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Test report No.:
KES-RF1-22T0022
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Duty cycle

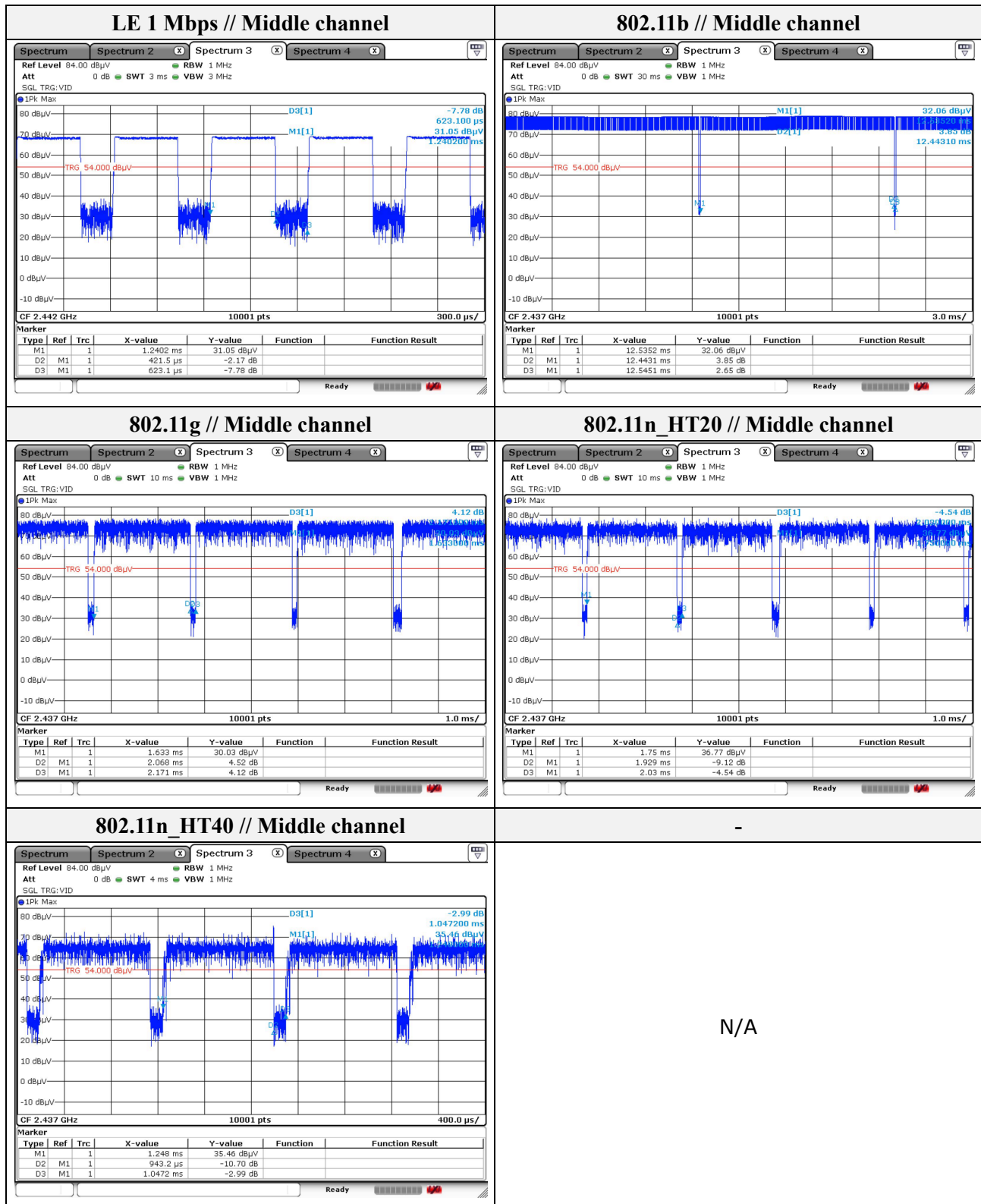
Regarding to KDB 558074 D01_v04, 6.0, the maximum duty cycles of all modes were investigated and set the spectrum analyzer as below.

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

Test mode	T _{on} time (ms)	Period (ms)	Duty cycle (Linear)	Duty cycle (%)	Duty cycle correction factor (dB)
LE 1 Mbps	0.421	0.623	0.676	67.65	1.70
802.11b	12.443	12.545	0.992	99.19	-
802.11g	2.068	2.171	0.953	95.26	0.21
802.11n_HT20	1.929	2.030	0.950	95.02	0.22
802.11n_HT40	0.943	1.047	0.901	90.07	0.45

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

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





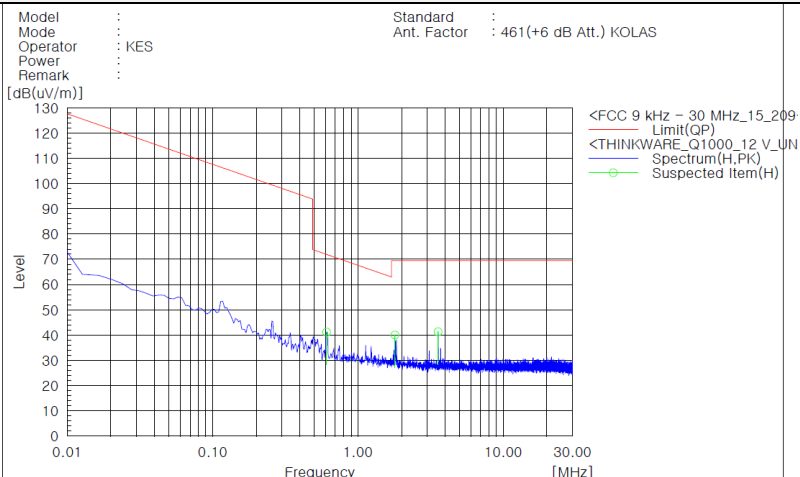
Test results (Below 30 MHz)

Mode: 12 V_LE 1 Mbps

Channel: 39

Distance of measurement: 3 meter

Horizontal



Spectrum Selection

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	0.609	H	21.3	19.9	41.2	71.9	30.7	99.8	338.5	
2	1.801	H	19.7	20.3	40.0	69.5	29.5	99.8	179.6	
3	3.567	H	21.5	19.9	41.4	69.5	28.1	99.8	239.4	

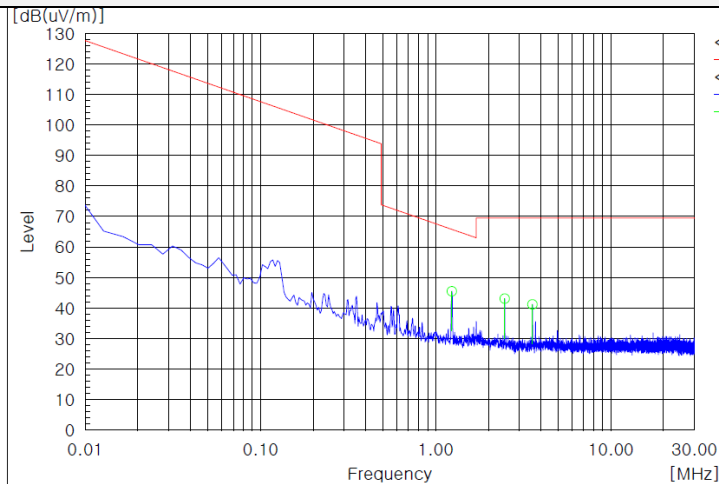
Note.

1. No spurious emission were detected under 30 MHz, the above test result is the peak result.



Mode: 24 V_802.11g
Channel 06
Distance of measurement: 3 meter

Horizontal



Spectrum Selection

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	1.239	H	25.3	20.2	45.5	65.8	20.3	99.8	341.4	
2	2.476	H	23.0	20.1	43.1	69.5	26.4	99.8	3.7	
3	3.567	H	21.3	19.9	41.2	69.5	28.3	99.8	341.4	

Note.

1. No spurious emission were detected under 30 MHz, the above test result is the peak result.



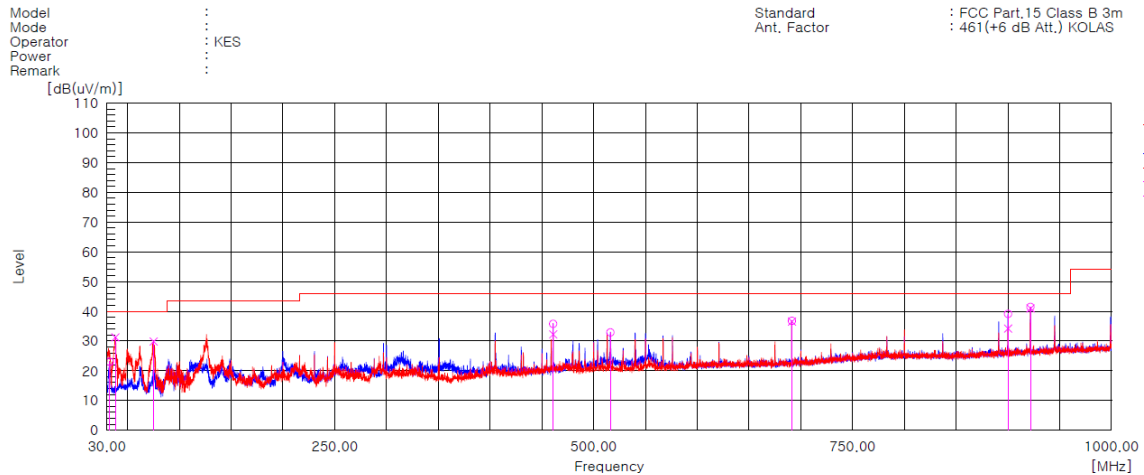
Test results (Below 1 000 MHz)

Mode: 12 V_LE 1 Mbps

Channel 39

Distance of measurement: 3 meter

Horizontal // Vertical



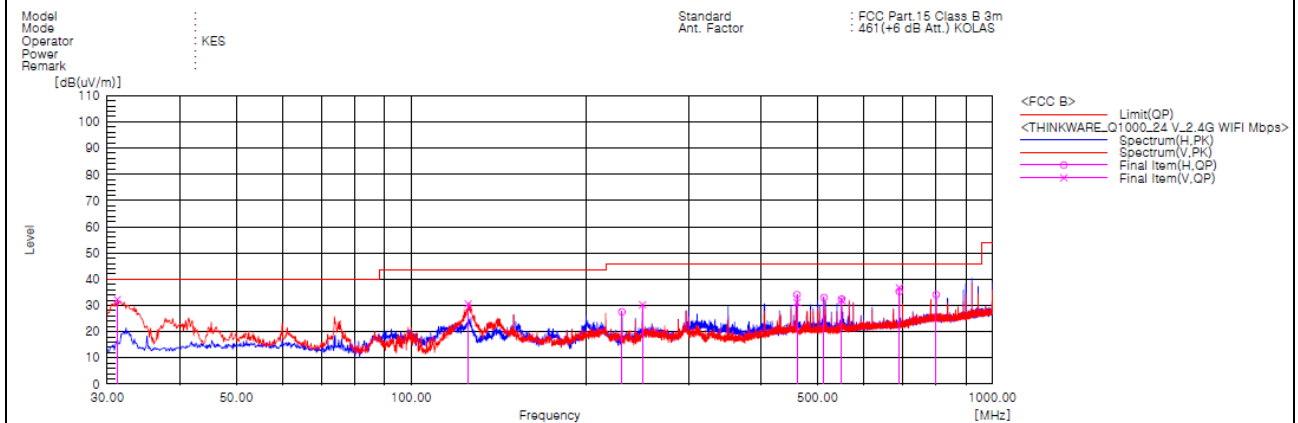
Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	32.668	H	37.1	-14.1	23.0	40.0	17.0	102.0	258.9	
2	38.003	V	45.0	-13.7	31.3	40.0	8.7	104.0	254.4	
3	75.105	V	45.9	-16.0	29.9	40.0	10.1	135.0	157.8	
4	460.801	H	43.8	-8.0	35.8	46.0	10.2	242.0	320.0	
5	460.801	V	40.3	-8.0	32.3	46.0	13.7	124.0	340.5	
6	516.091	H	40.1	-7.2	32.9	46.0	13.1	221.0	35.8	
7	691.298	H	41.0	-4.2	36.8	46.0	9.2	141.0	326.2	
8	691.298	V	40.8	-4.2	36.6	46.0	9.4	102.0	302.2	
9	900.090	H	39.0	0.1	39.1	46.0	6.9	112.0	65.3	
10	900.090	V	34.1	0.1	34.2	46.0	11.8	142.0	148.9	
11	921.673	H	40.8	0.7	41.5	46.0	4.5	106.0	21.2	
12	921.673	V	40.3	0.7	41.0	46.0	5.0	108.0	355.5	



Mode: 24 V_802.11g
Channel: 06
Distance of measurement: 3 meter

Horizontal // Vertical



Final Result

No.	Frequency [MHz]	(P)	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	31.213	V	46.3	-14.1	32.2	40.0	7.8	105.0	325.1	
2	125.303	V	45.4	-14.8	30.6	43.5	12.9	115.0	332.4	
3	230.426	H	42.3	-14.8	27.5	46.0	18.5	231.0	295.1	
4	249.948	V	44.1	-13.8	30.3	46.0	15.7	136.0	348.2	
5	460.801	V	39.1	-8.0	31.1	46.0	14.9	125.0	349.7	
6	460.801	H	42.1	-8.0	34.1	46.0	11.9	251.0	310.0	
7	512.939	H	40.2	-7.2	33.0	46.0	13.0	189.0	33.9	
8	550.041	V	38.6	-6.6	32.0	46.0	14.0	120.0	273.3	
9	550.041	H	39.0	-6.6	32.4	46.0	13.6	215.0	102.5	
10	691.176	V	40.9	-4.2	36.7	46.0	9.3	158.0	337.8	
11	691.176	H	39.5	-4.2	35.3	46.0	10.7	224.0	326.6	
12	800.059	H	35.4	-1.3	34.1	46.0	11.9	106.0	125.1	



Test results (Above 1 000 MHz)

Mode: 12 V_LE 1 Mbps

Channel: 00

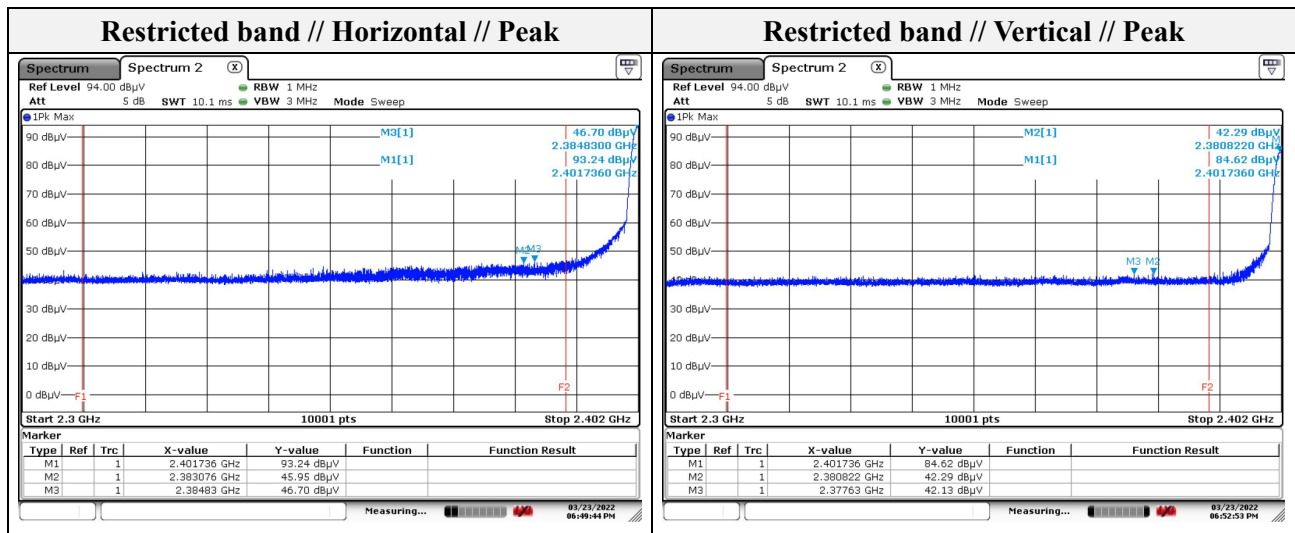
Distance of measurement: 3 meter

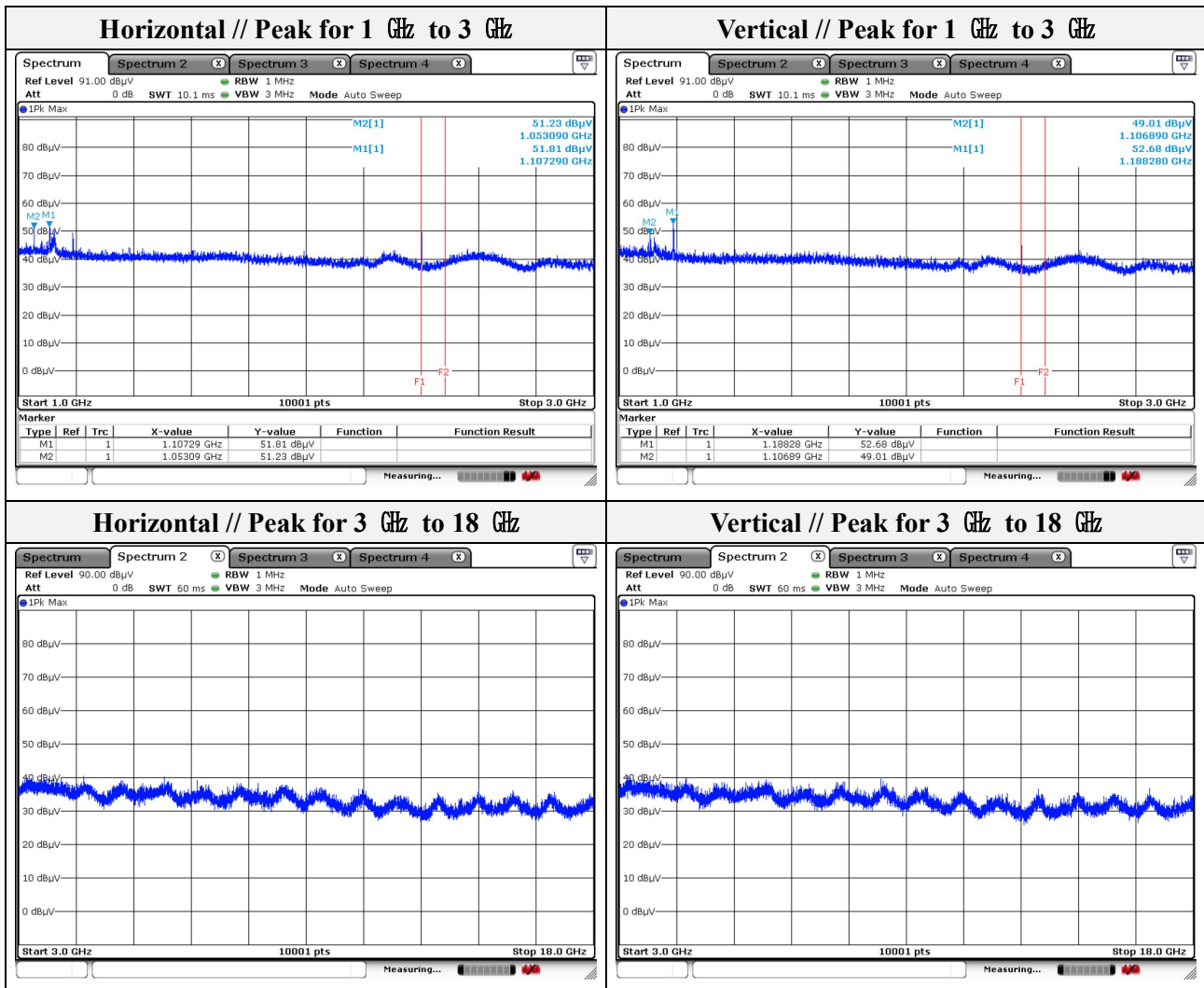
- Spurious

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 053.09	51.23	Peak	H	-10.88	-	40.35	74.00	33.65
1 106.89	49.01	Peak	V	-10.59	-	38.42	74.00	35.58
1 107.29	51.81	Peak	H	-10.59	-	41.22	74.00	32.78
1 188.28	52.68	Peak	V	-10.16	-	42.52	74.00	31.48

- Band edge

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2 377.63	42.13	Peak	V	-2.82	-	39.31	74.00	34.69
2 380.82	42.29	Peak	V	-2.80	-	39.49	74.00	34.51
2 383.08	45.95	Peak	H	-2.80	-	43.15	74.00	30.85
2 384.83	46.70	Peak	H	-2.79	-	43.91	74.00	30.09





Note.

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



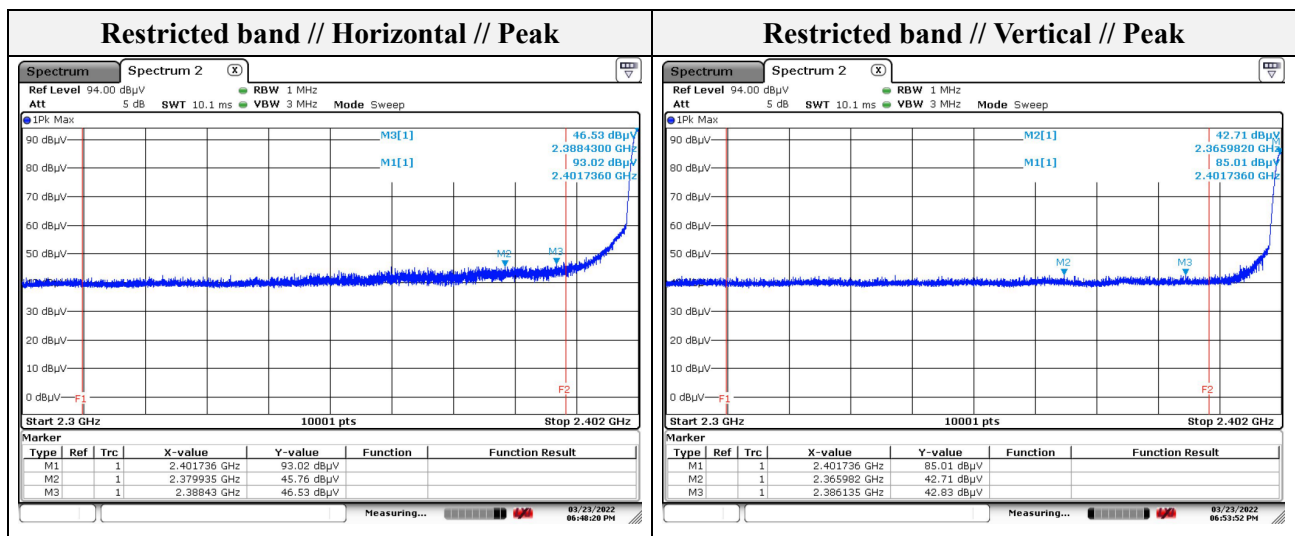
Mode: 24 V_LE 1 Mbps
Channel: 00
Distance of measurement: 3 meter

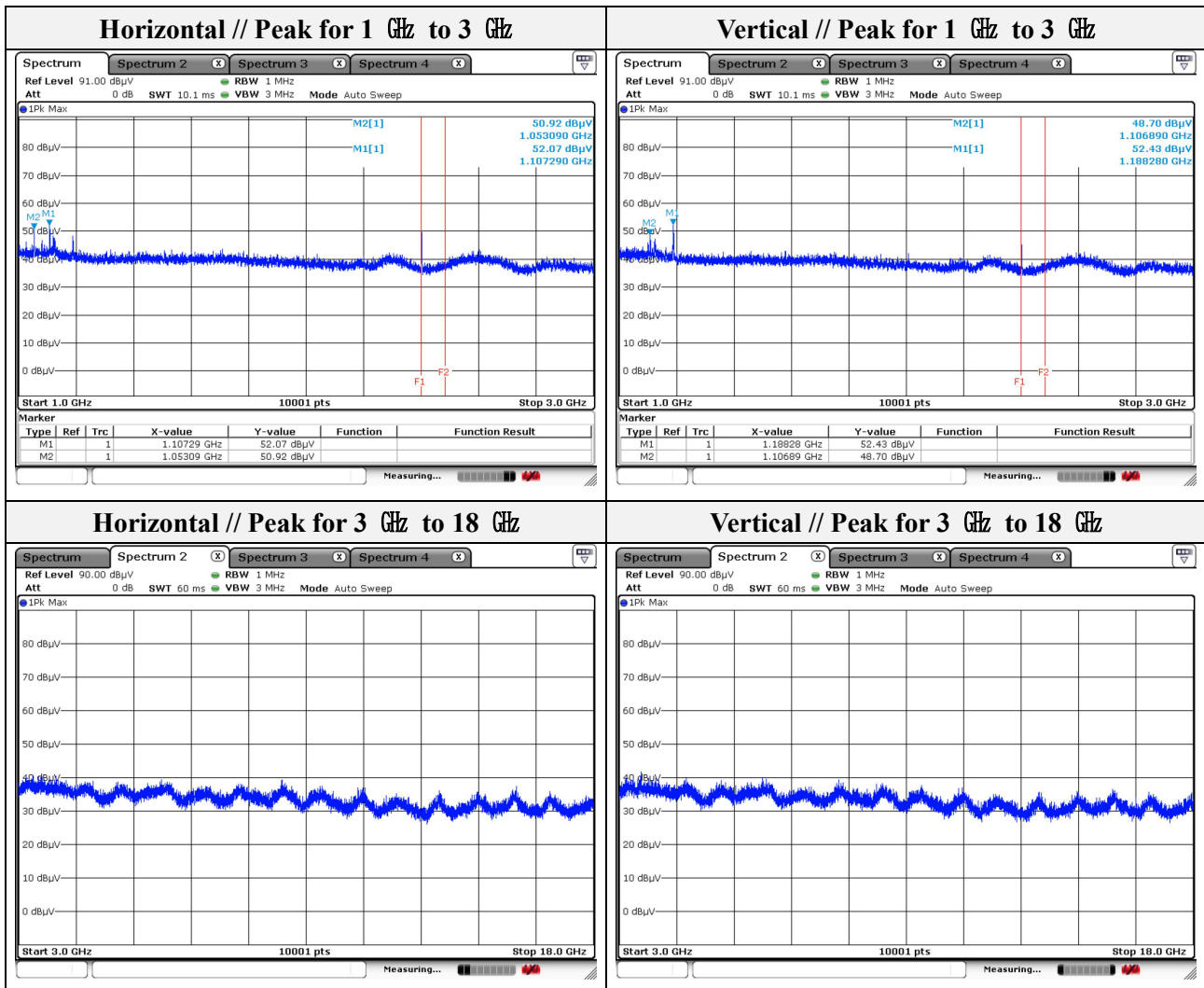
- **Spurious**

Frequency (MHz)	Level (dBμV)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1 053.09	50.92	Peak	H	-10.88	-	40.04	74.00	33.96
1 106.89	48.70	Peak	V	-10.59	-	38.11	74.00	35.89
1 107.29	52.07	Peak	H	-10.59	-	41.48	74.00	32.52
1 188.28	52.43	Peak	V	-10.16	-	42.27	74.00	31.73

- **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)
2 365.98	42.71	Peak	V	-2.87	-	39.84	74.00	34.16
2 379.94	45.76	Peak	H	-2.81	-	42.95	74.00	31.05
2 386.14	42.83	Peak	V	-2.78	-	40.05	74.00	33.95
2 388.43	46.53	Peak	H	-2.77	-	43.76	74.00	30.24





Note.

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