10 MAXIMUM PEAK OUTPUT POWER

10.1 Operating environment

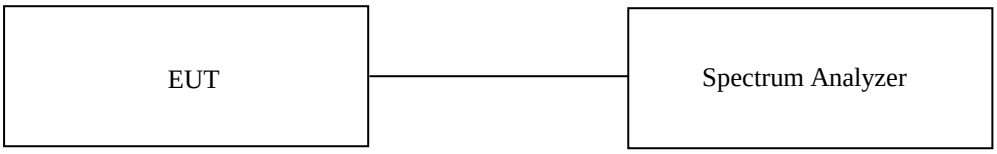
Temperature : 25 ℃

Relative humidity : 44 % R.H.

10.2 Test set-up

The maximum peak output power was measured with the spectrum analyzer connected to the antenna output of the EUT. The spectrum analyzer's internal channel power integration function is used to integrate the power to the 99 % Occupied bandwidth as described in Section E.2.b).(KDB 789033 D02 General UNII Test Procedures New Rules v01r04).

The EUT was operating in transmit mode at the appropriate center frequency.



10.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	May. 31, 2016 (1Y)

All test equipment used is calibrated on a regular basis.

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

10.4 Test data for 802.11a RLAN Mode

10.4.1 Test data for Antenna 0

-. Test Date : March 21, 2017

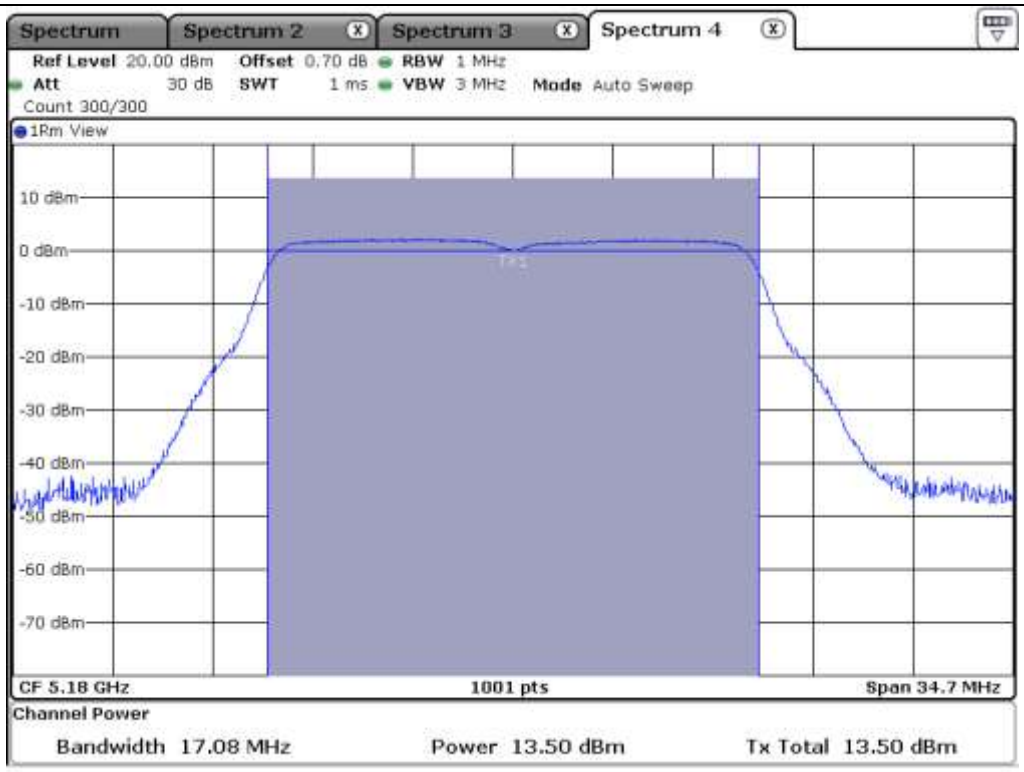
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	17.08	13.50	30.00	16.50
	Middle	5 220.00	17.88	12.76	30.00	17.24
	High	5 240.00	17.98	14.17	30.00	15.83
5 725 ~ 5 850	Low	5 745.00	17.03	7.39	30.00	22.61
	Middle	5 785.00	17.18	11.45	30.00	18.55
	High	5 825.00	16.88	10.13	30.00	19.87

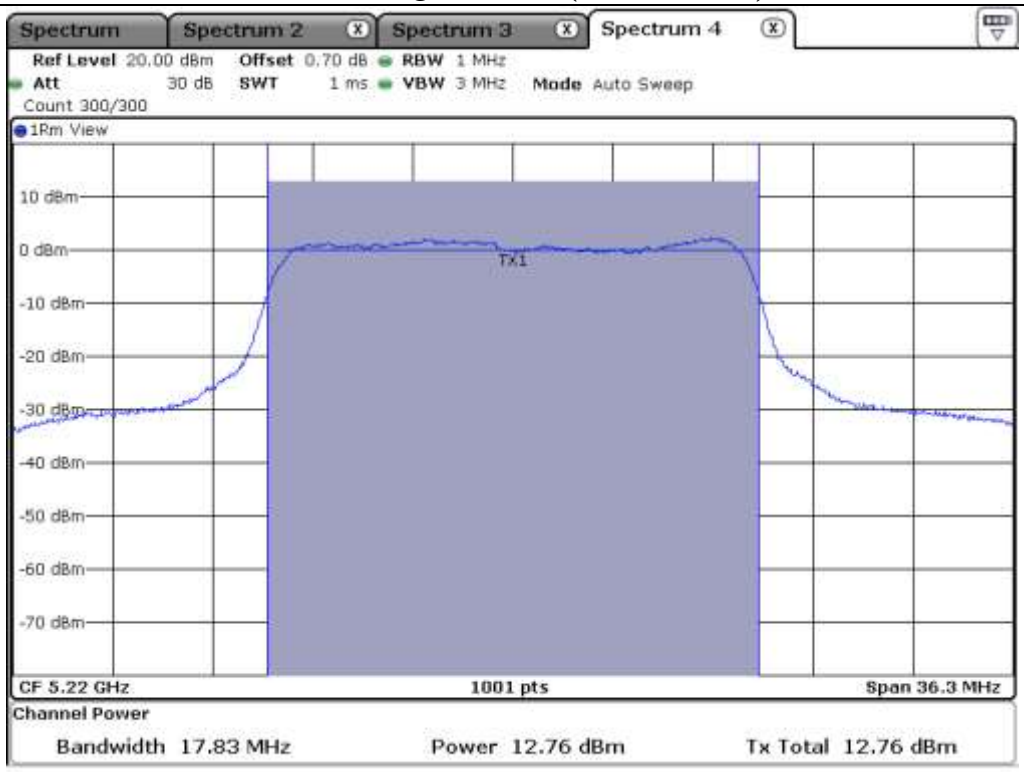
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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

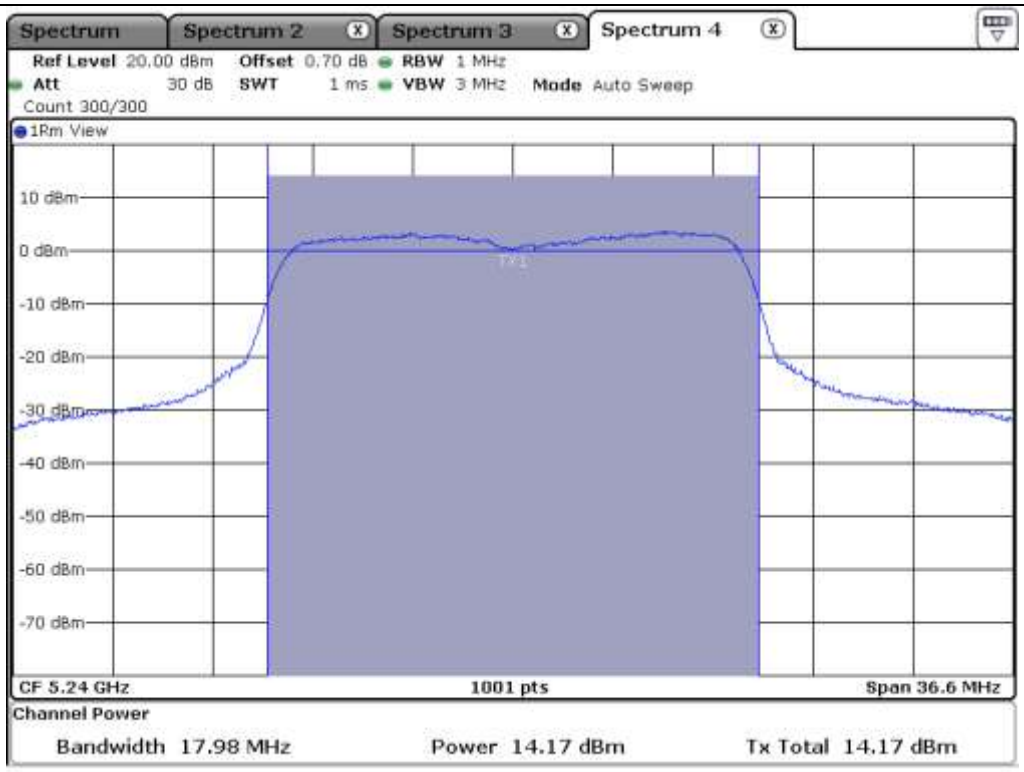


Low Channel @ 5 180 MHz (99 % Bandwidth)

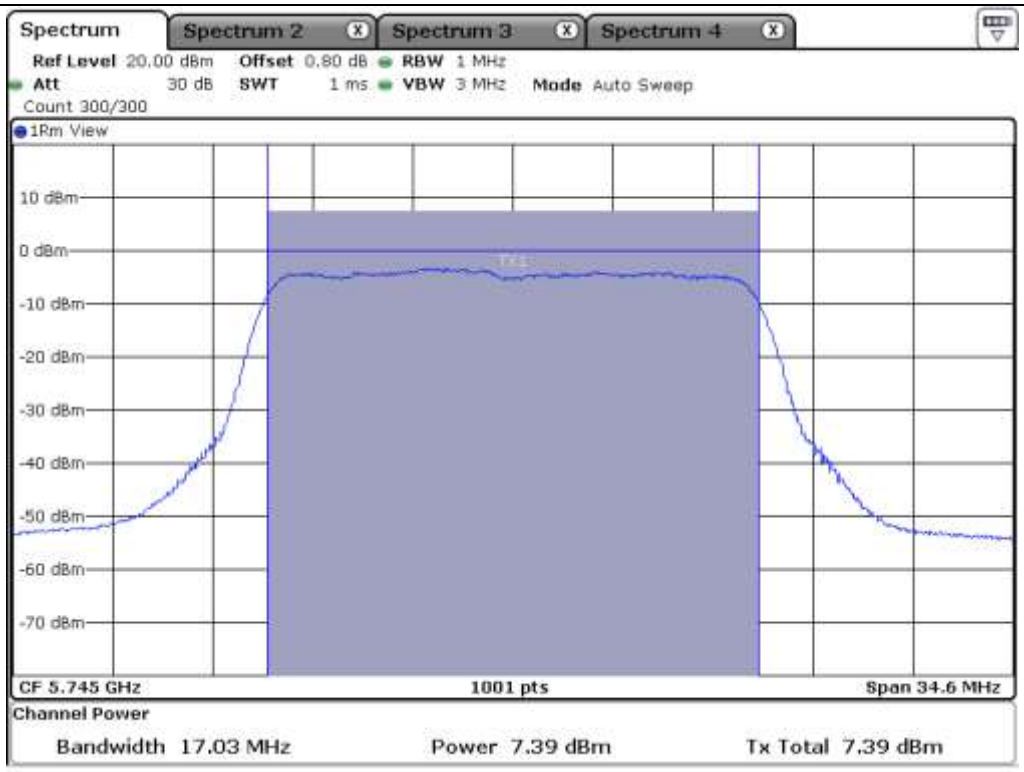


Middle Channel @ 5 220 MHz (99 % Bandwidth)

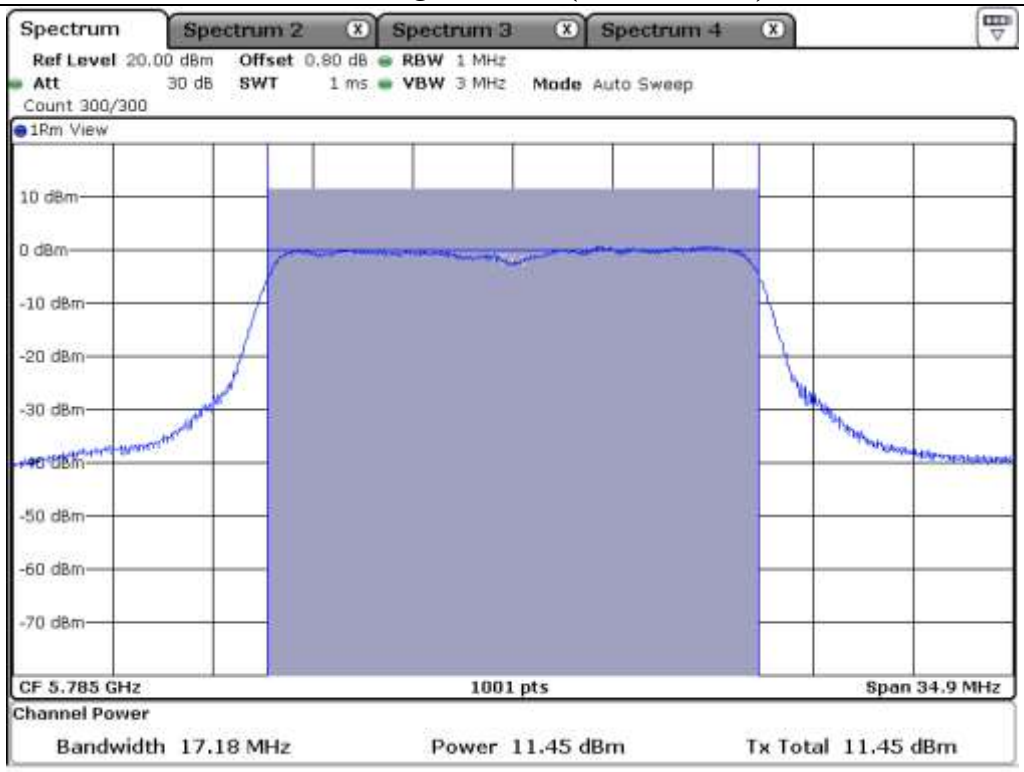
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



High Channel @ 5 240 MHz (99 % Bandwidth)

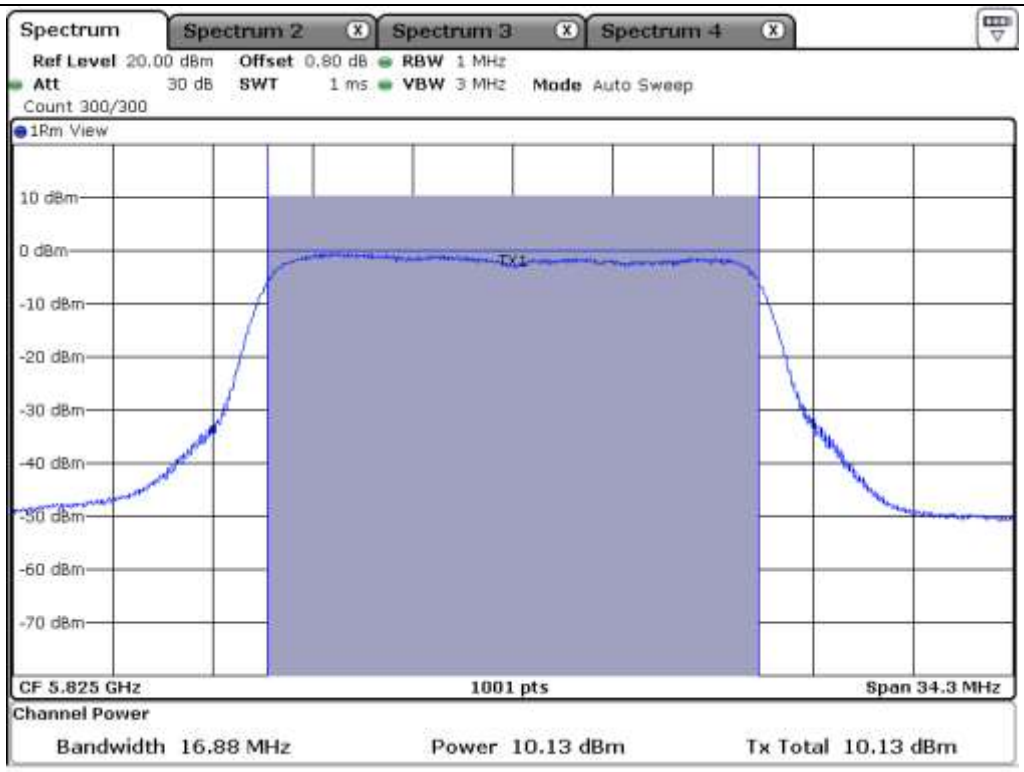


Low Channel @ 5 745 MHz (99 % Bandwidth)



Middle Channel @ 5 785 MHz (99 % Bandwidth)

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 (99 % Bandwidth)

10.4.2 Test data for Antenna 1

-. Test Date : March 21, 2017

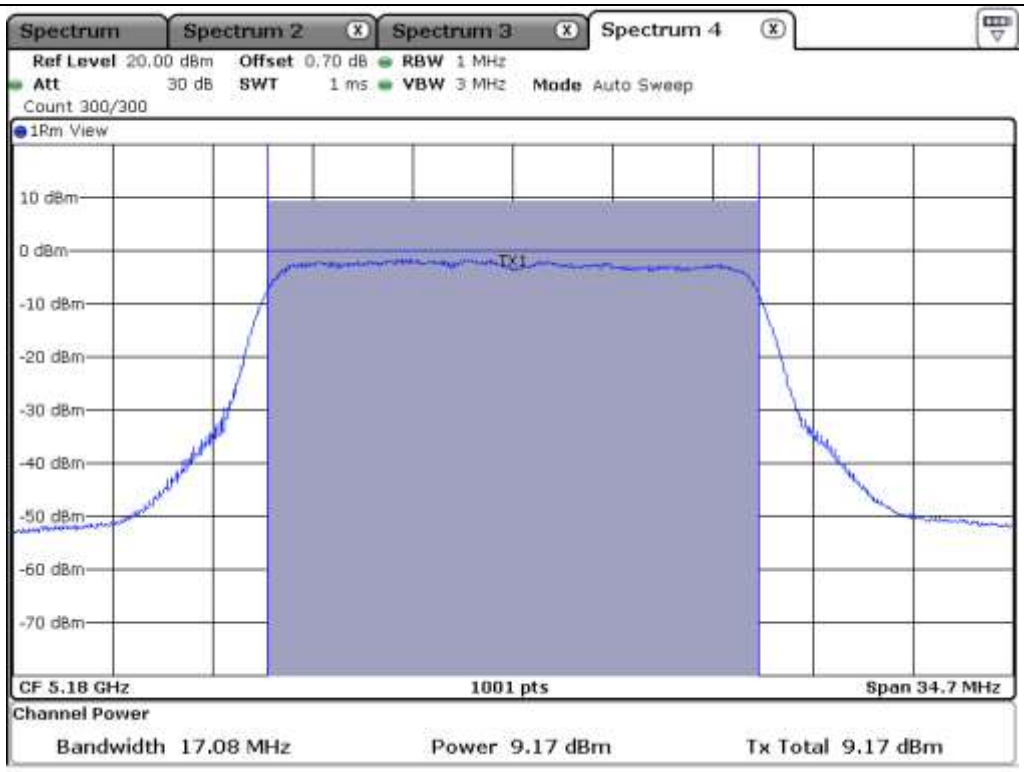
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	17.08	9.17	30.00	20.83
	Middle	5 220.00	17.23	12.41	30.00	17.59
	High	5 240.00	17.28	12.18	30.00	17.82
5 725 ~ 5 850	Low	5 745.00	16.83	7.50	30.00	22.50
	Middle	5 785.00	17.18	12.65	30.00	17.35
	High	5 825.00	17.03	10.80	30.00	19.20

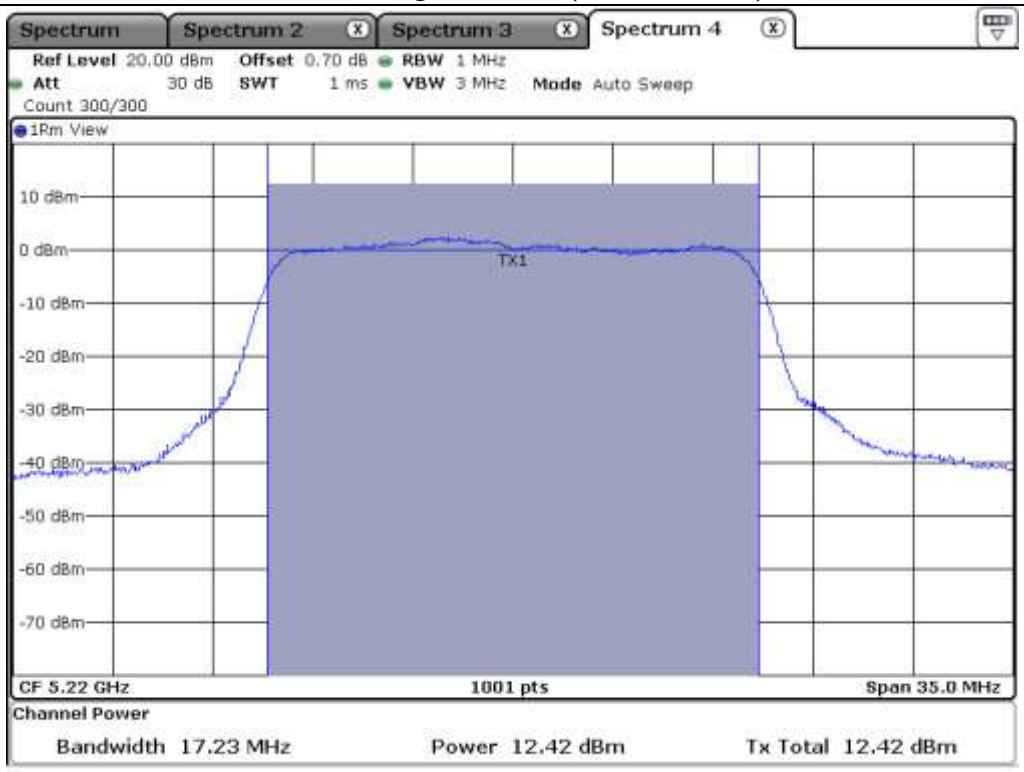
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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

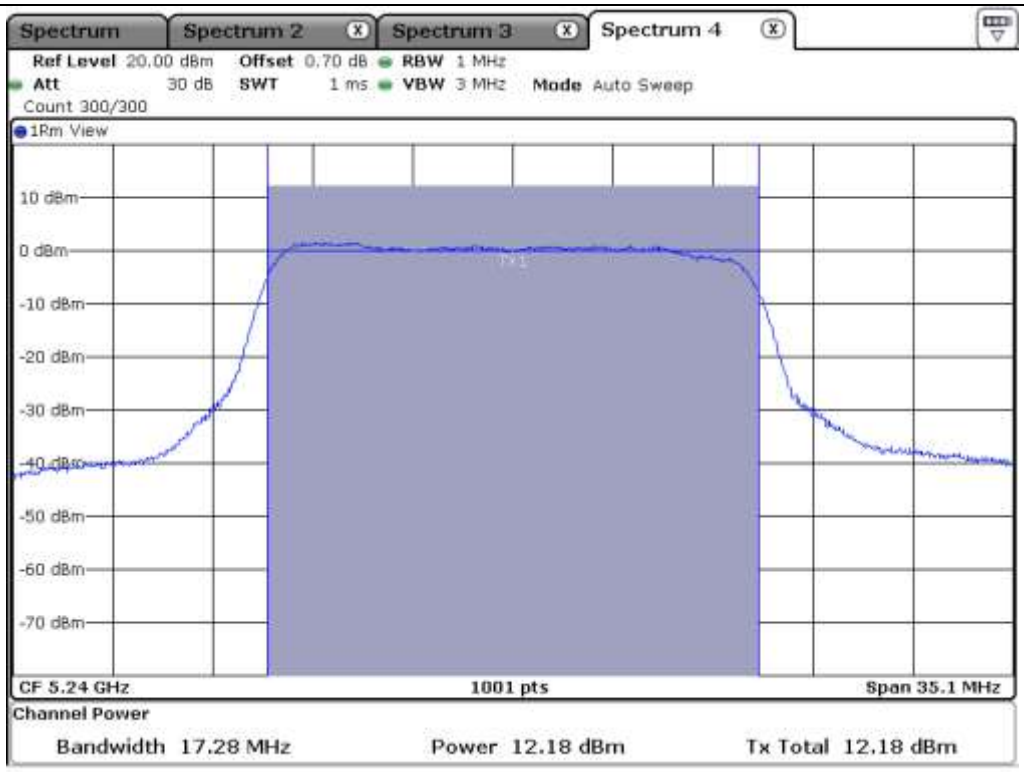


Low Channel @ 5 180 MHz (99 % Bandwidth)

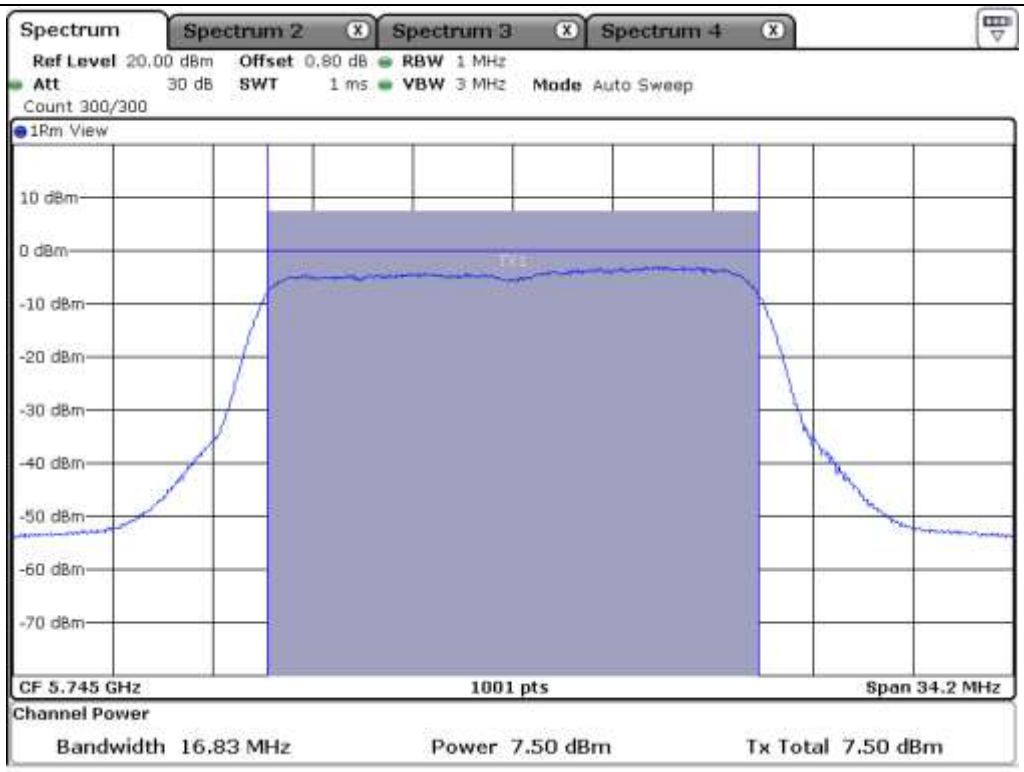


Middle Channel @ 5 220 MHz (99 % Bandwidth)

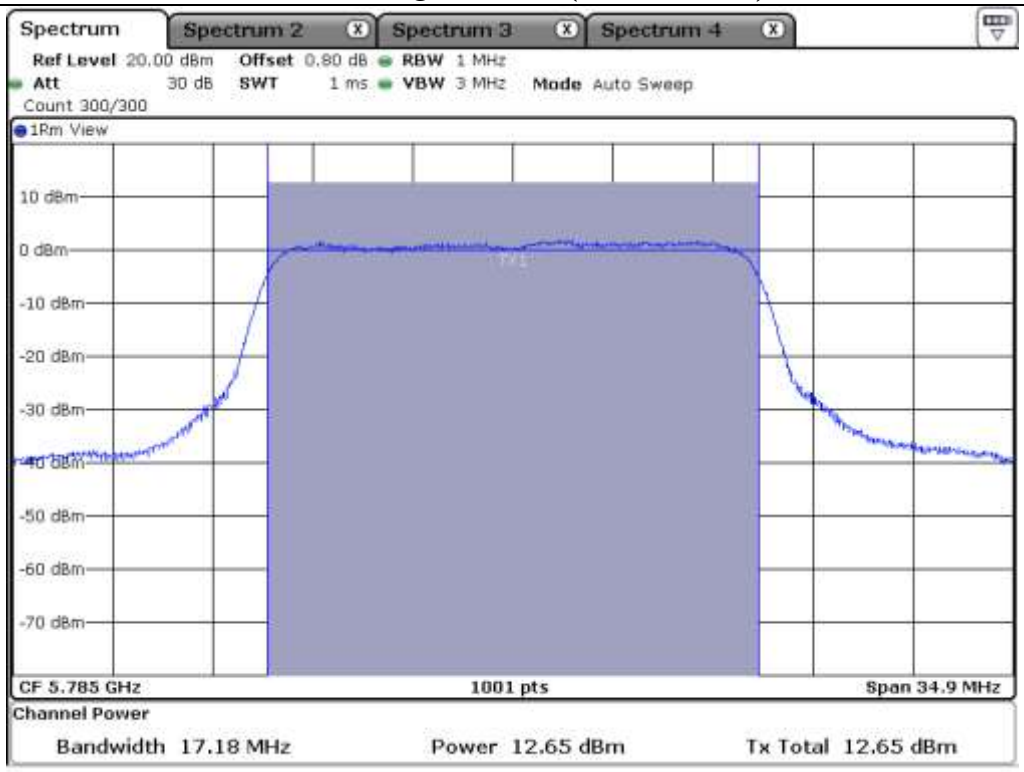
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



High Channel @ 5 240 MHz (99 % Bandwidth)

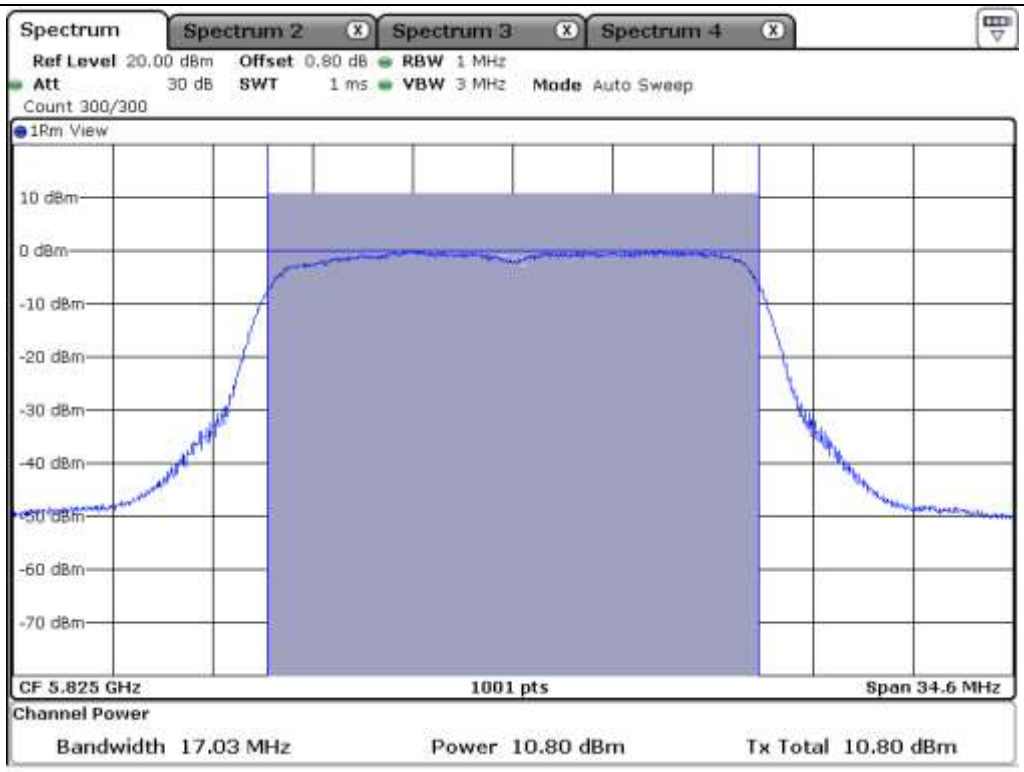


Low Channel @ 5 745 MHz (99 % Bandwidth)



Middle Channel @ 5 785 MHz (99 % Bandwidth)

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 (99 % Bandwidth)

10.4.3 Test data for Antenna 2

-. Test Date : March 21, 2017

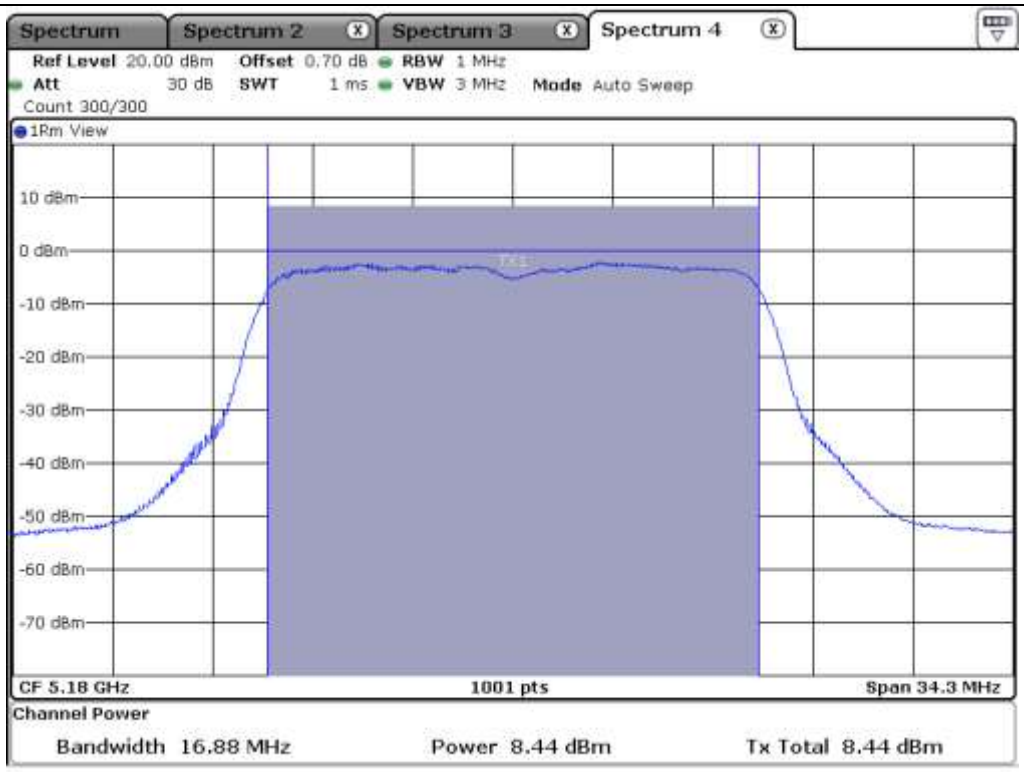
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	16.88	8.44	30.00	21.56
	Middle	5 220.00	16.98	11.07	30.00	18.93
	High	5 240.00	17.03	12.05	30.00	17.95
5 725 ~ 5 850	Low	5 745.00	16.73	6.71	30.00	23.29
	Middle	5 785.00	17.18	13.94	30.00	16.06
	High	5 825.00	16.88	10.29	30.00	19.71

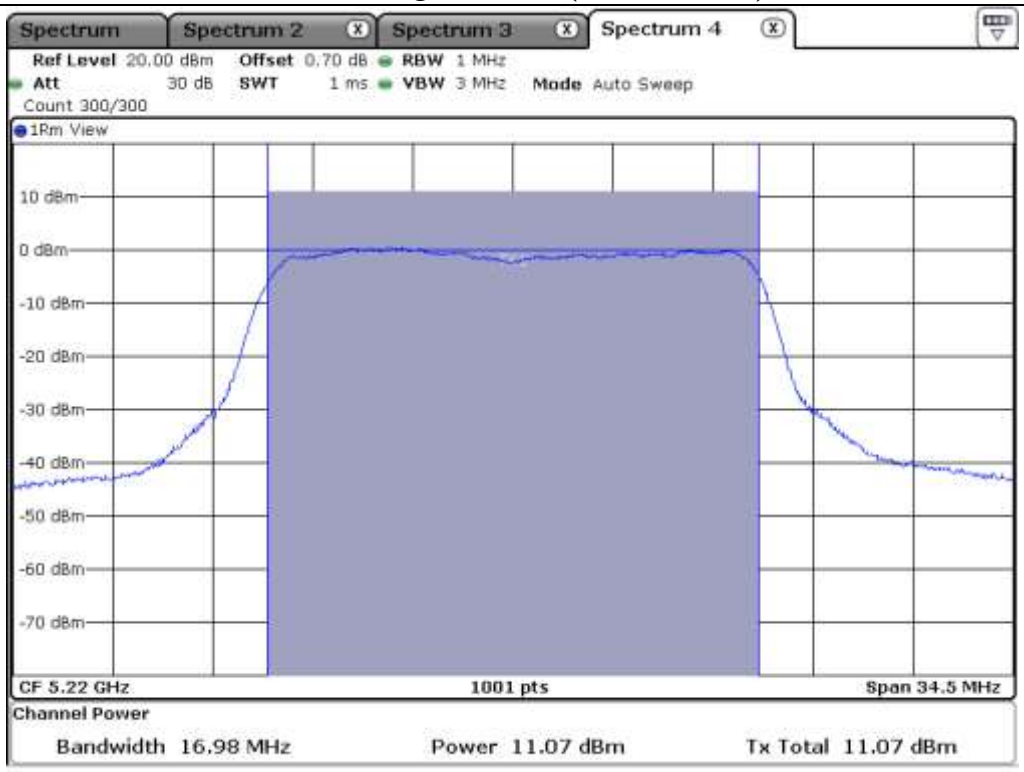
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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

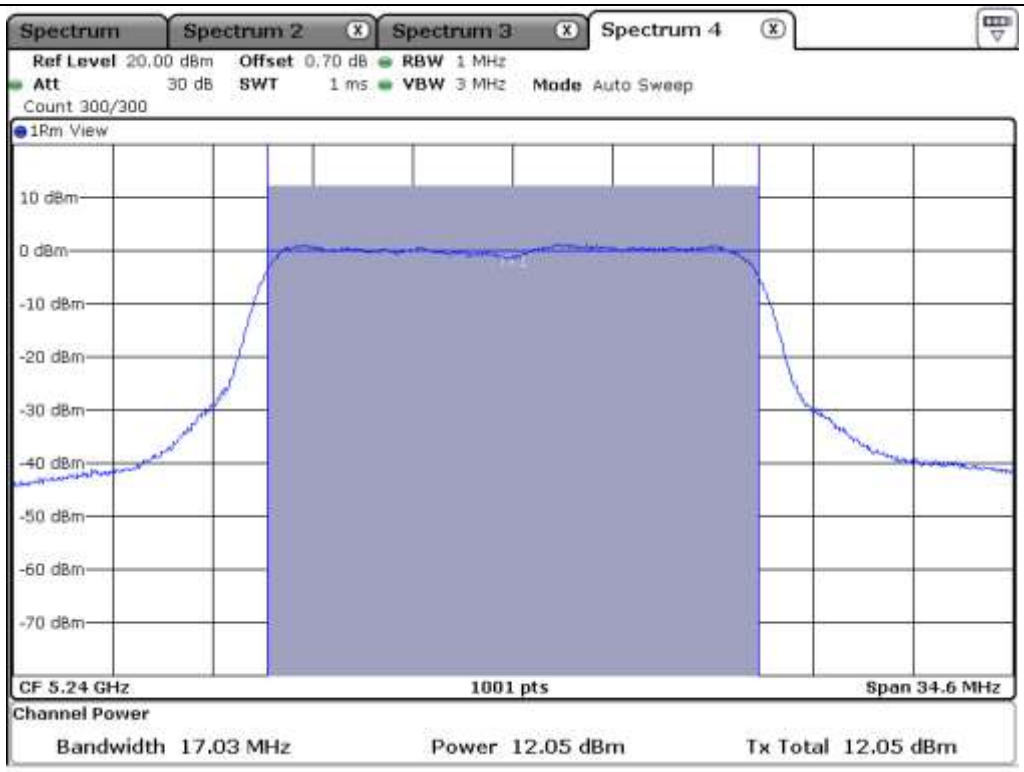


Low Channel @ 5 180 MHz (99 % Bandwidth)

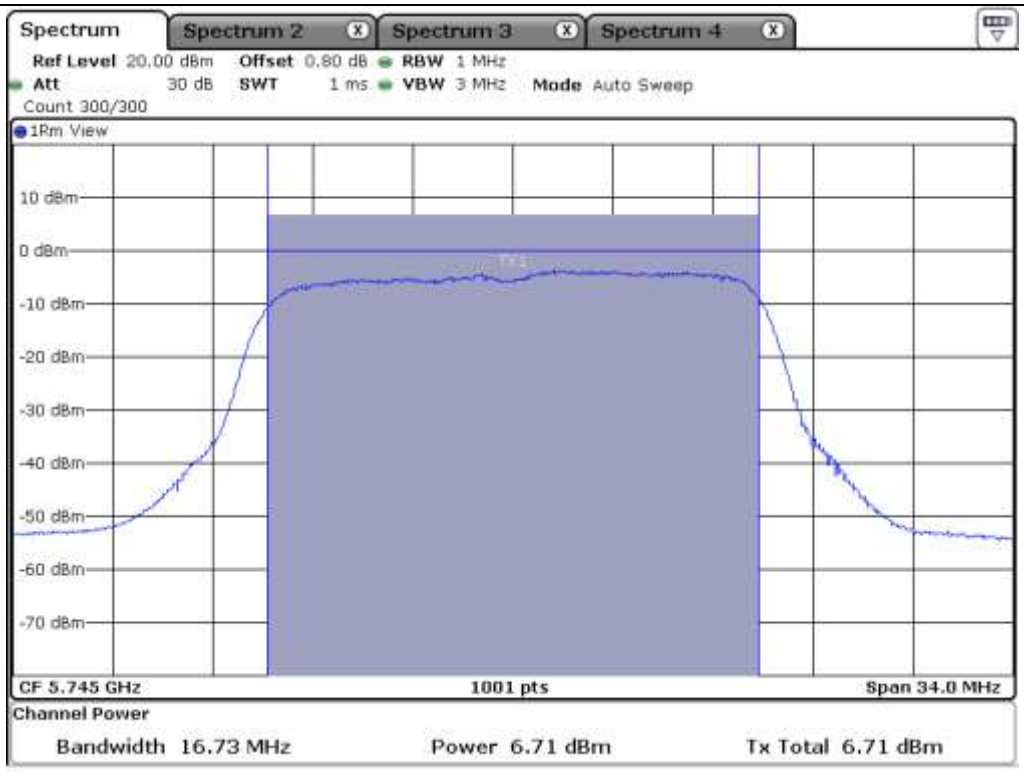


Middle Channel @ 5 220 MHz (99 % Bandwidth)

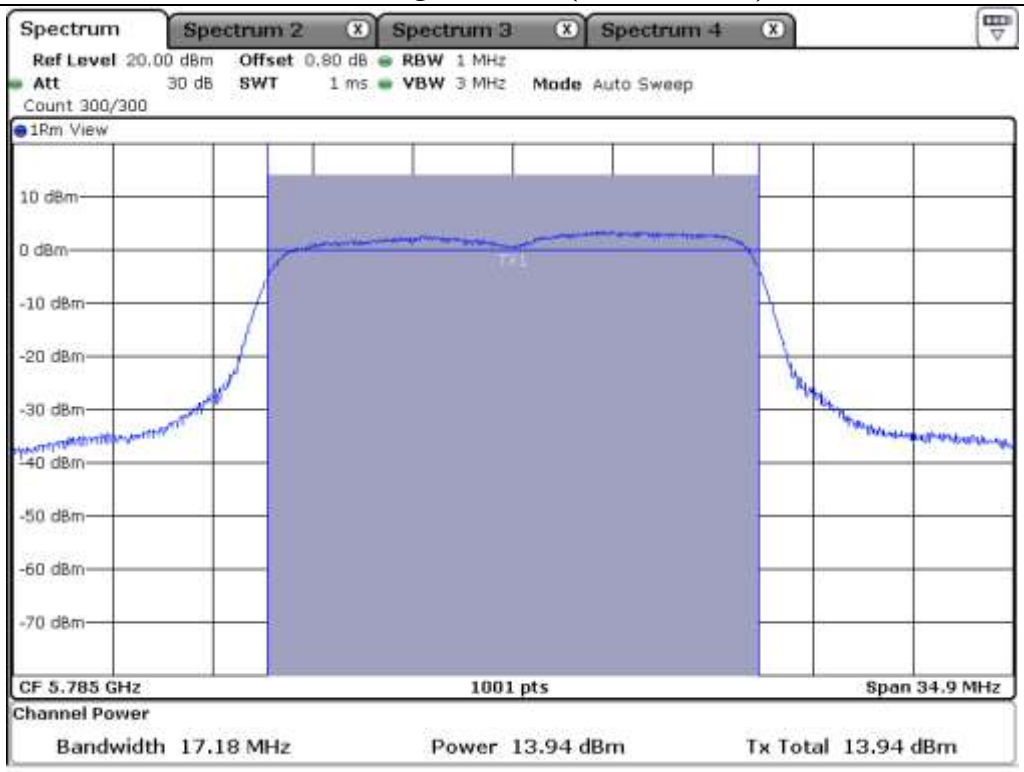
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



High Channel @ 5 240 MHz (99 % Bandwidth)

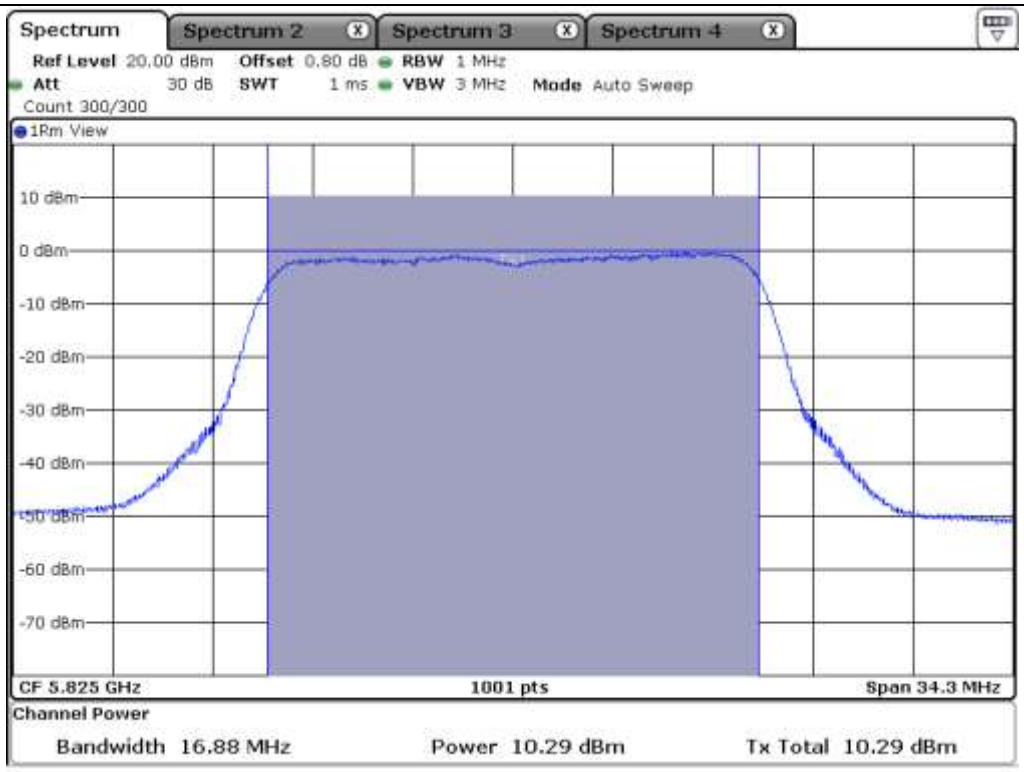


Low Channel @ 5 745 MHz (99 % Bandwidth)



Middle Channel @ 5 785 MHz (99 % Bandwidth)

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 (99 % Bandwidth)

10.4.4 Test data for Antenna 3

-. Test Date : March 21, 2017

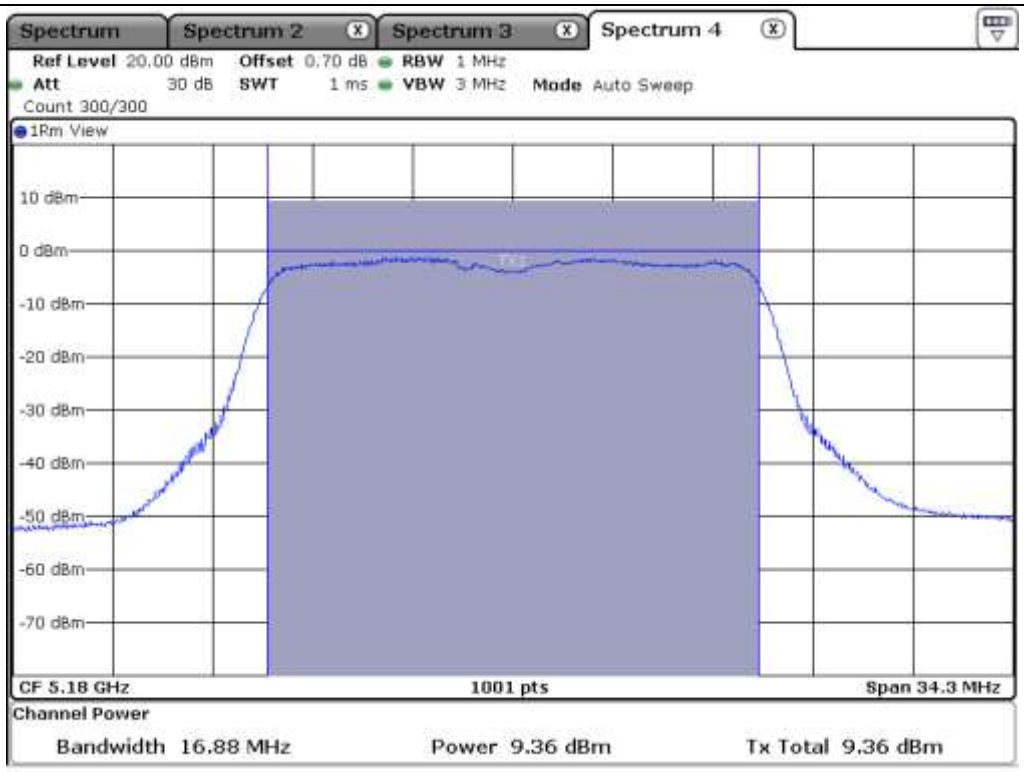
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	16.88	9.36	30.00	20.64
	Middle	5 220.00	17.58	12.78	30.00	17.22
	High	5 240.00	17.58	13.14	30.00	16.86
5 725 ~ 5 850	Low	5 745.00	16.83	7.91	30.00	22.09
	Middle	5 785.00	17.28	14.78	30.00	15.22
	High	5 825.00	16.88	11.49	30.00	18.51

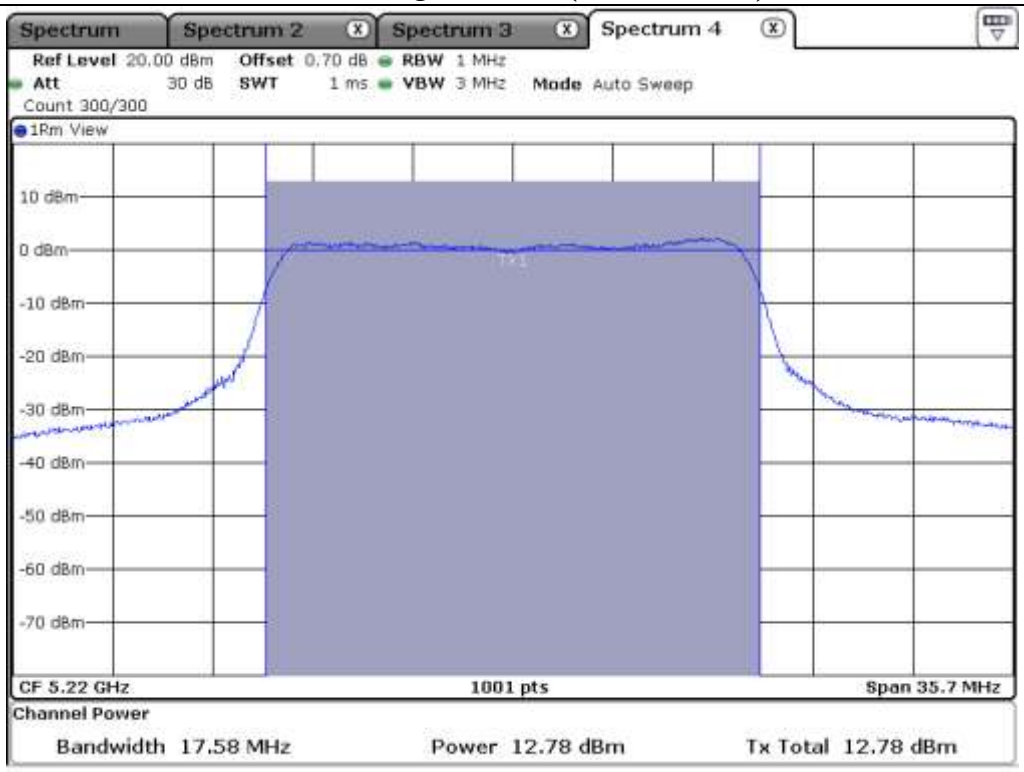
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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

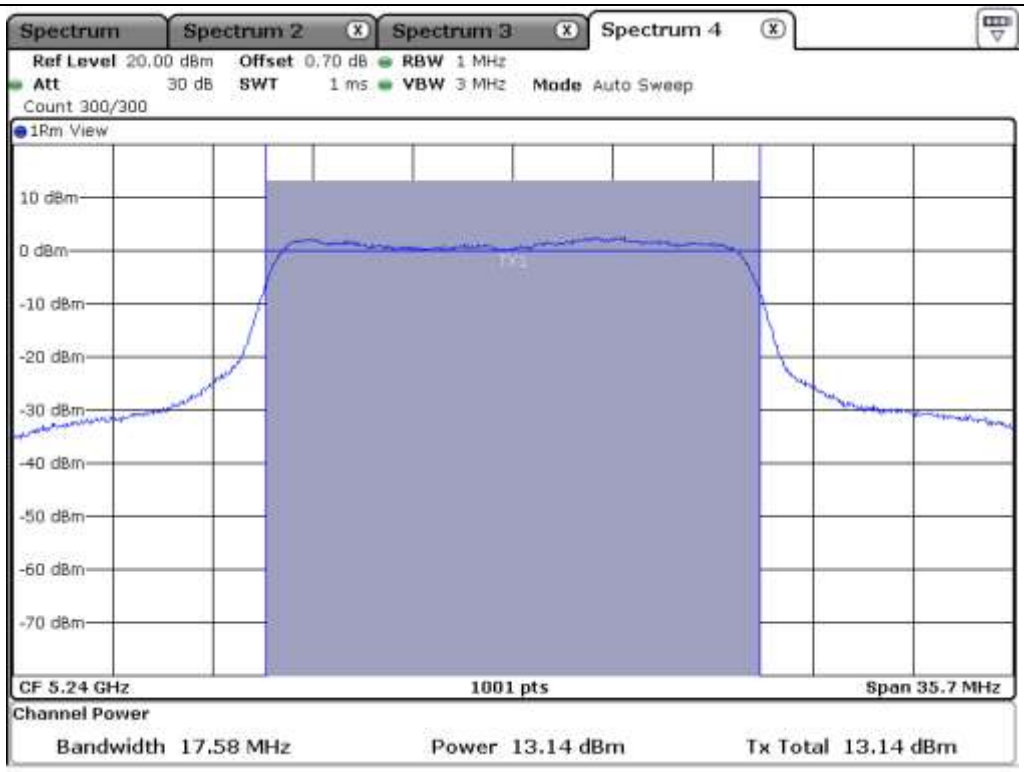


Low Channel @ 5 180 MHz (99 % Bandwidth)

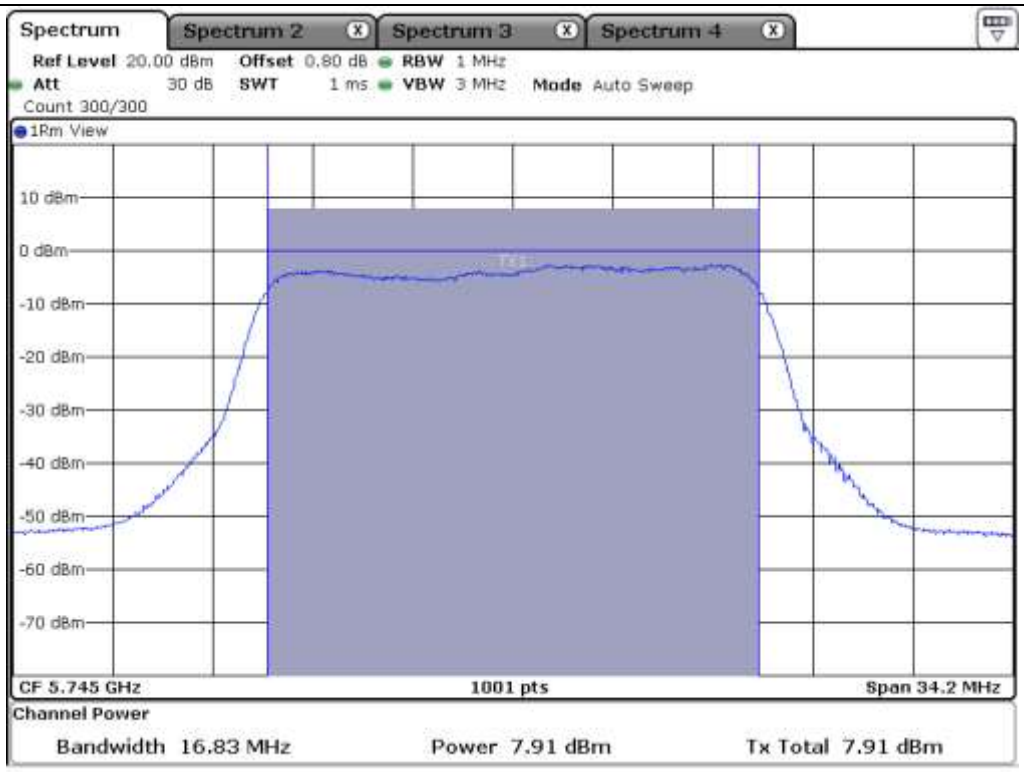


Middle Channel @ 5 220 MHz (99 % Bandwidth)

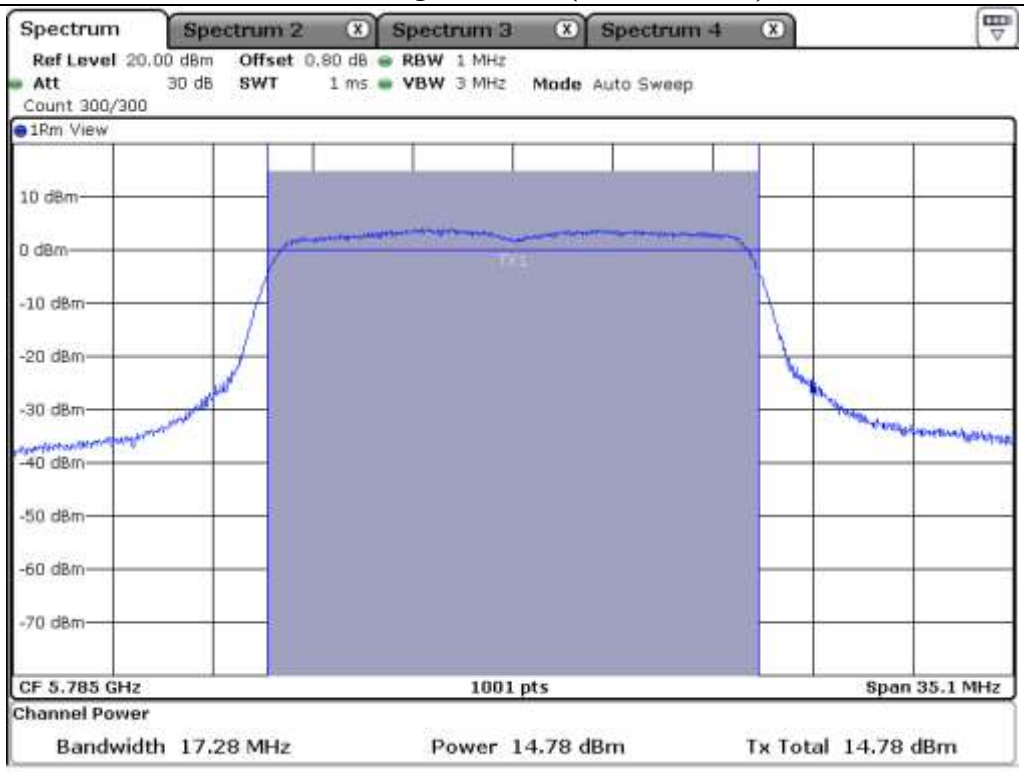
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



High Channel @ 5 240 MHz (99 % Bandwidth)

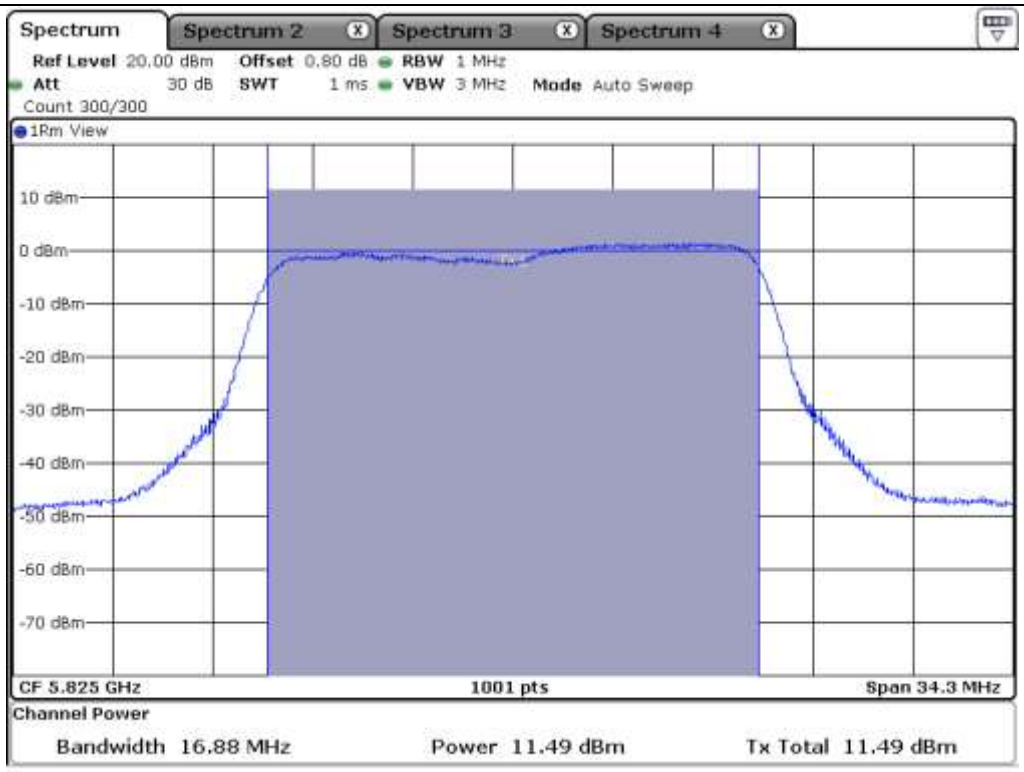


Low Channel @ 5 745 MHz (99 % Bandwidth)



Middle Channel @ 5 785 MHz (99 % Bandwidth)

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 (99 % Bandwidth)

10.4.5 Test data for Multiple Transmit

-. Test Date : March 21, 2017

-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	17.08	16.65	27.18	10.53
	Middle	5 220.00	17.88	18.33	27.18	8.85
	High	5 240.00	17.98	18.99	27.18	8.19
5 725 ~ 5 850	Low	5 745.00	17.03	13.42	24.98	11.56
	Middle	5 785.00	17.18	19.41	24.98	5.57
	High	5 825.00	16.88	16.73	24.98	8.25

Remark 1: Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2: Calculated Output Power= $10\log (10^{(\text{Antenna0 Output Power}/10)}+10^{(\text{Antenna1 Output Power}/10)}+ 10^{(\text{Antenna2 Output Power}/10)}+10^{(\text{Antenna3 Output Power}/10)})$

Tested by: Hyung-Kwon, Oh / Engineer

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 Test data for 802.11n_HT20 RLAN Mode

10.5.1 Test data for Antenna 0

-. Test Date : March 21, 2017

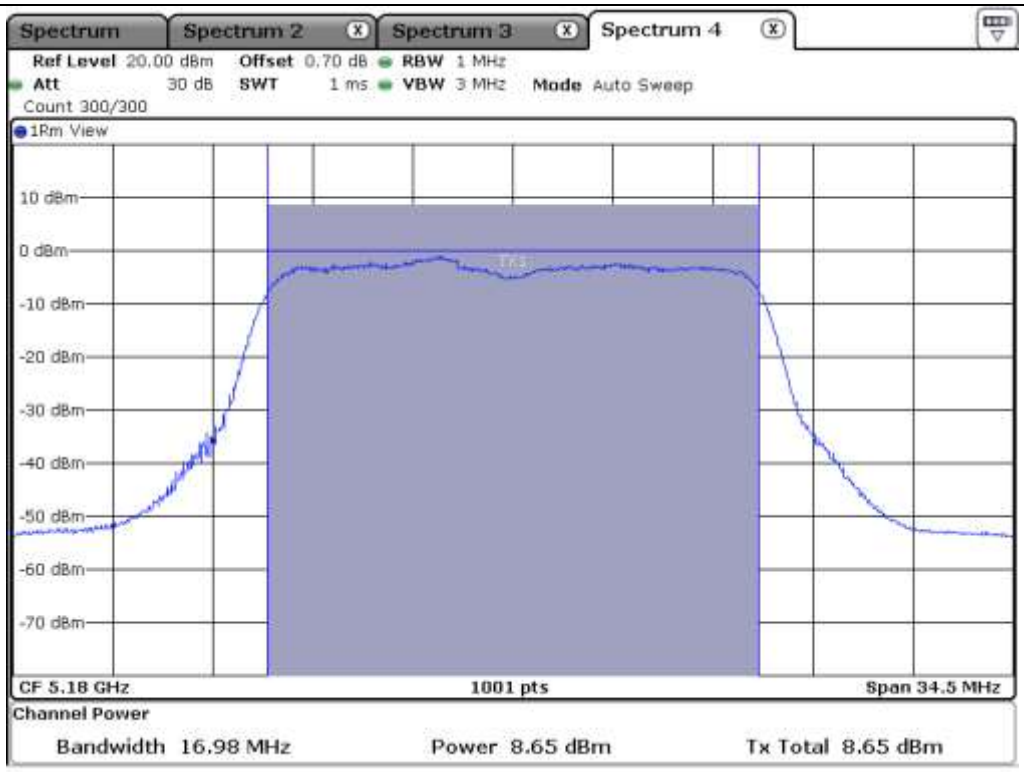
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	16.98	8.65	30.00	21.35
	Middle	5 220.00	17.68	12.97	30.00	17.03
	High	5 240.00	17.68	13.67	30.00	16.33
5 725 ~ 5 850	Low	5 745.00	18.03	9.07	30.00	20.93
	Middle	5 785.00	18.48	15.49	30.00	14.51
	High	5 825.00	18.23	13.09	30.00	16.91

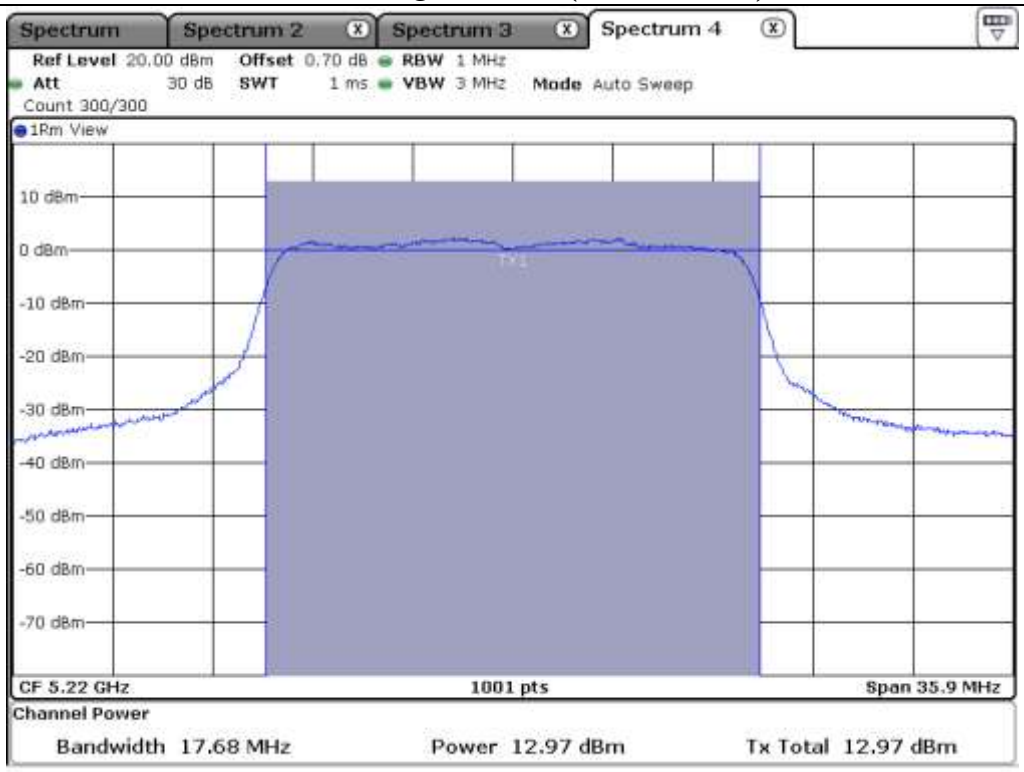
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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

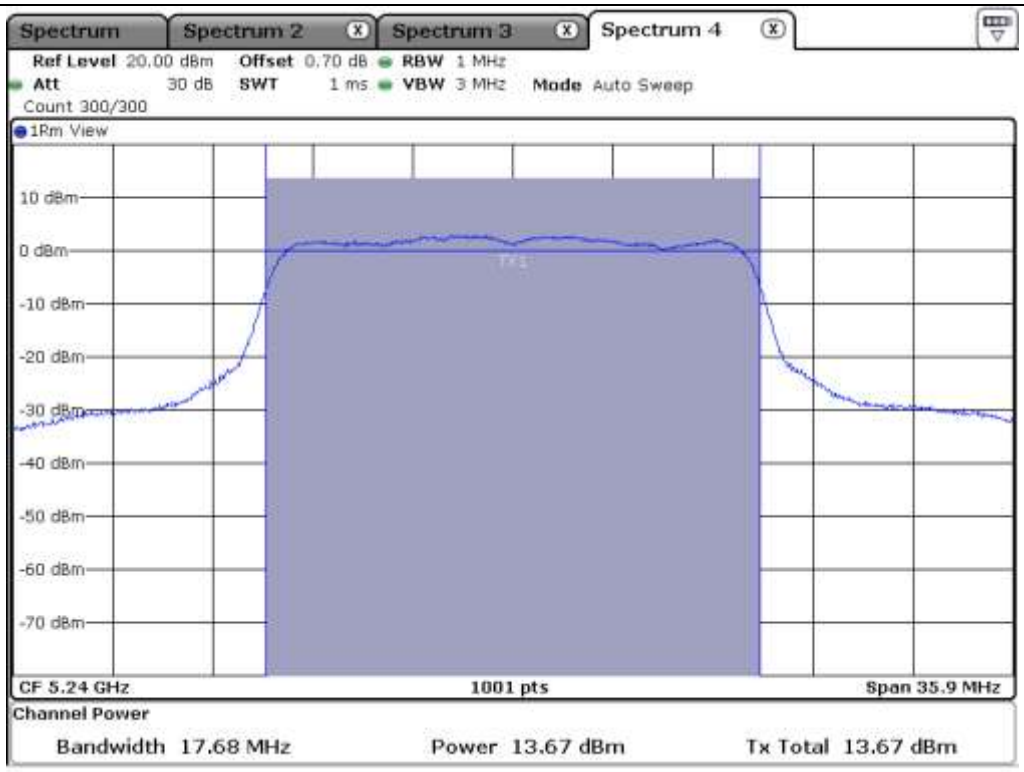


Low Channel @ 5 180 MHz (99 % Bandwidth)

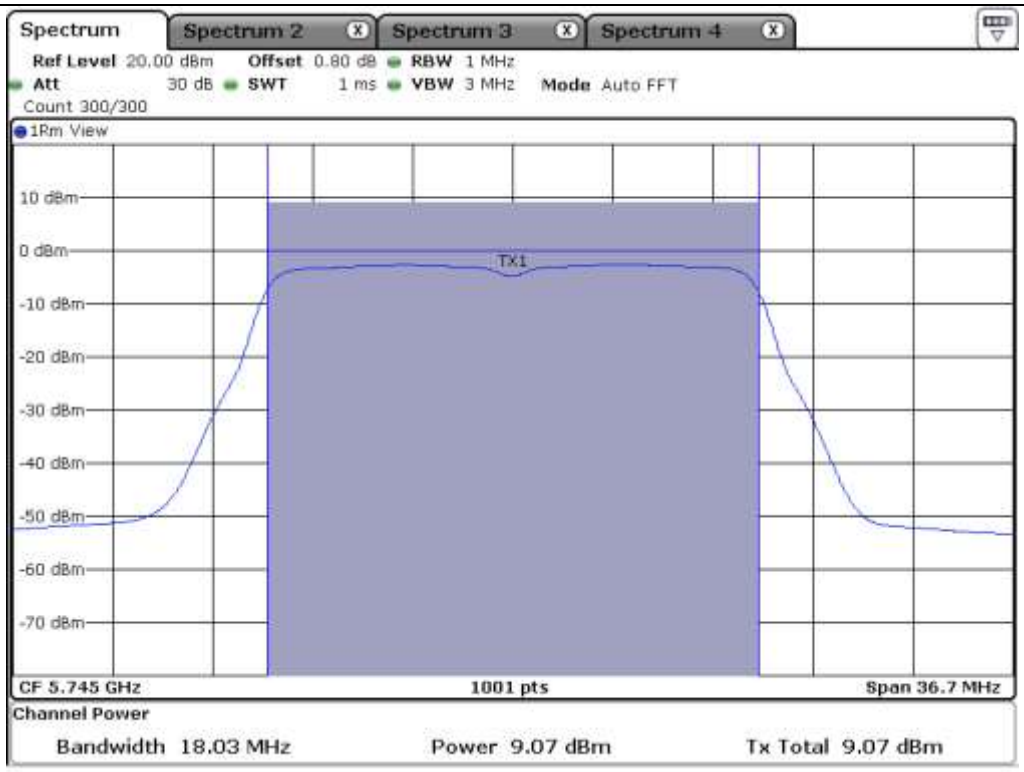


Middle Channel @ 5 220 MHz (99 % Bandwidth)

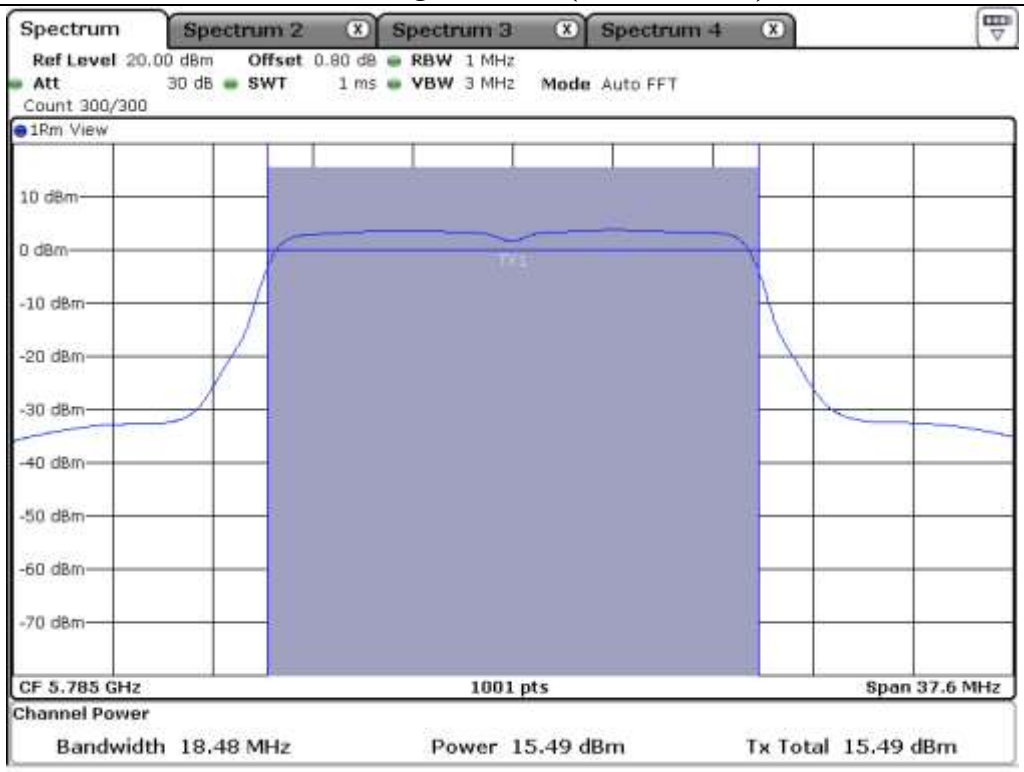
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



High Channel @ 5 240 MHz (99 % Bandwidth)

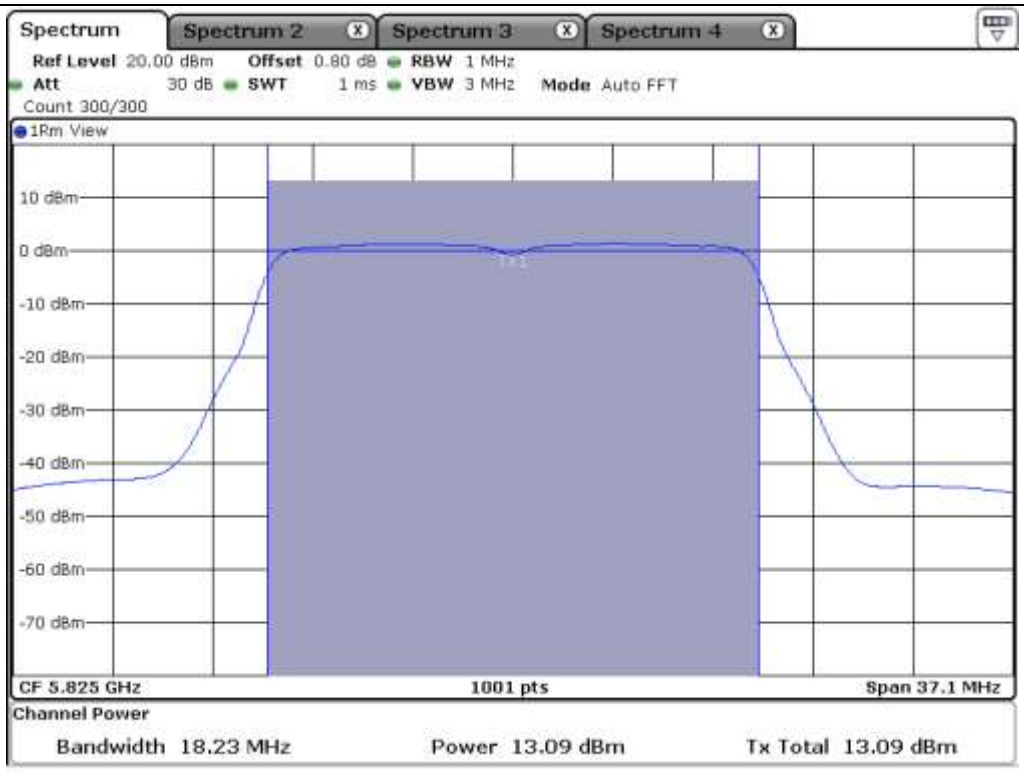


Low Channel @ 5 745 MHz (99 % Bandwidth)



Middle Channel @ 5 785 MHz (99 % Bandwidth)

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 (6 dB Bandwidth)

10.5.2 Test data for Antenna 1

-. Test Date : March 21, 2017

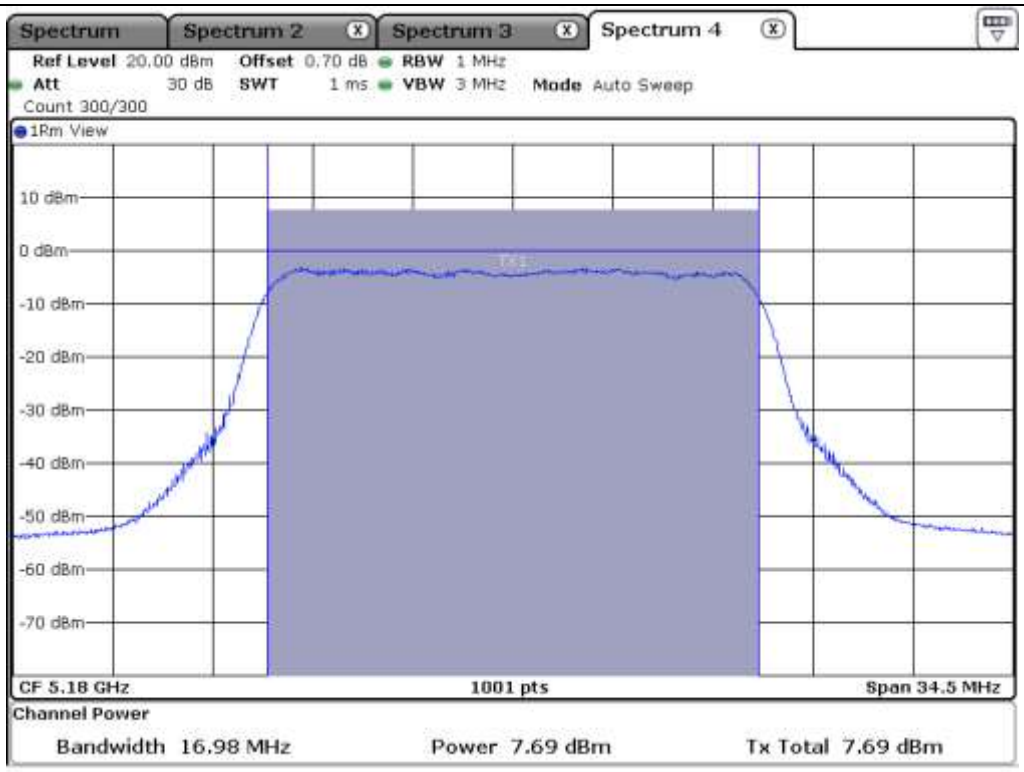
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	16.98	7.69	30.00	22.31
	Middle	5 220.00	17.23	12.24	30.00	17.76
	High	5 240.00	17.23	12.69	30.00	17.31
5 725 ~ 5 850	Low	5 745.00	17.98	9.45	30.00	20.55
	Middle	5 785.00	18.23	15.78	30.00	14.22
	High	5 825.00	18.03	13.55	30.00	16.45

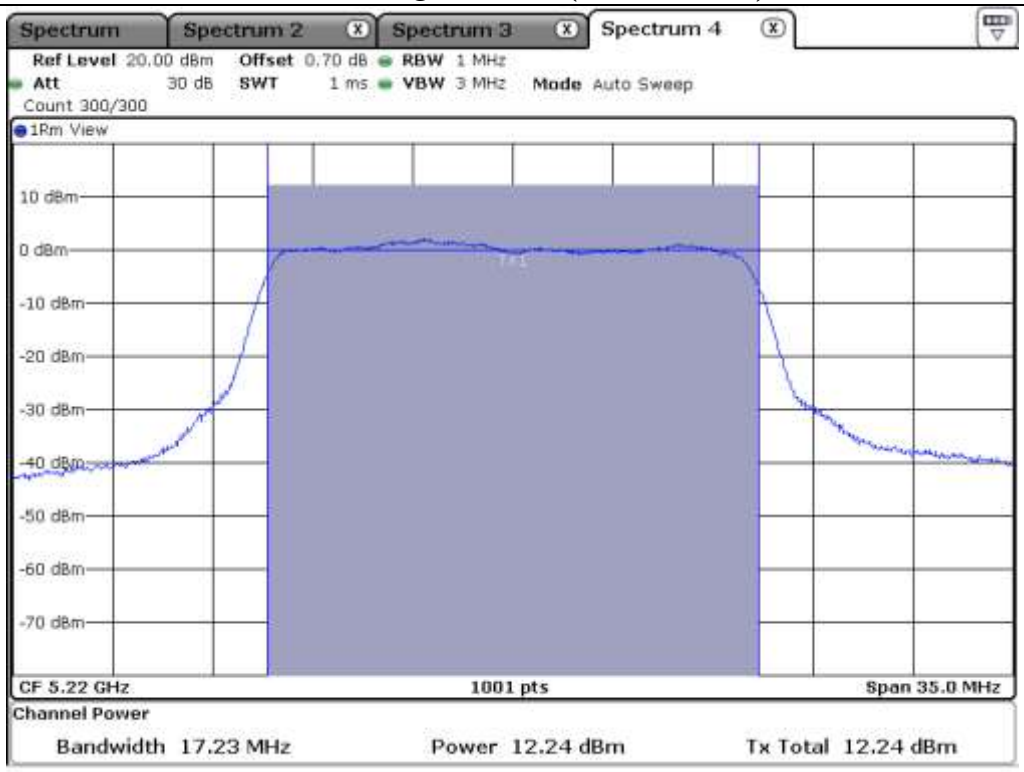
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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

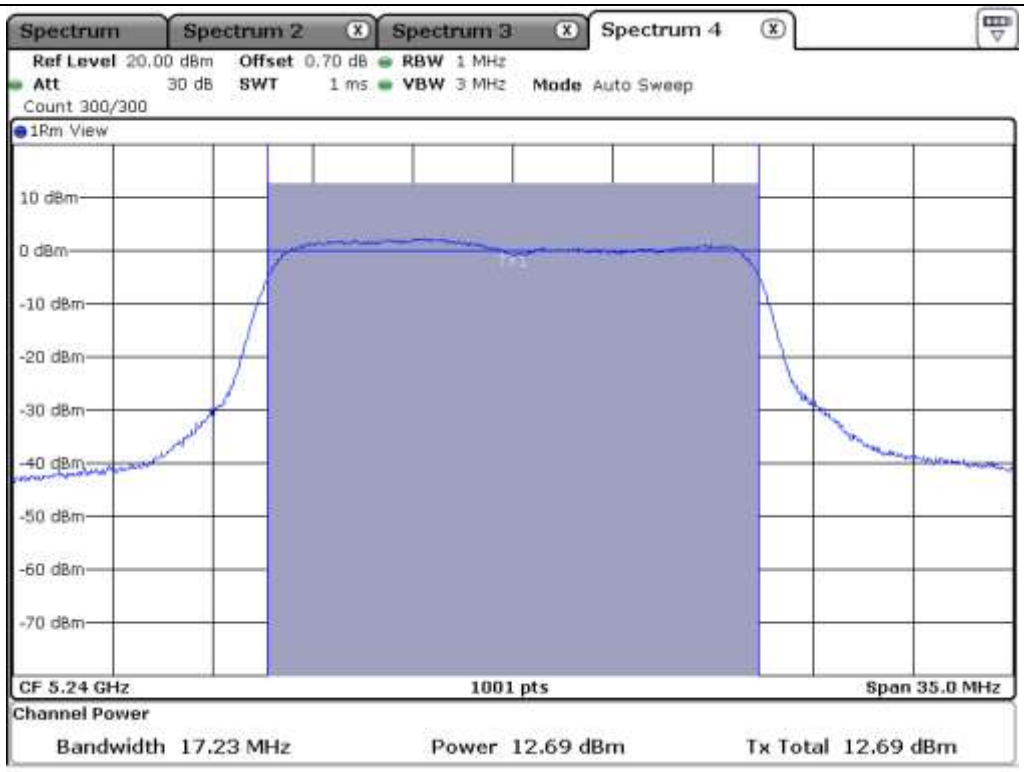


Low Channel @ 5 180 MHz (99 % Bandwidth)

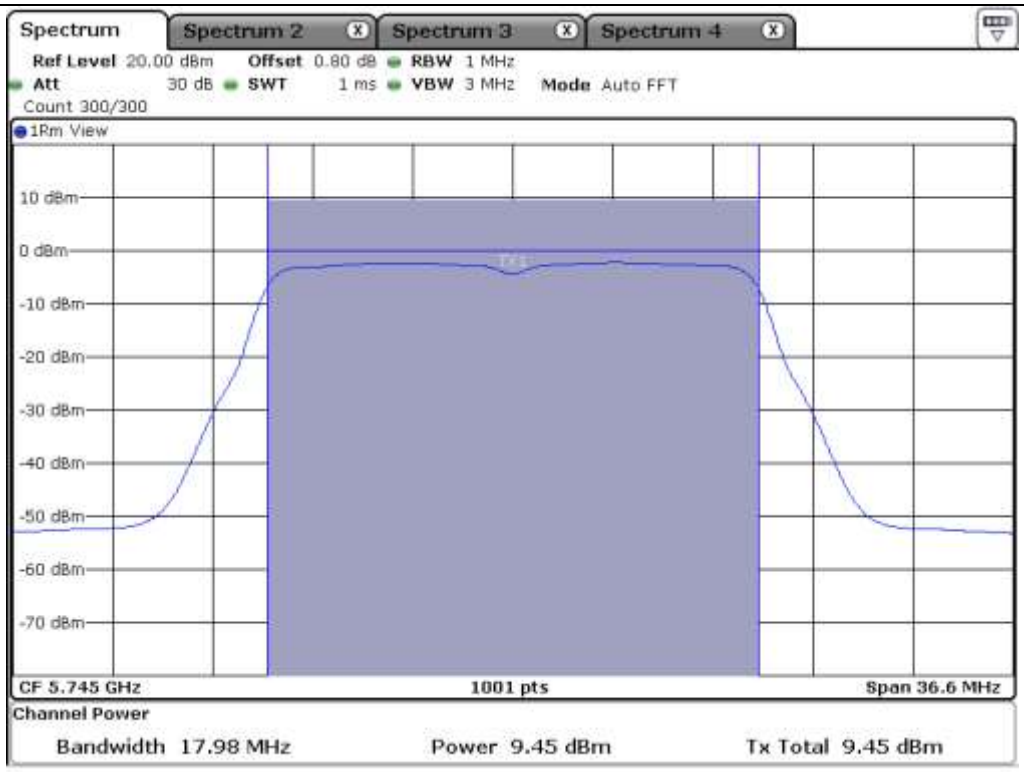


Middle Channel @ 5 220 MHz (99 % Bandwidth)

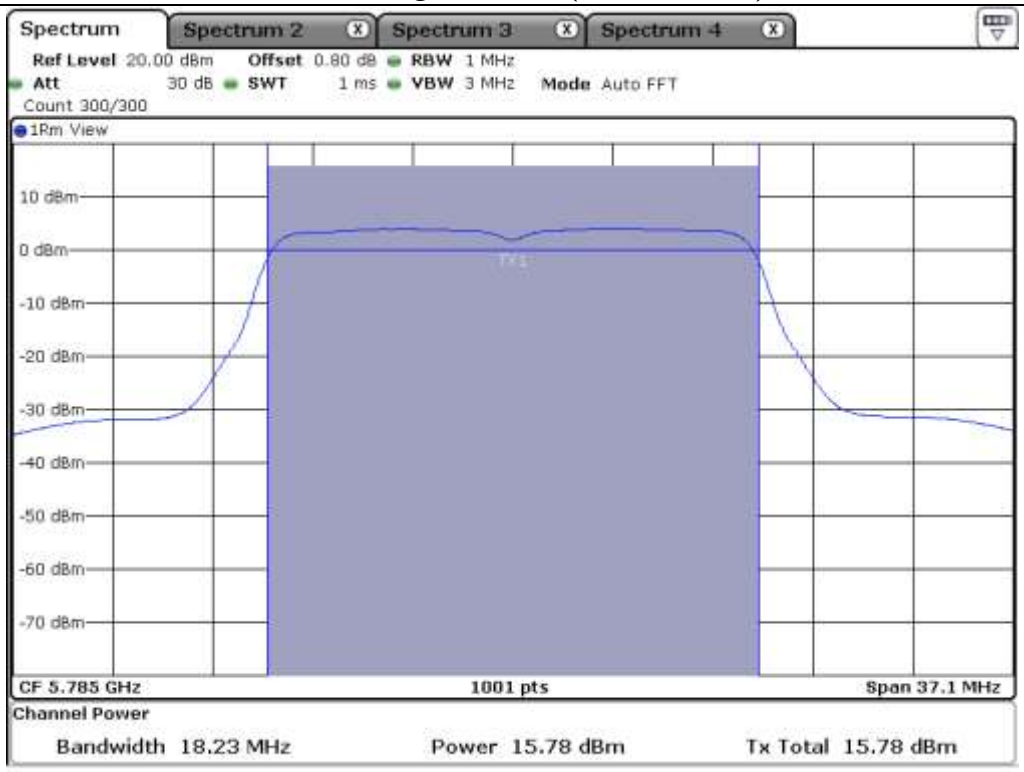
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



High Channel @ 5 240 MHz (99 % Bandwidth)

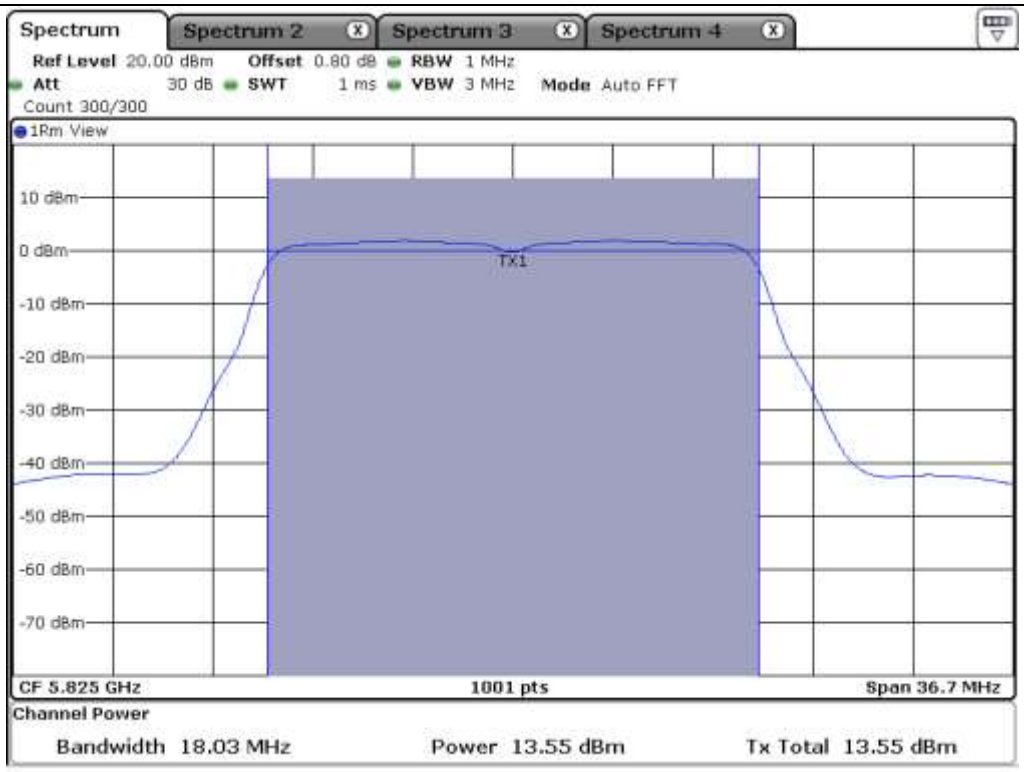


Low Channel @ 5 745 MHz (99 % Bandwidth)



Middle Channel @ 5 785 MHz (99 % Bandwidth)

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 (99 % Bandwidth)

10.5.3 Test data for Antenna 2

-. Test Date : March 21, 2017

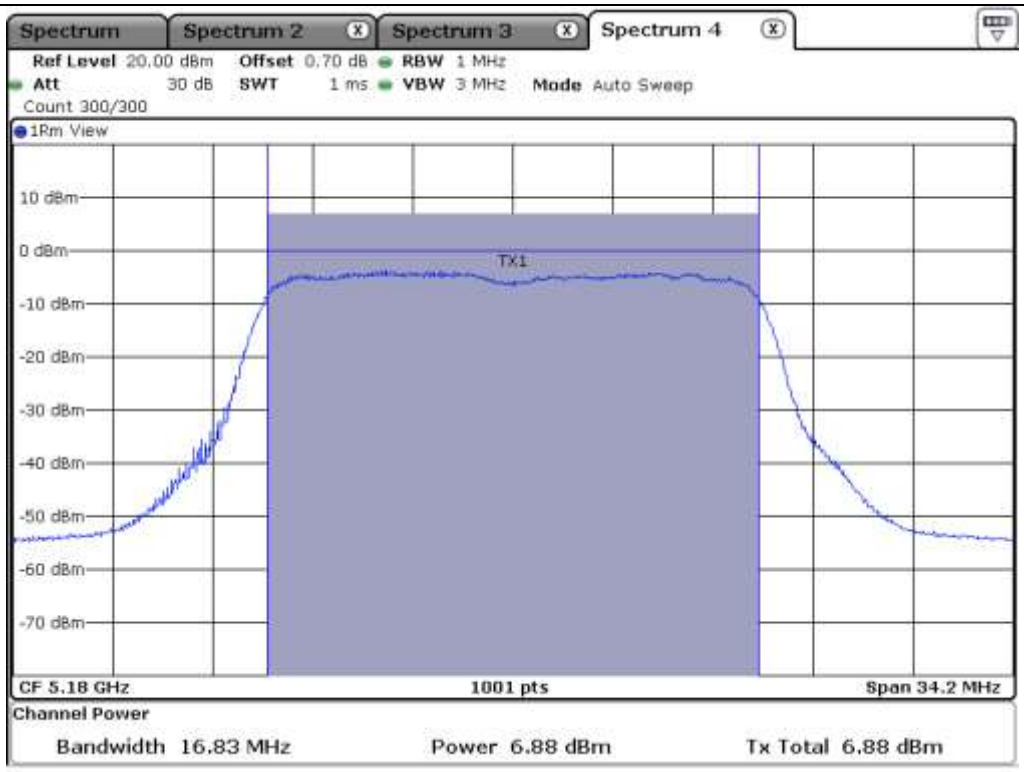
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	16.83	6.88	30.00	23.12
	Middle	5 220.00	16.68	11.97	30.00	18.03
	High	5 240.00	17.03	12.35	30.00	17.65
5 725 ~ 5 850	Low	5 745.00	17.98	9.29	30.00	20.71
	Middle	5 785.00	18.28	15.99	30.00	14.01
	High	5 825.00	18.03	13.46	30.00	16.54

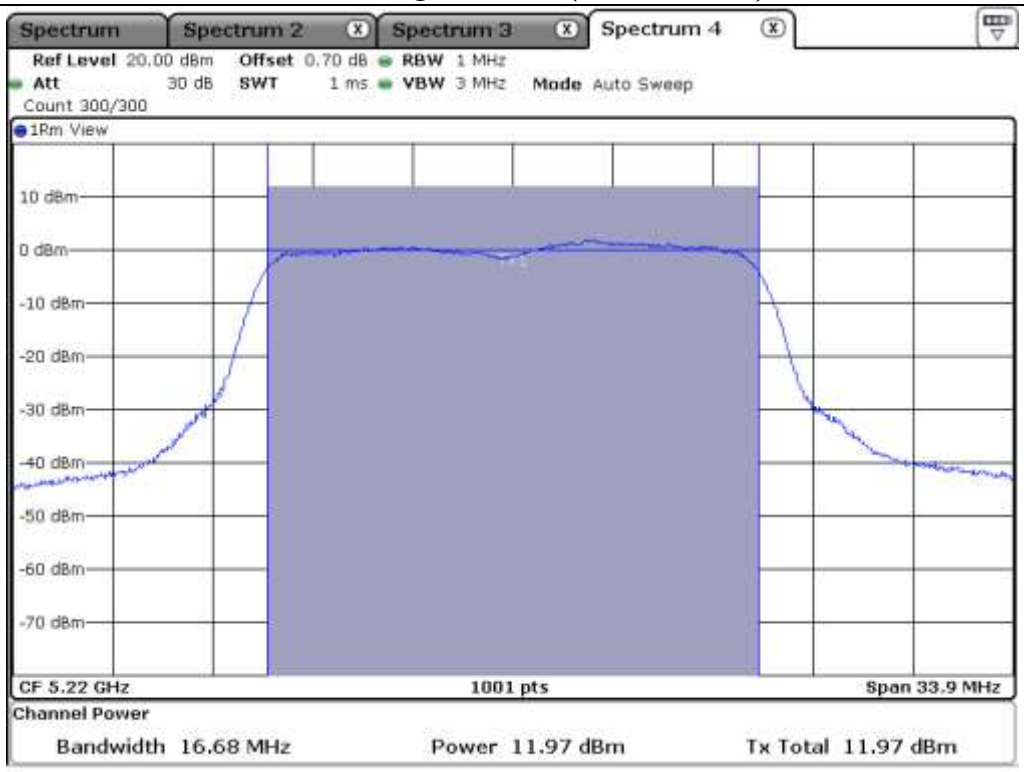
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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

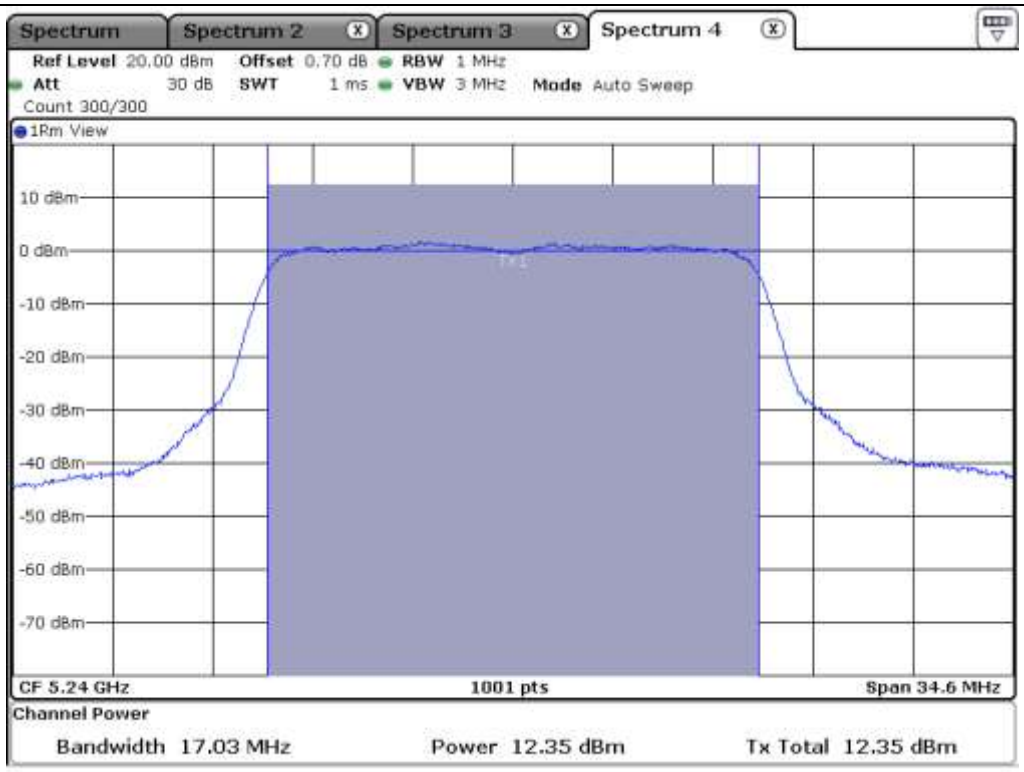


Low Channel @ 5 180 MHz (99 % Bandwidth)

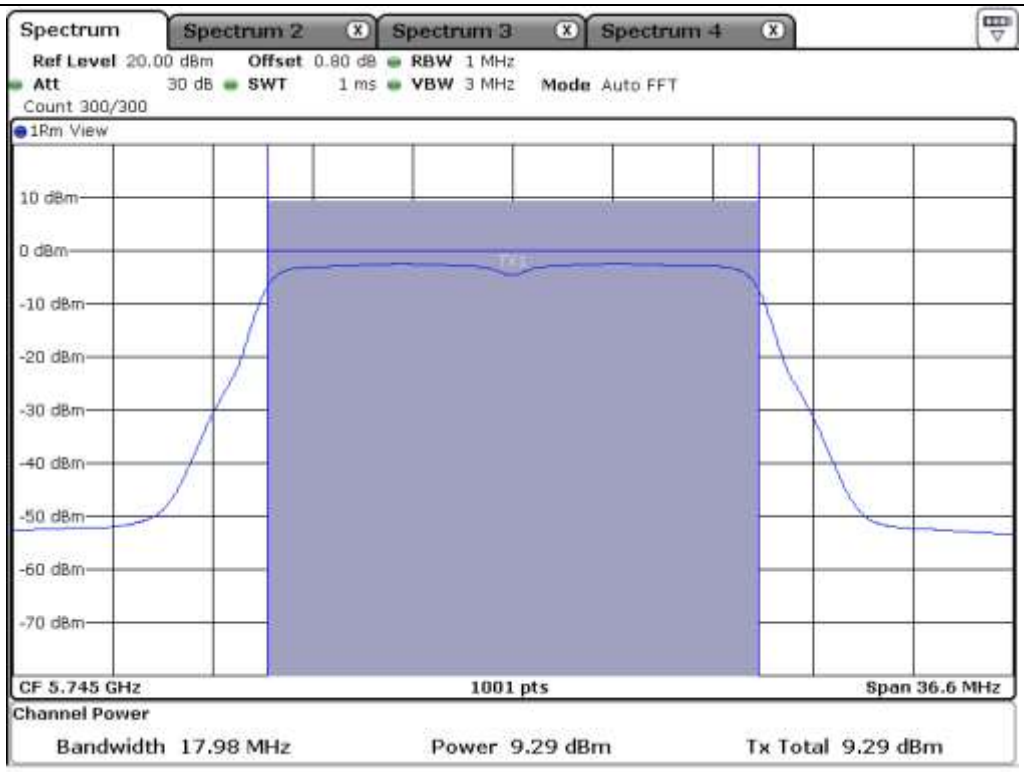


Middle Channel @ 5 220 MHz (99 % Bandwidth)

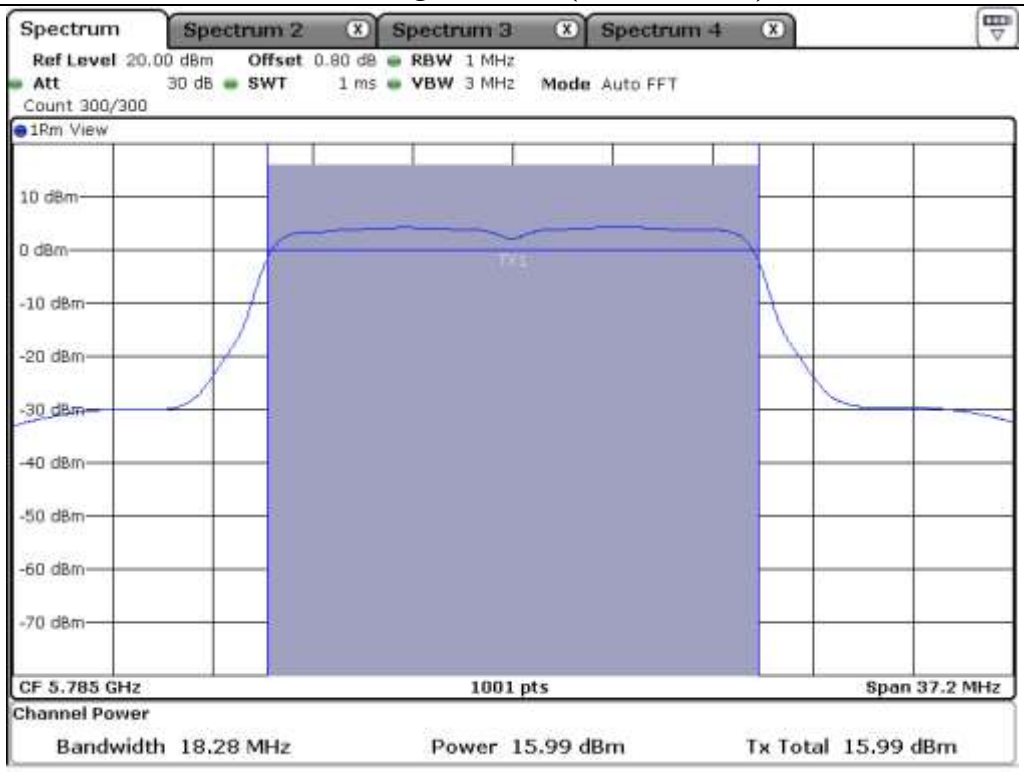
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



High Channel @ 5 240 MHz (99 % Bandwidth)

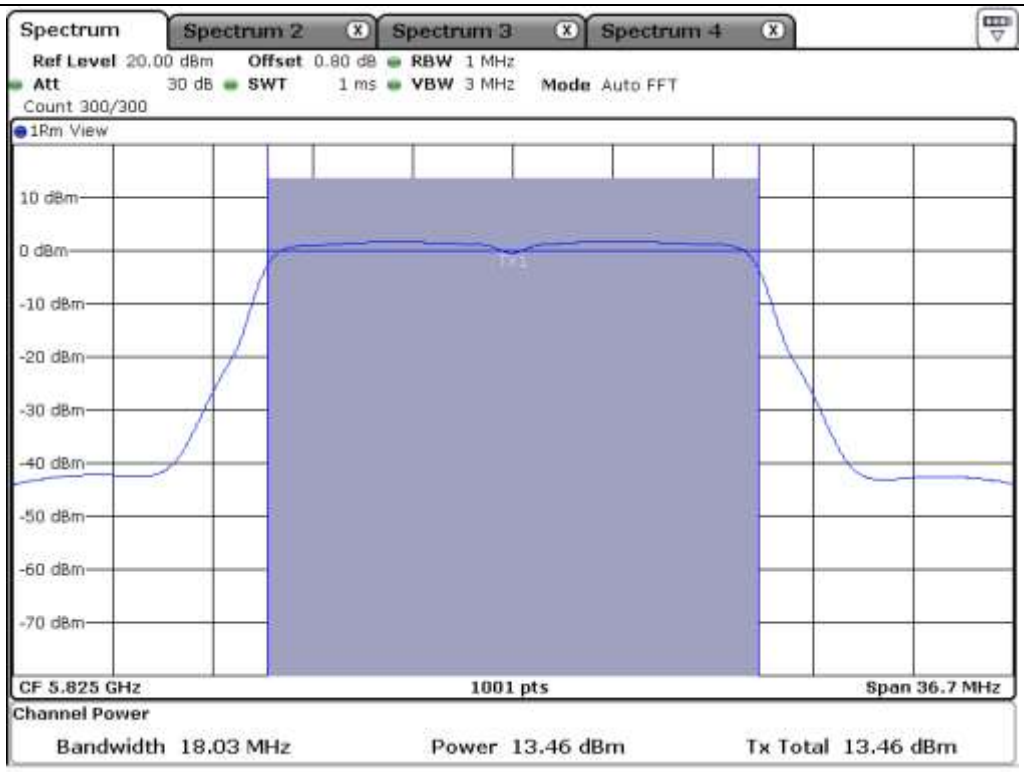


Low Channel @ 5 745 MHz (99 % Bandwidth)



Middle Channel @ 5 785 MHz (99 % Bandwidth)

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 (99 % Bandwidth)

10.5.4 Test data for Antenna 3

-. Test Date : March 21, 2017

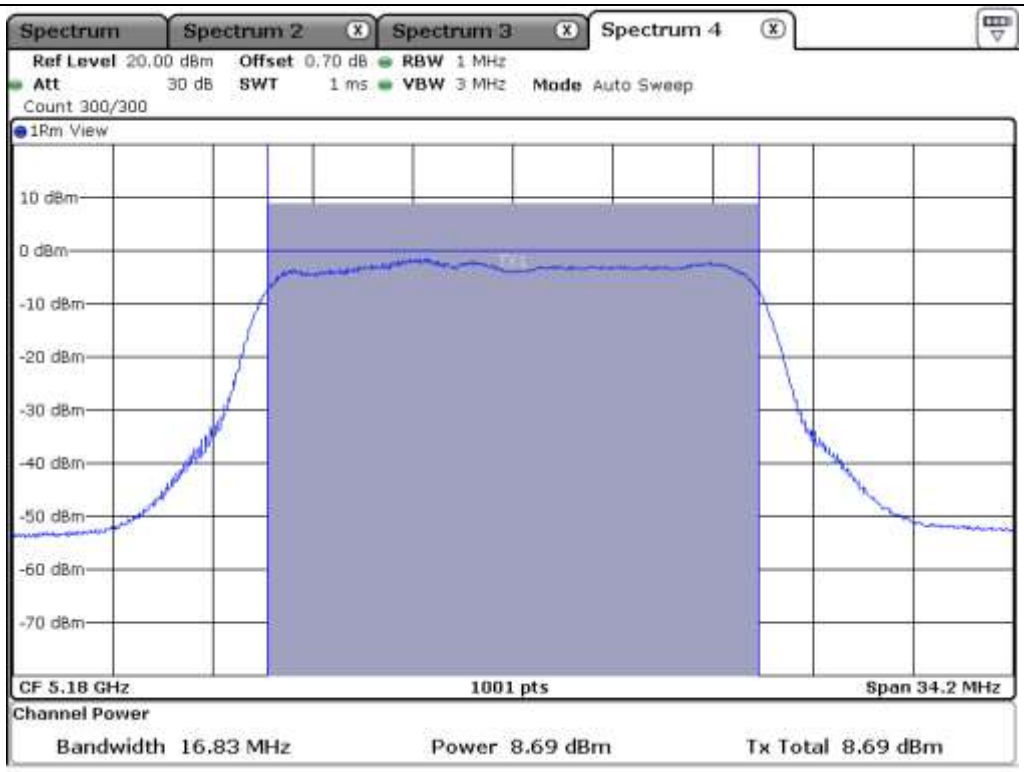
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	16.83	8.69	30.00	21.31
	Middle	5 220.00	17.53	13.39	30.00	16.61
	High	5 240.00	17.53	13.63	30.00	16.37
5 725 ~ 5 850	Low	5 745.00	17.98	10.36	30.00	19.64
	Middle	5 785.00	18.58	16.6	30.00	13.40
	High	5 825.00	18.03	13.93	30.00	16.07

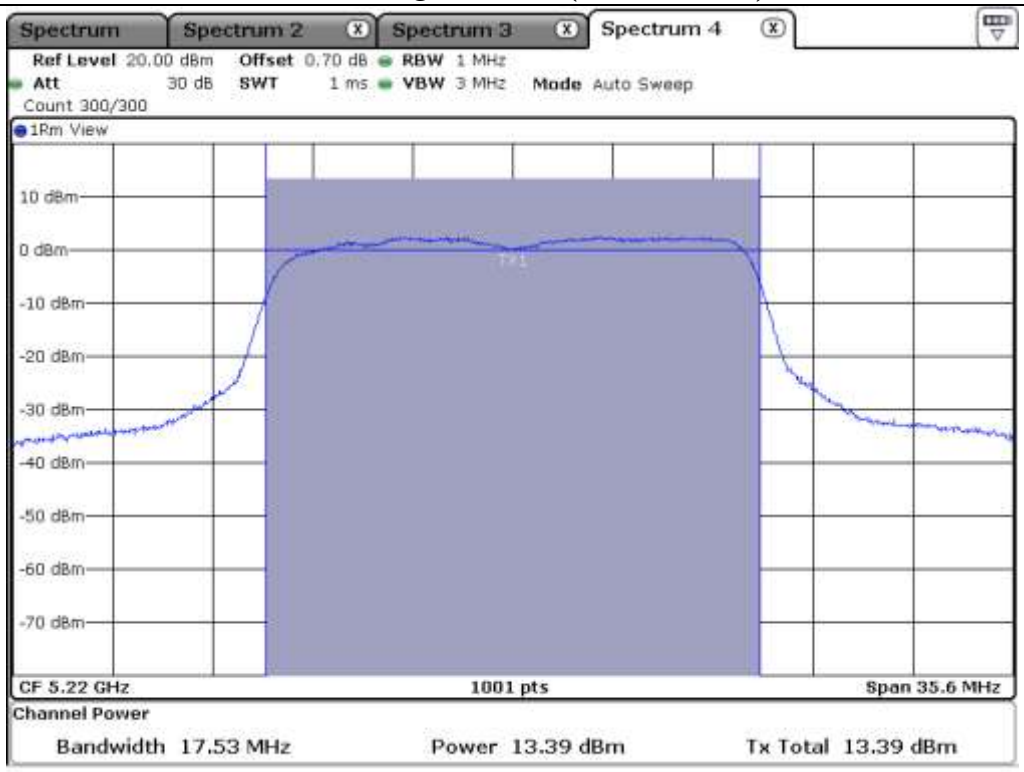
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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

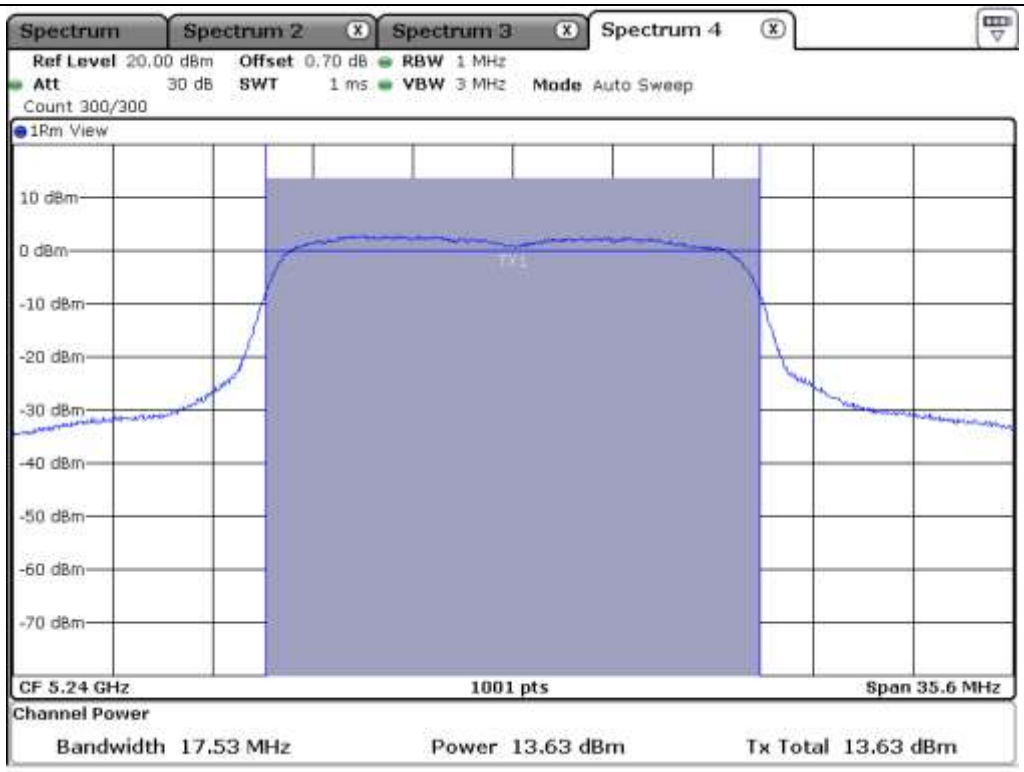


Low Channel @ 5 180 MHz (99 % Bandwidth)

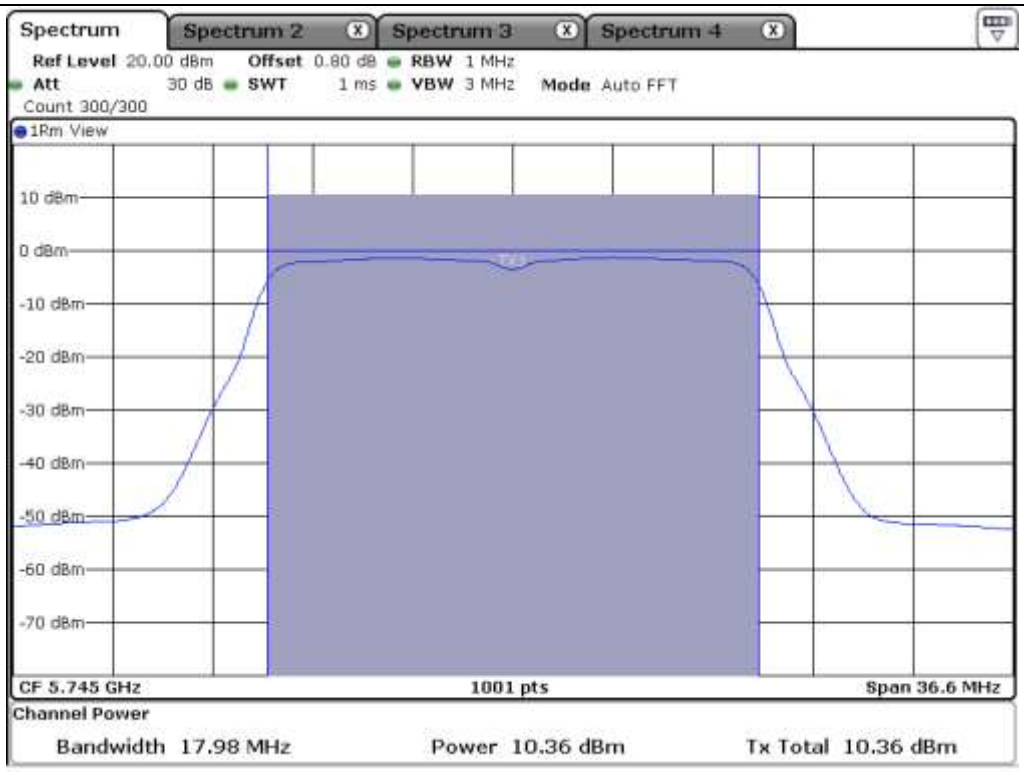


Middle Channel @ 5 220 MHz (99 % Bandwidth)

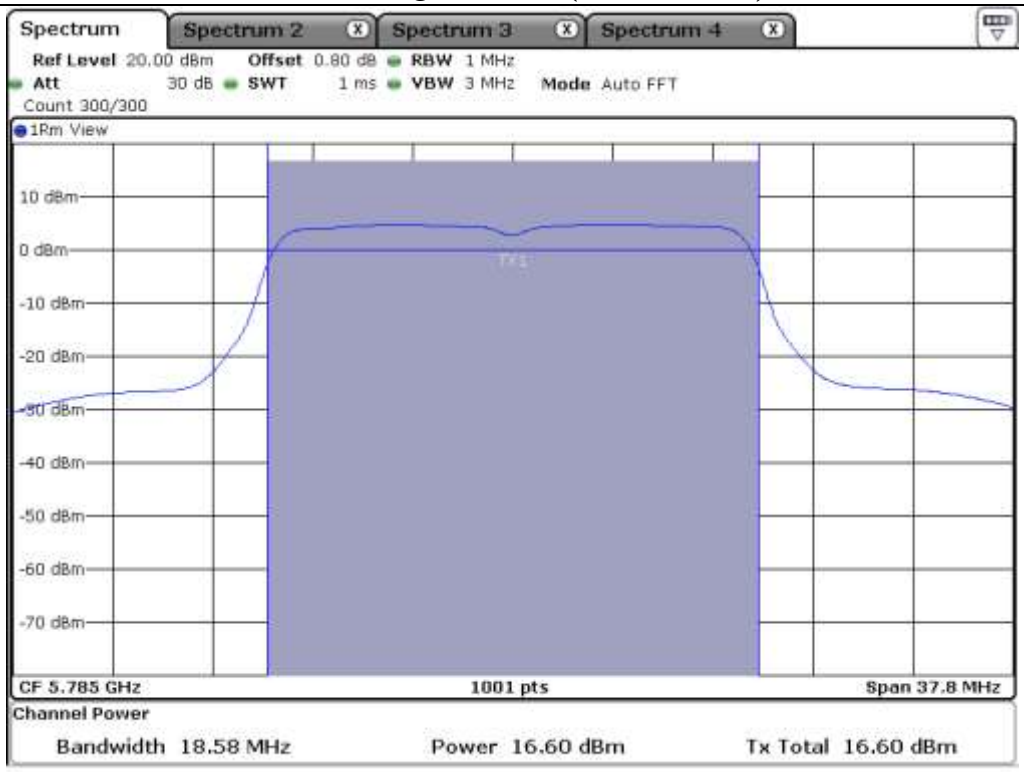
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



High Channel @ 5 240 MHz (99 % Bandwidth)

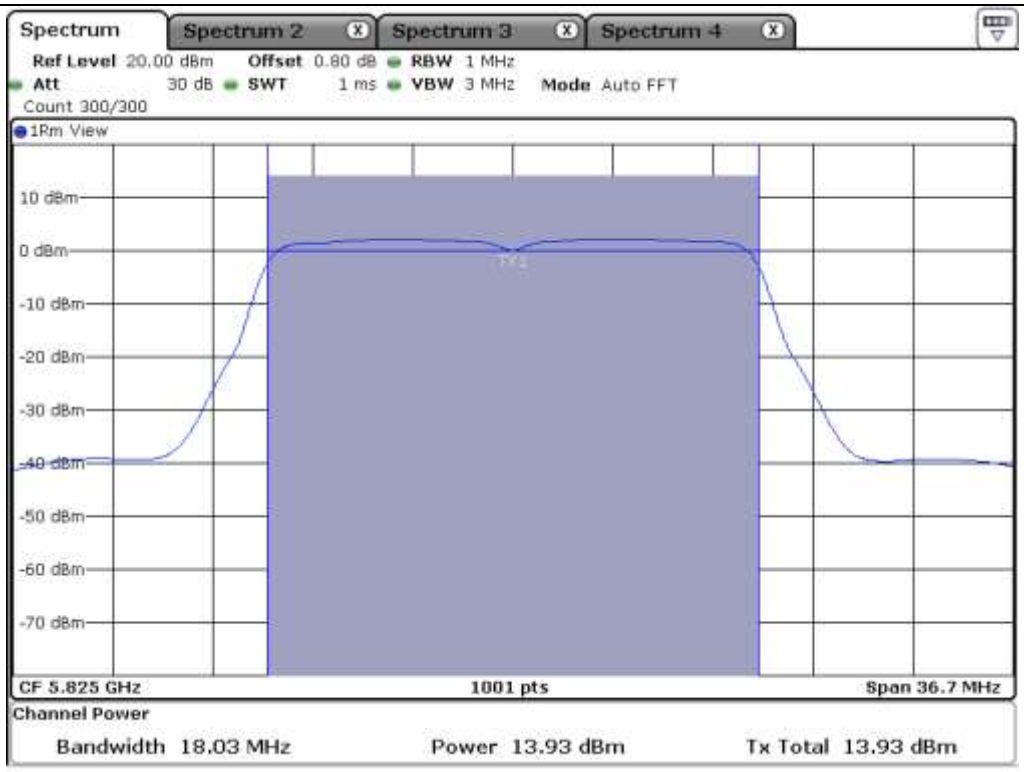


Low Channel @ 5 745 MHz (99 % Bandwidth)



Middle Channel @ 5 785 MHz (99 % Bandwidth)

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 (99 % Bandwidth)

10.5.5 Test data for Multiple Transmit

-. Test Date : March 21, 2017

-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	16.98	14.06	27.18	13.12
	Middle	5 220.00	17.68	18.70	27.18	8.48
	High	5 240.00	17.68	19.14	27.18	8.04
5 725 ~ 5 850	Low	5 745.00	18.03	15.59	24.98	9.39
	Middle	5 785.00	18.48	22.01	24.98	2.97
	High	5 825.00	18.23	19.54	24.98	5.44

Remark 1: Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2: Calculated Output Power= $10\log(10^{(\text{Antenna0 Output Power}/10)}+10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)}+10^{(\text{Antenna3 Output Power}/10)})$

Tested by: Hyung-Kwon, Oh / Engineer

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

10.6 Test data for 802.11n_HT40 RLAN Mode

10.6.1 Test data for Antenna 0

-. Test Date : March 21, 2017

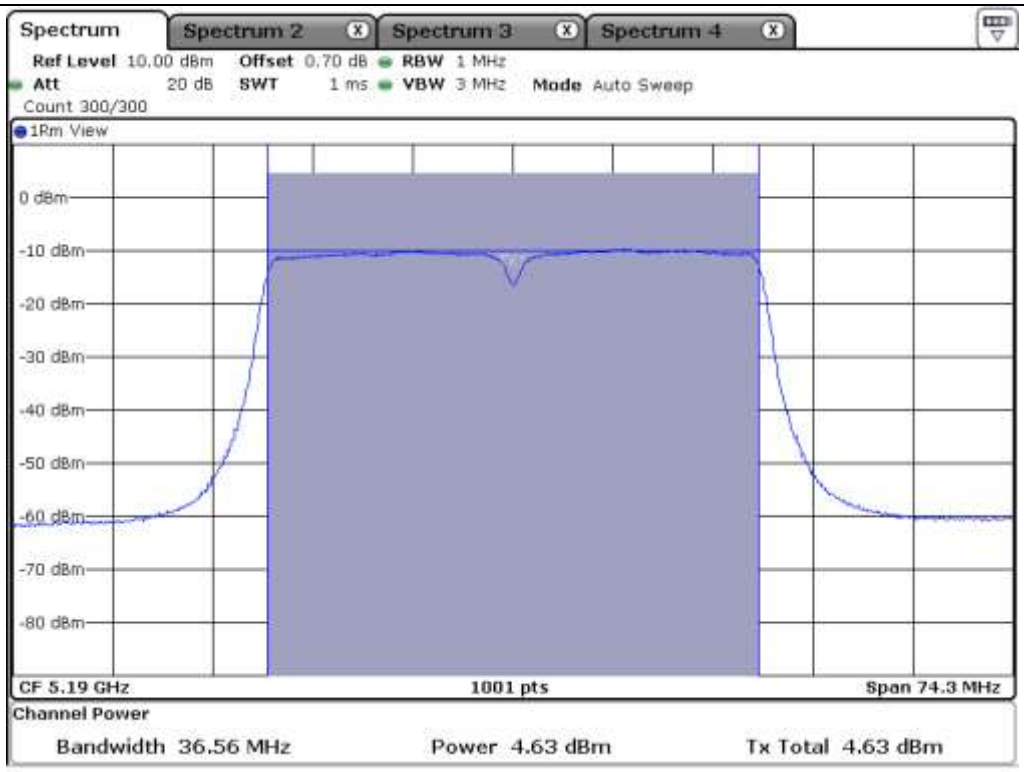
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 190.00	36.56	4.63	30.00	25.37
	High	5 230.00	36.66	14.90	30.00	15.10
5 725 ~ 5 850	Low	5 755.00	36.56	4.52	30.00	25.48
	High	5 795.00	36.46	12.28	30.00	17.72

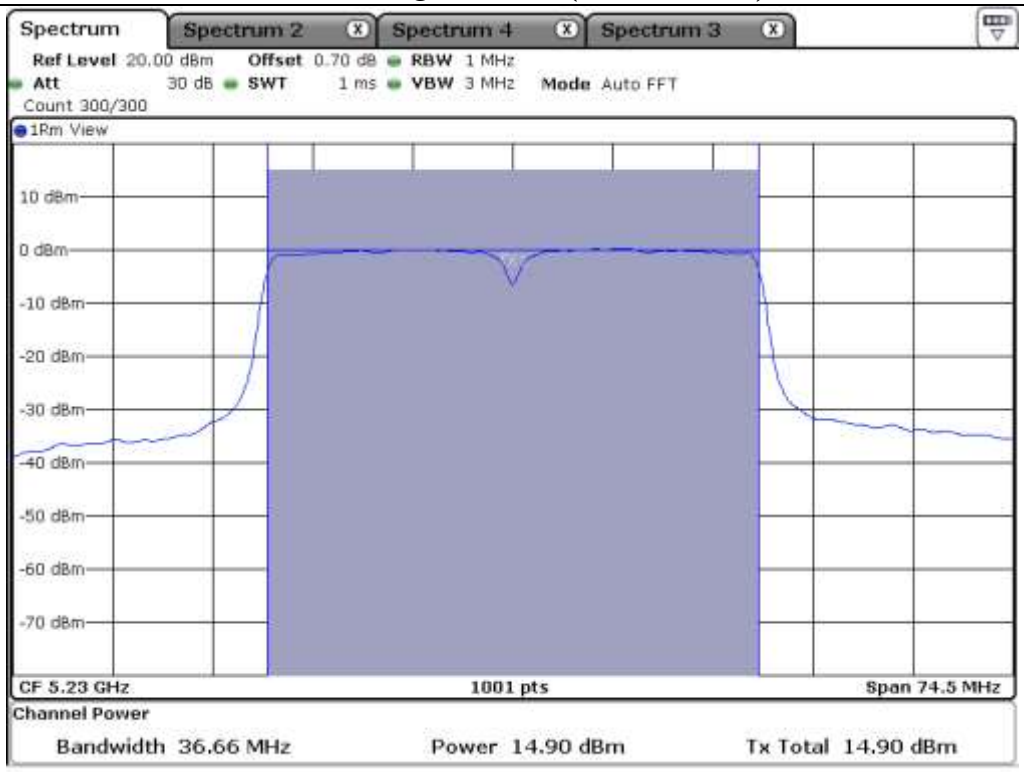
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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

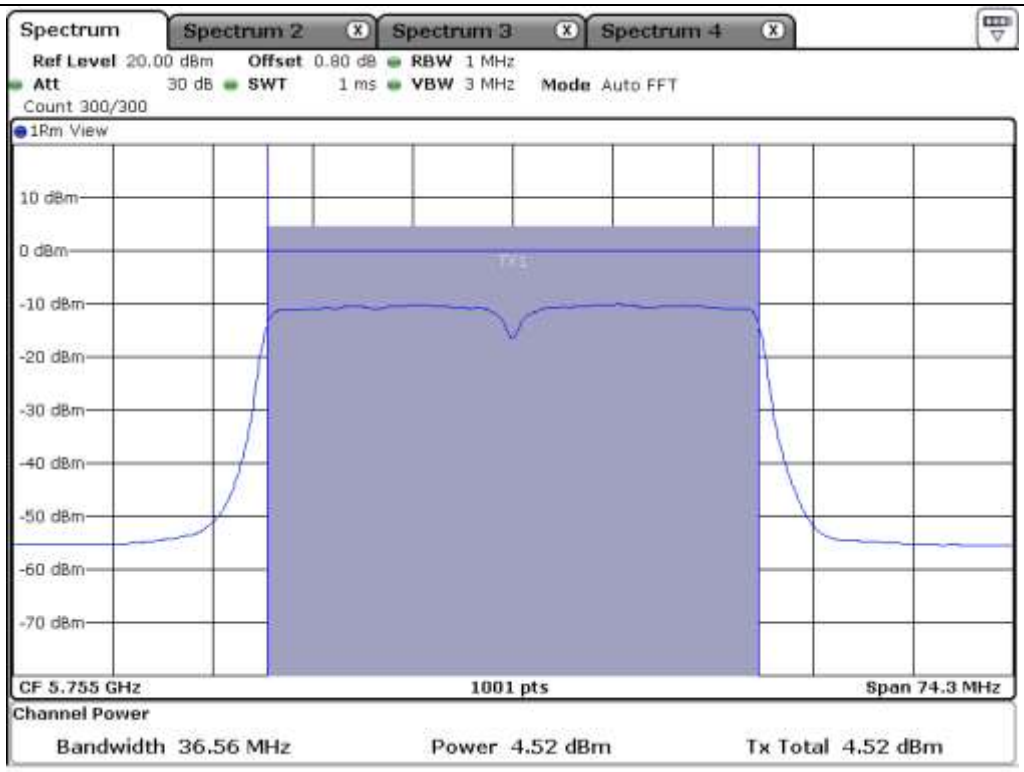


Low Channel @ 5 190 MHz (99 % Bandwidth)

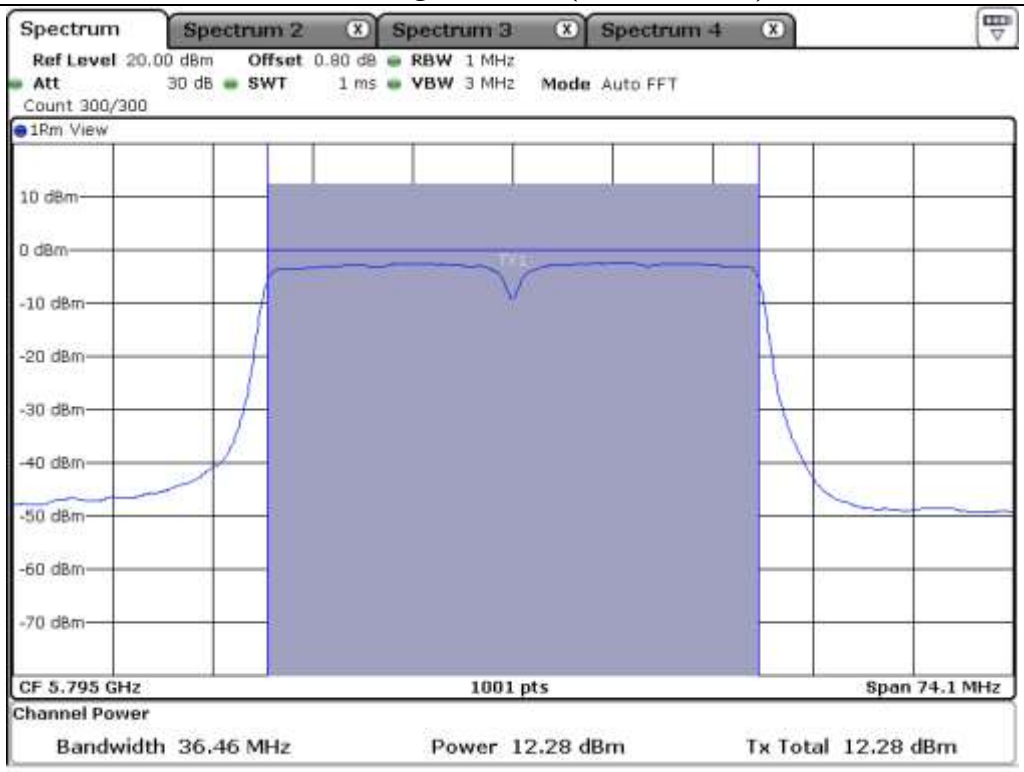


High Channel @ 5 230 MHz (99 % Bandwidth)

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 (99 % Bandwidth)



High Channel @ 5 795 MHz (99 % Bandwidth)

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

10.6.2 Test data for Antenna 1

-. Test Date : March 21, 2017

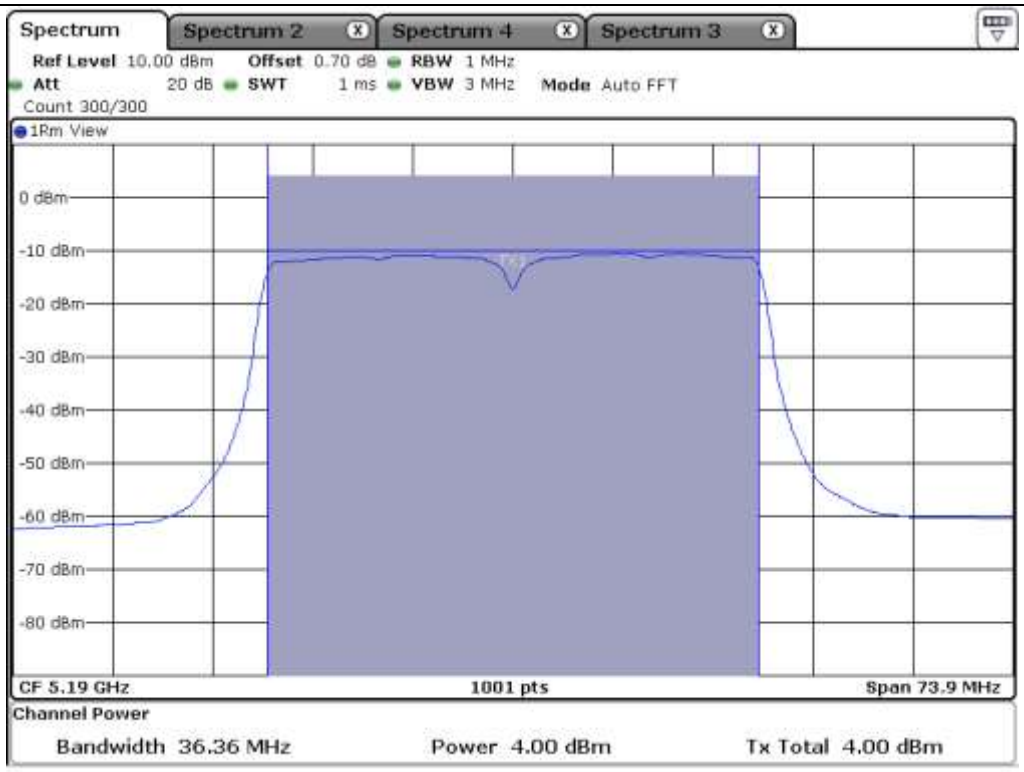
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 190.00	36.36	4.00	30.00	26.00
	High	5 230.00	36.46	14.14	30.00	15.86
5 725 ~ 5 850	Low	5 755.00	36.36	5.67	30.00	24.33
	High	5 795.00	36.36	13.38	30.00	16.62

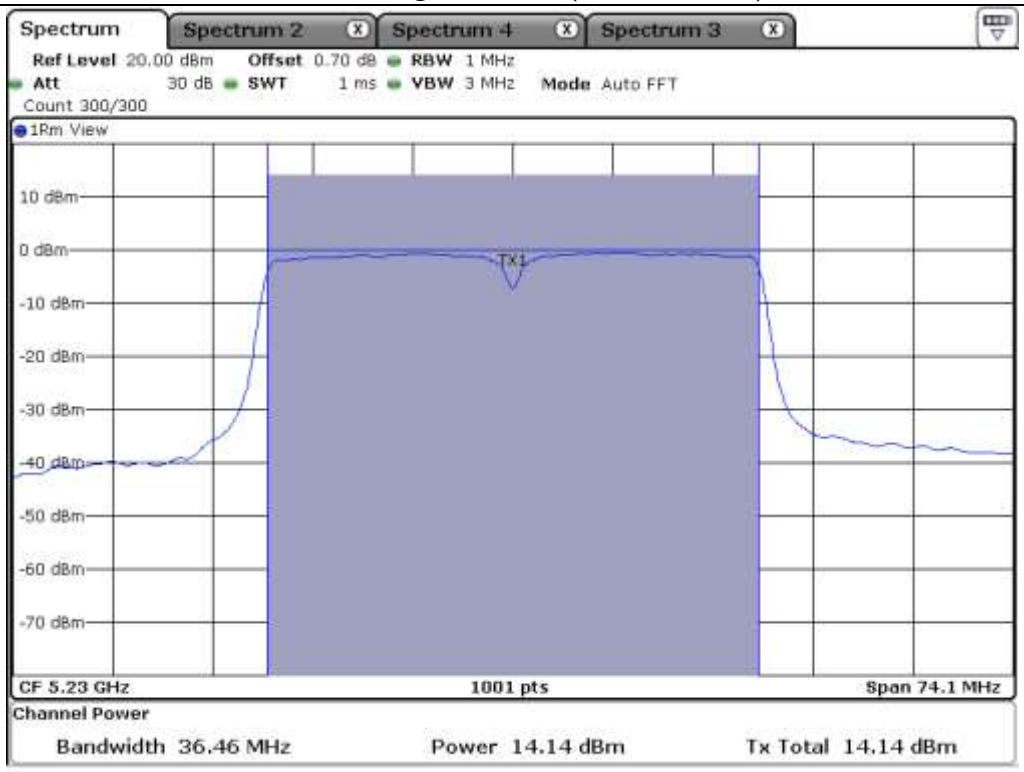
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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

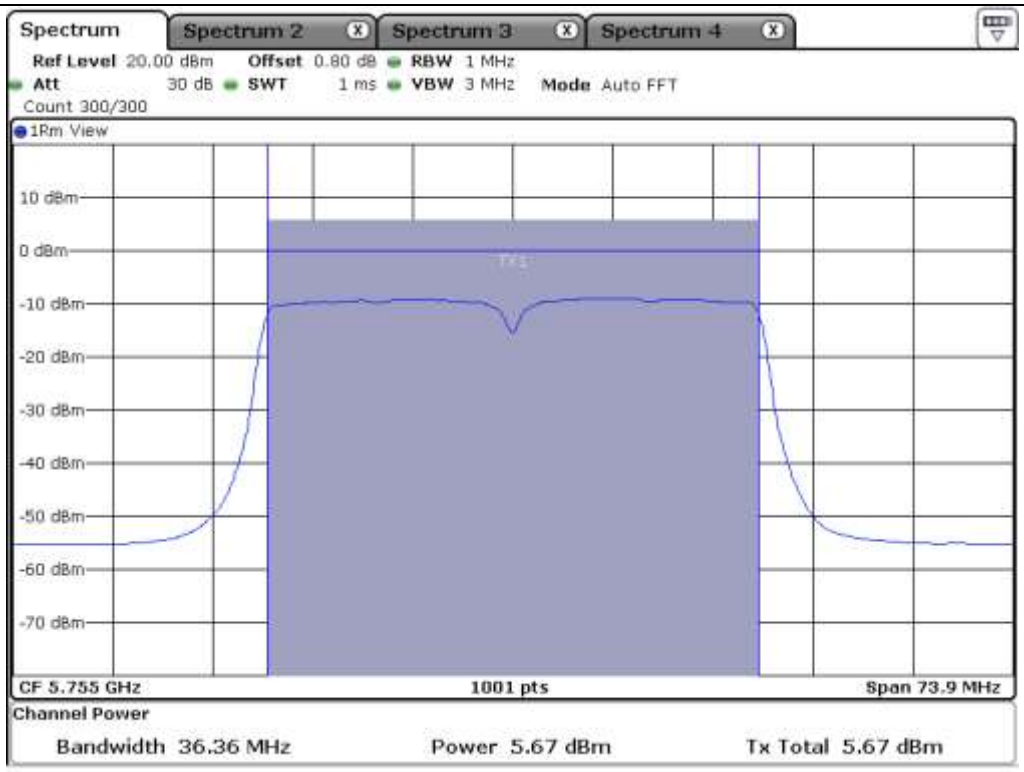


Low Channel @ 5 190 MHz (99 % Bandwidth)

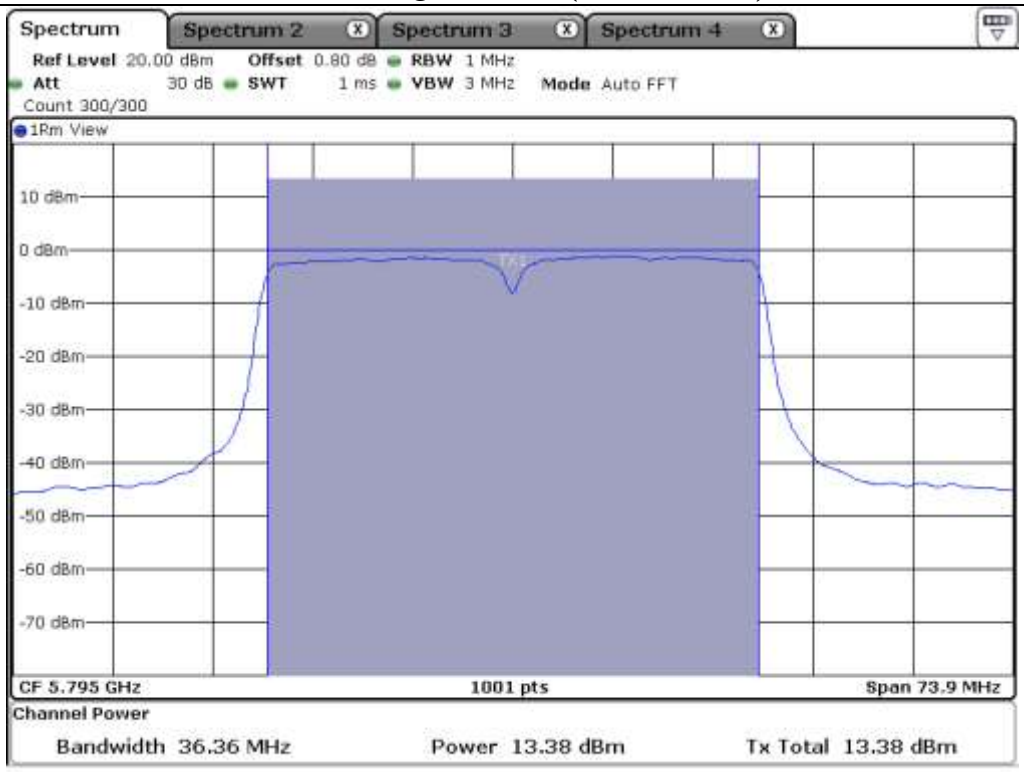


High Channel @ 5 230 MHz (99 % Bandwidth)

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 (99 % Bandwidth)



High Channel @ 5 795 MHz (99 % Bandwidth)

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 Antenna 2

-. Test Date : March 21, 2017

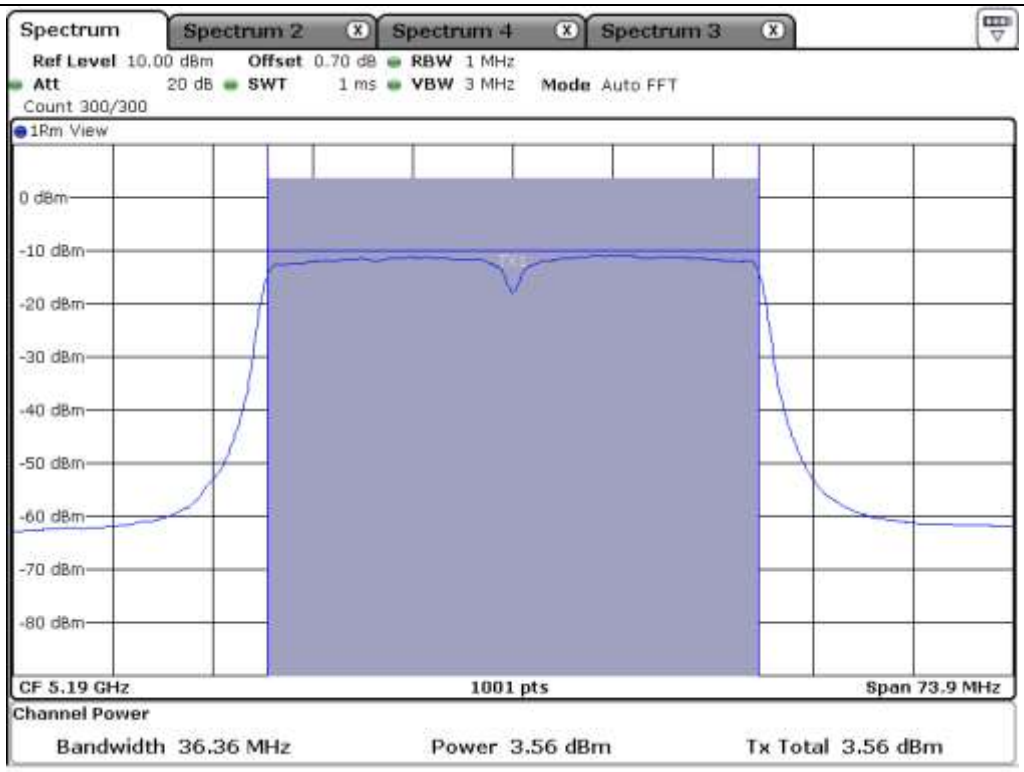
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 190.00	36.36	3.56	30.00	26.44
	High	5 230.00	36.46	13.97	30.00	16.03
5 725 ~ 5 850	Low	5 755.00	36.36	4.99	30.00	25.01
	High	5 795.00	36.46	12.71	30.00	17.29

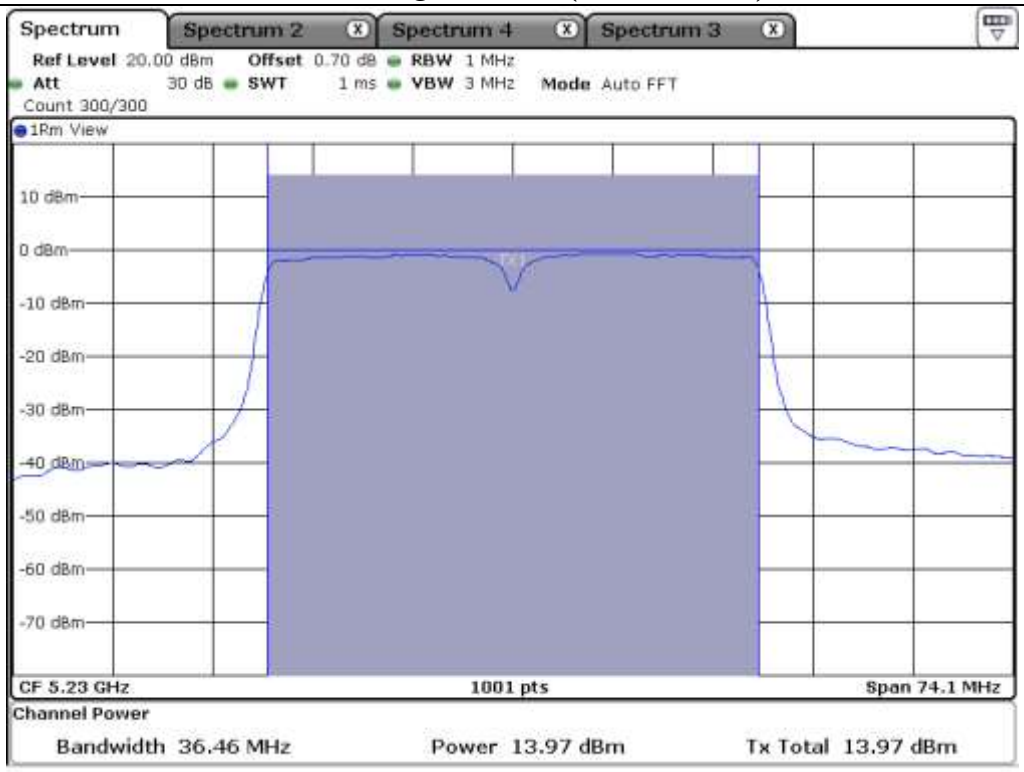
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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

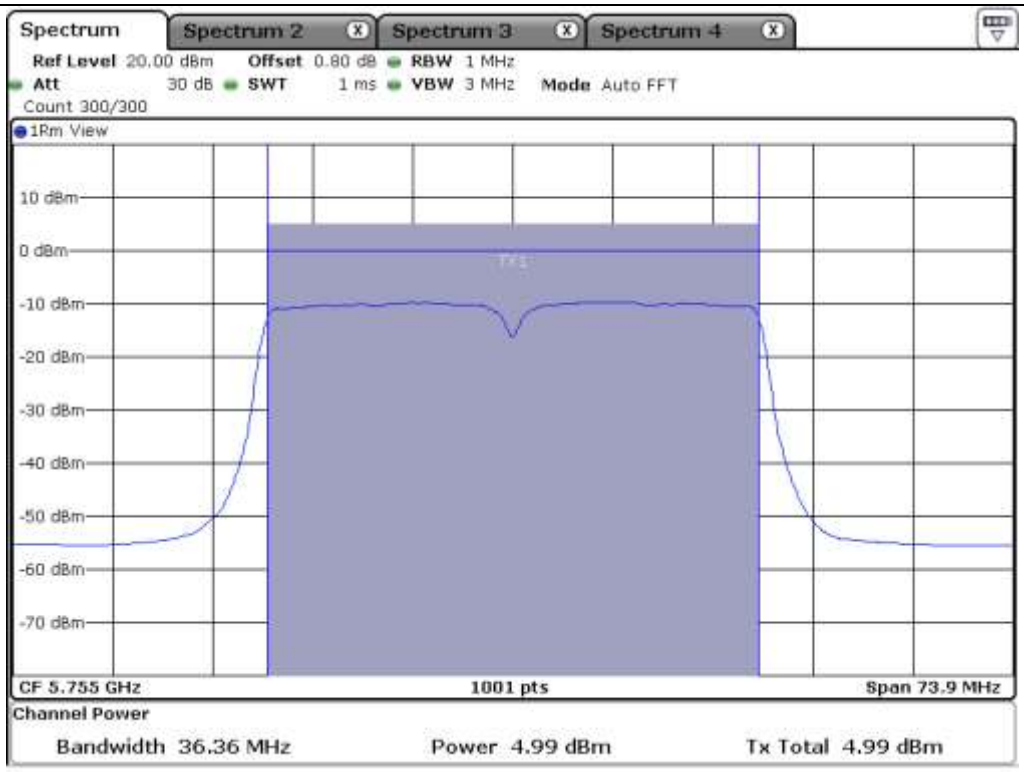


Low Channel @ 5 190 MHz (99 % Bandwidth)

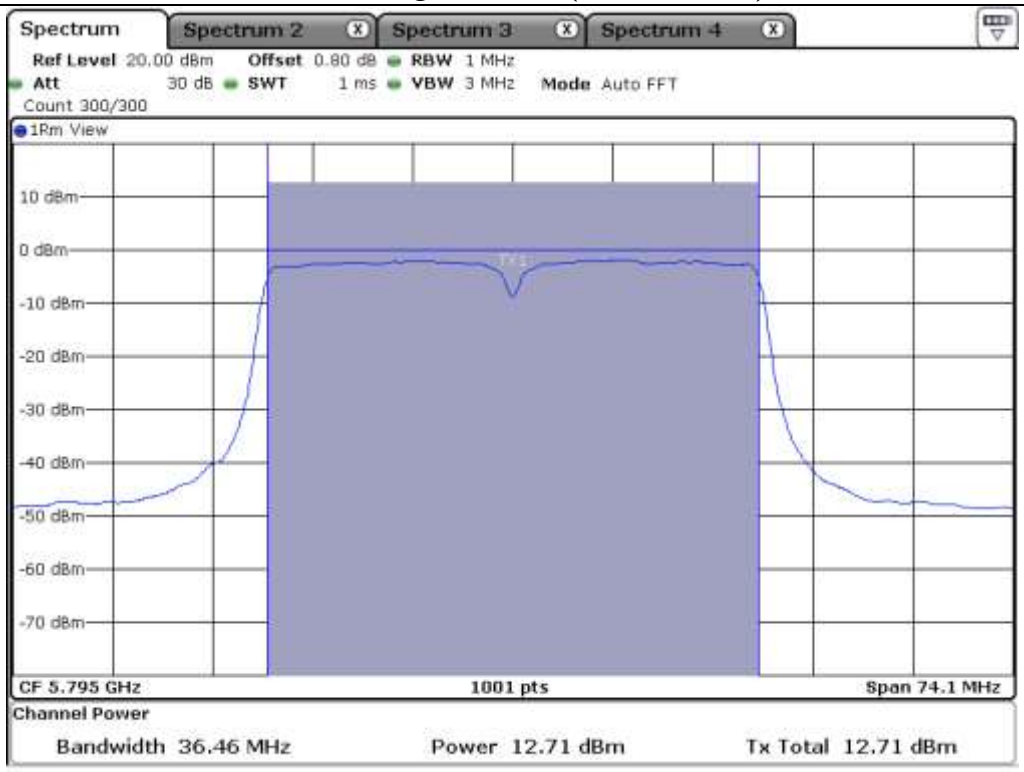


High Channel @ 5 230 MHz (99 % Bandwidth)

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 (99 % Bandwidth)



High Channel @ 5 795 MHz (99 % Bandwidth)

10.6.4 Test data for Antenna 3

-. Test Date : March 21, 2017

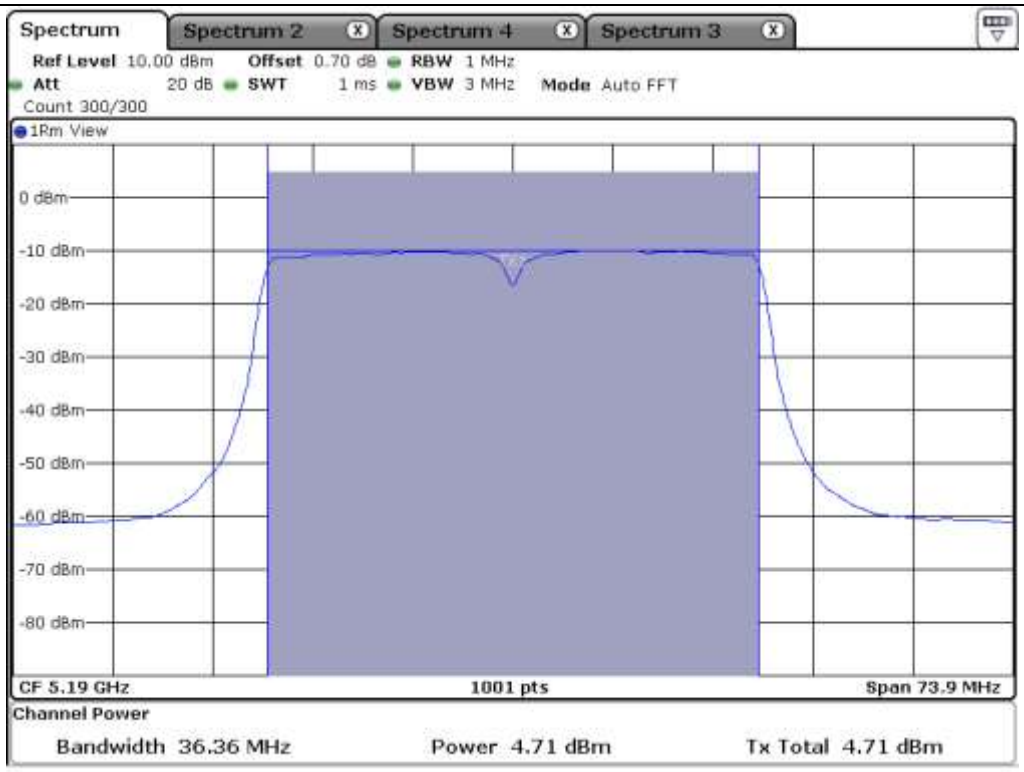
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 190.00	36.36	4.71	30.00	25.29
	High	5 230.00	36.46	15.06	30.00	14.94
5 725 ~ 5 850	Low	5 755.00	36.46	6.07	30.00	23.93
	High	5 795.00	36.46	13.38	30.00	16.62

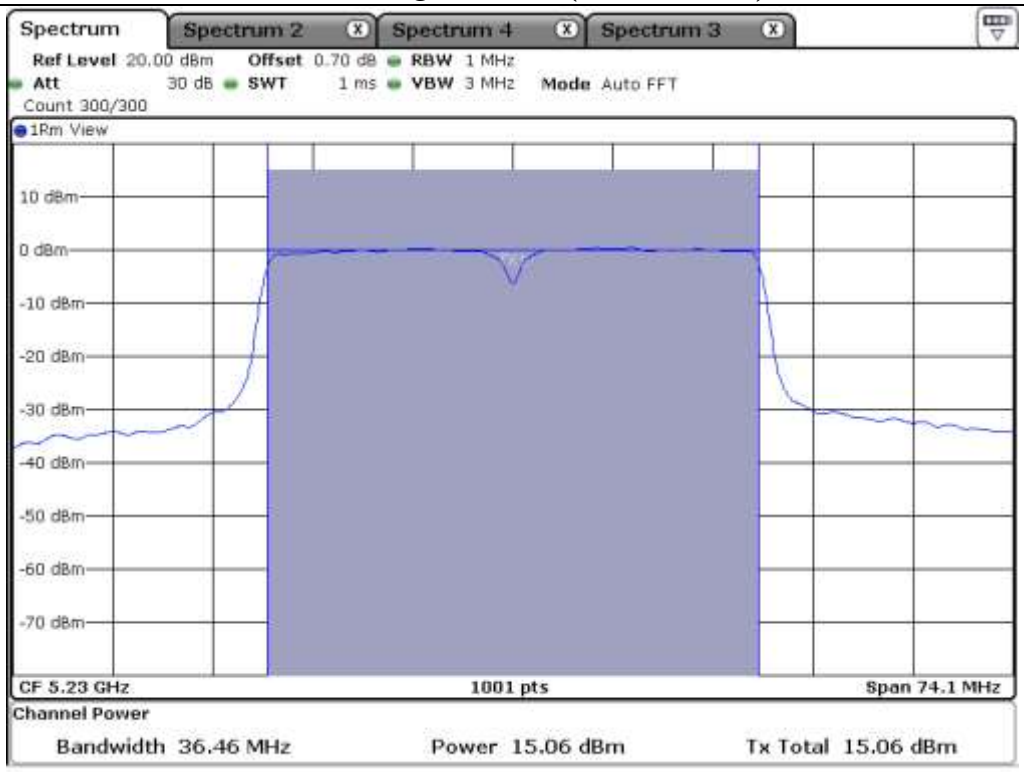
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

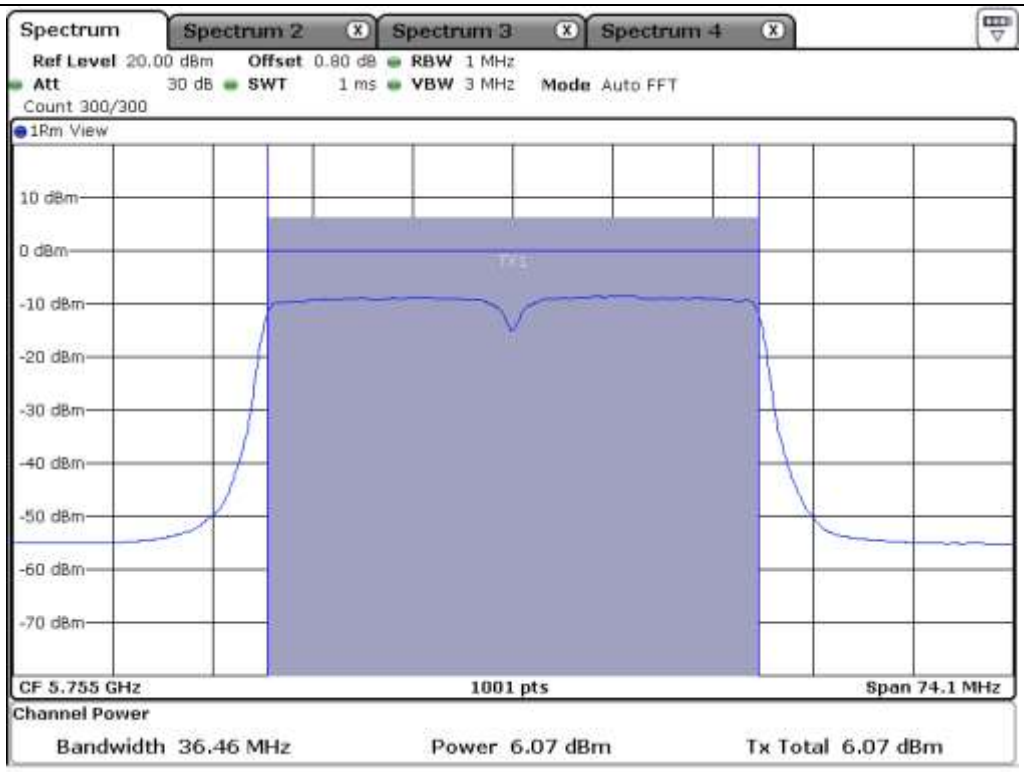
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



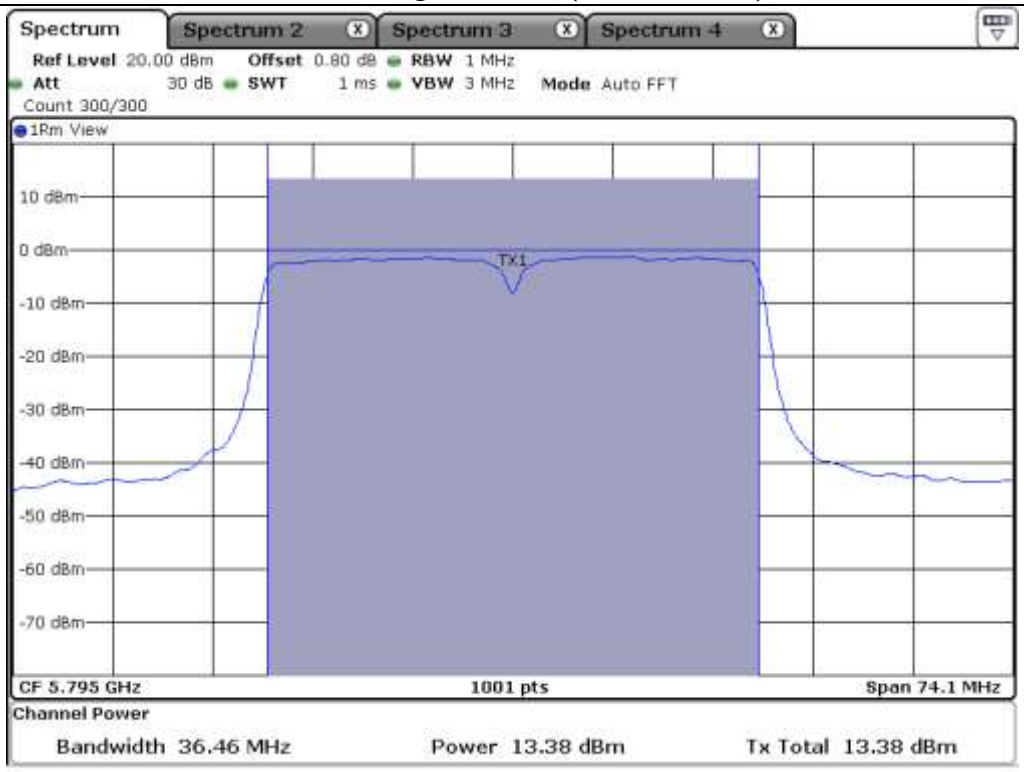
Low Channel @ 5 190 MHz (99 % Bandwidth)



High Channel @ 5 230 MHz (99 % Bandwidth)



Low Channel @ 5 755 MHz (99 % Bandwidth)



High Channel @ 5 795 MHz (99 % Bandwidth)

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

10.6.5 Test data for Multiple Transmit

-. Test Date : March 21, 2017

-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 190.00	36.56	10.27	27.18	16.91
	High	5 230.00	36.66	20.56	27.18	6.62
5 725 ~ 5 850	Low	5 755.00	36.56	11.37	24.98	13.61
	High	5 795.00	36.46	18.98	24.98	6.00

Remark 1: Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2: Calculated Output Power= $10\log (10^{(\text{Antenna0 Output Power}/10)}+10^{(\text{Antenna1 Output Power}/10)}+ 10^{(\text{Antenna2 Output Power}/10)}+10^{(\text{Antenna3 Output Power}/10)})$

Tested by: Hyung-Kwon, Oh / Engineer

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

10.7 Test data for 802.11ac_HT80 RLAN Mode

10.7.1 Test data for Antenna 0

-. Test Date : March 21, 2017

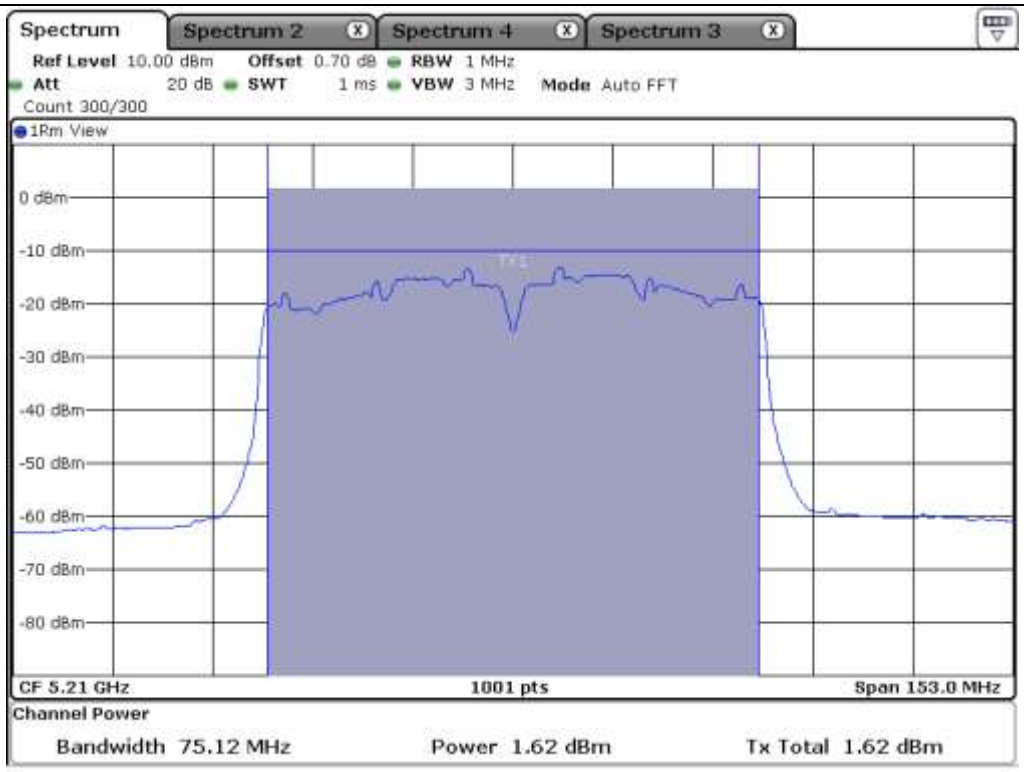
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Middle	5 210.00	75.12	1.62	30.00	28.38
5 725 ~ 5 850	Middle	5 775.00	76.12	3.65	30.00	26.35

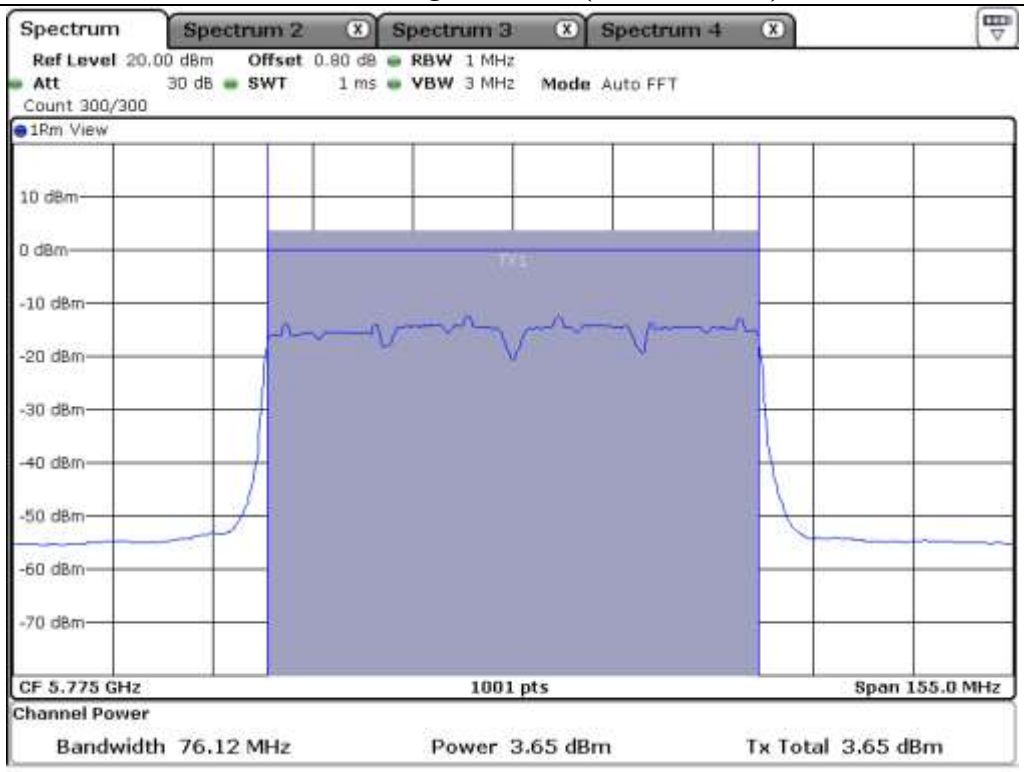
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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 (99 % Bandwidth)



Middle Channel @ 5 775 MHz (99 % Bandwidth)

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

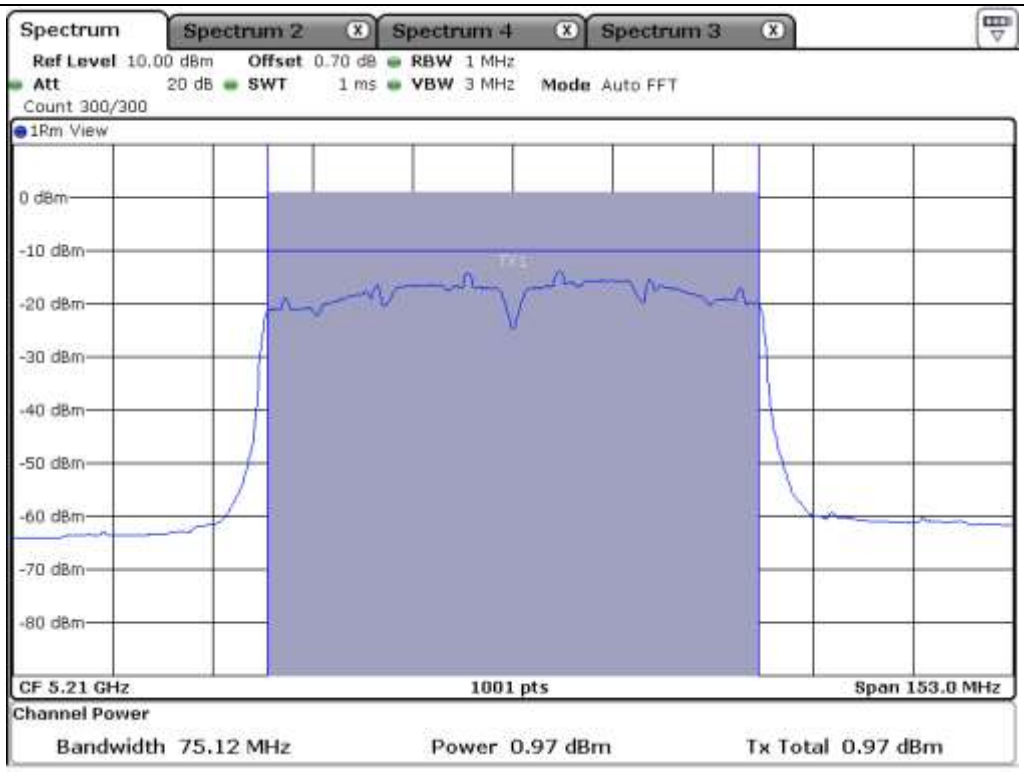
-. Test Date : March 21, 2017

-. Test Result : Pass

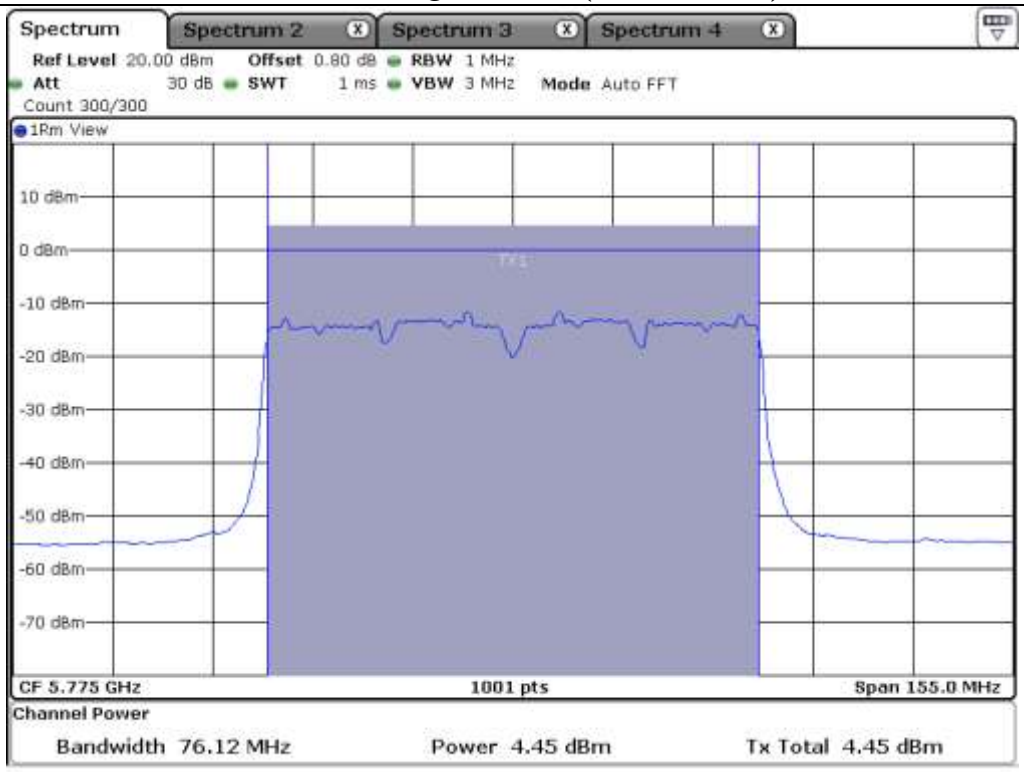
FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Middle	5 210.00	75.12	0.97	30.00	29.03
5 725 ~ 5 850	Middle	5 775.00	76.12	4.45	30.00	25.55

Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer



Middle Channel @ 5 210 MHz (99 % Bandwidth)



Middle Channel @ 5 775 MHz (99 % Bandwidth)

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 Antenna 2

-. Test Date : March 21, 2017

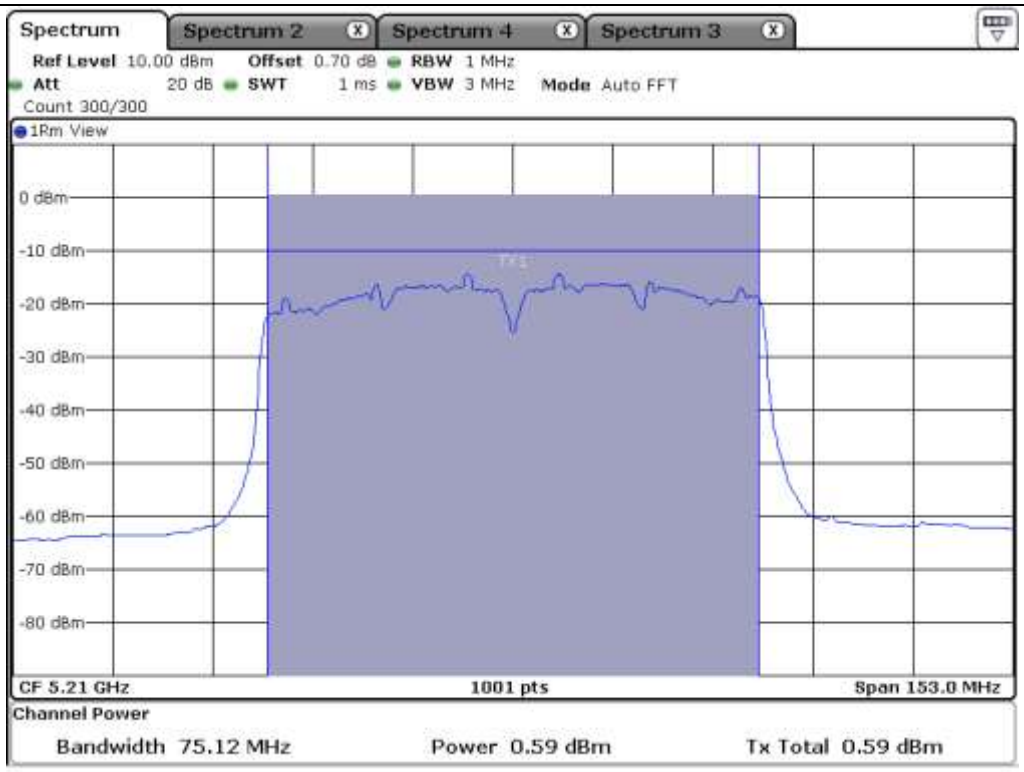
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Middle	5 210.00	75.12	0.59	30.00	29.41
5 725 ~ 5 850	Middle	5 775.00	75.92	3.85	30.00	26.15

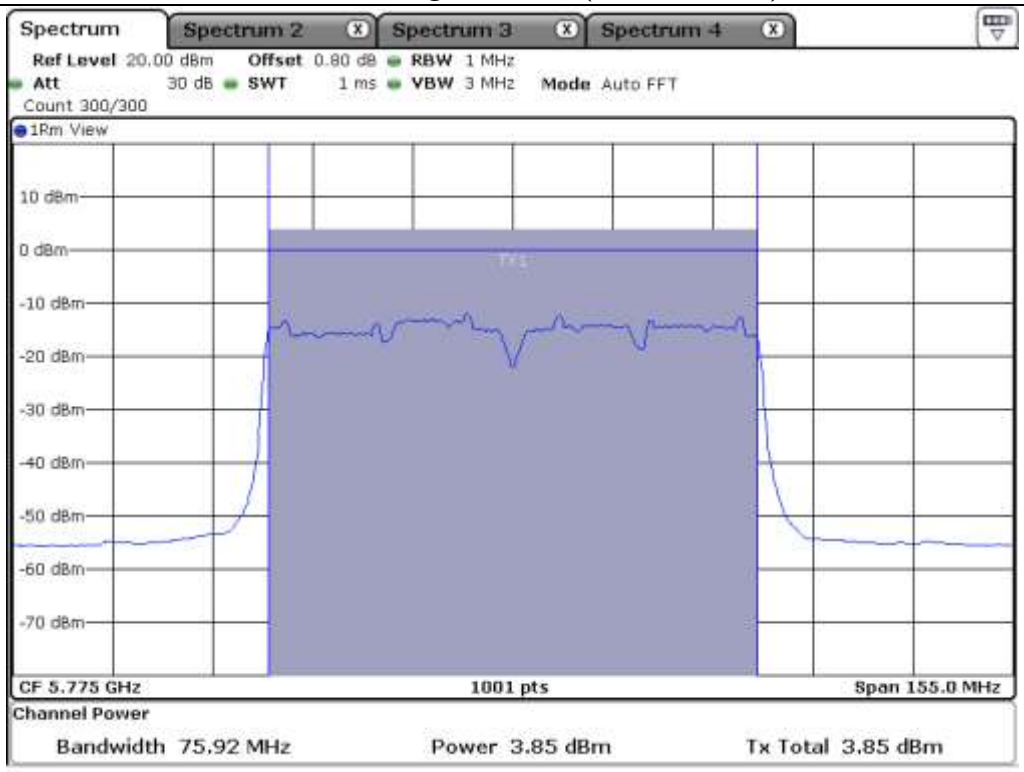
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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 (99 % Bandwidth)



Middle Channel @ 5 775 MHz (99 % Bandwidth)

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

10.7.4 Test data for Antenna 3

-. Test Date : March 21, 2017

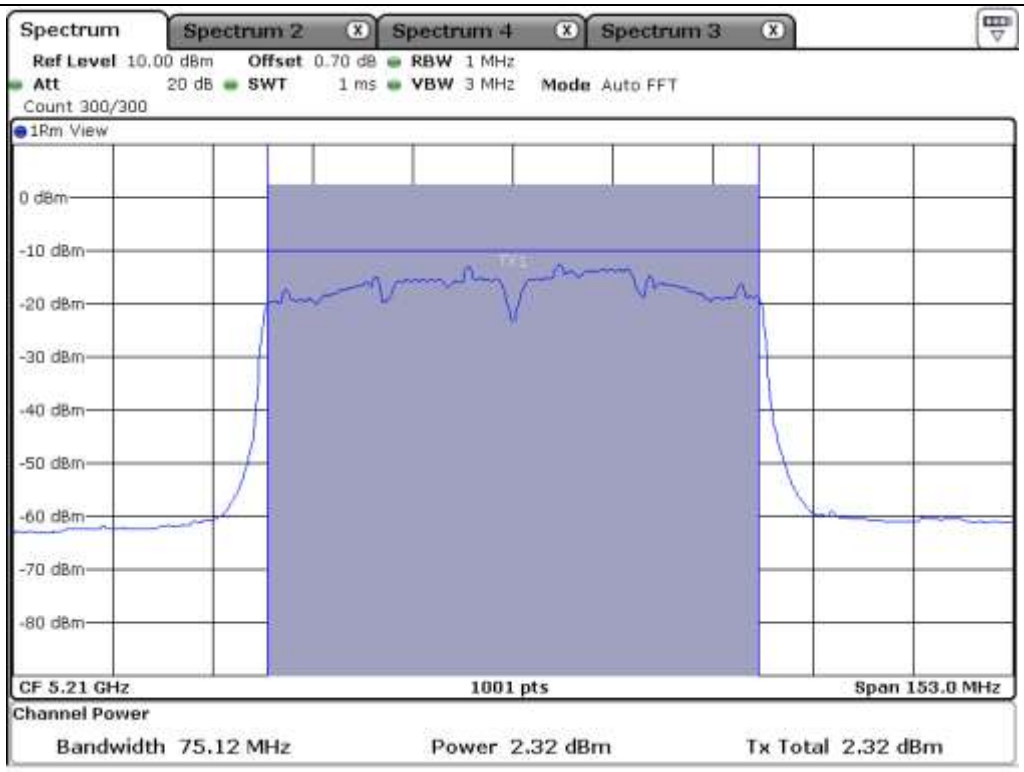
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Middle	5 210.00	75.12	2.32	30.00	27.68
5 725 ~ 5 850	Middle	5 775.00	76.12	4.90	30.00	25.10

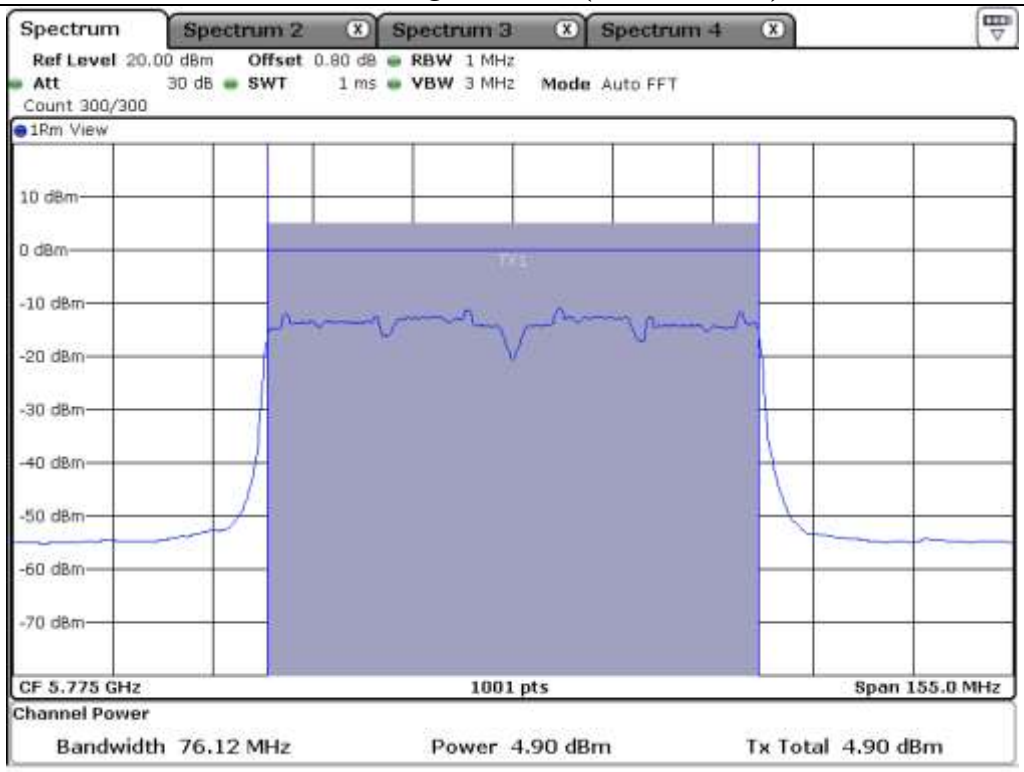
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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 (99 % Bandwidth)



Middle Channel @ 5 775 MHz (99 % Bandwidth)

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 Multiple Transmit

-. Test Date : March 21, 2017

-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Middle	5 210.00	75.12	7.45	27.18	19.73
5 725 ~ 5 850	Middle	5 775.00	76.12	10.26	24.98	14.72

Remark 1: Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2: Calculated Output Power= $10\log(10^{(\text{Antenna0 Output Power}/10)}+10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)}+10^{(\text{Antenna3 Output Power}/10)})$

Tested by: Hyung-Kwon, Oh / Engineer

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. PEAK POWER SPECTRUL DENSITY

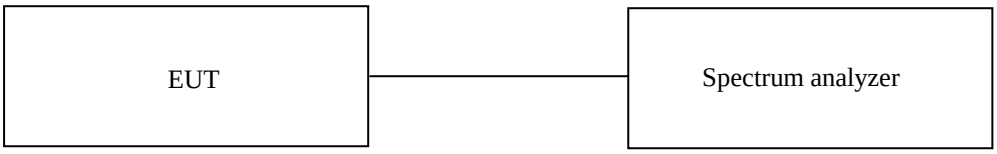
11.1 Operating environment

Temperature : 24 ℃

Relative humidity : 47 % R.H.

11.2 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.



11.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	May. 31, 2016 (1Y)

All test equipment used is calibrated on a regular basis.

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

11.4 Test data for 802.11a RLAN Mode

11.4.1 Test data for Antenna 0

-. Test Date : March 22, 2017

-. Operating condition : Highest Output Power Transmitting Mode

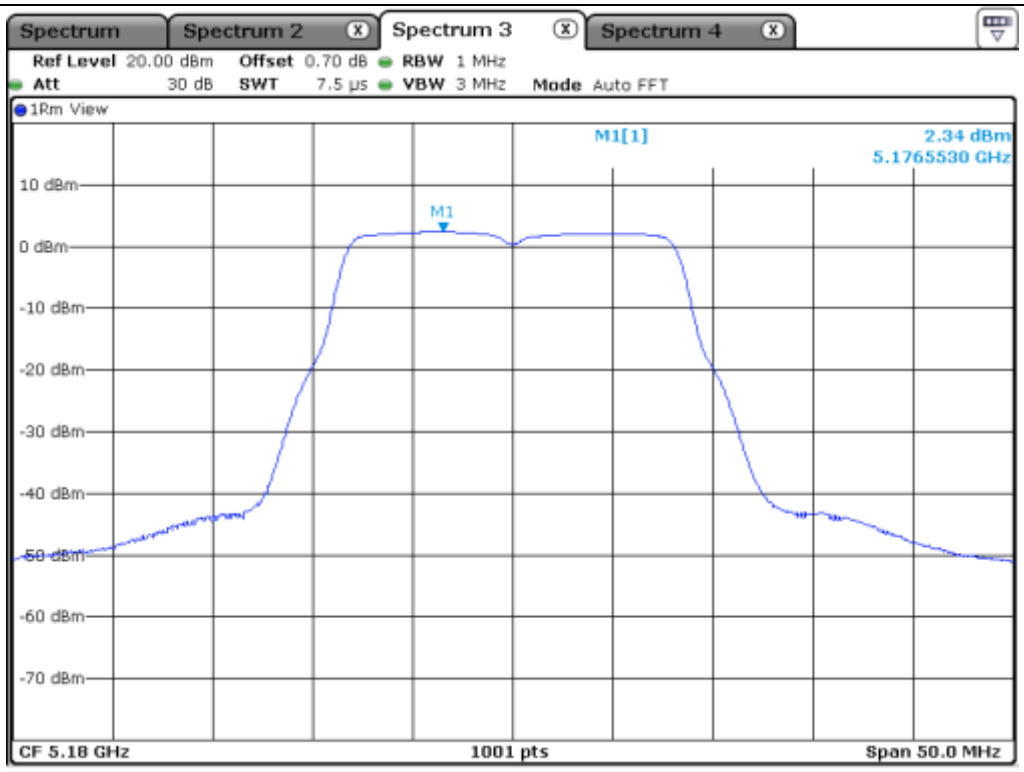
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	2.38	17.00	14.62
	Middle	5 220.00	5.75	17.00	11.25
	High	5 240.00	5.93	17.00	11.07
5 725 ~ 5 850	Low	5 745.00	-0.97	30.00	30.97
	Middle	5 785.00	4.70	30.00	25.30
	High	5 825.00	2.34	30.00	27.66

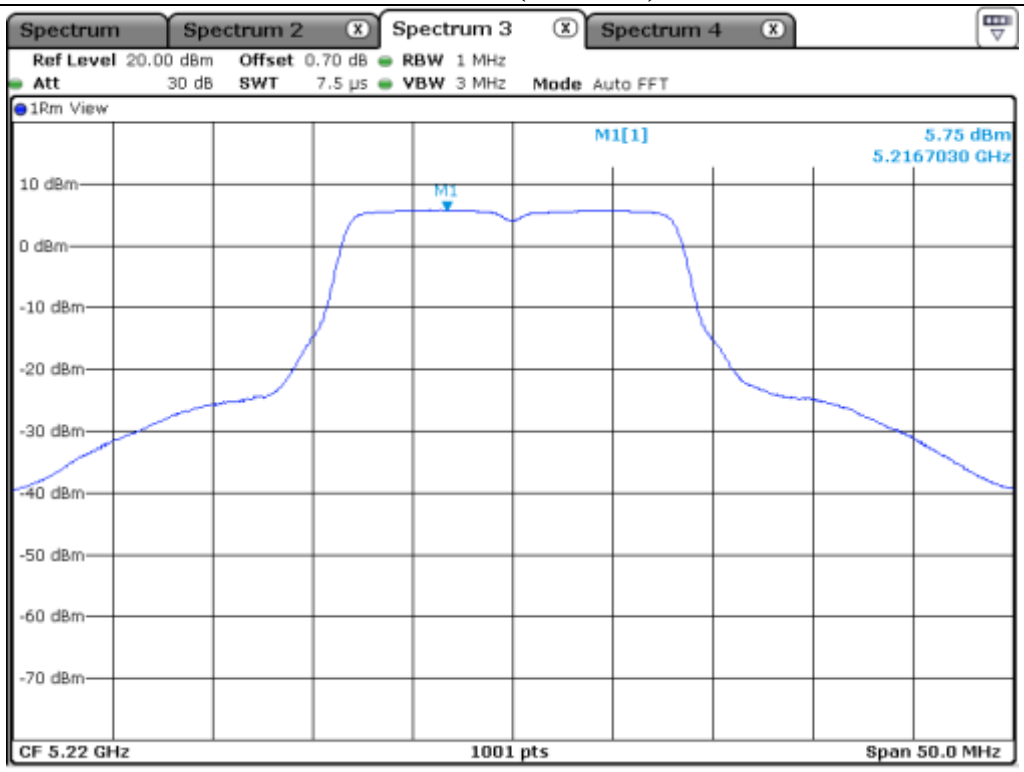
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

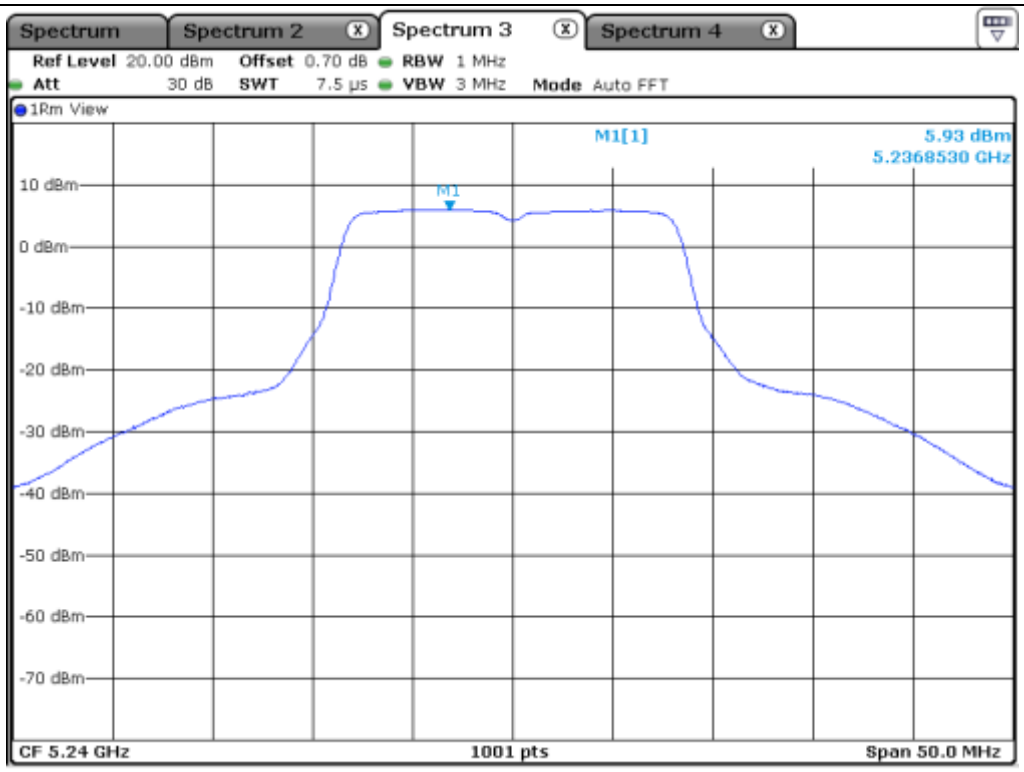
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



Low Channel (5 180 MHz)

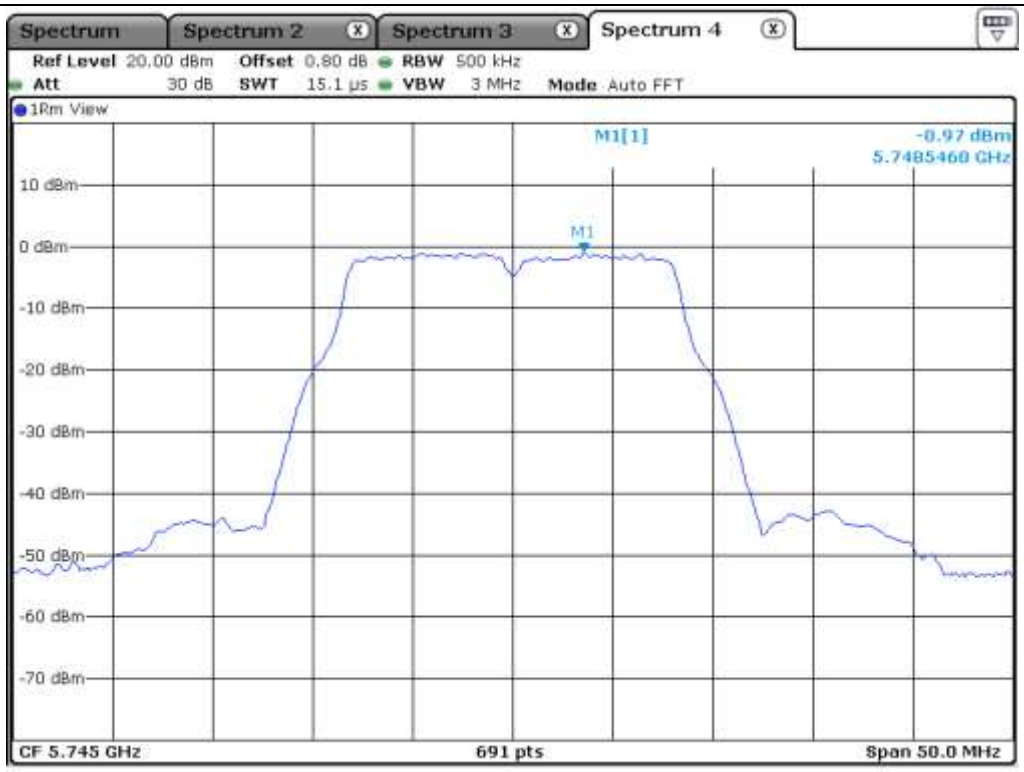


Middle Channel (5 220 MHz)

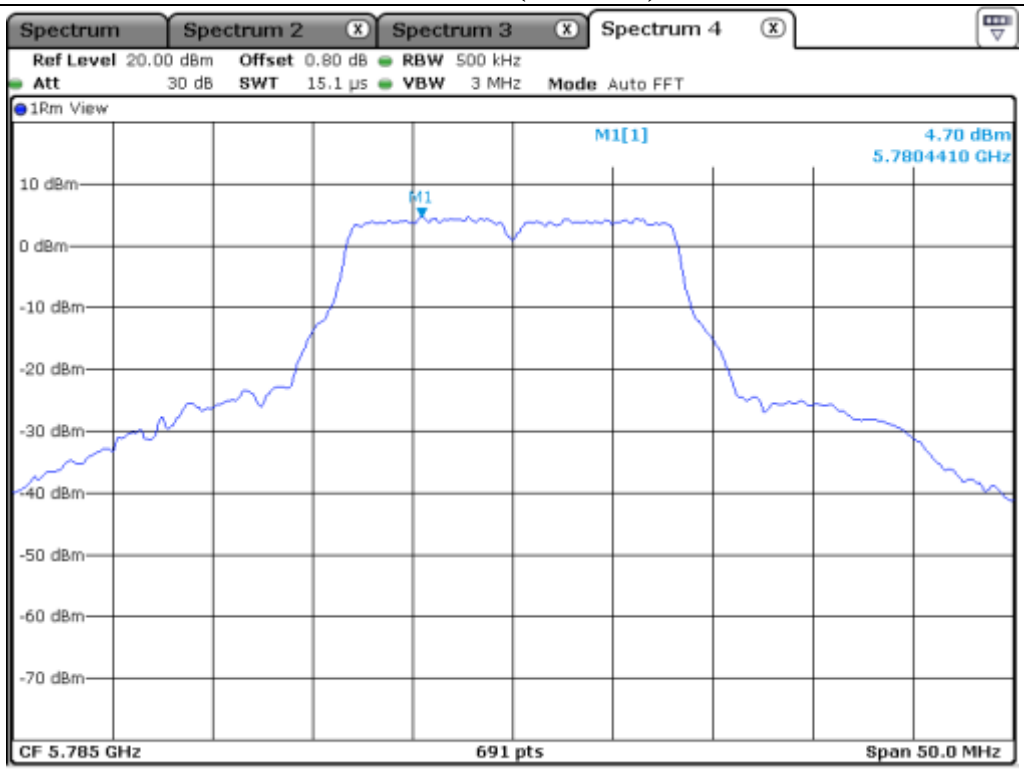


High Channel (5 240 MHz)

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

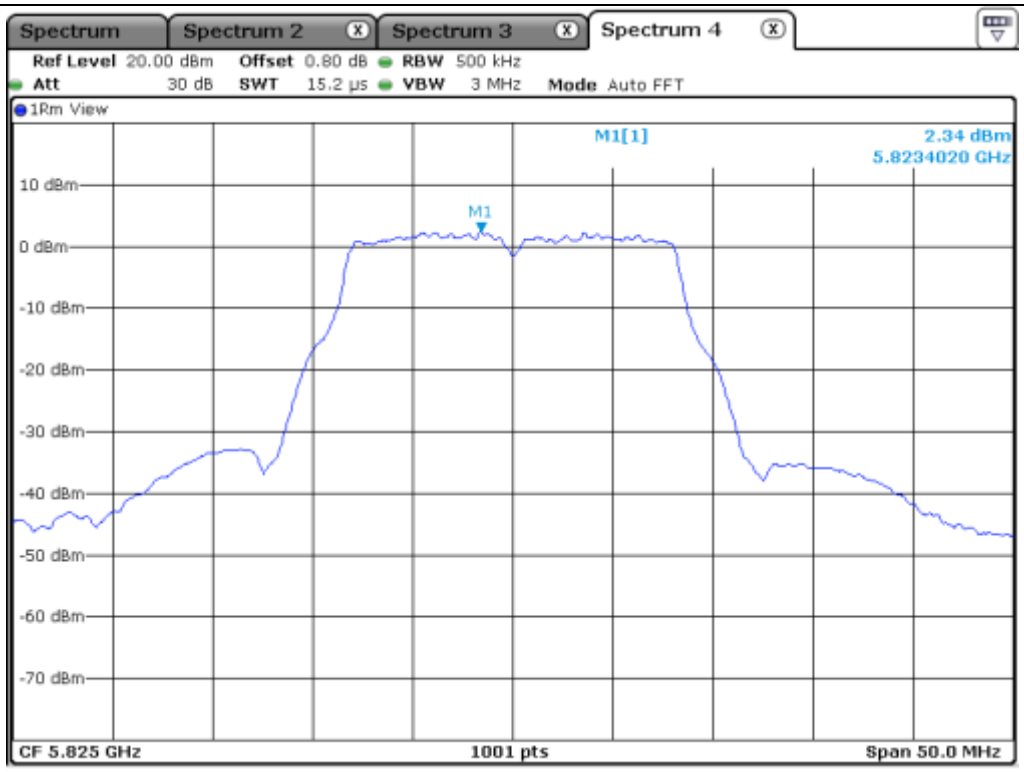


Low Channel (5 745 MHz)



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)

11.4.2 Test data for Antenna 1

-. Test Date : March 22, 2017

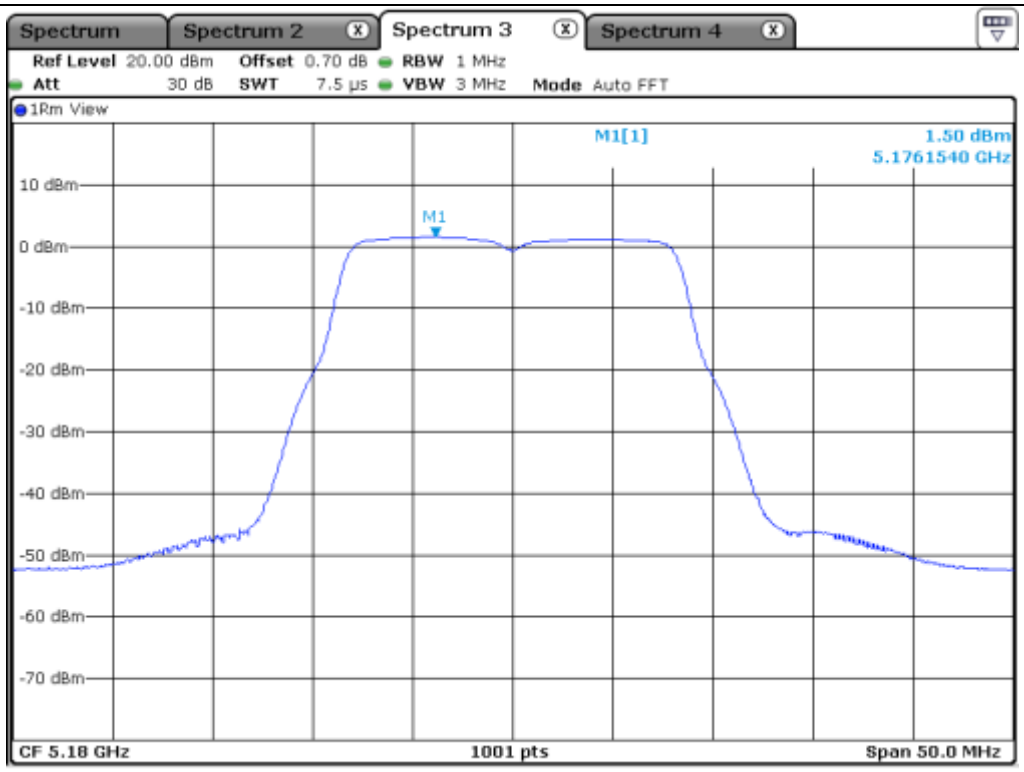
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

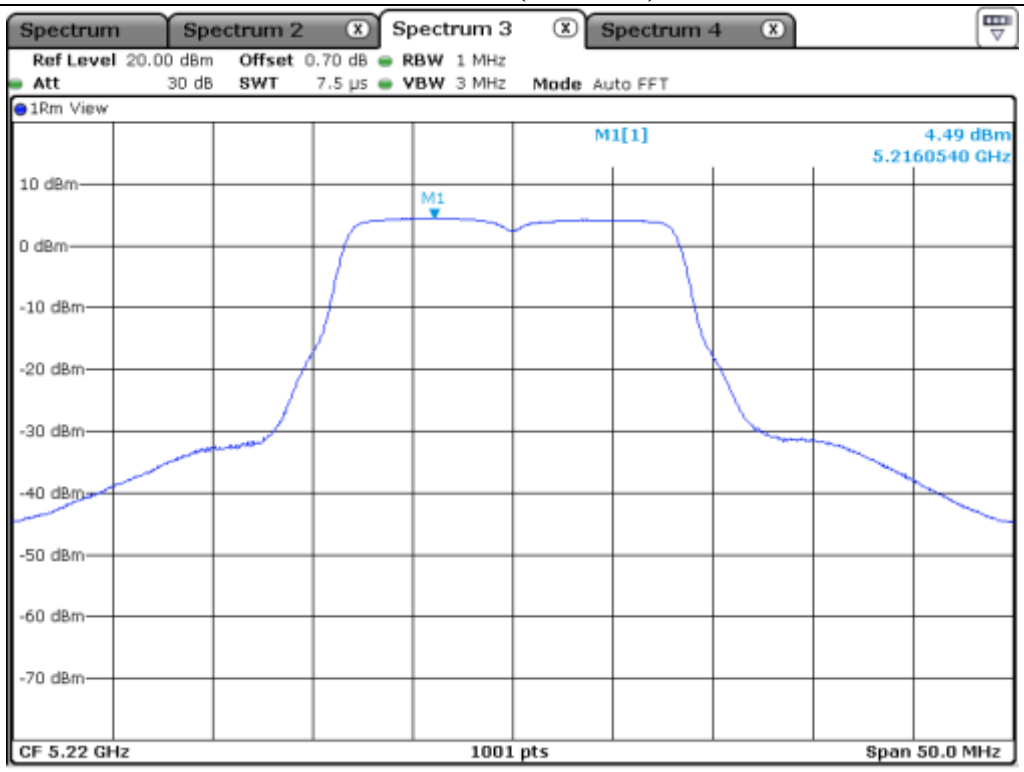
FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	1.50	17.00	15.50
	Middle	5 220.00	4.49	17.00	12.51
	High	5 240.00	4.57	17.00	12.43
5 725 ~ 5 850	Low	5 745.00	-0.45	30.00	30.45
	Middle	5 785.00	4.80	30.00	25.20
	High	5 825.00	2.58	30.00	27.42

Remark: See next page for measurement data.

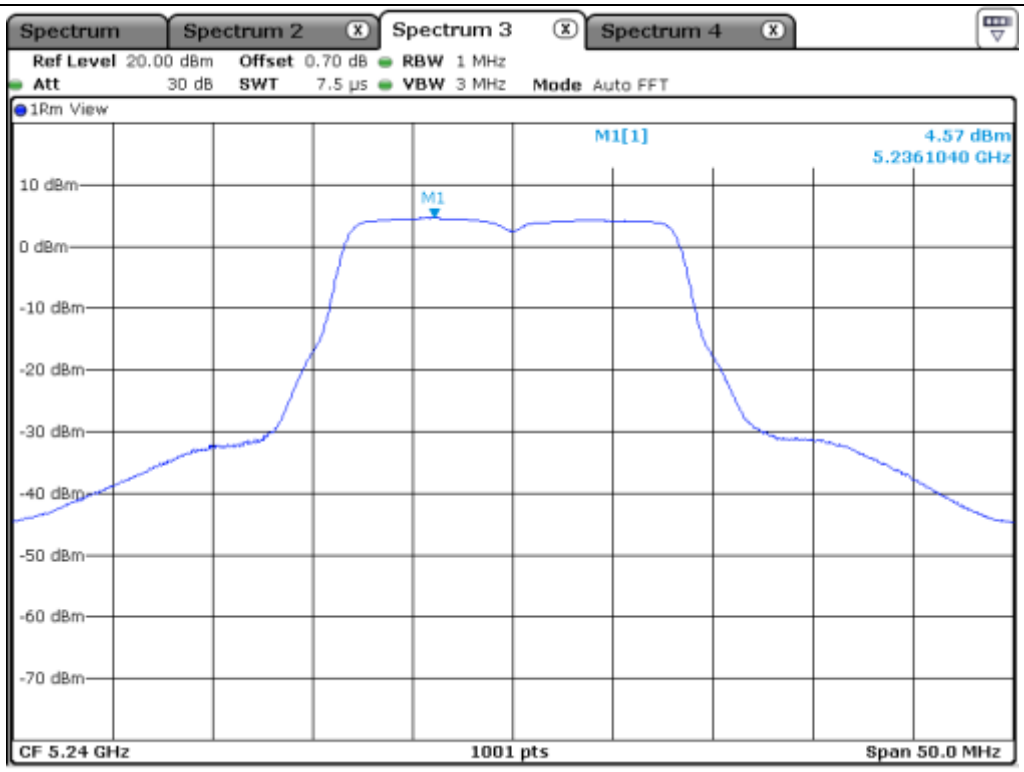
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel (5 180 MHz)

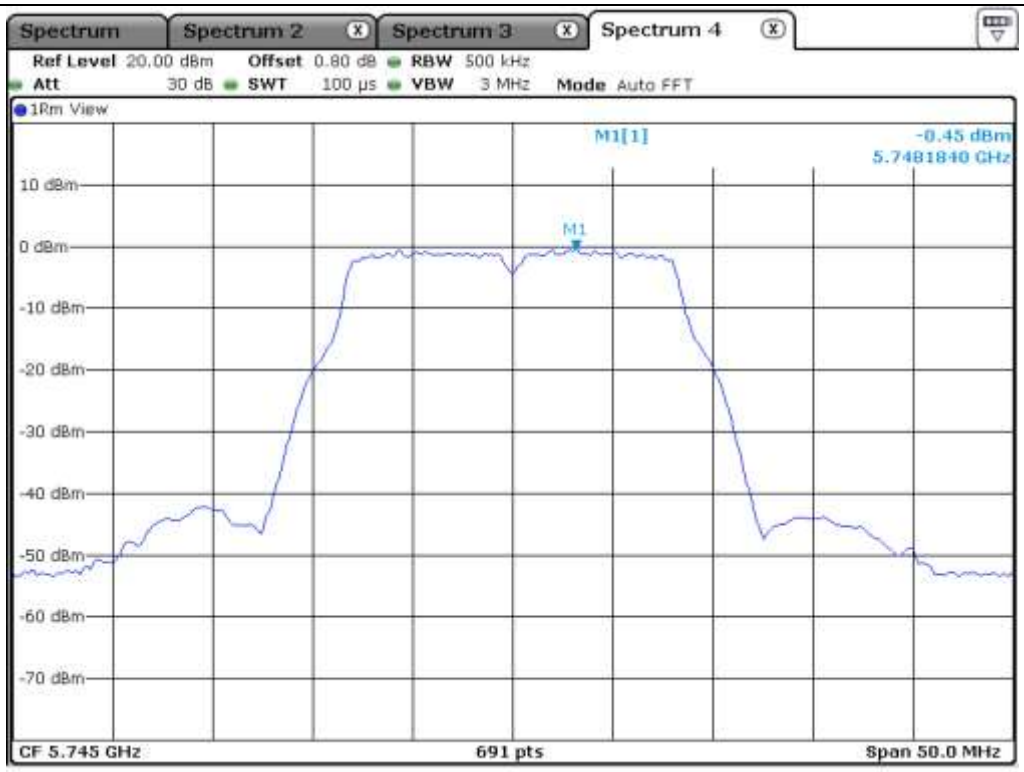


Middle Channel (5 220 MHz)

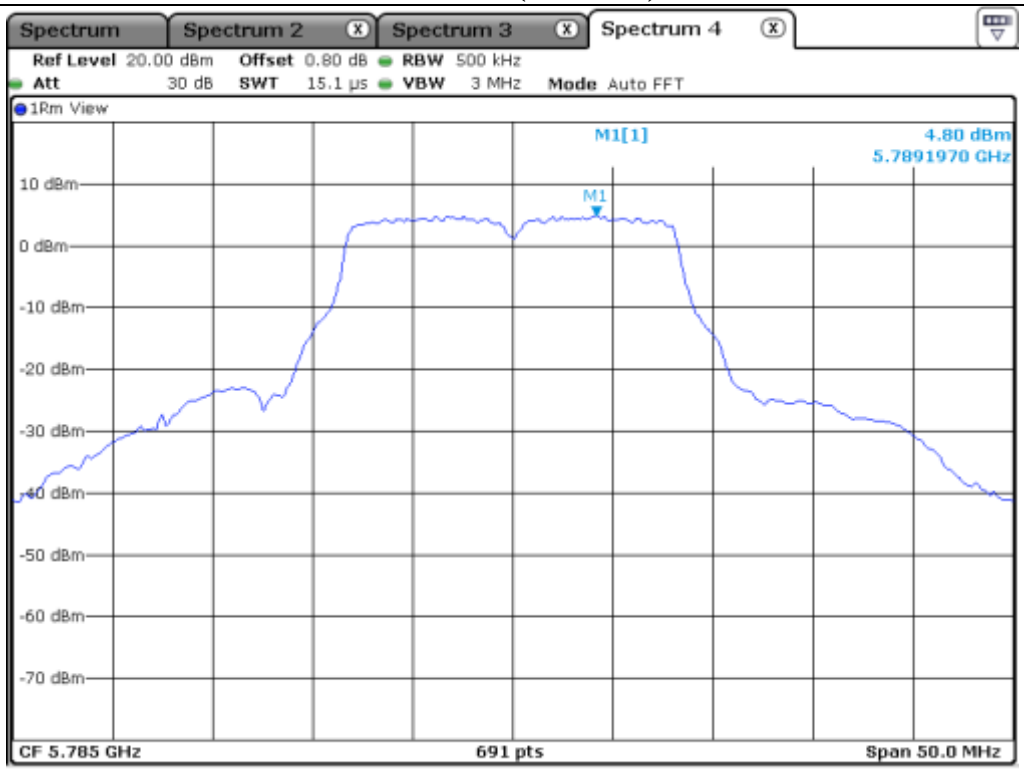


High Channel (5 240 MHz)

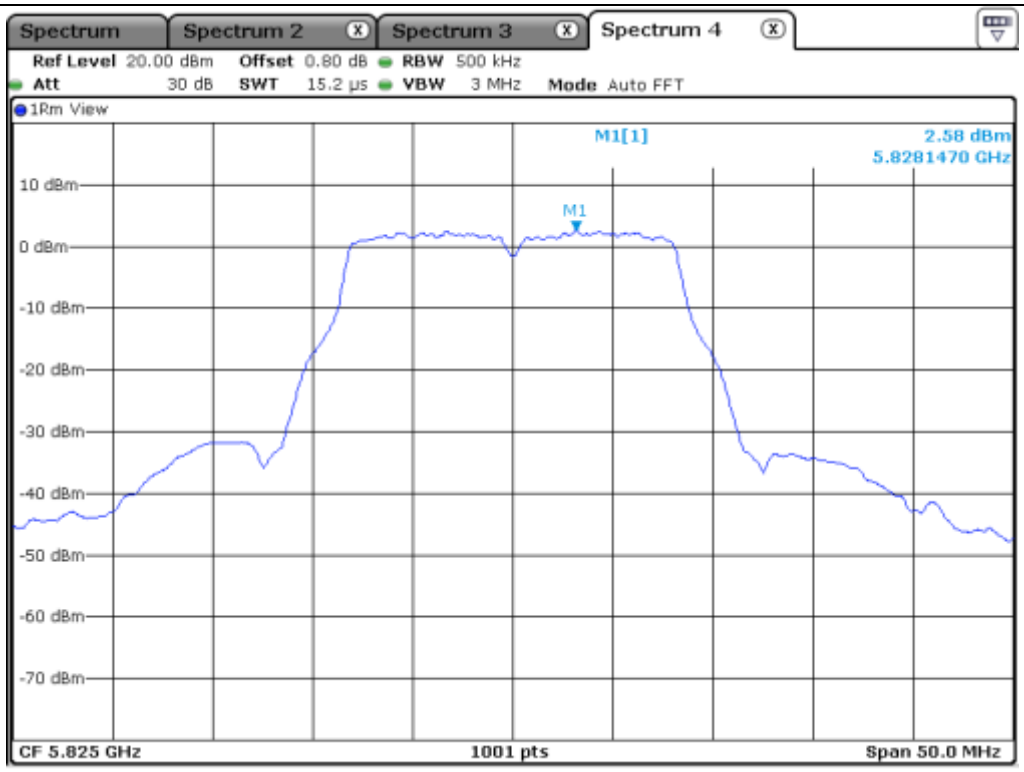
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



Low Channel (5 745 MHz)



Middle Channel (5 785 MHz)



High Channel (5 825 MHz)

11.4.3 Test data for Antenna 2

-. Test Date : March 22, 2017

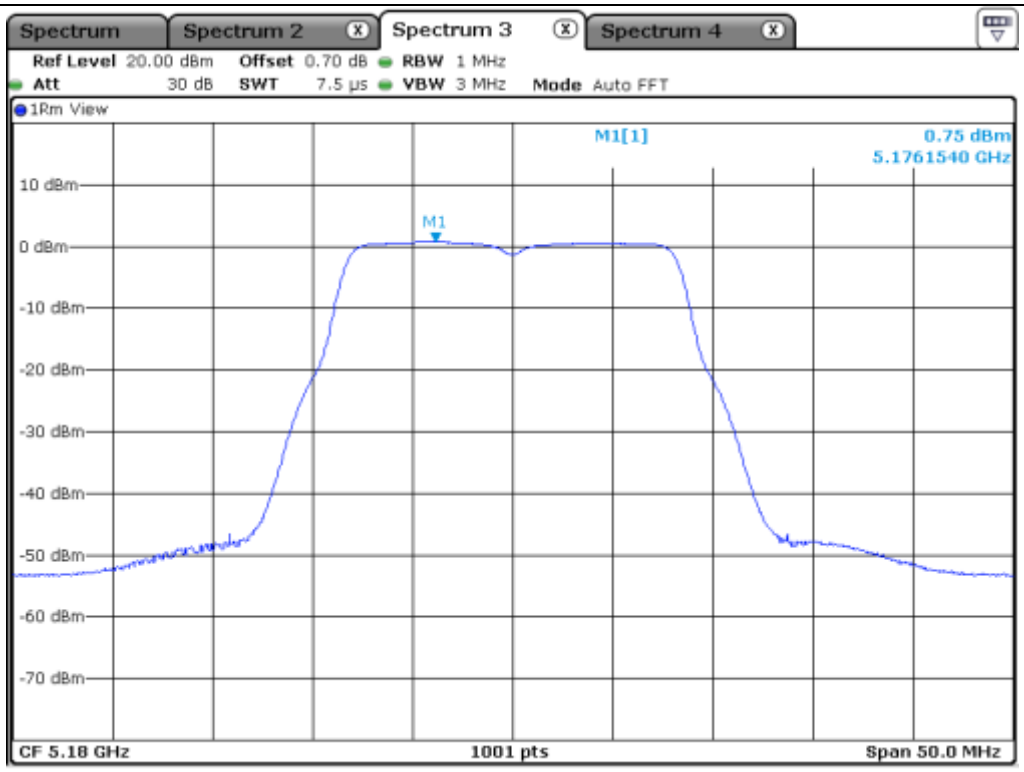
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

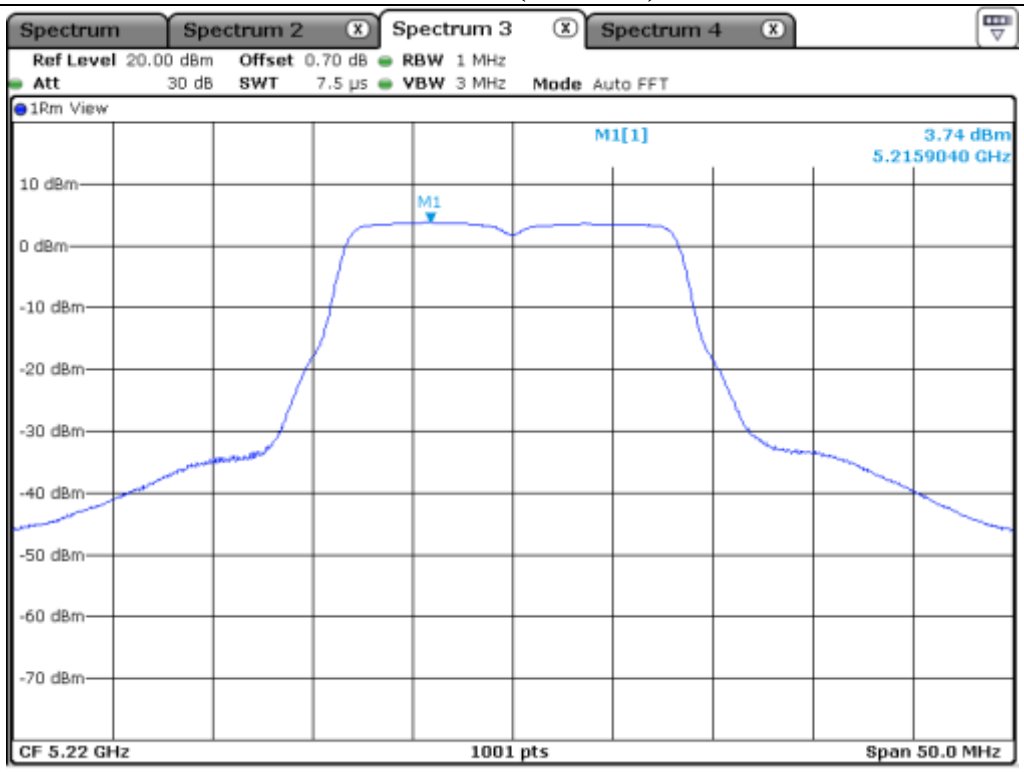
FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	0.75	17.00	16.25
	Middle	5 220.00	3.74	17.00	13.26
	High	5 240.00	4.04	17.00	12.96
5 725 ~ 5 850	Low	5 745.00	-0.52	30.00	30.52
	Middle	5 785.00	5.24	30.00	24.76
	High	5 825.00	2.78	30.00	27.22

Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

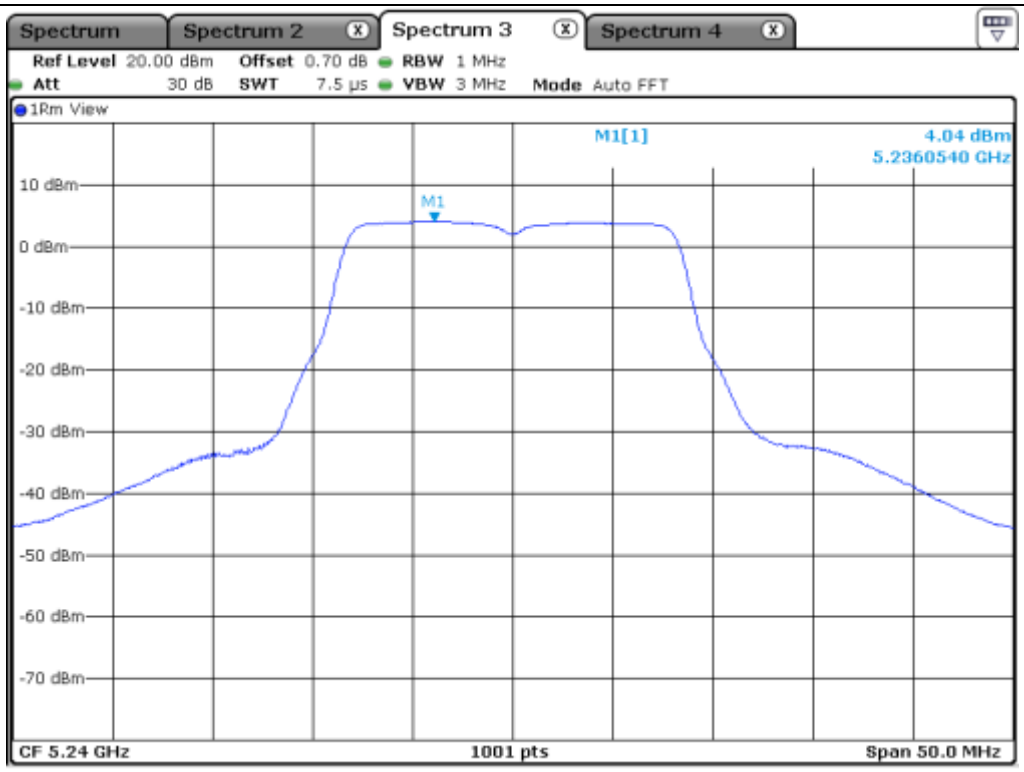


Low Channel (5 180 MHz)

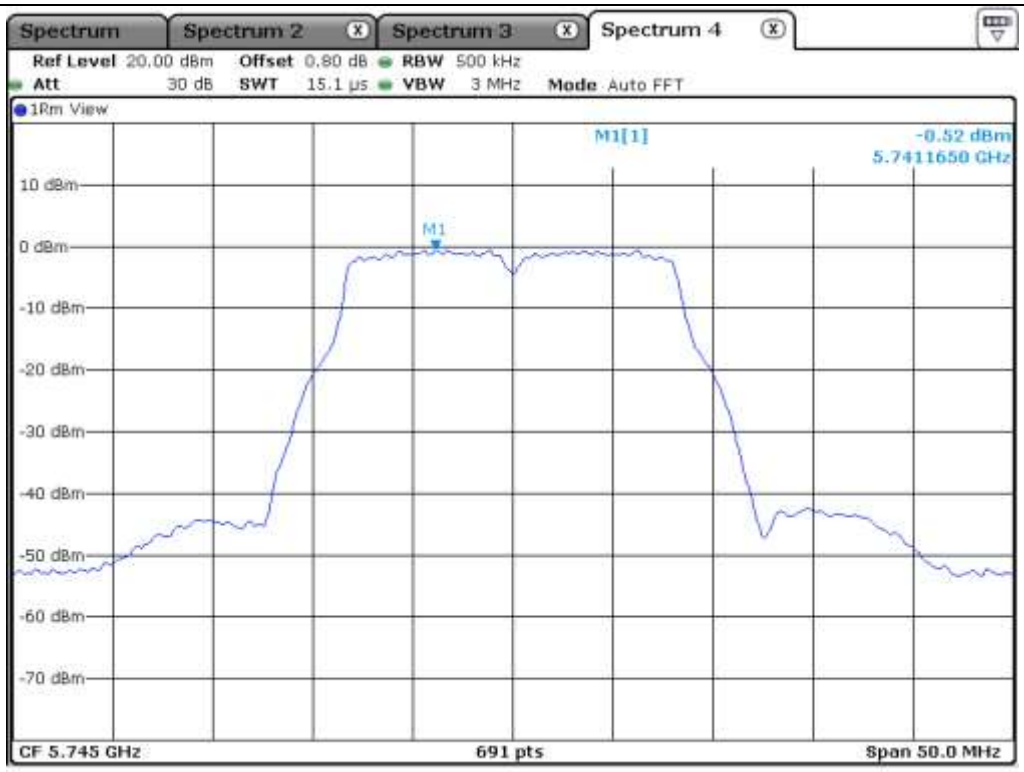


Middle Channel (5 220 MHz)

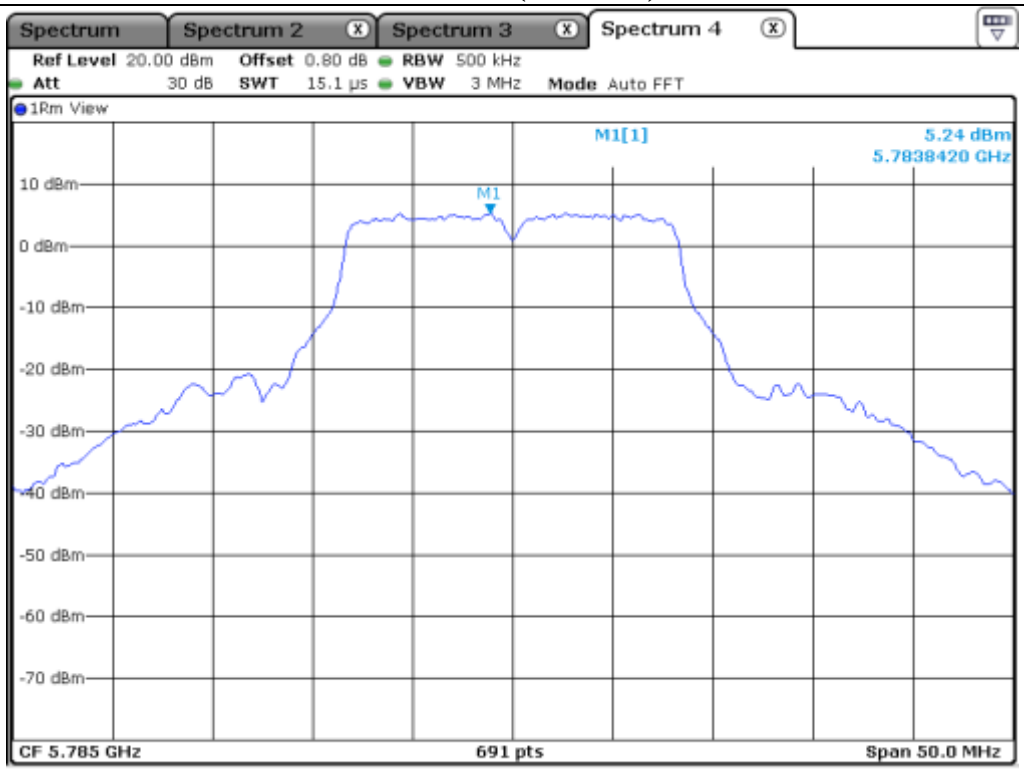
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



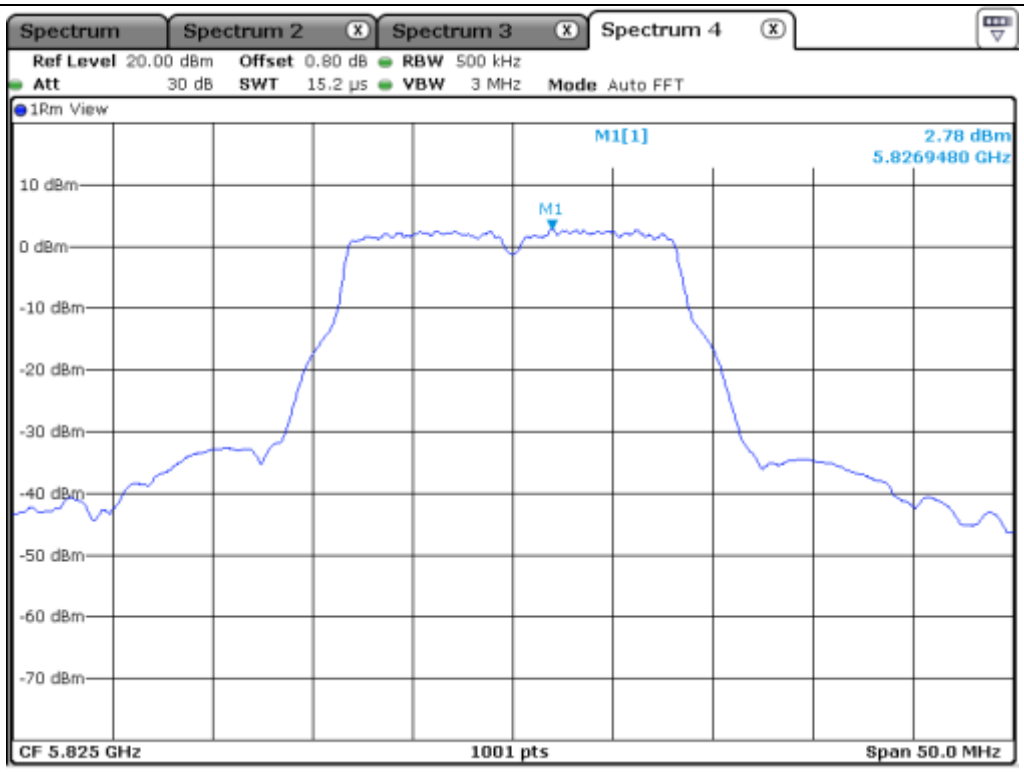
High Channel (5 240 MHz)



Low Channel (5 745 MHz)



Middle Channel (5 785 MHz)



High Channel (5 825 MHz)

11.4.4 Test data for Antenna 3

-. Test Date : March 22, 2017

-. Operating condition : Highest Output Power Transmitting Mode

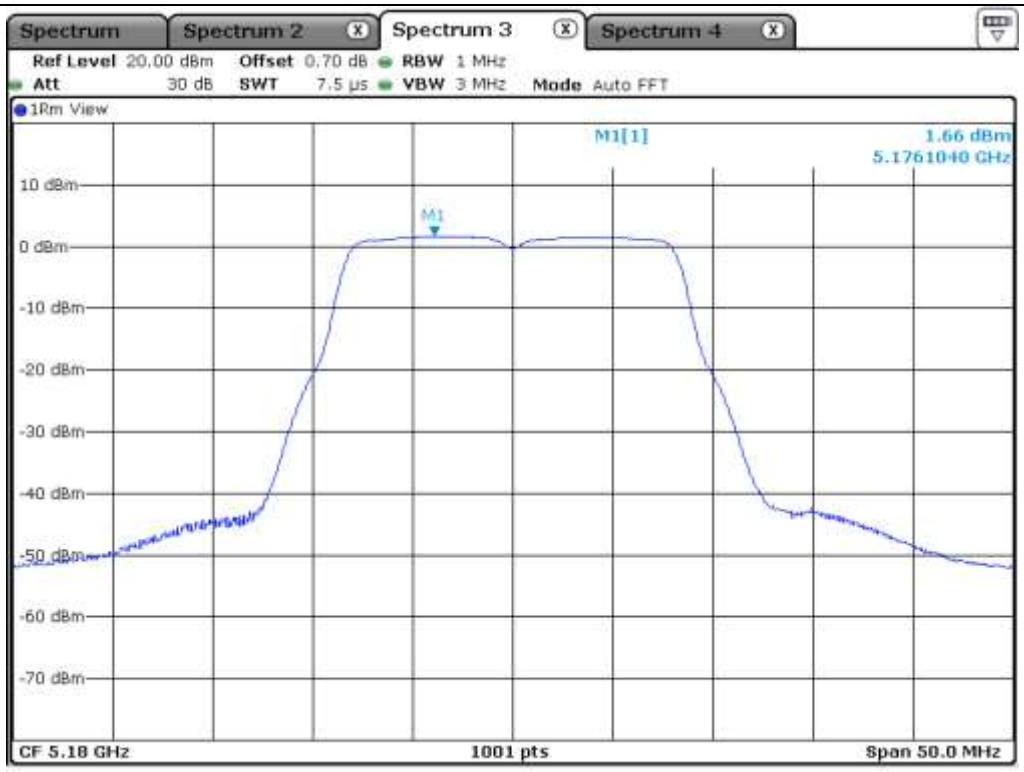
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	1.66	17.00	15.34
	Middle	5 220.00	5.18	17.00	11.82
	High	5 240.00	5.36	17.00	11.64
5 725 ~ 5 850	Low	5 745.00	0.60	30.00	29.40
	Middle	5 785.00	5.99	30.00	24.01
	High	5 825.00	2.95	30.00	27.05

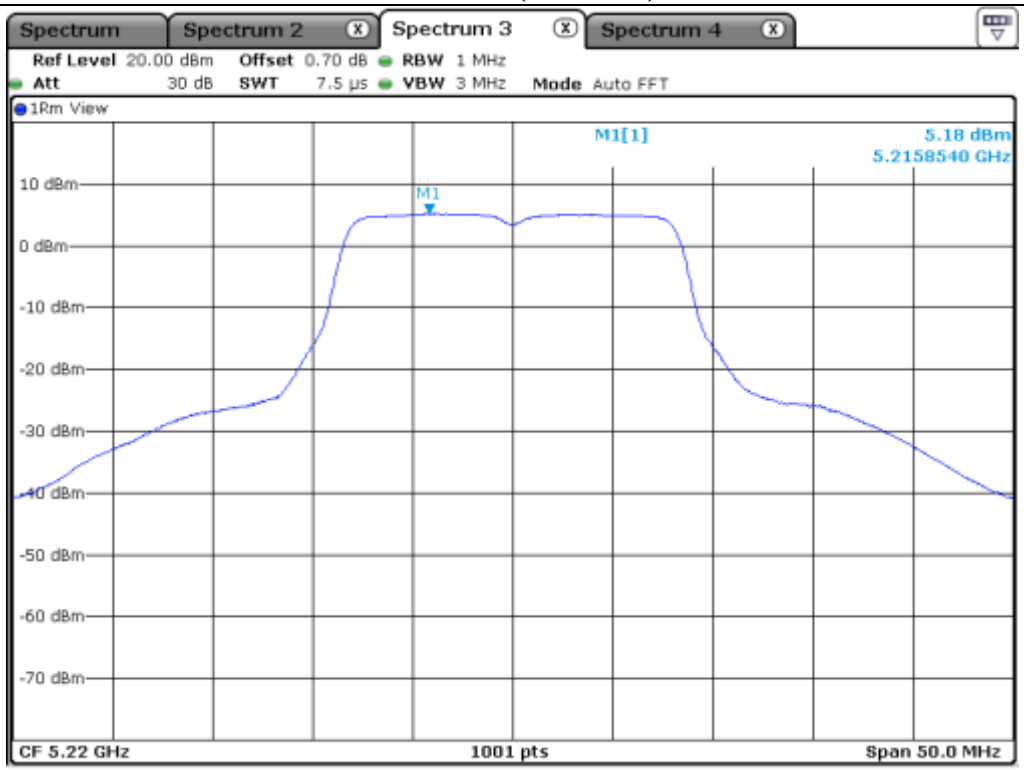
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

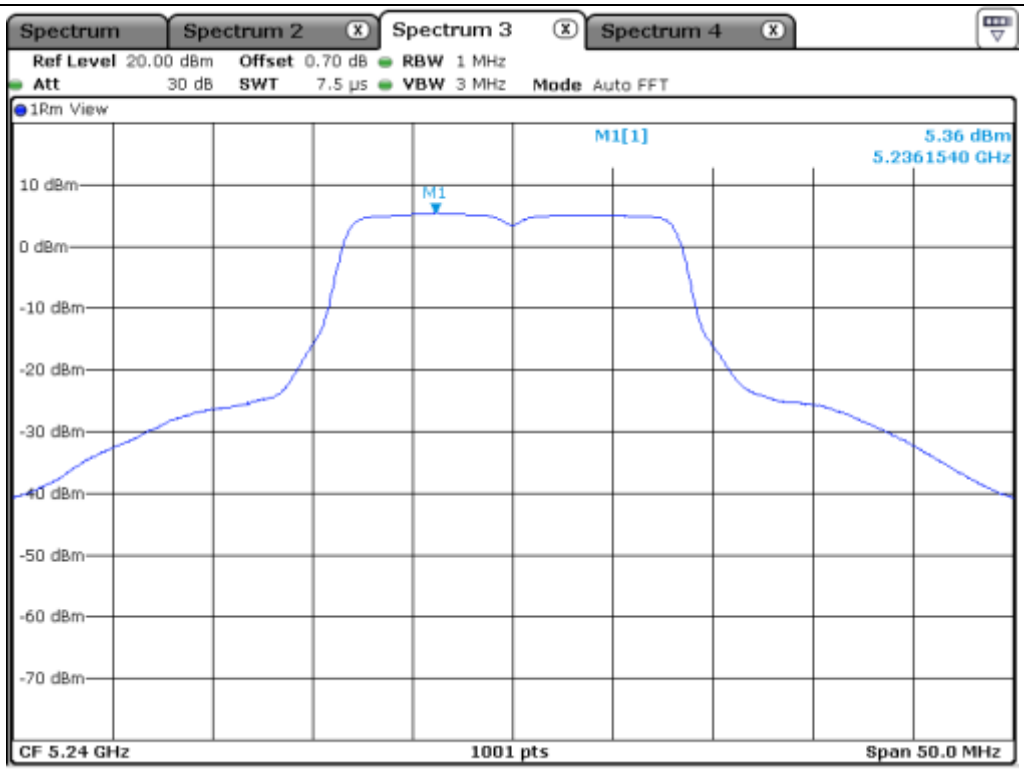
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



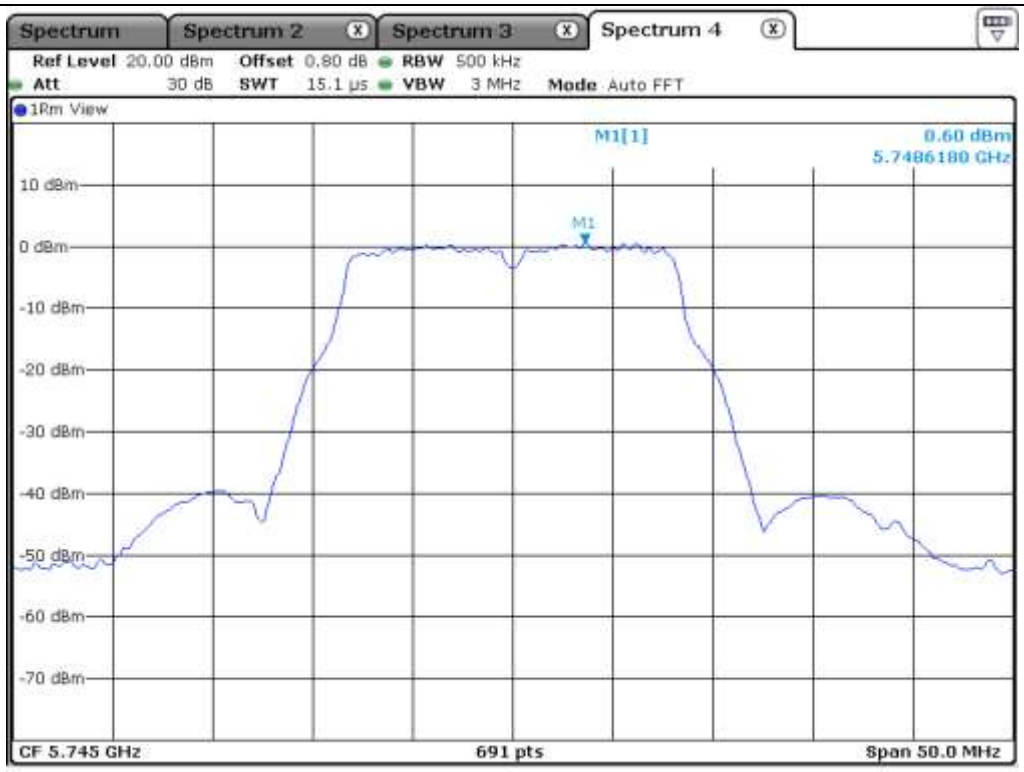
Low Channel (5 180 MHz)



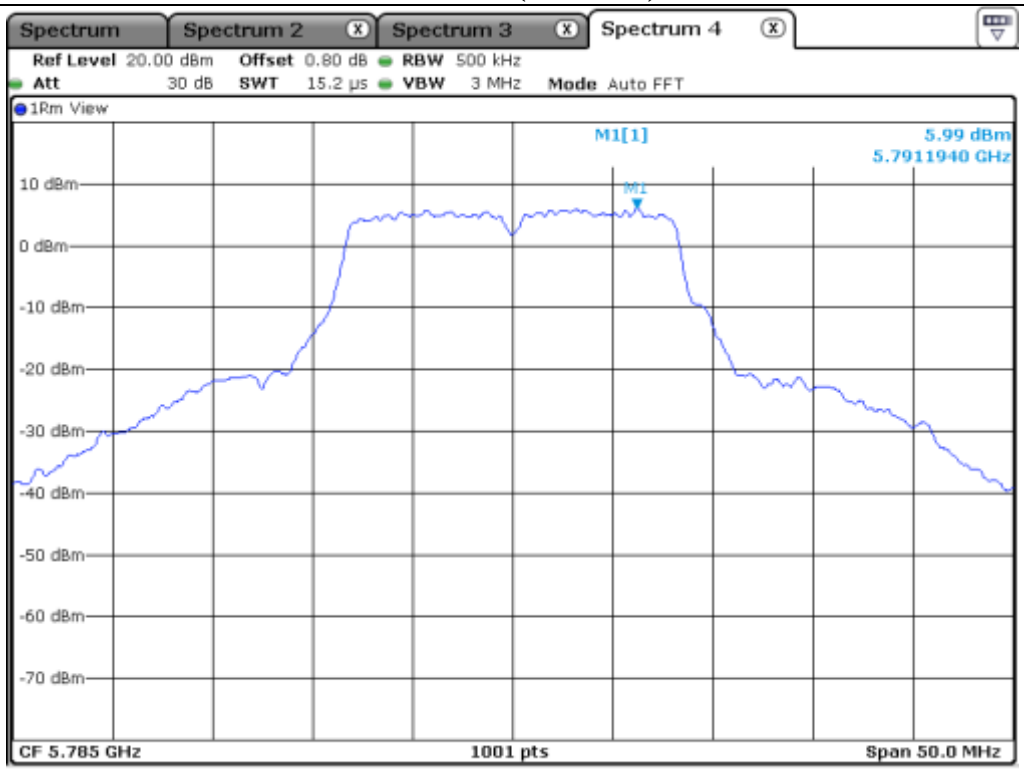
Middle Channel (5 220 MHz)



High Channel (5 240 MHz)

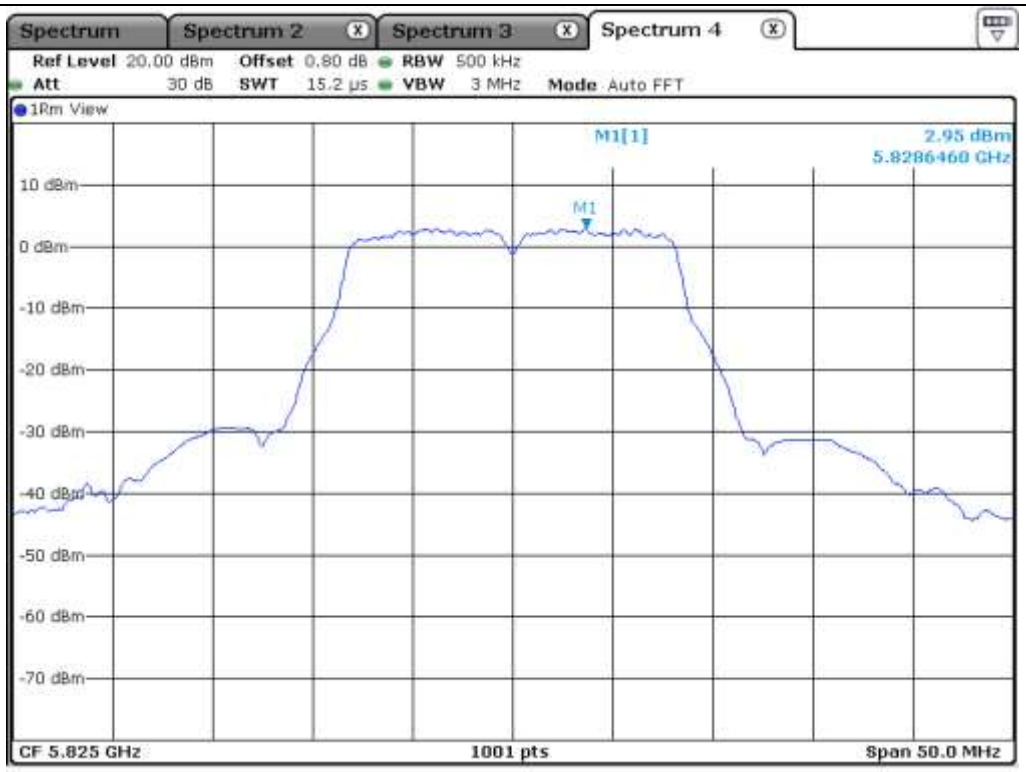


Low Channel (5 745 MHz)



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)

11.4.5 Test data for Multiple Transmit

-. Test Date : March 22, 2017

-. 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	7.63	14.18	6.55
	Middle	5 220.00	10.88	14.18	3.30
	High	5 240.00	11.06	14.18	3.12
5 725 ~ 5 850	Low	5 745.00	5.72	24.98	19.26
	Middle	5 785.00	11.23	24.98	13.75
	High	5 825.00	8.69	24.98	16.29

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna1 Power Density}/10)}+10^{(\text{Antenna2 Power Density}/10)})$

Tested by: Hyung-Kwon, Oh / Engineer

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

11.5 Test data for 802.11n_HT20 RLAN Mode

11.5.1 Test data for Antenna 0

-. Test Date : March 22, 2017

-. Operating condition : Highest Output Power Transmitting Mode

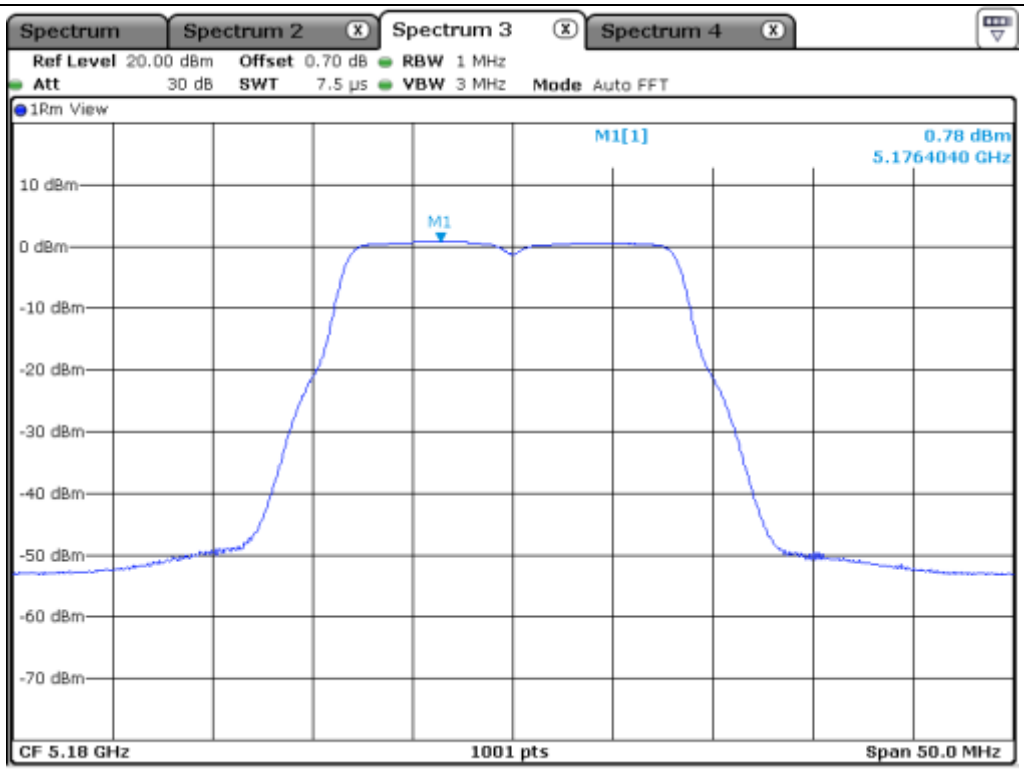
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	0.78	17.00	16.22
	Middle	5 220.00	5.52	17.00	11.48
	High	5 240.00	5.94	17.00	11.06
5 725 ~ 5 850	Low	5 745.00	-2.16	30.00	32.16
	Middle	5 785.00	4.17	30.00	25.83
	High	5 825.00	2.10	30.00	27.90

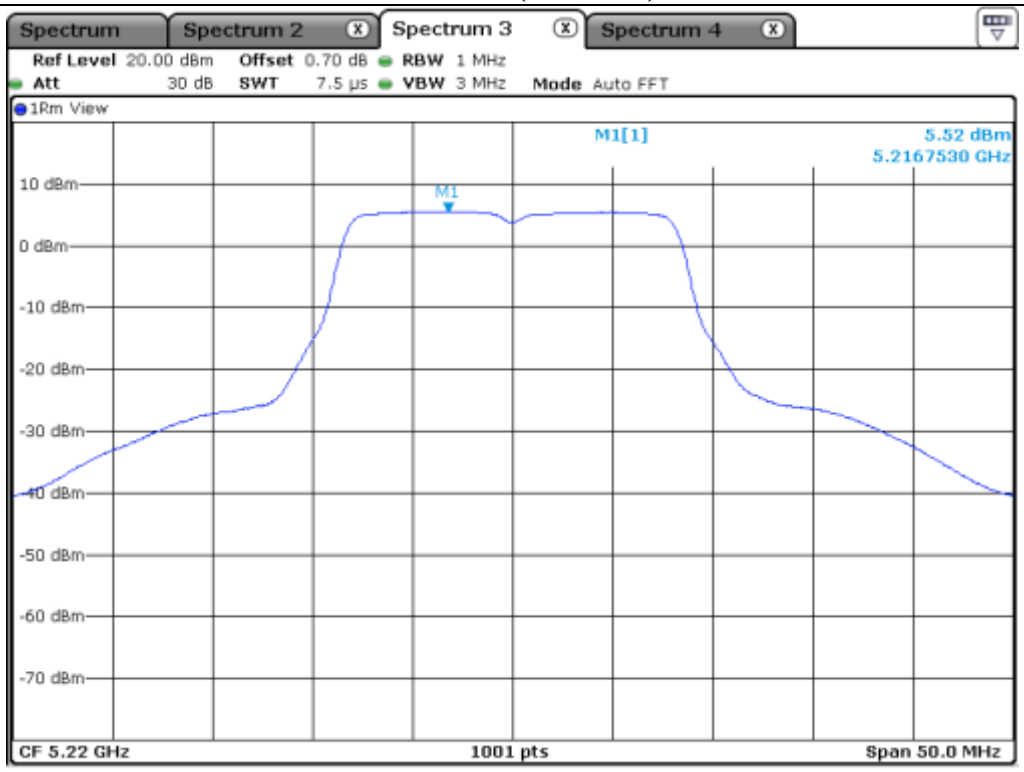
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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

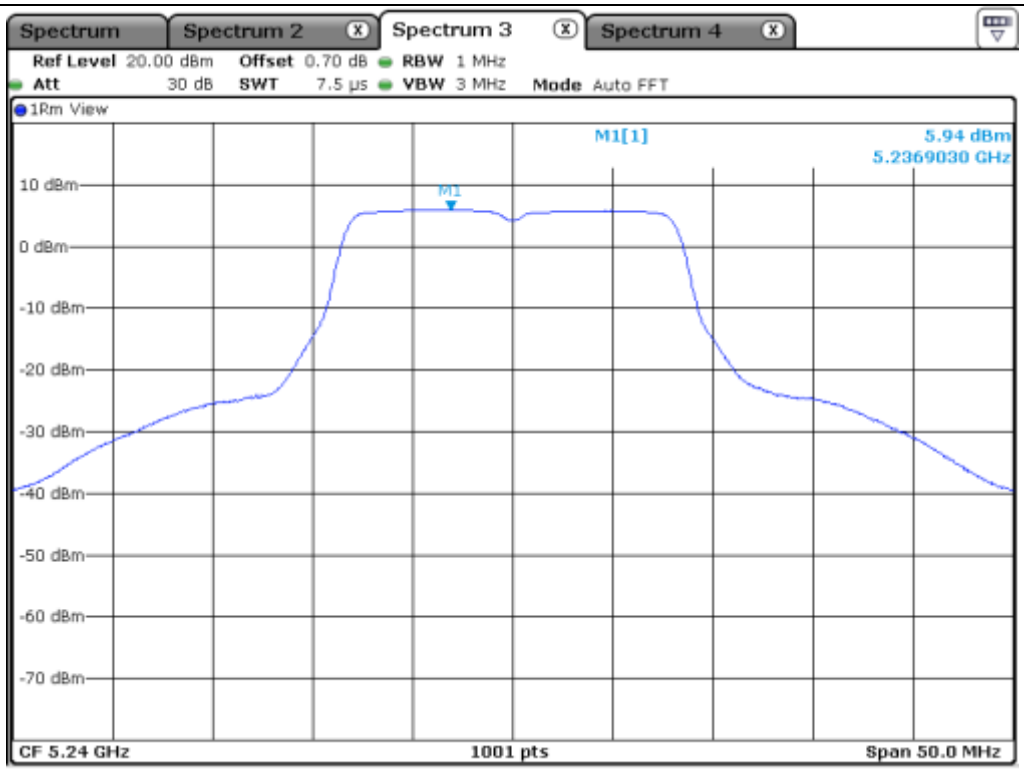


Low Channel (5 180 MHz)



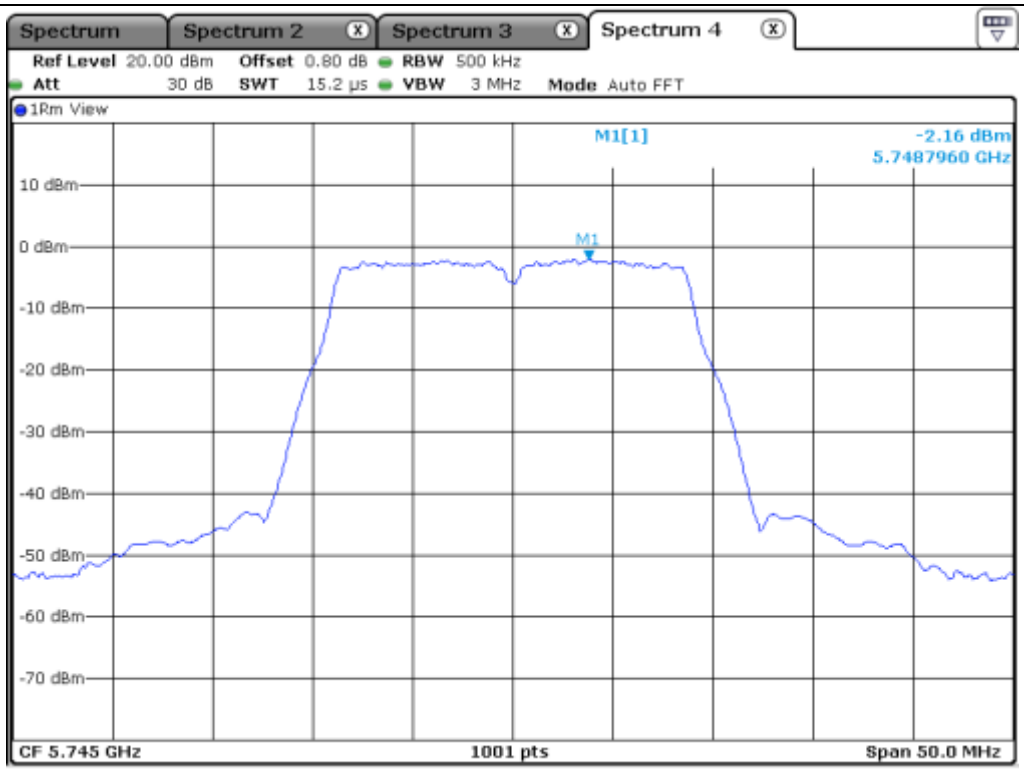
Middle Channel (5 220 MHz)

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

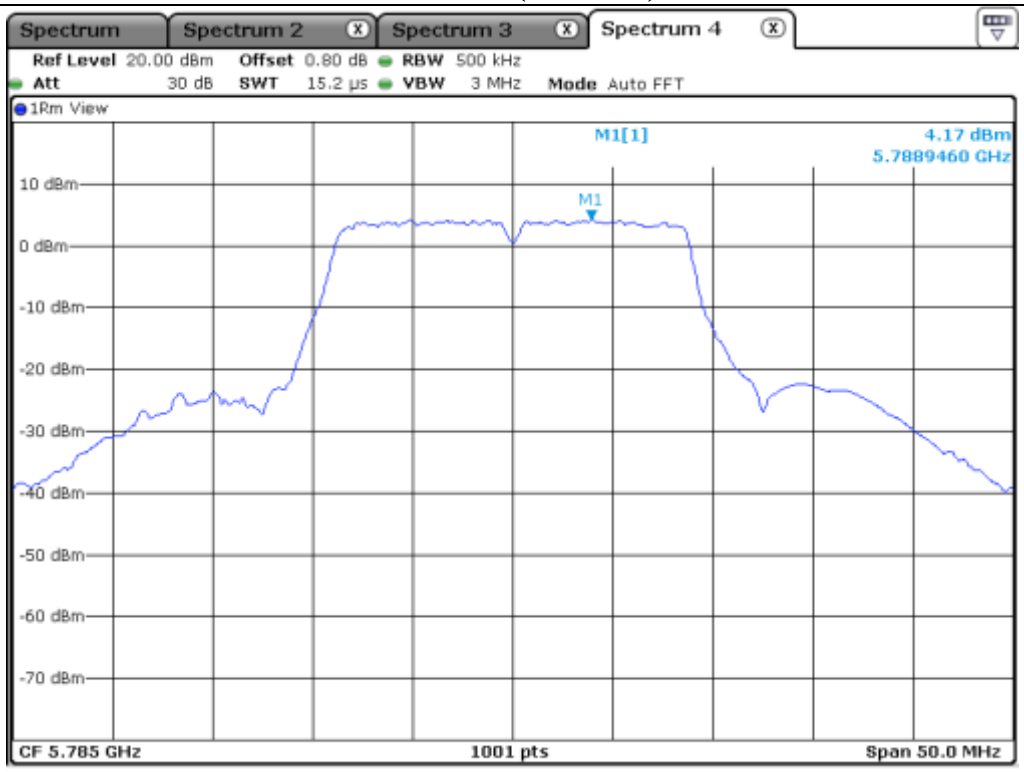


High Channel (5 240 MHz)

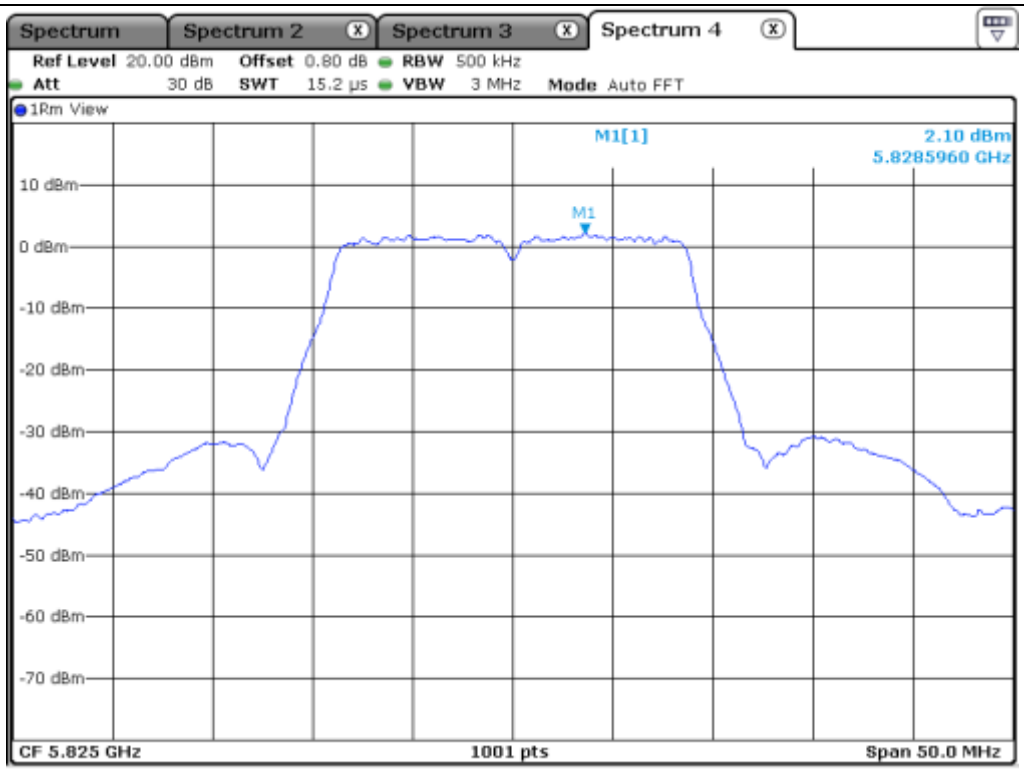
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



Low Channel (5 745 MHz)



Middle Channel (5 785 MHz)



High Channel (5 825 MHz)

11.5.2 Test data for Antenna 1

-. Test Date : March 22, 2017

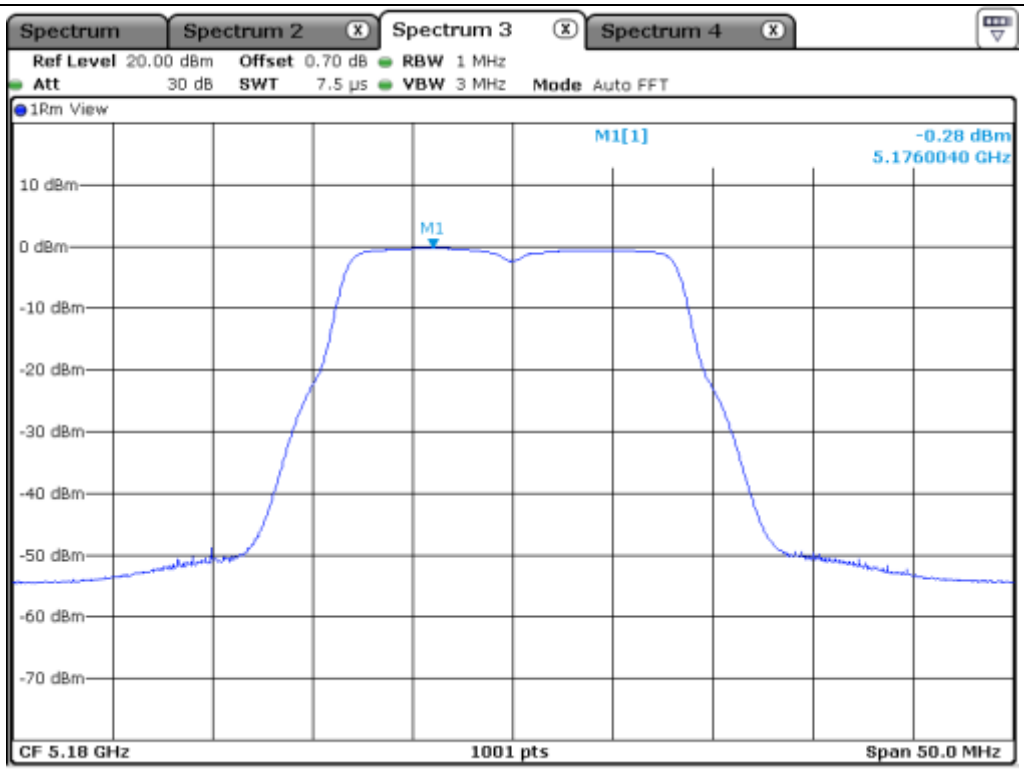
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

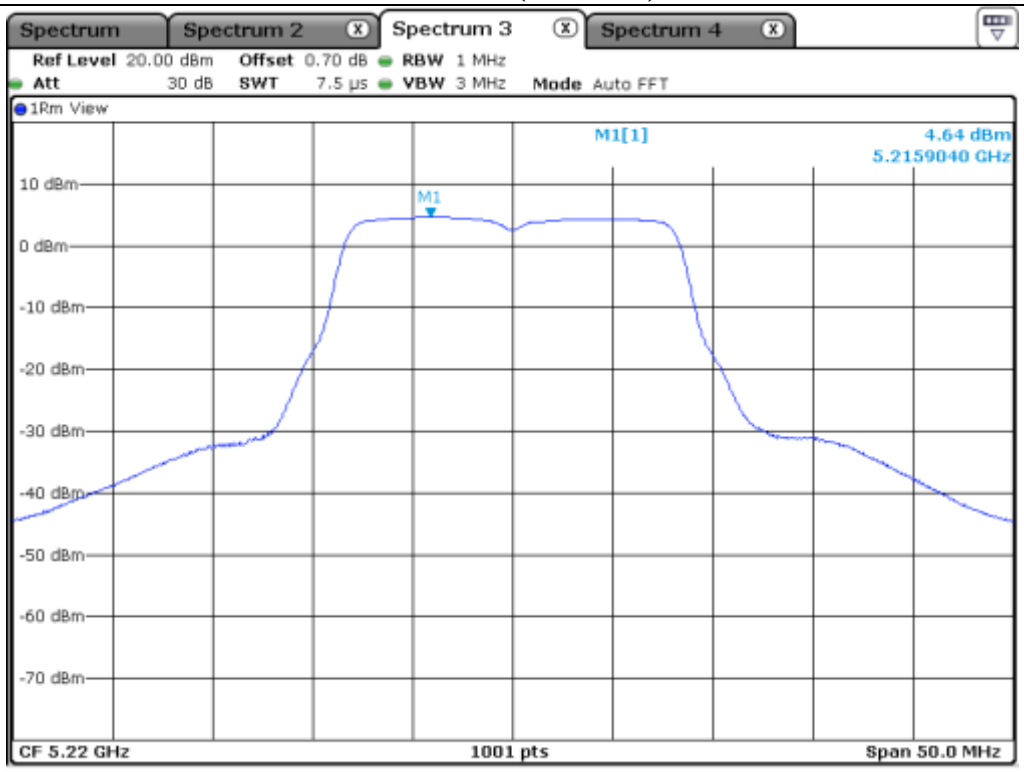
FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	-0.28	17.00	17.28
	Middle	5 220.00	4.64	17.00	12.36
	High	5 240.00	4.58	17.00	12.42
5 725 ~ 5 850	Low	5 745.00	-0.55	30.00	30.55
	Middle	5 785.00	5.31	30.00	24.69
	High	5 825.00	2.95	30.00	27.05

Remark: See next page for measurement data.

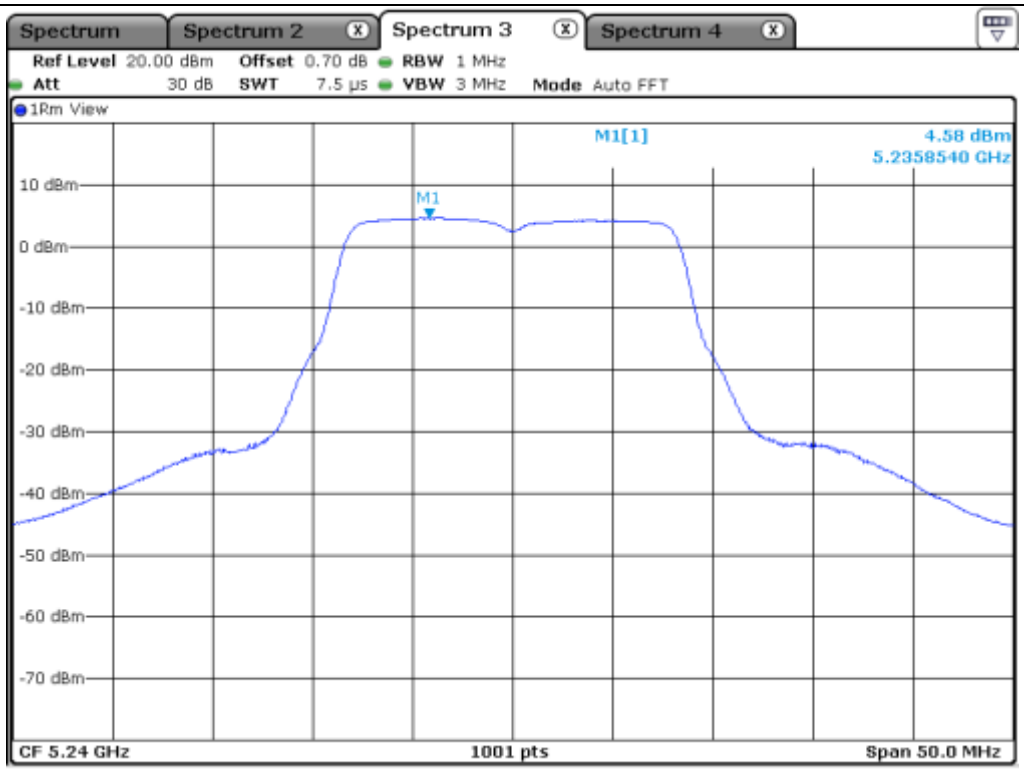
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel (5 180 MHz)

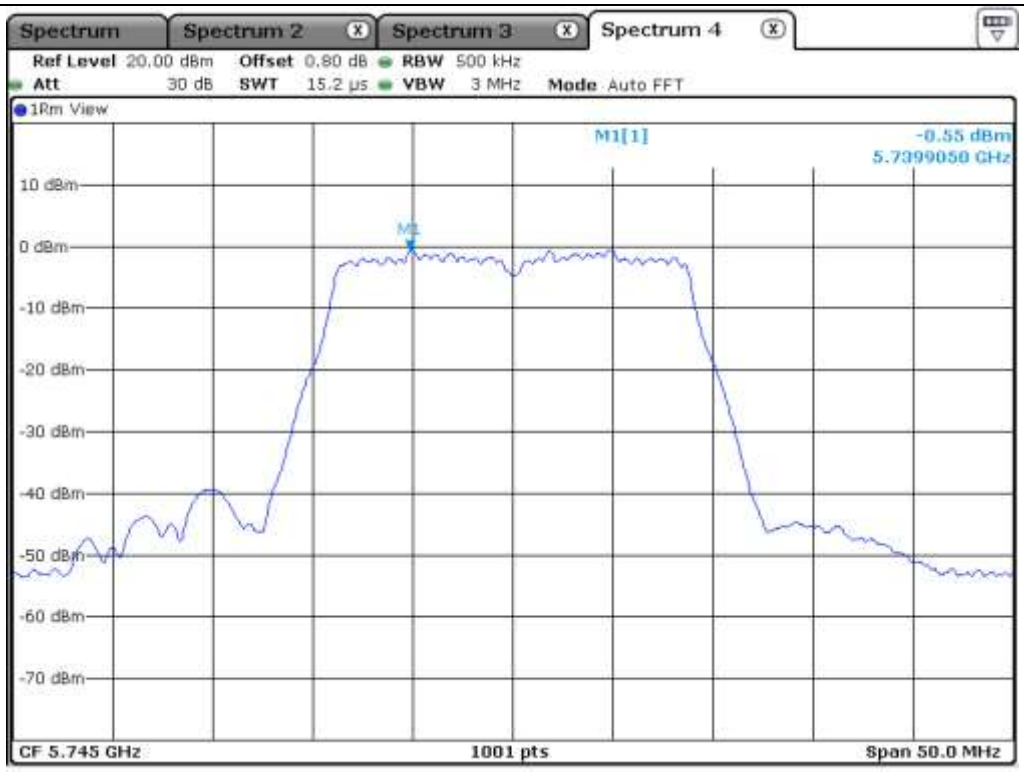


Middle Channel (5 220 MHz)

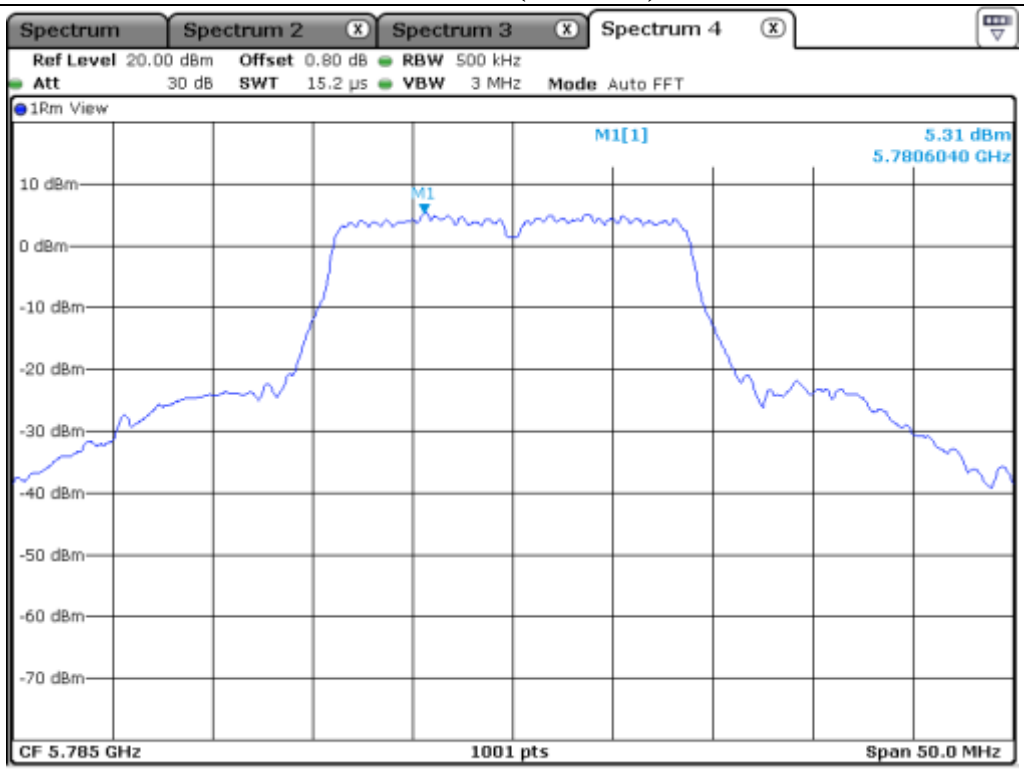


High Channel (5 240 MHz)

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

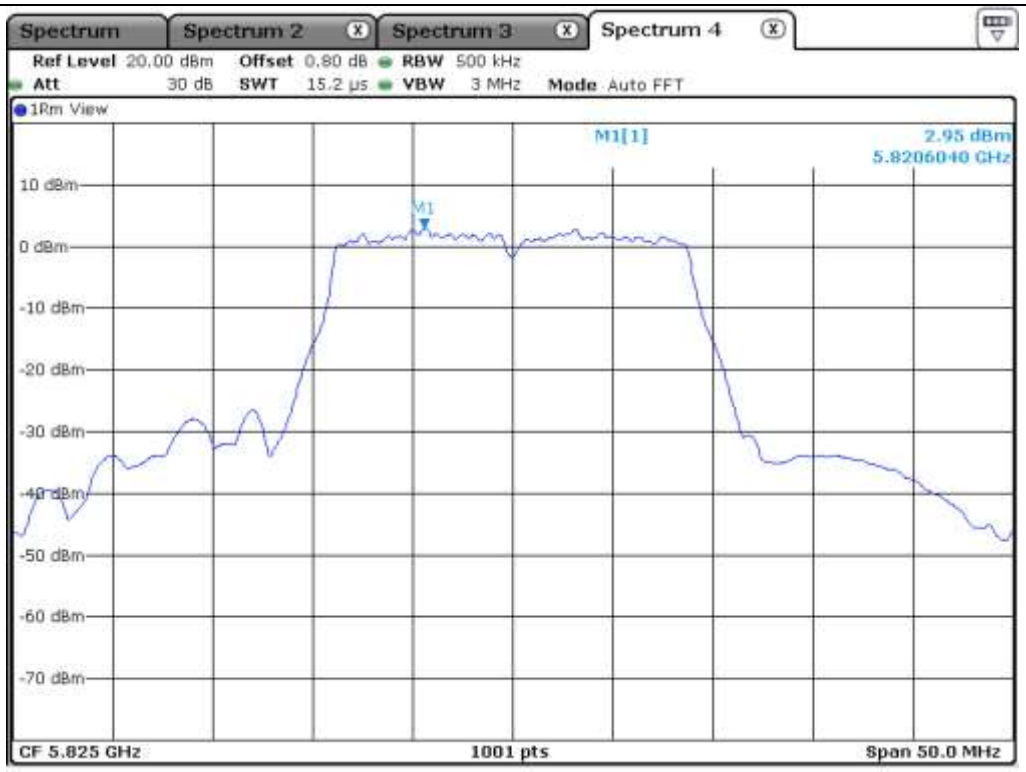


Low Channel (5 745 MHz)



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)

11.5.3 Test data for Antenna 2

-. Test Date : March 22, 2017

-. Operating condition : Highest Output Power Transmitting Mode

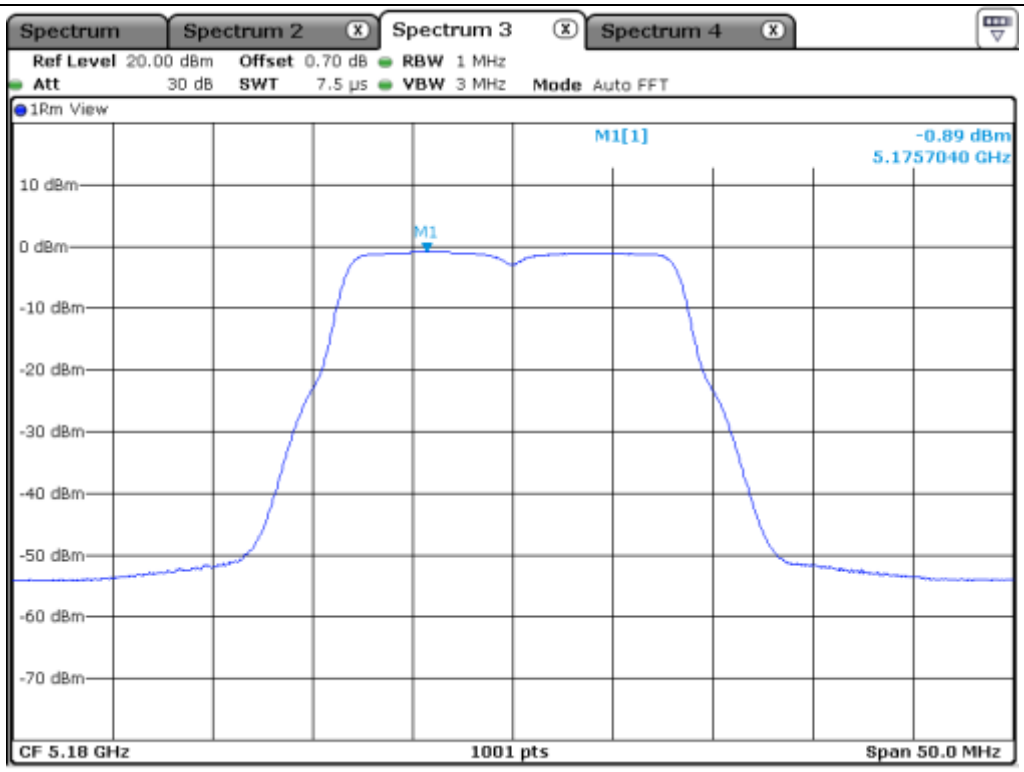
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	-0.89	17.00	17.89
	Middle	5 220.00	3.98	17.00	13.02
	High	5 240.00	4.12	17.00	12.88
5 725 ~ 5 850	Low	5 745.00	-0.73	30.00	30.73
	Middle	5 785.00	5.50	30.00	24.50
	High	5 825.00	2.83	30.00	27.17

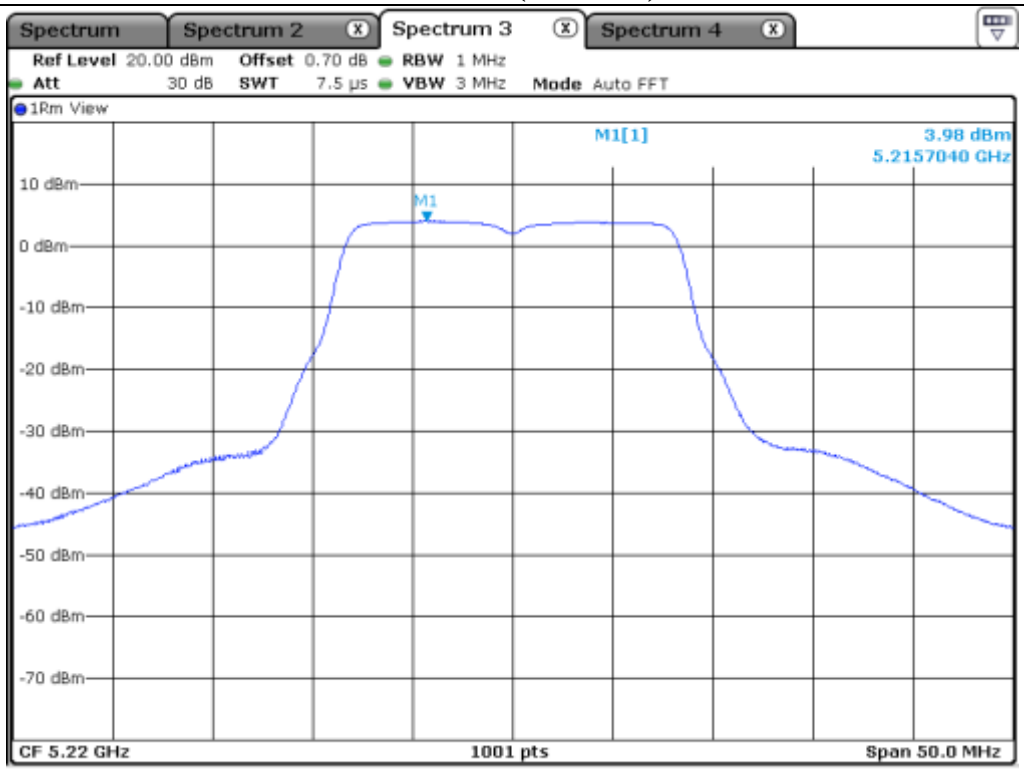
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

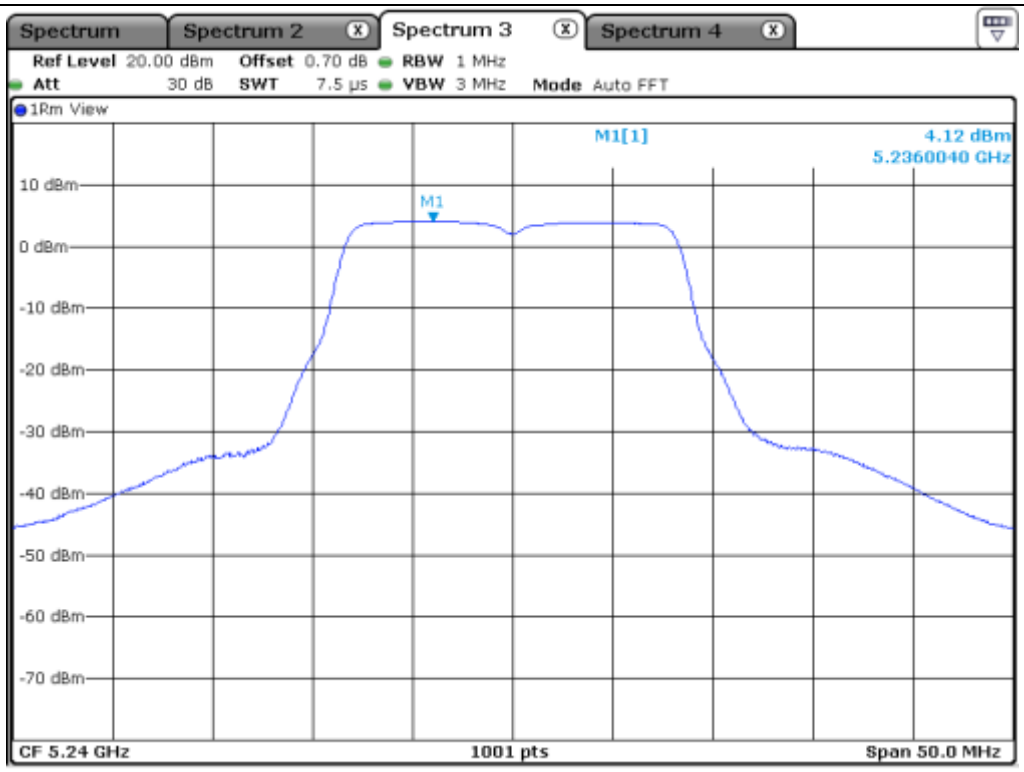
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



Low Channel (5 180 MHz)

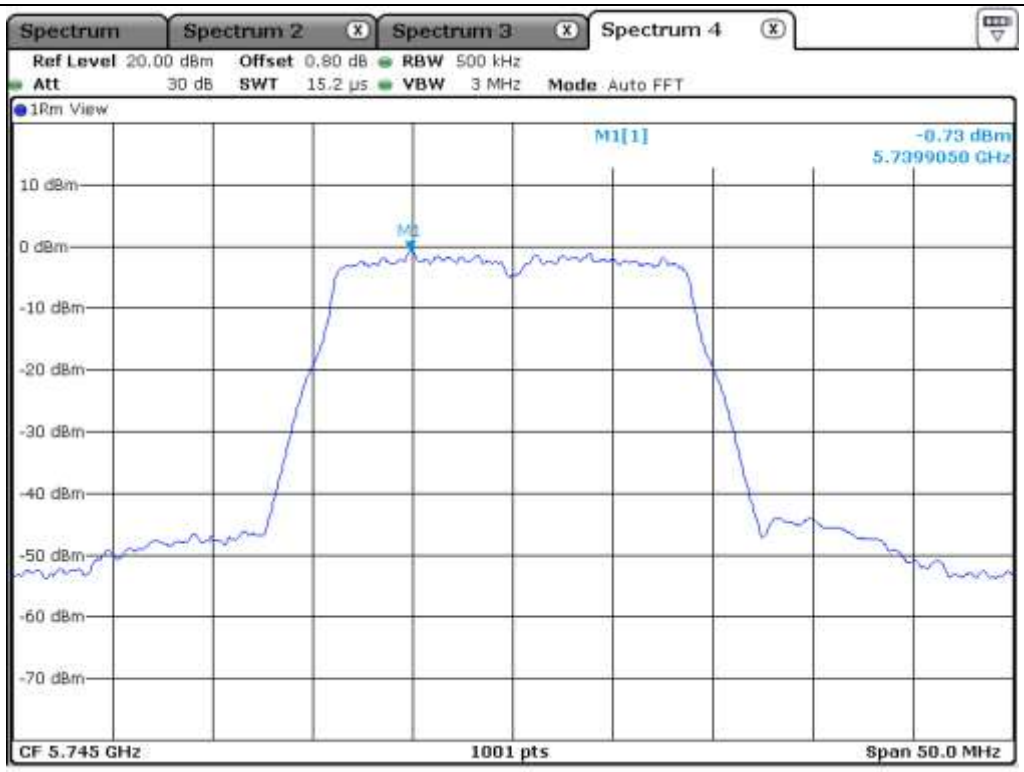


Middle Channel (5 220 MHz)

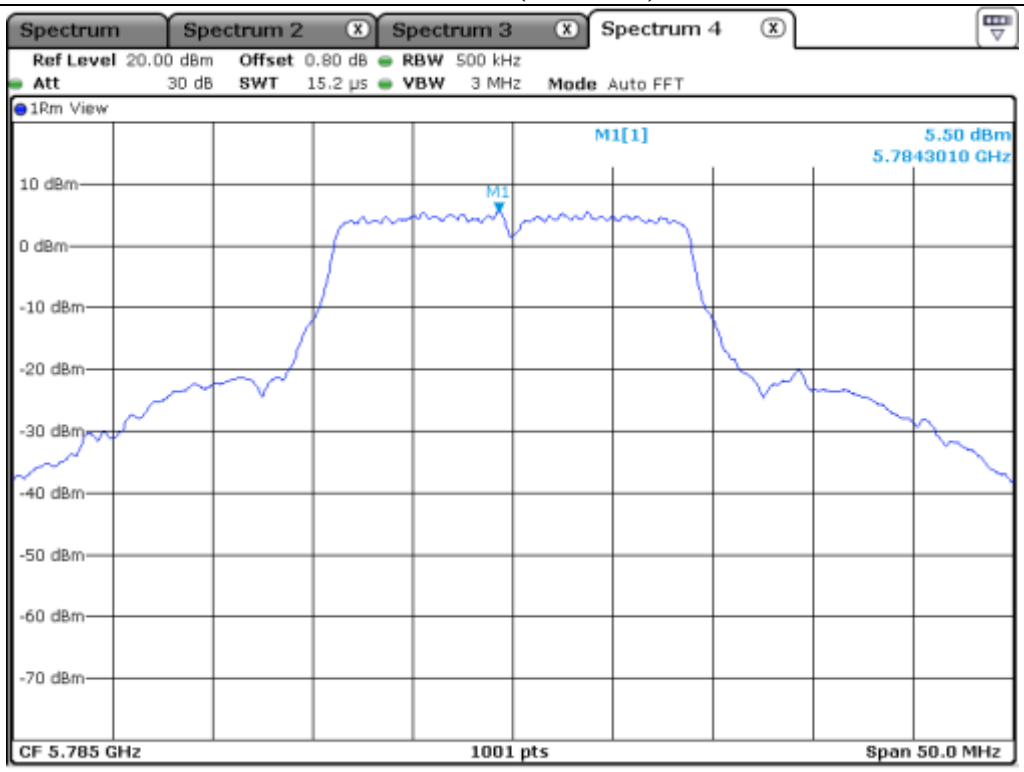


High Channel (5 240 MHz)

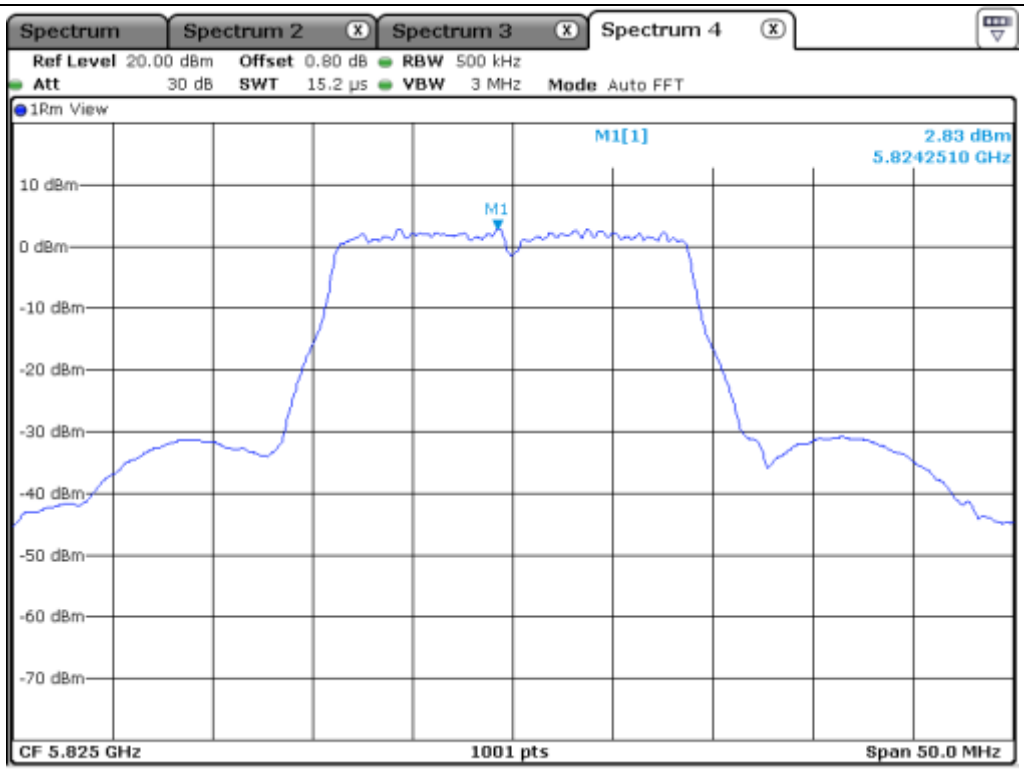
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



Low Channel (5 745 MHz)



Middle Channel (5 785 MHz)



High Channel (5 825 MHz)

11.5.4 Test data for Antenna 3

-. Test Date : March 22, 2017

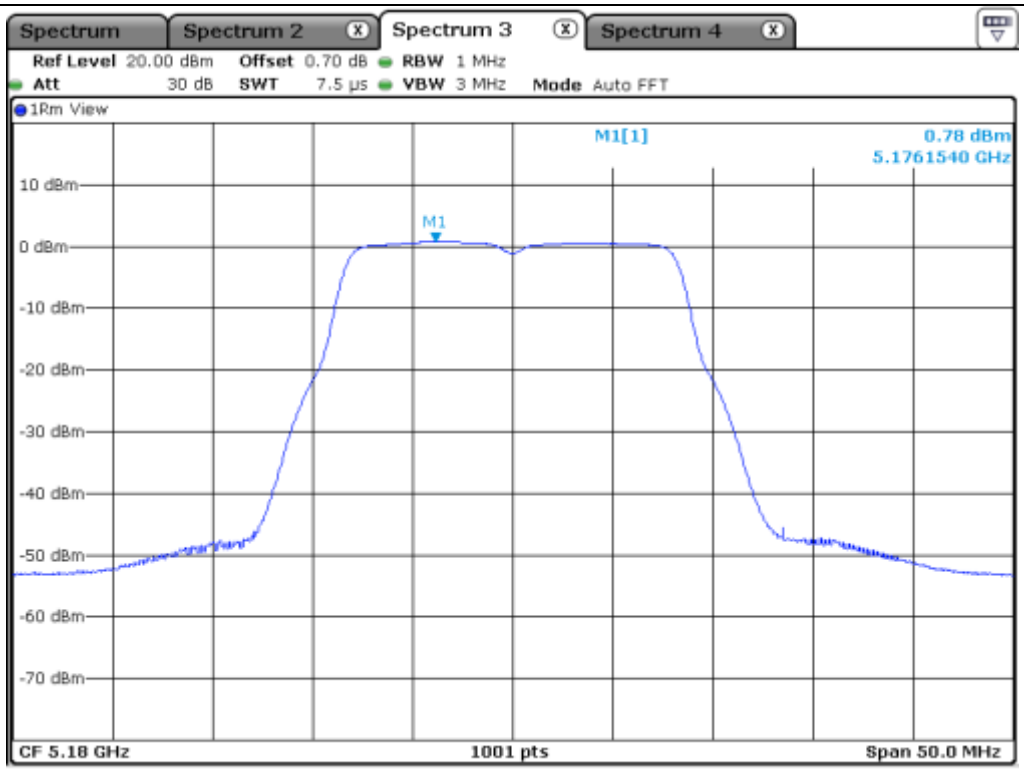
-. Operating condition : Highest Output Power Transmitting Mode

-. Test Result : Pass

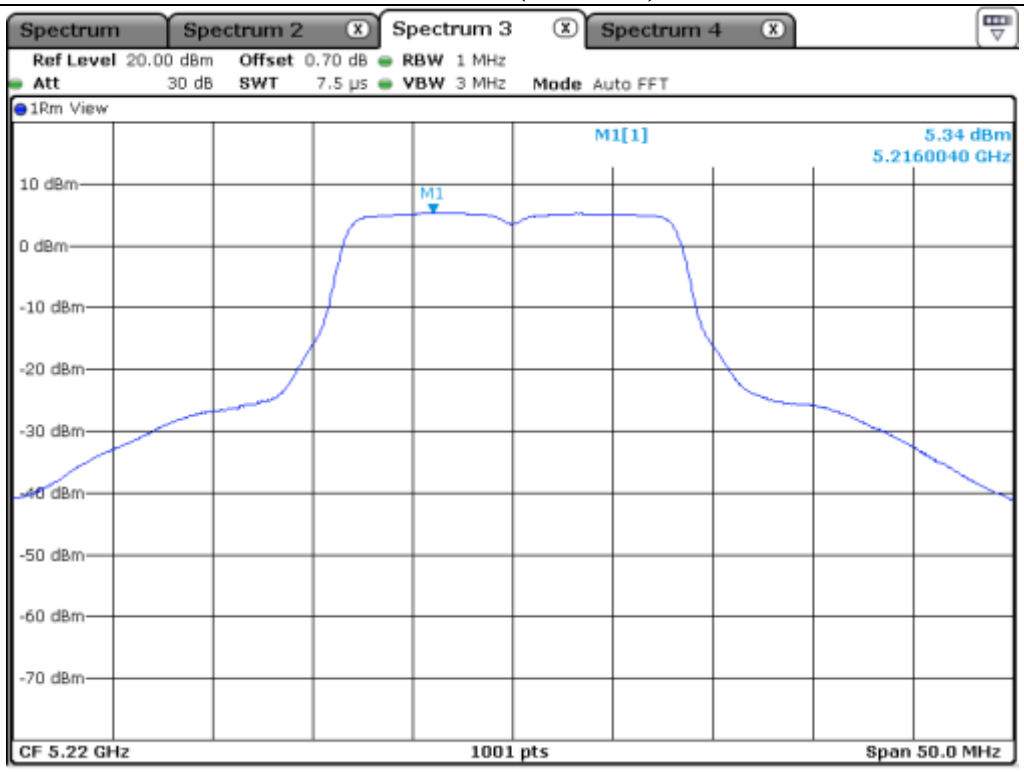
FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 180.00	0.78	17.00	16.22
	Middle	5 220.00	5.34	17.00	11.66
	High	5 240.00	5.51	17.00	11.49
5 725 ~ 5 850	Low	5 745.00	-0.59	30.00	30.59
	Middle	5 785.00	5.92	30.00	24.08
	High	5 825.00	3.59	30.00	26.41

Remark: See next page for measurement data.

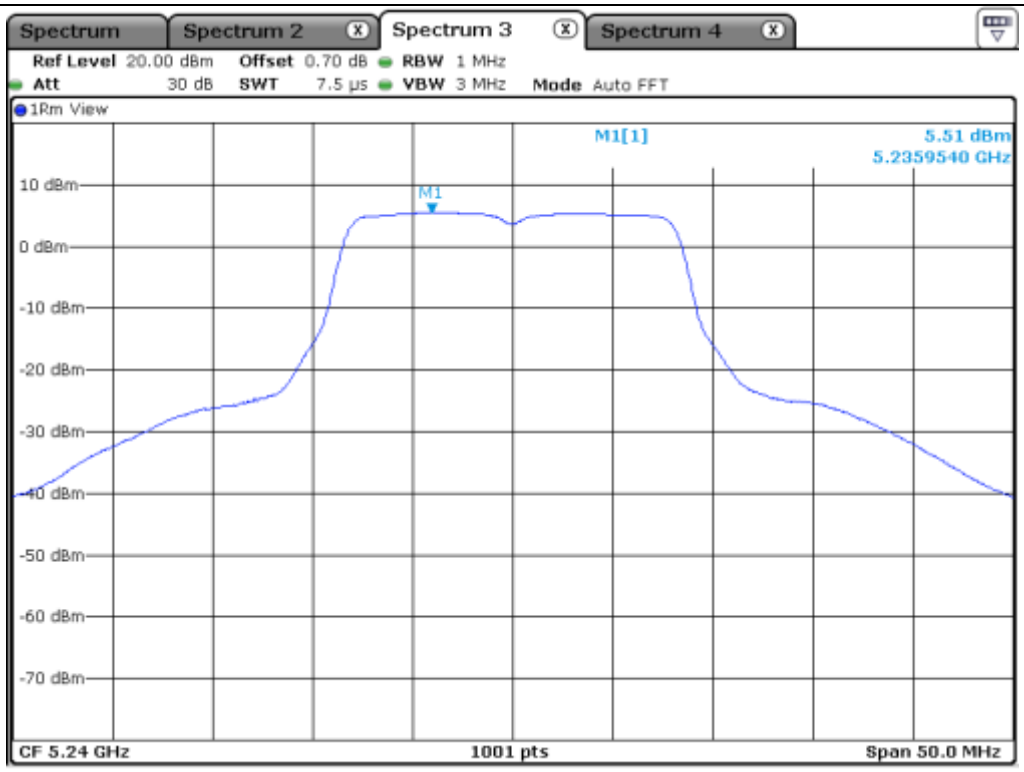
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel (5 180 MHz)

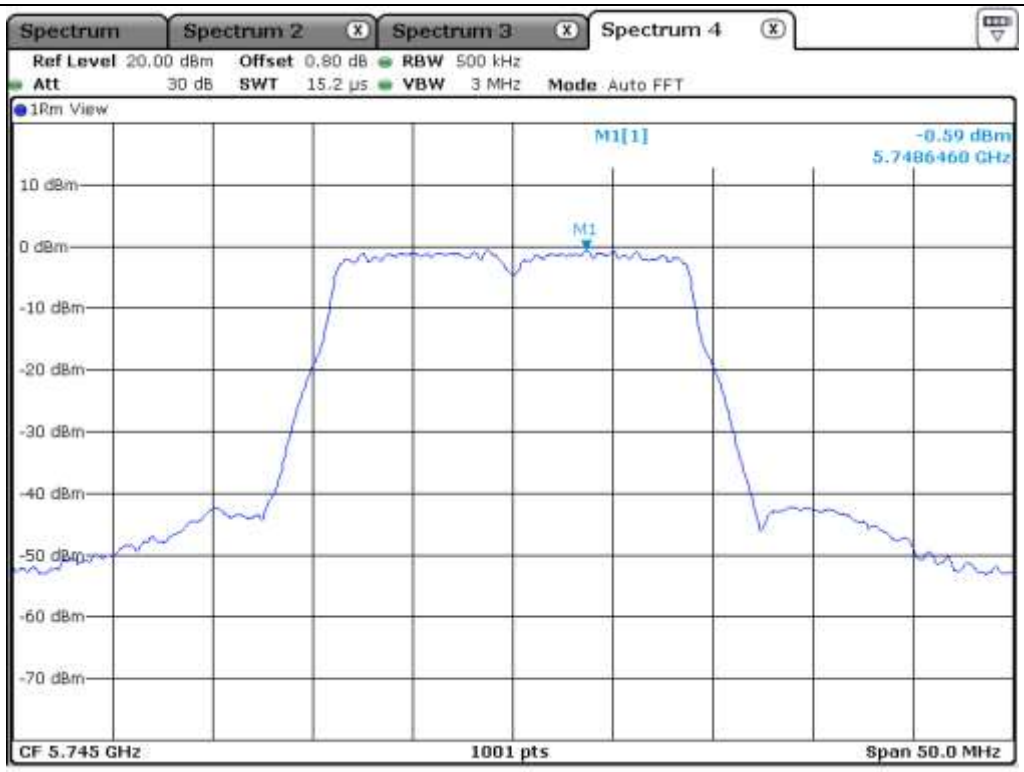


Middle Channel (5 220 MHz)

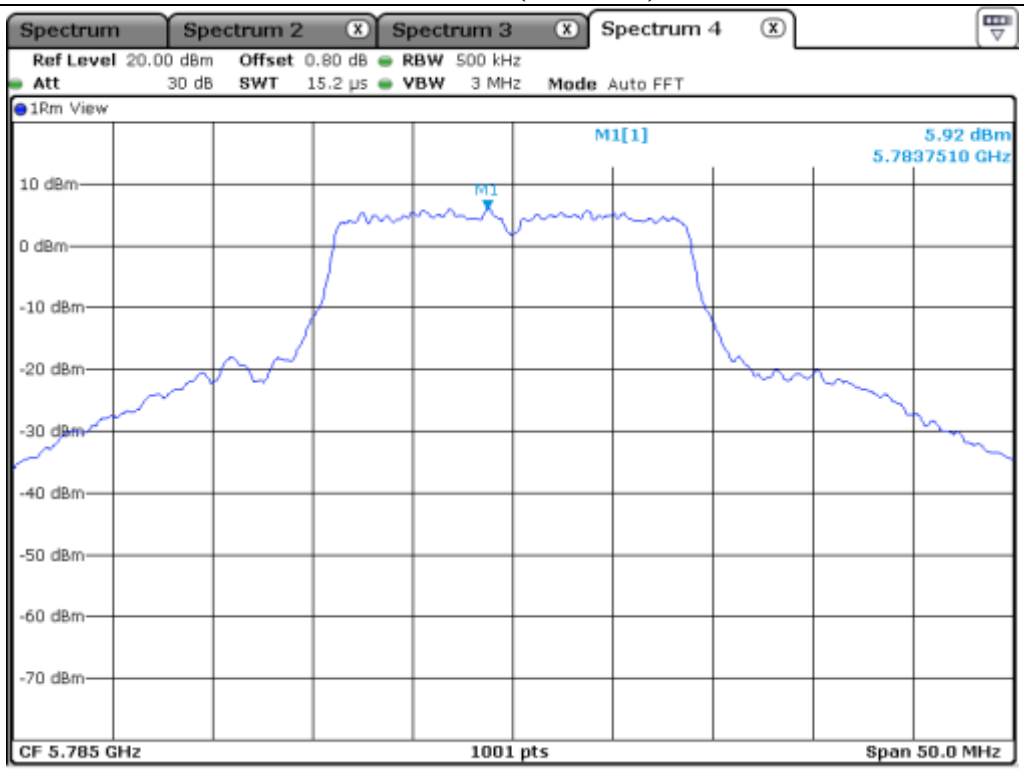


High Channel (5 240 MHz)

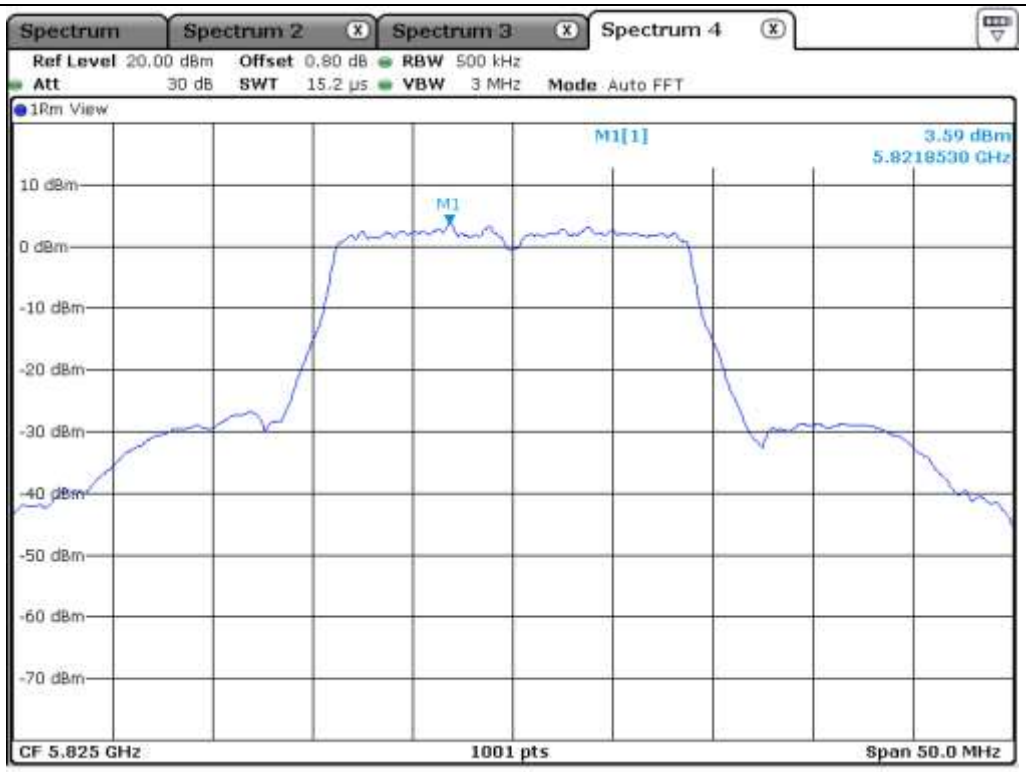
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



Low Channel (5 745 MHz)



Middle Channel (5 785 MHz)



High Channel (5 825 MHz)

11.5.5 Test data for Multiple Transmit

-. Test Date : March 22, 2017

-. 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	6.18	14.18	8.00
	Middle	5 220.00	10.93	14.18	3.25
	High	5 240.00	11.12	14.18	3.06
5 725 ~ 5 850	Low	5 745.00	5.06	24.98	19.92
	Middle	5 785.00	11.29	24.98	13.69
	High	5 825.00	8.92	24.98	16.06

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna1 Power Density}/10)}+10^{(\text{Antenna2 Power Density}/10)})$

Tested by: Hyung-Kwon, Oh / Engineer

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

11.6 Test data for 802.11n_HT40 RLAN Mode

11.6.1 Test data for Antenna 0

-. Test Date : March 22, 2017

-. Operating condition : Highest Output Power Transmitting Mode

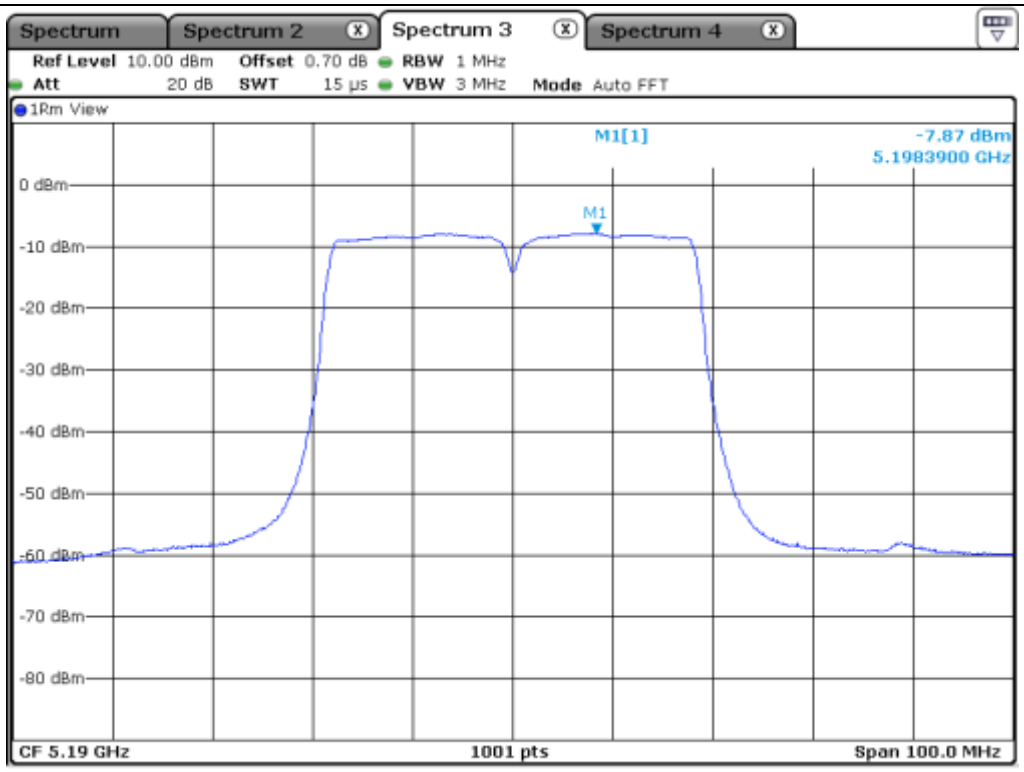
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 190.00	-7.87	17.00	24.87
	High	5 230.00	0.80	17.00	16.20
5 725 ~ 5 850	Low	5 755.00	-8.80	30.00	38.80
	High	5 795.00	-1.19	30.00	31.19

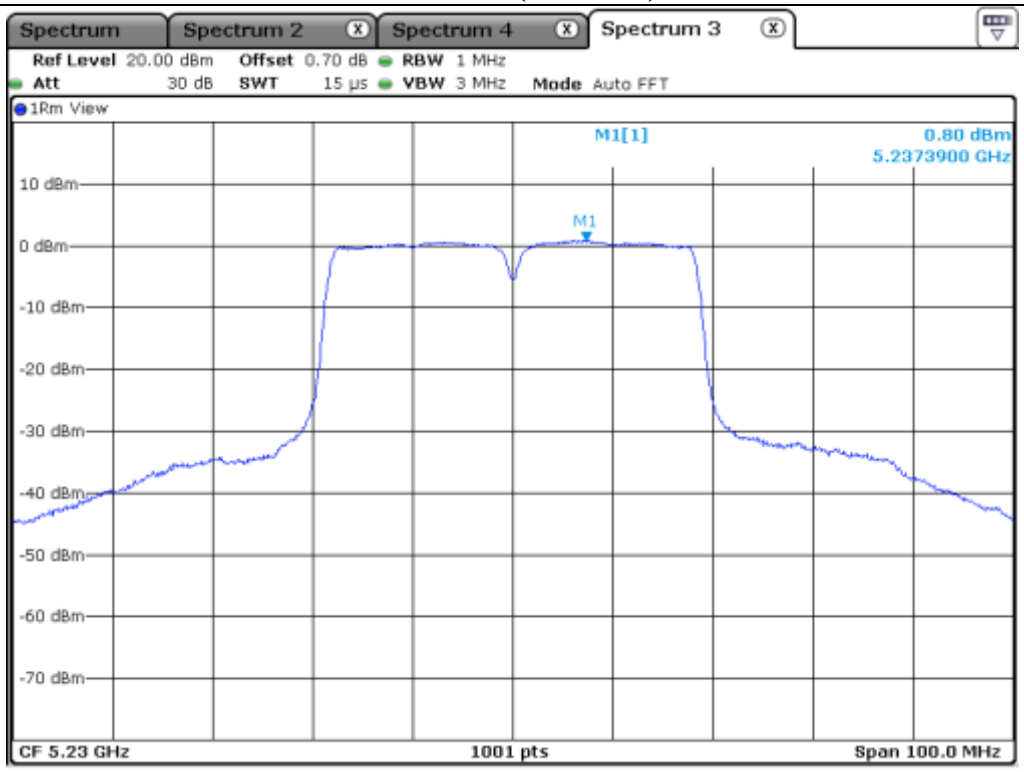
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

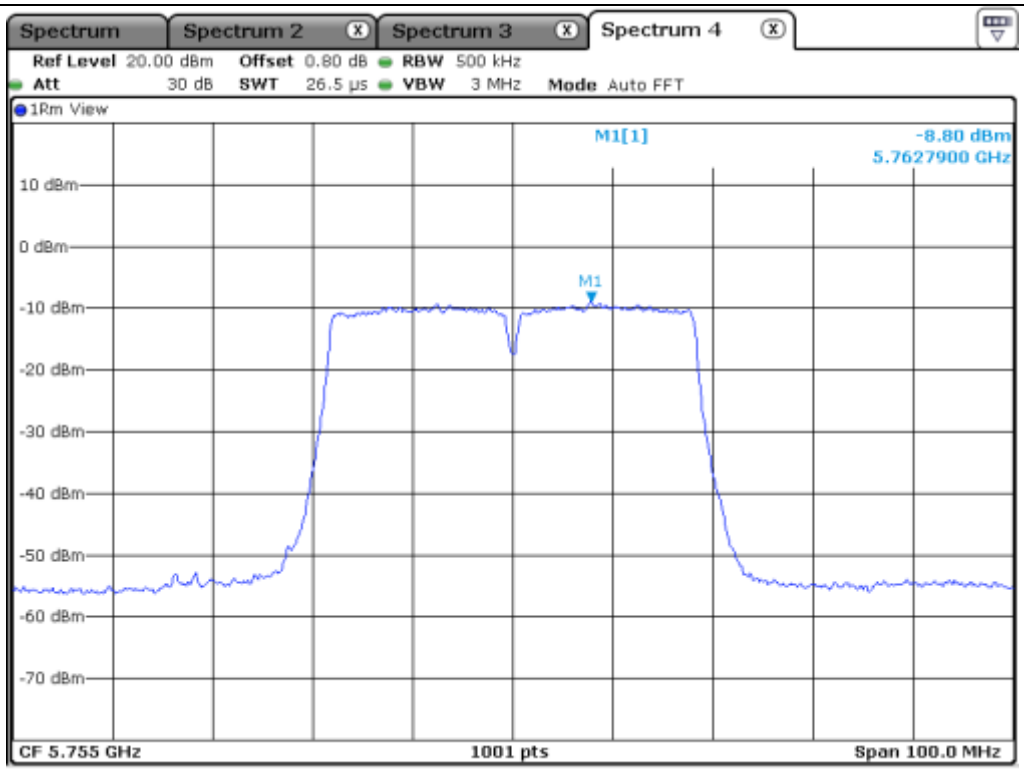
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



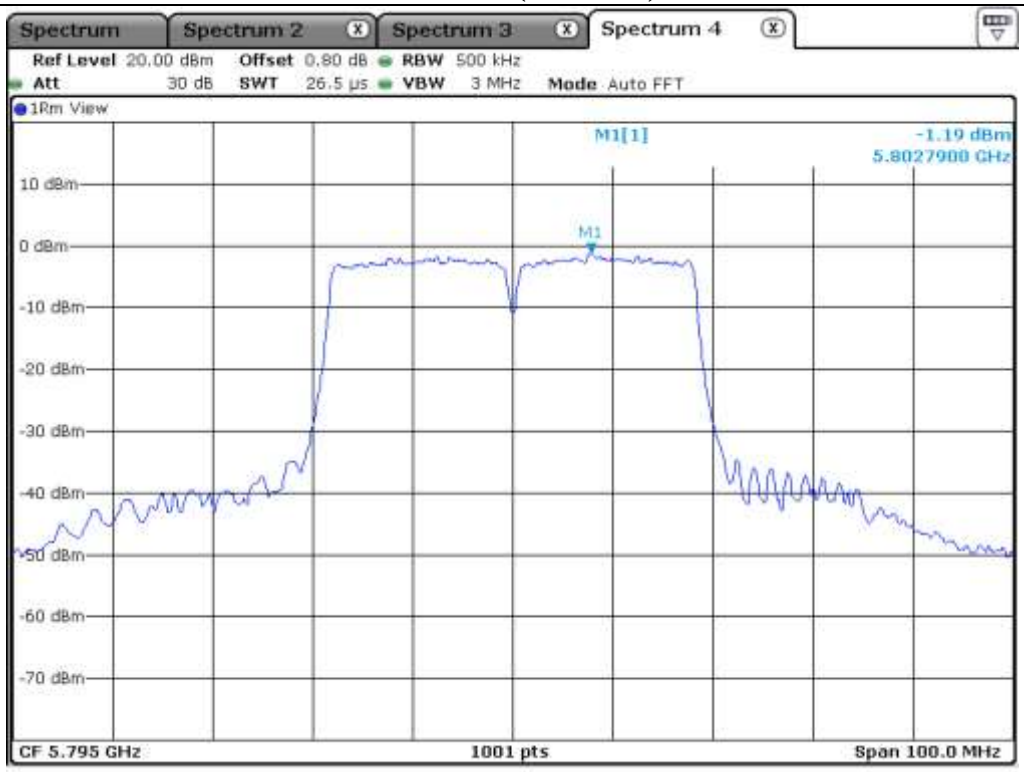
Low Channel (5 190 MHz)



High Channel (5 230 MHz)



Low Channel (5 755 MHz)



High Channel (5 795 MHz)

11.6.2 Test data for Antenna 1

-. Test Date : March 22, 2017

-. Operating condition : Highest Output Power Transmitting Mode

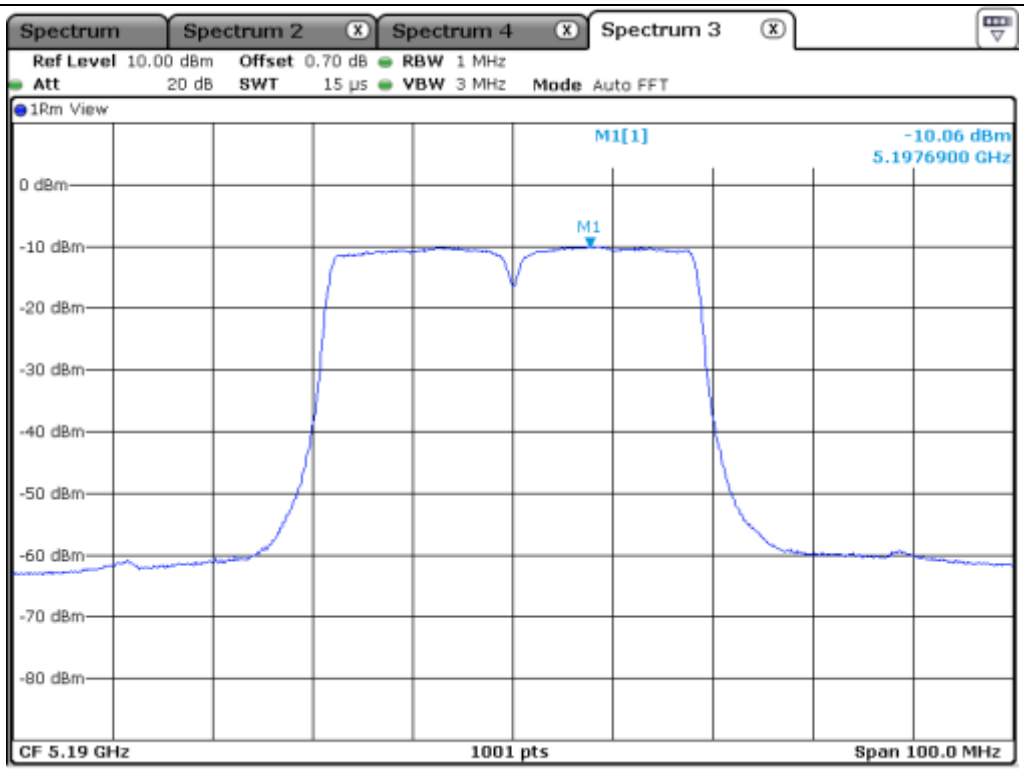
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 190.00	-10.06	17.00	27.06
	High	5 230.00	0.11	17.00	16.89
5 725 ~ 5 850	Low	5 755.00	-7.76	30.00	37.76
	High	5 795.00	0.01	30.00	29.99

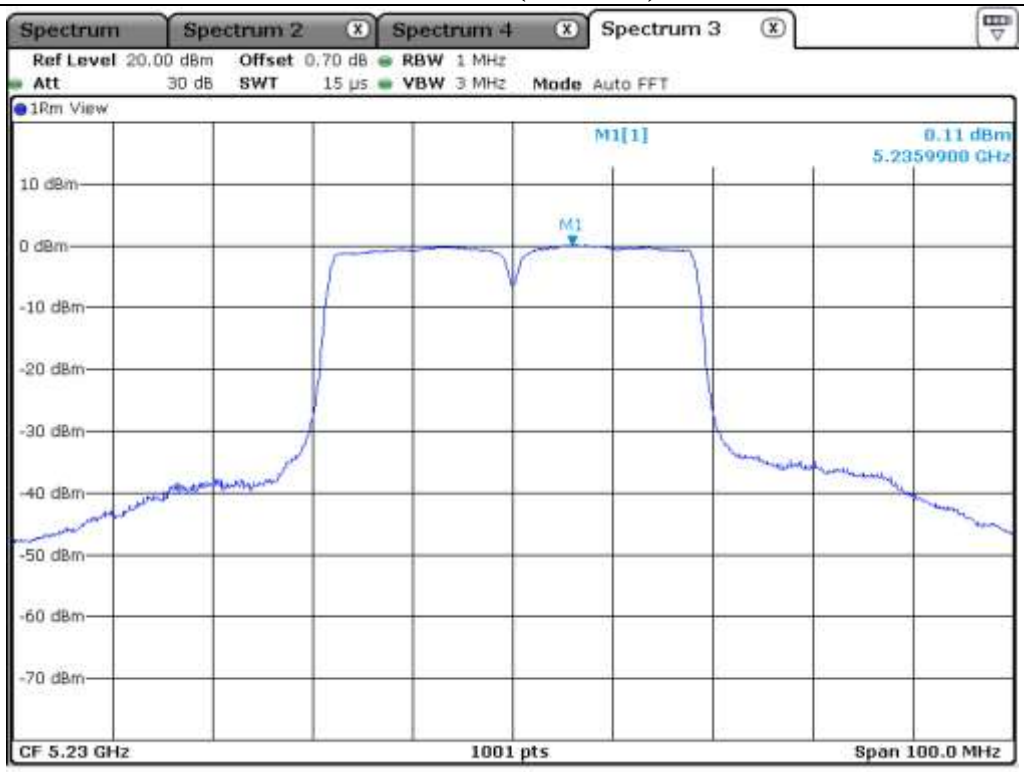
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

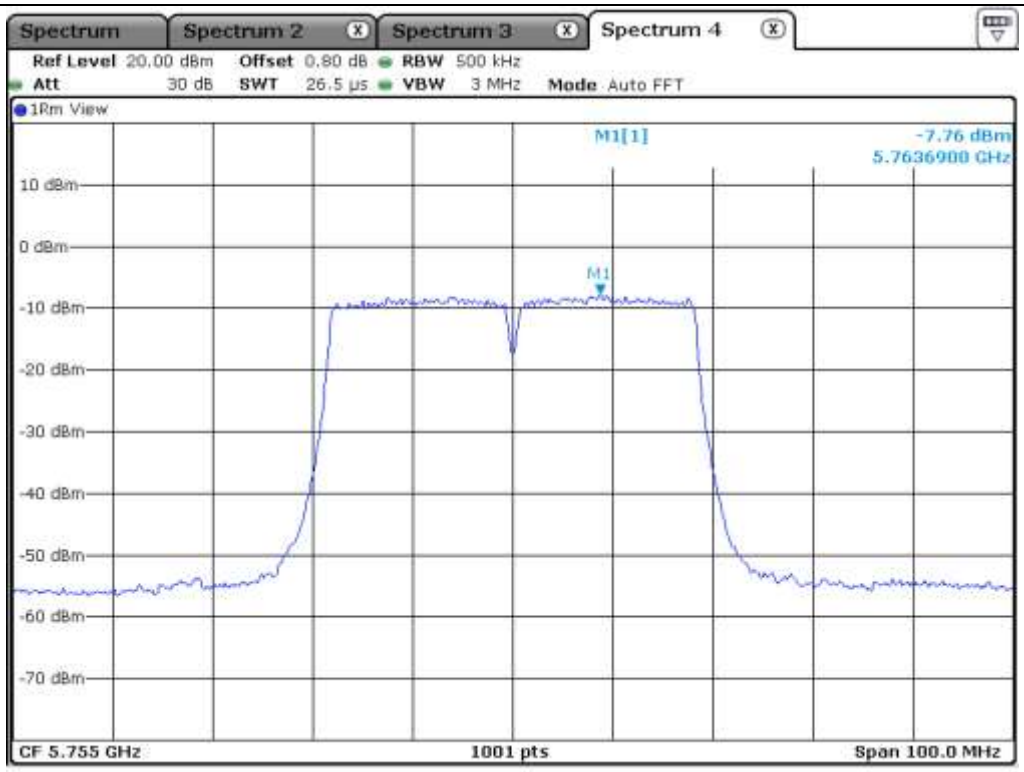
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



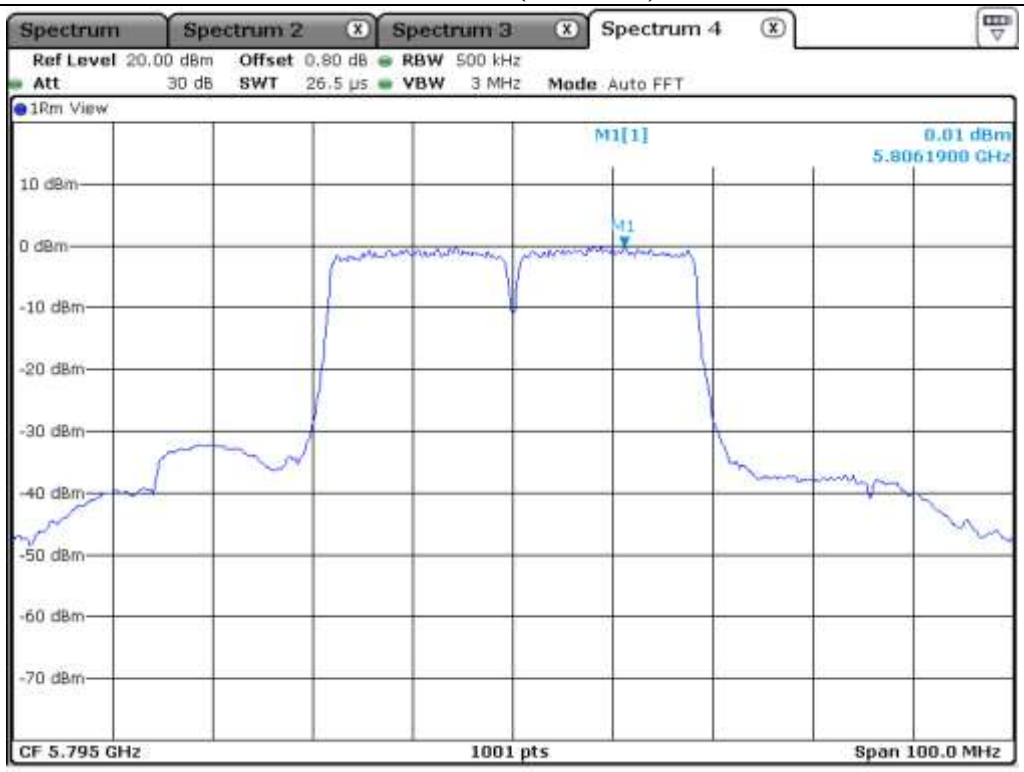
Low Channel (5 190 MHz)



High Channel (5 230 MHz)



Low Channel (5 755 MHz)



High Channel (5 795 MHz)

11.6.3 Test data for Antenna 2

-. Test Date : March 22, 2017

-. Operating condition : Highest Output Power Transmitting Mode

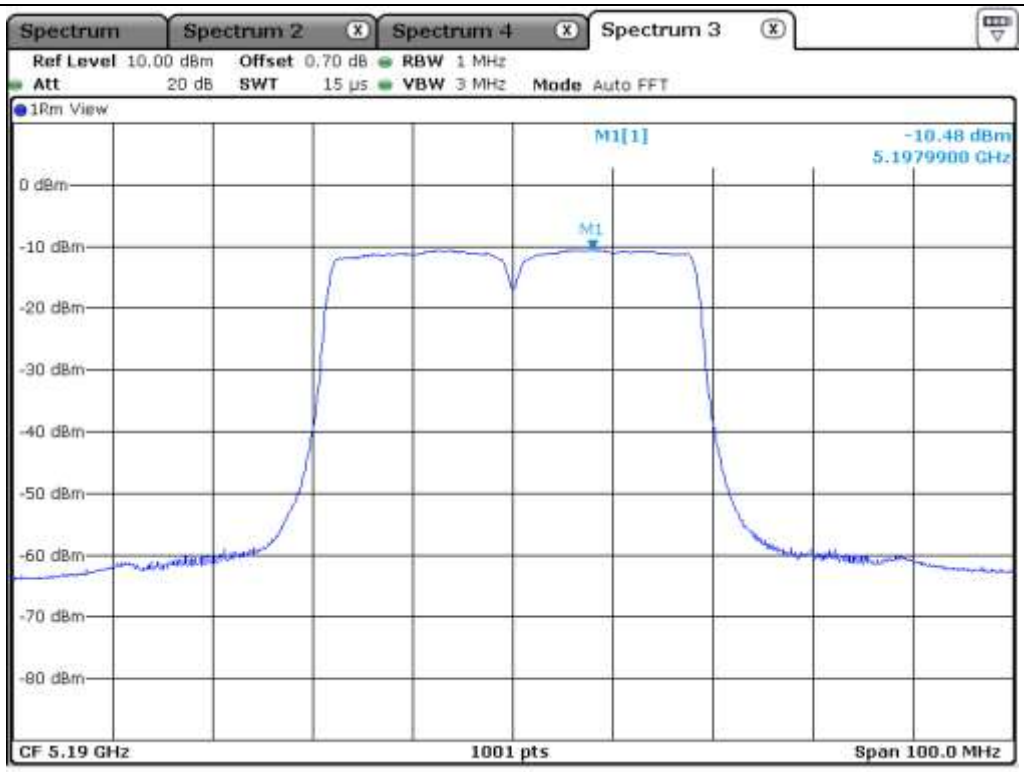
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 190.00	-10.48	17.00	27.48
	High	5 230.00	-0.01	17.00	17.01
5 725 ~ 5 850	Low	5 755.00	-8.68	30.00	38.68
	High	5 795.00	-0.97	30.00	30.97

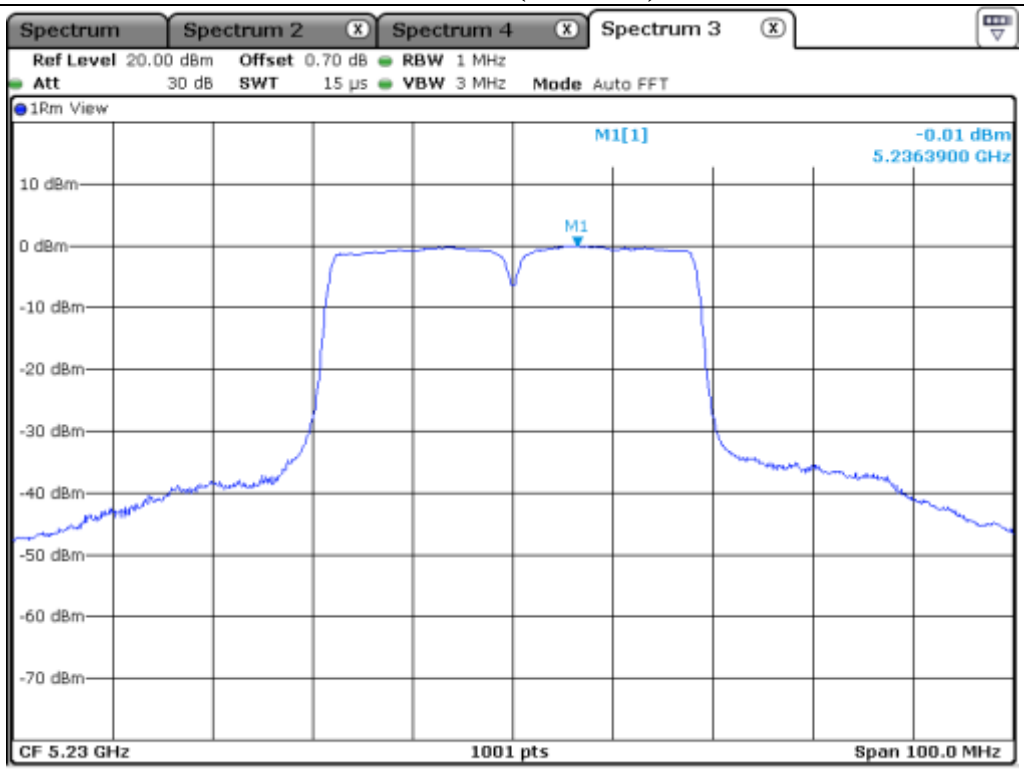
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

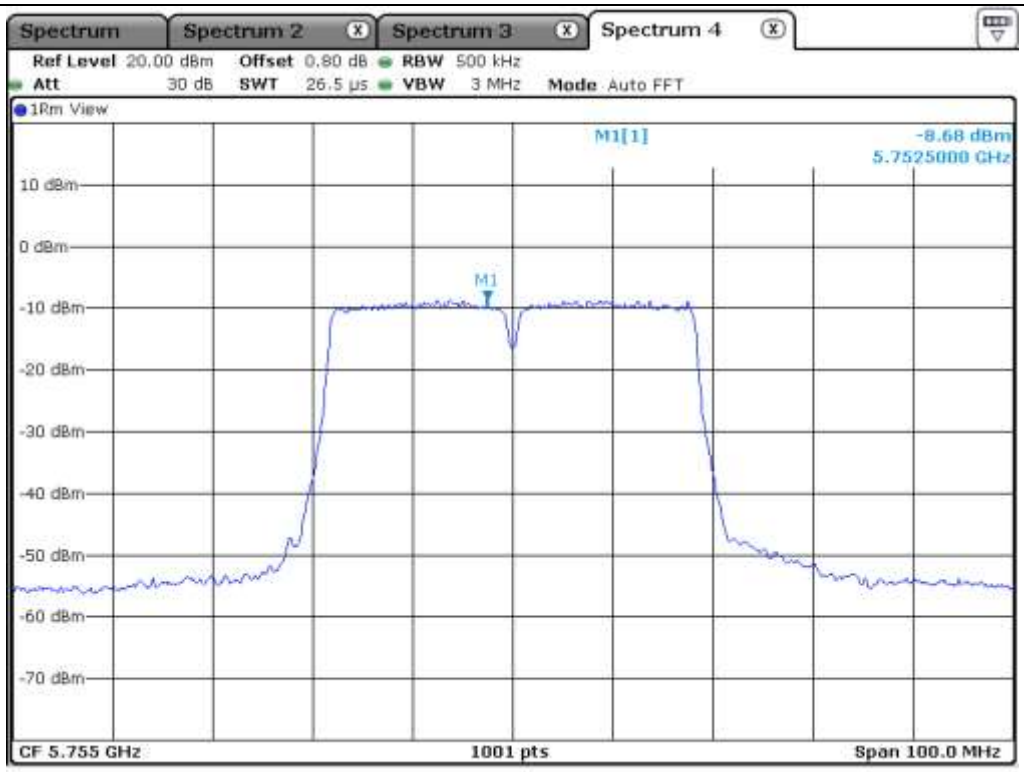
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



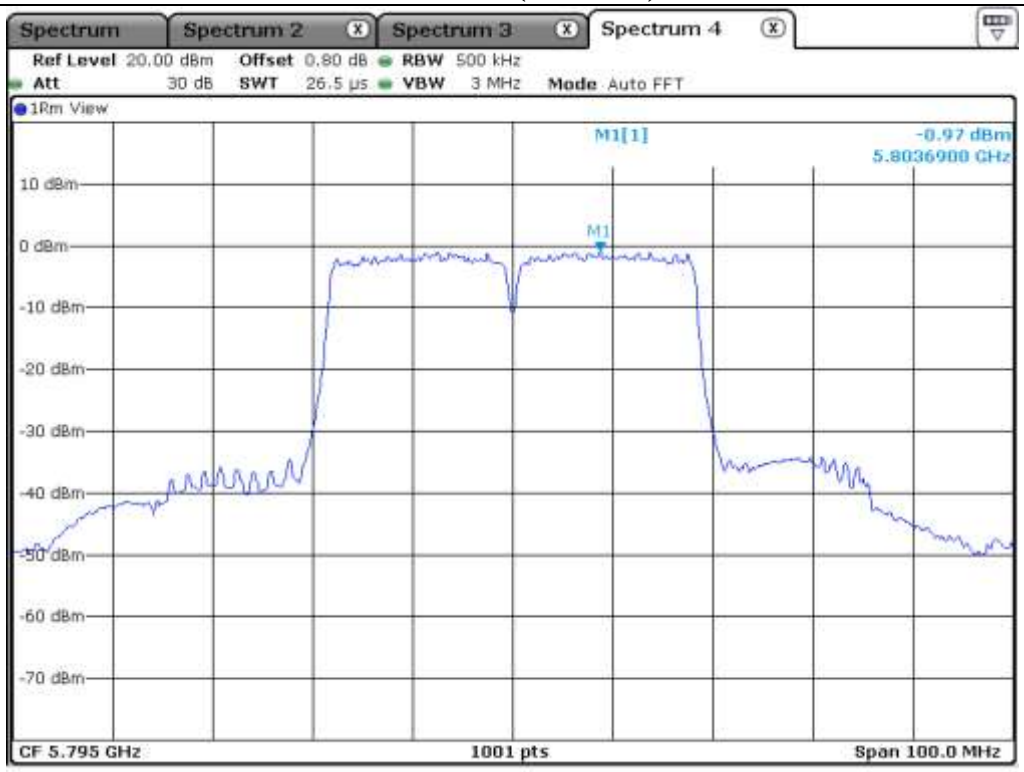
Low Channel (5 190 MHz)



High Channel (5 230 MHz)



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)

11.6.4 Test data for Antenna 3

-. Test Date : March 22, 2017

-. Operating condition : Highest Output Power Transmitting Mode

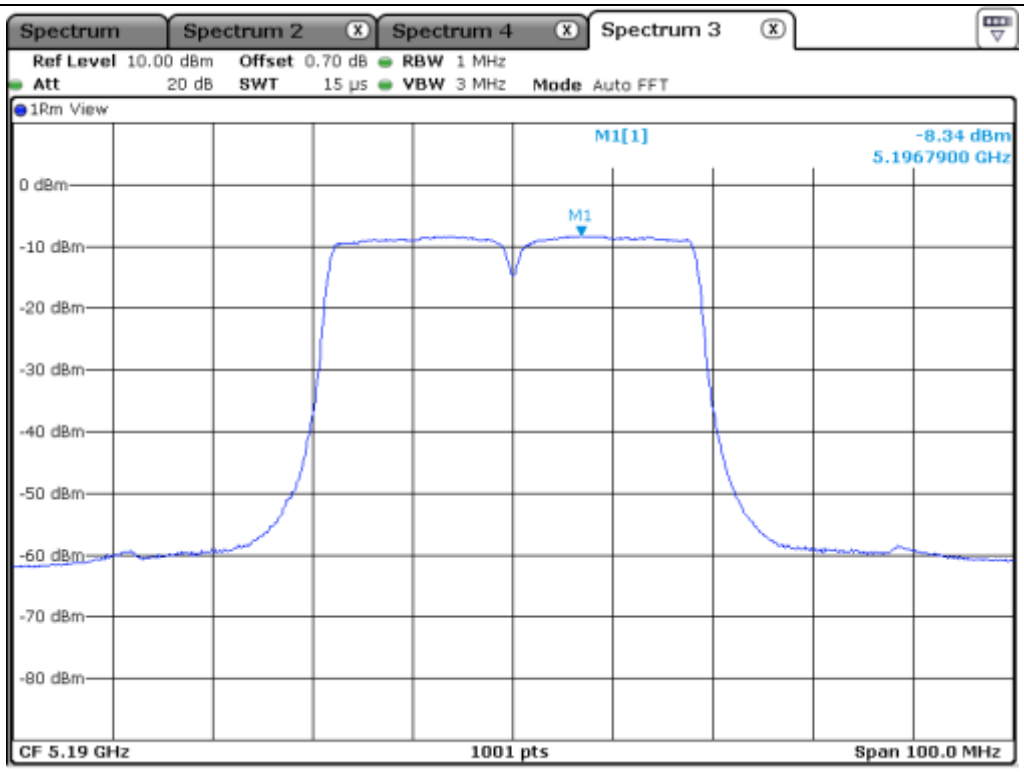
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Low	5 190.00	-8.34	17.00	25.34
	High	5 230.00	0.96	17.00	16.04
5 725 ~ 5 850	Low	5 755.00	-7.31	30.00	37.31
	High	5 795.00	-0.05	30.00	30.05

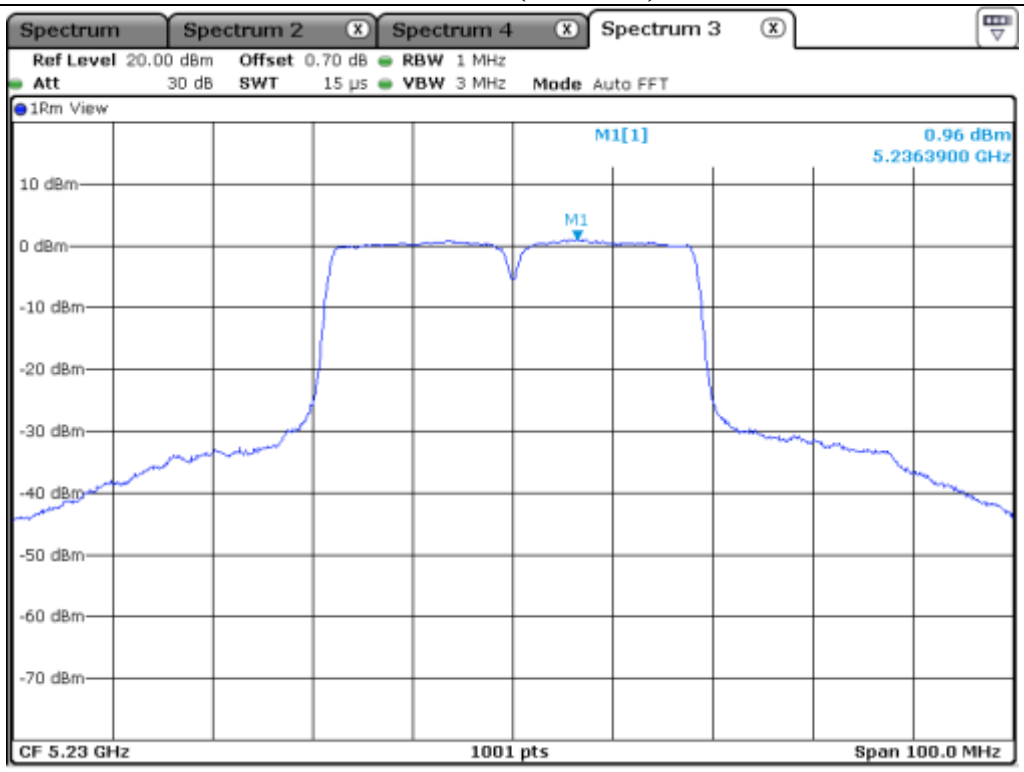
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

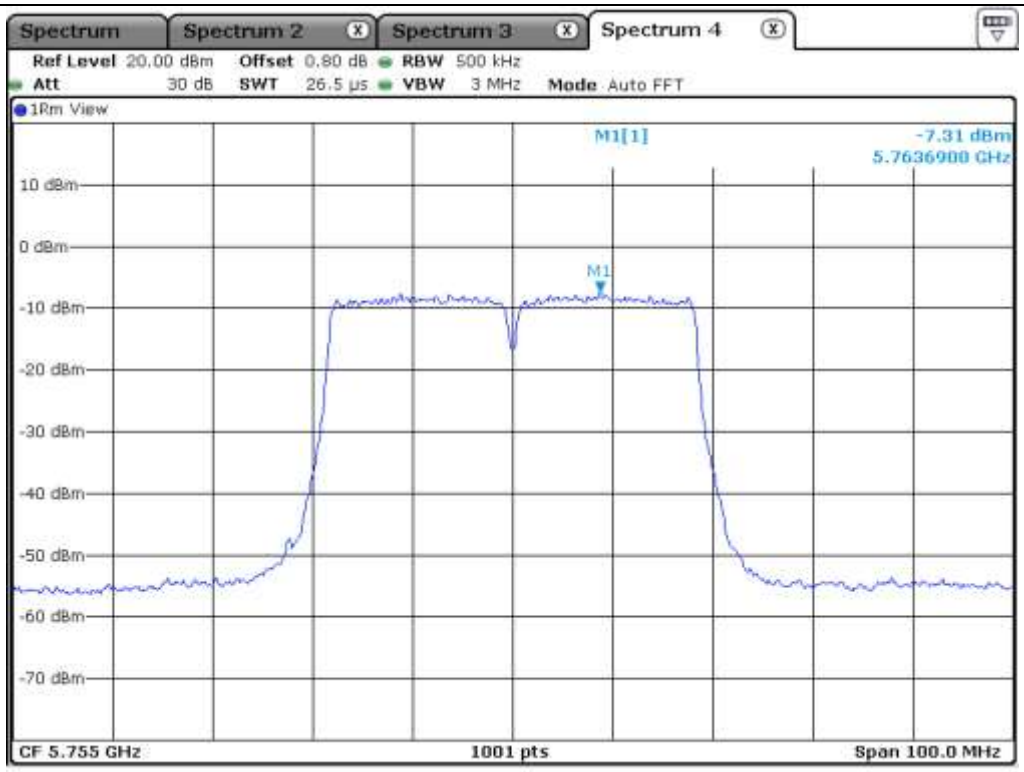
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



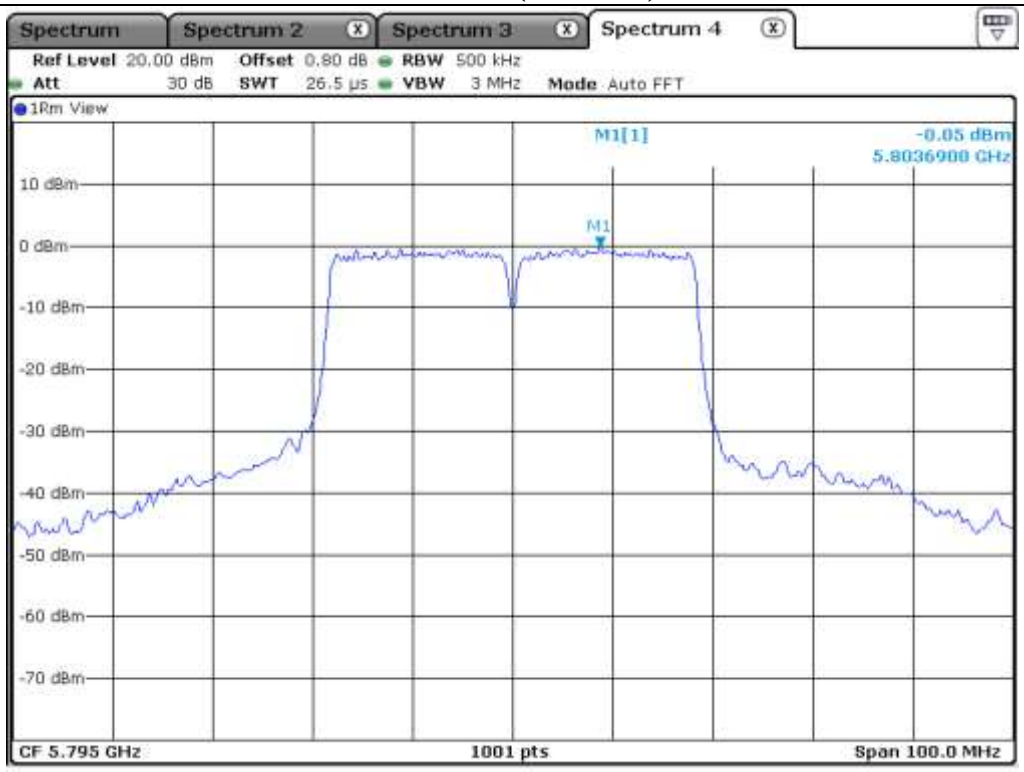
Low Channel (5 190 MHz)



High Channel (5 230 MHz)



Low Channel (5 755 MHz)



High Channel (5 795 MHz)

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11.6.5 Test data for Multiple Transmit

-. Test Date : March 22, 2017

-. 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	-3.03	14.18	17.21
	High	5 230.00	6.51	14.18	7.67
5 725 ~ 5 850	Low	5 755.00	-2.07	24.98	27.05
	High	5 795.00	5.50	24.98	19.48

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna1 Power Density}/10)}+10^{(\text{Antenna2 Power Density}/10)})$

Tested by: Hyung-Kwon, Oh / Engineer

11.7 Test data for 802.11ac_HT80 RLAN Mode

11.7.1 Test data for Antenna 0

-. Test Date : March 22, 2017

-. Operating condition : Highest Output Power Transmitting Mode

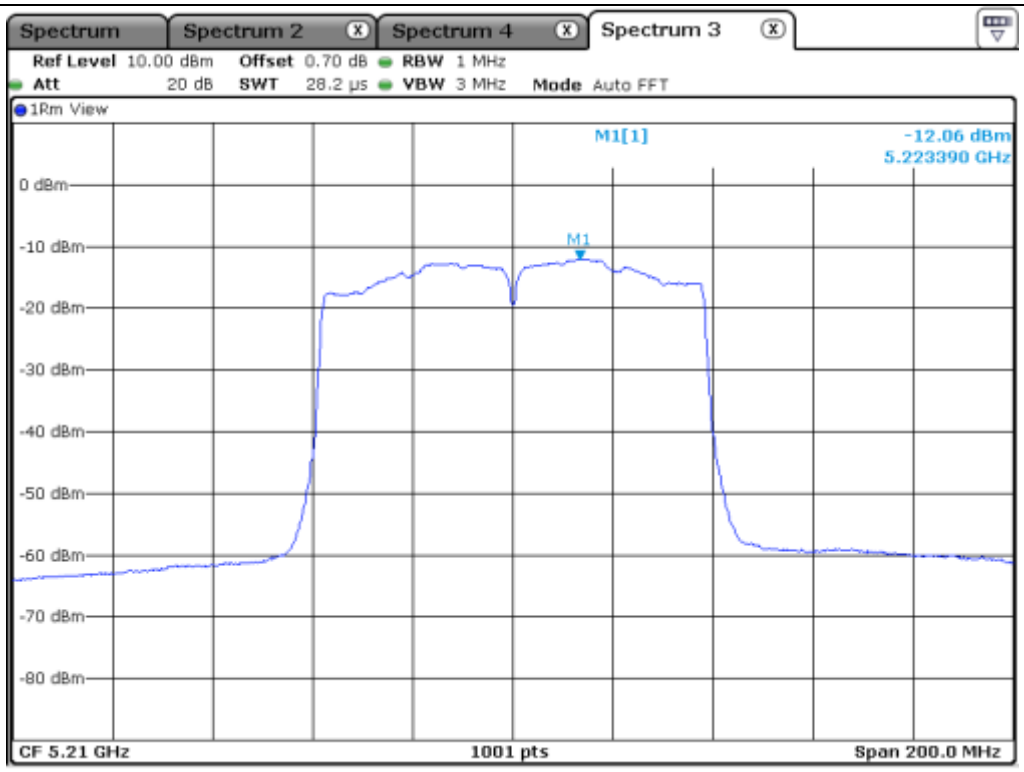
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Middle	5 210.00	-12.06	17.00	29.06
5 725 ~ 5 850	Middle	5 775.00	-10.92	30.00	40.92

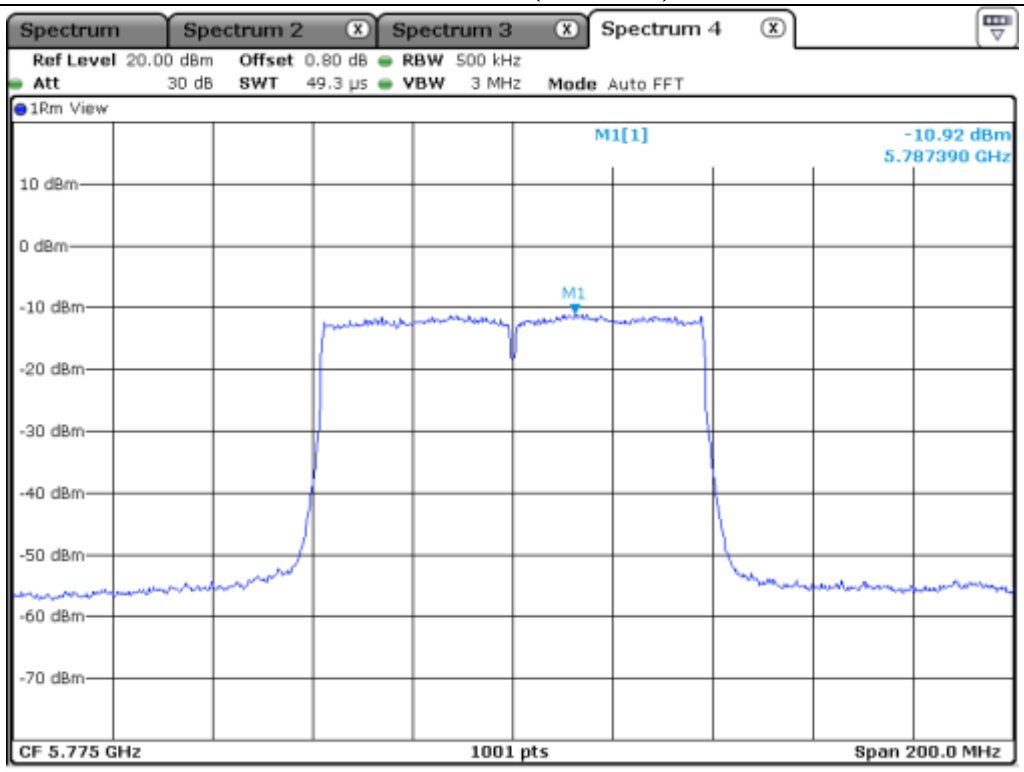
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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 (5 775 MHz)

11.7.2 Test data for Antenna 1

-. Test Date : March 22, 2017

-. Operating condition : Highest Output Power Transmitting Mode

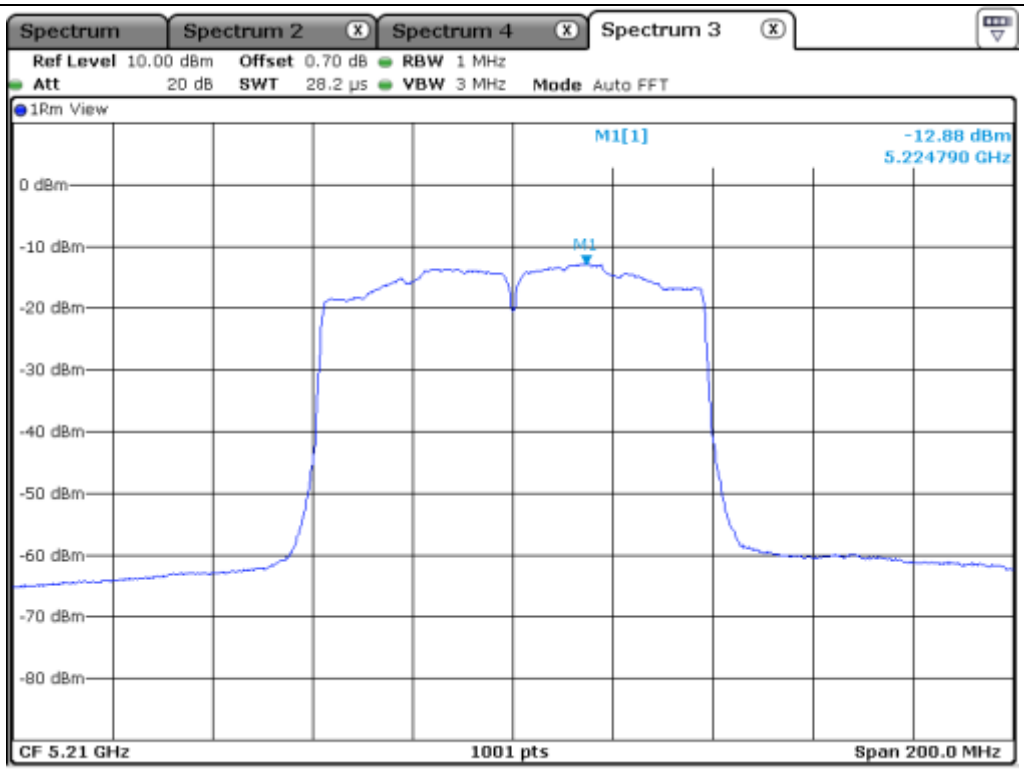
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Middle	5 210.00	-12.88	17.00	29.88
5 725 ~ 5 850	Middle	5 775.00	-9.78	30.00	39.78

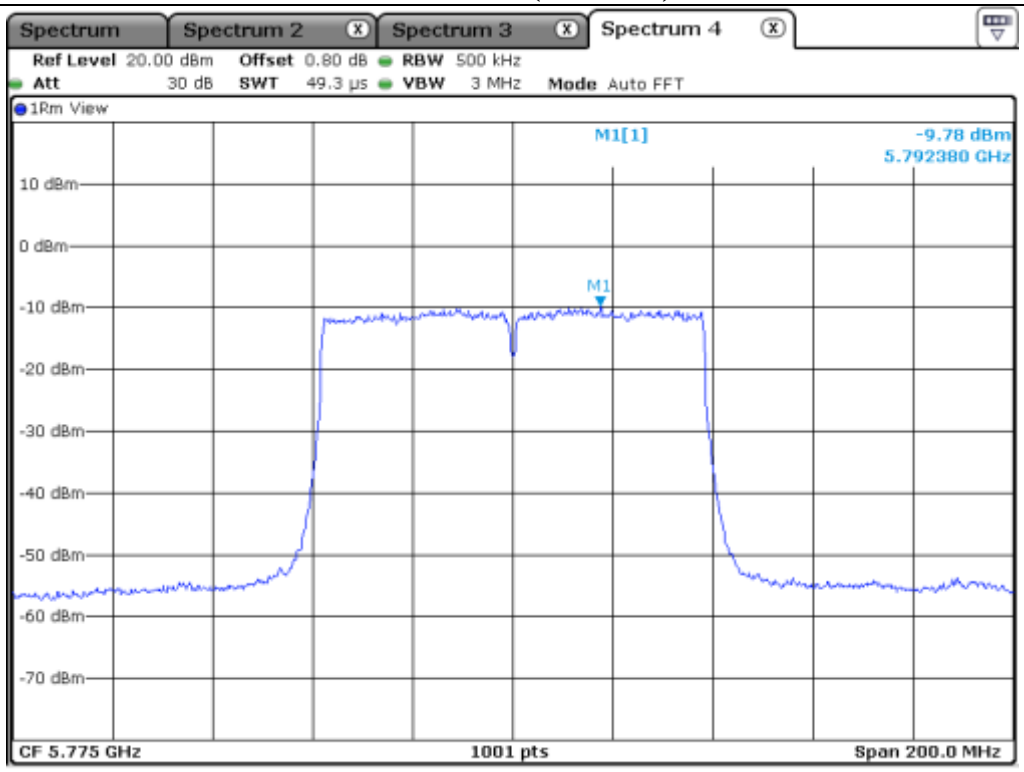
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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 (5 775 MHz)

11.7.3 Test data for Antenna 2

-. Test Date : March 22, 2017

-. Operating condition : Highest Output Power Transmitting Mode

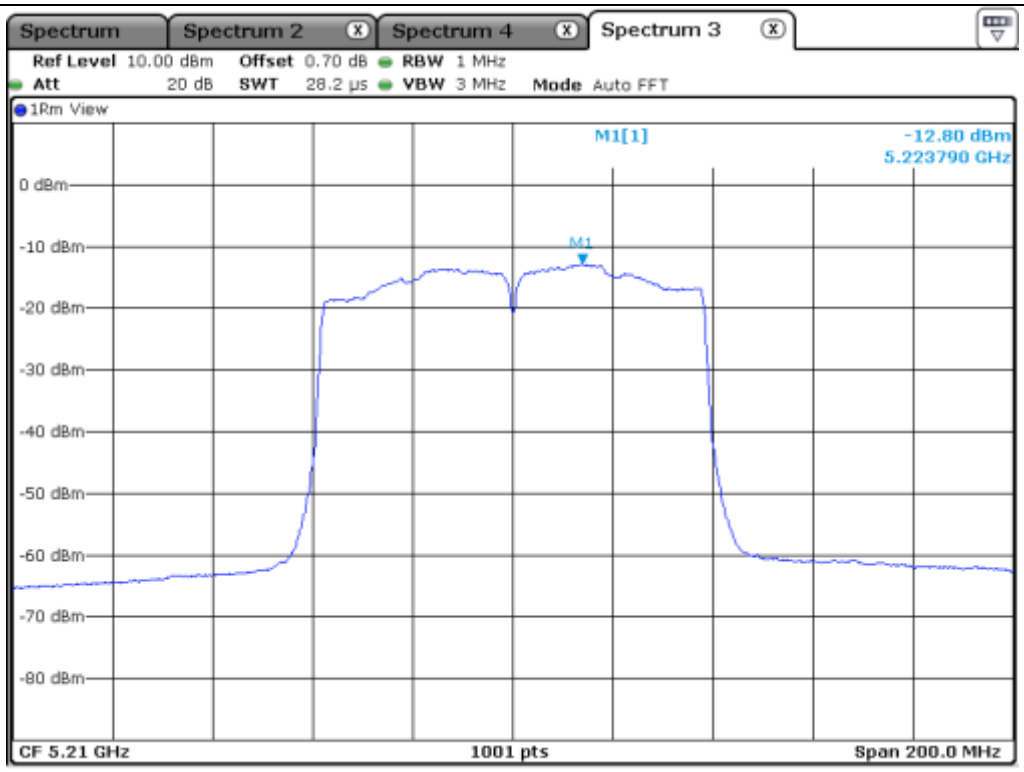
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Middle	5 210.00	-12.80	17.00	29.80
5 725 ~ 5 850	Middle	5 775.00	-10.49	30.00	40.49

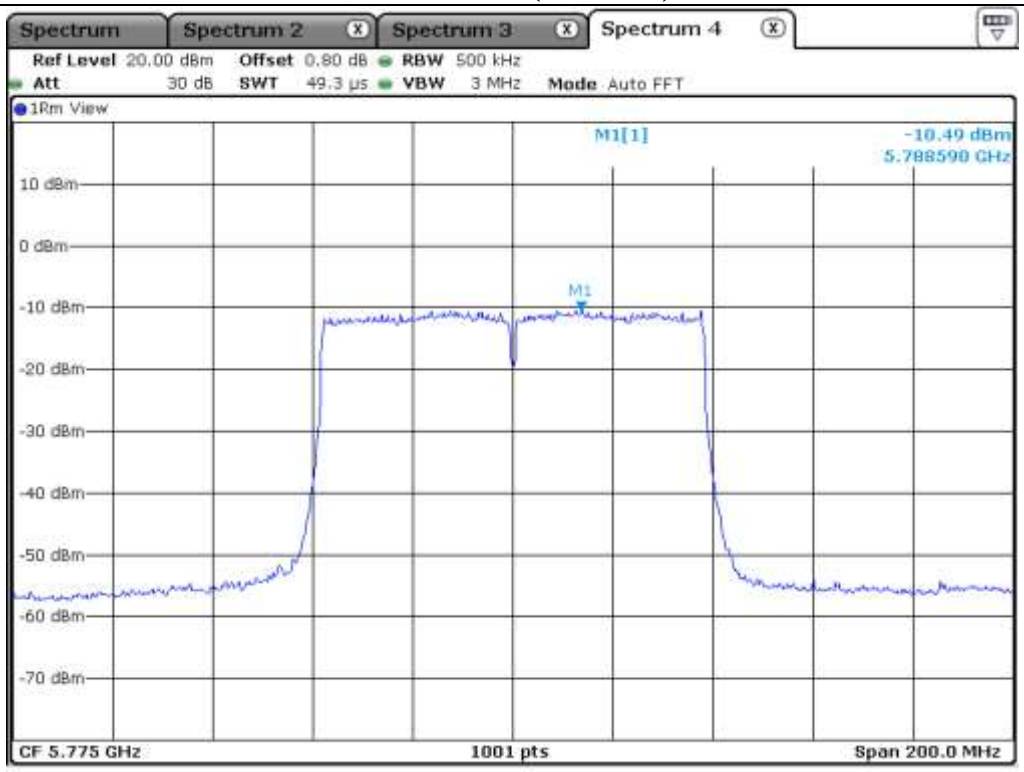
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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 (5 775 MHz)

11.7.4 Test data for Antenna 3

-. Test Date : March 22, 2017

-. Operating condition : Highest Output Power Transmitting Mode

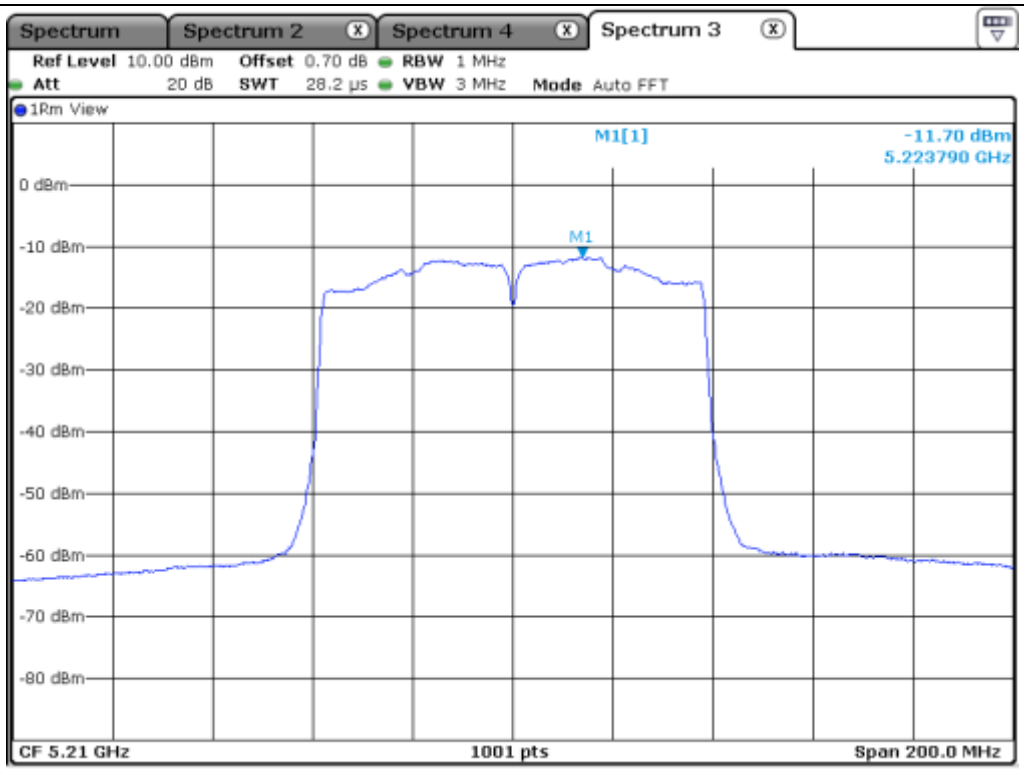
-. Test Result : Pass

FREQUENCY RANGE (MHz)	CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
5 150 ~ 5 250	Middle	5 210.00	-11.70	17.00	28.70
5 725 ~ 5 850	Middle	5 775.00	-9.48	30.00	39.48

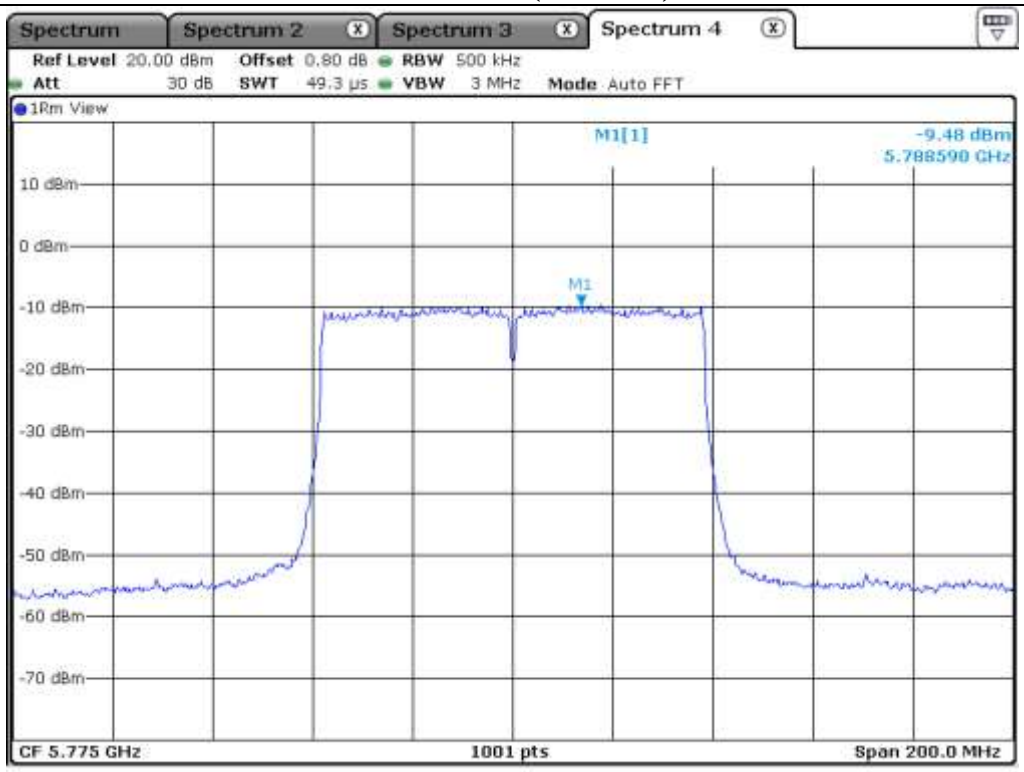
Remark: See next page for measurement data.

Tested by: Hyung-Kwon, Oh / Engineer

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 (5 775 MHz)

11.7.5 Test data for Multiple Transmit

-. Test Date : March 22, 2017

-. 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	Middle	5 210.00	-6.31	14.18	20.49
5 725 ~ 5 850	Middle	5 775.00	-4.11	24.98	29.09

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna1 Power Density}/10)}+10^{(\text{Antenna2 Power Density}/10)})$

Tested by: Hyung-Kwon, Oh / Engineer

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

12. FREQUENCY STABILITY WITH TEMPERATURE VARIATION

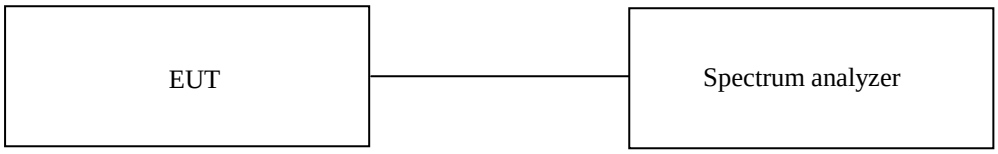
12.1 Operating environment

Temperature : 24 ℃

Relative humidity : 47 % R.H.

12.2 Test set-up

Turn EUT off and set chamber temperature to -20 ℃ 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 ℃ step from -20 ℃ to +50 ℃. Repeat above method for frequency measurements every 10 ℃ step and then record all measured frequencies on each temperature step.



12.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	May 31, 2016 (1Y)
■ -	SSE-43CI-A	Samkun Tech	Humidity Chamber	60712	Apr. 11, 2016 (1Y)
■ -	DRP-305DN	DIGITAL Elec.	DC Power supply	4030195	Sep. 02, 2016 (1Y)

All test equipment used is calibrated on a regular basis.

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

12.4 Test Data for U-NII-1

-. Test Date : March 22, 2017

-. Result : Pass

Temperature (˚C)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Freequency Error (kHz)
-20	5 180 000 000	5 179 982 515	-17.485
-10		5 179 981 960	-18.040
0		5 179 981 409	-18.591
10		5 179 980 886	-19.114
20		5 179 980 367	-19.633
30		5 179 979 824	-20.176
40		5 179 979 317	-20.683
50		5 179 978 722	-21.278
-20	5 220 000 000	5 219 980 525	-19.475
-10		5 219 979 979	-20.021
0		5 219 979 402	-20.598
10		5 219 978 901	-21.099
20		5 219 978 321	-21.679
30		5 219 977 769	-22.231
40		5 219 977 219	-22.781
50		5 219 976 662	-23.338
-20	5 240 000 000	5 239 979 688	-20.312
-10		5 239 979 156	-20.844
0		5 239 978 569	-21.431
10		5 239 978 017	-21.983
20		5 239 977 496	-22.504
30		5 239 976 991	-23.009
40		5 239 976 409	-23.591
50		5 239 975 845	-24.155

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)

Tested by: Hyung-Kwon, Oh / Engineer

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

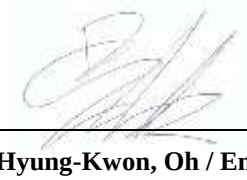
12.5 Test Data for U-NII-3

-. Test Date : March 22, 2017

-. Result : Pass

Temperature (˚C)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Freequency Error (kHz)
-20	5 745 000 000	5 744 981 474	-18.526
-10		5 744 980 947	-19.053
0		5 744 980 427	-19.573
10		5 744 979 863	-20.137
20		5 744 979 295	-20.705
30		5 744 978 721	-21.279
40		5 744 978 185	-21.815
50		5 744 977 679	-22.321
-20	5 785 000 000	5 784 979 689	-20.311
-10		5 784 979 158	-20.842
0		5 784 978 635	-21.365
10		5 784 978 135	-21.865
20		5 784 977 629	-22.371
30		5 784 977 107	-22.893
40		5 784 976 547	-23.453
50		5 784 975 951	-24.049
-20	5 825 000 000	5 824 978 221	-21.779
-10		5 824 977 693	-22.307
0		5 824 977 122	-22.878
10		5 824 976 526	-23.474
20		5 824 975 967	-24.033
30		5 824 975 417	-24.583
40		5 824 974 898	-25.102
50		5 824 974 308	-25.692

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)



Tested by: Hyung-Kwon, Oh / Engineer

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

13. FREQUENCY STABILITY WITH VOLTAGE VARIATION

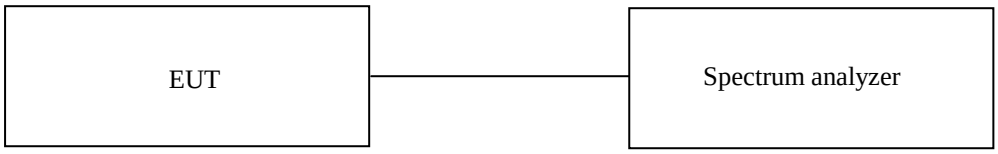
13.1 Operating environment

Temperature : 24 ℃

Relative humidity : 47 % R.H.

13.2 Test set-up

An external DC power supply was connected to the input of the EUT. The voltage of EUT set to 115 % of the nominal value and then was reduced to 85 % of nominal voltage. The output frequency was recorded at each step.



13.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	May 31, 2016 (1Y)
■ -	DRP-305DN	DIGITAL Elec.	DC Power supply	4030195	Sep. 02, 2016 (1Y)

All test equipment used is calibrated on a regular basis.

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

13.4 Test Data for U-NII-1

-. Test Date : March 22, 2017

-. Result : Pass

Voltage (Vdc)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Freequency Error (kHz)
15.4	5 180 000 000	5 179 978 625	-21.375
14.0		5 179 978 528	-21.472
12.6		5 179 978 429	-21.571
15.4	5 220 000 000	5 219 978 417	-21.583
14.0		5 219 978 324	-21.676
12.6		5 219 978 231	-21.769
15.4	5 240 000 000	5 239 977 912	-22.088
14.0		5 239 977 814	-22.186
12.6		5 239 977 715	-22.285

Tested by: Hyung-Kwon, Oh / Engineer

13.5 Test Data for U-NII-3

-. Test Date : March 22, 2017

-. Result : Pass

Voltage (Vdc)	Carrier Freq. (Hz)	Measured Freq. (Hz)	Freequency Error (kHz)
15.4	5 745 000 000	5 744 978 885	-21.115
14.0		5 744 978 790	-21.210
12.6		5 744 978 697	-21.303
15.4	5 785 000 000	5 784 978 318	-21.682
14.0		5 784 978 228	-21.772
12.6		5 784 978 129	-21.871
15.4	5 825 000 000	5 824 977 944	-22.056
14.0		5 824 977 848	-22.152
12.6		5 824 977 749	-22.251

Tested by: Hyung-Kwon, Oh / Engineer

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14. DUTY CYCLE

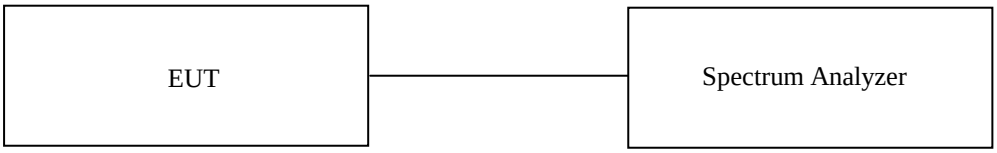
14.1 Operating environment

Temperature : (24 ~ 25) ℃

Relative humidity : (45 ~ 46) % R.H.

14.2 Test set-up

The zero-span mode on a spectrum analyzer or EMI receiver, if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW ≥ EBW if possible; otherwise, set RBW to the largest available value. Set VBW ≥ RBW. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/*T*, where *T* is defined in section B)1)a), and the number of sweep points across duration *T* exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if *T* ≤ 16.7 microseconds.)



14.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	May. 31, 2016 (1Y)

All test equipment used is calibrated on a regular basis.

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14.4 Test data for Worst case

-. Test Date : March 21, 2017

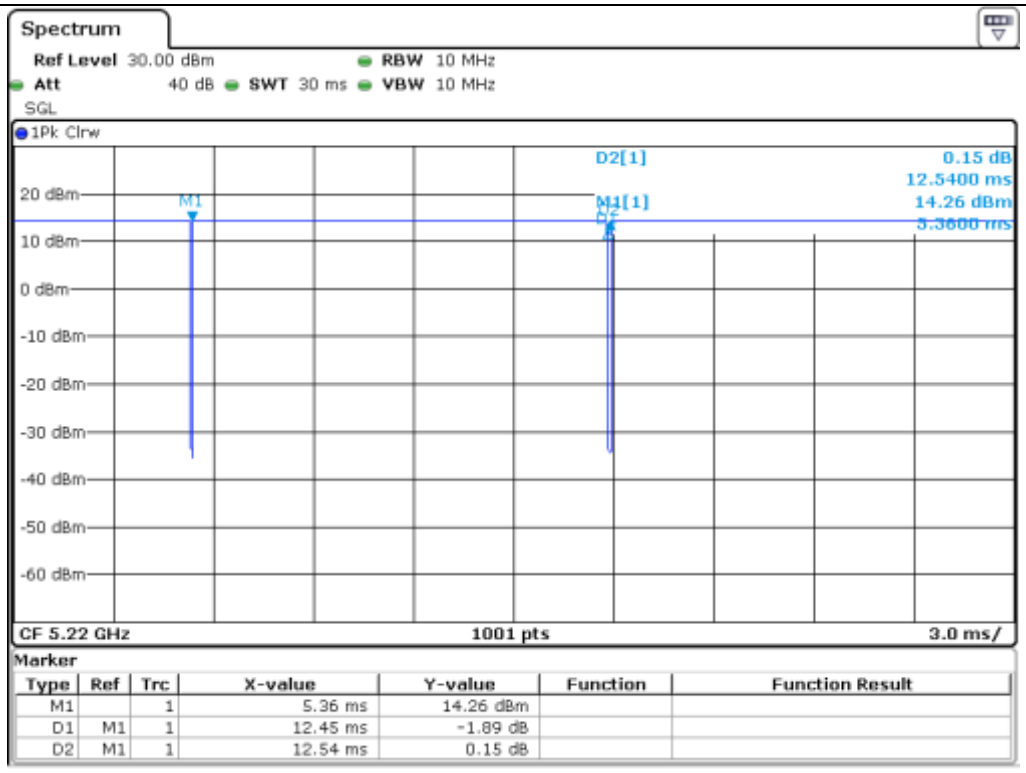
-. Channel : Middle

UNII 1

MODE	Date Rate (Mbps)	T_{ON} (ms)	T_{TOTAL} (ms)	DUTY	FACTOR (dB)
802.11a	6	12.45	12.54	0.992 82	0.031 28
802.11n_HT20	6.5	12.44	12.53	0.992 82	0.031 31
802.11n_HT40	13.5	12.43	12.50	0.994 40	0.024 39
802.11ac_HT80	29.3	12.44	12.51	0.994 40	0.024 37

Remark: Duty Cycle = T_{ON}/T_{TOTAL} and Duty Cycle Factor = 10*log(1/Duty Cycle)

Tested by: Hyung-Kwon, Oh / Engineer



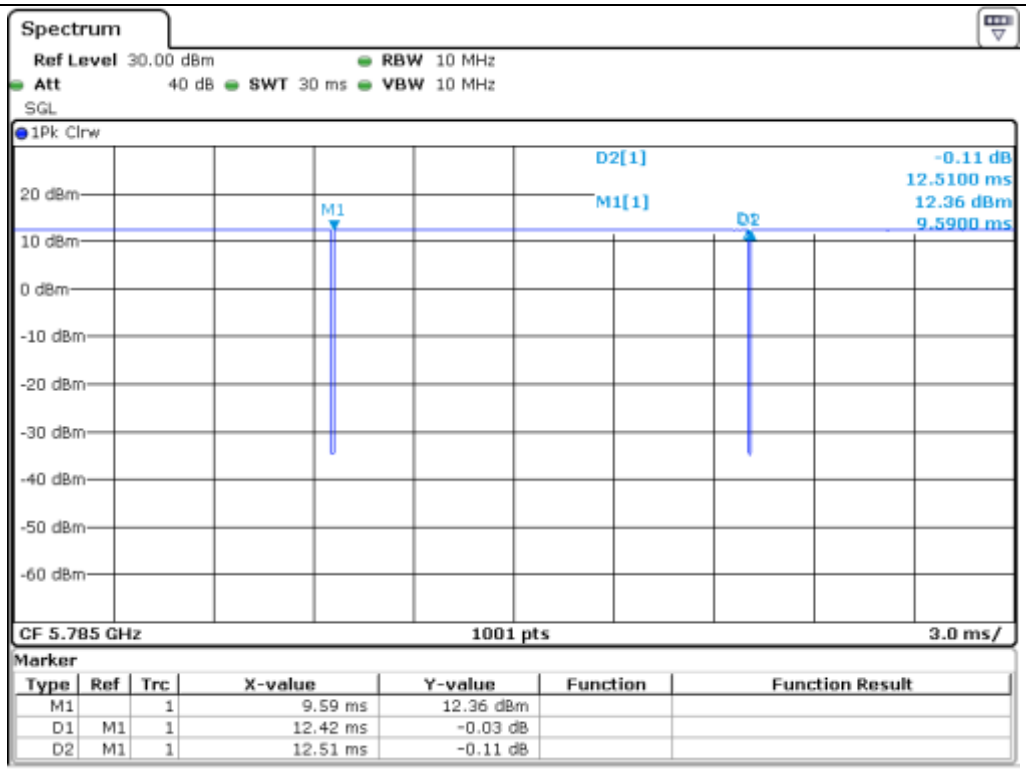
802.11a MODE

UNII 3

MODE	Date Rate (Mbps)	T_{ON} (ms)	T_{TOTAL} (ms)	DUTY	FACTOR (dB)
802.11a	6	12.42	12.51	0.992 8	0.031 4
802.11n_HT20	6.5	12.44	12.54	0.992 0	0.034 8
802.11n_HT40	13.5	12.45	12.53	0.993 6	0.027 8
802.11ac_HT80	29.3	12.43	12.51	0.993 6	0.027 9

Remark: Duty Cycle = T_{ON}/T_{TOTAL} and Duty Cycle Factor = 10*log(1/Duty Cycle)

Tested by: Hyung-Kwon, Oh / Engineer



802.11a MODE

14.5 Test data

-. Test Date : March 21, 2017

-. Channel : Middle

UNII 1

MODE	Date Rate (Mbps)	T_{ON} (ms)	T_{TOTAL} (ms)	DUTY	FACTOR (dB)
802.11a	6.0	12.45	12.54	0.992 8	0.031 3
	9.0	12.30	12.46	0.987 2	0.056 1
	12.0	12.25	12.37	0.990 3	0.042 3
	18.0	12.03	12.24	0.982 8	0.075 2
	24.0	11.87	12.03	0.986 7	0.058 1
	36.0	11.67	11.87	0.983 2	0.073 8
	48.0	11.43	11.57	0.987 9	0.052 9
	54.0	11.20	11.35	0.986 8	0.057 8
802.11n_HT20	6.5	12.44	12.53	0.992 8	0.031 3
	13.0	12.31	12.43	0.990 3	0.042 1
	19.5	12.27	12.37	0.991 9	0.035 3
	26.0	12.05	12.22	0.986 1	0.060 8
	39.0	11.90	12.10	0.983 5	0.072 4
	52.0	11.70	11.83	0.989 0	0.048 0
	58.5	11.45	11.61	0.986 2	0.060 3
	65.0	11.22	11.34	0.989 4	0.046 2
802.11n_HT40	13.5	12.43	12.50	0.994 4	0.024 4
	27.0	12.33	12.43	0.992 0	0.035 1
	40.5	12.20	12.36	0.987 1	0.056 6
	54.0	12.02	12.15	0.989 3	0.046 7
	81.0	11.83	11.99	0.986 7	0.058 3
	108.0	11.62	11.85	0.980 6	0.085 1
	121.5	11.47	11.63	0.986 2	0.060 2
	135.0	11.15	11.29	0.987 6	0.054 2

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802.11ac_HT80	29.3	12.44	12.51	0.994 4	0.024 4
	58.5	12.33	12.45	0.990 4	0.042 1
	87.8	12.22	12.37	0.987 9	0.053 0
	117.0	12.05	12.19	0.988 5	0.050 2
	175.5	11.90	12.09	0.984 3	0.068 8
	234.0	11.63	11.82	0.983 9	0.070 4
	263.3	11.50	11.63	0.988 8	0.048 8
	292.5	11.34	11.45	0.990 4	0.041 9
	351.0	11.25	11.36	0.990 3	0.042 3
	390.0	11.17	11.24	0.993 8	0.027 1

Remark: Duty Cycle = T_{ON}/T_{TOTAL} and Duty Cycle Factor = 10*log(1/Duty Cycle)

Tested by: Hyung-Kwon, Oh / Engineer

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

UNII 3

MODE	Date Rate (Mbps)	T_{ON} (ms)	T_{TOTAL} (ms)	DUTY	FACTOR (dB)
802.11a	6.0	12.42	12.51	0.992 8	0.031 4
	9.0	12.33	12.43	0.992 0	0.035 1
	12.0	12.15	12.30	0.987 8	0.053 3
	18.0	11.95	12.15	0.983 5	0.072 1
	24.0	11.80	11.93	0.989 1	0.047 6
	36.0	11.57	11.71	0.988 0	0.052 2
	48.0	11.37	11.50	0.988 7	0.049 4
	54.0	11.15	11.36	0.981 5	0.081 0
802.11n_HT20	6.5	12.44	12.54	0.992 0	0.034 8
	13.0	12.35	12.53	0.985 6	0.062 8
	19.5	12.20	12.36	0.987 1	0.056 6
	26.0	11.93	12.16	0.981 1	0.082 9
	39.0	11.84	11.96	0.990 0	0.043 8
	52.0	11.54	11.63	0.992 3	0.033 7
	58.5	11.37	11.57	0.982 7	0.075 7
	65.0	11.12	11.32	0.982 3	0.077 4
802.11n_HT40	13.5	12.45	12.53	0.993 6	0.027 8
	27.0	12.30	12.43	0.989 5	0.045 7
	40.5	12.12	12.30	0.985 4	0.064 0
	54.0	12.03	12.23	0.983 6	0.071 6
	81.0	11.78	11.95	0.985 8	0.062 2
	108.0	11.53	11.73	0.982 9	0.074 7
	121.5	11.36	11.50	0.987 8	0.053 2
	135.0	11.12	11.31	0.983 2	0.073 6

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802.11ac_HT80	29.3	12.43	12.51	0.993 6	0.027 9
	58.5	12.31	12.43	0.990 3	0.042 1
	87.8	12.07	12.23	0.986 9	0.057 2
	117.0	11.91	12.10	0.984 3	0.068 7
	175.5	11.78	11.87	0.992 4	0.033 1
	234.0	11.60	11.78	0.984 7	0.066 9
	263.3	11.33	11.47	0.987 8	0.053 3
	292.5	11.17	11.30	0.988 5	0.050 3
	351.0	11.03	11.24	0.981 3	0.081 9
	390.0	10.87	11.10	0.979 3	0.090 9

Remark: Duty Cycle = T_{ON}/T_{TOTAL} and Duty Cycle Factor = 10*log(1/Duty Cycle)

Tested by: Hyung-Kwon, Oh / Engineer

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

15. RADIATED SPURIOUS EMISSIONS

15.1 Operating environment

Temperature : (24 ~ 25) ℃

Relative humidity : (45 ~ 46) % R.H.

15.2 Test set-up

The radiated emissions measurements were on the 3 m semi anechoic chamber. The EUT and other support equipment were placed on 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 26.5 GHz was scanned and emission levels maximized at each frequency recorded. The system was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

15.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	May 31, 2016 (1Y)
■ -	ESCI	Rohde & Schwarz	Test Receiver	101012	Apr. 06, 2016 (1Y)
■ -	310N	Sonoma Instrument	Pre-Amplifier	312544	Apr. 05, 2016 (1Y)
■ -	SCU-18	Rohde & Schwarz	Pre-Amplifier	10041	Nov. 23, 2015 (1Y)
■ -	DT3000	Innco System	Turn Table	930611	N/A
■ -	MA4000-EP	Innco System	Antenna Master	3320611	N/A
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	9163-421	Apr. 15, 2016 (1Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D295	Aug. 31, 2015 (2Y)
■ -	BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Aug. 31, 2015 (2Y)
■ -	HFH2-Z2	Rohde & Schwarz	Loop Antenna	879285/26	Dec. 09, 2016 (2Y)
■ -	SCU40A	Rohde & Schwarz	Signal Conditioning unit	100436	May 31, 2016 (1Y)

All test equipment used is calibrated on a regular basis.

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15.5 Test data for Below 30 MHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

-.Operating mode : Transmitting mode

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

Tested by: Hyung-Kwon, Oh / Engineer

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

15.6 Test data for 30 MHz ~ 1 GHz

Humidity Level : (45 ~ 46) % R.H. Temperature: (24 ~ 25) ℃

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

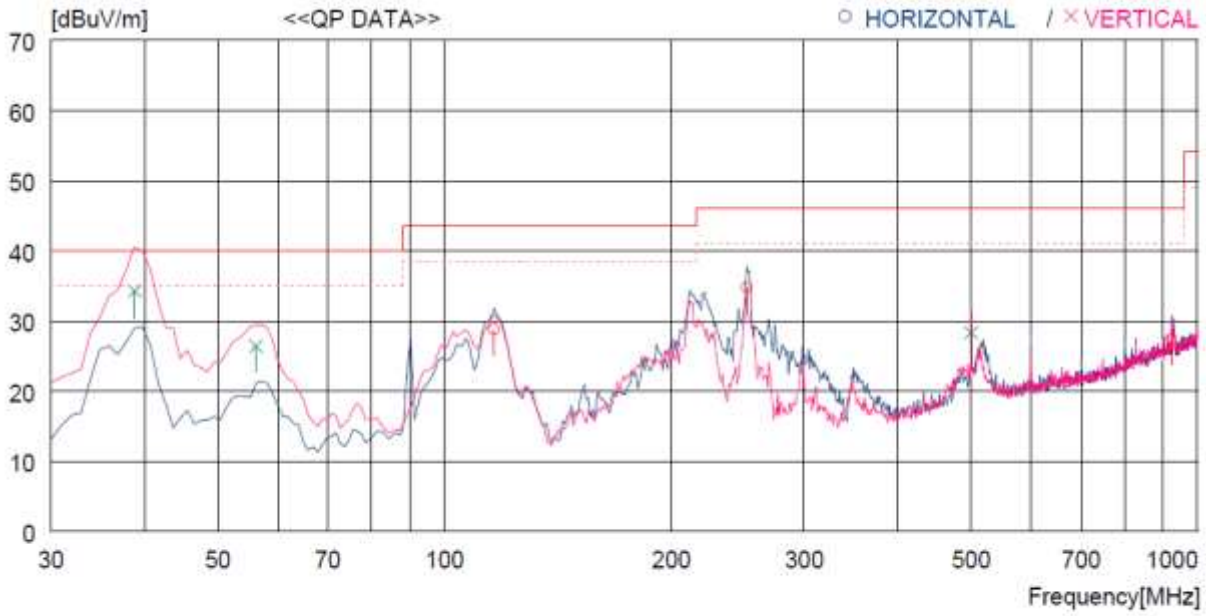
Result : PASSED

EUT : AWG (Advanced Wireless Gateway) Date: March 23, 2017

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

Note: 2.4 GHz / 5 GHz operating mode were tested, but the worst data were recorded.

(Both 802.11b WLAN Mode and 802.11a RLAN Mode)



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	116.330	47.7	10.8	3.3	33.1	28.7	43.5	14.8	300	36
2	252.130	51.2	12.4	4.1	33.0	34.7	46.0	11.3	100	0
3	923.358	29.2	22.2	8.5	32.5	27.4	46.0	18.6	100	0
----- Vertical ------										
4	38.730	52.3	13.1	1.8	33.0	34.2	40.0	5.8	100	359
5	56.190	43.8	13.5	2.1	33.0	26.4	40.0	13.6	100	359
6	500.451	37.6	17.0	7.0	33.3	28.3	46.0	17.7	100	359

Tested by: Hyung-Kwon, Oh / Engineer

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

15.7 Test data for Frequency U-NII-1

15.7.1 Test data for 802.11a RLAN Mode

15.7.1.1 Test data for 1 GHz ~ 15 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 15 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-.Operating mode : Transmitting mode

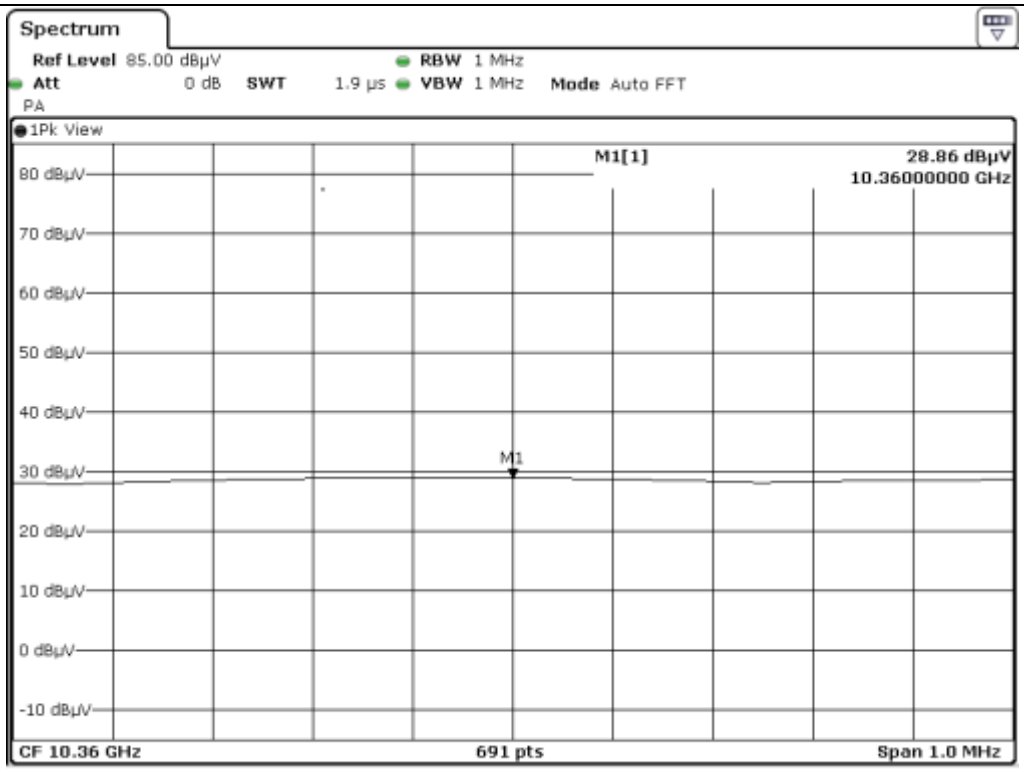
Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
10 360.00	28.86	Peak	H	39.66	26.38	41.13	53.77	68.20	14.43
	24.01	Peak	V				48.92	68.20	19.28
Middle Channel									
10 440.00	27.29	Peak	H	39.84	26.74	41.27	52.60	68.20	15.60
	22.65	Peak	V				47.96	68.20	20.24
High Channel									
10 480.00	28.45	Peak	H	40.02	27.09	41.41	54.15	68.20	14.05
	22.44	Peak	V				48.14	68.20	20.06

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

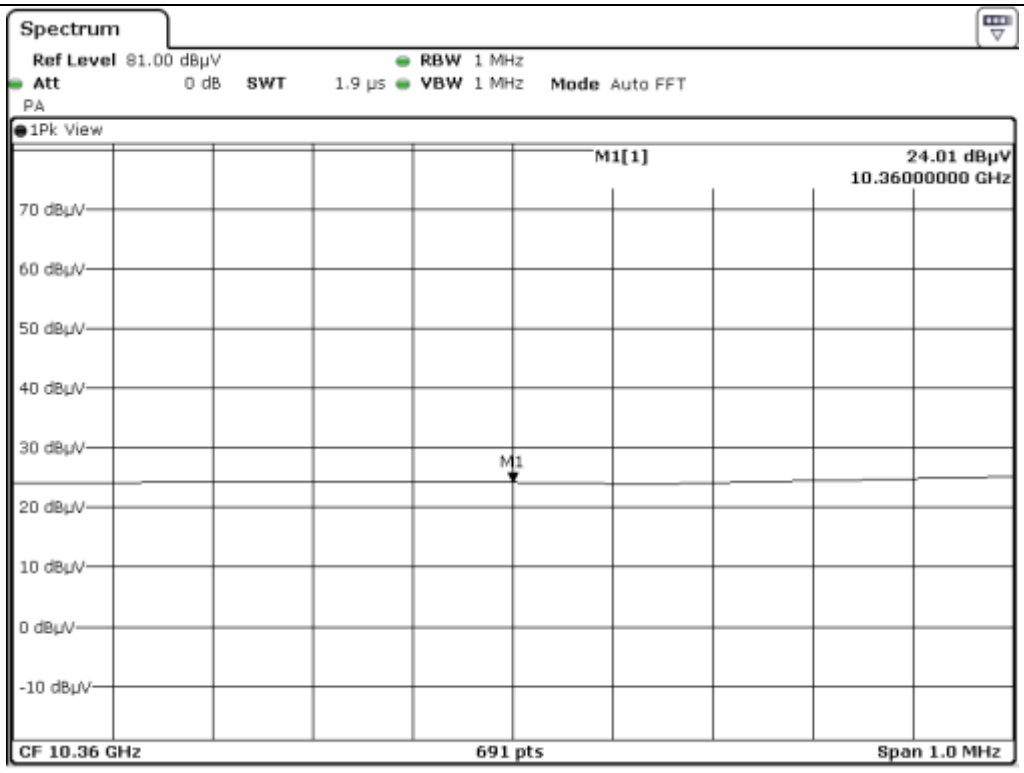
Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hyung-Kwon, Oh / Engineer

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

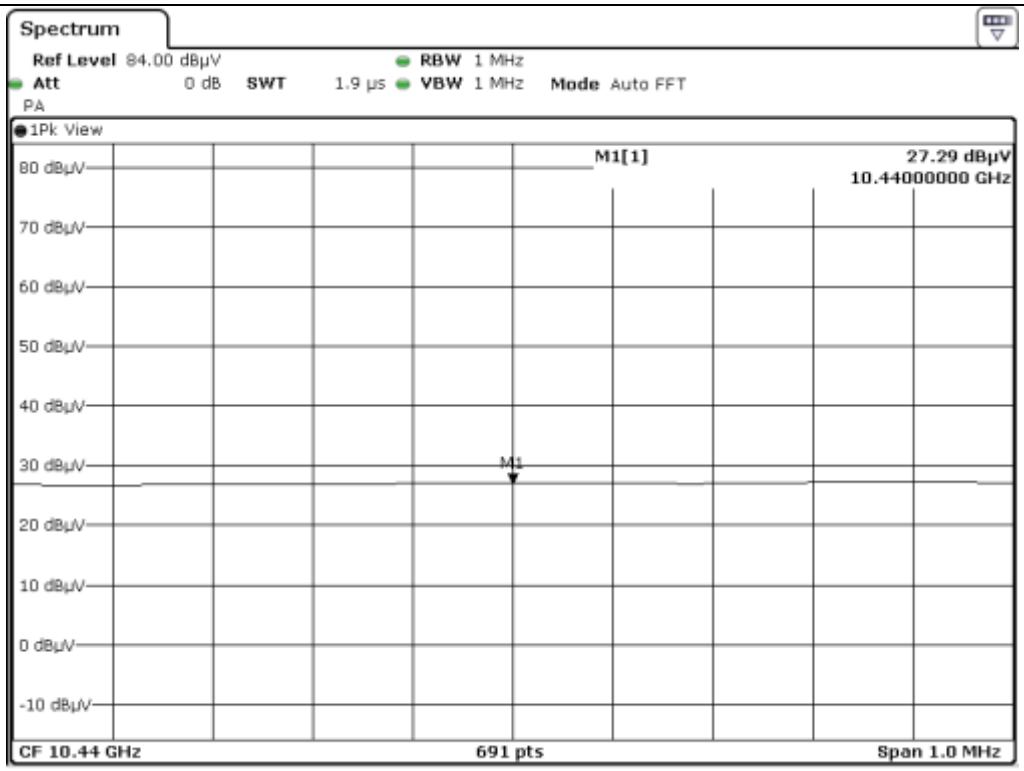


Low Channel_Peak_H

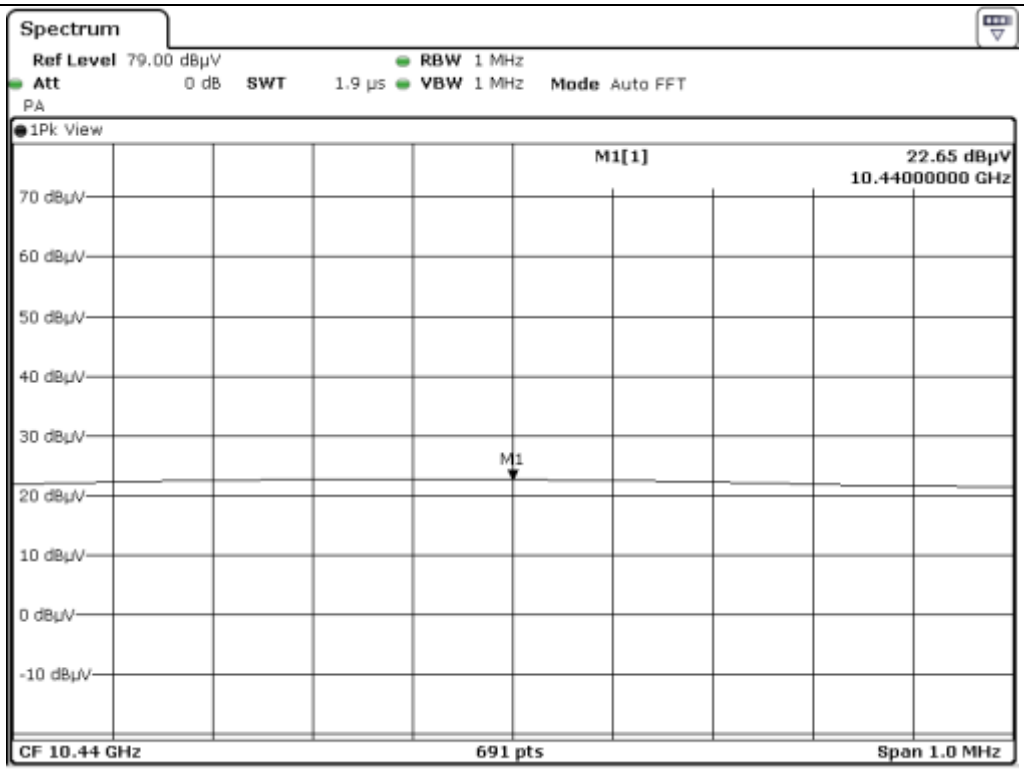


Low Channel_Peak_V

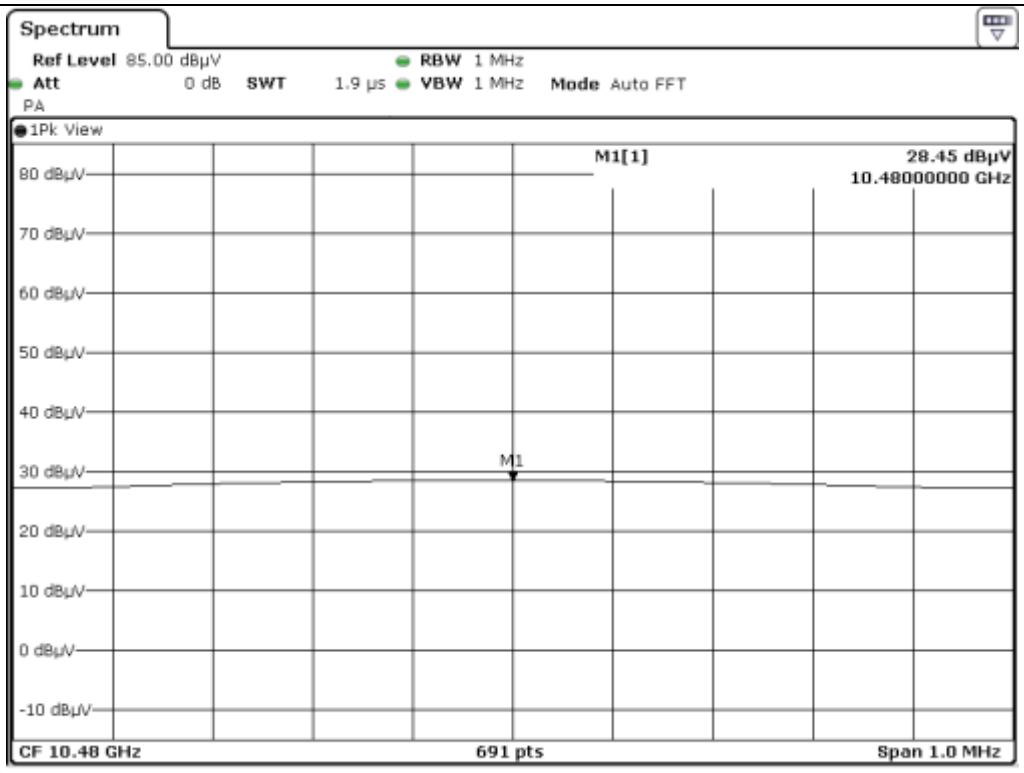
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



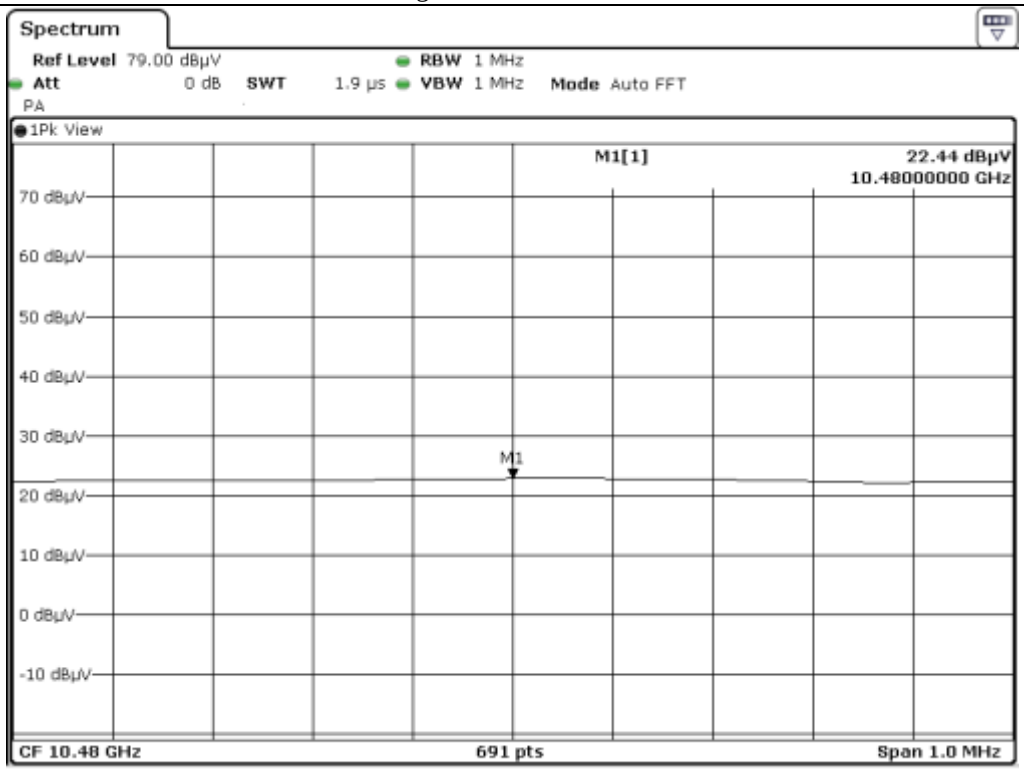
Middle Channel_Peak_H



Middle Channel_Peak_V



High Channel_Peak_H



High Channel_Peak_V

15.7.1.2 Test data for 15 GHz ~ 40 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 15 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-.Operating mode : Transmitting mode

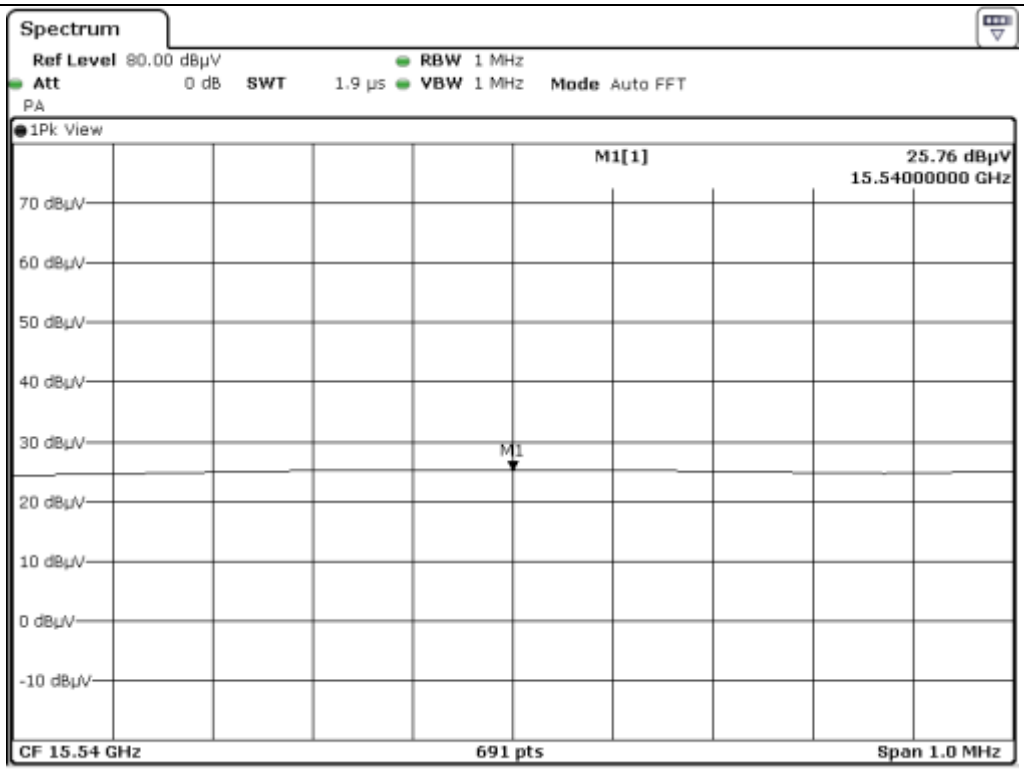
Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
15 540.00	25.76	Peak	H	39.18	34.80	39.72	60.02	73.98	13.96
	18.54	Average	H				52.80	53.98	1.18
	24.05	Peak	V				58.31	73.98	15.67
	17.81	Average	V				52.07	53.98	1.91
Middle Channel									
15 660.00	24.26	Peak	H	38.81	35.05	39.66	58.46	73.98	15.52
	17.51	Average	H				51.71	53.98	2.27
	23.95	Peak	V				58.15	73.98	15.83
	17.70	Average	V				51.90	53.98	2.08
High Channel									
15 720.00	24.22	Peak	H	38.44	35.30	39.60	58.36	73.98	15.62
	17.08	Average	H				51.22	53.98	2.76
	23.97	Peak	V				58.11	73.98	15.87
	16.78	Average	V				50.92	53.98	3.06

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

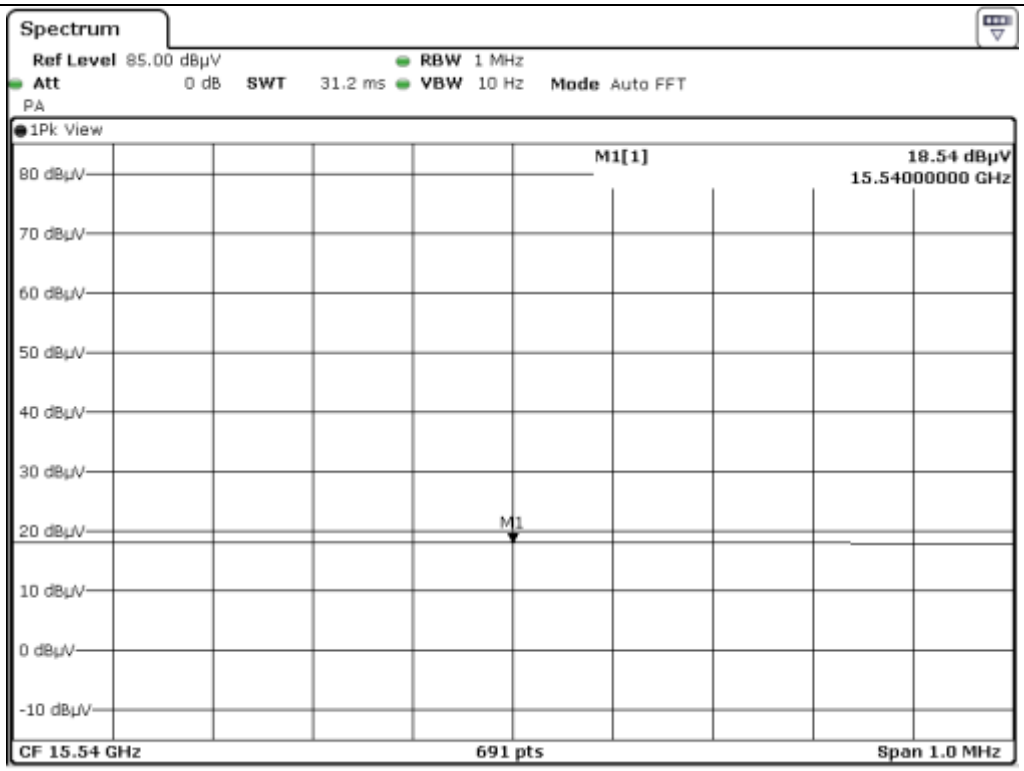
Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hyung-Kwon, Oh / Engineer

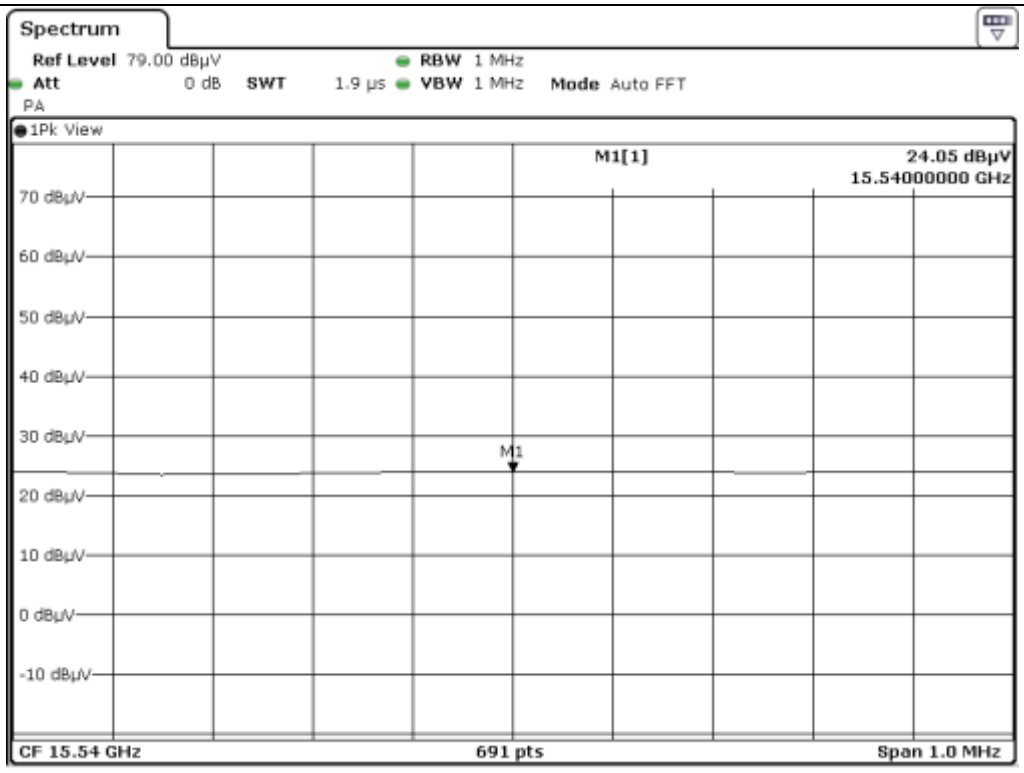
ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)



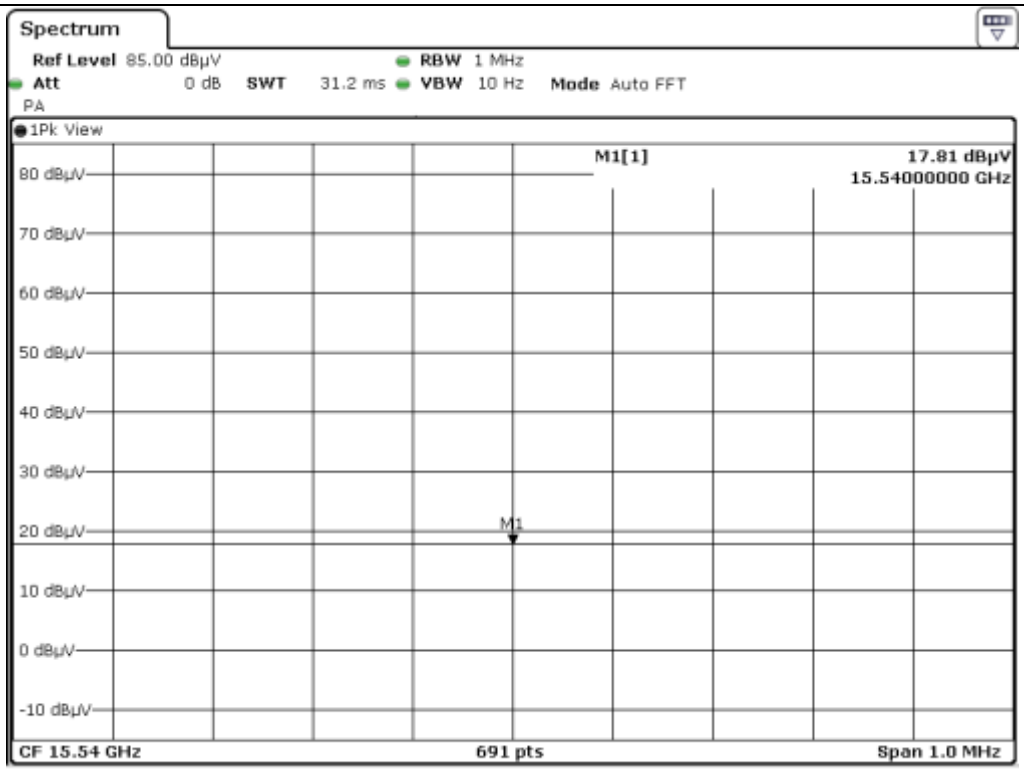
Low Channel_Peak_H



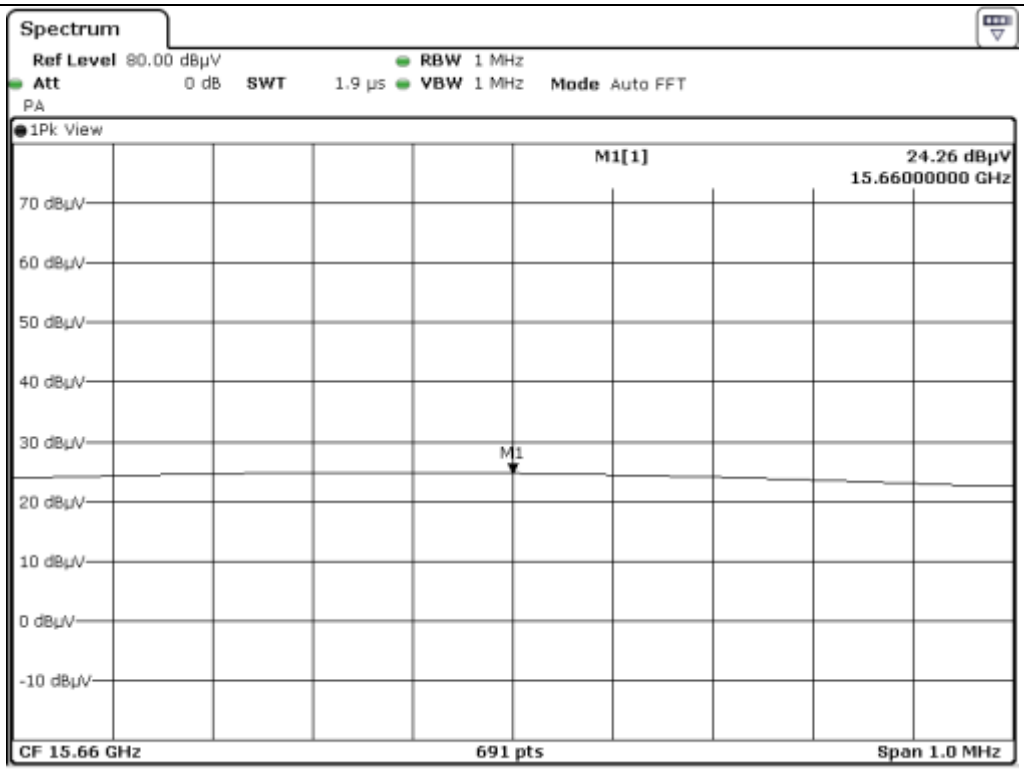
Low Channel_Average_H



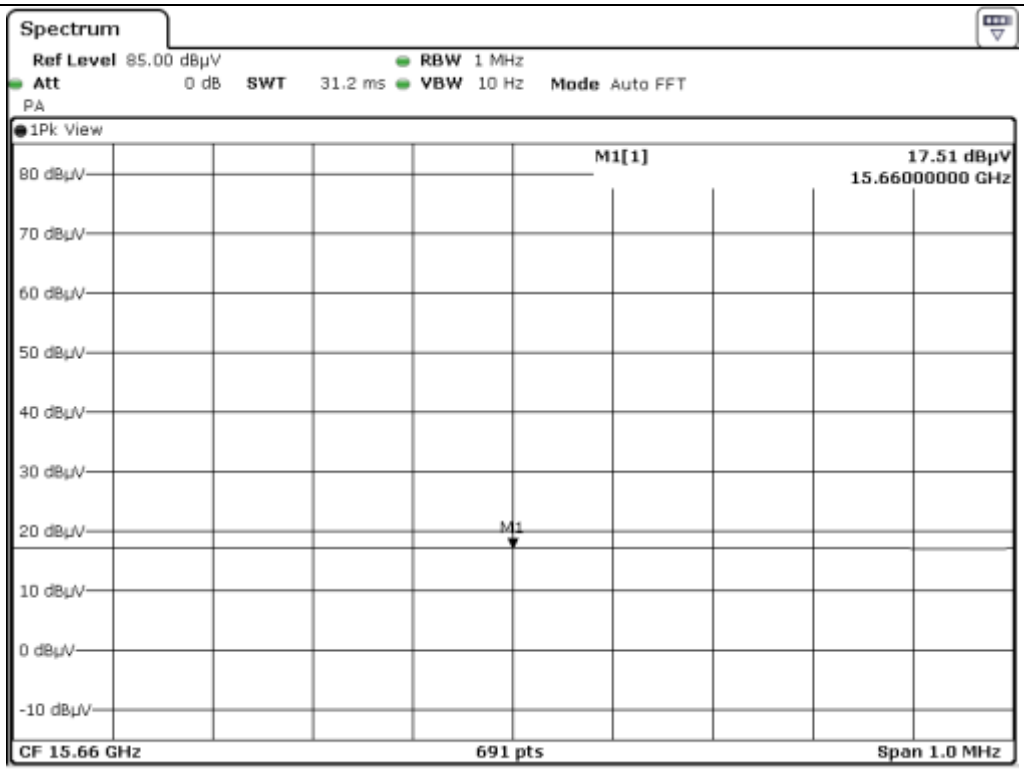
Low Channel_Peak_V



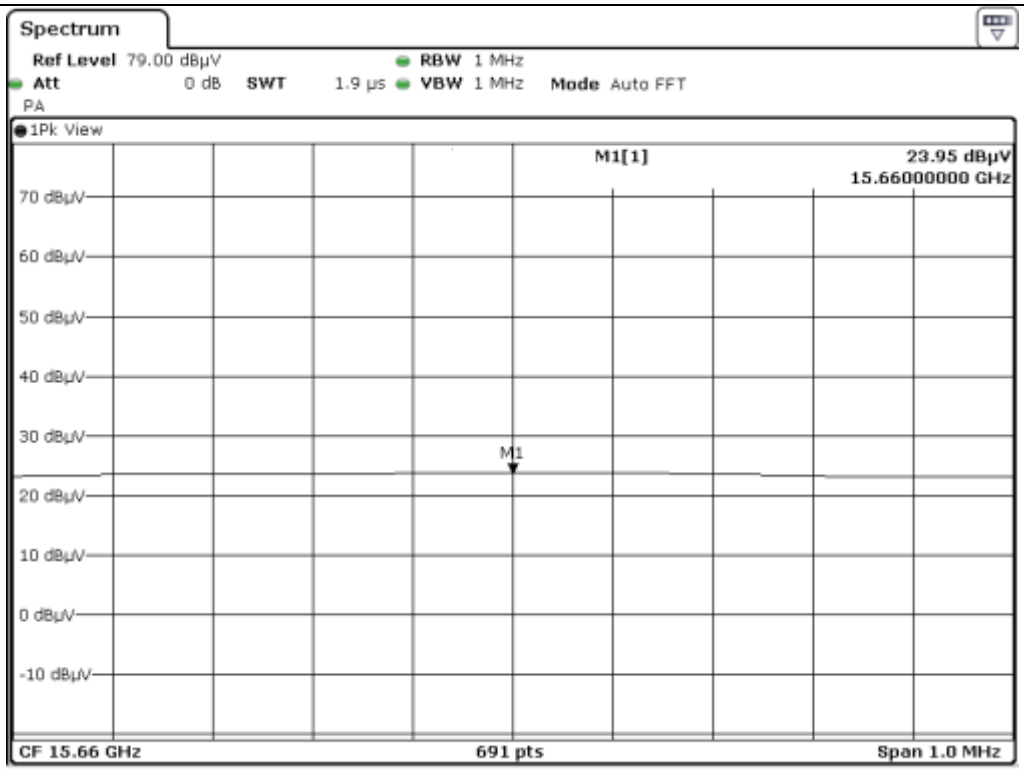
Low Channel_Average_V



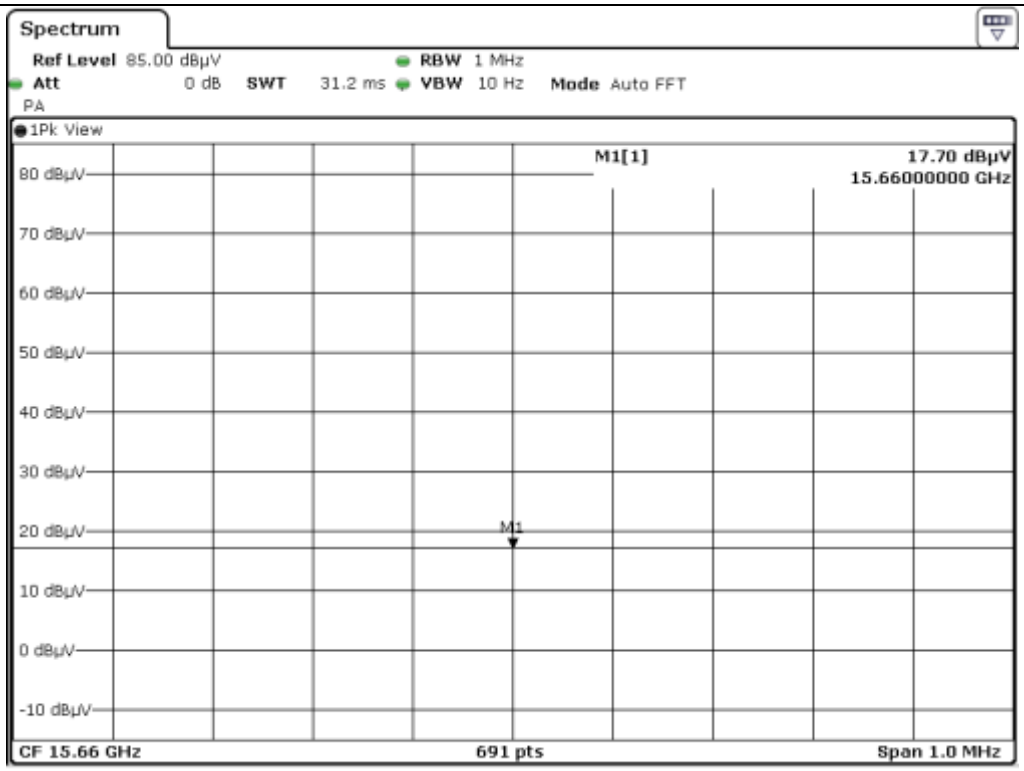
Middle Channel_Peak_H



Middle Channel_Average_H



Middle Channel_Peak_V



Middle Channel_Average_V

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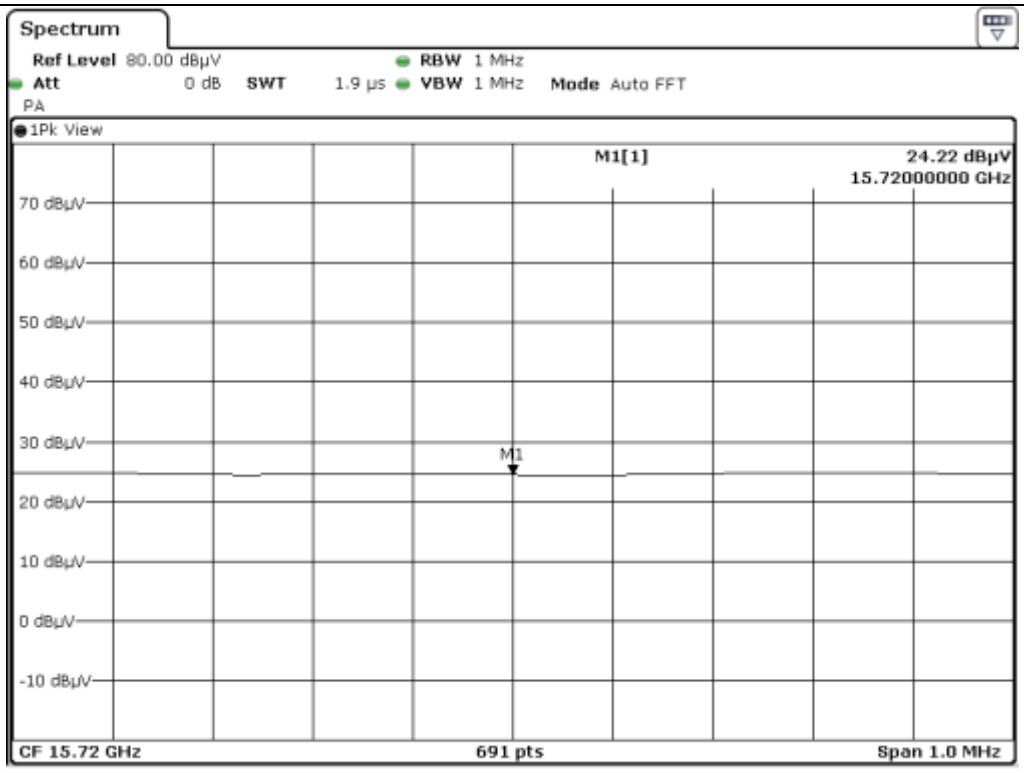
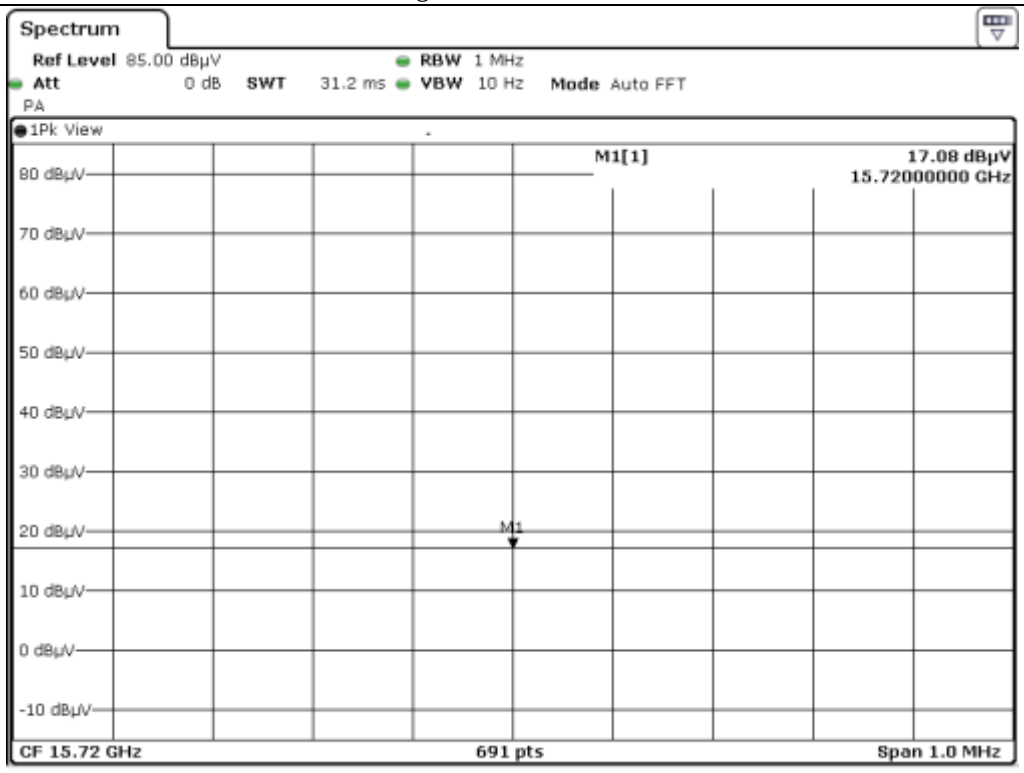
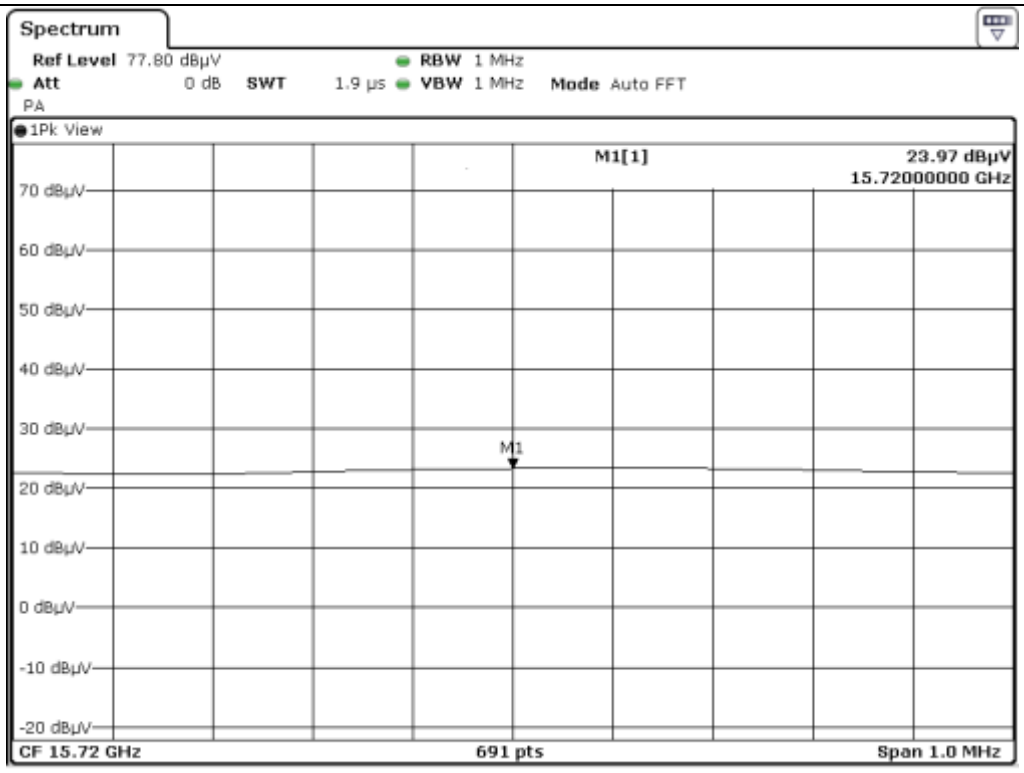


High Channel_Peak_H

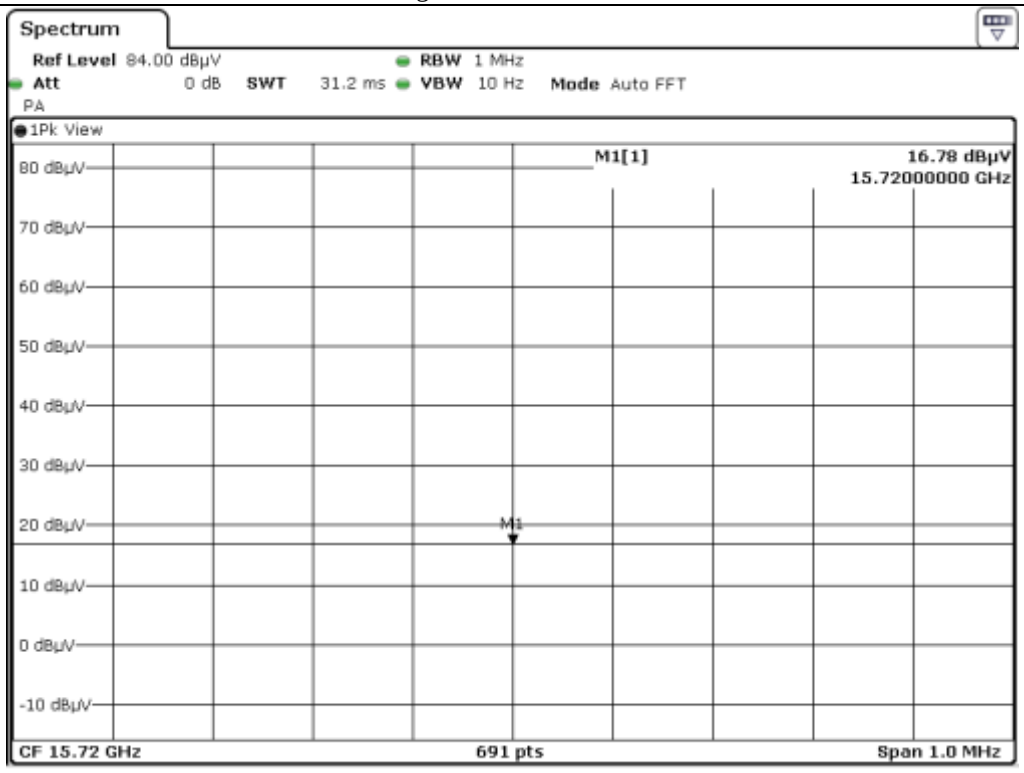


High Channel_Average_H

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_Peak_V



High Channel_Average_V

15.7.2 Test data for 802.11n_HT20 RLAN Mode

15.7.2.1 Test data for 1 GHz ~ 15 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 15 GHz

-. Measurement distance : 3 m

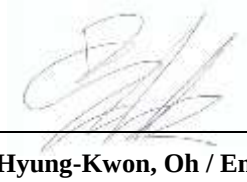
-. Duty Cycle : > 98 %

-.Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
10 360.00	29.91	Peak	H	39.66	26.38	41.13	54.82	68.20	13.38
	23.48	Peak	V				48.39	68.20	19.81
Middle Channel									
10 440.00	27.77	Peak	H	39.84	26.74	41.27	53.08	68.20	15.12
	22.05	Peak	V				47.36	68.20	20.84
High Channel									
10 480.00	28.55	Peak	H	40.02	27.09	41.41	54.25	68.20	13.95
	22.89	Peak	V				48.59	68.20	19.61

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

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



Tested by: Hyung-Kwon, Oh / Engineer

15.7.2.2 Test data for 15 GHz ~ 40 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 15 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
15 540.00	26.73	Peak	H	39.18	34.80	39.72	60.99	73.98	12.99
	17.92	Average	H				52.18	53.98	1.80
	24.45	Peak	V				58.71	73.98	15.27
	18.71	Average	V				52.97	53.98	1.01
Middle Channel									
15 660.00	25.88	Peak	H	38.81	35.05	39.66	60.08	73.98	13.90
	17.48	Average	H				51.68	53.98	2.30
	23.56	Peak	V				57.76	73.98	16.22
	18.09	Average	V				52.29	53.98	1.69
High Channel									
15 720.00	26.22	Peak	H	38.44	35.30	39.60	60.36	73.98	13.62
	18.04	Average	H				52.18	53.98	1.80
	24.48	Peak	V				58.62	73.98	15.36
	16.73	Average	V				50.87	53.98	3.11

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

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

Tested by: Hyung-Kwon, Oh / Engineer

15.7.3 Test data for 802.11n_HT40 RLAN Mode

15.7.3.1 Test data for 1 GHz ~ 15 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 15 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
10 380.00	28.80	Peak	H	39.93	26.88	41.27	54.34	68.20	13.86
	23.48	Peak	V				49.02	68.20	19.18
High Channel									
10 460.00	27.65	Peak	H	H	40.02	27.05	53.31	68.20	14.89
	23.00	Peak	V				48.66	68.20	19.54

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

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

Tested by: Hyung-Kwon, Oh / Engineer

15.7.3.2 Test data for 15 GHz ~ 40 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 15 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
15 570.00	27.03	Peak	H	38.81	35.05	39.66	61.23	73.98	12.75
	16.84	Average	H				51.04	53.98	2.94
	23.56	Peak	V				57.76	73.98	16.22
	17.05	Average	V				51.25	53.98	2.73
High Channel									
15 690.00	26.58	Peak	H	38.44	35.30	39.60	60.72	73.98	13.26
	17.46	Average	H				51.60	53.98	2.38
	24.49	Peak	V				58.63	73.98	15.35
	16.62	Average	V				50.76	53.98	3.22

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

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

Tested by: Hyung-Kwon, Oh / Engineer

15.7.4 Test data for 802.11ac_HT80 RLAN Mode

15.7.4.1 Test data for 1 GHz ~ 15 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 15 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Middle Channel									
10 420.00	28.85	Peak	H	39.98	26.97	41.34	54.46	68.20	13.74
	23.56	Peak	V				49.17	68.20	19.03

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

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

Tested by: Hyung-Kwon, Oh / Engineer

15.7.4.2 Test data for 15 GHz ~ 40 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 15 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Middle Channel									
15 630.00	26.86	Peak	H	38.81	35.05	39.66	61.06	73.98	12.92
	17.53	Average	H				51.73	53.98	2.25
	24.03	Peak	V				58.23	73.98	15.75
	16.25	Average	V				50.45	53.98	3.53

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

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

Tested by: Hyung-Kwon, Oh / Engineer

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15.8 Test data for Frequency U-NII-3

15.8.1 Test data for 802.11a RLAN Mode

15.8.1.1 Test data for 1 GHz ~ 15 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 15 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
11 490.00	25.48	Peak	H	40.07	28.32	40.78	53.09	73.98	20.89
	16.87	Average	H				44.48	53.98	9.50
	25.04	Peak	V				52.65	73.98	21.33
	16.54	Average	V				44.15	53.98	9.83
Middle Channel									
11 570.00	26.43	Peak	H	39.78	28.94	40.66	54.49	73.98	19.49
	16.52	Average	H				44.58	53.98	9.40
	26.24	Peak	V				54.30	73.98	19.68
	16.42	Average	V				44.48	53.98	9.50
High Channel									
11 650.00	25.86	Peak	H	39.49	29.56	40.72	54.19	73.98	19.79
	17.02	Average	H				45.35	53.98	8.63
	25.24	Peak	V				53.57	73.98	20.41
	16.89	Average	V				45.22	53.98	8.76

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

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

Tested by: Hyung-Kwon, Oh / Engineer

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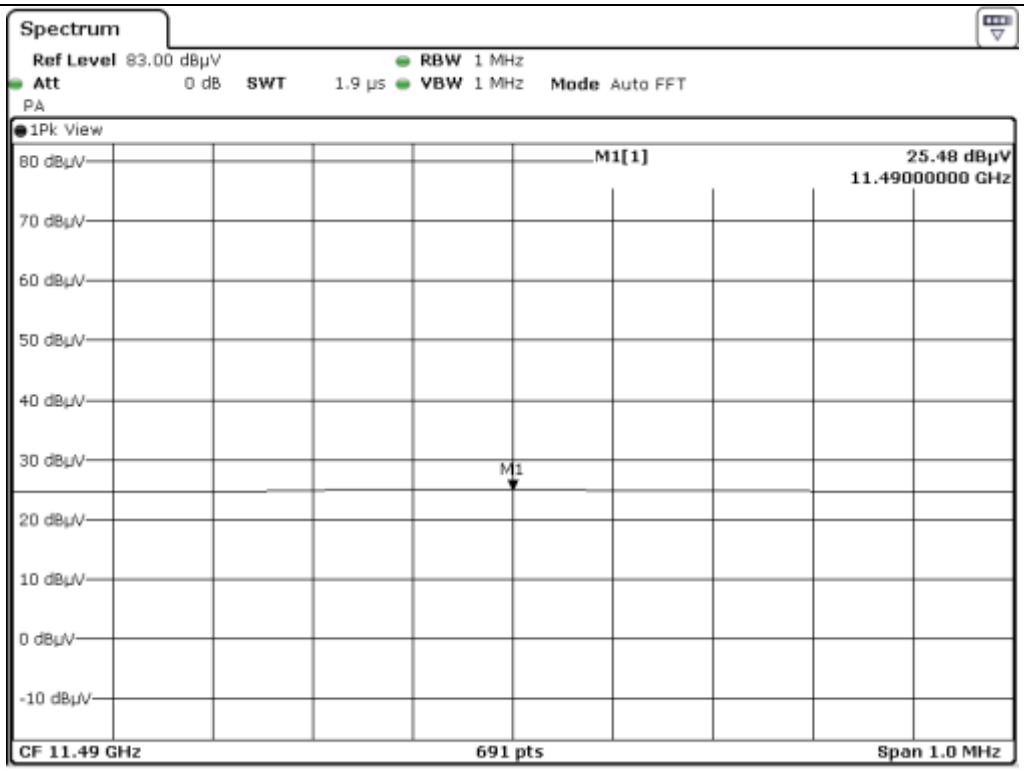
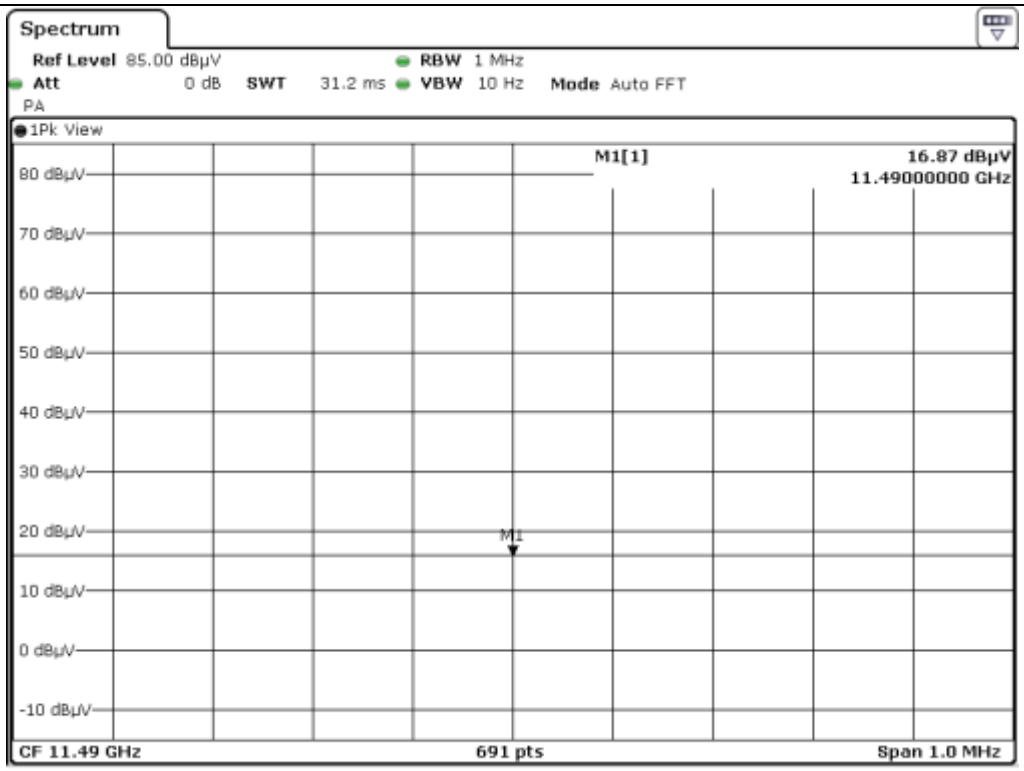


Low Channel_Peak_H



Low Channel_Average_H

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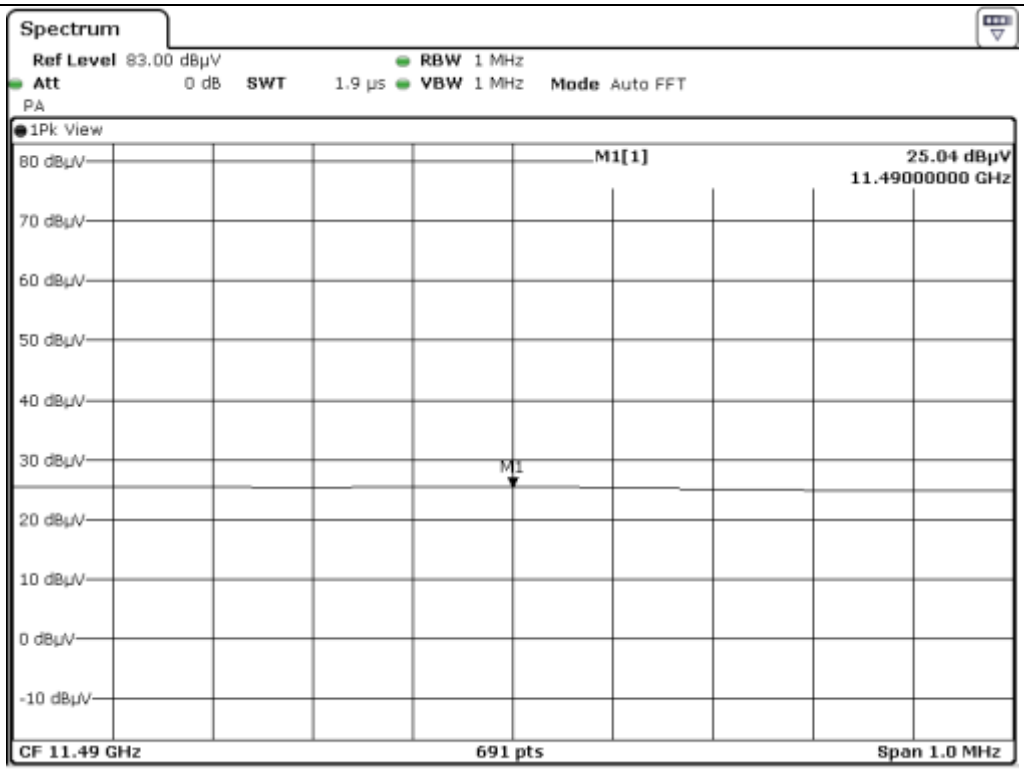
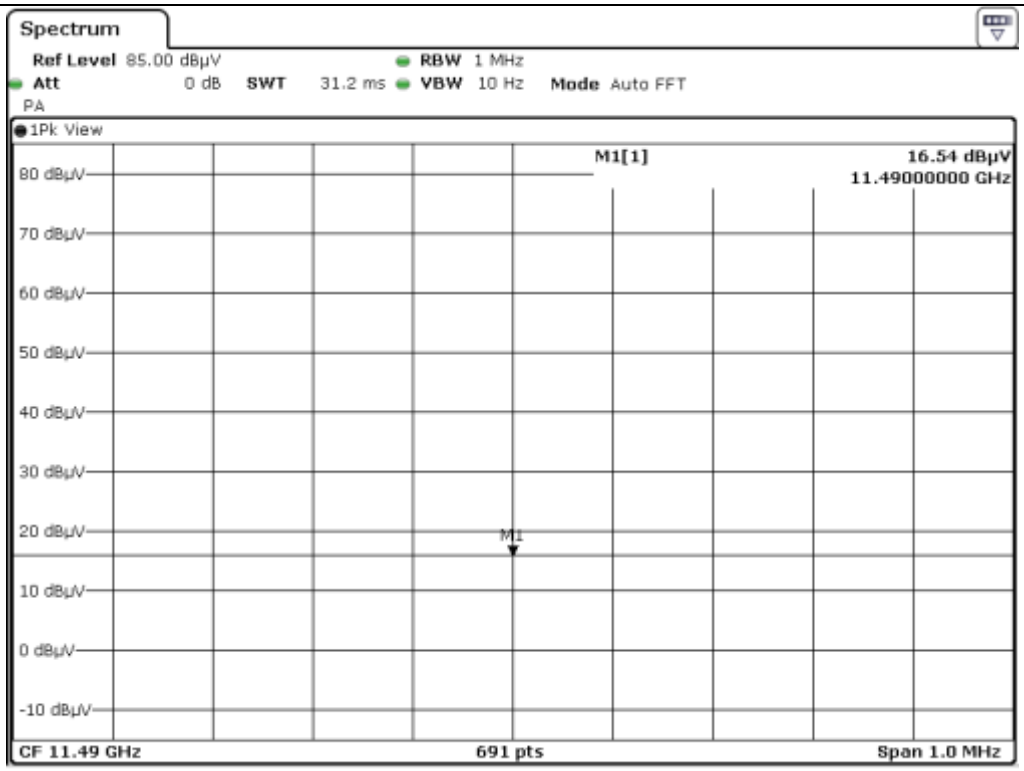
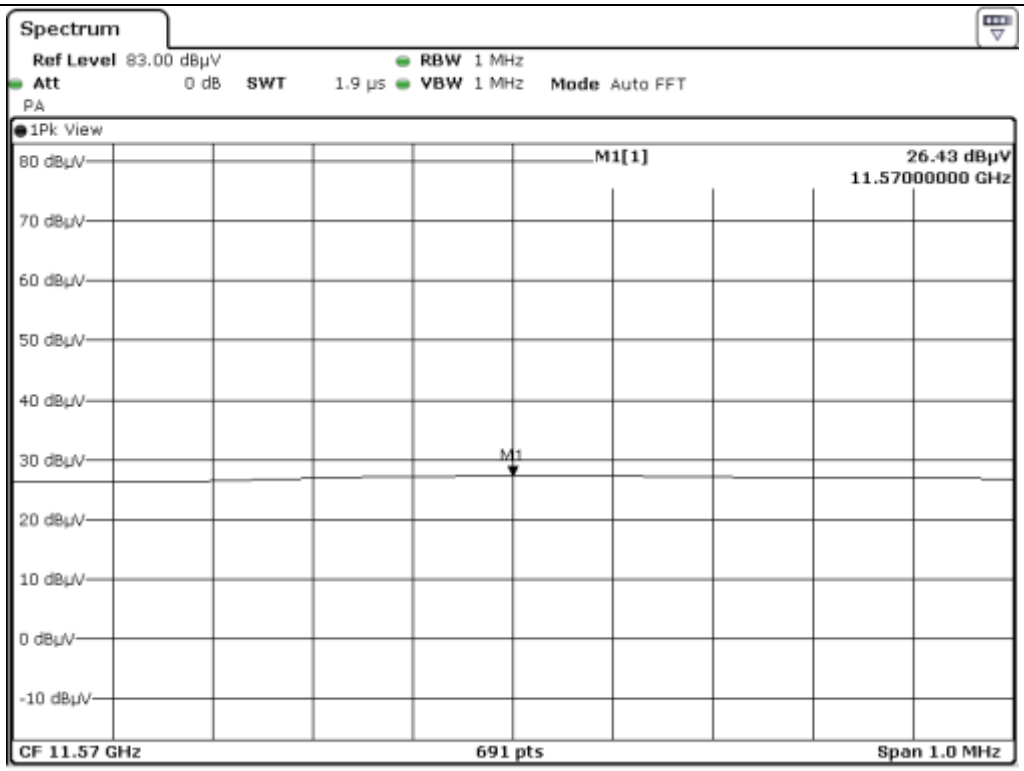


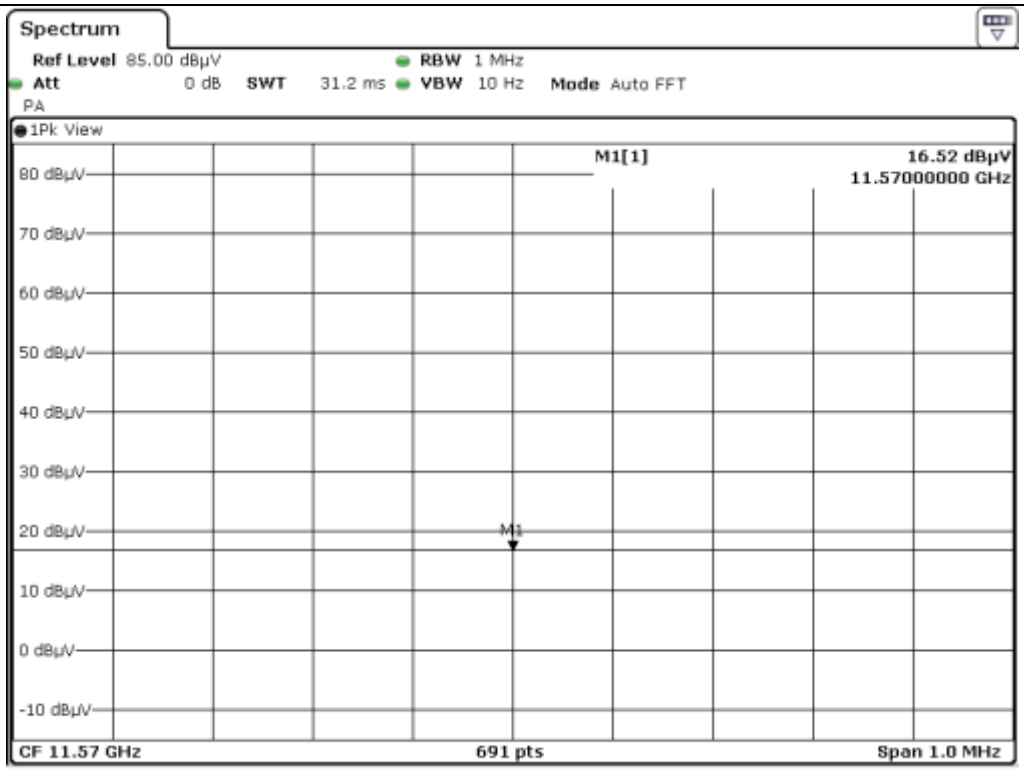
Low Channel_Peak_V



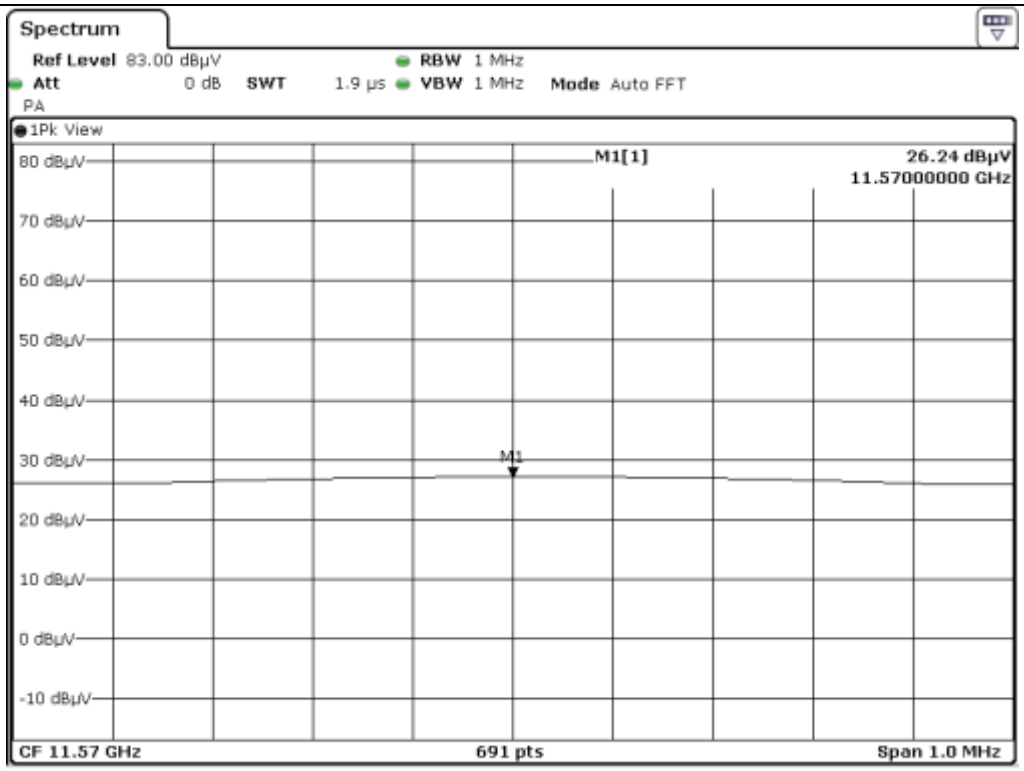
Low Channel_Average_V



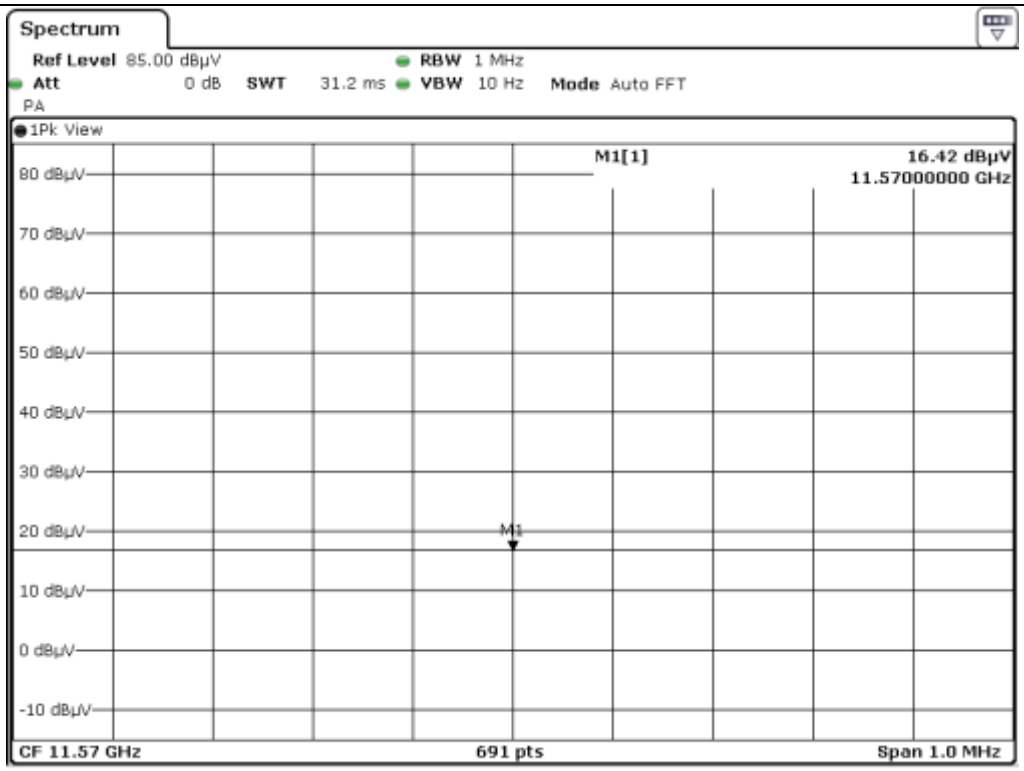
Middle Channel_Peak_H



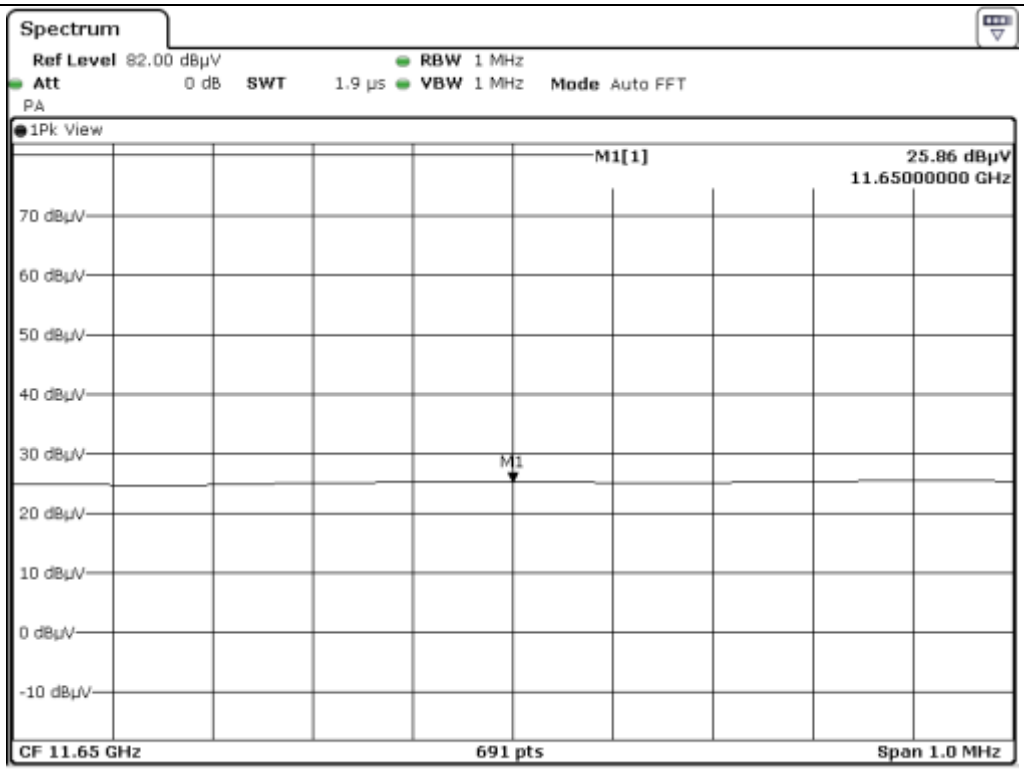
Middle Channel_Average_H



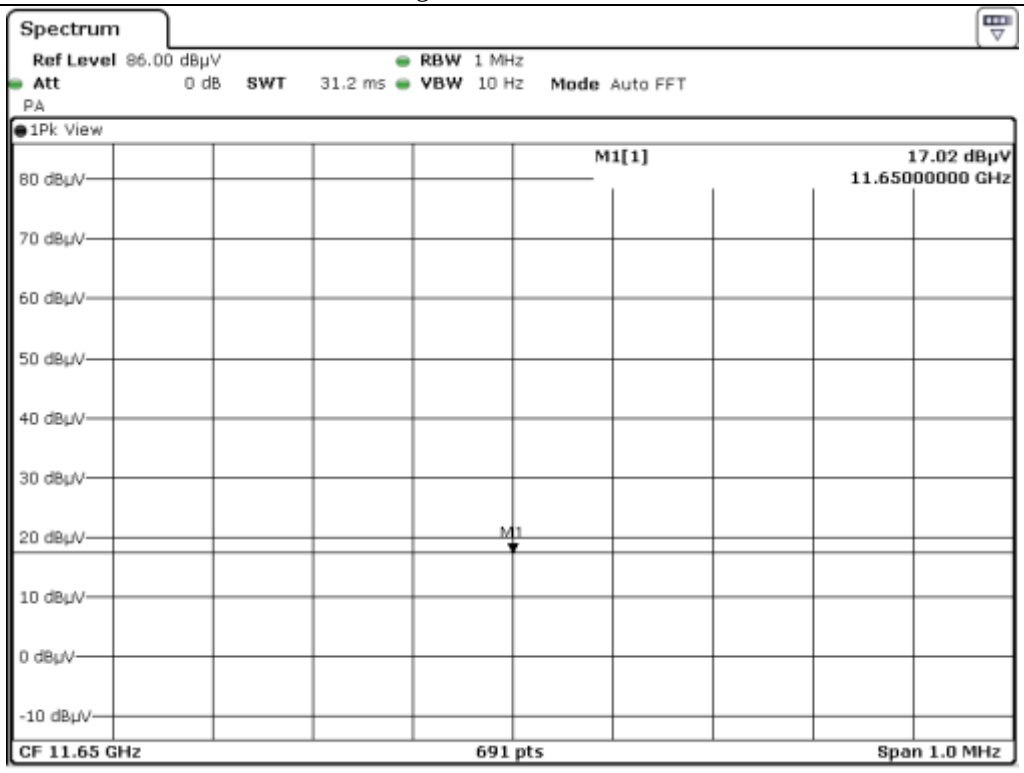
Middle Channel_Peak_V



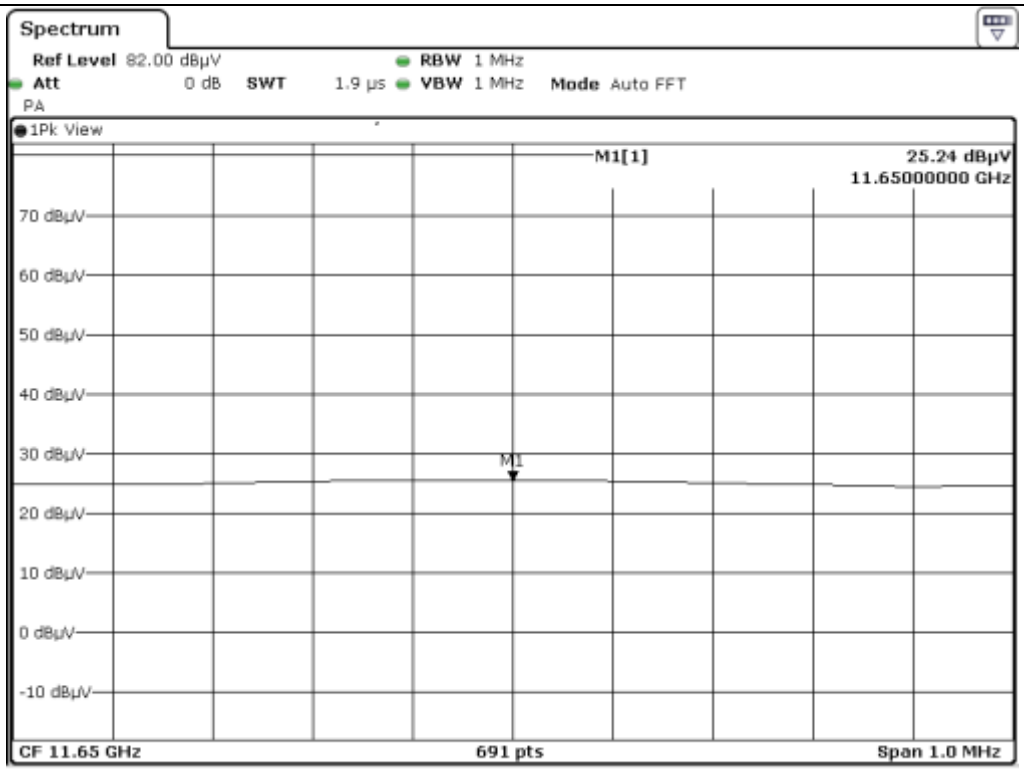
Middle Channel_Average_V



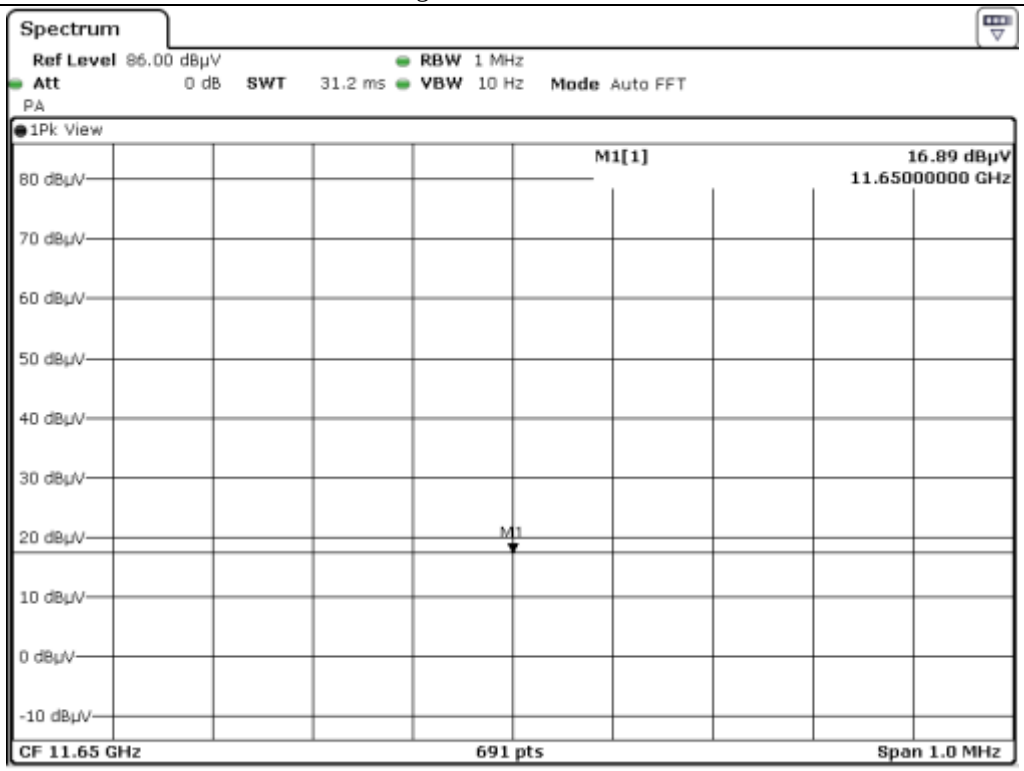
High Channel_Peak_H



High Channel_Average_H



High Channel_Peak_V



High Channel_Average_V

15.8.1.2 Test data for 15 GHz ~ 40 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 15 GHz ~ 40 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

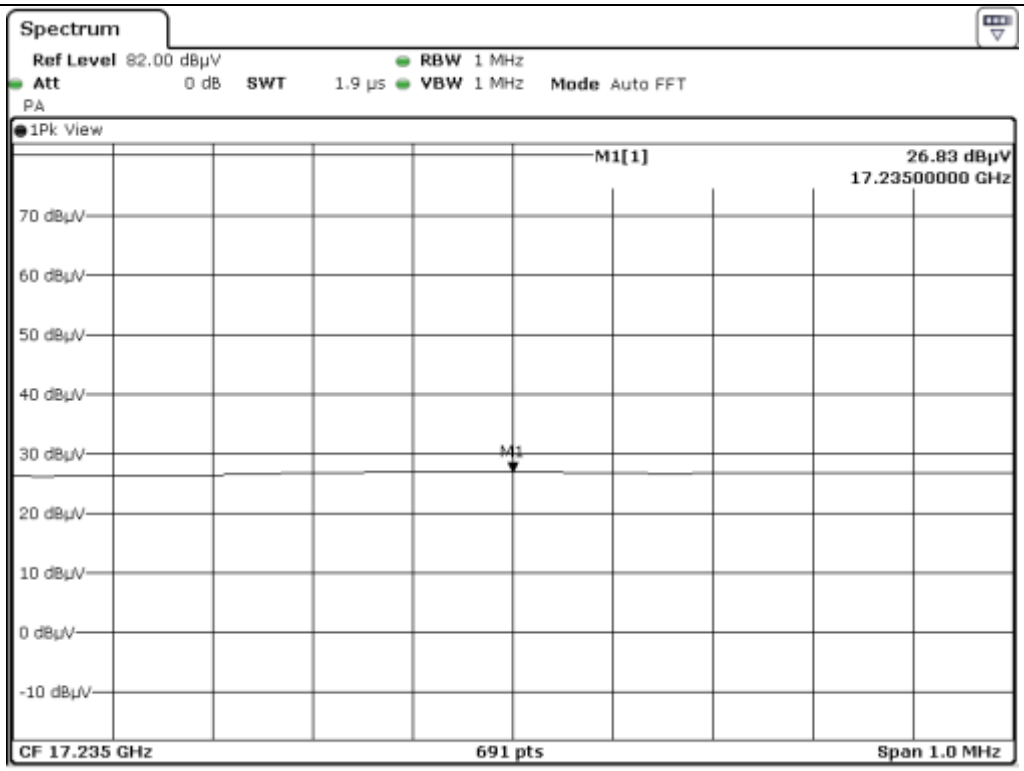
-.Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
17 235.00	26.83	Peak	H	41.75	37.83	39.75	66.66	68.20	1.54
	25.06	Peak	V				64.89	68.20	3.31
Middle Channel									
17 355.00	23.94	Peak	H	42.88	37.98	39.81	64.99	68.20	3.21
	21.79	Peak	V				62.84	68.20	5.36
High Channel									
17 475.00	25.47	Peak	H	43.45	38.06	39.94	67.04	68.20	1.16
	23.59	Peak	V				65.70	68.20	2.50

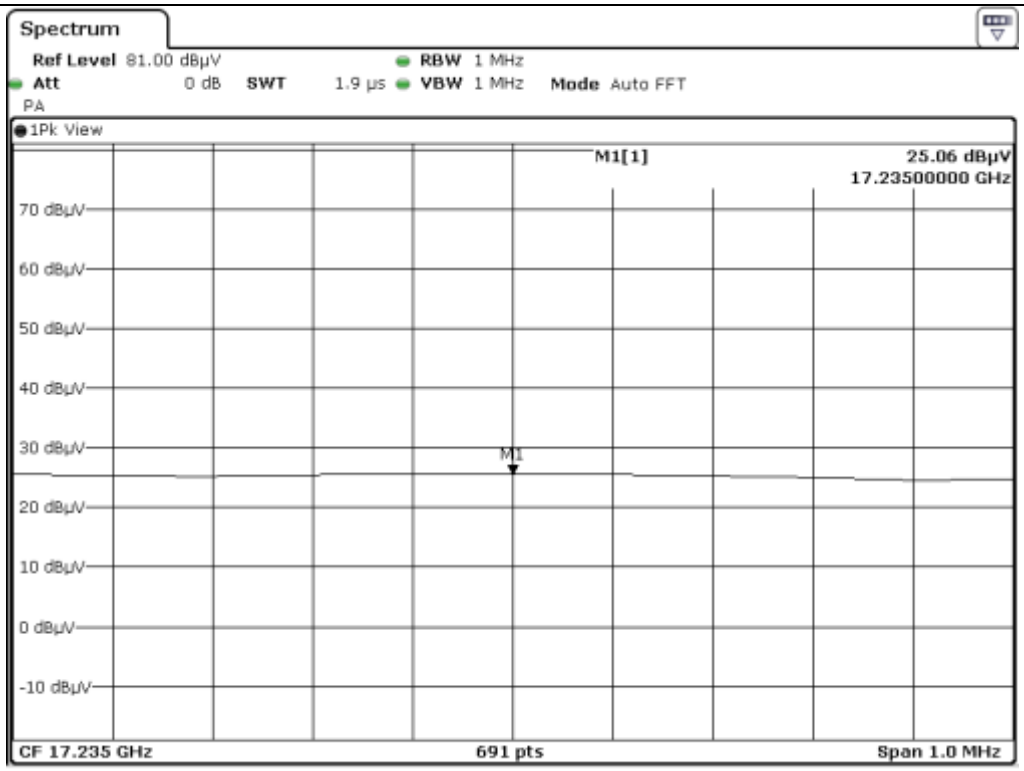
Remark - “H”: Horizontal, “V”: Vertical

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

Tested by: Hyung-Kwon, Oh / Engineer



Low Channel_Peak_H



Low Channel_Peak_V

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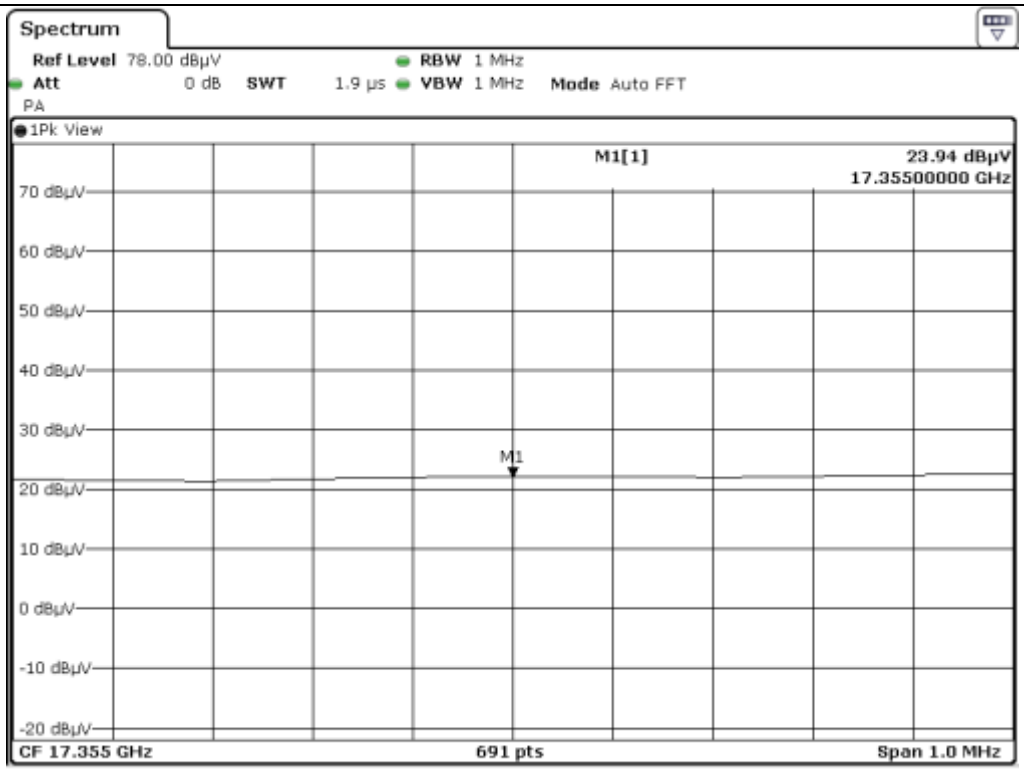
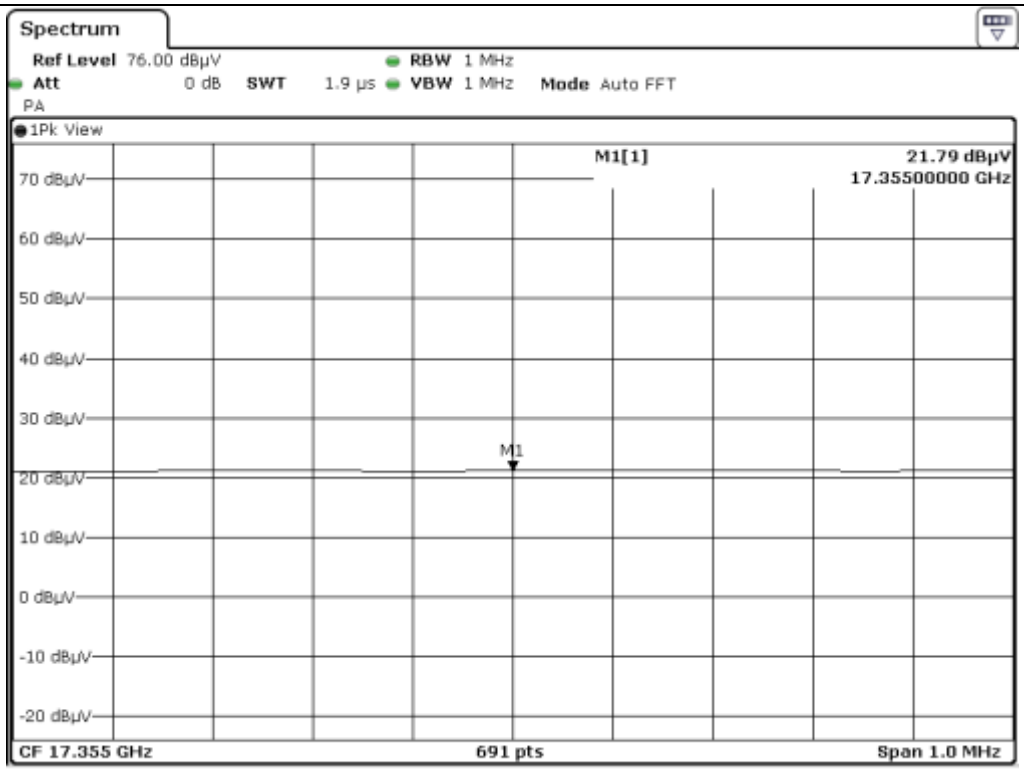
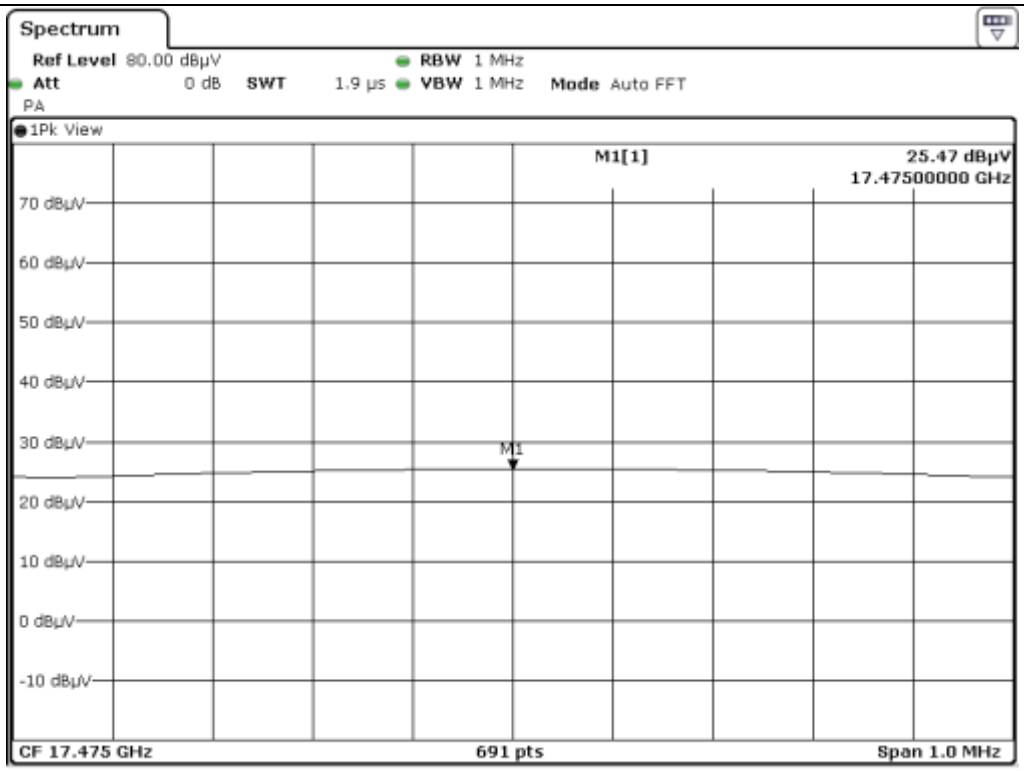


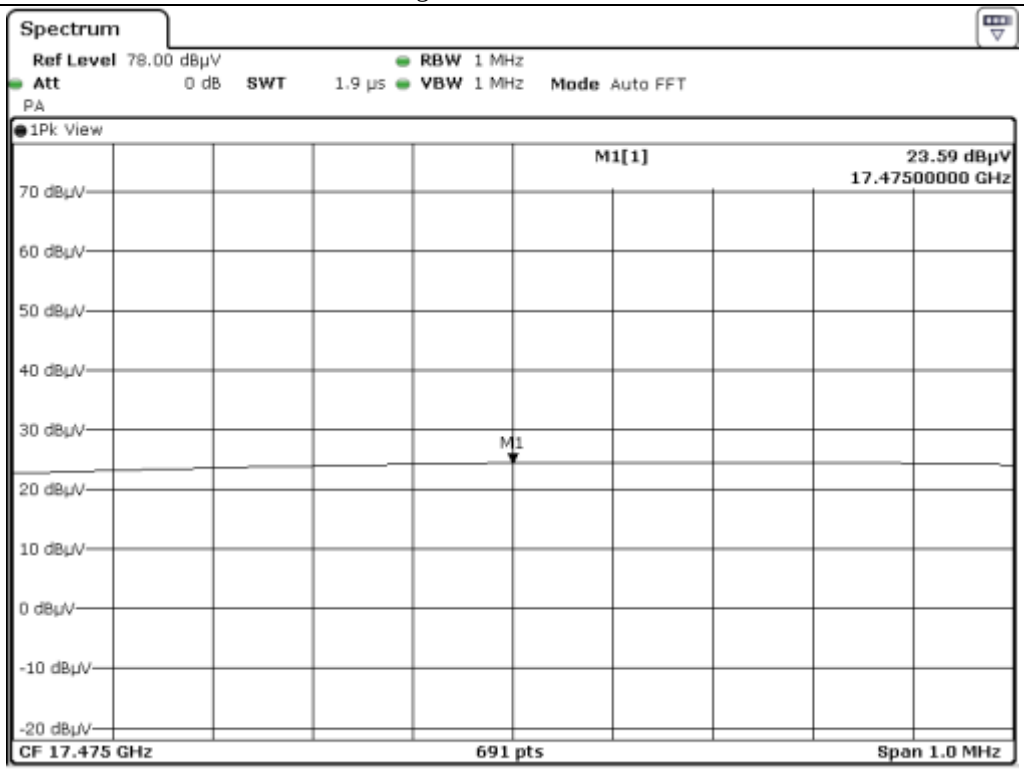
Middle Channel_Peak_H



Middle Channel_Peak_V



High Channel_Peak_H



High Channel_Peak_V

15.8.2 Test data for 802.11n_HT20 RLAN Mode

15.8.2.1 Test data for 1 GHz ~ 15 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 15 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
11 490.00	26.68	Peak	H	40.07	28.32	40.78	54.29	73.98	19.69
	16.92	Average	H				44.53	53.98	9.45
	25.48	Peak	V				53.09	73.98	20.89
	17.72	Average	V				45.33	53.98	8.65
Middle Channel									
11 570.00	26.89	Peak	H	39.78	28.94	40.66	54.95	73.98	19.03
	18.43	Average	H				46.49	53.98	7.49
	25.56	Peak	V				53.62	73.98	20.36
	19.04	Average	V				47.10	53.98	6.88
High Channel									
11 650.00	27.28	Peak	H	39.49	29.56	40.72	55.61	73.98	18.37
	19.23	Average	H				47.56	53.98	6.42
	25.68	Peak	V				54.01	73.98	19.97
	17.47	Average	V				45.80	53.98	8.18

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

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

Tested by: Hyung-Kwon, Oh / Engineer

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15.8.2.1 Test data for 15 GHz ~ 40 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 15 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
17 235.00	26.75	Peak	H	41.75	37.83	39.75	66.58	68.20	1.62
	24.45	Peak	V				64.28	68.20	3.92
Middle Channel									
17 355.00	25.47	Peak	H	42.88	37.98	39.88	66.45	68.20	1.75
	23.67	Peak	V				64.65	68.20	3.55
High Channel									
17 475.00	25.43	Peak	H	43.45	38.06	39.94	67.00	68.20	1.20
	23.48	Peak	V				65.59	68.20	2.61

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

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

Tested by: Hyung-Kwon, Oh / Engineer

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15.8.3 Test data for 802.11n_HT40 RLAN Mode

15.8.3.1 Test data for 1 GHz ~ 15 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 15 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
11 510.00	28.14	Peak	H	39.78	28.94	40.66	56.20	73.98	17.78
	17.24	Average	H				45.30	53.98	8.68
	24.83	Peak	V				52.89	73.98	21.09
	18.04	Average	V				46.10	53.98	7.88
High Channel									
11 590.00	27.14	Peak	H	39.66	29.19	40.69	55.30	73.98	18.68
	18.34	Average	H				46.50	53.98	7.48
	26.49	Peak	V				54.65	73.98	19.33
	17.95	Average	V				46.11	53.98	7.87

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

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

Tested by: Hyung-Kwon, Oh / Engineer

15.8.3.2 Test data for 15 GHz ~ 40 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 15 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
17 265.00	26.56	Peak	H	42.32	37.91	39.81	66.98	68.20	1.22
	21.48	Peak	V				61.90	68.20	6.30
High Channel									
17 385.00	24.48	Peak	H	42.88	37.98	39.88	65.46	68.20	2.74
	23.90	Peak	V				64.88	68.20	3.32

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

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

Tested by: Hyung-Kwon, Oh / Engineer

15.8.4 Test data for 802.11ac_HT80 RLAN Mode

15.8.4.1 Test data for 1 GHz ~ 15 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 1 GHz ~ 15 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Middle Channel									
11 550.00	27.84	Peak	H	39.78	28.94	40.66	55.90	73.98	18.08
	18.63	Average	H				46.69	53.98	7.29
	25.43	Peak	V				53.49	73.98	20.49
	17.67	Average	V				45.73	53.98	8.25

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

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

Tested by: Hyung-Kwon, Oh / Engineer

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15.8.4.2 Test data for 15 GHz ~ 40 GHz

-. Test Date : March 23, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode

-. Frequency range : 15 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Middle Channel									
17 325.00	26.75	Peak	H	42.32	37.91	39.81	67.17	68.20	1.03
	24.56	Peak	V				64.98	68.20	3.22

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

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

Tested by: Hyung-Kwon, Oh / Engineer

16. RADIATED RESTRICTED BAND EDGE MEASUREMENTS

16.1 Operating environment

Temperature : 25 ℃

Relative humidity : 42 % R.H.

16.2 Test set-up

The radiated emissions measurements were performed on the 3 m semi anechoic chamber. The EUT was placed on turntable approximately 1.5 m above the ground plane.

The frequency spectrum from 30 MHz to 26.5 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.

16.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
■ -	FSV40	Rohde & Schwarz	Signal Analyzer	101009	May 31, 2016 (1Y)
■ -	ESCI	Rohde & Schwarz	Test Receiver	101012	Apr. 06, 2016 (1Y)
■ -	310N	Sonoma Instrument	Pre-Amplifier	312544	Apr. 05, 2016 (1Y)
■ -	SCU-18	Rohde & Schwarz	Pre-Amplifier	10041	Nov. 23, 2015 (1Y)
■ -	DT3000	Innco System	Turn Table	930611	N/A
■ -	MA4000-EP	Innco System	Antenna Master	3320611	N/A
■ -	VULB9163	Schwarzbeck	TRILOG Broadband Antenna	9163-421	Apr. 15, 2016 (1Y)
■ -	BBHA9120D	Schwarzbeck	Horn Antenna	BBHA9120D295	Aug. 31, 2015 (2Y)
■ -	BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Aug. 31, 2015 (2Y)

All test equipment used is calibrated on a regular basis.

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16.5 Test data for Frequency U-NII-1

16.5.1 Test data for 802.11a RLAN Mode

-. Test Date : March 24, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
5 150.00	56.58	Peak	H	31.28	12.65	40.70	59.81	74.00	14.19
	49.63	Average	H				52.86	54.00	1.14
	46.23	Peak	V				49.46	74.00	24.54
	40.61	Average	V				43.84	54.00	10.16

Tabulated test data for Restricted Band

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

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

Tested by: Hyung-Kwon, Oh / Engineer

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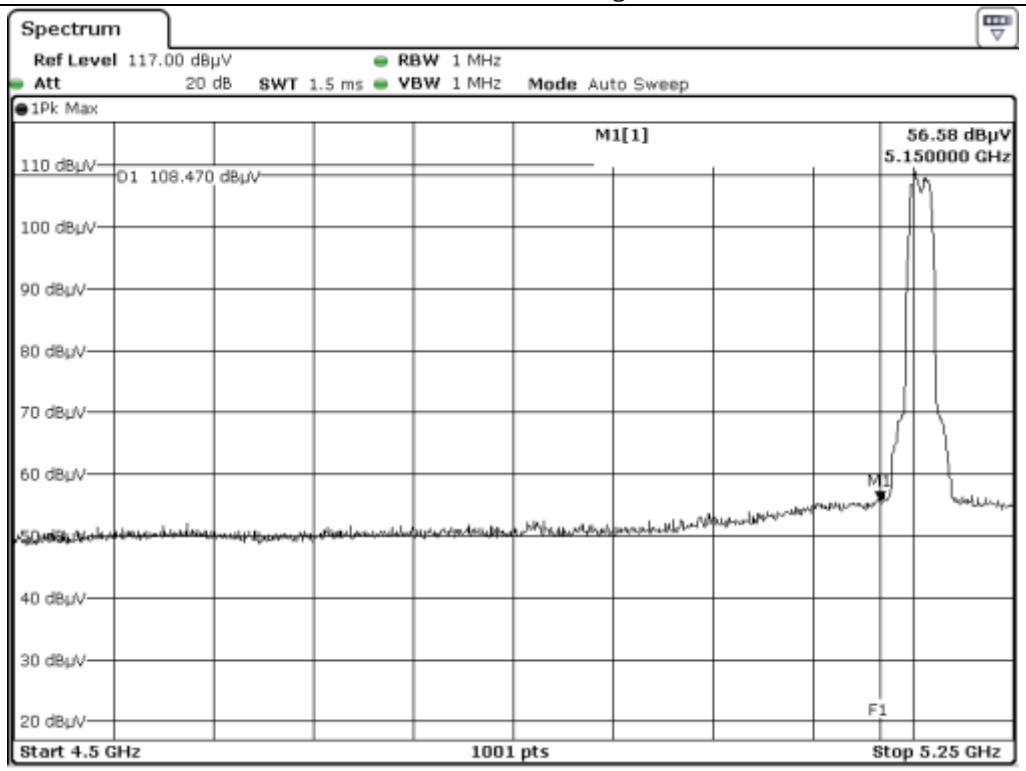
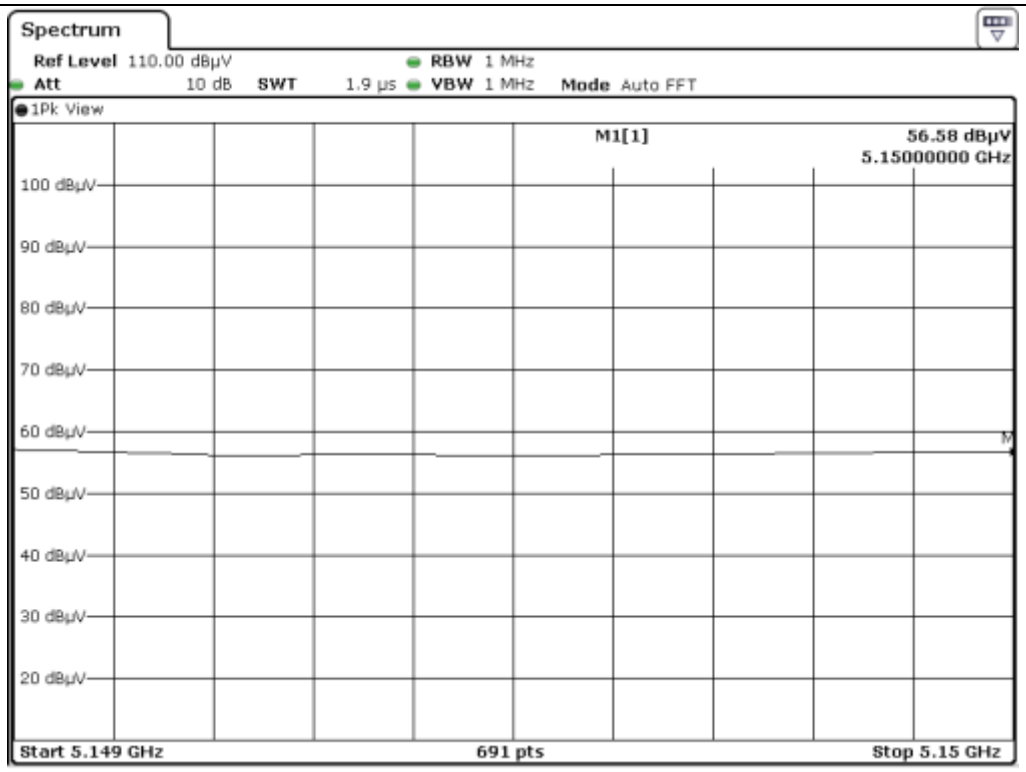
Fundamental of the signal



Low Channel_Peak_H



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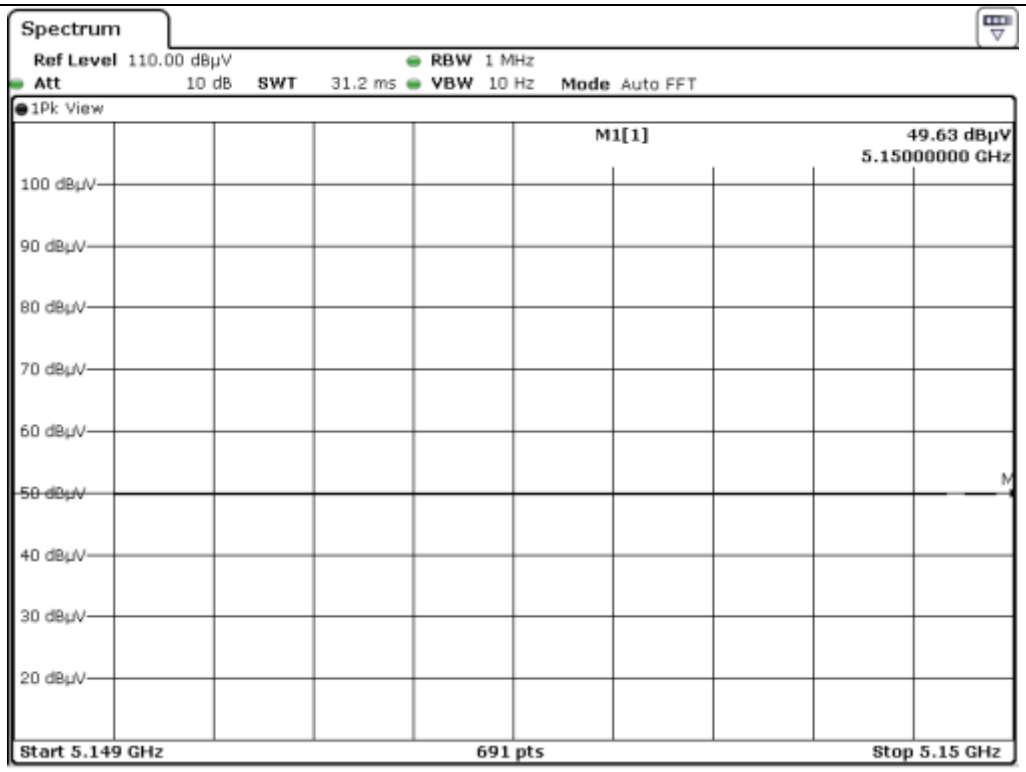
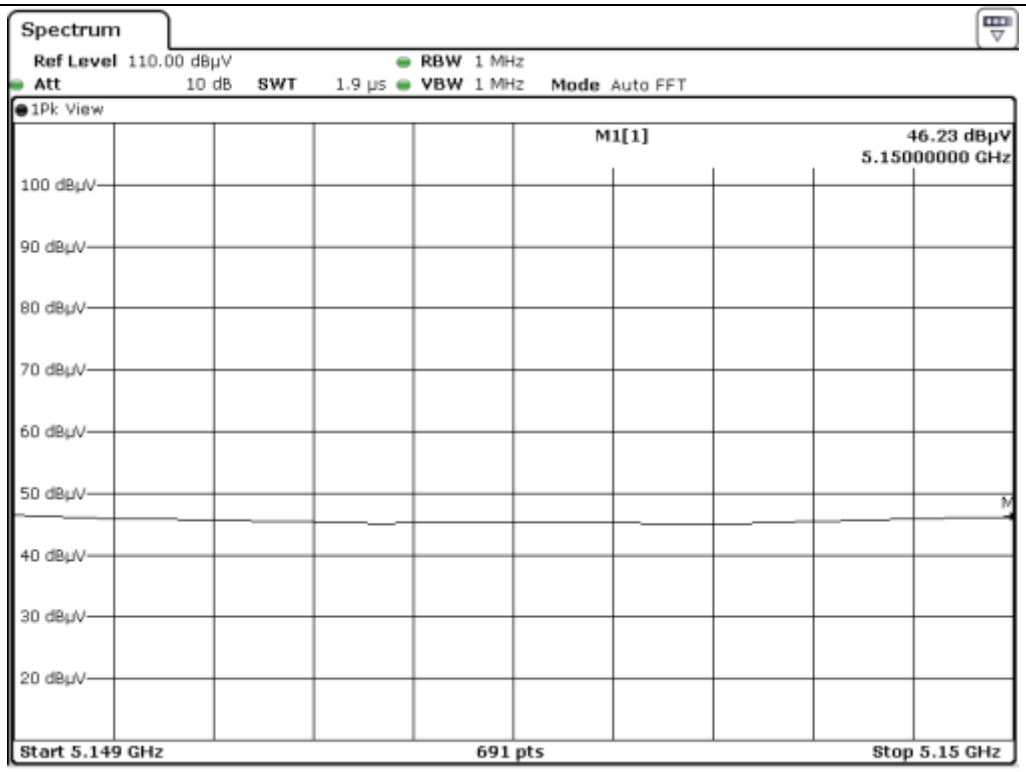
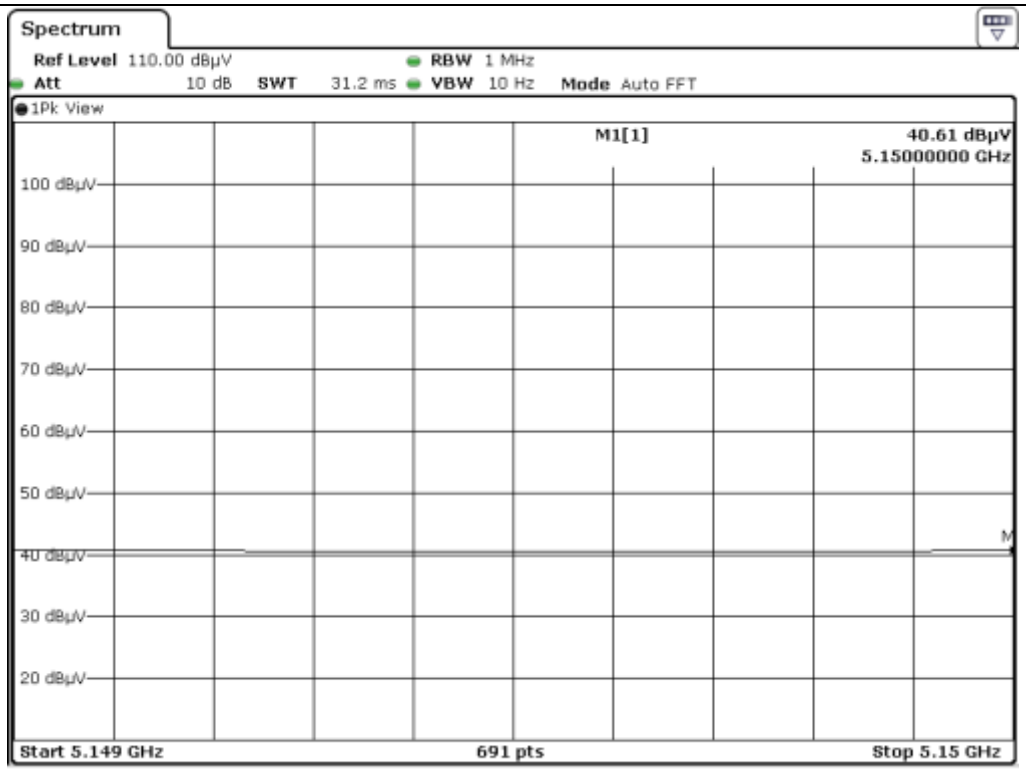


Low Channel_Average_H



Low Channel_Peak_V



Low Channel_Average_V

16.5.2 Test data for 802.11n_HT20 RLAN Mode

-. Test Date : March 24, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for 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	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 150.00	57.32	Peak	H	31.28	12.65	40.70	60.55	74.00	13.45
	49.28	Average	H				52.51	54.00	1.49
	43.58	Peak	V				46.81	74.00	27.19
	37.18	Average	V				40.41	54.00	13.59

Tabulated test data for Restricted Band

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

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

Tested by: Hyung-Kwon, Oh / Engineer

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16.5.3 Test data for 802.11n_HT40 RLAN Mode

-. Test Date : March 24, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for 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	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 150.00	54.09	Peak	H	31.28	12.65	40.70	57.32	74.00	16.68
	48.25	Average	H				51.48	54.00	2.52
	43.80	Peak	V				47.03	74.00	26.97
	38.34	Average	V				41.57	54.00	12.43

Tabulated test data for Restricted Band

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

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

Tested by: Hyung-Kwon, Oh / Engineer

16.5.4 Test data for 802.11ac_HT80 RLAN Mode

-. Test Date : March 24, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for 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	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
5 150.00	55.08	Peak	H	31.28	12.65	40.70	58.31	74.00	15.69
	49.63	Average	H				52.86	54.00	1.14
	42.34	Peak	V				45.57	74.00	28.43
	36.58	Average	V				39.81	54.00	14.19

Tabulated test data for Restricted Band

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

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

Tested by: Hyung-Kwon, Oh / Engineer

16.6 Test data for Frequency U-NII-3

16.6.1 Test data for 802.11a RLAN Mode

-. Test Date : March 24, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
5 725.00	72.17	Peak	H	32.17	12.09	40.96	75.47	124.38	48.91
	52.43	Peak	V				55.73	124.38	68.65
5 715.00	54.61	Peak	H				57.91	111.58	53.67
	40.84	Peak	V				44.14	111.58	67.44
High Channel									
5 850.00	68.54	Peak	H	32.17	12.09	40.96	71.84	124.38	52.54
	51.29	Peak	V				54.59	124.38	69.79
5 860.00	62.24	Peak	H				65.54	111.58	46.04
	47.28	Peak	V				50.58	111.58	61.00

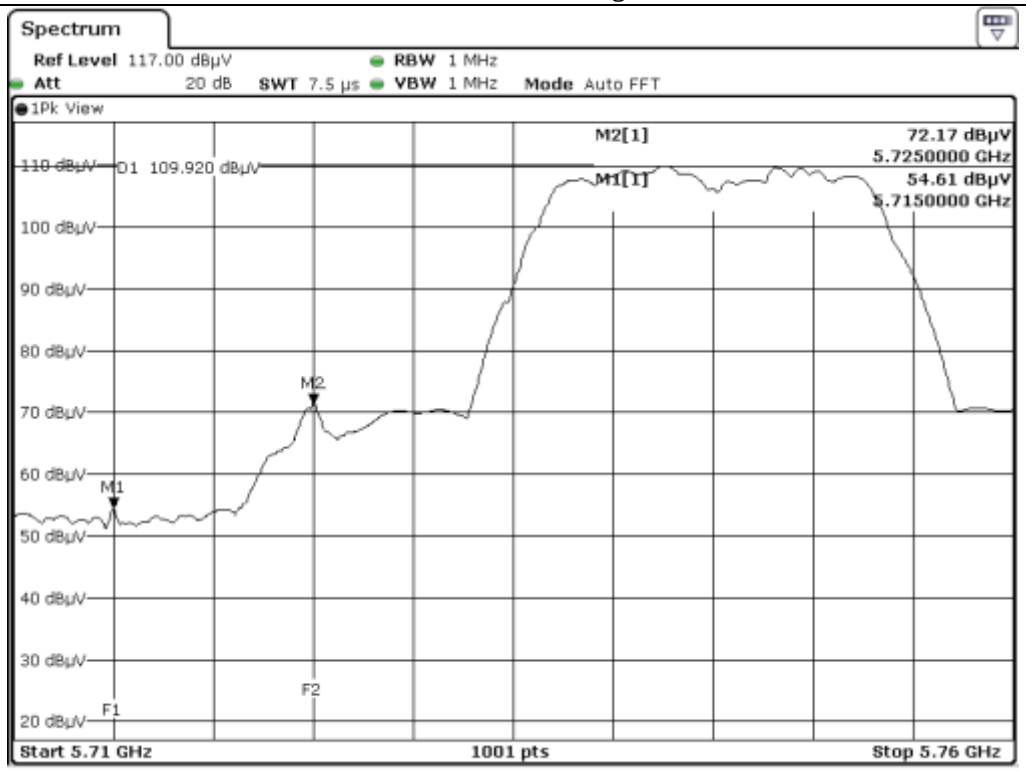
Tabulated test data for Restricted Band

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

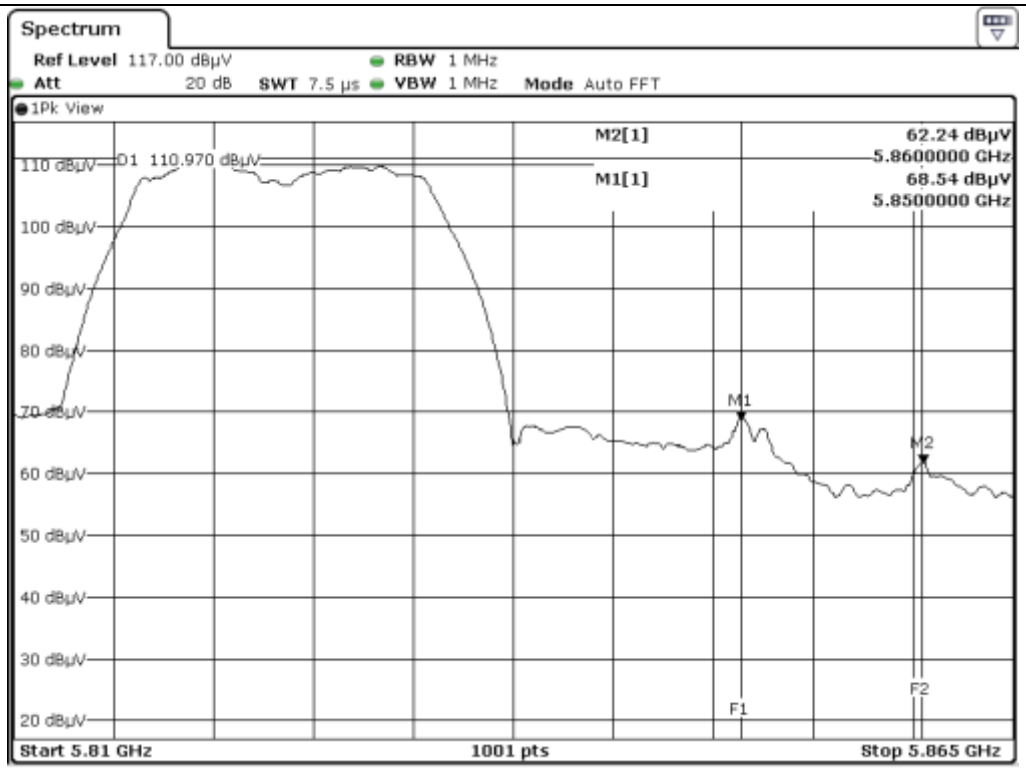
Margin (dB) = Limits (dBμV/m) - Emission Level (dBμV/m)

Tested by: Hyung-Kwon, Oh / Engineer

Fundamental of the signal



Low Channel_Peak_H



High Channel_Peak_H

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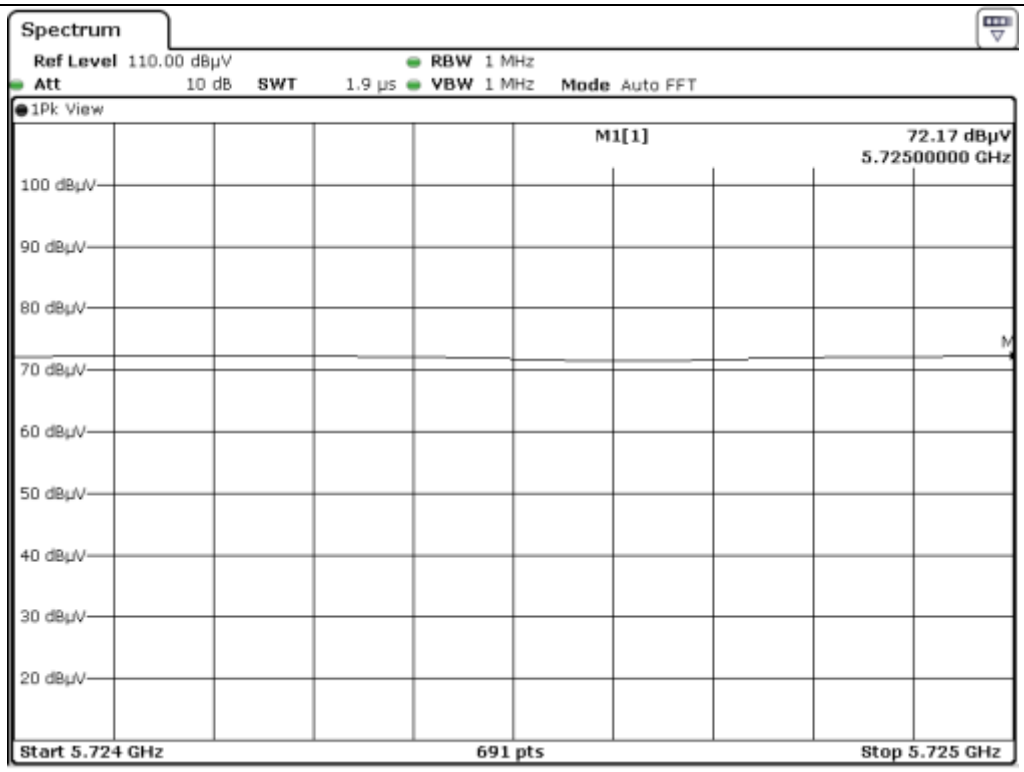
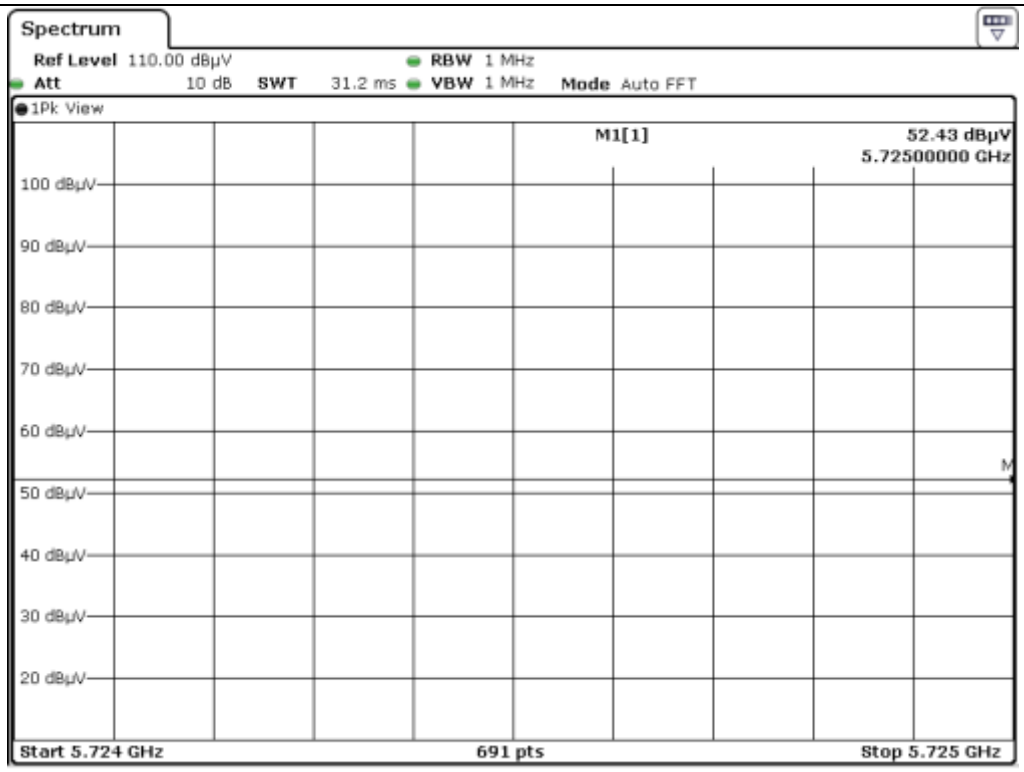
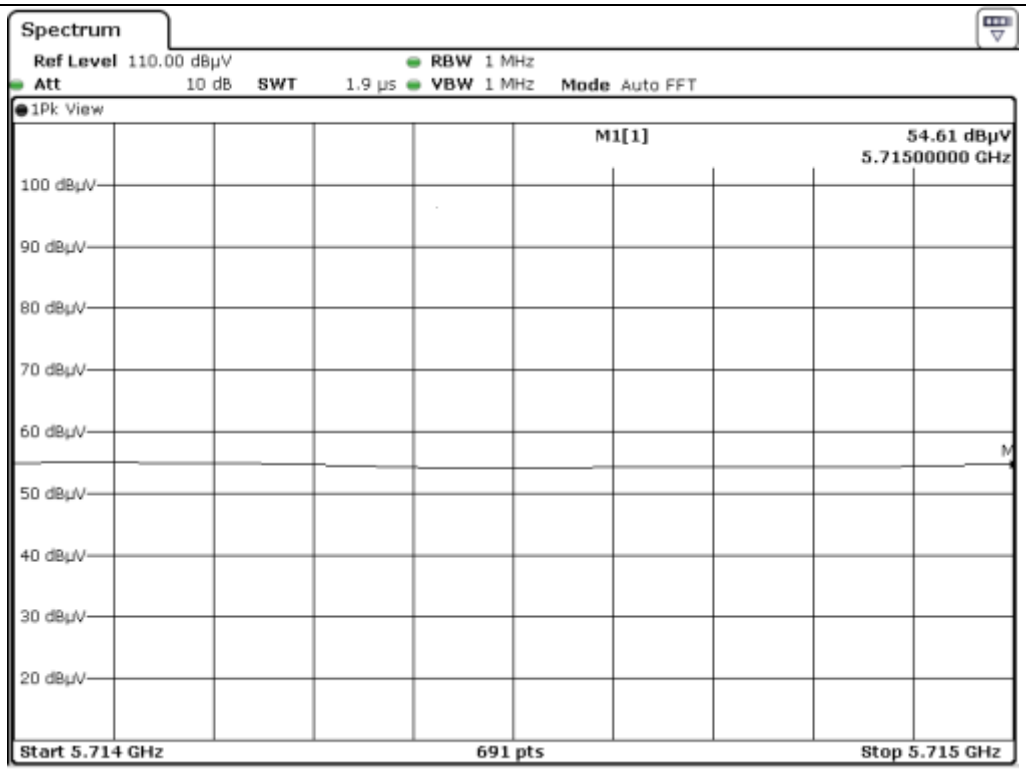


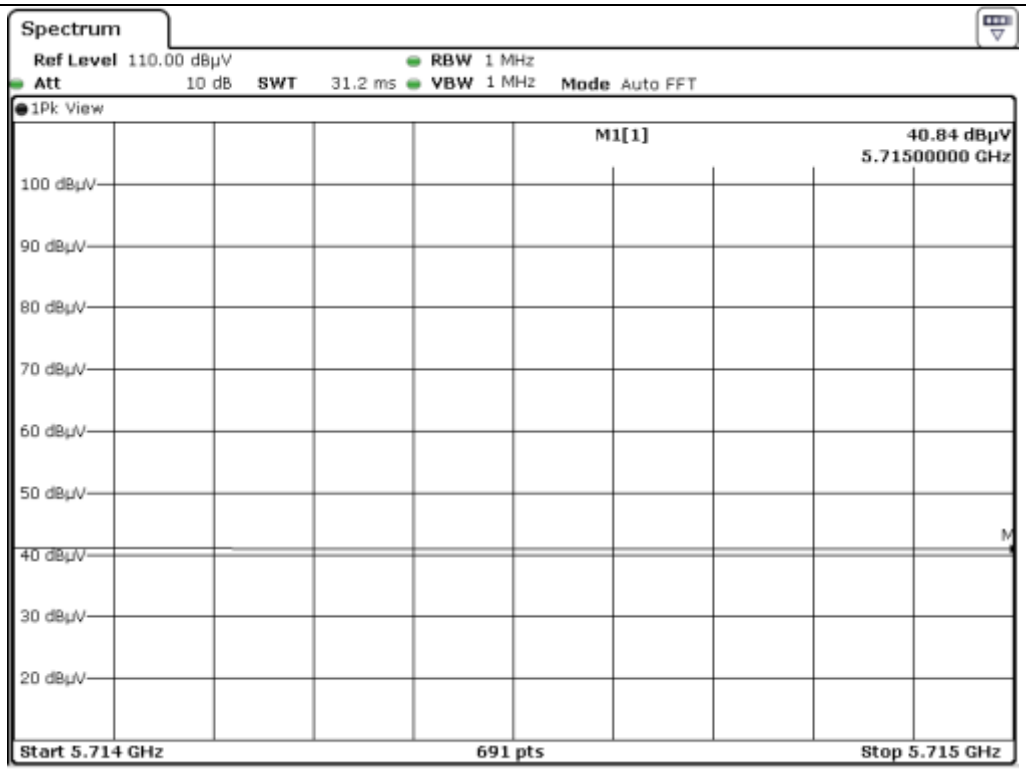
Low Channel_Peak_H



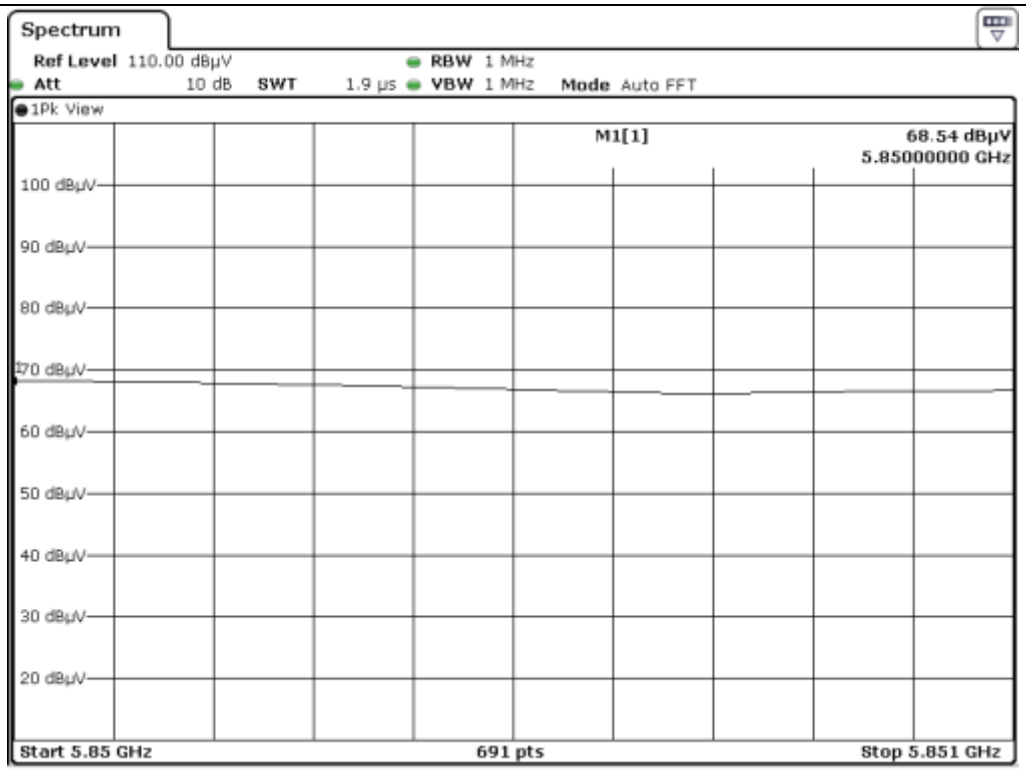
Low Channel_Peak_V



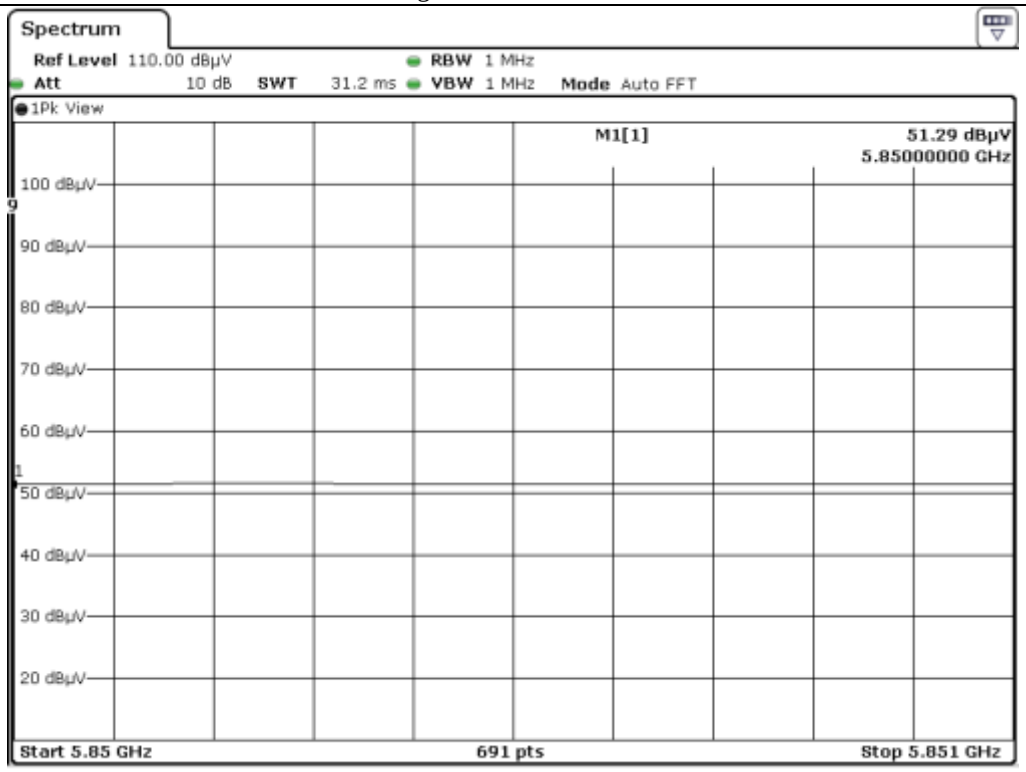
Low Channel_Peak_H



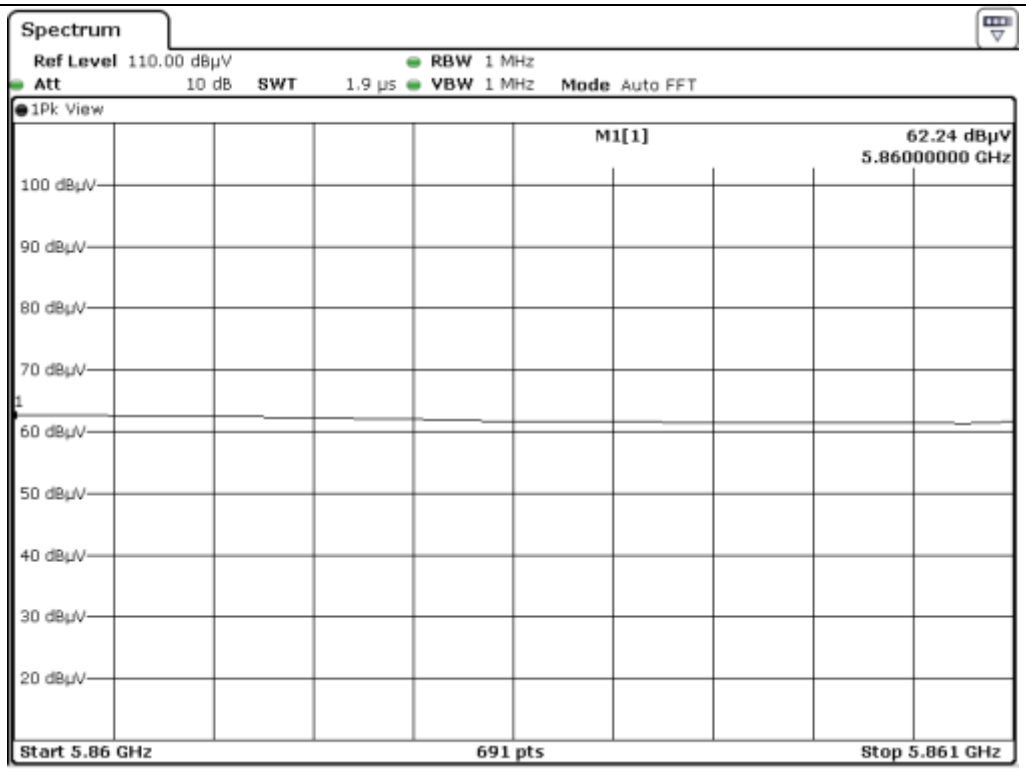
Low Channel_Peak_V



High Channel_Peak_H



High Channel_Peak_V



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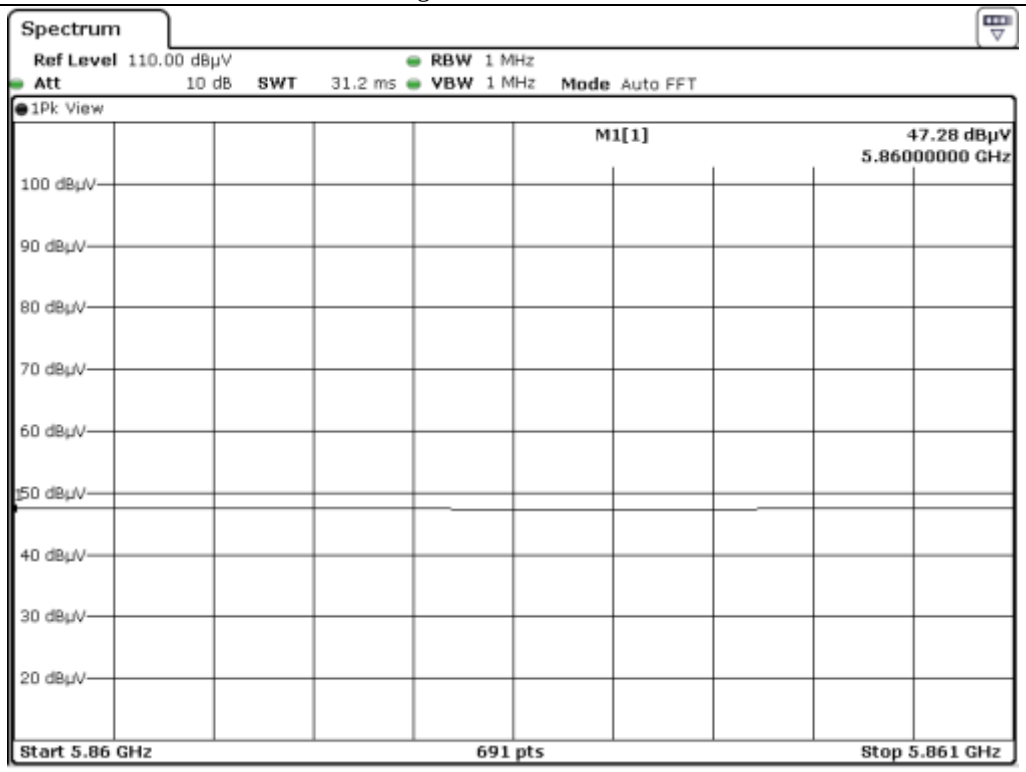

High Channel_Peak_V

16.6.2 Test data for 802.11n_HT20 RLAN Mode

-. Test Date : March 24, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for 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	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 725.00	72.84	Peak	H	32.17	12.09	40.96	76.14	124.38	48.24
	51.56	Peak	V				54.86	124.38	69.52
5 715.00	60.16	Peak	H				63.46	111.58	48.12
	42.23	Peak	V				45.53	111.58	66.05
High Channel									
5 850.00	70.28	Peak	H	32.17	12.09	40.96	73.58	124.38	50.80
	51.36	Peak	V				54.66	124.38	69.72
5 860.00	62.83	Peak	H				66.13	111.58	45.45
	46.08	Peak	V				49.38	111.58	62.20

Tabulated test data for Restricted Band

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

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

Tested by: Hyung-Kwon, Oh / Engineer

16.6.3 Test data for 802.11n_HT40 RLAN Mode

-. Test Date : March 24, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for 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	Amp Gain	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Low Channel									
5 725.00	67.00	Peak	H	32.17	12.09	40.96	70.30	124.38	54.08
	46.55	Peak	V				49.85	124.38	74.53
5 715.00	62.67	Peak	H				65.97	111.58	45.61
	40.50	Peak	V				43.80	111.58	67.78
High Channel									
5 850.00	66.45	Peak	H	32.17	12.09	40.96	69.75	124.38	54.63
	47.46	Peak	V				50.76	124.38	73.62
5 860.00	62.74	Peak	H				66.04	111.58	45.54
	47.12	Peak	V				50.42	111.58	61.16

Tabulated test data for Restricted Band

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

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

Tested by: Hyung-Kwon, Oh / Engineer

16.6.4 Test data for 802.11ac_HT80 RLAN Mode

-. Test Date : March 24, 2017

-. Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 1 MHz for Peak Mode, 10 Hz for 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	Amp Gain	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Low Channel									
5 725.00	68.60	Peak	H	32.17	12.09	40.96	71.90	124.38	52.48
	51.34	Peak	V				54.64	124.38	69.74
5 715.00	63.01	Peak	H				66.31	111.58	45.27
	47.99	Peak	V				51.29	111.58	60.29
High Channel									
5 850.00	63.94	Peak	H	32.17	12.09	40.90	67.30	124.38	57.08
	40.93	Peak	V				44.29	124.38	80.09
5 860.00	56.63	Peak	H				59.99	111.58	51.59
	40.32	Peak	V				43.68	111.58	67.90

Tabulated test data for Restricted Band

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

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

Tested by: Hyung-Kwon, Oh / Engineer

17. CONDUCTED EMISSION TEST

17.1 Operating environment

Temperature : 28 ℃

Relative humidity : 45 % R.H.

17.2 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.

17.3 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
■ -	ESPI	Rohde & Schwarz	Test Receiver	101012	Nov. 02, 2015 (1Y)
□ -	ESHS10	Rohde & Schwarz	Test Receiver	834467/007	Apr. 05, 2016 (1Y)
□ -	NSLK8128	Schwarzbeck	AMN	8128-216	Apr. 06, 2016 (1Y)
■ -	NSLK8126	Schwarzbeck	AMN	8126-404	Apr. 05, 2016 (1Y)
□ -	3825/2	EMCO	AMN	9109-1869	Apr. 06, 2016 (1Y)
■ -	3825/2	EMCO	AMN	9109-1867	Apr. 06, 2016 (1Y)

All test equipment used is calibrated on a regular basis.

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17.4 Test data for 802.11b WLAN Mode and 802.11a RLAN Mode

-. Test Date : April 01, 2017

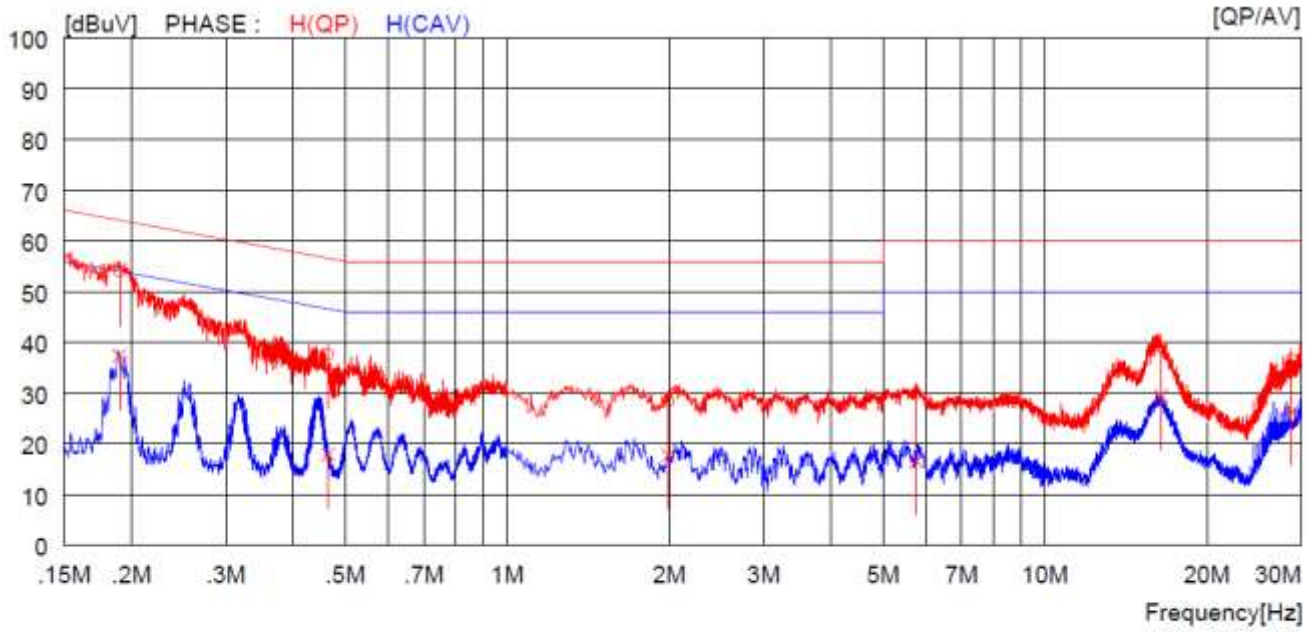
-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

-. Tested Line : HOT LINE

Note: 2.4 GHz / 5 GHz operating mode were tested, but the worst data were recorded.

(Both 802.11b WLAN Mode and 802.11a RLAN Mode)



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	0.19000	53.8	----	0.1	53.9	----	64.0	----	10.1	----	H(QP)
2	0.46400	37.5	----	0.1	37.6	----	56.6	----	19.0	----	H(QP)
3	1.99200	28.3	----	0.1	28.4	----	56.0	----	27.6	----	H(QP)
4	5.76000	29.8	----	0.1	29.9	----	60.0	----	30.1	----	H(QP)
5	16.46000	38.5	----	0.5	39.0	----	60.0	----	21.0	----	H(QP)
6	28.77000	36.1	----	0.5	36.6	----	60.0	----	23.4	----	H(QP)
7	0.19000	----	37.2	0.1	----	37.3	----	54.0	----	16.7	H(CAV)
8	0.46400	----	17.8	0.1	----	17.9	----	46.6	----	28.7	H(CAV)
9	1.99200	----	17.6	0.1	----	17.7	----	46.0	----	28.3	H(CAV)
10	5.76000	----	16.5	0.1	----	16.6	----	50.0	----	33.4	H(CAV)
11	16.46000	----	29.0	0.5	----	29.5	----	50.0	----	20.5	H(CAV)
12	28.77000	----	25.8	0.5	----	26.3	----	50.0	----	23.7	H(CAV)

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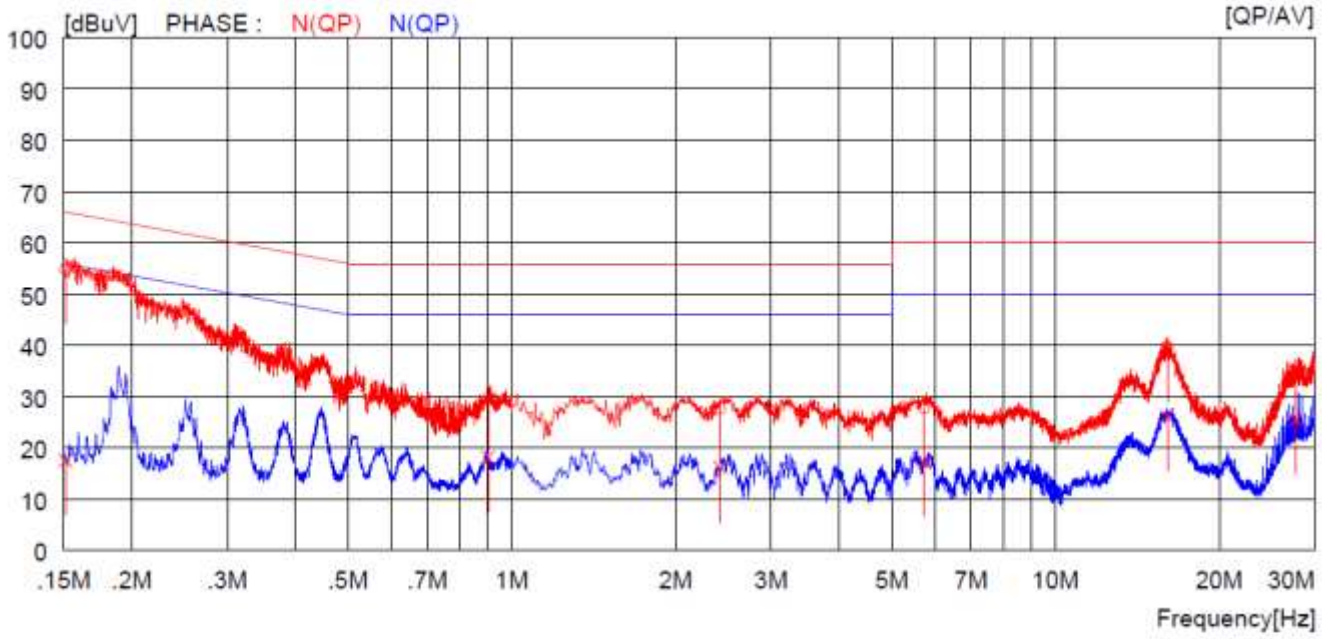
-. Tested Line : NEUTRAL LINE



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	0.15100	54.7	----	0.1	54.8	----	65.9	----	11.1	----	N(QP)
2	0.90400	29.6	----	0.1	29.7	----	56.0	----	26.3	----	N(QP)
3	2.42000	27.5	----	0.1	27.6	----	56.0	----	28.4	----	N(QP)
4	5.73000	27.7	----	0.1	27.8	----	60.0	----	32.2	----	N(QP)
5	16.04000	39.1	----	0.4	39.5	----	60.0	----	20.5	----	N(QP)
6	27.69000	34.9	----	0.5	35.4	----	60.0	----	24.6	----	N(QP)
7	0.15100	----	17.4	0.1	----	17.5	----	55.9	----	38.4	N(CAV)
8	0.90400	----	18.0	0.1	----	18.1	----	46.0	----	27.9	N(CAV)
9	2.42000	----	16.0	0.1	----	16.1	----	46.0	----	29.9	N(CAV)
10	5.73000	----	17.1	0.1	----	17.2	----	50.0	----	32.8	N(CAV)
11	16.04000	----	25.8	0.4	----	26.2	----	50.0	----	23.8	N(CAV)
12	27.69000	----	24.9	0.5	----	25.4	----	50.0	----	24.6	N(CAV)

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

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

Tested by: Hyung-Kwon, Oh / Engineer

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