10. PEAK POWER SPECTRUL DENSITY

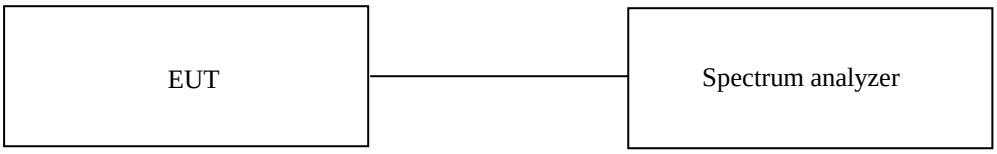
10.1 Operating environment

Temperature : 23 ℃

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 1 MHz, the video bandwidth is set to 3 times the resolution bandwidth. The maximum level form the EUT in 1 MHz bandwidth was measured with above condition.



10.3 Test Date

August 21, 2020 ~ September 08, 2020

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 802.11a RLAN Mode

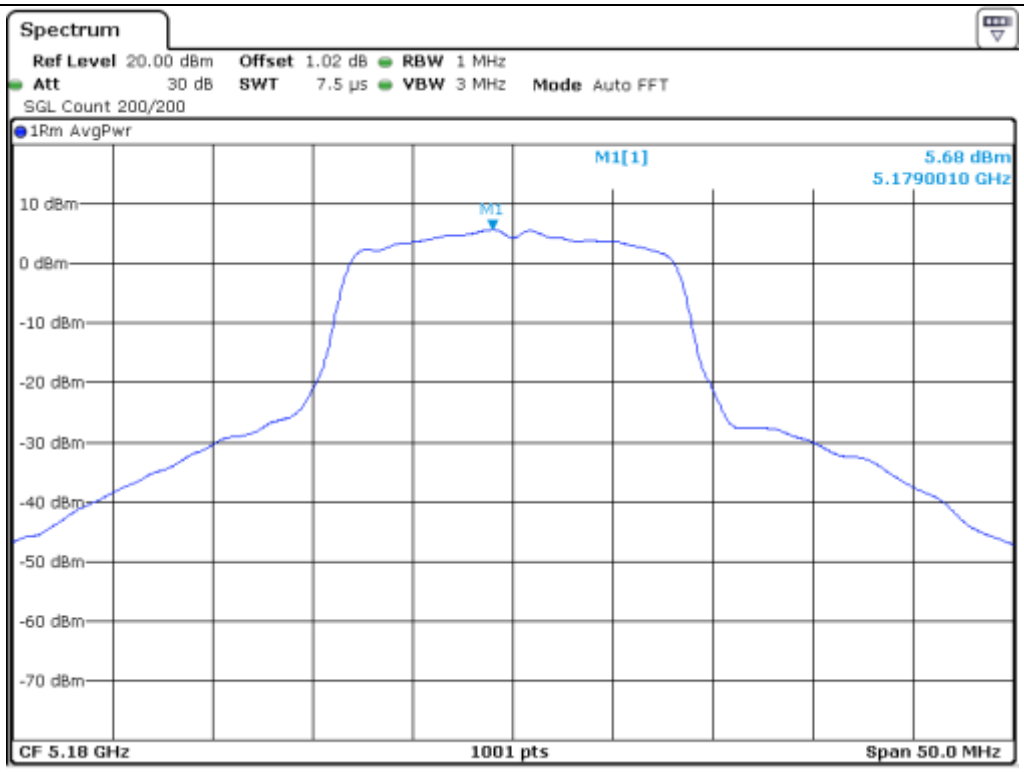
10.4.1 Test data for Antenna 0

-. Operating condition : Highest Output Power Transmitting Mode

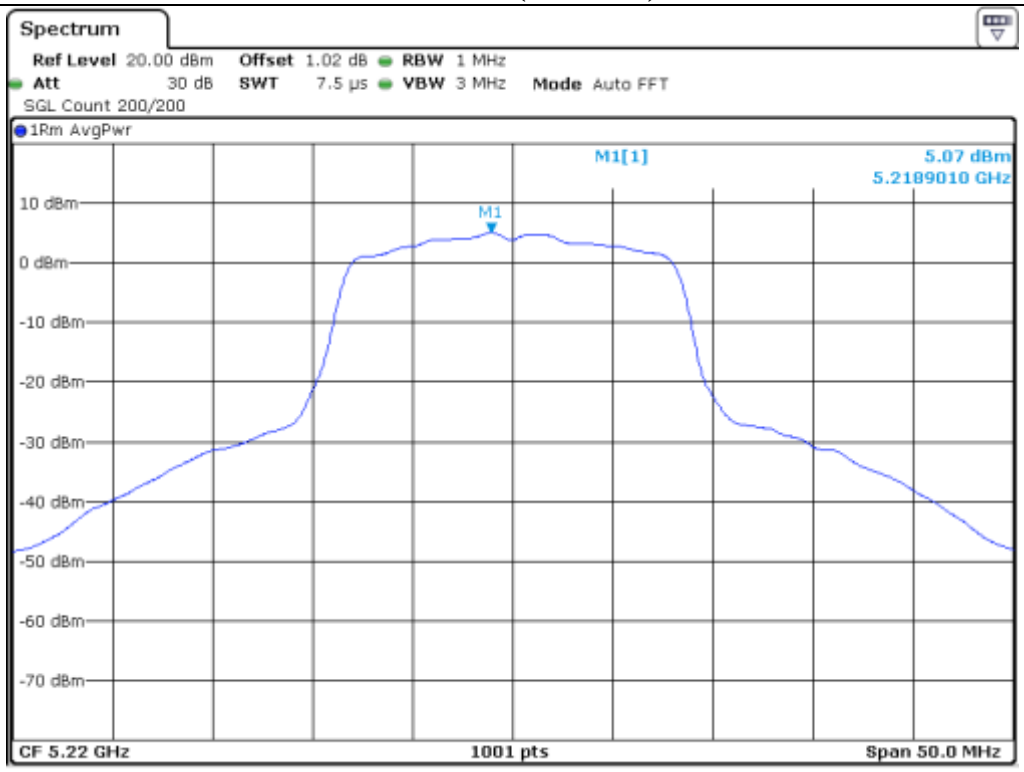
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	5.68	11.00	5.32
	Middle	5 220.00	5.07	11.00	5.93
	High	5 240.00	5.08	11.00	5.92
5 250 ~ 5 350	Low	5 260.00	3.93	11.00	7.07
	Middle	5 300.00	4.01	11.00	6.99
	High	5 320.00	3.87	11.00	7.13
5 470 ~ 5 725	Low	5 500.00	4.26	11.00	6.74
	Middle	5 580.00	3.56	11.00	7.44
	High	5 700.00	3.85	11.00	7.15
5 725 ~ 5 850	Low	5 745.00	0.40	30.00	29.60
	Middle	5 785.00	0.84	30.00	29.16
	High	5 825.00	-0.62	30.00	30.62

Remark: See next page for measurement data.

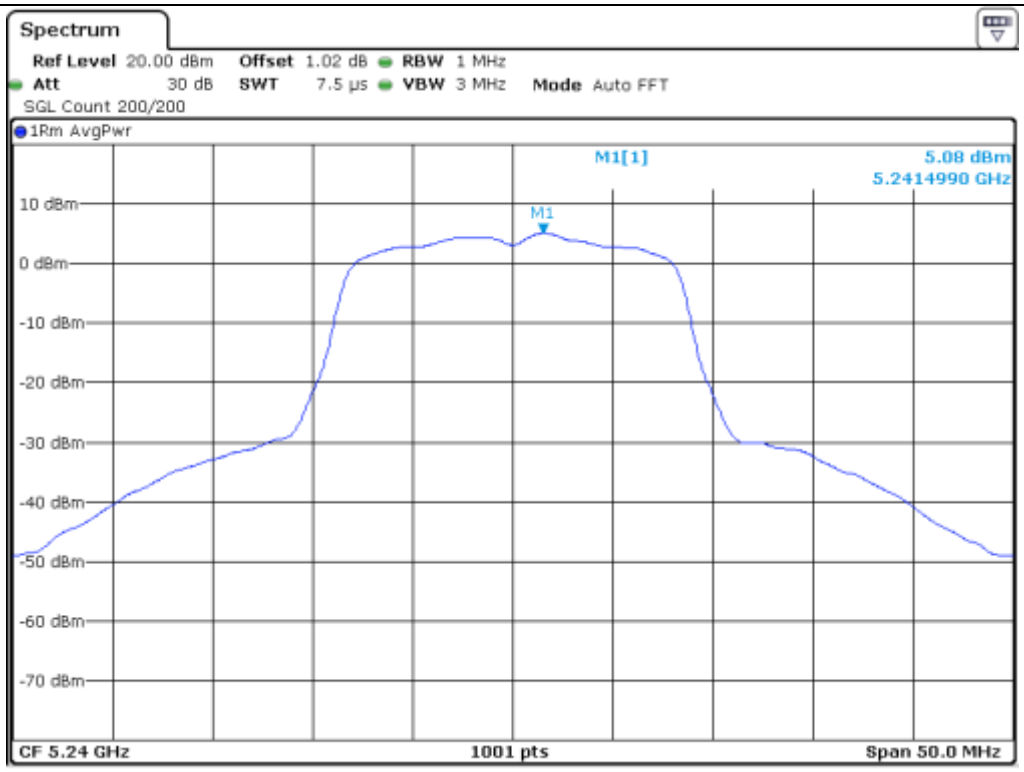


Low Channel (5 180 MHz)



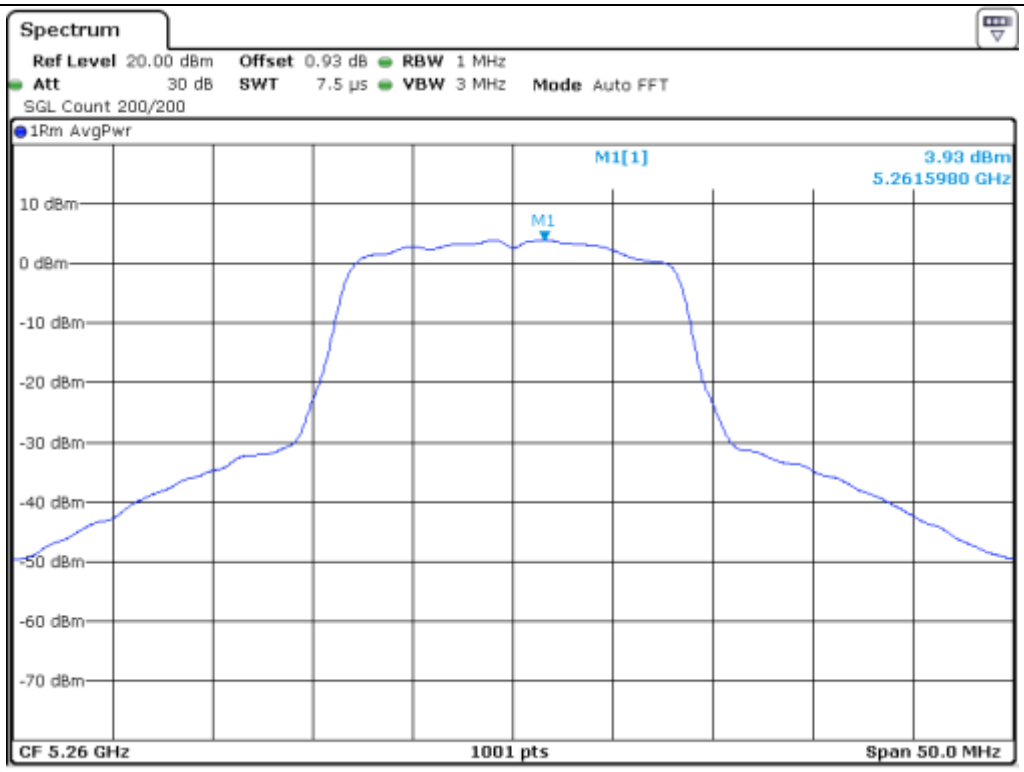
Middle Channel (5 220 MHz)

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

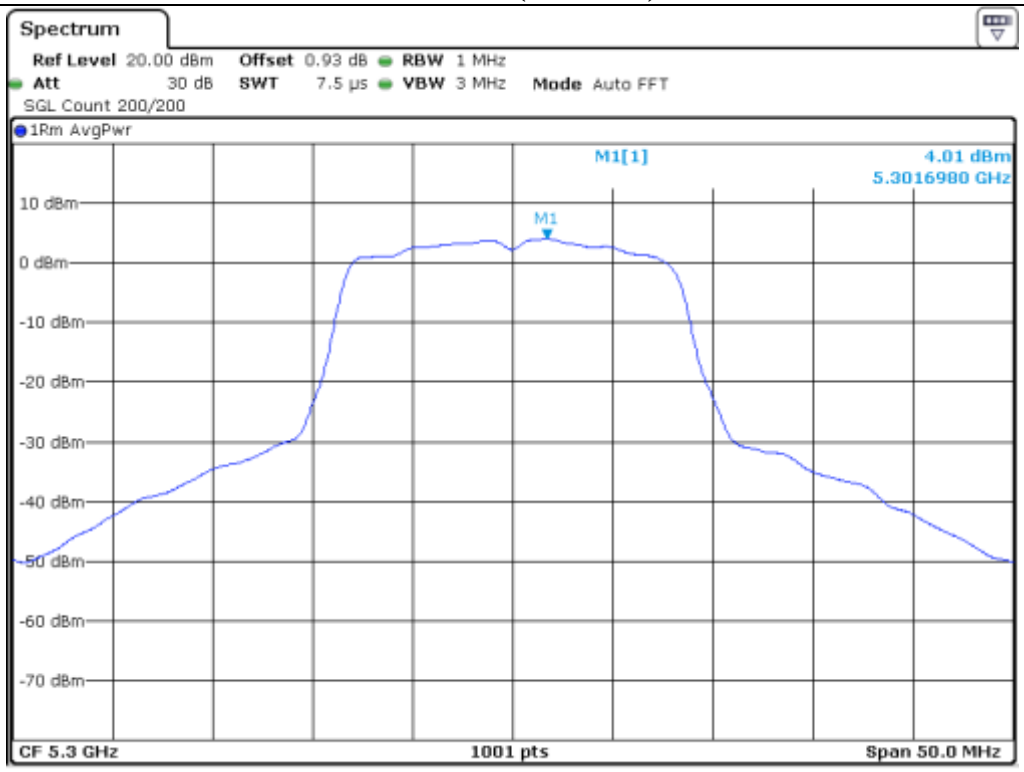


High Channel (5 240 MHz)

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

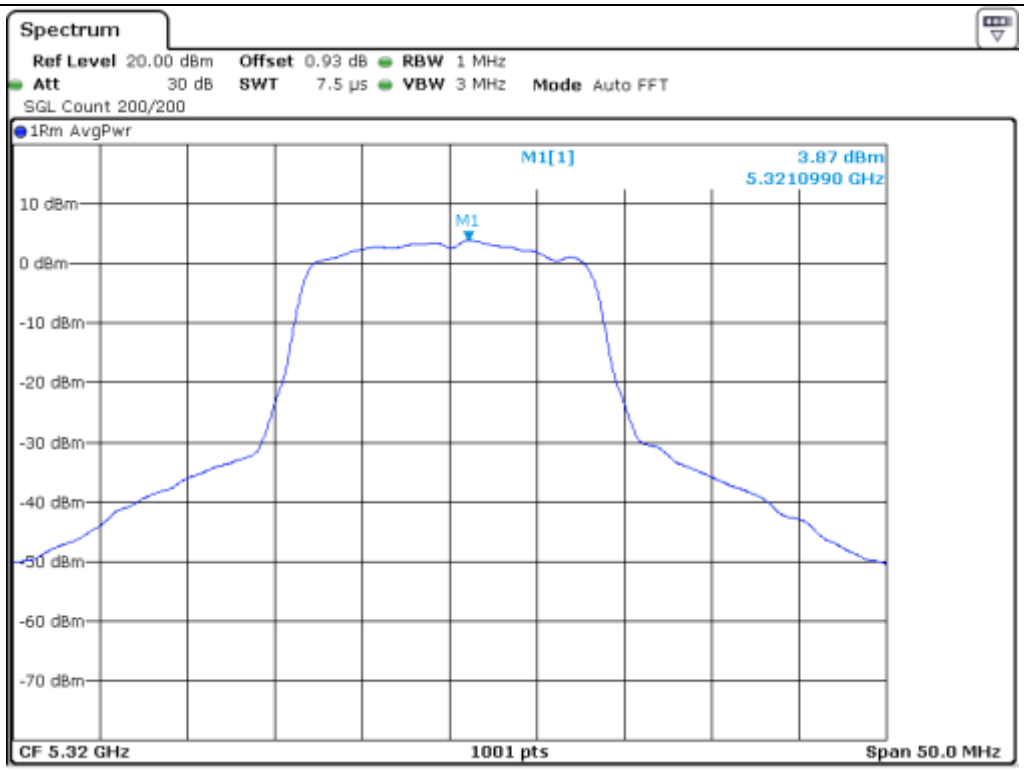


Low Channel (5 260 MHz)



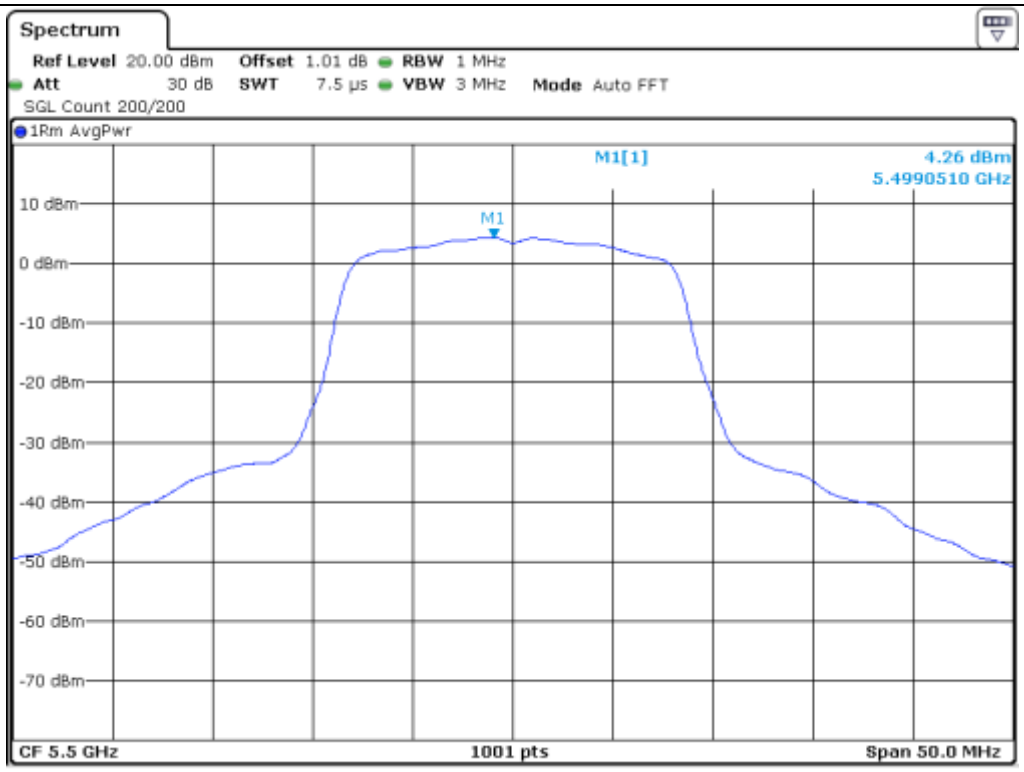
Middle Channel (5 300 MHz)

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

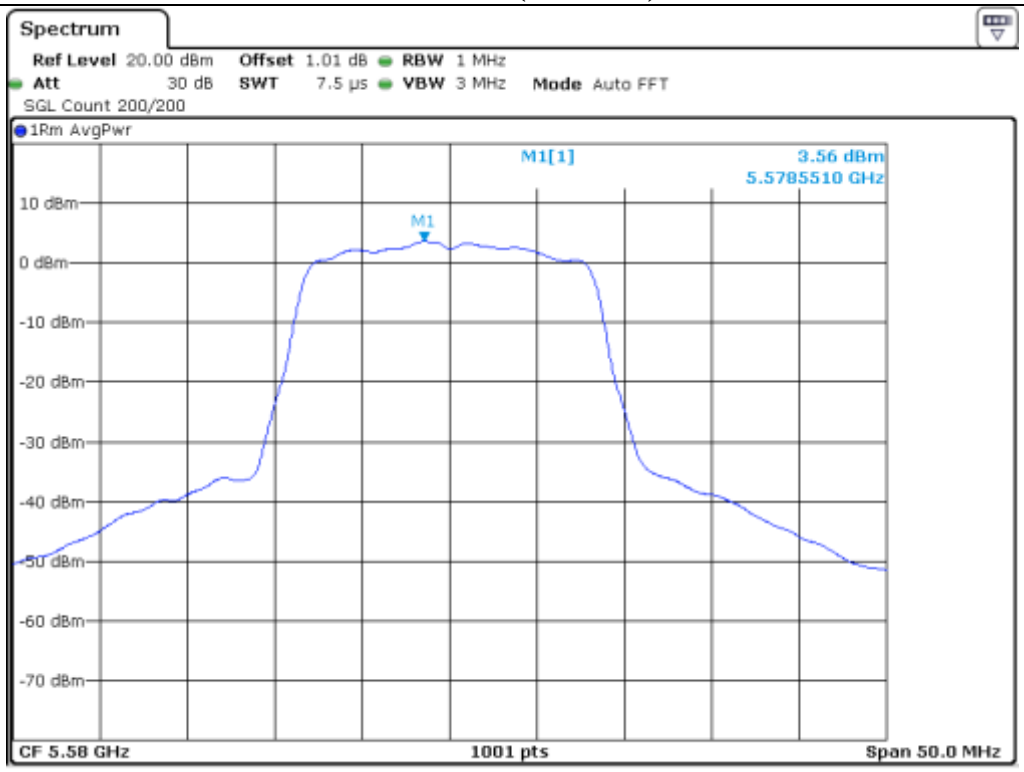


High Channel (5 320 MHz)

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

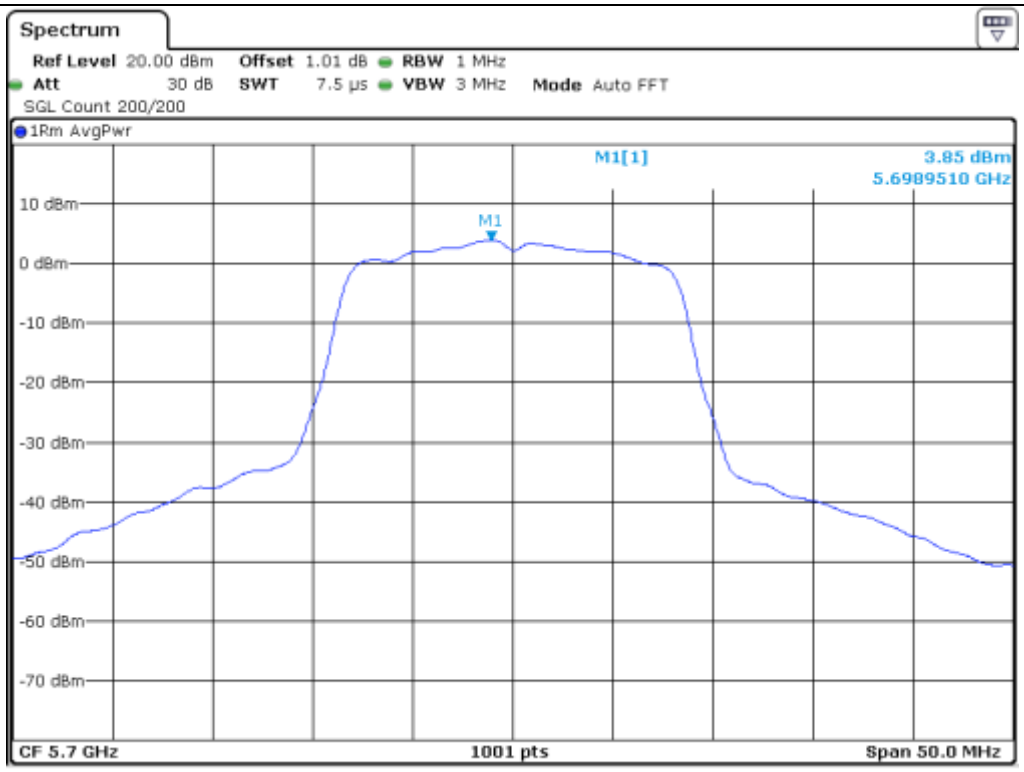


Low Channel (5 500 MHz)



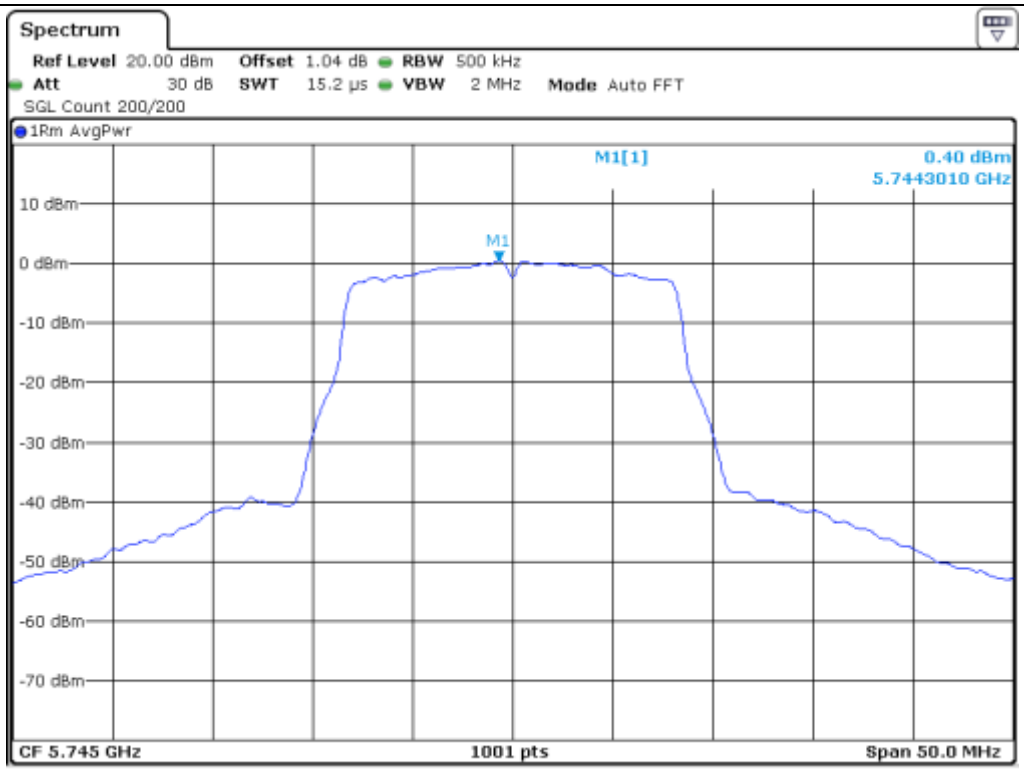
Middle Channel (5 580 MHz)

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

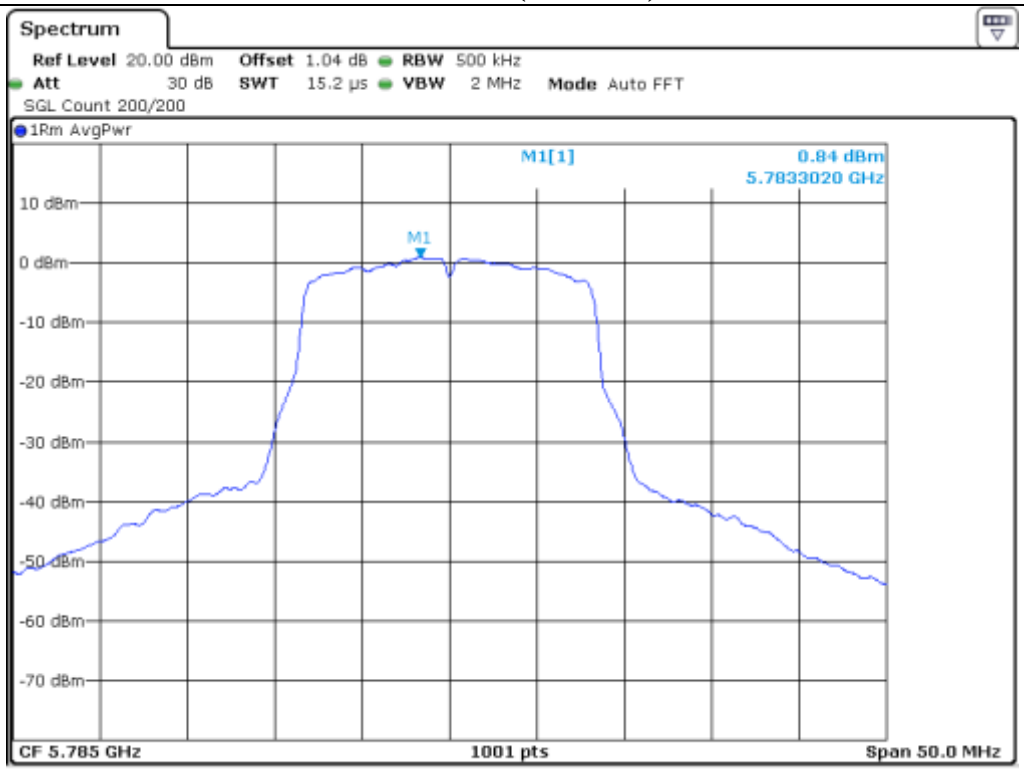


High Channel (5 700 MHz)

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

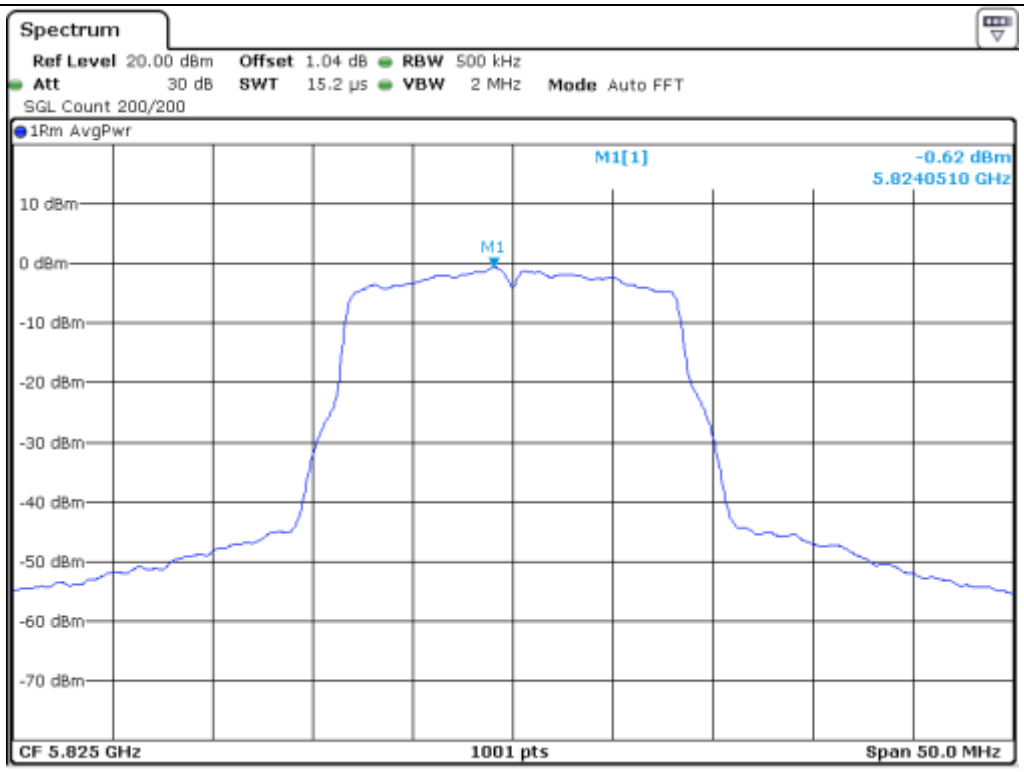


Low Channel (5 745 MHz)



Middle Channel (5 785 MHz)

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 (5 825 MHz)

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

10.4.2 Test data for Antenna 1

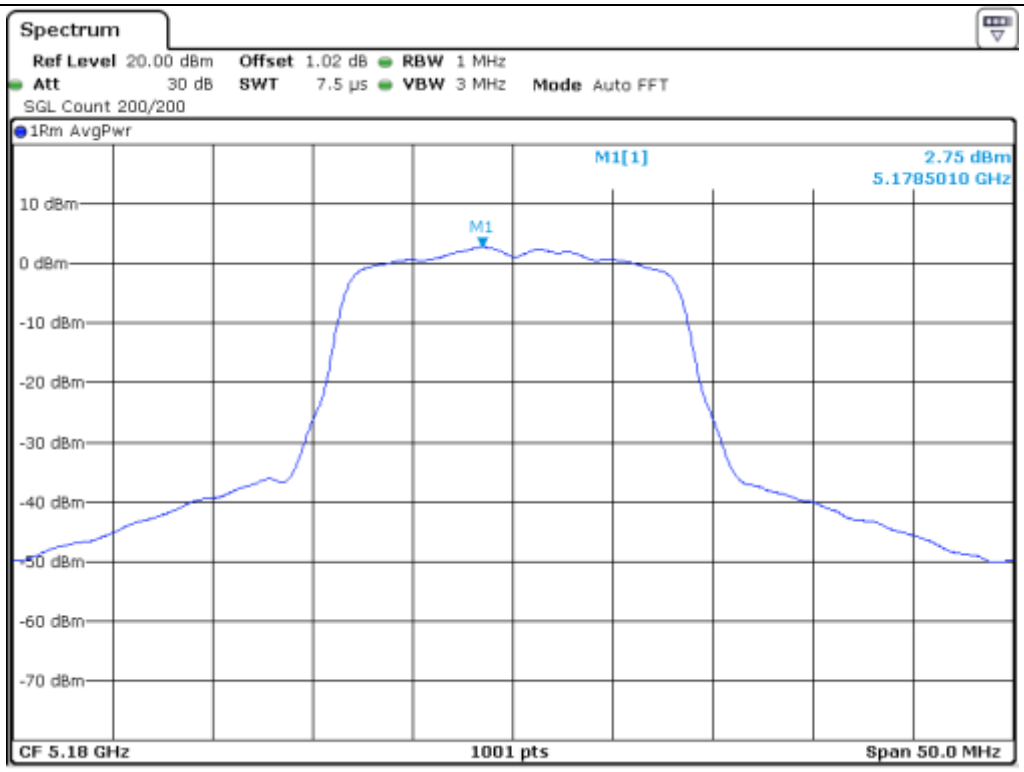
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

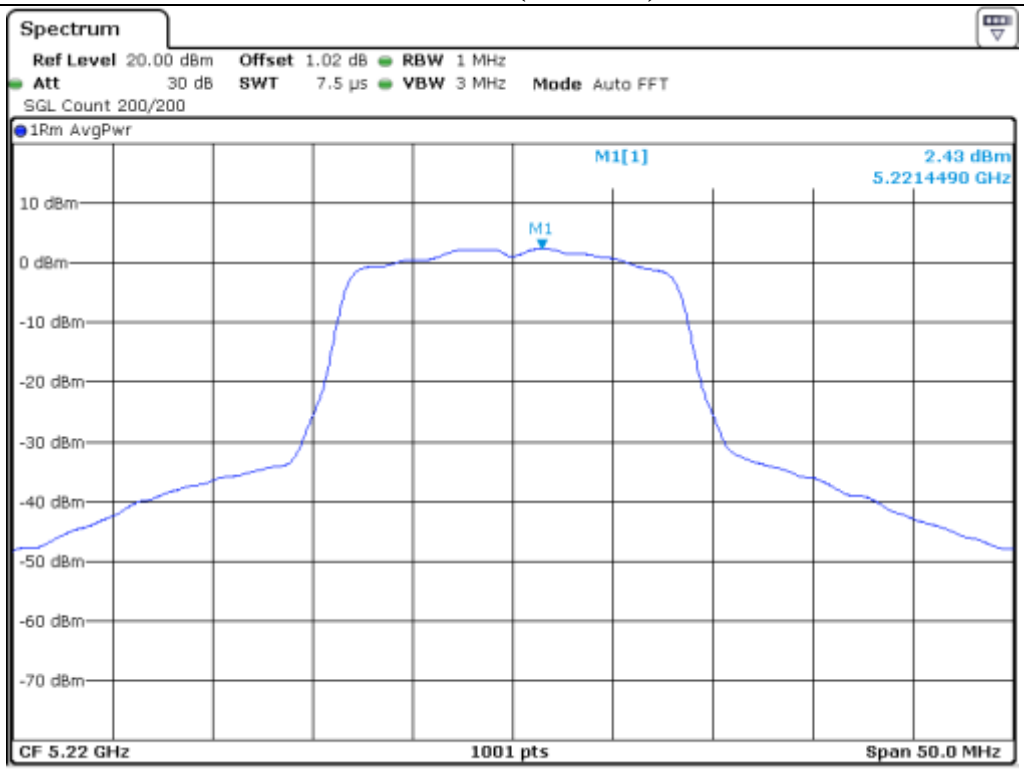
FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	2.75	11.00	8.25
	Middle	5 220.00	2.43	11.00	8.57
	High	5 240.00	1.98	11.00	9.02
5 250 ~ 5 350	Low	5 260.00	3.52	11.00	7.48
	Middle	5 300.00	3.34	11.00	7.66
	High	5 320.00	3.29	11.00	7.71
5 470 ~ 5 725	Low	5 500.00	4.52	11.00	6.48
	Middle	5 580.00	4.38	11.00	6.62
	High	5 700.00	4.09	11.00	6.91
5 725 ~ 5 850	Low	5 745.00	-0.30	30.00	30.30
	Middle	5 785.00	0.48	30.00	29.52
	High	5 825.00	-0.98	30.00	30.98

Remark: See next page for measurement data.

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

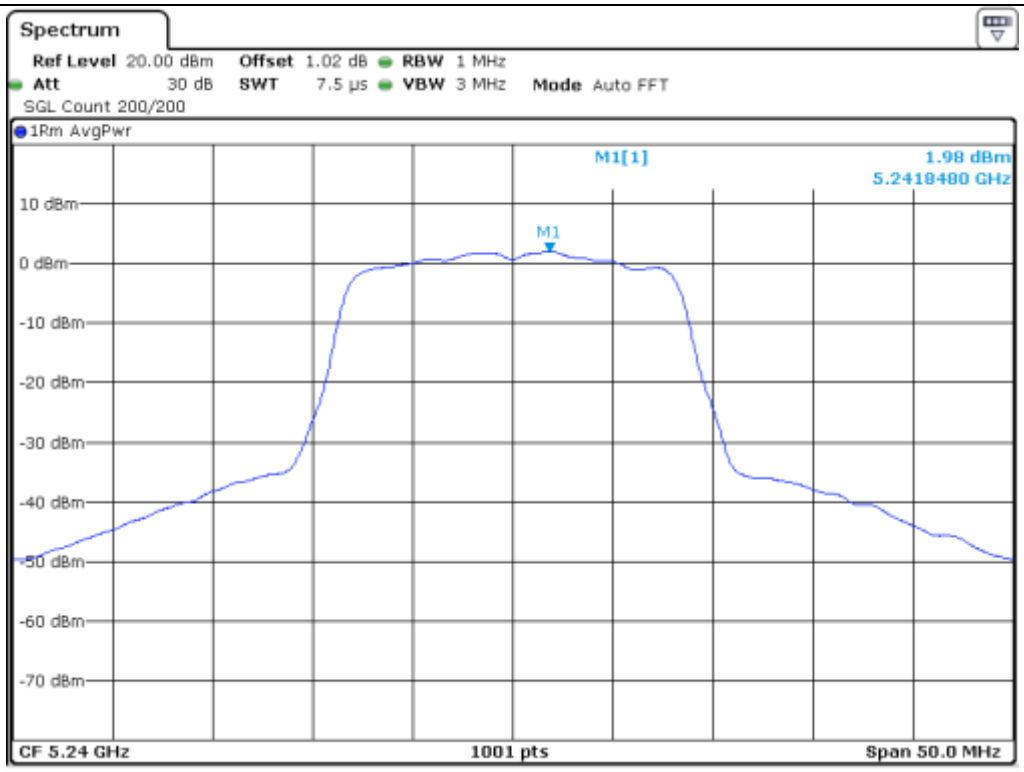


Low Channel (5 180 MHz)



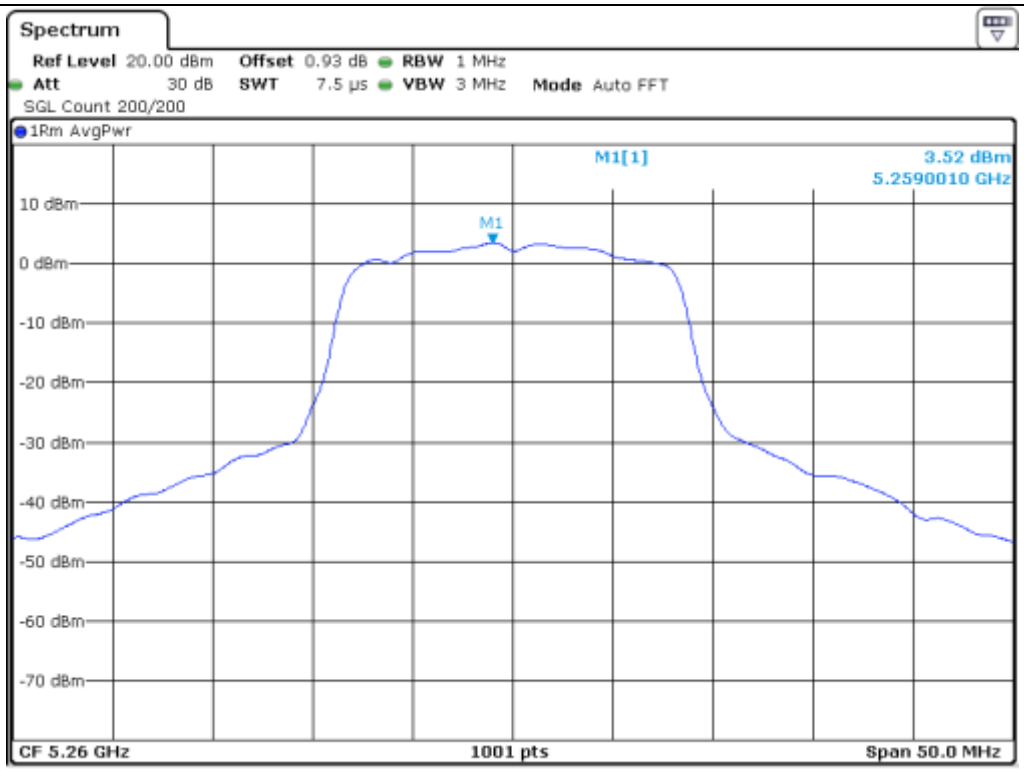
Middle Channel (5 220 MHz)

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

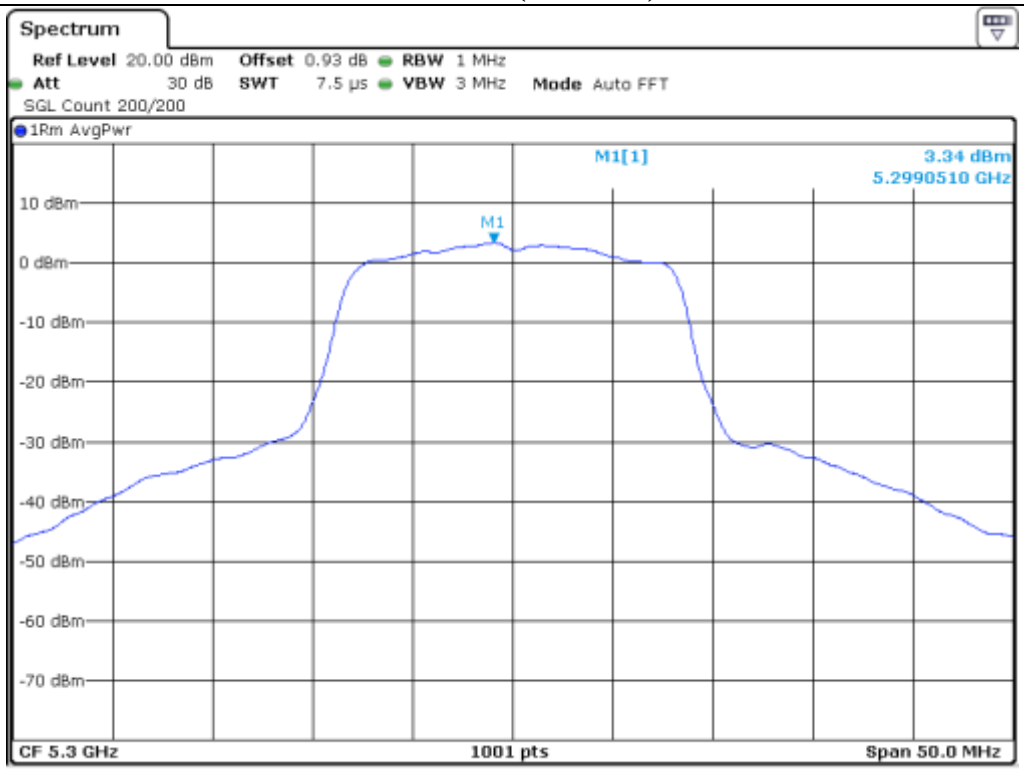


High Channel (5 240 MHz)

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

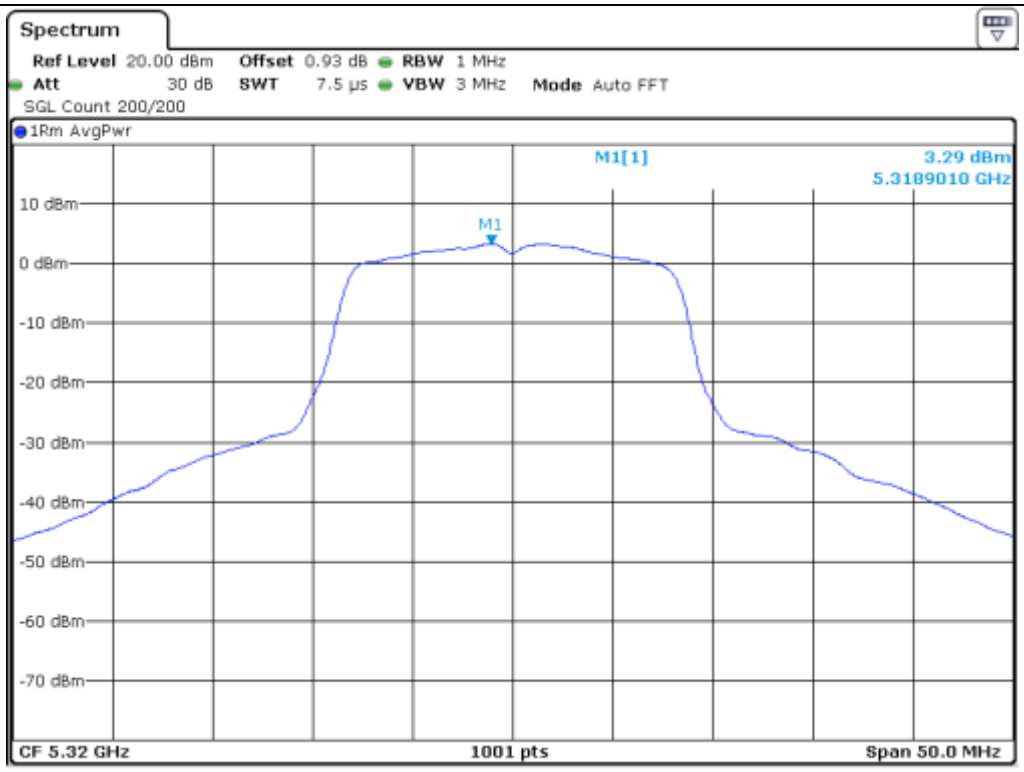


Low Channel (5 260 MHz)



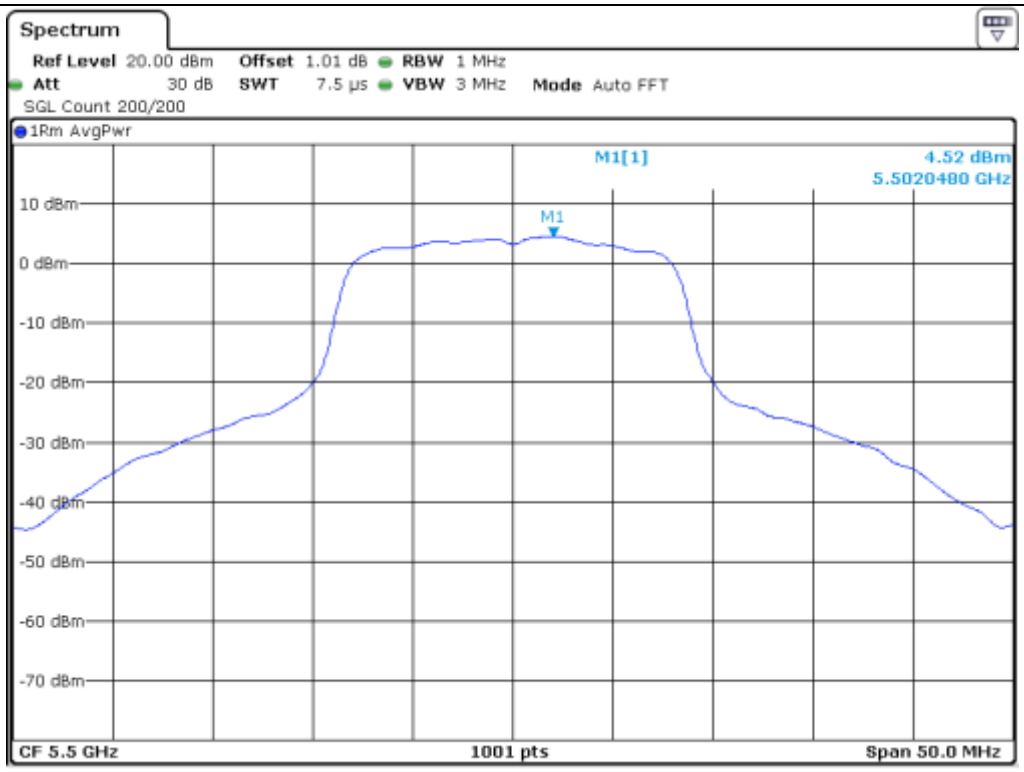
Middle Channel (5 300 MHz)

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

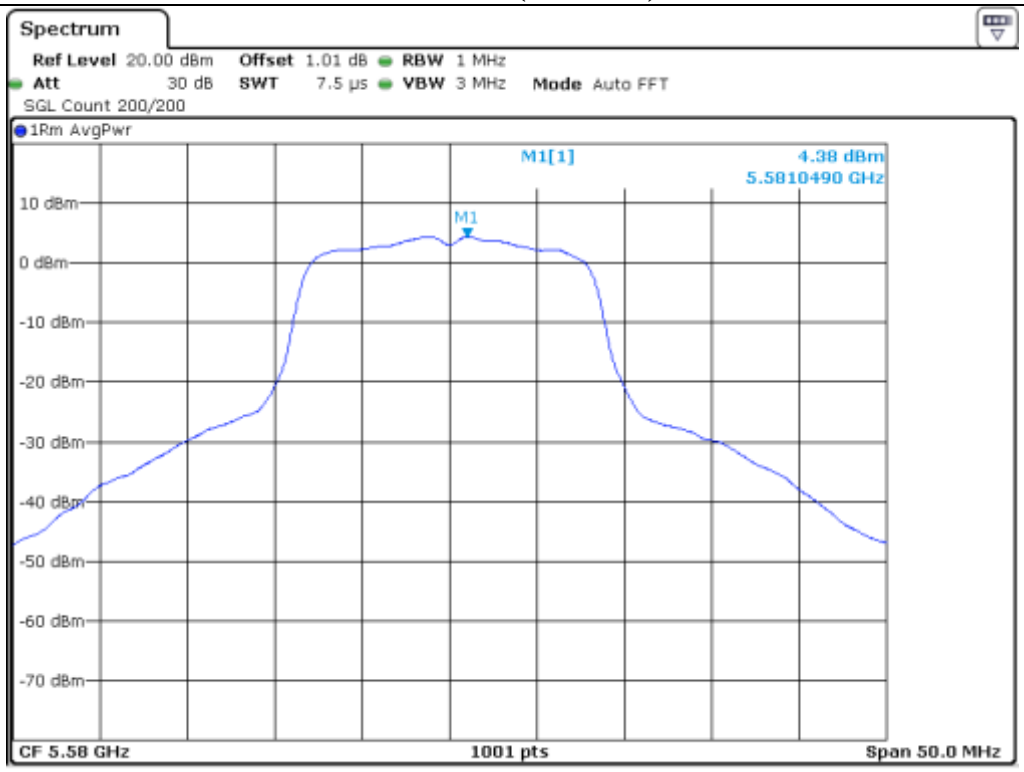


High Channel (5 320 MHz)

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

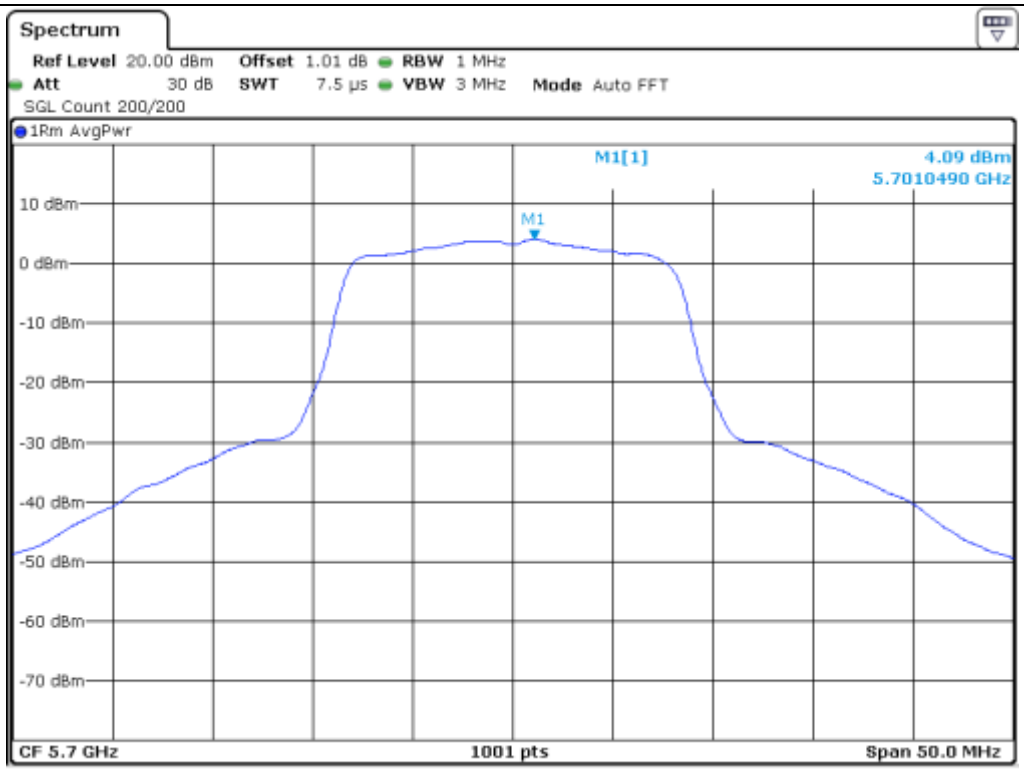


Low Channel (5 500 MHz)



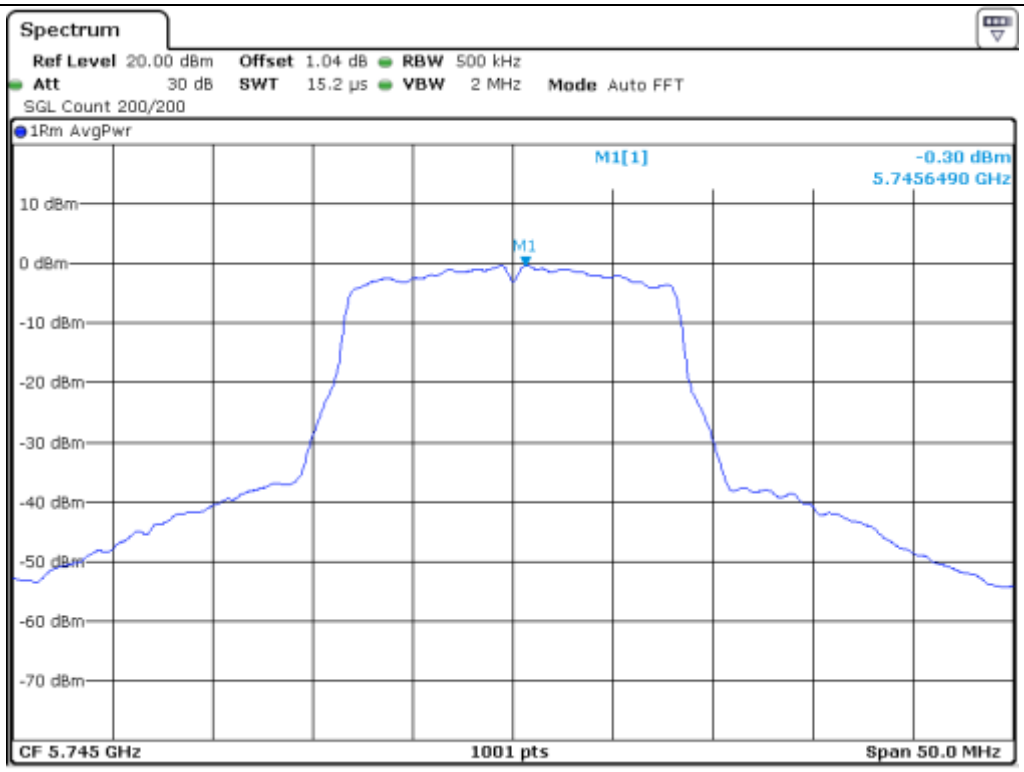
Middle Channel (5 580 MHz)

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

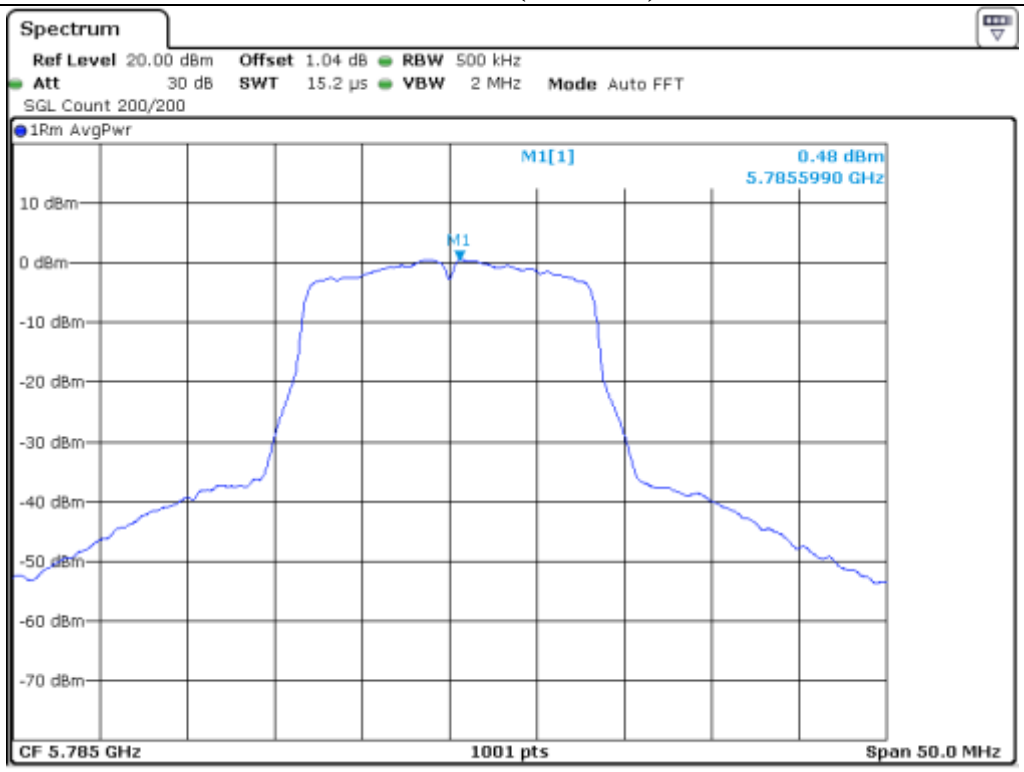


High Channel (5 700 MHz)

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

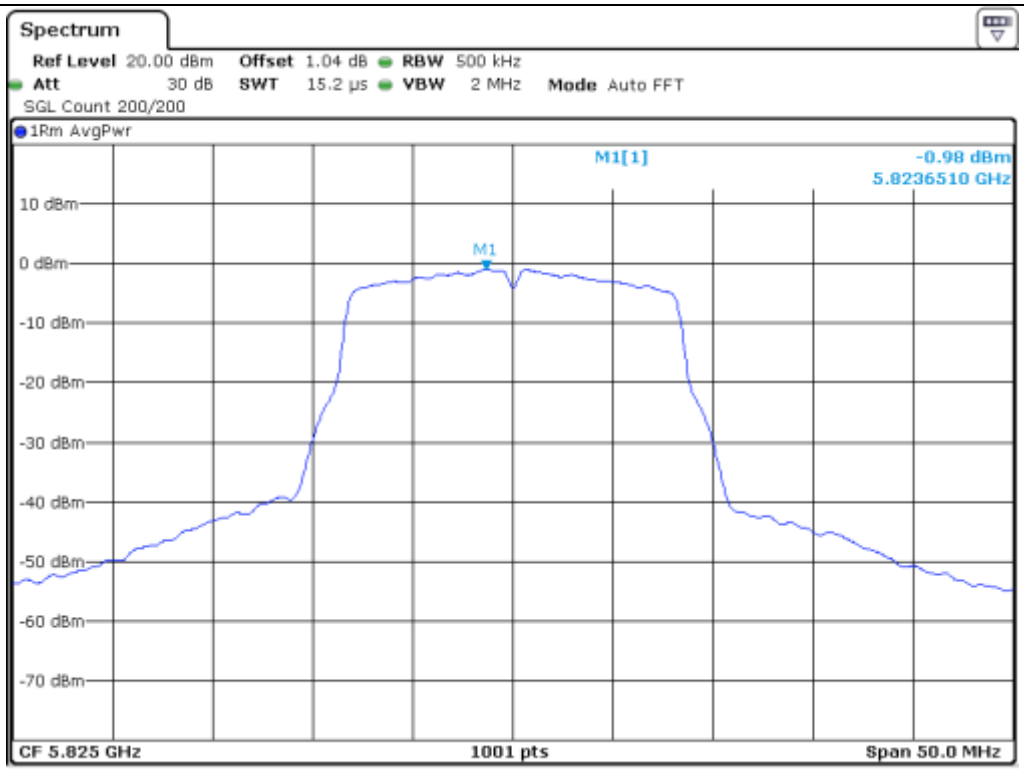


Low Channel (5 745 MHz)



Middle Channel (5 785 MHz)

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 (5 825 MHz)

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

10.4.3 Test data for Multiple Transmit

-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	7.47	11.00	3.53
	Middle	5 220.00	6.96	11.00	4.04
	High	5 240.00	6.81	11.00	4.19
5 250 ~ 5 350	Low	5 260.00	6.74	11.00	4.26
	Middle	5 300.00	6.70	11.00	4.30
	High	5 320.00	6.60	11.00	4.40
5 470 ~ 5 725	Low	5 500.00	7.40	11.00	3.60
	Middle	5 580.00	7.00	11.00	4.00
	High	5 700.00	6.98	11.00	4.02
5 725 ~ 5 850	Low	5 745.00	3.07	30.00	26.93
	Middle	5 785.00	3.67	30.00	26.33
	High	5 825.00	2.21	30.00	27.79

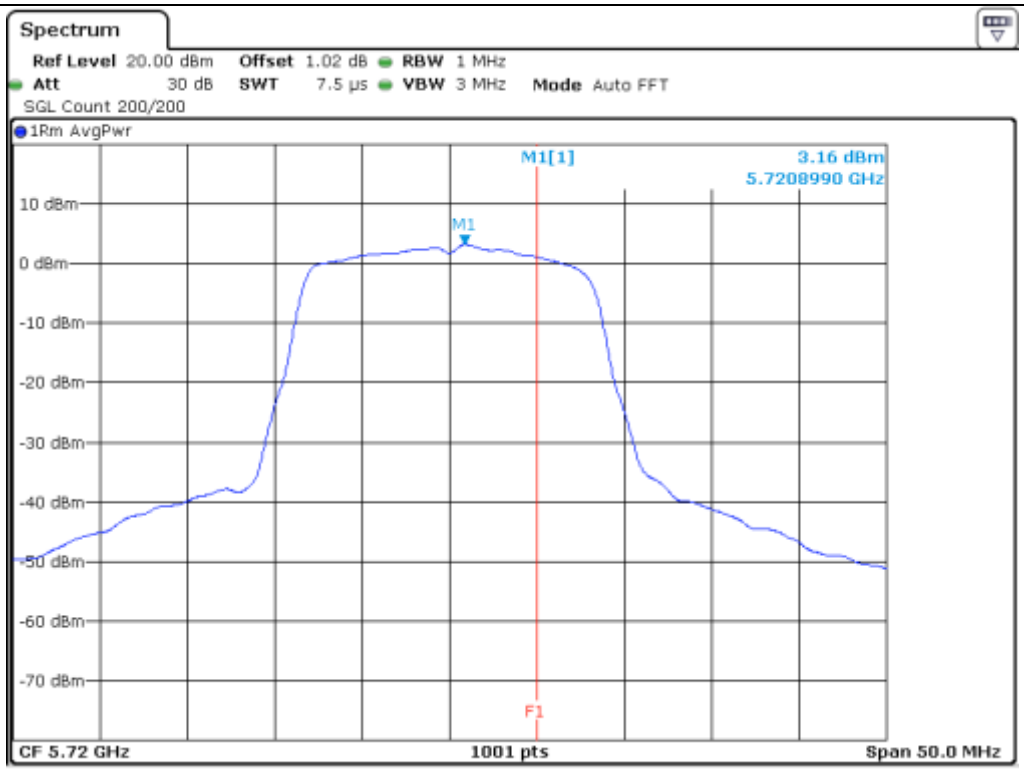
10.4.4 Test data for Staddle Channel_Antenna 0

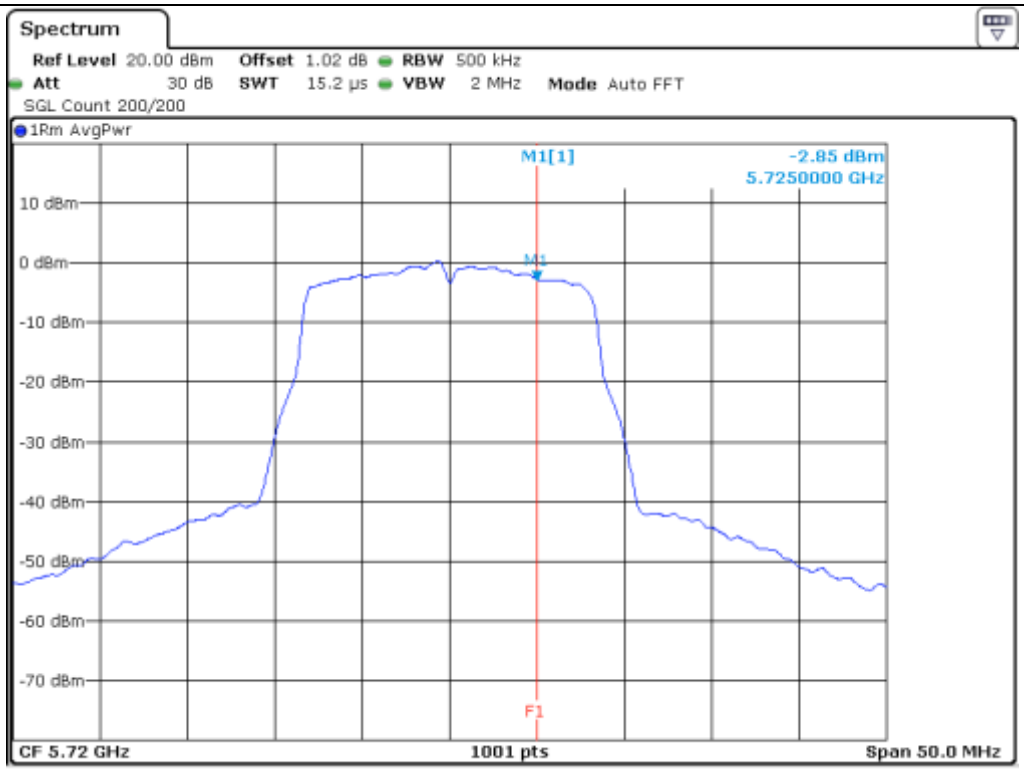
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 470 ~ 5 725	5 720.00	3.16	11.00	7.84
5 725 ~ 5 850	5 720.00	-2.85	30.00	32.85

Remark: See next page for measurement data.





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

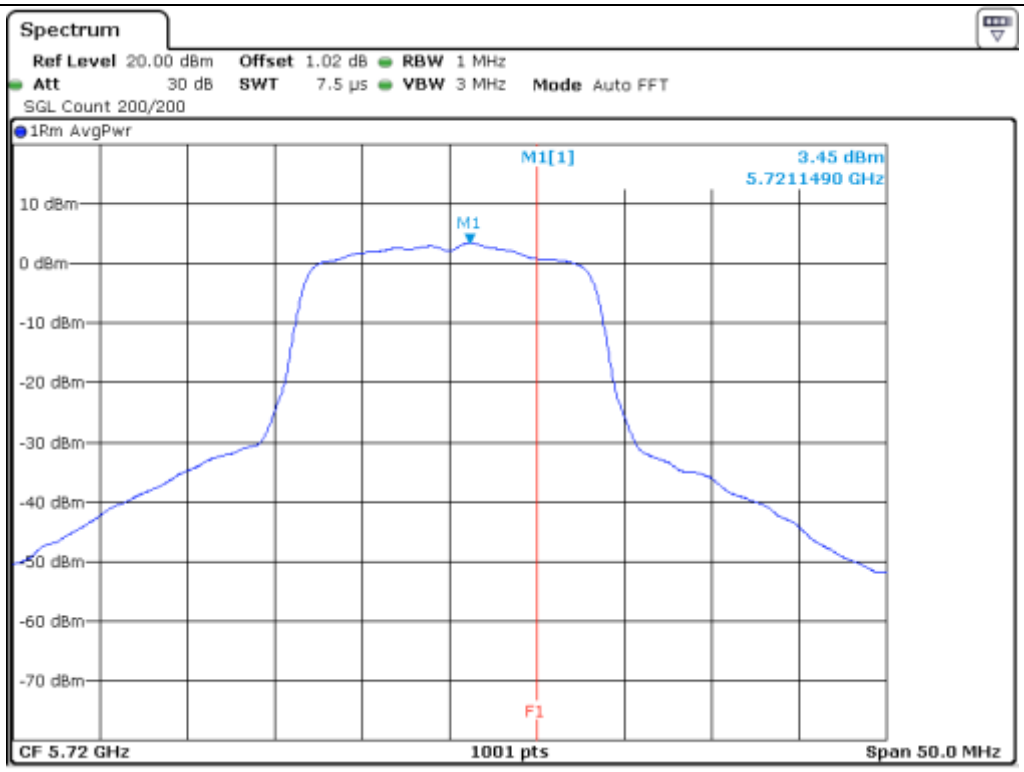
10.4.5 Test data for Staddle Channel_Antenna 1

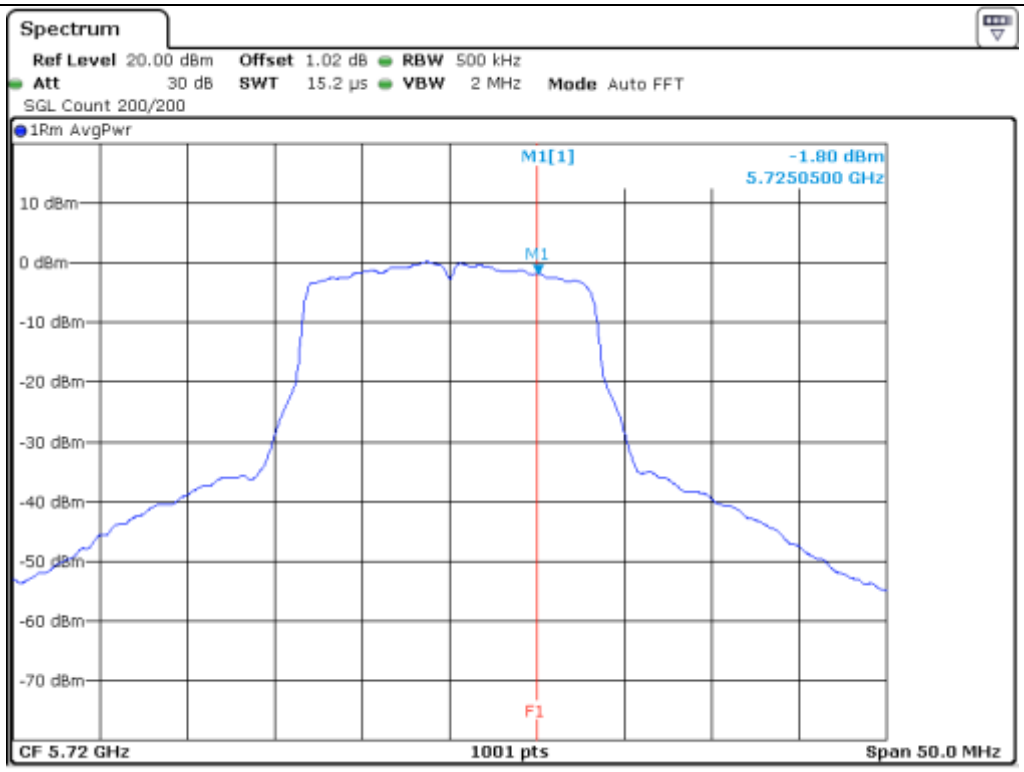
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 470 ~ 5 725	5 720.00	3.45	11.00	7.55
5 725 ~ 5 850	5 720.00	-1.80	30.00	31.80

Remark: See next page for measurement data.





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

10.4.6 Test data for Staddle Channel_Multiple Transmit

-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 470 ~ 5 725	5 720.00	6.32	11.00	4.68
5 725 ~ 5 850	5 720.00	0.72	30.00	29.28

10.5 Test data for 802.11n_HT20 RLAN Mode

10.5.1 Test data for Antenna 0

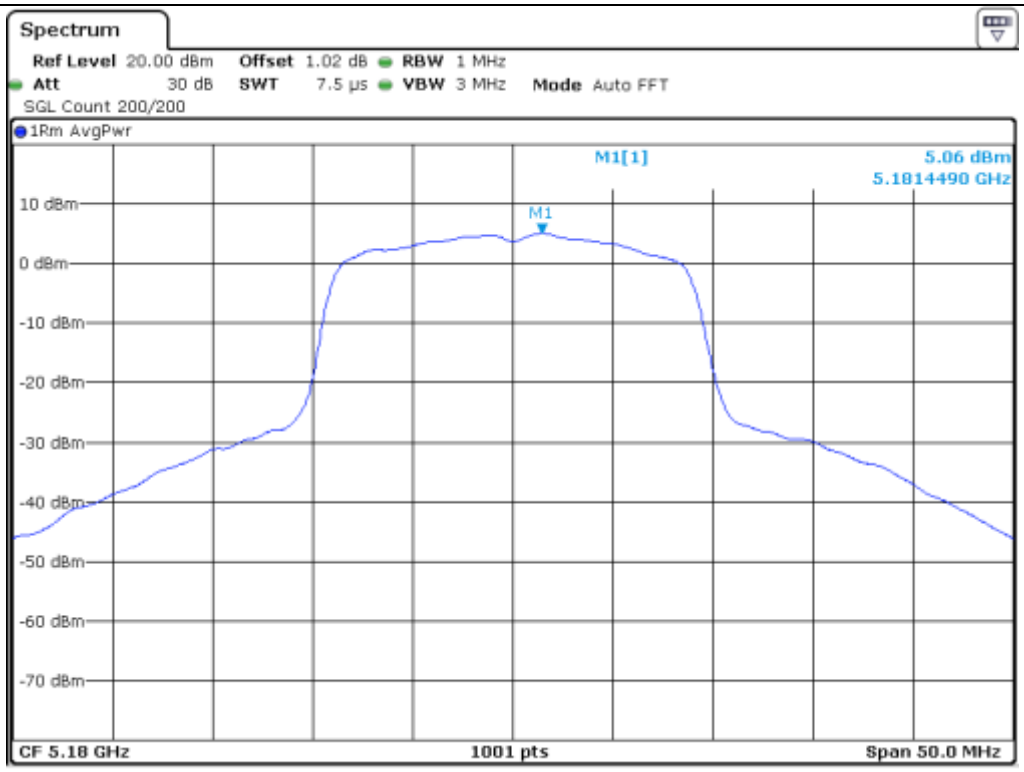
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

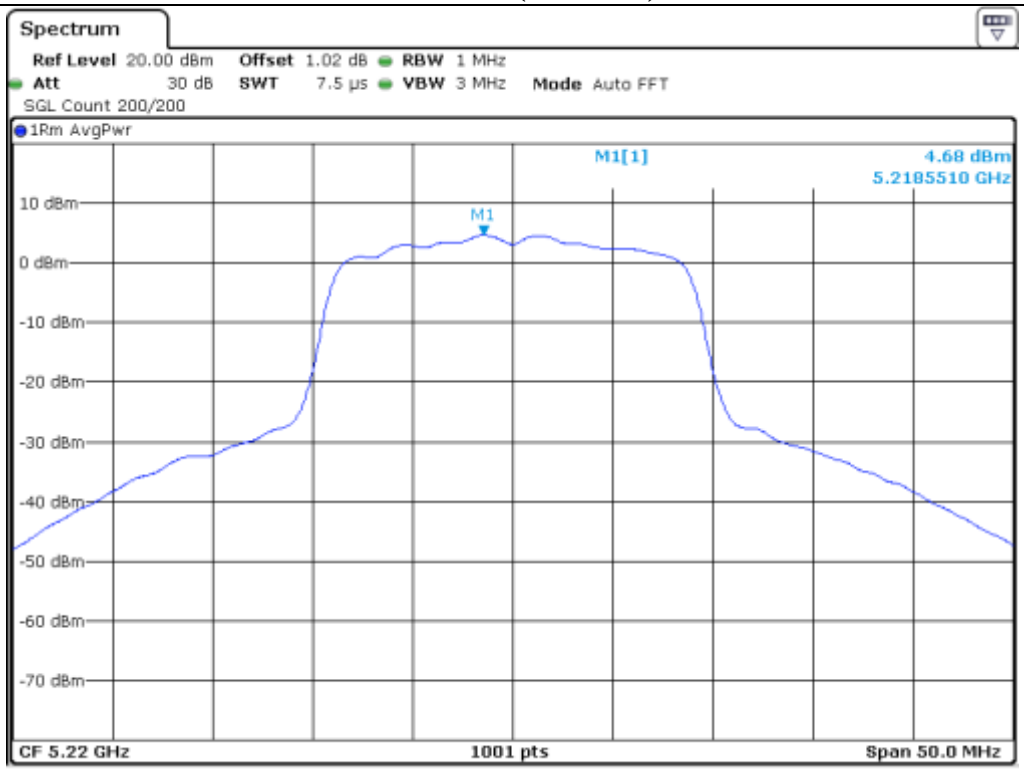
FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	5.06	11.00	5.94
	Middle	5 220.00	4.68	11.00	6.32
	High	5 240.00	4.57	11.00	6.43
5 250 ~ 5 350	Low	5 260.00	4.25	11.00	6.75
	Middle	5 300.00	3.49	11.00	7.51
	High	5 320.00	3.14	11.00	7.86
5 470 ~ 5 725	Low	5 500.00	3.23	11.00	7.77
	Middle	5 580.00	3.44	11.00	7.56
	High	5 700.00	3.25	11.00	7.75
5 725 ~ 5 850	Low	5 745.00	-0.15	30.00	30.15
	Middle	5 785.00	0.58	30.00	29.42
	High	5 825.00	-1.70	30.00	31.70

Remark: See next page for measurement data.

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

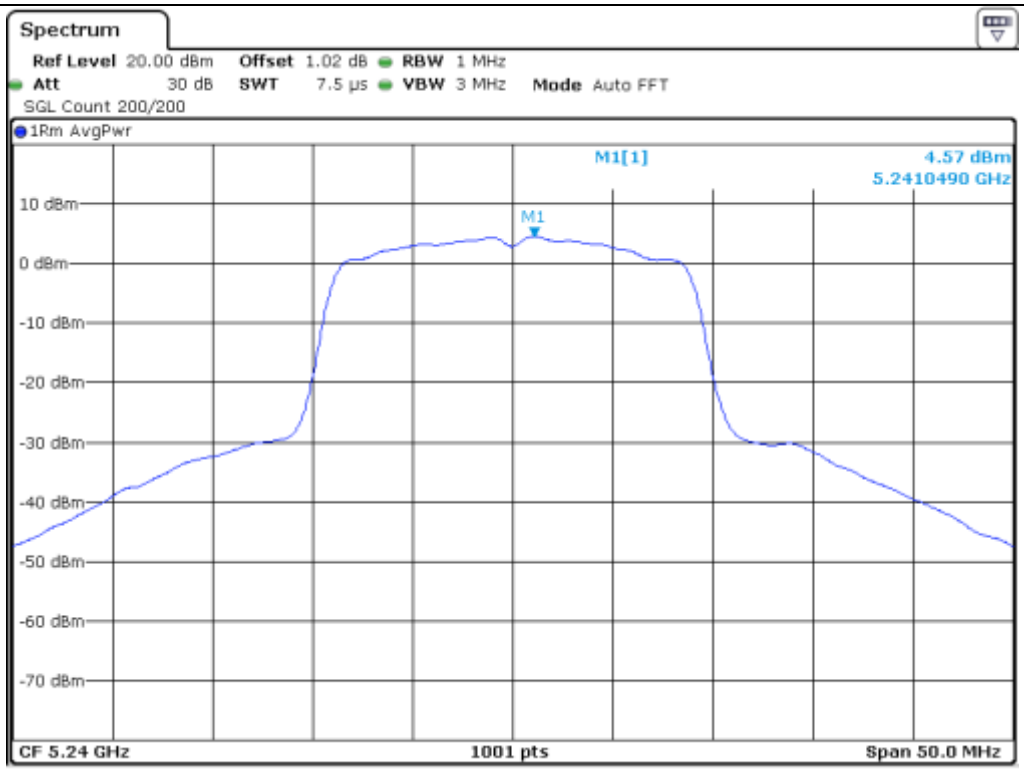


Low Channel (5 180 MHz)



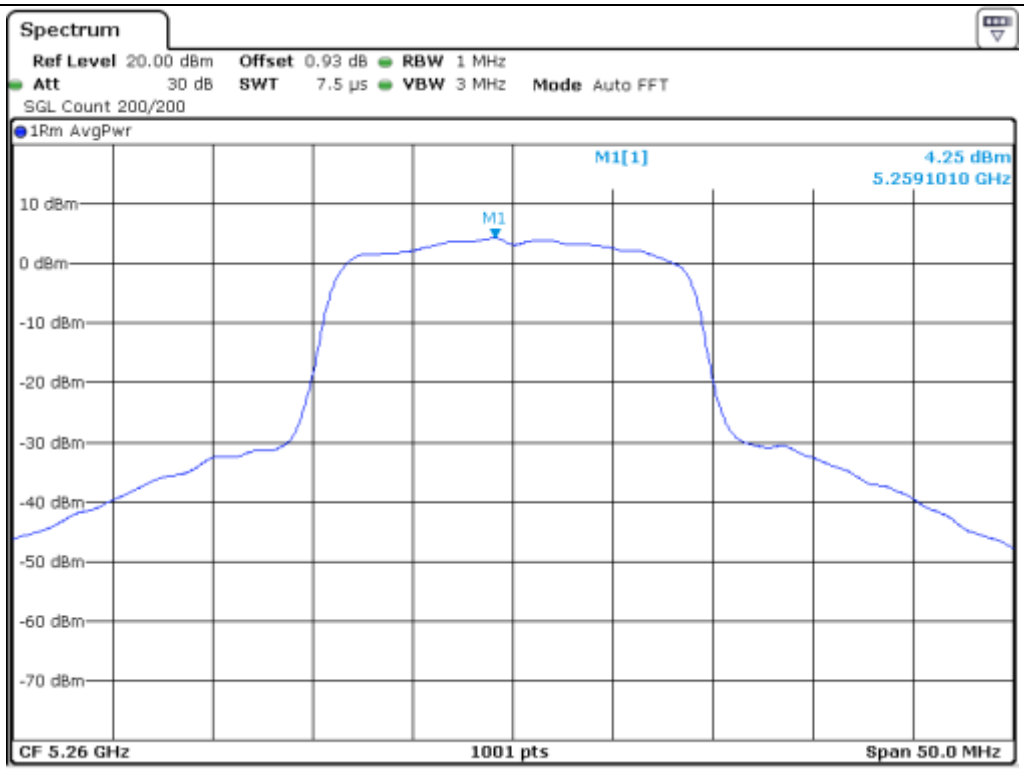
Middle Channel (5 220 MHz)

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

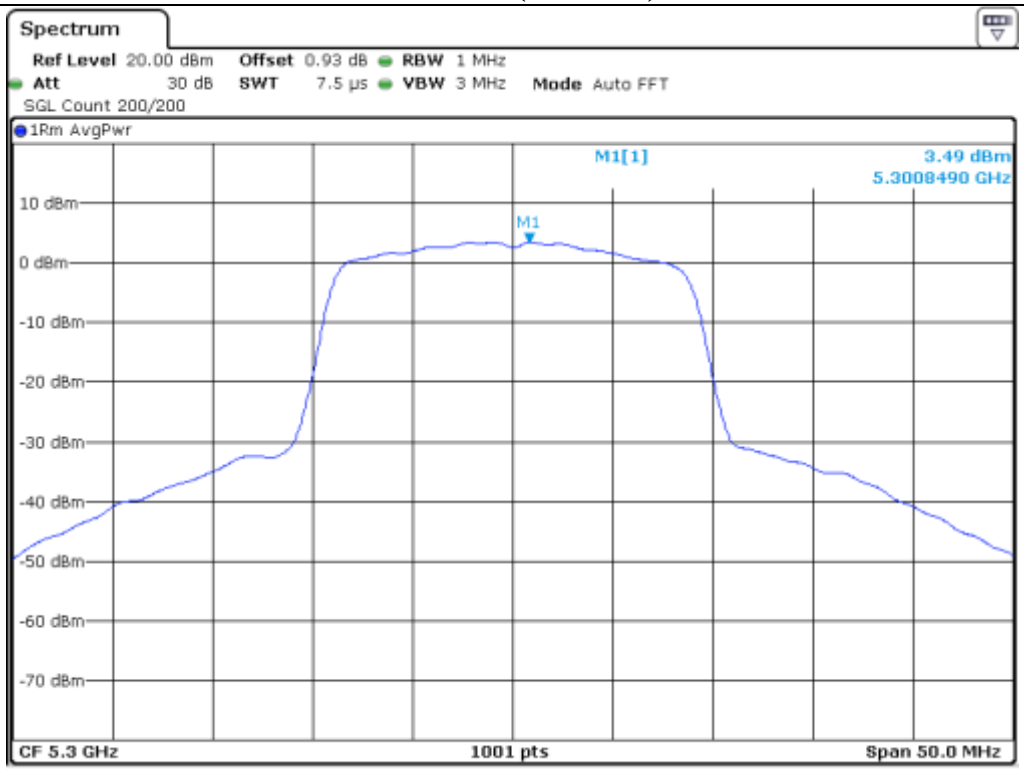


High Channel (5 240 MHz)

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

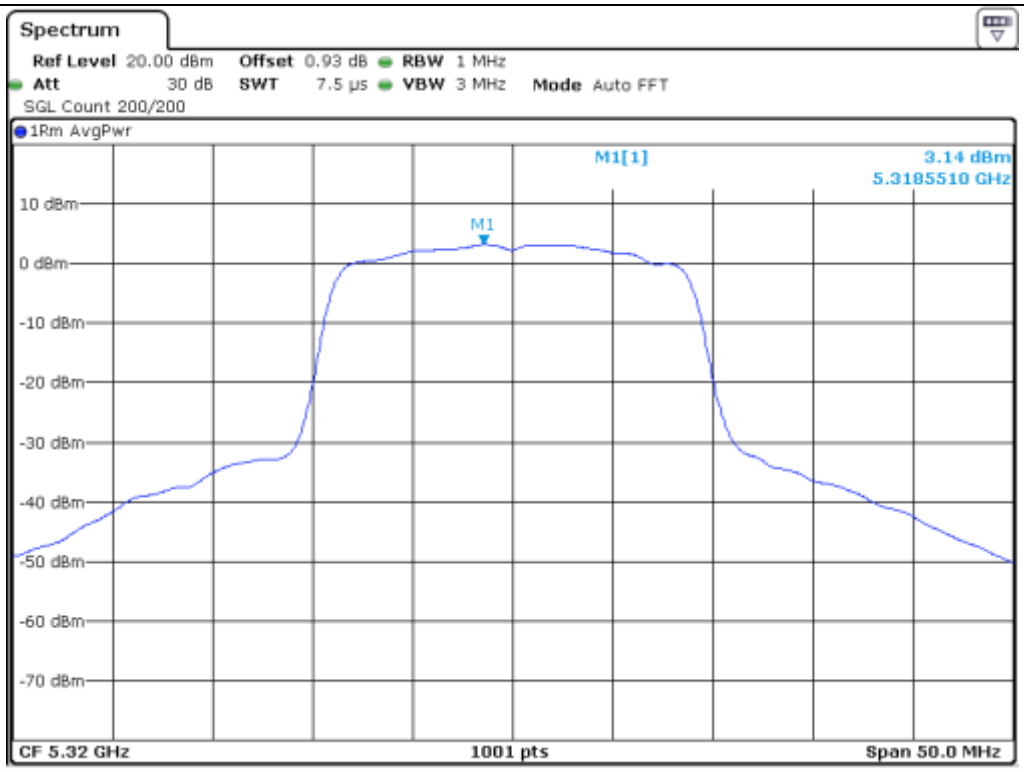


Low Channel (5 260 MHz)



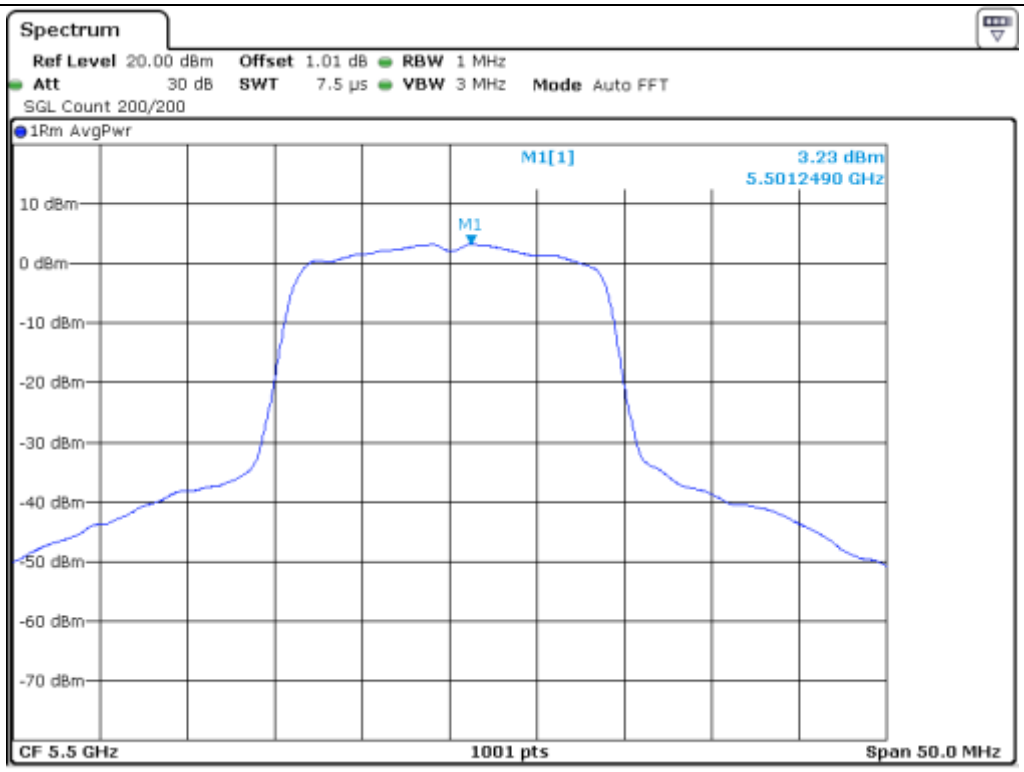
Middle Channel (5 300 MHz)

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

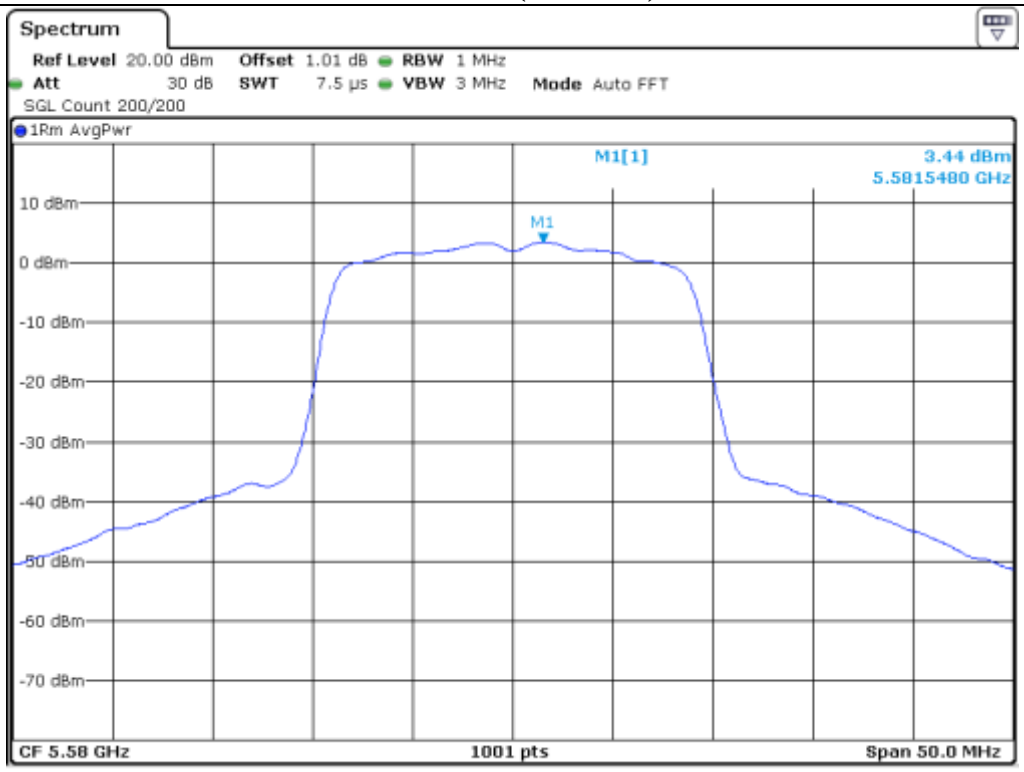


High Channel (5 320 MHz)

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

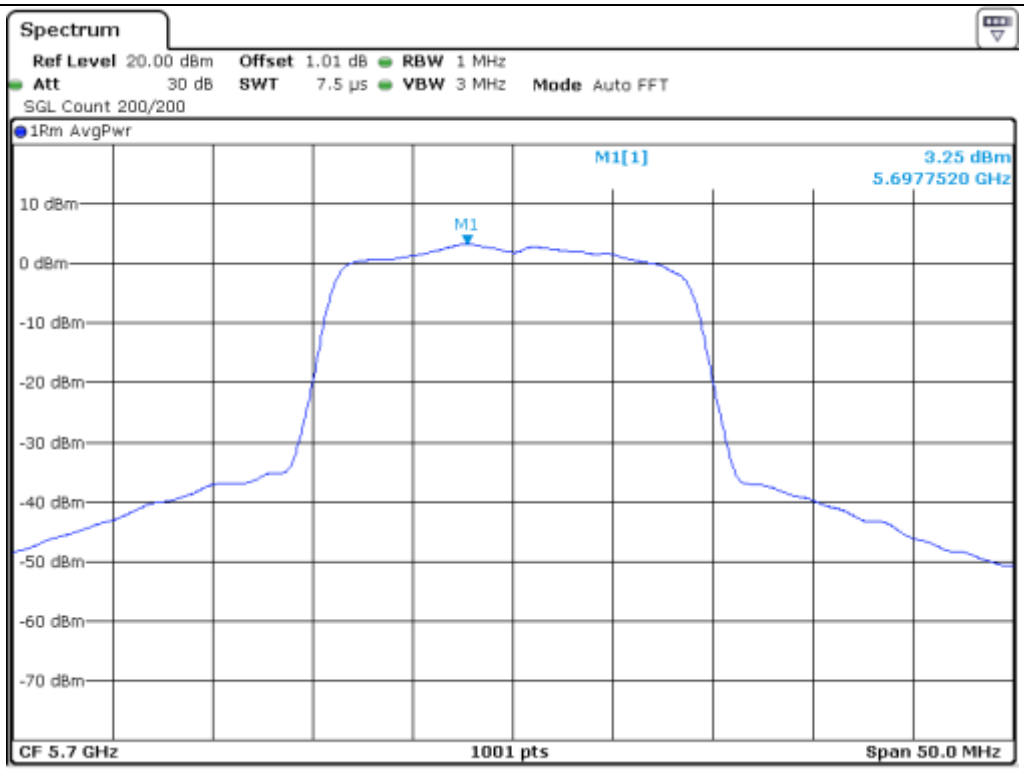


Low Channel (5 500 MHz)



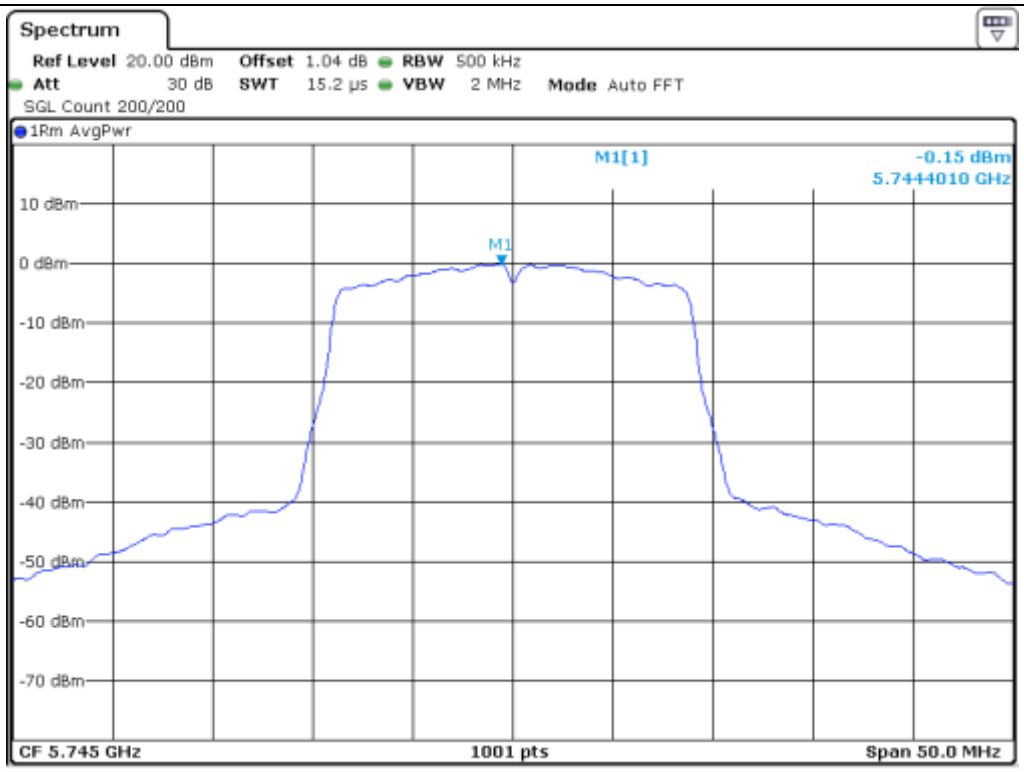
Middle Channel (5 580 MHz)

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

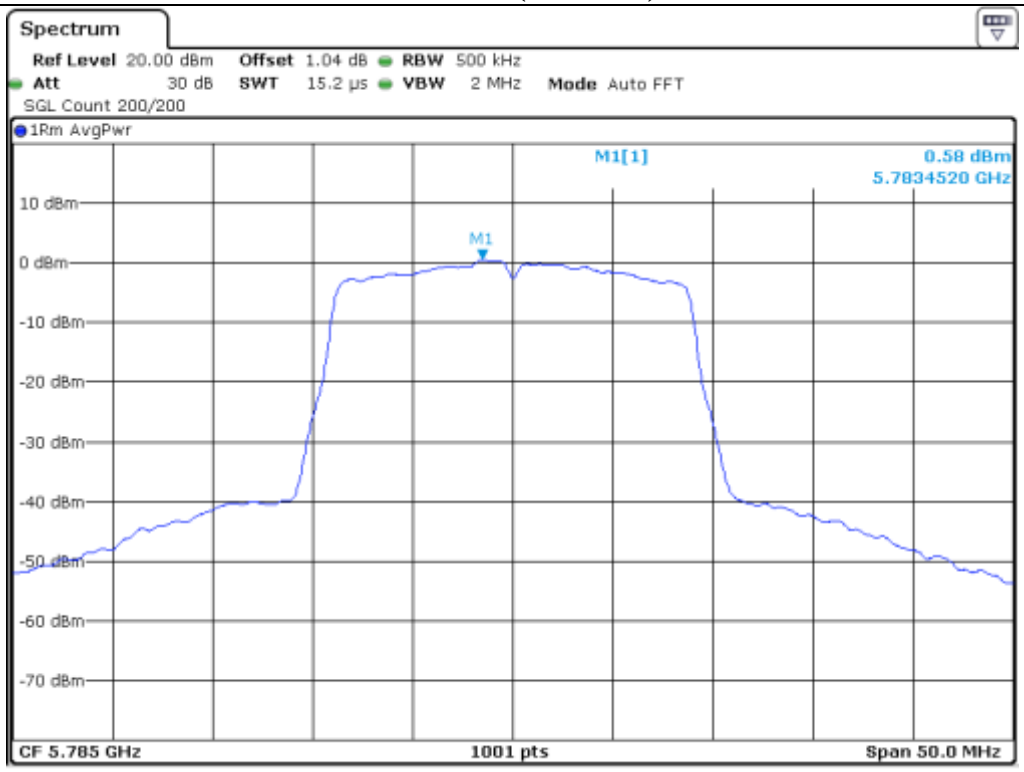


High Channel (5 700 MHz)

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

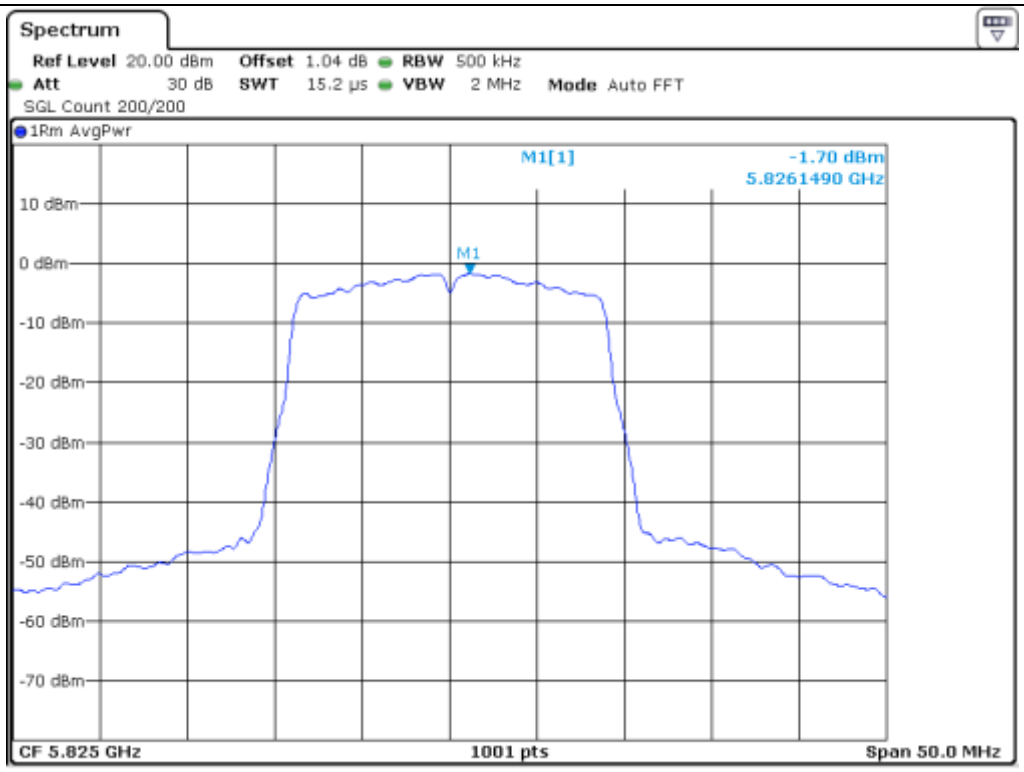


Low Channel (5 745 MHz)



Middle Channel (5 785 MHz)

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 (5 825 MHz)

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

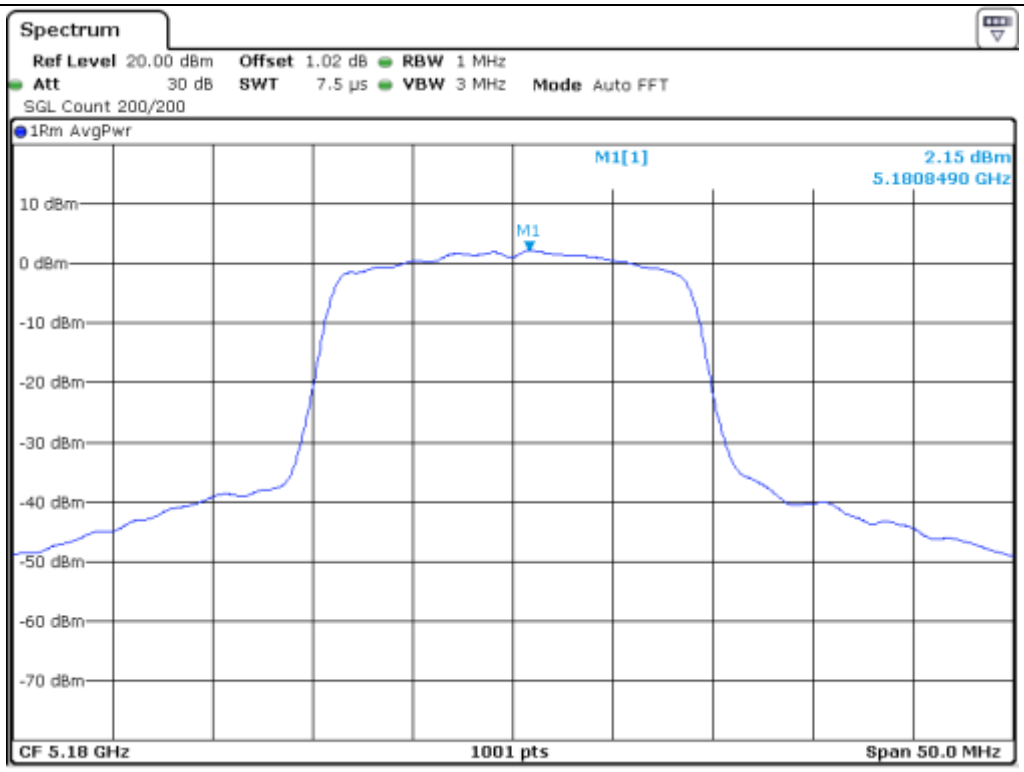
10.5.2 Test data for Antenna 1

-. Operating condition : Highest Output Power Transmitting Mode

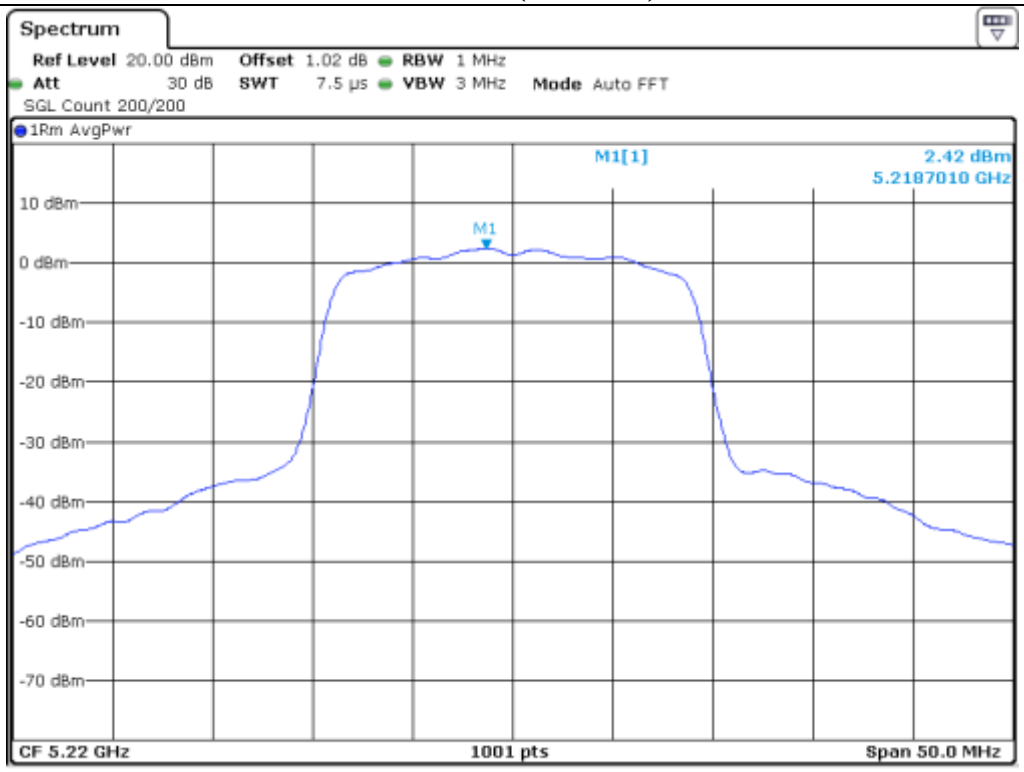
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	2.15	11.00	8.85
	Middle	5 220.00	2.42	11.00	8.58
	High	5 240.00	2.12	11.00	8.88
5 250 ~ 5 350	Low	5 260.00	2.82	11.00	8.18
	Middle	5 300.00	3.07	11.00	7.93
	High	5 320.00	2.97	11.00	8.03
5 470 ~ 5 725	Low	5 500.00	3.15	11.00	7.85
	Middle	5 580.00	3.73	11.00	7.27
	High	5 700.00	3.46	11.00	7.54
5 725 ~ 5 850	Low	5 745.00	-0.19	30.00	30.19
	Middle	5 785.00	0.30	30.00	29.70
	High	5 825.00	-0.78	30.00	30.78

Remark: See next page for measurement data.

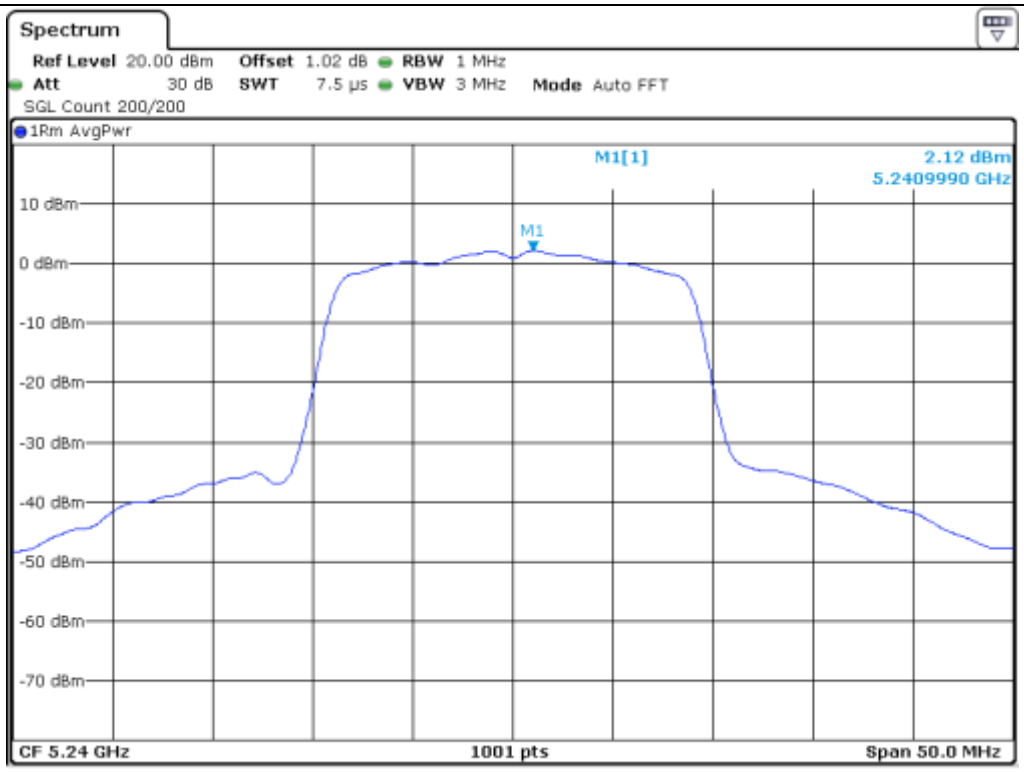


Low Channel (5 180 MHz)



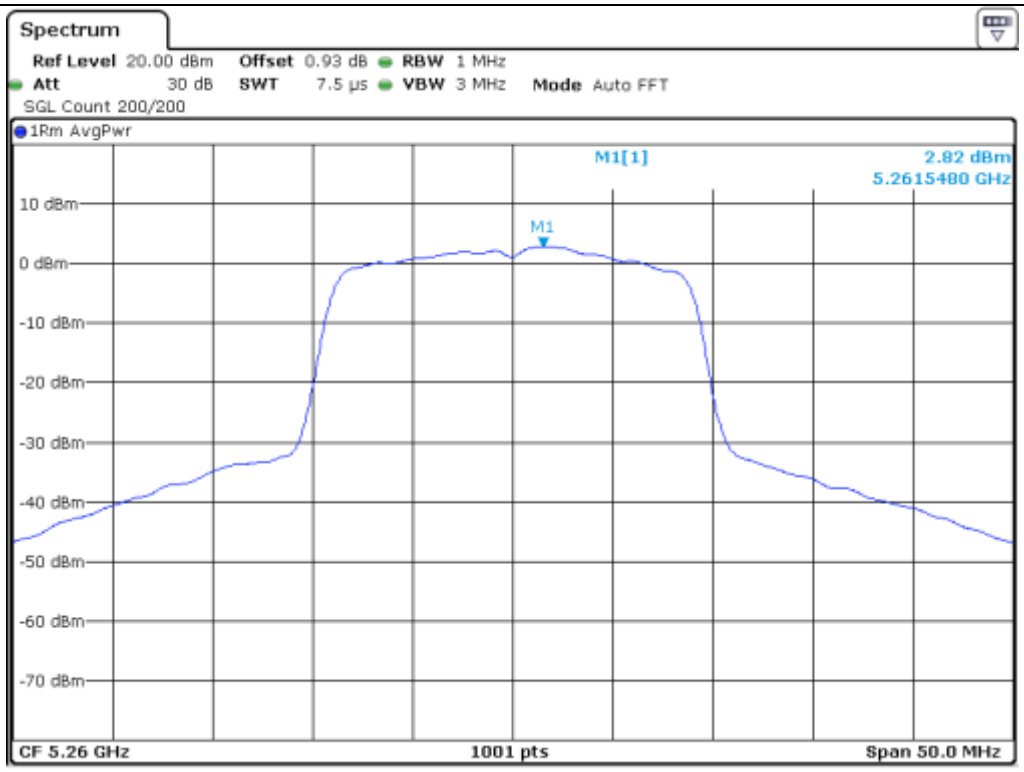
Middle Channel (5 220 MHz)

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

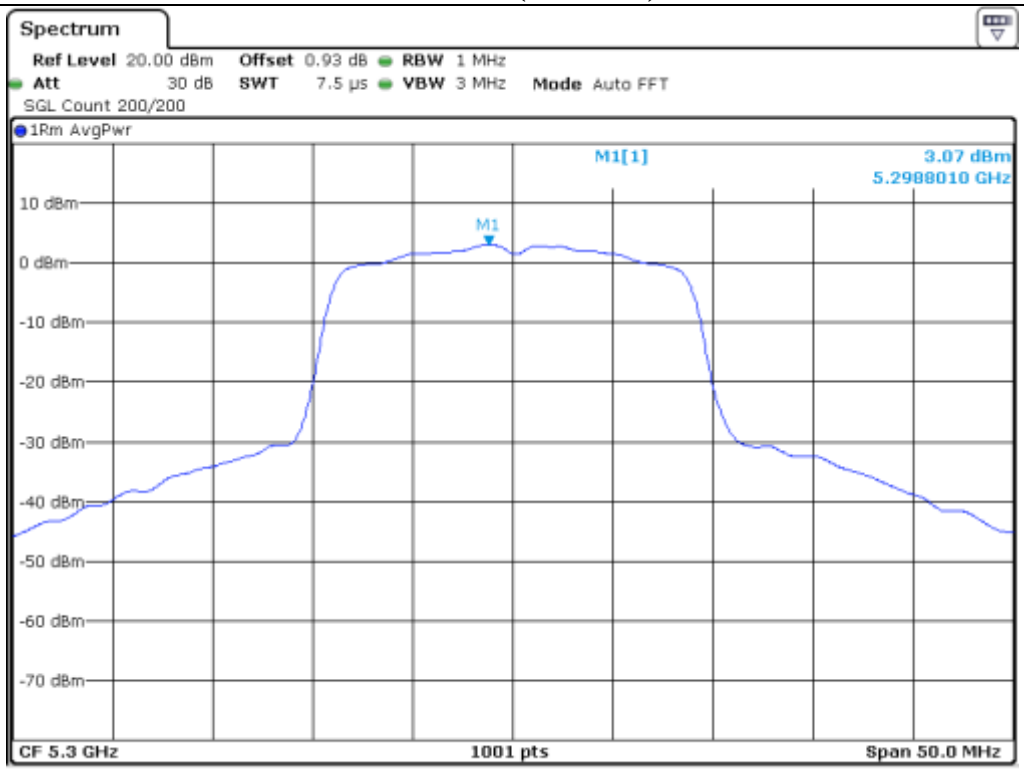


High Channel (5 240 MHz)

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

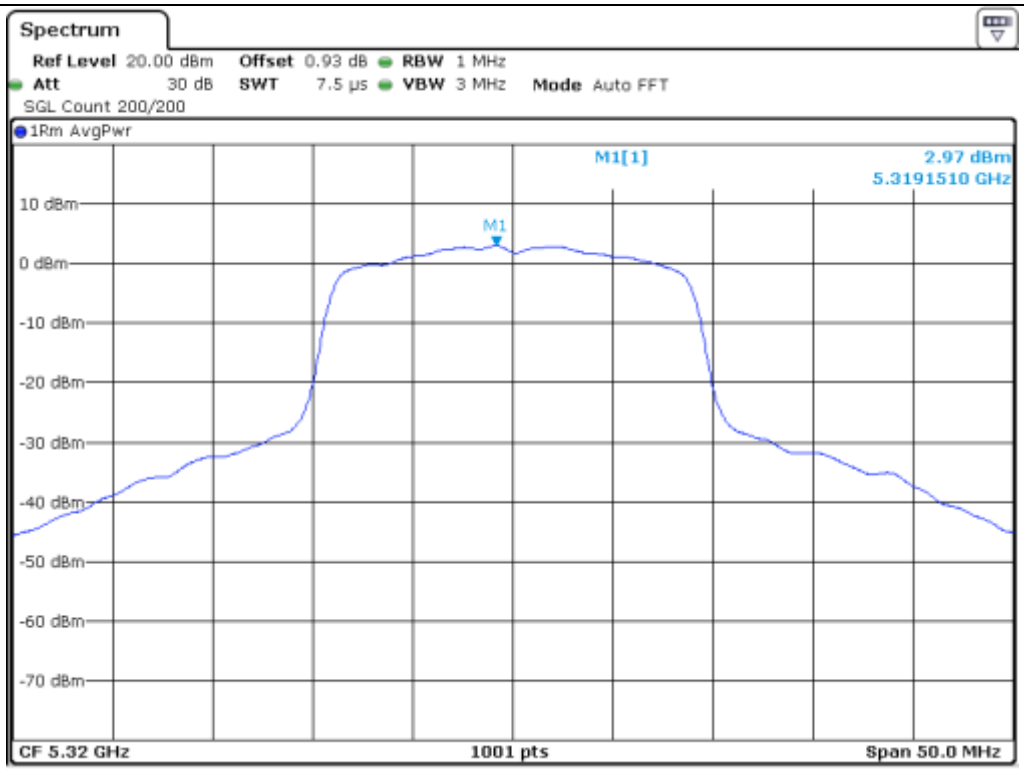


Low Channel (5 260 MHz)



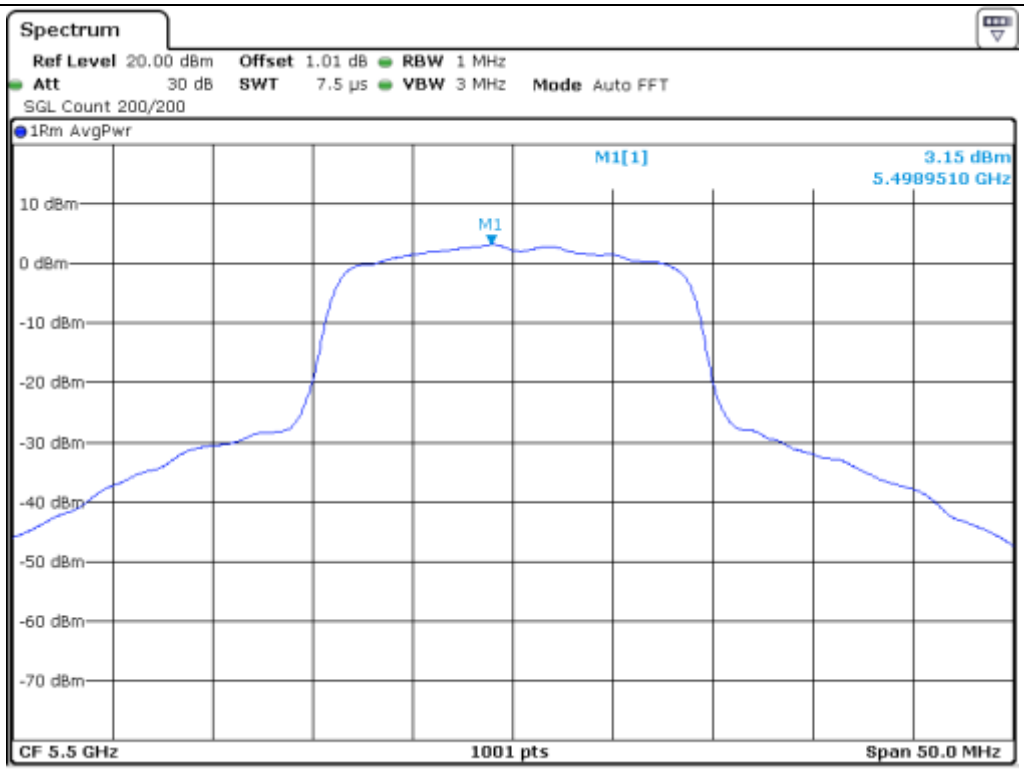
Middle Channel (5 300 MHz)

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

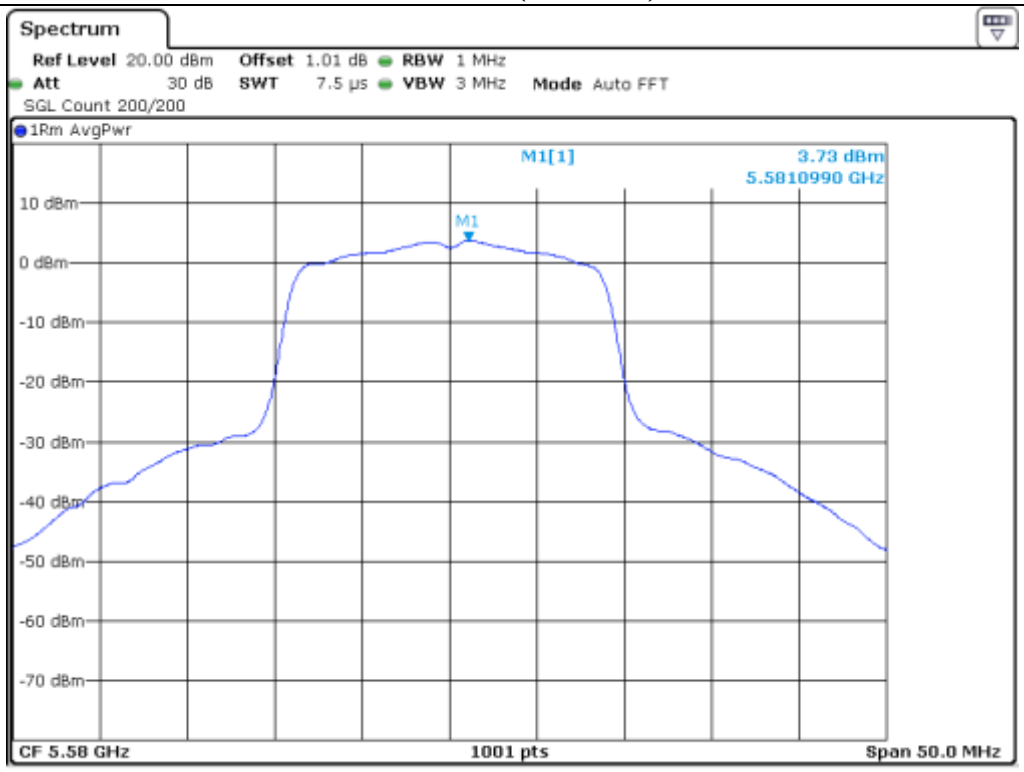


High Channel (5 320 MHz)

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

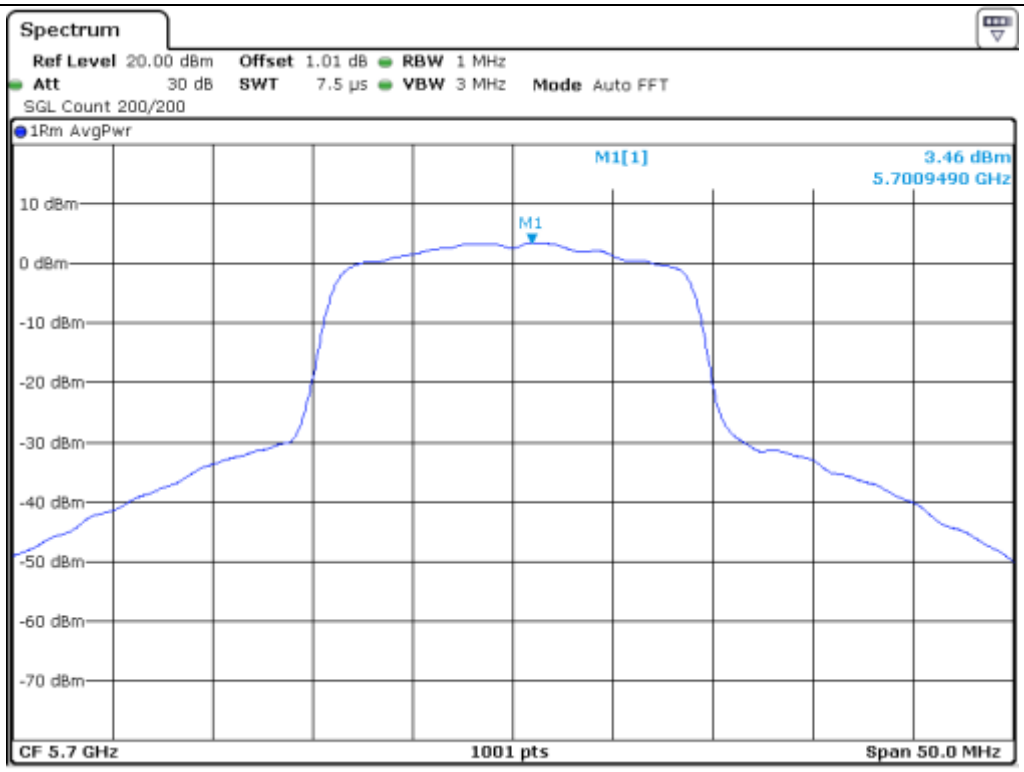


Low Channel (5 500 MHz)



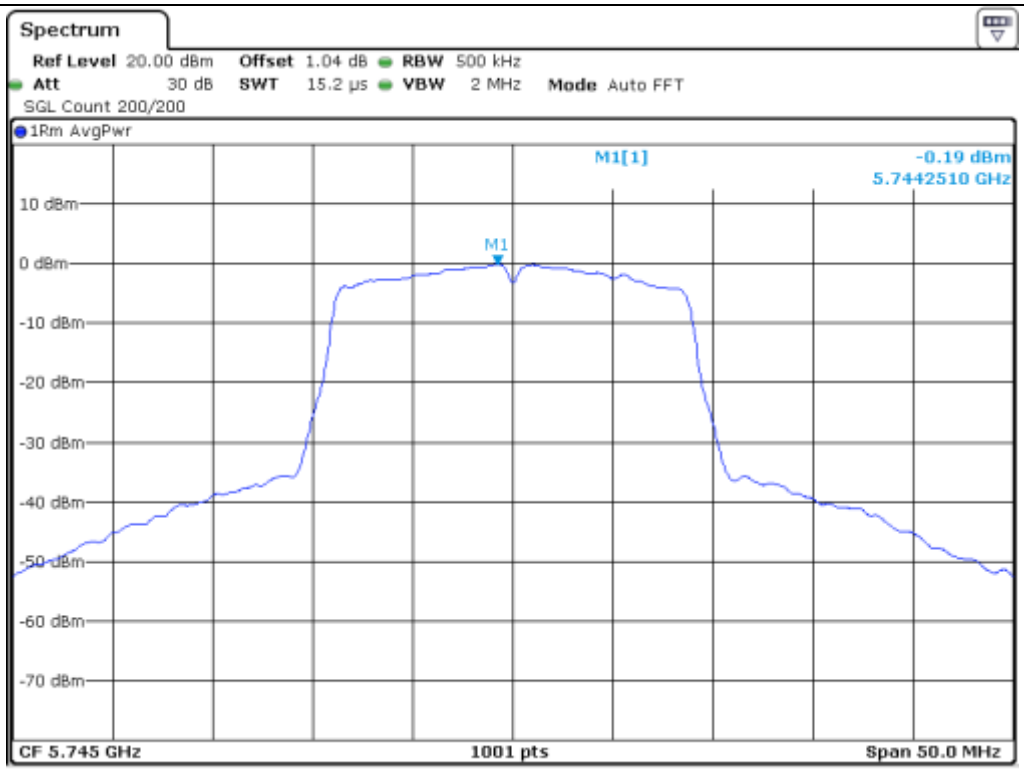
Middle Channel (5 580 MHz)

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

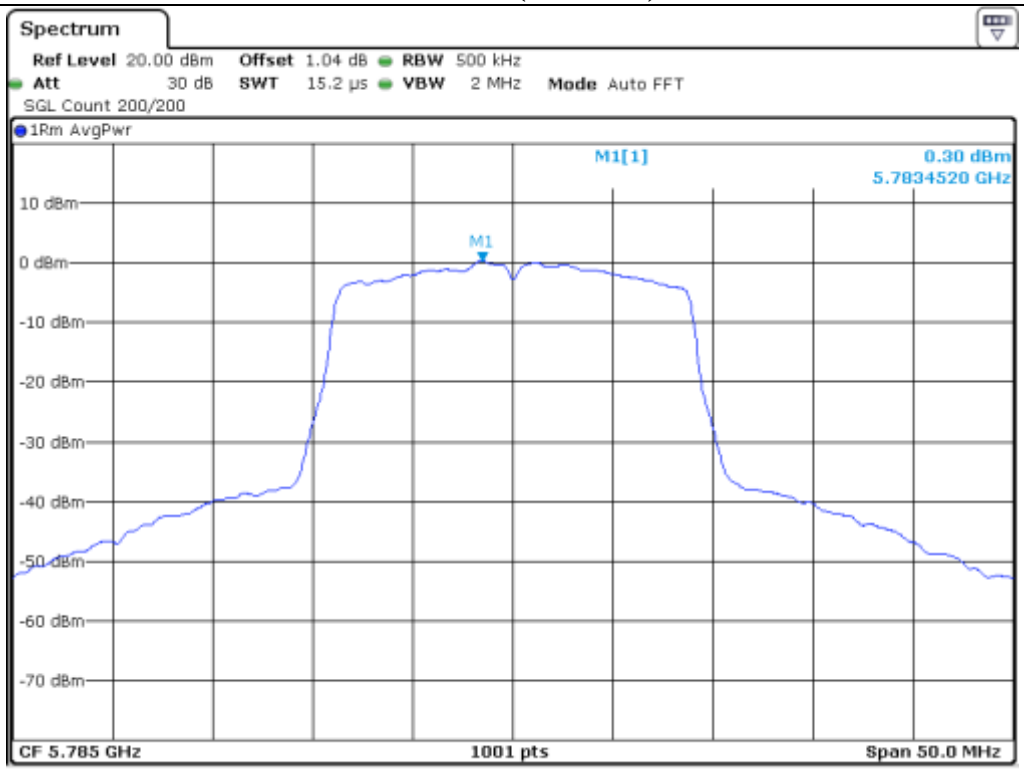


High Channel (5 700 MHz)

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

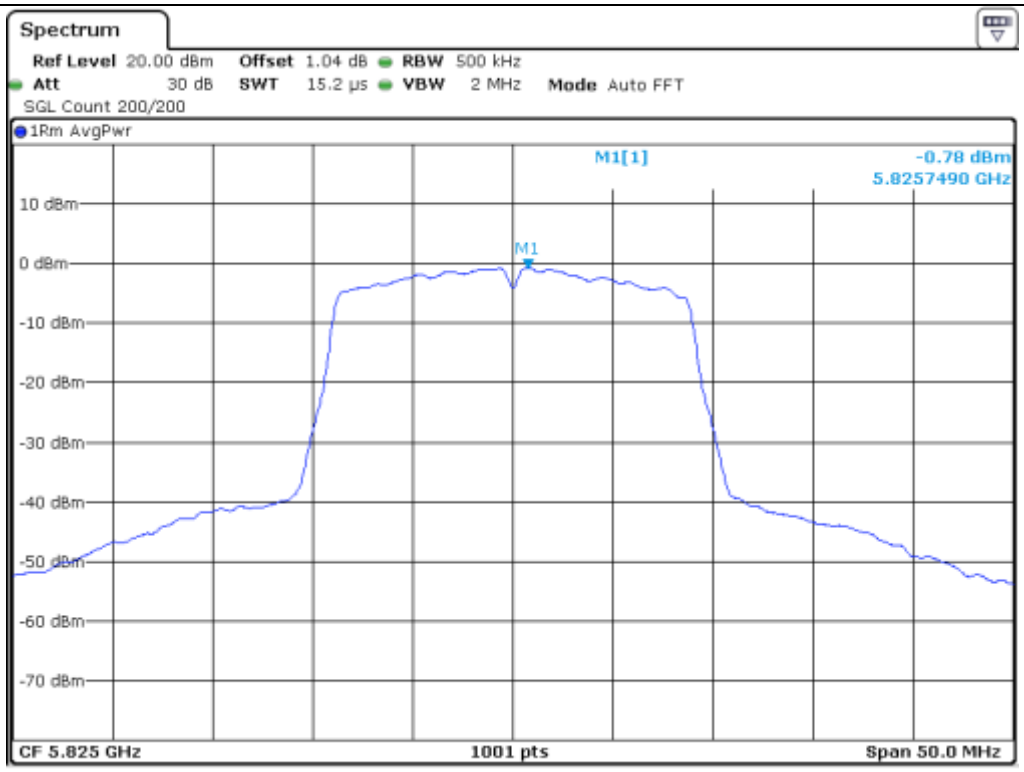


Low Channel (5 745 MHz)



Middle Channel (5 785 MHz)

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 (5 825 MHz)

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

-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	6.85	11.00	4.15
	Middle	5 220.00	6.71	11.00	4.29
	High	5 240.00	6.53	11.00	4.47
5 250 ~ 5 350	Low	5 260.00	6.60	11.00	4.40
	Middle	5 300.00	6.30	11.00	4.70
	High	5 320.00	6.07	11.00	4.93
5 470 ~ 5 725	Low	5 500.00	6.20	11.00	4.80
	Middle	5 580.00	6.60	11.00	4.40
	High	5 700.00	6.37	11.00	4.63
5 725 ~ 5 850	Low	5 745.00	2.84	30.00	27.16
	Middle	5 785.00	3.45	30.00	26.55
	High	5 825.00	1.79	30.00	28.21

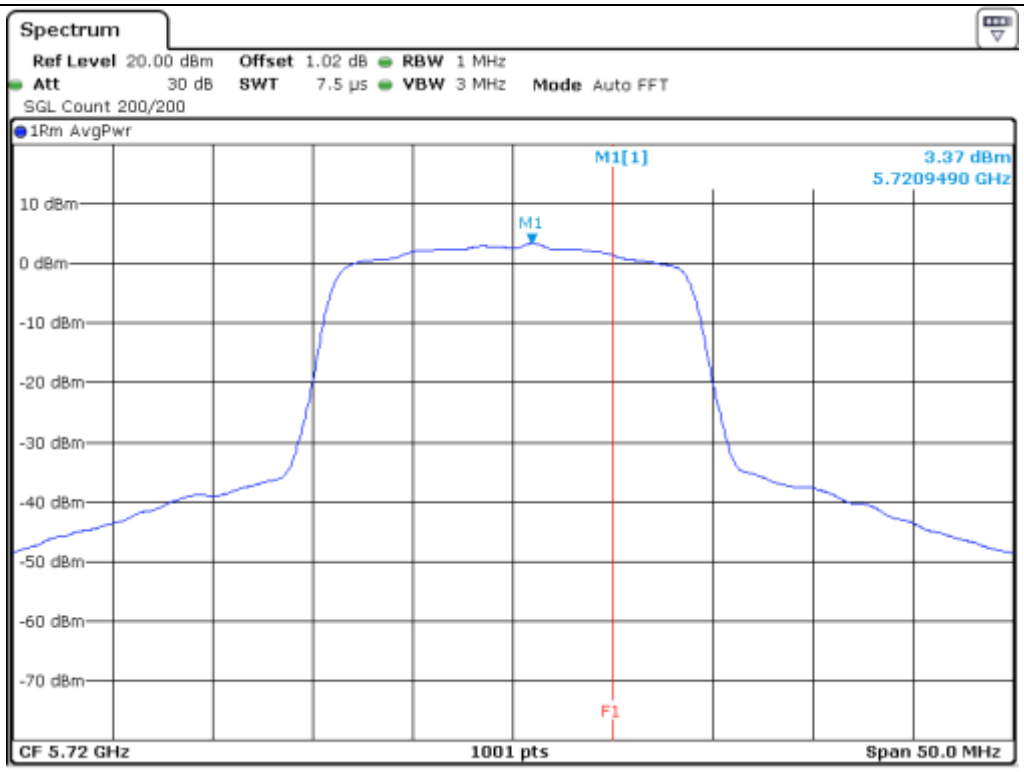
10.5.4 Test data for Staddle Channel_Antenna 0

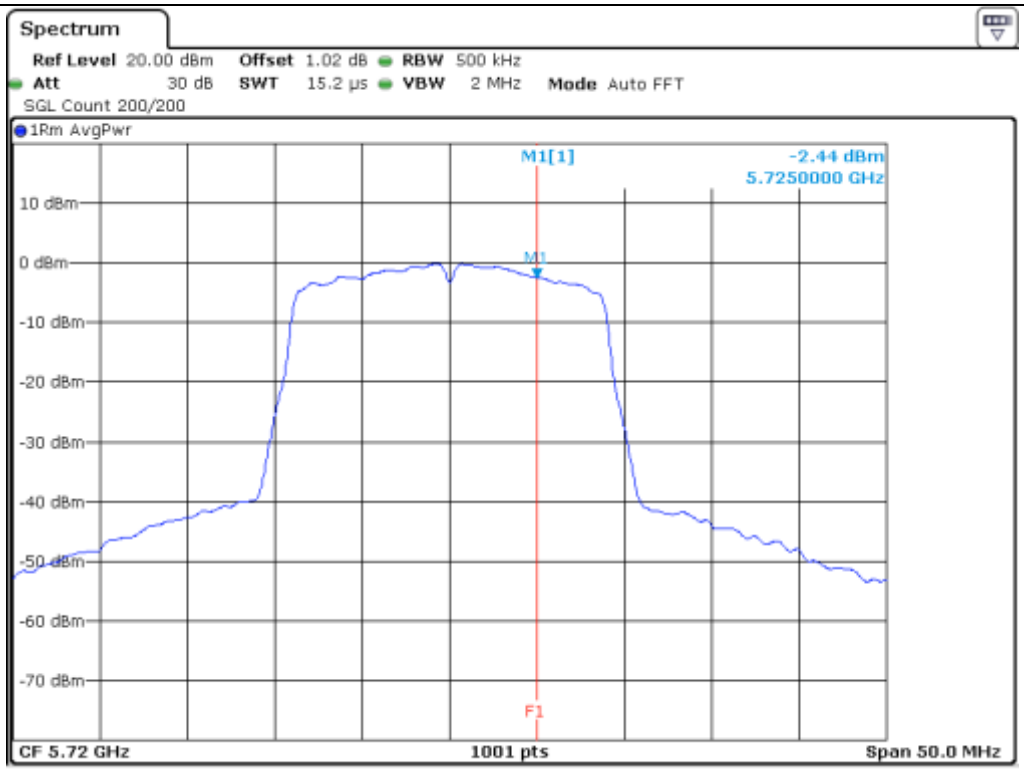
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 470 ~ 5 725	5 720.00	3.37	11.00	7.63
5 725 ~ 5 850	5 720.00	-2.44	30.00	32.44

Remark: See next page for measurement data.





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

10.5.5 Test data for Staddle Channel_Antenna 1

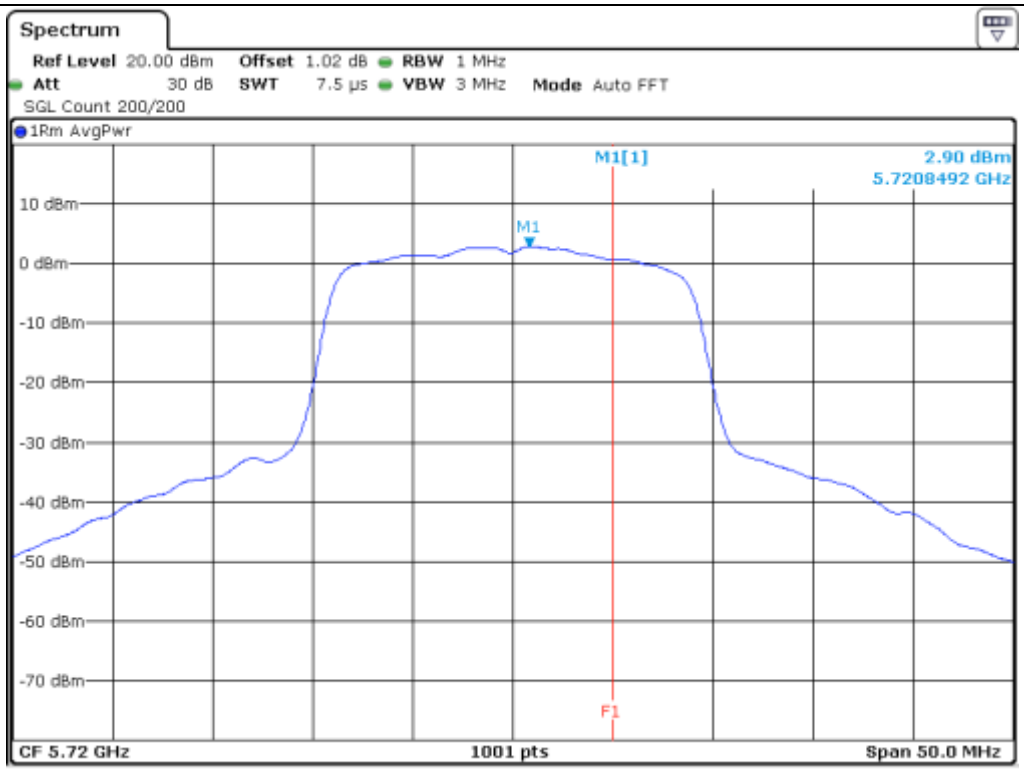
-. Operating condition : Highest Output Power Transmitting Mode

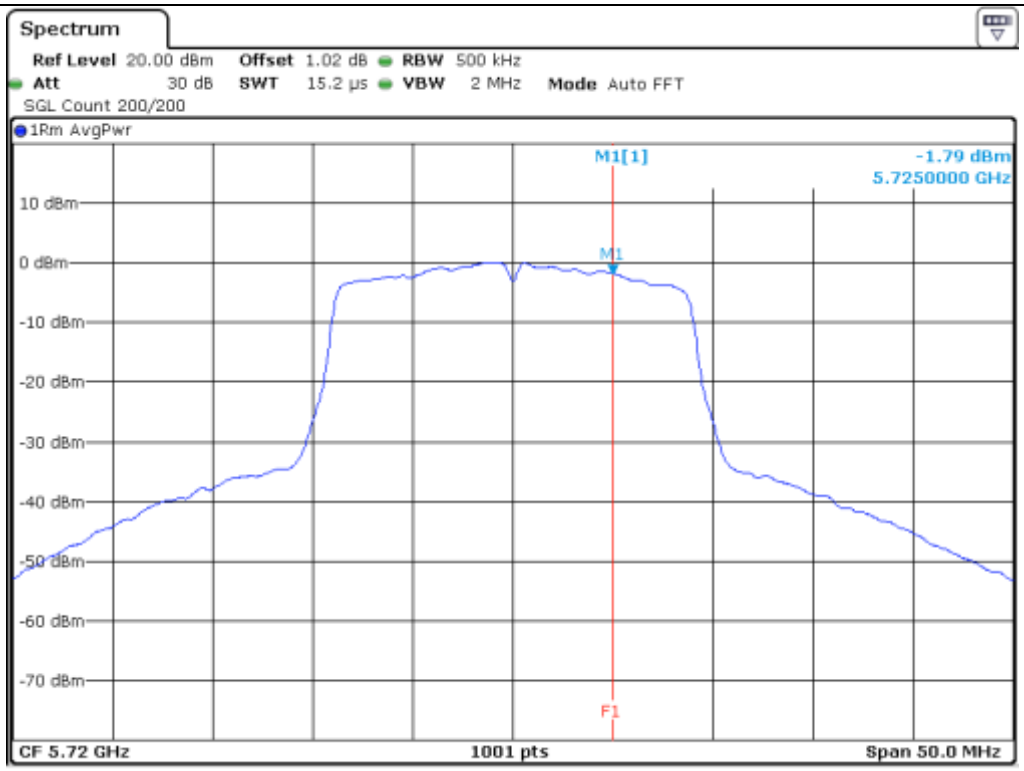
-. Test Result : Pass

FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 470 ~ 5 725	5 720.00	2.90	11.00	8.10
5 725 ~ 5 850	5 720.00	-1.79	30.00	31.79

Remark: See next page for measurement data.

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





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

10.5.6 Test data for Staddle Channel_Multiple Transmit

-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 470 ~ 5 725	5 720.00	6.15	11.00	4.85
5 725 ~ 5 850	5 720.00	0.91	30.00	29.09

10.6 Test data for 802.11n_HT40 RLAN Mode

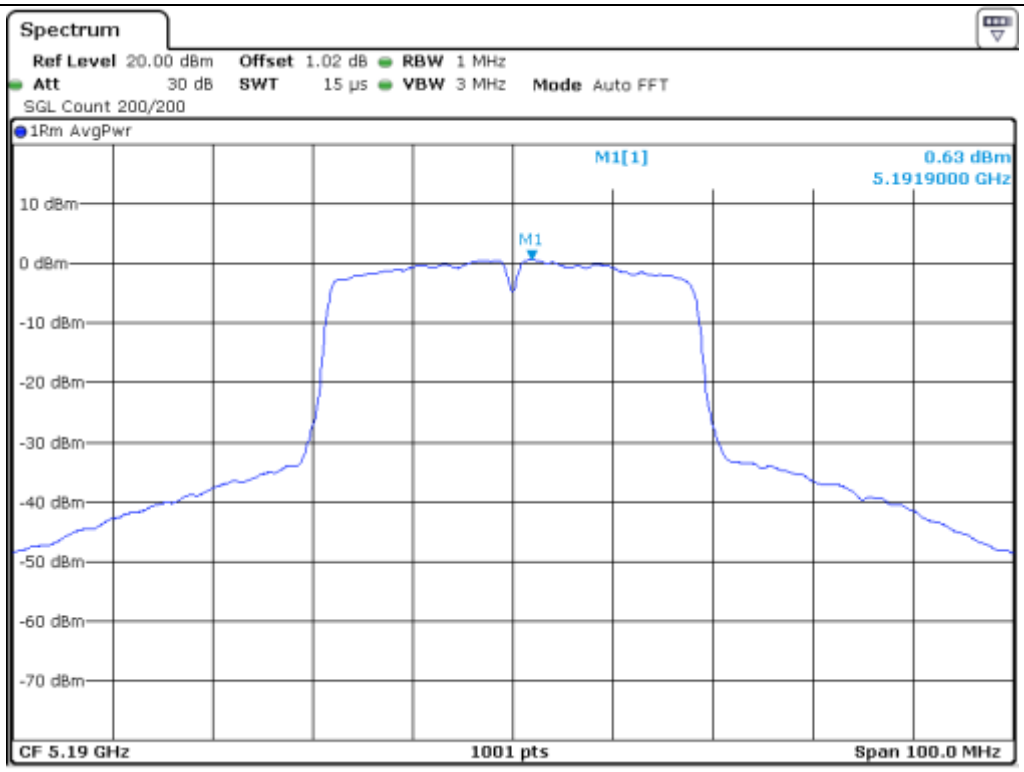
10.6.1 Test data for Antenna 0

-. Operating condition : Highest Output Power Transmitting Mode

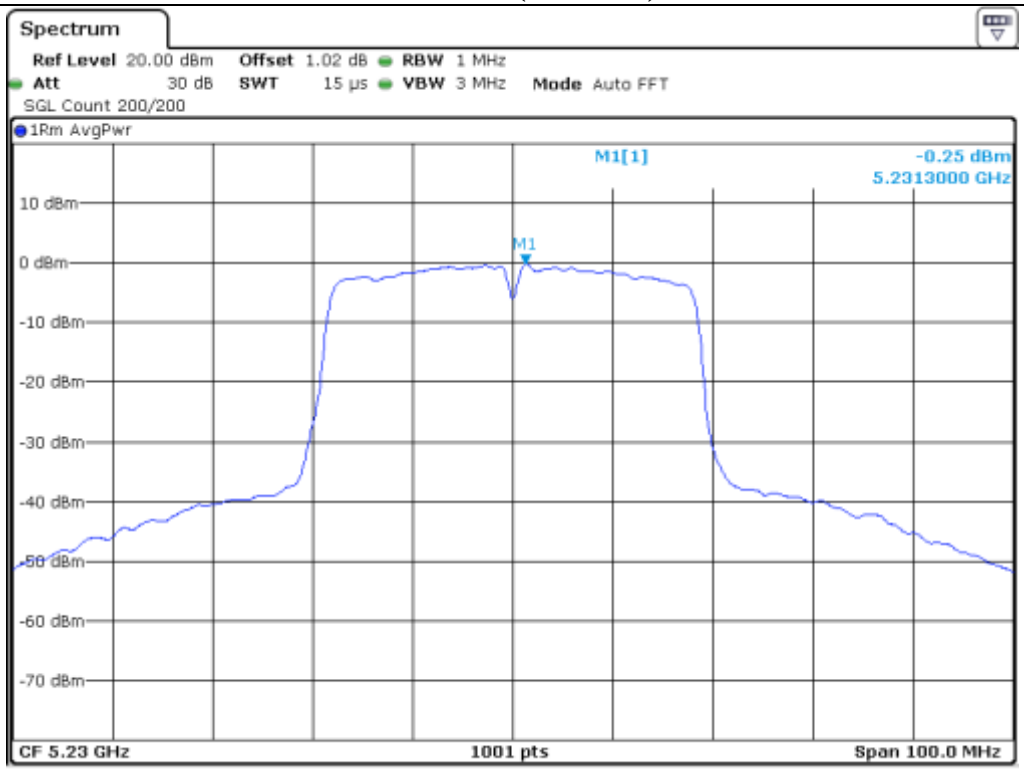
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 190.00	0.63	11.00	10.37
	High	5 230.00	-0.25	11.00	11.25
5 250 ~ 5 350	Low	5 270.00	-0.49	11.00	11.49
	High	5 310.00	-1.45	11.00	12.45
5 470 ~ 5 725	Low	5 510.00	-1.51	11.00	12.51
	Middle	5 550.00	-1.56	11.00	12.56
	High	5 670.00	-2.05	11.00	13.05
5 725 ~ 5 850	Low	5 755.00	-4.46	30.00	34.46
	High	5 795.00	-4.76	30.00	34.76

Remark: See next page for measurement data.

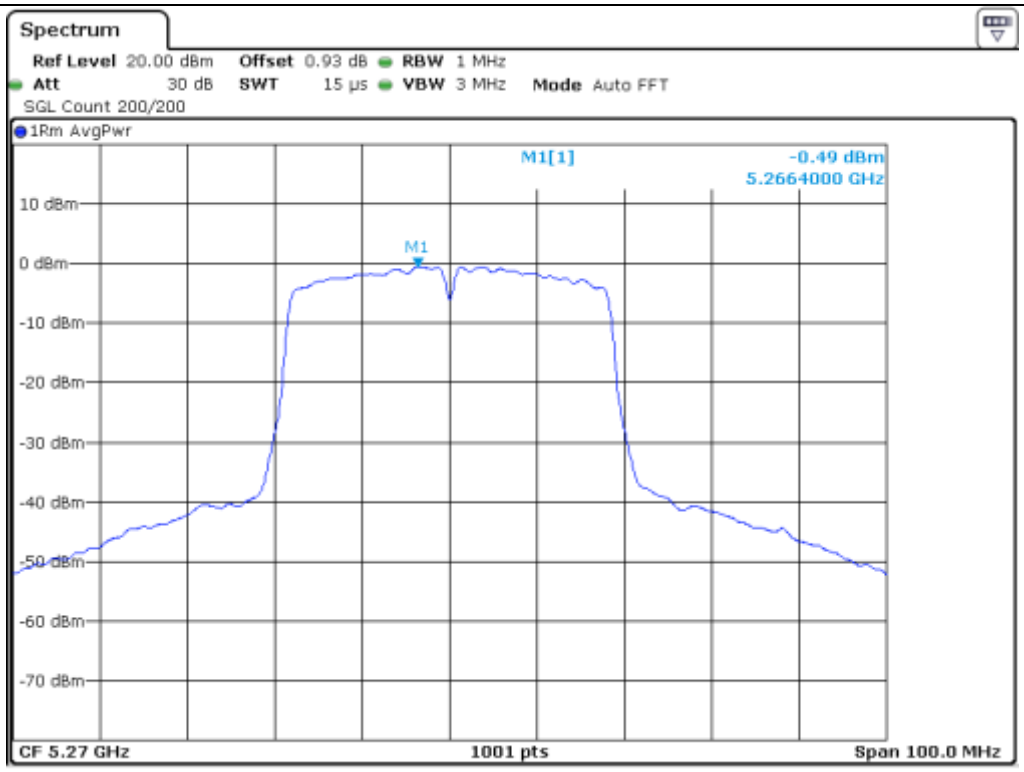


Low Channel (5 190 MHz)

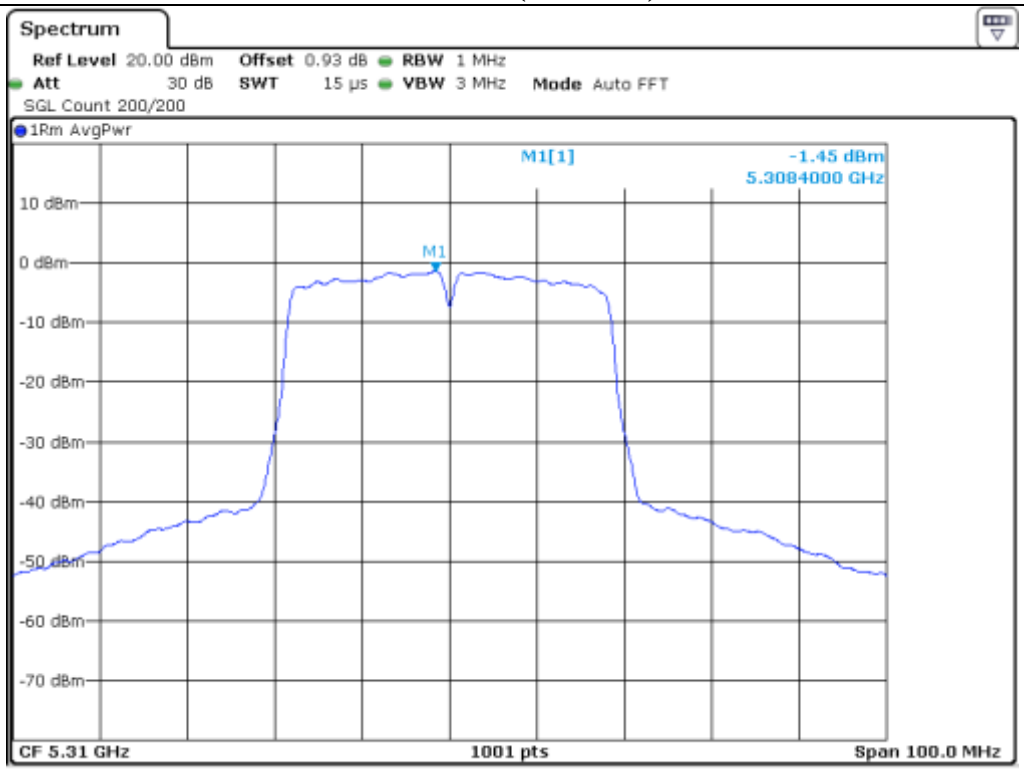


High Channel (5 230 MHz)

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

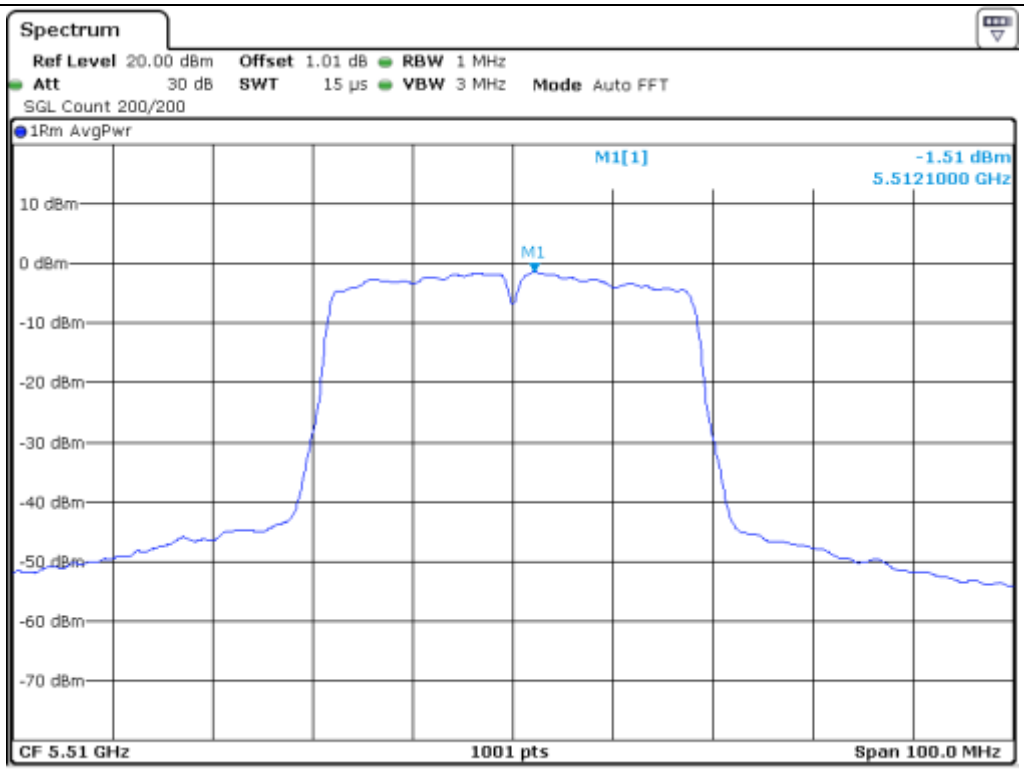


Low Channel (5 270 MHz)

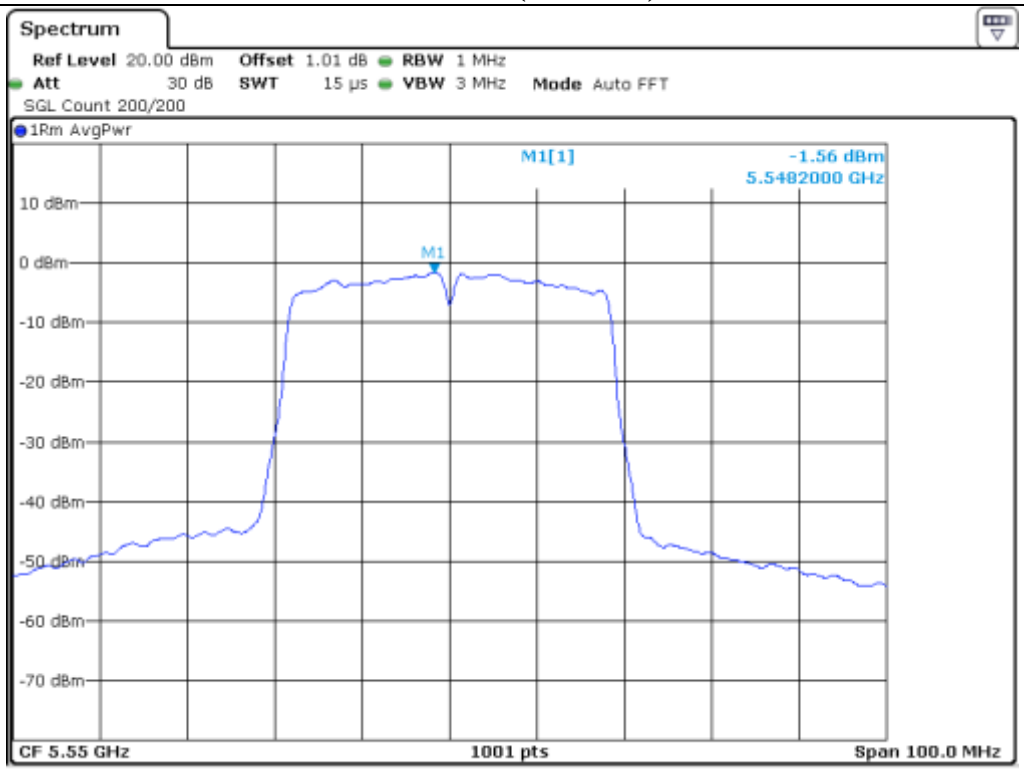


High Channel (5 310 MHz)

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

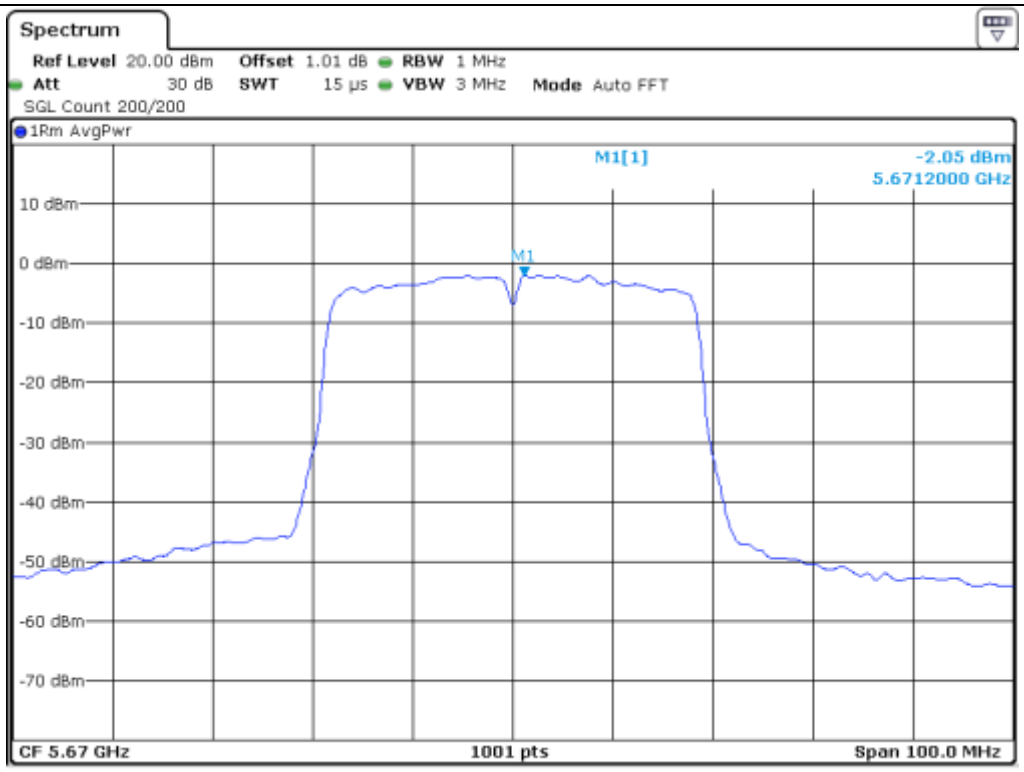


Low Channel (5 510 MHz)



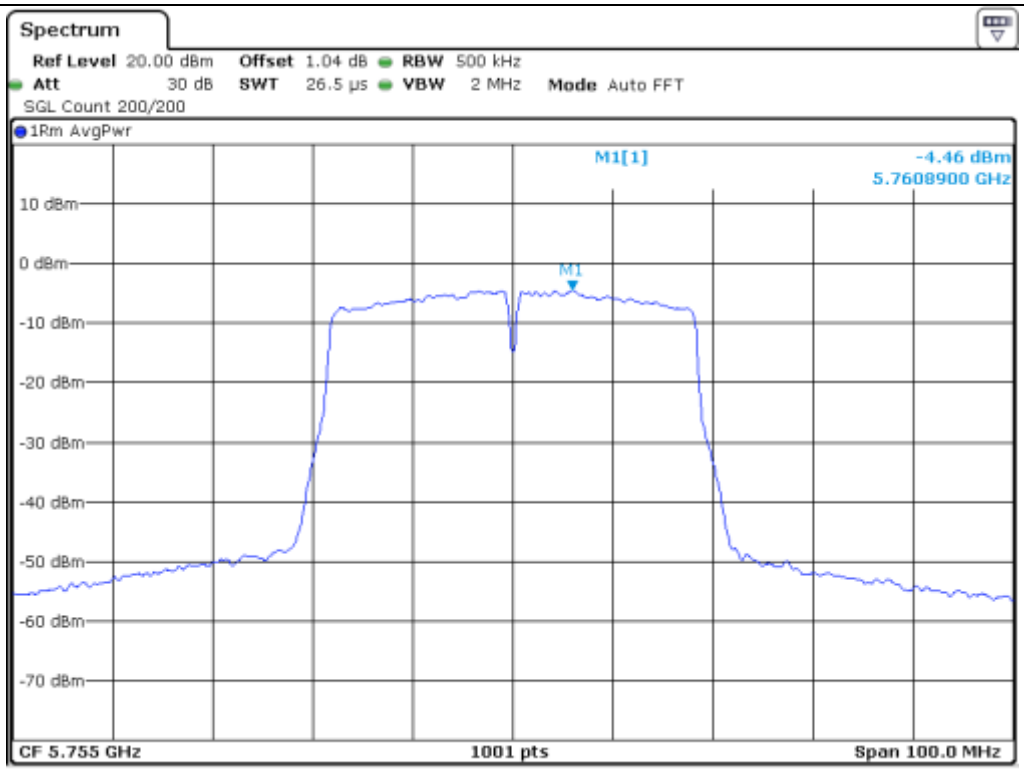
Middle Channel (5 550 MHz)

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

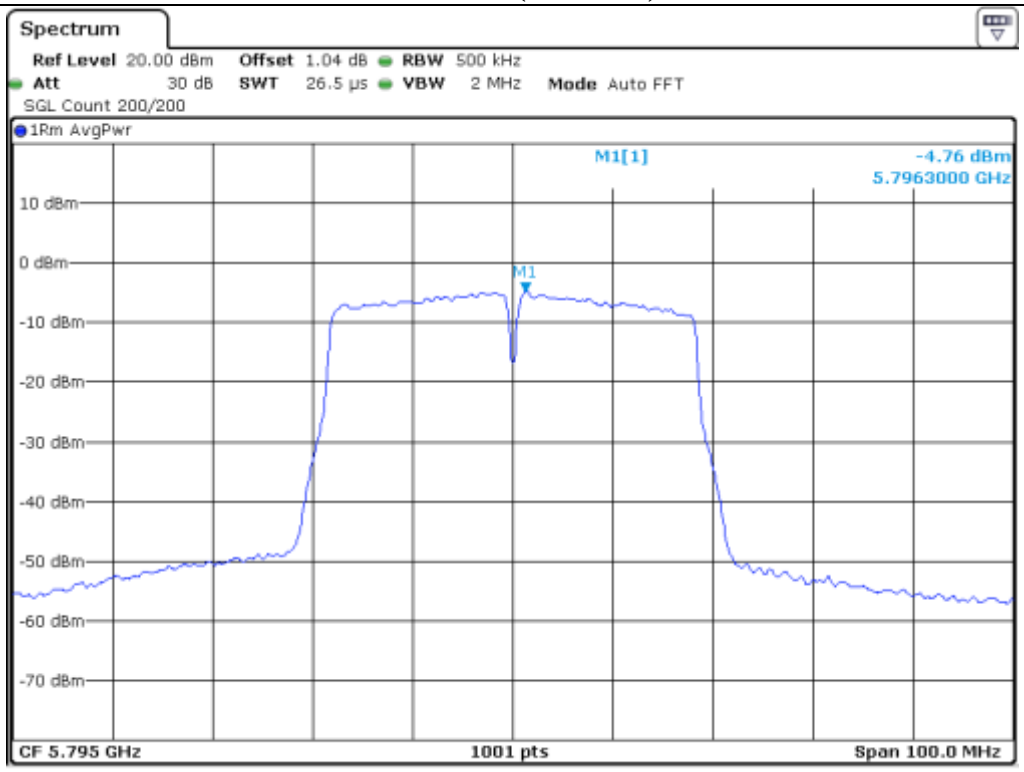


High Channel (5 670 MHz)

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



Low Channel (5 755 MHz)



High Channel (5 795 MHz)

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

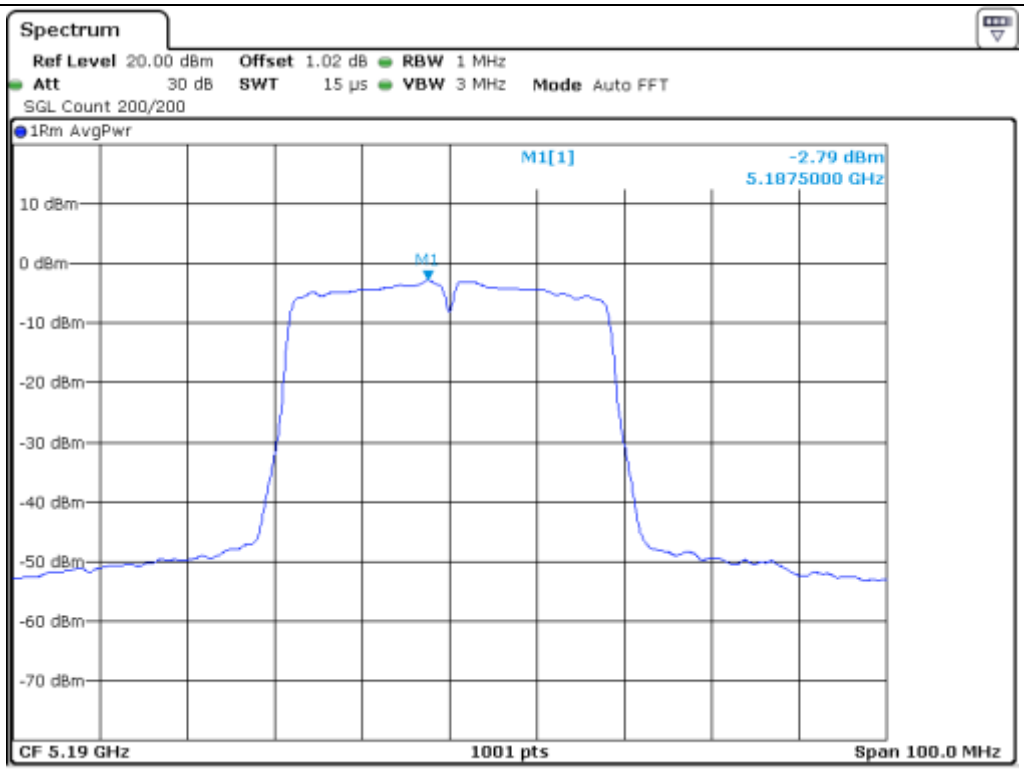
10.6.2 Test data for Antenna 1

-. Operating condition : Highest Output Power Transmitting Mode

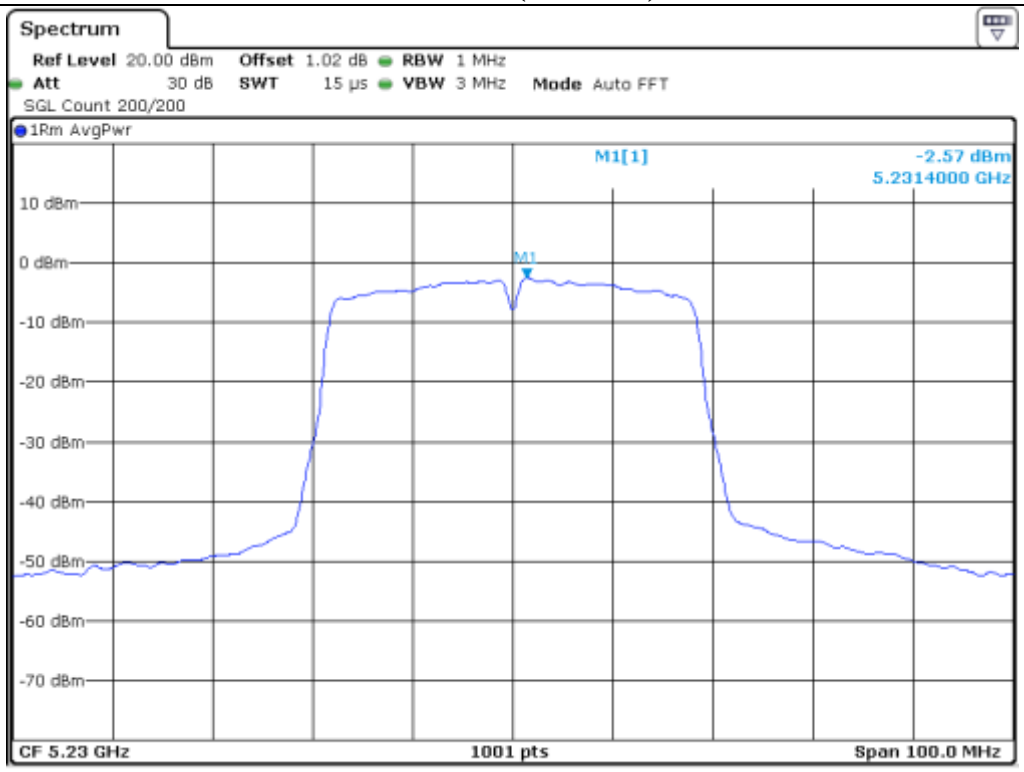
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 190.00	-2.79	11.00	13.79
	High	5 230.00	-2.57	11.00	13.57
5 250 ~ 5 350	Low	5 270.00	-2.18	11.00	13.18
	High	5 310.00	-1.62	11.00	12.62
5 470 ~ 5 725	Low	5 510.00	-1.54	11.00	12.54
	Middle	5 550.00	-1.19	11.00	12.19
	High	5 670.00	-2.55	11.00	13.55
5 725 ~ 5 850	Low	5 755.00	-4.34	30.00	34.34
	High	5 795.00	-4.58	30.00	34.58

Remark: See next page for measurement data.

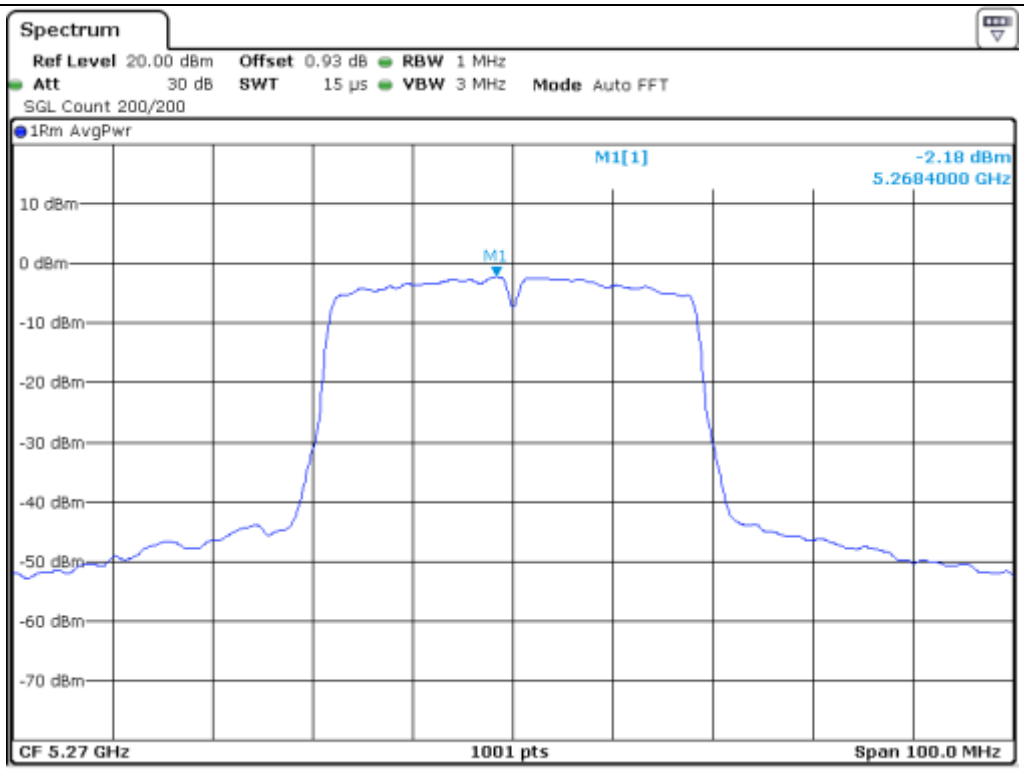


Low Channel (5 190 MHz)

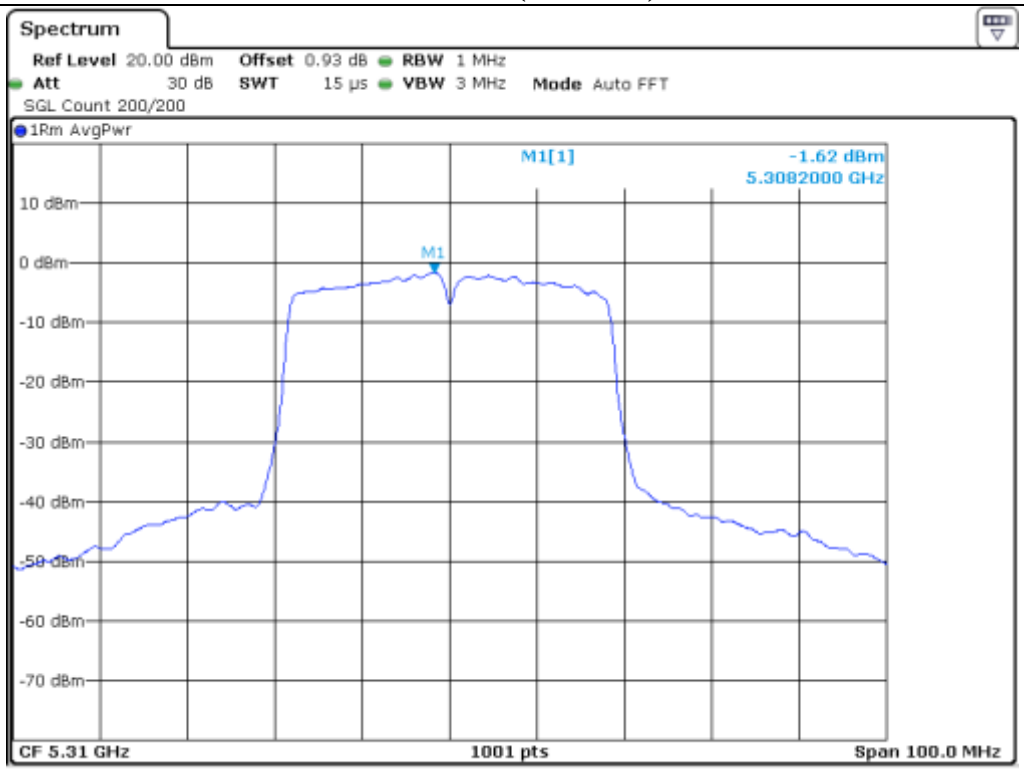


High Channel (5 230 MHz)

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

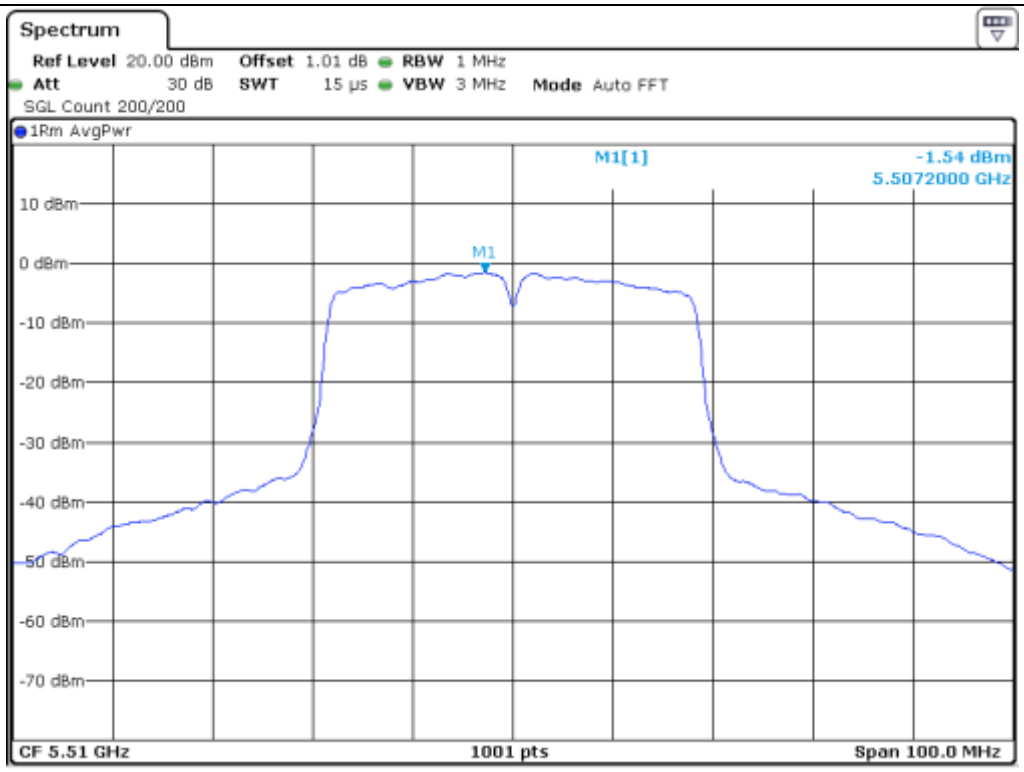


Low Channel (5 270 MHz)

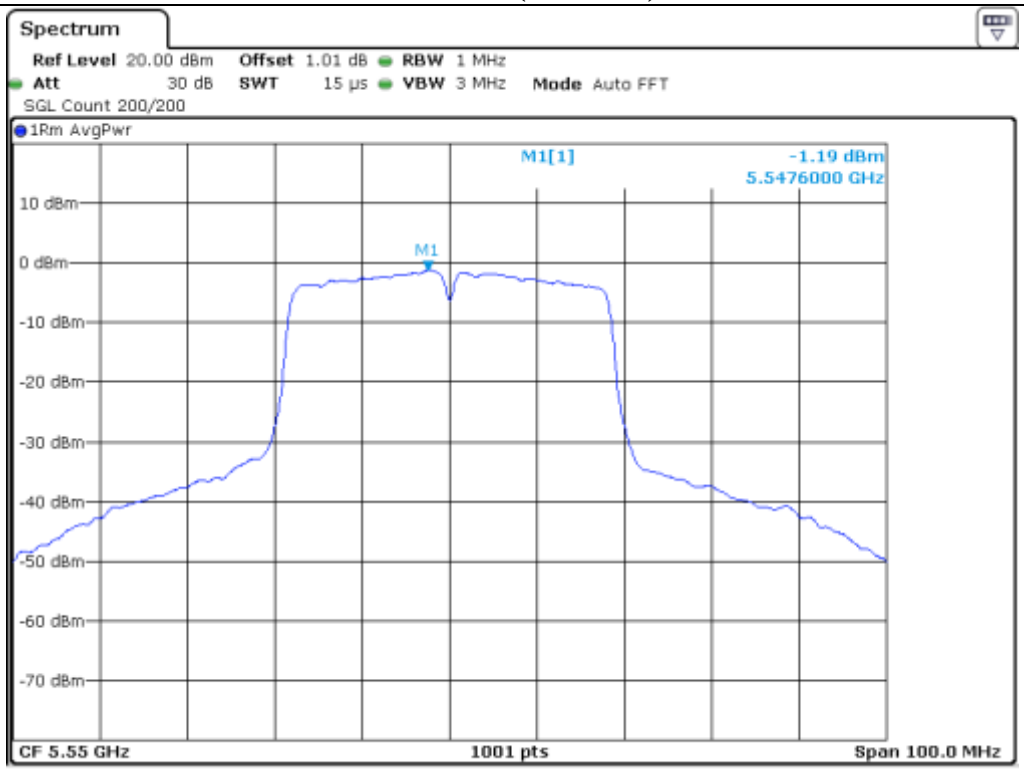


High Channel (5 310 MHz)

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

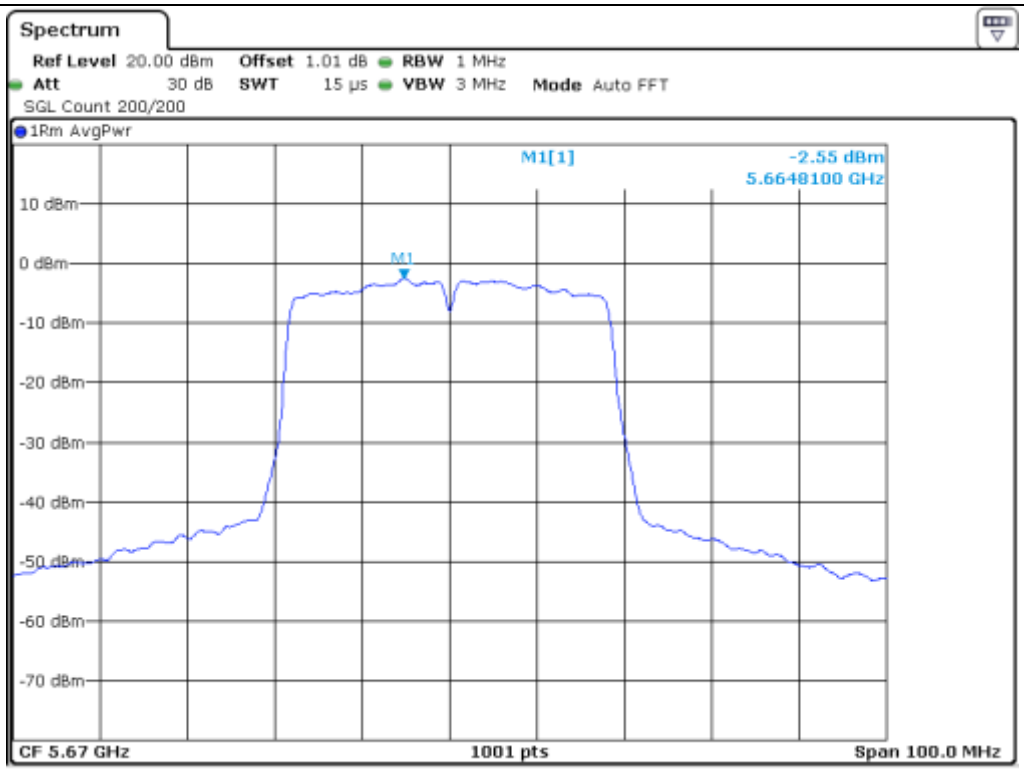


Low Channel (5 510 MHz)



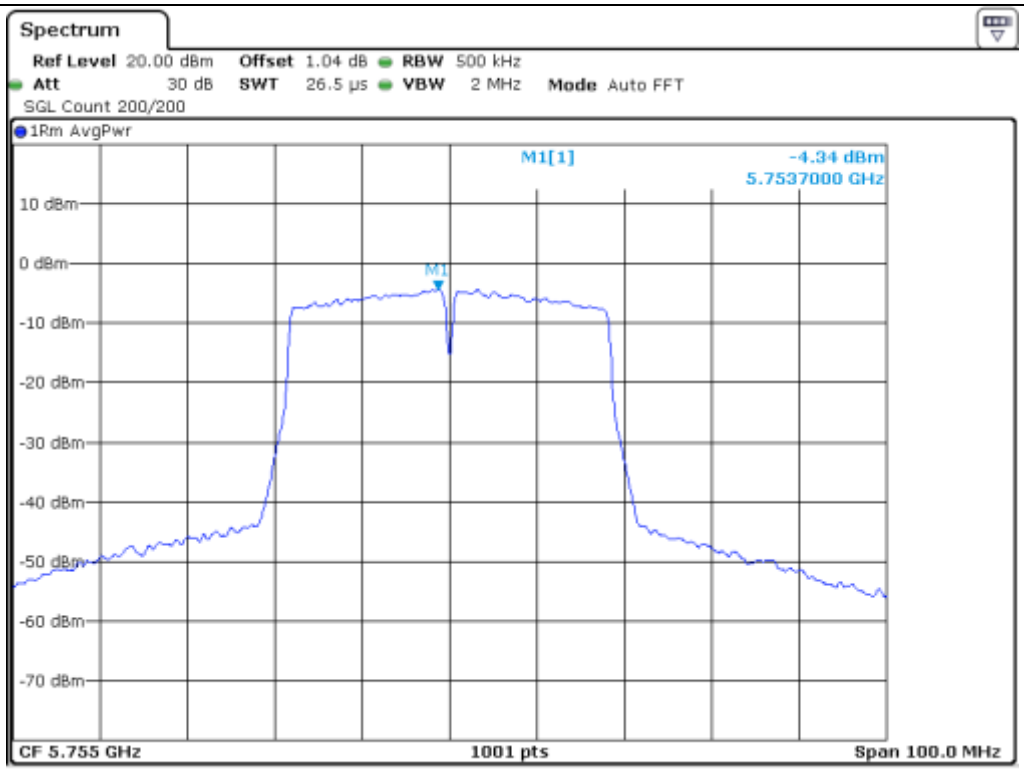
Middle Channel (5 550 MHz)

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

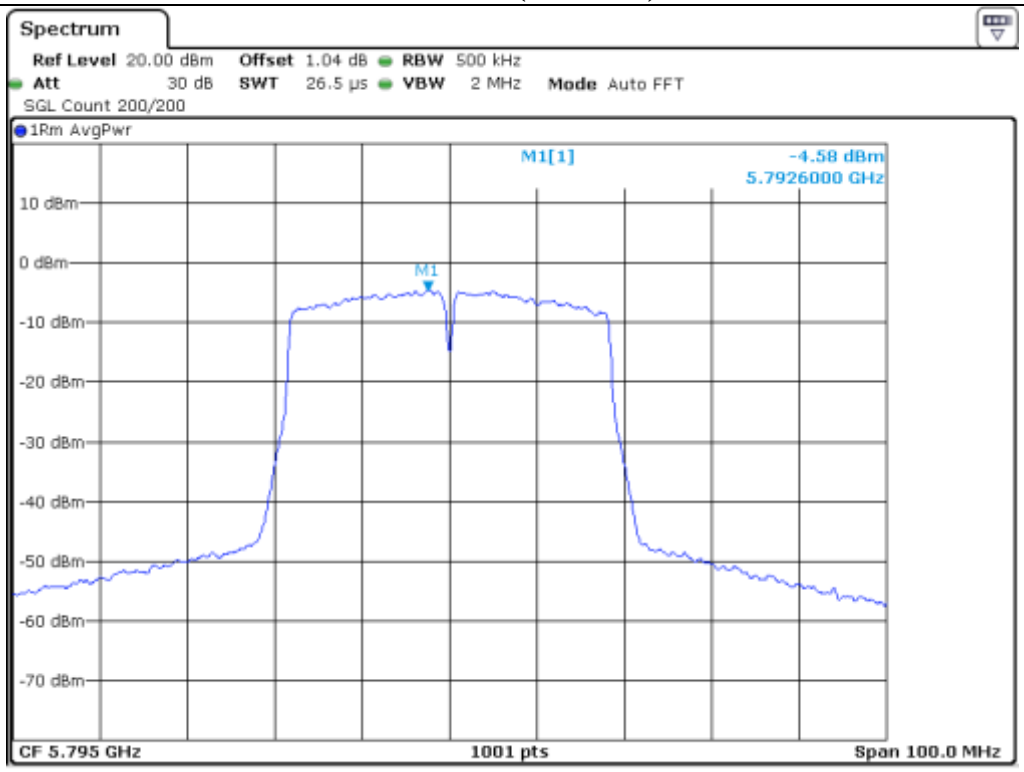


High Channel (5 670 MHz)

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



Low Channel (5 755 MHz)



High Channel (5 795 MHz)

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

-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 190.00	2.26	11	8.74
	High	5 230.00	1.75	11	9.25
5 250 ~ 5 350	Low	5 270.00	1.76	11.00	9.24
	High	5 310.00	1.48	11.00	9.52
5 470 ~ 5 725	Low	5 510.00	1.49	11.00	9.51
	Middle	5 550.00	1.64	11.00	9.36
	High	5 670.00	0.72	11.00	10.28
5 725 ~ 5 850	Low	5 755.00	-1.39	30.00	31.39
	High	5 795.00	-1.66	30.00	31.66

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

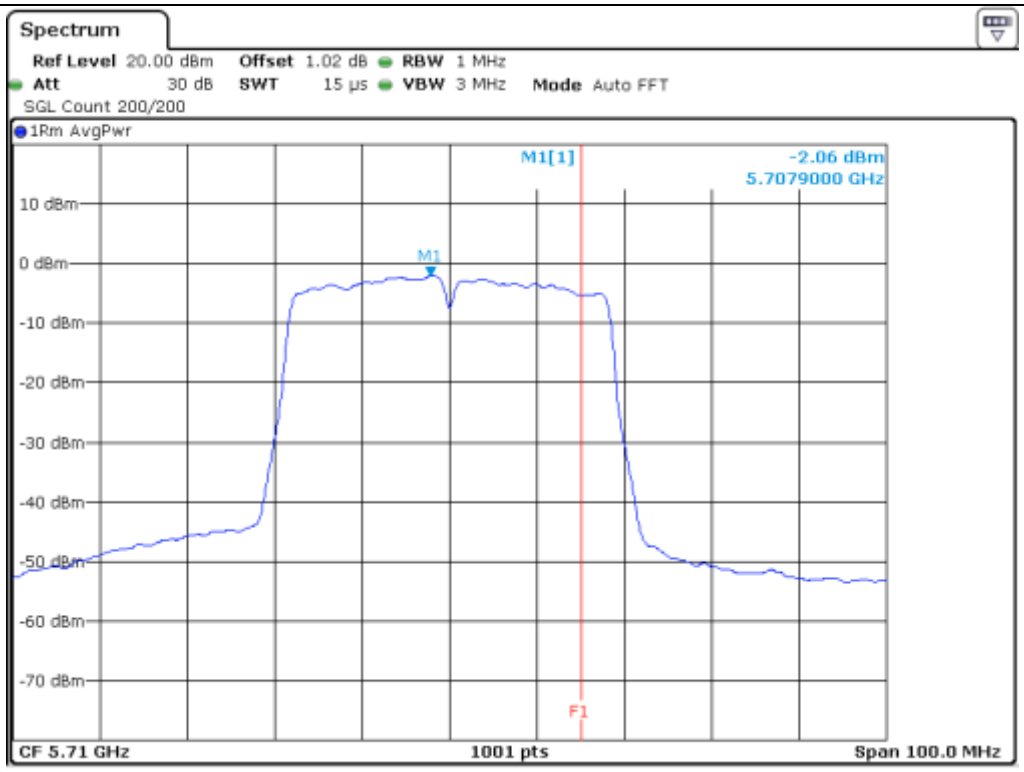
10.6.4 Test data for Staddle Channel_Antenna 0

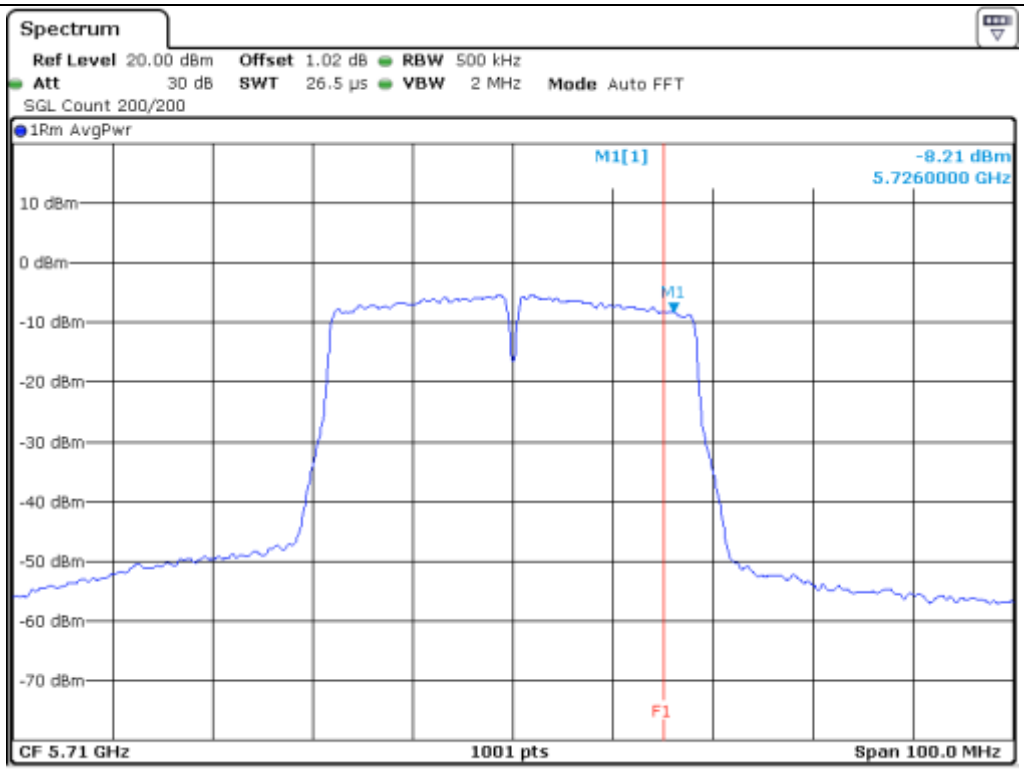
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 470 ~ 5 725	5 710.00	-2.06	11.00	13.06
5 725 ~ 5 850	5 710.00	-8.21	30.00	38.21

Remark: See next page for measurement data.





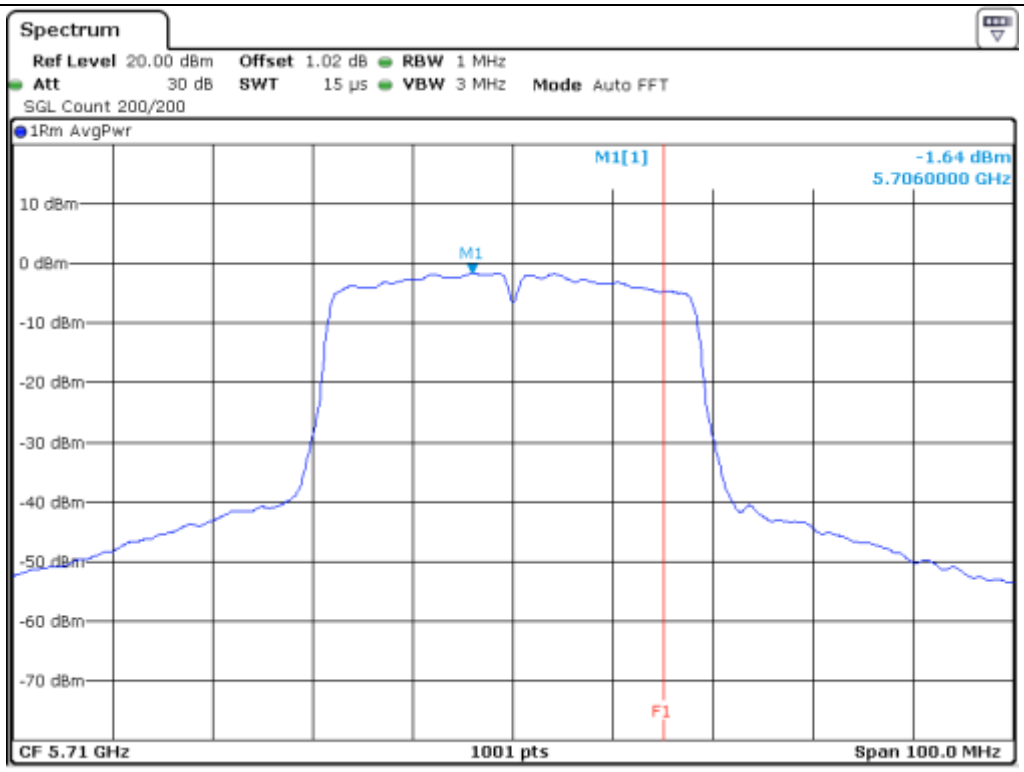
10.6.5 Test data for Staddle Channel_Antenna 1

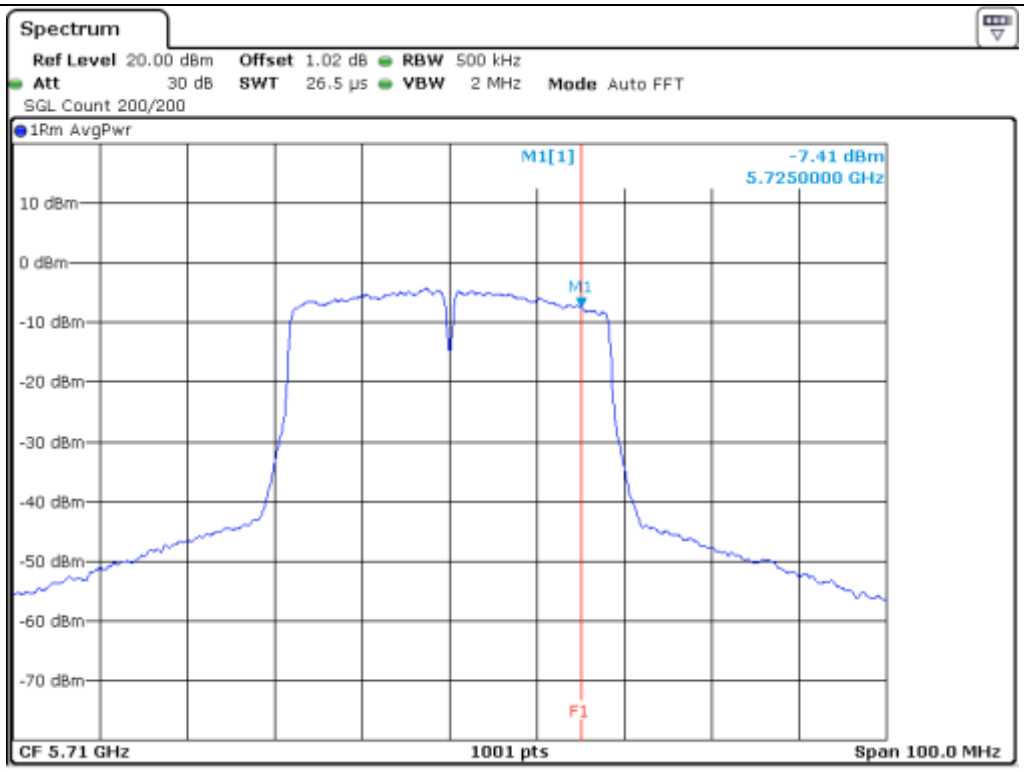
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 470 ~ 5 725	5 710.00	-1.64	11.00	12.64
5 725 ~ 5 850	5 710.00	-7.41	30.00	37.41

Remark: See next page for measurement data.





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

10.6.6 Test data for Staddle Channel_Multiple Transmit

-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 470 ~ 5 725	5 710.00	1.17	11.00	9.83
5 725 ~ 5 850	5 710.00	-4.78	30.00	34.78

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10.7 Test data for 802.11ac_HT80 RLAN Mode

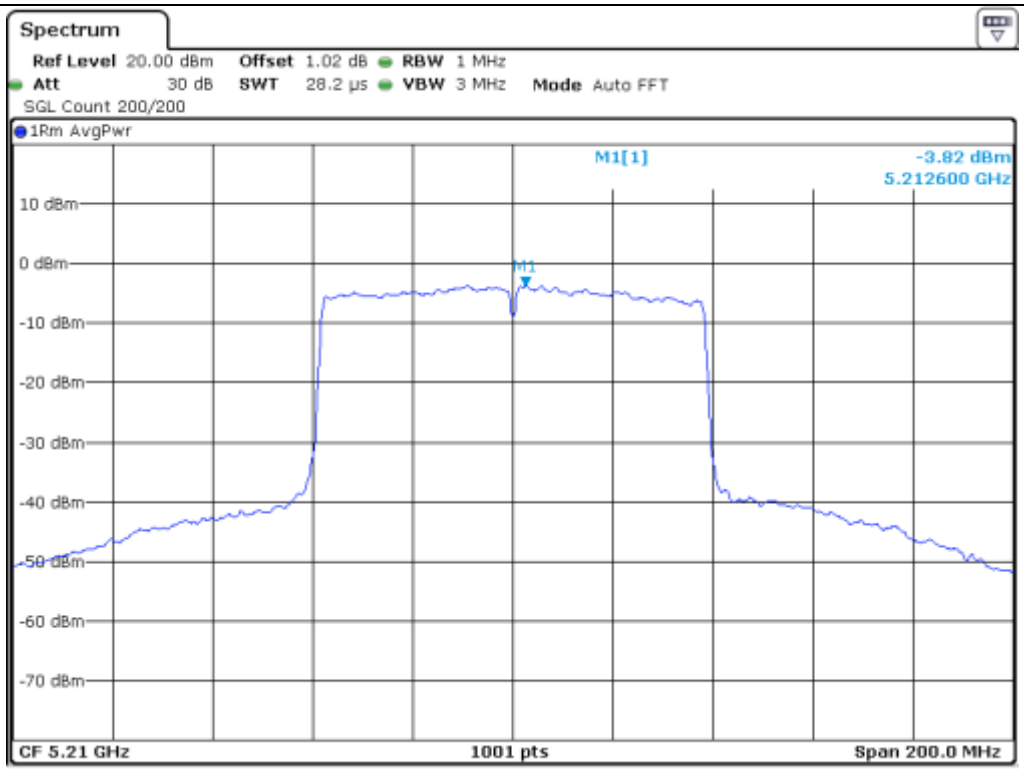
10.7.1 Test data for Antenna 0

-. Operating condition : Highest Output Power Transmitting Mode

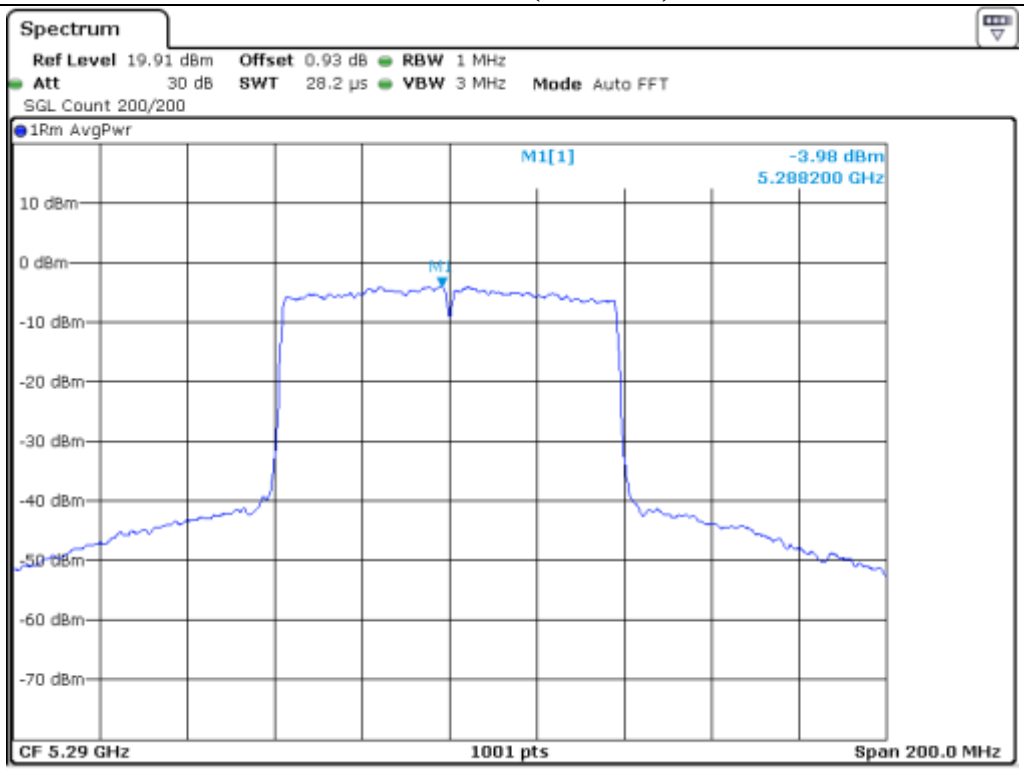
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 210.00	-3.82	11.00	14.82
5 250 ~ 5 350	Low	5 290.00	-3.98	11.00	14.98
5 470 ~ 5 725	Low	5 530.00	-5.45	11.00	16.45
5 725 ~ 5 850	Low	5 775.00	-7.68	30.00	37.68

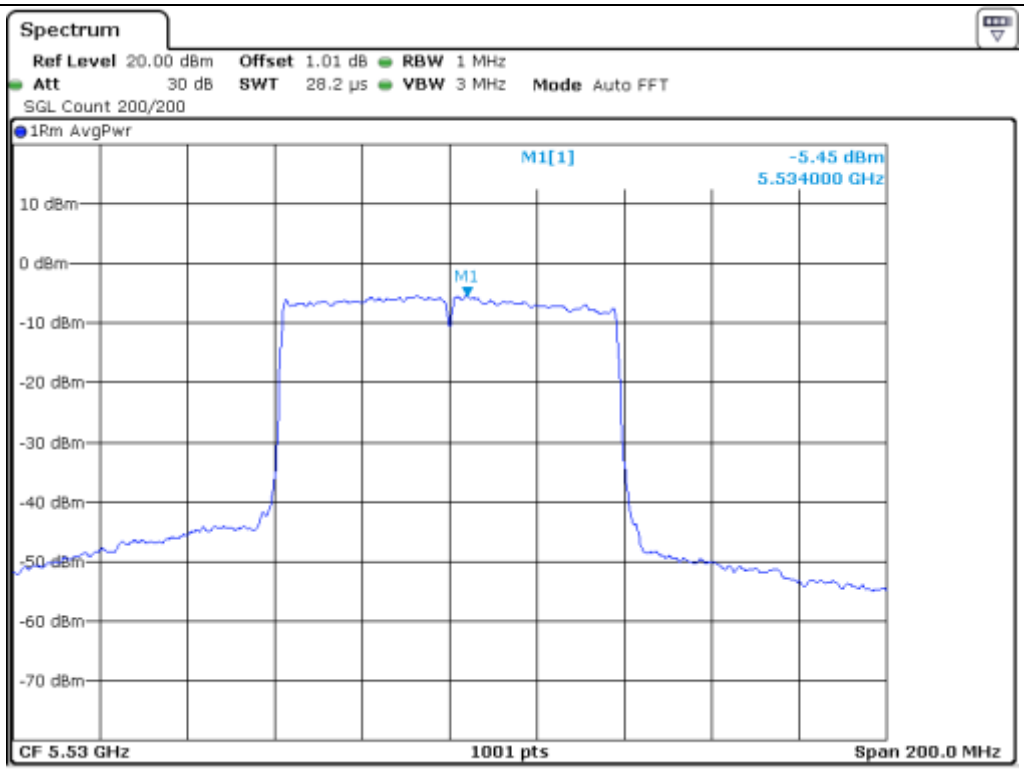
Remark: See next page for measurement data.



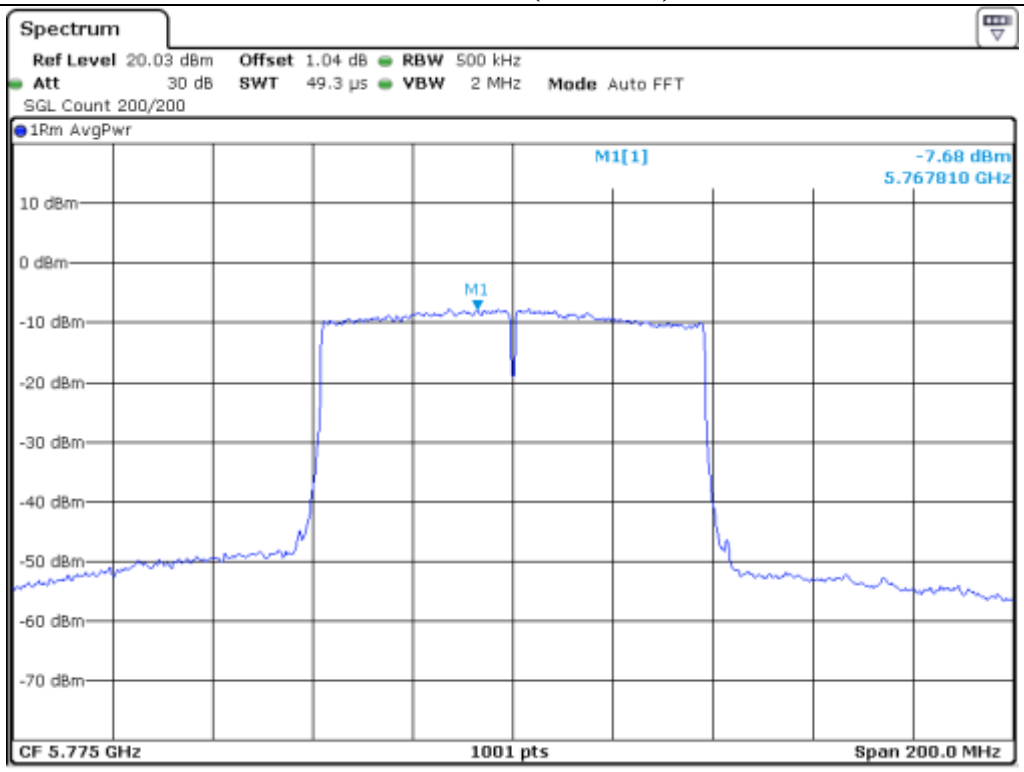
Middle Channel (5 210 MHz)



Middle Channel (5 290 MHz)



Middle Channel (5 530 MHz)



Middle Channel (5 775 MHz)

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

10.7.2 Test data for Antenna 1

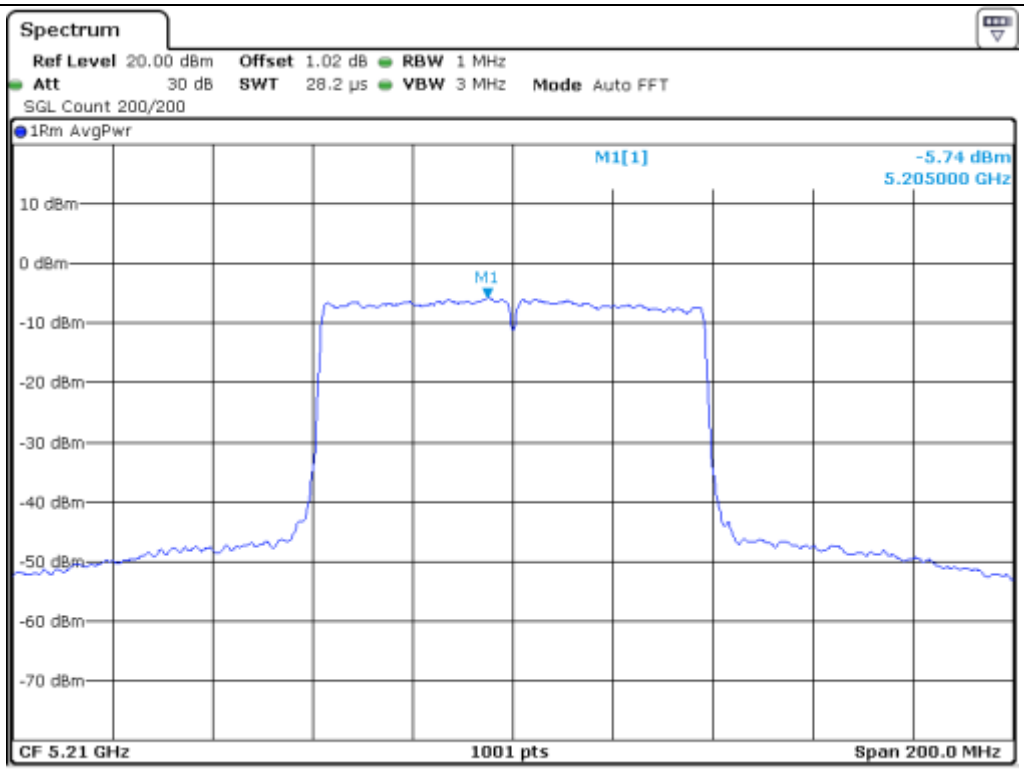
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

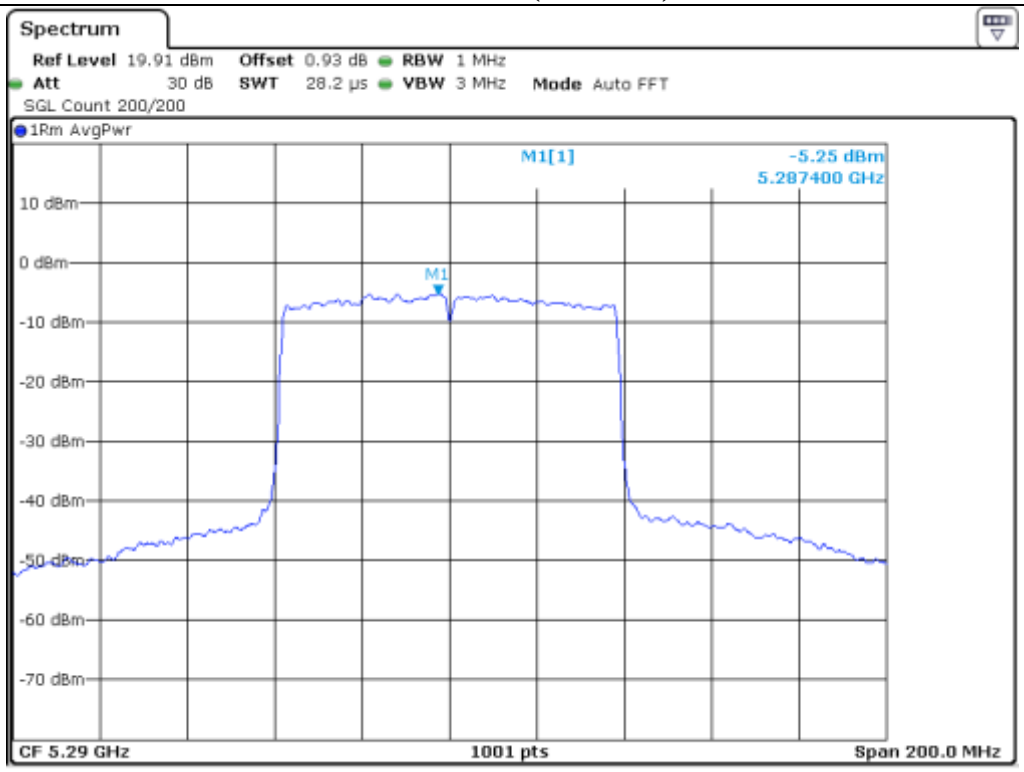
FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 210.00	-5.74	11.00	16.74
5 250 ~ 5 350	Low	5 290.00	-5.25	11.00	16.25
5 470 ~ 5 725	Low	5 530.00	-4.81	11.00	15.81
5 725 ~ 5 850	Low	5 775.00	-8.21	30.00	38.21

Remark: See next page for measurement data.

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

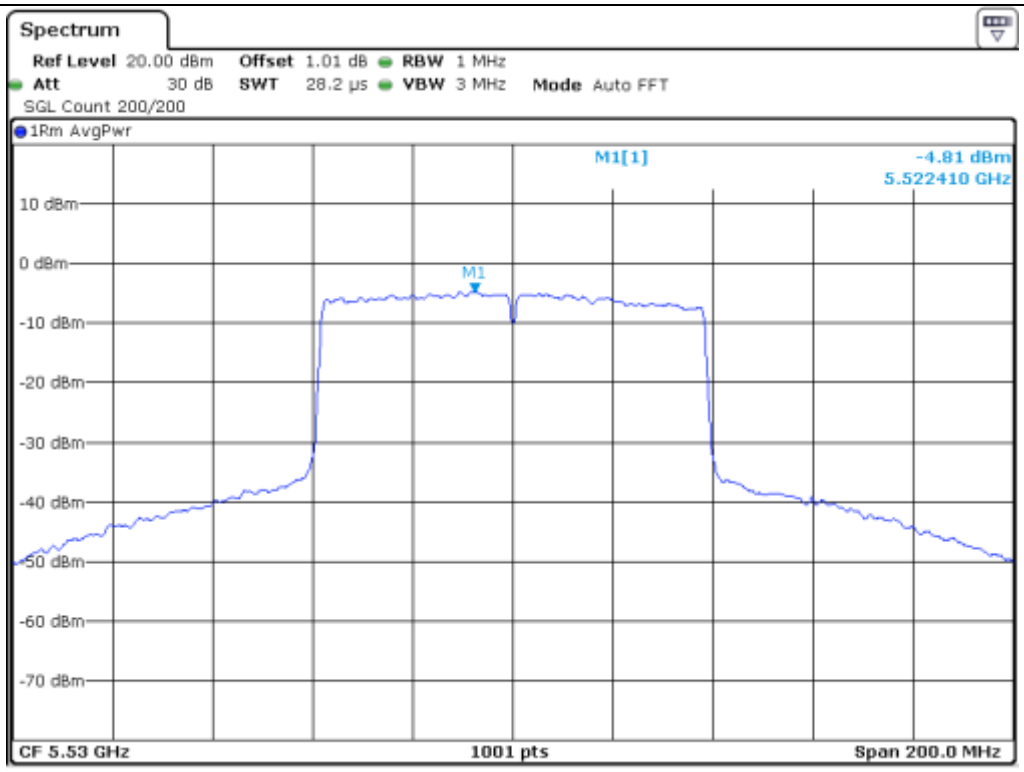


Middle Channel (5 210 MHz)

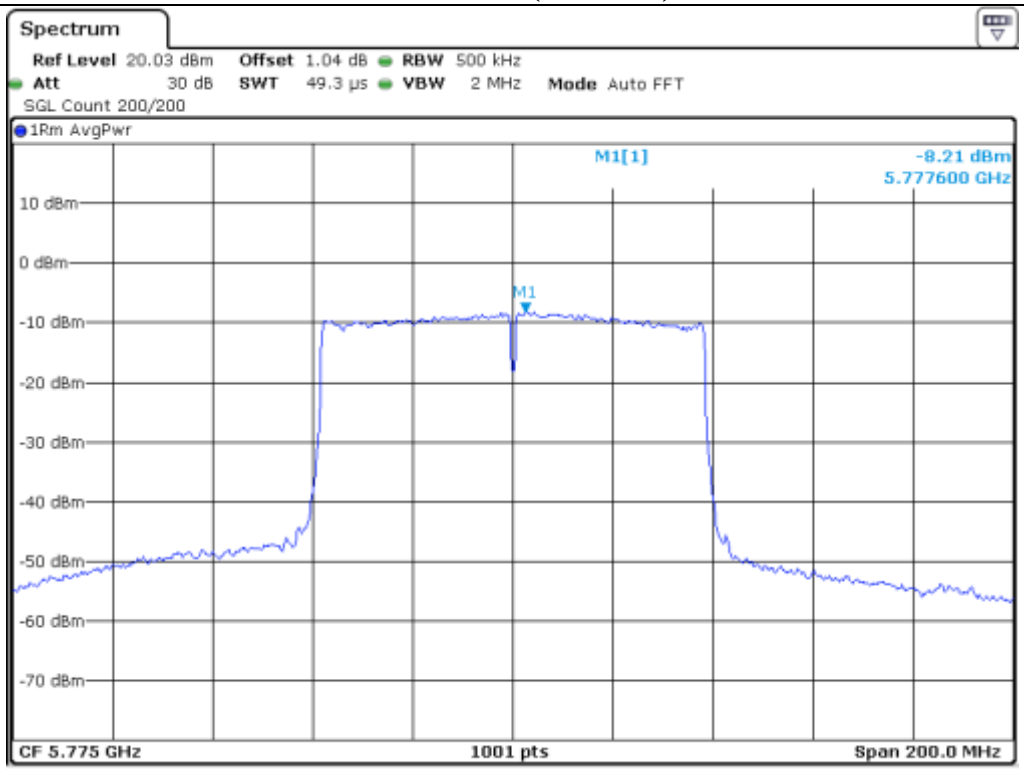


Middle Channel (5 290 MHz)

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 (5 530 MHz)



Middle Channel (5 775 MHz)

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

10.7.3 Test data for Multiple Transmit

-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 210.00	-1.66	11.00	12.66
5 250 ~ 5 350	Low	5 290.00	-1.56	11.00	12.56
5 470 ~ 5 725	Low	5 530.00	-2.11	11.00	13.11
5 725 ~ 5 850	Low	5 775.00	-4.93	30.00	34.93

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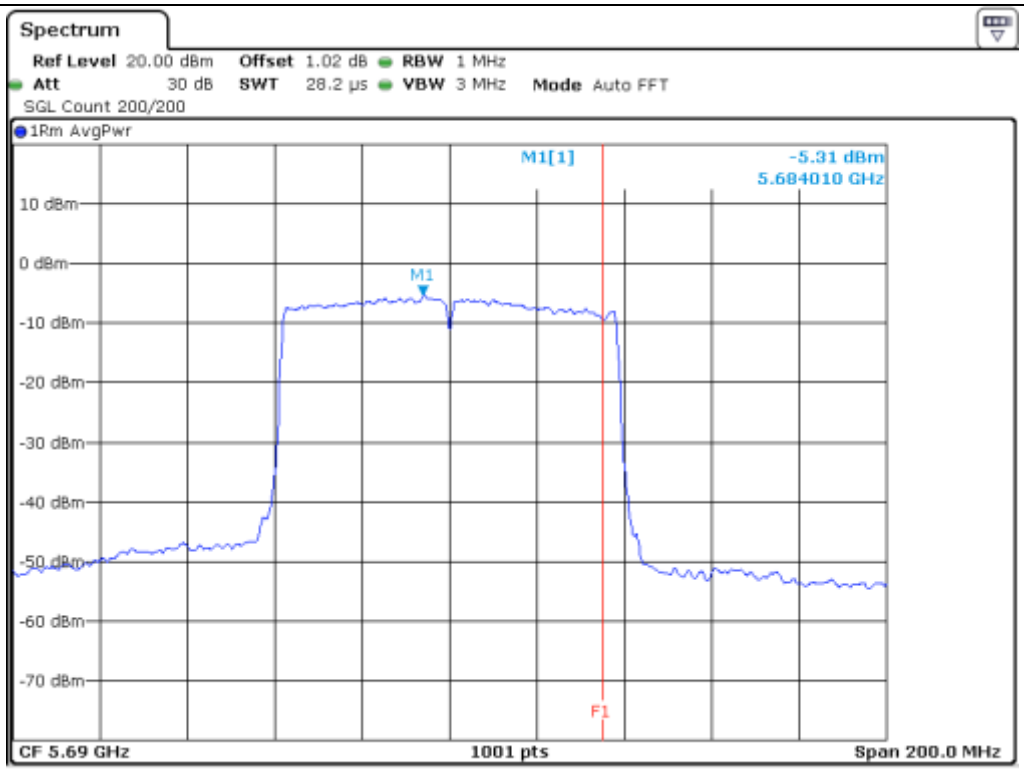
10.7.4 Test data for Staddle Channel_Antenna 0

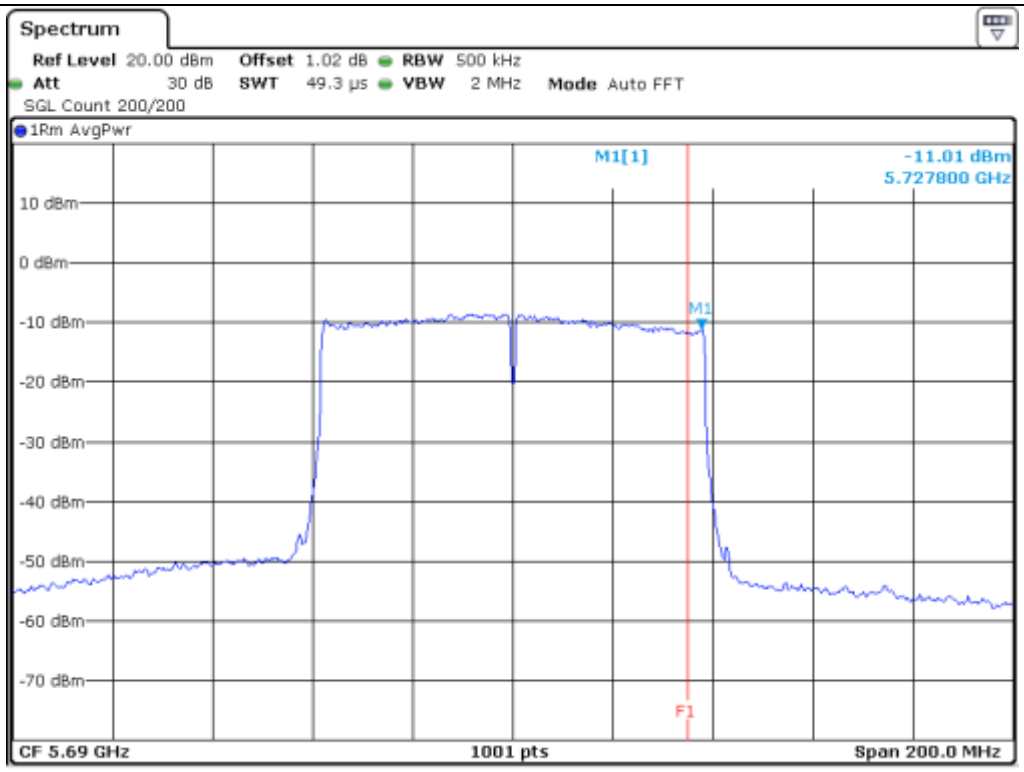
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 470 ~ 5 725	5 690.00	-5.31	11.00	16.31
5 725 ~ 5 850	5 690.00	-11.01	30.00	41.01

Remark: See next page for measurement data.





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

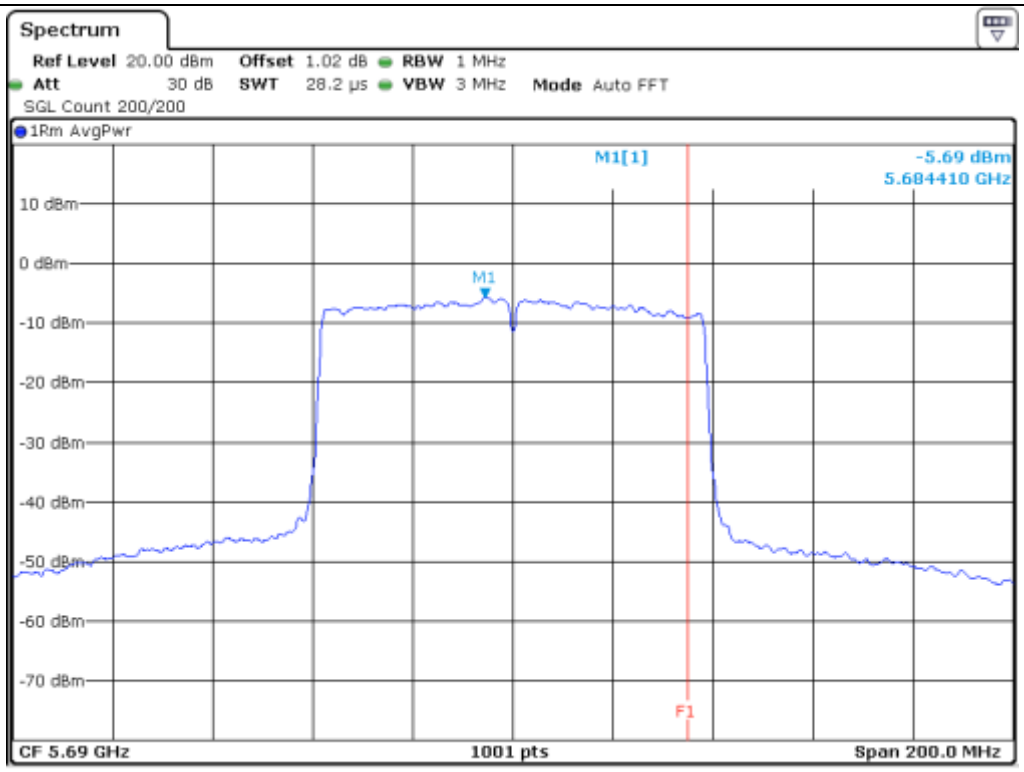
10.7.5 Test data for Staddle Channel_Antenna 1

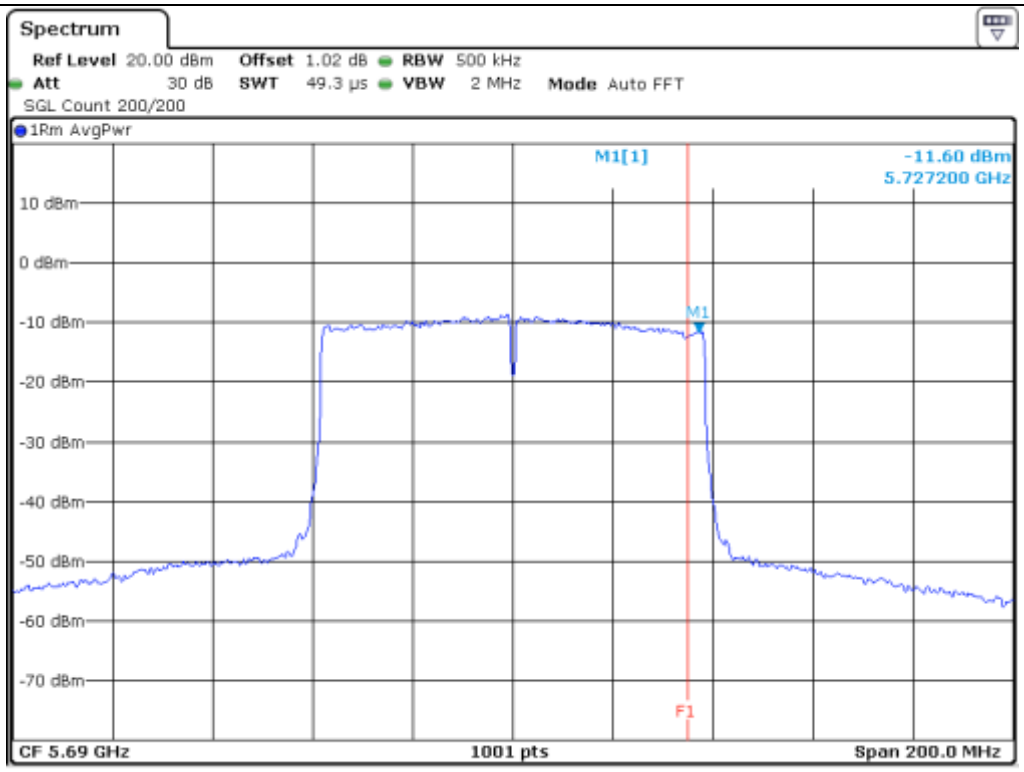
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 470 ~ 5 725	5 690.00	-5.69	11.00	16.69
5 725 ~ 5 850	5 690.00	-11.60	30.00	41.60

Remark: See next page for measurement data.





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

10.7.6 Test data for Staddle Channel_Multiple Transmit

-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

FREQUENCY RANGE (MHz)	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 470 ~ 5 725	5 690.00	-2.49	11.00	13.49
5 725 ~ 5 850	5 690.00	-8.28	30.00	38.28

11. FREQUENCY STABILITY WITH TEMPERATURE VARIATION

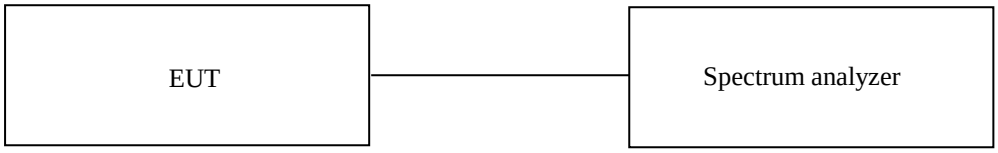
11.1 Operating environment

Temperature : 23 °C

Relative humidity : 41 % R.H.

11.2 Test set-up

Turn EUT off and set chamber temperature to -20 °C and then allow sufficient time (approximately 20 min to 30 min after chamber reach the assigned temperature) for EUT to stabilize. Turn on the EUT and measure the EUT operating frequency and then turn off the EUT after the measurement. The temperature in the chamber was raised 10 °C step from -20 °C to +80 °C. Repeat above method for frequency measurements every 10 °C step and then record all measured frequencies on each temperature step.



11.3 Test Date

August 21, 2020 ~ September 08, 2020

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

11.4 Test Data for U-NII-1

-. Result : Pass

Temperature (˚C)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Frequency Error (Hz)
-20	5 180 000 000	5 180 020 827	20 827
-10		5 180 013 908	13 908
0		5 180 011 232	11 232
10		5 179 998 845	-1 155
20		5 179 993 861	-6 139
30		5 179 990 911	-9 089
40		5 179 988 818	-11 182
50		5 179 987 906	-12 094
-20	5 220 000 000	5 220 020 911	20 911
-10		5 220 013 957	13 957
0		5 220 011 381	11 381
10		5 219 998 927	-1 073
20		5 219 993 982	-6 018
30		5 219 990 926	-9 074
40		5 219 988 985	-11 015
50		5 219 987 986	-12 014
-20	5 240 000 000	5 240 019 954	19 954
-10		5 240 012 959	12 959
0		5 240 010 453	10 453
10		5 239 998 031	-1 969
20		5 239 993 052	-6 948
30		5 239 989 985	-10 015
40		5 239 987 942	-12 058
50		5 239 987 005	-12 995

Note : While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.(ANSI C63.10-2013)

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11.5 Test Data for U-NII-2A

-. Result : Pass

Temperature (˚C)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Frequency Error (Hz)
-20	5 260 000 000	5 260 019 588	19 588
-10		5 260 012 589	12 589
0		5 260 009 995	9 995
10		5 259 997 574	-2 426
20		5 259 992 592	-7 408
30		5 259 989 600	-10 400
40		5 259 987 620	-12 380
50		5 259 986 561	-13 439
-20	5 300 000 000	5 300 019 633	19 633
-10		5 300 012 700	12 700
0		5 300 009 992	9 992
10		5 299 997 649	-2 351
20		5 299 992 661	-7 339
30		5 299 989 643	-10 357
40		5 299 987 692	-12 308
50		5 299 986 715	-13 285
-20	5 320 000 000	5 320 019 466	19 466
-10		5 320 012 549	12 549
0		5 320 009 934	9 934
10		5 319 997 437	-2 563
20		5 319 992 532	-7 468
30		5 319 989 476	-10 524
40		5 319 987 440	-12 560
50		5 319 986 486	-13 514

Note : While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.(ANSI C63.10-2013)

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11.6 Test Data for U-NII-2C

-. Result : Pass

Temperature (˚C)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Frequency Error (Hz)
-20	5 500 000 000	5 500 019 063	19063
-10		5 500 012 155	12155
0		5 500 009 460	9460
10		5 499 997 069	-2931
20		5 499 992 096	-7904
30		5 499 989 135	-10865
40		5 499 987 148	-12852
50		5 499 986 062	-13938
-20	5 580 000 000	5 580 019 226	19226
-10		5 580 012 198	12198
0		5 580 009 545	9545
10		5 579 997 319	-2681
20		5 579 992 321	-7679
30		5 579 989 215	-10785
40		5 579 987 307	-12693
50		5 579 986 236	-13764
-20	5 700 000 000	5 700 019 313	19 313
-10		5 700 012 356	12 356
0		5 700 009 624	9 624
10		5 699 997 285	-2 715
20		5 699 992 366	-7 634
30		5 699 989 298	-10 702
40		5 699 987 390	-12 610
50		5 699 986 295	-13 705

Note : While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.(ANSI C63.10-2013)

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11.7 Test Data for U-NII-3

-. Result : Pass

Temperature (˚C)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Frequency Error (Hz)
-20	5 745 000 000	5 745 019 195	19 195
-10		5 745 012 212	12 212
0		5 745 009 563	9 563
10		5 744 997 291	-2 709
20		5 744 992 181	-7 819
30		5 744 989 222	-10 778
40		5 744 987 212	-12 788
50		5 744 986 255	-13 745
-20	5 785 000 000	5 785 019 233	19 233
-10		5 785 012 326	12 326
0		5 785 009 635	9 635
10		5 784 997 333	-2 667
20		5 784 992 207	-7 793
30		5 784 989 223	-10 777
40		5 784 987 232	-12 768
50		5 784 986 216	-13 784
-20	5 825 000 000	5 825 019 161	19 161
-10		5 825 012 242	12 242
0		5 825 009 560	9 560
10		5 824 997 215	-2 785
20		5 824 992 141	-7 859
30		5 824 989 216	-10 784
40		5 824 987 132	-12 868
50		5 824 986 244	-13 756

Note : While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.(ANSI C63.10-2013)

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12. FREQUENCY STABILITY WITH VOLTAGE VARIATION

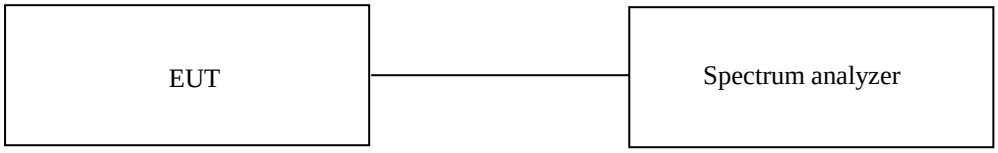
12.1 Operating environment

Temperature : 23 °C

Relative humidity : 41 % R.H.

12.2 Test set-up

An external DC power supply was connected to the input of the EUT. The voltage of EUT set to 110.0 % of the nominal value and then was reduced to 90.0 % of nominal voltage. The output frequency was recorded at each step.



12.3 Test Date

August 21, 2020 ~ September 08, 2020

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12.4 Test Data for U-NII-1

-. Result : Pass

Voltage (VDC)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Frequency Error (Hz)
5.0	5 180 000 000	5 179 993 861	-6 139
4.5		5 179 993 477	-6 523
5.5		5 179 993 837	-6 163
5.0	5 220 000 000	5 219 993 982	-6 018
4.5		5 219 993 666	-6 334
5.5		5 219 994 035	-5 965
5.0	5 240 000 000	5 239 993 052	-6 948
4.5		5 239 992 667	-7 333
5.5		5 239 993 106	-6 894

12.5 Test Data for U-NII-2A

-. Result : Pass

Voltage (VDC)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Frequency Error (Hz)
5.0	5 260 000 000	5 259 992 592	-7 408
4.5		5 259 992 291	-7 709
5.5		5 259 992 608	-7 392
5.0	5 300 000 000	5 299 992 661	-7 339
4.5		5 299 992 239	-7 761
5.5		5 299 992 638	-7 362
5.0	5 320 000 000	5 319 992 532	-7 468
4.5		5 319 992 135	-7 865
5.5		5 319 992 571	-7 429

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12.6 Test Data for U-NII-2C

-. Result : Pass

Voltage (VDC)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Frequency Error (Hz)
5.0	5 500 000 000	5 499 992 096	-7 904
4.5		5 499 991 695	-8 305
5.5		5 499 992 132	-7 868
5.0	5 580 000 000	5 579 992 321	-7 679
4.5		5 579 991 993	-8 007
5.5		5 579 992 305	-7 695
5.0	5 700 000 000	5 699 992 366	-7 634
4.5		5 699 992 035	-7 965
5.5		5 699 992 331	-7 669

12.7 Test Data for U-NII-3

-. Result : Pass

Voltage (VDC)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Frequency Error (Hz)
5.0	5 745 000 000	5 744 992 181	-7 819
4.5		5 744 991 878	-8 122
5.5		5 744 992 213	-7 787
5.0	5 785 000 000	5 784 992 207	-7 793
4.5		5 784 991 855	-8 145
5.5		5 784 992 212	-7 788
5.0	5 825 000 000	5 824 992 141	-7 859
4.5		5 824 991 747	-8 253
5.5		5 824 992 075	-7 925

13. RADIATED SPURIOUS EMISSIONS

13.1 Operating environment

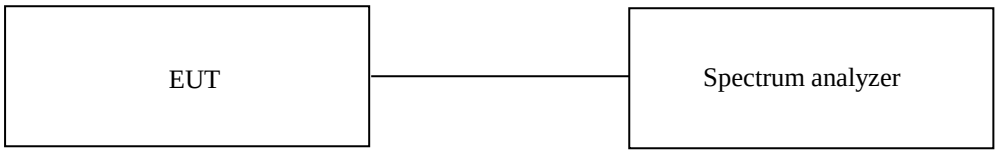
Temperature : 23 °C

Relative humidity : 41 % R.H.

13.2 Test set-up for conducted measurement

The radiated emissions measurements were on the 3 m semi anechoic chamber. The EUT and other support equipment were placed on a non-conductive 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 40 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.



13.3 Test Date

August 21, 2020 ~ September 08, 2020

13.4 Test data for Below 30 MHz

-. 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)
Emission from the EUT more than 20 dB below the limit in each frequency range.									

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13.5 Test data for 30 MHz ~ 1000 MHz

13.5.1 Test data for Basic Model (WCA731M)

13.5.1.1 Test data for WLAN 5 GHz

Humidity Level : 41 % R.H. Temperature: 23 °C

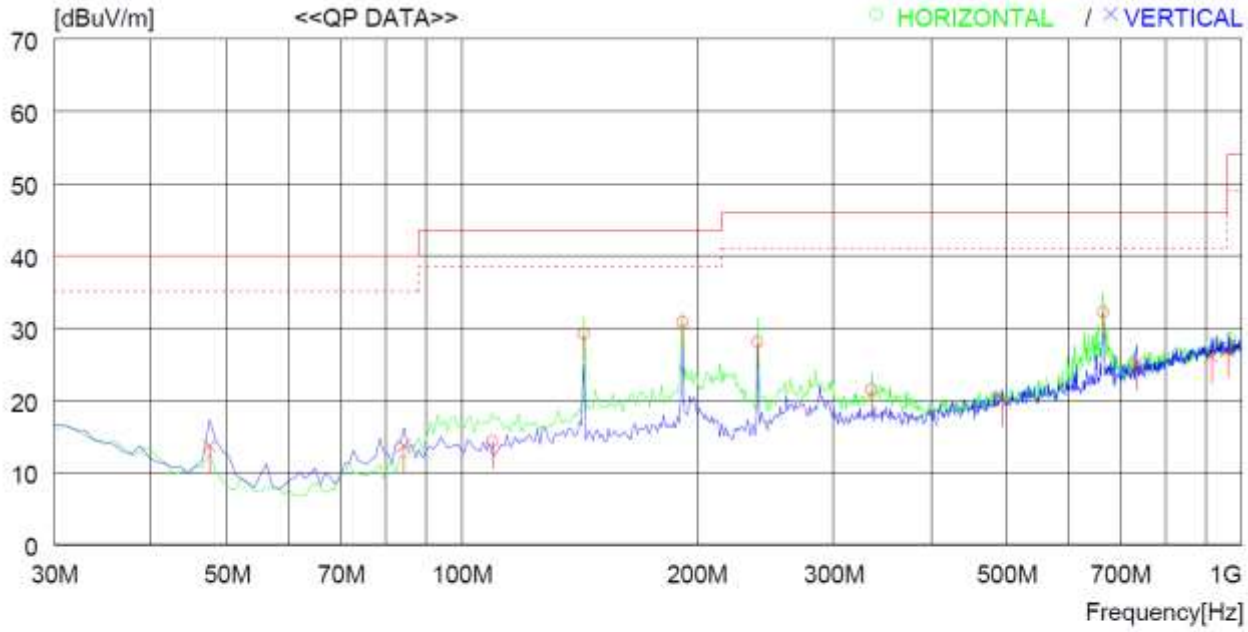
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : Wi-Fi/BT Transceiver

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 [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	109.540	28.9	15.7	2.2	32.5	14.3	43.5	29.2	400	352
2	143.490	40.8	18.6	2.3	32.5	29.2	43.5	14.3	400	174
3	191.990	44.4	16.2	2.7	32.5	30.8	43.5	12.7	400	352
4	239.520	40.2	17.2	3.0	32.4	28.0	46.0	18.0	400	352
5	335.550	30.4	20.1	3.5	32.5	21.5	46.0	24.5	400	352
6	664.376	33.3	26.4	5.1	32.6	32.2	46.0	13.8	400	307
----- Vertical ------										
7	47.460	25.1	19.6	1.5	32.5	13.7	40.0	26.3	400	3
8	84.320	30.0	14.3	1.9	32.5	13.7	40.0	26.3	400	3
9	492.691	25.1	23.5	4.2	32.7	20.1	46.0	25.9	400	10
10	733.244	25.0	27.3	5.3	32.5	25.1	46.0	20.9	400	3
11	914.628	22.7	29.1	5.9	31.6	26.1	46.0	19.9	400	88
12	960.217	22.2	29.5	6.4	31.2	26.9	54.0	27.1	400	3

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13.5.1.2 Test data for Intermodulation Mode(Bluetooth LE + WLAN 2.4 GHz + WLAN 5 GHz)

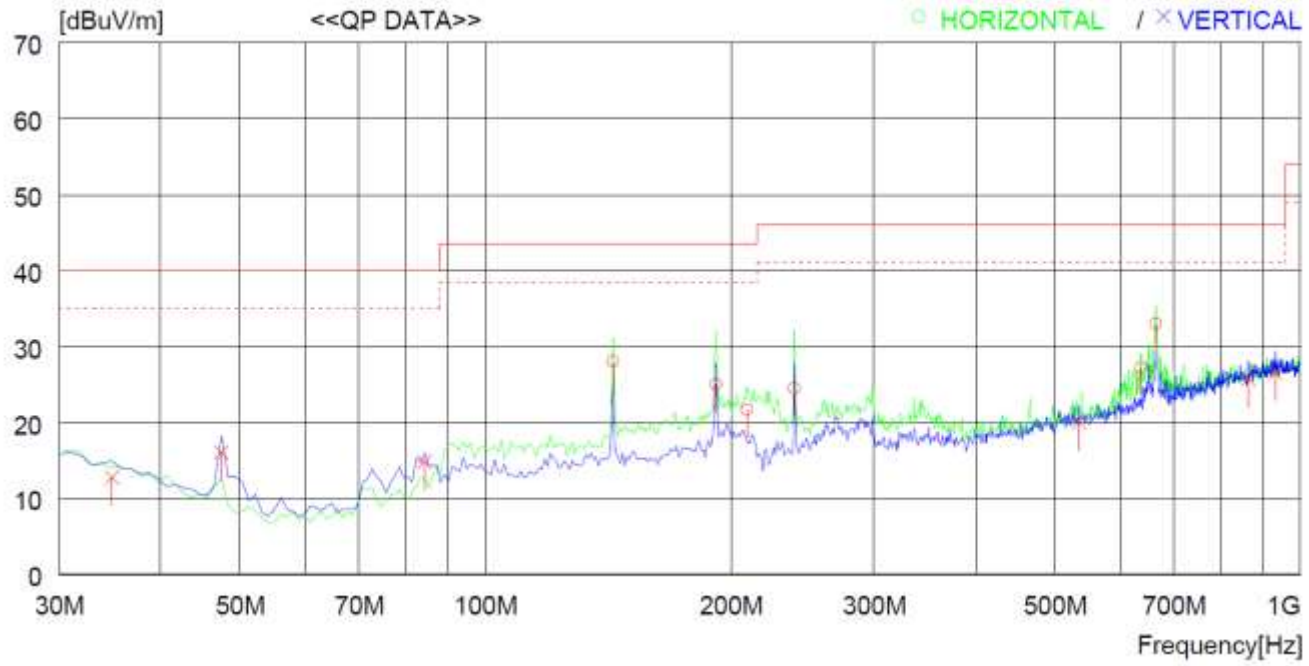
Humidity Level : 41 % R.H. Temperature: 23 °C

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

Result : PASSED

EUT : Wi-Fi/BT Transceiver

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



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	143.490	48.5	11.1	1.1	32.7	28.0	43.5	15.5	400	352
2	191.990	43.5	12.8	1.3	32.6	25.0	43.5	18.5	400	4
3	209.450	40.8	12.1	1.4	32.6	21.7	43.5	21.8	400	352
4	239.520	45.0	10.6	1.5	32.6	24.5	46.0	21.5	400	352
5	637.217	37.5	20.2	2.5	33.0	27.2	46.0	18.8	400	300
6	664.376	42.8	20.6	2.5	32.9	33.0	46.0	13.0	400	316
----- Vertical ------										
7	34.850	33.8	11.1	0.5	32.6	12.8	40.0	27.2	400	175
8	47.460	38.0	10.1	0.6	32.7	16.0	40.0	24.0	400	5
9	84.320	38.9	7.8	0.8	32.7	14.8	40.0	25.2	400	5
10	535.370	32.2	18.5	2.2	32.9	20.0	46.0	26.0	400	5
11	863.220	32.5	22.8	2.6	32.2	25.7	46.0	20.3	400	5
12	932.088	32.1	23.4	2.9	31.8	26.6	46.0	19.4	400	226

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13.5.1.3 Test data for Intermodulation Mode(Bluetooth + WLAN 2.4 GHz + WLAN 5 GHz)

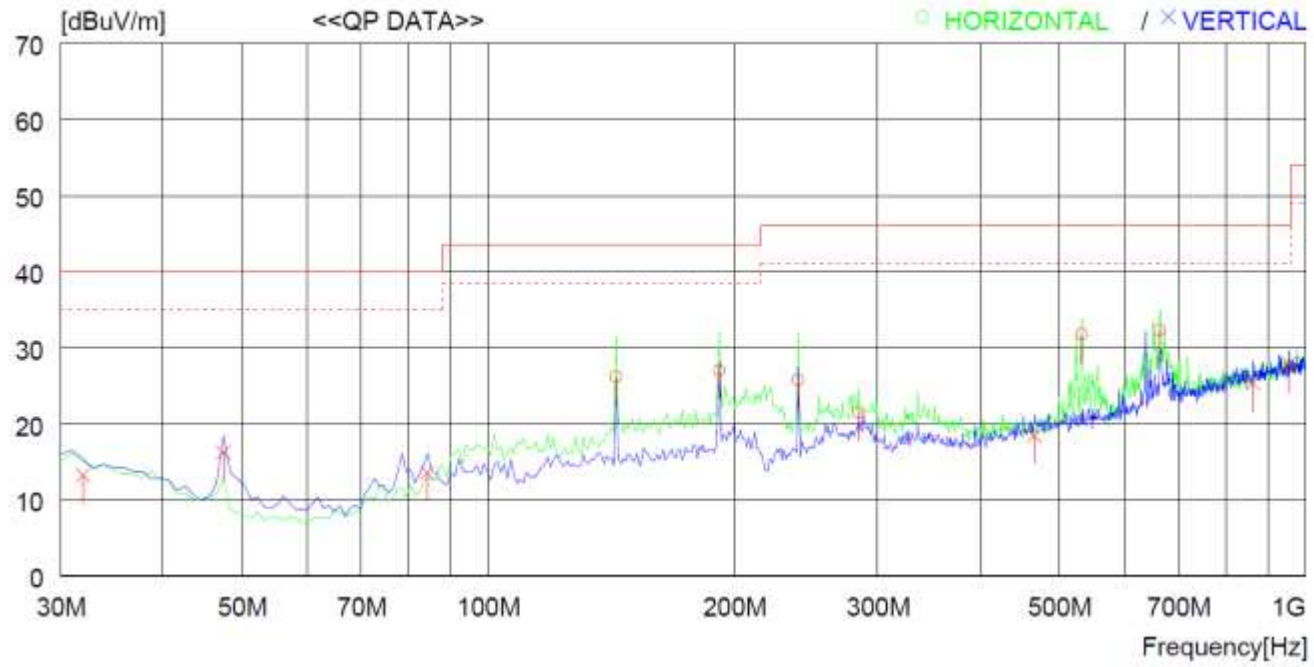
Humidity Level : 41 % R.H. Temperature: 23 °C

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

Result : PASSED

EUT : Wi-Fi/BT Transceiver

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



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	143.490	46.7	11.1	1.1	32.7	26.2	43.5	17.3	400	359
2	191.990	45.5	12.8	1.3	32.6	27.0	43.5	16.5	400	359
3	239.520	46.2	10.6	1.5	32.6	25.7	46.0	20.3	400	359
4	284.140	40.1	12.5	1.6	32.7	21.5	46.0	24.5	400	359
5	532.460	44.0	18.4	2.2	32.9	31.7	46.0	14.3	400	359
6	663.406	42.2	20.5	2.5	32.9	32.3	46.0	13.7	400	317
----- Vertical ------										
7	31.940	34.4	10.9	0.5	32.6	13.2	40.0	26.8	400	1
8	47.460	38.2	10.1	0.6	32.7	16.2	40.0	23.8	400	1
9	84.320	37.7	7.8	0.8	32.7	13.6	40.0	26.4	400	1
10	465.531	31.8	17.3	2.1	32.8	18.4	46.0	27.6	400	1
11	862.250	32.1	22.8	2.6	32.2	25.3	46.0	20.7	400	1
12	955.367	33.0	23.5	3.0	31.7	27.8	46.0	18.2	400	1

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13.5.2 Test data for Multiple Model (WCA734M)

13.5.2.1 Test data for WLAN 5 GHz

Humidity Level : 41 % R.H. Temperature: 23 °C

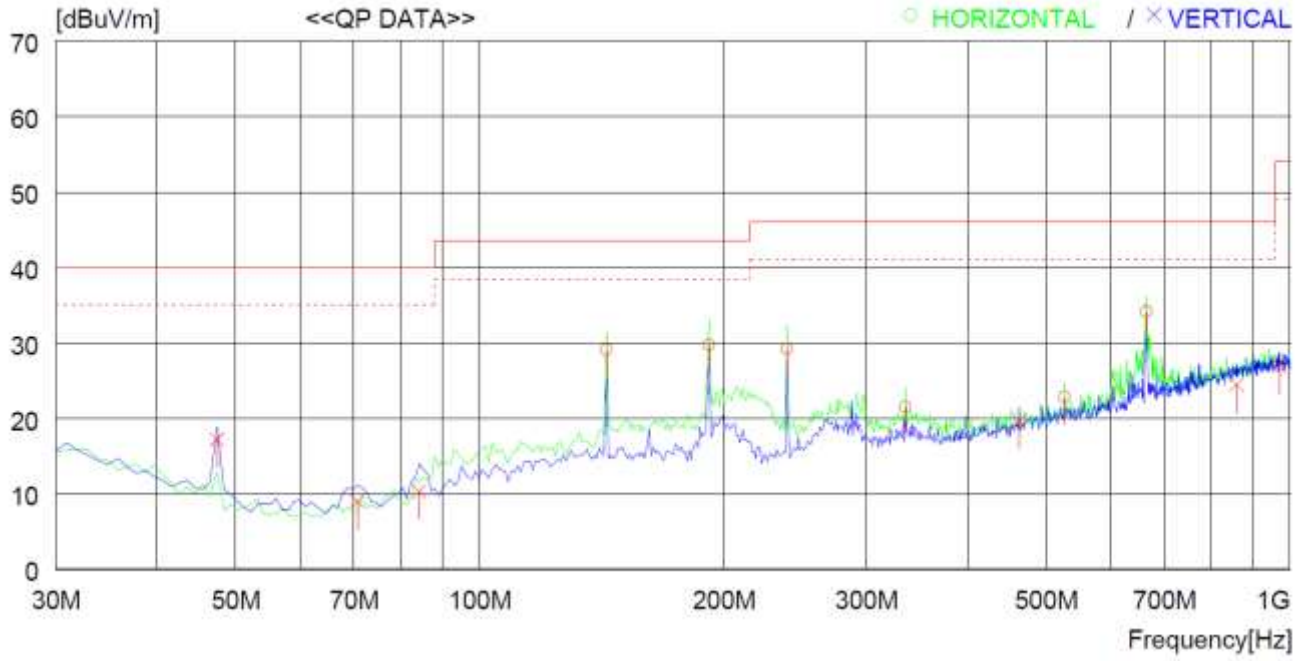
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : Wi-Fi/BT Transceiver

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 [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	143.490	40.7	18.6	2.3	32.5	29.1	43.5	14.4	400	356
2	191.990	43.3	16.2	2.7	32.5	29.7	43.5	13.8	400	356
3	239.520	41.4	17.2	3.0	32.4	29.2	46.0	16.8	400	356
4	335.550	30.4	20.1	3.5	32.5	21.5	46.0	24.5	400	26
5	526.640	27.1	24.1	4.3	32.7	22.8	46.0	23.2	400	138
6	664.376	35.2	26.4	5.1	32.6	34.1	46.0	11.9	400	170
----- Vertical ------										
7	47.460	28.6	19.6	1.5	32.5	17.2	40.0	22.8	400	342
8	70.740	22.2	17.5	1.8	32.5	9.0	40.0	31.0	400	353
9	84.320	26.6	14.3	1.9	32.5	10.3	40.0	29.7	400	349
10	463.591	25.0	23.2	4.0	32.5	19.7	46.0	26.3	400	51
11	859.340	22.1	28.7	5.6	32.0	24.4	46.0	21.6	400	12
12	969.917	21.9	29.6	6.5	31.1	26.9	54.0	27.1	400	342

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13.5.2.2 Test data for Intermodulation Mode(Bluetooth LE + WLAN 2.4 GHz + WLAN 5 GHz)

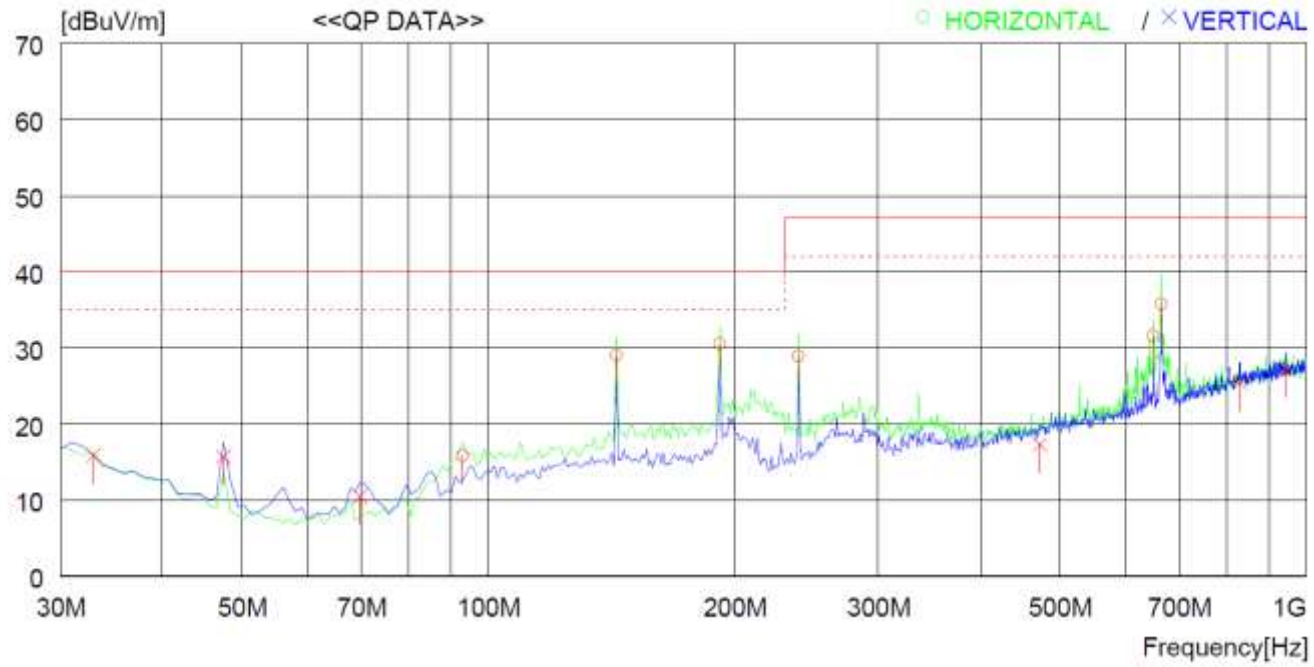
Humidity Level : 41 % R.H. Temperature: 23 °C

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

Result : PASSED

EUT : Wi-Fi/BT Transceiver

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



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	93.050	33.3	14.0	1.2	32.7	15.8	40.0	24.2	400	122
2	143.490	41.1	19.2	1.4	32.7	29.0	40.0	11.0	400	164
3	191.990	45.4	16.0	1.7	32.6	30.5	40.0	9.5	400	355
4	239.520	42.3	17.3	1.9	32.6	28.9	47.0	18.1	400	355
5	649.826	36.5	24.9	3.2	33.0	31.6	47.0	15.4	400	355
6	664.376	40.2	25.1	3.3	32.9	35.7	47.0	11.3	400	214
----- Vertical ------										
7	32.910	27.8	19.9	0.8	32.6	15.9	40.0	24.1	400	3
8	47.460	33.3	14.2	0.9	32.7	15.7	40.0	24.3	400	3
9	69.770	29.4	12.9	0.9	32.7	10.5	40.0	29.5	400	354
10	472.321	25.1	22.4	2.6	32.8	17.3	47.0	29.7	400	3
11	830.241	26.5	27.2	4.1	32.4	25.4	47.0	21.6	400	3
12	945.668	26.4	28.0	4.6	31.8	27.2	47.0	19.8	400	46

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13.5.2.3 Test data for Intermodulation Mode(Bluetooth + WLAN 2.4 GHz + WLAN 5 GHz)

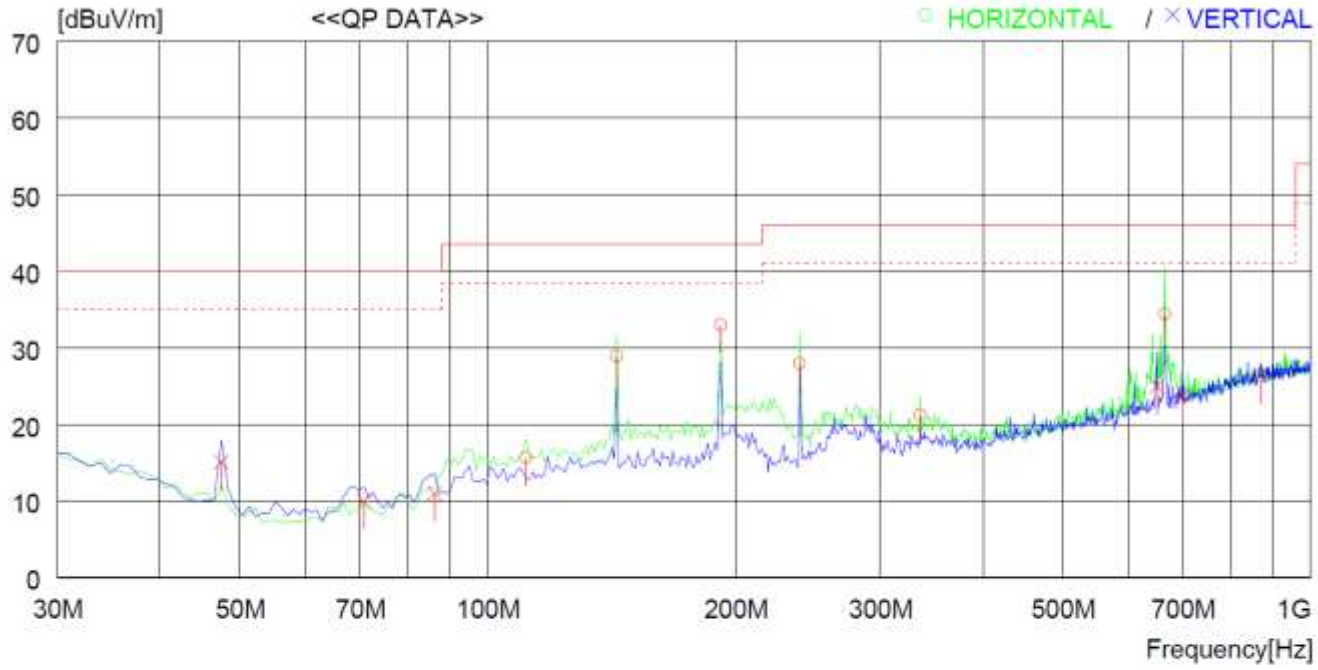
Humidity Level : 41 % R.H. Temperature: 23 °C

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

Result : PASSED

EUT : Wi-Fi/BT Transceiver

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



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	111.480	30.0	15.9	2.2	32.5	15.6	43.5	27.9	400	355
2	143.490	40.5	18.6	2.3	32.5	28.9	43.5	14.6	400	355
3	191.990	46.6	16.2	2.7	32.5	33.0	43.5	10.5	400	355
4	239.520	40.1	17.2	3.0	32.4	27.9	46.0	18.1	400	355
5	335.550	30.1	20.1	3.5	32.5	21.2	46.0	24.8	400	6
6	664.376	35.5	26.4	5.1	32.6	34.4	46.0	11.6	400	355
----- Vertical ------										
7	47.460	26.5	19.6	1.5	32.5	15.1	40.0	24.9	400	5
8	70.740	23.2	17.5	1.8	32.5	10.0	40.0	30.0	400	354
9	86.260	27.6	14.0	1.9	32.5	11.0	40.0	29.0	400	310
10	650.796	26.4	26.2	5.0	32.6	25.0	46.0	21.0	400	202
11	700.265	24.4	26.8	5.3	32.6	23.9	46.0	22.1	400	5
12	870.010	23.8	28.8	5.7	31.9	26.4	46.0	19.6	400	278

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13.6 Test data for Above 1 GHz

13.6.1 Test data for Frequency UNII I

13.6.1.1 Test data for 802.11a RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel								
10 360.00	13.51	Peak	H	36.70	7.84	58.05	68.20	10.15
10 360.00	12.07	Peak	V	36.70	7.84	56.61	68.20	11.59
Middle Channel								
10 440.00	13.41	Peak	H	36.80	7.78	57.99	68.20	10.21
10 440.00	12.77	Peak	V	36.80	7.78	57.35	68.20	10.85
High Channel								
10 480.00	13.40	Peak	H	36.90	7.93	58.23	68.20	9.97
10 480.00	12.22	Peak	V	36.90	7.93	57.05	68.20	11.15

Remark - “H”: Horizontal, “V”: Vertical

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

13.6.1.2 Test data for 802.11n_HT20 RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel								
10 360.00	14.32	Peak	H	36.70	7.84	58.86	68.20	9.34
10 360.00	12.62	Peak	V	36.70	7.84	57.16	68.20	11.04
Middle Channel								
10 440.00	14.57	Peak	H	36.80	7.78	59.15	68.20	9.05
10 440.00	14.21	Peak	V	36.80	7.78	58.79	68.20	9.41
High Channel								
10 480.00	14.06	Peak	H	36.90	7.93	58.89	68.20	9.31
10 480.00	12.47	Peak	V	36.90	7.93	57.30	68.20	10.90

Remark - “H”: Horizontal, “V”: Vertical

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

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13.6.1.3 Test data for 802.11n_HT40 RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel								
10 380.00	13.93	Peak	H	36.70	7.84	58.47	68.20	9.73
10 380.00	12.18	Peak	V	36.70	7.84	56.72	68.20	11.48
High Channel								
10 460.00	14.43	Peak	H	36.90	7.93	59.26	68.20	8.94
10 460.00	14.12	Peak	V	36.90	7.93	58.95	68.20	9.25

Remark - “H”: Horizontal, “V”: Vertical

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

13.6.1.4 Test data for 802.11ac_HT80 RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Middle Channel								
10 420.00	14.66	Peak	H	36.80	7.87	59.33	68.20	8.87
10 420.00	13.60	Peak	V	36.80	7.87	58.27	68.20	9.93

Remark - “H”: Horizontal, “V”: Vertical

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

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13.6.2 Test data for Frequency UNII 2A

13.6.2.1 Test data for 802.11a RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
10 520.00	15.11	Peak	H	36.90	7.93	59.94	68.20	8.26
10 520.00	13.10	Peak	V	36.90	7.93	57.93	68.20	10.27
Middle Channel								
10 600.00	14.19	Peak	H	36.90	7.75	58.84	74.00	15.16
10 600.00	2.88	Average	H	36.90	7.75	47.53	54.00	6.47
10 600.00	13.79	Peak	V	36.90	7.75	58.44	74.00	15.56
10 600.00	2.97	Average	V	36.90	7.75	47.62	54.00	6.38
High Channel								
10 640.00	14.48	Peak	H	36.90	7.77	59.15	74.00	14.85
10 640.00	3.17	Average	H	36.90	7.77	47.84	54.00	6.16
10 640.00	13.71	Peak	V	36.90	7.77	58.38	74.00	15.62
10 640.00	3.83	Average	V	36.90	7.77	48.50	54.00	5.50

Remark - “H”: Horizontal, “V”: Vertical

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

13.6.2.2 Test data for 802.11n_HT20 RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel								
10 520.00	16.06	Peak	H	36.90	7.93	60.89	68.20	7.31
10 520.00	13.45	Peak	V	36.90	7.93	58.28	68.20	9.92
Middle Channel								
10 600.00	14.62	Peak	H	36.90	7.75	59.27	74.00	14.73
10 600.00	4.45	Average	H	36.90	7.75	49.10	54.00	4.90
10 600.00	13.32	Peak	V	36.90	7.75	57.97	74.00	16.03
10 600.00	3.22	Average	V	36.90	7.75	47.87	54.00	6.13
High Channel								
10 640.00	13.47	Peak	H	36.90	7.77	58.14	74.00	15.86
10 640.00	4.33	Average	H	36.90	7.77	49.00	54.00	5.00
10 640.00	13.88	Peak	V	36.90	7.77	58.55	74.00	15.45
10 640.00	3.12	Average	V	36.90	7.77	47.79	54.00	6.21

Remark - “H”: Horizontal, “V”: Vertical

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

13.6.2.3 Test data for 802.11n_HT40 RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel								
10 540.00	13.89	Peak	H	36.90	7.97	58.76	68.20	9.44
10 540.00	12.36	Peak	V	36.90	7.97	57.23	68.20	10.97
High Channel								
10 620.00	14.67	Peak	H	36.90	7.77	59.34	74.00	14.66
10 620.00	4.43	Average	H	36.90	7.77	49.10	54.00	4.90
10 620.00	15.02	Peak	V	36.90	7.77	59.69	74.00	14.31
10 620.00	3.28	Average	V	36.90	7.77	47.95	54.00	6.05

Remark - “H”: Horizontal, “V”: Vertical

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

13.6.2.4 Test data for 802.11ac_HT80 RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Middle Channel								
10 580.00	13.55	Peak	H	36.90	7.84	58.29	68.20	9.91
10 580.00	13.73	Peak	V	36.90	7.84	58.47	68.20	9.73

Remark - “H”: Horizontal, “V”: Vertical

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

13.6.3 Test data for Frequency UNII 2C

13.6.3.1 Test data for 802.11a RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel								
11 000.00	13.91	Peak	H	37.40	7.90	59.21	74.00	14.79
11 000.00	2.92	Average	H	37.40	7.90	48.22	54.00	5.78
11 000.00	14.61	Peak	V	37.40	7.90	59.91	74.00	14.09
11 000.00	3.30	Average	V	37.40	7.90	48.60	54.00	5.40
Middle Channel								
11 160.00	12.97	Peak	H	36.90	8.16	58.03	74.00	15.97
11 160.00	2.83	Average	H	36.90	8.16	47.89	54.00	6.11
11 160.00	15.62	Peak	V	36.90	8.16	60.68	74.00	13.32
11 160.00	3.12	Average	V	36.90	8.16	48.18	54.00	5.82
High Channel								
11 400.00	13.43	Peak	H	37.10	8.14	58.67	74.00	15.33
11 400.00	2.67	Average	H	37.10	8.14	47.91	54.00	6.09
11 400.00	13.78	Peak	V	37.10	8.14	59.02	74.00	14.98
11 400.00	2.93	Average	V	37.10	8.14	48.17	54.00	5.83

Remark - “H”: Horizontal, “V”: Vertical

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

13.6.3.2 Test data for 802.11n_HT20 RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel								
11 000.00	13.33	Peak	H	37.40	7.90	58.63	74.00	15.37
11 000.00	3.28	Average	H	37.40	7.90	48.58	54.00	5.42
11 000.00	15.28	Peak	V	37.40	7.90	60.58	74.00	13.42
11 000.00	2.98	Average	V	37.40	7.90	48.28	54.00	5.72
Middle Channel								
11 160.00	13.46	Peak	H	36.90	8.16	58.52	74.00	15.48
11 160.00	3.51	Average	H	36.90	8.16	48.57	54.00	5.43
11 160.00	14.75	Peak	V	36.90	8.16	59.81	74.00	14.19
11 160.00	3.51	Average	V	36.90	8.16	48.57	54.00	5.43
High Channel								
11 400.00	13.46	Peak	H	37.10	8.14	58.70	74.00	15.30
11 400.00	2.66	Average	H	37.10	8.14	47.90	54.00	6.10
11 400.00	14.45	Peak	V	37.10	8.14	59.69	74.00	14.31
11 400.00	2.22	Average	V	37.10	8.14	47.46	54.00	6.54

Remark - “H”: Horizontal, “V”: Vertical

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

13.6.3.3 Test data for 802.11n_HT40 RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel								
11 020.00	13.72	Peak	H	37.40	7.90	59.02	74.00	14.98
11 020.00	3.61	Average	H	37.40	7.90	48.91	54.00	5.09
11 020.00	15.37	Peak	V	37.40	7.90	60.67	74.00	13.33
11 020.00	3.08	Average	V	37.40	7.90	48.38	54.00	5.62
Middle Channel								
11 100.00	13.19	Peak	H	36.90	8.16	58.25	74.00	15.75
11 100.00	3.21	Average	H	36.90	8.16	48.27	54.00	5.73
11 100.00	14.67	Peak	V	36.90	8.16	59.73	74.00	14.27
11 100.00	3.64	Average	V	36.90	8.16	48.70	54.00	5.30
High Channel								
11 340.00	13.43	Peak	H	37.10	8.14	58.67	74.00	15.33
11 340.00	3.39	Average	H	37.10	8.14	48.63	54.00	5.37
11 340.00	14.96	Peak	V	37.10	8.14	60.20	74.00	13.80
11 340.00	2.41	Average	V	37.10	8.14	47.65	54.00	6.35

Remark - “H”: Horizontal, “V”: Vertical

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

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13.6.3.4 Test data for 802.11ac_HT80 RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Middle Channel								
11 060.00	14.14	Peak	H	36.90	8.16	59.20	74.00	14.80
11 060.00	3.15	Average	H	36.90	8.16	48.21	54.00	5.79
11 060.00	14.04	Peak	V	36.90	8.16	59.10	74.00	14.90
11 060.00	3.09	Average	V	36.90	8.16	48.15	54.00	5.85

Remark - “H”: Horizontal, “V”: Vertical

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

13.6.4 Test data for Frequency UNII 3

13.6.4.1 Test data for 802.11a RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel								
11 490.00	13.94	Peak	H	37.20	8.32	59.46	74.00	14.54
11 490.00	3.34	Average	H	37.20	8.32	48.86	54.00	5.14
11 490.00	13.63	Peak	V	37.20	8.32	59.15	74.00	14.85
11 490.00	2.28	Average	V	37.20	8.32	47.80	54.00	6.20
Middle Channel								
11 570.00	15.01	Peak	H	37.00	8.17	60.18	74.00	13.82
11 570.00	3.39	Average	H	37.00	8.17	48.56	54.00	5.44
11 570.00	12.65	Peak	V	37.00	8.17	57.82	74.00	16.18
11 570.00	3.13	Average	V	37.00	8.17	48.30	54.00	5.70
High Channel								
11 650.00	14.79	Peak	H	36.90	8.20	59.89	74.00	14.11
11 650.00	3.43	Average	H	36.90	8.20	48.53	54.00	5.47
11 650.00	14.07	Peak	V	36.90	8.20	59.17	74.00	14.83
11 650.00	3.33	Average	V	36.90	8.20	48.43	54.00	5.57

Remark - “H”: Horizontal, “V”: Vertical

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

13.6.4.2 Test data for 802.11n_HT20 RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel								
11 490.00	13.66	Peak	H	37.20	8.32	59.18	74.00	14.82
11 490.00	3.57	Average	H	37.20	8.32	49.09	54.00	4.91
11 490.00	13.20	Peak	V	37.20	8.32	58.72	74.00	15.28
11 490.00	2.00	Average	V	37.20	8.32	47.52	54.00	6.48
Middle Channel								
11 570.00	14.26	Peak	H	37.00	8.17	59.43	74.00	14.57
11 570.00	4.53	Average	H	37.00	8.17	49.70	54.00	4.30
11 570.00	13.29	Peak	V	37.00	8.17	58.46	74.00	15.54
11 570.00	2.87	Average	V	37.00	8.17	48.04	54.00	5.96
High Channel								
11 650.00	14.38	Peak	H	36.90	8.20	59.48	74.00	14.52
11 650.00	3.44	Average	H	36.90	8.20	48.54	54.00	5.46
11 650.00	14.51	Peak	V	36.90	8.20	59.61	74.00	14.39
11 650.00	3.16	Average	V	36.90	8.20	48.26	54.00	5.74

Remark - “H”: Horizontal, “V”: Vertical

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

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13.6.4.3 Test data for 802.11n_HT40 RLAN Mode

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel								
11 510.00	14.11	Peak	H	37.20	8.32	59.63	74.00	14.37
11 510.00	3.75	Average	H	37.20	8.32	49.27	54.00	4.73
11 510.00	13.60	Peak	V	37.20	8.32	59.12	74.00	14.88
11 510.00	2.37	Average	V	37.20	8.32	47.89	54.00	6.11
High Channel								
11 590.00	14.02	Peak	H	36.60	8.20	58.82	74.00	15.18
11 590.00	3.72	Average	H	36.60	8.20	48.52	54.00	5.48
11 590.00	12.67	Peak	V	36.60	8.20	57.47	74.00	16.53
11 590.00	2.73	Average	V	36.60	8.20	47.53	54.00	6.47

Remark - “H”: Horizontal, “V”: Vertical

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

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13.6.4.4 Test data for 802.11ac_HT80 RLAN Mode

13.6.4.4.1 Test data for Multiple Transmit

-. 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 ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Middle Channel								
11 550.00	14.25	Peak	H	36.80	8.25	59.30	74.00	14.70
11 550.00	3.73	Average	H	36.80	8.25	48.78	54.00	5.22
11 550.00	13.64	Peak	V	36.80	8.25	58.69	74.00	15.31
11 550.00	2.76	Average	V	36.80	8.25	47.81	54.00	6.19

Remark - “H”: Horizontal, “V”: Vertical

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

14. RADIATED RESTRICTED BAND EDGE MEASUREMENTS

14.1 Operating environment

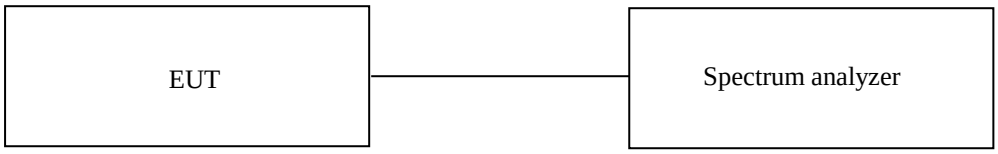
Temperature : 23 °C

Relative humidity : 41 % R.H.

14.2 Test set-up for conducted measurement

The radiated emissions measurements were performed on the 3 m, open-field test site. The EUT was placed on a non-conductive turntable above the ground plane.

The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.



14.3 Test Date

August 21, 2020 ~ September 08, 2020

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14.4 Test data for Frequency UNII I

14.4.1 Test data for 802.11a RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
4 899.364	18.05	Peak	H	28.90	4.98	51.93	74.00	22.07
4 970.487	10.97	Average	H	28.90	4.98	44.85	54.00	9.15
5 054.125	20.04	Peak	V	28.90	4.98	53.92	74.00	20.08
4 743.357	9.64	Average	V	28.90	4.98	43.52	54.00	10.48

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

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

14.4.2 Test data for 802.11n_HT20 RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
4 896.214	19.44	Peak	H	28.90	4.98	53.32	74.00	20.68
4 895.989	10.62	Average	H	28.90	4.98	44.50	54.00	9.50
5 118.200	18.47	Peak	V	28.90	4.98	52.35	74.00	21.65
4 976.703	11.65	Average	V	28.90	4.98	45.53	54.00	8.47

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

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

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14.4.3 Test data for 802.11n_HT40 RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 025.753	17.97	Peak	H	28.90	4.98	51.85	74.00	22.15
5 081.843	10.51	Average	H	28.90	4.98	44.39	54.00	9.61
5 067.448	18.83	Peak	V	28.90	4.98	52.71	74.00	21.29
4 991.463	10.39	Average	V	28.90	4.98	44.27	54.00	9.73

Tabulated test data for Restricted Band

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

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

14.4.4 Test data for 802.11ac_HT80 RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
4 901.937	19.81	Peak	H	28.90	4.98	53.69	74.00	20.31
4 973.547	10.26	Average	H	28.90	4.98	44.14	54.00	9.86
5 038.918	19.19	Peak	V	28.90	4.98	53.07	74.00	20.93
4 970.033	10.74	Average	V	28.90	4.98	44.62	54.00	9.38

Tabulated test data for Restricted Band

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

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

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14.5 Test data for Frequency UNII 2A

14.5.1 Test data for 802.11a RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
5 403.666	20.29	Peak	H	28.40	5.24	53.93	74.00	20.07
5 446.596	9.22	Average	H	28.40	5.24	42.86	54.00	11.14
5 454.653	18.82	Peak	V	28.40	5.24	52.46	74.00	21.54
5 448.970	9.33	Average	V	28.40	5.24	42.97	54.00	11.03

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

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

14.5.2 Test data for 802.11n_HT20 RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
5 446.697	19.02	Peak	H	28.40	5.24	52.66	74.00	21.34
5 454.719	9.63	Average	H	28.40	5.24	43.27	54.00	10.73
5 452.855	19.70	Peak	V	28.40	5.24	53.34	74.00	20.66
5 450.047	8.44	Average	V	28.40	5.24	42.08	54.00	11.92

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

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

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14.5.3 Test data for 802.11n_HT40 RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 448.458	19.16	Peak	H	28.40	5.24	52.80	74.00	21.20
5 447.761	9.64	Average	H	28.40	5.24	43.28	54.00	10.72
5 365.760	20.24	Peak	V	28.40	5.24	53.88	74.00	20.12
5 450.393	8.23	Average	V	28.40	5.24	41.87	54.00	12.13

Tabulated test data for Restricted Band

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

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

14.5.4 Test data for 802.11ac_HT80 RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 450.688	21.20	Peak	H	28.40	5.24	54.84	74.00	19.16
5 448.194	9.97	Average	H	28.40	5.24	43.61	54.00	10.39
5 452.865	20.09	Peak	V	28.40	5.24	53.73	74.00	20.27
5 448.725	8.33	Average	V	28.40	5.24	41.97	54.00	12.03

Tabulated test data for Restricted Band

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

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

14.6 Test data for Frequency UNII 2C

14.6.1 Test data for 802.11a RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
5 446.909	19.48	Peak	H	28.40	5.24	53.12	74.00	20.88
5 447.469	9.64	Average	H	28.40	5.24	43.28	54.00	10.72
5 430.518	19.69	Peak	V	28.40	5.24	53.33	74.00	20.67
5 446.810	8.73	Average	V	28.40	5.24	42.37	54.00	11.63

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

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

14.6.2 Test data for 802.11n_HT20 RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
5 452.075	19.34	Peak	H	28.40	5.24	52.98	74.00	21.02
5 451.021	8.35	Average	H	28.40	5.24	41.99	54.00	12.01
5 451.889	20.06	Peak	V	28.40	5.24	53.70	74.00	20.30
5 446.574	8.57	Average	V	28.40	5.24	42.21	54.00	11.79

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

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

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14.6.3 Test data for 802.11n_HT40 RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 447.555	19.37	Peak	H	28.40	5.24	53.01	74.00	20.99
5 453.017	9.17	Average	H	28.40	5.24	42.81	54.00	11.19
5 459.653	20.52	Peak	V	28.40	5.24	54.16	74.00	19.84
5 447.968	9.89	Average	V	28.40	5.24	43.53	54.00	10.47

Tabulated test data for Restricted Band

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

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

14.6.4 Test data for 802.11ac_HT80 RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 452.746	18.53	Peak	H	28.40	5.24	52.17	74.00	21.83
5 447.615	9.22	Average	H	28.40	5.24	42.86	54.00	11.14
5 450.981	19.60	Peak	V	28.40	5.24	53.24	74.00	20.76
5 450.798	9.79	Average	V	28.40	5.24	43.43	54.00	10.57

Tabulated test data for Restricted Band

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

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

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14.7 Test data for Frequency U-NII-3

14.7.1 Test data for 802.11a RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
5 650.000	31.40	Peak	H	28.80	5.39	65.59	80.00	14.41
5 710.000	30.27	Peak	H	28.80	5.39	64.46	119.80	55.34
5 715.000	32.78	Peak	H	28.80	5.39	66.97	121.20	54.23
5 725.000	29.72	Peak	H	28.80	5.39	63.91	134.00	70.09
5 707.296	32.42	Peak	H	28.80	5.39	66.61	119.04	52.43
5 650.000	28.66	Peak	V	28.80	5.39	62.85	80.00	17.15
5 710.000	32.28	Peak	V	28.80	5.39	66.47	119.80	53.33
5 715.000	31.49	Peak	V	28.80	5.39	65.68	121.20	55.52
5 725.000	30.50	Peak	V	28.80	5.39	64.69	134.00	69.31
5 674.514	33.38	Peak	V	28.80	5.39	67.57	98.14	30.57

High Channel								
5 850.000	31.18	Peak	H	29.30	5.55	66.03	134.00	67.97
5 855.000	32.62	Peak	H	29.30	5.55	67.47	122.60	55.13
5 875.000	32.73	Peak	H	29.30	5.55	67.58	117.00	49.42
5 925.000	32.48	Peak	H	29.30	5.55	67.33	80.00	12.67
5 884.246	33.44	Peak	H	29.30	5.55	68.29	110.16	41.87
5 850.000	32.40	Peak	V	29.30	5.55	67.25	134.00	66.75
5 855.000	29.82	Peak	V	29.30	5.55	64.67	122.60	57.93
5 875.000	30.78	Peak	V	29.30	5.55	65.63	117.00	51.37
5 925.000	30.92	Peak	V	29.30	5.55	65.77	80.00	14.23
5 900.329	31.83	Peak	V	29.30	5.55	66.68	98.26	31.58

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

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

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14.7.2 Test data for 802.11n_HT20 RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
5 650.000	28.67	Peak	H	28.80	5.39	62.86	80.00	17.14
5 710.000	28.89	Peak	H	28.80	5.39	63.08	119.80	56.72
5 715.000	30.16	Peak	H	28.80	5.39	64.35	121.20	56.85
5 725.000	31.92	Peak	H	28.80	5.39	66.11	134.00	67.89
5 703.407	32.36	Peak	H	28.80	5.39	66.55	117.95	51.40
5 650.000	31.80	Peak	V	28.80	5.39	65.99	80.00	14.01
5 710.000	30.59	Peak	V	28.80	5.39	64.78	119.80	55.02
5 715.000	32.85	Peak	V	28.80	5.39	67.04	121.20	54.16
5 725.000	29.41	Peak	V	28.80	5.39	63.60	134.00	70.40
5 683.235	29.95	Peak	V	28.80	5.39	64.14	104.59	40.45

High Channel								
5 850.000	32.91	Peak	H	29.30	5.55	67.76	134.00	66.24
5 855.000	33.68	Peak	H	29.30	5.55	68.53	122.60	54.07
5 875.000	30.11	Peak	H	29.30	5.55	64.96	117.00	52.04
5 925.000	31.40	Peak	H	29.30	5.55	66.25	80.00	13.75
5 905.173	30.61	Peak	H	29.30	5.55	65.46	94.67	29.21
5 850.000	31.65	Peak	V	29.30	5.55	66.50	134.00	67.50
5 855.000	31.51	Peak	V	29.30	5.55	66.36	122.60	56.24
5 875.000	33.49	Peak	V	29.30	5.55	68.34	117.00	48.66
5 925.000	31.36	Peak	V	29.30	5.55	66.21	80.00	13.79
5 885.989	32.67	Peak	V	29.30	5.55	67.52	108.87	41.35

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

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

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14.7.3 Test data for 802.11n_HT40 RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel								
5 650.000	31.33	Peak	H	28.80	5.39	65.52	80.00	14.48
5 710.000	30.60	Peak	H	28.80	5.39	64.79	119.80	55.01
5 715.000	31.51	Peak	H	28.80	5.39	65.70	121.20	55.50
5 725.000	29.66	Peak	H	28.80	5.39	63.85	134.00	70.15
5 677.374	32.06	Peak	H	28.80	5.39	66.25	100.25	34.00
5 650.000	29.94	Peak	V	28.80	5.39	64.13	80.00	15.87
5 710.000	28.72	Peak	V	28.80	5.39	62.91	119.80	56.89
5 715.000	32.58	Peak	V	28.80	5.39	66.77	121.20	54.43
5 725.000	30.49	Peak	V	28.80	5.39	64.68	134.00	69.32
5 692.506	33.56	Peak	V	28.80	5.39	67.75	111.45	43.70

High Channel								
5 850.000	31.13	Peak	H	29.30	5.55	65.98	134.00	68.02
5 855.000	29.92	Peak	H	29.30	5.55	64.77	122.60	57.83
5 875.000	31.22	Peak	H	29.30	5.55	66.07	117.00	50.93
5 925.000	31.73	Peak	H	29.30	5.55	66.58	80.00	13.42
5 906.383	31.69	Peak	H	29.30	5.55	66.54	93.78	27.24
5 850.000	31.23	Peak	V	29.30	5.55	66.08	134.00	67.92
5 855.000	32.83	Peak	V	29.30	5.55	67.68	122.60	54.92
5 875.000	33.17	Peak	V	29.30	5.55	68.02	117.00	48.98
5 925.000	33.40	Peak	V	29.30	5.55	68.25	80.00	11.75
5 877.873	32.43	Peak	V	29.30	5.55	67.28	114.88	47.60

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

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

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14.7.4 Test data for 802.11ac_HT80 RLAN Mode

-. 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 : Pass

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Middle Channel								
5 650.000	30.08	Peak	H	28.80	5.39	64.27	80.00	15.73
5 710.000	30.17	Peak	H	28.80	5.39	64.36	119.80	55.44
5 715.000	32.04	Peak	H	28.80	5.39	66.23	121.20	54.97
5 725.000	32.37	Peak	H	28.80	5.39	66.56	134.00	67.44
5 689.549	34.02	Peak	H	28.80	5.39	68.21	109.26	41.05
5 650.000	29.80	Peak	V	28.80	5.39	63.99	80.00	16.01
5 710.000	28.53	Peak	V	28.80	5.39	62.72	119.80	57.08
5 715.000	32.17	Peak	V	28.80	5.39	66.36	121.20	54.84
5 725.000	33.11	Peak	V	28.80	5.39	67.30	134.00	66.70
5 706.960	32.27	Peak	V	28.80	5.39	66.46	118.95	52.49

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Middle Channel								
5 850.000	30.50	Peak	H	29.30	5.55	65.35	134.00	68.65
5 855.000	33.51	Peak	H	29.30	5.55	68.36	122.60	54.24
5 875.000	33.94	Peak	H	29.30	5.55	68.79	117.00	48.21
5 925.000	31.26	Peak	H	29.30	5.55	66.11	80.00	13.89
5 905.936	30.64	Peak	H	29.30	5.55	65.49	94.11	28.62
5 850.000	32.52	Peak	V	29.30	5.55	67.37	134.00	66.63
5 855.000	30.62	Peak	V	29.30	5.55	65.47	122.60	57.13
5 875.000	31.59	Peak	V	29.30	5.55	66.44	117.00	50.56
5 925.000	33.15	Peak	V	29.30	5.55	68.00	80.00	12.00
5 901.716	33.31	Peak	V	29.30	5.55	68.16	97.23	29.07

Tabulated test data for Restricted Band

Remark - “H”: Horizontal, “V”: Vertical

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

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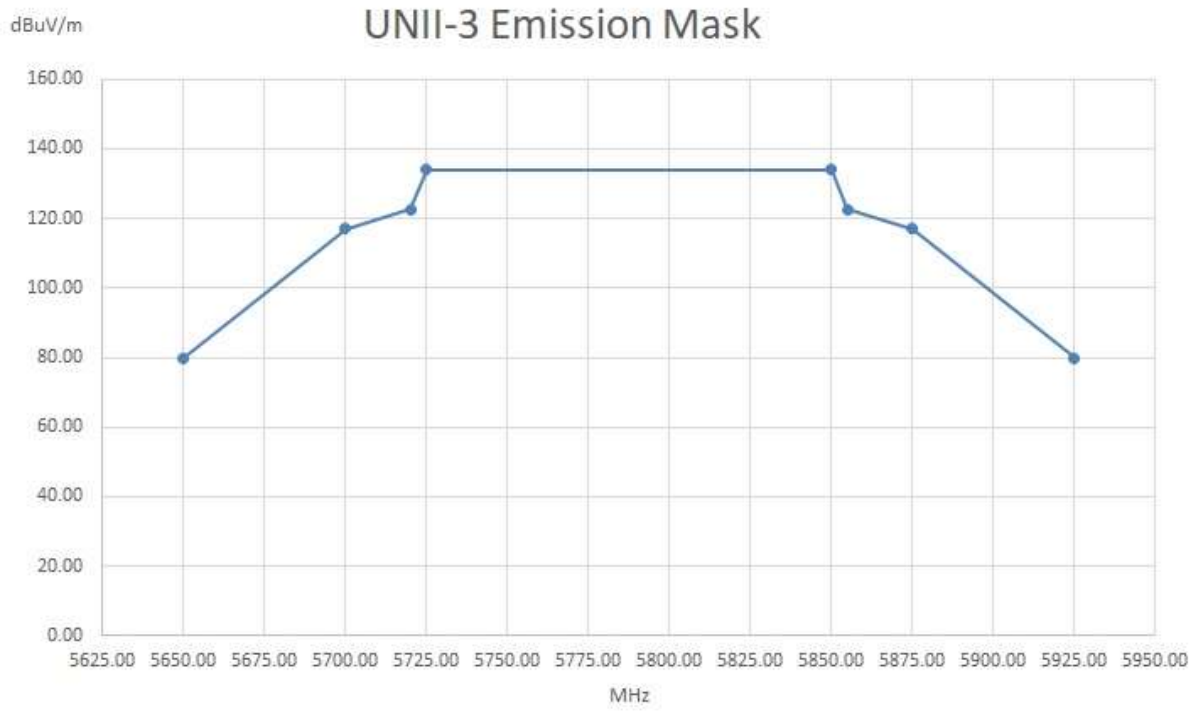
14.8 U-NII-3 Emission Limits

Emission Mask Plots



Remark.

-. Title 47 → Part 15 → Subpart E—UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE DEVICES

§ 15.407 General technical requirements.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

15. CONDUCTED EMISSION TEST

15.1 Operating environment

Temperature : 23 °C

Relative humidity : 41 % R.H.

15.2 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.

15.3 Test Date

August 21, 2020 ~ September 08, 2020

15.4 Test data for Basic Model (WCA731M)

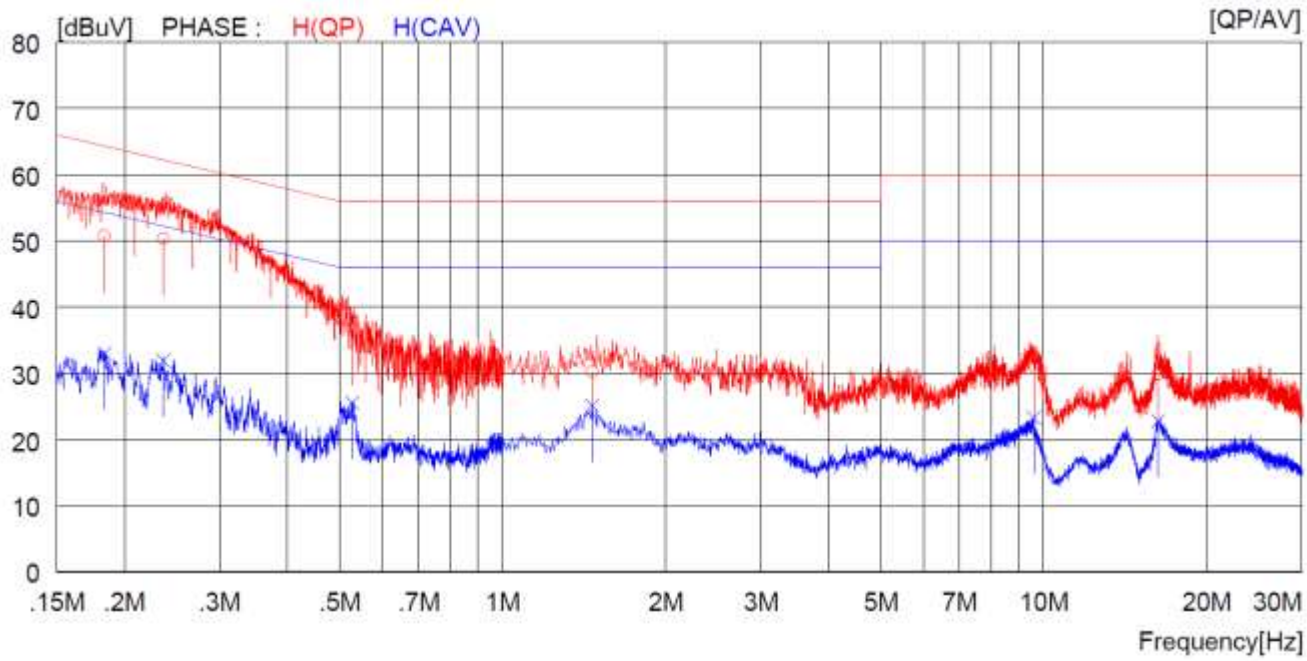
15.4.1 Test data for WLAN 5 GHz

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

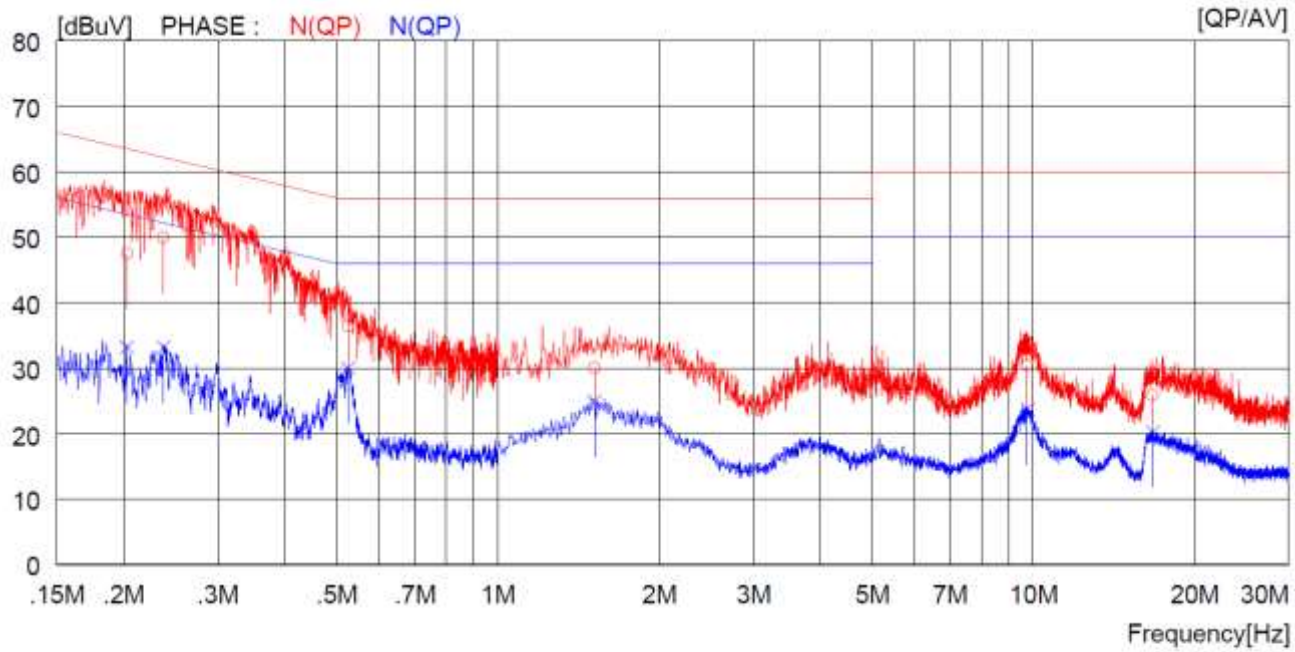
-. Tested Line : HOT LINE

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



NO	FREQ	READING QP	READING AV	C.FACTOR QP	C.FACTOR AV	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]			
1	0.18400	40.7	----	10.0		50.7	----	64.3	----	13.6	----	H(QP)
2	0.23600	40.4	----	9.9		50.3	----	62.2	----	11.9	----	H(QP)
3	0.52700	26.6	----	10.0		36.6	----	56.0	----	19.4	----	H(QP)
4	1.46400	20.1	----	10.1		30.2	----	56.0	----	25.8	----	H(QP)
5	9.58500	20.9	----	10.2		31.1	----	60.0	----	28.9	----	H(QP)
6	16.28000	19.5	----	10.3		29.8	----	60.0	----	30.2	----	H(QP)
7	0.18400	----	23.0	10.0		----	33.0	----	54.3	----	21.3	H(CAV)
8	0.23600	----	22.0	9.9		----	31.9	----	52.2	----	20.3	H(CAV)
9	0.52700	----	15.5	10.0		----	25.5	----	46.0	----	20.5	H(CAV)
10	1.46400	----	15.0	10.1		----	25.1	----	46.0	----	20.9	H(CAV)
11	9.58500	----	13.1	10.2		----	23.3	----	50.0	----	26.7	H(CAV)
12	16.28000	----	12.5	10.3		----	22.8	----	50.0	----	27.2	H(CAV)

-. Tested Line : NEUTRAL LINE



NO	FREQ	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dBuV]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.20300	37.6	----	9.9		47.5	----	63.5	----	16.0	----	N(QP)
2	0.23700	40.0	----	9.9		49.9	----	62.2	----	12.3	----	N(QP)
3	0.52500	26.4	----	10.0		36.4	----	56.0	----	19.6	----	N(QP)
4	1.51600	19.9	----	10.1		30.0	----	56.0	----	26.0	----	N(QP)
5	9.75000	20.2	----	10.2		30.4	----	60.0	----	29.6	----	N(QP)
6	16.71000	15.6	----	10.3		25.9	----	60.0	----	34.1	----	N(QP)
7	0.20300	----	23.3	9.9		----	33.2	----	53.5	----	20.3	N(CAV)
8	0.23700	----	23.3	9.9		----	33.2	----	52.2	----	19.0	N(CAV)
9	0.52500	----	20.0	10.0		----	30.0	----	46.0	----	16.0	N(CAV)
10	1.51600	----	14.8	10.1		----	24.9	----	46.0	----	21.1	N(CAV)
11	9.75000	----	13.6	10.2		----	23.8	----	50.0	----	26.2	N(CAV)
12	16.71000	----	10.0	10.3		----	20.3	----	50.0	----	29.7	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.

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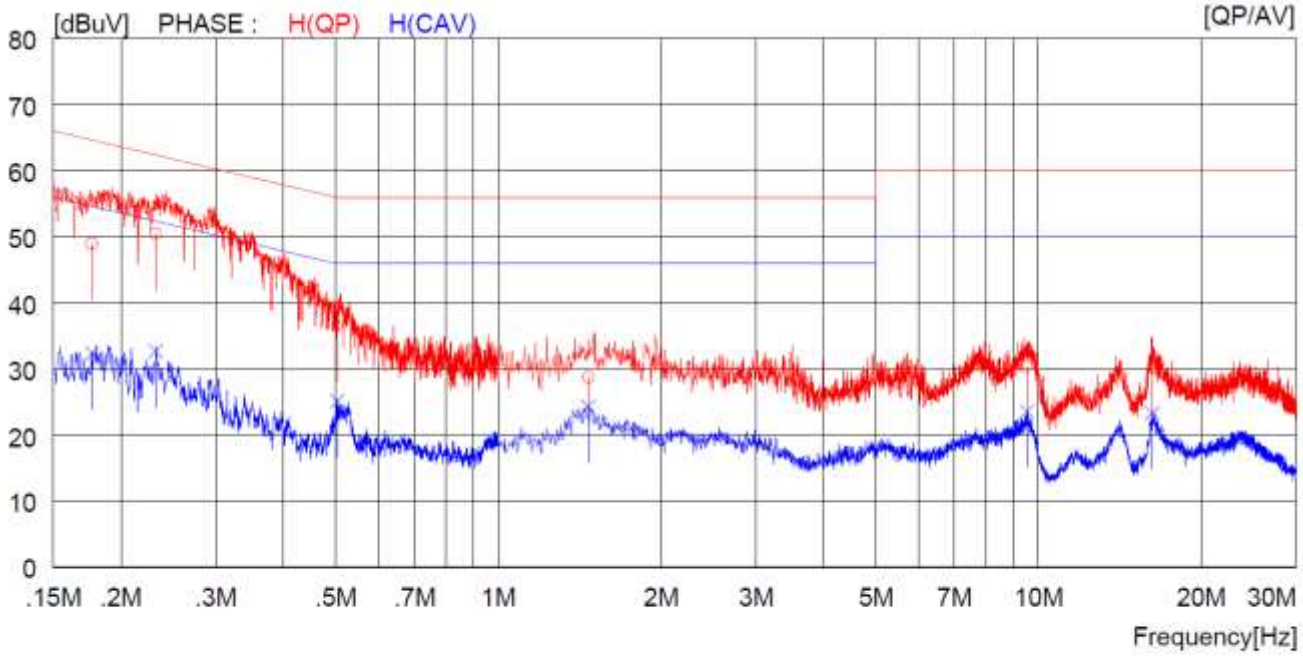
15.4.2 Test data for Intermodulation Mode(Bluetooth LE + WLAN 2.4 GHz + WLAN 5 GHz)

-. Resolution bandwidth : 9 kHz

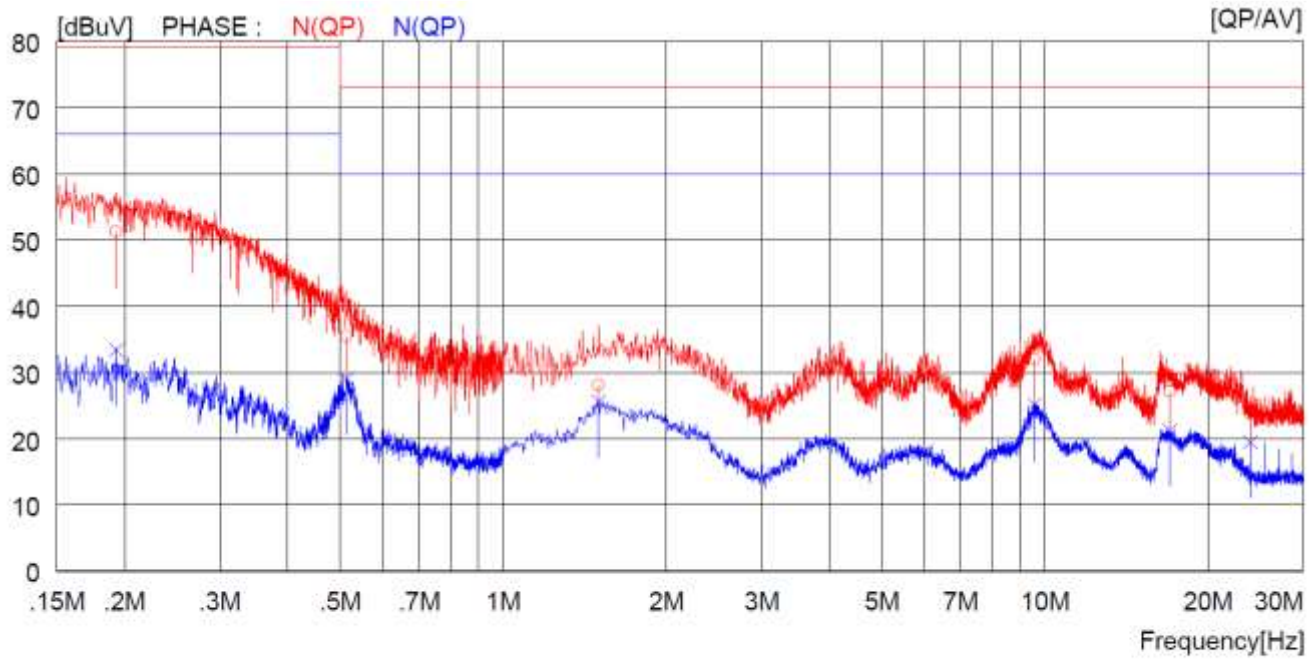
-. Frequency range : 0.15 MHz ~ 30 MHz

-. Tested Line : HOT LINE



NO	FREQ	READING QP	READING AV	C.FACTOR QP	C.FACTOR AV	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]			
1	0.17700	38.9	----	10.0		48.9	----	64.6	----	15.7	----	H(QP)
2	0.23200	40.5	----	9.9		50.4	----	62.4	----	12.0	----	H(QP)
3	0.50300	26.5	----	10.0		36.5	----	56.0	----	19.5	----	H(QP)
4	1.46800	18.6	----	10.1		28.7	----	56.0	----	27.3	----	H(QP)
5	9.52000	20.1	----	10.2		30.3	----	60.0	----	29.7	----	H(QP)
6	16.27000	19.9	----	10.3		30.2	----	60.0	----	29.8	----	H(QP)
7	0.17700	----	22.4	10.0		----	32.4	----	54.6	----	22.2	H(CAV)
8	0.23200	----	22.8	9.9		----	32.7	----	52.4	----	19.7	H(CAV)
9	0.50300	----	15.1	10.0		----	25.1	----	46.0	----	20.9	H(CAV)
10	1.46800	----	14.2	10.1		----	24.3	----	46.0	----	21.7	H(CAV)
11	9.52000	----	13.4	10.2		----	23.6	----	50.0	----	26.4	H(CAV)
12	16.27000	----	13.0	10.3		----	23.3	----	50.0	----	26.7	H(CAV)

-. Tested Line : NEUTRAL LINE



NO	FREQ	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dBuV]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.19300	41.2	----	10.0		51.2	----	79.0	----	27.8	----	N(QP)
2	0.51400	25.5	----	10.0		35.5	----	73.0	----	37.5	----	N(QP)
3	1.50000	18.0	----	10.1		28.1	----	73.0	----	44.9	----	N(QP)
4	9.57000	21.8	----	10.2		32.0	----	73.0	----	41.0	----	N(QP)
5	17.04000	16.9	----	10.3		27.2	----	73.0	----	45.8	----	N(QP)
6	23.99000	13.3	----	10.5		23.8	----	73.0	----	49.2	----	N(QP)
7	0.19300	----	23.4	10.0		----	33.4	----	66.0	----	32.6	N(CAV)
8	0.51400	----	19.0	10.0		----	29.0	----	60.0	----	31.0	N(CAV)
9	1.50000	----	15.5	10.1		----	25.6	----	60.0	----	34.4	N(CAV)
10	9.57000	----	14.9	10.2		----	25.1	----	60.0	----	34.9	N(CAV)
11	17.04000	----	11.0	10.3		----	21.3	----	60.0	----	38.7	N(CAV)
12	23.99000	----	9.0	10.5		----	19.5	----	60.0	----	40.5	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.

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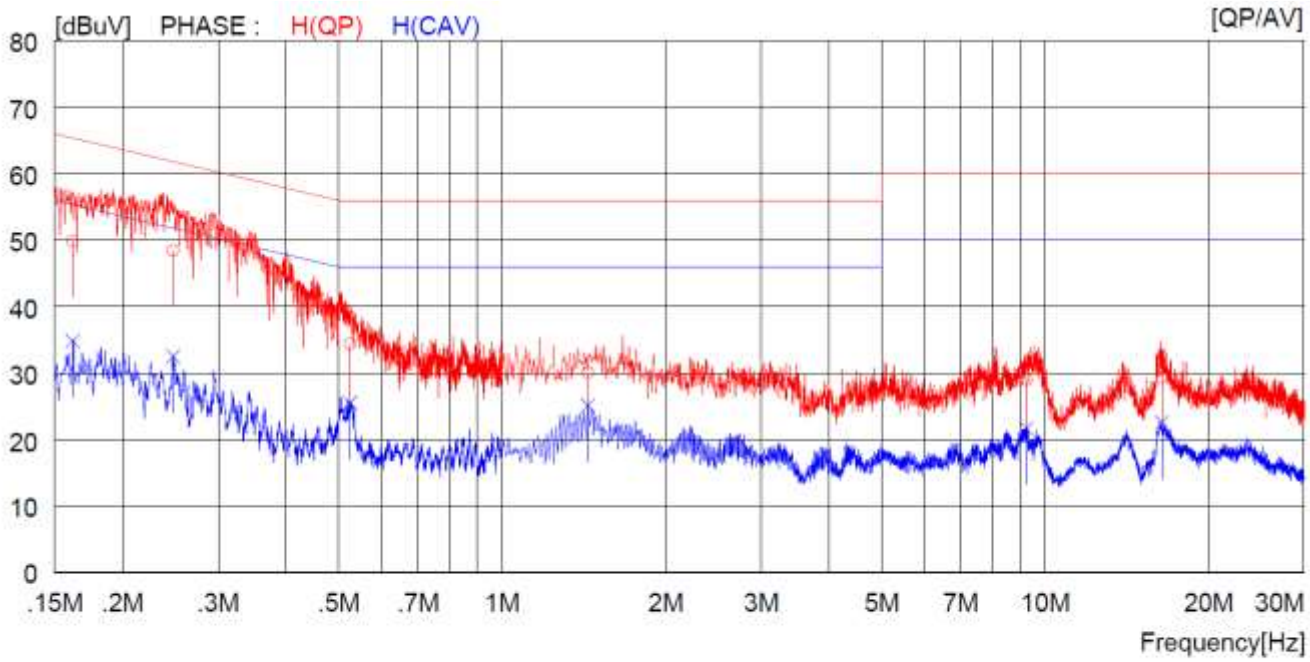
15.4.3 Test data for Intermodulation Mode(Bluetooth + WLAN 2.4 GHz + WLAN 5 GHz)

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

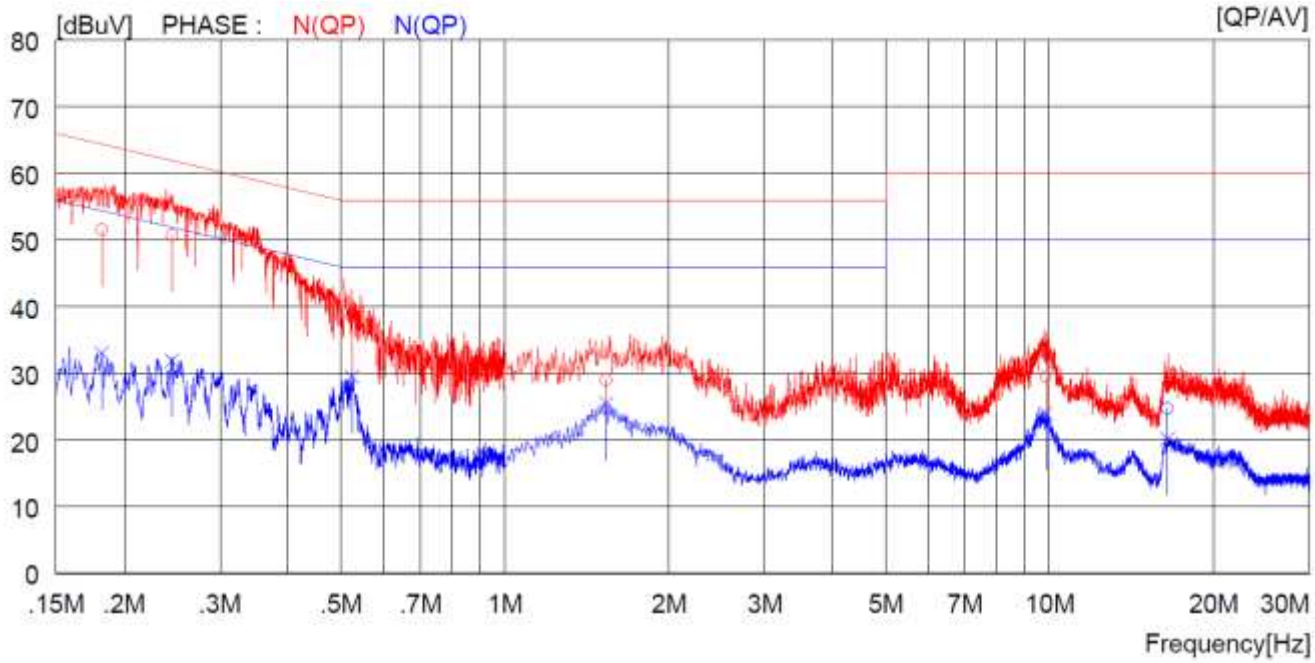
-. Tested Line : HOT LINE



NO	FREQ	READING QP	READING AV	C.FACTOR QP	C.FACTOR AV	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]		[dBuV]	[dBuV]	[dBuV]	[dBuV]			
1	0.16200	39.8	----	10.0		49.8	----	65.4	----	15.6	----	H(QP)
2	0.24800	38.5	----	9.9		48.4	----	61.8	----	13.4	----	H(QP)
3	0.52500	24.4	----	10.0		34.4	----	56.0	----	21.6	----	H(QP)
4	1.44000	19.9	----	10.1		30.0	----	56.0	----	26.0	----	H(QP)
5	9.24500	18.8	----	10.2		29.0	----	60.0	----	31.0	----	H(QP)
6	16.42000	19.0	----	10.3		29.3	----	60.0	----	30.7	----	H(QP)
7	0.16200	----	24.8	10.0		----	34.8	----	55.4	----	20.6	H(CAV)
8	0.24800	----	22.6	9.9		----	32.5	----	51.8	----	19.3	H(CAV)
9	0.52500	----	15.5	10.0		----	25.5	----	46.0	----	20.5	H(CAV)
10	1.44000	----	15.0	10.1		----	25.1	----	46.0	----	20.9	H(CAV)
11	9.24500	----	11.5	10.2		----	21.7	----	50.0	----	28.3	H(CAV)
12	16.42000	----	12.3	10.3		----	22.6	----	50.0	----	27.4	H(CAV)

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

-. Tested Line : NEUTRAL LINE



NO	FREQ	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dBuV]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.18200	41.5	----	10.0		51.5	----	64.4	----	12.9	----	N(QP)
2	0.24500	40.8	----	9.9		50.7	----	61.9	----	11.2	----	N(QP)
3	0.52400	28.5	----	10.0		38.5	----	56.0	----	17.5	----	N(QP)
4	1.53600	18.9	----	10.1		29.0	----	56.0	----	27.0	----	N(QP)
5	9.83500	19.3	----	10.2		29.5	----	60.0	----	30.5	----	N(QP)
6	16.48000	14.5	----	10.3		24.8	----	60.0	----	35.2	----	N(CAV)
7	0.18200	----	23.0	10.0		----	33.0	----	54.4	----	21.4	N(CAV)
8	0.24500	----	22.0	9.9		----	31.9	----	51.9	----	20.0	N(CAV)
9	0.52400	----	19.5	10.0		----	29.5	----	46.0	----	16.5	N(CAV)
10	1.53600	----	15.4	10.1		----	25.5	----	46.0	----	20.5	N(CAV)
11	9.83500	----	13.8	10.2		----	24.0	----	50.0	----	26.0	N(CAV)
12	16.48000	----	9.9	10.3		----	20.2	----	50.0	----	29.8	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.

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15.5 Test data for Multiple Model (WCA734M)

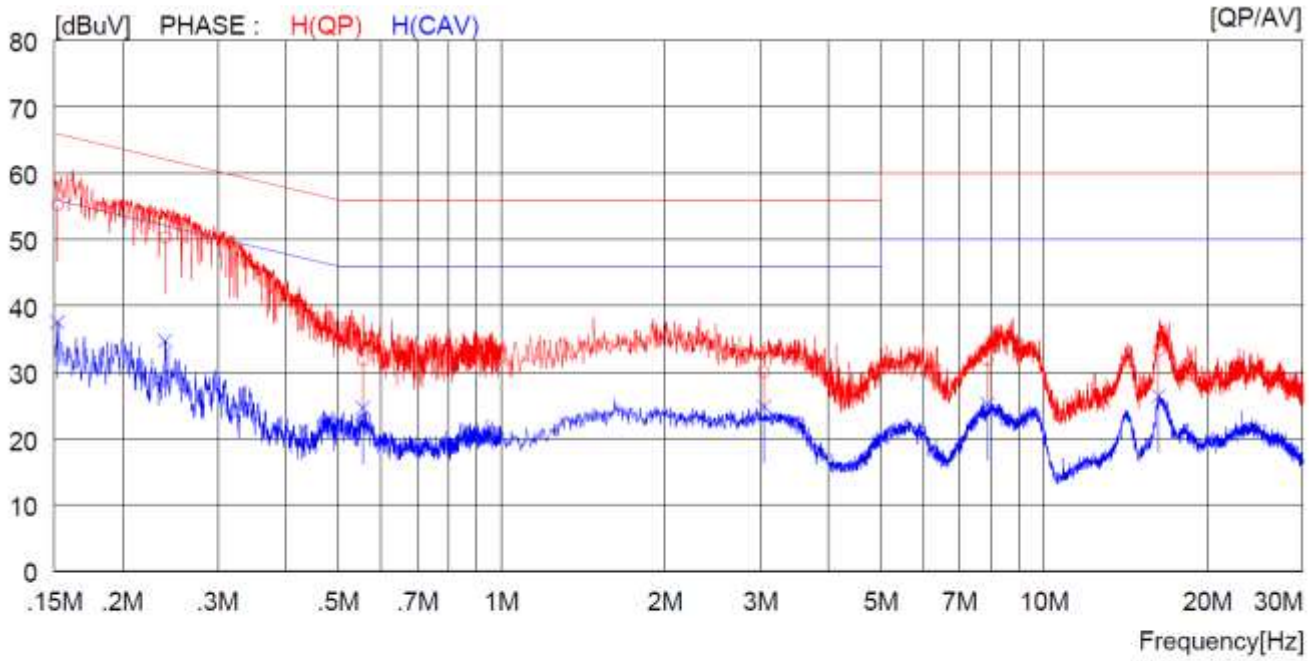
15.5.1 Test data for WLAN 5 GHz

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

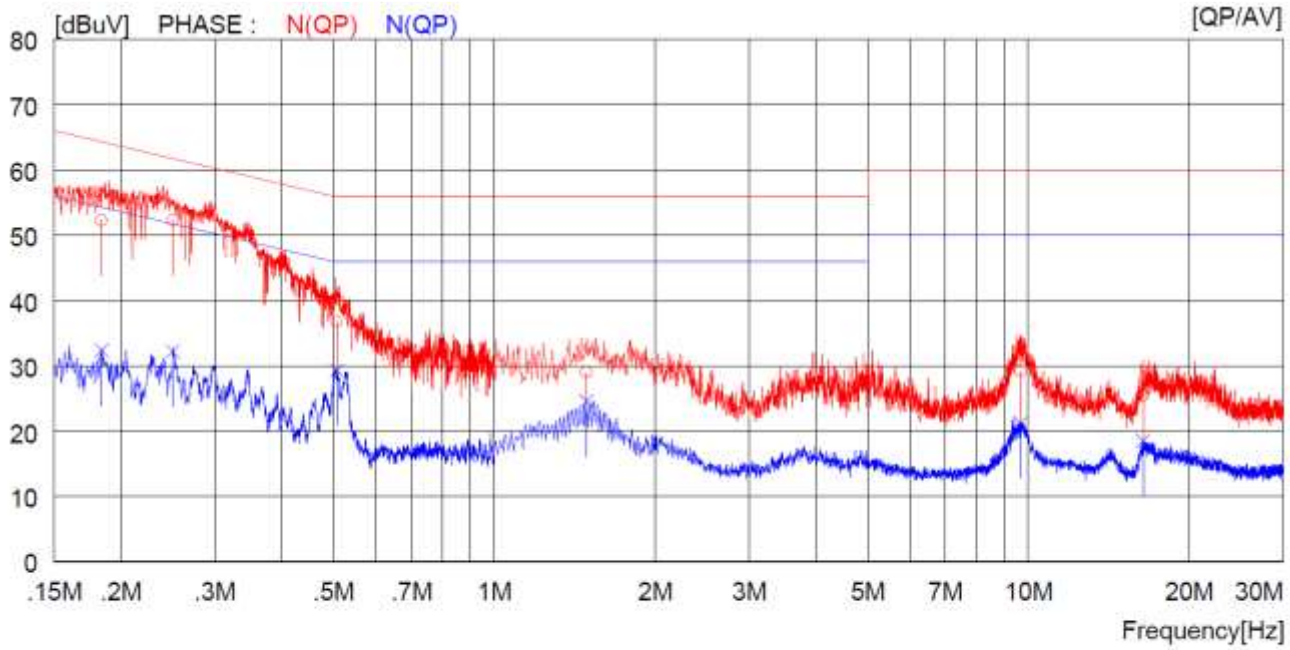
-. Tested Line : HOT LINE

-. 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	0.15200	45.2	----	10.0	55.2	----	65.9	----	10.7	----	H(QP)
2	0.24000	40.3	----	9.9	50.2	----	62.1	----	11.9	----	H(QP)
3	0.55600	21.8	----	10.0	31.8	----	56.0	----	24.2	----	H(QP)
4	3.04800	19.9	----	10.1	30.0	----	56.0	----	26.0	----	H(QP)
5	7.88000	21.6	----	10.2	31.8	----	60.0	----	28.2	----	H(QP)
6	16.28000	22.9	----	10.3	33.2	----	60.0	----	26.8	----	H(QP)
7	0.15200	----	27.5	10.0	----	37.5	----	55.9	----	18.4	H(CAV)
8	0.24000	----	24.8	9.9	----	34.7	----	52.1	----	17.4	H(CAV)
9	0.55600	----	14.6	10.0	----	24.6	----	46.0	----	21.4	H(CAV)
10	3.04800	----	14.7	10.1	----	24.8	----	46.0	----	21.2	H(CAV)
11	7.88000	----	15.0	10.2	----	25.2	----	50.0	----	24.8	H(CAV)
12	16.28000	----	16.1	10.3	----	26.4	----	50.0	----	23.6	H(CAV)

-. 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	0.18400	42.2	----	10.0	52.2	----	64.3	----	12.1	----	N(QP)
2	0.25000	42.3	----	9.9	52.2	----	61.8	----	9.6	----	N(QP)
3	0.50700	26.8	----	10.0	36.8	----	56.0	----	19.2	----	N(QP)
4	1.48800	18.9	----	10.1	29.0	----	56.0	----	27.0	----	N(QP)
5	9.68000	19.0	----	10.2	29.2	----	60.0	----	30.8	----	N(QP)
6	16.41000	15.2	----	10.3	25.5	----	60.0	----	34.5	----	N(QP)
7	0.18400	----	22.4	10.0	----	32.4	----	54.3	----	21.9	N(CAV)
8	0.25000	----	22.3	9.9	----	32.2	----	51.8	----	19.6	N(CAV)
9	0.50700	----	19.3	10.0	----	29.3	----	46.0	----	16.7	N(CAV)
10	1.48800	----	14.5	10.1	----	24.6	----	46.0	----	21.4	N(CAV)
11	9.68000	----	11.0	10.2	----	21.2	----	50.0	----	28.8	N(CAV)
12	16.41000	----	8.2	10.3	----	18.5	----	50.0	----	31.5	N(CAV)

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

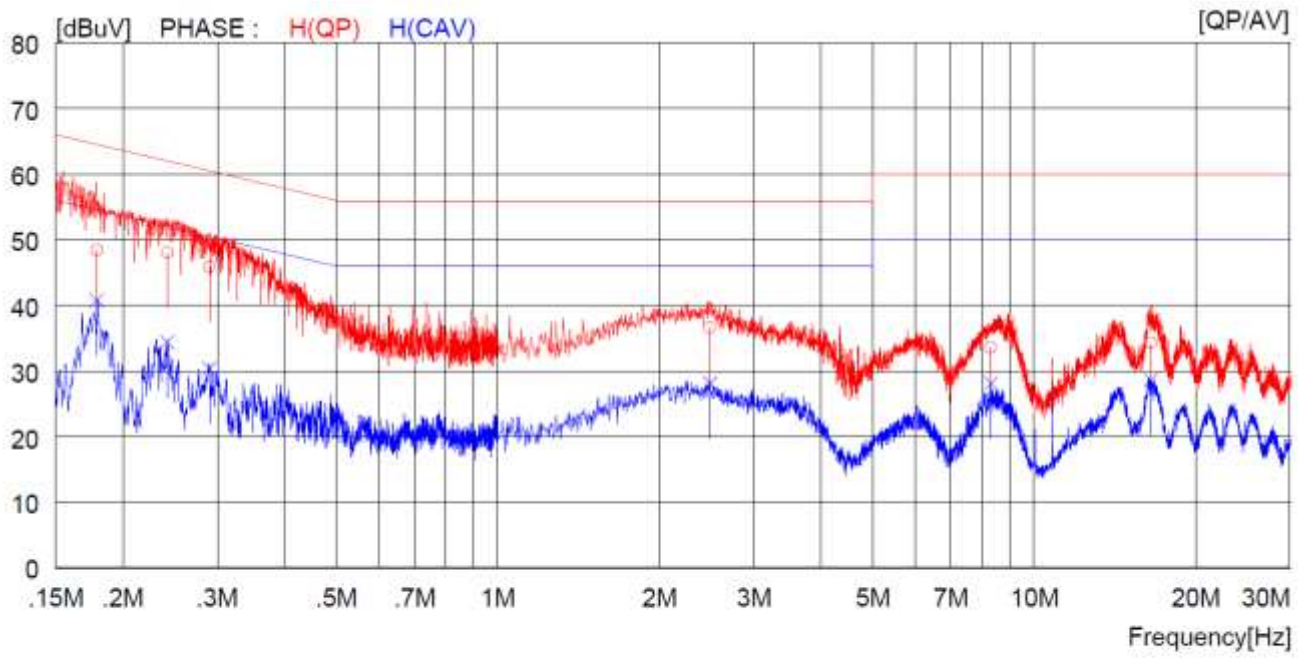
The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

15.5.2 Test data for Intermodulation Mode(Bluetooth LE + WLAN 2.4 GHz + WLAN 5 GHz)

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

-. Tested Line : HOT LINE



NO	FREQ [MHz]	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dBuV]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.17900	38.4	----	10.0	48.4	----	64.5	----	16.1	----	H(QP)
2	0.24200	38.1	----	9.9	48.0	----	62.0	----	14.0	----	H(QP)
3	0.29000	36.0	----	9.9	45.9	----	60.5	----	14.6	----	H(QP)
4	2.48800	26.5	----	10.1	36.6	----	56.0	----	19.4	----	H(QP)
5	8.30500	23.3	----	10.2	33.5	----	60.0	----	26.5	----	H(QP)
6	16.52000	24.0	----	10.3	34.3	----	60.0	----	25.7	----	H(QP)
7	0.17900	----	30.8	10.0	----	40.8	----	54.5	----	13.7	H(CAV)
8	0.24200	----	24.5	9.9	----	34.4	----	52.0	----	17.6	H(CAV)
9	0.29000	----	20.5	9.9	----	30.4	----	50.5	----	20.1	H(CAV)
10	2.48800	----	18.0	10.1	----	28.1	----	46.0	----	17.9	H(CAV)
11	8.30500	----	17.9	10.2	----	28.1	----	50.0	----	21.9	H(CAV)
12	16.52000	----	18.3	10.3	----	28.6	----	50.0	----	21.4	H(CAV)

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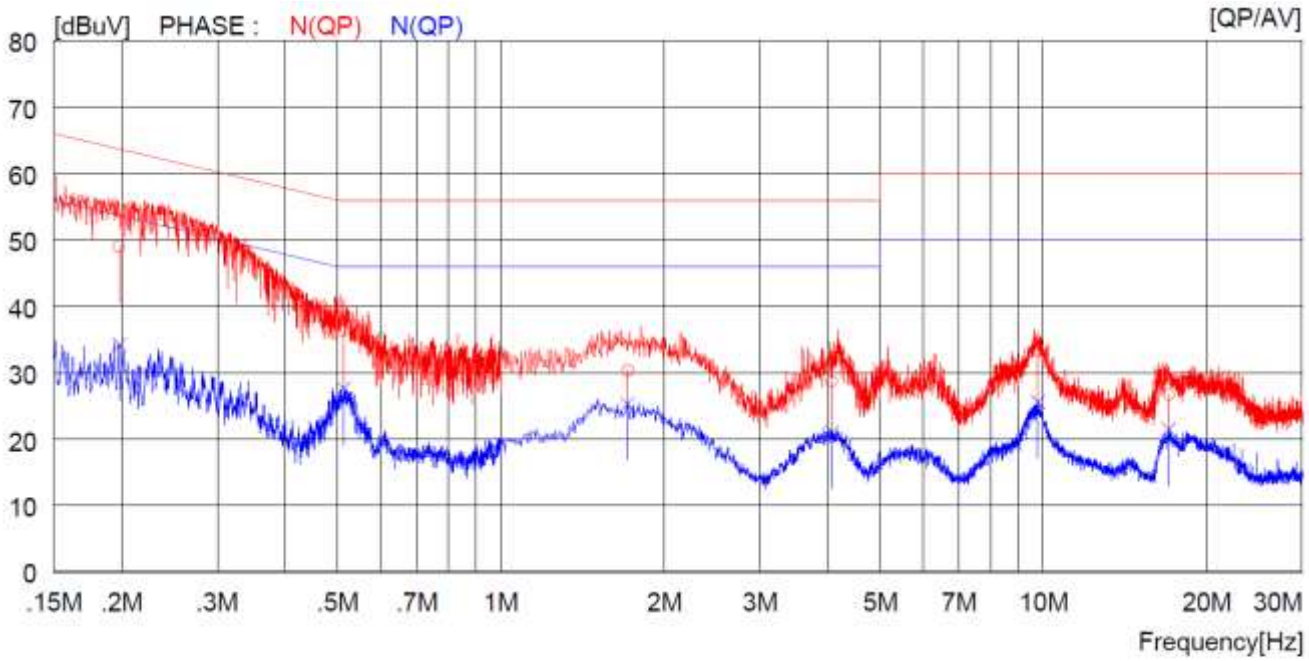
-. Tested Line : NEUTRAL LINE



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	0.19800	39.0	----	10.0	49.0	----	63.7	----	14.7	----	N(QP)
2	0.51300	26.3	----	10.0	36.3	----	56.0	----	19.7	----	N(QP)
3	1.71200	20.2	----	10.1	30.3	----	56.0	----	25.7	----	N(QP)
4	4.08000	18.6	----	10.1	28.7	----	56.0	----	27.3	----	N(QP)
5	9.77000	23.0	----	10.2	33.2	----	60.0	----	26.8	----	N(QP)
6	17.03000	16.4	----	10.3	26.7	----	60.0	----	33.3	----	N(QP)
7	0.19800	----	24.2	10.0	----	34.2	----	53.7	----	19.5	N(CAV)
8	0.51300	----	17.6	10.0	----	27.6	----	46.0	----	18.4	N(CAV)
9	1.71200	----	15.2	10.1	----	25.3	----	46.0	----	20.7	N(CAV)
10	4.08000	----	11.0	10.1	----	21.1	----	46.0	----	24.9	N(CAV)
11	9.77000	----	15.4	10.2	----	25.6	----	50.0	----	24.4	N(CAV)
12	17.03000	----	11.2	10.3	----	21.5	----	50.0	----	28.5	N(CAV)

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

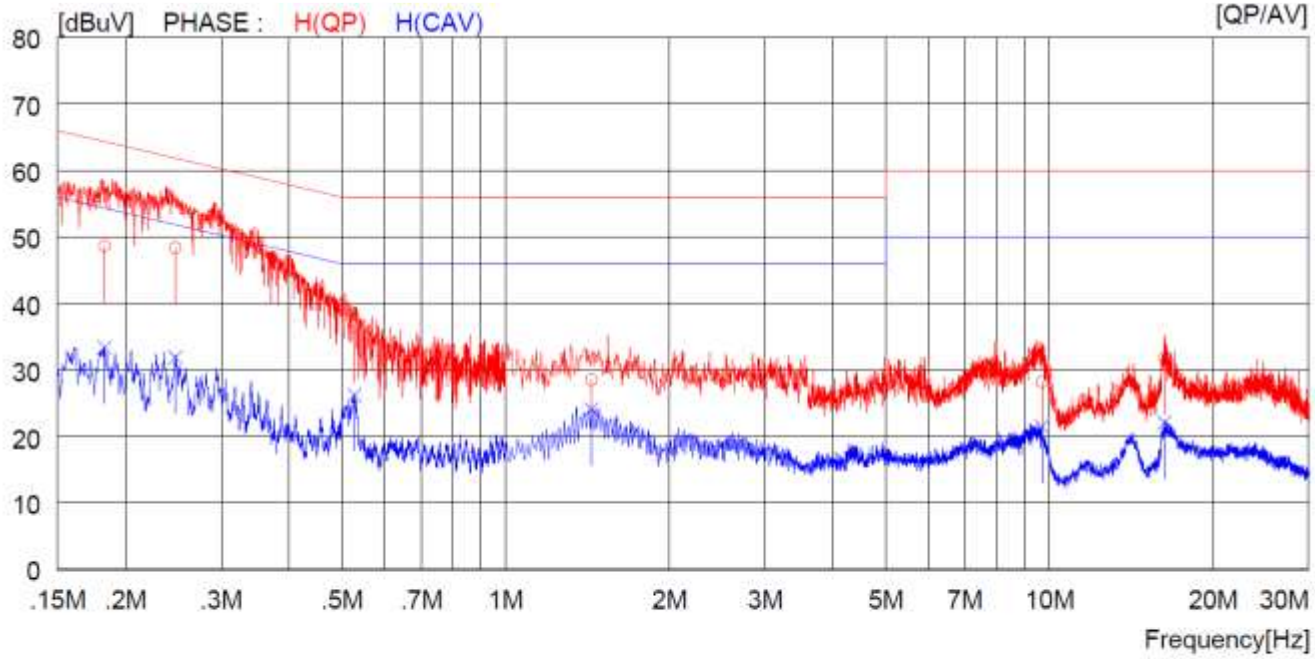
The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

15.5.3 Test data for Intermodulation Mode(Bluetooth + WLAN 2.4 GHz + WLAN 5 GHz)

-. Resolution bandwidth : 9 kHz

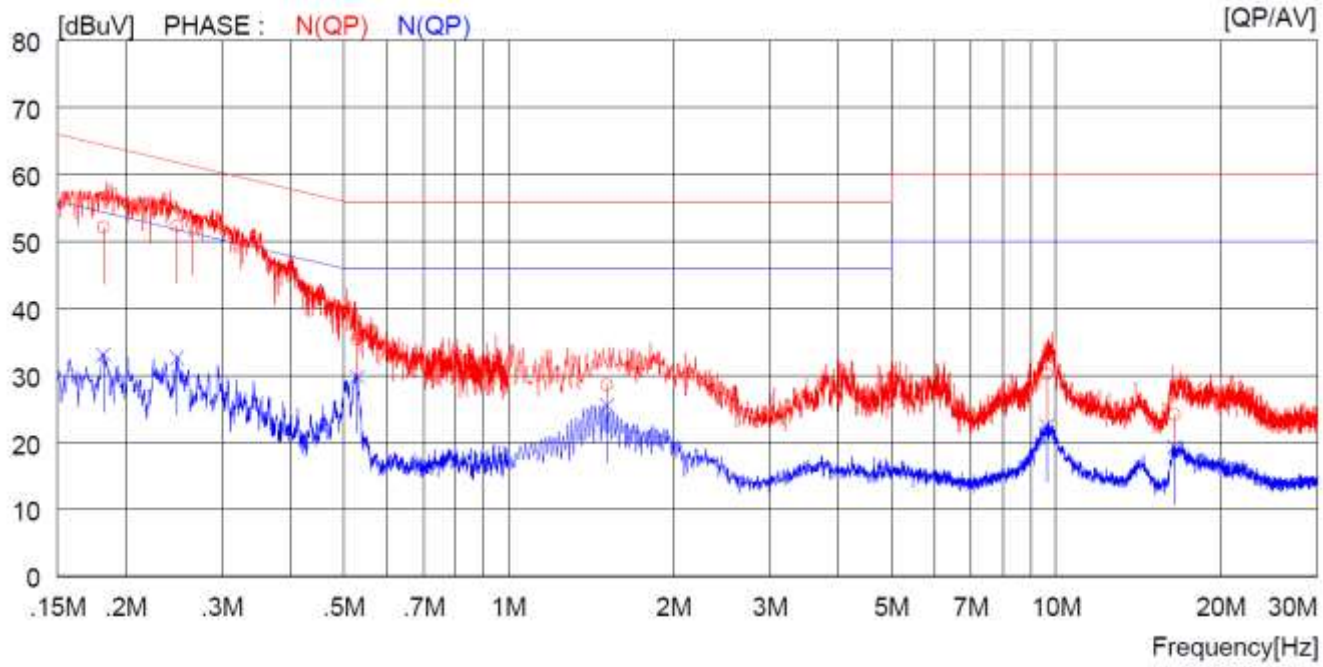
-. Frequency range : 0.15 MHz ~ 30 MHz

-. Tested Line : HOT LINE



NO	FREQ [MHz]	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dBuV]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.18300	38.6	----	10.0	48.6	----	64.3	----	15.7	----	H(QP)
2	0.24700	38.4	----	9.9	48.3	----	61.9	----	13.6	----	H(QP)
3	0.52700	26.6	----	10.0	36.6	----	56.0	----	19.4	----	H(QP)
4	1.44000	18.4	----	10.1	28.5	----	56.0	----	27.5	----	H(QP)
5	9.70500	18.0	----	10.2	28.2	----	60.0	----	31.8	----	H(QP)
6	16.31000	21.5	----	10.3	31.8	----	60.0	----	28.2	----	H(QP)
7	0.18300	----	23.4	10.0	----	33.4	----	54.3	----	20.9	H(CAV)
8	0.24700	----	22.0	9.9	----	31.9	----	51.9	----	20.0	H(CAV)
9	0.52700	----	16.2	10.0	----	26.2	----	46.0	----	19.8	H(CAV)
10	1.44000	----	14.0	10.1	----	24.1	----	46.0	----	21.9	H(CAV)
11	9.70500	----	11.3	10.2	----	21.5	----	50.0	----	28.5	H(CAV)
12	16.31000	----	11.8	10.3	----	22.1	----	50.0	----	27.9	H(CAV)

-. Tested Line : NEUTRAL LINE



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	0.18200	42.1	----	10.0	52.1	----	64.4	----	12.3	----	N(QP)
2	0.24800	42.3	----	9.9	52.2	----	61.8	----	9.6	----	N(QP)
3	0.52900	25.4	----	10.0	35.4	----	56.0	----	20.6	----	N(QP)
4	1.51200	18.5	----	10.1	28.6	----	56.0	----	27.4	----	N(QP)
5	9.62000	20.0	----	10.2	30.2	----	60.0	----	29.8	----	N(QP)
6	16.47000	13.8	----	10.3	24.1	----	60.0	----	35.9	----	N(QP)
7	0.18200	----	23.1	10.0	----	33.1	----	54.4	----	21.3	N(CAV)
8	0.24800	----	22.7	9.9	----	32.6	----	51.8	----	19.2	N(CAV)
9	0.52900	----	19.8	10.0	----	29.8	----	46.0	----	16.2	N(CAV)
10	1.51200	----	15.4	10.1	----	25.5	----	46.0	----	20.5	N(CAV)
11	9.62000	----	12.3	10.2	----	22.5	----	50.0	----	27.5	N(CAV)
12	16.47000	----	9.0	10.3	----	19.3	----	50.0	----	30.7	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.

16. DYNAMIC FREQUENCY SELECTION (DFS)

16.1 Operating environment

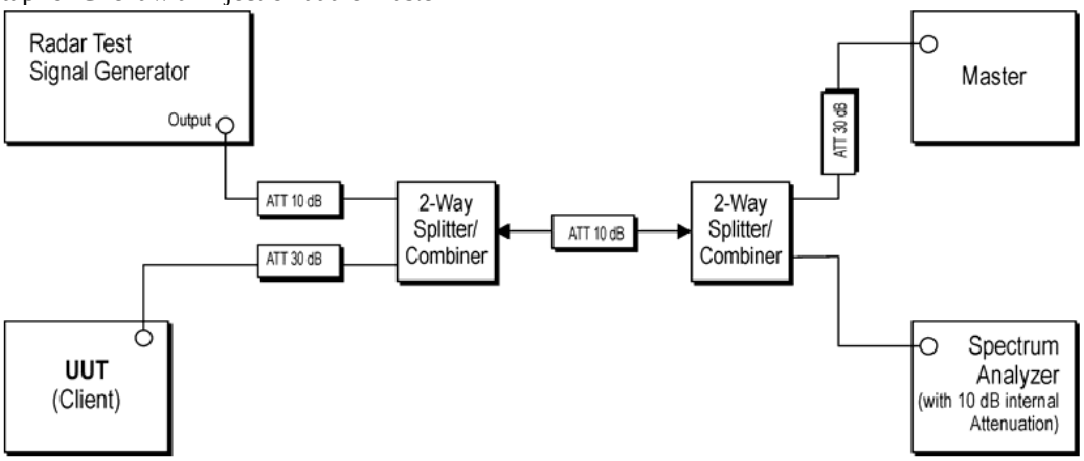
Temperature : 23 °C

Relative humidity : 41 % R.H.

16.2 Test set-ups

The FCC 06-96 and RSS-210 A9.3 describes a conducted test setup. A conducted test setup was user this testing. Figure 1 shows the typical test setup. Each one channel selected between 5 250 MHz and 5 350 MHz, 5 470 MHz and 5 725 MHz is chosen for the testing.

Figure 1. Setup for Client with injection at the Master



The operational behavior and individual DFS requirements that are associated with these modes are as follows:

<Master Devices>

a) The Master Device will use DFS in order to detect Radar Waveforms with received signal strength above the DFS Detection Threshold in the 5 250 – 5 350 MHz and 5 470 – 5 725 MHz bands. DFS is not required in the 5 150 – 5 250 MHz or 5 725 – 5 825 MHz bands.

b) Before initiating a network on a Channel, the Master Device will perform a Channel Availability Check for a specified time duration (Channel Availability Check Time) to ensure that there is no radar system operating on the Channel, using DFS described under subsection a) above.

c) The Master Device initiates a U-NII network by transmitting control signals that will enable other U-NII devices to Associate with the Master Device.

d) During normal operation, the Master Device will monitor the Channel (In-Service Monitoring) to ensure that there is no radar system operating on the Channel, using DFS described under a).

e) If the Master Device has detected a Radar Waveform during In-Service Monitoring as described under d), the Operating Channel of the U-NII network is no longer an Available Channel. The Master Device will instruct all associated Client Device(s) to stop transmitting on this Channel within the Channel Move Time. The transmissions during the Channel Move Time will be limited to the Channel Closing Transmission Time.

f) Once the Master Device has detected a Radar Waveform it will not utilize the Channel for the duration of the Non-Occupancy Period. 3

g) If the Master Device delegates the In-Service Monitoring to a Client Device, then the combination will be tested to the requirements described under d) through f) above.

<Client Devices>

a) A Client Device will not transmit before having received appropriate control signals from a Master Device.

b) A Client Device will stop all its transmissions whenever instructed by a Master Device to which it is associated and will meet the Channel Move Time and Channel Closing Transmission Time requirements. The Client Device will not resume any transmissions until it has again received control signals from a Master Device.

c) If a Client Device is performing In-Service Monitoring and detects a Radar Waveform above the DFS Detection Threshold, it will inform the Master Device. This is equivalent to the Master Device detecting the Radar Waveform and d) through f) of section 5.1.1 apply.

d) Irrespective of Client Device or Master Device detection the Channel Move Time and Channel Closing Transmission Time requirements remain the same.

e) The client test frequency must be monitored to ensure no transmission of any type has occurred for 30 minutes. Note: If the client moves with the master, the device is considered compliant if nothing appears in the client non-occupancy period test. For devices that shut down (rather than moving channels), no beacons should appear.

<Channel Connection Information>

a) Master Devices : RF-AX88U

b) Client(=EUT) Devices : WCT731

c) Connect to test channel : See next page for measurement data.

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16.3 DFS Test Signals

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	Roundup $\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{PRI_{\mu sec}}\right)\right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μ sec, with a minimum increment of 1 μ sec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Table 6 – Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per *Burst*	Number of *Bursts*	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

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16.4 Technical Requirement Specification

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client (without DFS)	Client (with DFS)
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
Uniform Spreading	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode		
	Master	Client (without DFS)	Client (with DFS)
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required	Yes

16.5 Test Date

August 21, 2020 ~ September 08, 2020

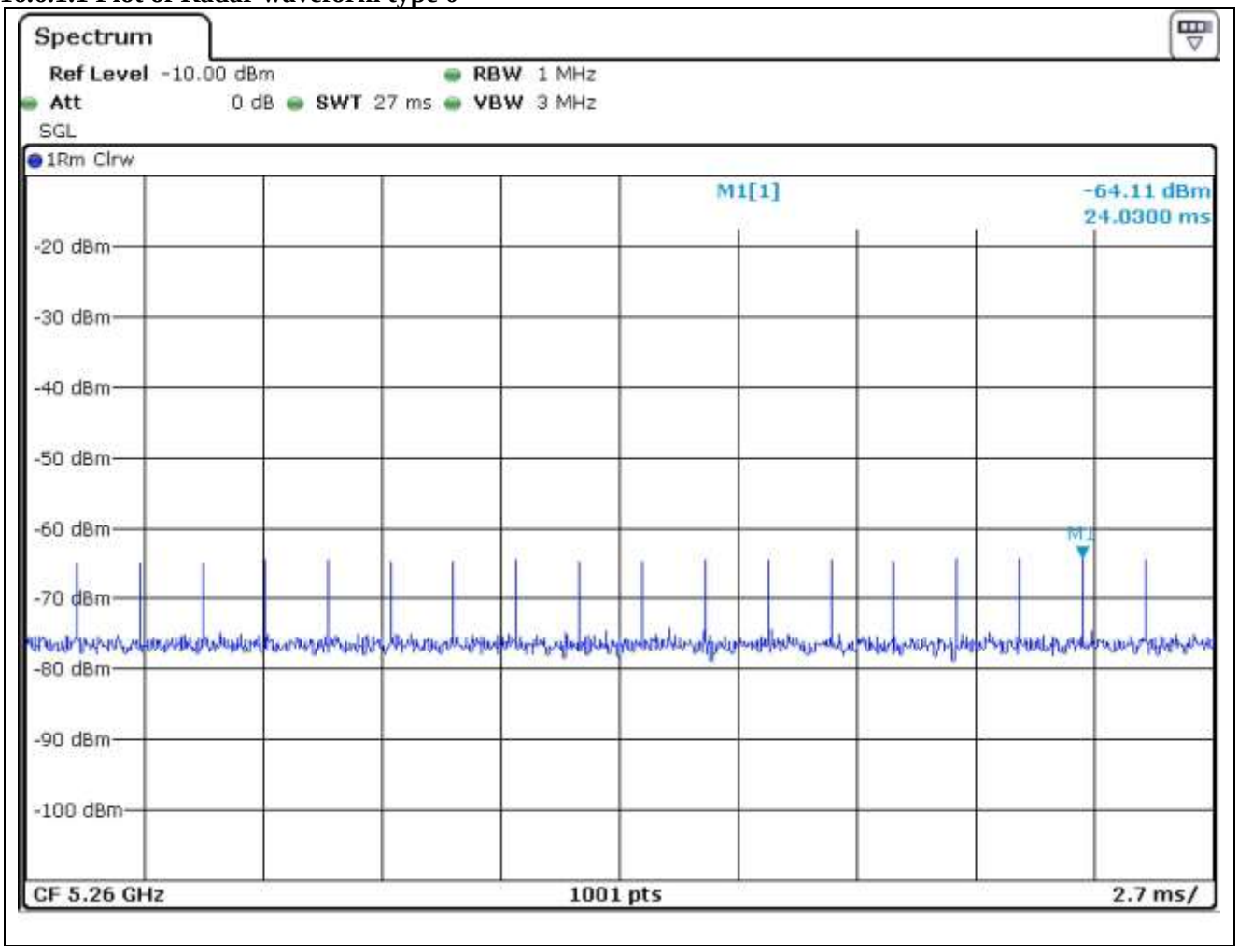
16.6 Test data

Band	Frequency (MHz)	Channel move time(s)		Channel closing transmission time(ms)	
		Measured	Limit	Measured	Limit
UNII 2A	5 260.00	0.440	10.00	1.20	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period.
UNII 2C	5 500.00	1.060		2.40	

Note. Channel closing transmission time: 6 * 0.2 ms = 1.2 ms, 12 * 0.2 ms = 2.4 ms

16.6.1 UNII 2A

16.6.1.1 Plot of Radar waveform type 0



Note: The calibrated conducted DFS detection threshold level is set to -64.11 dBm (-62+1-0.55=-61.55 dBm)

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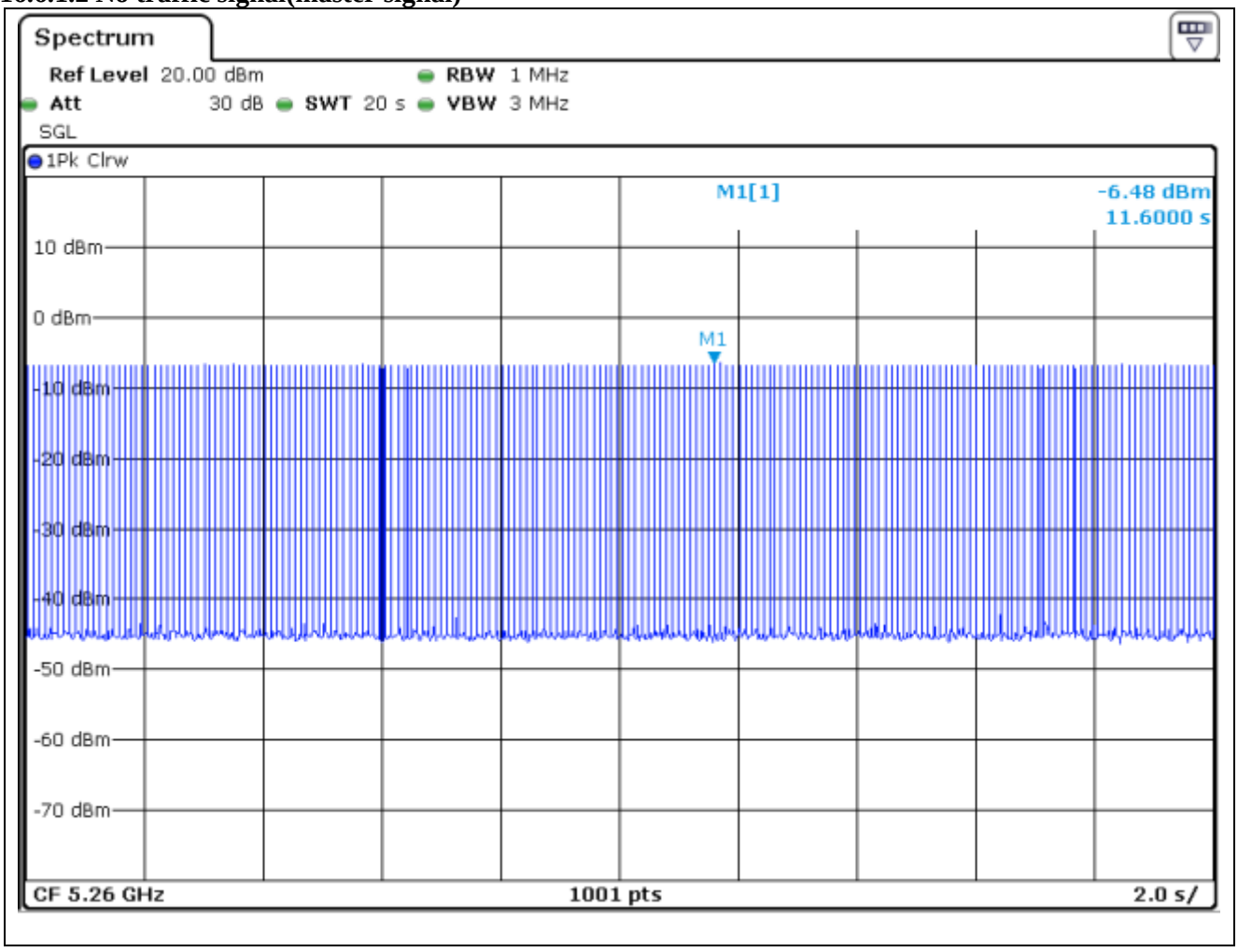
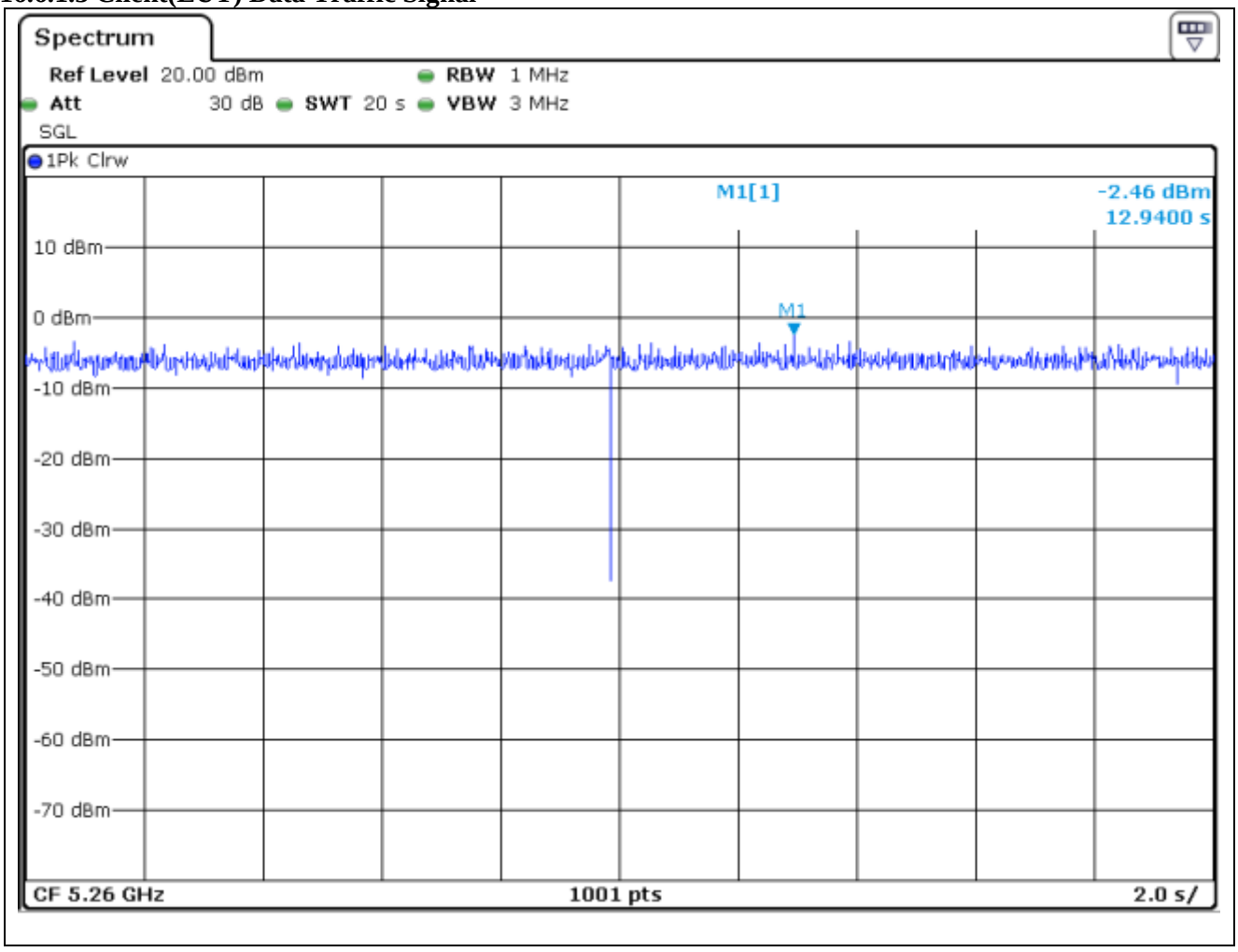
16.6.1.2 No traffic signal(master signal)



16.6.1.3 Client(EUT) Data Traffic Signal



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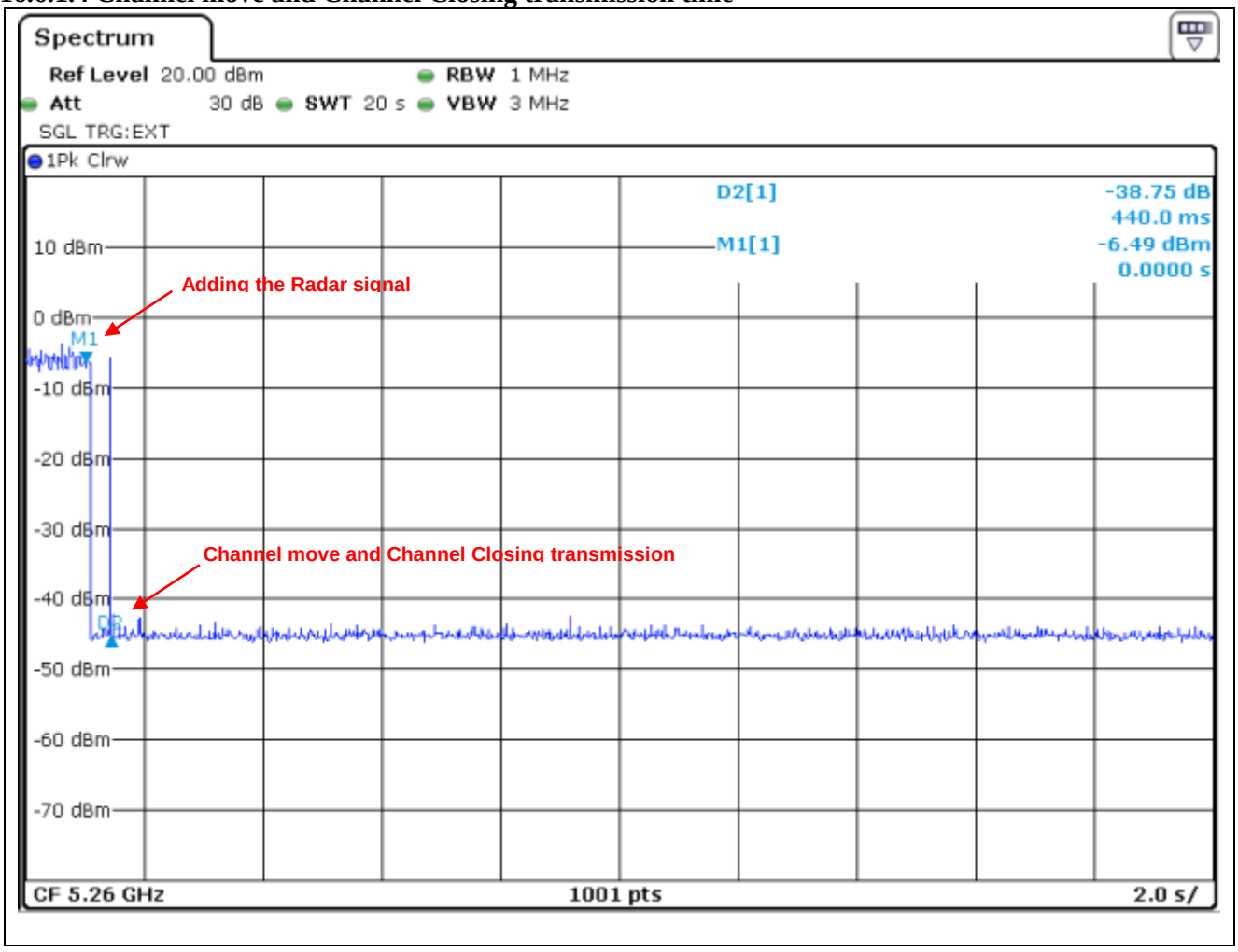
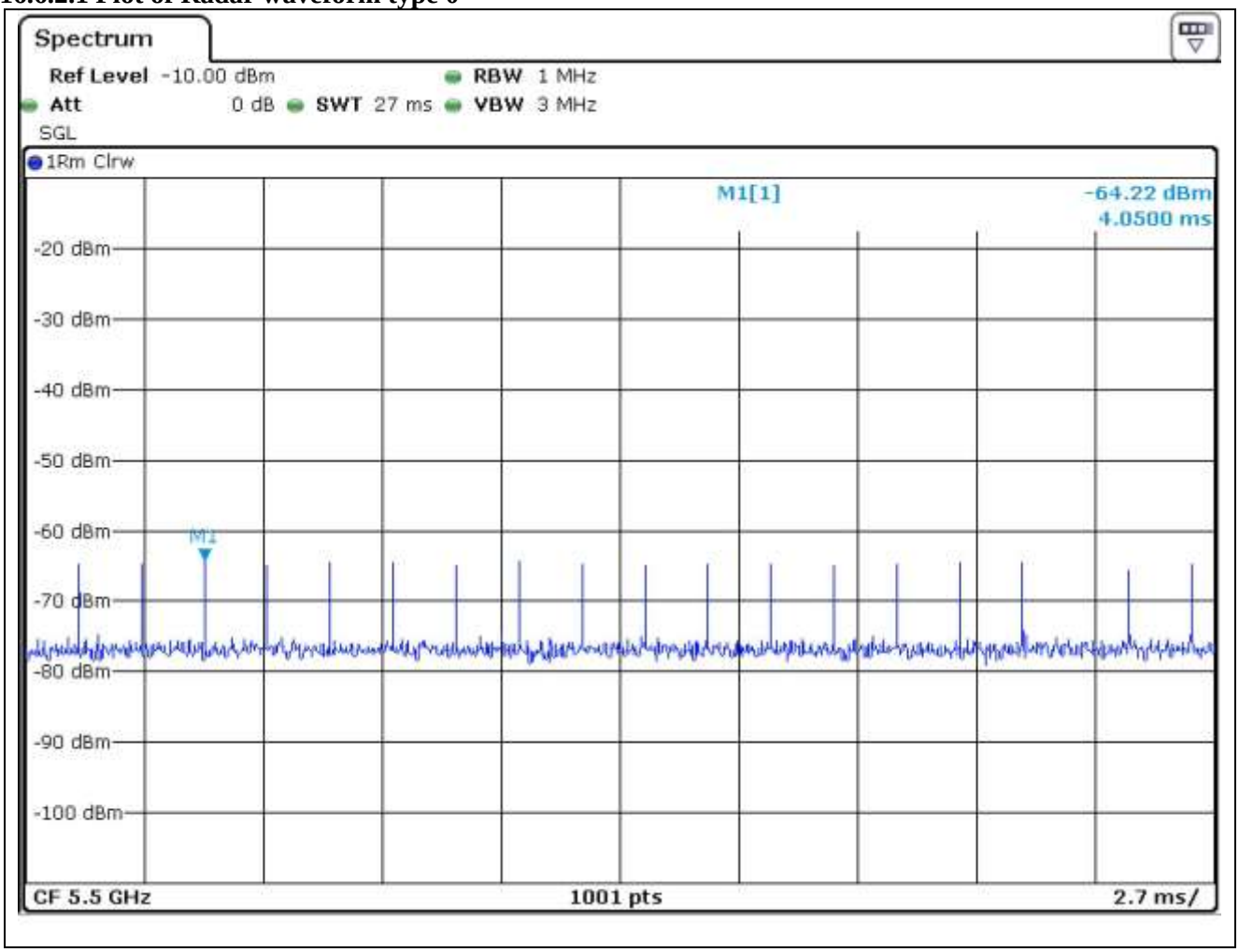
16.6.1.4 Channel move and Channel Closing transmission time



16.6.2 UNII 3

16.6.2.1 Plot of Radar waveform type 0



Note: The calibrated conducted DFS detection threshold level is set to -64.22 dBm (-62+1-0.29=-61.29 dBm)

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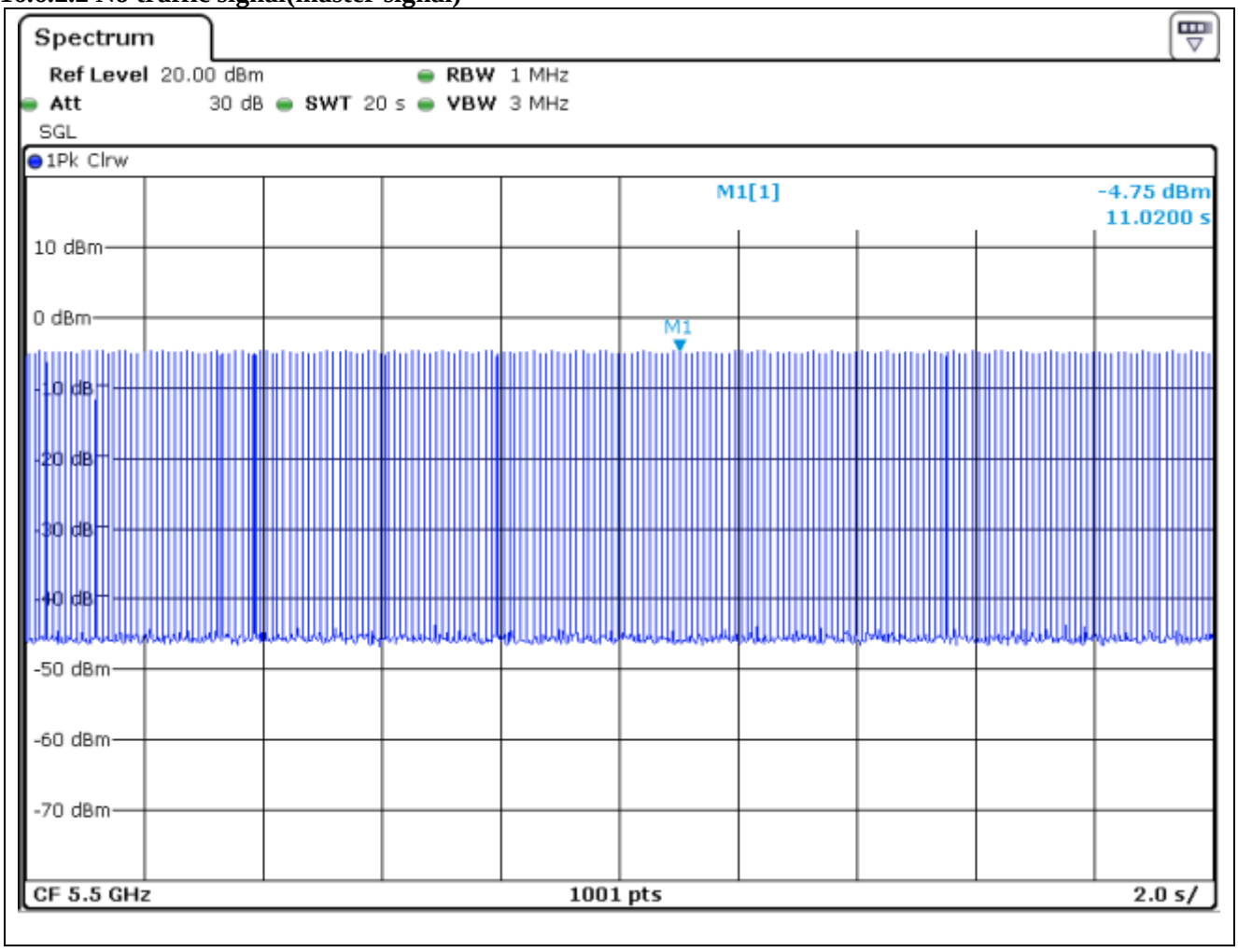
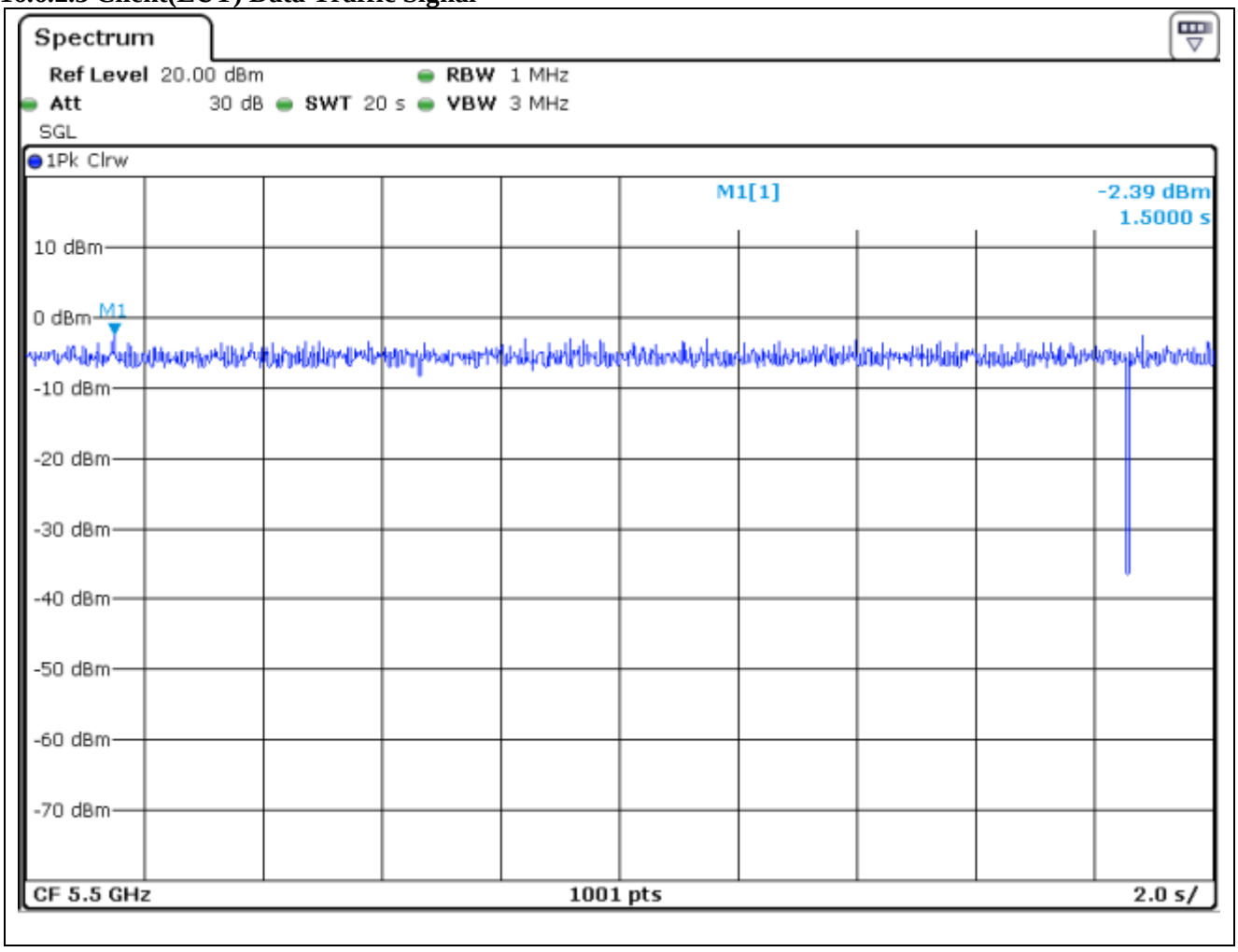
16.6.2.2 No traffic signal(master signal)

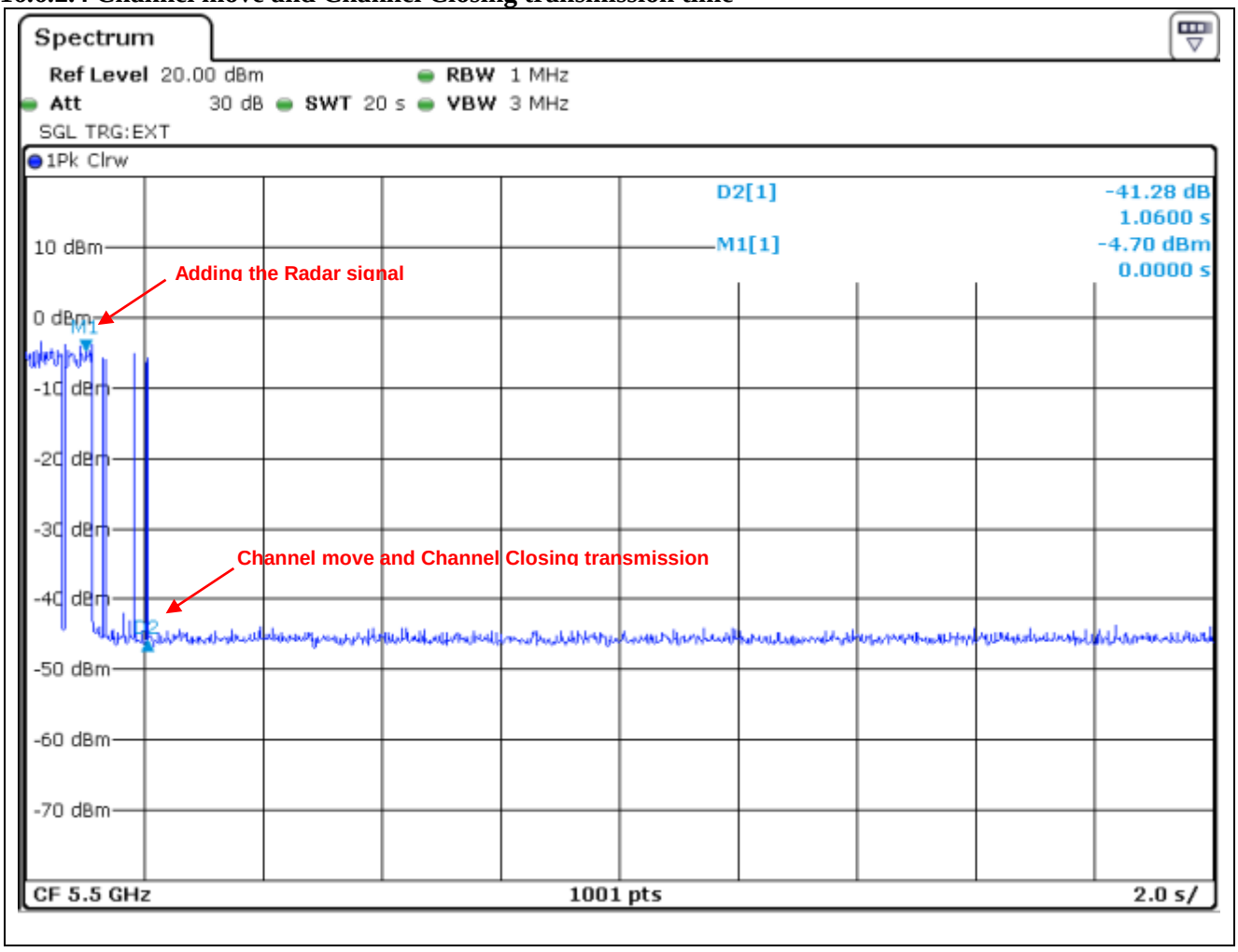


16.6.2.3 Client(EUT) Data Traffic Signal



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

16.6.2.4 Channel move and Channel Closing transmission time



17. LIST OF TEST EQUIPMENT

Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
FSV40-N	Rohde & Schwarz	Signal Analyzer	102165	Apr. 20, 2020 (1Y)
NRP-Z81	Rohde & Schwarz	Wide band Sensor	101975	Feb. 19, 2020 (1Y)
SSE-43CI-A	Samkun Tech	Humidity Chamber	60712	Feb. 21, 2020 (1Y)
E3632A	FinePower	DC Power supply	MY50370016	Feb. 19, 2020 (1Y)
ESW	Rohde & Schwarz	EMI Test Receiver	101851	Mar. 27, 2020 (1Y)
310N	Sonoma Instrument	Pre-Amplifier	312544	Mar. 16, 2020 (1Y)
BBV 9718 B	Schwarzbeck	Broadband Preamplifier	00009	Mar. 16, 2020 (1Y)
SCU40A	Rohde & Schwarz	Signal Conditioning unit	100436	Feb. 20, 2020 (1Y)
SCU18	Rohde & Schwarz	Signal Conditioning unit	102266	Jul. 15, 2020 (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. 08, 2020 (2Y)
BBHA 9120D	Schwarzbeck	Horn Antenna	9120D-1366	Jul. 23, 2020 (1Y)
BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Jan. 07, 2020(1Y)
ESCI	Rohde & Schwarz	Test Receiver	101012	Oct. 22, 2019 (1Y)
NSLK8126	Schwarzbeck	AMN	8126-404	Mar. 16, 2020 (1Y)
3825/2	EMCO	AMN	9109-1869	Mar. 16, 2020 (1Y)
D-05180-2	RLC Electronis Inc.	Combiner	0813	N/A
11636B	Hewlett Packard	Combiner	12268	N/A
SMBV100A	R/S	Signal Generator	260423	Feb. 21, 2020 (1Y)
RF-AX88U	ASUS	Dual Band Gigabit Router	NA	N/A

Note. Dual Band Gigabit Router(Model : RF-AX88U) Information.

; FCC ID : MSQ-RTAXHP00, IC ID : 3568A-RTAXHP00

Note. This Device not support TPC Function.

All test equipment used is calibrated on a regular basis.