)





Test results (Below 30 MHz)

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

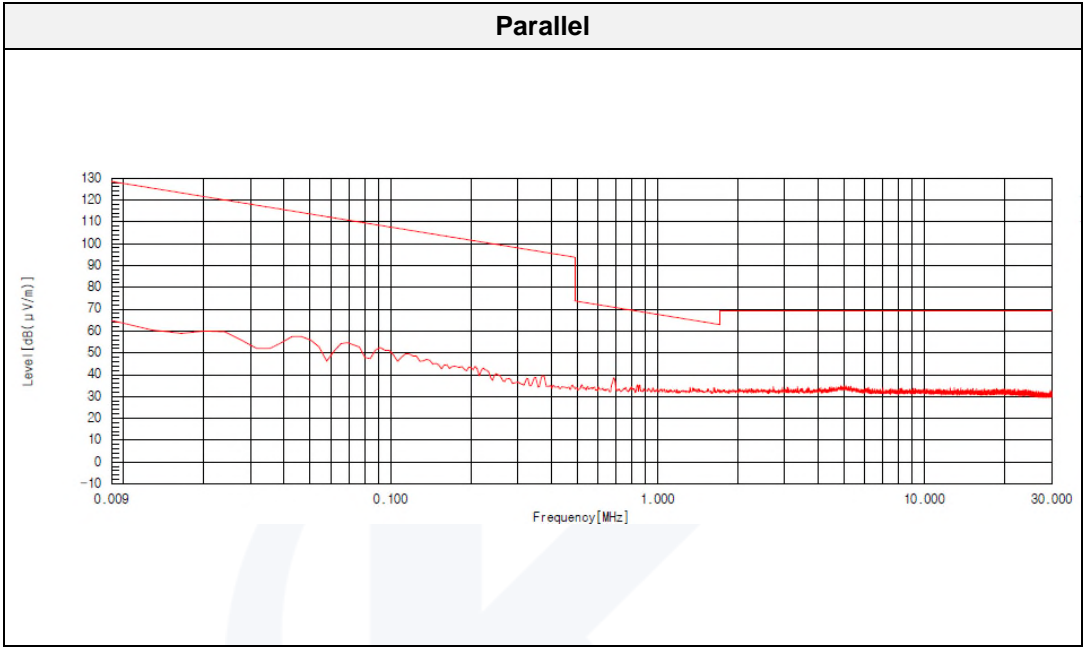


Note.

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)

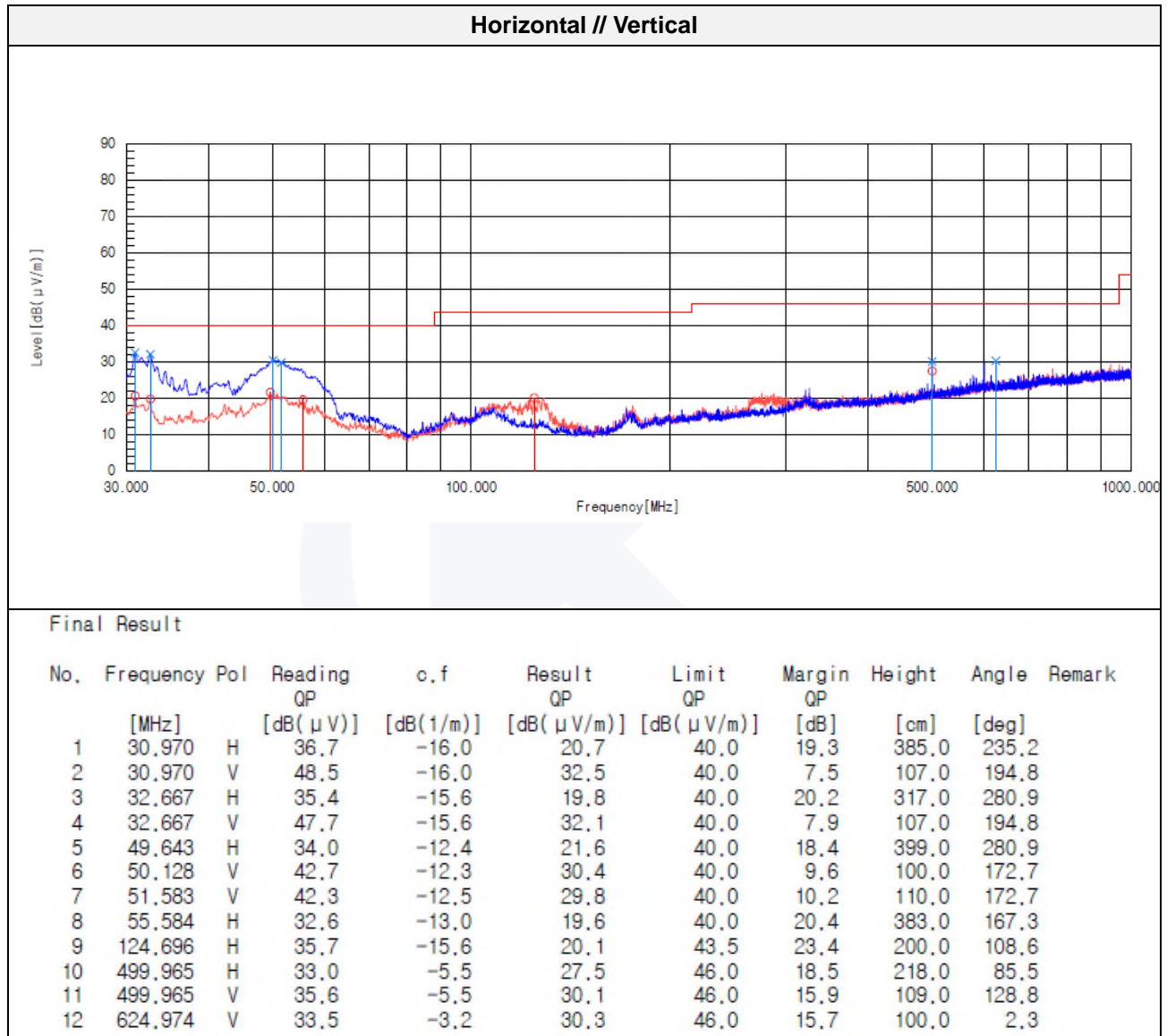


Note.

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)



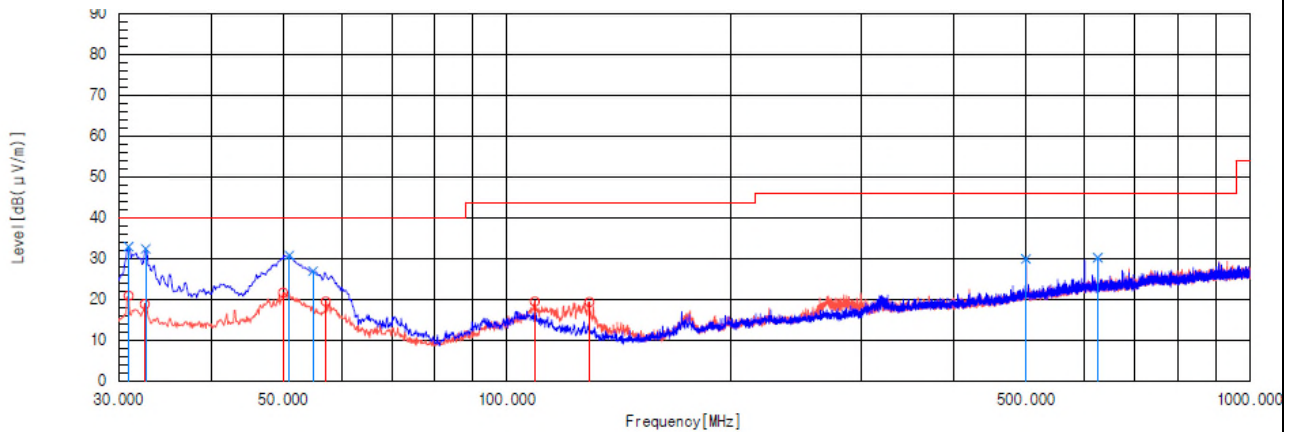


Mode: 802.11n_HT20 (MCS0) (Worst case)

Distance of measurement: 3 meter

Channel: 11 (Worst case)

Horizontal // Vertical



Final Result

No.	Frequency [MHz]	Pol	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	30.970	H	36.9	-16.0	20.9	40.0	19.1	387.0	218.0	
2	30.970	V	48.9	-16.0	32.9	40.0	7.1	107.0	0.0	
3	32.546	H	34.5	-15.6	18.9	40.0	21.1	400.0	306.1	
4	32.667	V	48.0	-15.6	32.4	40.0	7.6	103.0	344.2	
5	50.006	H	34.0	-12.3	21.7	40.0	18.3	390.0	130.5	
6	50.976	V	43.2	-12.4	30.8	40.0	9.2	106.0	29.7	
7	54.856	V	39.8	-12.9	26.9	40.0	13.1	101.0	29.7	
8	57.039	H	32.7	-13.2	19.5	40.0	20.5	309.0	323.7	
9	109.055	H	34.1	-14.6	19.5	43.5	24.0	360.0	130.5	
10	129.183	H	35.3	-15.9	19.4	43.5	24.1	177.0	76.4	
11	499.965	V	35.4	-5.5	29.9	46.0	16.1	100.0	255.7	
12	624.974	V	33.4	-3.2	30.2	46.0	15.8	101.0	321.0	



Report No. : KES-RF250556

Test results (Above 1 000 MHz)

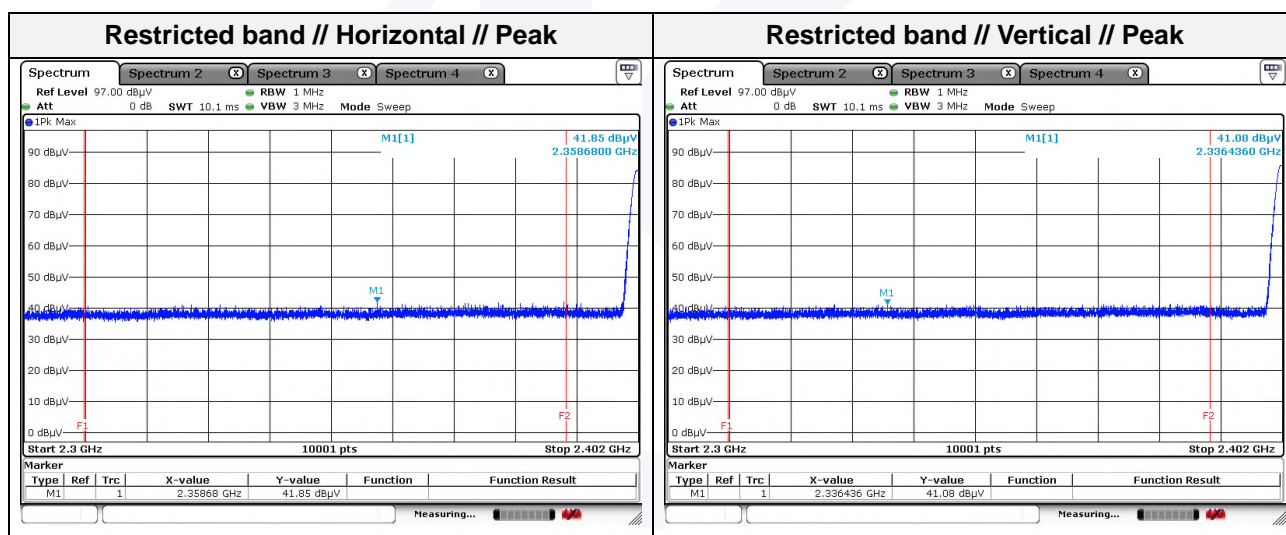
Mode: LE 1 Mbps
Distance of measurement: 3 meter
Channel: 00

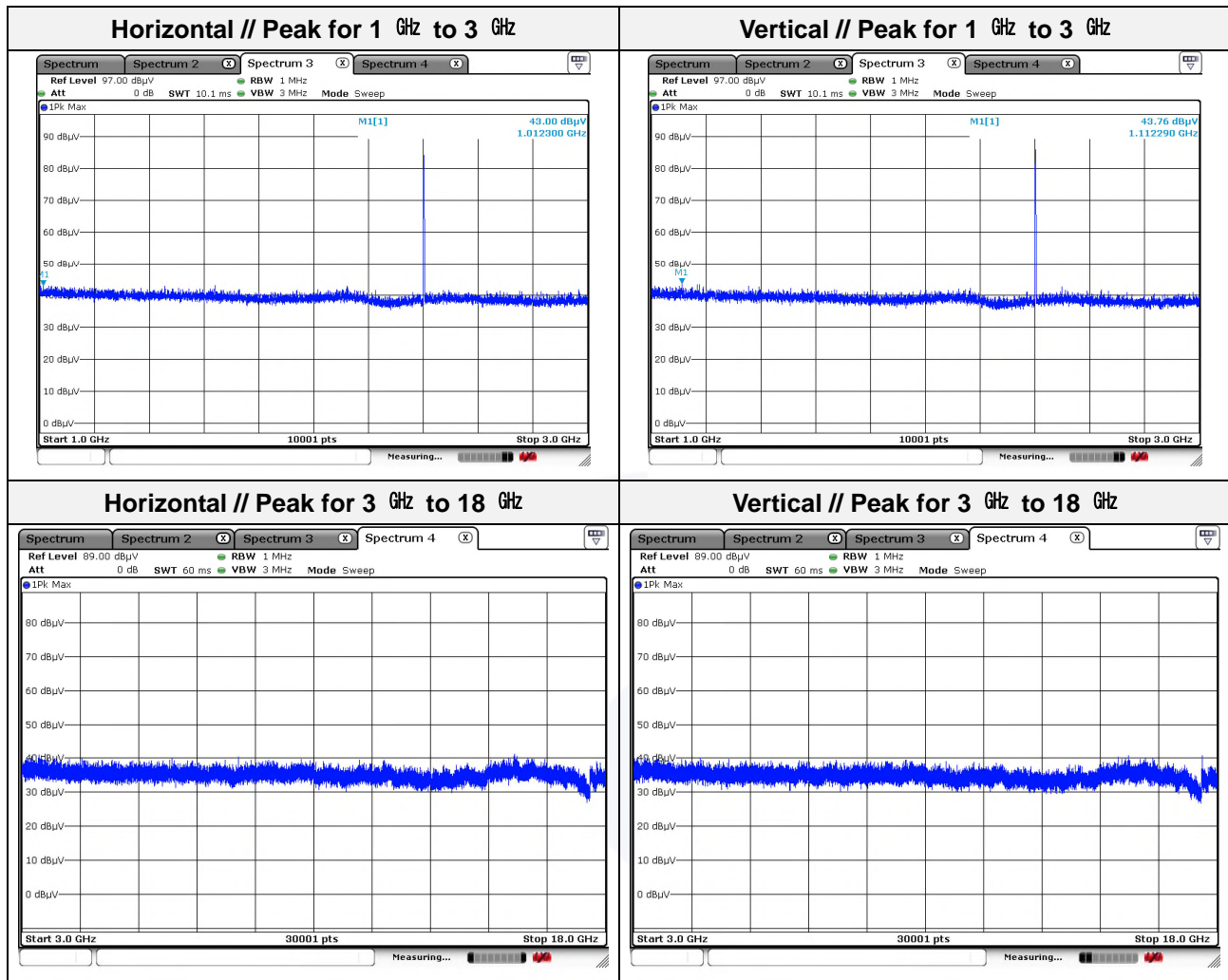
- Spurious

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/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 (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/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.

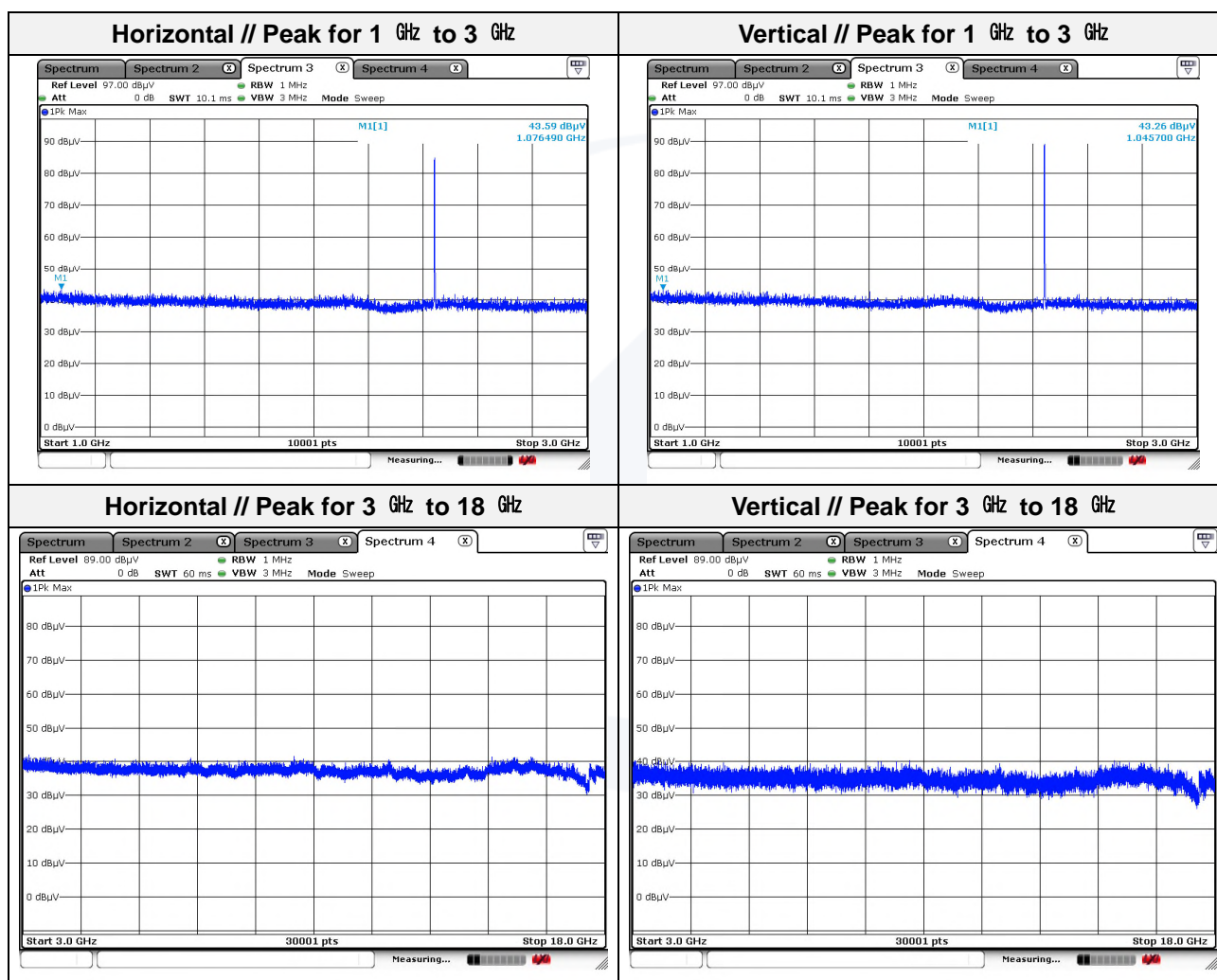


Report No. : KES-RF250556

Mode: LE 1 Mbps
Distance of measurement: 3 meter
Channel: 20

- Spurious

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/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.



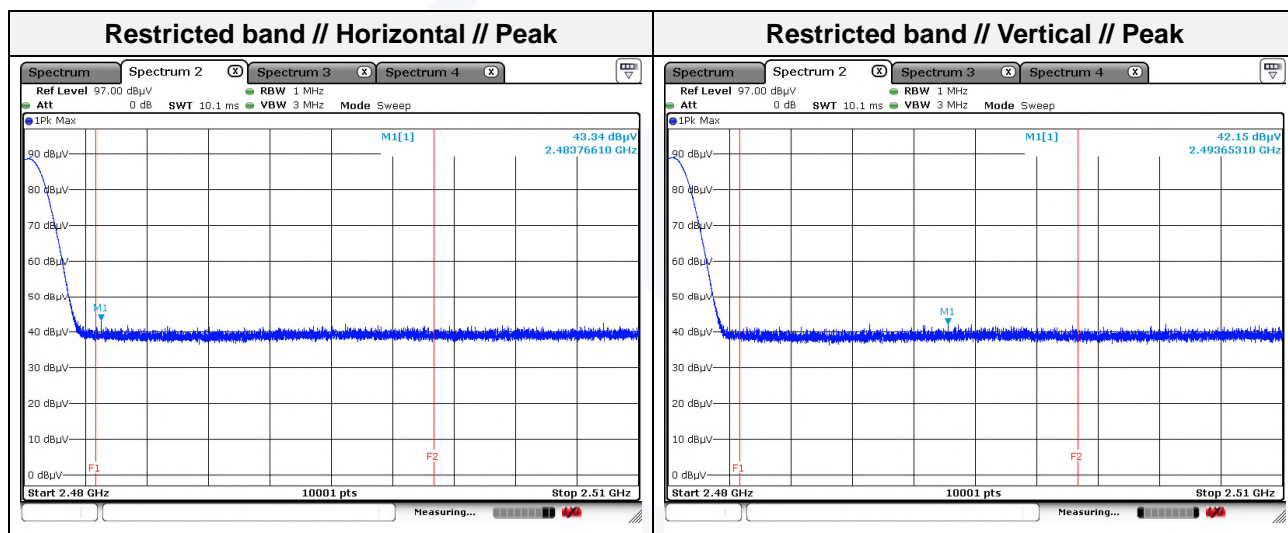
Mode: LE 1 Mbps
Distance of measurement: 3 meter
Channel: 39

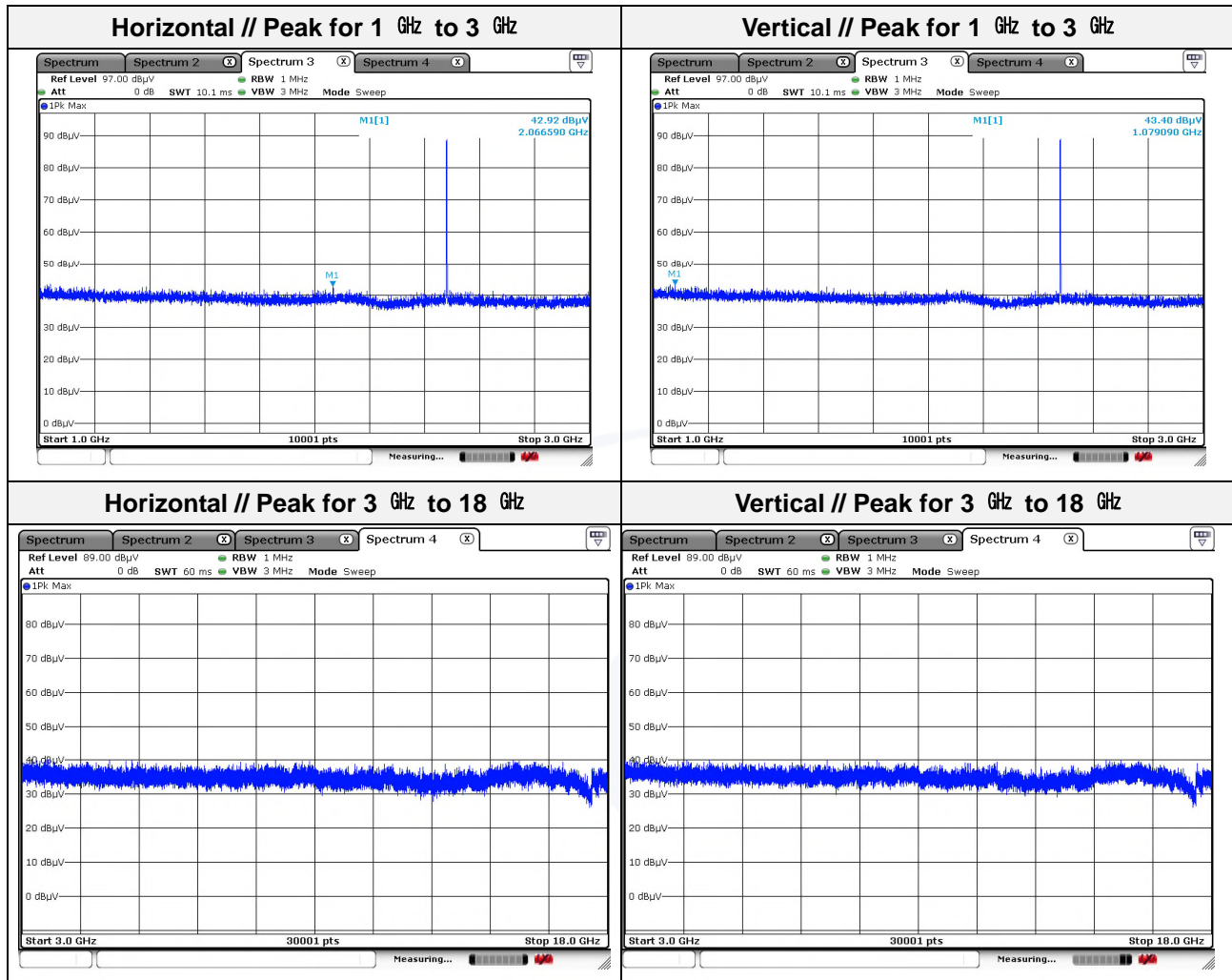
- Spurious

Frequency (MHz)	Level (dB μ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB μ V/m)	Limit (dB μ V/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 μ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB μ V/m)	Limit (dB μ V/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.



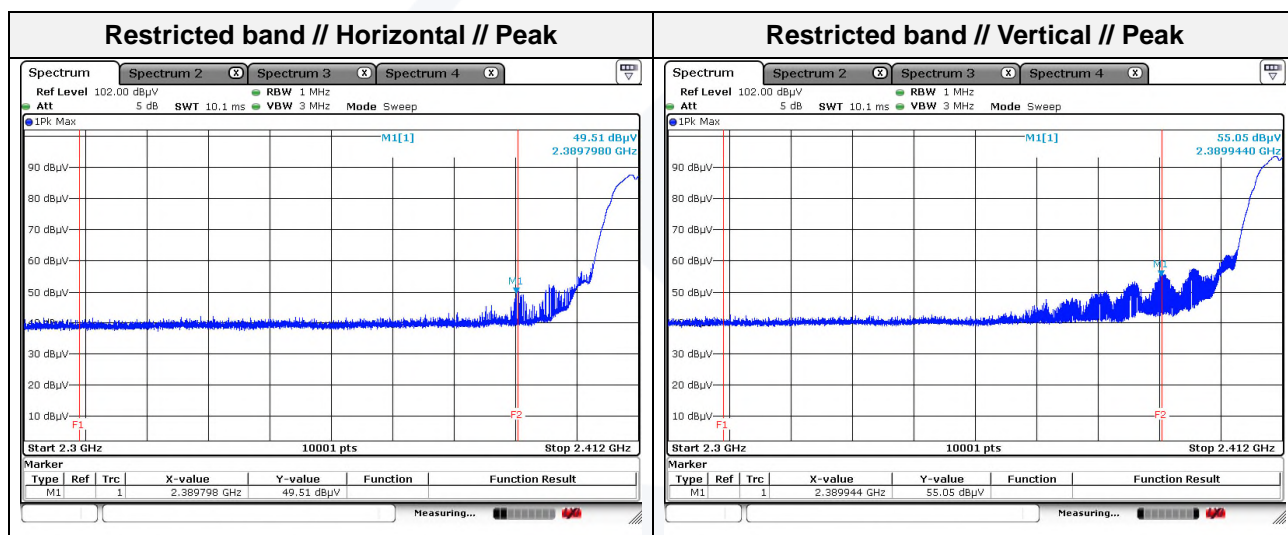
Mode: 802.11b (1 Mbps)
Distance of measurement: 3 meter
Channel: 1

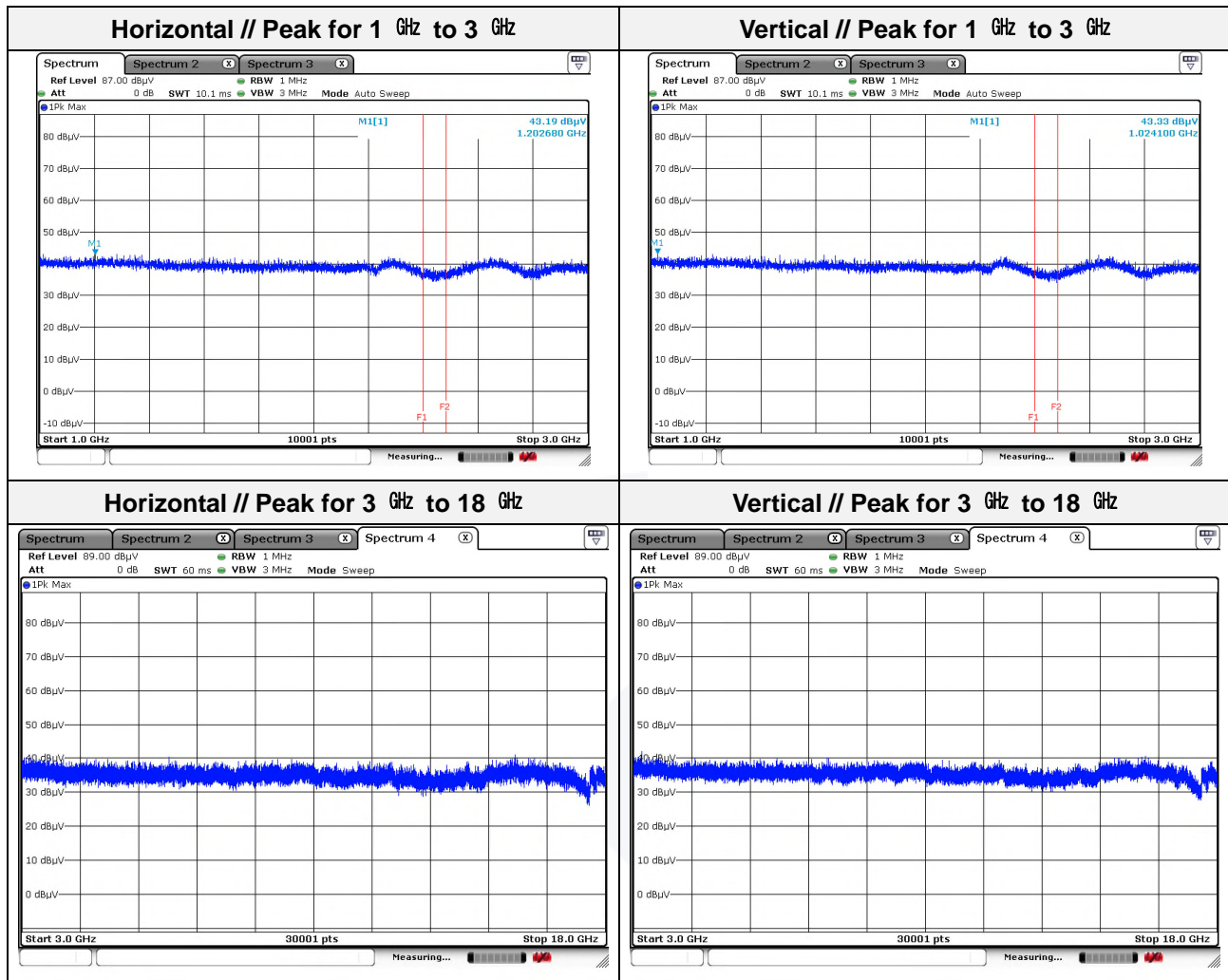
- Spurious

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/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 (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/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.

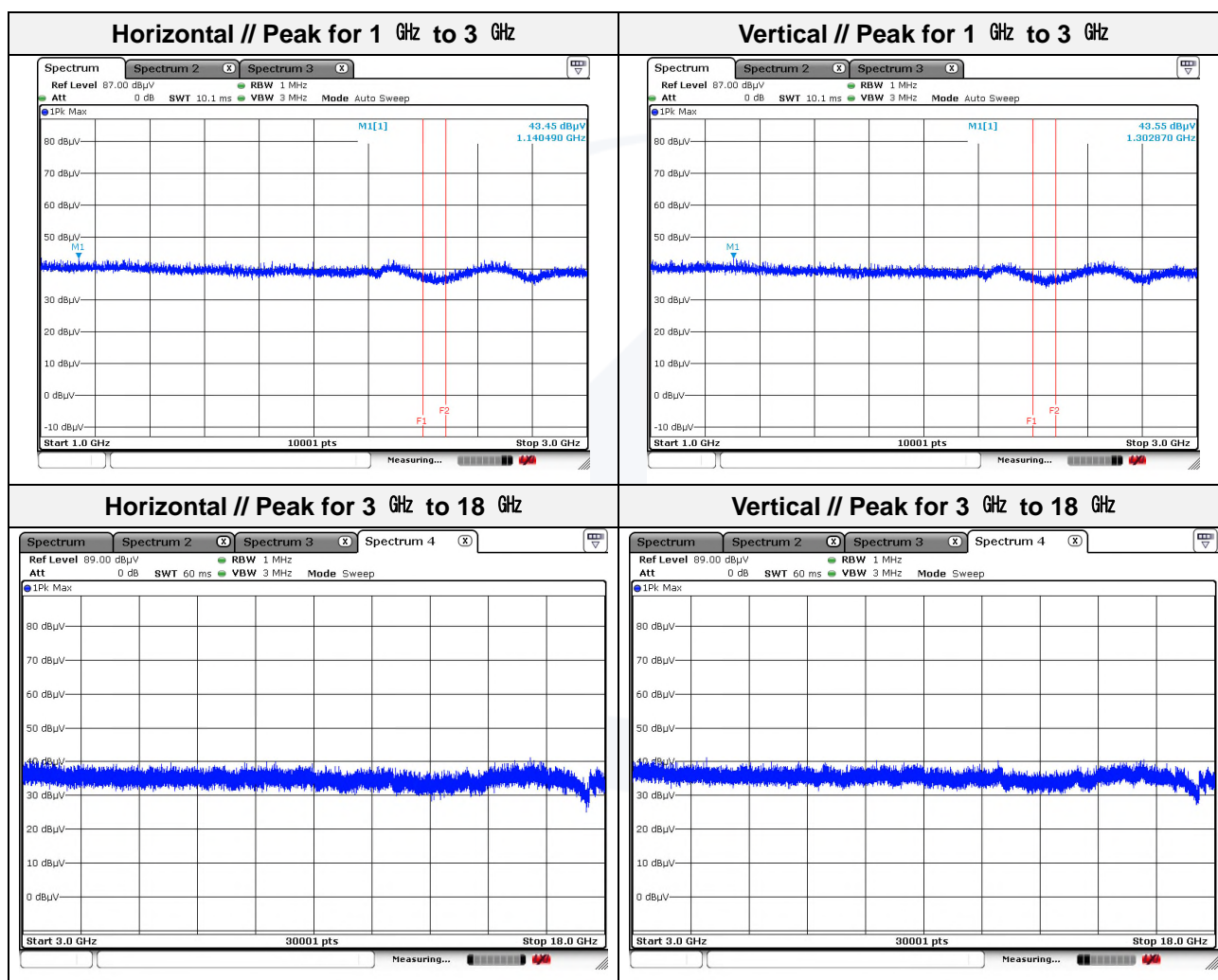


Report No. : KES-RF250556

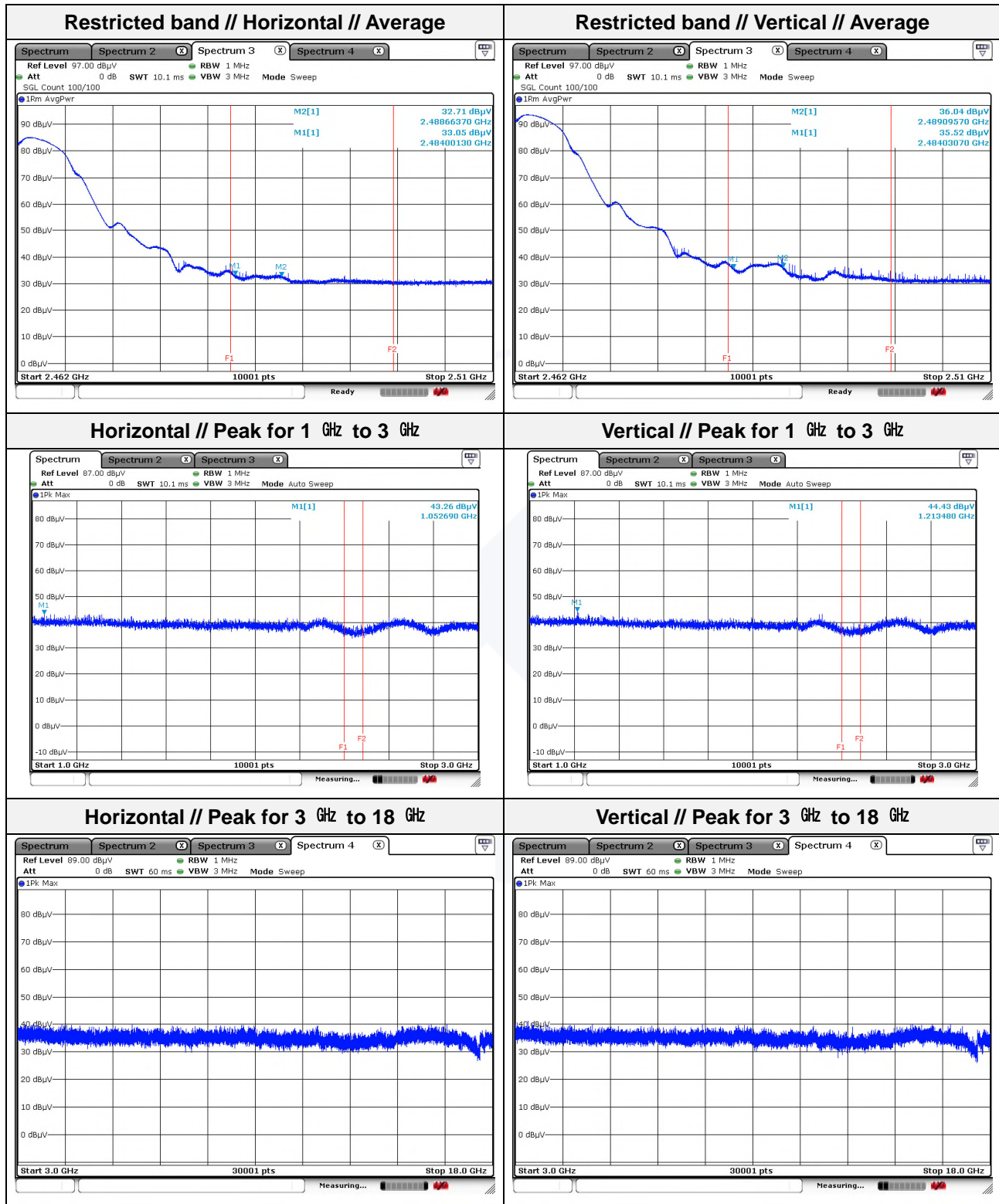
Mode: 802.11b (1 Mbps)
Distance of measurement: 3 meter
Channel: 6

- Spurious

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/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.



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.



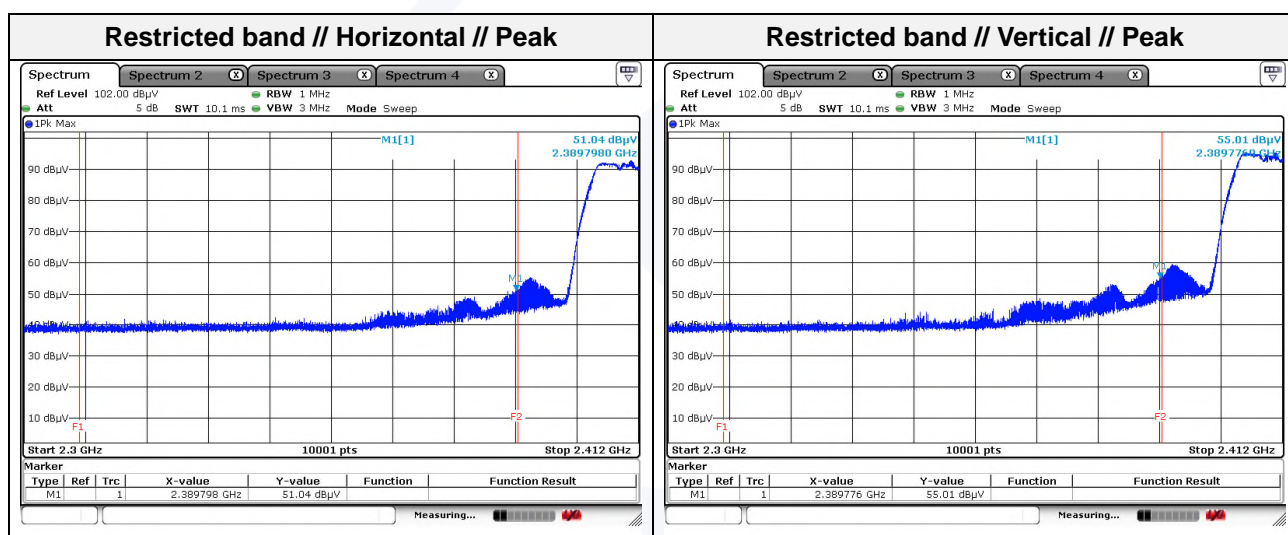
Mode: 802.11g (6 Mbps)
Distance of measurement: 3 meter
Channel: 1

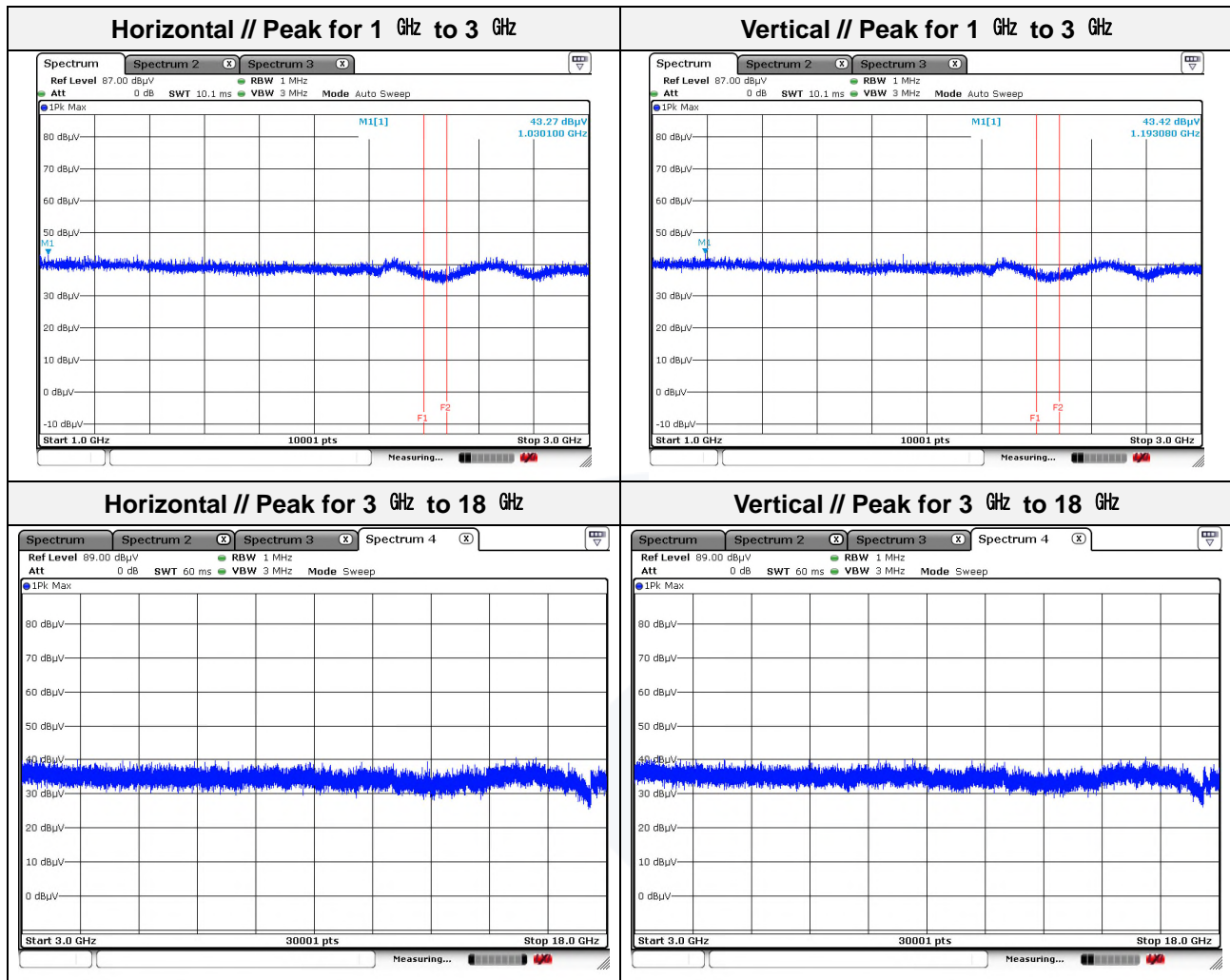
- Spurious

Frequency (MHz)	Level (dB μ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB μ V/m)	Limit (dB μ V/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 μ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB μ V/m)	Limit (dB μ V/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.

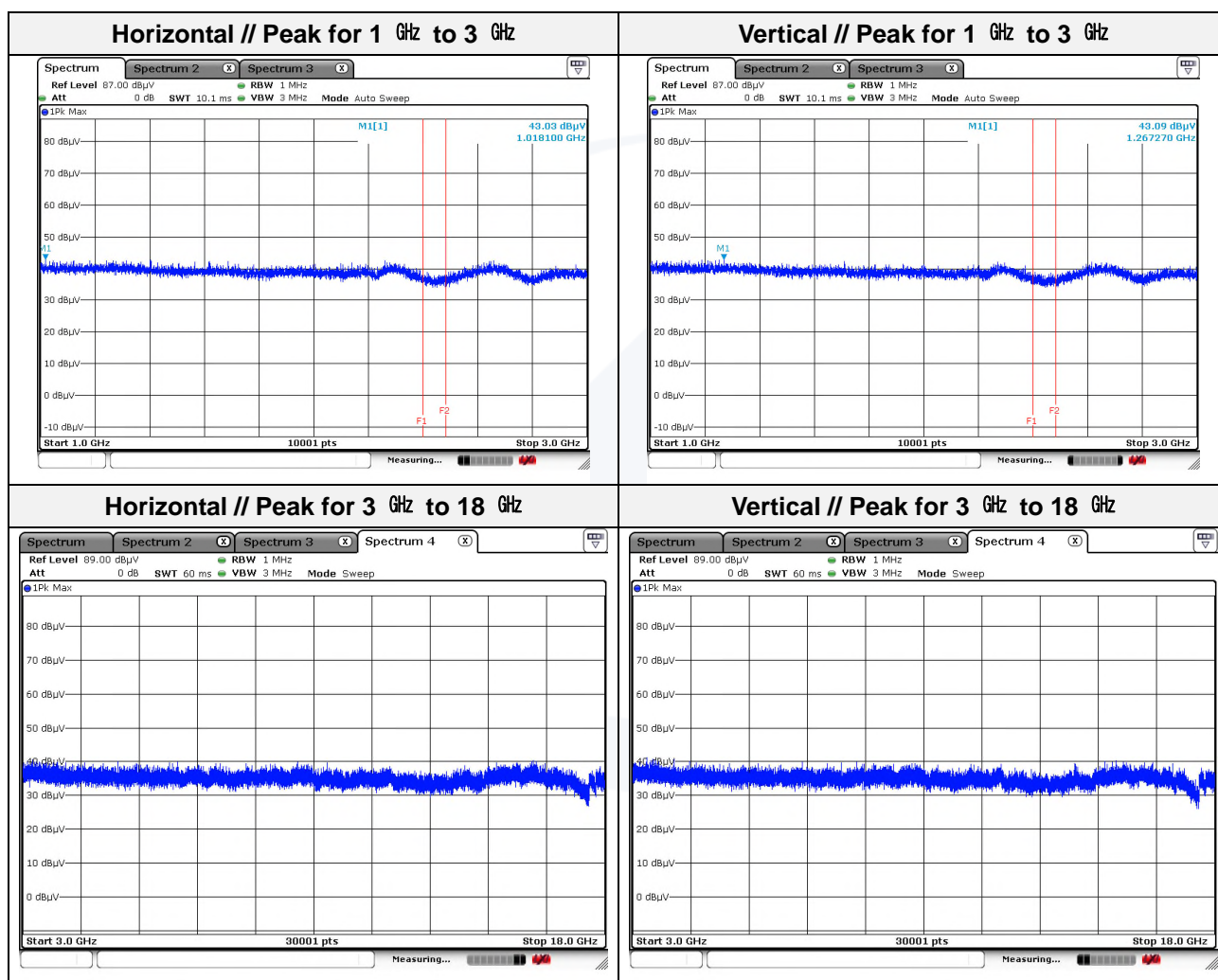


Report No. : KES-RF250556

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

- Spurious

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/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.



Report No. : KES-RF250556

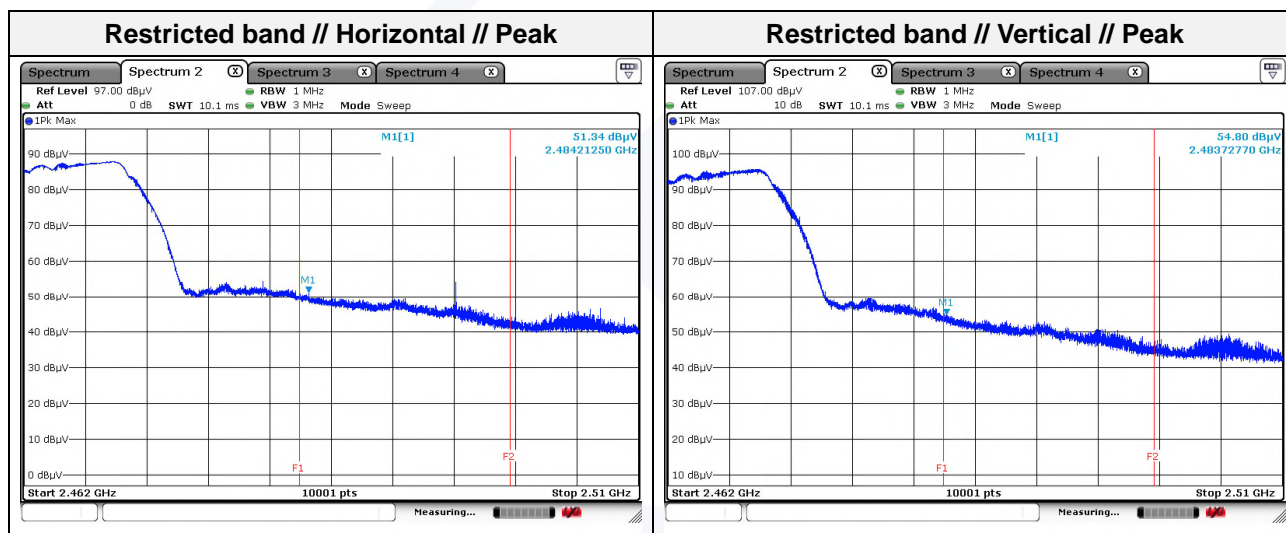
Mode: 802.11g (6 Mbps)
Distance of measurement: 3 meter
Channel: 11

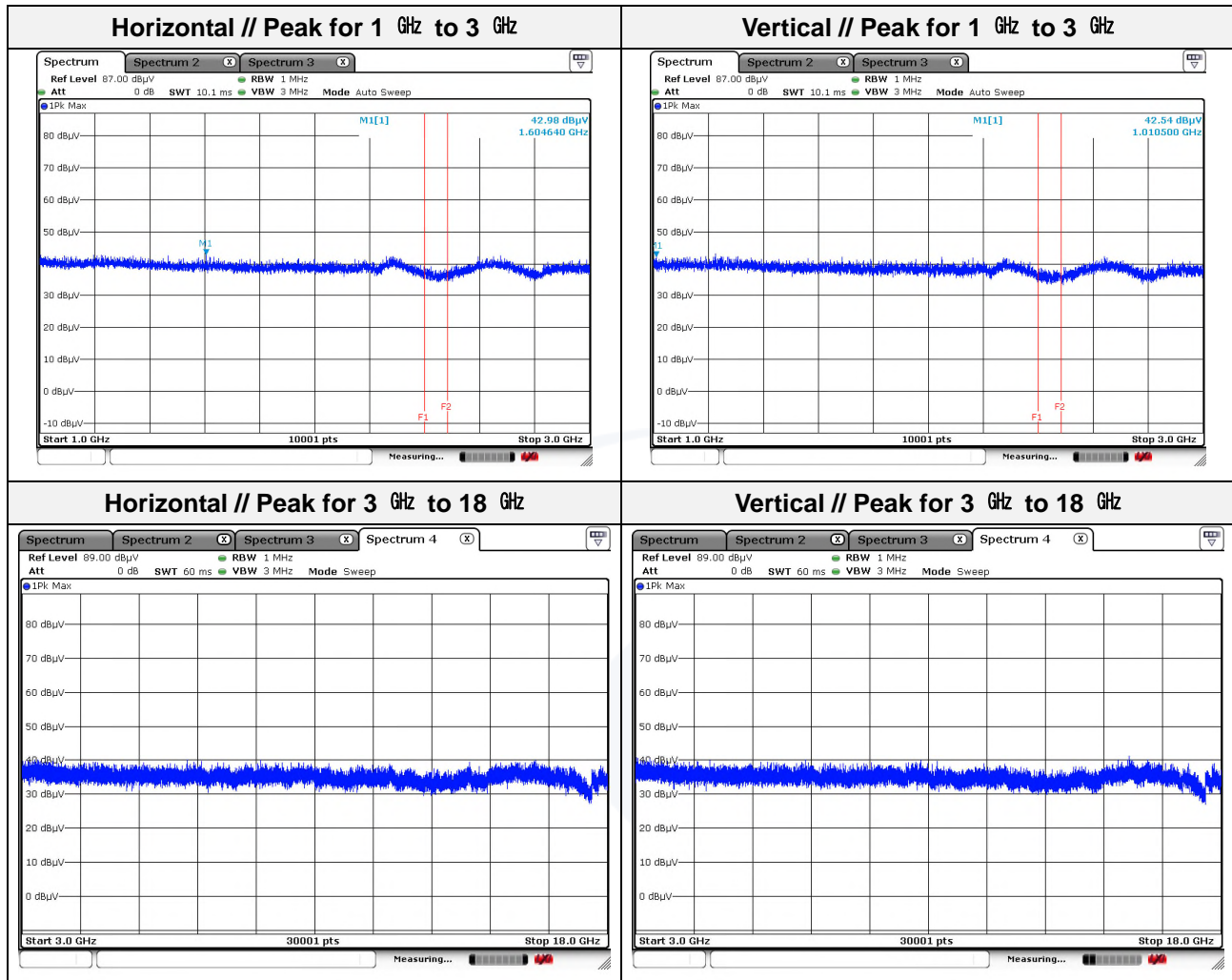
- Spurious

Frequency (MHz)	Level (dB μ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB μ V/m)	Limit (dB μ V/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 μ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB μ V/m)	Limit (dB μ V/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.



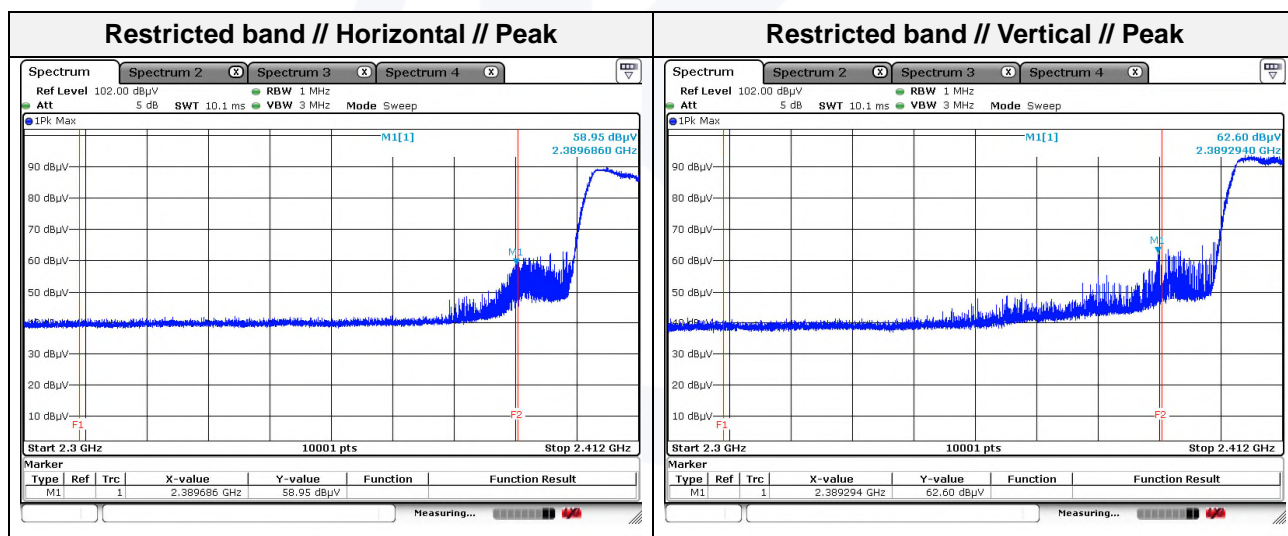
Mode: 802.11n_HT20 (MCS0)
Distance of measurement: 3 meter
Channel: 1

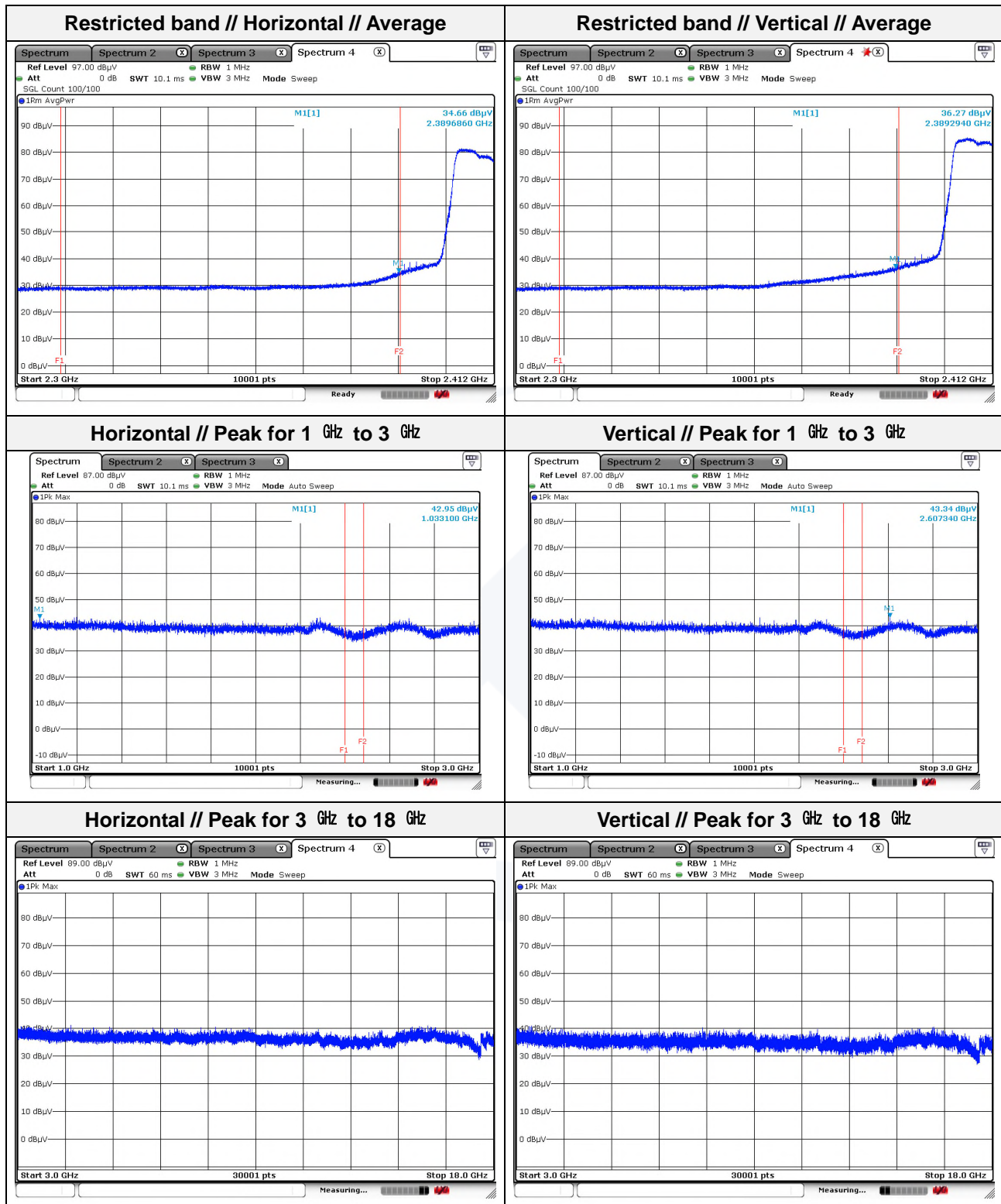
- Spurious

Frequency (MHz)	Level (dB μ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB μ V/m)	Limit (dB μ 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 μ V)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB μ V/m)	Limit (dB μ 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





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.