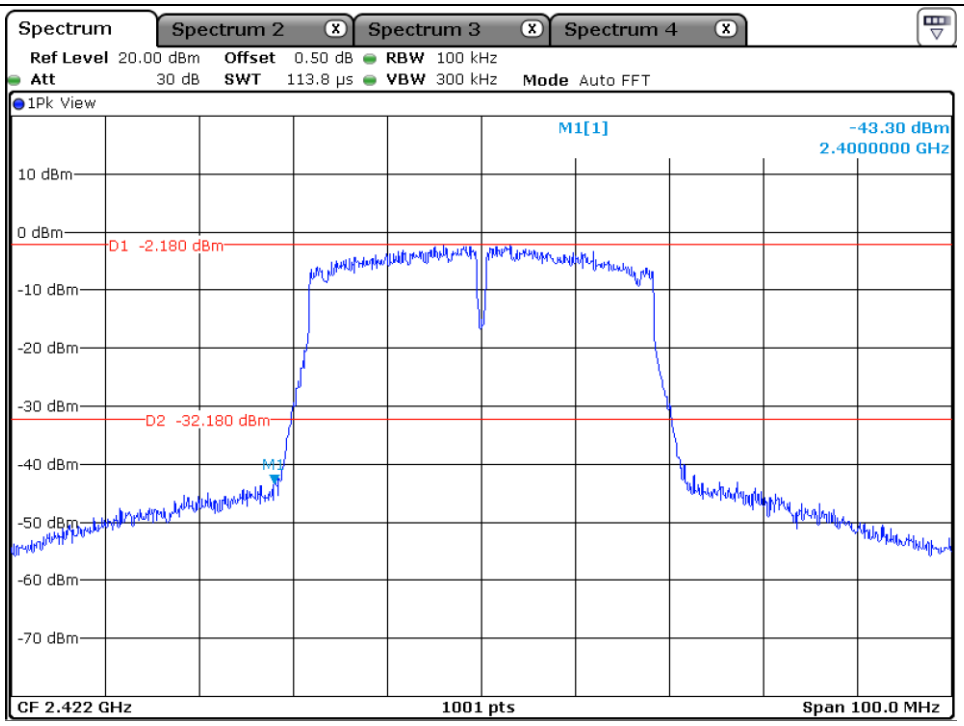
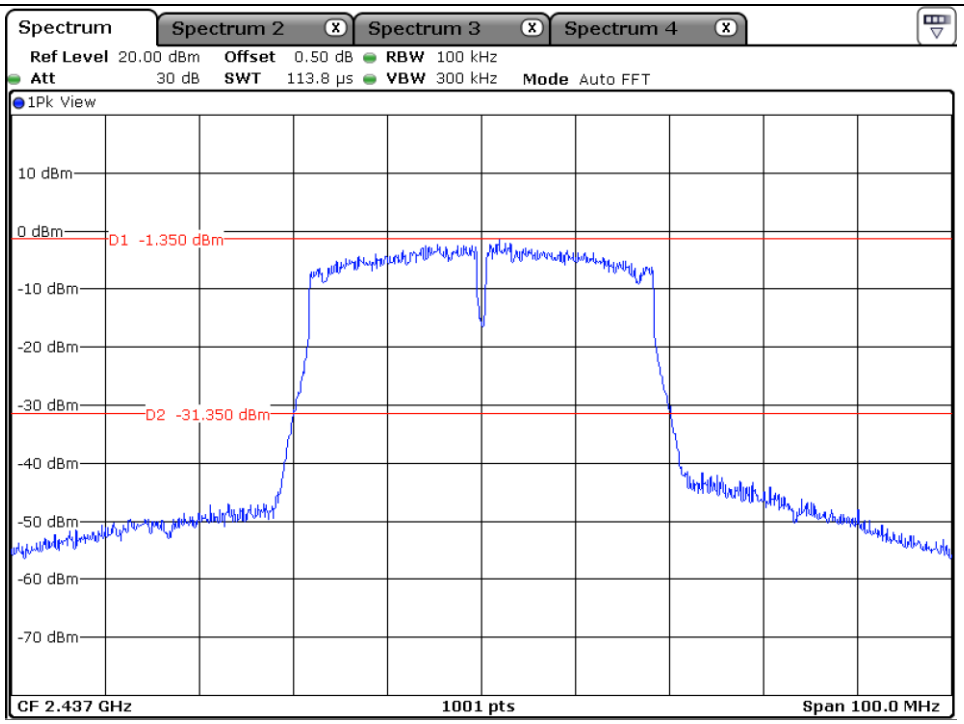
9.5.4 Test data for 802.11n_HT40 WLAN Mode

9.5.4.1 Test data for Antenna 0

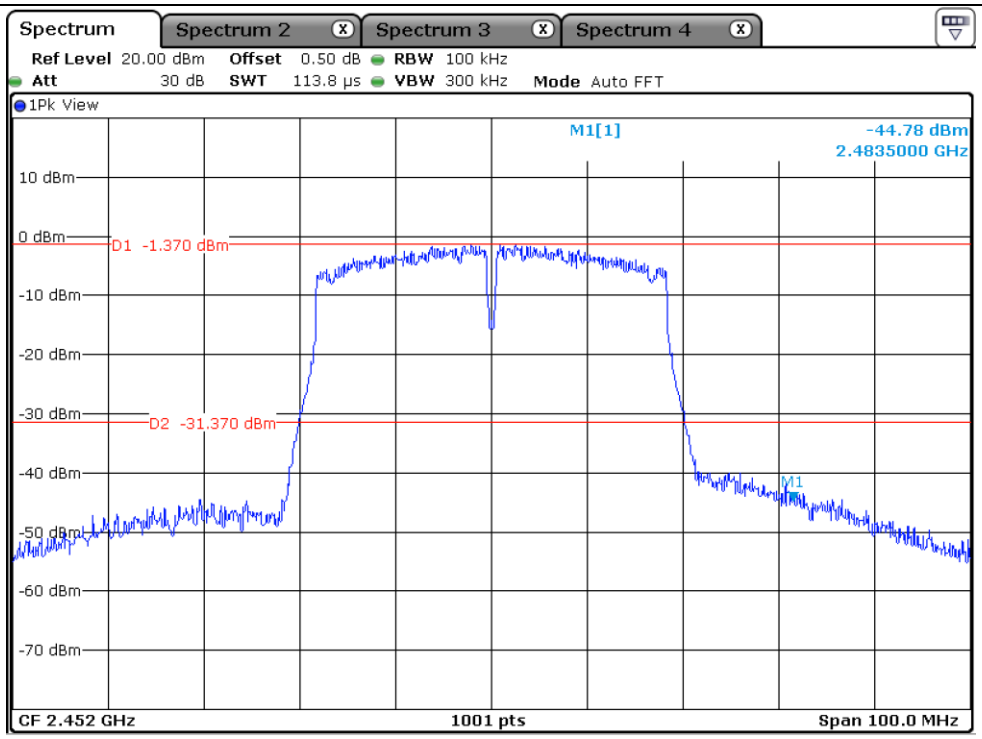


Low Channel

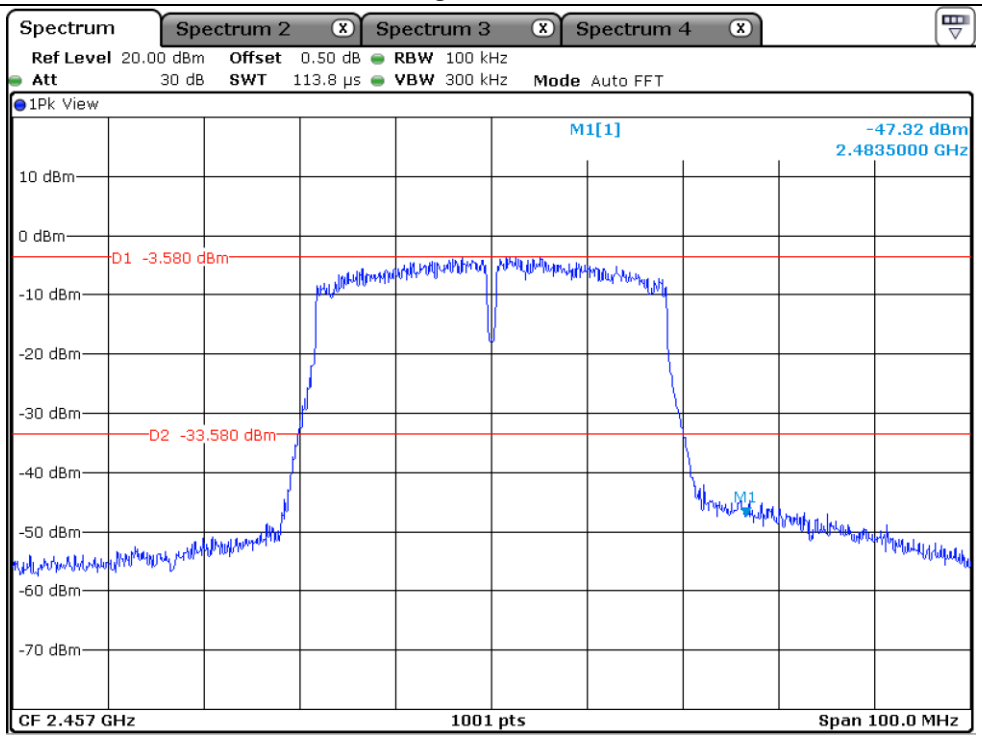


Middle Channel

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

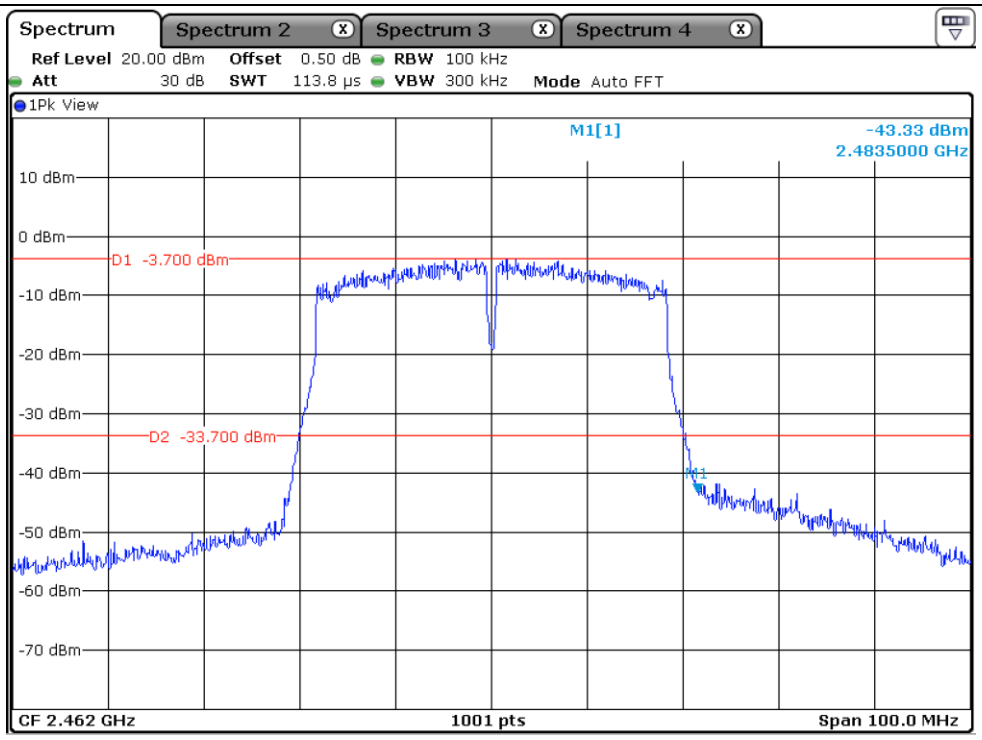


High Channel 9

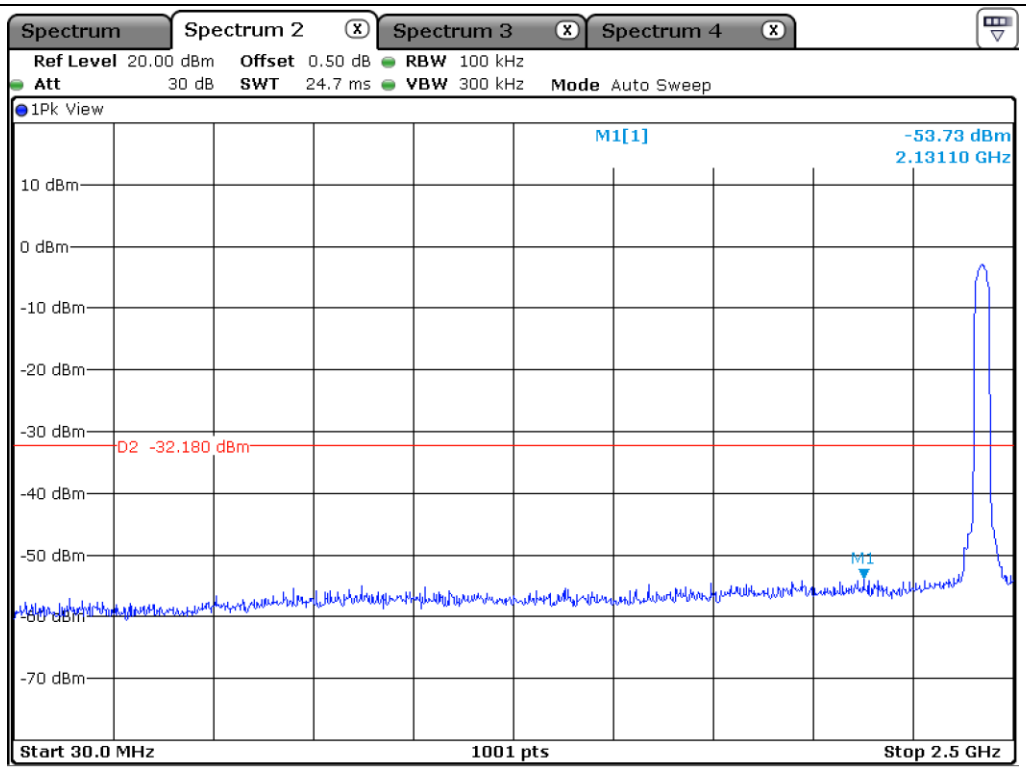


High Channel 10

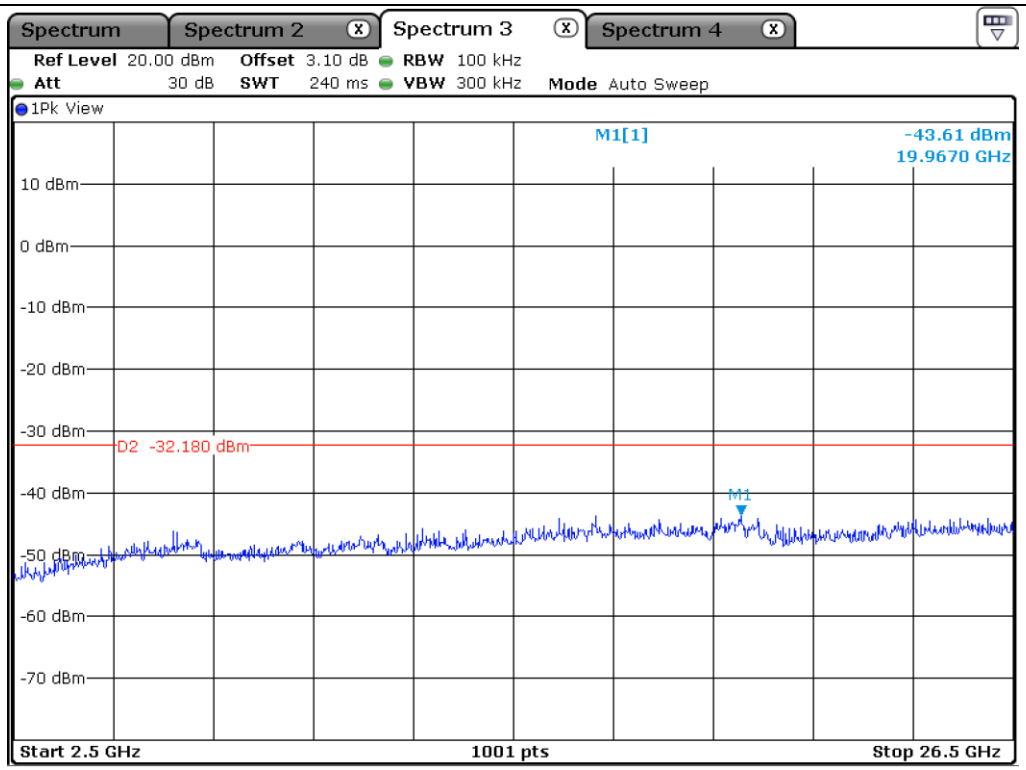
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



High Channel 11

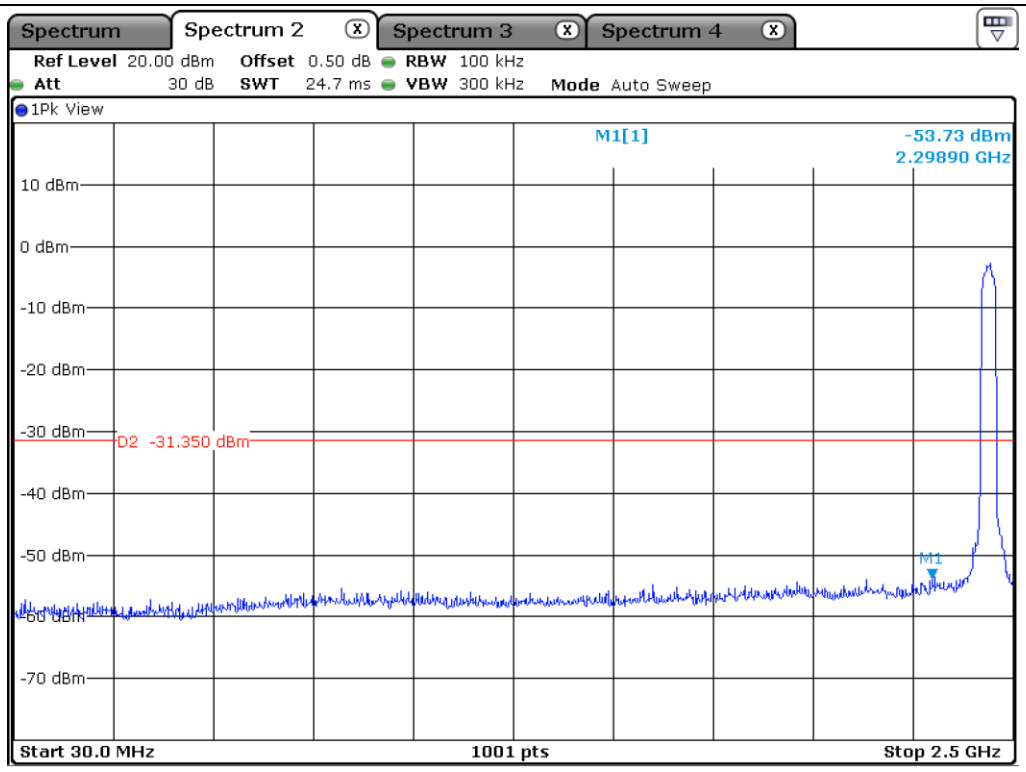


Low Channel

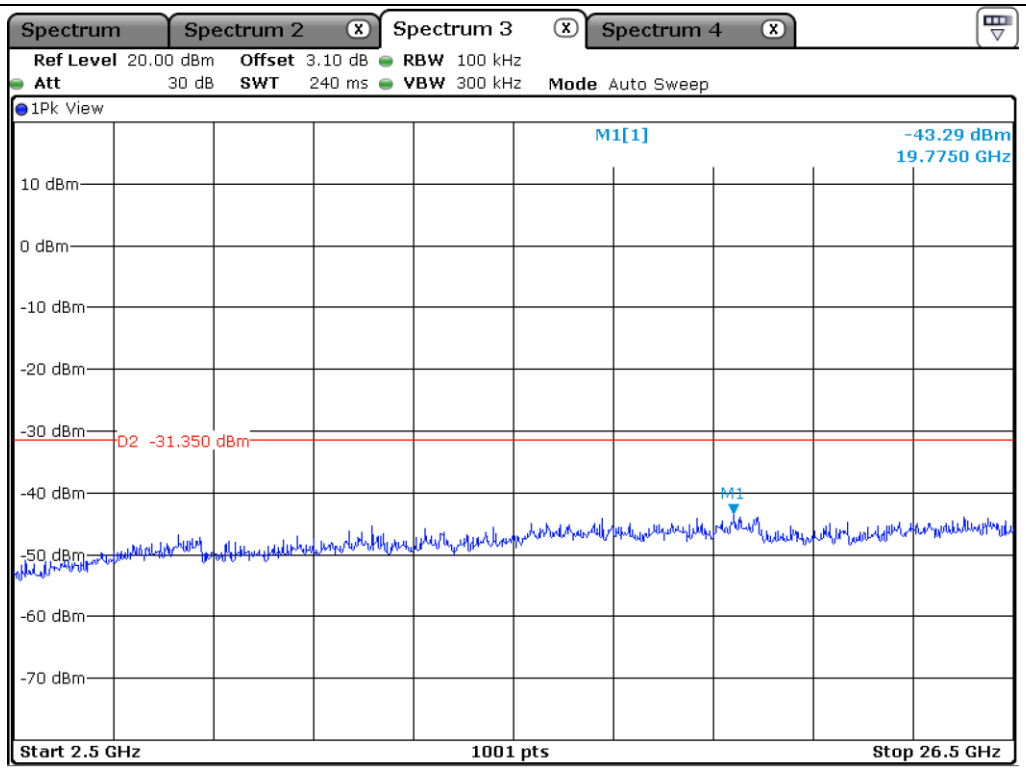


Low Channel

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

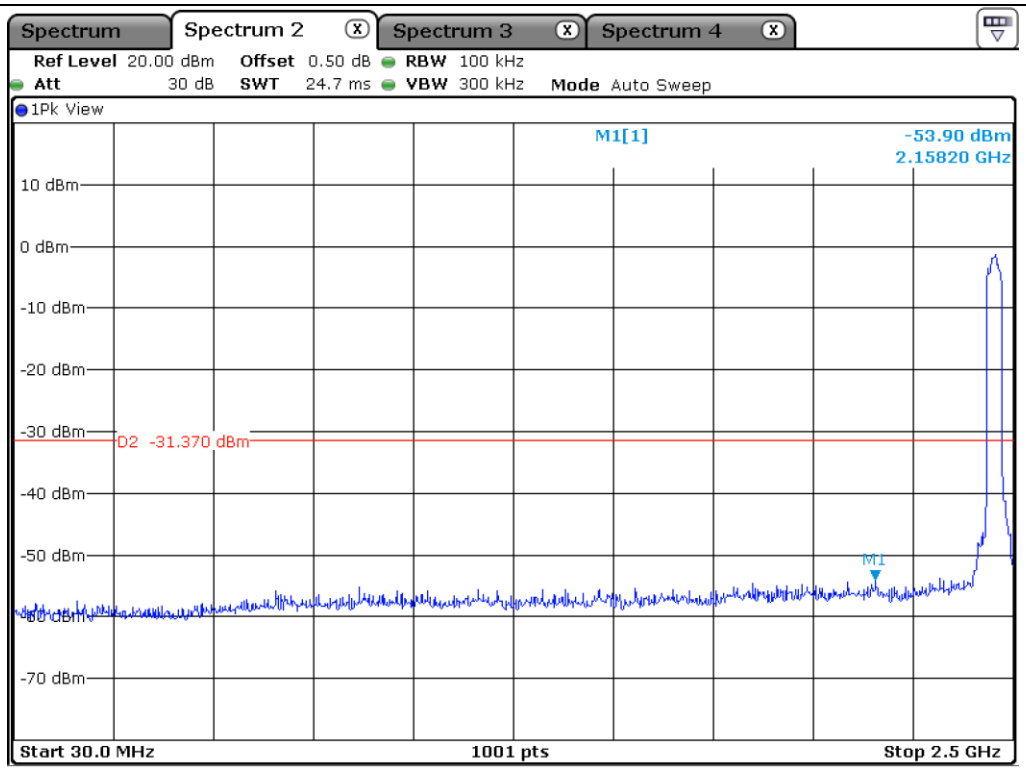


Middle Channel

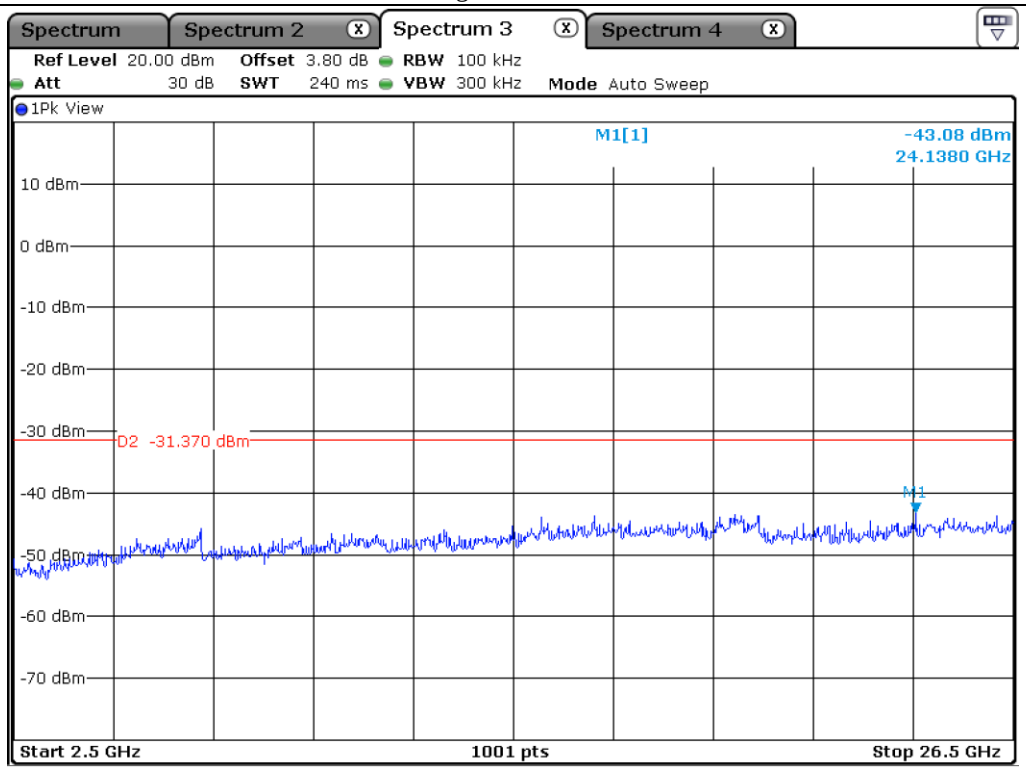


Middle Channel

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

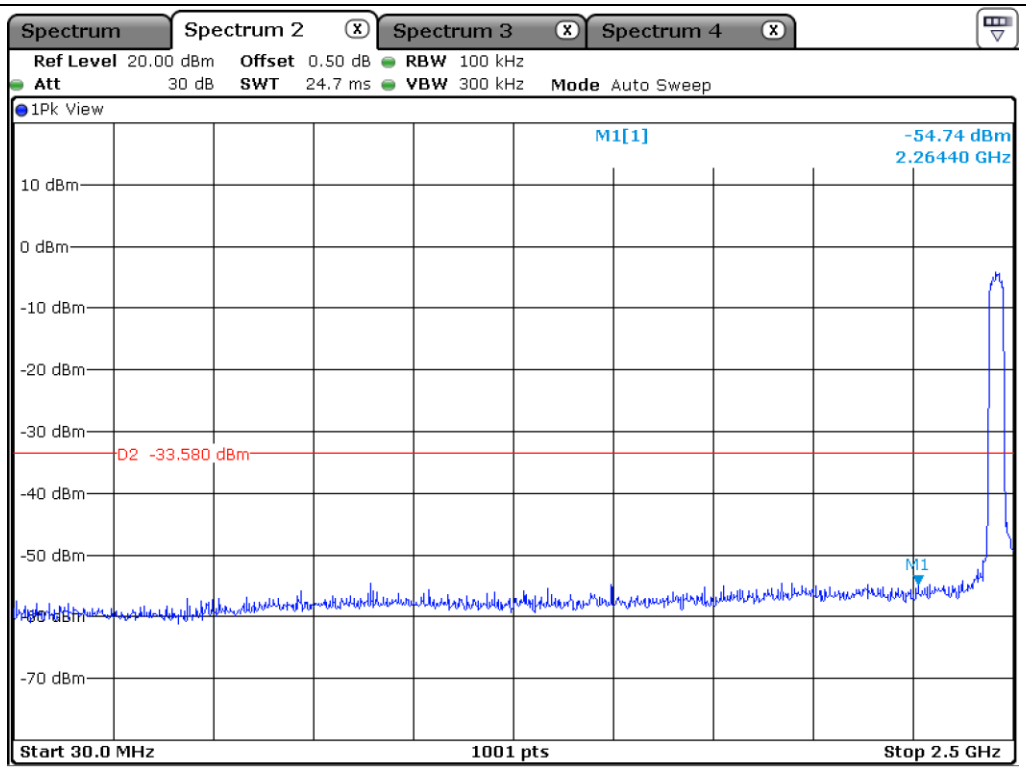


High Channel 9

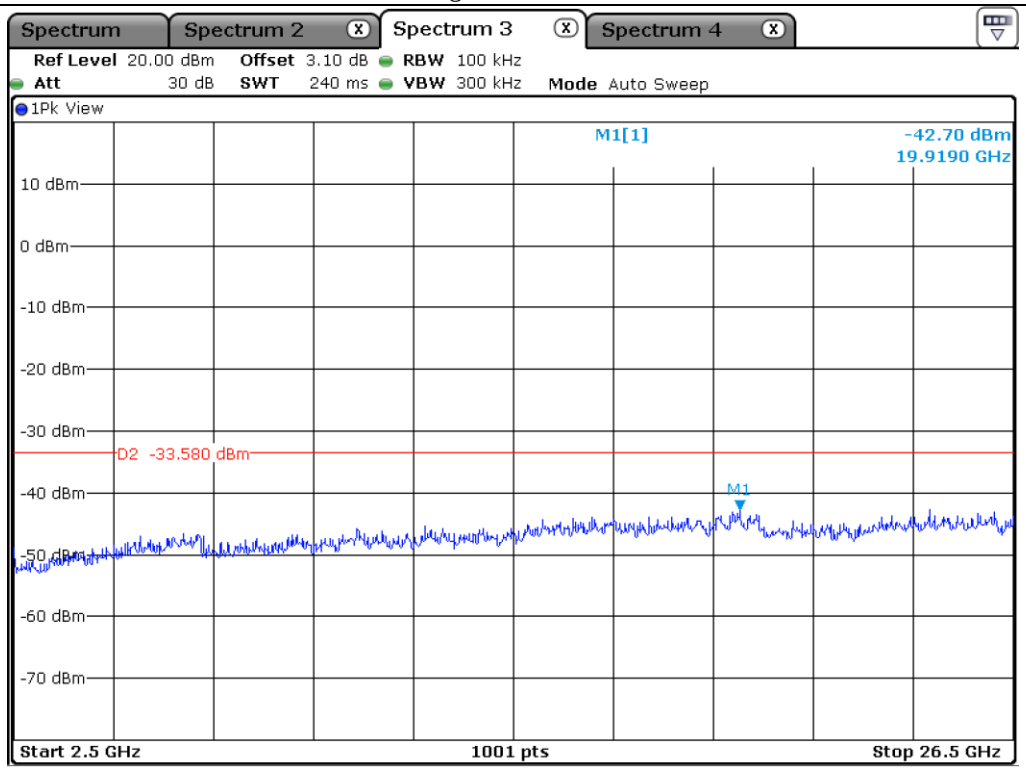


High Channel 9

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

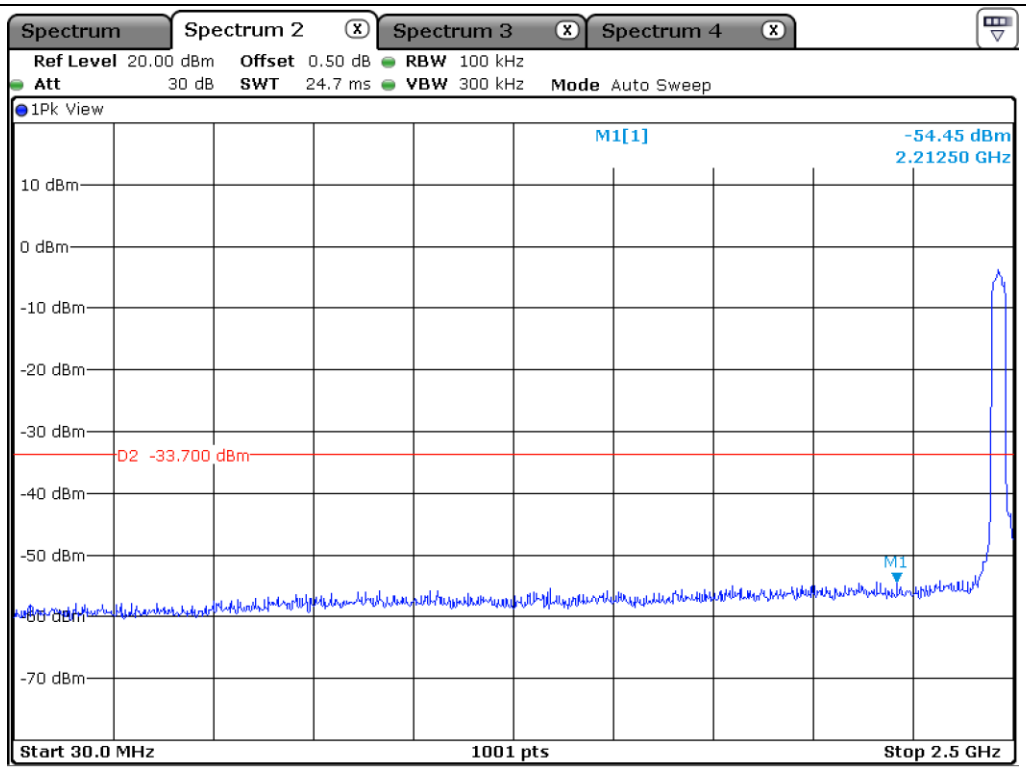


High Channel 10

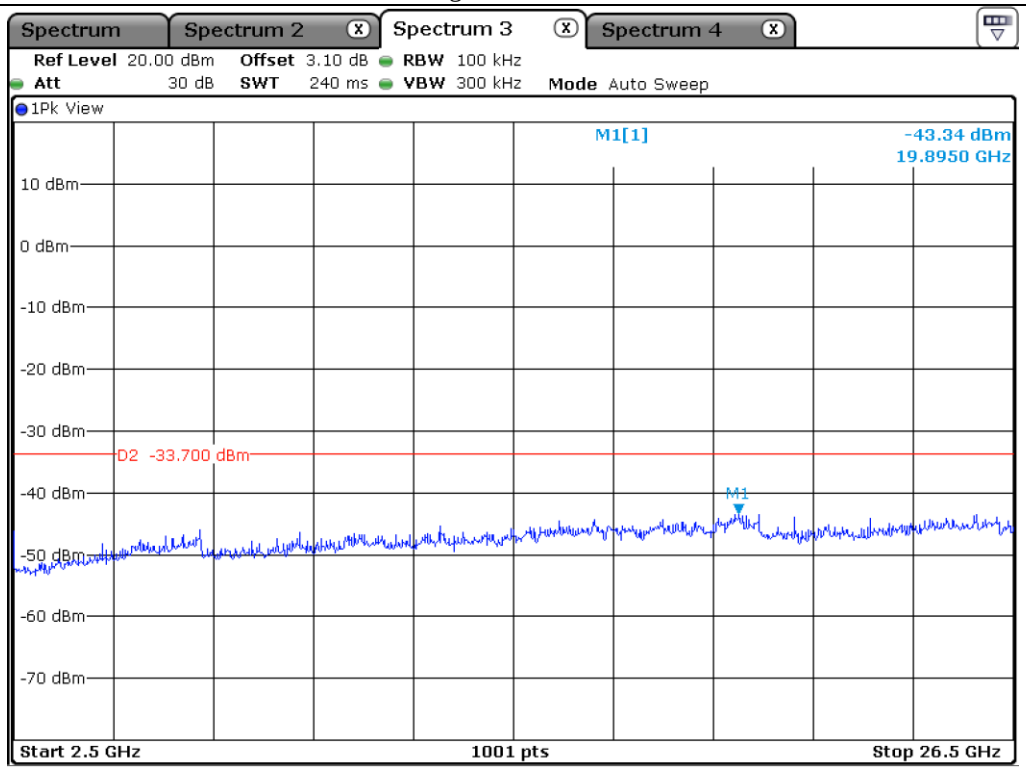


High Channel 10

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



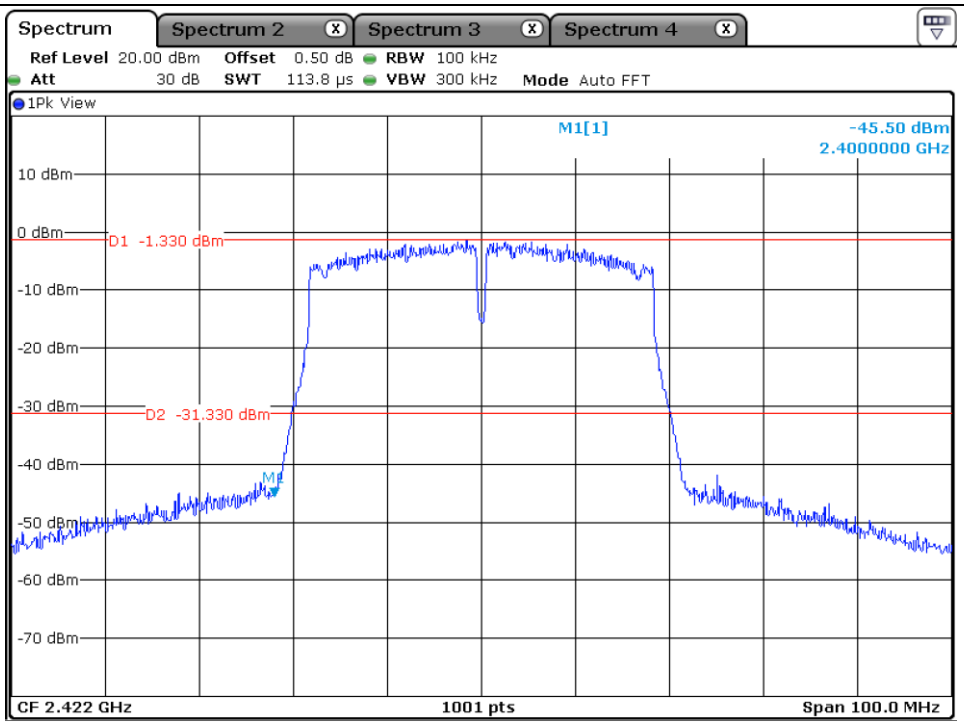
High Channel 11



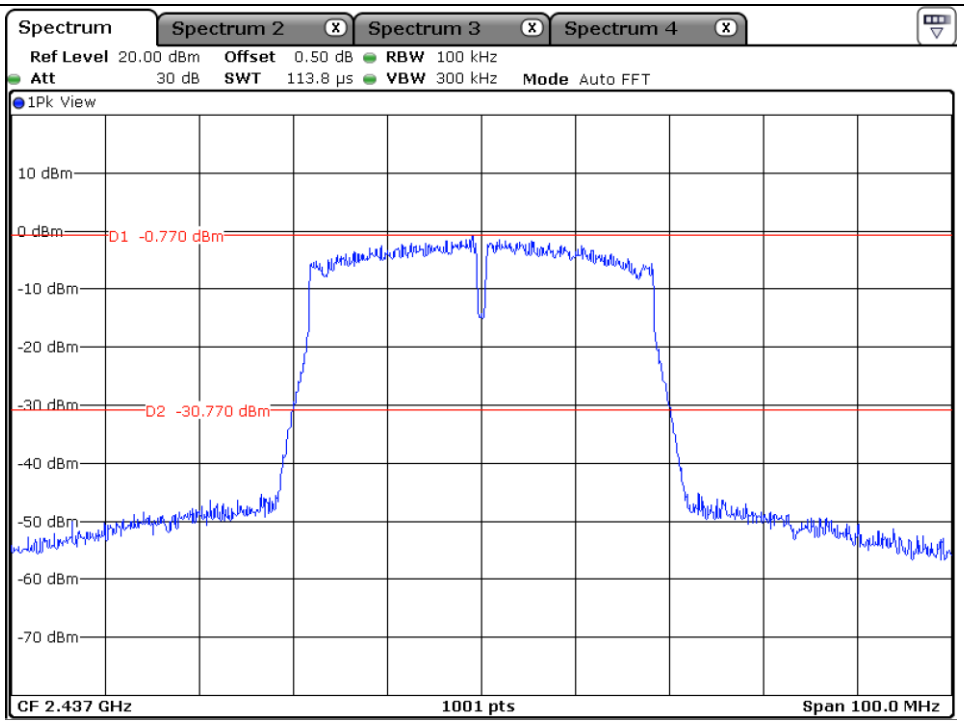
High Channel 11

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

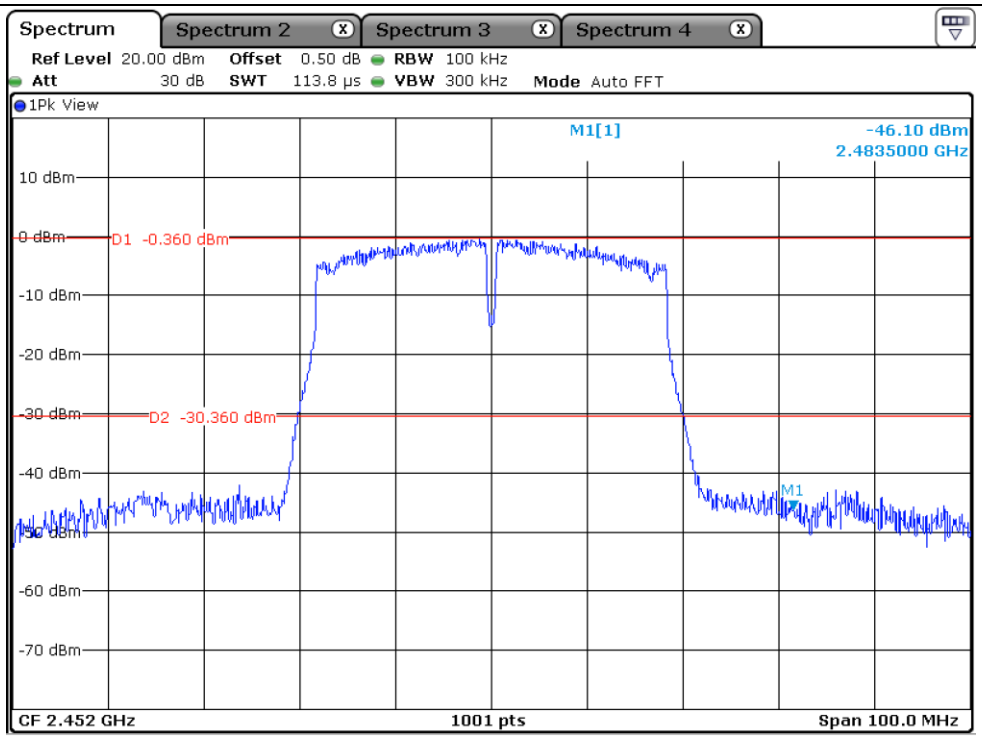
9.5.4.2 Test data for Antenna 1



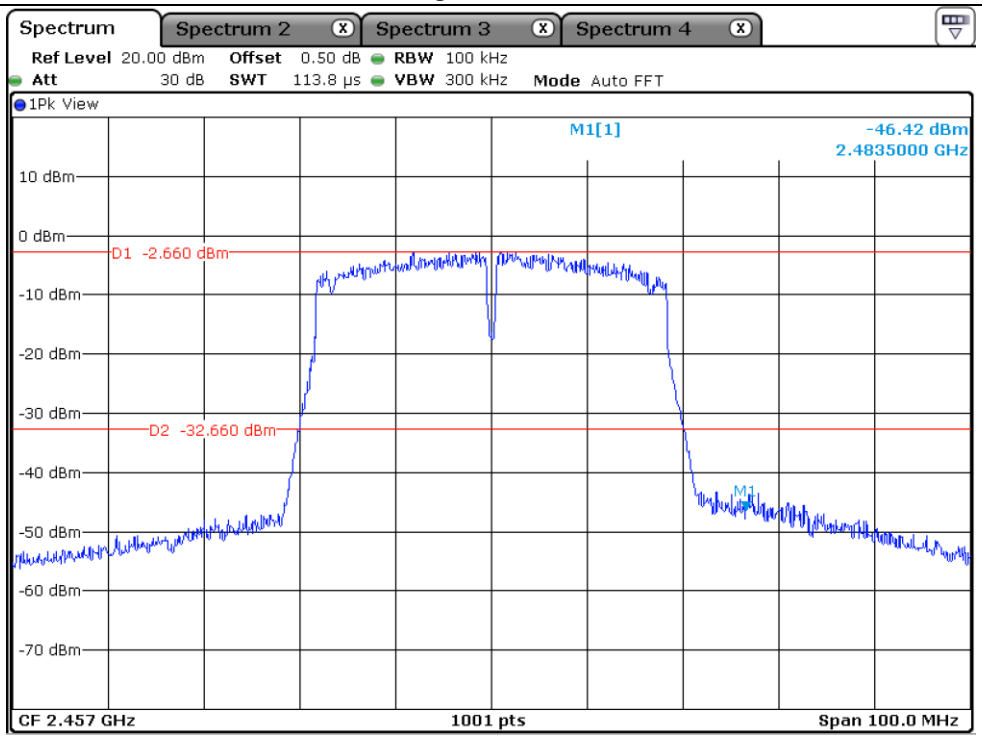
Low Channel



Middle Channel

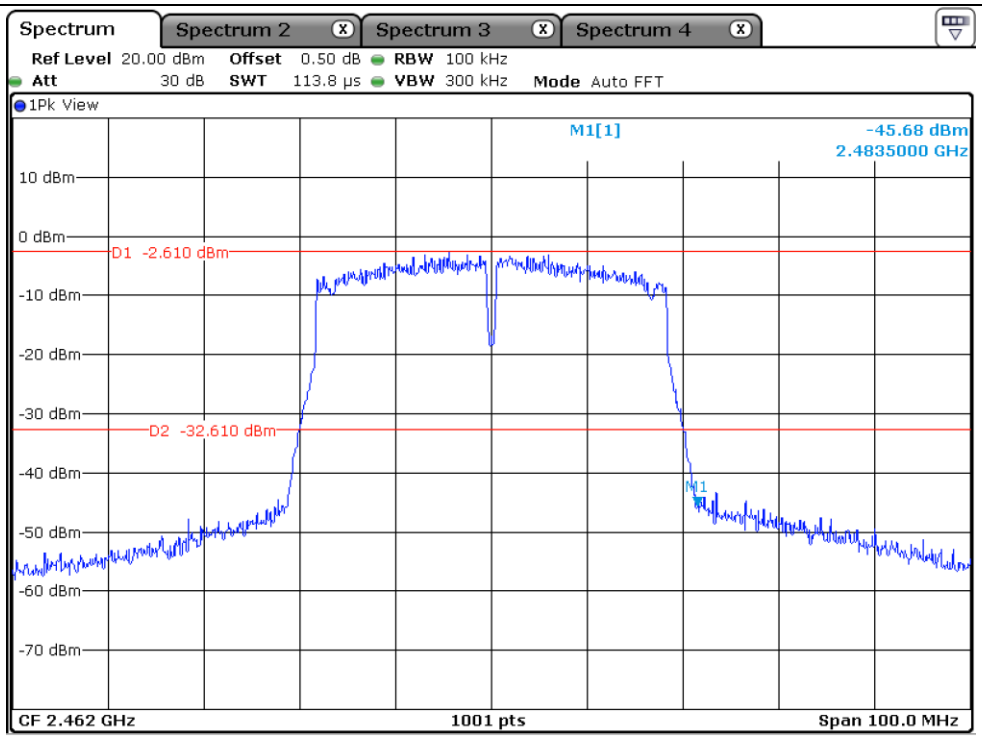


High Channel 9

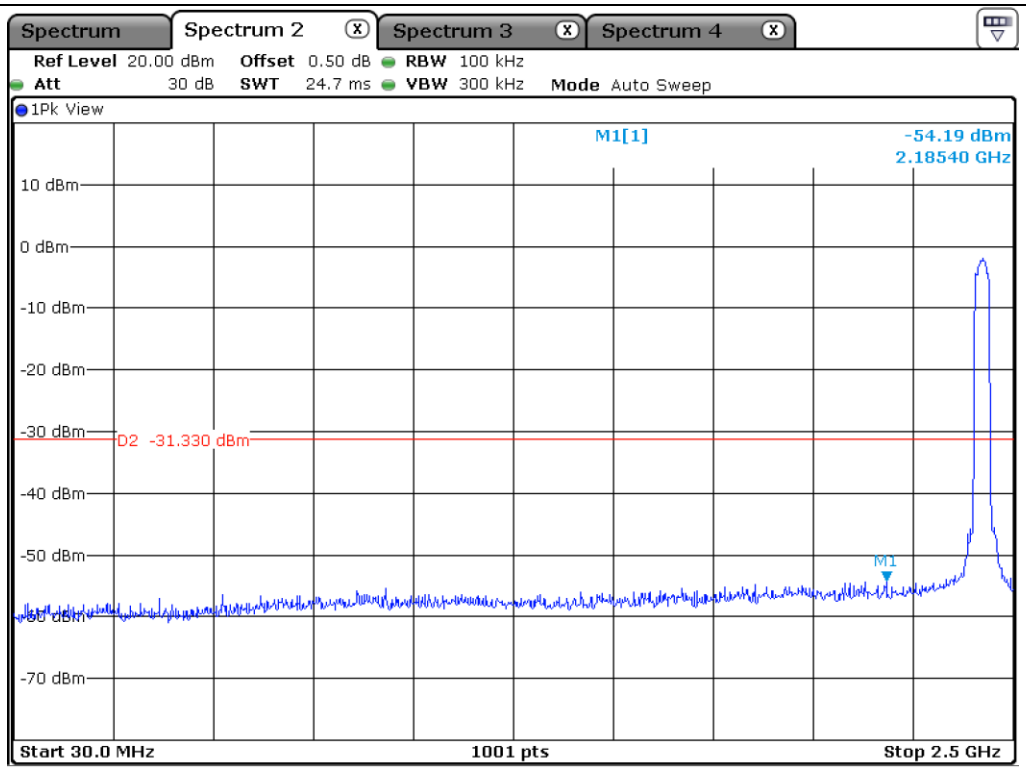


High Channel 10

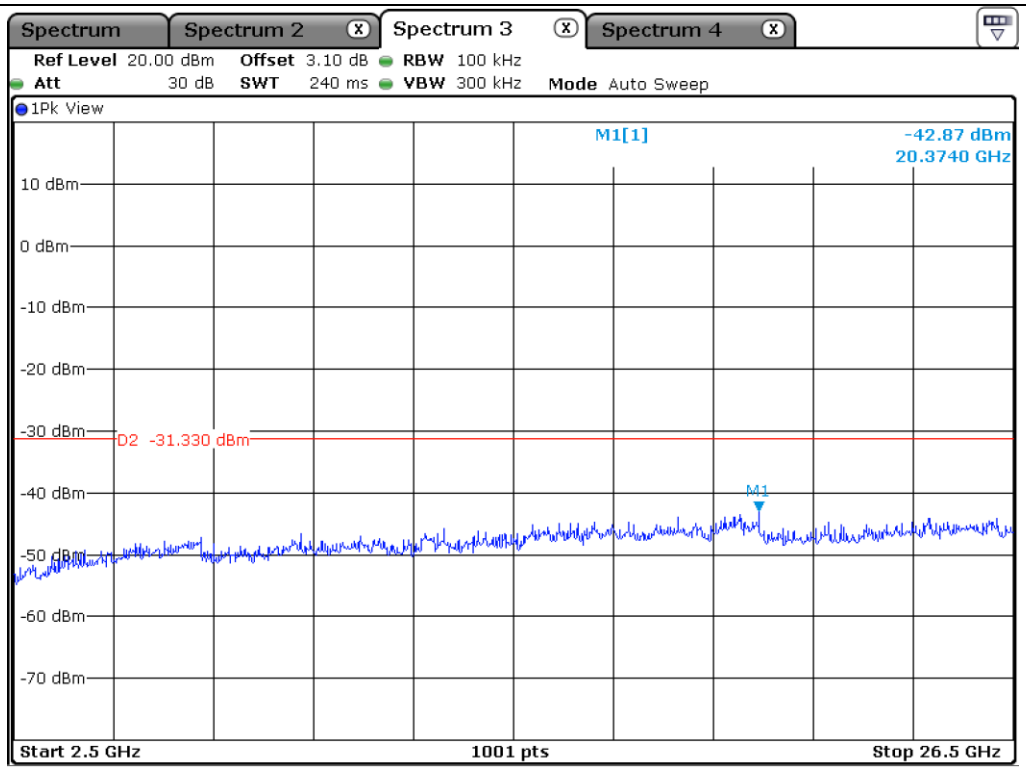
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



High Channel 11

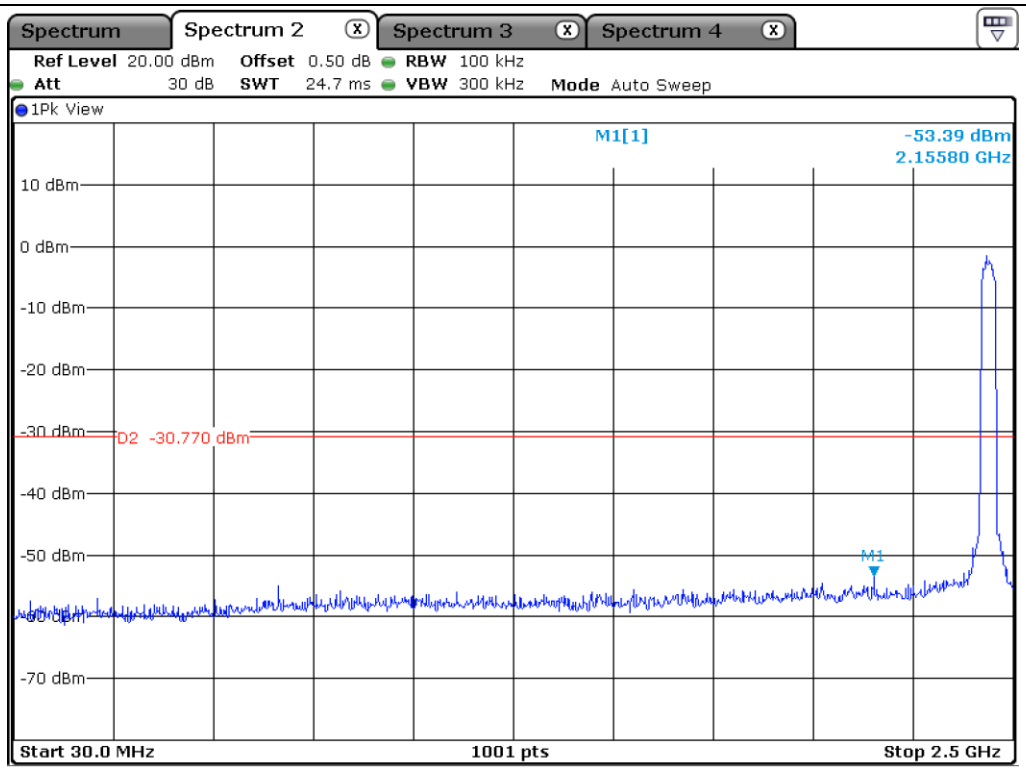


Low Channel

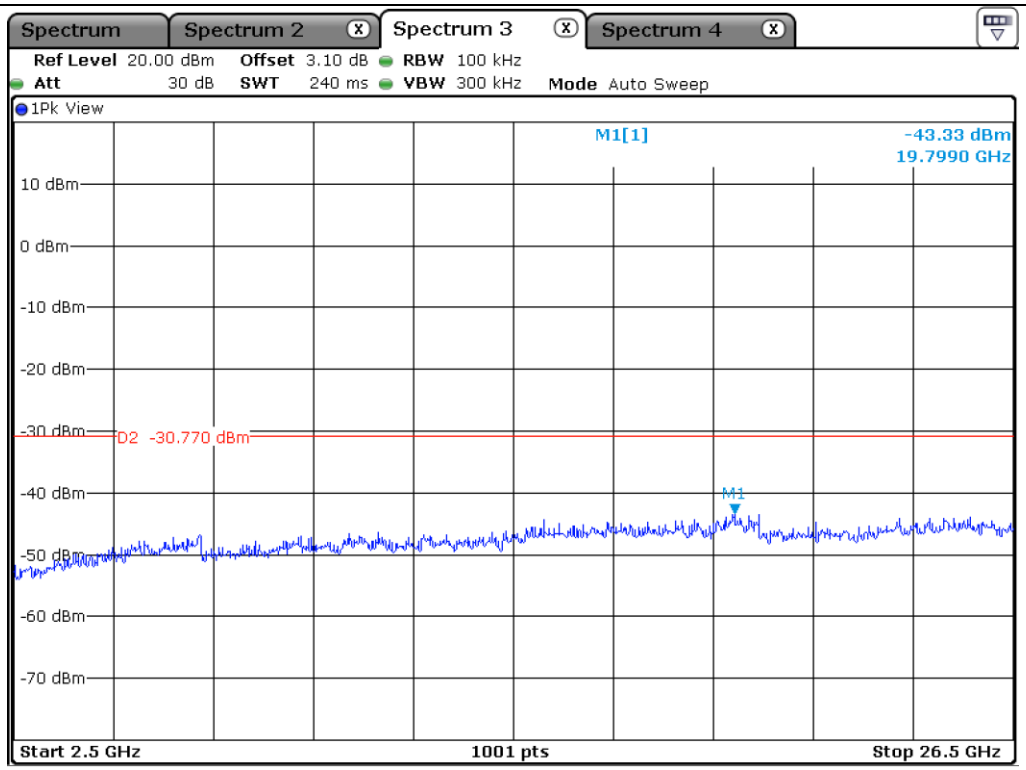


Low Channel

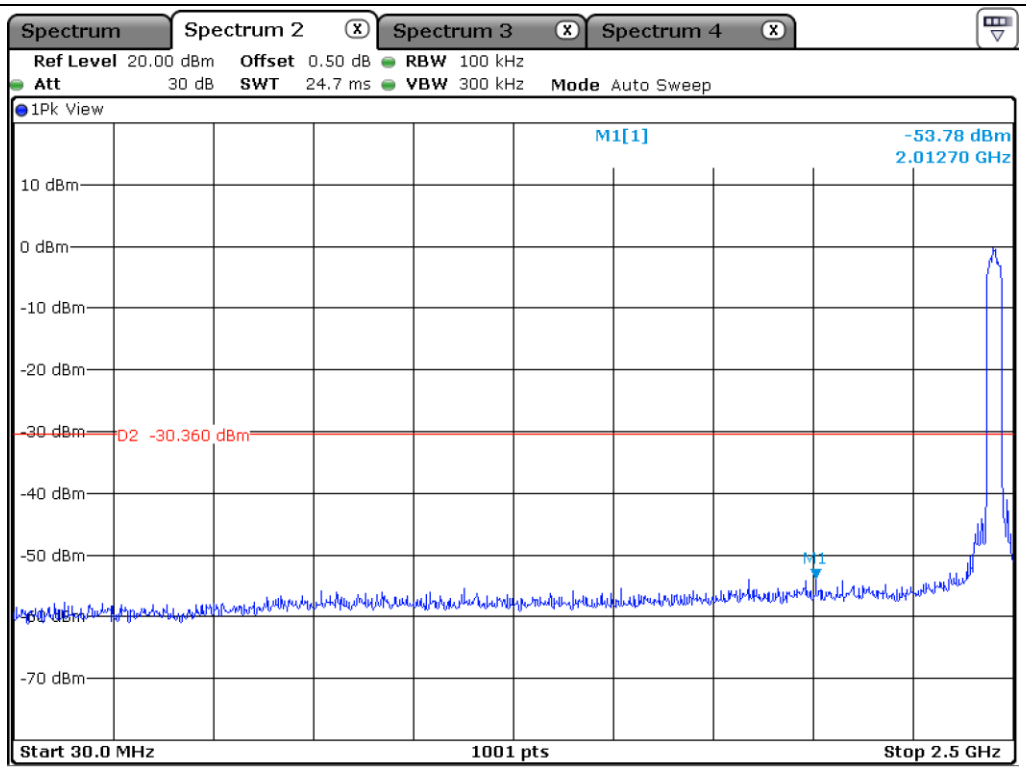
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



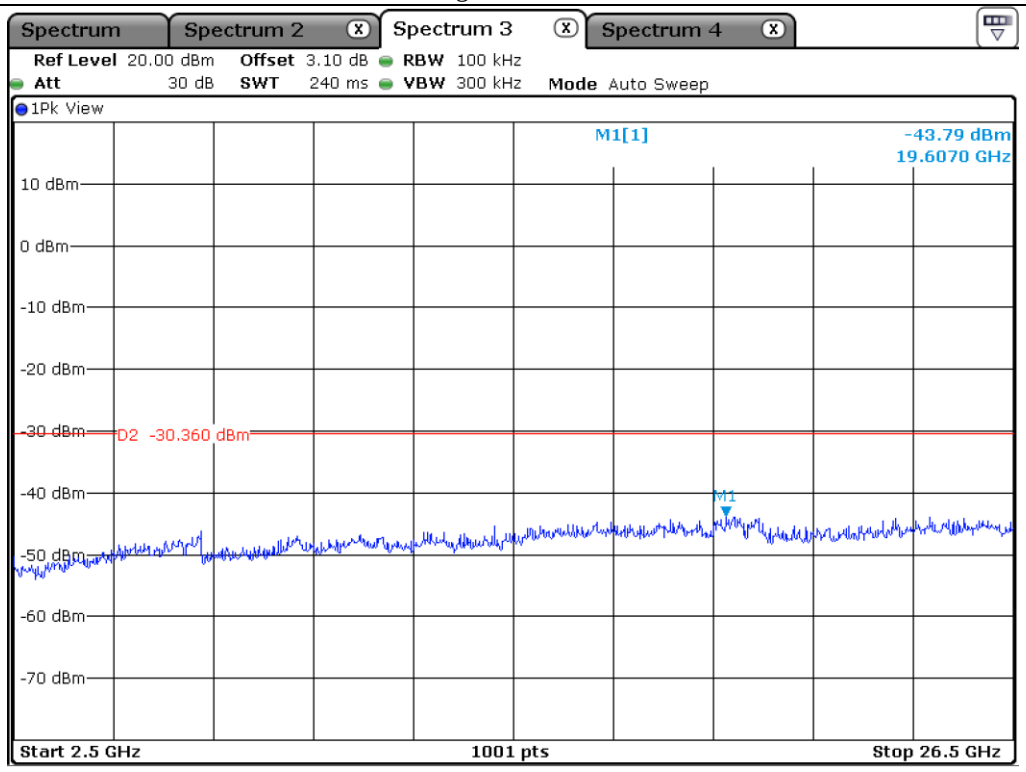
Middle Channel



Middle Channel

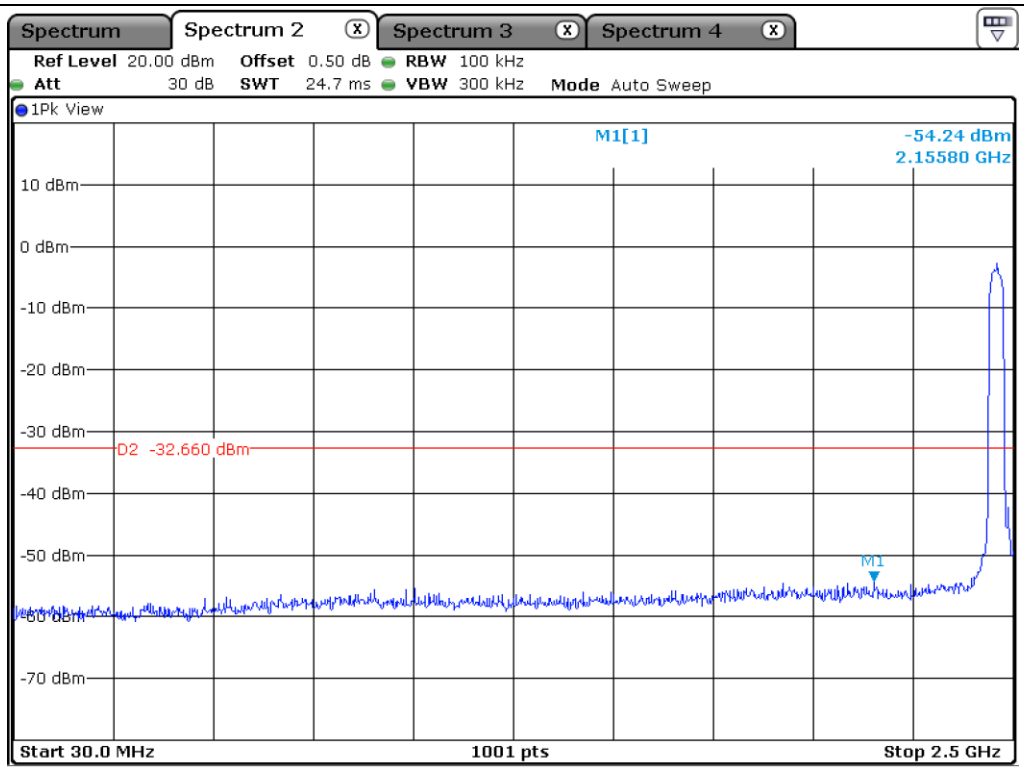


High Channel 9

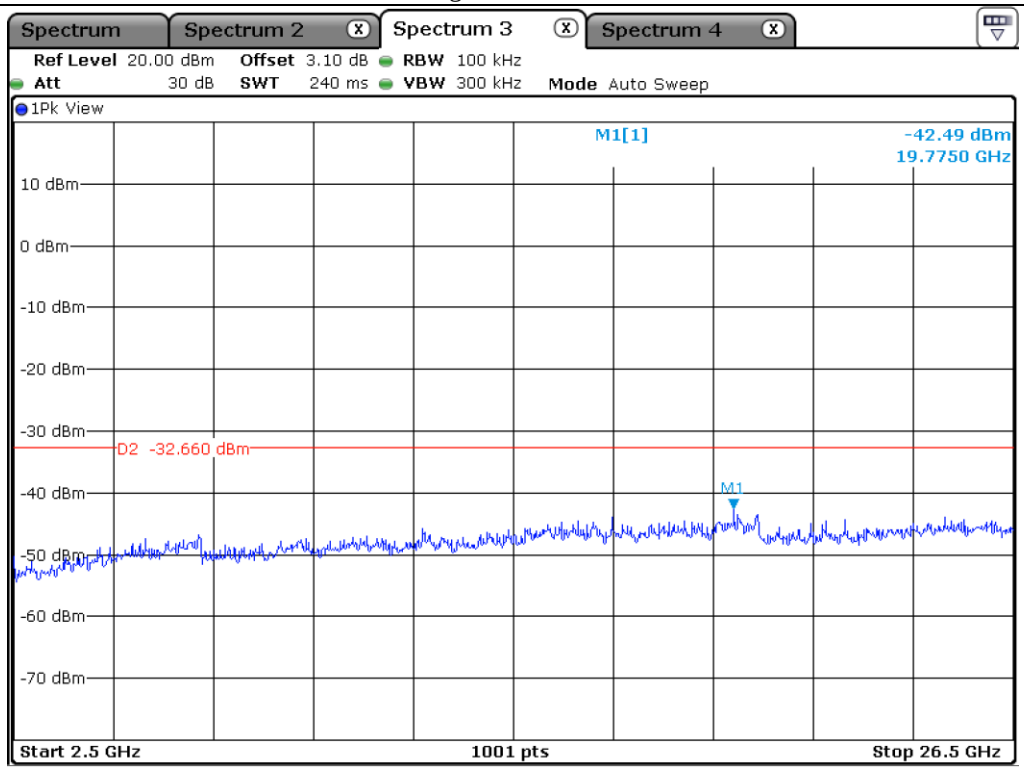


High Channel 9

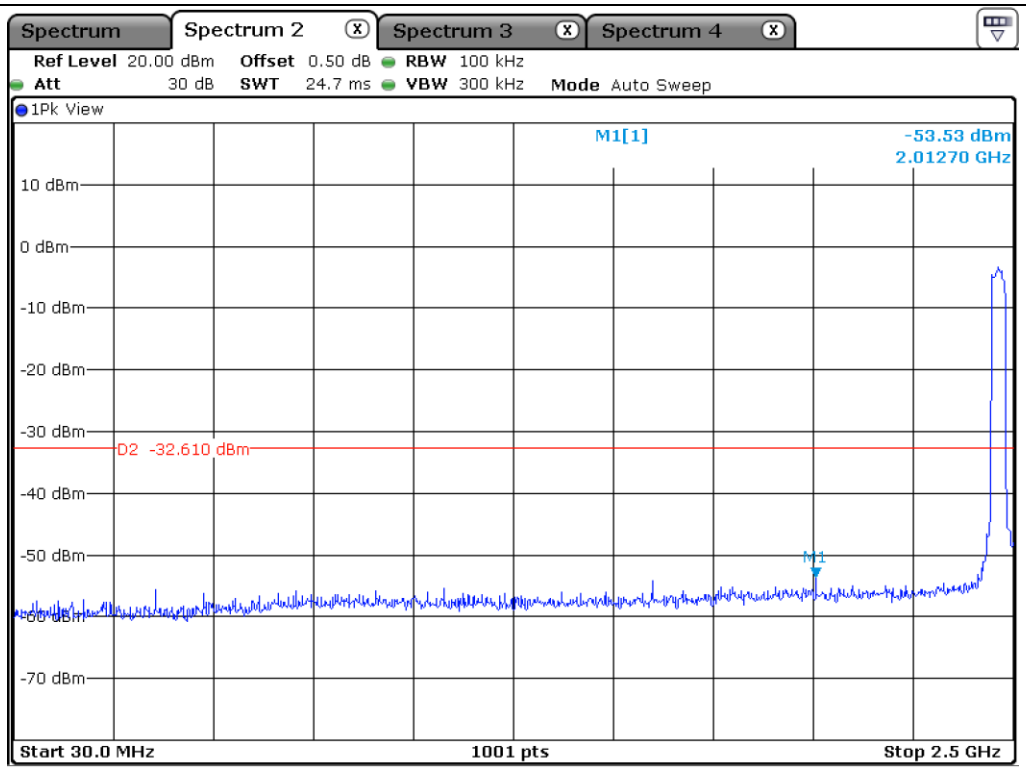
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



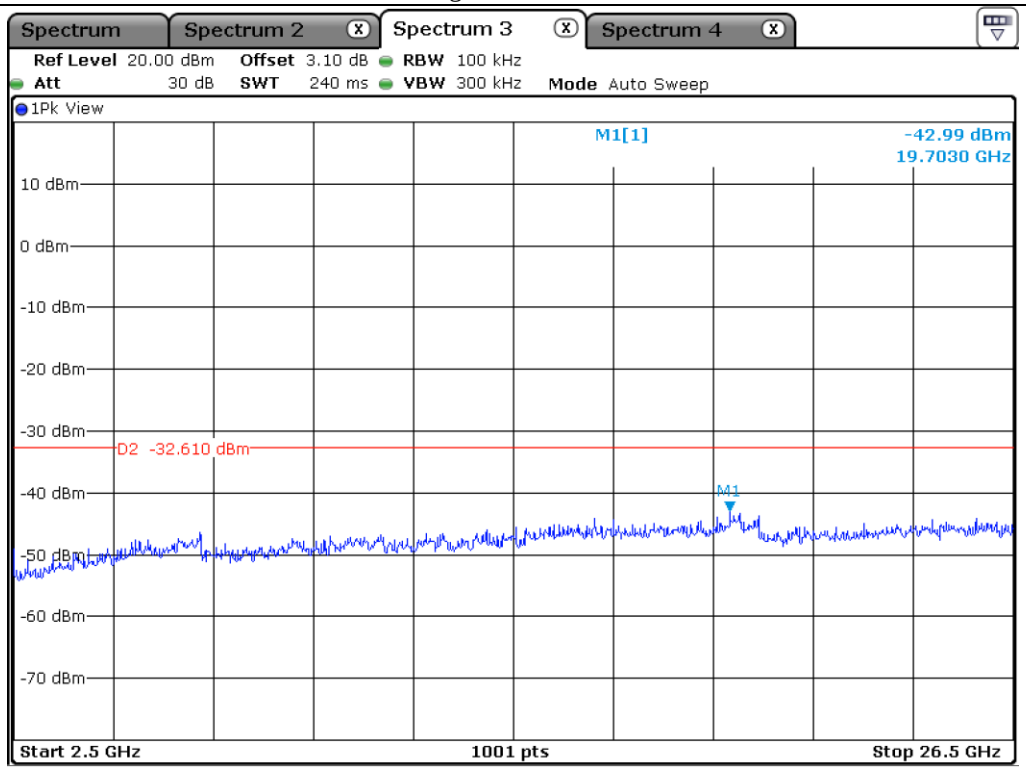
High Channel 10



High Channel 10



High Channel 11



High 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 : November 21, 2018 ~ November 23, 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									
2 386.603	58.48	Peak	H	26.94	9.20	34.76	59.86	74.00	14.14
2 386.284	46.01	Average	H	26.94	9.20	34.76	47.39	54.00	6.61
2 385.884	50.60	Peak	V	26.94	9.20	34.76	51.98	74.00	22.02
2 386.284	42.03	Average	V	26.94	9.20	34.76	43.41	54.00	10.59
Test Data for High 11 Channel									
2 487.679	57.63	Peak	H	27.47	9.49	35.51	59.08	74.00	14.92
2 487.712	49.43	Average	H	27.47	9.49	35.51	50.88	54.00	3.12
2 487.629	51.59	Peak	V	27.47	9.49	35.51	53.04	74.00	20.96
2 487.712	43.77	Average	V	27.47	9.49	35.51	45.22	54.00	8.78

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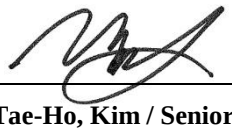
Test Data for High 12 Channel									
2 483.508	61.06	Peak	H	27.47	9.49	35.51	62.51	74.00	11.49
2 483.508	49.51	Average	H	27.47	9.49	35.51	50.96	54.00	3.04
2 483.508	54.43	Peak	V	27.47	9.49	35.51	55.88	74.00	18.12
2 483.508	45.76	Average	V	27.47	9.49	35.51	47.21	54.00	6.79
Test Data for High 13 Channel									
2 486.986	59.51	Peak	H	27.47	9.49	35.51	60.96	74.00	13.04
2 486.986	50.32	Average	H	27.47	9.49	35.51	51.77	54.00	2.23
2 484.909	53.03	Peak	V	27.47	9.49	35.51	54.48	74.00	19.52
2 486.986	46.57	Average	V	27.47	9.49	35.51	48.02	54.00	5.98

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: Tae-Ho, Kim / Senior Manager

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

9.6.1.1.2 Test data for Antenna 1

-. Test Date : November 21, 2018 ~ November 23, 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									
2 386.044	57.06	Peak	H	26.94	9.20	34.76	58.44	74.00	15.56
2 385.644	49.28	Average	H	26.94	9.20	34.76	50.66	54.00	3.34
2 386.044	51.86	Peak	V	26.94	9.20	34.76	53.24	74.00	20.76
2 385.644	44.08	Average	V	26.94	9.20	34.76	45.46	54.00	8.54
Test Data for High 11 Channel									
2 487.909	57.24	Peak	H	27.47	9.49	35.51	58.69	74.00	15.31
2 487.728	48.23	Average	H	27.47	9.49	35.51	49.68	54.00	4.32
2 487.860	53.56	Peak	V	27.47	9.49	35.51	55.01	74.00	18.99
2 487.770	46.28	Average	V	27.47	9.49	35.51	47.73	54.00	6.27

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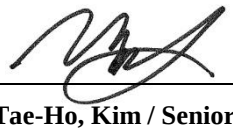
Test Data for High 12 Channel									
2 483.508	57.30	Peak	H	27.47	9.49	35.51	58.75	74.00	15.25
2 483.508	49.50	Average	H	27.47	9.49	35.51	50.95	54.00	3.05
2 483.508	53.43	Peak	V	27.47	9.49	35.51	54.88	74.00	19.12
2 483.508	42.73	Average	V	27.47	9.49	35.51	44.18	54.00	9.82
Test Data for High 13 Channel									
2 486.755	57.91	Peak	H	27.47	9.49	35.51	59.36	74.00	14.64
2 485.041	49.15	Average	H	27.47	9.49	35.51	50.60	54.00	3.40
2 486.706	54.72	Peak	V	27.47	9.49	35.51	56.17	74.00	17.83
2 486.739	46.28	Average	V	27.47	9.49	35.51	47.73	54.00	6.27

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: Tae-Ho, Kim / Senior Manager

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

9.6.1.2 Test data for 802.11g WLAN Mode

9.6.1.2.1 Test data for Multiple Transmit

-. Test Date : November 21, 2018 ~ November 23, 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									
2 389.960	66.19	Peak	H	26.94	9.20	34.76	67.57	74.00	6.43
2 389.960	51.20	Average	H	26.94	9.20	34.76	52.58	54.00	1.42
2 389.321	60.91	Peak	V	26.94	9.20	34.76	62.29	74.00	11.71
2 389.960	46.12	Average	V	26.94	9.20	34.76	47.50	54.00	6.50
Test Data for High 11 Channel									
2 483.508	66.88	Peak	H	27.47	9.49	35.51	68.33	74.00	5.67
2 483.508	50.11	Average	H	27.47	9.49	35.51	51.56	54.00	2.44
2 483.508	61.25	Peak	V	27.47	9.49	35.51	62.70	74.00	11.30
2 483.508	44.60	Average	V	27.47	9.49	35.51	46.05	54.00	7.95

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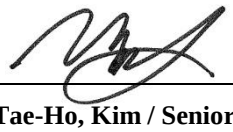
Test Data for High 12 Channel									
2 483.508	68.55	Peak	H	27.47	9.49	35.51	70.00	74.00	4.00
2 483.508	49.53	Average	H	27.47	9.49	35.51	50.98	54.00	3.02
2 483.508	64.13	Peak	V	27.47	9.49	35.51	65.58	74.00	8.42
2 483.508	45.25	Average	V	27.47	9.49	35.51	46.70	54.00	7.30
Test Data for High 13 Channel									
2 483.508	68.50	Peak	H	27.47	9.49	35.51	69.95	74.00	4.05
2 483.508	50.69	Average	H	27.47	9.49	35.51	52.14	54.00	1.86
2 484.036	64.09	Peak	V	27.47	9.49	35.51	65.54	74.00	8.46
2 483.508	47.18	Average	V	27.47	9.49	35.51	48.63	54.00	5.37

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: Tae-Ho, Kim / Senior Manager

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

9.6.1.3 Test data for 802.11n_HT20 WLAN Mode

9.6.1.3.1 Test data for Multiple Transmit

-. Test Date : November 21, 2018 ~ November 23, 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									
2 389.960	68.24	Peak	H	26.94	9.20	34.76	69.62	74.00	4.38
2 389.960	50.18	Average	H	26.94	9.20	34.76	51.56	54.00	2.44
2 389.960	60.49	Peak	V	26.94	9.20	34.76	61.87	74.00	12.13
2 389.960	46.08	Average	V	26.94	9.20	34.76	47.46	54.00	6.54
Test Data for High 11 Channel									
2 484.893	66.32	Peak	H	27.47	9.49	35.51	67.77	74.00	6.23
2 483.508	50.38	Average	H	27.47	9.49	35.51	51.83	54.00	2.17
2 484.003	61.59	Peak	V	27.47	9.49	35.51	63.04	74.00	10.96
2 483.508	46.05	Average	V	27.47	9.49	35.51	47.50	54.00	6.50

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Test Data for High 12 Channel									
2 483.508	65.96	Peak	H	27.47	9.49	35.51	67.41	74.00	6.59
2 483.508	50.57	Average	H	27.47	9.49	35.51	52.02	54.00	1.98
2 483.508	62.02	Peak	V	27.47	9.49	35.51	63.47	74.00	10.53
2 483.508	47.91	Average	V	27.47	9.49	35.51	49.36	54.00	4.64
Test Data for High 13 Channel									
2 484.365	67.52	Peak	H	27.47	9.49	35.51	68.97	74.00	5.03
2 483.508	49.76	Average	H	27.47	9.49	35.51	51.21	54.00	2.79
2 484.151	62.88	Peak	V	27.47	9.49	35.51	64.33	74.00	9.67
2 483.508	45.34	Average	V	27.47	9.49	35.51	46.79	54.00	7.21

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: Tae-Ho, Kim / Senior Manager

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9.6.1.4 Test data for 802.11n_HT40 WLAN Mode

9.6.1.4.1 Test data for Multiple Transmit

-. Test Date : November 21, 2018 ~ November 23, 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									
2 388.202	63.58	Peak	H	26.94	9.20	34.76	64.96	74.00	9.04
2 389.960	50.14	Average	H	26.94	9.20	34.76	51.52	54.00	2.48
2 389.161	61.29	Peak	V	26.94	9.20	34.76	62.67	74.00	11.33
2 389.960	45.38	Average	V	26.94	9.20	34.76	46.76	54.00	7.24
Test Data for High 9 Channel									
2 485.338	61.86	Peak	H	27.47	9.49	35.51	63.31	74.00	10.69
2 483.508	50.32	Average	H	27.47	9.49	35.51	51.77	54.00	2.23
2 484.514	59.12	Peak	V	27.47	9.49	35.51	60.57	74.00	13.43
2 483.508	45.60	Average	V	27.47	9.49	35.51	47.05	54.00	6.95

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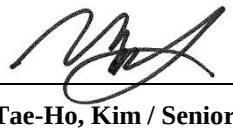
Test Data for High 10 Channel									
2 484.102	68.58	Peak	H	27.47	9.49	35.51	70.03	74.00	3.97
2 483.508	51.11	Average	H	27.47	9.49	35.51	52.56	54.00	1.44
2 483.508	61.92	Peak	V	27.47	9.49	35.51	63.37	74.00	10.63
2 483.508	47.89	Average	V	27.47	9.49	35.51	49.34	54.00	4.66
Test Data for High 11 Channel									
2 483.657	66.33	Peak	H	27.47	9.49	35.51	67.78	74.00	6.22
2 483.508	50.92	Average	H	27.47	9.49	35.51	52.37	54.00	1.63
2 485.404	60.70	Peak	V	27.47	9.49	35.51	62.15	74.00	11.85
2 483.508	46.65	Average	V	27.47	9.49	35.51	48.10	54.00	5.90

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



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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 : November 21, 2018 ~ November 23, 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	41.50	Peak	H	30.84	12.31	35.74	48.91	74.00	25.09
	29.32	Average	H				36.73	54.00	17.27
	42.01	Peak	V				49.42	74.00	24.58
	31.77	Average	V				39.18	54.00	14.82
Test Data for Middle Channel									
4 884.00	40.81	Peak	H	30.01	12.43	35.80	47.45	74.00	26.55
	33.00	Average	H				39.64	54.00	14.36
	41.50	Peak	V				48.14	74.00	25.86
	32.25	Average	V				38.89	54.00	15.11

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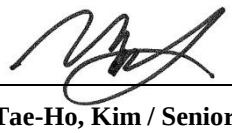
Test Data for High 11 Channel									
4 924.00	40.12	Peak	H	31.15	12.81	35.96	48.12	74.00	25.88
	32.18	Average	H				40.18	54.00	13.82
	39.09	Peak	V				47.09	74.00	26.91
	30.68	Average	V				38.68	54.00	15.32
Test Data for High 12 Channel									
4 934.00	41.05	Peak	H	31.15	12.81	35.96	49.05	74.00	24.95
	31.61	Average	H				39.61	54.00	14.39
	41.18	Peak	V				49.18	74.00	24.82
	32.30	Average	V				40.30	54.00	13.70
Test Data for High 13 Channel									
4 944.00	39.59	Peak	H	31.15	12.81	35.96	47.59	74.00	26.41
	31.13	Average	H				39.13	54.00	14.87
	42.75	Peak	V				50.75	74.00	23.25
	31.35	Average	V				39.35	54.00	14.65

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



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9.6.2.1.2 Test data for Antenna 1

-. Test Date : November 21, 2018 ~ November 23, 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	42.08	Peak	H	30.84	12.31	35.74	49.49	74.00	24.51
	30.31	Average	H				37.72	54.00	16.28
	40.50	Peak	V				47.91	74.00	26.09
	30.77	Average	V				38.18	54.00	15.82
Test Data for Middle Channel									
4 884.00	39.27	Peak	H	30.01	12.43	35.80	45.91	74.00	28.09
	31.47	Average	H				38.11	54.00	15.89
	42.63	Peak	V				49.27	74.00	24.73
	32.82	Average	V				39.46	54.00	14.54

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Test Data for High 11 Channel									
4 924.00	39.97	Peak	H	31.15	12.81	35.96	47.97	74.00	26.03
	32.76	Average	H				40.76	54.00	13.24
	39.14	Peak	V				47.14	74.00	26.86
	29.66	Average	V				37.66	54.00	16.34
Test Data for High 12 Channel									
4 934.00	40.04	Peak	H	31.15	12.81	35.96	48.04	74.00	25.96
	31.58	Average	H				39.58	54.00	14.42
	42.36	Peak	V				50.36	74.00	23.64
	31.47	Average	V				39.47	54.00	14.53
Test Data for High 13 Channel									
4 944.00	39.66	Peak	H	31.15	12.81	35.96	47.66	74.00	26.34
	31.60	Average	H				39.60	54.00	14.40
	42.52	Peak	V				50.52	74.00	23.48
	31.35	Average	V				39.35	54.00	14.65

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: Tae-Ho, Kim / Senior Manager

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9.6.2.2 Test data for 802.11g WLAN Mode

9.6.2.2.1 Test data for Multiple Transmit

-. Test Date : November 21, 2018 ~ November 23, 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	42.67	Peak	H	30.84	12.31	35.74	50.08	74.00	23.92
	31.14	Average	H				38.55	54.00	15.45
	40.38	Peak	V				47.79	74.00	26.21
	31.74	Average	V				39.15	54.00	14.85
Test Data for Middle Channel									
4 884.00	39.44	Peak	H	30.01	12.43	35.80	46.08	74.00	27.92
	33.19	Average	H				39.83	54.00	14.17
	42.27	Peak	V				48.91	74.00	25.09
	32.05	Average	V				38.69	54.00	15.31

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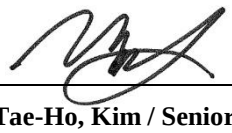
Test Data for High 11 Channel									
4 924.00	41.26	Peak	H	31.15	12.81	35.96	49.26	74.00	24.74
	32.02	Average	H				40.02	54.00	13.98
	39.23	Peak	V				47.23	74.00	26.77
	30.15	Average	V				38.15	54.00	15.85
Test Data for High 12 Channel									
4 934.00	40.19	Peak	H	31.15	12.81	35.96	48.19	74.00	25.81
	30.50	Average	H				38.50	54.00	15.50
	41.62	Peak	V				49.62	74.00	24.38
	31.61	Average	V				39.61	54.00	14.39
Test Data for High 13 Channel									
4 944.00	39.90	Peak	H	31.15	12.81	35.96	47.90	74.00	26.10
	32.43	Average	H				40.43	54.00	13.57
	42.38	Peak	V				50.38	74.00	23.62
	31.13	Average	V				39.13	54.00	14.87

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



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9.6.2.3 Test data for 802.11n_HT20 WLAN Mode

9.6.2.3.1 Test data for Multiple Transmit

-. Test Date : November 21, 2018 ~ November 23, 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	43.04	Peak	H	30.84	12.31	35.74	50.45	74.00	23.55
	29.75	Average	H				37.16	54.00	16.84
	40.67	Peak	V				48.08	74.00	25.92
	32.36	Average	V				39.77	54.00	14.23
Test Data for Middle Channel									
4 884.00	40.94	Peak	H	30.01	12.43	35.80	47.58	74.00	26.42
	31.81	Average	H				38.45	54.00	15.55
	42.24	Peak	V				48.88	74.00	25.12
	31.74	Average	V				38.38	54.00	15.62

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Test Data for High 11 Channel									
4 924.00	40.36	Peak	H	31.15	12.81	35.96	48.36	74.00	25.64
	32.04	Average	H				40.04	54.00	13.96
	38.98	Peak	V				46.98	74.00	27.02
	30.69	Average	V				38.69	54.00	15.31
Test Data for High 12 Channel									
4 934.00	41.34	Peak	H	31.15	12.81	35.96	49.34	74.00	24.66
	30.32	Average	H				38.32	54.00	15.68
	41.08	Peak	V				49.08	74.00	24.92
	31.59	Average	V				39.59	54.00	14.41
Test Data for High 13 Channel									
4 944.00	40.63	Peak	H	31.15	12.81	35.96	48.63	74.00	25.37
	31.31	Average	H				39.31	54.00	14.69
	42.56	Peak	V				50.56	74.00	23.44
	32.38	Average	V				40.38	54.00	13.62

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

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9.6.2.4 Test data for 802.11n_HT40 WLAN Mode

9.6.2.4.1 Test data for Multiple Transmit

-. Test Date : November 21, 2018 ~ November 23, 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	42.75	Peak	H	30.84	12.31	35.74	50.16	74.00	23.84
	30.57	Average	H				37.98	54.00	16.02
	41.14	Peak	V				48.55	74.00	25.45
	31.38	Average	V				38.79	54.00	15.21
Test Data for Middle Channel									
4 884.00	39.12	Peak	H	30.01	12.43	35.80	45.76	74.00	28.24
	31.24	Average	H				37.88	54.00	16.12
	42.65	Peak	V				49.29	74.00	24.71
	31.49	Average	V				38.13	54.00	15.87

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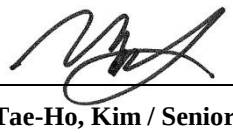
Test Data for High 9 Channel									
4 904.00	40.50	Peak	H	31.15	12.81	35.96	48.50	74.00	25.50
	31.66	Average	H				39.66	54.00	14.34
	40.47	Peak	V				48.47	74.00	25.53
	29.33	Average	V				37.33	54.00	16.67
Test Data for High 10 Channel									
4 914.00	40.72	Peak	H	31.15	12.81	35.96	48.72	74.00	25.28
	31.02	Average	H				39.02	54.00	14.98
	40.44	Peak	V				48.44	74.00	25.56
	32.03	Average	V				40.03	54.00	13.97
Test Data for High 11 Channel									
4 924.00	39.36	Peak	H	31.15	12.81	35.96	47.36	74.00	26.64
	32.41	Average	H				40.41	54.00	13.59
	42.05	Peak	V				50.05	74.00	23.95
	32.43	Average	V				40.43	54.00	13.57

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



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10. PEAK POWER SPECTRUL DENSITY

10.1 Operating environment

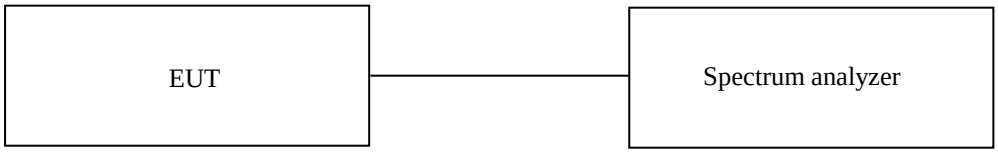
Temperature : 23 ℃

Relative humidity : 45 % 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 kHz ≤ RBW ≤100 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	Mar. 14, 2018 (1Y)

All test equipment used is calibrated on a regular basis.

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

10.4 Test data for 802.11b WLAN Mode

10.4.1 Test data for Antenna 0

-. Test Date : November 21, 2018 ~ November 23, 2018

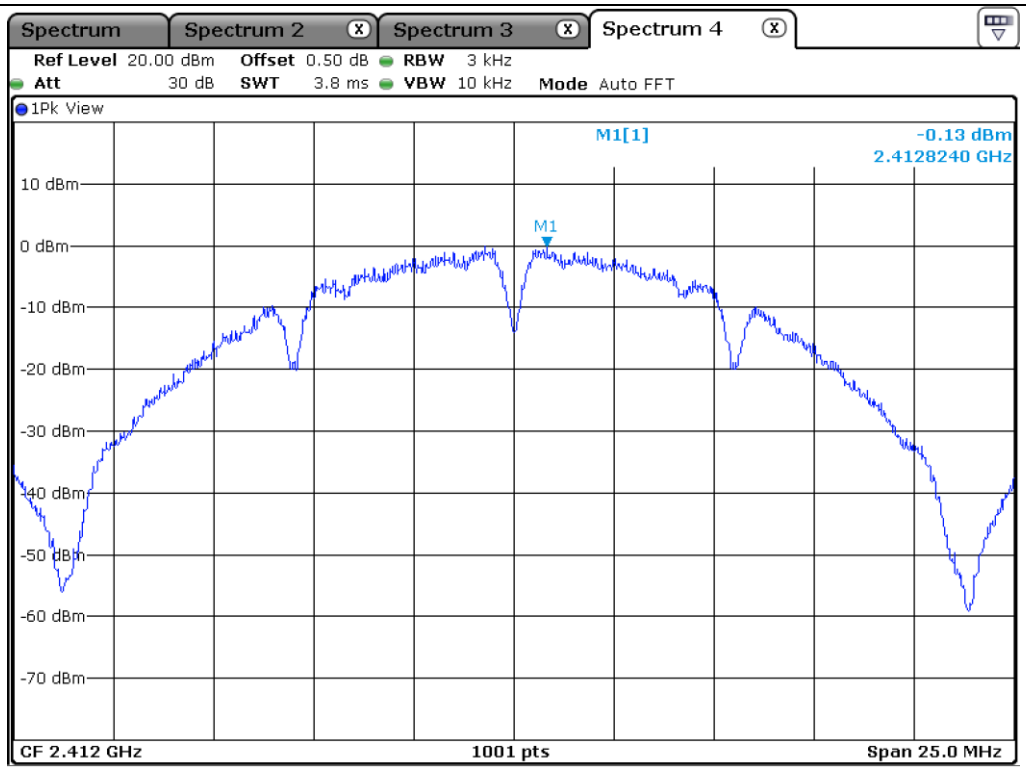
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

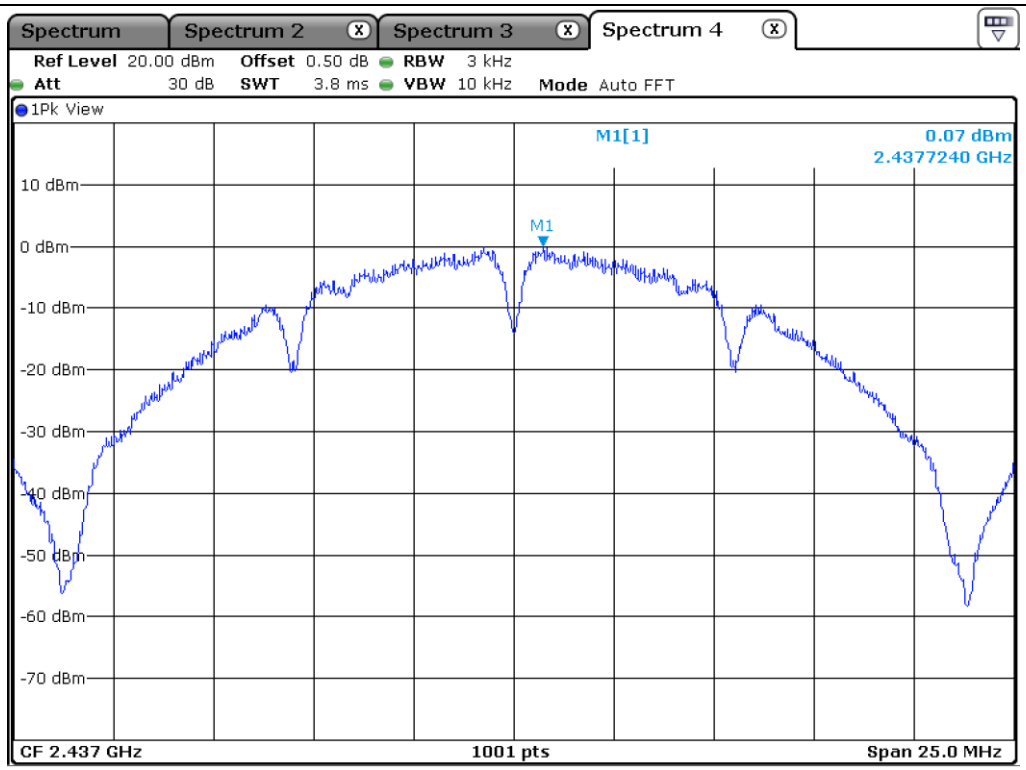
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-0.13	8.00	8.13
Middle	2 437.00	0.07	8.00	7.93
High 11	2 462.00	0.07	8.00	7.93
High 12	2 467.00	-2.86	8.00	10.86
High 13	2 472.00	-4.26	8.00	12.26

Remark. Margin = Limit – Measured value

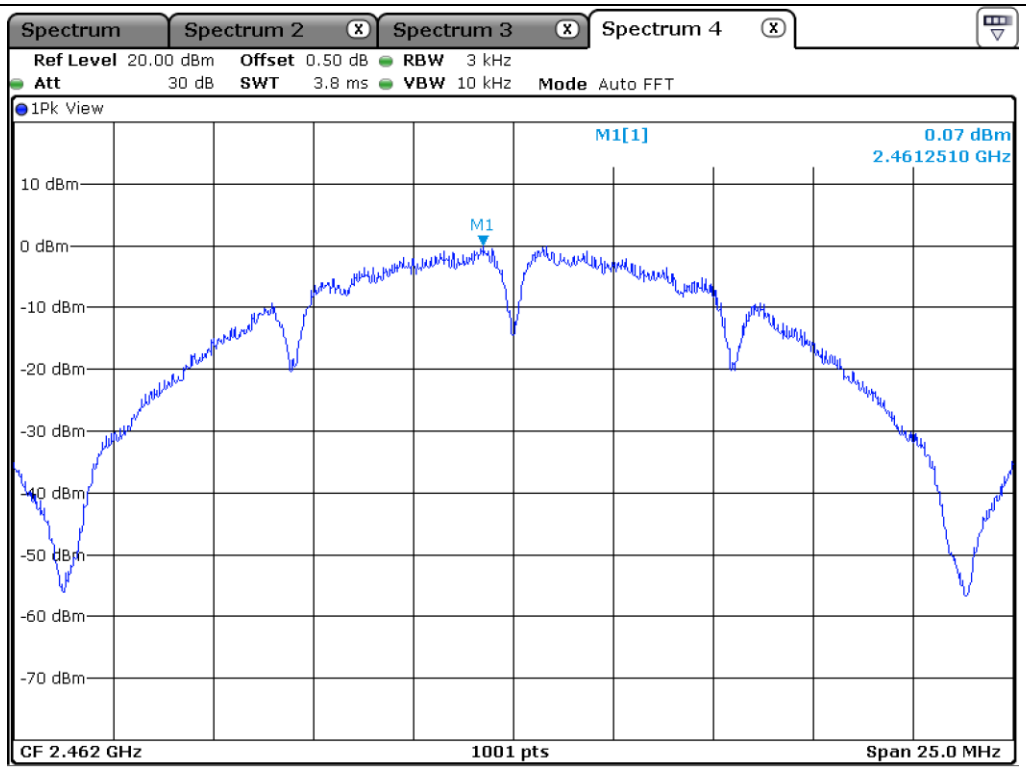
Tested by: Tae-Ho, Kim / Senior Manager



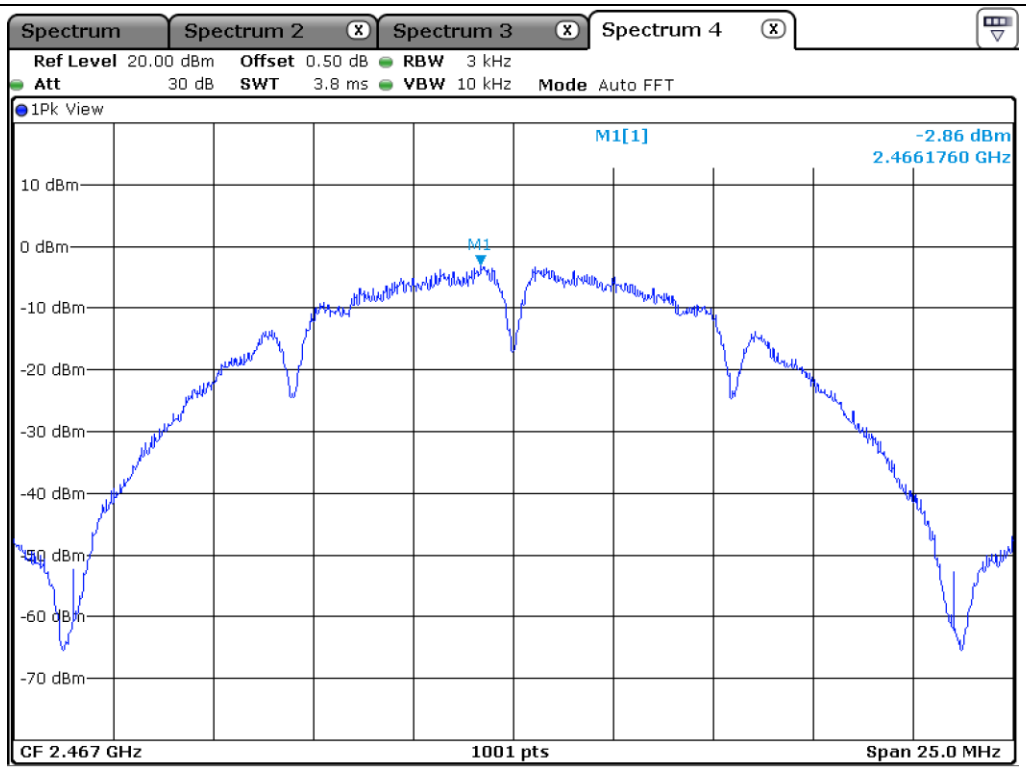
Low Channel



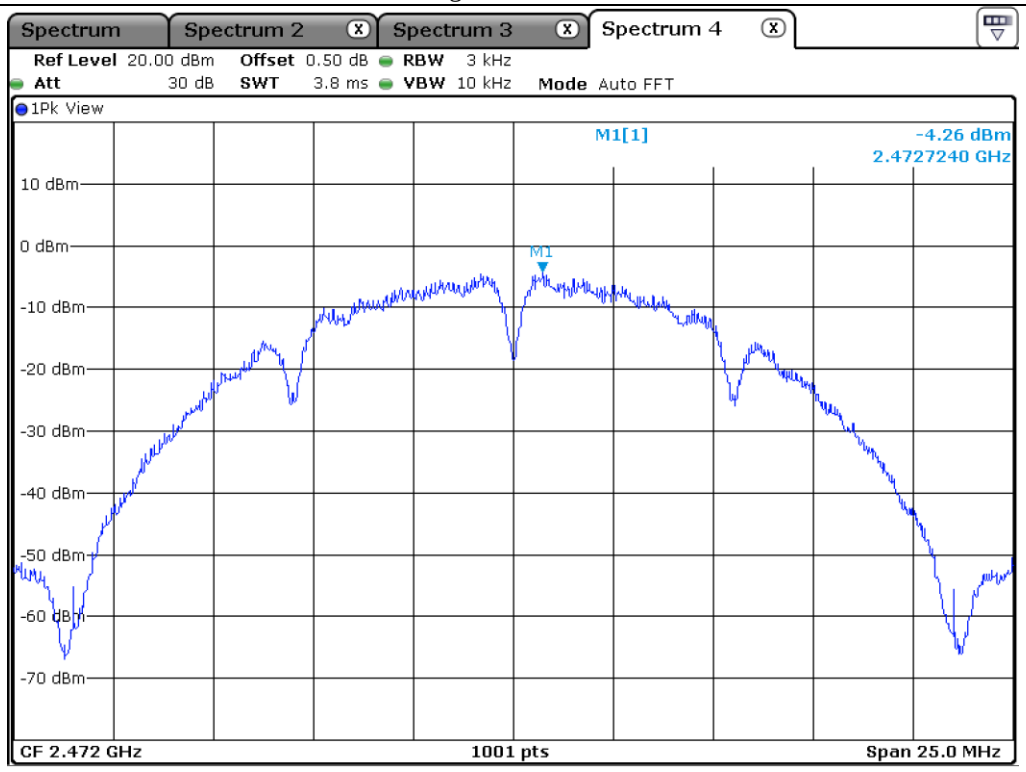
Middle Channel



High Channel 11



High Channel 12



High Channel 13

10.4.2 Test data for Antenna 1

-. Test Date : November 21, 2018 ~ November 23, 2018

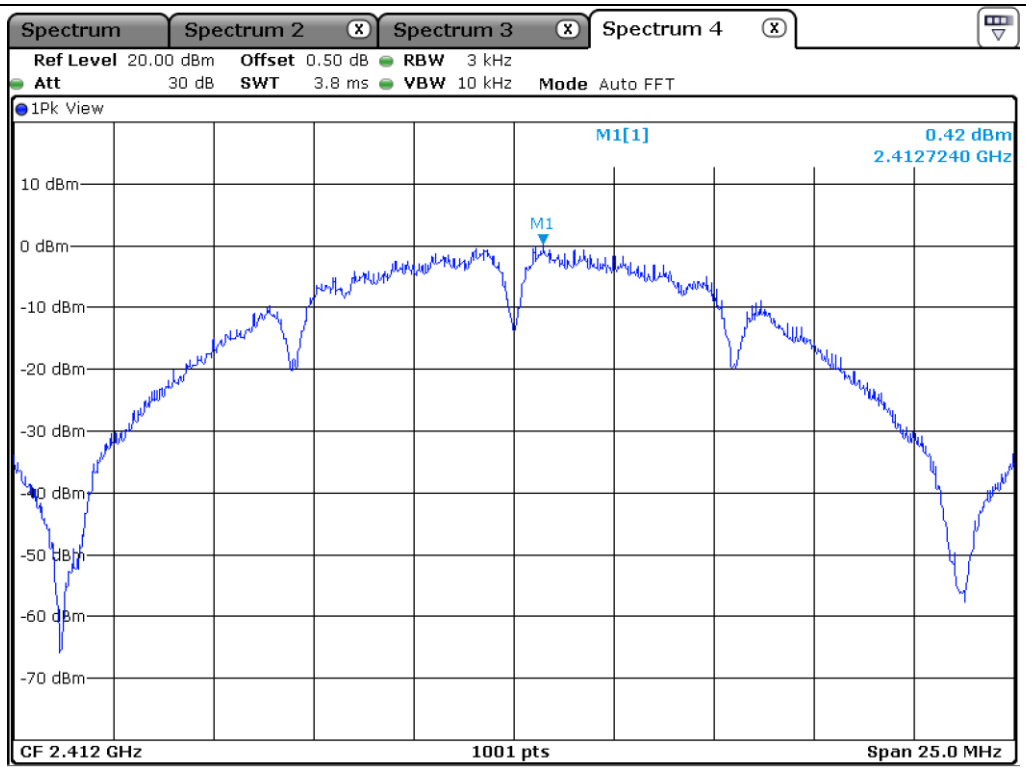
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

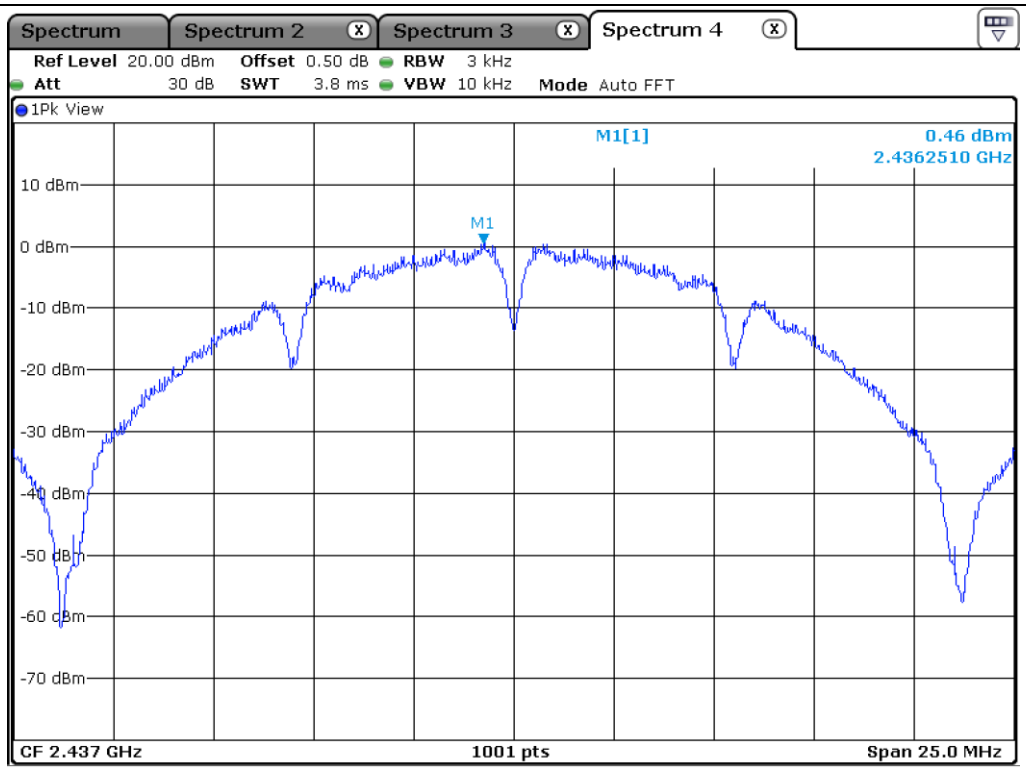
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	0.42	8.00	7.58
Middle	2 437.00	0.46	8.00	7.54
High 11	2 462.00	-0.06	8.00	8.06
High 12	2 467.00	-2.16	8.00	10.16
High 13	2 472.00	-6.18	8.00	14.18

Remark. Margin = Limit – Measured value

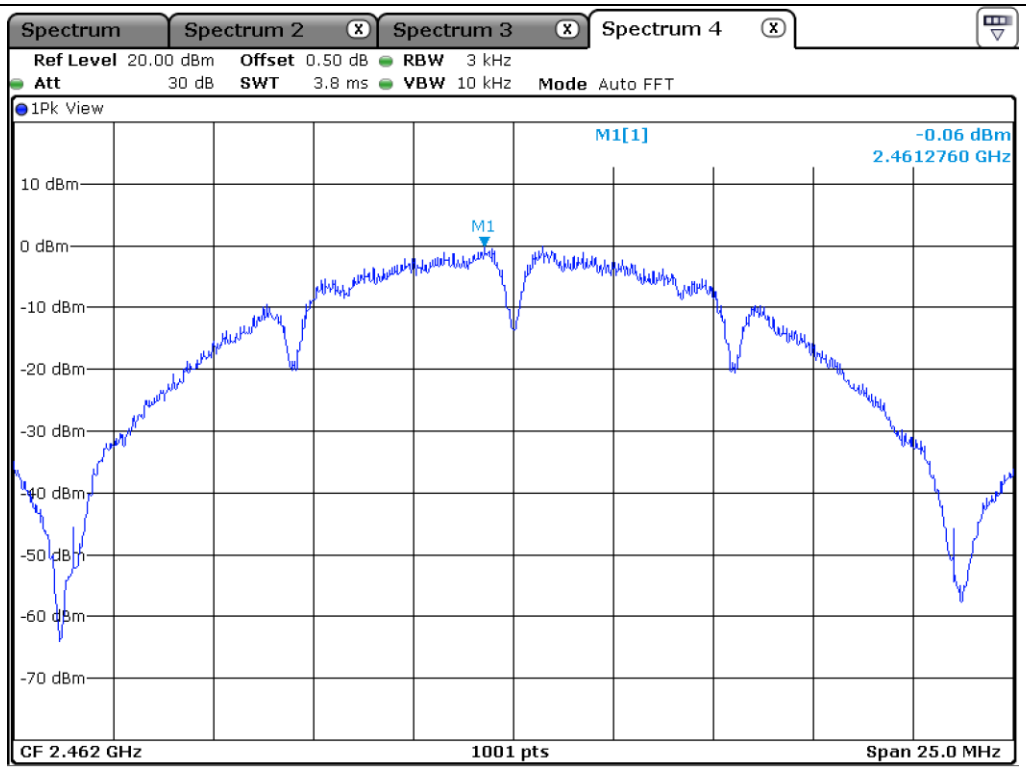
Tested by: Tae-Ho, Kim / Senior Manager



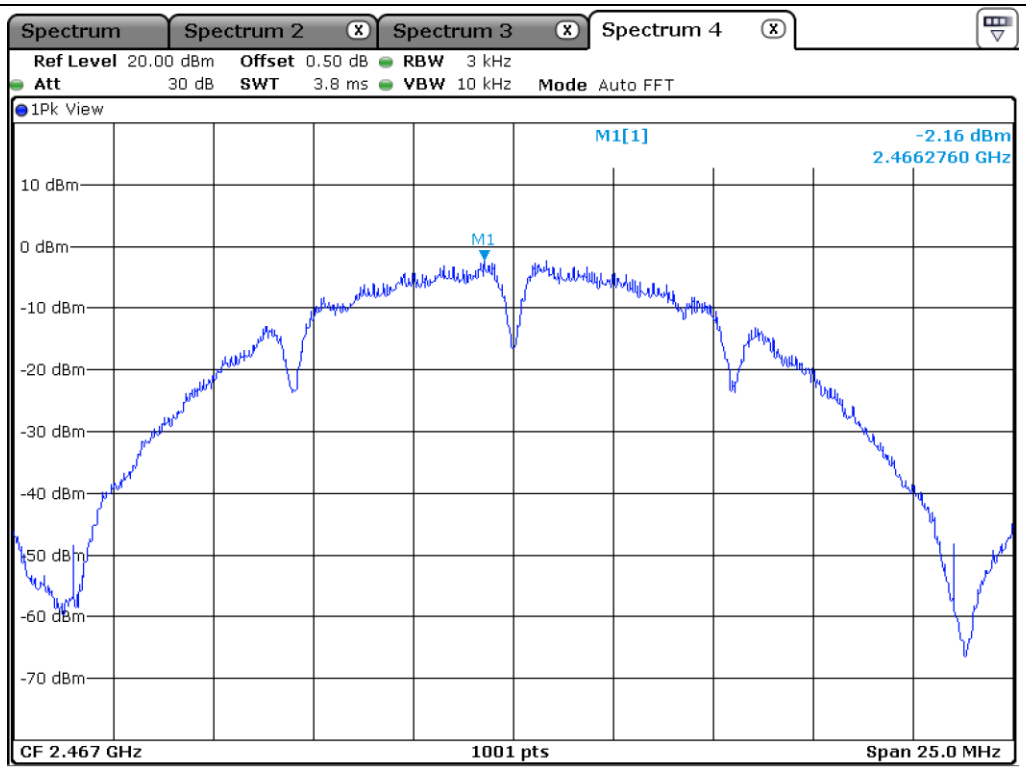
Low Channel



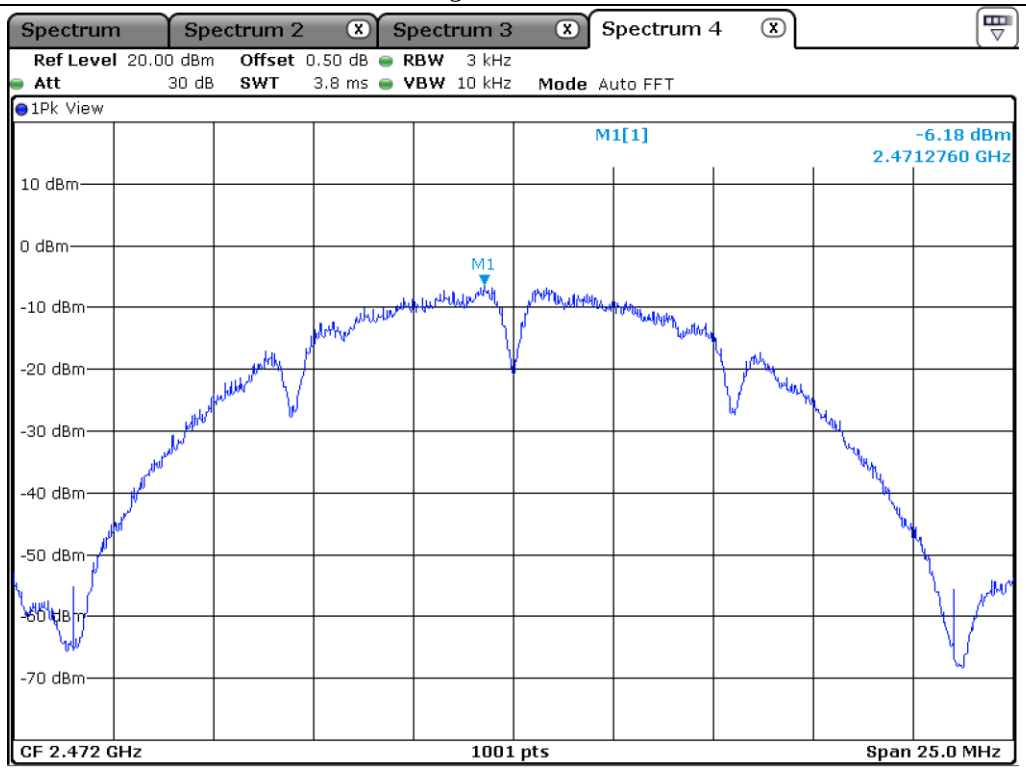
Middle Channel



High Channel 11



High Channel 12



High Channel 13

10.5 Test data for 802.11g WLAN Mode

10.5.1 Test data for Antenna 0

-. Test Date : November 21, 2018 ~ November 23, 2018

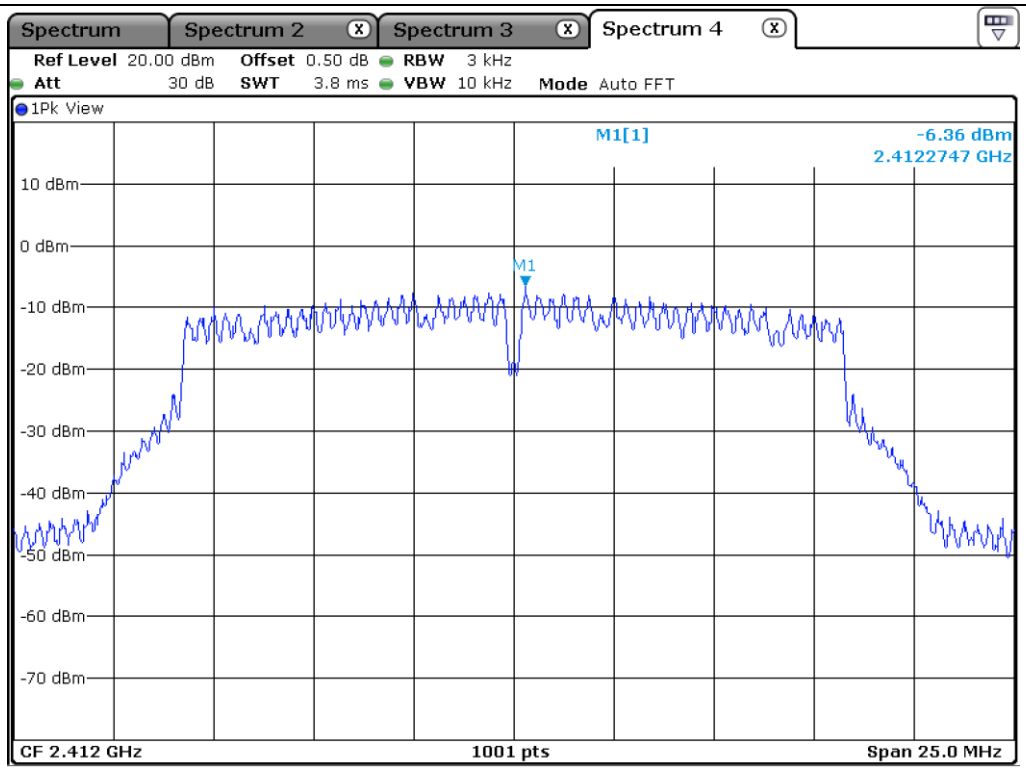
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

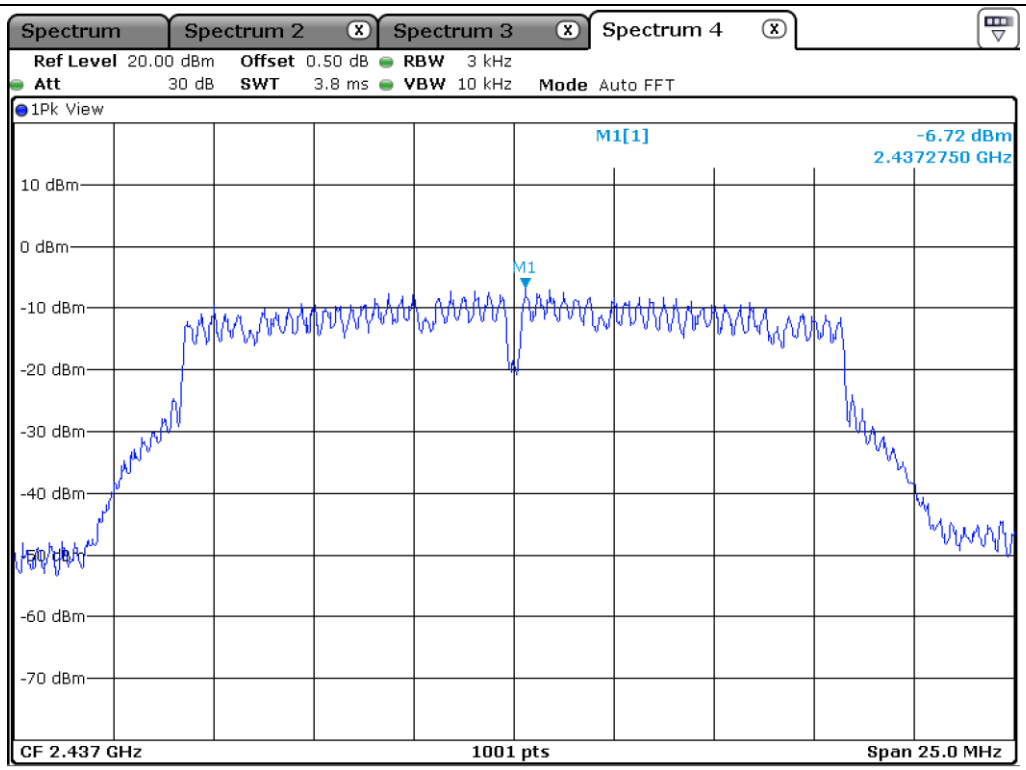
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-6.36	8.00	14.36
Middle	2 437.00	-6.72	8.00	14.72
High 11	2 462.00	-6.11	8.00	14.11
High 12	2 467.00	-12.14	8.00	20.14
High 13	2 472.00	-13.09	8.00	21.09

Remark. Margin = Limit – Measured value

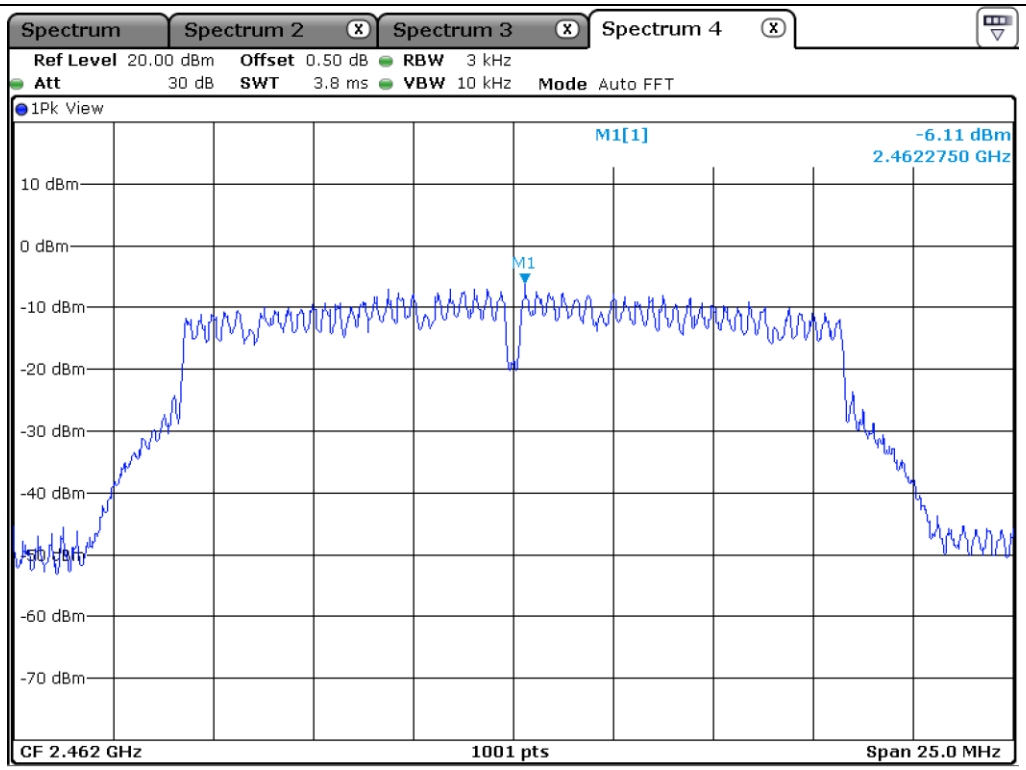
Tested by: Tae-Ho, Kim / Senior Manager



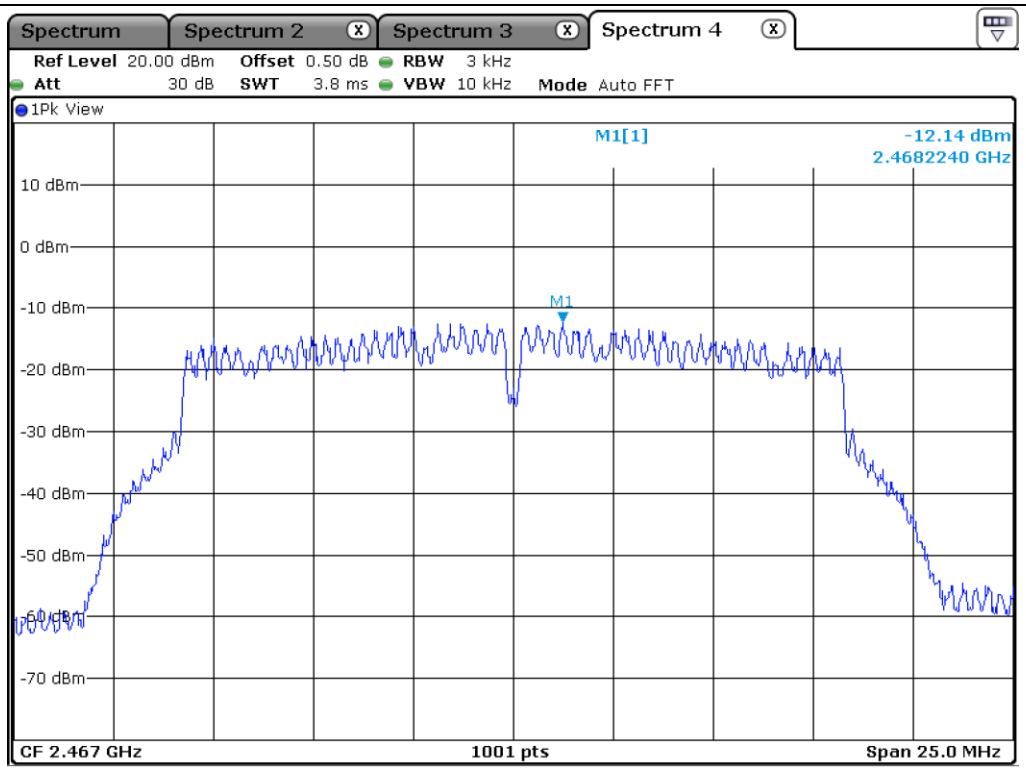
Low Channel



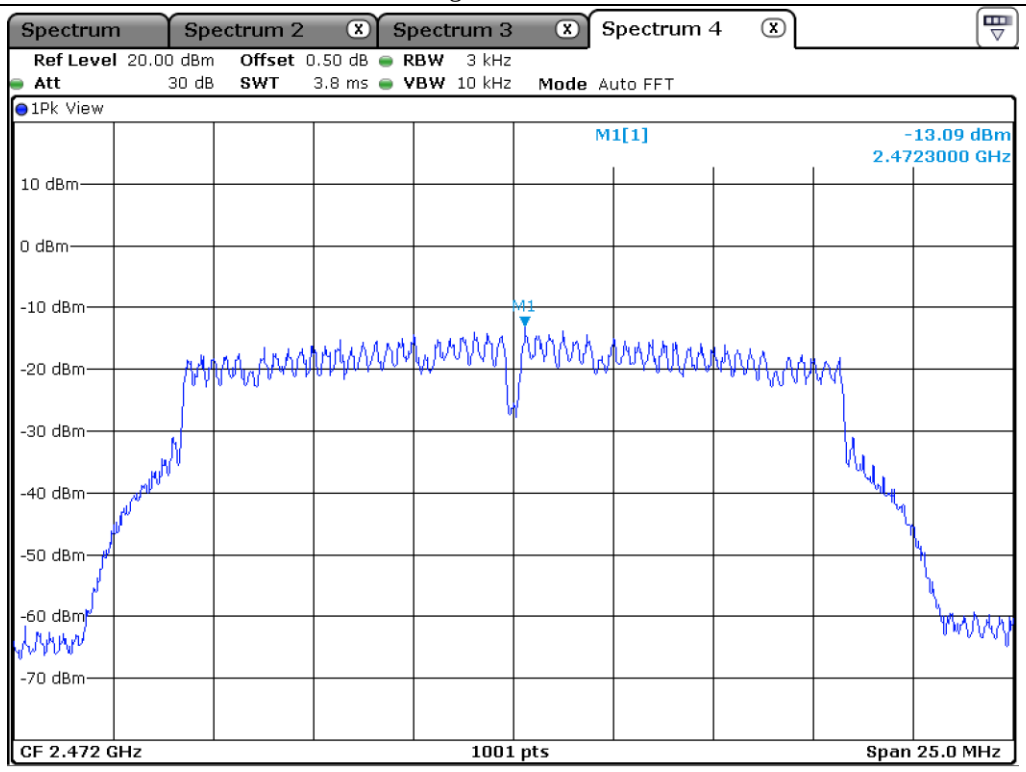
Middle Channel



High Channel 11



High Channel 12



High Channel 13

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

10.5.2 Test data for Antenna 1

-. Test Date : November 21, 2018 ~ November 23, 2018

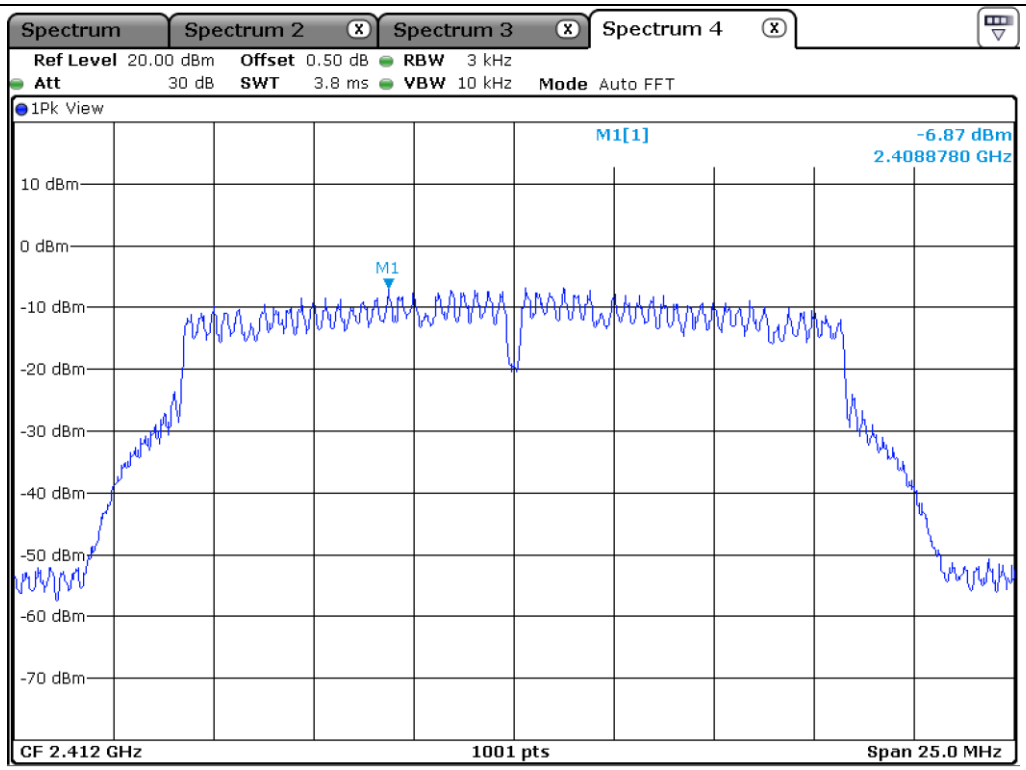
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

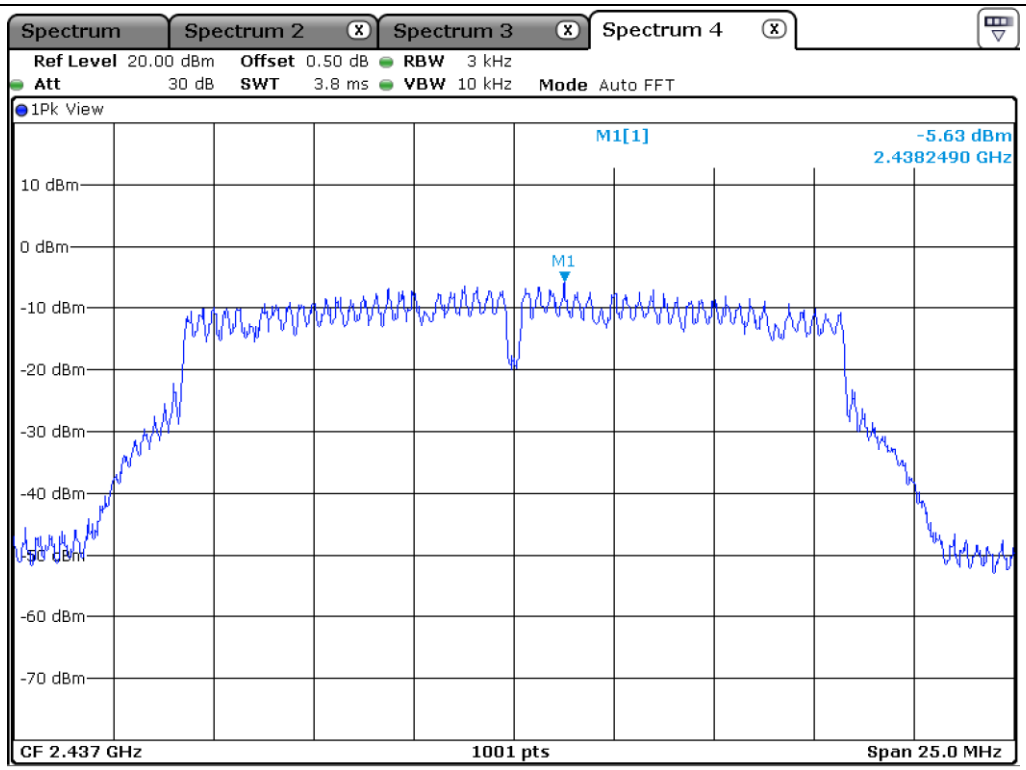
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-6.87	8.00	14.87
Middle	2 437.00	-5.63	8.00	13.63
High 11	2 462.00	-6.15	8.00	14.15
High 12	2 467.00	-11.34	8.00	19.34
High 13	2 472.00	-13.17	8.00	21.17

Remark. Margin = Limit – Measured value

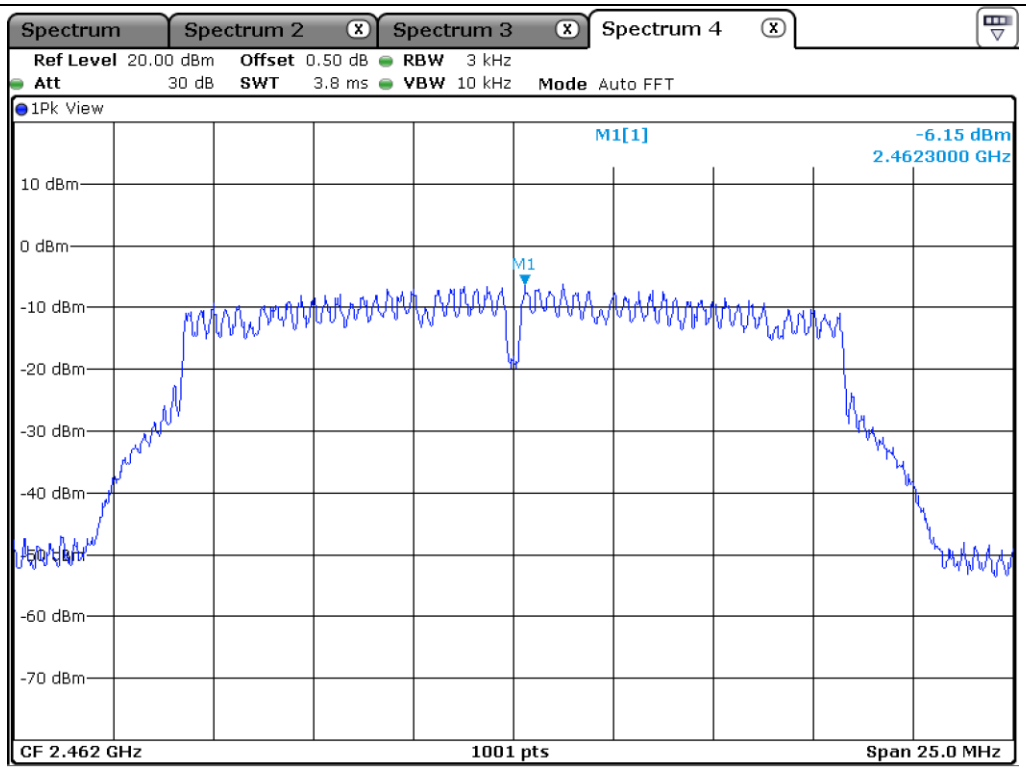
Tested by: Tae-Ho, Kim / Senior Manager



Low Channel

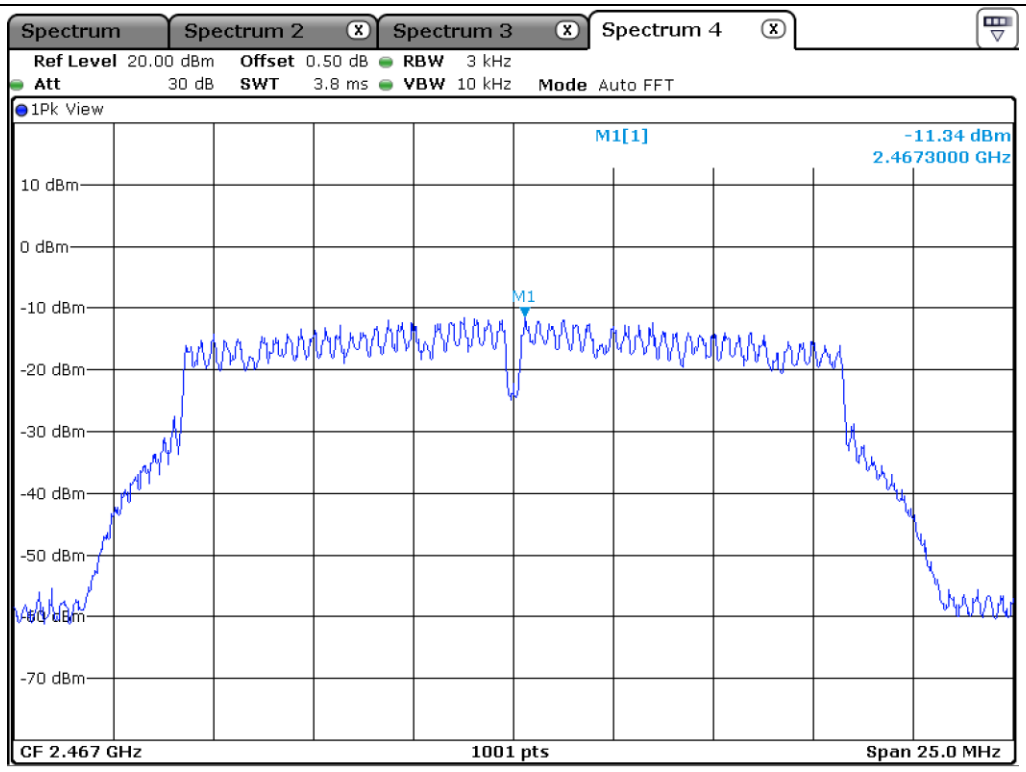


Middle Channel

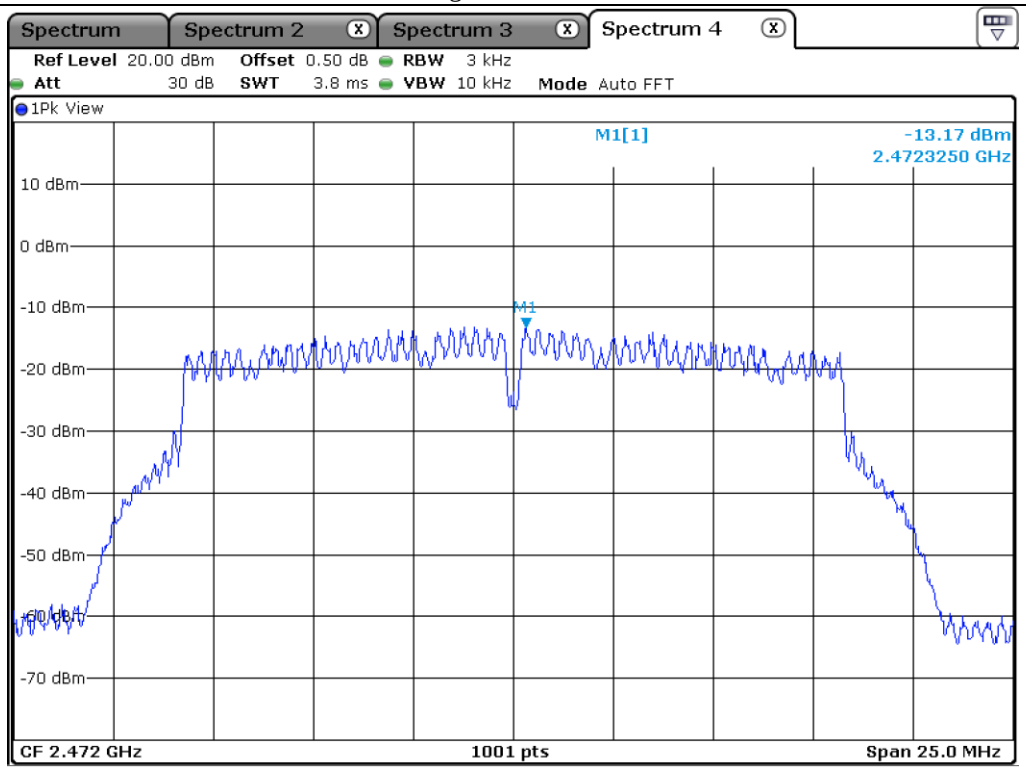


High Channel 11

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



High Channel 12



High Channel 13

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

10.5.3 Test data for Multiple Transmit

-. Test Date : November 21, 2018 ~ November 23, 2018

-. Test Result : Pass

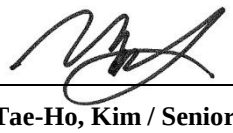
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-3.60	8.00	11.60
Middle	2 437.00	-3.13	8.00	11.13
High 11	2 462.00	-3.12	8.00	11.12
High 12	2 467.00	-8.71	8.00	16.71
High 13	2 472.00	-10.12	8.00	18.12

Remark 1 : Margin = Limit – Measured value

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

Remark 3 : Directional gain = $10*\log[(10^{G0/20}+10^{G1/20})^2/N]$ dBi



Tested by: Tae-Ho, Kim / Senior Manager

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

10.6 Test data for 802.11n_HT20 WLAN Mode

10.6.1 Test data for Antenna 0

-. Test Date : November 21, 2018 ~ November 23, 2018

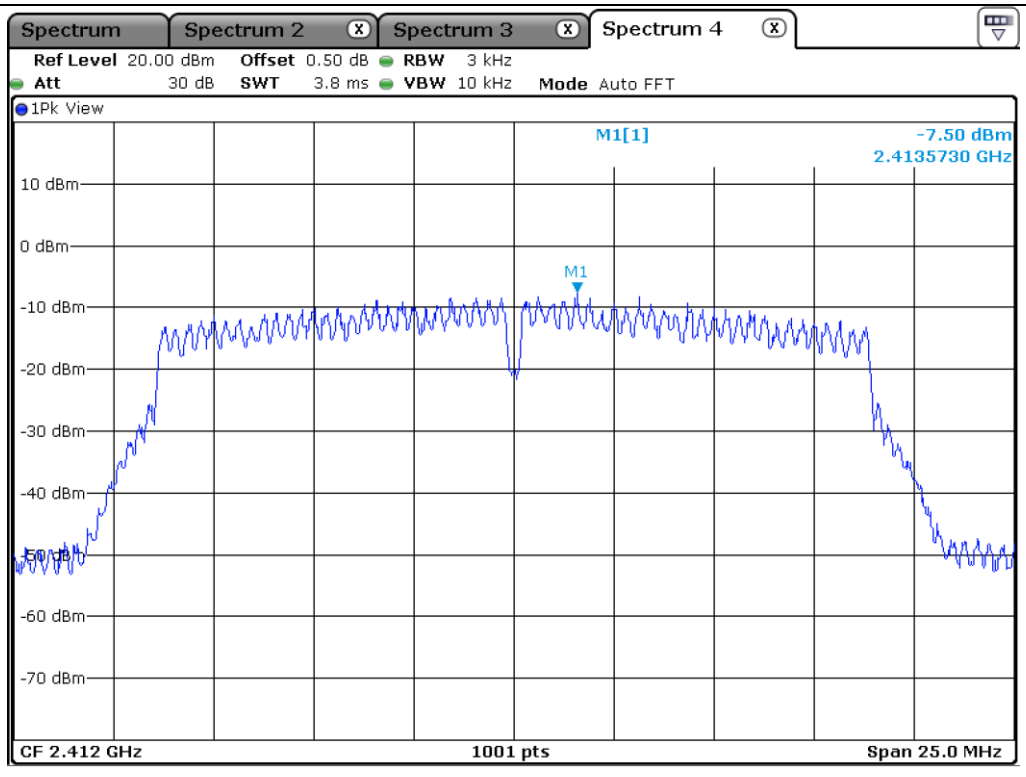
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

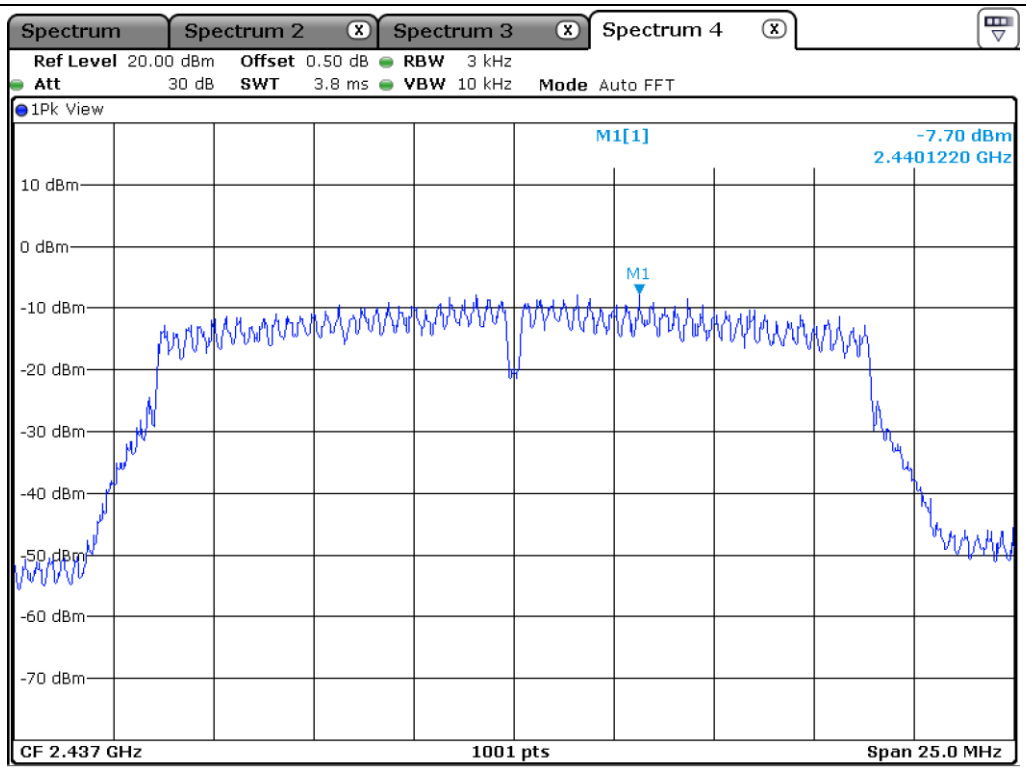
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-7.50	8.00	15.50
Middle	2 437.00	-7.70	8.00	15.70
High 11	2 462.00	-7.23	8.00	15.23
High 12	2 467.00	-11.27	8.00	19.27
High 13	2 472.00	-13.12	8.00	21.12

Remark. Margin = Limit – Measured value

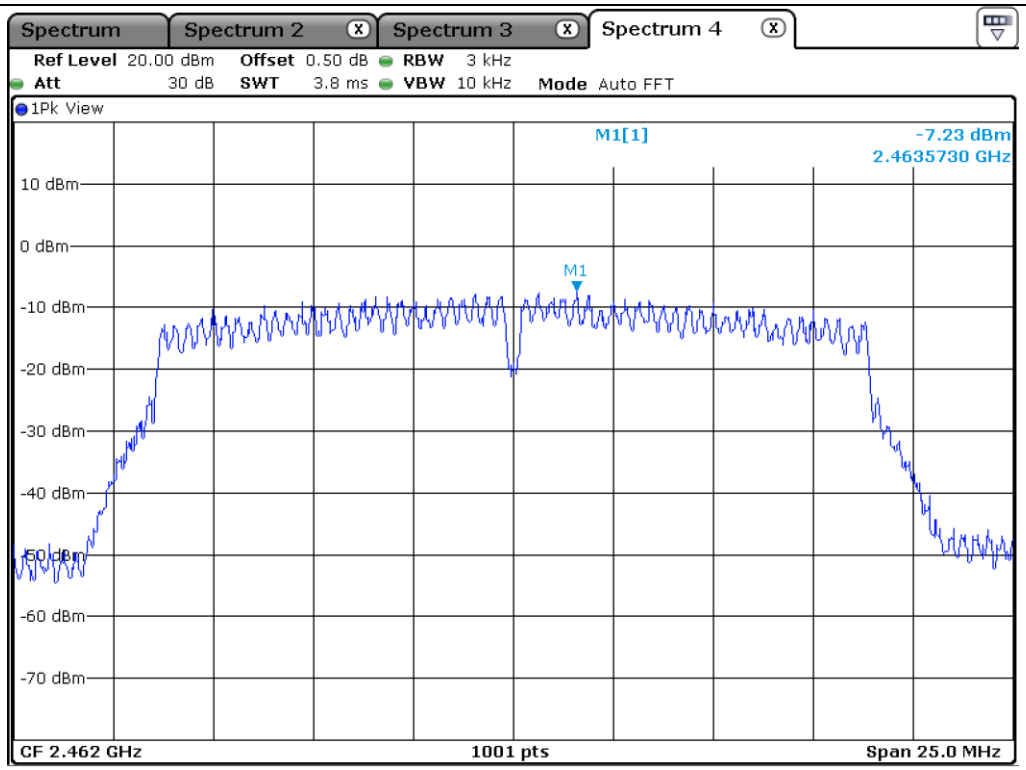
Tested by: Tae-Ho, Kim / Senior Manager



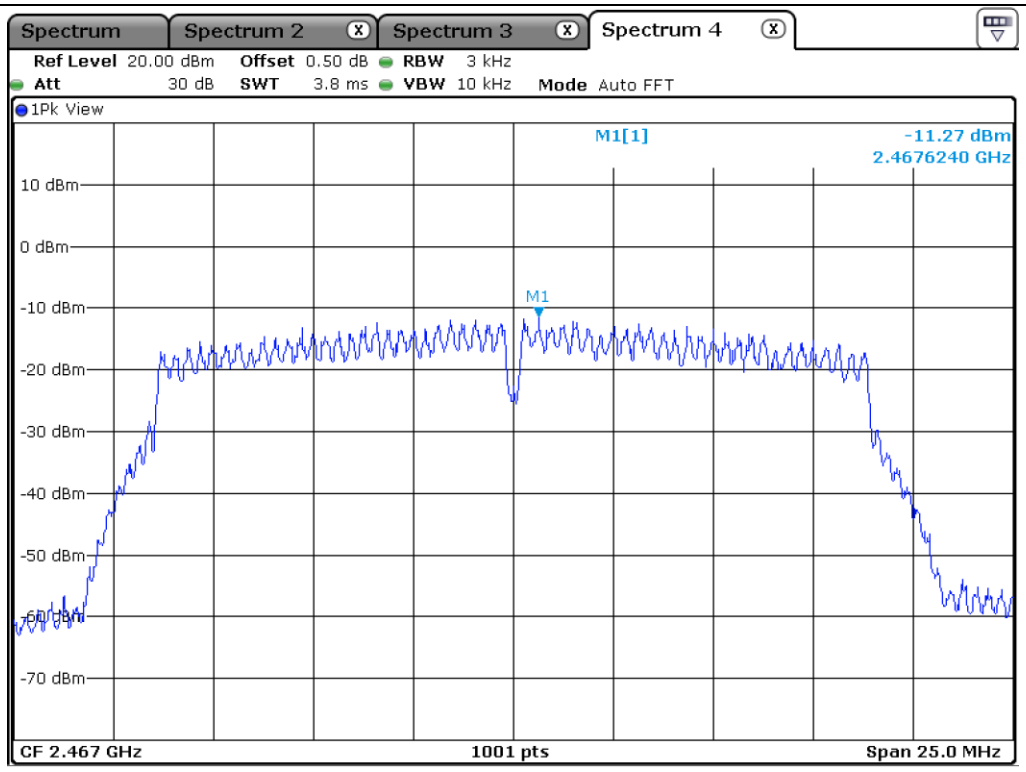
Low Channel



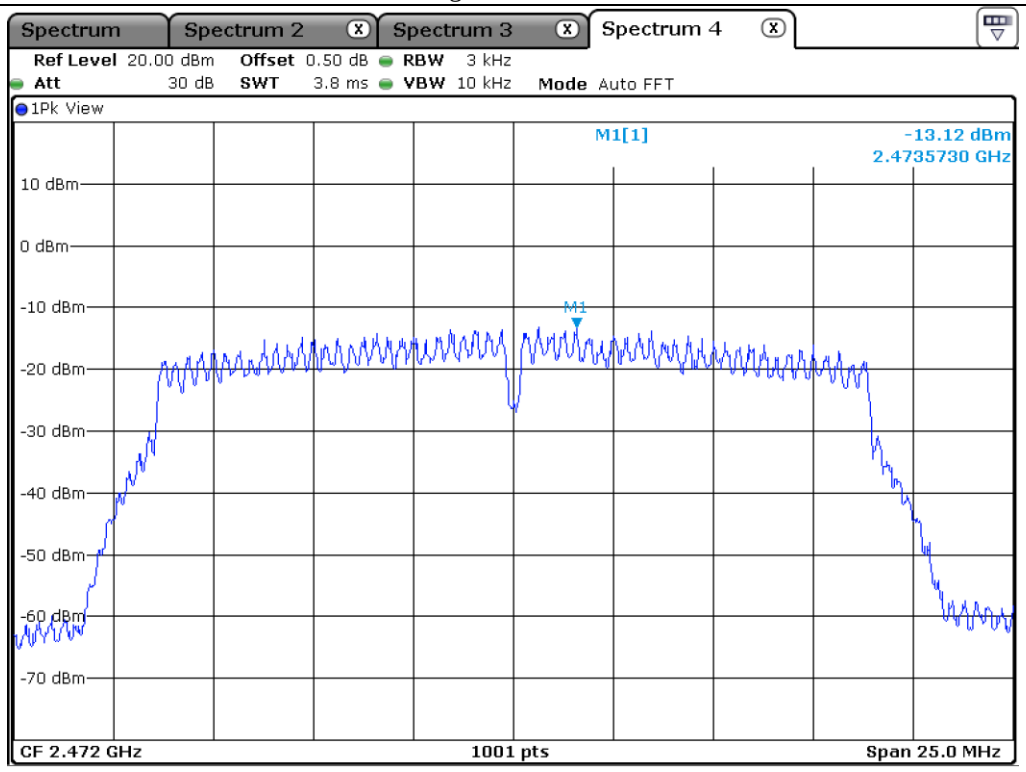
Middle Channel



High Channel 11



High Channel 12



High Channel 13

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

10.6.2 Test data for Antenna 1

-. Test Date : November 21, 2018 ~ November 23, 2018

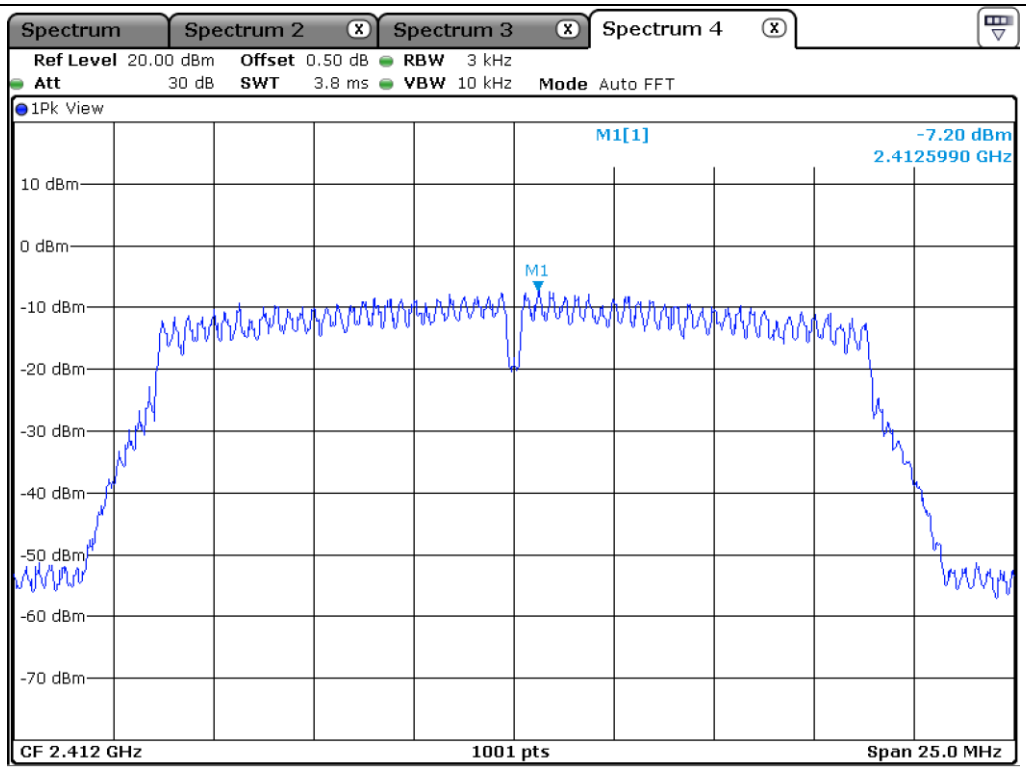
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

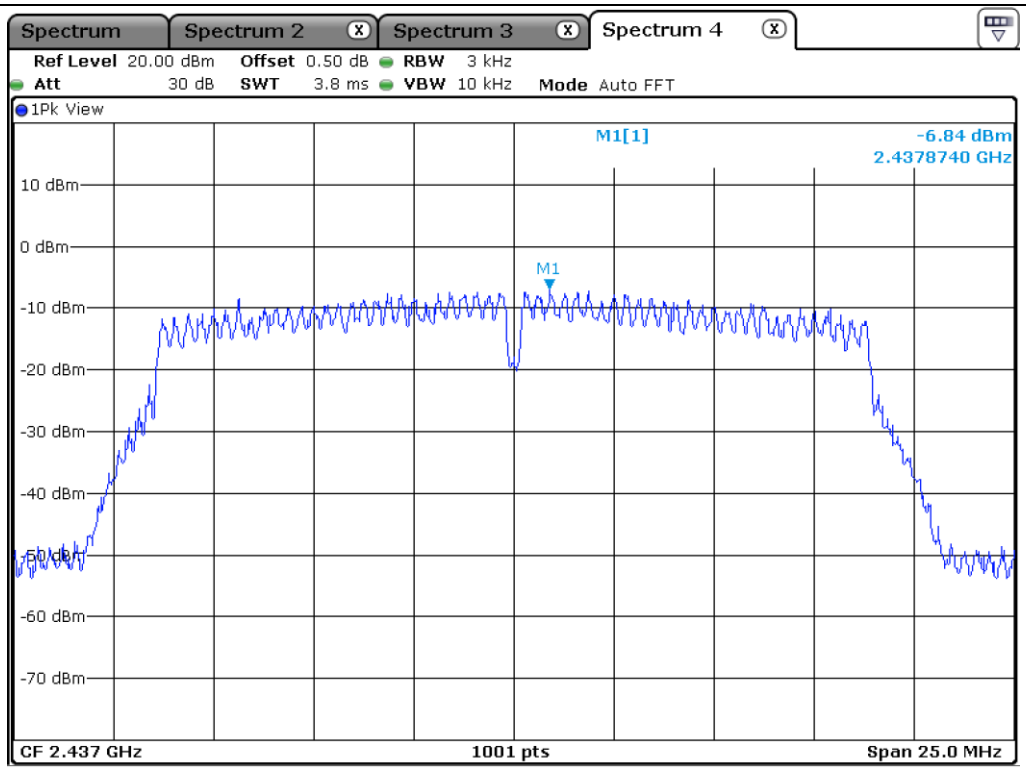
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-7.20	8.00	15.20
Middle	2 437.00	-6.84	8.00	14.84
High 11	2 462.00	-6.67	8.00	14.67
High 12	2 467.00	-10.68	8.00	18.68
High 13	2 472.00	-12.62	8.00	20.62

Remark. Margin = Limit – Measured value

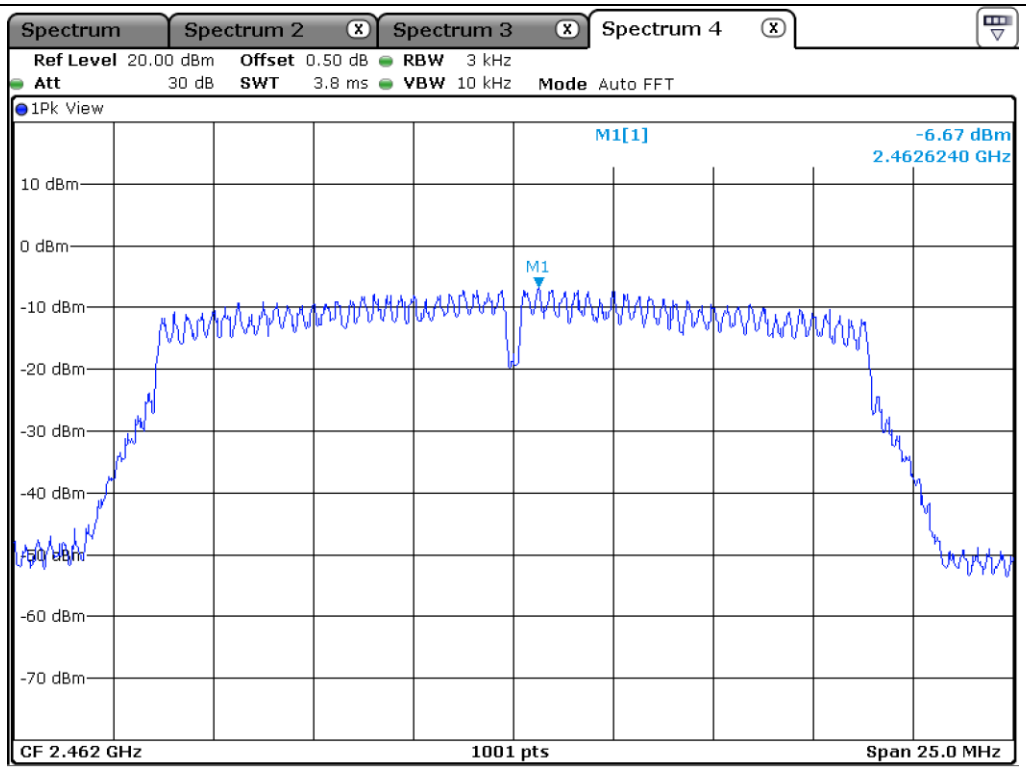
Tested by: Tae-Ho, Kim / Senior Manager



Low Channel

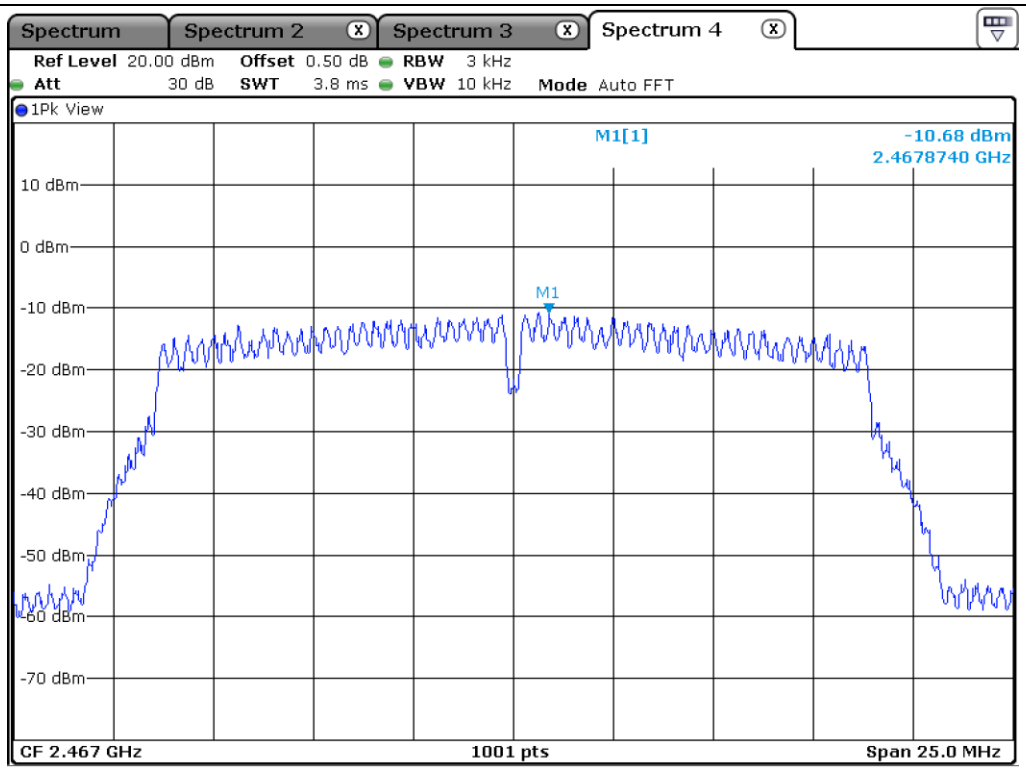


Middle Channel

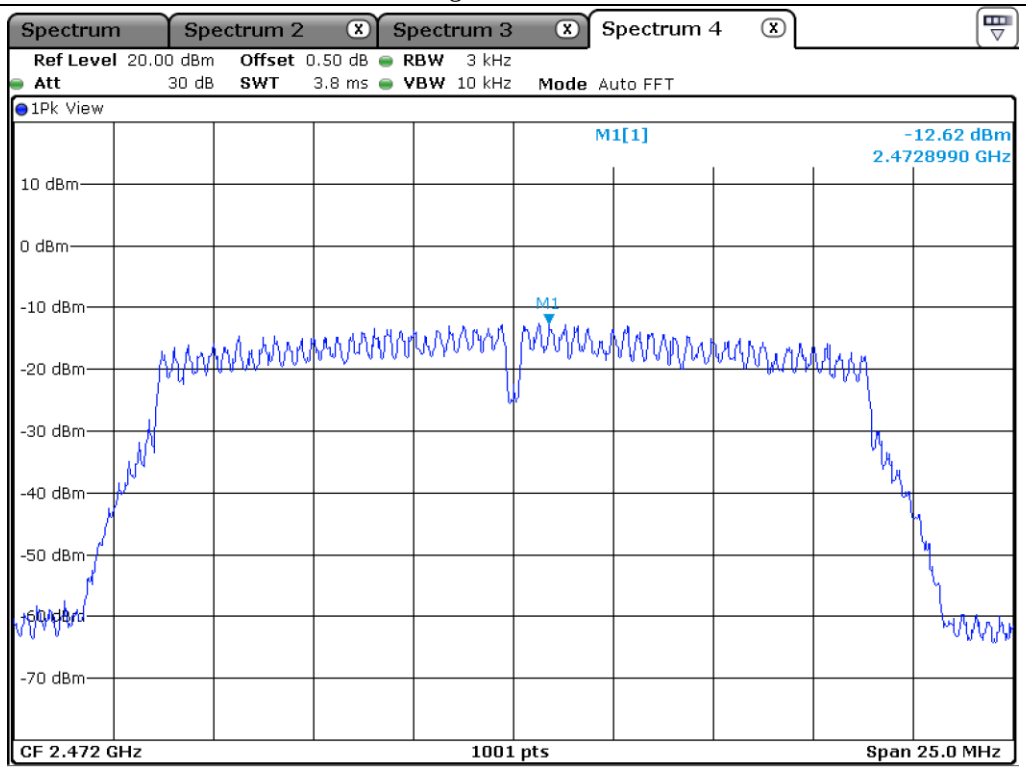


High Channel 11

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



High Channel 12



High Channel 13

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

10.6.3 Test data for Multiple Transmit

-. Test Date : November 21, 2018 ~ November 23, 2018

-. Test Result : Pass

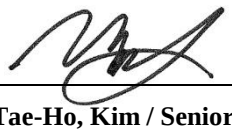
-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-4.34	8.00	12.34
Middle	2 437.00	-4.24	8.00	12.24
High 11	2 462.00	-3.93	8.00	11.93
High 12	2 467.00	-7.95	8.00	15.95
High 13	2 472.00	-9.85	8.00	17.85

Remark 1 : Margin = Limit – Measured value

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

Remark 3 : Directional gain = $10*\log[(10^{G0/20}+10^{G1/20})^2/N]$ dBi



Tested by: Tae-Ho, Kim / Senior Manager

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

10.7 Test data for 802.11n_HT40 WLAN Mode

10.7.1 Test data for Antenna 0

-. Test Date : November 21, 2018 ~ November 23, 2018

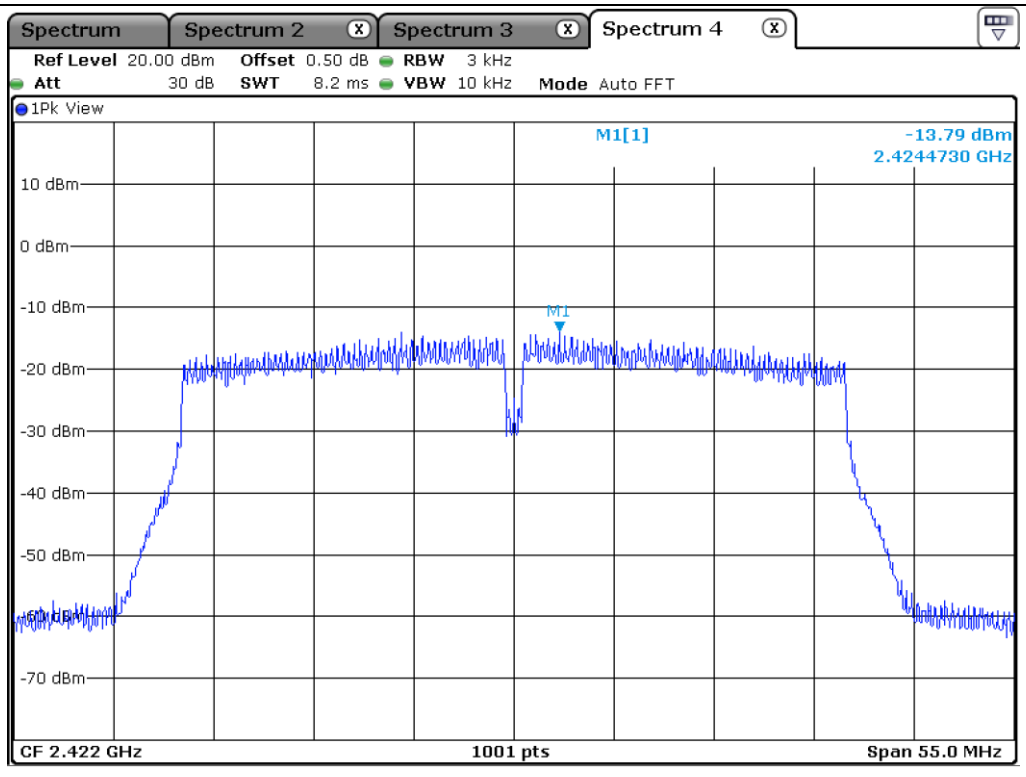
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

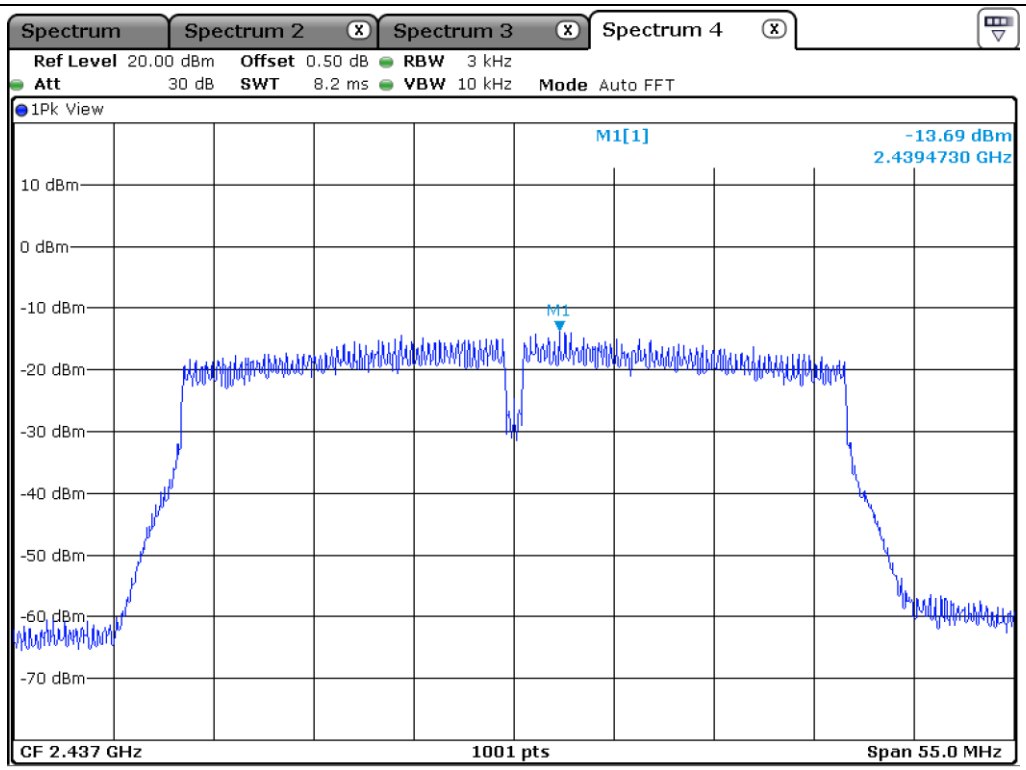
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-13.79	8.00	21.79
Middle	2 437.00	-13.69	8.00	21.69
High 9	2 452.00	-12.70	8.00	20.70
High 10	2 457.00	-14.64	8.00	22.64
High 11	2 462.00	-15.56	8.00	23.56

Remark. Margin = Limit – Measured value

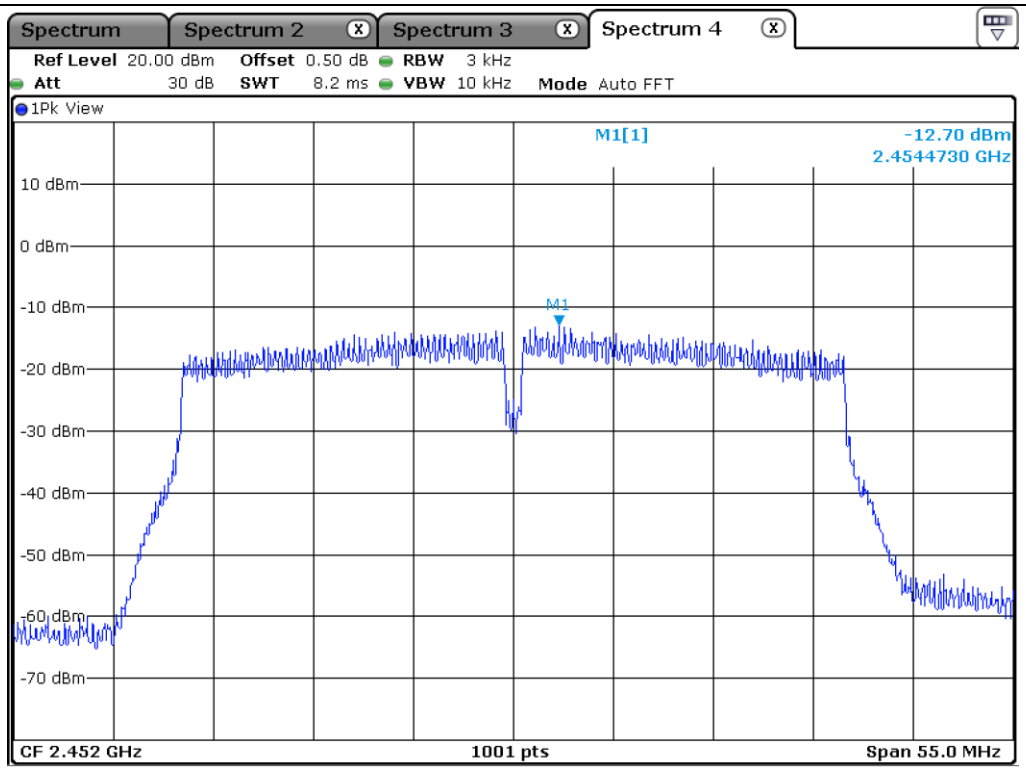
Tested by: Tae-Ho, Kim / Senior Manager



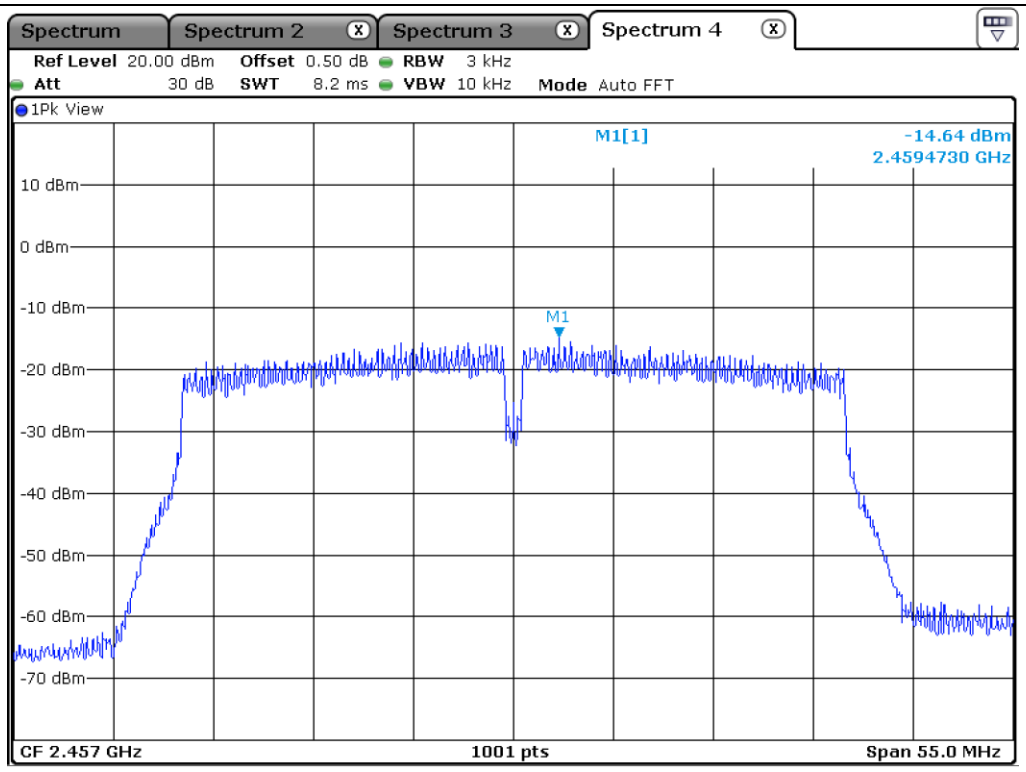
Low Channel



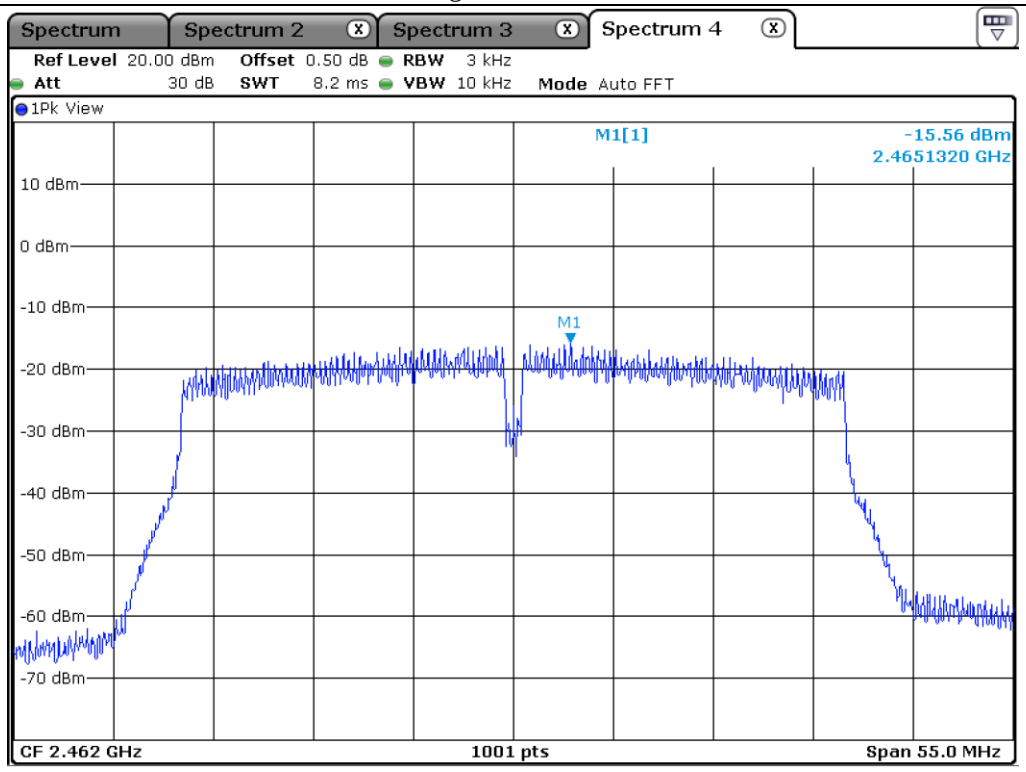
Middle Channel



High Channel 9



High Channel 10



High Channel 11

10.7.2 Test data for Antenna 1

-. Test Date : November 21, 2018 ~ November 23, 2018

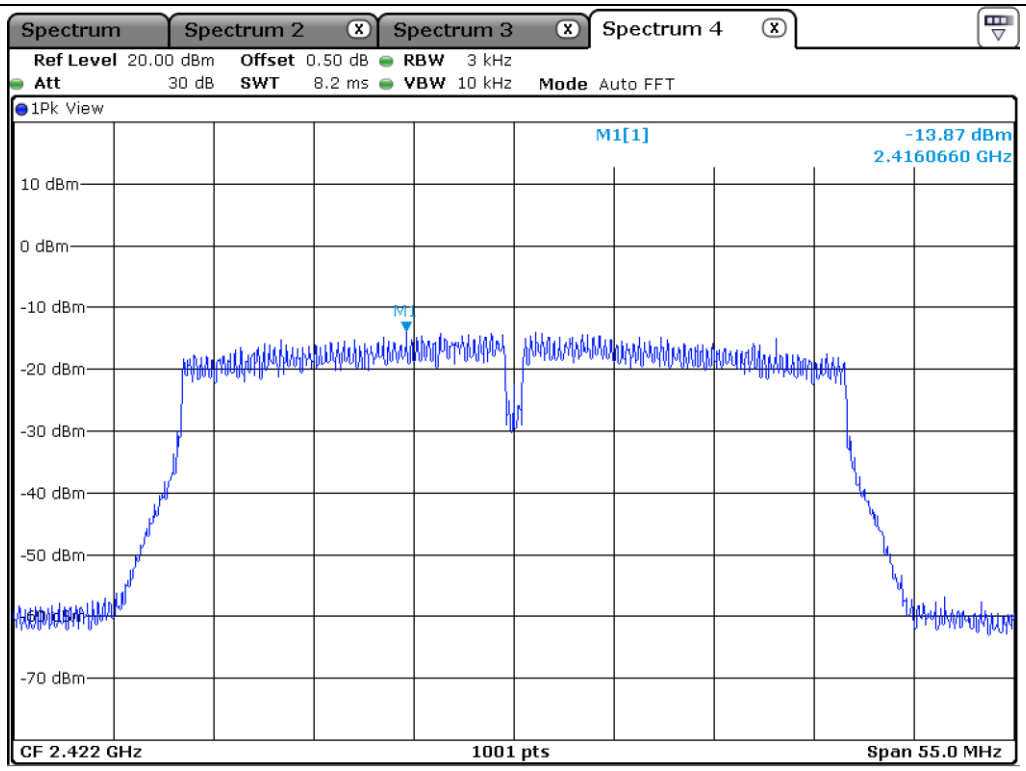
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

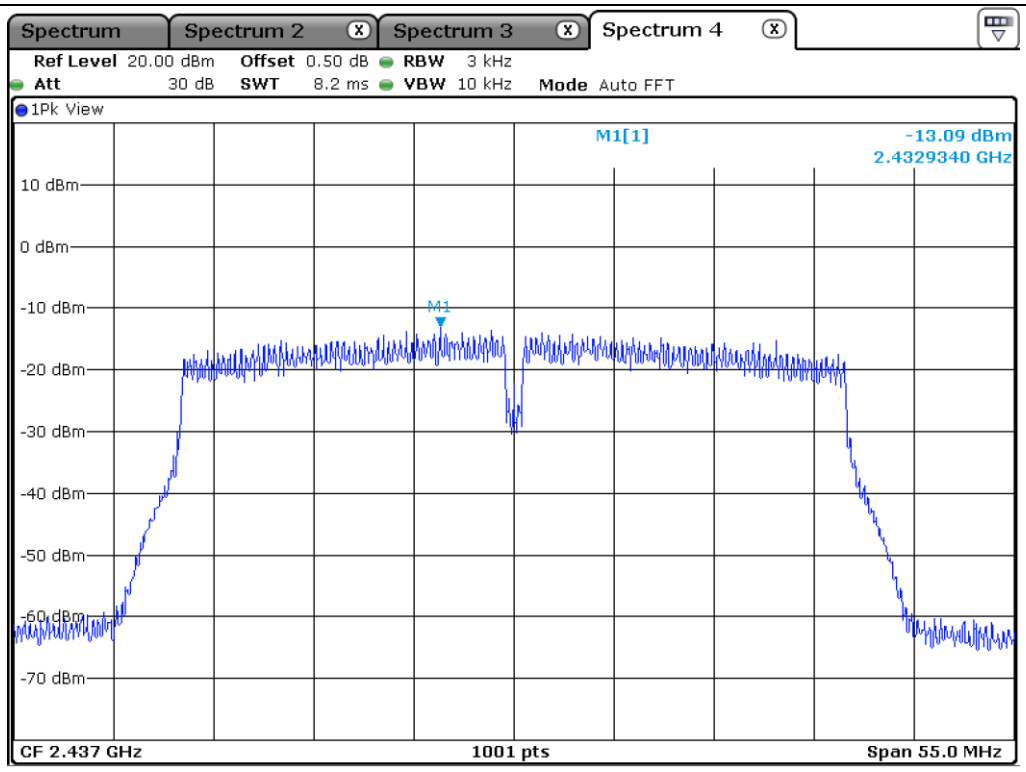
CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-13.87	8.00	21.87
Middle	2 437.00	-13.09	8.00	21.09
High 9	2 452.00	-12.05	8.00	20.05
High 10	2 457.00	-14.02	8.00	22.02
High 11	2 462.00	-14.49	8.00	22.49

Remark. Margin = Limit – Measured value

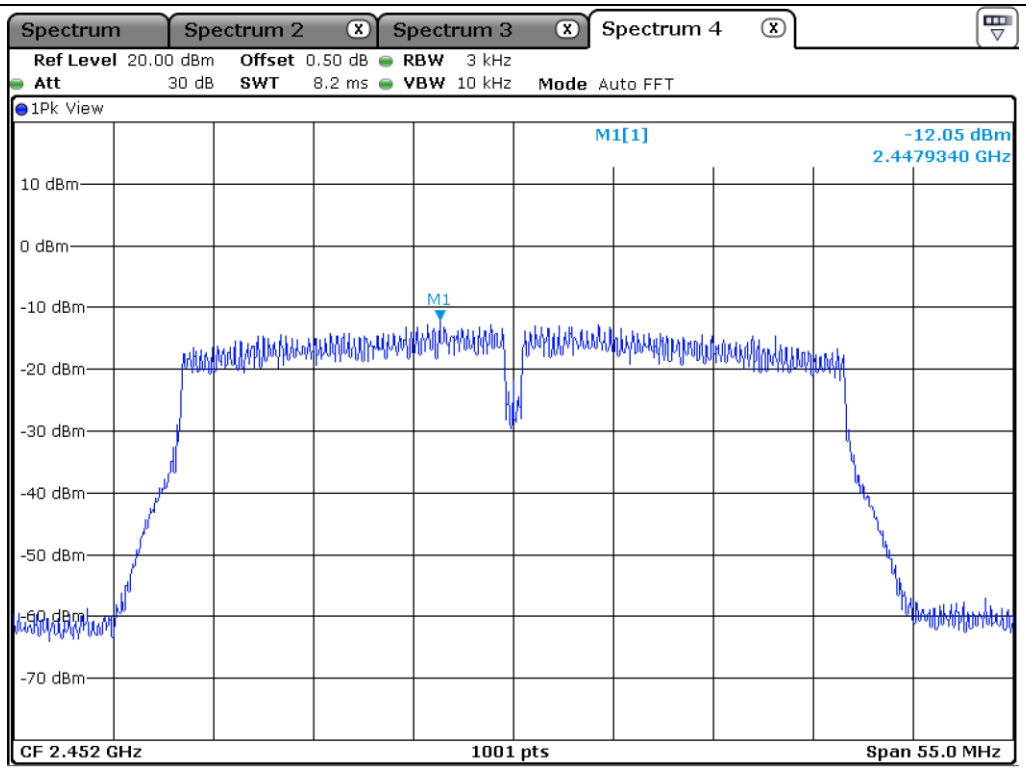
Tested by: Tae-Ho, Kim / Senior Manager



Low Channel



Middle Channel



High Channel 9

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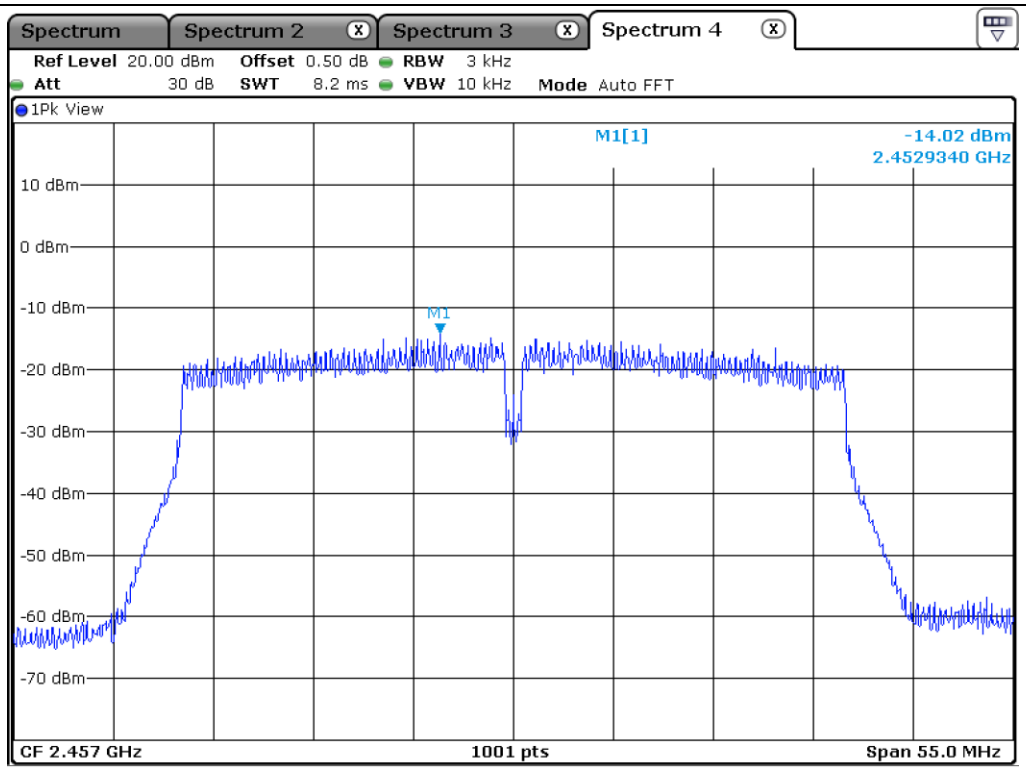
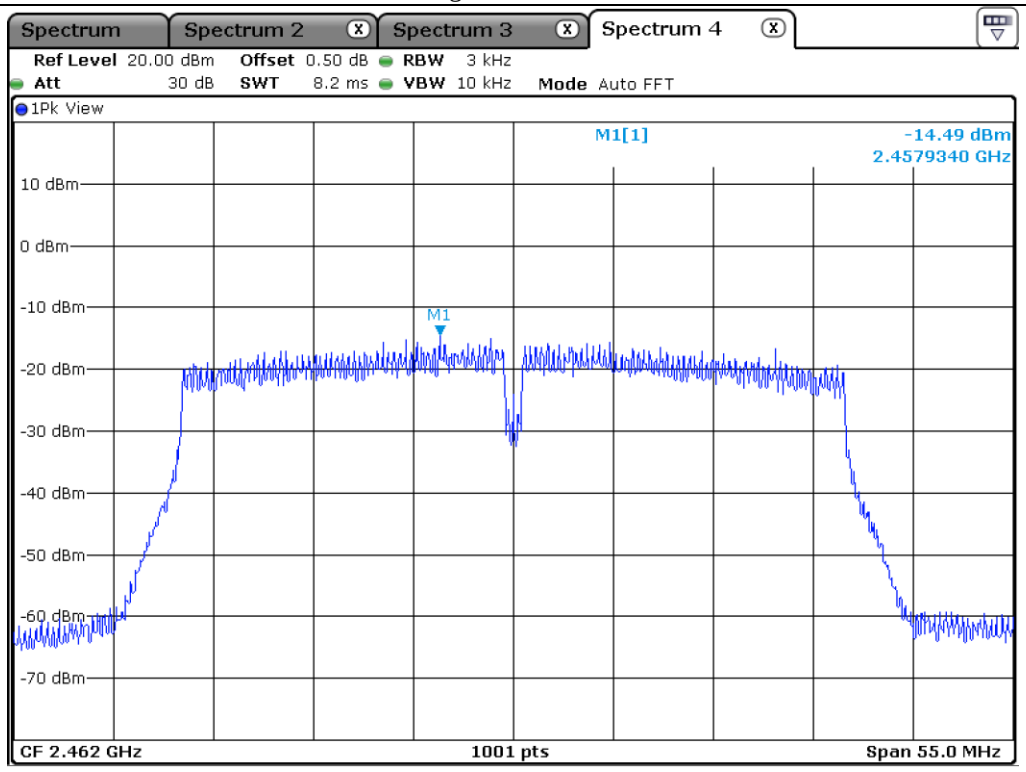


High Channel 10



High Channel 11

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10.7.3 Test data for Multiple Transmit

-. Test Date : November 21, 2018 ~ November 23, 2018

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-10.82	8.00	18.82
Middle	2 437.00	-10.37	8.00	18.37
High 9	2 452.00	-9.35	8.00	17.35
High 10	2 457.00	-11.31	8.00	19.31
High 11	2 462.00	-11.98	8.00	19.98

Remark 1 : Margin = Limit – Measured value

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

Remark 3 : Directional gain = $10*\log[(10^{G0/20}+10^{G1/20})^2/N]$ dBi

Tested by: Tae-Ho, Kim / Senior Manager

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11. RADIATED EMISSION TEST

11.1 Operating environment

Temperature : 23 ℃

Relative humidity : 45 % 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.
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	Mar. 14, 2018 (1Y)
■ -	ESU	Rohde & Schwarz	EMI Test Receiver	100261	Mar. 29, 2018 (1Y)
■ -	310N	Sonoma Instrument	Pre-Amplifier	312544	Mar. 28, 2018 (1Y)
■ -	BBV 9718 B	Schwarzbeck	Amplifier	009	Mar. 16, 2018 (1Y)
■	SCU40A	Rohde & Schwarz	Signal Conditioning unit	100436	Mar. 15, 2018 (1Y)
■ -	DT3000-3t	Innco System	Turn Table	DT3000/093	N/A
■ -	MA-4000XPET	Innco System	Antenna Master	MA4000/509	N/A
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	777	Apr. 13, 2018 (2Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D295	Aug. 16, 2017 (2Y)

All test equipment used is calibrated on a regular basis.

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11.4 Test data

11.4.1 Test data for 30 MHz ~ 1 000 MHz

Humidity Level : 45 % R.H. Temperature: 23 ℃

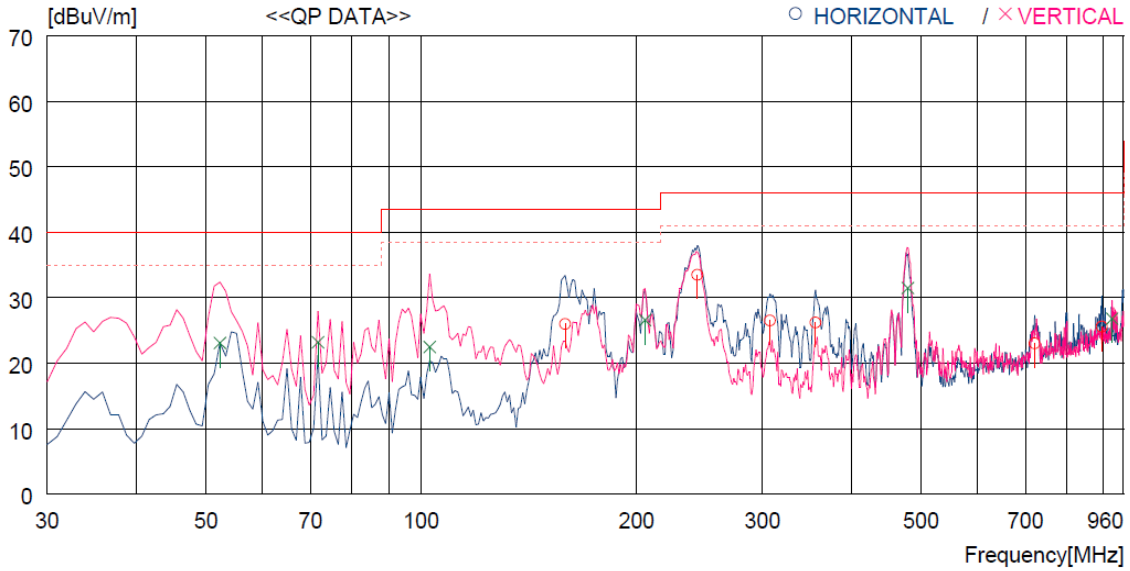
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : Wi-Fi/BT Transceiver Date: November 21, 2018 ~ November 23, 2018

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

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



No.	FREQ	READING QP	ANT FACTOR	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal ------										
1	159.010	47.5	8.5	3.0	33.0	26.0	43.5	17.5	100	178
2	243.400	50.4	12.4	3.6	32.9	33.5	46.0	12.5	100	71
3	307.420	41.9	13.6	4.0	33.0	26.5	46.0	19.5	100	118
4	355.920	40.1	14.7	4.4	33.0	26.2	46.0	19.8	100	178
5	720.634	30.2	19.9	6.2	33.3	23.0	46.0	23.0	100	178
6	895.229	28.4	22.5	7.1	32.4	25.6	46.0	20.4	100	178
----- Vertical ------										
7	52.310	40.6	13.9	1.7	33.1	23.1	40.0	16.9	100	6
8	71.710	45.3	9.0	2.0	33.1	23.2	40.0	16.8	100	136
9	102.750	41.1	12.1	2.3	33.0	22.5	43.5	21.0	100	6
10	205.570	45.6	10.7	3.3	33.0	26.6	43.5	16.9	100	6
11	479.111	42.7	16.9	5.1	33.2	31.5	46.0	14.5	100	167
12	925.298	29.3	22.4	7.2	32.1	26.8	46.0	19.2	100	6

Tested by: Tae-Ho, Kim / Senior Manager

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11.4.2 Test data for Below 30 MHz

-. Test Date : November 21, 2018 ~ November 23, 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.									

11.4.3 Test data for above 1 GHz

-. Test Date : November 21, 2018 ~ November 23, 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: Tae-Ho, Kim / Senior Manager

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

12. CONDUCTED EMISSION TEST

12.1 Operating environment

Temperature : 23 ℃

Relative humidity : 45 % 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 μH + 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)
■ -	ESCI	Rohde & Schwarz	Test Receiver	101012	Oct. 22, 2018 (1Y)
☐ -	ESHS10	Rohde & Schwarz	Test Receiver	834467/007	Mar. 29, 2018 (1Y)
☐ -	NSLK8128	Schwarzbeck	AMN	8128-216	Mar. 29, 2018 (1Y)
■ -	NSLK8126	Schwarzbeck	AMN	8126-404	Apr. 04, 2018 (1Y)
☐ -	3825/2	EMCO	AMN	9109-1869	Apr. 11, 2018 (1Y)
■ -	3825/2	EMCO	AMN	9109-1867	Mar. 28, 2018 (1Y)

All test equipment used is calibrated on a regular basis.

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12.4 Test data

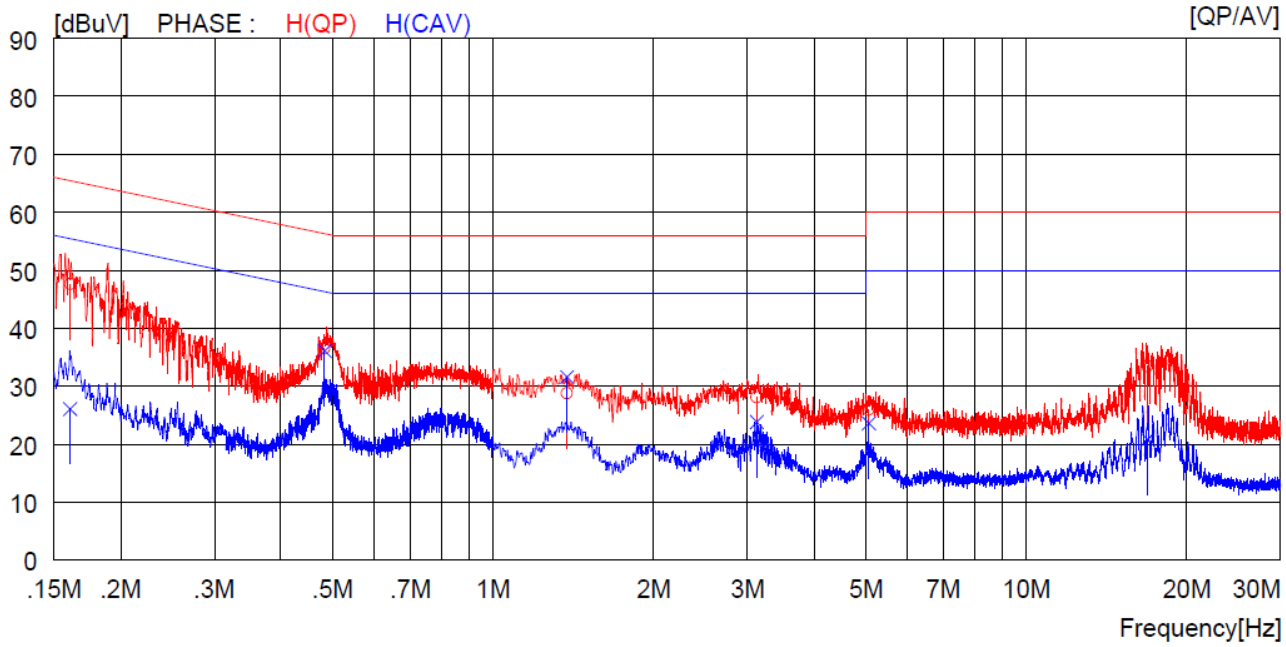
-. Test Date : November 21, 2018 ~ November 23, 2018

-. 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 QP [dBuV]	READING AV [dBuV]	C.FACTOR [dB]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.16100	37.7	----	9.9	47.6	----	65.4	----	17.8	----	H(QP)
2	0.48300	26.5	----	10.0	36.5	----	56.3	----	19.8	----	H(QP)
3	1.37600	18.8	----	10.0	28.8	----	56.0	----	27.2	----	H(QP)
4	3.12400	18.1	----	10.0	28.1	----	56.0	----	27.9	----	H(QP)
5	5.06500	15.7	----	10.2	25.9	----	60.0	----	34.1	----	H(QP)
6	16.89000	23.1	----	10.3	33.4	----	60.0	----	26.6	----	H(QP)
7	0.48300	----	26.1	10.0	----	36.1	----	46.3	----	10.2	H(CAV)
8	1.37600	----	21.6	10.0	----	31.6	----	46.0	----	14.4	H(CAV)
9	3.12400	----	13.8	10.0	----	23.8	----	46.0	----	22.2	H(CAV)
10	5.06500	----	13.4	10.2	----	23.6	----	50.0	----	26.4	H(CAV)
11	16.89000	----	10.5	10.3	----	20.8	----	50.0	----	29.2	H(CAV)
12	0.16100	----	16.2	9.9	----	26.1	----	55.4	----	29.3	H(CAV)

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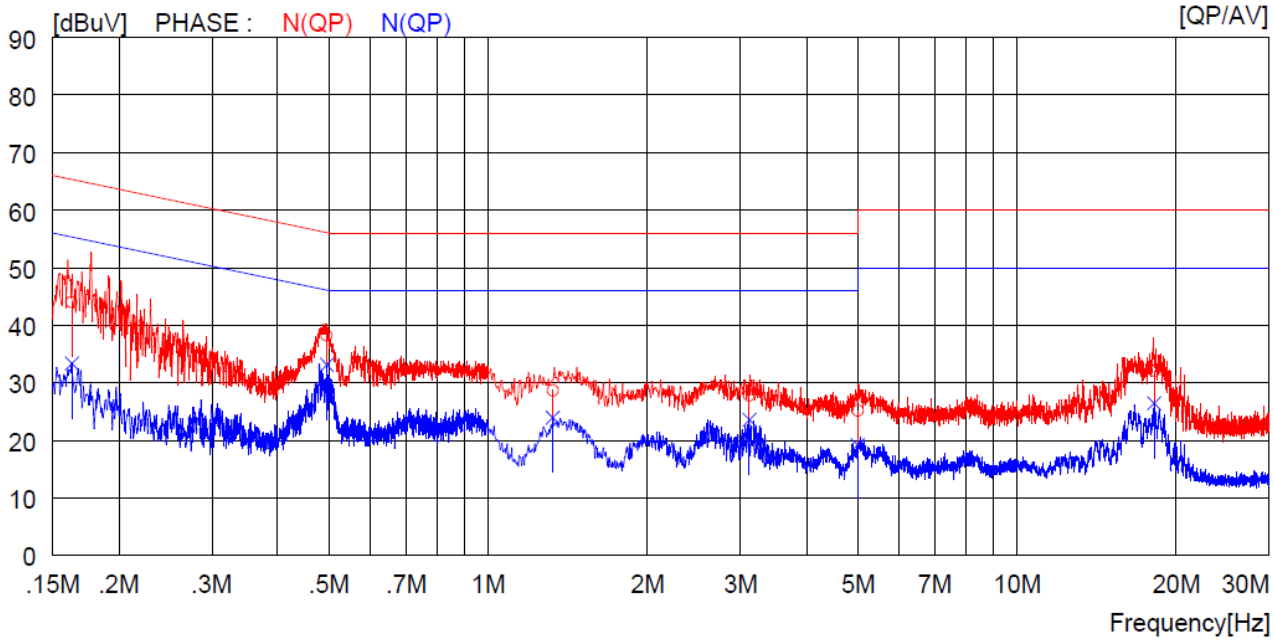
-. Tested Line : NEUTRAL LINE



NO	FREQ	READING QP	READING AV	C.FACTOR	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.16300	34.1	----	9.9	44.0	----	65.3	----	21.3	----	N(QP)
2	0.49500	28.2	----	10.0	38.2	----	56.1	----	17.9	----	N(QP)
3	1.32400	18.6	----	10.0	28.6	----	56.0	----	27.4	----	N(QP)
4	3.11600	17.7	----	10.0	27.7	----	56.0	----	28.3	----	N(QP)
5	5.00000	14.9	----	10.2	25.1	----	56.0	----	30.9	----	N(QP)
6	18.18000	21.7	----	10.4	32.1	----	60.0	----	27.9	----	N(QP)
7	0.16300	----	23.5	9.9	----	33.4	----	55.3	----	21.9	N(CAV)
8	0.49500	----	23.1	10.0	----	33.1	----	46.1	----	13.0	N(CAV)
9	1.32400	----	13.9	10.0	----	23.9	----	46.0	----	22.1	N(CAV)
10	3.11600	----	13.6	10.0	----	23.6	----	46.0	----	22.4	N(CAV)
11	5.00000	----	9.0	10.2	----	19.2	----	46.0	----	26.8	N(CAV)
12	18.18000	----	16.0	10.4	----	26.4	----	50.0	----	23.6	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: Tae-Ho, Kim / Senior Manager

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