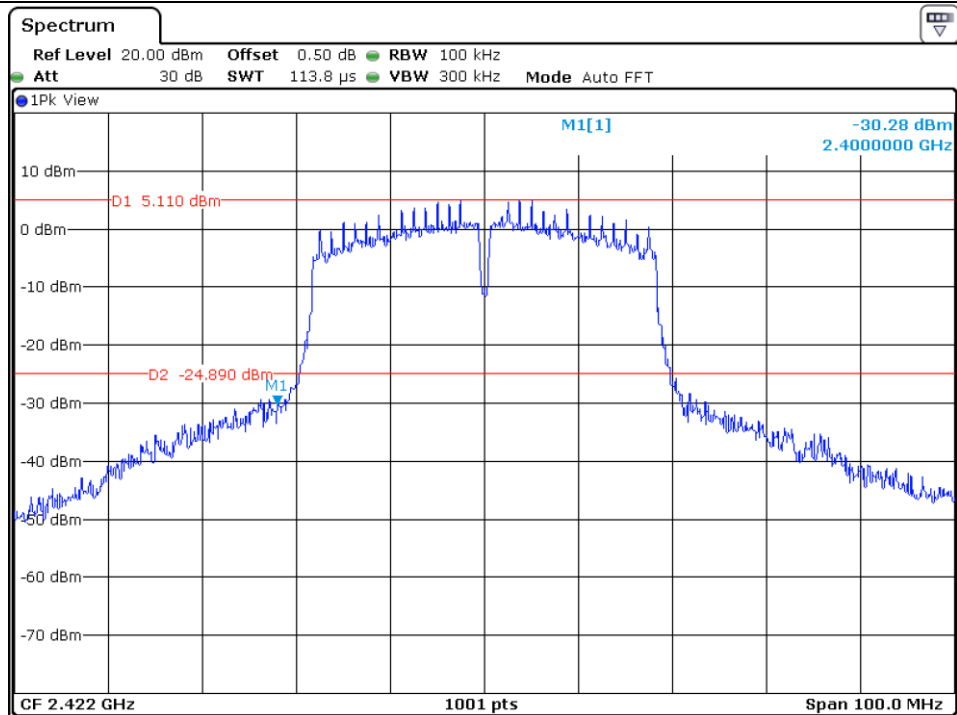
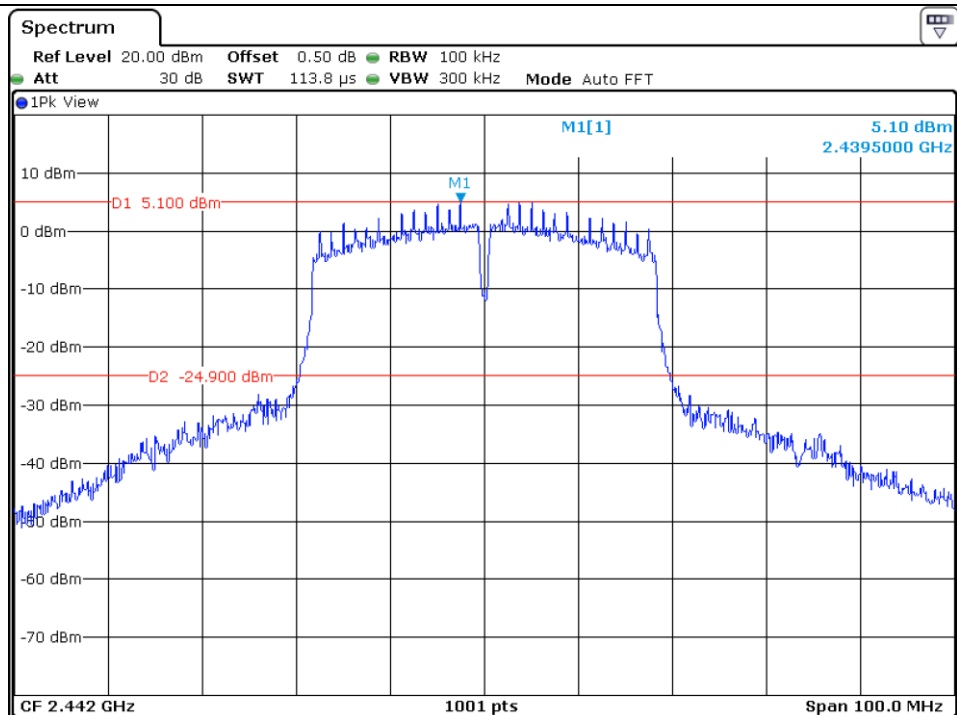


9.5.4 Test data for 802.11n_HT40 WLAN Mode

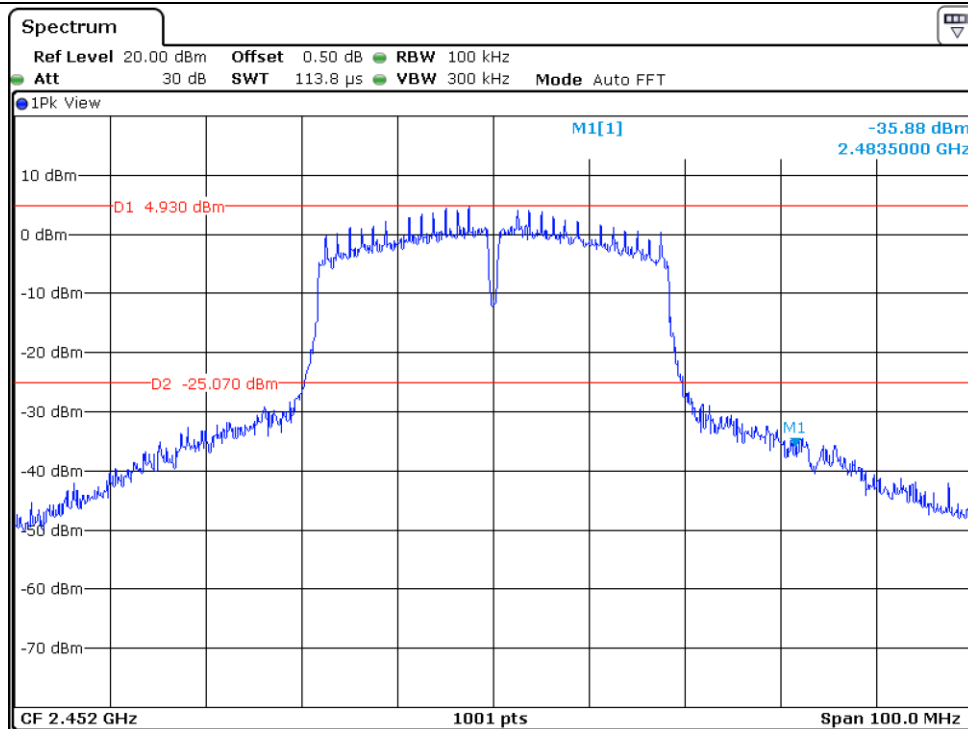
9.5.4.1 Test data for Antenna 0



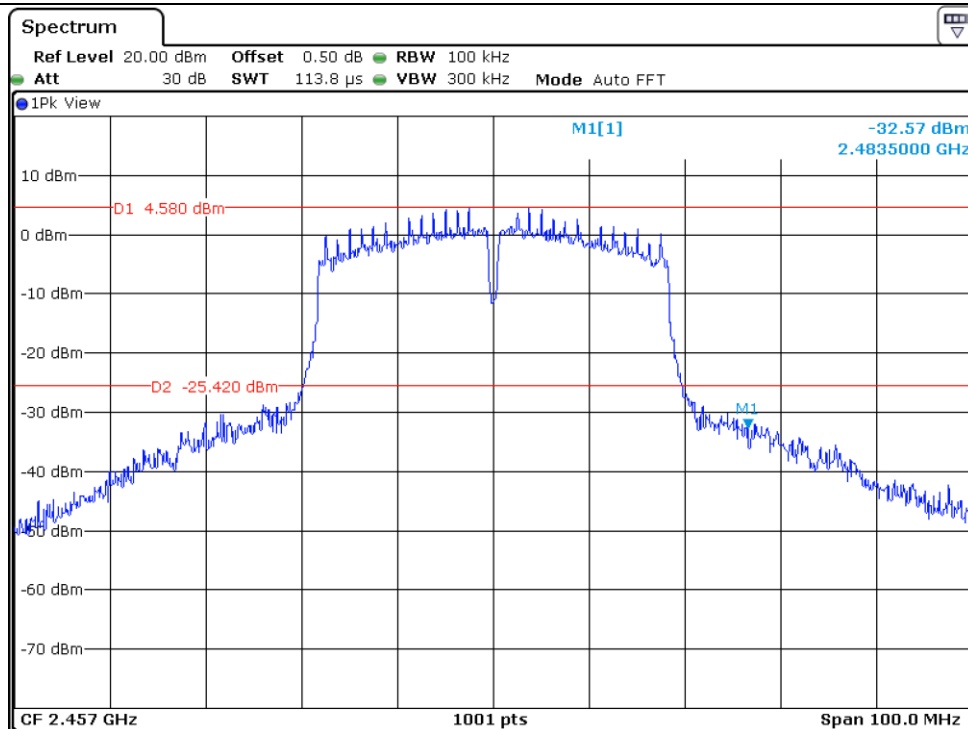
Low Channel



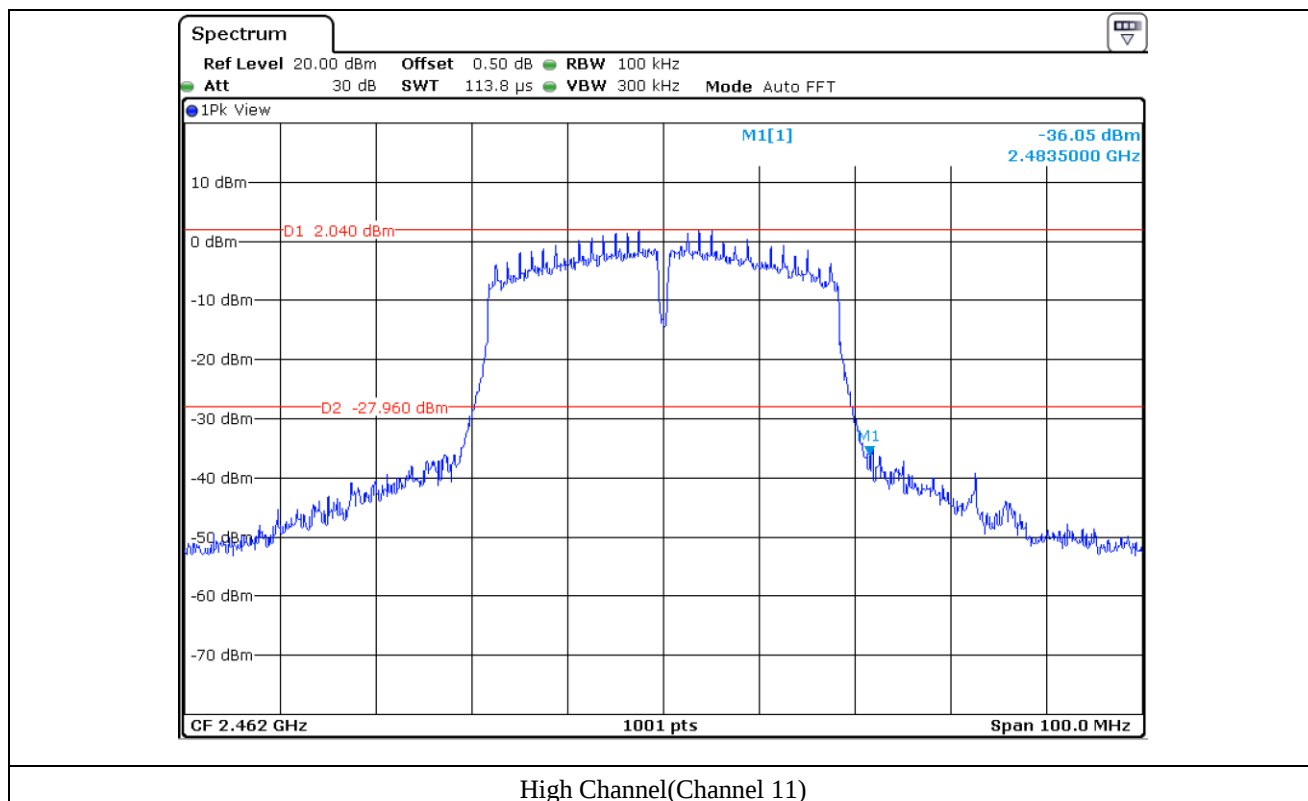
Middle Channel

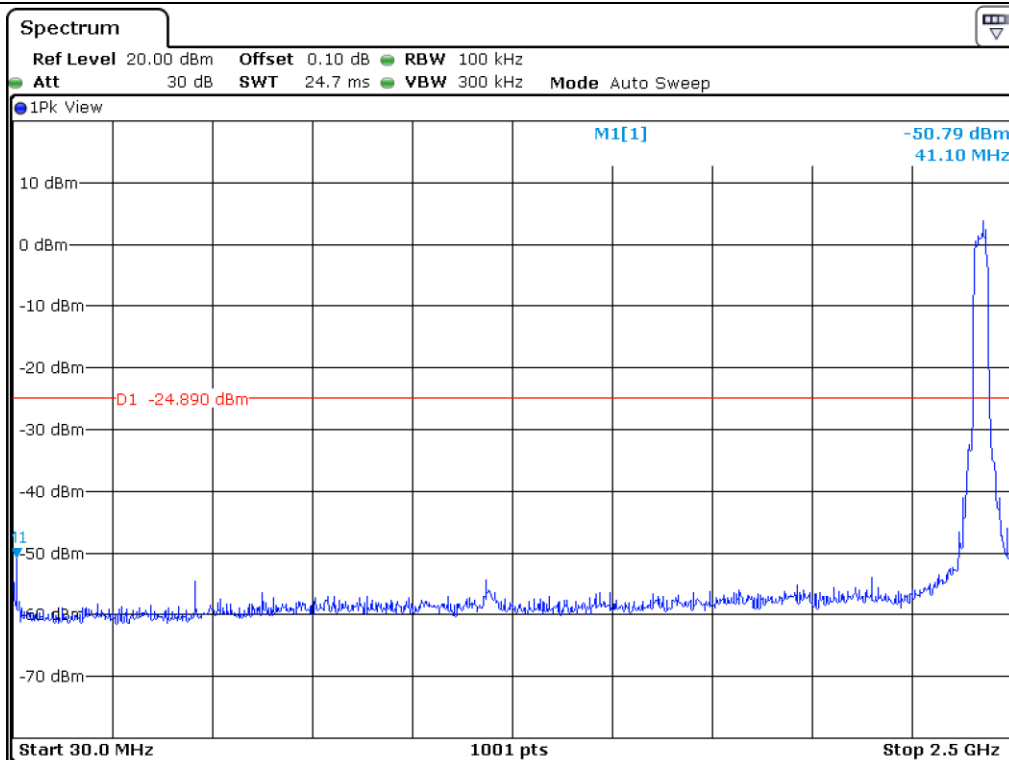


High Channel(Channel 9)

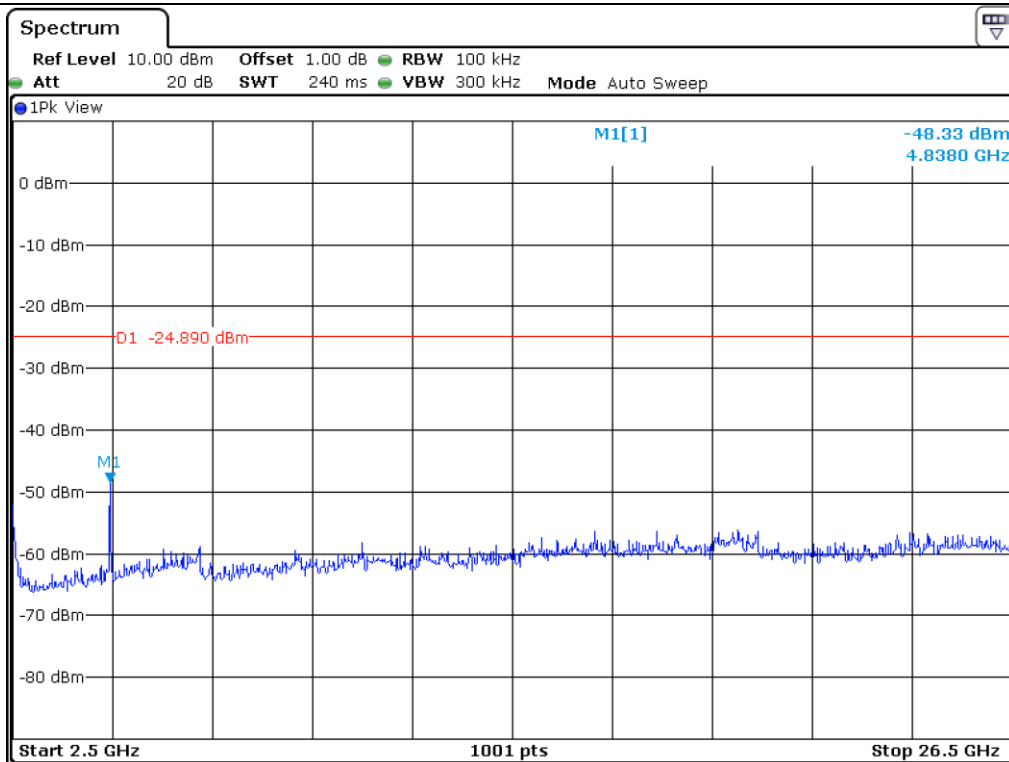


High Channel(Channel 10)

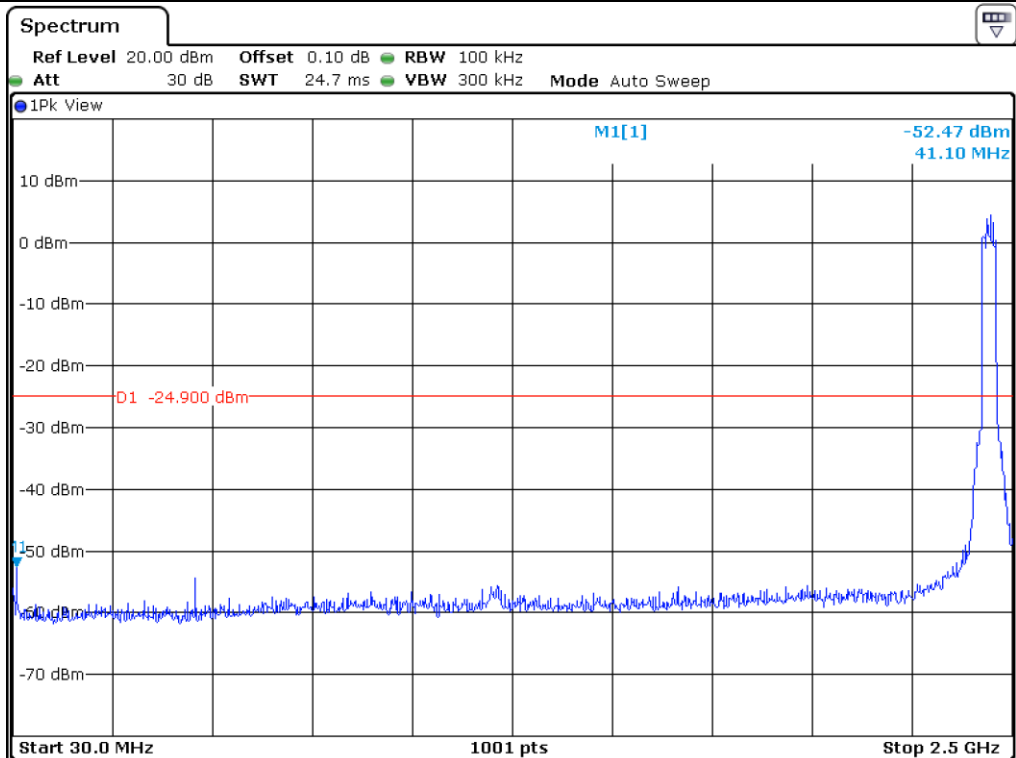




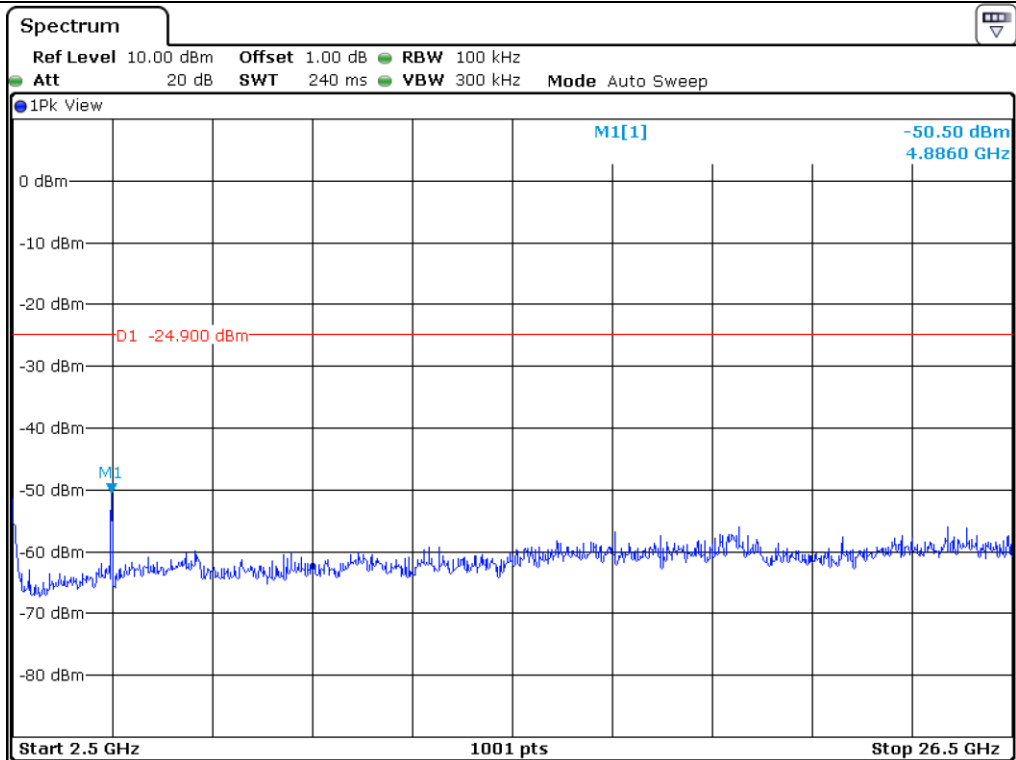
Low Channel



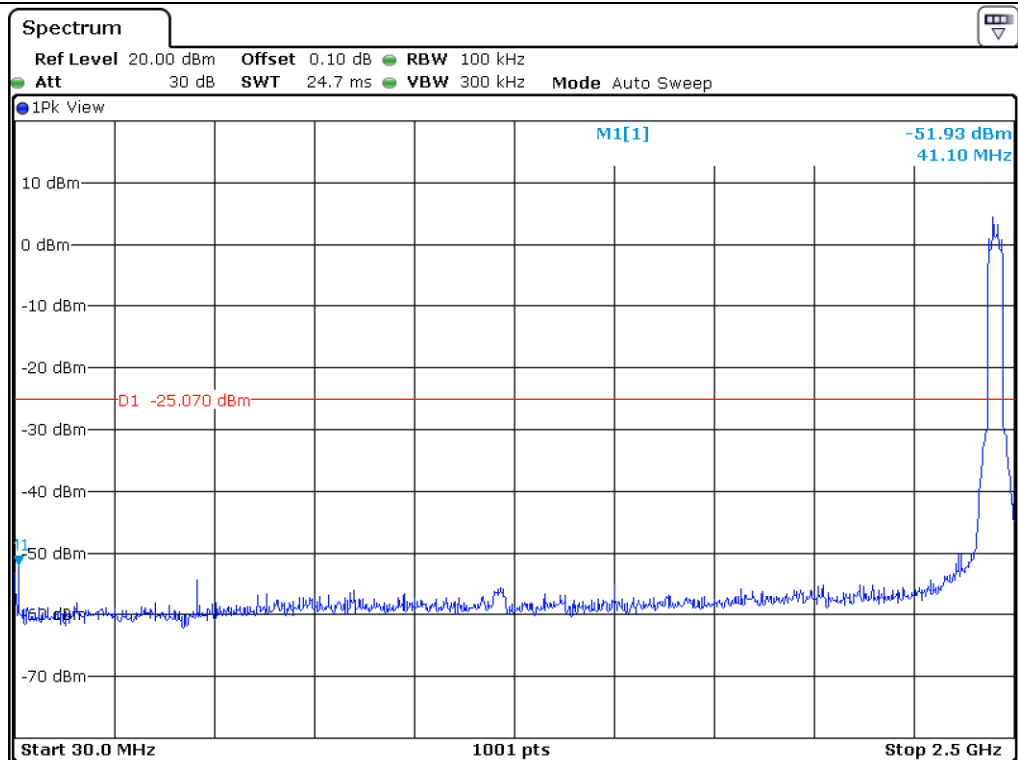
Low Channel



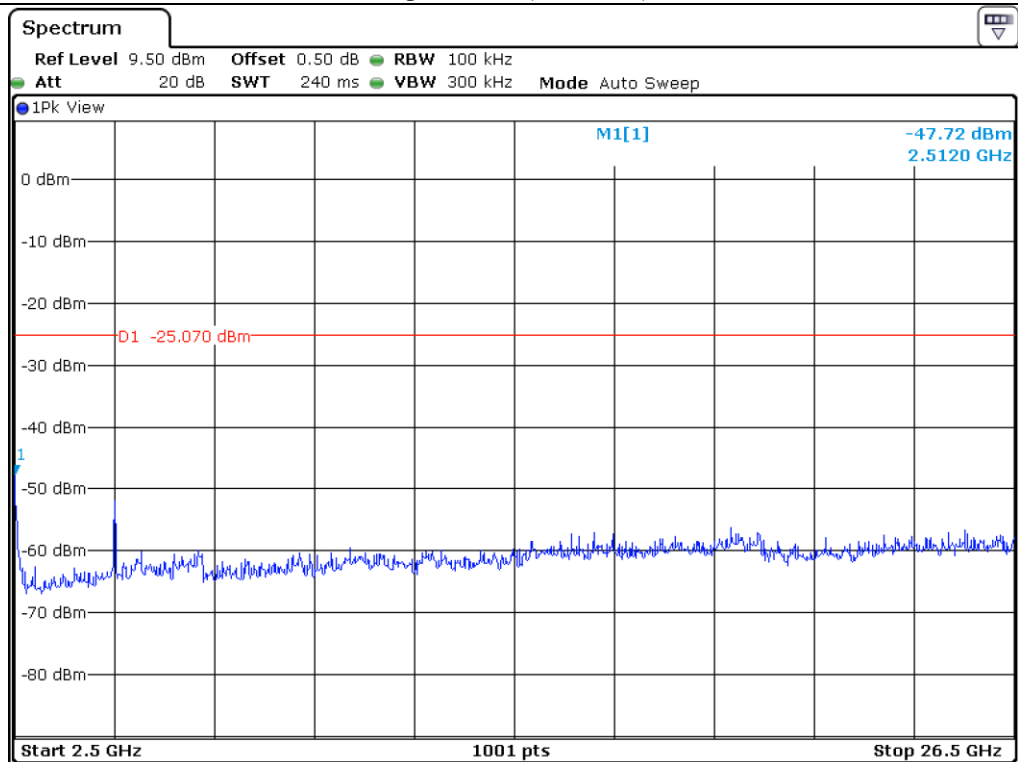
Middle Channel



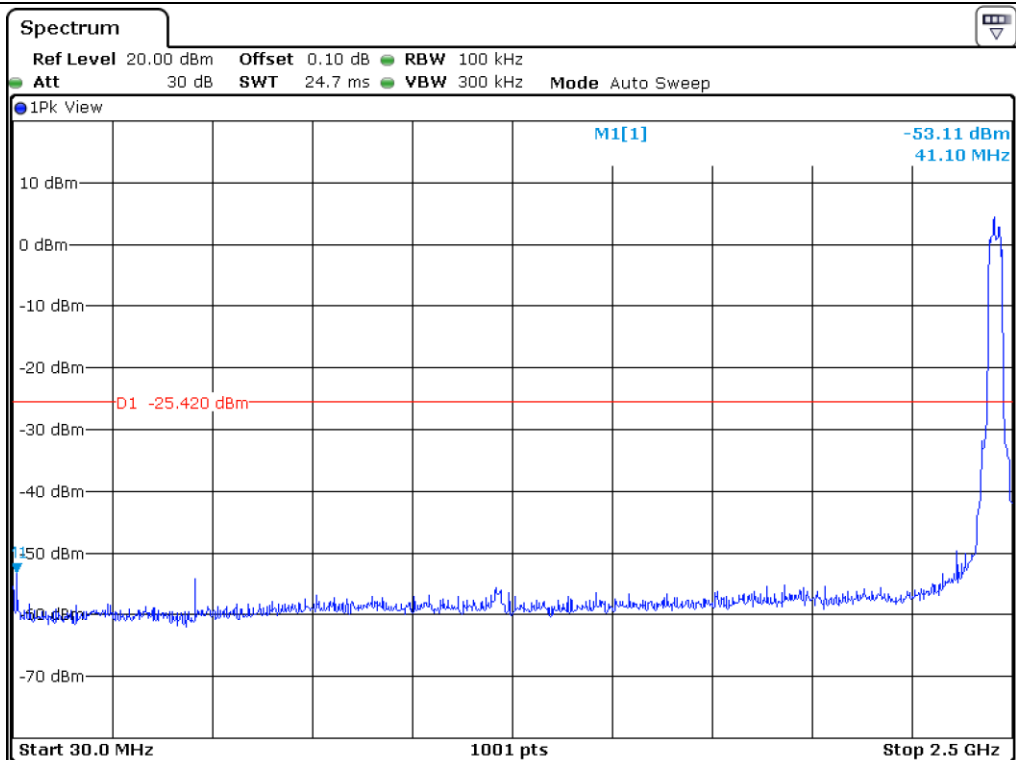
Middle Channel



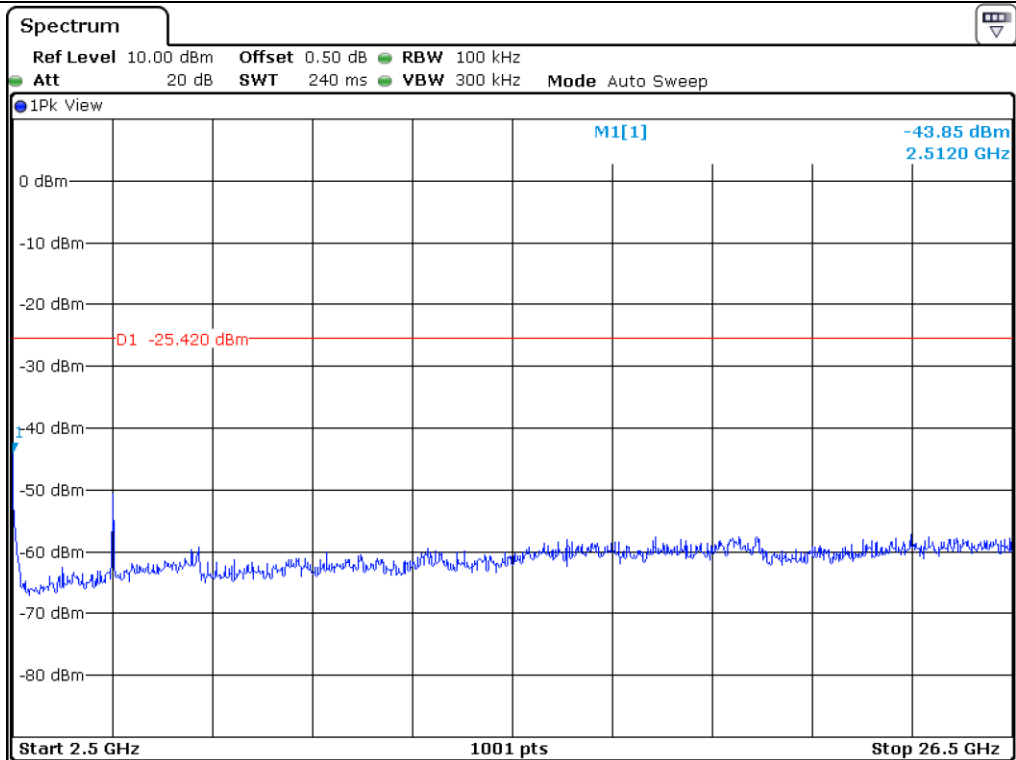
High Channel(Channel 9)



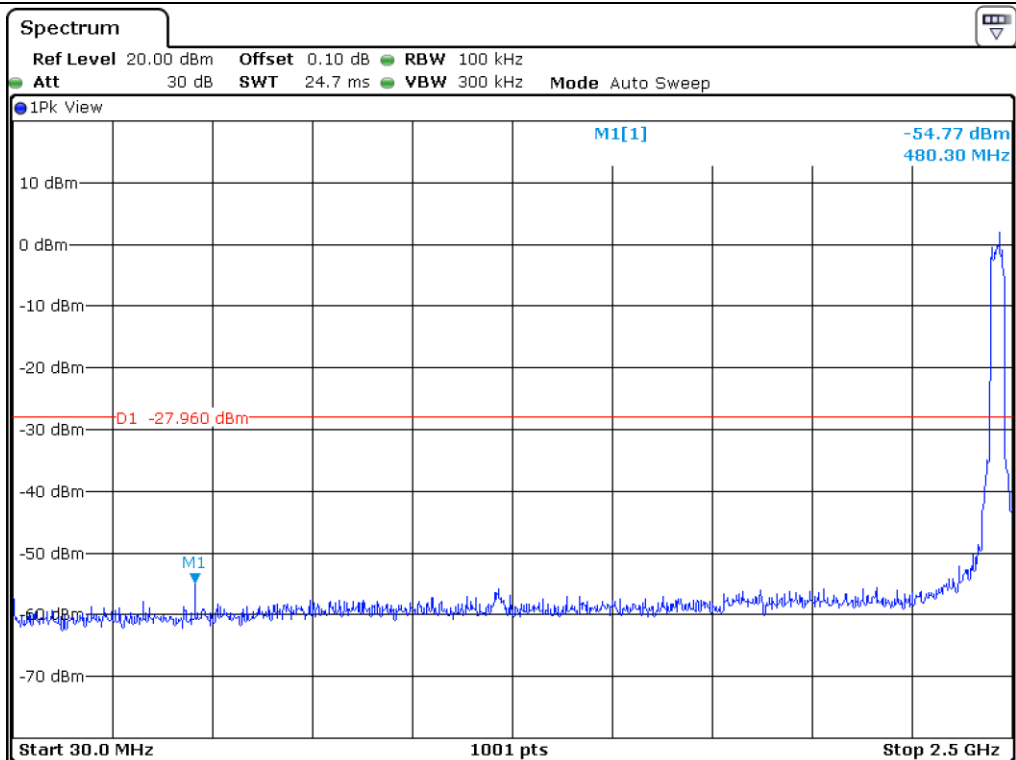
High Channel(Channel 9)



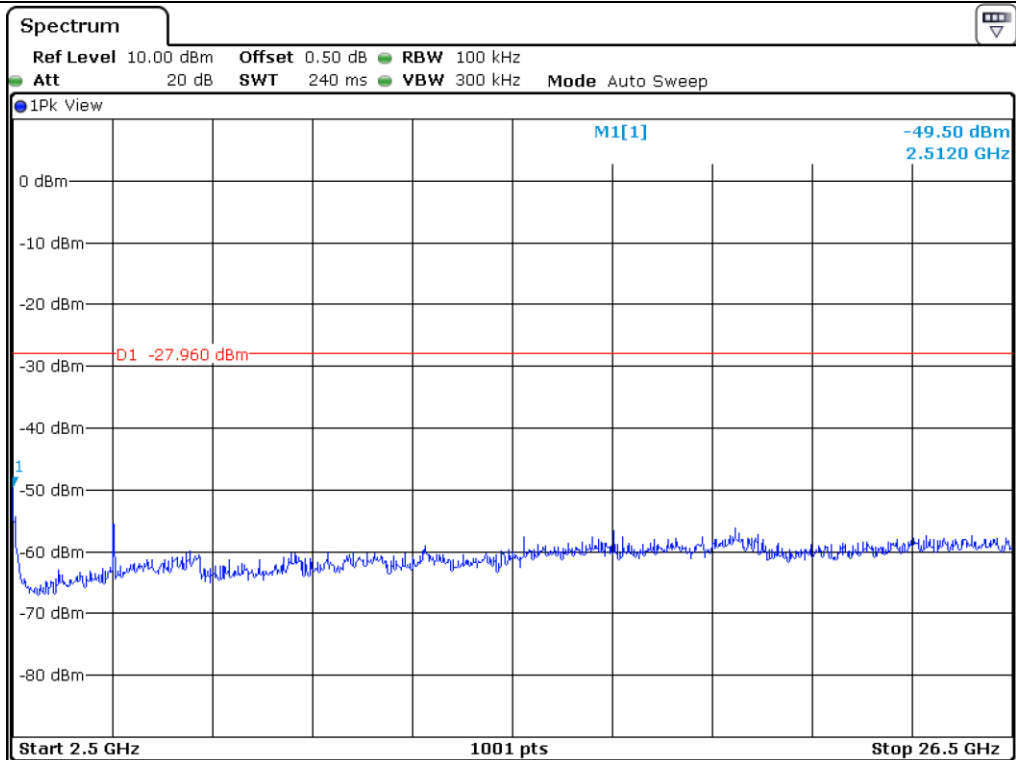
High Channel(Channel 10)



High Channel(Channel 10)

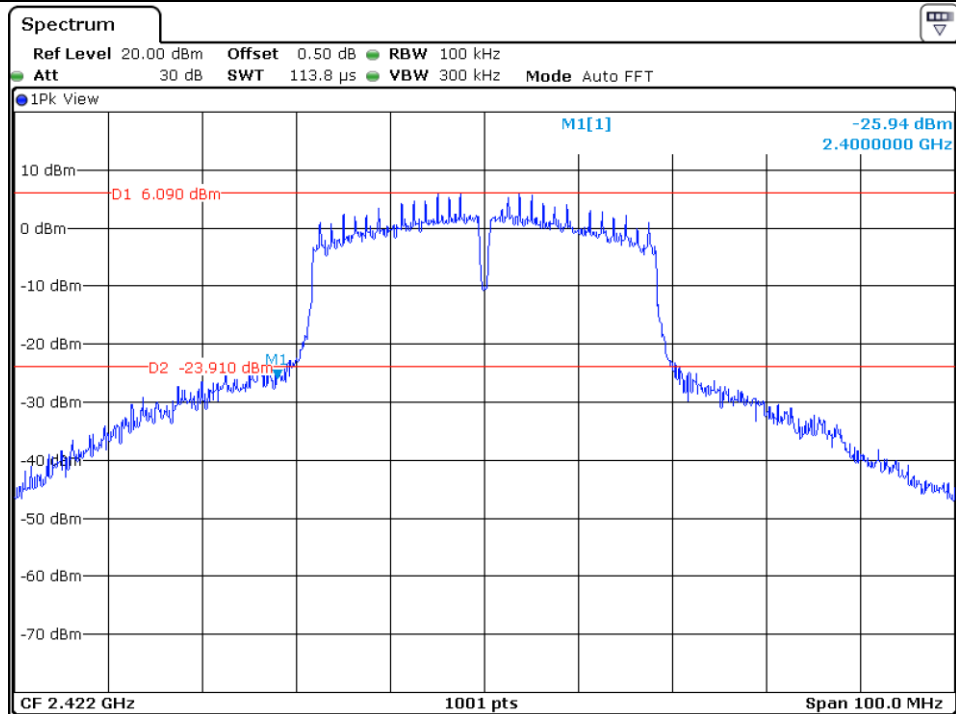


High Channel(Channel 11)

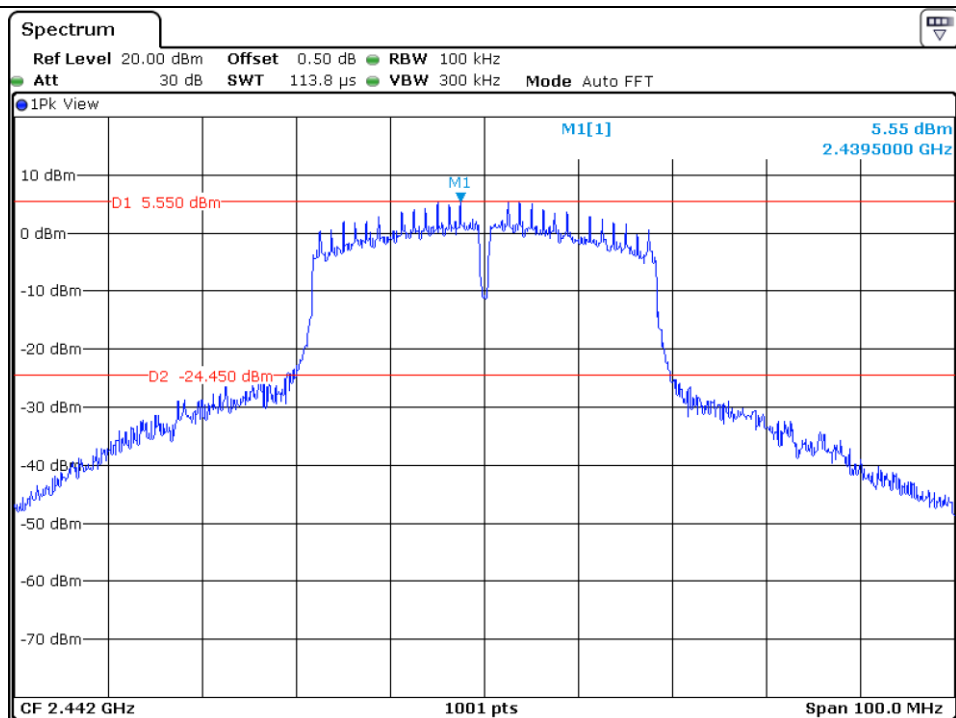


High Channel(Channel 11)

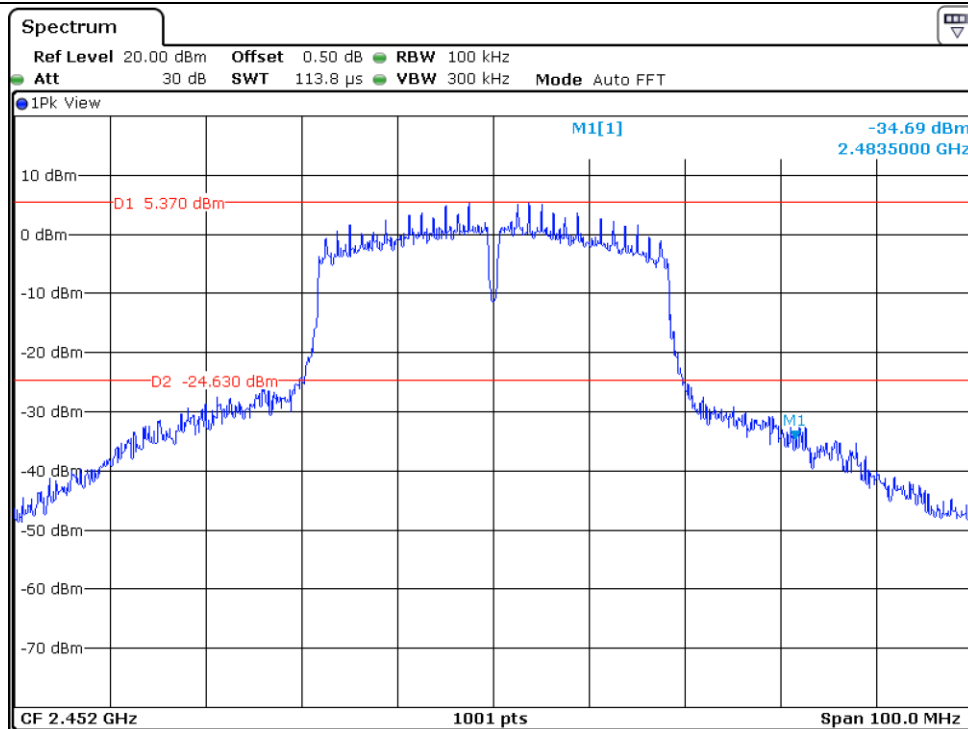
9.5.4.2 Test data for Antenna 1



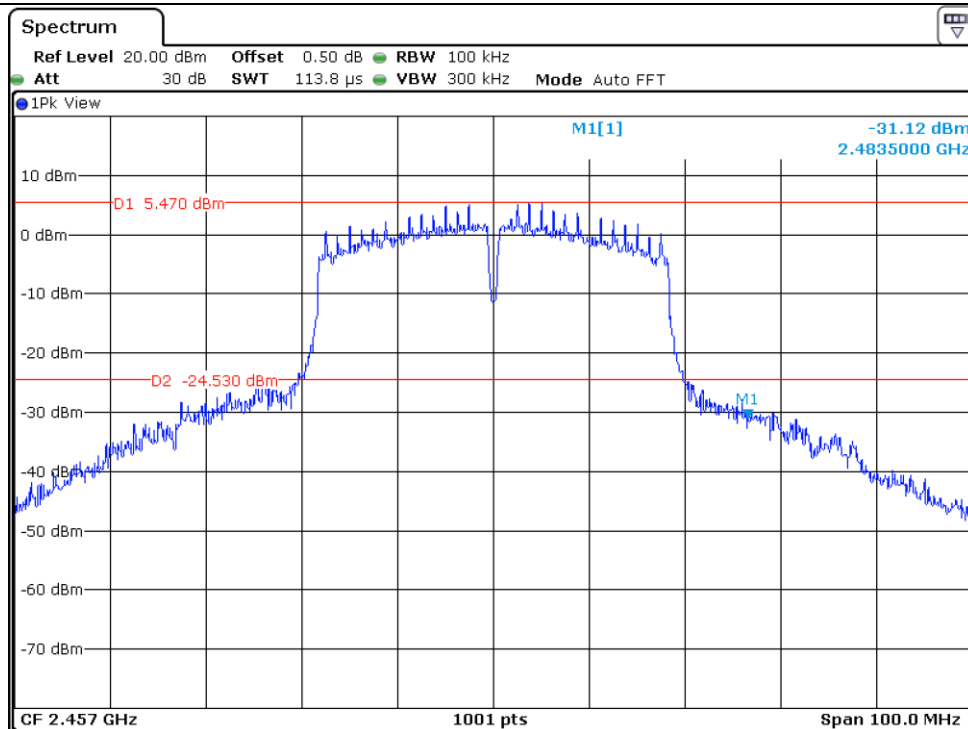
Low Channel



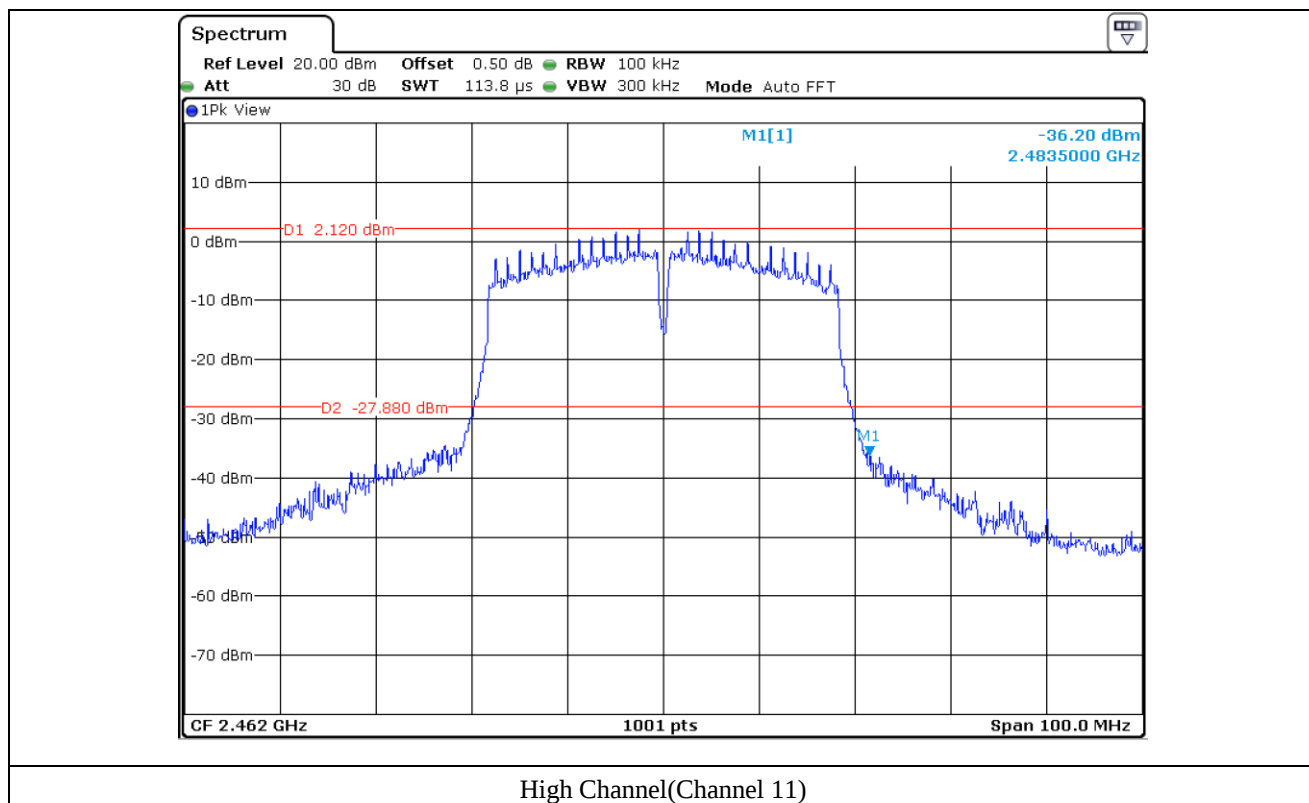
Middle Channel

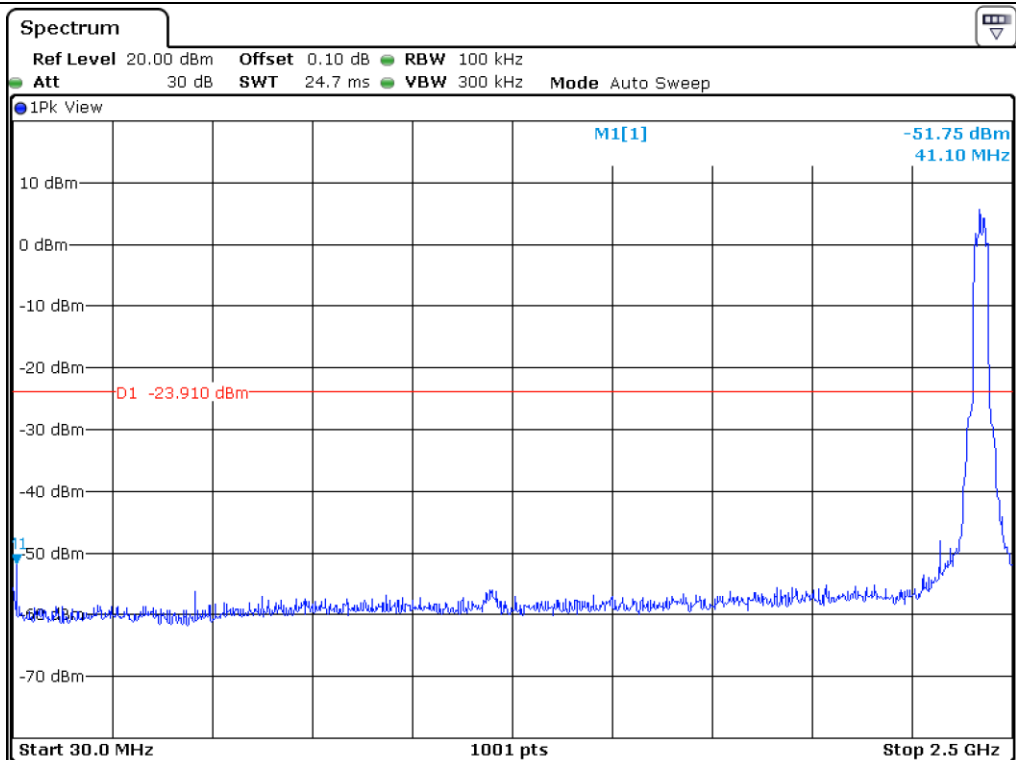


High Channel(Channel 9)

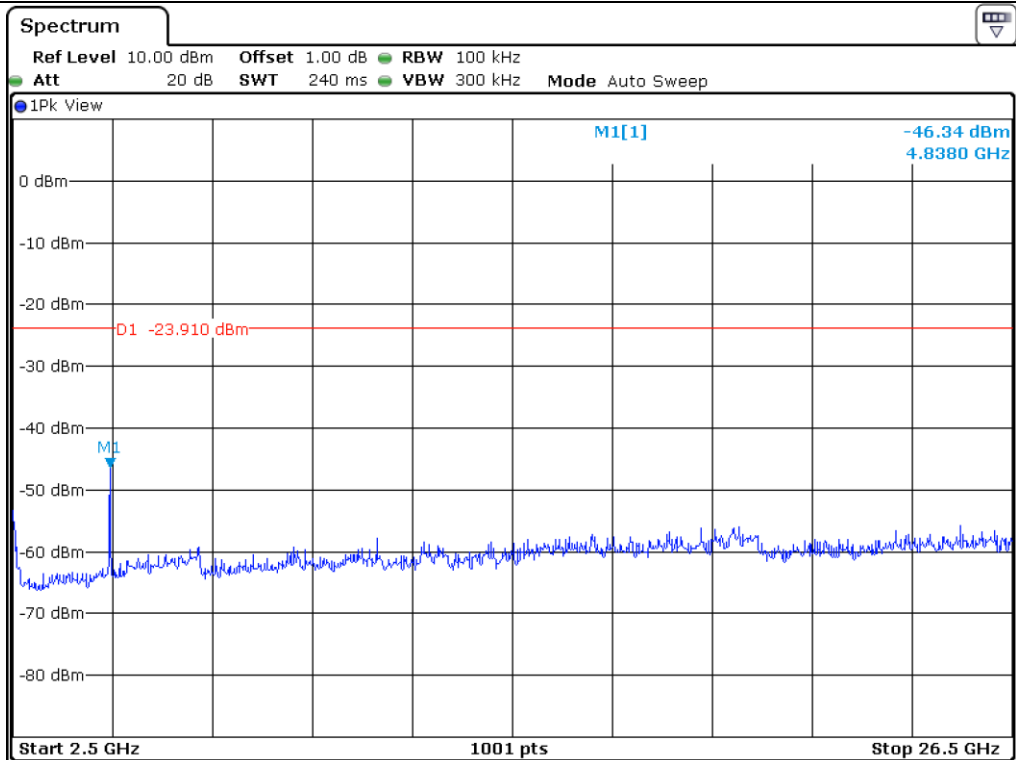


High Channel(Channel 10)

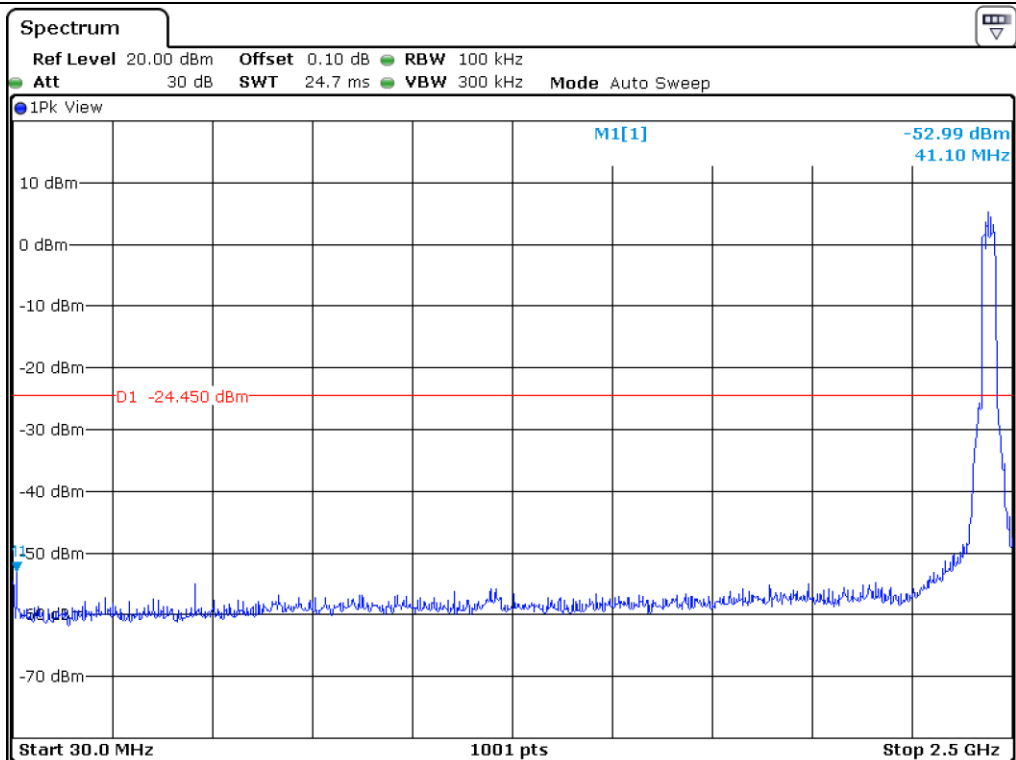




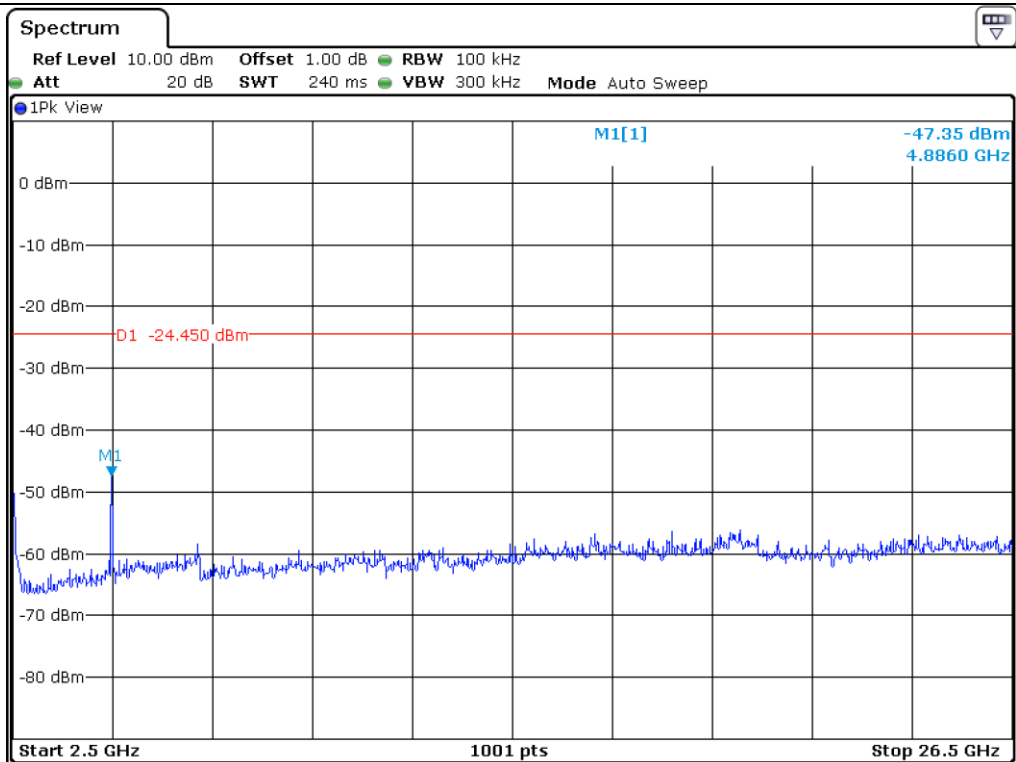
Low Channel



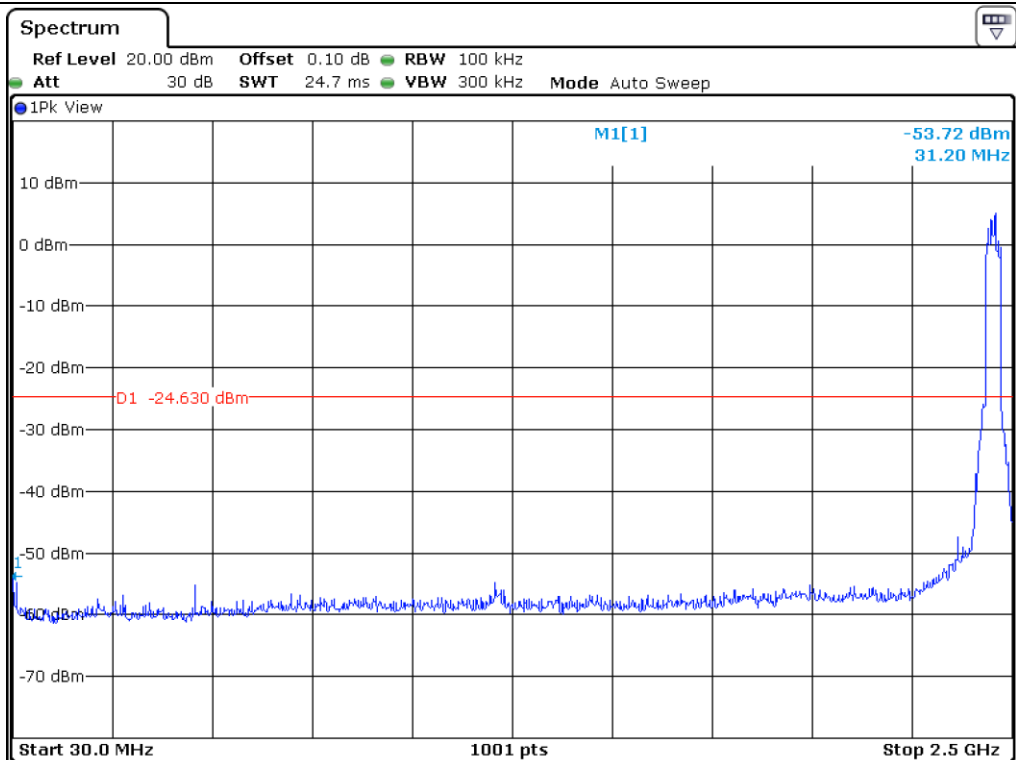
Low Channel



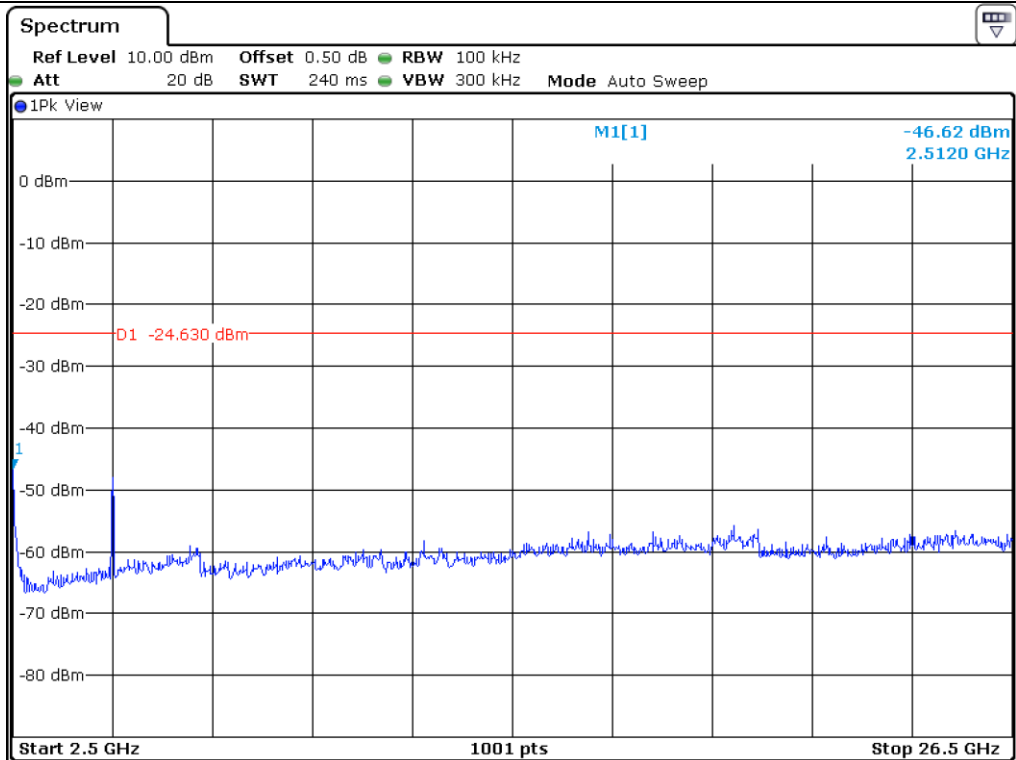
Middle Channel



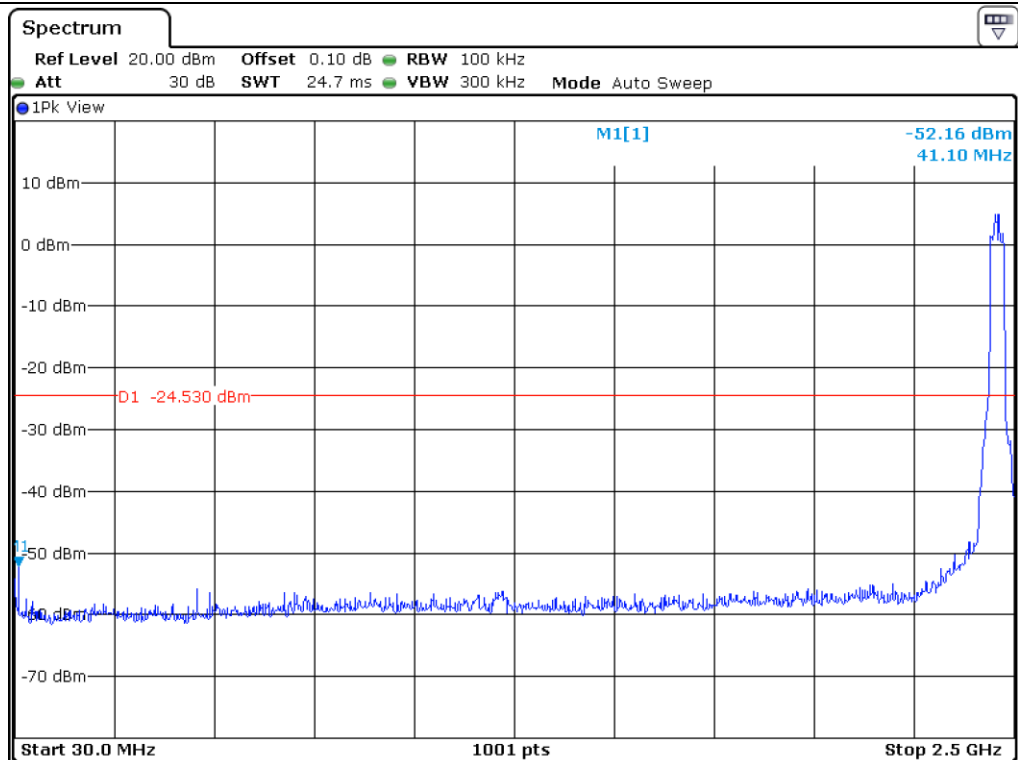
Middle Channel



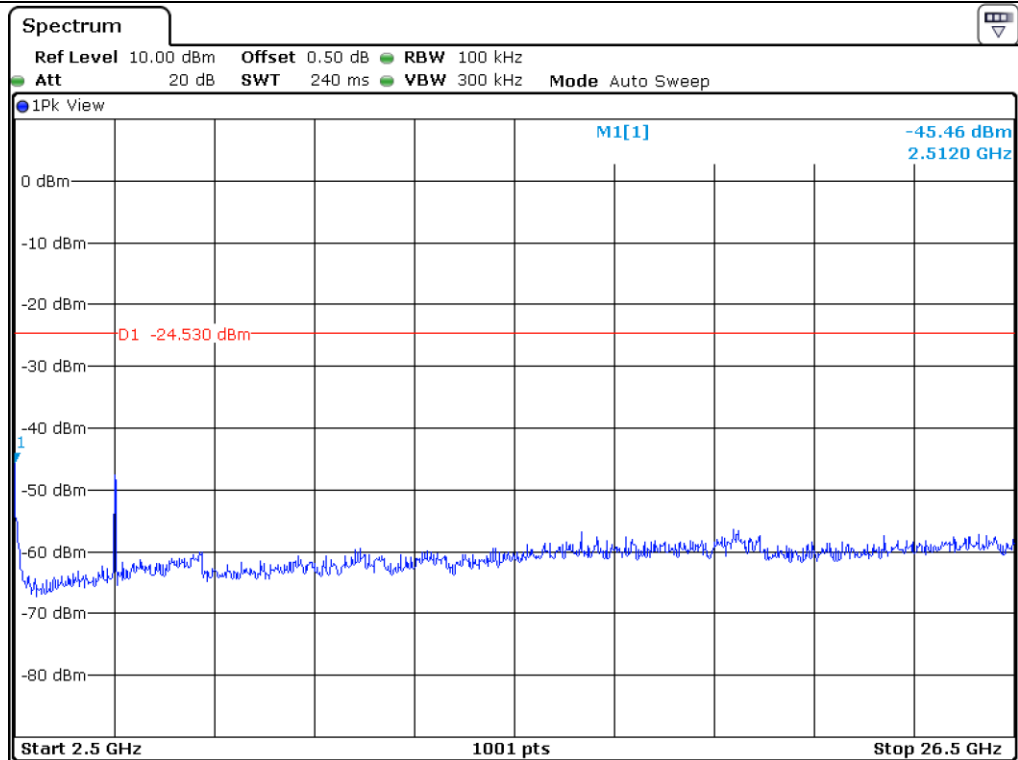
High Channel(Channel 9)



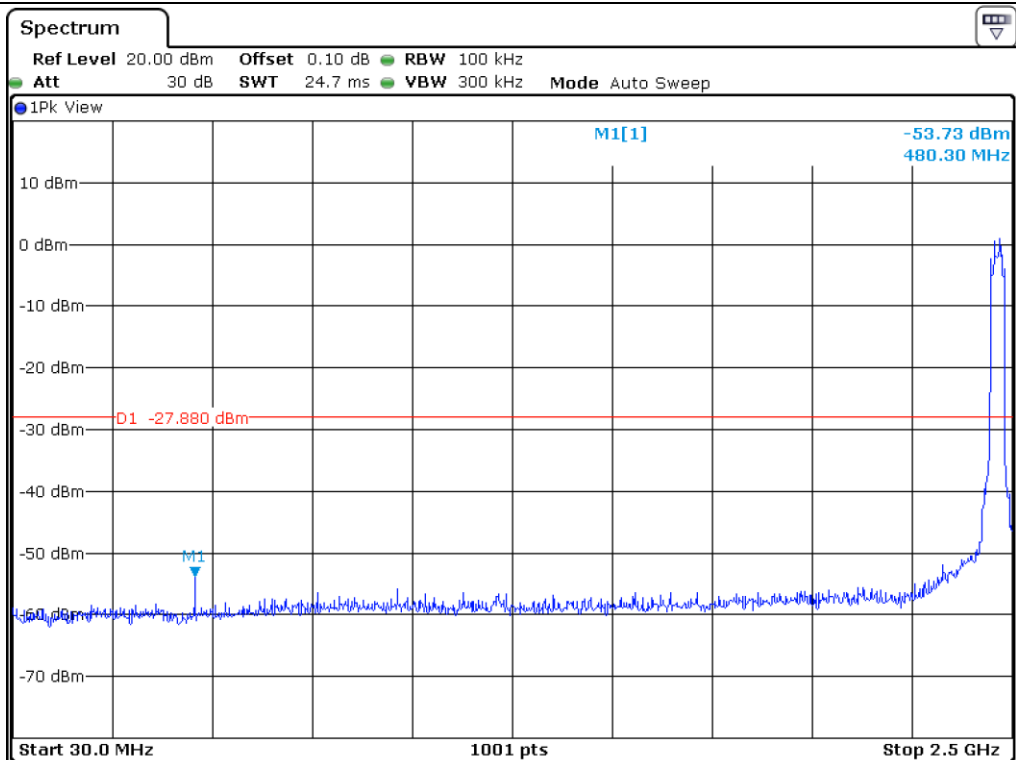
High Channel(Channel 9)



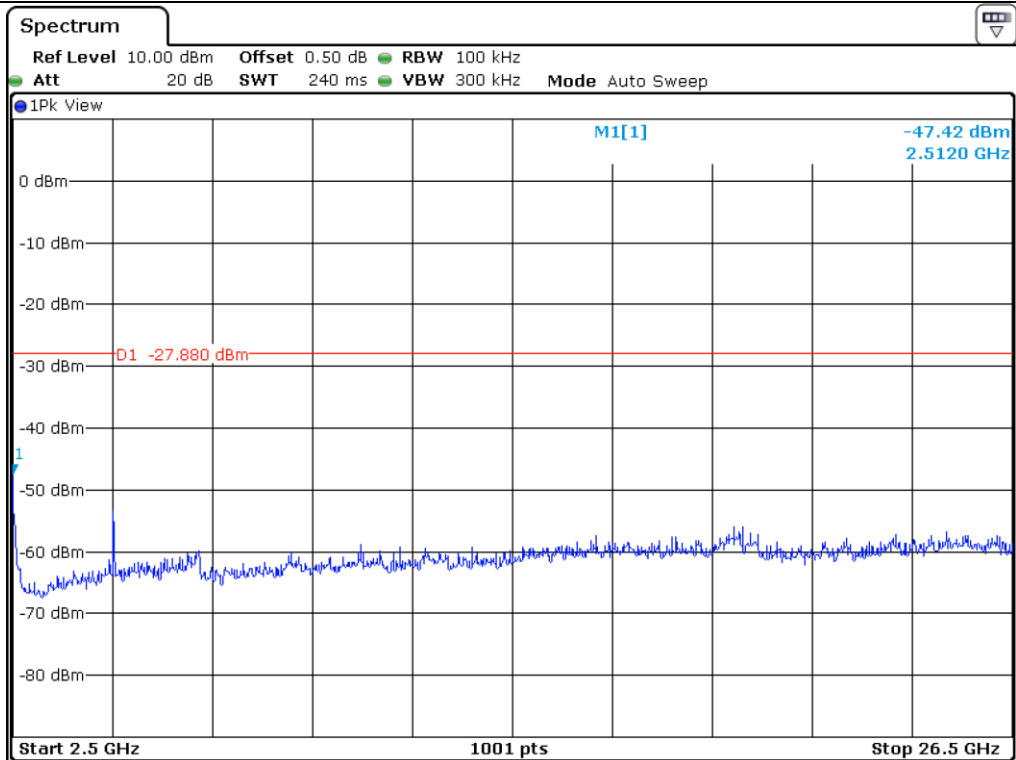
High Channel(Channel 10)



High Channel(Channel 10)



High Channel(Channel 11)



High Channel(Channel 11)

9.6 Test data for radiated emission

9.6.1 Radiated Emission which fall in the Restricted Band

9.6.1.1 Test data for 802.11b WLAN Mode

9.6.1.1.1 Test data for Antenna 0

- Test Date : February 13, 2018 ~ February 21, 2018
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 385.56	49.15	Peak	H	26.94	9.20	34.76	50.53	74.00	23.47
2 385.48	43.17	Average	H				44.55	54.00	9.45
2 387.32	48.66	Peak	V				50.04	74.00	23.96
2 385.48	42.97	Average	V				44.35	54.00	9.65
Test Data for High Channel(Channel 11)									
2 487.28	48.71	Peak	H	27.47	9.49	35.51	50.16	74.00	23.84
2 487.64	43.25	Average	H				44.70	54.00	9.30
2 486.98	47.04	Peak	V				48.49	74.00	25.51
2 487.79	42.81	Average	V				44.26	54.00	9.74

Test Data for High Channel(Channel 12)									
2 483.50	51.11	Peak	H	27.47	9.49	35.51	52.56	74.00	21.44
2 483.50	45.97	Average	H				47.42	54.00	6.58
2 483.50	50.01	Peak	V				51.46	74.00	22.54
2 483.50	45.39	Average	V				46.84	54.00	7.16
Test Data for High Channel(Channel 13)									
2 485.51	54.54	Peak	H	27.47	9.49	35.51	55.99	74.00	18.01
2 486.08	47.08	Average	H				48.53	54.00	5.47
2 485.73	53.66	Peak	V				55.11	74.00	18.89
2 485.99	46.32	Average	V				47.77	54.00	6.23

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain



Tested by: Hyung-Kwon, Oh / Assistant Manager

9.6.1.1.2 Test data for Antenna 1

- Test Date : February 13, 2018 ~ February 21, 2018
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 388.20	47.81	Peak	H	26.94	9.20	34.76	49.19	74.00	24.81
2 386.28	43.81	Average	H				45.19	54.00	8.81
2 386.04	45.47	Peak	V				46.85	74.00	27.15
2 386.36	42.35	Average	V				43.73	54.00	10.27
Test Data for High Channel(Channel 11)									
2 488.12	48.65	Peak	H	27.47	9.49	35.51	50.10	74.00	23.90
2 487.87	43.26	Average	H				44.71	54.00	9.29
2 488.05	46.30	Peak	V				47.75	74.00	26.25
2 487.76	41.88	Average	V				43.33	54.00	10.67

Test Data for High Channel(Channel 12)									
2 485.20	50.52	Peak	H	27.47	9.49	35.51	51.97	74.00	22.03
2 485.56	46.21	Average	H				47.66	54.00	6.34
2 485.25	49.44	Peak	V				50.89	74.00	23.11
2 485.53	44.14	Average	V				45.59	54.00	8.41
Test Data for High Channel(Channel 13)									
2 483.50	54.14	Peak	H	27.47	9.49	35.51	55.59	74.00	18.41
2 483.50	46.48	Average	H				47.93	54.00	6.07
2 485.47	53.27	Peak	V				54.72	74.00	19.28
2 487.33	45.24	Average	V				46.69	54.00	7.31

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain



Tested by: Hyung-Kwon, Oh / Assistant Manager

9.6.1.2 Test data for 802.11g WLAN Mode

9.6.1.2.1 Test data for Antenna 0

- . Test Date : February 13, 2018 ~ February 21, 2018
- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Measurement distance : 3 m
- . Duty Cycle : > 98 %
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 388.76	49.95	Peak	H	26.94	9.20	34.76	51.33	74.00	22.67
2 389.96	43.85	Average	H				45.23	54.00	8.77
2 389.96	48.21	Peak	V				49.59	74.00	24.41
2 389.96	43.37	Average	V				44.75	54.00	9.25
Test Data for High Channel(Channel 11)									
2 483.50	50.07	Peak	H	27.47	9.49	35.51	51.52	74.00	22.48
2 483.50	42.01	Average	H				43.46	54.00	10.54
2 483.50	48.35	Peak	V				49.80	74.00	24.20
2 483.50	41.40	Average	V				42.85	54.00	11.15

Test Data for High Channel(Channel 12)									
2 484.84	52.88	Peak	H	27.47	9.49	35.51	54.33	74.00	19.67
2 483.50	47.52	Average	H				48.97	54.00	5.03
2 484.90	51.60	Peak	V				53.05	74.00	20.95
2 483.50	45.66	Average	V				47.11	54.00	6.89
Test Data for High Channel(Channel 13)									
2 483.50	54.34	Peak	H	27.47	9.49	35.51	55.79	74.00	18.21
2 483.50	47.04	Average	H				48.49	54.00	5.51
2 484.29	52.47	Peak	V				53.92	74.00	20.08
2 484.25	45.35	Average	V				46.80	54.00	7.20

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain



Tested by: Hyung-Kwon, Oh / Assistant Manager

9.6.1.2.2 Test data for Antenna 1

- Test Date : February 13, 2018 ~ February 21, 2018
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 389.96	46.40	Peak	H	26.94	9.20	34.76	47.78	74.00	26.22
2 389.96	44.83	Average	H				46.21	54.00	7.79
2 384.12	44.78	Peak	V				46.16	74.00	27.84
2 389.24	43.40	Average	V				44.78	54.00	9.22
Test Data for High Channel(Channel 11)									
2 483.97	50.02	Peak	H	27.47	9.49	35.51	51.47	74.00	22.53
2 483.50	44.47	Average	H				45.92	54.00	8.08
2 484.10	48.55	Peak	V				50.00	74.00	24.00
2 483.50	42.86	Average	V				44.31	54.00	9.69

Test Data for High Channel(Channel 12)									
2 483.50	49.13	Peak	H	27.47	9.49	35.51	50.58	74.00	23.42
2 483.50	45.01	Average	H				46.46	54.00	7.54
2 483.50	47.80	Peak	V				49.25	74.00	24.75
2 483.50	43.99	Average	V				45.44	54.00	8.56
Test Data for High Channel(Channel 13)									
2 484.41	53.78	Peak	H	27.47	9.49	35.51	55.23	74.00	18.77
2 484.11	45.25	Average	H				46.70	54.00	7.30
2 484.38	51.94	Peak	V				53.39	74.00	20.61
2 484.11	44.31	Average	V				45.76	54.00	8.24

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain



Tested by: Hyung-Kwon, Oh / Assistant Manager

9.6.1.3 Test data for 802.11n_HT20 WLAN Mode

9.6.1.3.1 Test data for Multiple Antenna

- . Test Date : February 13, 2018 ~ February 21, 2018
- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Measurement distance : 3 m
- . Duty Cycle : > 98 %
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 389.96	49.19	Peak	H	26.94	9.20	34.76	50.57	74.00	23.43
2 389.40	42.57	Average	H				43.95	54.00	10.05
2 388.84	47.72	Peak	V				49.10	74.00	24.90
2 389.96	41.21	Average	V				42.59	54.00	11.41
Test Data for High Channel(Channel 11)									
2 484.49	47.19	Peak	H	27.47	9.49	35.51	48.64	74.00	25.36
2 484.64	44.58	Average	H				46.03	54.00	7.97
2 483.50	45.35	Peak	V				46.80	74.00	27.20
2 483.50	42.84	Average	V				44.29	54.00	9.71

Test Data for High Channel(Channel 12)									
2 484.36	50.34	Peak	H	27.47	9.49	35.51	51.79	74.00	22.21
2 484.46	44.84	Average	H				46.29	54.00	7.71
2 483.60	47.78	Peak	V				49.23	74.00	24.77
2 483.55	43.61	Average	V				45.06	54.00	8.94
Test Data for High Channel(Channel 13)									
2 484.74	53.11	Peak	H	27.47	9.49	35.51	54.56	74.00	19.44
2 484.34	46.69	Average	H				48.14	54.00	5.86
2 483.50	52.25	Peak	V				53.70	74.00	20.30
2 483.50	44.73	Average	V				46.18	54.00	7.82

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain



Tested by: Hyung-Kwon, Oh / Assistant Manager

9.6.1.4 Test data for 802.11n_HT40 WLAN Mode

9.6.1.4.1 Test data for Multiple Antenna

- . Test Date : February 13, 2018 ~ February 21, 2018
- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Measurement distance : 3 m
- . Duty Cycle : > 98 %
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 389.16	47.28	Peak	H	26.94	9.20	34.76	48.66	74.00	25.34
2 388.92	43.31	Average	H				44.69	54.00	9.31
2 389.96	46.13	Peak	V				47.51	74.00	26.49
2 388.36	40.41	Average	V				41.79	54.00	12.21
Test Data for High Channel(Channel 9)									
2 484.51	49.61	Peak	H	27.47	9.49	35.51	51.06	74.00	22.94
2 484.58	41.34	Average	H				42.79	54.00	11.21
2 486.04	48.68	Peak	V				50.13	74.00	23.87
2 483.75	40.52	Average	V				41.97	54.00	12.03

Test Data for High Channel(Channel 10)									
2 489.72	50.43	Peak	H	27.47	9.49	35.51	51.88	74.00	22.12
2 484.67	46.92	Average	H				48.37	54.00	5.63
2 483.82	49.82	Peak	V				51.27	74.00	22.73
2 483.70	45.97	Average	V				47.42	54.00	6.58
Test Data for High Channel(Channel 11)									
2 483.50	53.68	Peak	H	27.47	9.49	35.51	55.13	74.00	18.87
2 483.50	46.71	Average	H				48.16	54.00	5.84
2 483.50	51.94	Peak	V				53.39	74.00	20.61
2 483.50	45.11	Average	V				46.56	54.00	7.44

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain



Tested by: Hyung-Kwon, Oh / Assistant Manager

9.6.2 Spurious & Harmonic Radiated Emission

9.6.2.1 Test data for 802.11b WLAN Mode

9.6.2.1.1 Test data for Antenna 0

- Test Date : February 13, 2018 ~ February 21, 2018
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	43.71	Peak	H	30.84	12.31	35.74	51.12	74.00	22.88
	32.76	Average	H				40.17	54.00	13.83
	42.56	Peak	V				49.97	74.00	24.03
	32.08	Average	V				39.49	54.00	14.51
Test Data for Middle Channel									
4 884.00	43.40	Peak	H	30.01	12.43	35.80	50.04	74.00	23.96
	31.62	Average	H				38.26	54.00	15.74
	42.54	Peak	V				49.18	74.00	24.82
	30.75	Average	V				37.39	54.00	16.61

Test Data for High Channel(Channel 11)									
4 924.00	42.92	Peak	H	31.15	12.81	35.96	50.92	74.00	23.08
	32.64	Average	H				40.64	54.00	13.36
	41.30	Peak	V				49.30	74.00	24.70
	31.69	Average	V				39.69	54.00	14.31
Test Data for High Channel(Channel 12)									
4 934.00	43.23	Peak	H	31.15	12.81	35.96	51.23	74.00	22.77
	31.80	Average	H				39.80	54.00	14.20
	41.62	Peak	V				49.62	74.00	24.38
	30.77	Average	V				38.77	54.00	15.23
Test Data for High Channel(Channel 13)									
4 944.00	42.55	Peak	H	31.15	12.81	35.96	50.55	74.00	23.45
	31.72	Average	H				39.72	54.00	14.28
	41.46	Peak	V				49.46	74.00	24.54
	30.68	Average	V				38.68	54.00	15.32

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain



Tested by: Hyung-Kwon, Oh / Assistant Manager

9.6.2.1.2 Test data for Antenna 1

- . Test Date : February 13, 2018 ~ February 21, 2018
- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Duty Cycle : > 98 %
- . Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	43.97	Peak	H	30.84	12.31	35.74	51.38	74.00	22.62
	31.32	Average	H				38.73	54.00	15.27
	42.09	Peak	V				49.50	74.00	24.50
	33.02	Average	V				40.43	54.00	13.57
Test Data for Middle Channel									
4 884.00	43.03	Peak	H	30.01	12.43	35.80	49.67	74.00	24.33
	31.40	Average	H				38.04	54.00	15.96
	42.30	Peak	V				48.94	74.00	25.06
	30.69	Average	V				37.33	54.00	16.67

Test Data for High Channel(Channel 11)									
4 924.00	42.08	Peak	H	31.15	12.81	35.96	50.08	74.00	23.92
	31.13	Average	H				39.13	54.00	14.87
	41.52	Peak	V				49.52	74.00	24.48
	30.01	Average	V				38.01	54.00	15.99
Test Data for High Channel(Channel 12)									
4 934.00	43.09	Peak	H	31.15	12.81	35.96	51.09	74.00	22.91
	31.82	Average	H				39.82	54.00	14.18
	42.88	Peak	V				50.88	74.00	23.12
	30.58	Average	V				38.58	54.00	15.42
Test Data for High Channel(Channel 13)									
4 944.00	43.05	Peak	H	31.15	12.81	35.96	51.05	74.00	22.95
	31.70	Average	H				39.70	54.00	14.30
	42.00	Peak	V				50.00	74.00	24.00
	30.01	Average	V				38.01	54.00	15.99

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain



Tested by: Hyung-Kwon, Oh / Assistant Manager

9.6.2.2 Test data for 802.11g WLAN Mode

9.6.2.2.1 Test data for Antenna 0

- Test Date : February 13, 2018 ~ February 21, 2018
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	42.88	Peak	H	30.84	12.31	35.74	50.29	74.00	23.71
	33.58	Average	H				40.99	54.00	13.01
	41.30	Peak	V				48.71	74.00	25.29
	32.13	Average	V				39.54	54.00	14.46
Test Data for Middle Channel									
4 884.00	44.11	Peak	H	30.01	12.43	35.80	50.75	74.00	23.25
	31.05	Average	H				37.69	54.00	16.31
	42.93	Peak	V				49.57	74.00	24.43
	30.86	Average	V				37.50	54.00	16.50

Test Data for High Channel(Channel 11)									
4 924.00	43.39	Peak	H	31.15	12.81	35.96	51.39	74.00	22.61
	32.60	Average	H				40.60	54.00	13.40
	41.50	Peak	V				49.50	74.00	24.50
	31.71	Average	V				39.71	54.00	14.29
Test Data for High Channel(Channel 12)									
4 934.00	42.91	Peak	H	31.15	12.81	35.96	50.91	74.00	23.09
	32.27	Average	H				40.27	54.00	13.73
	41.23	Peak	V				49.23	74.00	24.77
	31.63	Average	V				39.63	54.00	14.37
Test Data for High Channel(Channel 13)									
4 944.00	42.73	Peak	H	31.15	12.81	35.96	50.73	74.00	23.27
	32.30	Average	H				40.30	54.00	13.70
	41.13	Peak	V				49.13	74.00	24.87
	31.22	Average	V				39.22	54.00	14.78

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain



Tested by: Hyung-Kwon, Oh / Assistant Manager

9.6.2.2.2 Test data for Antenna 1

- . Test Date : February 13, 2018 ~ February 21, 2018
- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Duty Cycle : > 98 %
- . Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	43.15	Peak	H	30.84	12.31	35.74	50.56	74.00	23.44
	32.08	Average	H				39.49	54.00	14.51
	42.05	Peak	V				49.46	74.00	24.54
	31.04	Average	V				38.45	54.00	15.55
Test Data for Middle Channel									
4 884.00	43.19	Peak	H	30.01	12.43	35.80	49.83	74.00	24.17
	31.22	Average	H				37.86	54.00	16.14
	42.05	Peak	V				48.69	74.00	25.31
	30.52	Average	V				37.16	54.00	16.84

Test Data for High Channel(Channel 11)									
4 924.00	43.11	Peak	H	31.15	12.81	35.96	51.11	74.00	22.89
	32.28	Average	H				40.28	54.00	13.72
	41.46	Peak	V				49.46	74.00	24.54
	31.96	Average	V				39.96	54.00	14.04
Test Data for High Channel(Channel 12)									
4 934.00	43.29	Peak	H	31.15	12.81	35.96	51.29	74.00	22.71
	32.79	Average	H				40.79	54.00	13.21
	42.87	Peak	V				50.87	74.00	23.13
	31.06	Average	V				39.06	54.00	14.94
Test Data for High Channel(Channel 13)									
4 944.00	43.77	Peak	H	31.15	12.81	35.96	51.77	74.00	22.23
	32.87	Average	H				40.87	54.00	13.13
	42.89	Peak	V				50.89	74.00	23.11
	31.20	Average	V				39.20	54.00	14.80

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain



Tested by: Hyung-Kwon, Oh / Assistant Manager

9.6.2.3 Test data for 802.11n_HT20 WLAN Mode

9.6.2.3.1 Test data for Multiple Antenna

- Test Date : February 13, 2018 ~ February 21, 2018
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 824.00	43.69	Peak	H	30.84	12.31	35.74	51.10	74.00	22.90
	32.05	Average	H				39.46	54.00	14.54
	41.12	Peak	V				48.53	74.00	25.47
	31.95	Average	V				39.36	54.00	14.64
Test Data for Middle Channel									
4 884.00	42.19	Peak	H	30.01	12.43	35.80	48.83	74.00	25.17
	32.06	Average	H				38.70	54.00	15.30
	41.16	Peak	V				47.80	74.00	26.20
	31.03	Average	V				37.67	54.00	16.33

Test Data for High Channel(Channel 11)									
4 924.00	41.12	Peak	H	31.15	12.81	35.96	49.12	74.00	24.88
	31.14	Average	H				39.14	54.00	14.86
	40.87	Peak	V				48.87	74.00	25.13
	30.29	Average	V				38.29	54.00	15.71
Test Data for High Channel(Channel 12)									
4 934.00	42.21	Peak	H	31.15	12.81	35.96	50.21	74.00	23.79
	30.20	Average	H				38.20	54.00	15.80
	41.28	Peak	V				49.28	74.00	24.72
	30.03	Average	V				38.03	54.00	15.97
Test Data for High Channel(Channel 13)									
4 944.00	42.68	Peak	H	31.15	12.81	35.96	50.68	74.00	23.32
	31.42	Average	H				39.42	54.00	14.58
	41.30	Peak	V				49.30	74.00	24.70
	30.69	Average	V				38.69	54.00	15.31

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain



Tested by: Hyung-Kwon, Oh / Assistant Manager

9.6.2.4 Test data for 802.11n_HT40 WLAN Mode

9.6.2.4.1 Test data for Multiple Antenna

- Test Date : February 13, 2018 ~ February 21, 2018
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (GHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 844.00	43.39	Peak	H	30.84	12.31	35.76	50.78	74.00	23.22
	31.77	Average	H				39.16	54.00	14.84
	42.85	Peak	V				50.24	74.00	23.76
	30.09	Average	V				37.48	54.00	16.52
Test Data for Middle Channel									
4 884.00	42.95	Peak	H	30.01	12.43	35.80	49.59	74.00	24.41
	31.61	Average	H				38.25	54.00	15.75
	41.75	Peak	V				48.39	74.00	25.61
	30.35	Average	V				36.99	54.00	17.01

Test Data for High Channel(Channel 9)									
4 904.00	43.49	Peak	H	31.15	12.81	35.94	51.51	74.00	22.49
	32.59	Average	H				40.61	54.00	13.39
	42.28	Peak	V				50.30	74.00	23.70
	31.50	Average	V				39.52	54.00	14.48
Test Data for High Channel(Channel 10)									
4 914.00	44.89	Peak	H	31.15	12.81	35.94	52.91	74.00	21.09
	33.07	Average	H				41.09	54.00	12.91
	43.49	Peak	V				51.51	74.00	22.49
	32.76	Average	V				40.78	54.00	13.22
Test Data for High Channel(Channel 11)									
4 924.00	42.22	Peak	H	31.15	12.81	35.94	50.24	74.00	23.76
	31.17	Average	H				39.19	54.00	14.81
	41.00	Peak	V				49.02	74.00	24.98
	30.74	Average	V				38.76	54.00	15.24

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – Pre-Amplifier Gain



Tested by: Hyung-Kwon, Oh / Assistant Manager

10. PEAK POWER SPECTRUL DENSITY

10.1 Operating environment

Temperature : 23 °C
Relative humidity : 41 % R.H.

10.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer.

The resolution bandwidth is set to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$, the video bandwidth is set to 3 times the resolution bandwidth.



10.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	Apr. 05, 2017 (1Y)

All test equipment used is calibrated on a regular basis.

10.4 Test data for 802.11b WLAN Mode

10.4.1 Test data for Antenna 0

-. Test Date : February 13, 2018 ~ February 21, 2018

-. Test Result : Pass

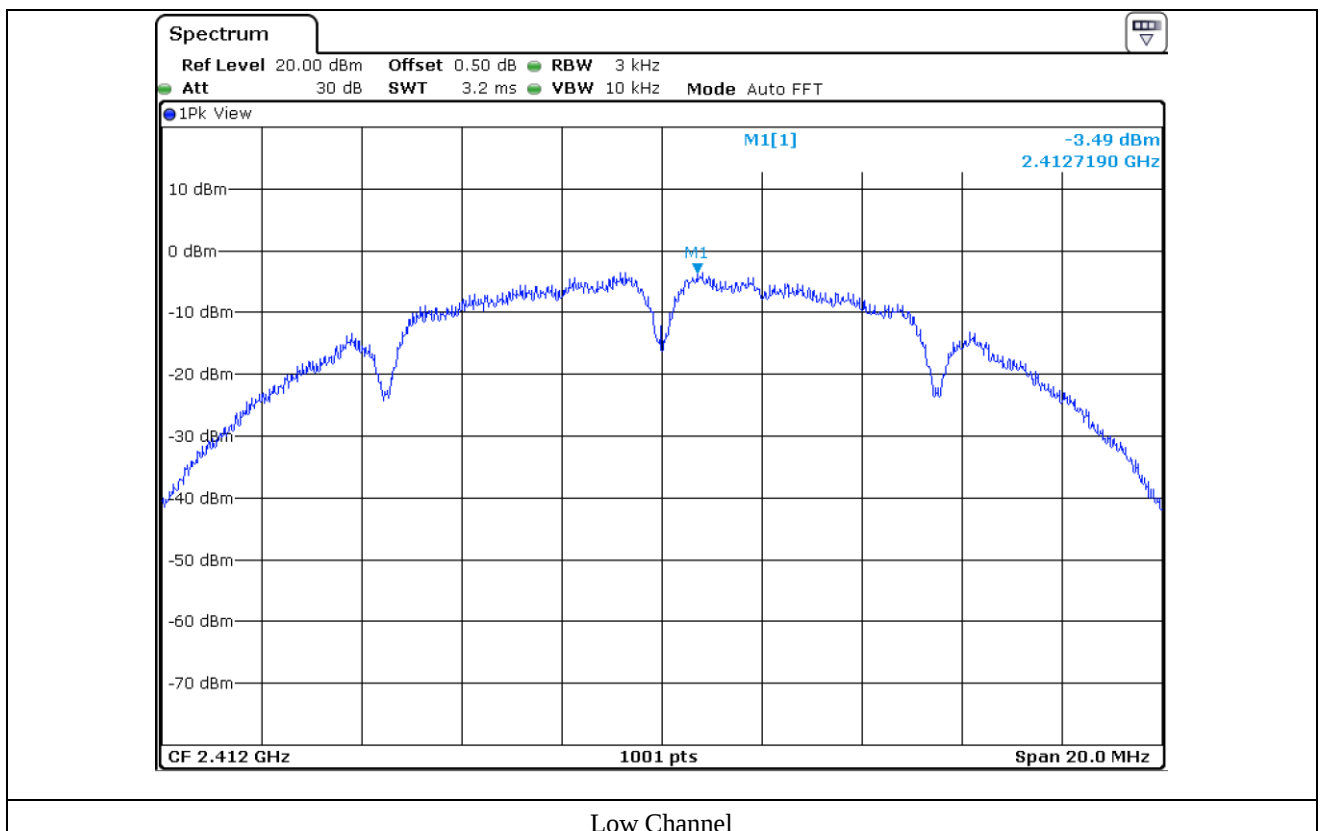
-. Operating Condition : Continuous transmitting mode

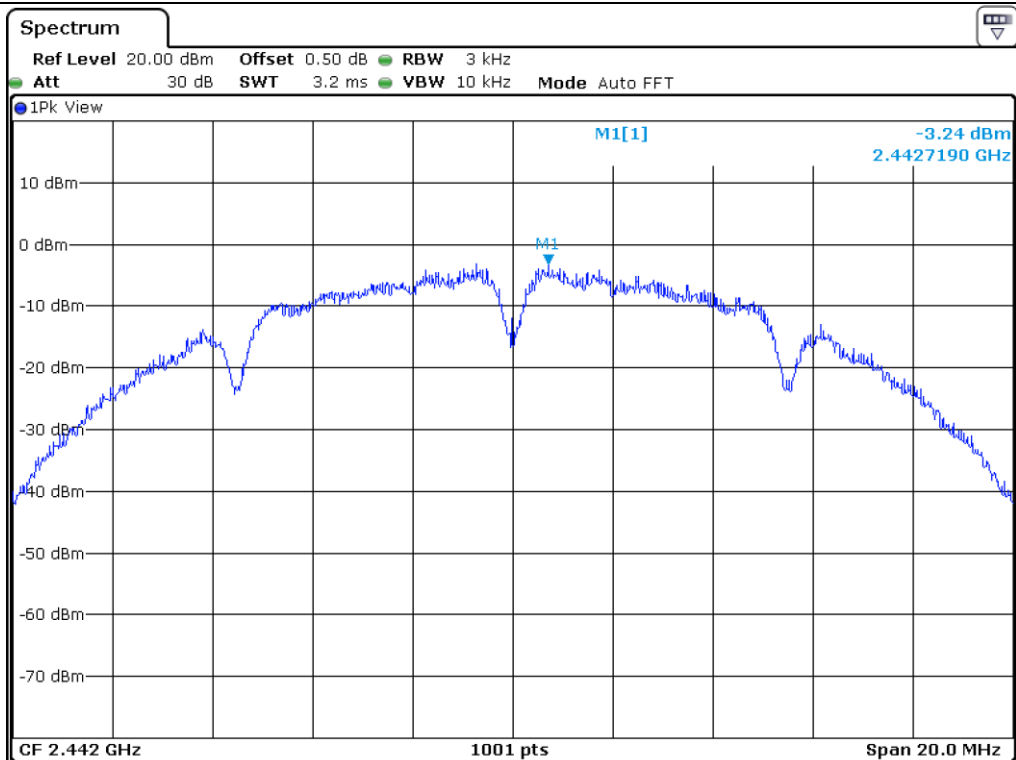
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-3.49	8.00	11.49
Middle	2 442.00	-3.24	8.00	11.24
High(Channel 11)	2 462.00	-3.03	8.00	11.03
High(Channel 12)	2 467.00	-3.76	8.00	11.76
High(Channel 13)	2 472.00	-7.69	8.00	15.69

Remark. Margin = Limit – Measured value

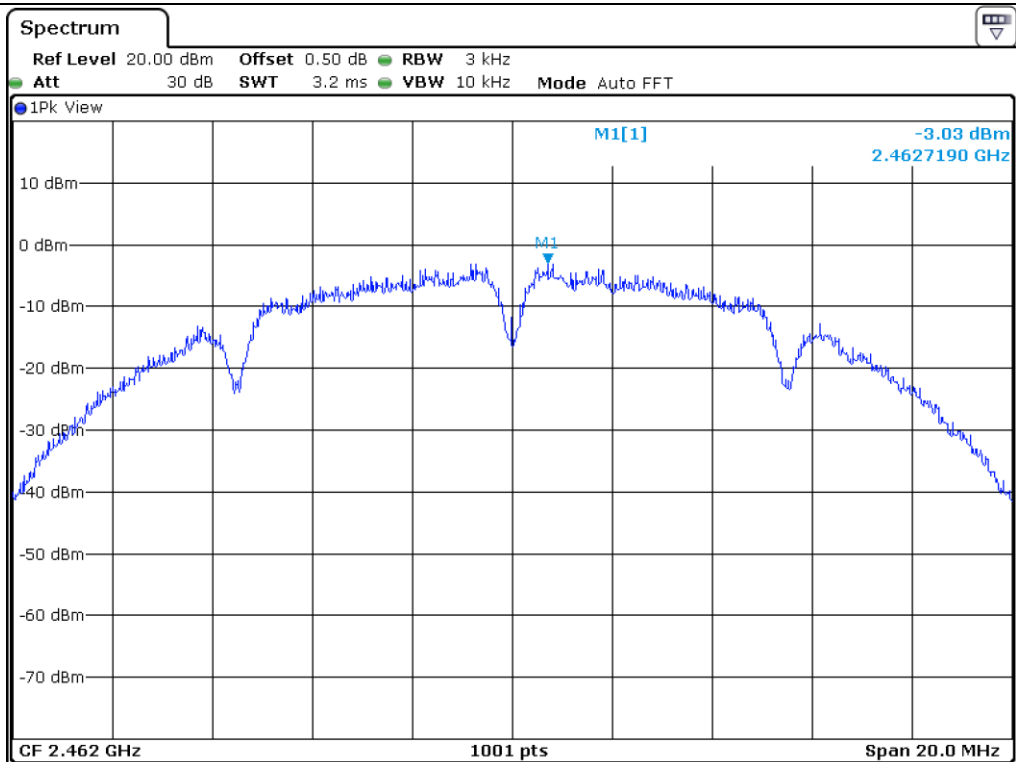


Tested by: Hyung-Kwon, Oh / Assistant Manager

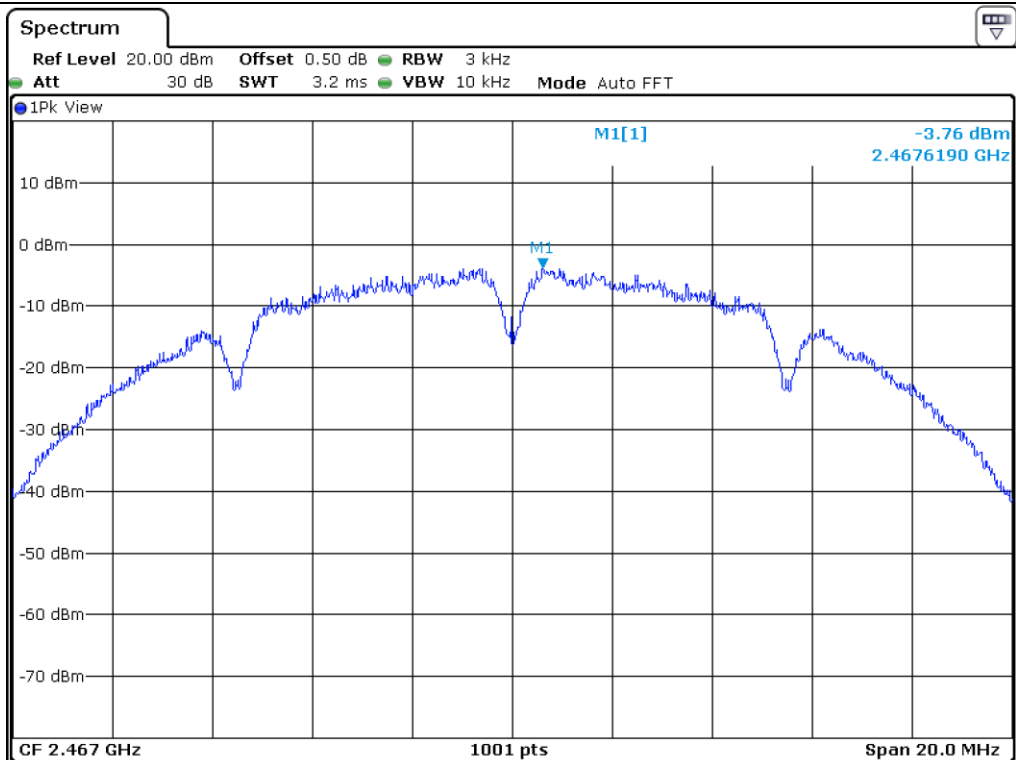




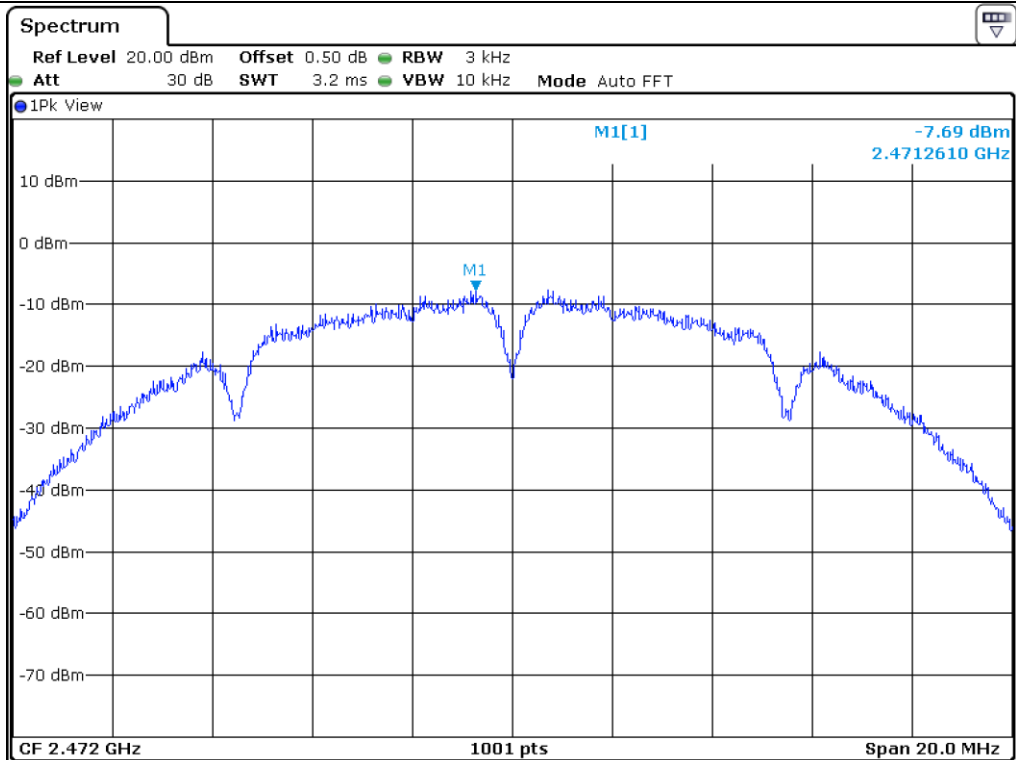
Middle Channel



High Channel(Channel 11)



High Channel(Channel 12)



High Channel(Channel 13)

10.4.2 Test data for Antenna 1

-. Test Date : February 13, 2018 ~ February 21, 2018

-. Test Result : Pass

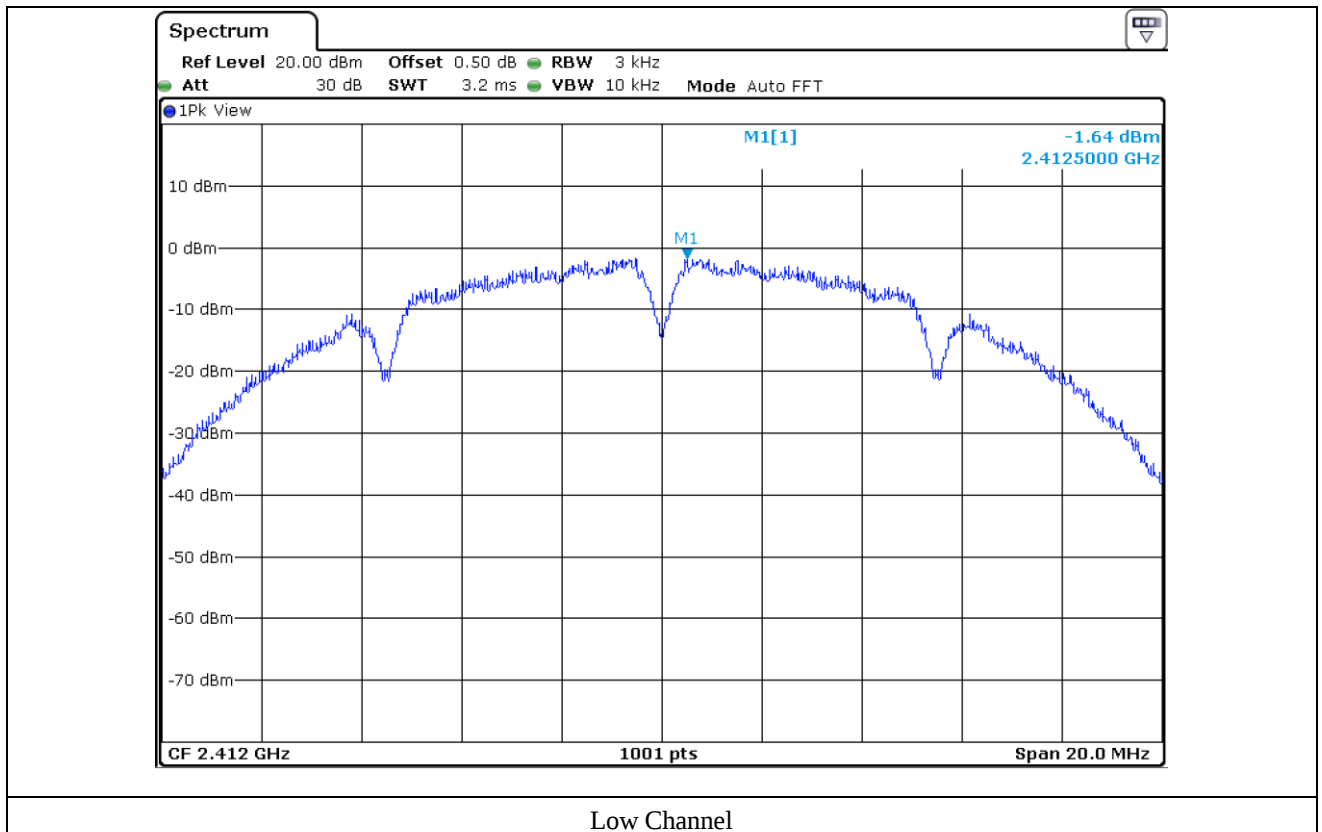
-. Operating Condition : Continuous transmitting mode

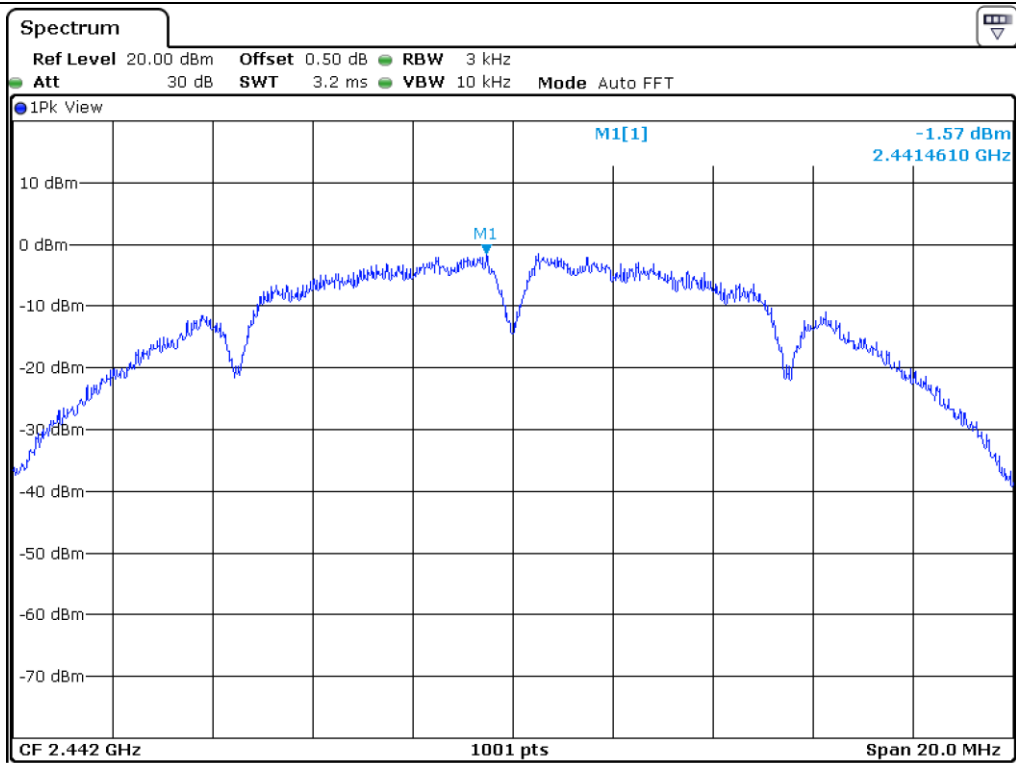
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-1.64	8.00	9.64
Middle	2 442.00	-1.57	8.00	9.57
High(Channel 11)	2 462.00	-2.11	8.00	10.11
High(Channel 12)	2 467.00	-2.22	8.00	10.22
High(Channel 13)	2 472.00	-6.68	8.00	14.68

Remark. Margin = Limit – Measured value

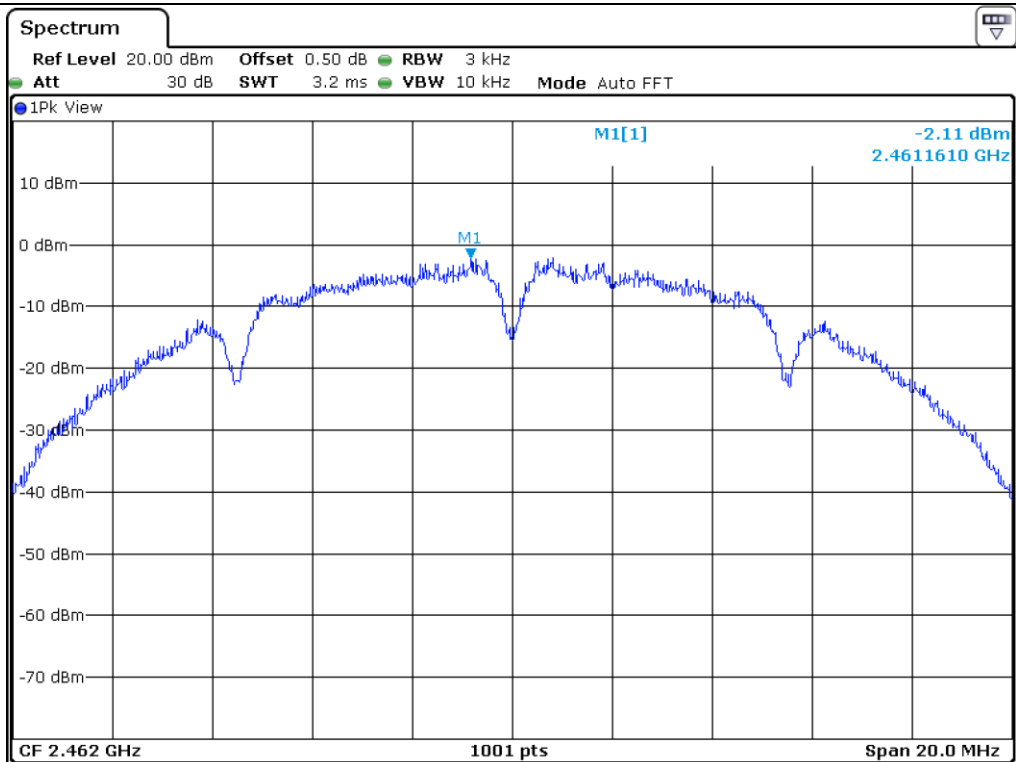


Tested by: Hyung-Kwon, Oh / Assistant Manager

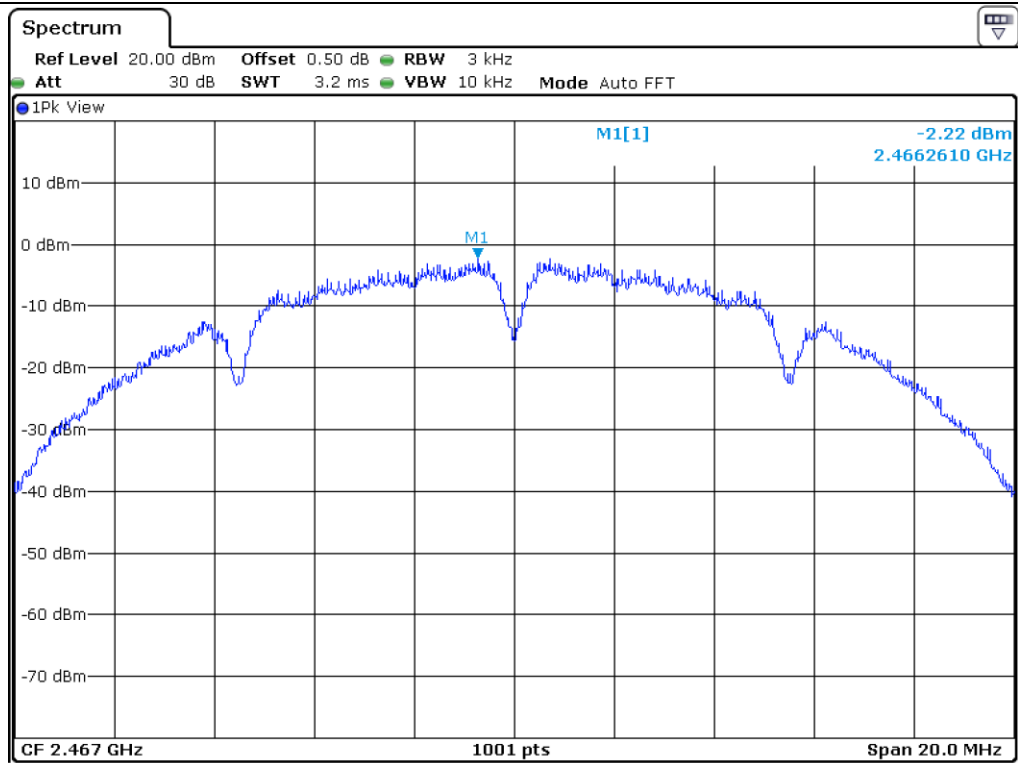




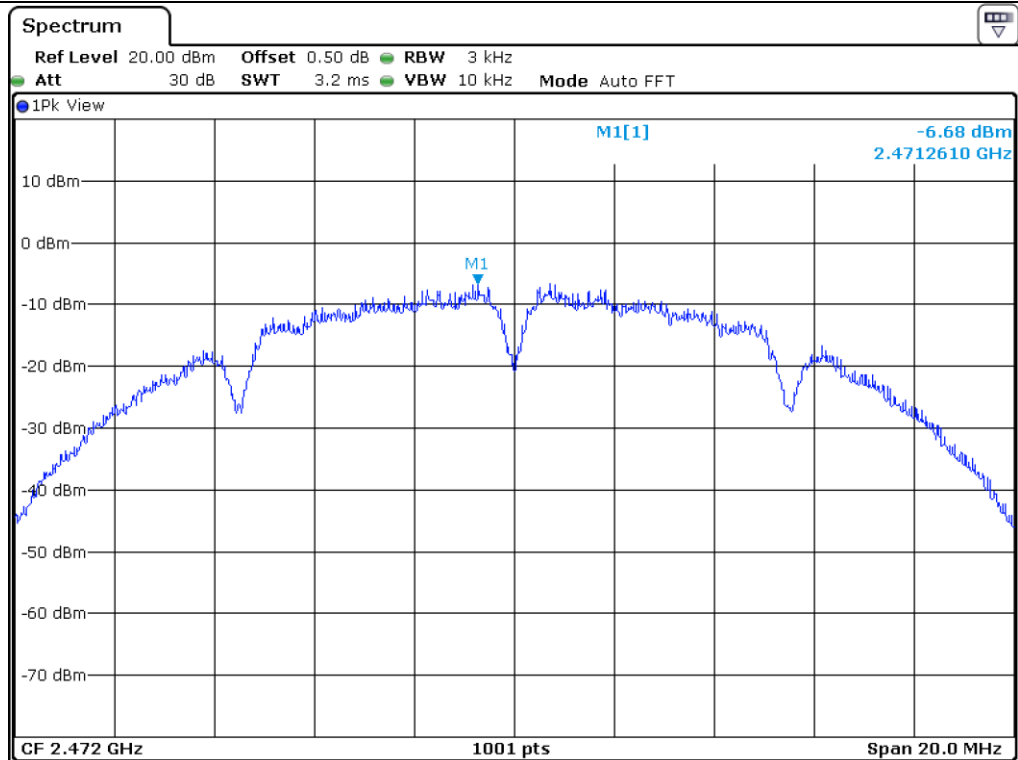
Middle Channel



High Channel(Channel 11)



High Channel(Channel 12)



High Channel(Channel 13)

10.5 Test data for 802.11g WLAN Mode

10.5.1 Test data for Antenna 0

-. Test Date : February 13, 2018 ~ February 21, 2018

-. Test Result : Pass

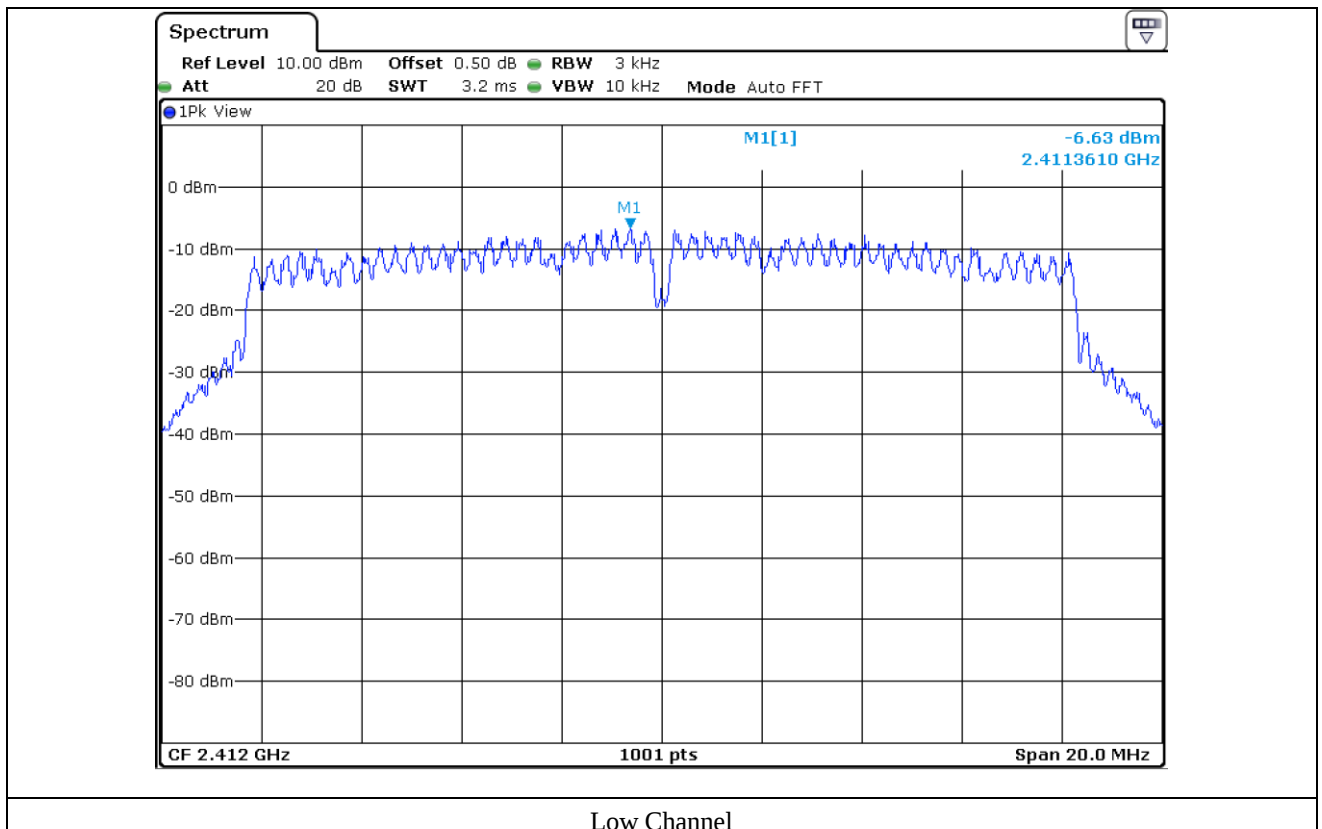
-. Operating Condition : Continuous transmitting mode

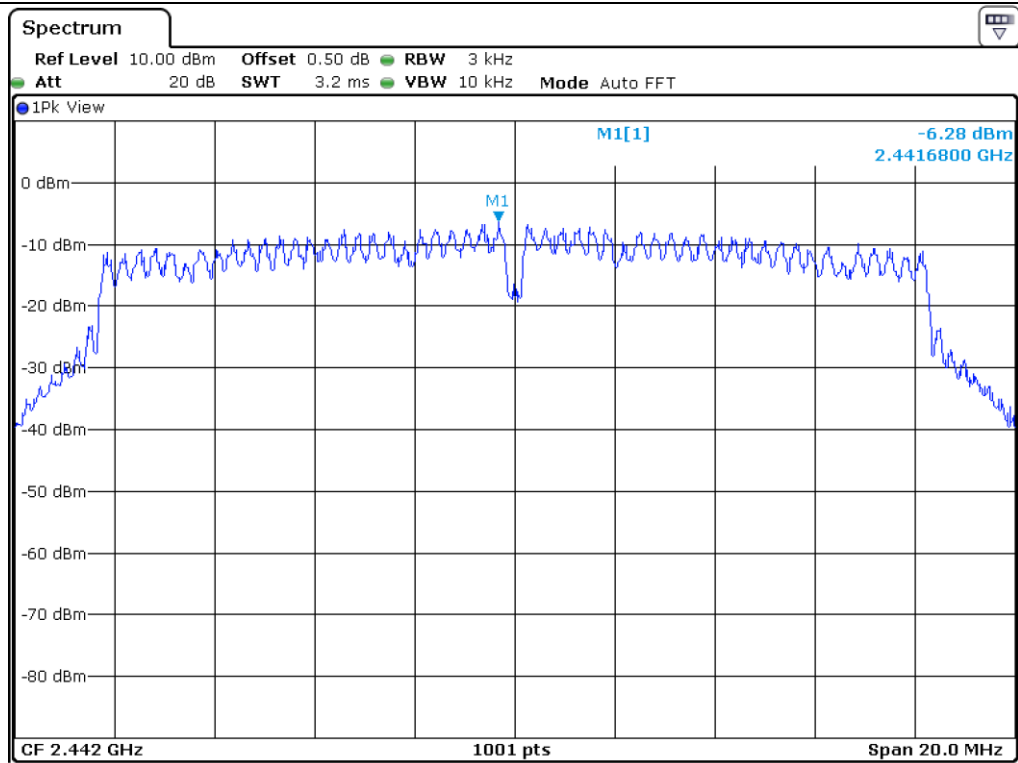
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-6.63	8.00	14.63
Middle	2 442.00	-6.28	8.00	14.28
High(Channel 11)	2 462.00	-5.32	8.00	13.32
High(Channel 12)	2 467.00	-5.30	8.00	13.30
High(Channel 13)	2 472.00	-9.31	8.00	17.31

Remark. Margin = Limit – Measured value

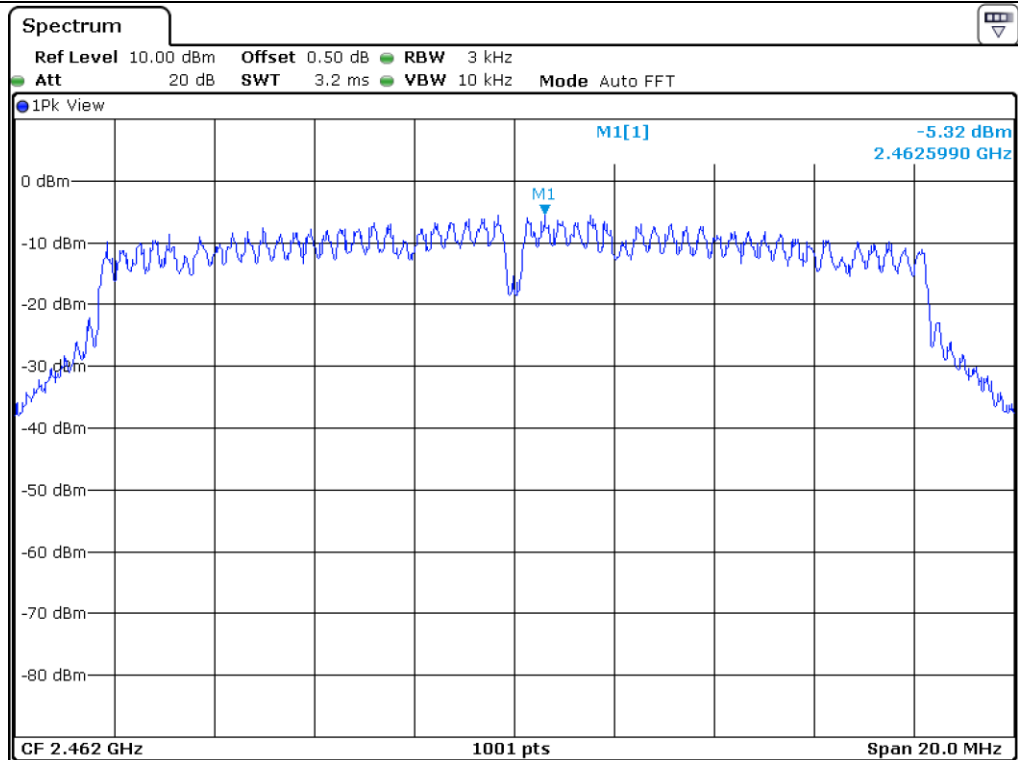


Tested by: Hyung-Kwon, Oh / Assistant Manager

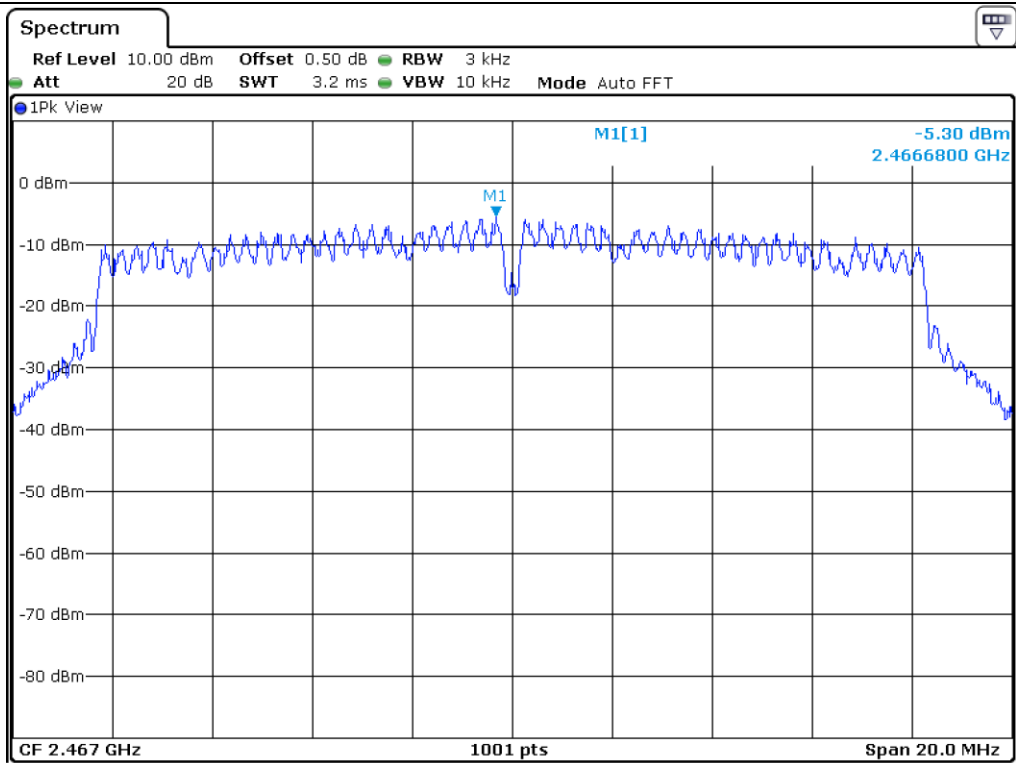




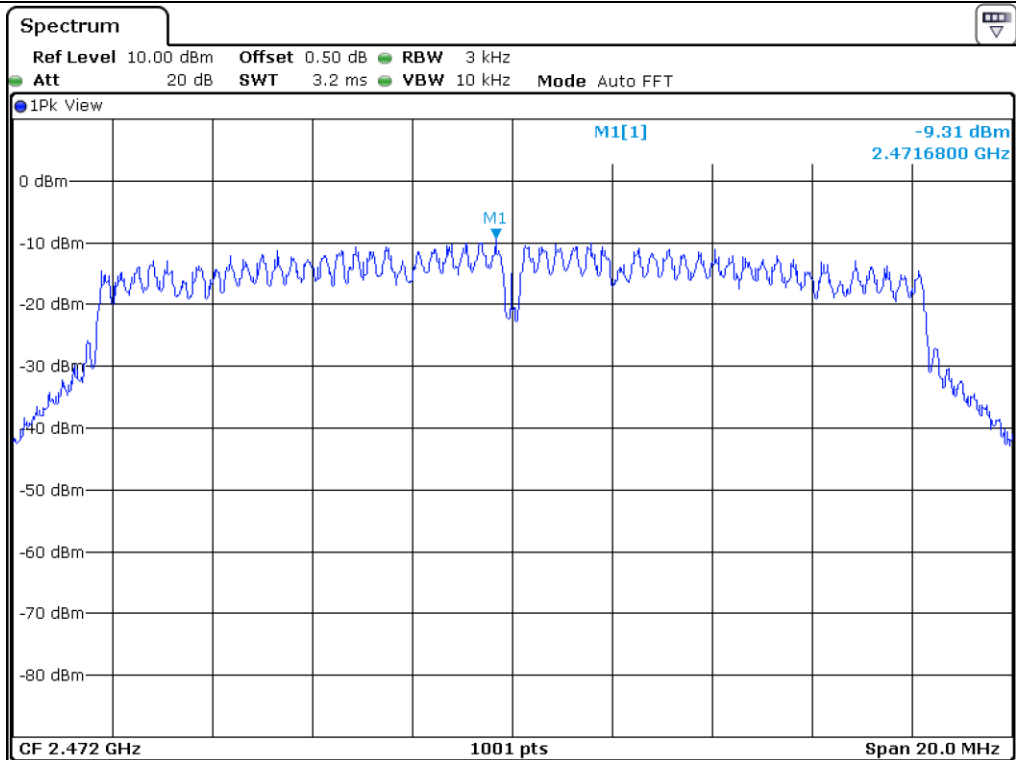
Middle Channel



High Channel(Channel 11)



High Channel(Channel 12)



High Channel(Channel 13)

10.5.2 Test data for Antenna 1

-. Test Date : February 13, 2018 ~ February 21, 2018

-. Test Result : Pass

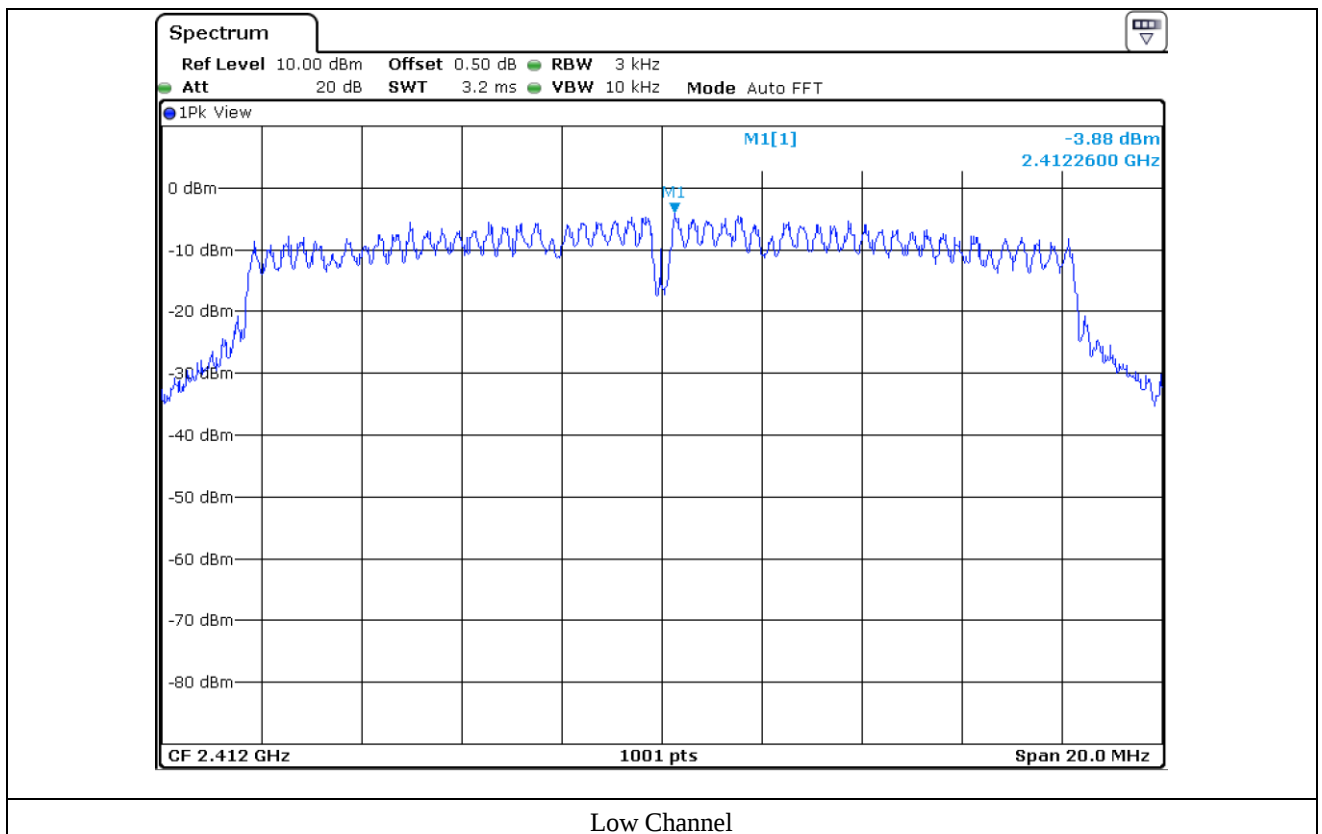
-. Operating Condition : Continuous transmitting mode

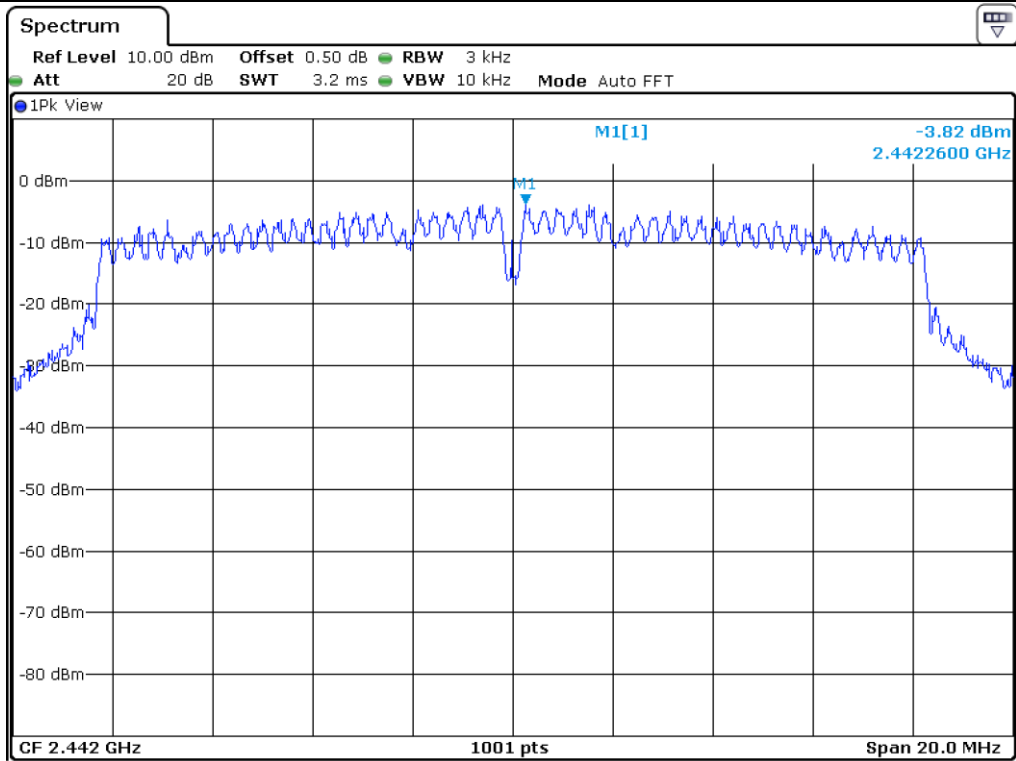
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-3.88	8.00	11.88
Middle	2 442.00	-3.82	8.00	11.82
High(Channel 11)	2 462.00	-4.38	8.00	12.38
High(Channel 12)	2 467.00	-4.46	8.00	12.46
High(Channel 13)	2 472.00	-7.54	8.00	15.54

Remark. Margin = Limit – Measured value

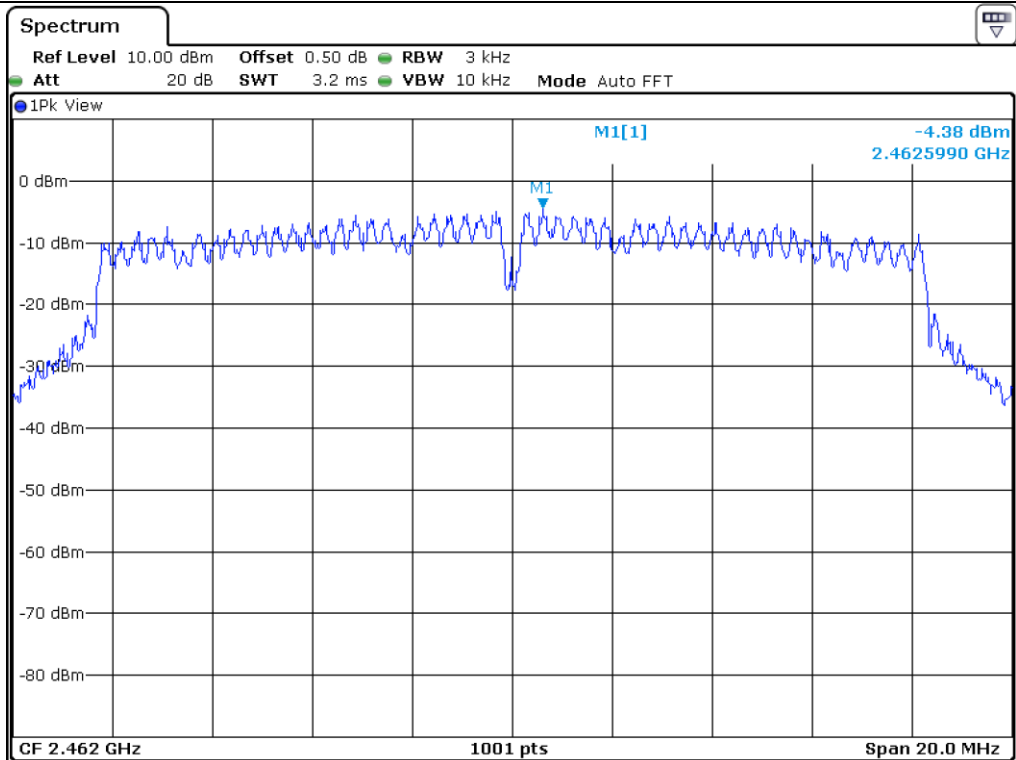


Tested by: Hyung-Kwon, Oh / Assistant Manager

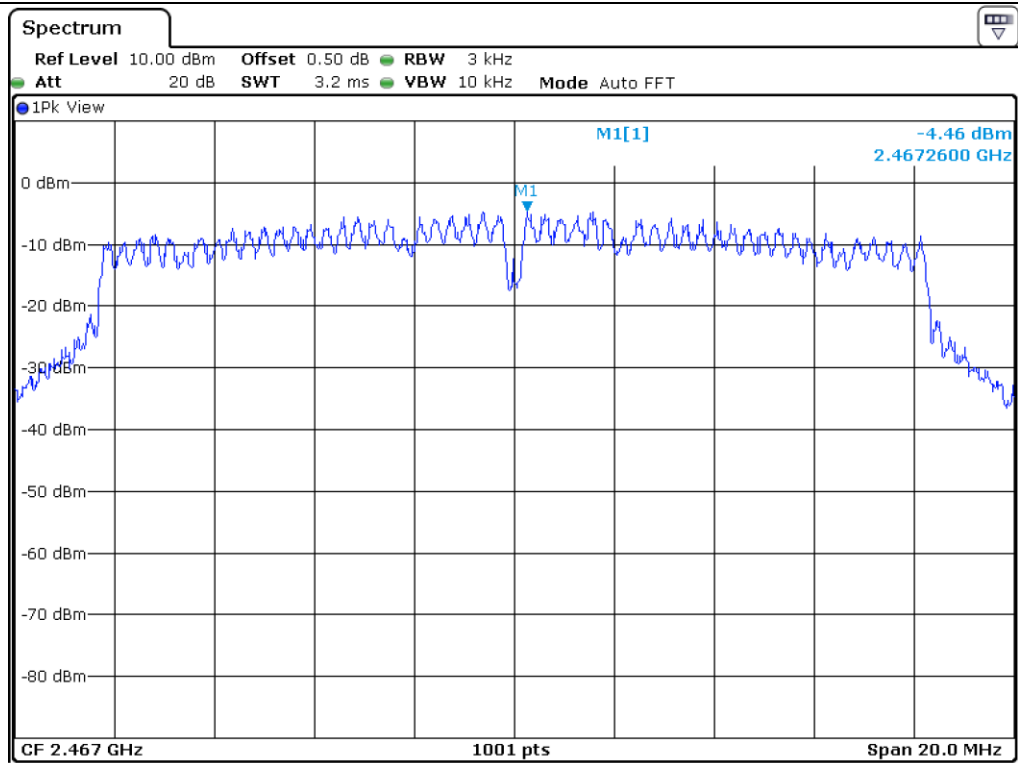




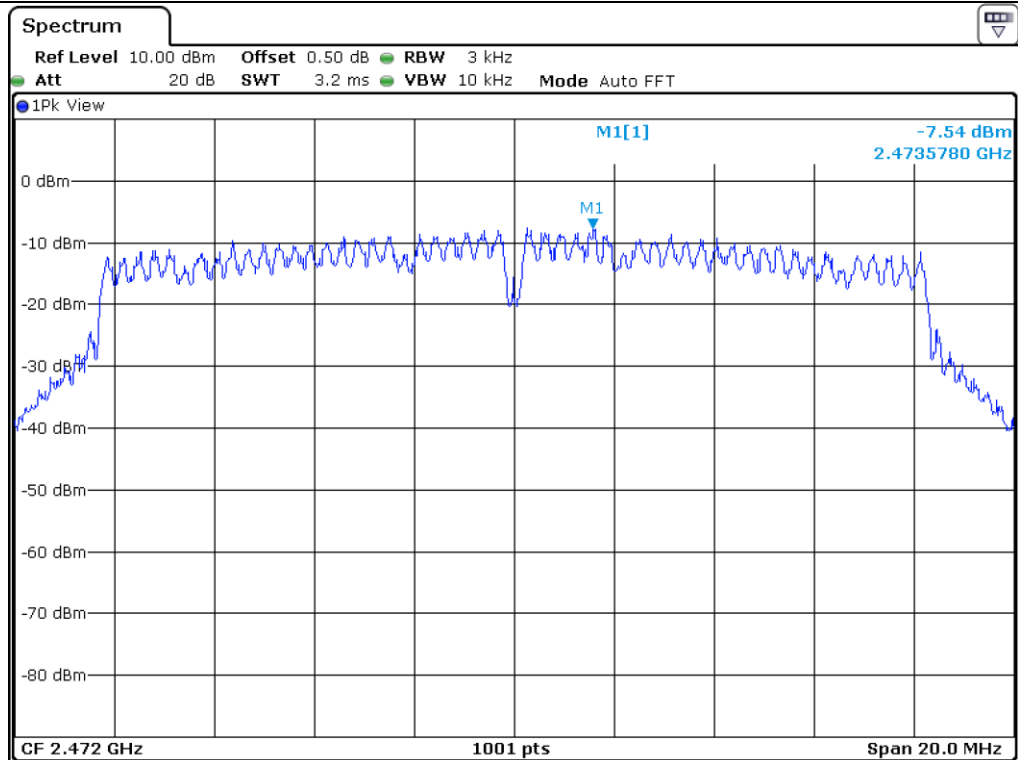
Middle Channel



High Channel(Channel 11)



High Channel(Channel 12)



High Channel(Channel 13)

10.6 Test data for 802.11n_HT20 WLAN Mode

10.6.1 Test data for Antenna 0

-. Test Date : February 13, 2018 ~ February 21, 2018

-. Test Result : Pass

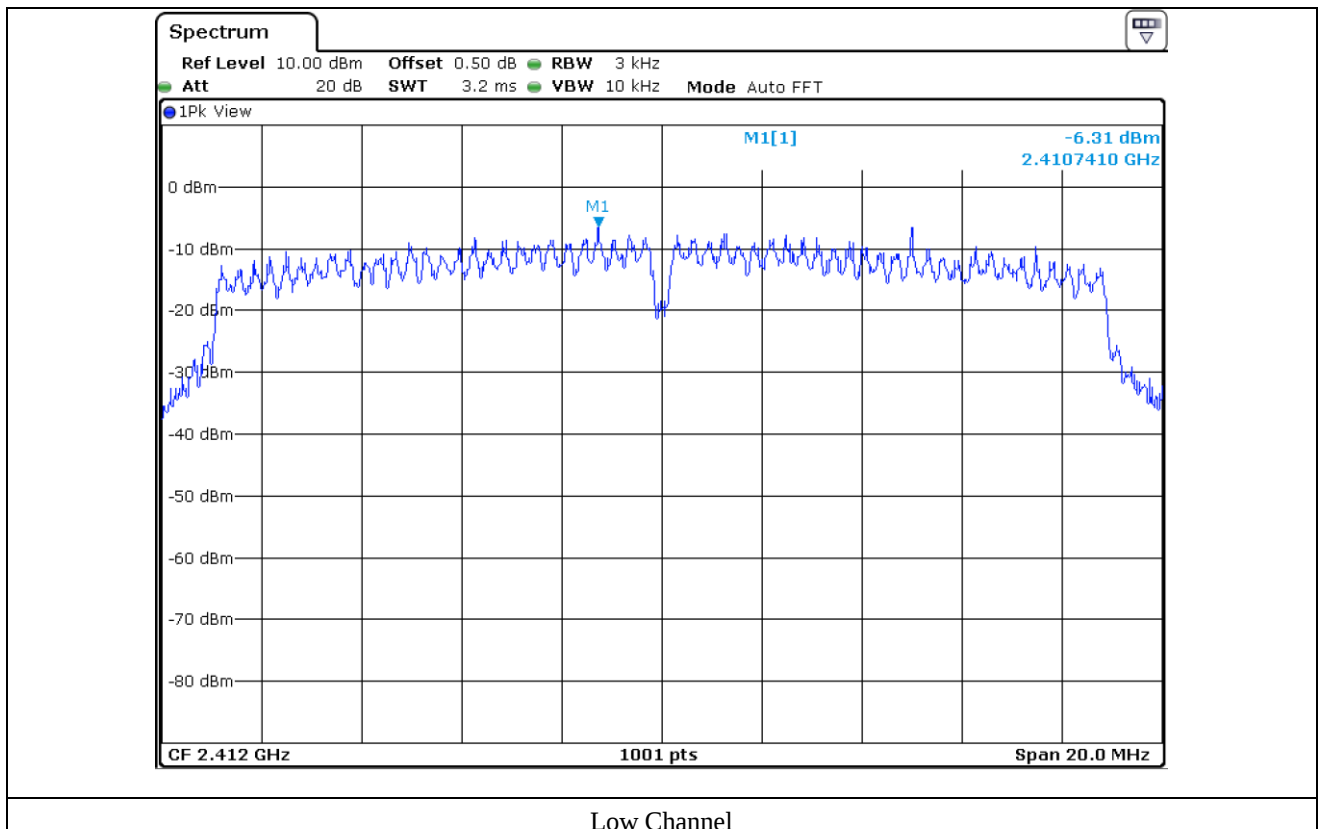
-. Operating Condition : Continuous transmitting mode

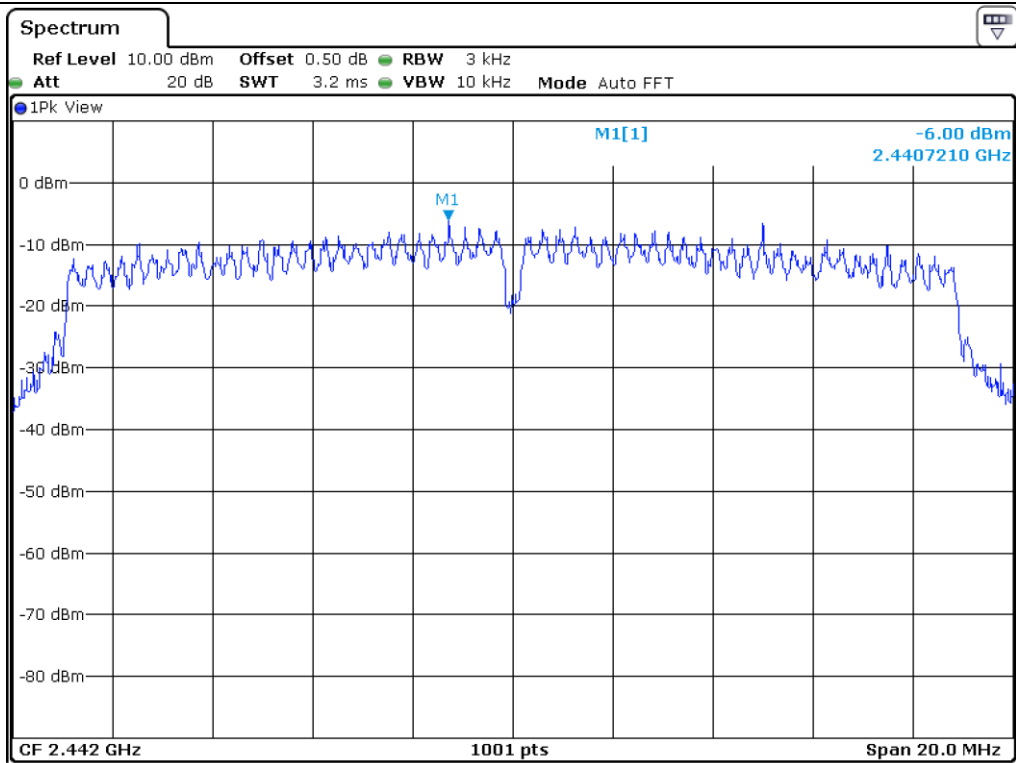
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-6.31	8.00	14.31
Middle	2 442.00	-6.00	8.00	14.00
High(Channel 11)	2 462.00	-6.30	8.00	14.30
High(Channel 12)	2 467.00	-5.60	8.00	13.60
High(Channel 13)	2 472.00	-7.88	8.00	15.88

Remark. Margin = Limit – Measured value

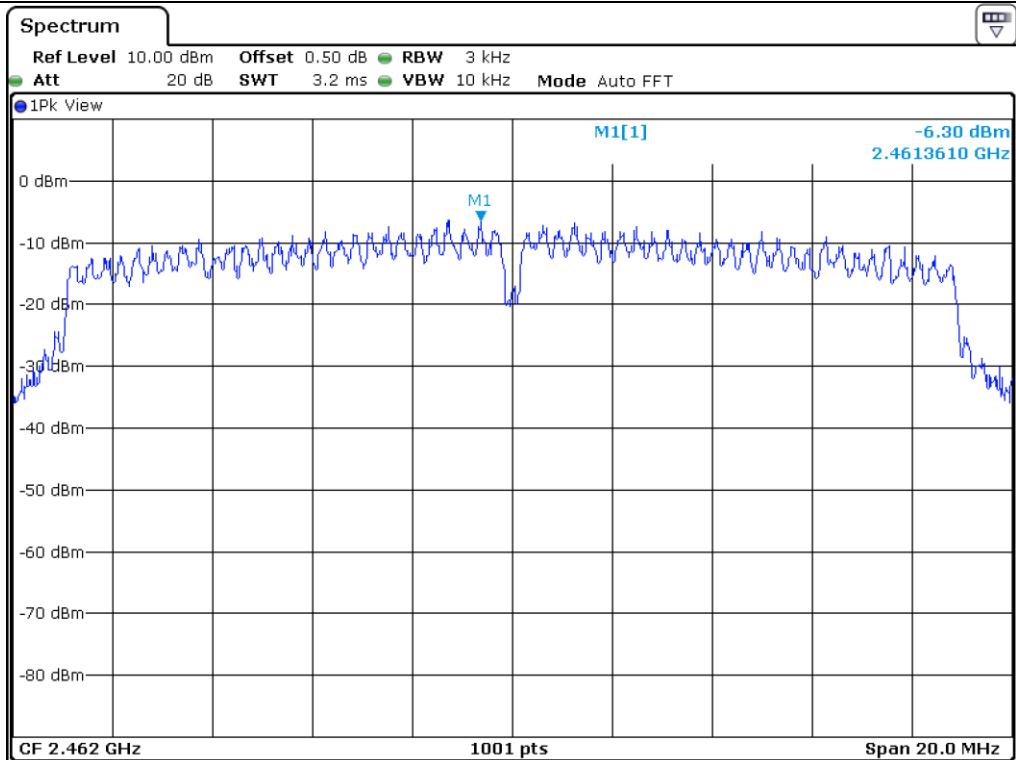


Tested by: Hyung-Kwon, Oh / Assistant Manager

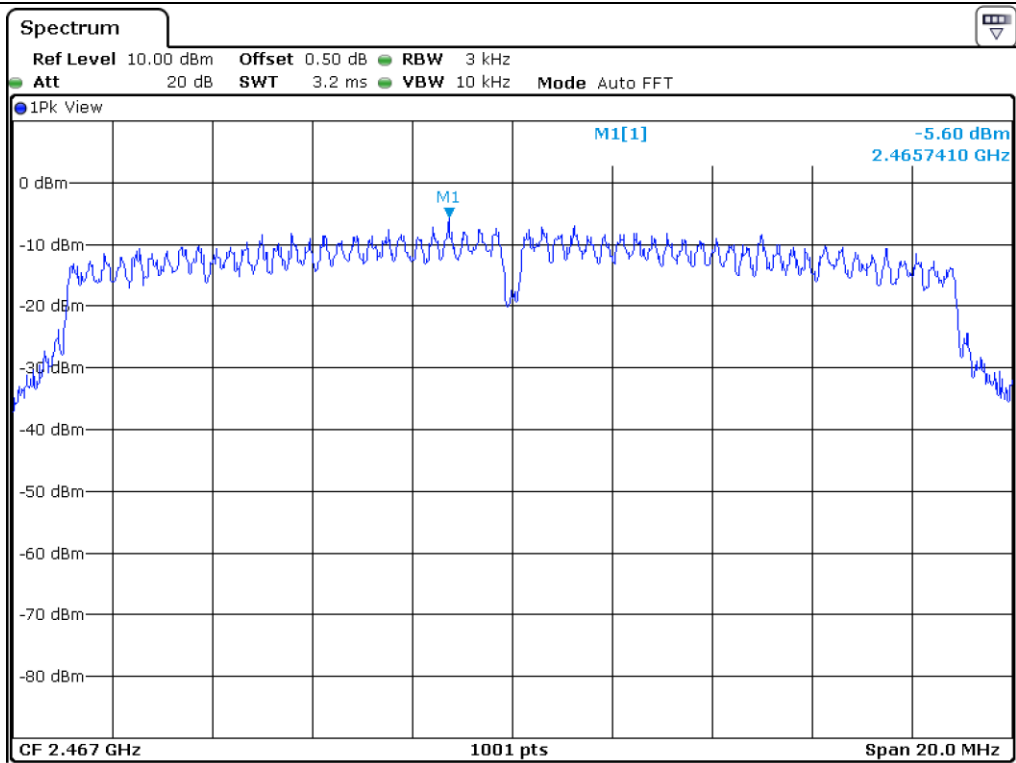




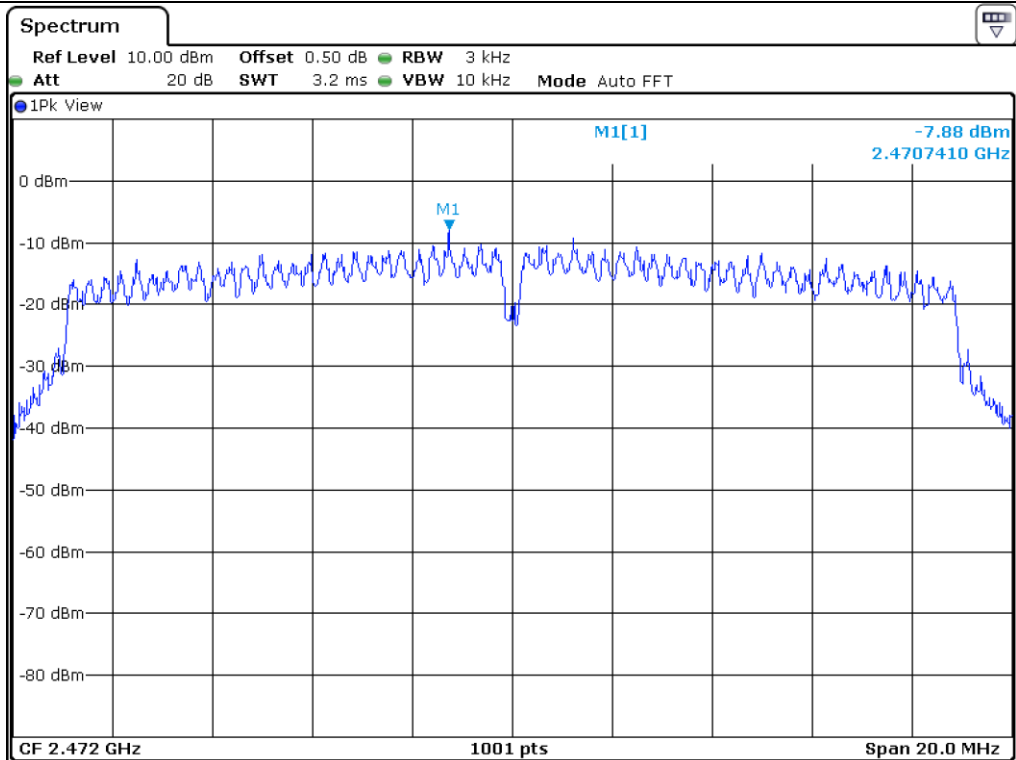
Middle Channel



High Channel(Channel 11)



High Channel(Channel 12)



High Channel(Channel 13)

10.6.2 Test data for Antenna 1

-. Test Date : February 13, 2018 ~ February 21, 2018

-. Test Result : Pass

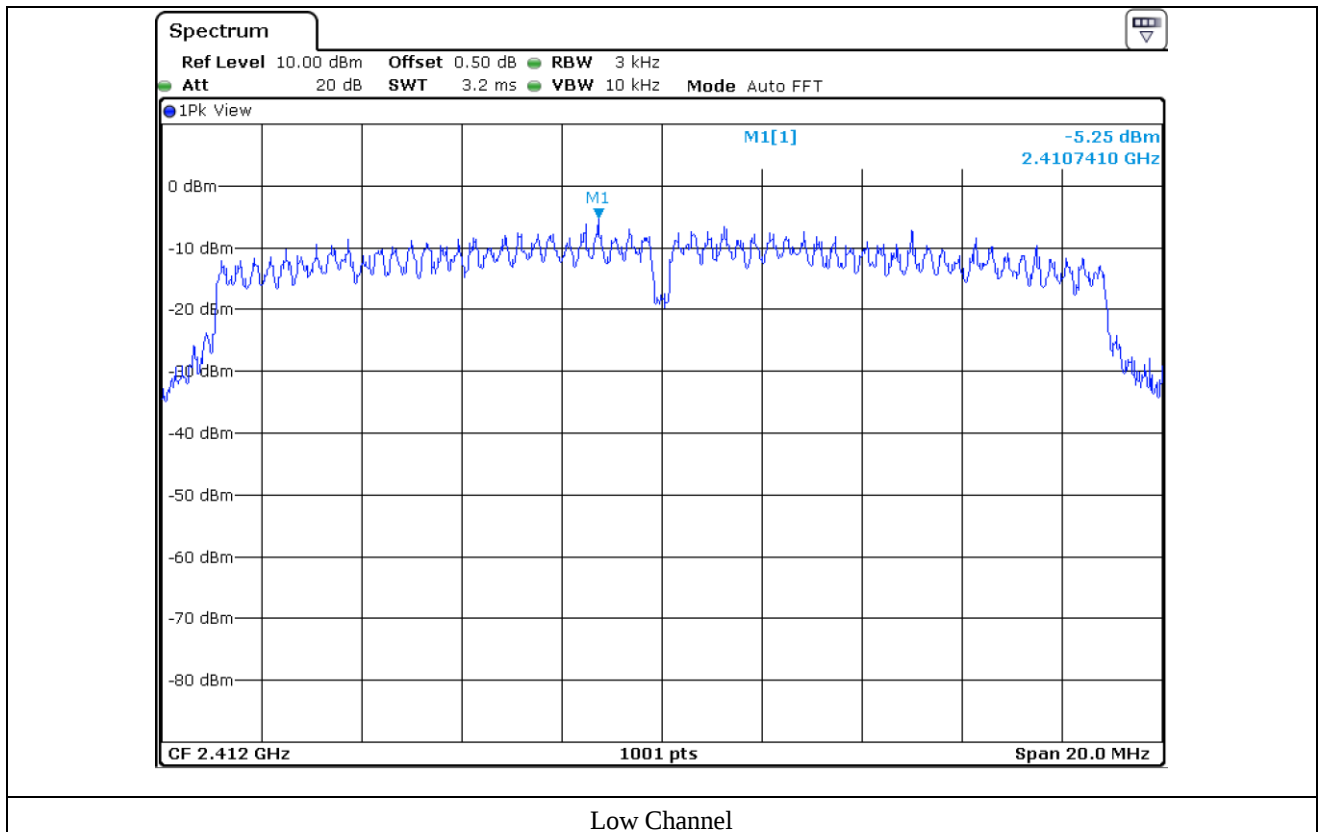
-. Operating Condition : Continuous transmitting mode

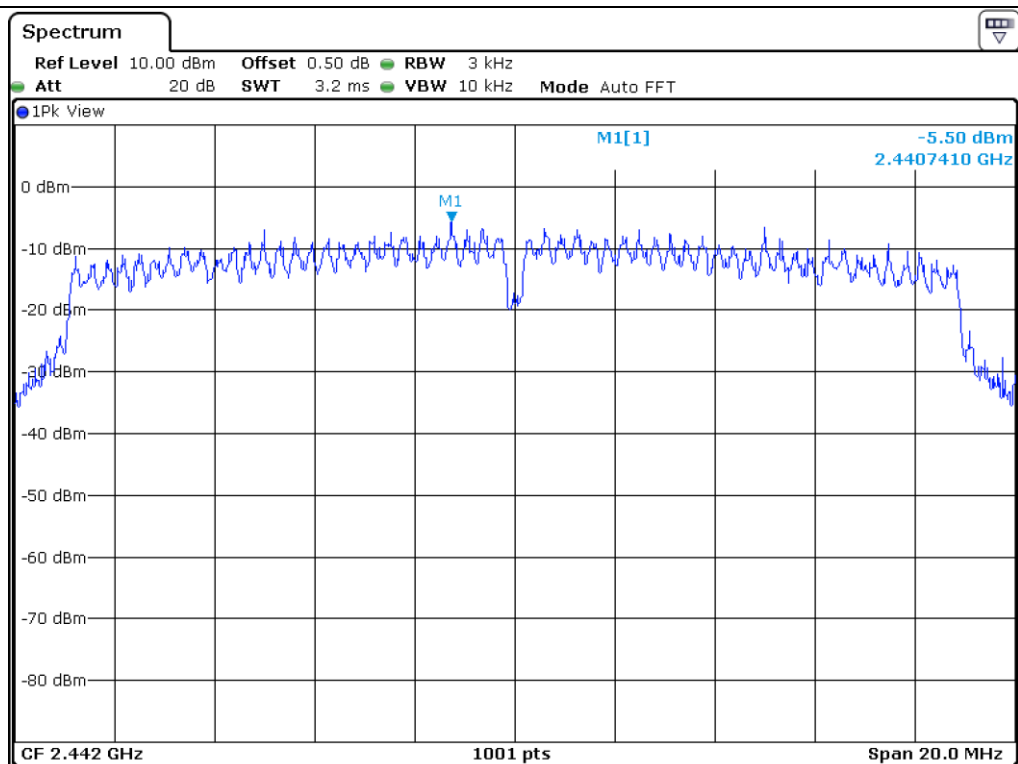
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-5.25	8.00	13.25
Middle	2 442.00	-5.50	8.00	13.50
High(Channel 11)	2 462.00	-6.94	8.00	14.94
High(Channel 12)	2 467.00	-7.38	8.00	15.38
High(Channel 13)	2 472.00	-9.52	8.00	17.52

Remark. Margin = Limit – Measured value

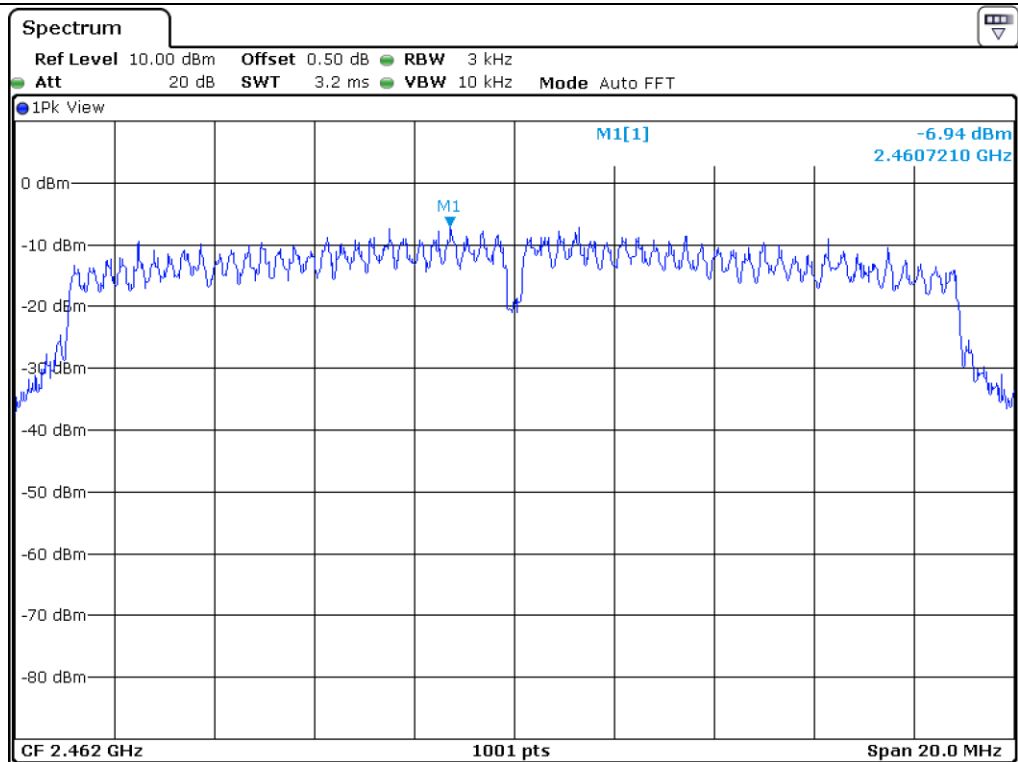


Tested by: Hyung-Kwon, Oh / Assistant Manager

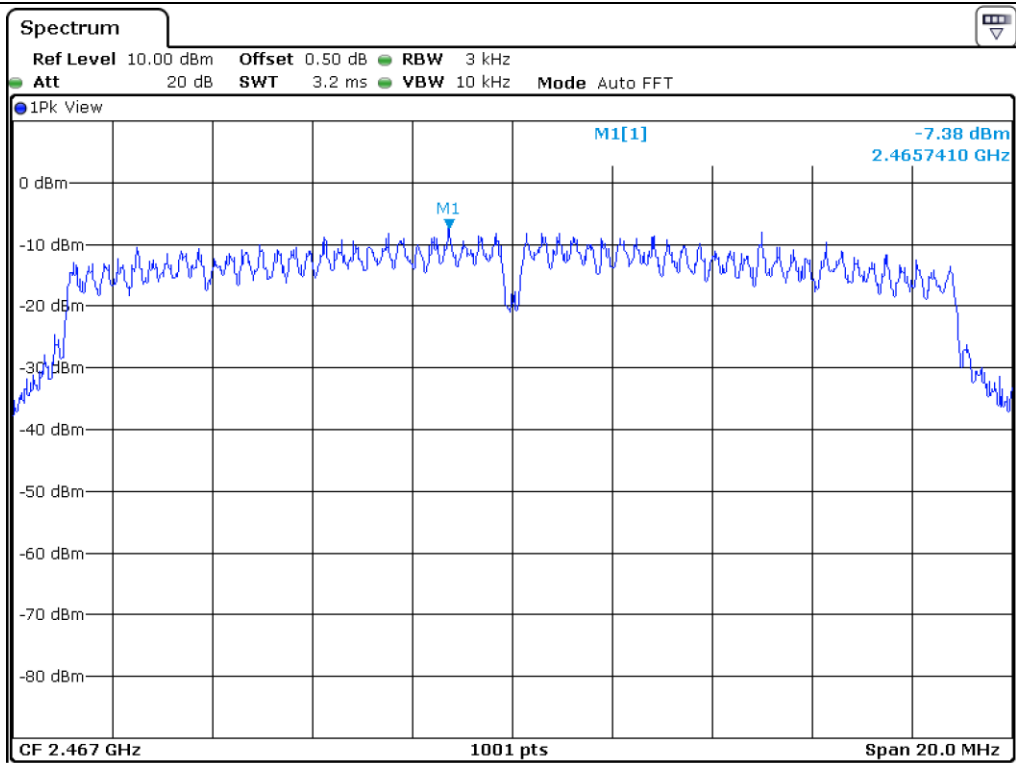




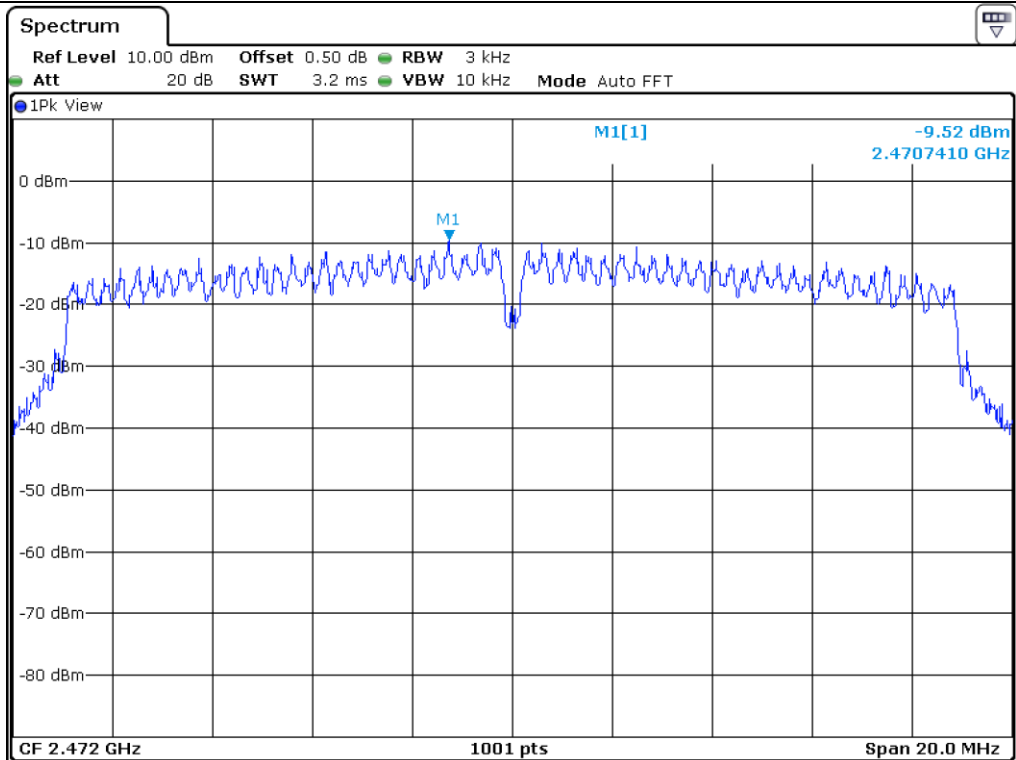
Middle Channel



High Channel(Channel 11)



High Channel(Channel 12)



High Channel(Channel 13)

10.6.3 Test data for Multiple Antenna

-. Test Date : February 13, 2018 ~ February 21, 2018

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-2.74	8.00	10.74
Middle	2 442.00	-2.73	8.00	10.73
High(Channel 11)	2 462.00	-3.60	8.00	11.60
High(Channel 12)	2 467.00	-3.39	8.00	11.39
High(Channel 13)	2 472.00	-5.61	8.00	13.61

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna 0 Power Density}/10)} + 10^{(\text{Antenna 1 Power Density}/10)})$



Tested by: Hyung-Kwon, Oh / Assistant Manager

10.7 Test data for 802.11n_HT40 WLAN Mode

10.7.1 Test data for Antenna 0

-. Test Date : February 13, 2018 ~ February 21, 2018

-. Test Result : Pass

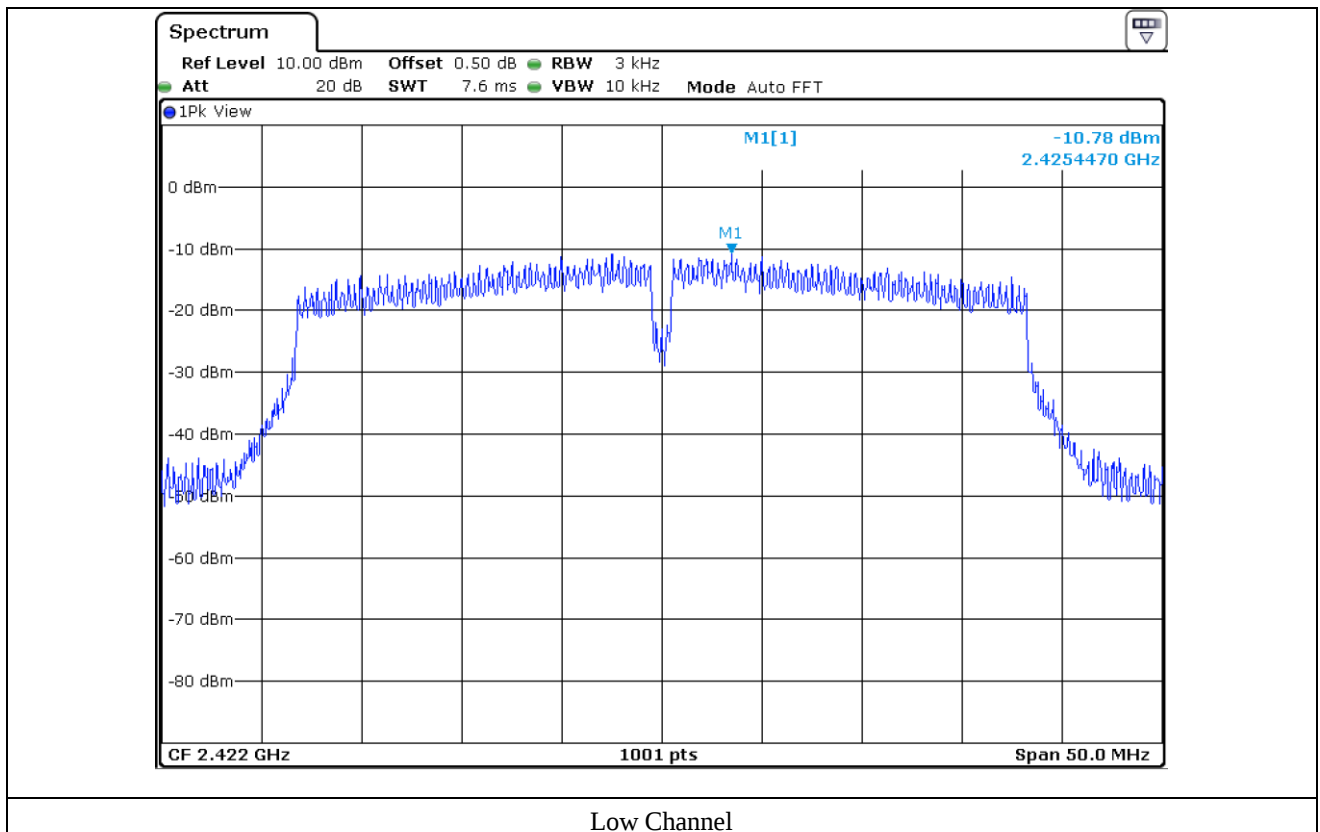
-. Operating Condition : Continuous transmitting mode

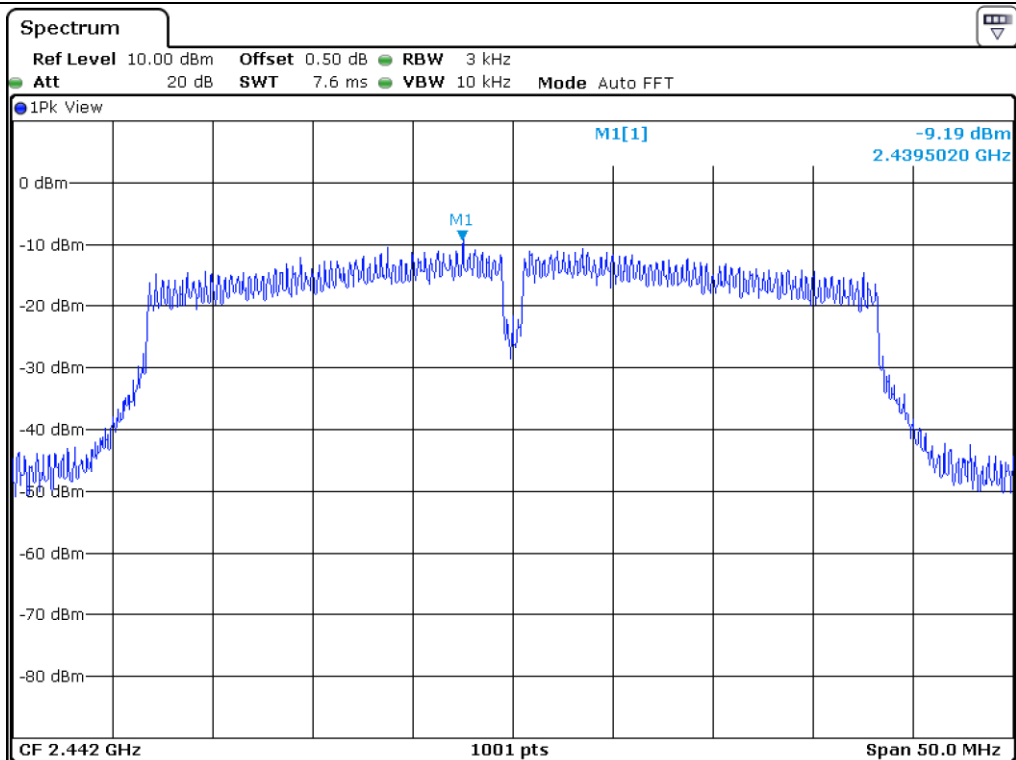
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-10.78	8.00	18.78
Middle	2 442.00	-9.19	8.00	17.19
High(Channel 9)	2 452.00	-10.45	8.00	18.45
High(Channel 10)	2 457.00	-9.71	8.00	17.71
High(Channel 11)	2 462.00	-12.70	8.00	20.70

Remark. Margin = Limit – Measured value

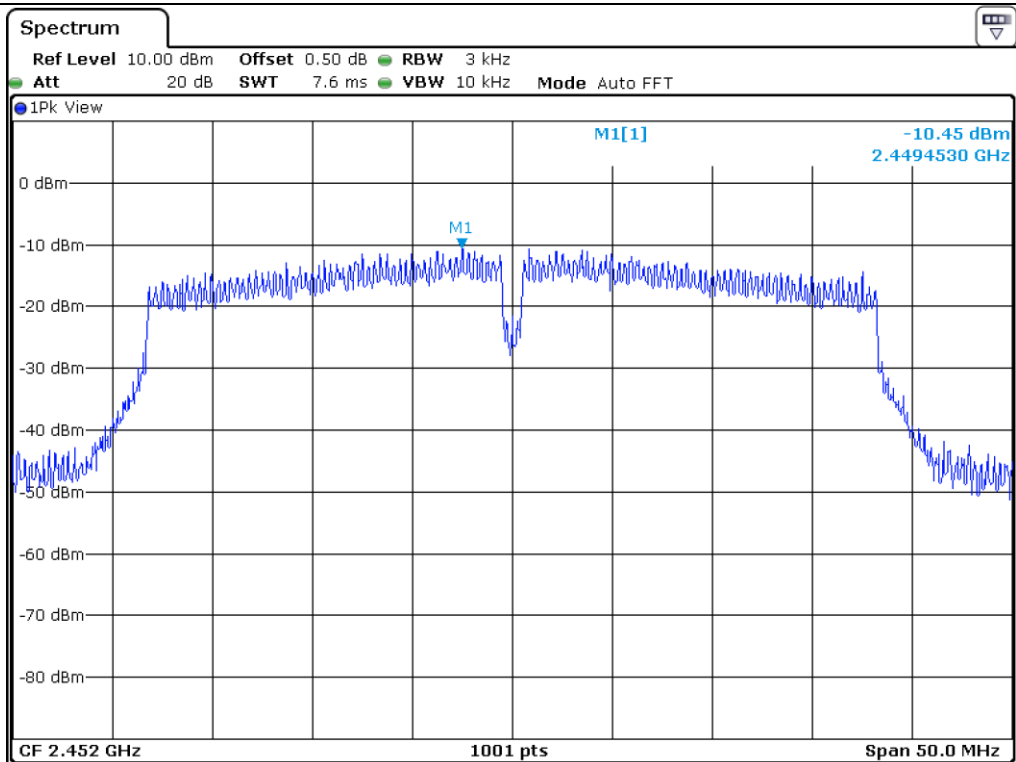


Tested by: Hyung-Kwon, Oh / Assistant Manager

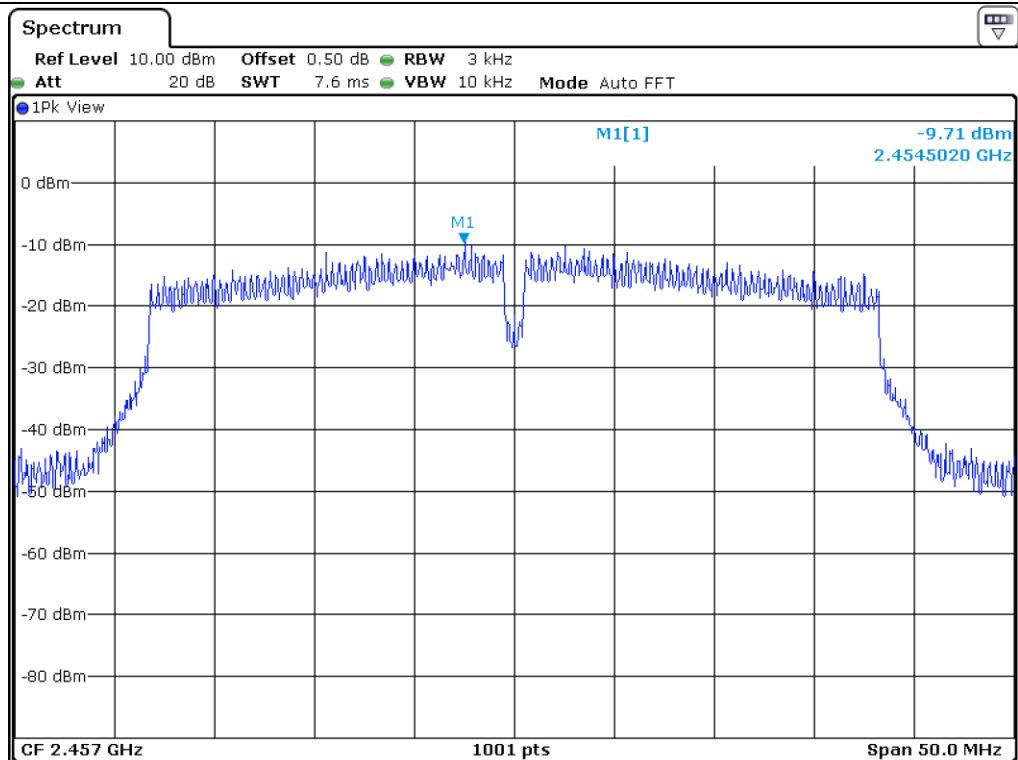




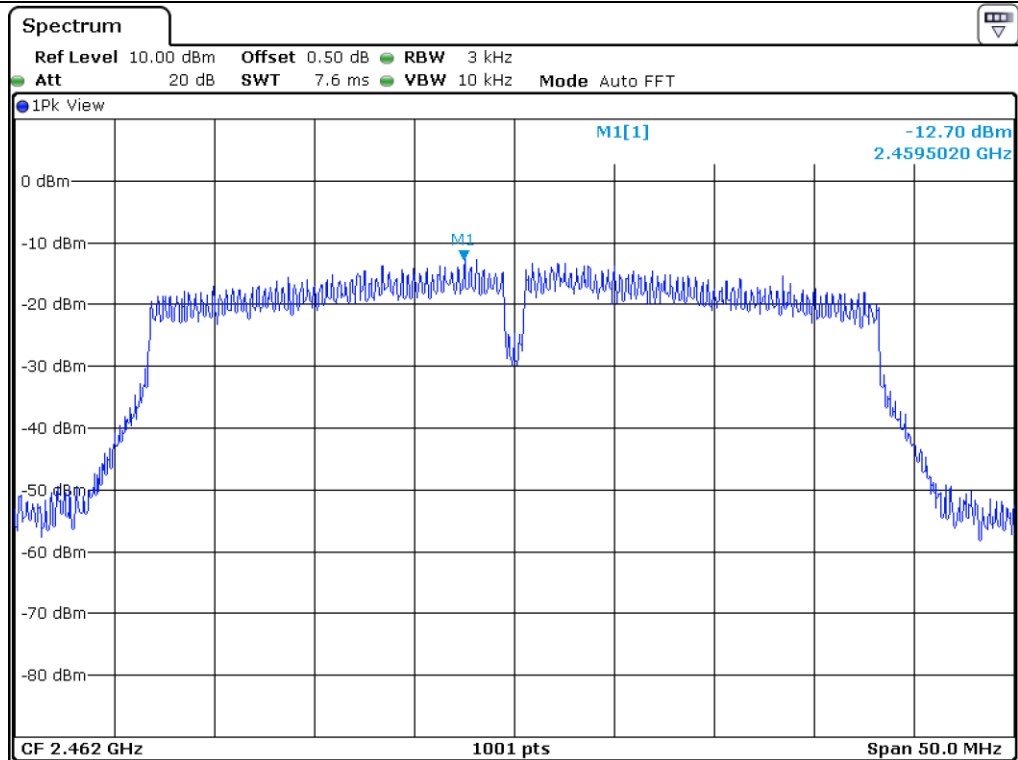
Middle Channel



High Channel(Channel 9)



High Channel(Channel 10)



High Channel(Channel 11)

10.7.2 Test data for Antenna 1

-. Test Date : February 13, 2018 ~ February 21, 2018

-. Test Result : Pass

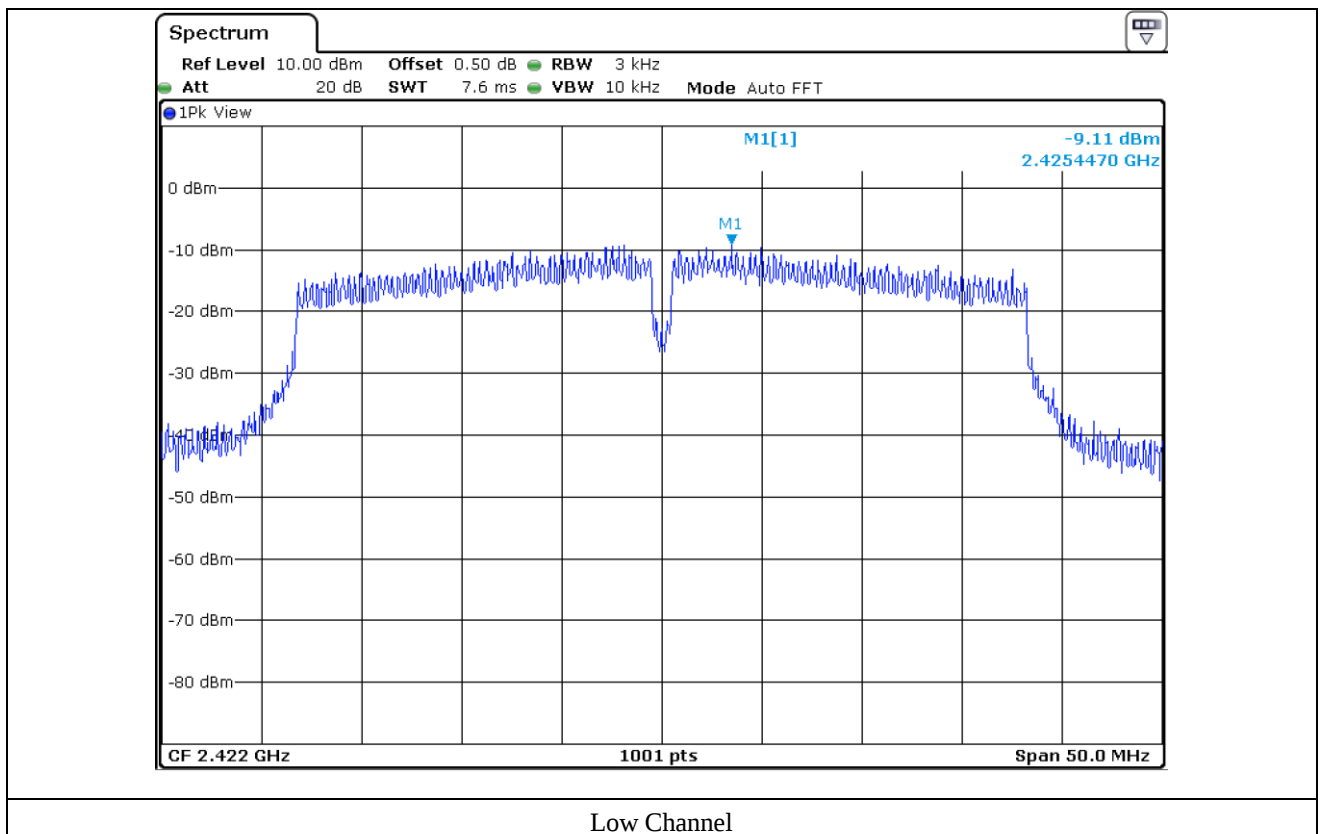
-. Operating Condition : Continuous transmitting mode

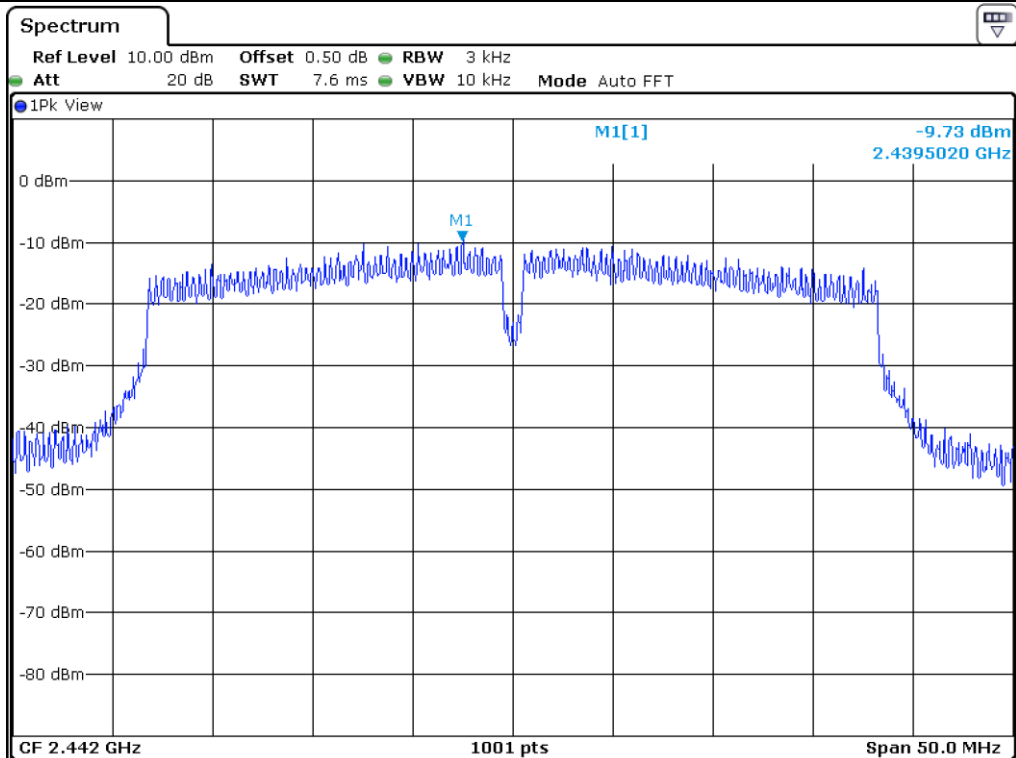
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-9.11	8.00	17.11
Middle	2 442.00	-9.73	8.00	17.73
High(Channel 9)	2 452.00	-9.69	8.00	17.69
High(Channel 10)	2 457.00	-9.72	8.00	17.72
High(Channel 11)	2 462.00	-12.76	8.00	20.76

Remark. Margin = Limit – Measured value

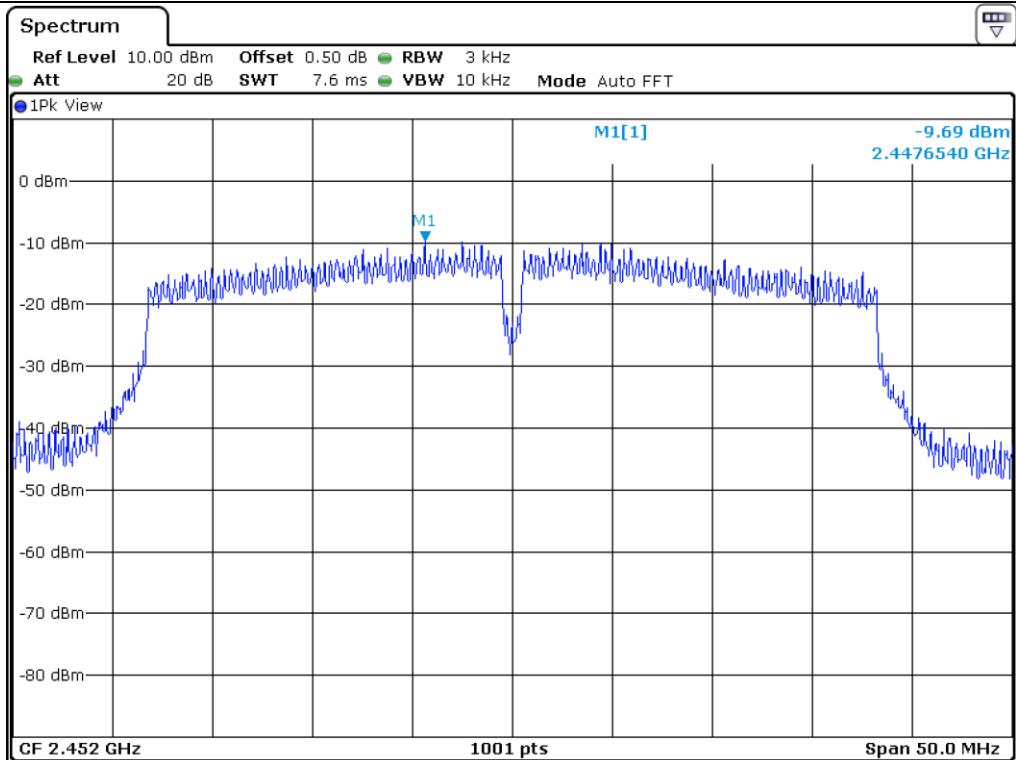


Tested by: Hyung-Kwon, Oh / Assistant Manager

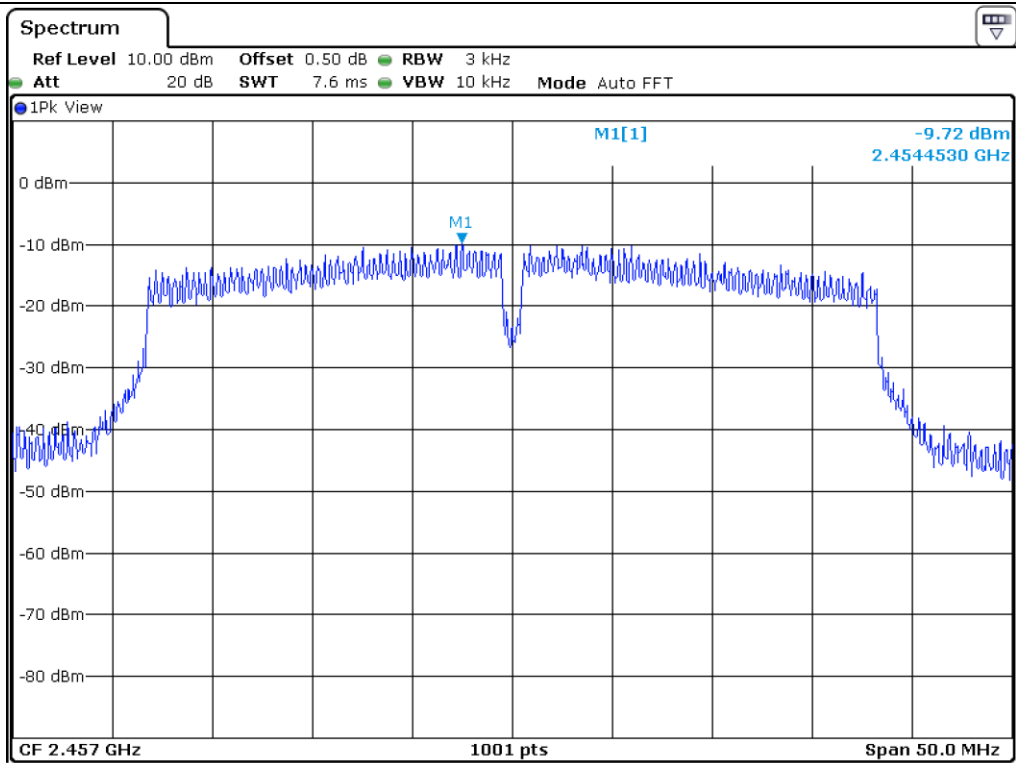




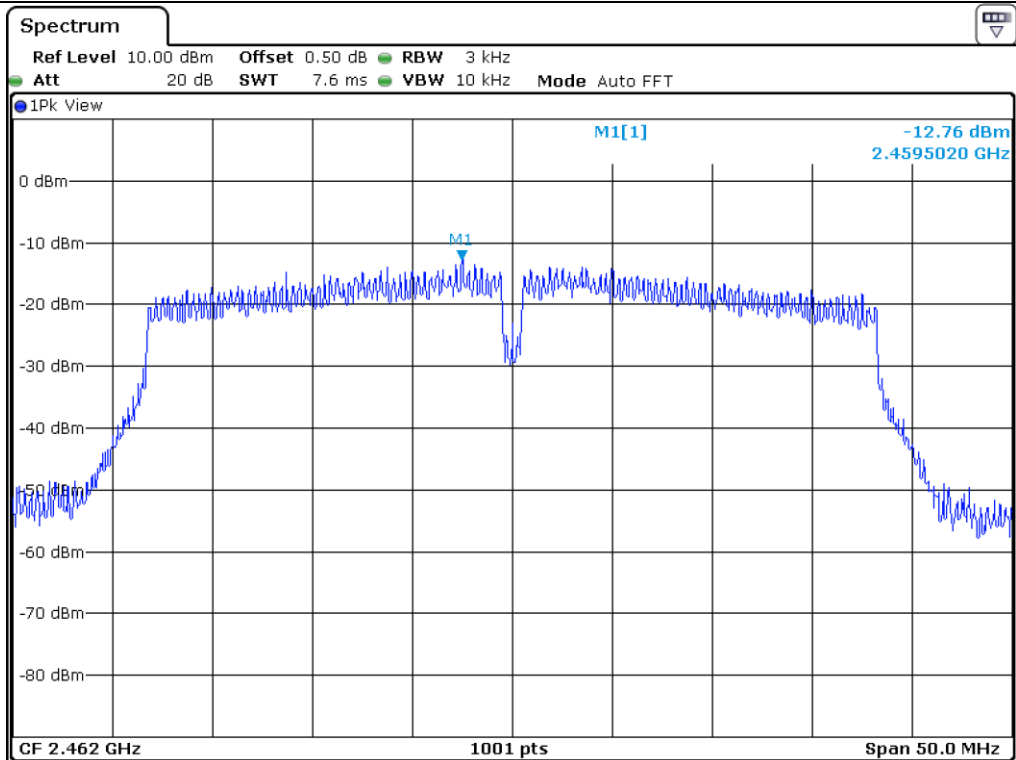
Middle Channel



High Channel(Channel 9)



High Channel(Channel 10)



High Channel(Channel 11)

10.7.3 Test data for Multiple Antenna

-. Test Date : February 13, 2018 ~ February 21, 2018

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-6.85	8.00	14.85
Middle	2 442.00	-6.44	8.00	14.44
High(Channel 9)	2 452.00	-7.04	8.00	15.04
High(Channel 10)	2 457.00	-6.70	8.00	14.70
High(Channel 11)	2 462.00	-9.72	8.00	17.72

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna 0 Power Density}/10)} + 10^{(\text{Antenna 1 Power Density}/10)})$



Tested by: Hyung-Kwon, Oh / Assistant Manager

11. RADIATED EMISSION TEST

11.1 Operating environment

Temperature : 25 °C
Relative humidity : 44 % R.H.

11.2 Test set-up

The radiated emissions measurements were on the 3 m semi anechoic chamber. The EUT and other support equipment were placed on turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and emission levels maximized at each frequency recorded. The system was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

11.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	Apr. 05, 2017 (1Y)
■ -	ESCI	Rohde & Schwarz	Test Receiver	101012	Oct. 27, 2017 (1Y)
■ -	310N	Sonoma Instrument	Pre-Amplifier	312544	Apr. 05, 2017 (1Y)
■ -	BBV9718	Schwarzbeck	Amplifier	310	Sep. 01, 2017 (1Y)
■ -	DT3000	Innco System	Turn Table	930611	N/A
■ -	MA4000-EP	Innco System	Antenna Master	3320611	N/A
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	9163-421	Apr. 15, 2016 (2Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D295	May 26, 2017 (2Y)
■ -	BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Dec. 04, 2017 (2Y)

All test equipment used is calibrated on a regular basis.

11.4 Test data for 30 MHz ~ 1 000 MHz

Humidity Level : 44 % R.H.

Temperature: 25 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

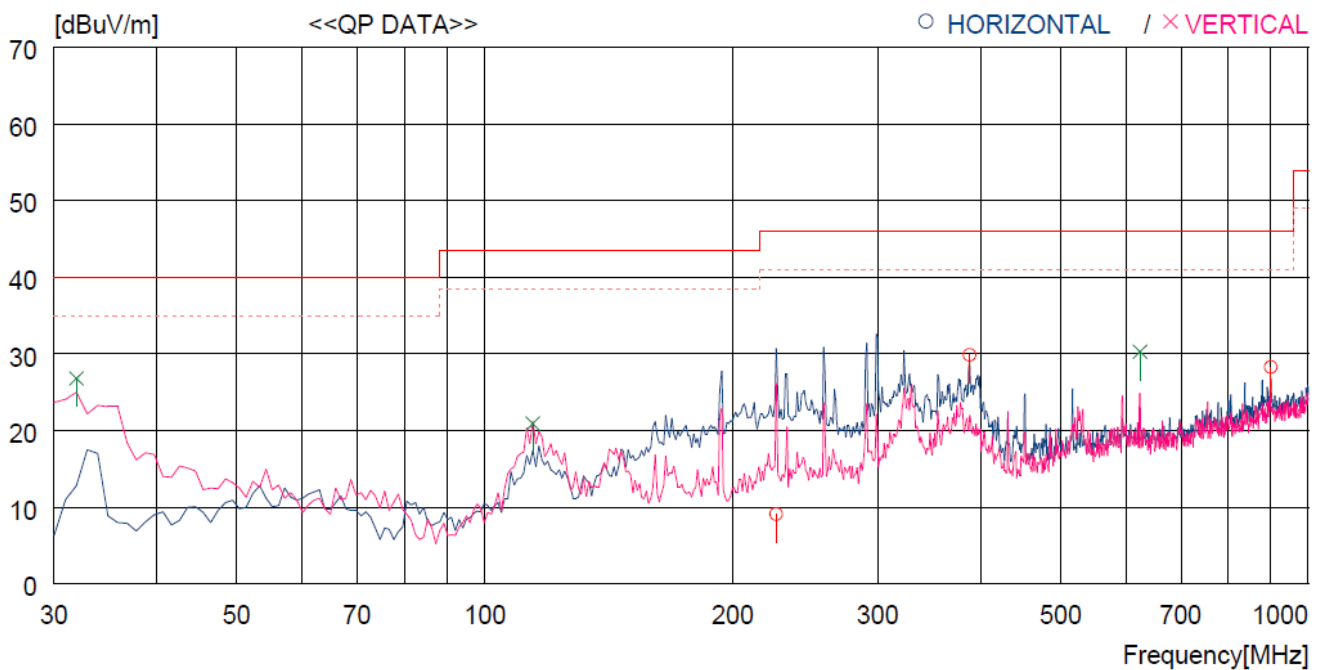
EUT EUT : Wi-Fi Transceiver

Date: February 13, 2018 ~ February 21, 2018

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

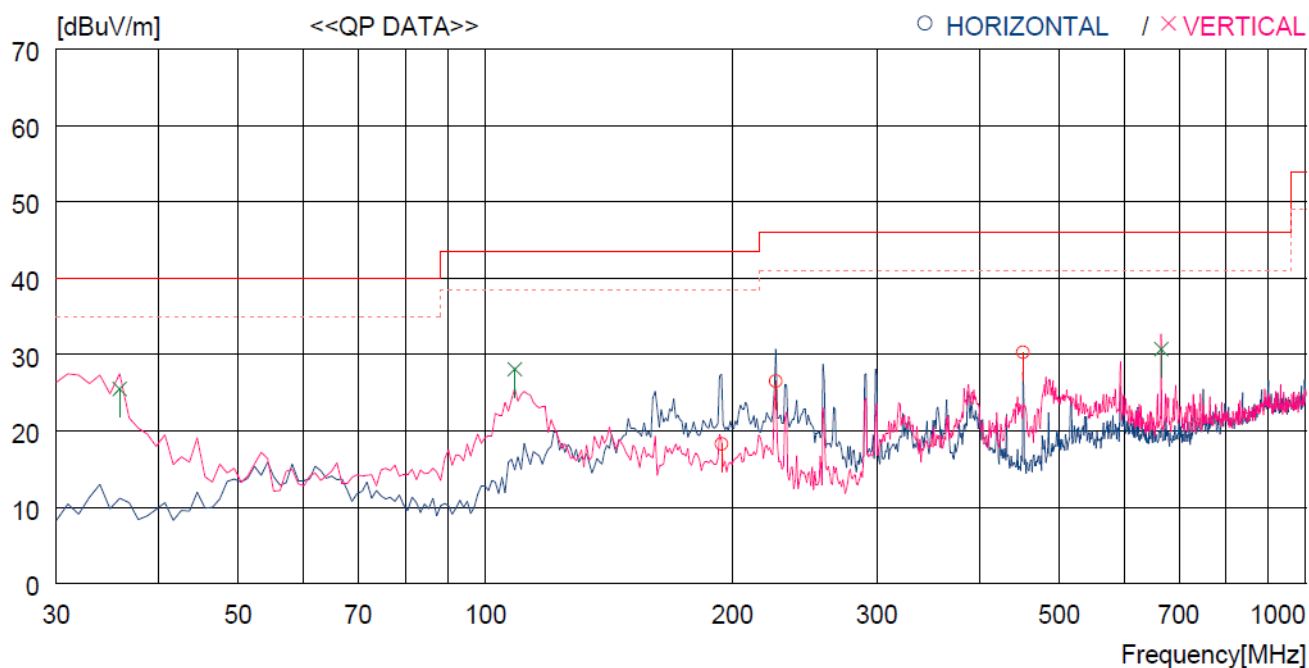
-.Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded.

Operating condition : Low Channel



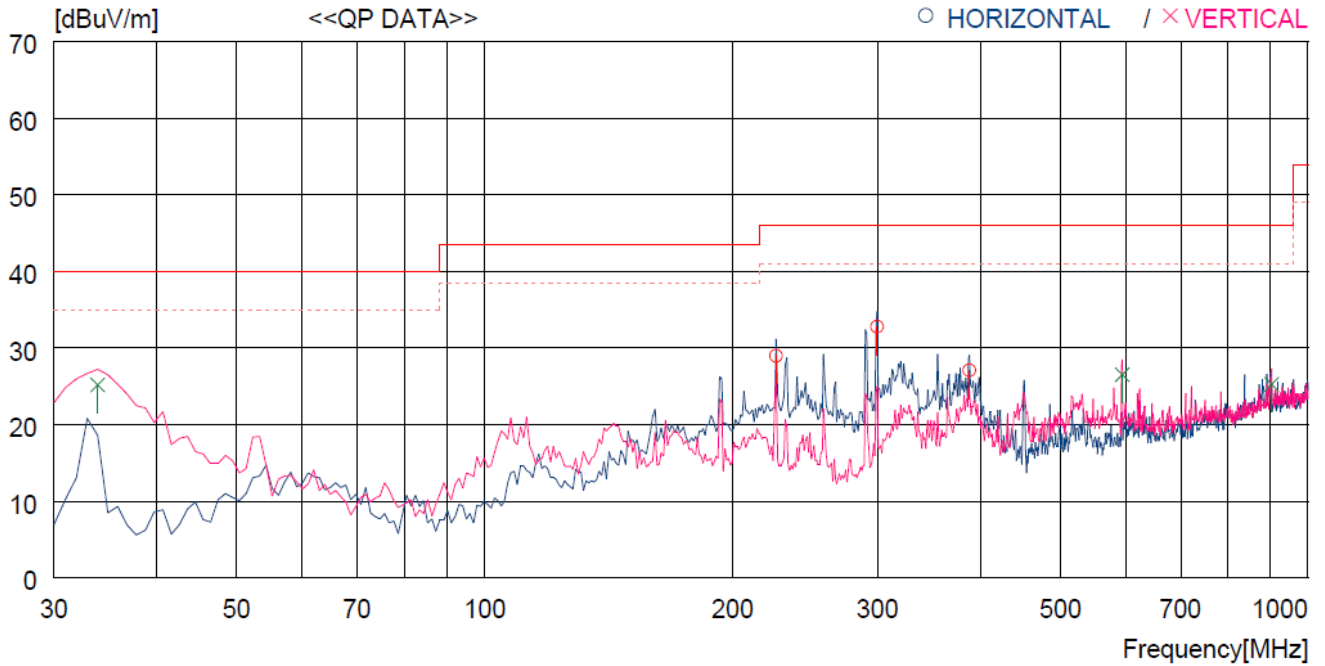
No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	QP	FACTOR	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	225.940	27.3	11.4	3.5	33.1	9.1	46.0	36.9	102	311
2	387.930	43.0	15.6	4.5	33.2	29.9	46.0	16.1	102	197
3	900.079	31.2	22.7	7.0	32.6	28.3	46.0	17.7	102	179
----- Vertical -----										
4	31.940	46.8	11.7	1.4	33.1	26.8	40.0	13.2	200	332
5	114.390	40.3	11.1	2.5	33.0	20.9	43.5	22.6	200	258
6	624.607	38.6	19.4	5.7	33.4	30.3	46.0	15.7	102	102

Operating condition : Middle Channel



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	FACTOR	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	193.930	37.6	10.6	3.3	33.2	18.3	43.5	25.2	200	109
2	225.940	44.7	11.4	3.5	33.1	26.5	46.0	19.5	200	357
3	451.951	42.2	16.4	4.9	33.2	30.3	46.0	15.7	200	357
----- Vertical -----										
4	35.820	44.7	12.5	1.4	33.1	25.5	40.0	14.5	102	10
5	108.570	46.9	11.7	2.5	33.0	28.1	43.5	15.4	102	10
6	666.316	39.0	19.3	5.9	33.5	30.7	46.0	15.3	102	10

Operating condition : High Channel



No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA TABLE	
	[MHz]	[dBuV]	FACTOR	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	225.940	47.2	11.4	3.5	33.1	29.0	46.0	17.0	102	295
2	299.660	48.5	13.3	4.0	33.0	32.8	46.0	13.2	102	184
3	387.930	40.2	15.6	4.5	33.2	27.1	46.0	18.9	102	202
----- Vertical -----										
4	33.880	44.8	12.1	1.4	33.1	25.2	40.0	14.8	177	359
5	594.538	35.2	19.0	5.6	33.3	26.5	46.0	19.5	177	359
6	902.989	28.5	22.4	7.0	32.6	25.3	46.0	20.7	177	359

Tested by: Hyung-Kwon, Oh / Assistant Manager

11.5 Test data for Below 30 MHz

- . Test Date : February 13, 2018 ~ February 21, 2018
- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
It was not observed any emissions from the EUT.									

11.6 Test data for above 1 GHz

- . Test Date : February 13, 2018 ~ February 21, 2018
- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
It was not observed any emissions from the EUT.									


 Tested by: Hyung-Kwon, Oh / Assistant Manager

12. CONDUCTED EMISSION TEST

12.1 Operating environment

Temperature : 25 °C
Relative humidity : 44 % R.H.

12.2 Test set-up

The EUT was placed on a wooden table, 0.8 m height above the floor. Power was fed to the EUT through a 50 Ω / 50 μ H + 5 Ω Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

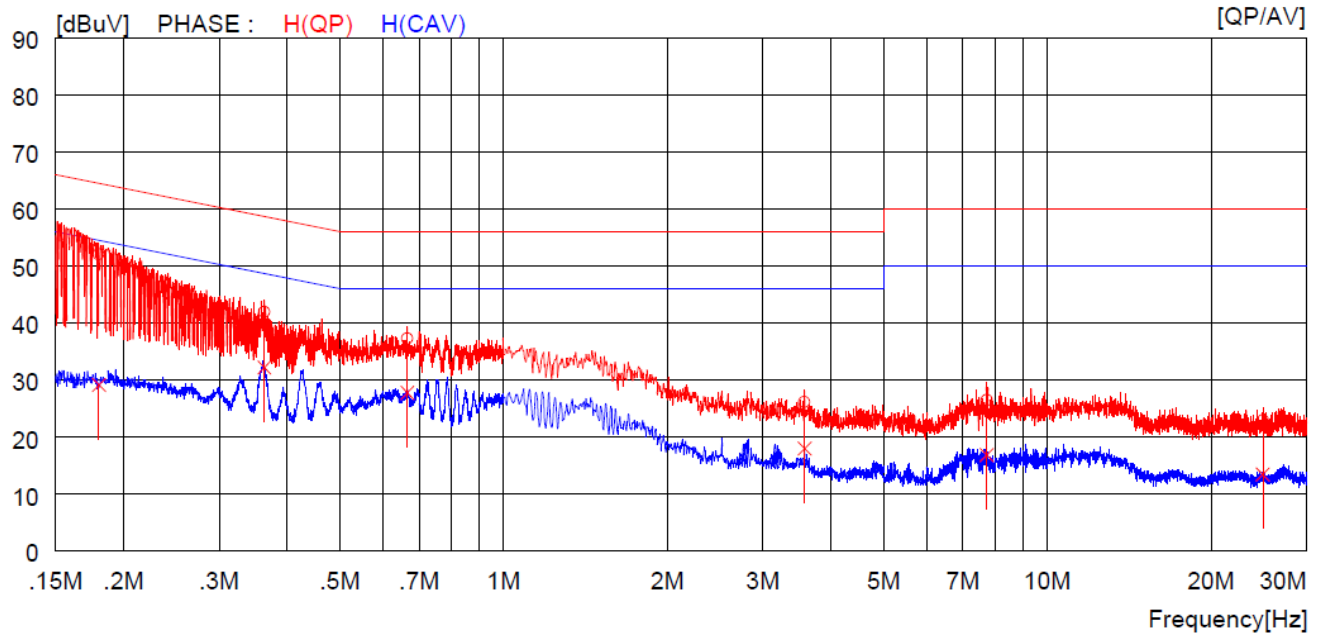
12.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
■ -	ESPI	Rohde & Schwarz	Test Receiver	101012	Oct. 27, 2017 (1Y)
□ -	ESHS10	Rohde & Schwarz	Test Receiver	834467/007	Apr. 05, 2017 (1Y)
□ -	NSLK8128	Schwarzbeck	AMN	8128-216	Apr. 06, 2017 (1Y)
■ -	NSLK8126	Schwarzbeck	AMN	8126-404	Apr. 05, 2017 (1Y)
□ -	3825/2	EMCO	AMN	9109-1869	Apr. 06, 2017 (1Y)
■ -	3825/2	EMCO	AMN	9109-1867	Apr. 06, 2017 (1Y)

All test equipment used is calibrated on a regular basis.

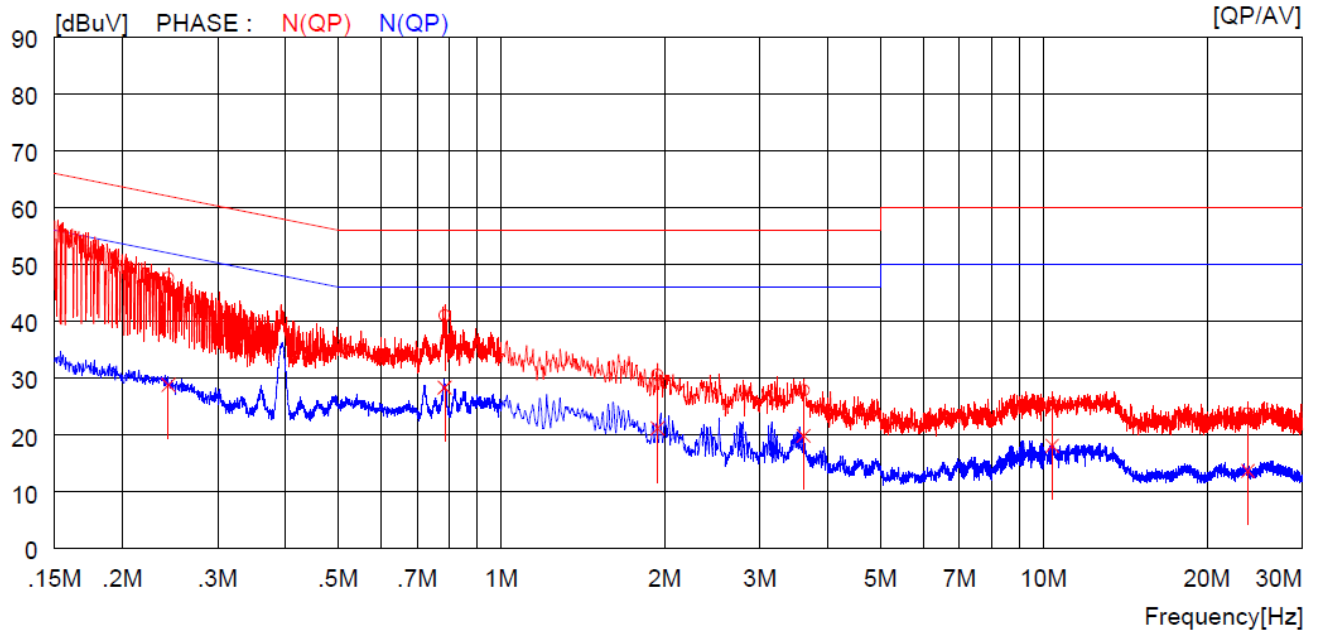
12.4 Test data

- . Test Date : February 13, 2018 ~ February 21, 2018
- . Resolution bandwidth : 9 kHz
- . Frequency range : 0.15 MHz ~ 30 MHz
- . Tested Line : HOT LINE
- . Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded.



NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.18000	42.0	----	10.0	52.0	----	64.5	----	12.5	----	H (QP)
2	0.36300	32.0	----	10.0	42.0	----	58.7	----	16.7	----	H (QP)
3	0.66500	27.2	----	10.1	37.3	----	56.0	----	18.7	----	H (QP)
4	3.57600	16.0	----	10.2	26.2	----	56.0	----	29.8	----	H (QP)
5	7.74000	16.2	----	10.3	26.5	----	60.0	----	33.5	----	H (QP)
6	24.92000	12.2	----	10.8	23.0	----	60.0	----	37.0	----	H (QP)
7	0.18000	----	19.1	10.0	----	29.1	----	54.5	----	25.4	H (CAV)
8	0.36300	----	22.2	10.0	----	32.2	----	48.7	----	16.5	H (CAV)
9	0.66500	----	17.7	10.1	----	27.8	----	46.0	----	18.2	H (CAV)
10	3.57600	----	7.8	10.2	----	18.0	----	46.0	----	28.0	H (CAV)
11	7.74000	----	6.6	10.3	----	16.9	----	50.0	----	33.1	H (CAV)
12	24.92000	----	2.7	10.8	----	13.5	----	50.0	----	36.5	H (CAV)

-. Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.24300	37.6	----	10.0	47.6	----	62.0	----	14.4	----	N (QP)
2	0.78600	30.9	----	10.1	41.0	----	56.0	----	15.0	----	N (QP)
3	1.94000	20.5	----	10.1	30.6	----	56.0	----	25.4	----	N (QP)
4	3.61200	17.6	----	10.2	27.8	----	56.0	----	28.2	----	N (QP)
5	10.37000	15.1	----	10.4	25.5	----	60.0	----	34.5	----	N (QP)
6	23.81000	13.0	----	10.8	23.8	----	60.0	----	36.2	----	N (QP)
7	0.24300	----	18.8	10.0	----	28.8	----	52.0	----	23.2	N (CAV)
8	0.78600	----	18.3	10.1	----	28.4	----	46.0	----	17.6	N (CAV)
9	1.94000	----	11.1	10.1	----	21.2	----	46.0	----	24.8	N (CAV)
10	3.61200	----	9.7	10.2	----	19.9	----	46.0	----	26.1	N (CAV)
11	10.37000	----	7.7	10.4	----	18.1	----	50.0	----	31.9	N (CAV)
12	23.81000	----	2.9	10.8	----	13.7	----	50.0	----	36.3	N (CAV)

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

Tested by: Hyung-Kwon, Oh / Assistant Manager