ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR LOW-POWER, NON-LICENSED TRANSMITTER

Test Report No. : **W174R-D027**

AGR No. : **A173A-081**

Applicant : **Samsung Electronics Co Ltd**
Address : **19 Chapin Rd., Building D, Pine Brook, New Jersey, 07058**

Manufacturer : **Samsung Electronics Co Ltd**
Address : **19 Chapin Rd., Building D, Pine Brook, New Jersey, 07058**

Type of Equipment : **AWG (Advanced Wireless Gateway)**

FCC ID. : **A3LGXMC990CL**

Model Name : **GX-MC990CL**

Serial number : **N/A**

Total page of Report : **218 pages (including this page)**

Date of Incoming : **Match 10, 2017**

Date of issue : **April 11, 2017**

SUMMARY

The equipment complies with the regulation; ***FCC PART 15 SUBPART C Section 15.247***

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

Reviewed by: Ki-Hong, Nam / Asst, Chief Engineer
ONETECH Corp.

Approved by: Keun-Young, Choi / Vice President
ONETECH Corp.

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

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REVISION HISTORY

Issued Report No.	Issued Date	Revisions	Effect Section
W174R-D027	April 11, 2017	Initial Issue	All

DOCUMENT HISTORY

Revision No.	Issued Date	Revisions	Effect Section
Original	April 11, 2017	Initial Issue	-
Revision 01	May 15, 2017	Revise Data (Section 2.1 Product Description) Added Test(Section 8. 99 % Occupied Bandwidth) Additional Test(Section 9. Maximum Peak Output Power) Provide Plots(Section 10.6 Test Data For Radiated Emission)	Section 2.1, Section 8, Section 9. Section 10.
Revision 02	May 17, 2017	Revise Test set-up (Section 9. Maximum Peak Output Power)	Section 9.2
Revision 03	May 23, 2017	Re-Test(Section 8. 99 % Occupied Bandwidth, Secetin 9. MAXIMUM PEAK OUTPUT POWER Section 10.5 TEST DATA FOR CONDUCTED EMISSION) Provide Plots(Section 10.6.2 Radiated Emission which fall in the Band Edge) Additional Test(Section 12. DUTY CYCLE) Revise Remark 4(Section 9.4.4, 9.5.4, 9.6.4, 9.7.4) Revise Remark 2(Section 11.4.4, 11.5.4, 11.6.4, 11.7.4)	Section 8, Section 9, Section 10.5 , Section 10.6.2, Section 12, Remark 2, Remark 4

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1. VERIFICATION OF COMPLIANCE

Applicant : Samsung Electronics Co Ltd

Address : 19 Chapin Rd., Building D, Pine Brook, New Jersey, 07058

Contact Person : Chan Ho Youn / General Manager

Telephone No. : 973-808-6362

FCC ID : A3LGXMC990CL

Model Name : GX-MC990CL

Brand Name : -

Serial Number : N/A

Date : April 11, 2017

EQUIPMENT CLASS	DTS – DIGITAL TRNSMISSION SYSTEM
E.U.T. DESCRIPTION	AWG (Advanced Wireless Gateway)
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2013
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 SUBPART C Section 15.247 KDB 558074 D01 DTS Meas Guidance
Modifications on the Equipment to Achieve Compliance	None
Final Test was Conducted On	3 m, Semi Anechoic Chamber

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

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

2. TEST SUMMARY

2.1 Test items and results

SECTION	TEST ITEMS	RESULTS
15.247 (a) (2)	Minimum 6 dB Bandwidth	Met the Limit / PASS
	99 % Occupied Bandwidth	Met the Limit / PASS
15.247 (b) (3)	Maximum Peak Conducted Output Power	Met the Limit / PASS
15.247 (d)	100 kHz Bandwidth Outside the Frequency Band	Met the Limit / PASS
15.247 (d)	Radiated Emission which fall in the Restricted Band	Met the Limit / PASS
15.247 (e)	Peak Power Spectral Density	Met the Limit / PASS
15.209	Radiated Emission Limits	Met the Limit / PASS
15.207	Conducted Limits	Met the Limit / PASS
15.203	Antenna Requirement	Met requirement / PASS

2.2 Additions, deviations, exclusions from standards

No additions, deviations or exclusions have been made from standard.

2.3 Related Submittal(s) / Grant(s)

Original submittal only

2.4 Purpose of the test

To determine whether the equipment under test fulfills the requirements of the regulation stated in FCC PART 15 SUBPART C Section 15.247.

2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2013. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

2.6 Test Facility

The Onetech Corp. has been designated to perform equipment testing in compliance with ISO/IEC 17025.

The Electromagnetic compatibility measurement facilities are located at 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea

-. Site Filing:

VCCI (Voluntary Control Council for Interference) – Registration No. R-4112/ C-4617/ G-10666 / T-1842

IC (Industry Canada) – Registration No. Site# 3736A-3

-. Site Accreditation:

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation NO. KT085

FCC (Federal Communications Commission) - Accreditation No. KR0013

RRA (Radio Research Agency) – Designation No. KR0013

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3. GENERAL INFORMATION

3.1 Product Description

The Samsung Electronics Co Ltd, Model GX-MC990CL (referred to as the EUT in this report) is a AWG (Advanced Wireless Gateway). Product specification information described herein was obtained from product data sheet or user's manual.

<table>
<tr><td>DEVICE TYPE</td><td colspan="3">AWG (Advanced Wireless Gateway)</td></tr>
<tr><td rowspan="9">FREQUENCY RANGE</td><td rowspan="2">WLAN
2.4 GHz Band</td><td colspan="2">2 412 MHz ~ 2 462 MHz (802.11b/g/n(HT20))</td></tr>
<tr><td colspan="2">2 422 MHz ~ 2 452 MHz (802.11n(HT40))</td></tr>
<tr><td rowspan="6">WLAN
5 GHz Band</td><td rowspan="3">5 150 MHz ~
5 250 MHz Band</td><td>5 180 MHz ~ 5 240 MHz (802.11a/n(HT20)/ac(VHT20))</td></tr>
<tr><td>5 190 MHz ~ 5 230 MHz (802.11n(HT40)/ac(VHT40))</td></tr>
<tr><td>5 210 MHz (802.11ac(VHT80))</td></tr>
<tr><td rowspan="3">5 725 MHz ~
5 850 MHz Band</td><td>5 745 MHz ~ 5 825 MHz (802.11a/n(HT20)/ac(VHT20))</td></tr>
<tr><td>5 755 MHz ~ 5 795 MHz (802.11n(HT40)/ac(VHT40))</td></tr>
<tr><td>5 775 MHz (802.11ac(VHT80))</td></tr>
<tr><td rowspan="4">MAX. RF OUTPUT POWER</td><td rowspan="4">WLAN
2.4 GHz Band</td><td>Antenna 0</td><td>Wi-Fi 802.11b (16.38 dBm)
Wi-Fi 802.11g (20.09 dBm)
Wi-Fi 802.11n(HT20) (20.12 dBm)
Wi-Fi 802.11n(HT40) (21.87 dBm)</td></tr>
<tr><td>Antenna 1</td><td>Wi-Fi 802.11b (16.46 dBm)
Wi-Fi 802.11g (20.26 dBm)
Wi-Fi 802.11n(HT20) (21.20 dBm)
Wi-Fi 802.11n(HT40) (22.39 dBm)</td></tr>
<tr><td>Antenna 2</td><td>Wi-Fi 802.11b (16.56 dBm)
Wi-Fi 802.11g (20.99 dBm)
Wi-Fi 802.11n(HT20) (21.28 dBm)
Wi-Fi 802.11n(HT40) (21.74 dBm)</td></tr>
<tr><td>Multiple transmit</td><td>Wi-Fi 802.11b (21.24 dBm)
Wi-Fi 802.11g (25.24 dBm)
Wi-Fi 802.11n(HT20) (25.67 dBm)
Wi-Fi 802.11n(HT40) (26.78 dBm)</td></tr>
</table>

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MAX. RF OUTPUT POWER	WLAN 5 GHz Band	5 150 MHz ~ 5 250 MHz Band	Antenna 0	Wi-Fi 802.11a (14.17 dBm) Wi-Fi 802.11n(HT20) (13.67 dBm) Wi-Fi 802.11n(HT40) (14.90 dBm) Wi-Fi 802.11ac(HT80) (1.62 dBm)
			Antenna 1	Wi-Fi 802.11a (12.41 dBm) Wi-Fi 802.11n(HT20) (12.69 dBm) Wi-Fi 802.11n(HT40) (14.14 dBm) Wi-Fi 802.11ac(HT80) (0.97 dBm)
			Antenna 2	Wi-Fi 802.11a (12.05 dBm) Wi-Fi 802.11n(HT20) (12.35 dBm) Wi-Fi 802.11n(HT40) (13.97 dBm) Wi-Fi 802.11ac(HT80) (0.59 dBm)
			Antenna 3	Wi-Fi 802.11a (13.14 dBm) Wi-Fi 802.11n(HT20) (13.63 dBm) Wi-Fi 802.11n(HT40) (15.06 dBm) Wi-Fi 802.11ac(HT80) (2.32 dBm)
			Multiple transmit	Wi-Fi 802.11a (18.99 dBm) Wi-Fi 802.11n(HT20) (19.14 dBm) Wi-Fi 802.11n(HT40) (20.56 dBm) Wi-Fi 802.11ac(HT80) (7.45 dBm)
		5 725 MHz ~ 5 850 MHz Band	Antenna 0	Wi-Fi 802.11a (11.45 dBm) Wi-Fi 802.11n(HT20) (15.49 dBm) Wi-Fi 802.11n(HT40) (12.28 dBm) Wi-Fi 802.11ac(HT80) (3.65 dBm)
			Antenna 1	Wi-Fi 802.11a (12.65 dBm) Wi-Fi 802.11n(HT20) (15.78 dBm) Wi-Fi 802.11n(HT40) (13.38 dBm) Wi-Fi 802.11ac(HT80) (4.45 dBm)
			Antenna 2	Wi-Fi 802.11a (13.94 dBm) Wi-Fi 802.11n(HT20) (15.99 dBm) Wi-Fi 802.11n(HT40) (12.71 dBm) Wi-Fi 802.11ac(HT80) (3.85 dBm)
			Antenna 3	Wi-Fi 802.11a (14.78 dBm) Wi-Fi 802.11n(HT20) (13.93 dBm) Wi-Fi 802.11n(HT40) (13.38 dBm) Wi-Fi 802.11ac(HT80) (4.90 dBm)
			Multiple transmit	Wi-Fi 802.11a (19.41 dBm) Wi-Fi 802.11n(HT20) (22.01 dBm) Wi-Fi 802.11n(HT40) (18.98 dBm) Wi-Fi 802.11ac(HT80) (10.26 dBm)

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MODULATION TYPE	WLAN 2.4 GHz Band	DSSS Modulation(DBPSK/DQPSK/CCK) OFDM Modulation(BPSK/QPSK/16QAM/64QAM)	
	WLAN 5 GHz Band	OFDM Modulation(BPSK/QPSK/16QAM/64QAM)	
ANTENNA TYPE	WLAN 2.4 GHz Band	1.60 dBi	
	WLAN 5 GHz Band	5 150 MHz ~ 5 250 MHz	2.80 dBi
		5 725 MHz ~ 5 850 MHz	5.0 dBi
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)		40 MHz, 54 MHz	

3.2 Alternative type(s)/model(s); also covered by this test report.

-. None

4. EUT MODIFICATIONS

-. None

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

5. SYSTEM TEST CONFIGURATION

5.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
Main Board	Samsung Electronics Co Ltd	DATA_GW_MAIN	N/A

5.2 Peripheral equipment

Defined as equipment needed for correct operation of the EUT, but not considered as tested:

Model	Manufacturer	Description	Connected to
GX-MC990CL	Samsung Electronics Co Ltd	AWG (Advanced Wireless Gateway) (EUT)	TEST JIG
ProBooks 650 G2	H.P.	Notebook PC	TEST JIG
JIG	N/A	TEST JIG	EUT / Notebook PC
A3514_FPNT	POWERNET CORPORATION	AC/DC ADAPTER	EUT

5.3 Mode of operation during the test

Modulation	DATA RATE	OUTPUT POWER[dBm]		
		Ant 0	Ant 1	Ant 2
802.11 b (Middle Channel)	1 Mbps	16.38	16.46	16.56
	2 Mbps	16.21	16.35	16.45
	5.5 Mbps	16.10	16.17	16.29
	11 Mbps	15.88	15.79	15.98
802.11g (Middle Channel)	6 Mbps	20.09	20.26	20.99
	9 Mbps	19.94	19.88	20.76
	12 Mbps	19.70	19.61	20.59
	18 Mbps	19.58	19.25	20.28
	24 Mbps	19.18	19.02	19.96
	36 Mbps	19.02	18.68	19.63
	48 Mbps	18.69	18.38	19.24
	54 Mbps	18.52	18.20	18.90
HT 20 (Middle Channel)	6.5 Mbps	20.12	21.2	21.28
	13 Mbps	19.76	20.93	21.06
	19.5 Mbps	19.61	20.82	20.75
	26 Mbps	19.42	20.61	20.44
	39 Mbps	19.15	20.22	20.24
	52 Mbps	18.85	20.09	20.05
	58.5 Mbps	18.58	19.80	19.79
	65 Mbps	18.31	19.43	19.50
HT 40 (Middle Channel)	13.5 Mbps	21.87	22.39	21.74
	27 Mbps	21.70	22.18	21.34
	40.5 Mbps	21.56	22.00	21.06
	54 Mbps	21.37	21.71	20.87
	81 Mbps	21.21	21.50	20.51
	108 Mbps	20.82	21.11	20.37
	121.5 Mbps	20.66	20.94	20.21
	135 Mbps	20.34	20.78	19.90

The worse case data rate for each modulation is determined 1 Mbps(Ant.0/Ant.1/Ant.2) for IEEE 802.11b, 6 Mbps(Ant.0/Ant.1/Ant.2) for IEEE 802.11g, 6.5 Mbps(Ant.0/Ant.1/Ant.2) for HT20, 13.5 Mbps(Ant.0/Ant.1/Ant.2) for HT40.

5.4 Configuration of Test System

Line Conducted Test: The EUT was connected to LISN. All supporting equipments were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions.

Radiated Emission Test: Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 m Semi Anechoic Chamber.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

5.5 Antenna Requirement

For intentional device, according to section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Antenna Construction:

The transmitter antenna of the EUT is WLAN PCB antenna, so no consideration of replacement by the user.

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6. PRELIMINARY TEST

6.1 AC Power line Conducted Emissions Tests

During Preliminary Test, the following operating mode was investigated.

Operation Mode	The Worse operating condition (Please check one only)
Transmitting Mode	X

6.2 General Radiated Emissions Tests

During Preliminary Test, the following operating mode was investigated.

Operation Mode	The Worse operating condition (Please check one only)
Transmitting Mode	X

7. MINIMUM 6 dB BANDWIDTH

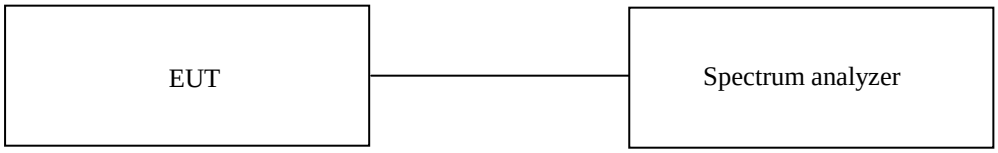
7.1 Operating environment

Temperature : 23 ℃

Relative humidity : 41 % R.H.

7.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz, and peak detection was used. The 6 dB bandwidth is defined as the total spectrum over which the power is higher than the peak power minus 6 dB.



7.3 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.

7.4 Test data for 802.11b WLAN Mode

7.4.1 Test data for Antenna 0

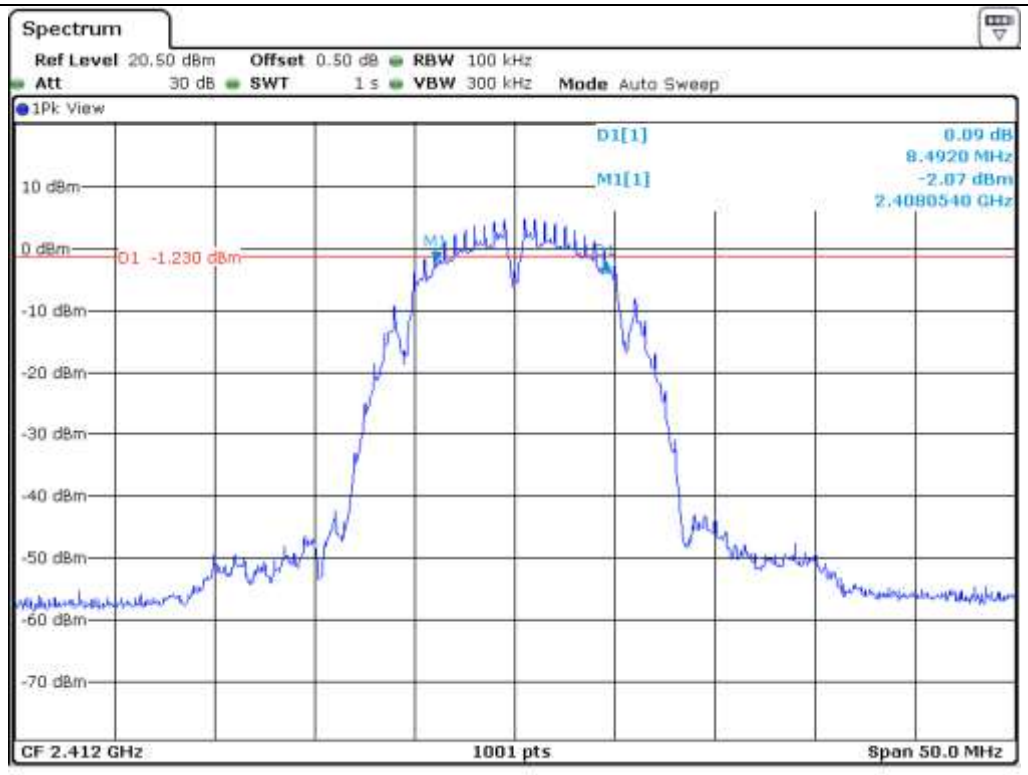
-. Test Date : March 21, 2017

-. Test Result : Pass

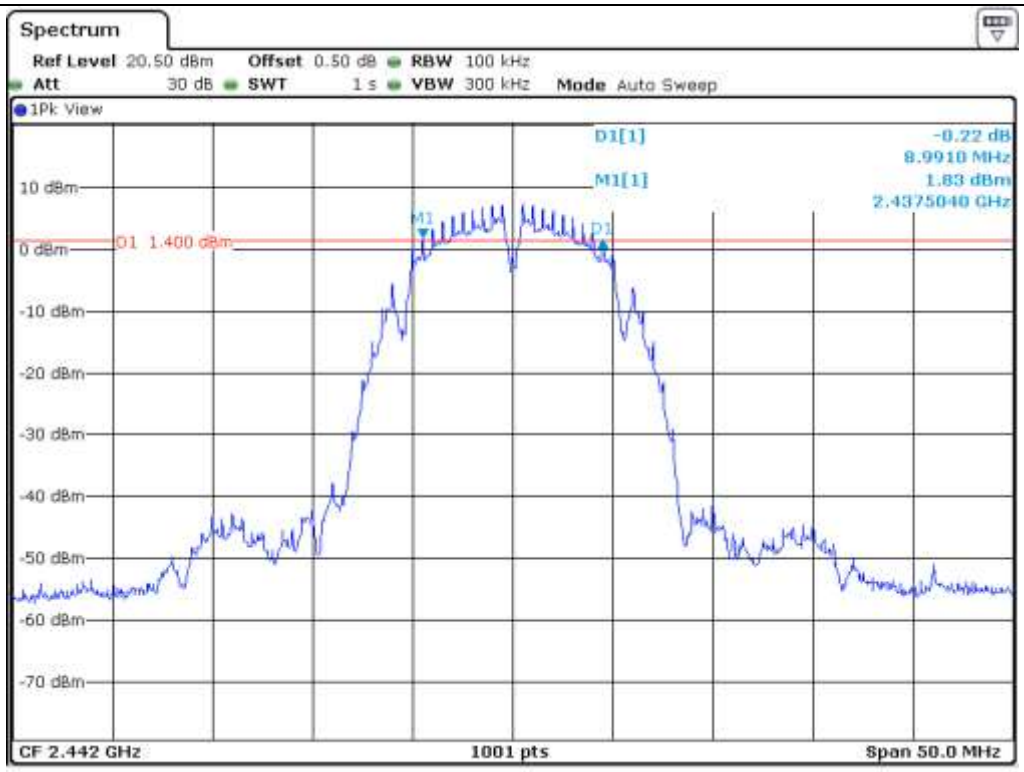
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	8.49	0.50	7.99
Middle	2 442	8.99	0.50	8.49
High	2 462	8.47	0.50	7.97

Remark. Margin = Measured Value - Limit

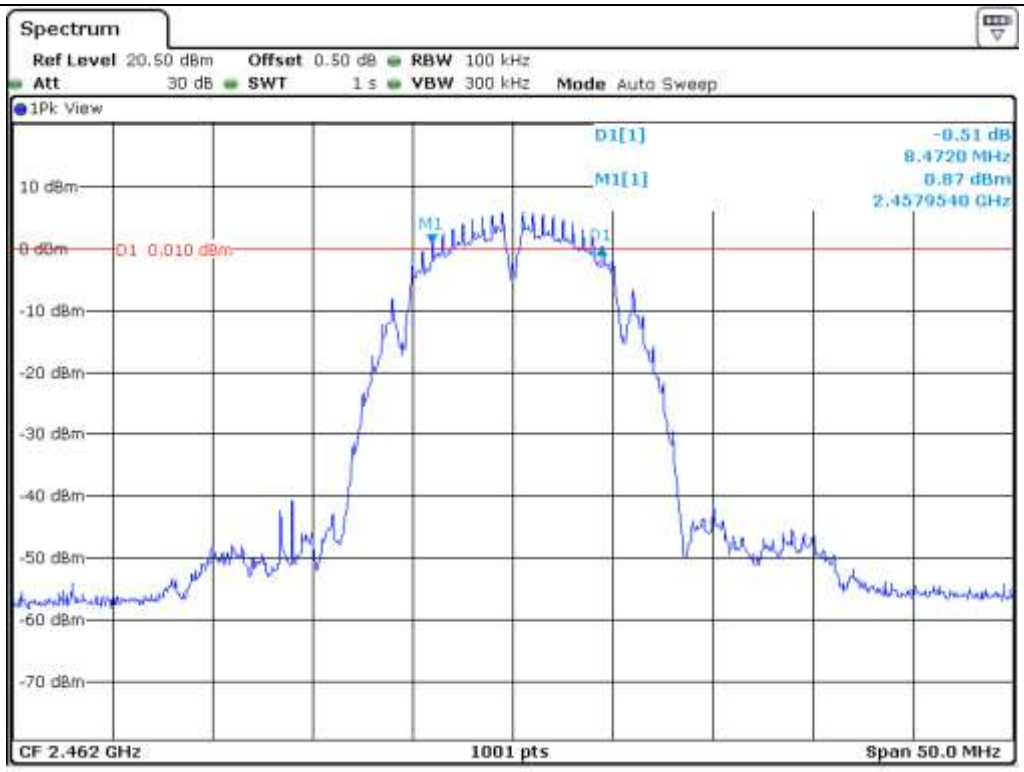
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

7.4.2 Test data for Antenna 1

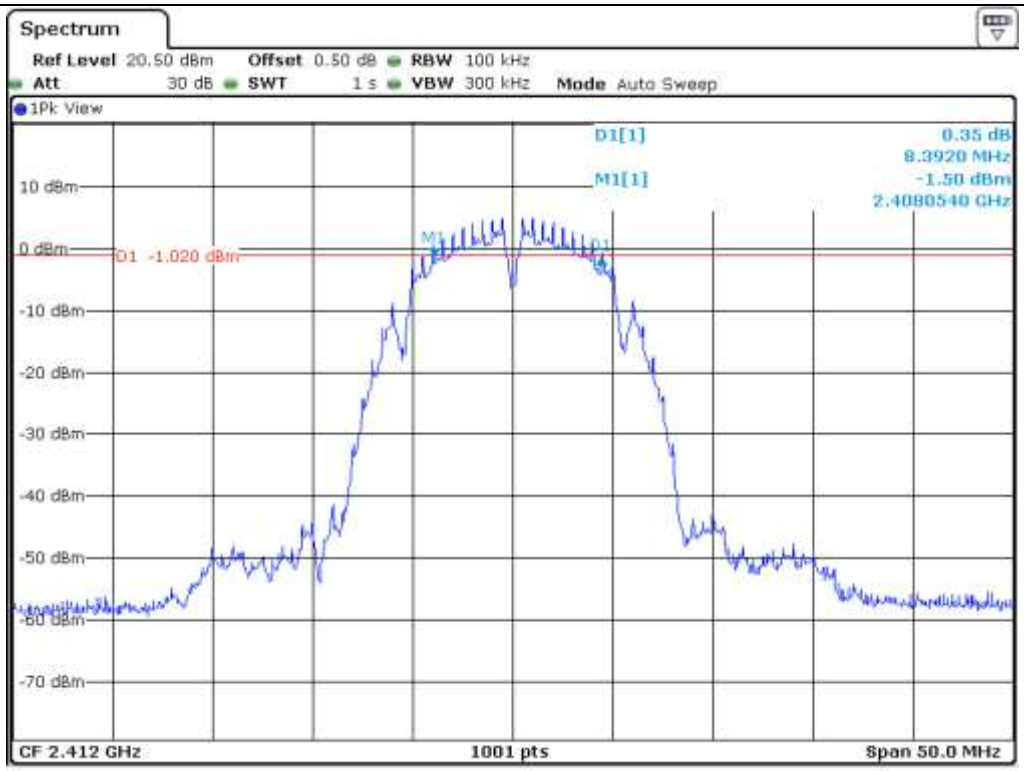
-. Test Date : March 21, 2017

-. Test Result : Pass

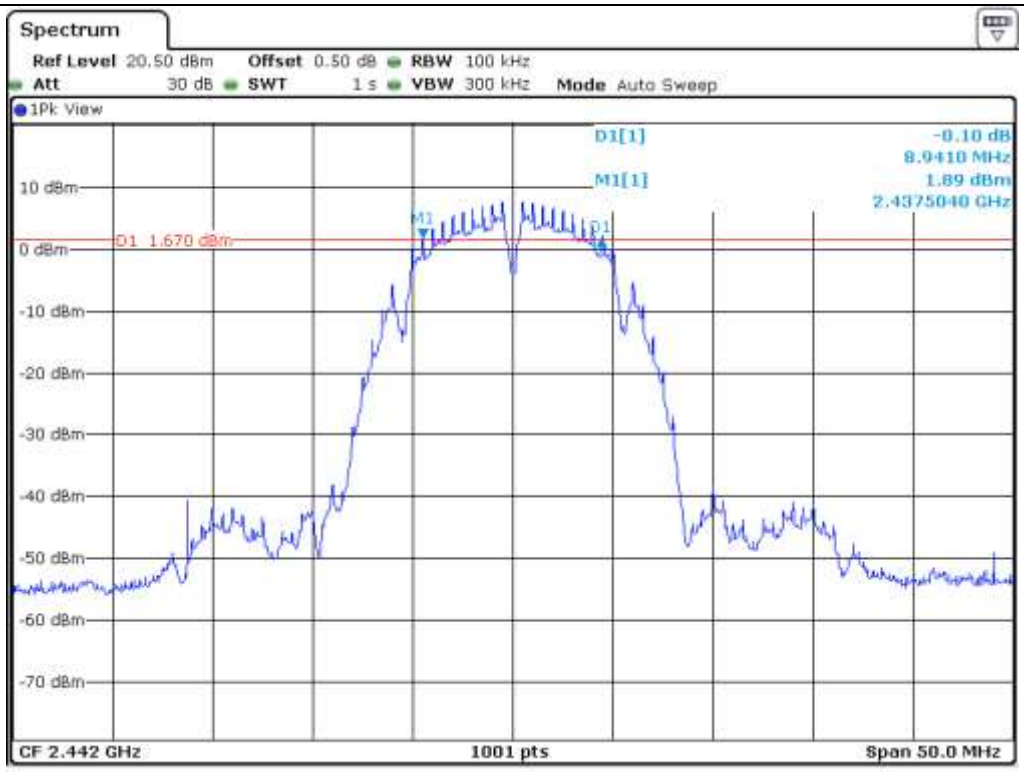
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	8.39	0.50	7.89
Middle	2 442	8.94	0.50	8.44
High	2 462	8.52	0.50	8.02

Remark. Margin = Measured Value - Limit

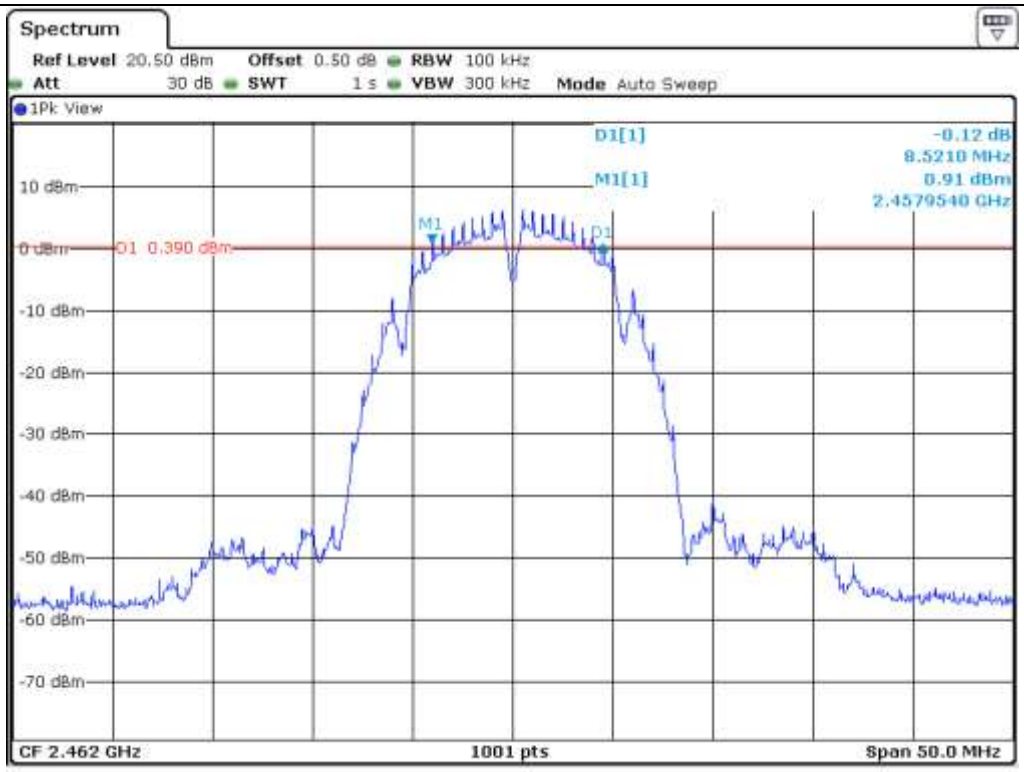
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

7.4.3 Test data for Antenna 2

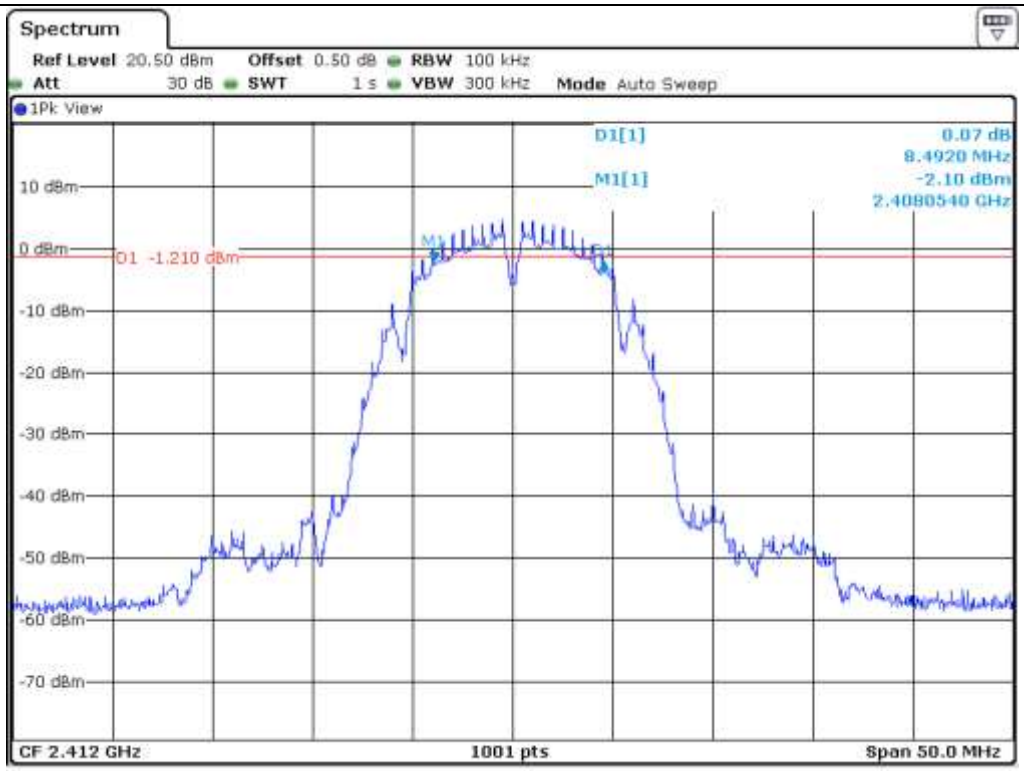
-. Test Date : March 21, 2017

-. Test Result : Pass

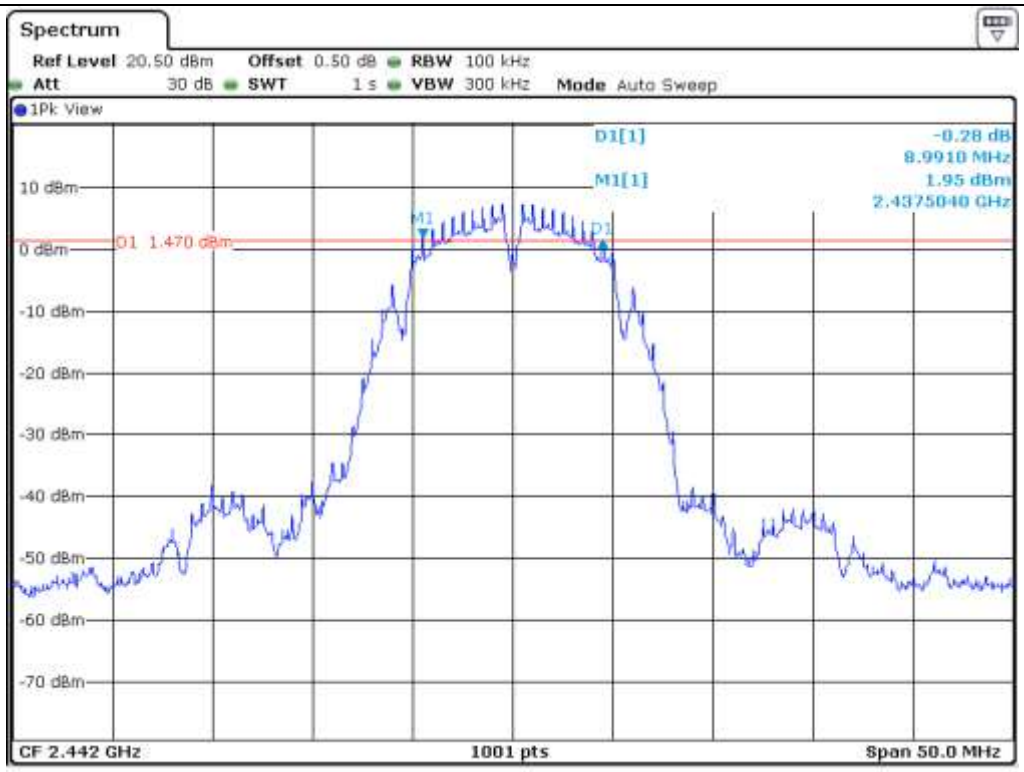
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	8.49	0.50	7.99
Middle	2 442	8.99	0.50	8.49
High	2 462	8.92	0.50	8.42

Remark. Margin = Measured Value - Limit

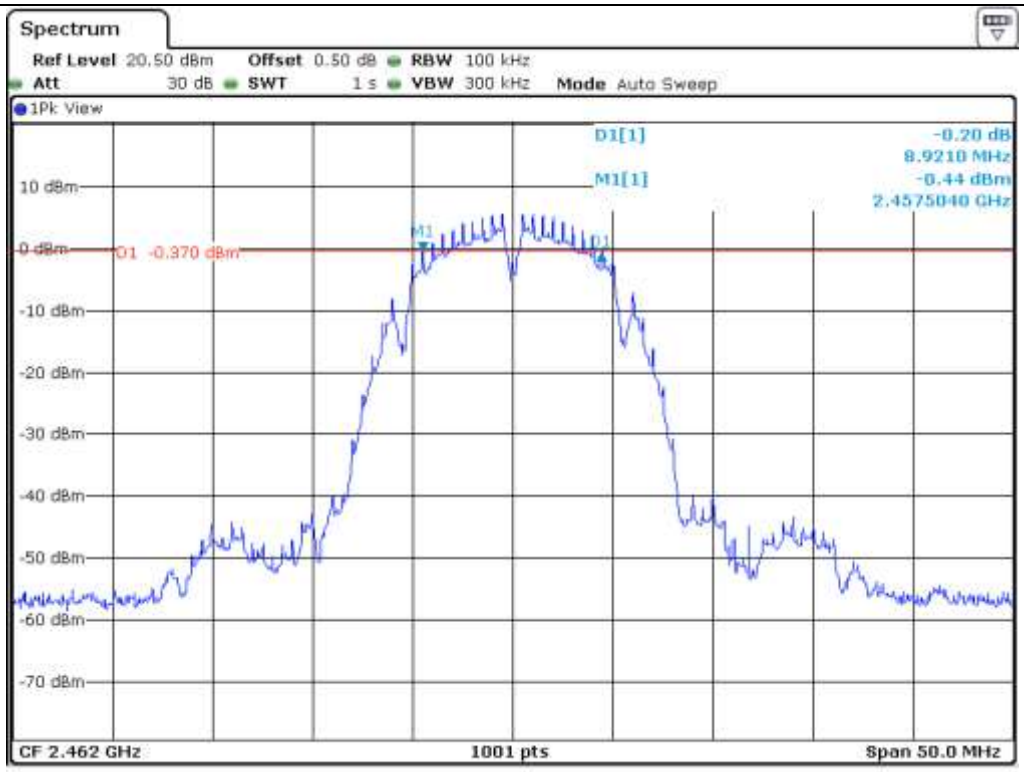
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

7.5 Test data for 802.11g WLAN Mode

7.5.1 Test data for Antenna 0

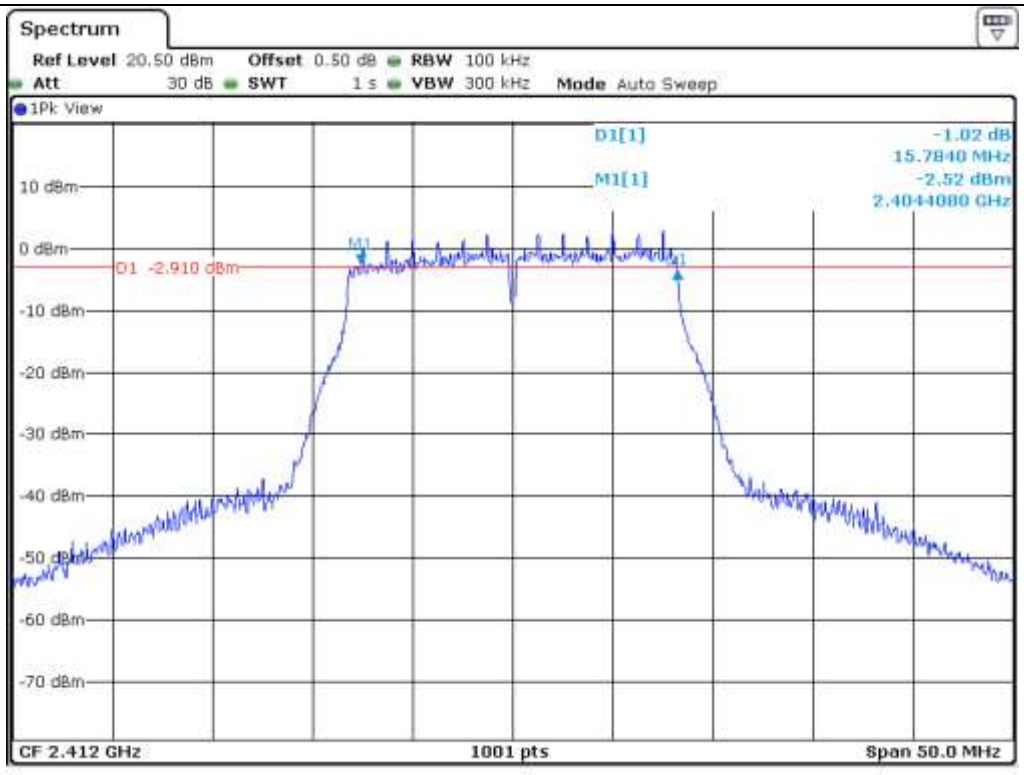
-. Test Date : March 21, 2017

-. Test Result : Pass

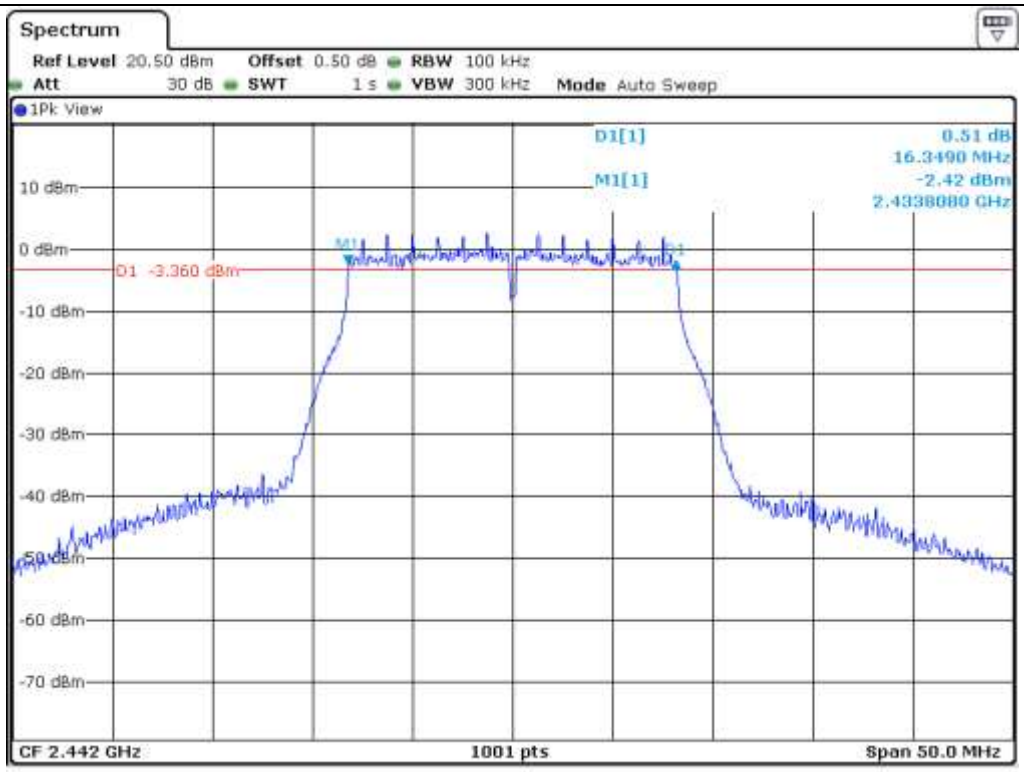
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	15.78	0.50	15.28
Middle	2 442	16.35	0.50	15.85
High	2 462	16.36	0.50	15.86

Remark. Margin = Measured Value - Limit

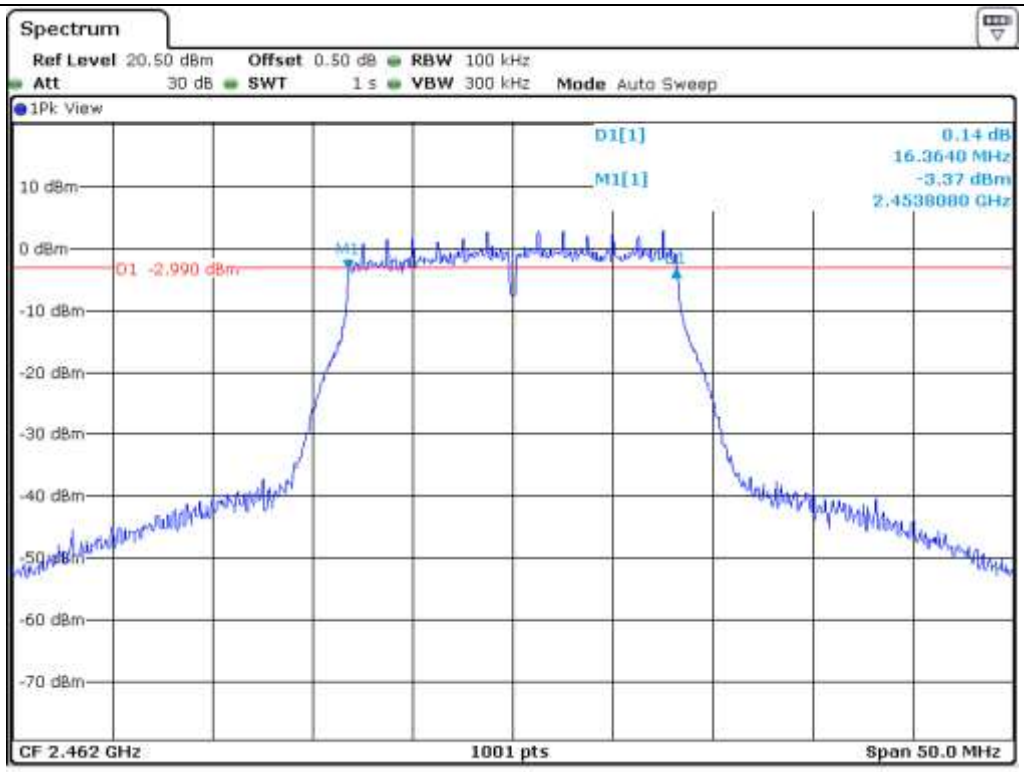
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

7.5.2 Test data for Antenna 1

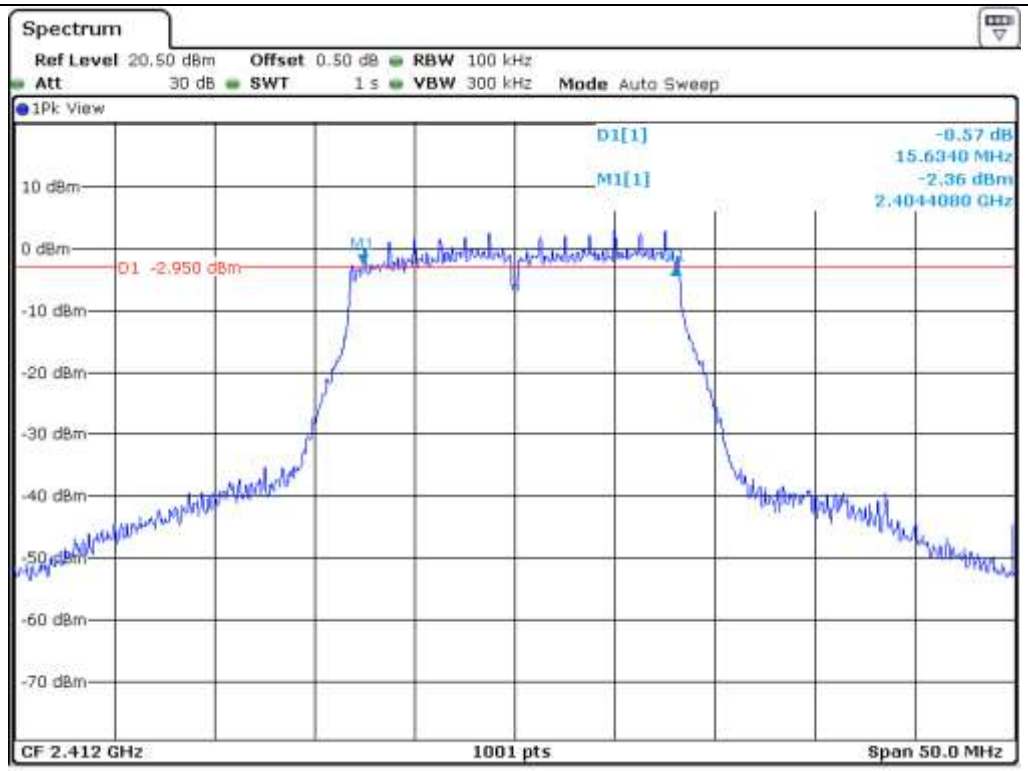
-. Test Date : March 21, 2017

-. Test Result : Pass

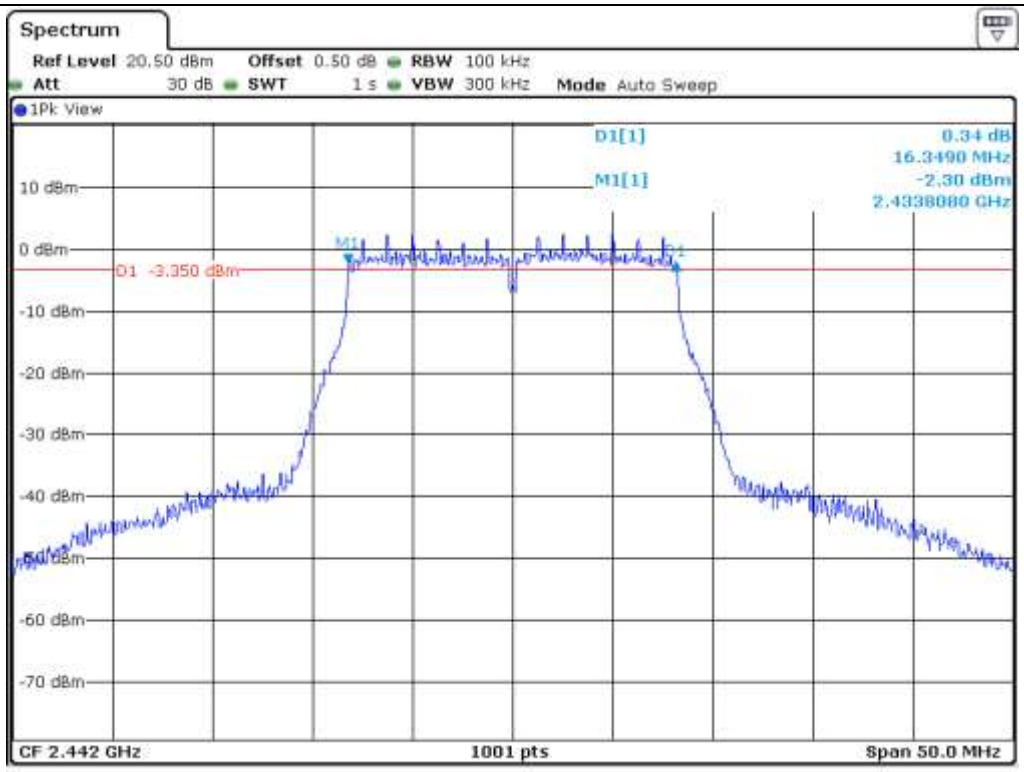
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	15.63	0.50	15.13
Middle	2 442	16.35	0.50	15.85
High	2 462	16.36	0.50	15.86

Remark. Margin = Measured Value - Limit

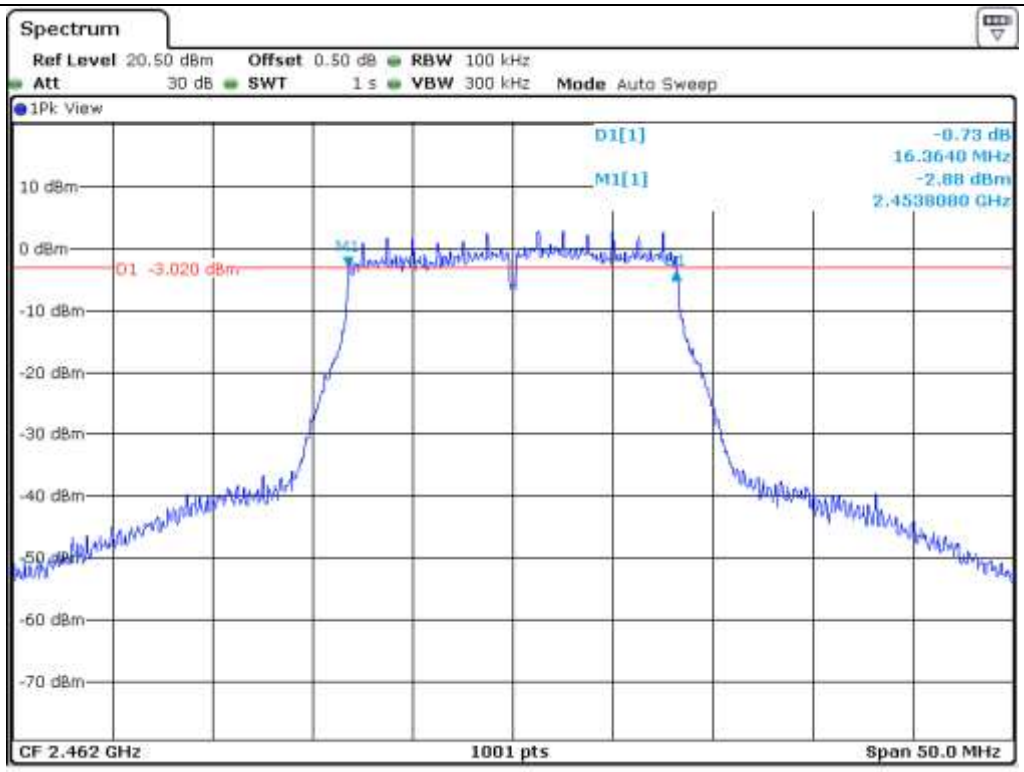
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

7.5.3 Test data for Antenna 2

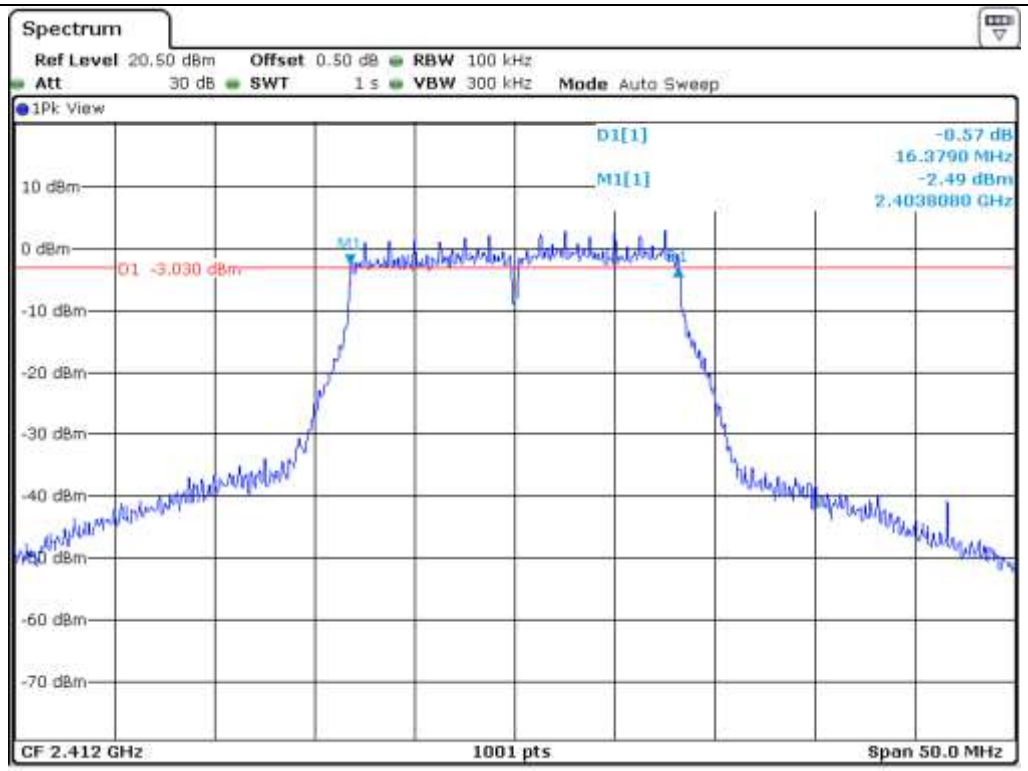
-. Test Date : March 21, 2017

-. Test Result : Pass

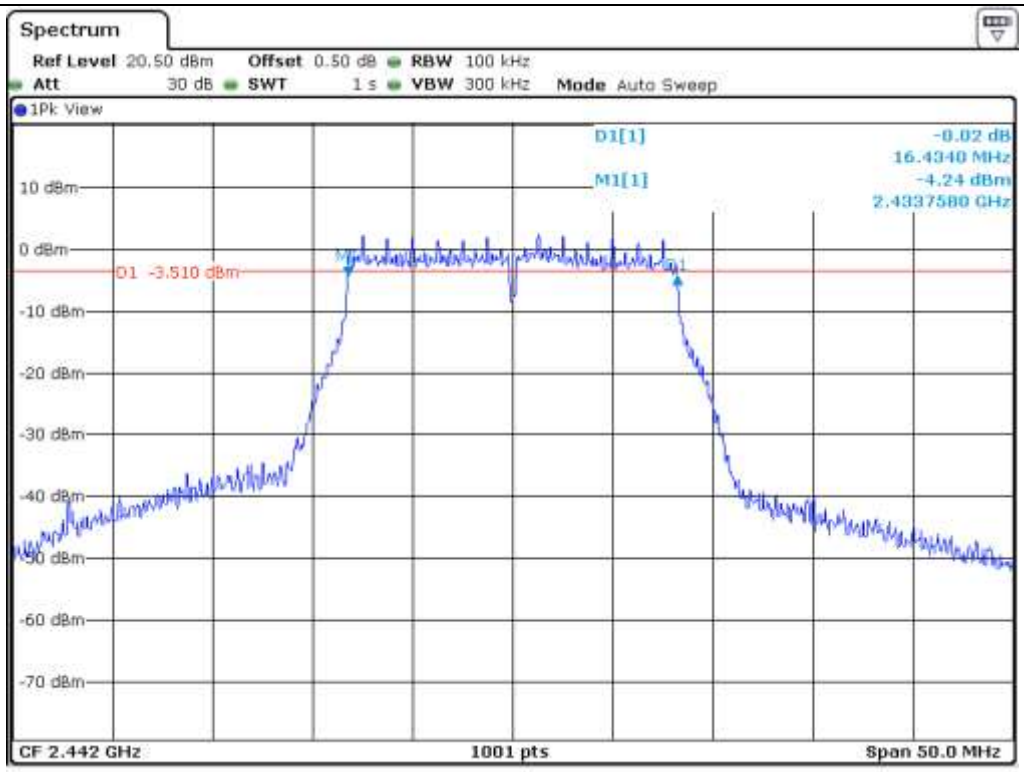
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	16.37	0.50	15.87
Middle	2 442	16.43	0.50	15.93
High	2 462	16.46	0.50	15.96

Remark. Margin = Measured Value - Limit

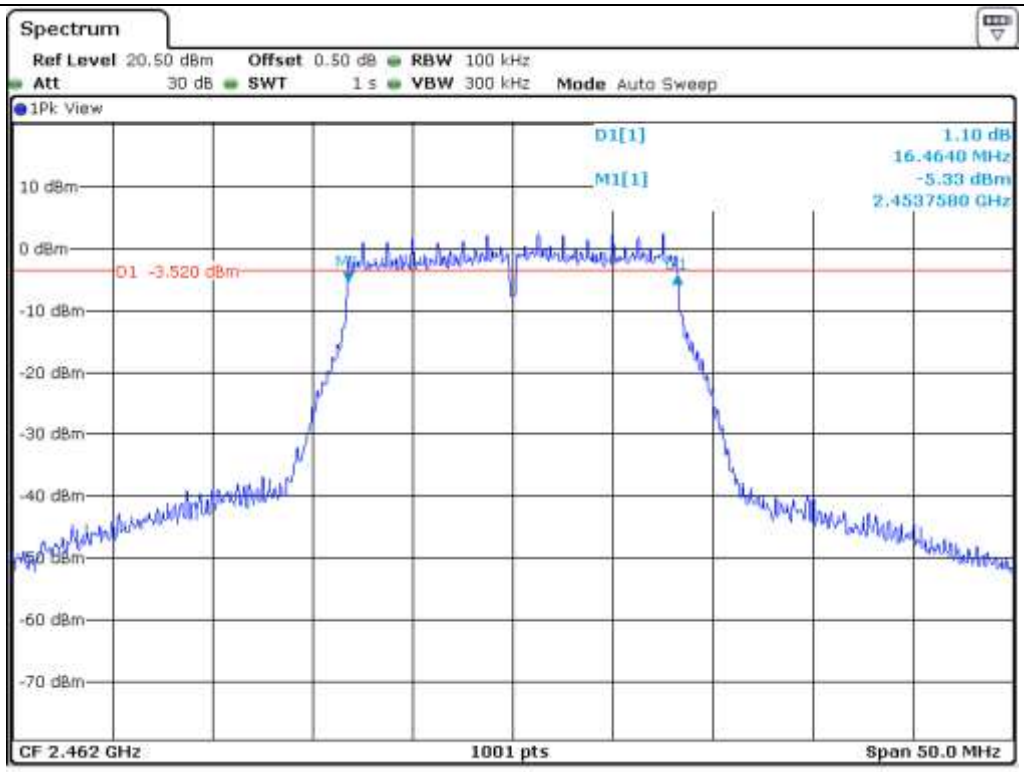
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

7.6 Test data for 802.11n_HT20 WLAN Mode

7.6.1 Test data for Antenna 0

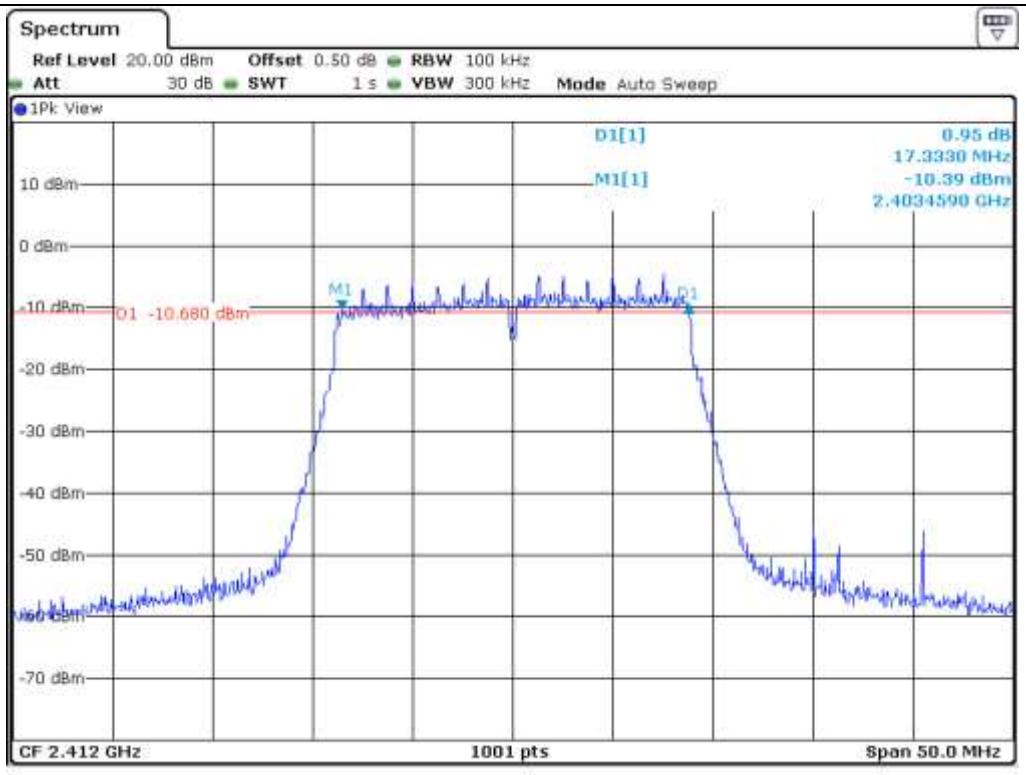
-. Test Date : March 21, 2017

-. Test Result : Pass

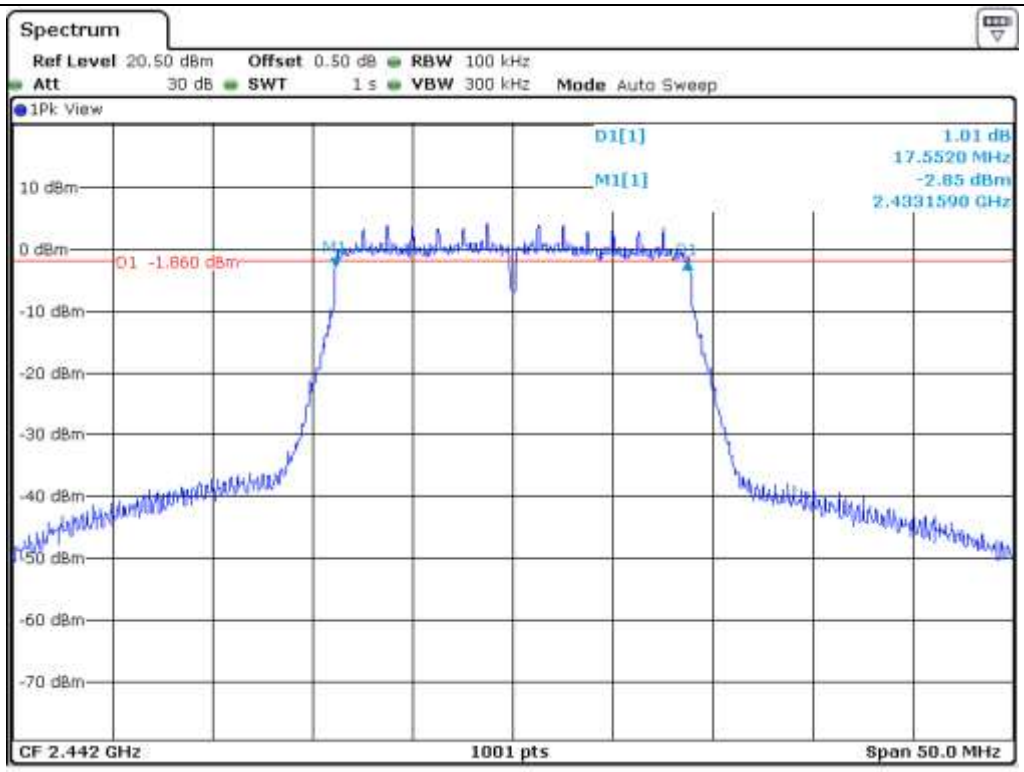
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	17.33	0.50	16.83
Middle	2 442	17.55	0.50	17.05
High	2 462	17.43	0.50	16.93

Remark. Margin = Measured Value - Limit

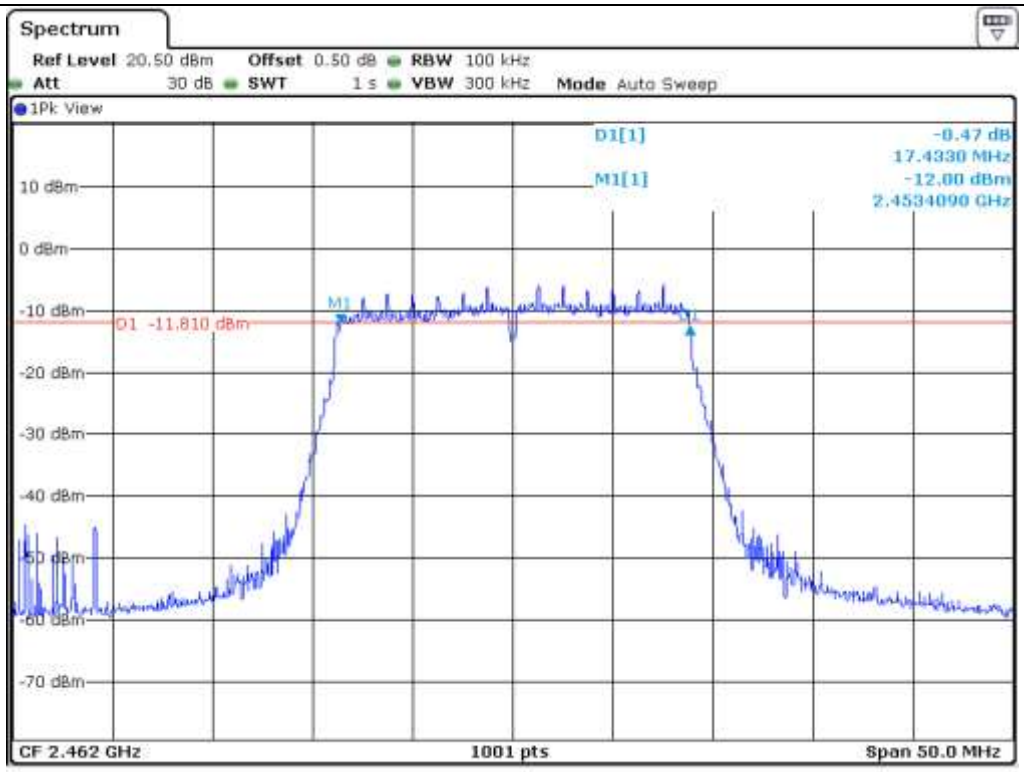
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

7.6.2 Test data for Antenna 1

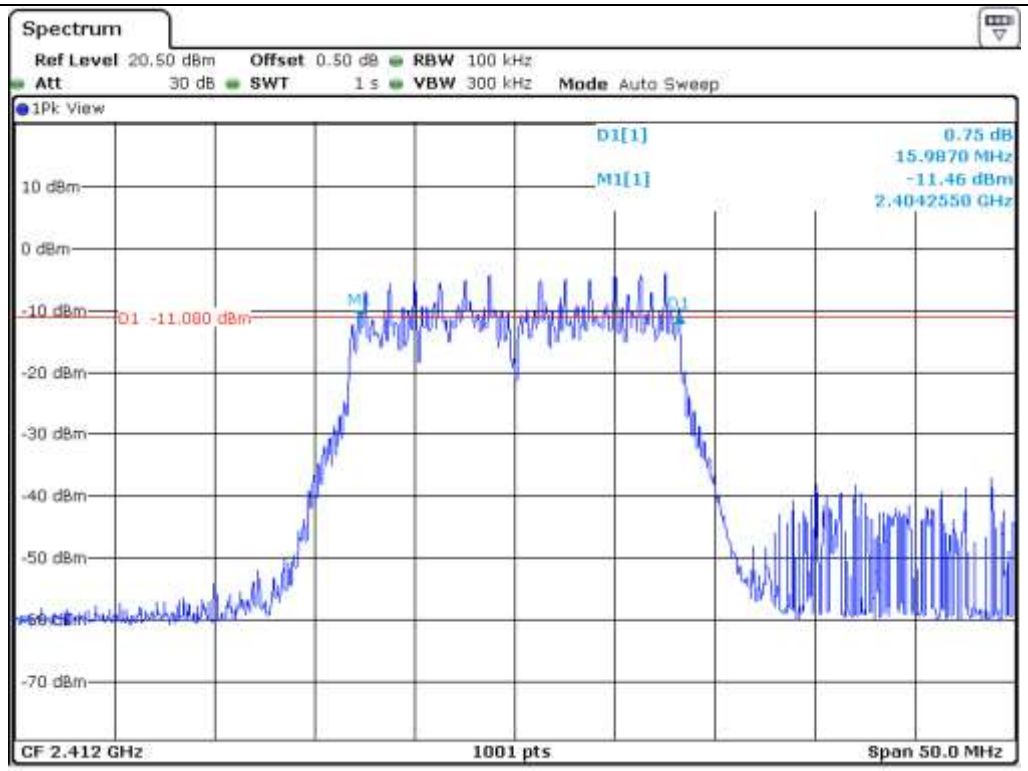
-. Test Date : March 21, 2017

-. Test Result : Pass

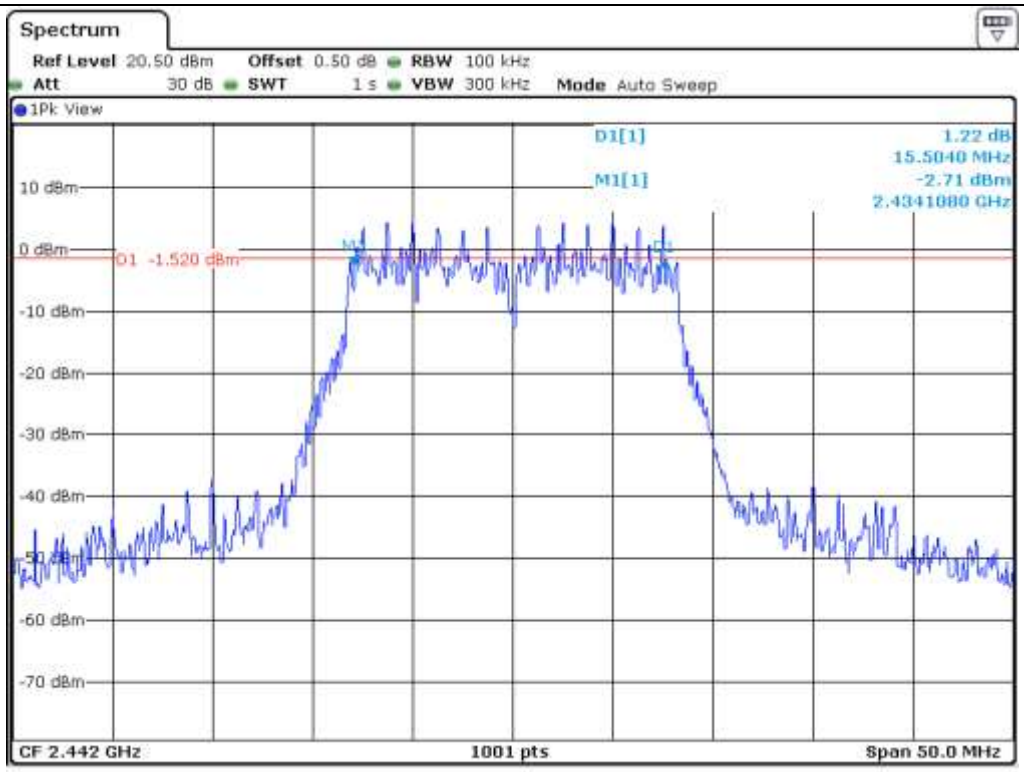
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	15.99	0.50	15.49
Middle	2 442	15.50	0.50	15.00
High	2 462	15.88	0.50	15.38

Remark. Margin = Measured Value - Limit

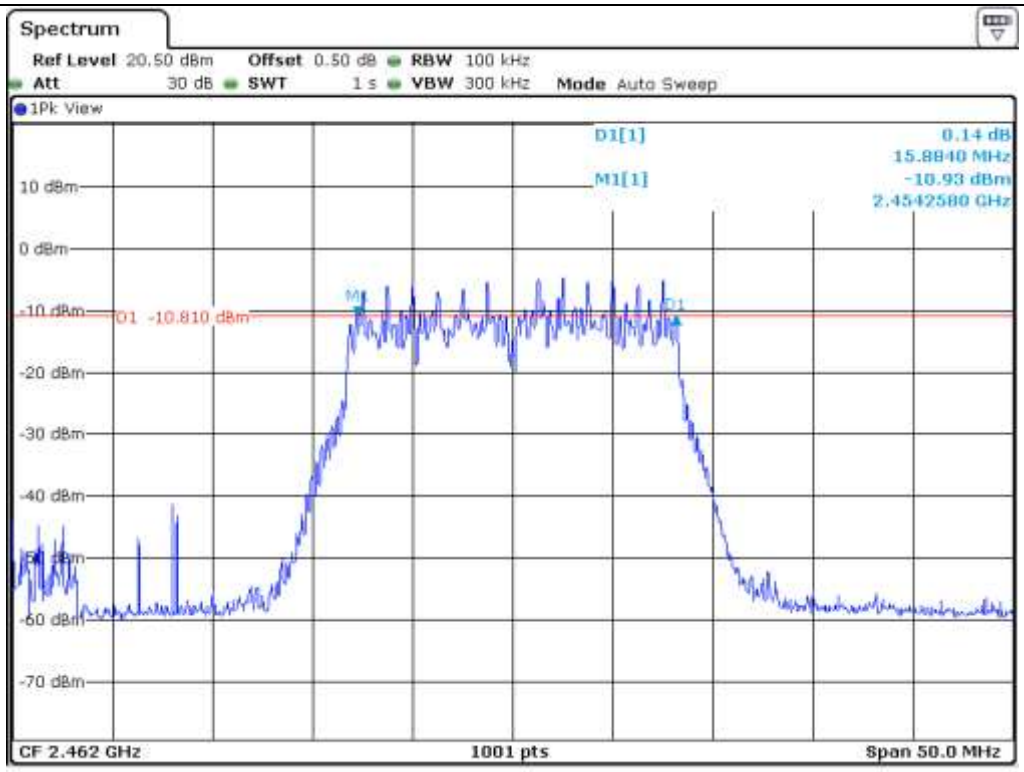
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

7.6.3 Test data for Antenna 2

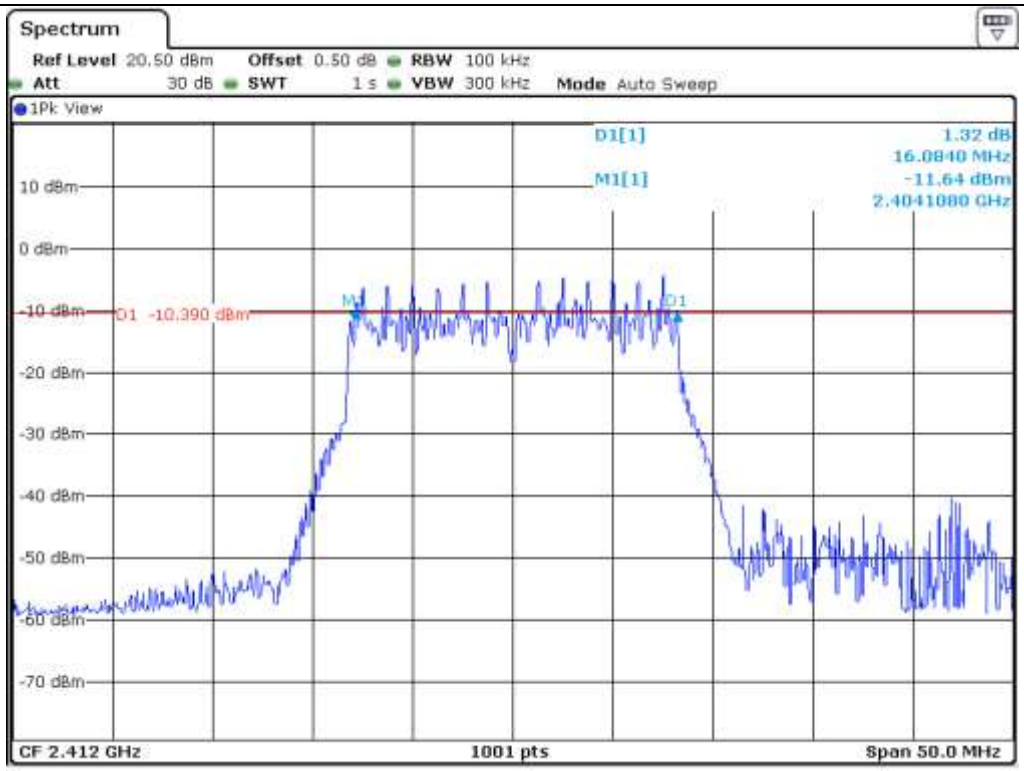
-. Test Date : March 21, 2017

-. Test Result : Pass

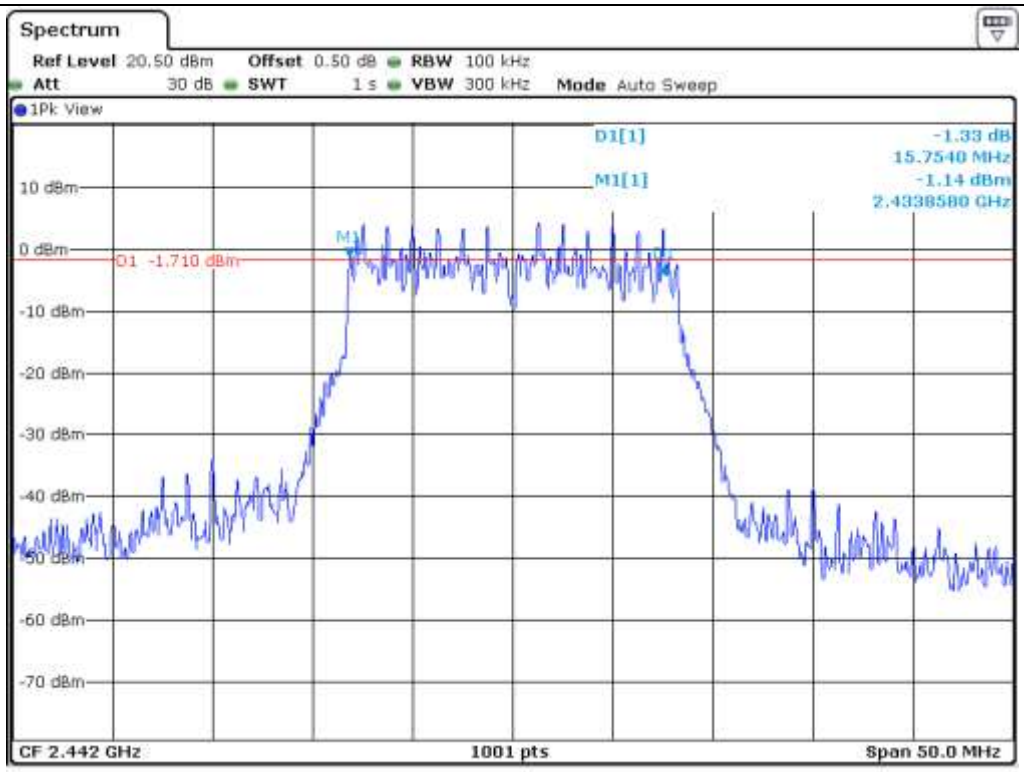
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	16.08	0.50	15.58
Middle	2 442	15.75	0.50	15.25
High	2 462	16.08	0.50	15.58

Remark. Margin = Measured Value - Limit

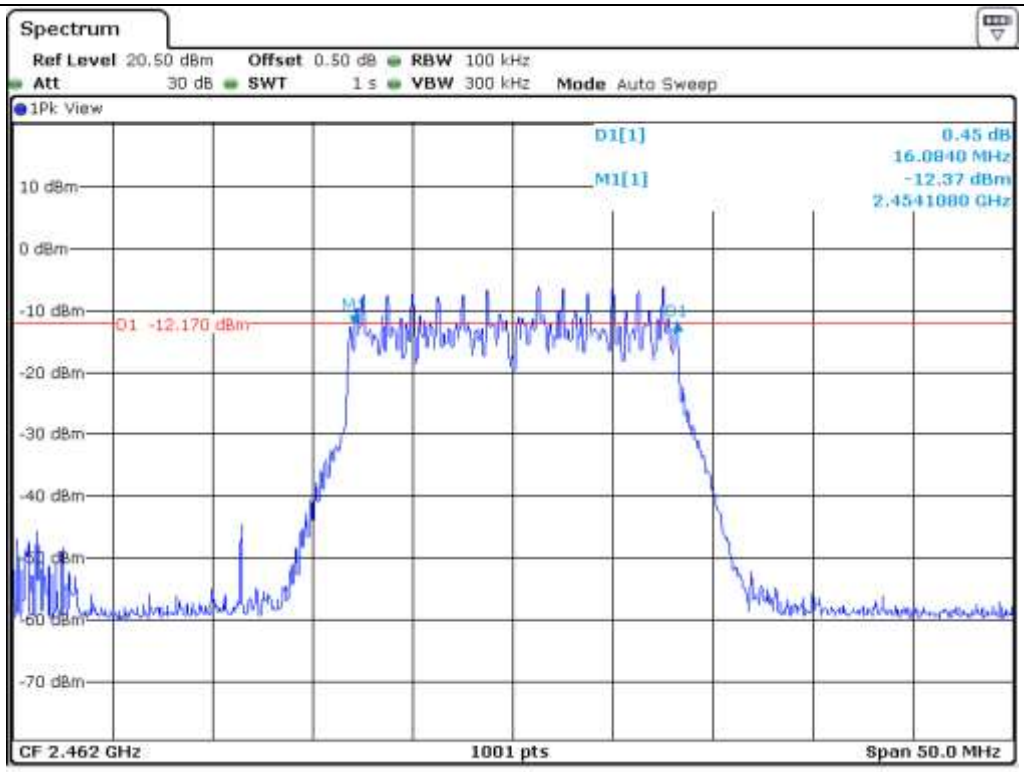
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

7.7 Test data for 802.11n_HT40 WLAN Mode

7.7.1 Test data for Antenna 0

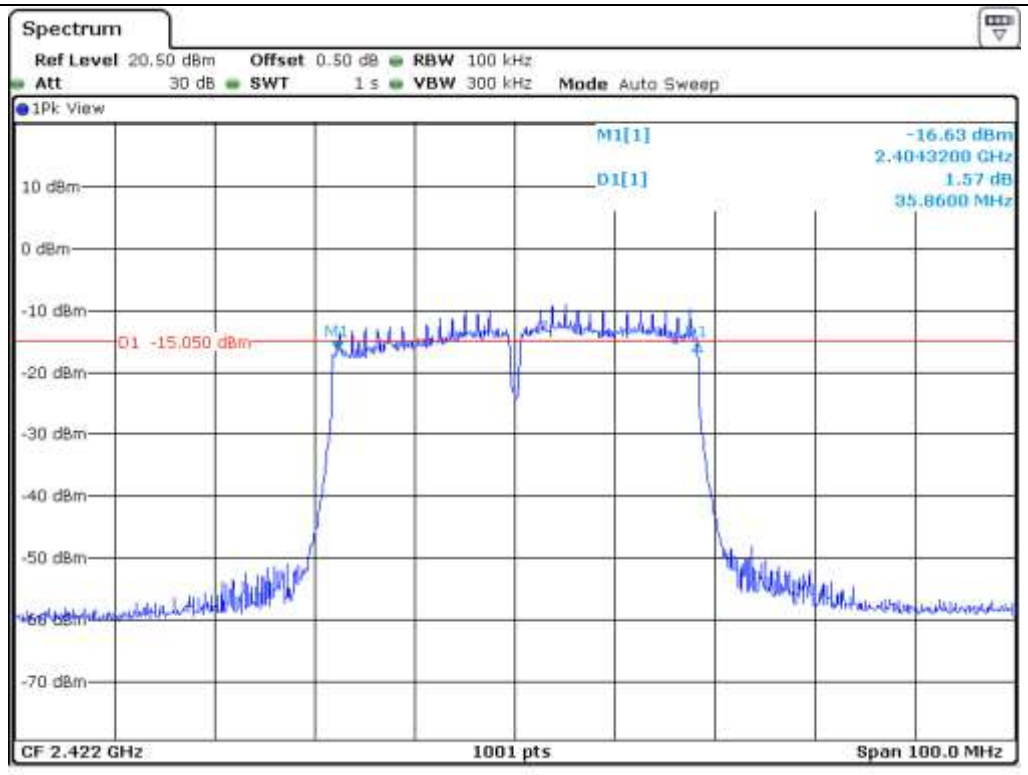
-. Test Date : March 21, 2017

-. Test Result : Pass

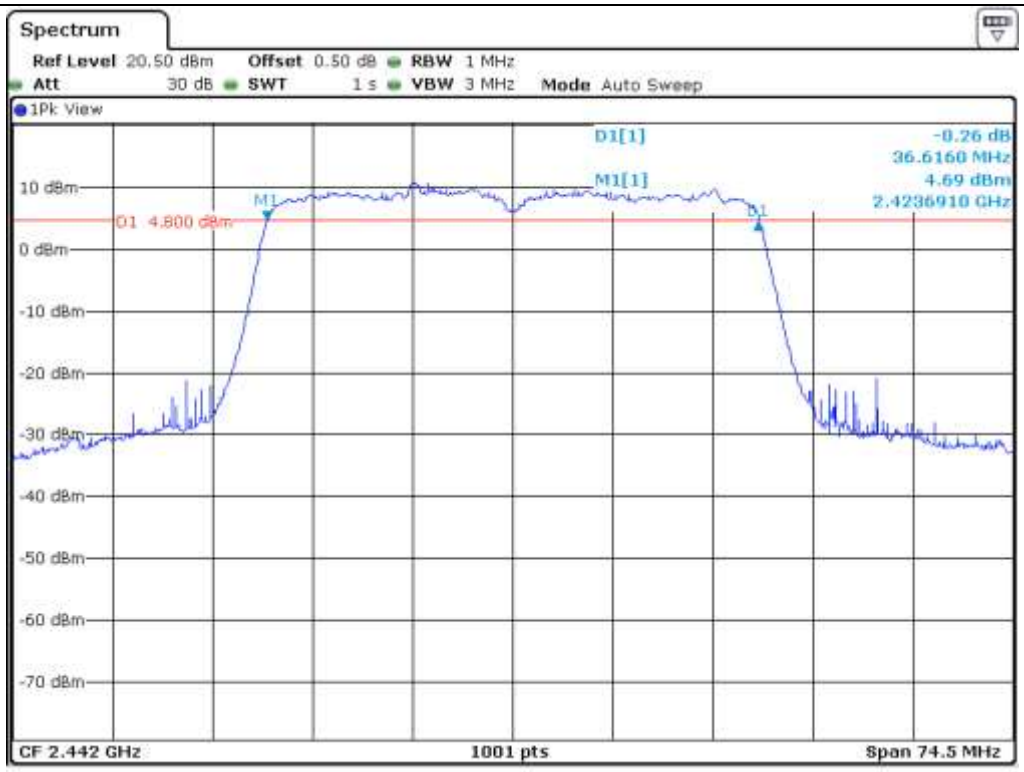
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 422	35.86	0.50	35.36
Middle	2 442	36.62	0.50	36.12
High	2 452	36.33	0.50	35.83

Remark. Margin = Measured Value - Limit

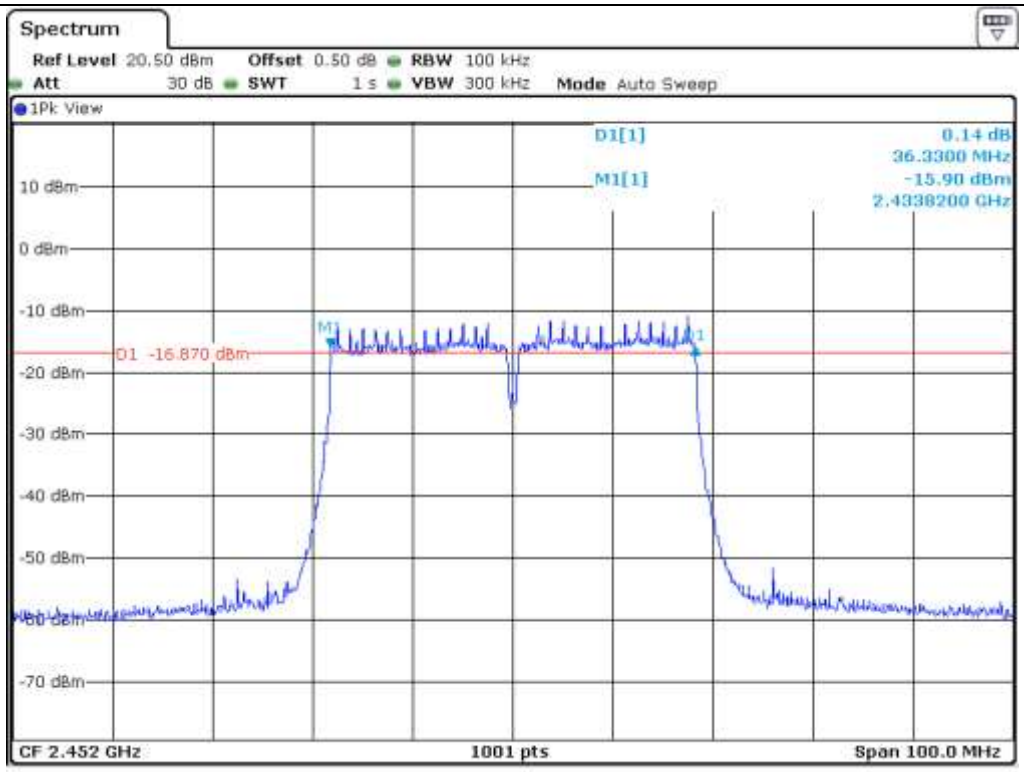
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

7.7.2 Test data for Antenna 1

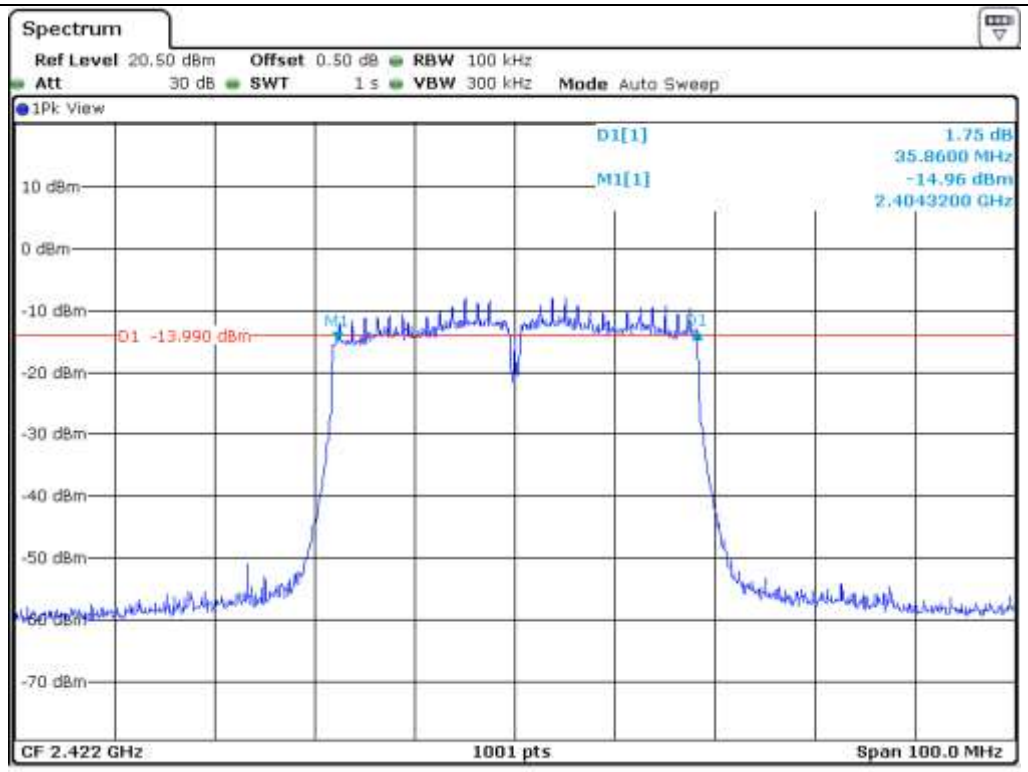
-. Test Date : March 21, 2017

-. Test Result : Pass

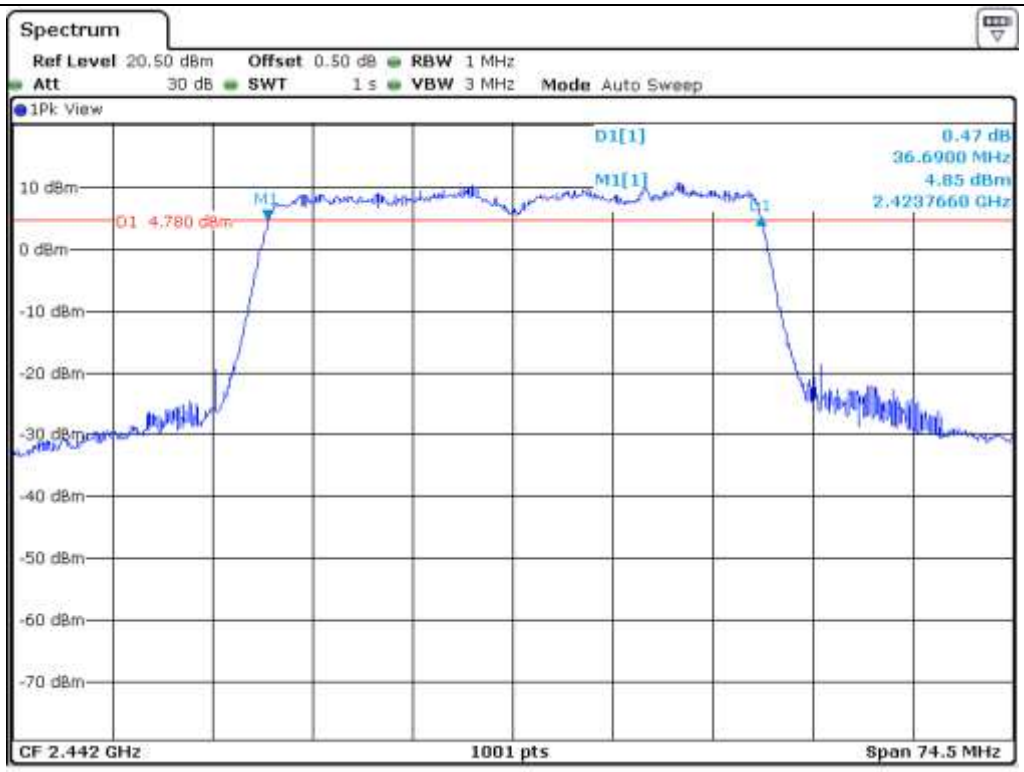
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 422	35.86	0.50	35.36
Middle	2 442	36.69	0.50	36.19
High	2 452	36.13	0.50	35.63

Remark. Margin = Measured Value - Limit

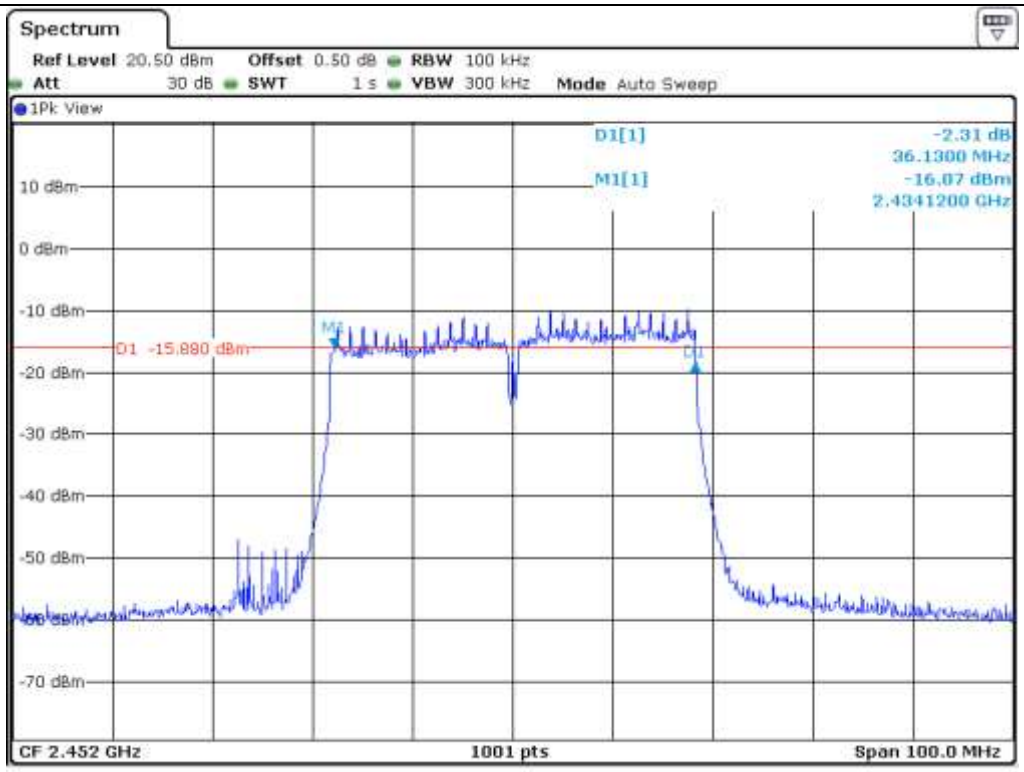
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

7.7.3 Test data for Antenna 2

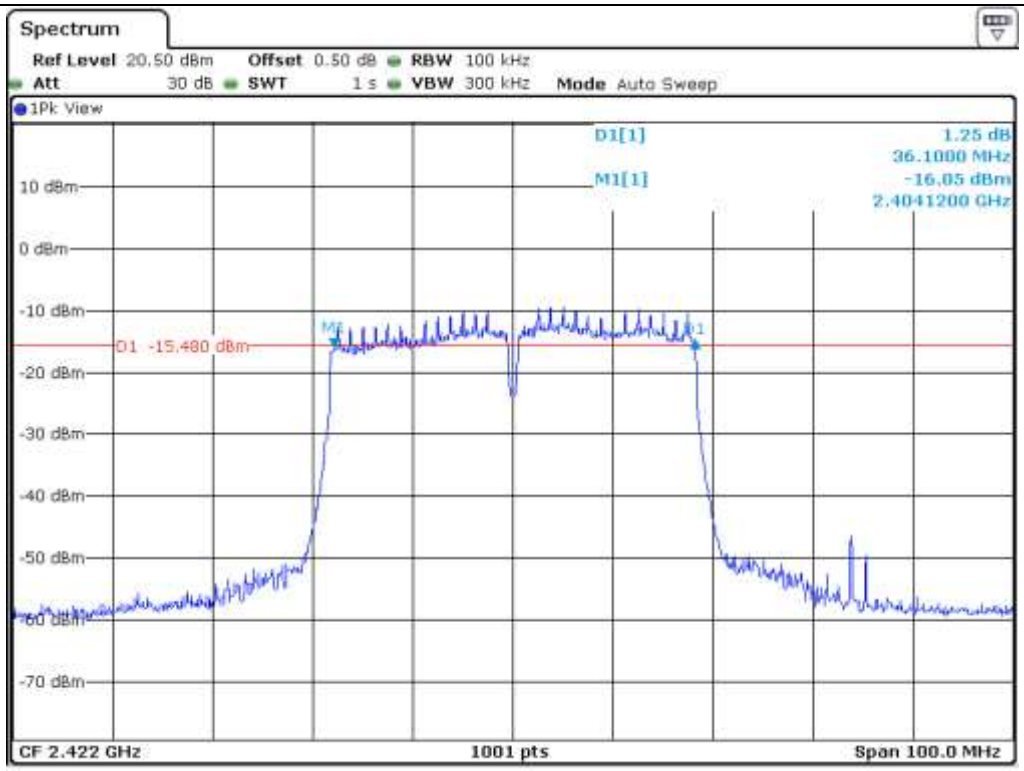
-. Test Date : March 21, 2017

-. Test Result : Pass

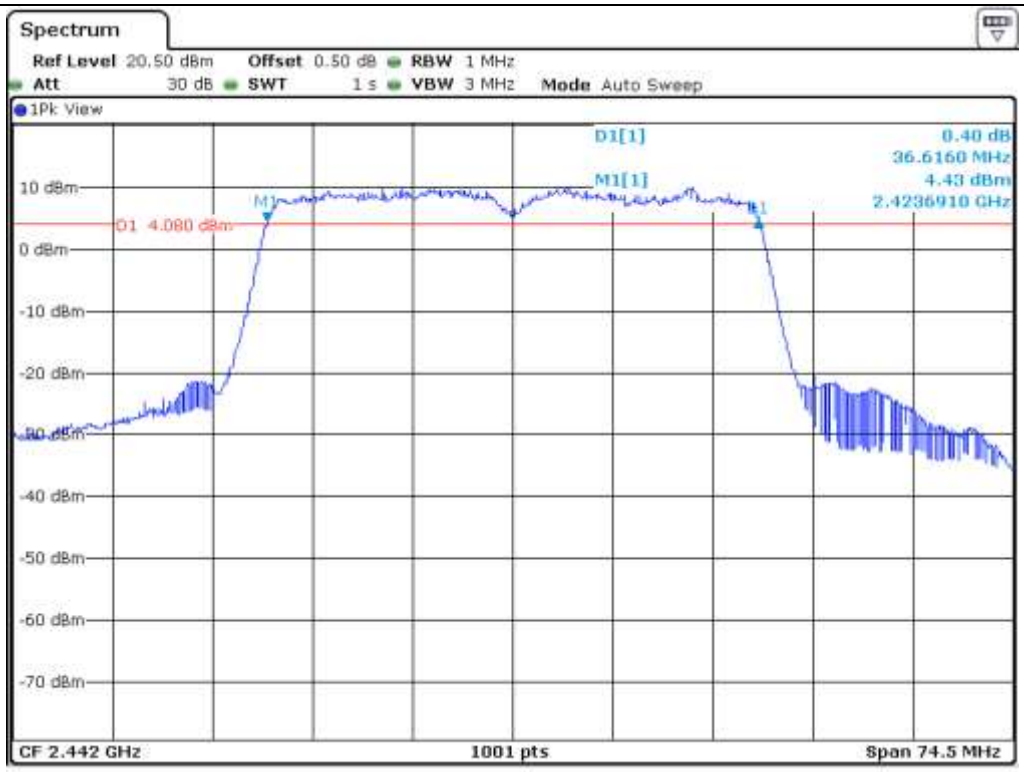
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 422	36.10	0.50	35.60
Middle	2 442	36.62	0.50	36.12
High	2 452	36.43	0.50	35.93

Remark. Margin = Measured Value - Limit

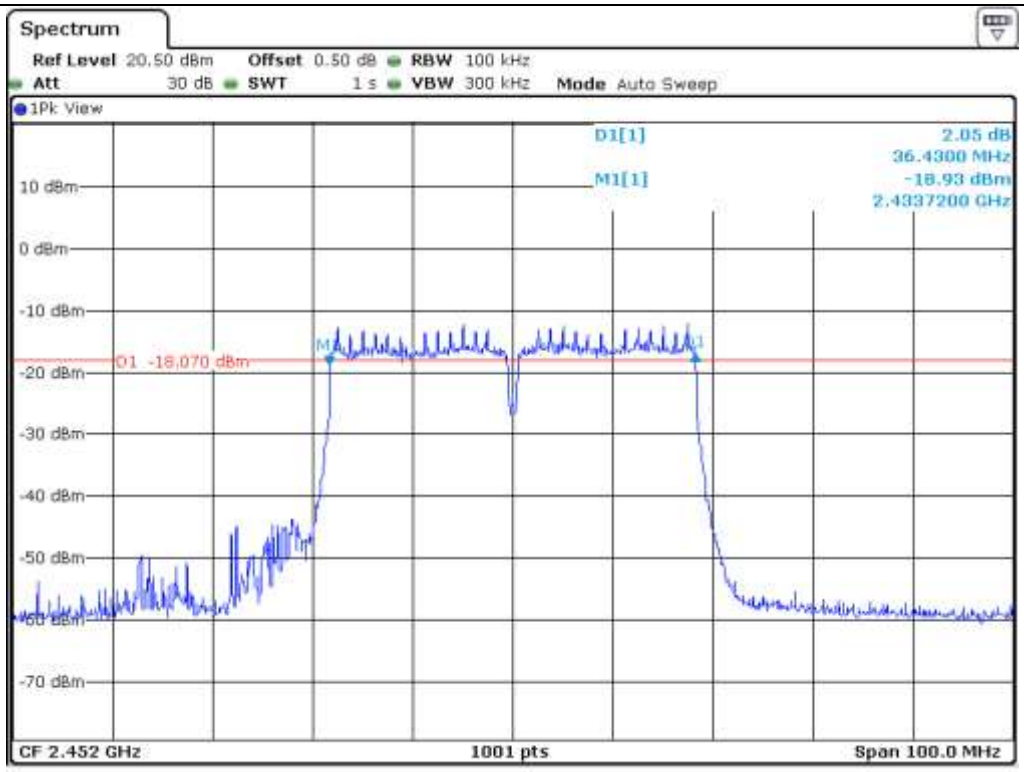
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

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

8. 99 % OCCUPIED BANDWIDTH

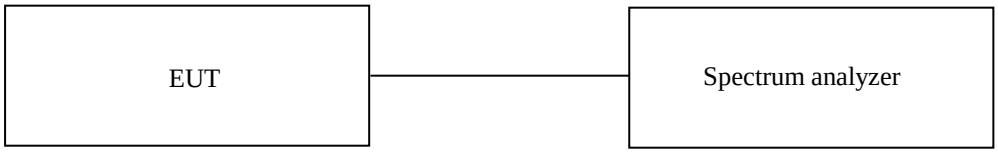
8.1 Operating environment

Temperature : 23 ℃

Relative humidity : 41 % R.H.

8.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz, and peak detection was used. The 99 % bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5 % of the total mean power of the given emission.



8.3 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)

8.4 Test data for 802.11b WLAN Mode

8.4.1 Test data for Antenna 0

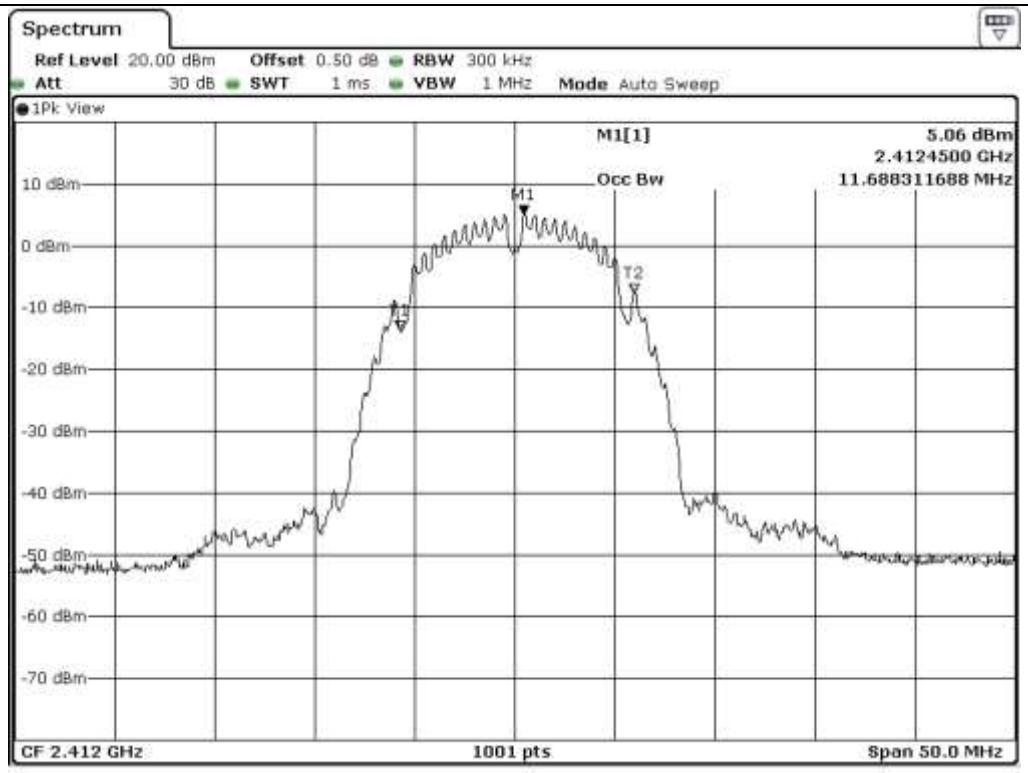
-. Test Date : March 21, 2017

-. Test Result : Pass

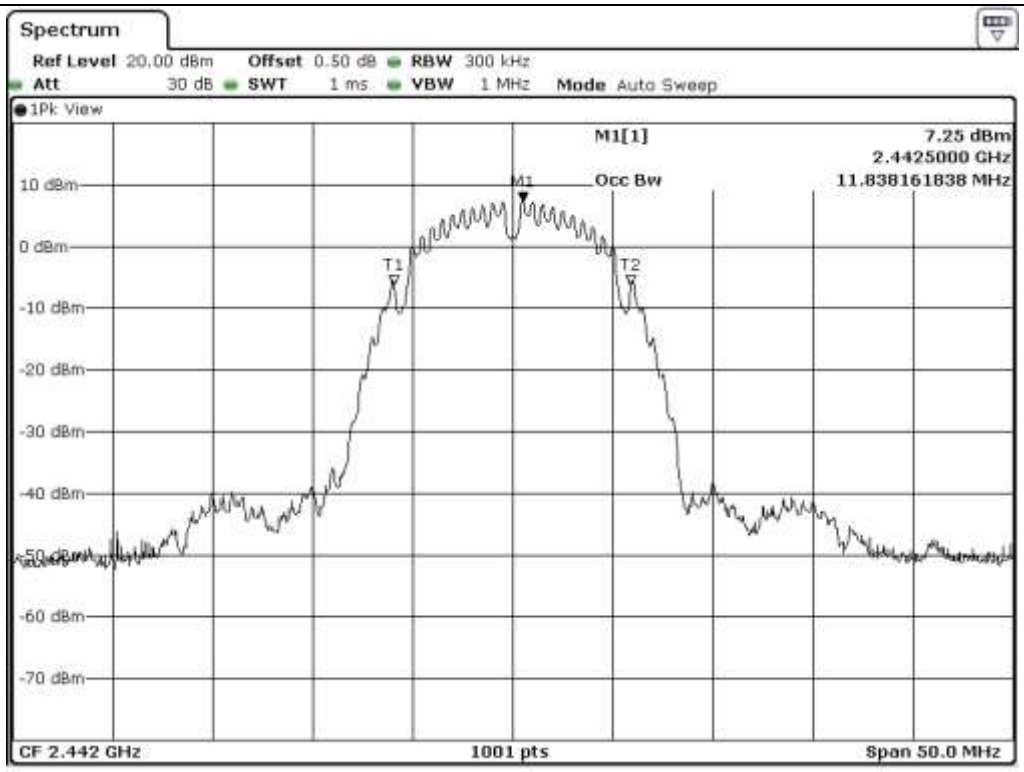
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	11.69	0.50	11.19
Middle	2 442	11.84	0.50	11.34
High	2 462	11.79	0.50	11.29

Remark. Margin = Measured Value - Limit

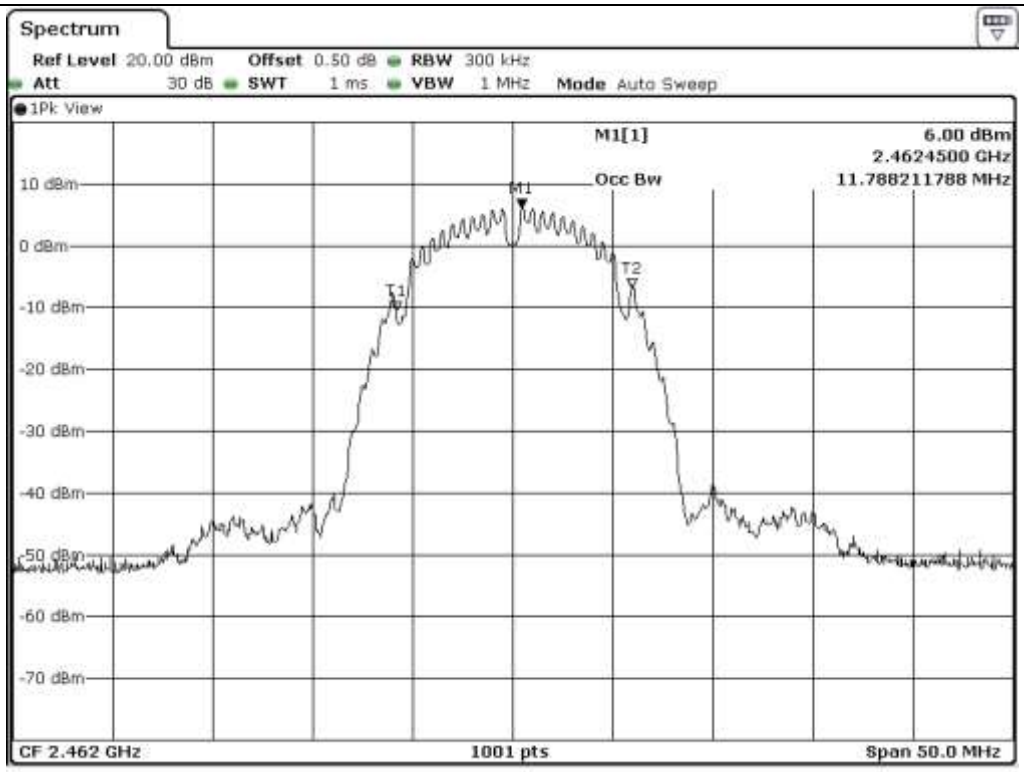
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

8.4.2 Test data for Antenna 1

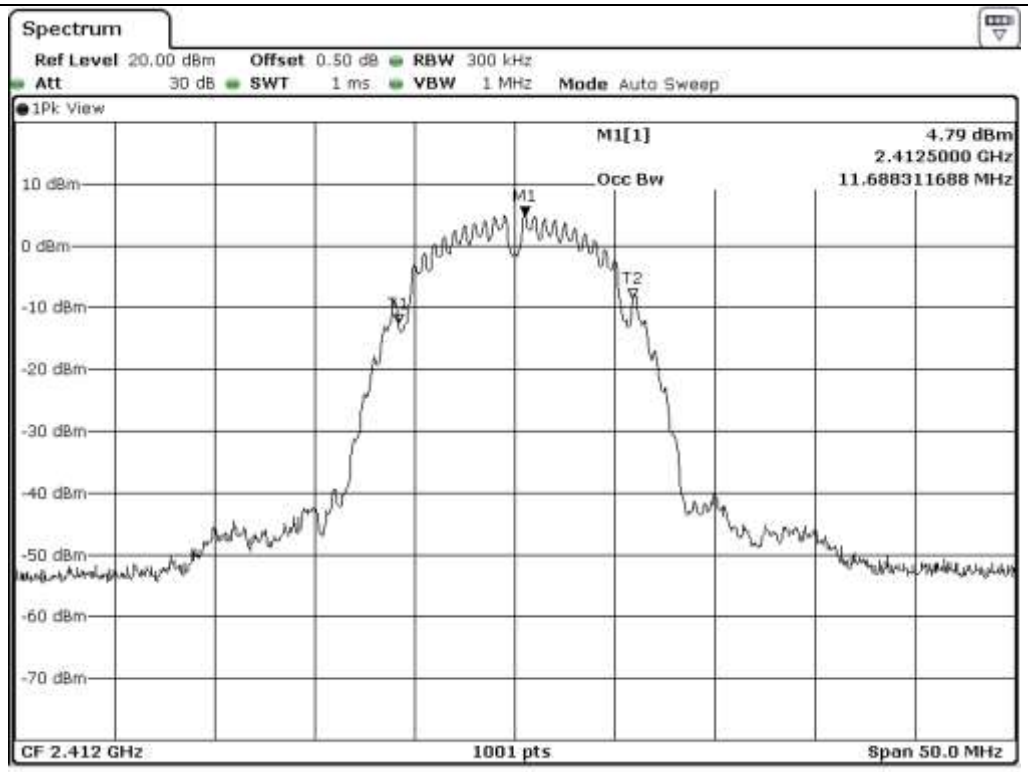
-. Test Date : March 21, 2017

-. Test Result : Pass

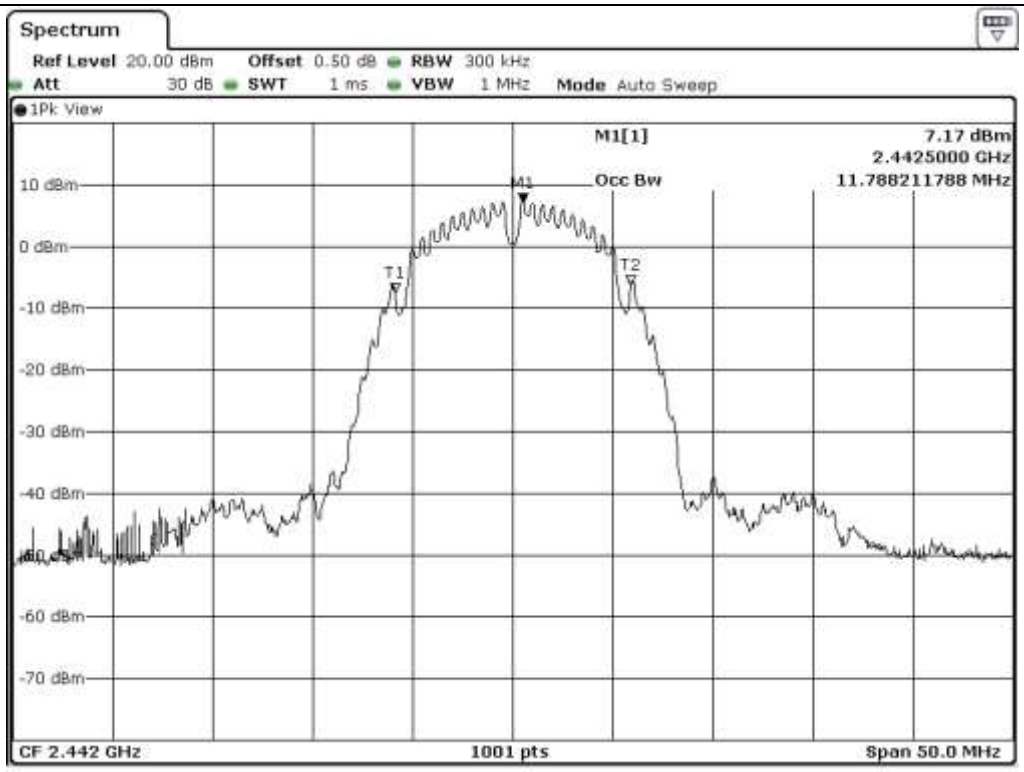
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	11.69	0.50	11.19
Middle	2 442	11.79	0.50	11.29
High	2 462	11.69	0.50	11.19

Remark. Margin = Measured Value - Limit

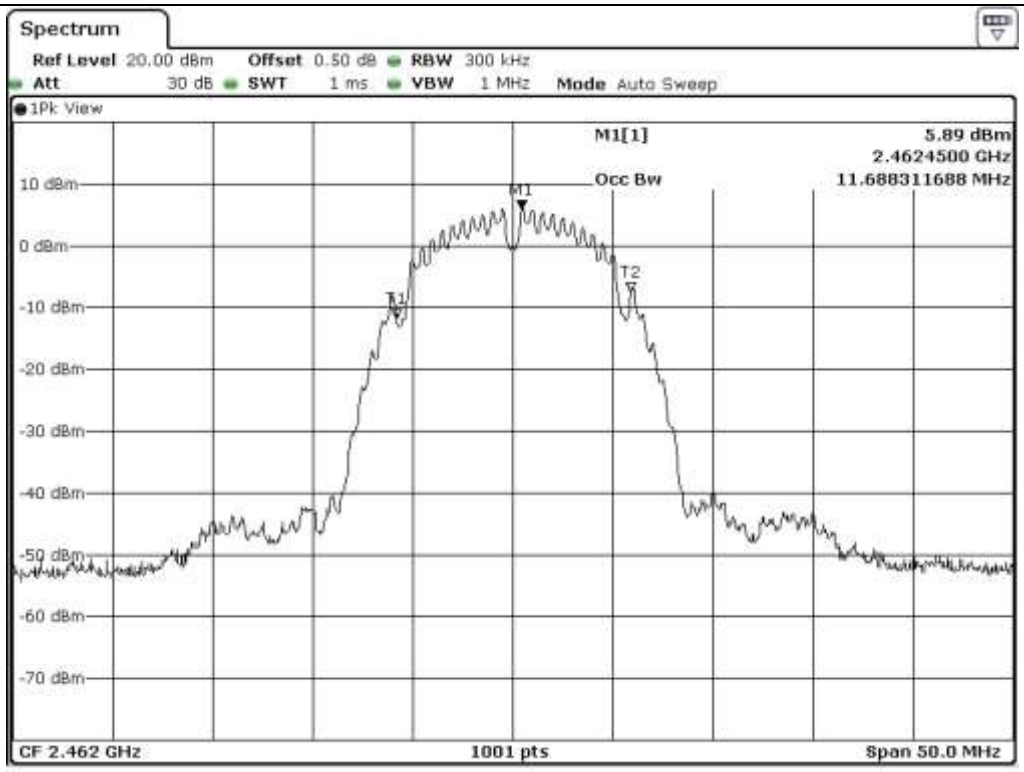
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

8.4.3 Test data for Antenna 2

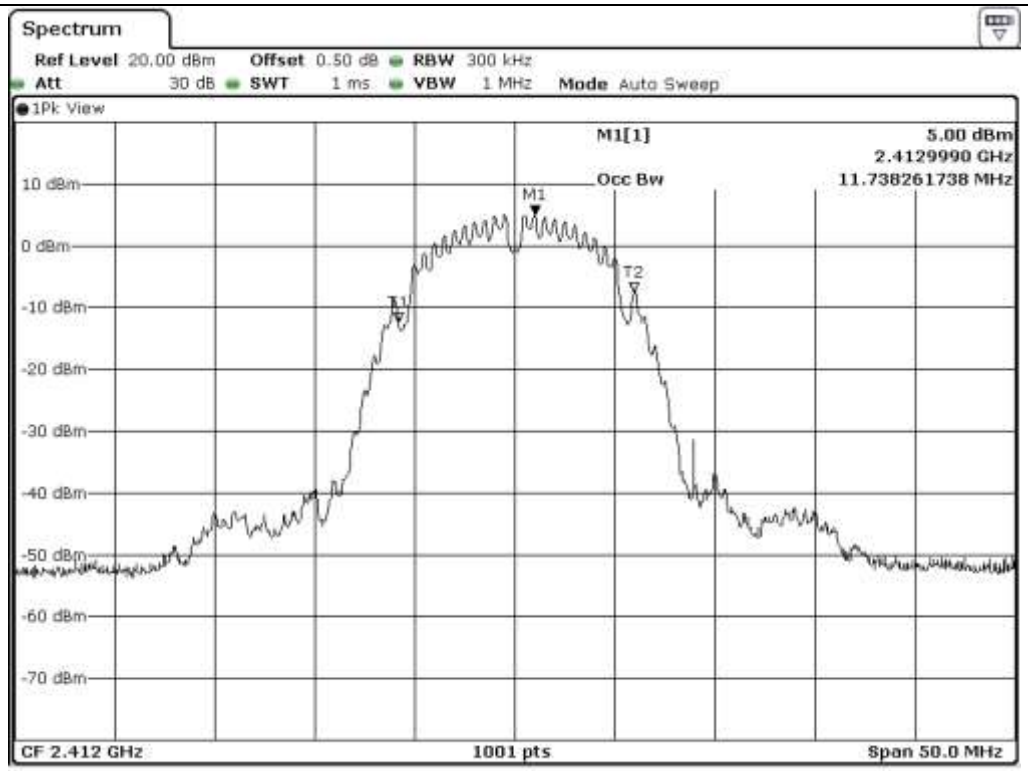
-. Test Date : March 21, 2017

-. Test Result : Pass

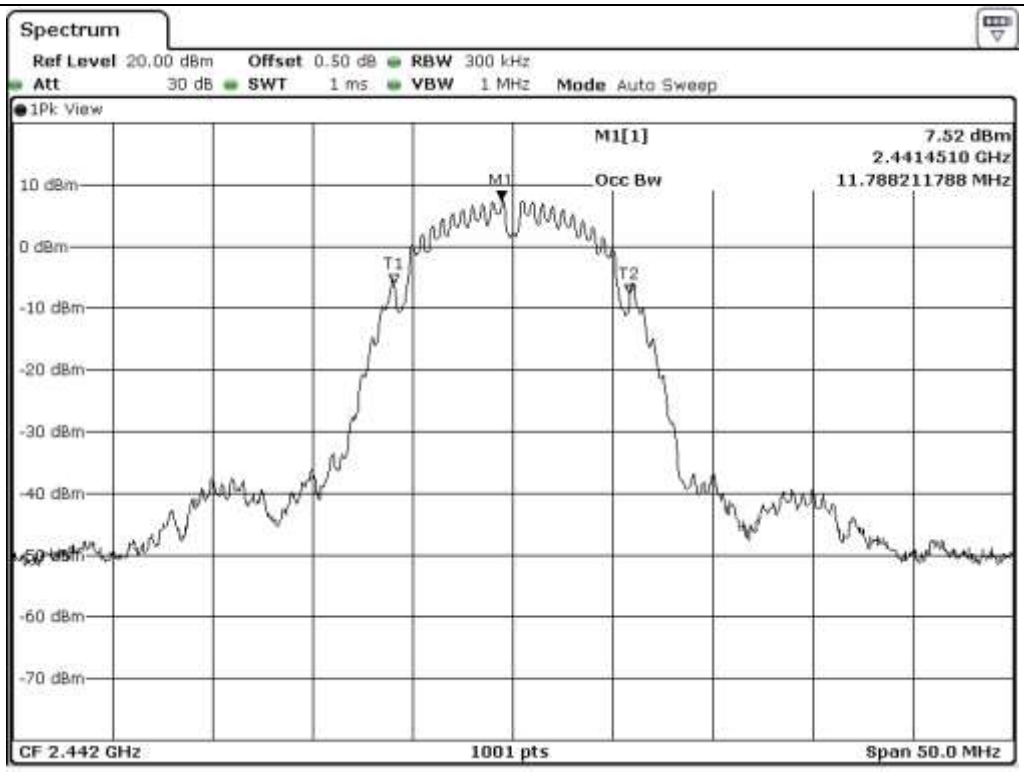
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	11.74	0.50	11.24
Middle	2 442	11.79	0.50	11.29
High	2 462	11.74	0.50	11.24

Remark. Margin = Measured Value - Limit

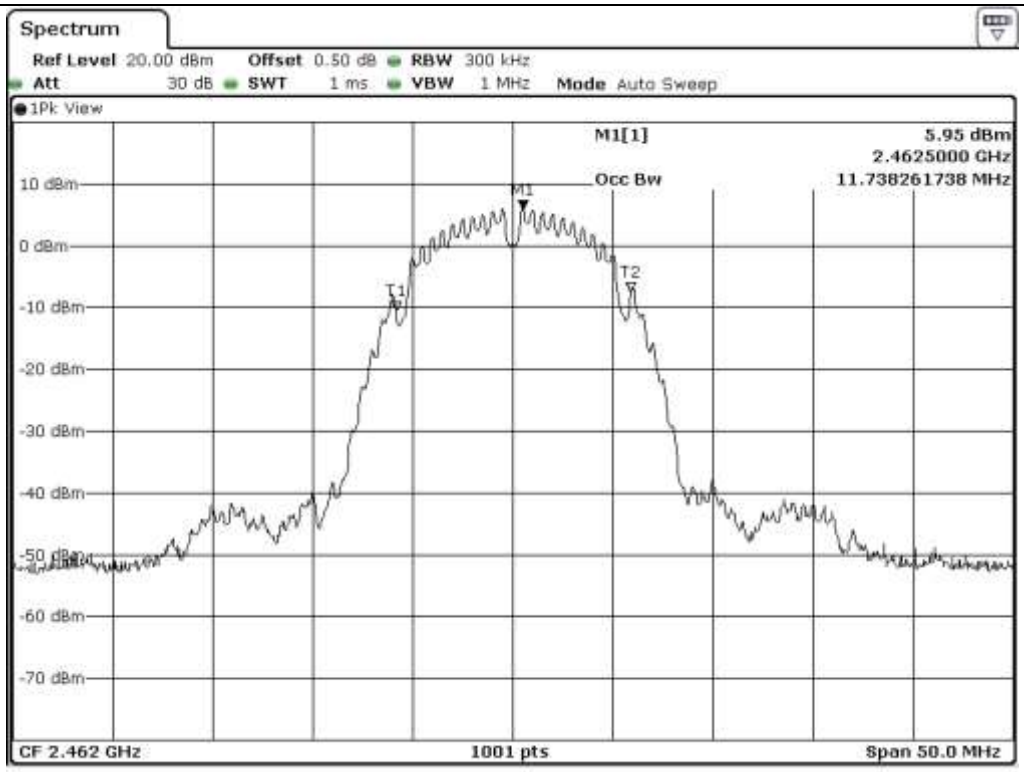
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

8.5 Test data for 802.11g WLAN Mode

8.5.1 Test data for Antenna 0

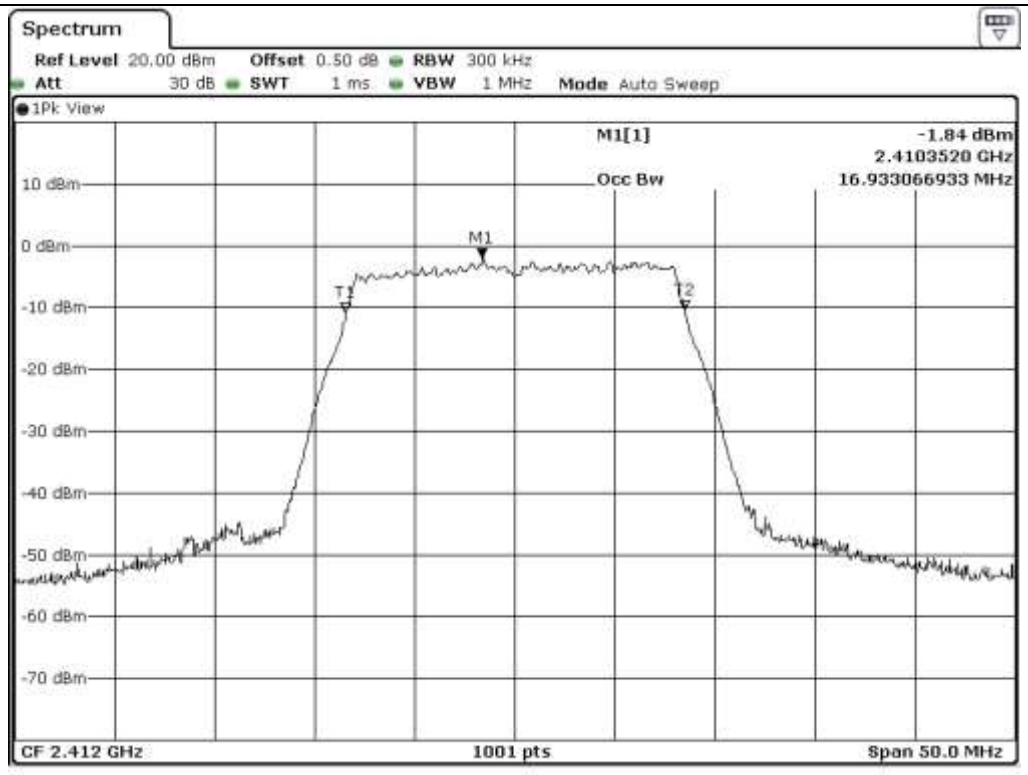
-. Test Date : March 21, 2017

-. Test Result : Pass

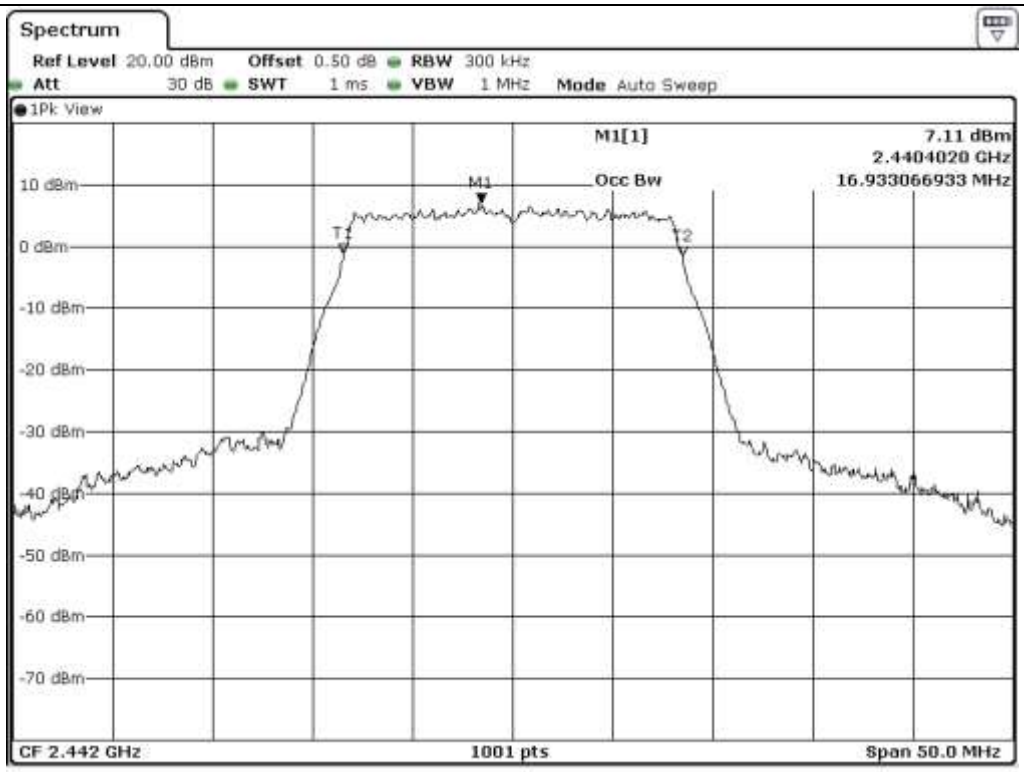
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	16.93	0.50	16.43
Middle	2 442	16.93	0.50	16.43
High	2 462	16.93	0.50	16.43

Remark. Margin = Measured Value - Limit

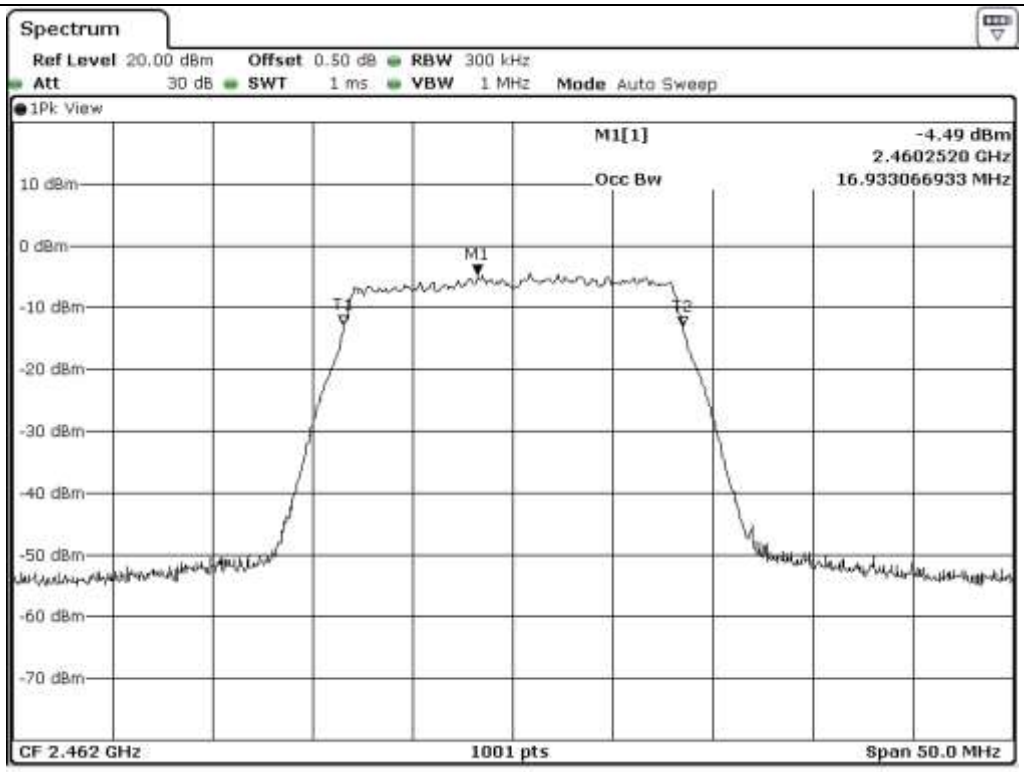
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

8.5.2 Test data for Antenna 1

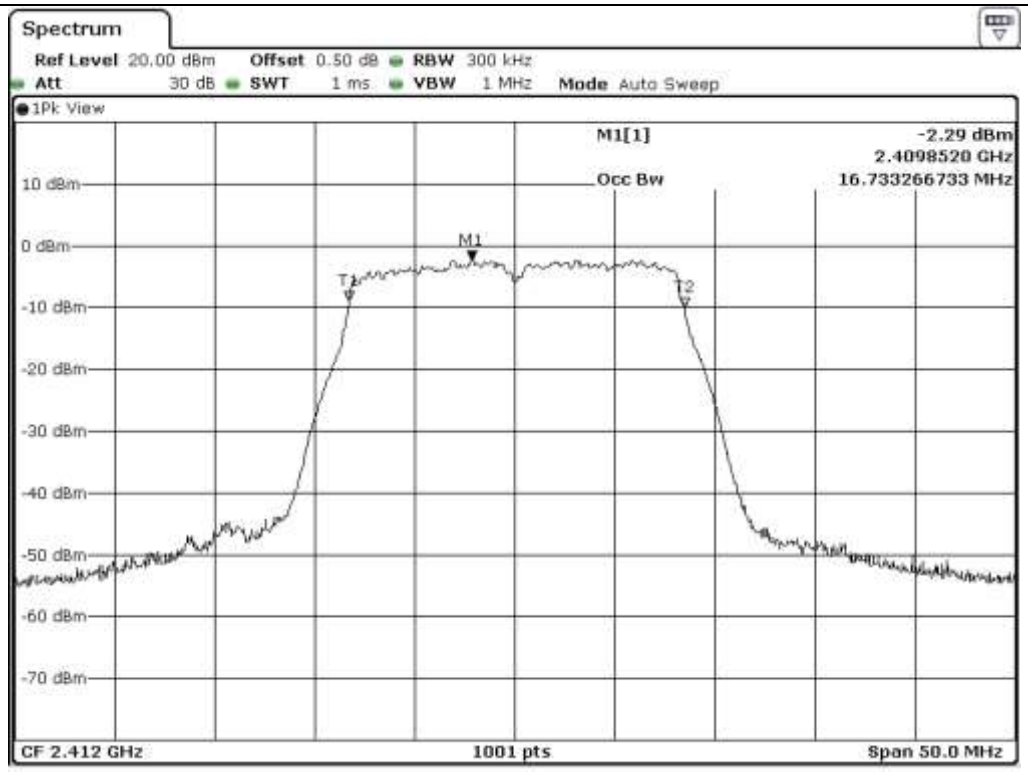
-. Test Date : March 21, 2017

-. Test Result : Pass

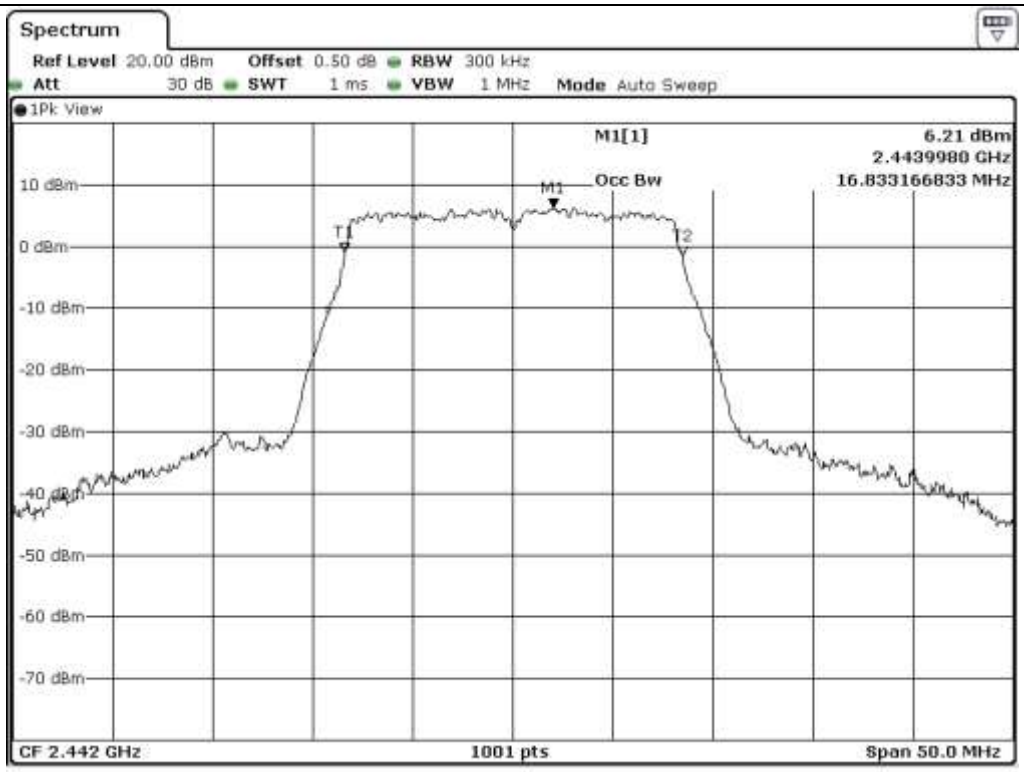
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	16.73	0.50	16.23
Middle	2 442	16.83	0.50	16.33
High	2 462	16.83	0.50	16.33

Remark. Margin = Measured Value - Limit

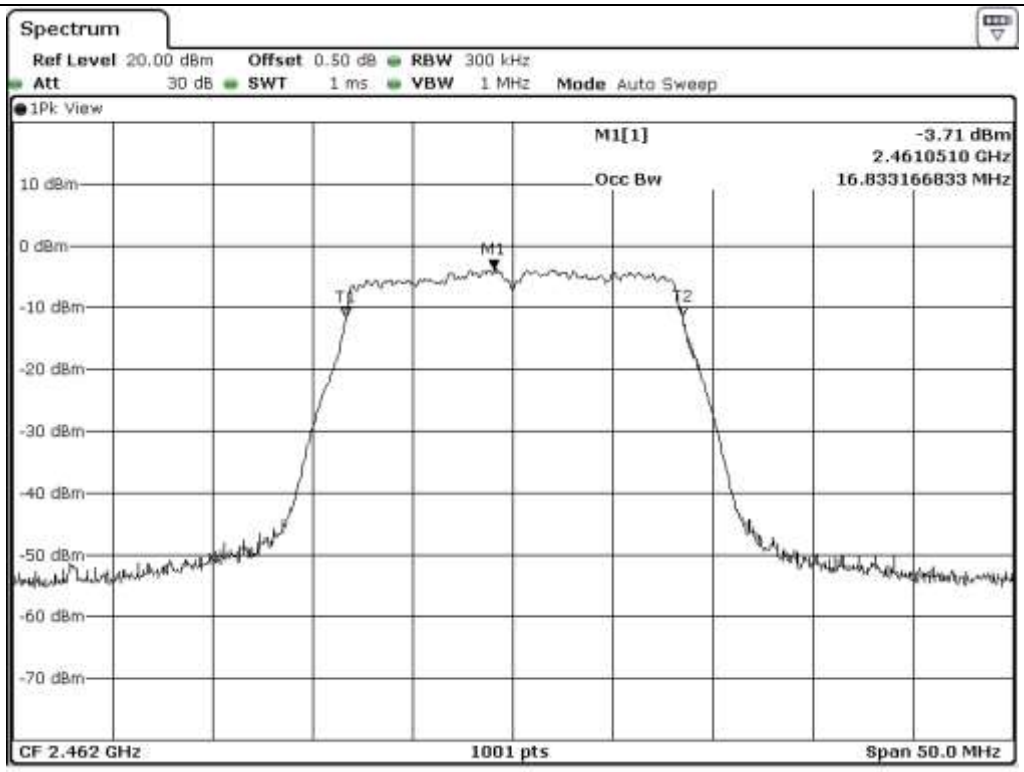
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

8.5.3 Test data for Antenna 2

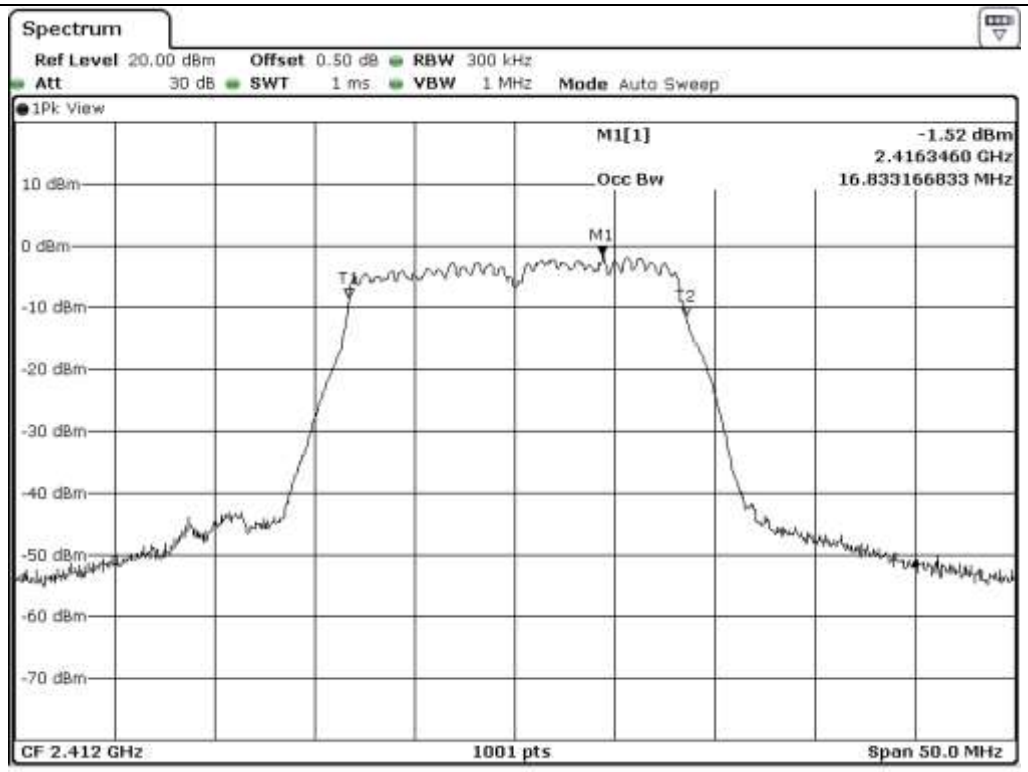
-. Test Date : March 21, 2017

-. Test Result : Pass

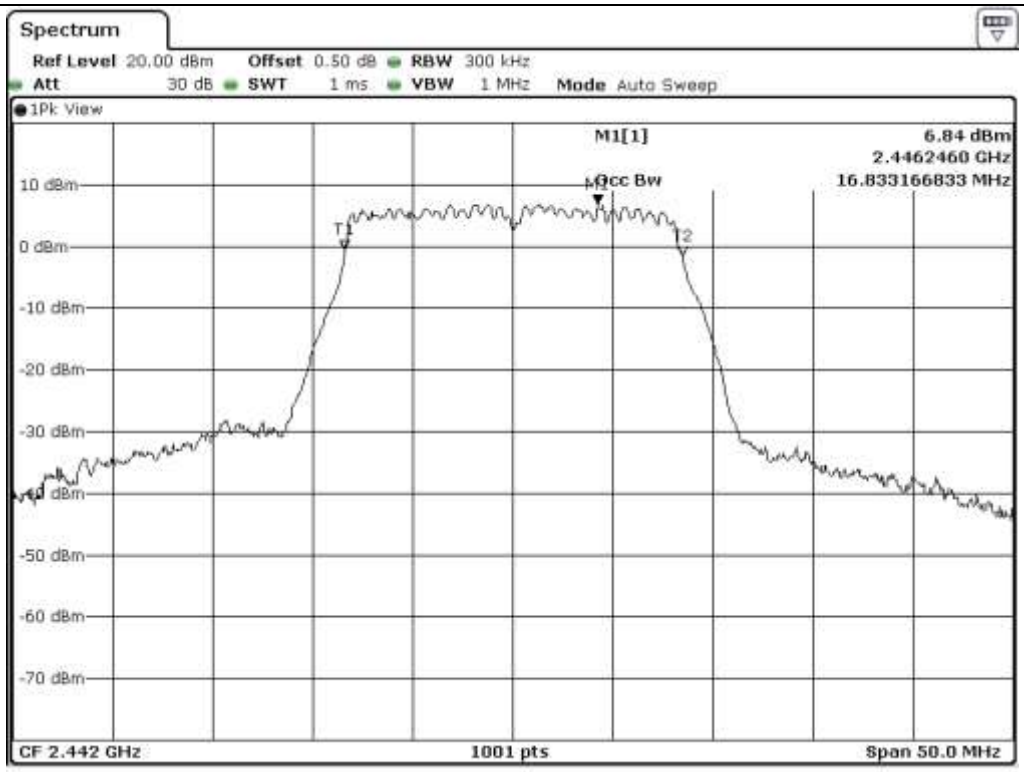
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	16.83	0.50	16.33
Middle	2 442	16.83	0.50	16.33
High	2 462	16.83	0.50	16.33

Remark. Margin = Measured Value - Limit

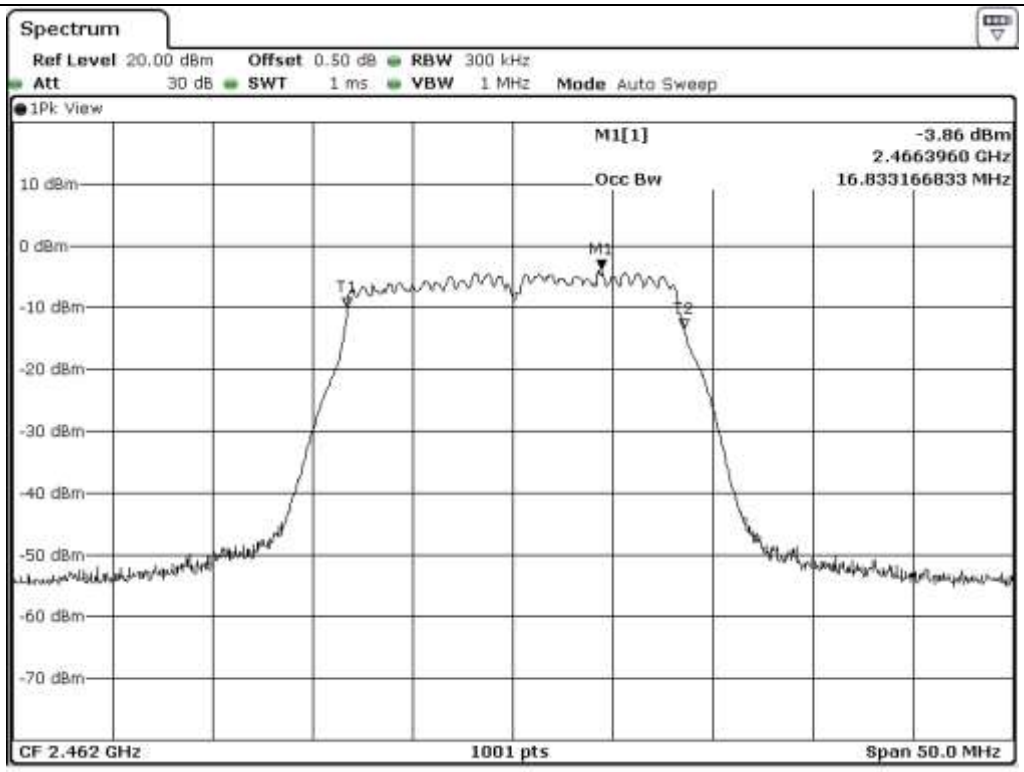
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

8.6 Test data for 802.11n_HT20 WLAN Mode

8.6.1 Test data for Antenna 0

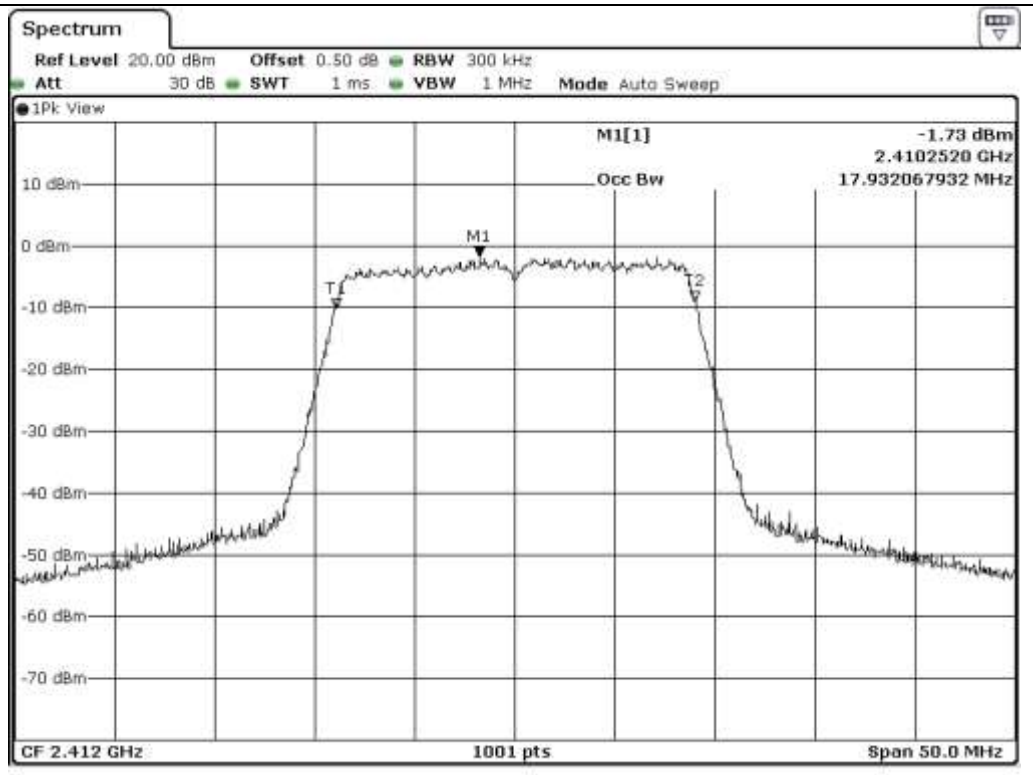
-. Test Date : March 21, 2017

-. Test Result : Pass

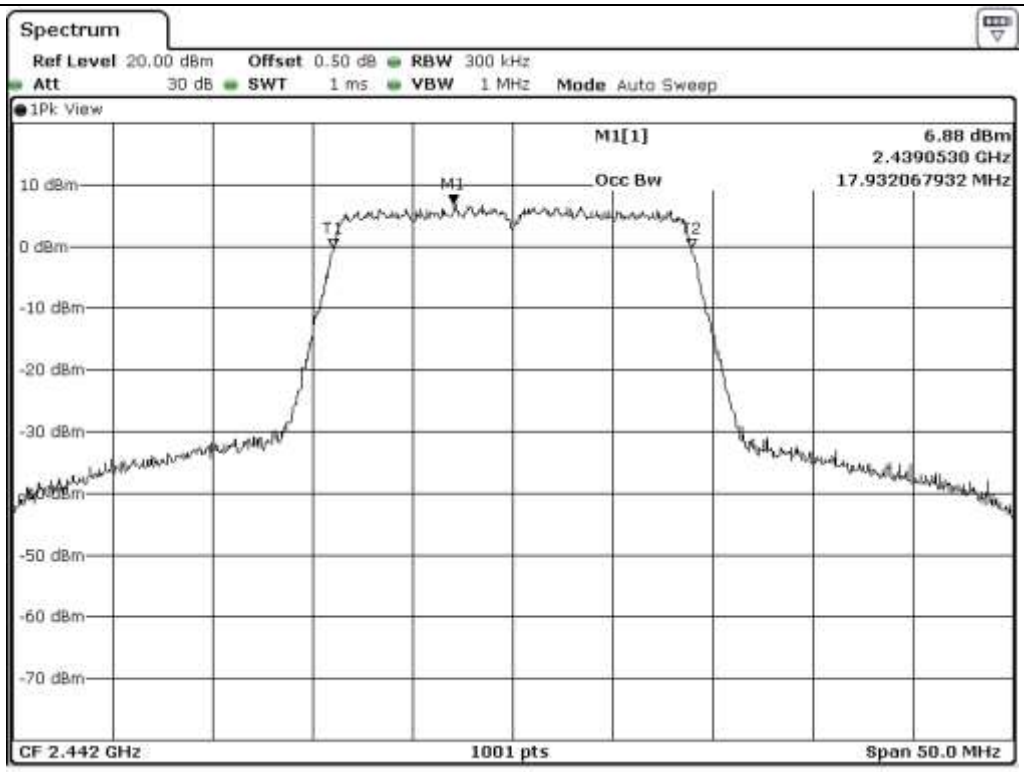
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	17.93	0.50	17.43
Middle	2 442	17.93	0.50	17.43
High	2 462	17.93	0.50	17.43

Remark. Margin = Measured Value - Limit

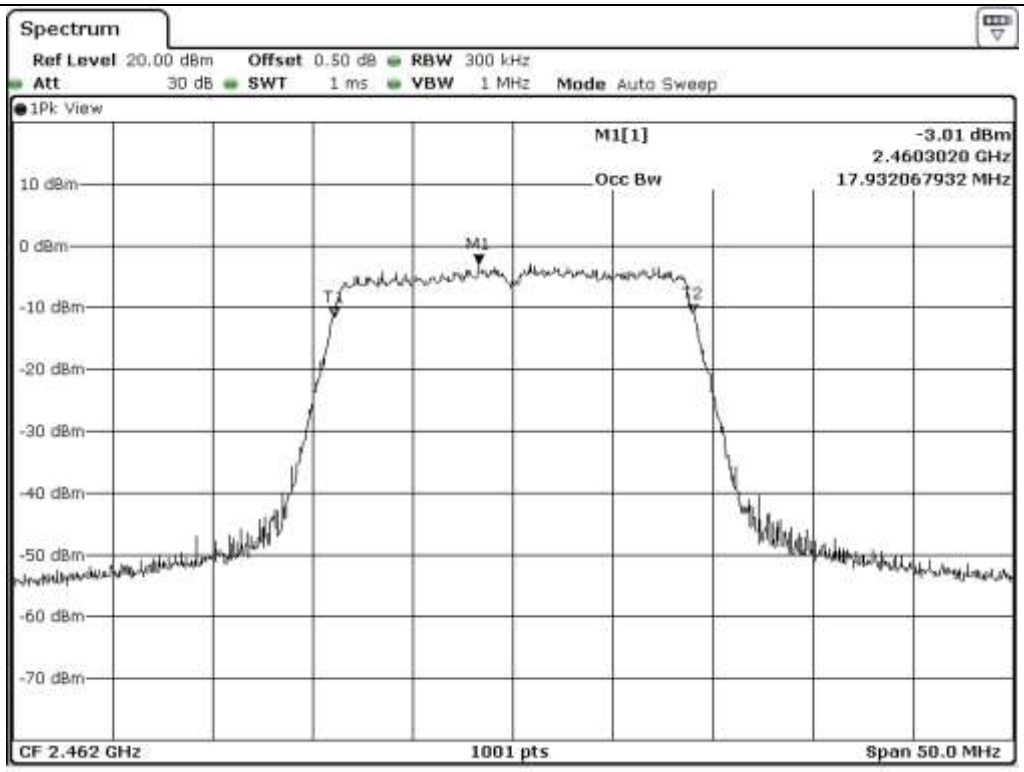
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

8.6.2 Test data for Antenna 1

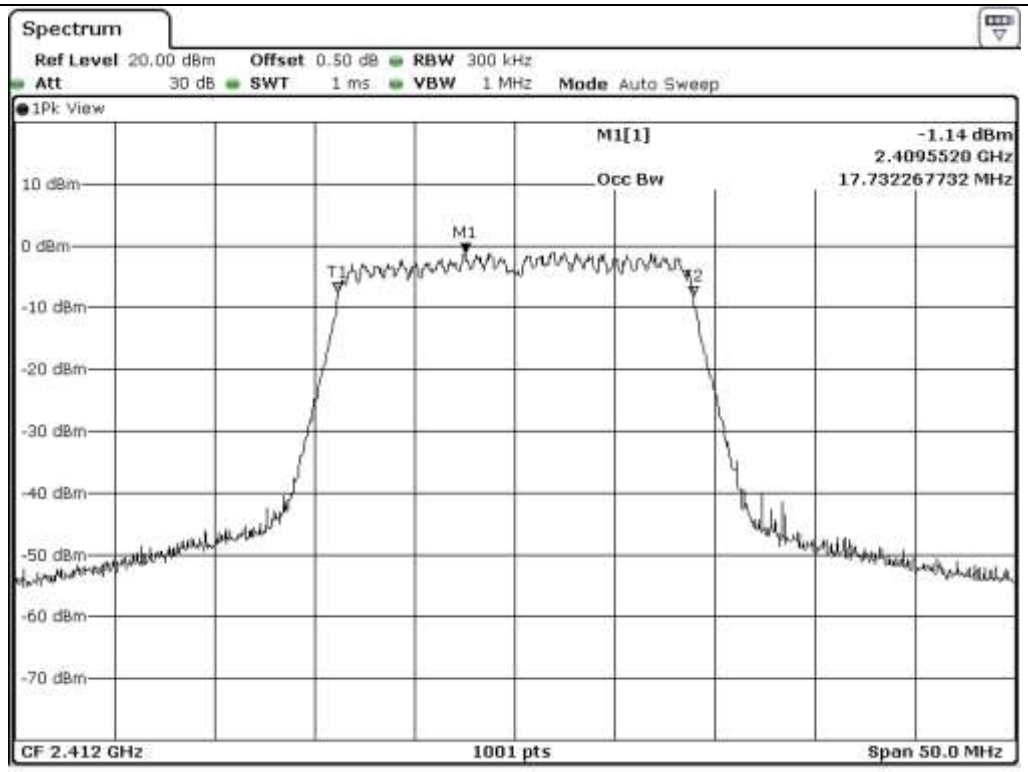
-. Test Date : March 21, 2017

-. Test Result : Pass

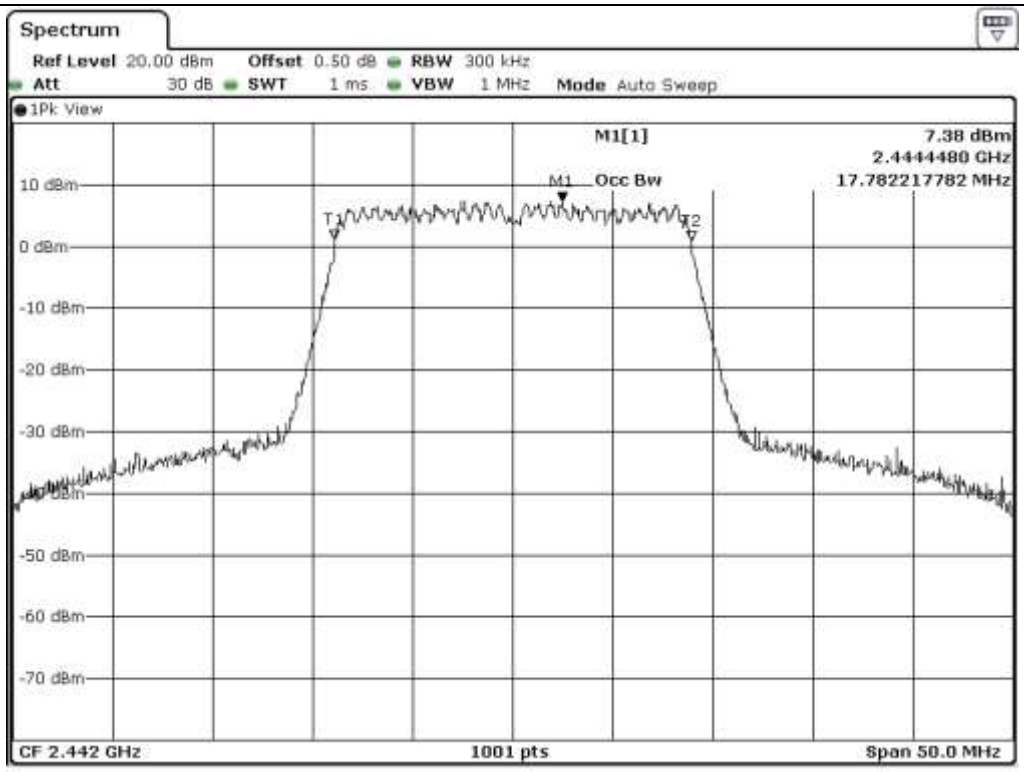
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	17.73	0.50	17.23
Middle	2 442	17.78	0.50	17.28
High	2 462	17.73	0.50	17.23

Remark. Margin = Measured Value - Limit

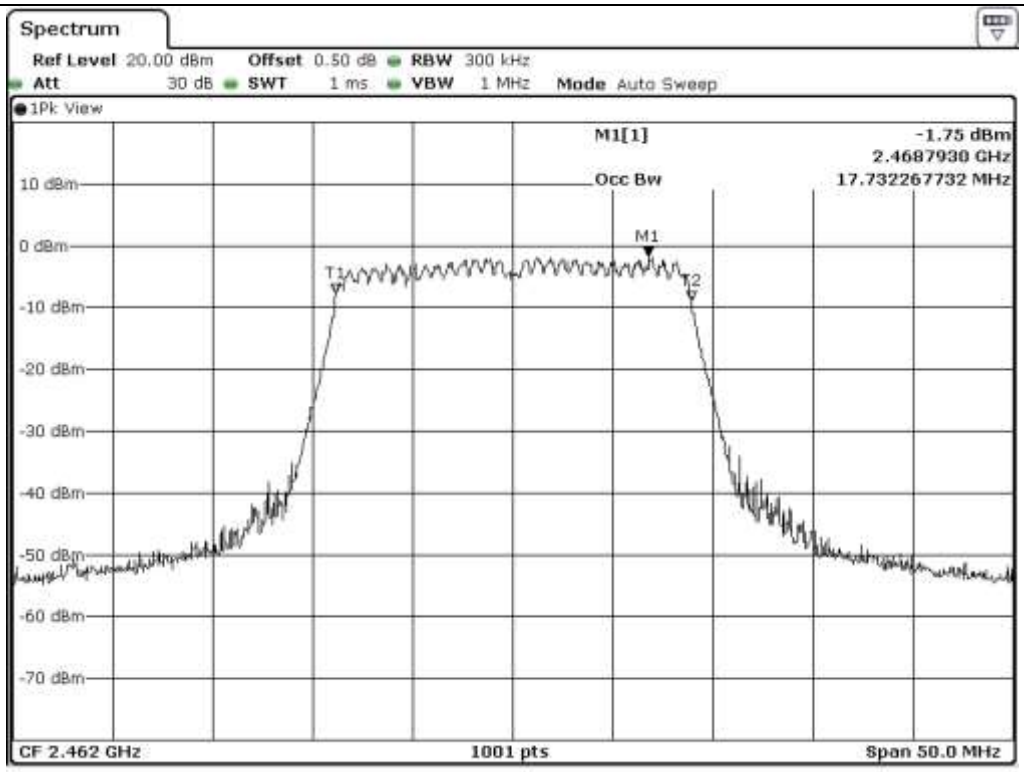
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

8.6.3 Test data for Antenna 2

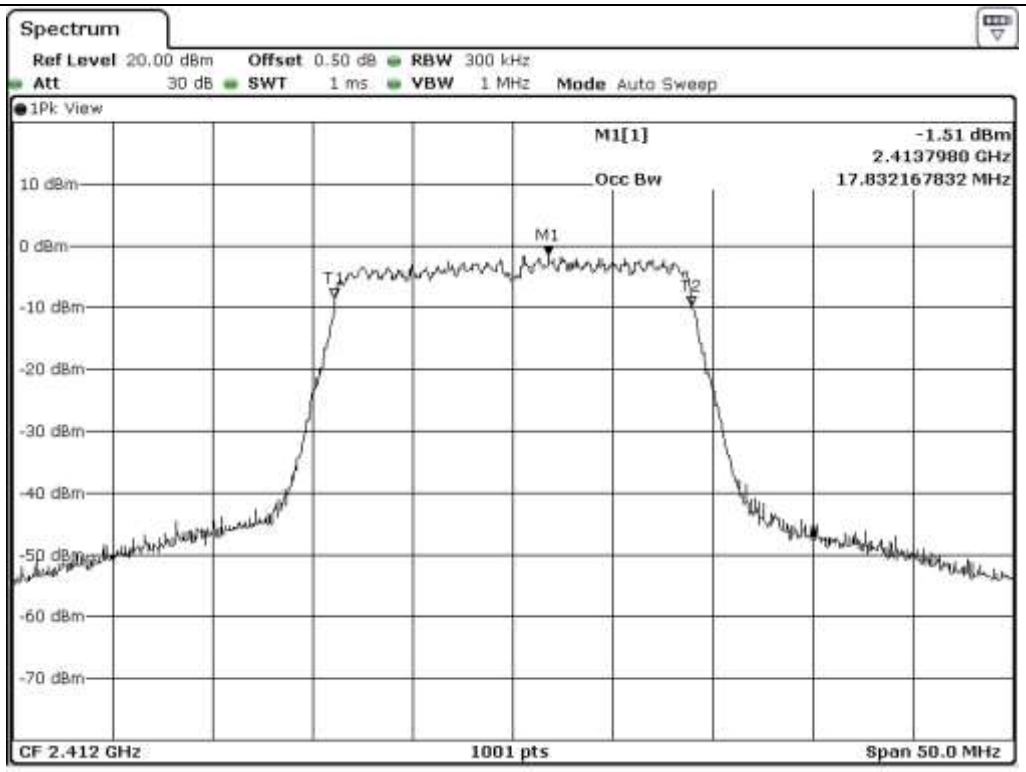
-. Test Date : March 21, 2017

-. Test Result : Pass

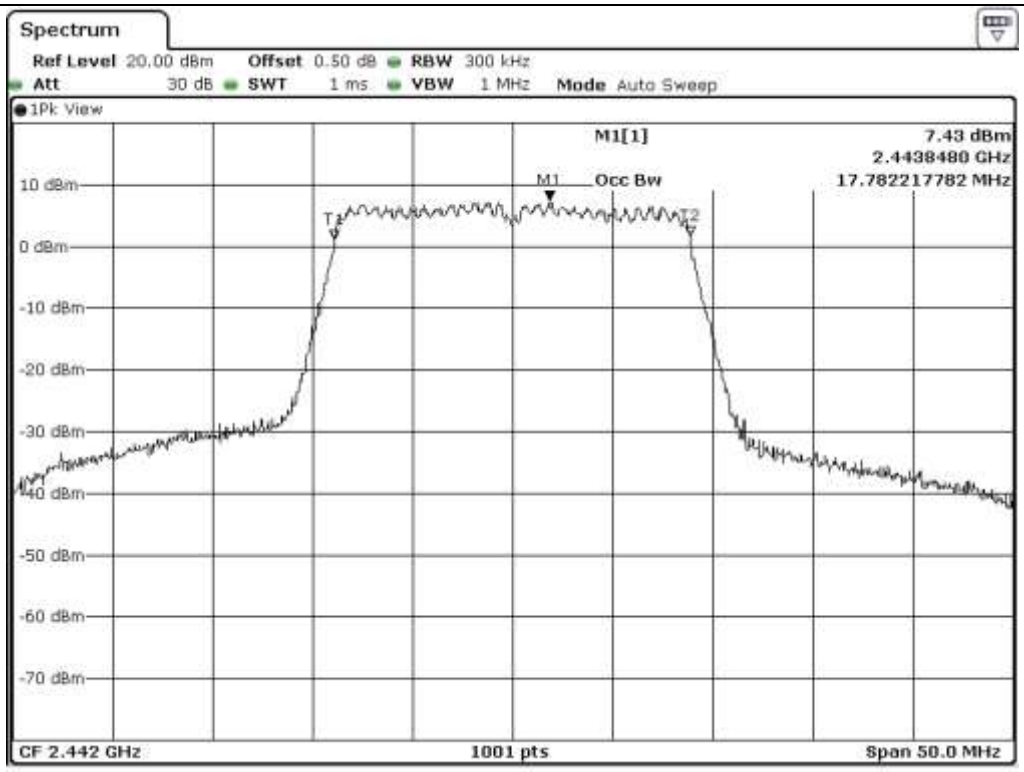
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 412	17.83	0.50	17.33
Middle	2 442	17.78	0.50	17.28
High	2 462	17.83	0.50	17.33

Remark. Margin = Measured Value - Limit

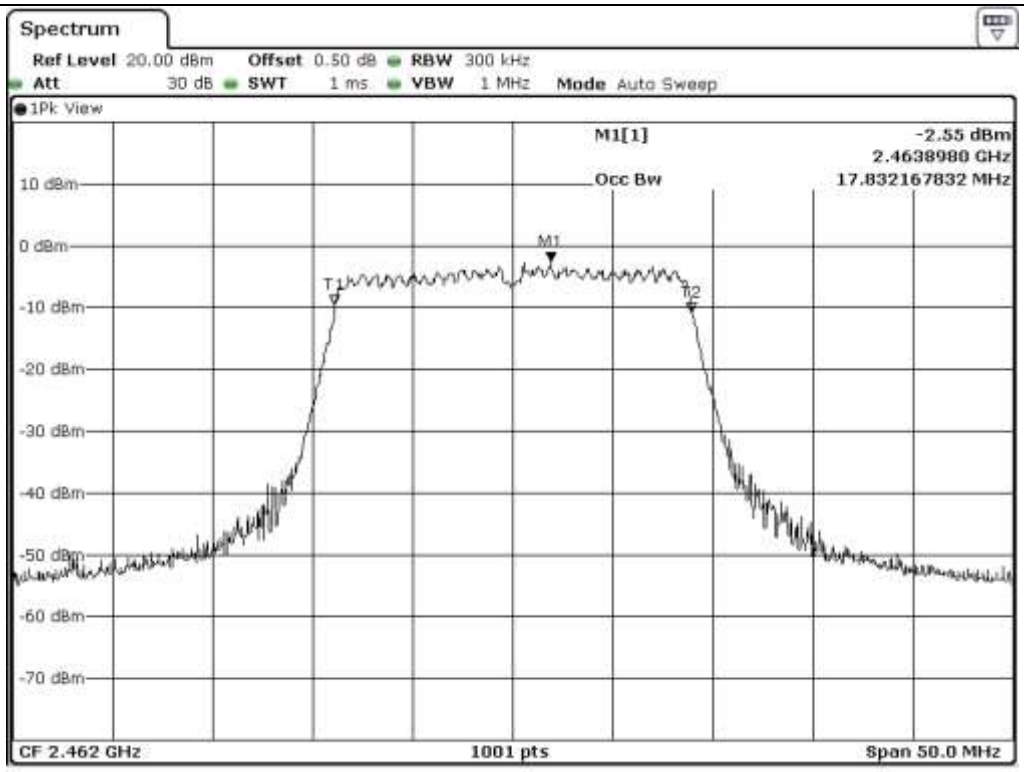
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

8.7 Test data for 802.11n_HT40 WLAN Mode

8.7.1 Test data for Antenna 0

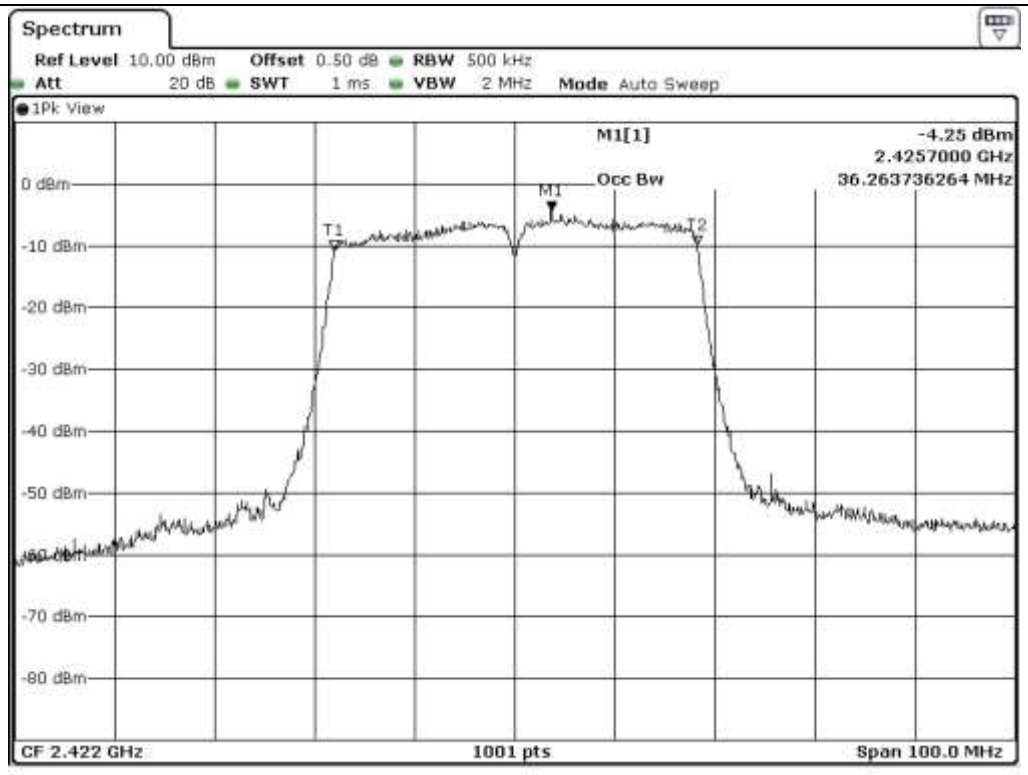
-. Test Date : March 21, 2017

-. Test Result : Pass

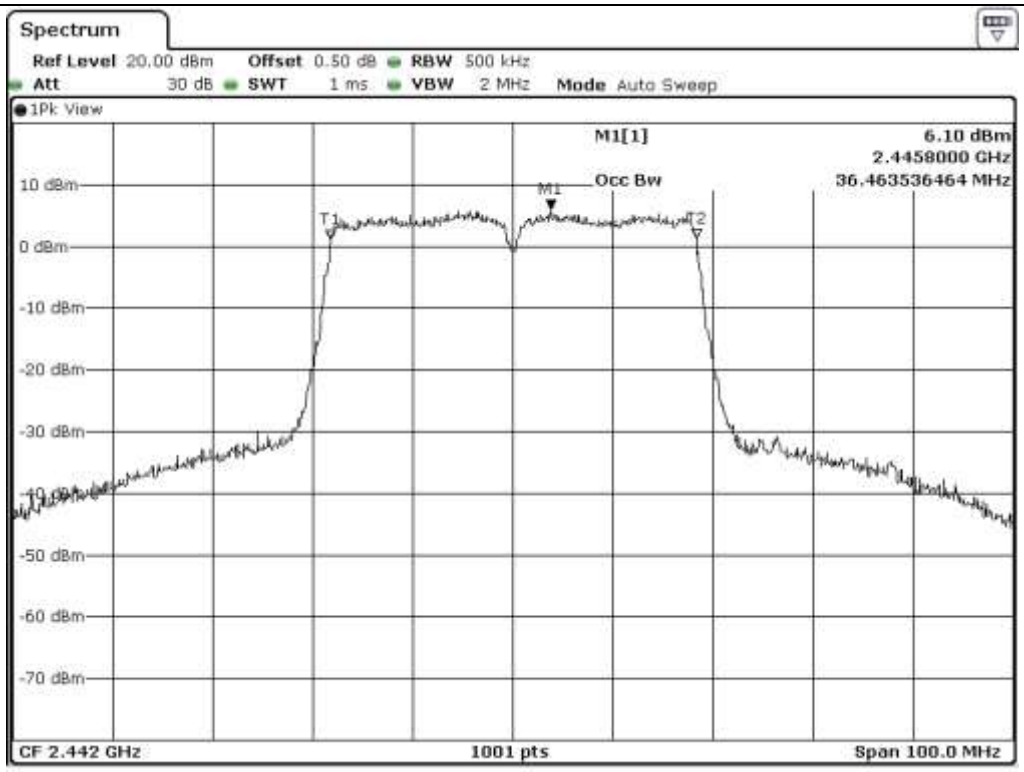
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 422	36.26	0.50	35.76
Middle	2 442	36.46	0.50	35.96
High	2 452	36.46	0.50	35.96

Remark. Margin = Measured Value - Limit

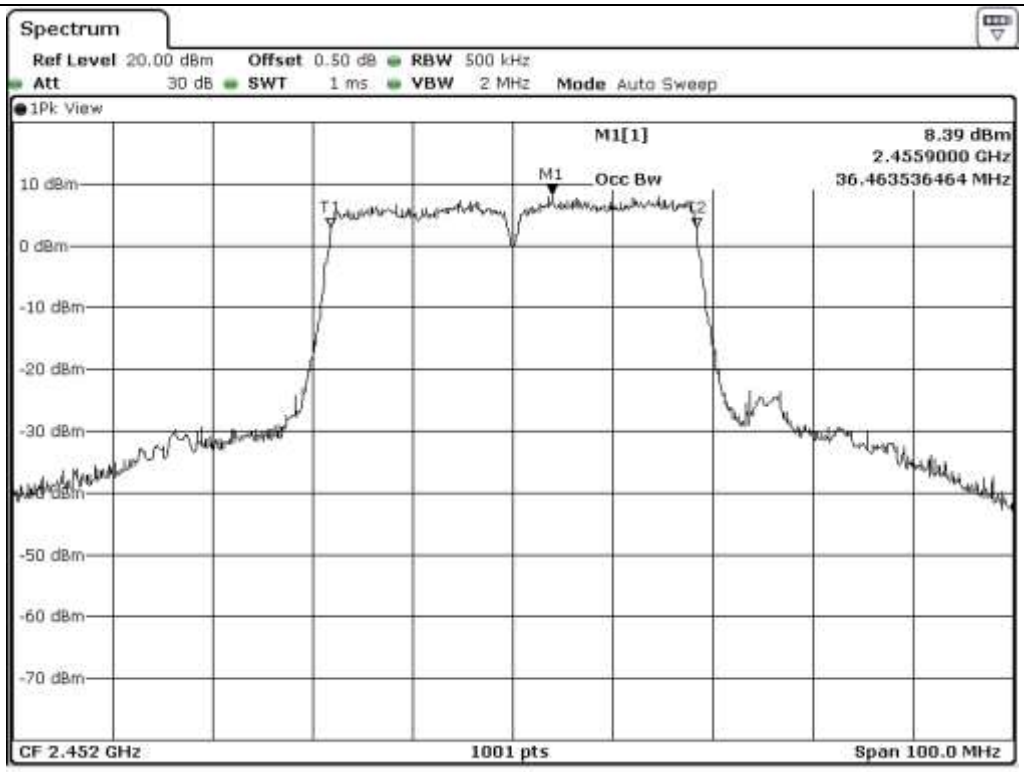
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

8.7.2 Test data for Antenna 1

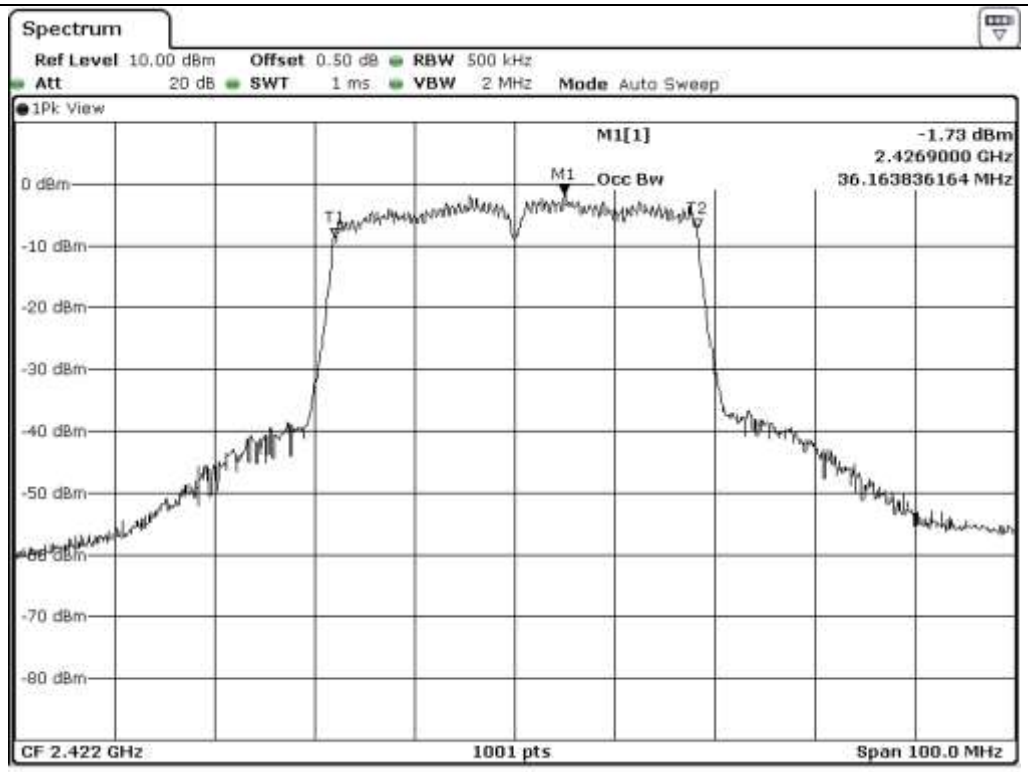
-. Test Date : March 21, 2017

-. Test Result : Pass

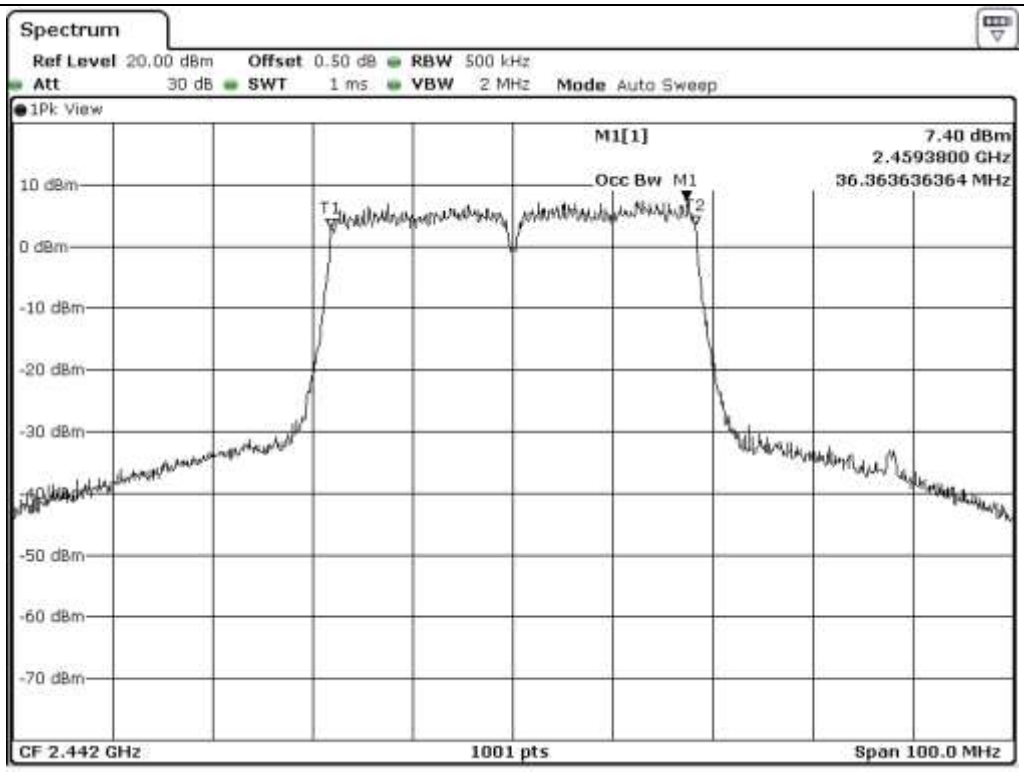
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 422	36.16	0.50	35.66
Middle	2 442	36.36	0.50	35.86
High	2 452	36.36	0.50	35.86

Remark. Margin = Measured Value - Limit

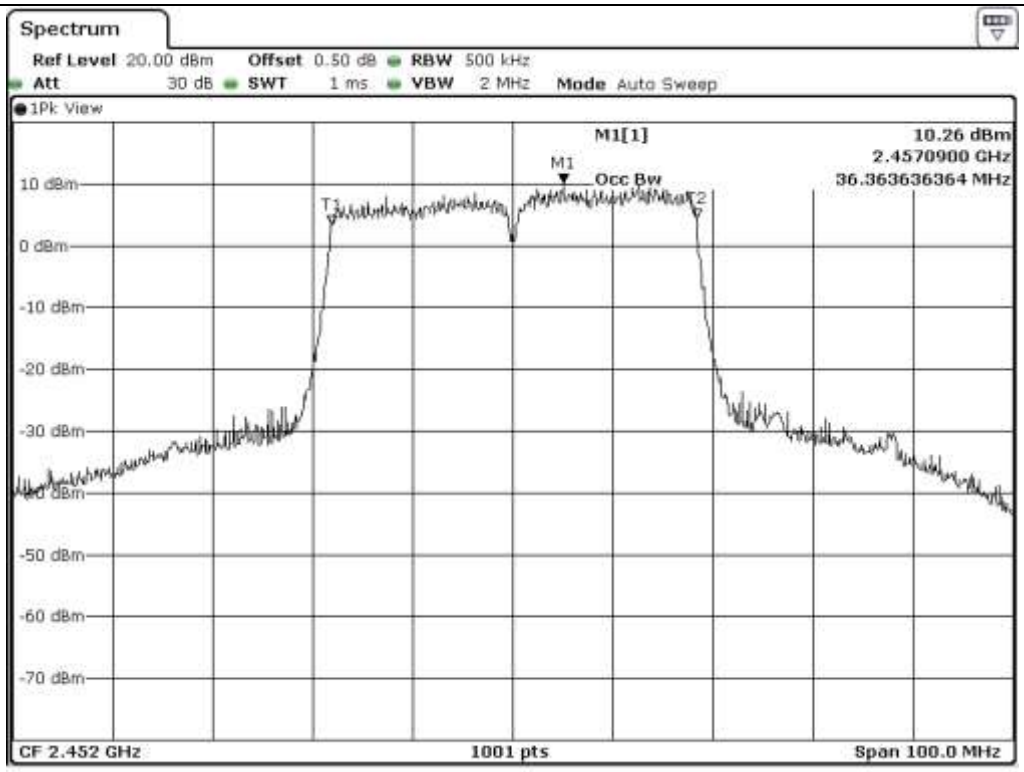
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

8.7.3 Test data for Antenna 2

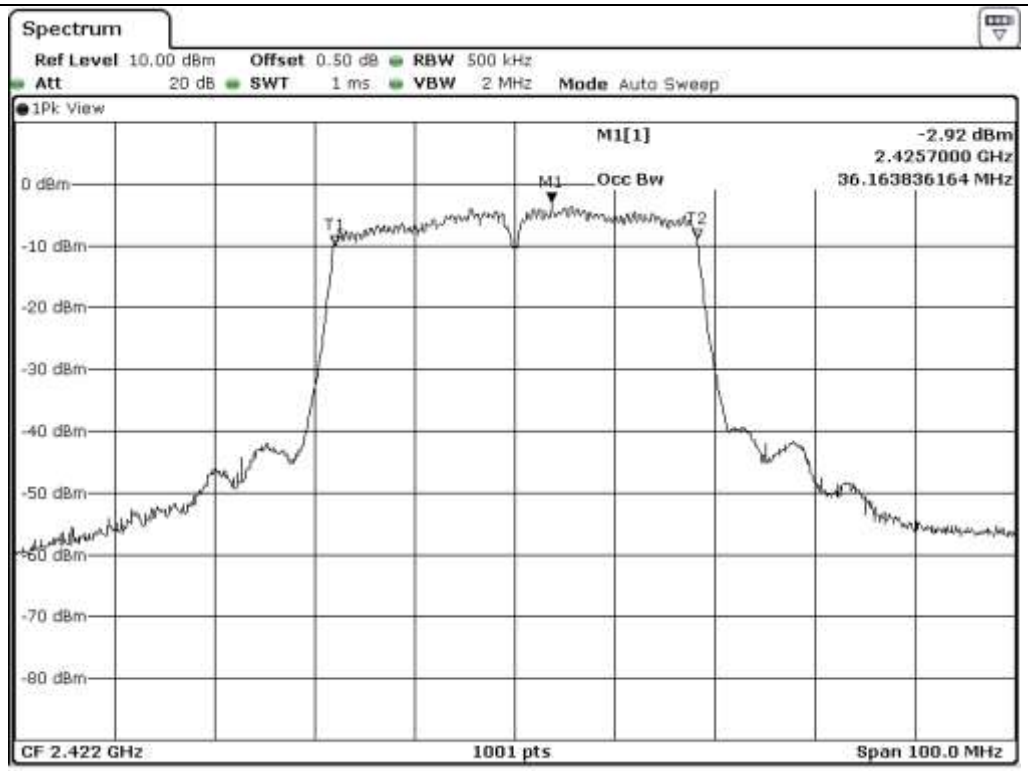
-. Test Date : March 21, 2017

-. Test Result : Pass

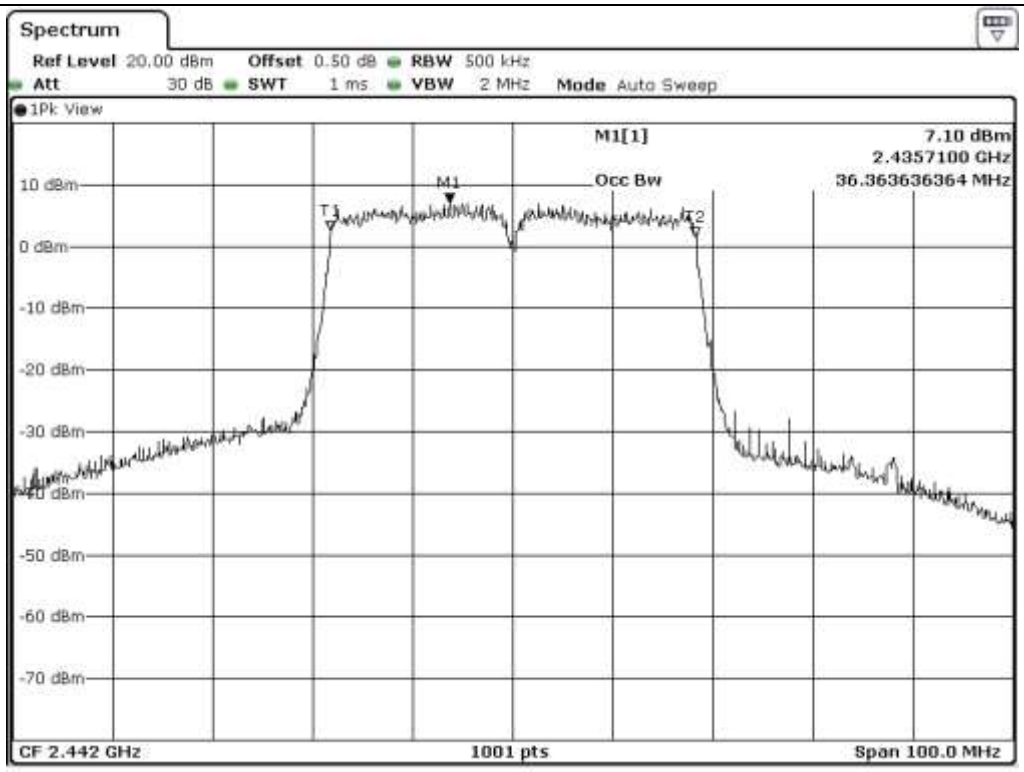
CHANNEL	FREQUENCY(MHz)	MEASURED VALUE (MHz)	LIMIT (MHz)	MARGIN (MHz)
Low	2 422	36.16	0.50	35.66
Middle	2 442	36.36	0.50	35.86
High	2 452	36.36	0.50	35.86

Remark. Margin = Measured Value - Limit

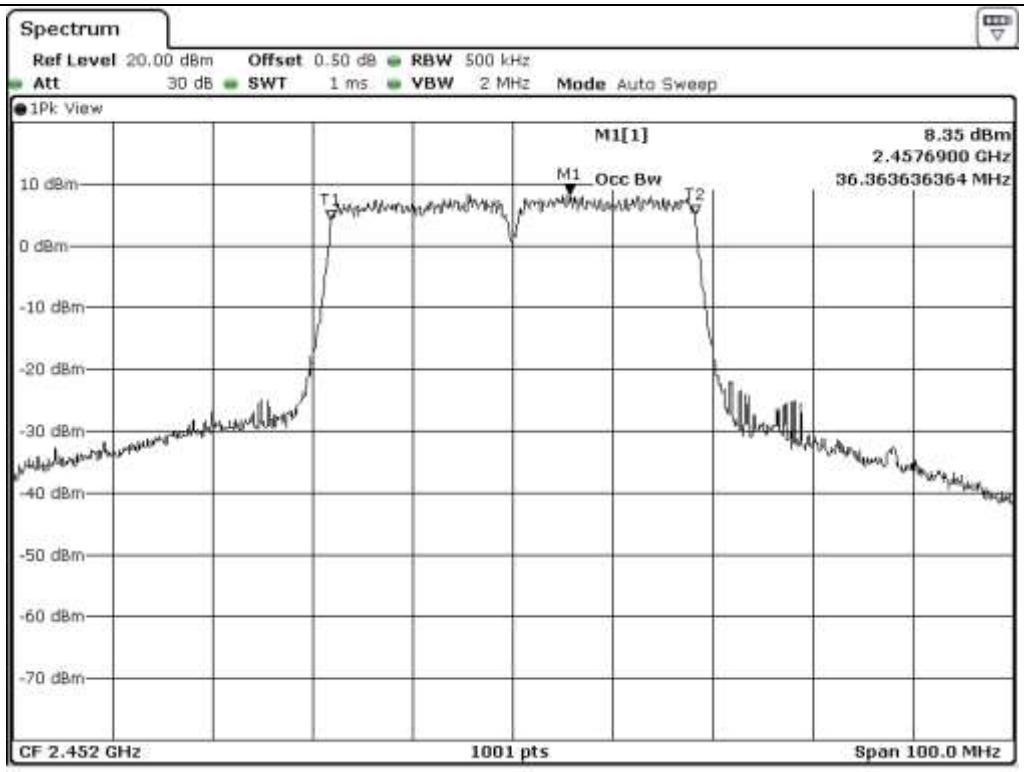
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9. MAXIMUM PEAK OUTPUT POWER

9.1 Operating environment

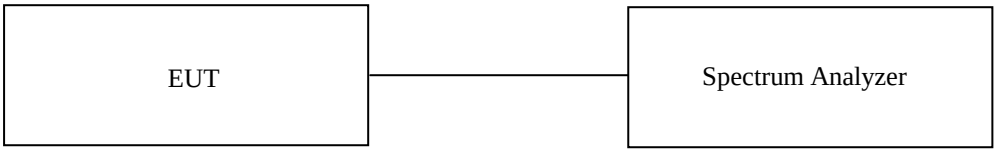
Temperature : 23 ℃

Relative humidity : 41 % R.H.

9.2 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 9.2.2(KDB 558074 D01 DTS Meas Guidance V04).

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



9.3 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)

9.4 Test data for 802.11b WLAN Mode

9.4.1 Test data for Antenna 0

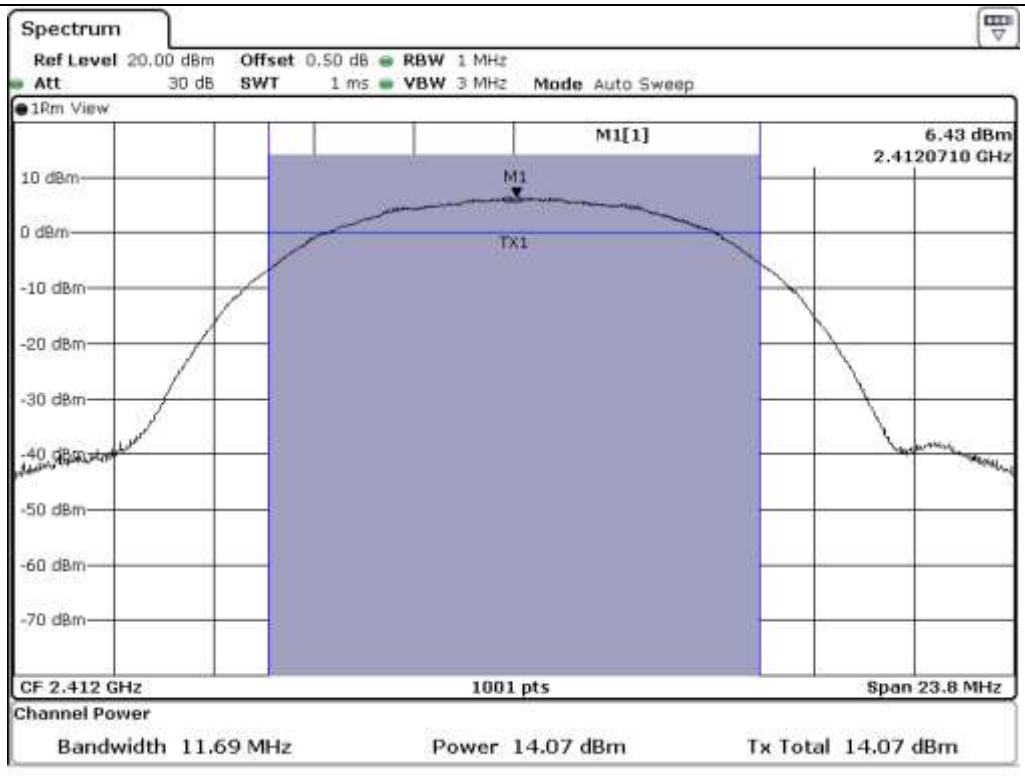
-. Test Date : March 21, 2017

-. Test Result : Pass

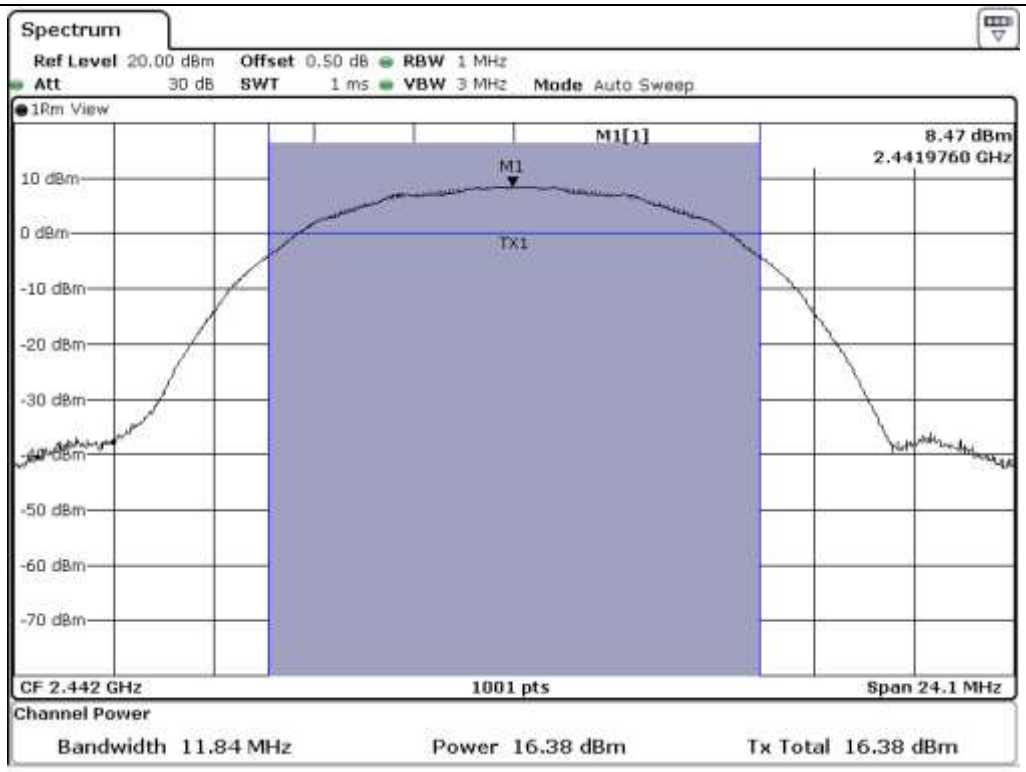
CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	11.69	14.07	30.00	15.93
MIDDLE	2 442.00	11.84	16.38	30.00	13.62
HIGH	2 462.00	11.79	15.09	30.00	14.91

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

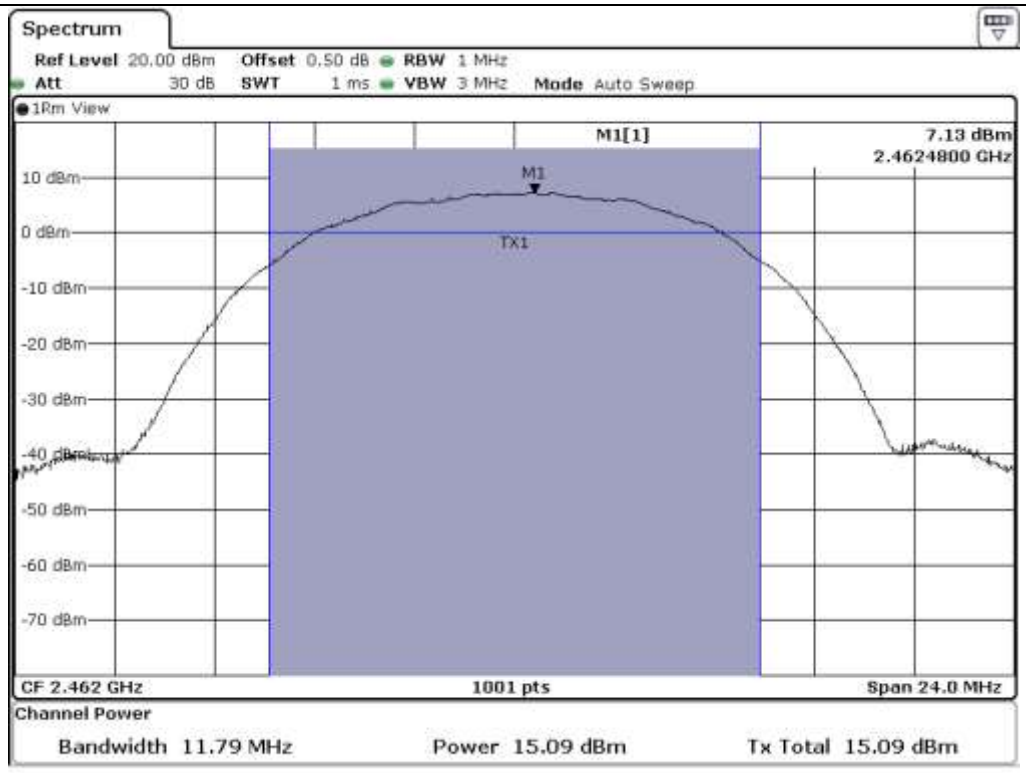
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9.4.2 Test data for Antenna 1

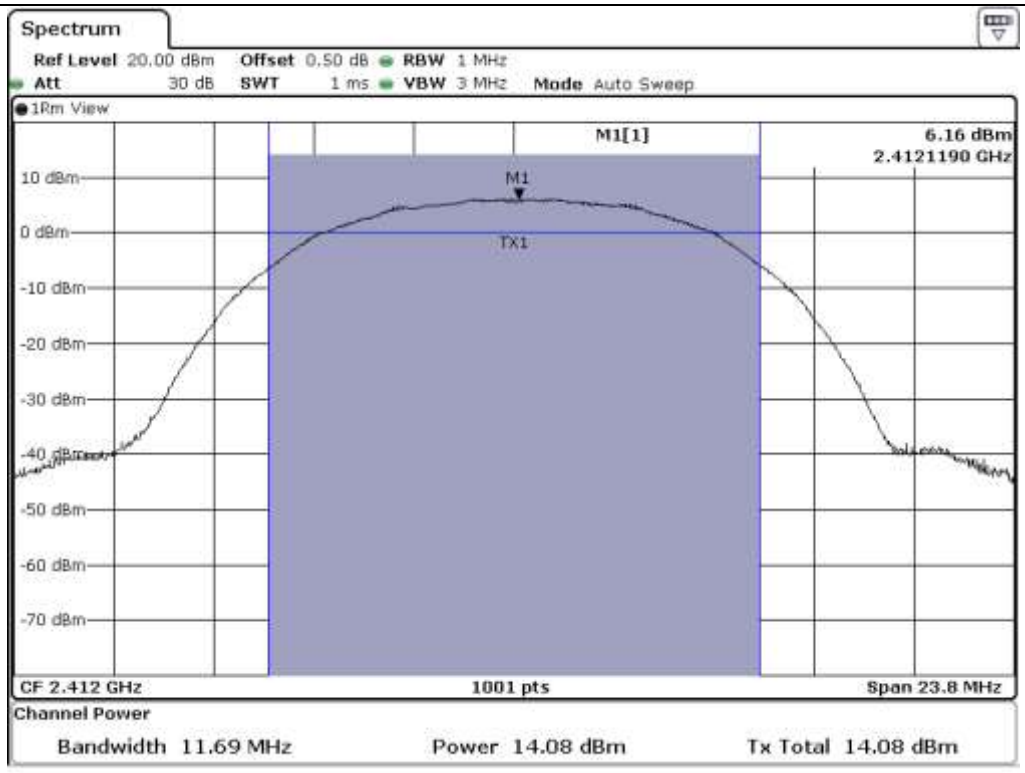
-. Test Date : March 21, 2017

-. Test Result : Pass

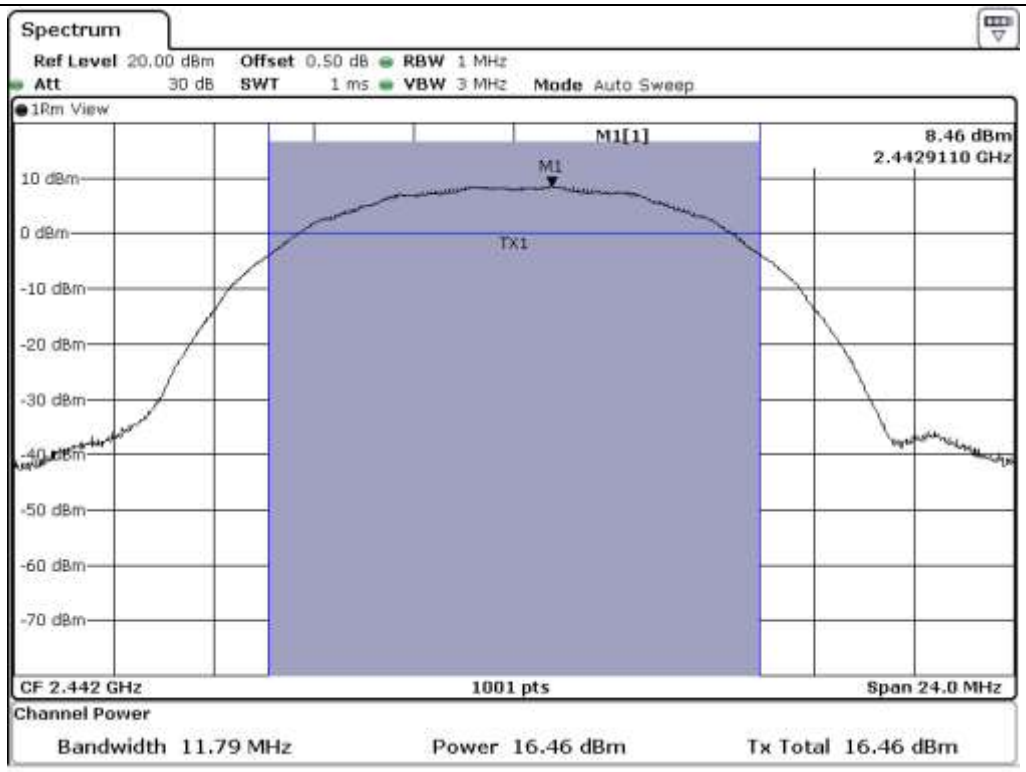
CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	11.69	14.08	30.00	15.92
MIDDLE	2 442.00	11.79	16.46	30.00	13.54
HIGH	2 462.00	11.69	14.90	30.00	15.10

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

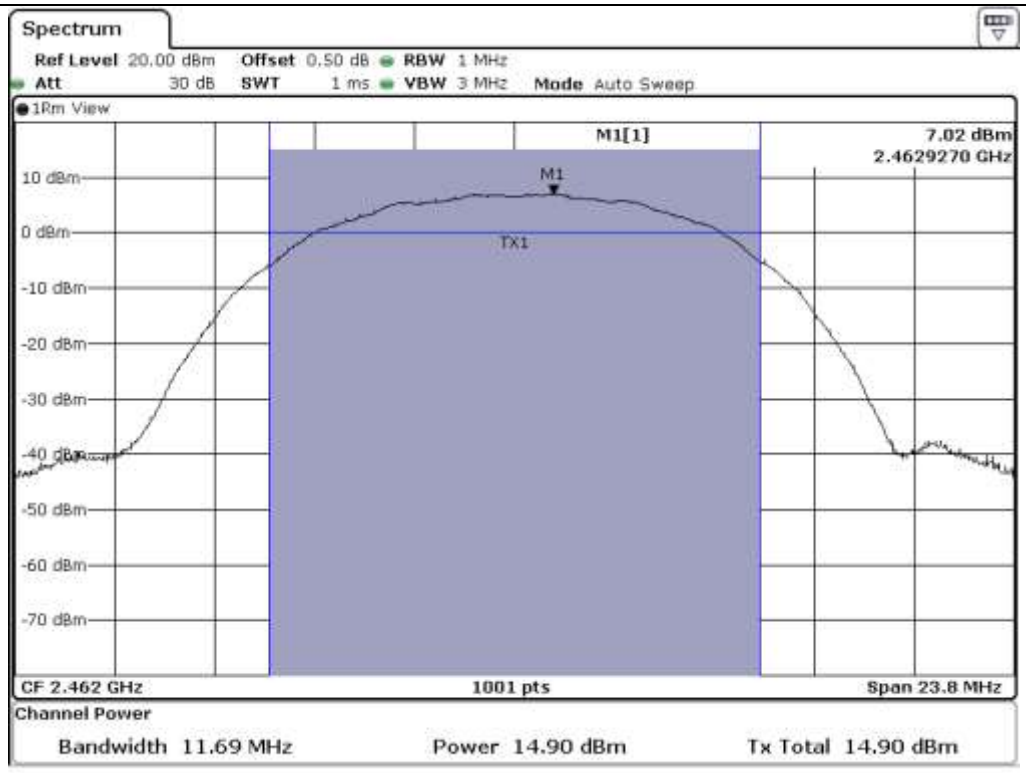
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9.4.3 Test data for Antenna 2

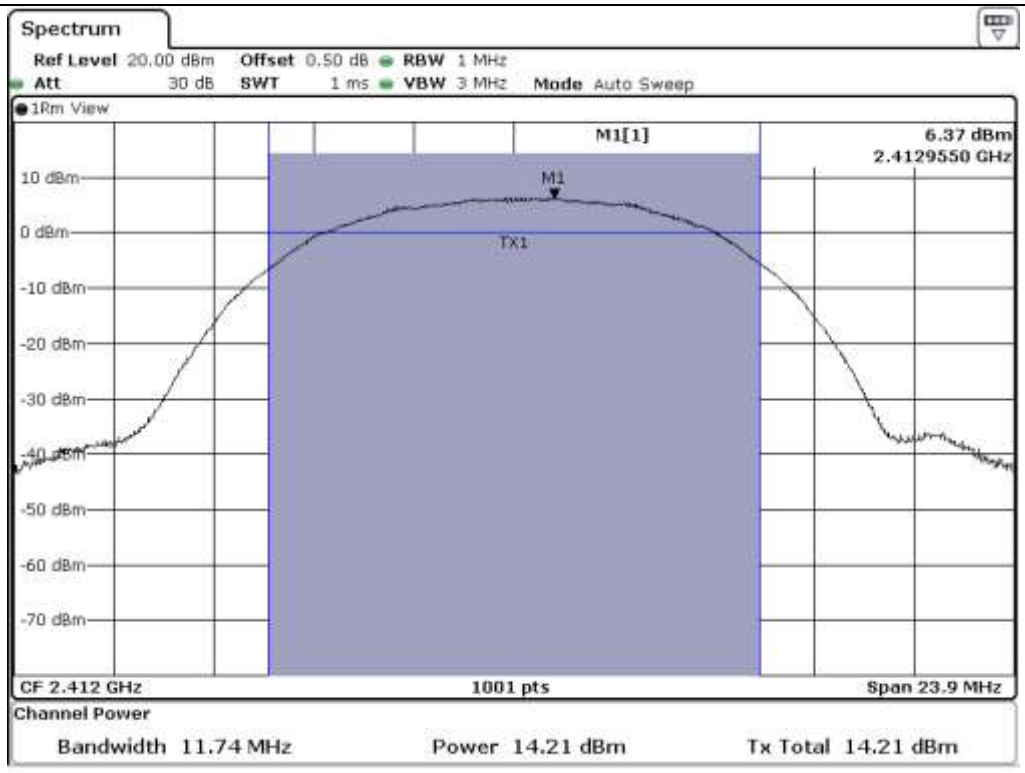
-. Test Date : March 21, 2017

-. Test Result : Pass

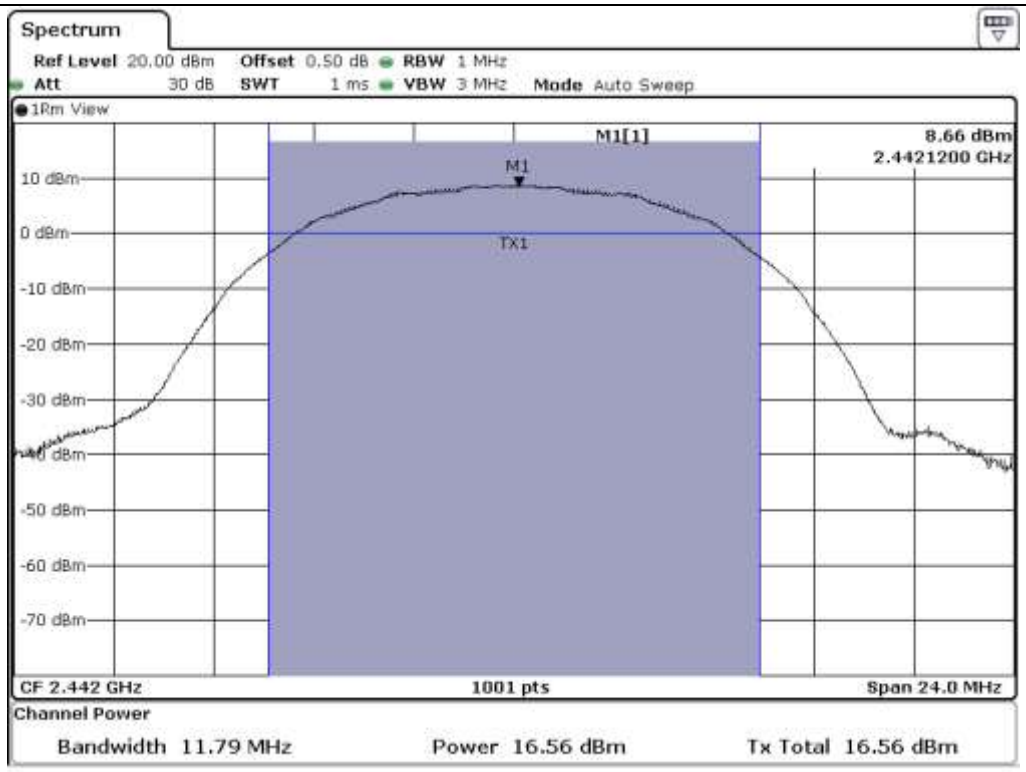
CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	11.74	14.21	30.00	15.79
MIDDLE	2 442.00	11.79	16.56	30.00	13.44
HIGH	2 462.00	11.74	15.06	30.00	14.94

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

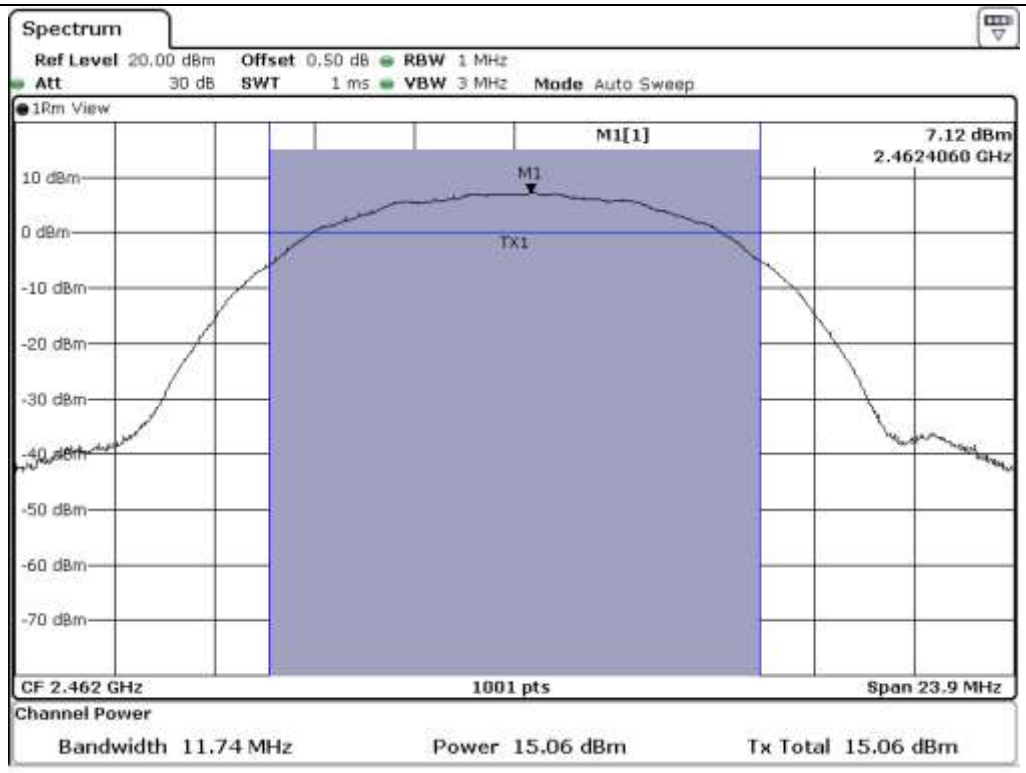
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9.4.4 Test data for Multiple transmit

-. Test Date : March 21, 2017

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	CALCULATED OUTPUT POWER (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	18.89	29.63	10.74
MIDDLE	2 442.00	21.24	29.63	8.39
HIGH	2 462.00	19.79	29.63	9.84

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

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

Remark 3 : Directional gain = $10*\log[(10^{G0/20}+10^{G1/20}+10^{G2/20})^2/N]$ dBi

Remark 4 : Limit = 30 dBm – Exceeds Antenna gain

Remark 5 : Exceeds Antenna gain = Above the limits is calculated according to antenna gain.

Because antenna gain is higher than 6 dBi.

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)

9.5 Test data for 802.11g WLAN Mode

9.5.1 Test data for Antenna 0

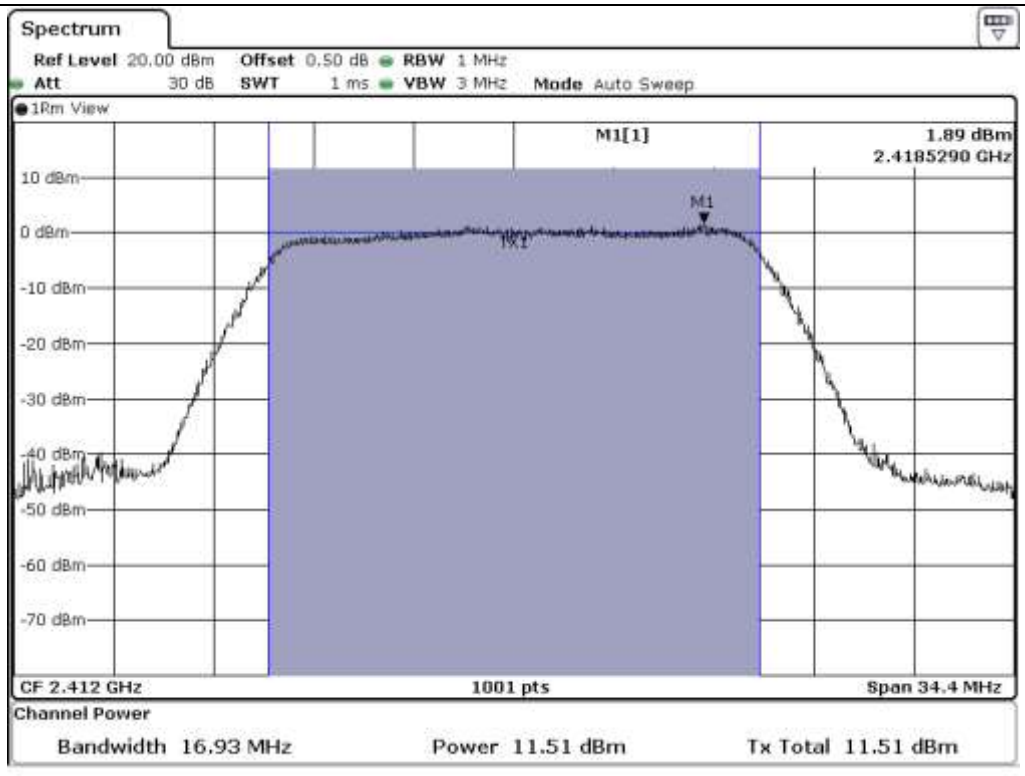
-. Test Date : March 21, 2017

-. Test Result : Pass

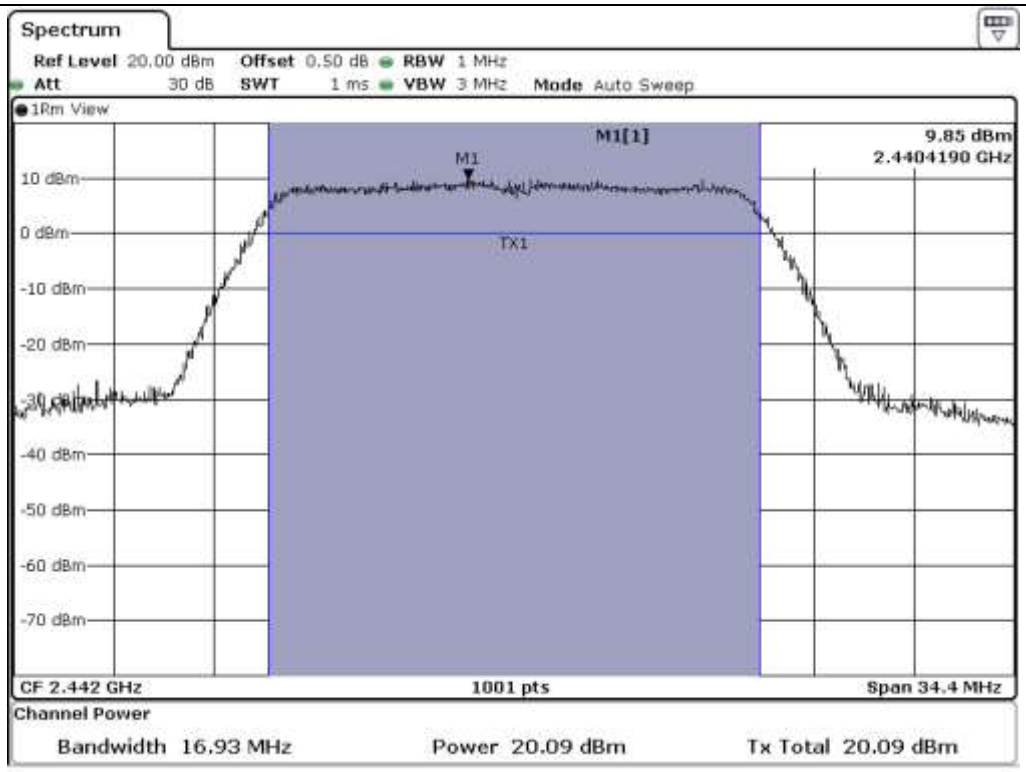
CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	16.93	11.51	30.00	18.49
MIDDLE	2 442.00	16.93	20.09	30.00	9.91
HIGH	2 462.00	16.93	8.87	30.00	21.13

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

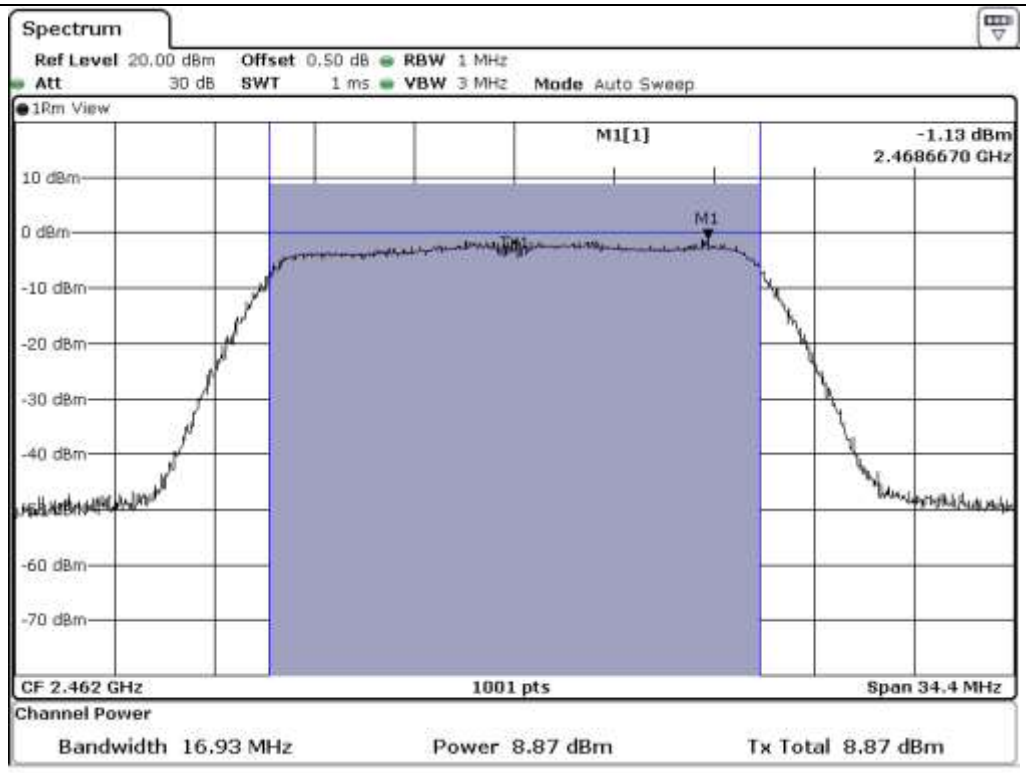
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9.5.2 Test data for Antenna 1

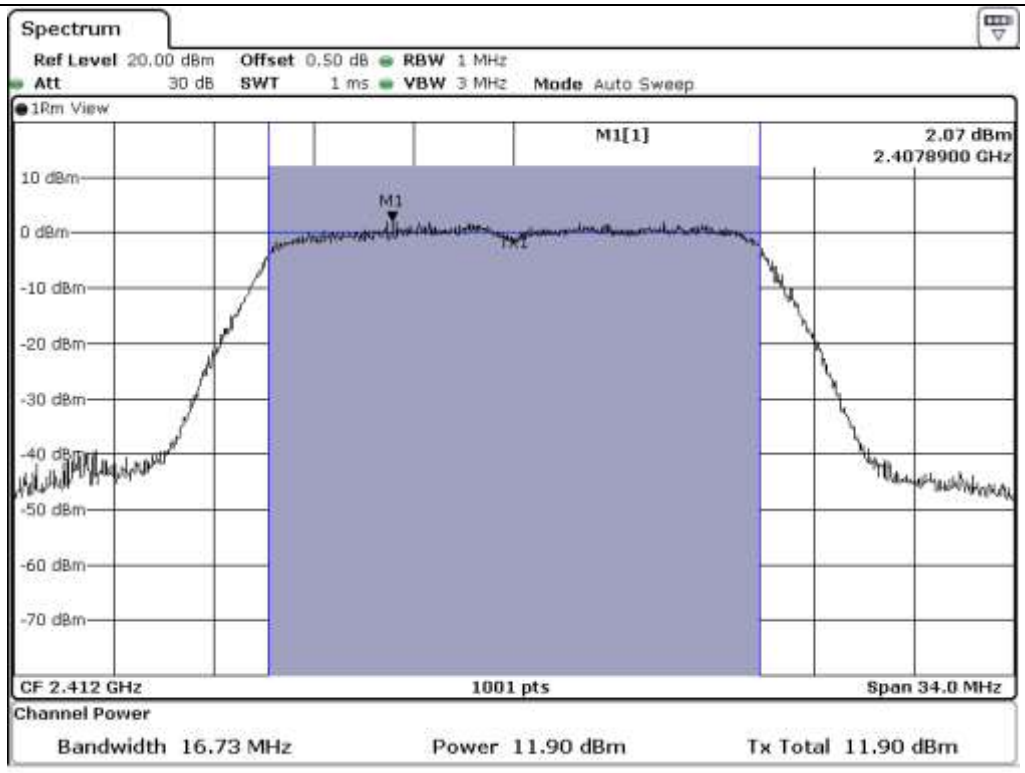
-. Test Date : March 21, 2017

-. Test Result : Pass

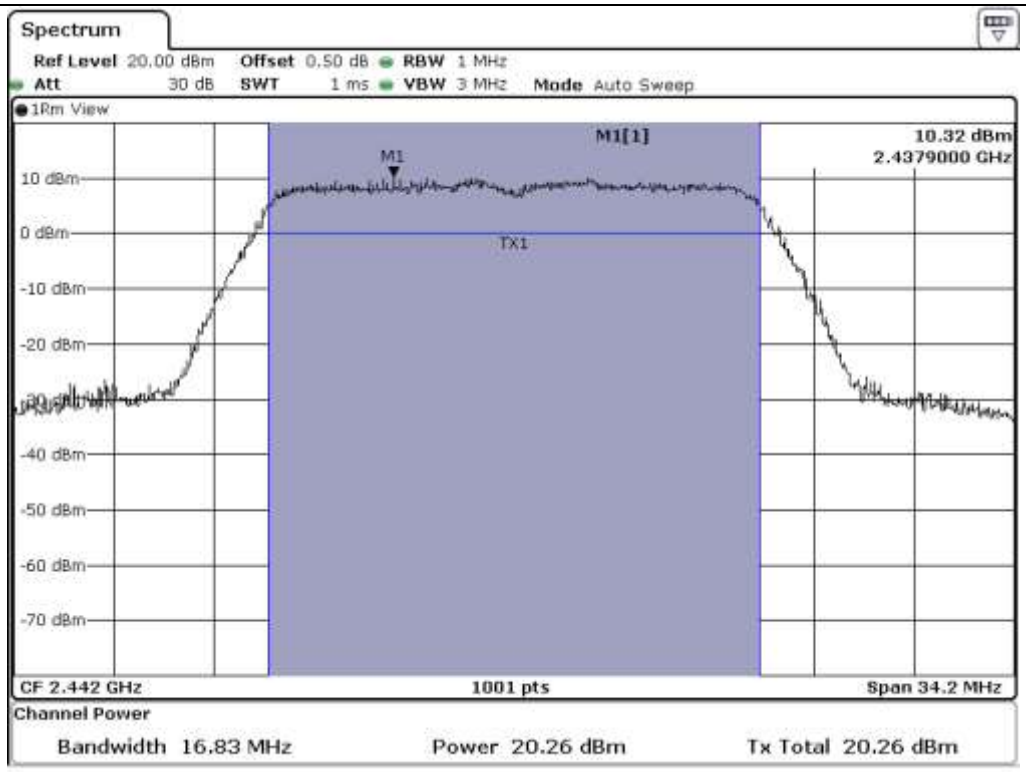
CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	16.73	11.90	30.00	18.10
MIDDLE	2 442.00	16.83	20.26	30.00	9.74
HIGH	2 462.00	16.83	9.95	30.00	20.05

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

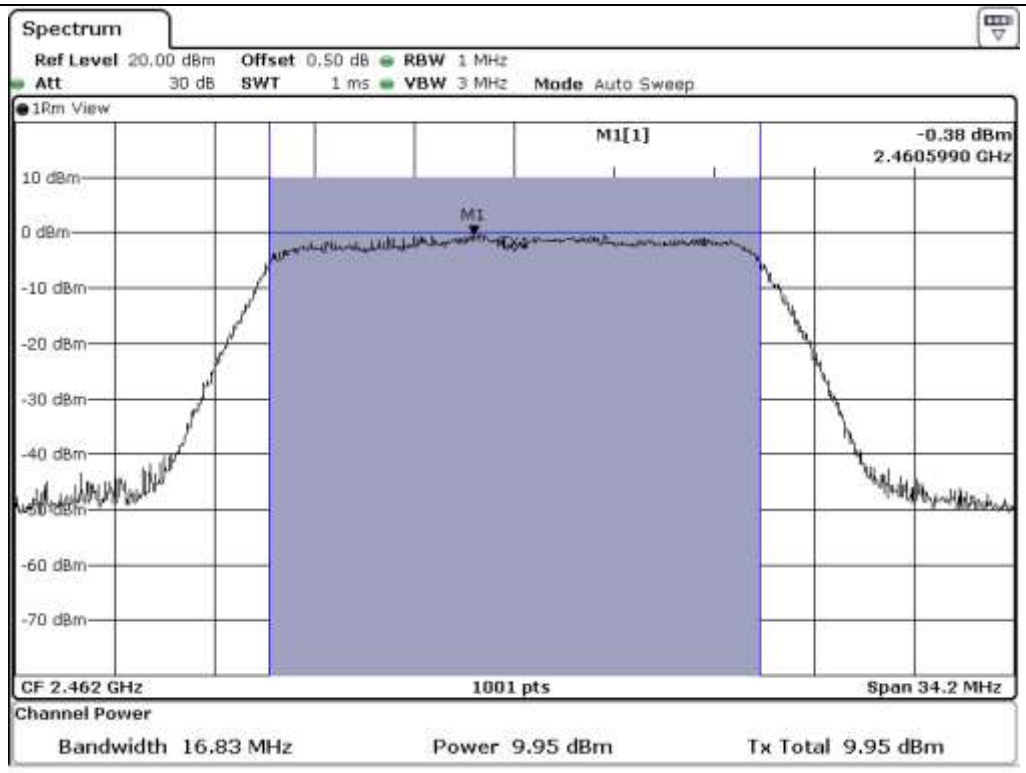
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9.5.3 Test data for Antenna 2

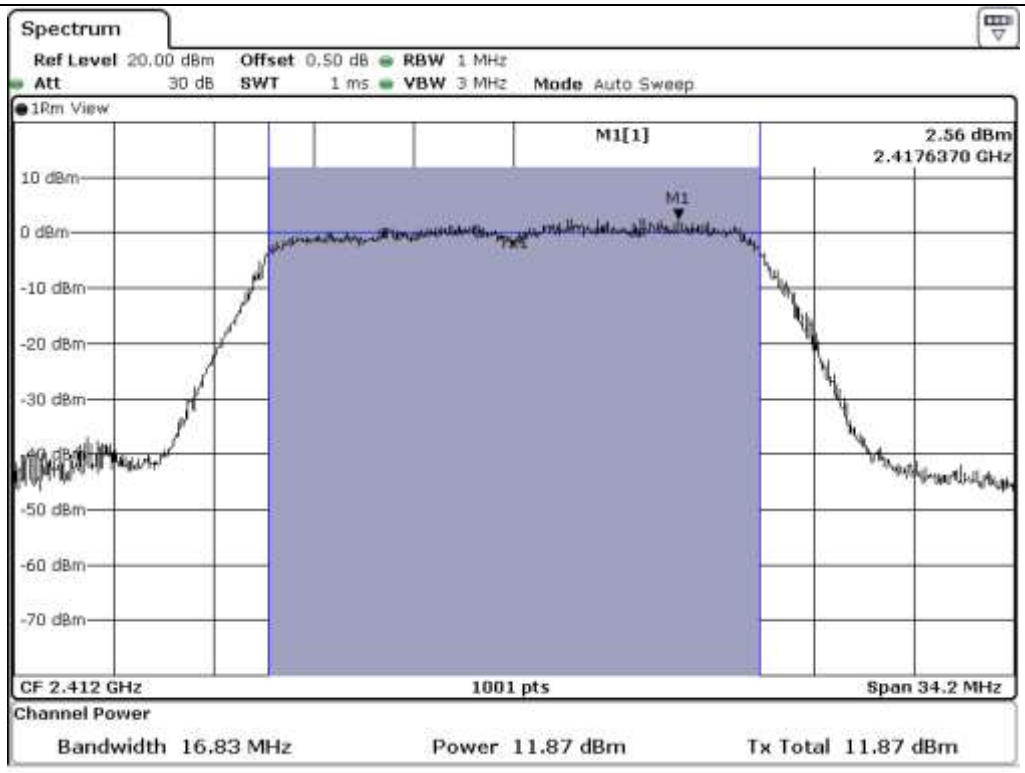
-. Test Date : March 21, 2017

-. Test Result : Pass

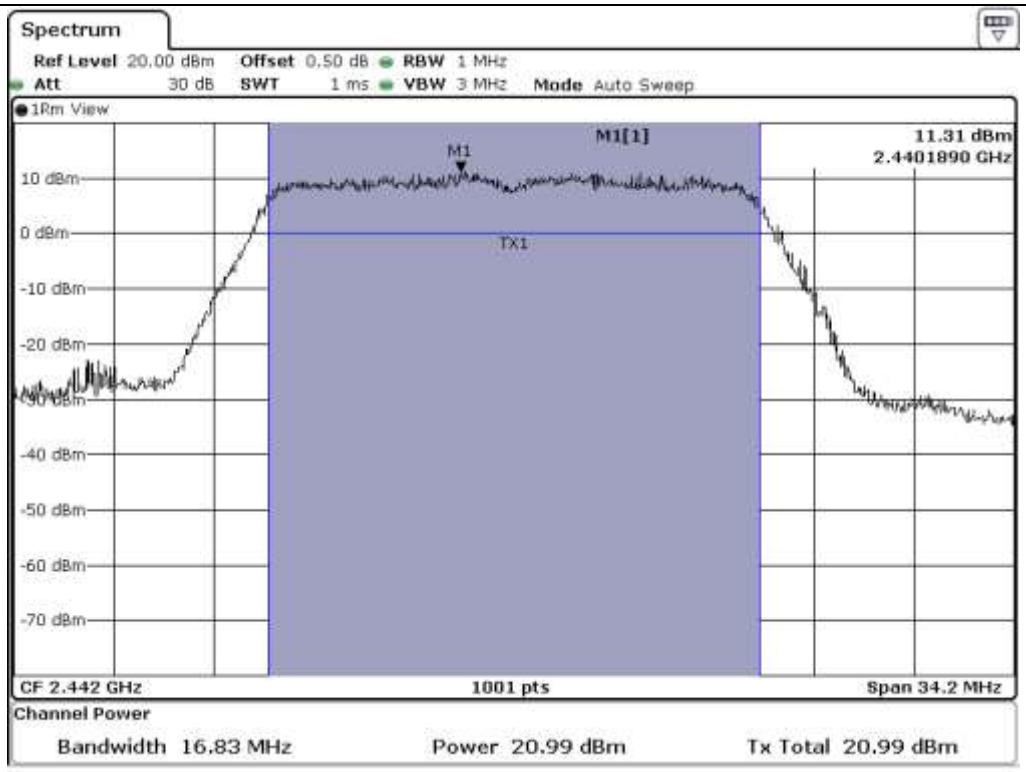
CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	16.83	11.87	30.00	18.13
MIDDLE	2 442.00	16.83	20.99	30.00	9.01
HIGH	2 462.00	16.83	9.61	30.00	20.39

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

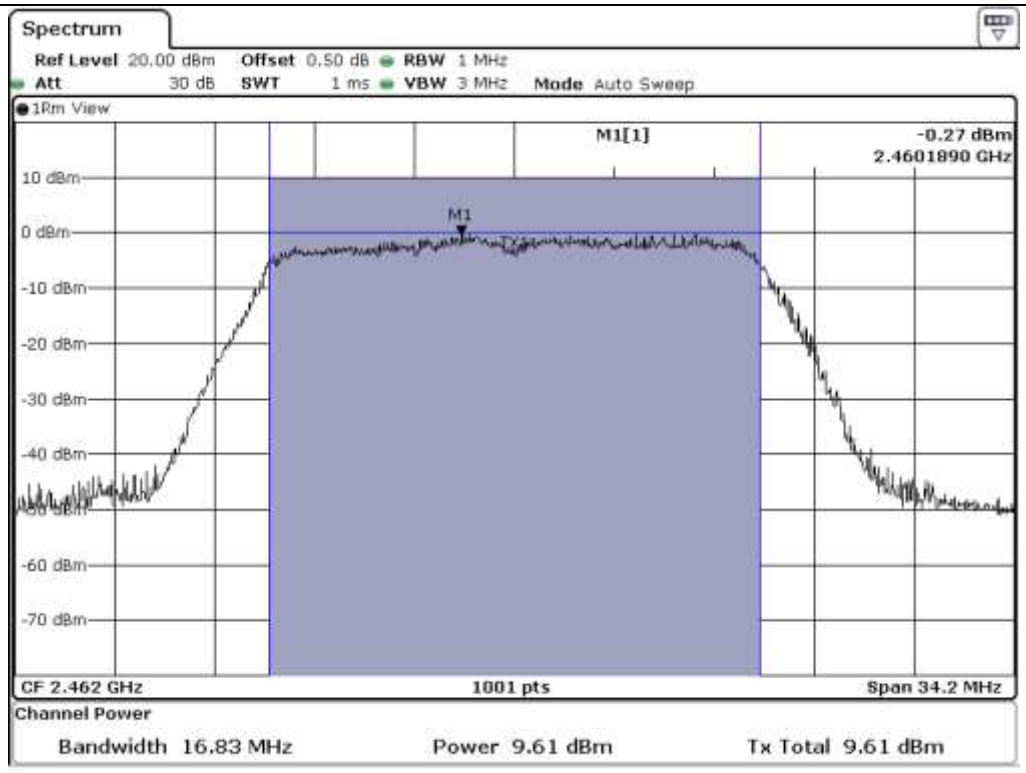
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9.5.4 Test data for Multiple transmit

-. Test Date : March 21, 2017

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	CALCULATED OUTPUT POWER (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	16.53	29.63	13.10
MIDDLE	2 442.00	25.24	29.63	4.39
HIGH	2 462.00	14.27	29.63	15.36

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

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

Remark 3 : Directional gain = $10*\log[(10^{G0/20}+10^{G1/20}+10^{G2/20})^2/N]$ dBi

Remark 4 : Limit = 30 dBm – Exceeds Antenna gain

Remark 5 : Exceeds Antenna gain = Above the limits is calculated according to antenna gain.
Because antenna gain is higher than 6 dBi.

Tested by: Hyung-Kwon, Oh / Engineer

9.6 Test data for 802.11n_HT20 WLAN Mode

9.6.1 Test data for Antenna 0

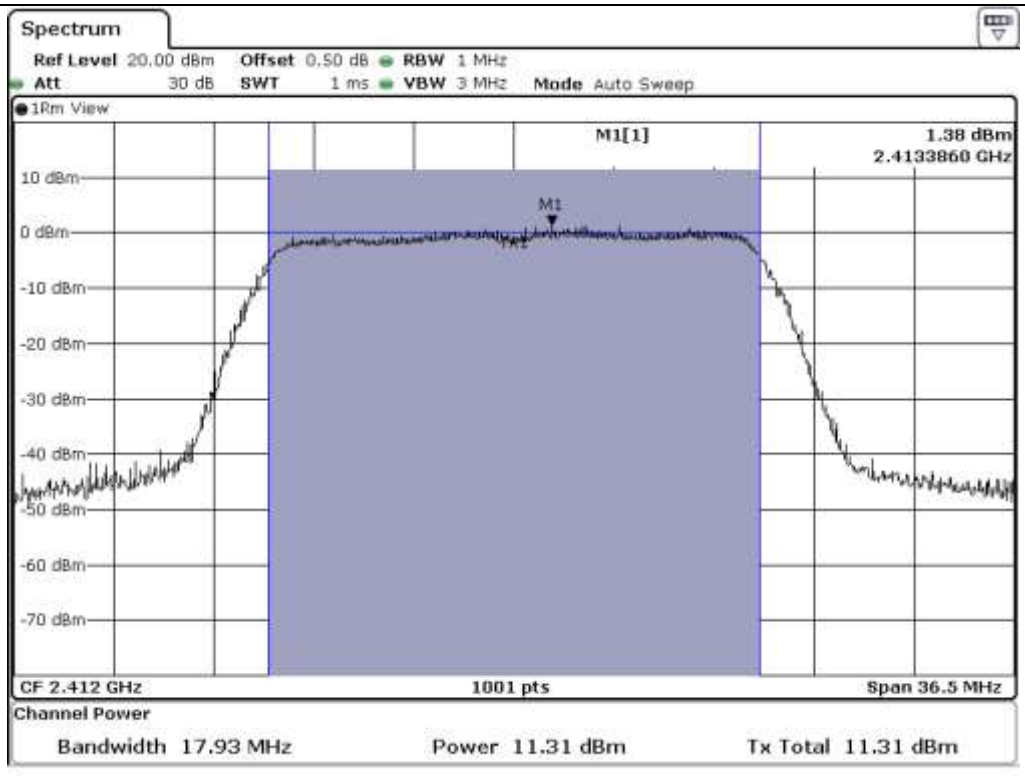
-. Test Date : March 21, 2017

-. Test Result : Pass

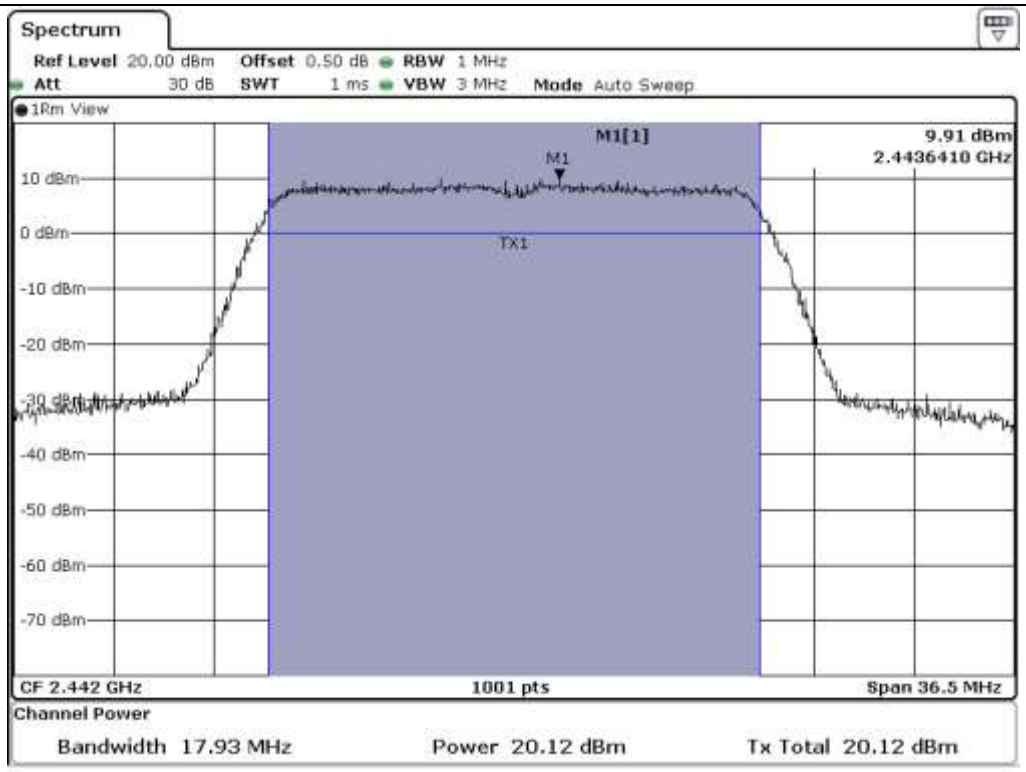
CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	17.93	11.31	30.00	18.69
MIDDLE	2 442.00	17.93	20.12	30.00	9.88
HIGH	2 462.00	17.93	10.02	30.00	19.98

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

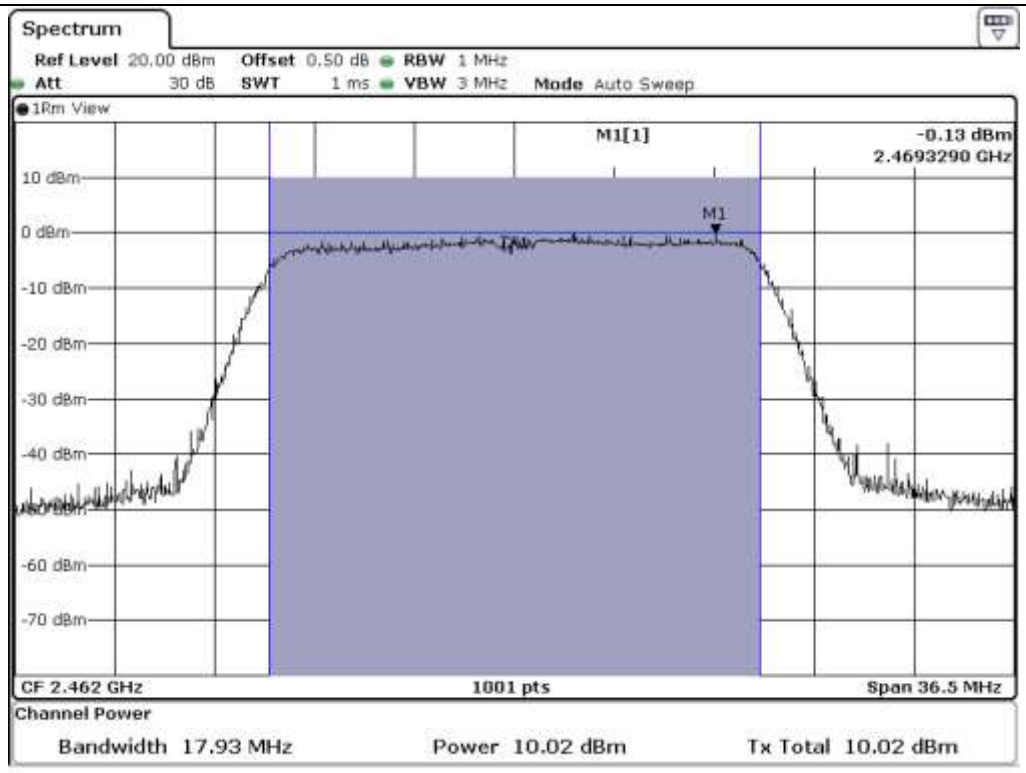
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9.6.2 Test data for Antenna 1

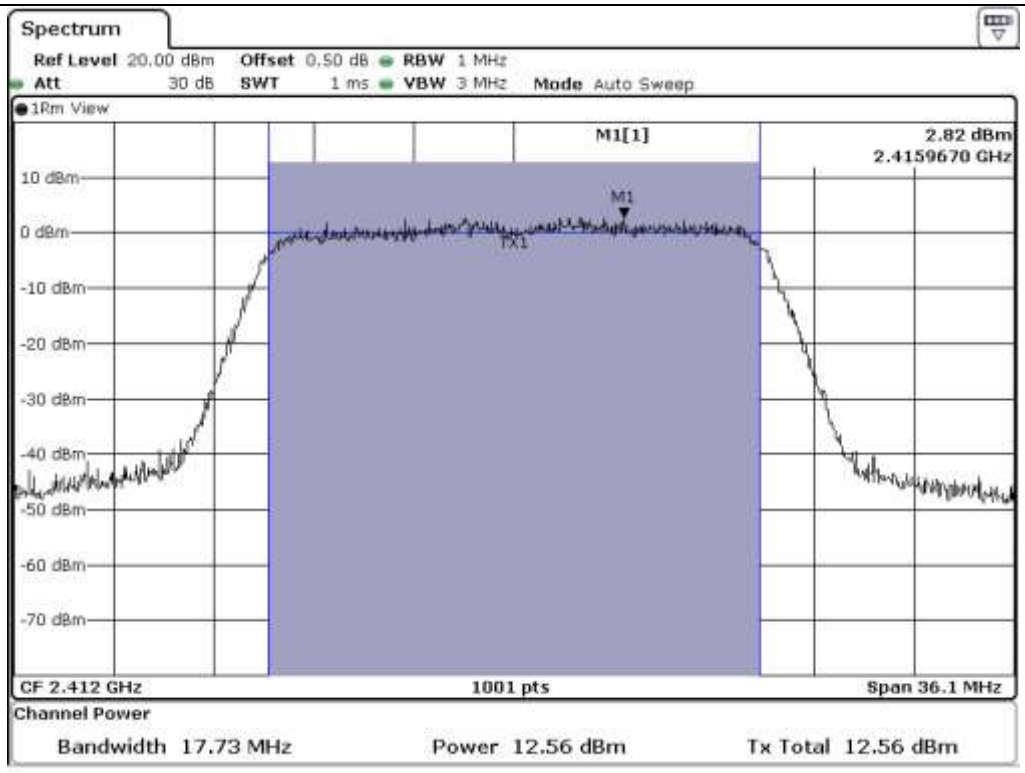
-. Test Date : March 21, 2017

-. Test Result : Pass

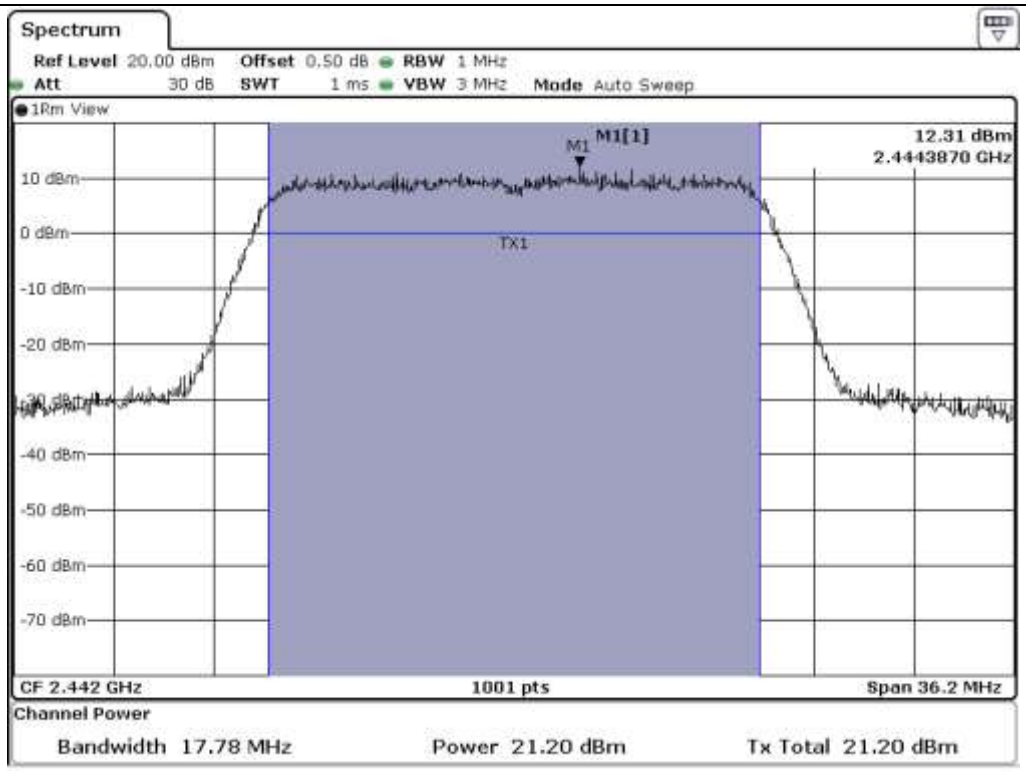
CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	17.73	12.56	30.00	17.44
MIDDLE	2 442.00	17.78	21.20	30.00	8.80
HIGH	2 462.00	17.73	11.69	30.00	18.31

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

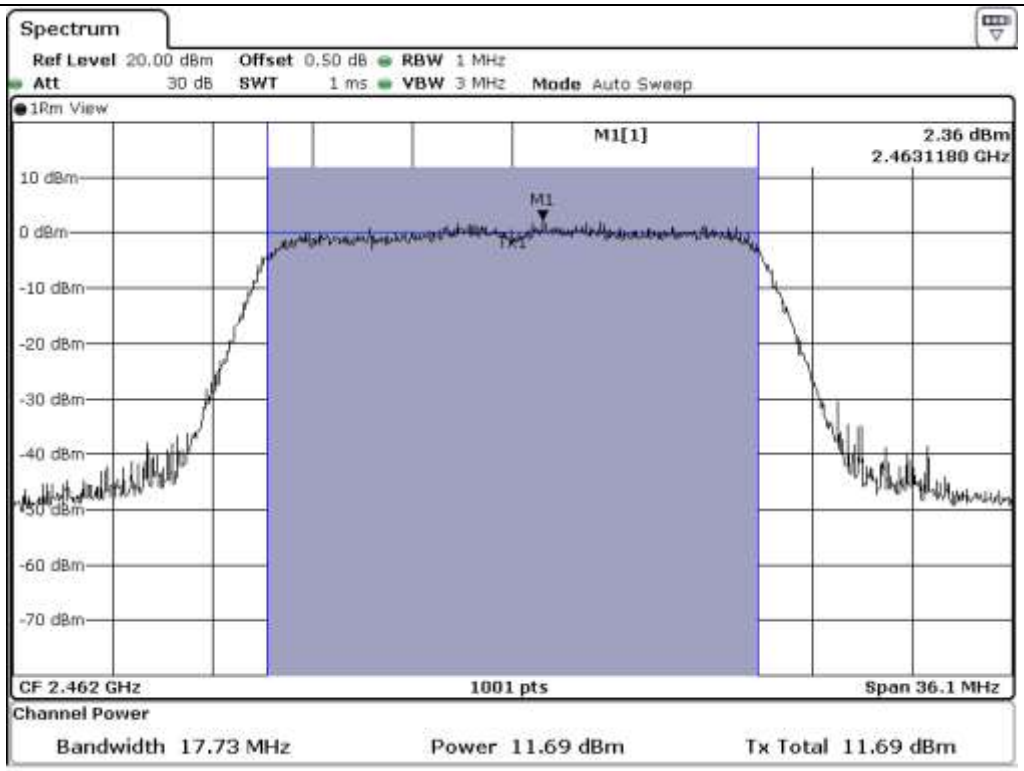
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9.6.3 Test data for Antenna 2

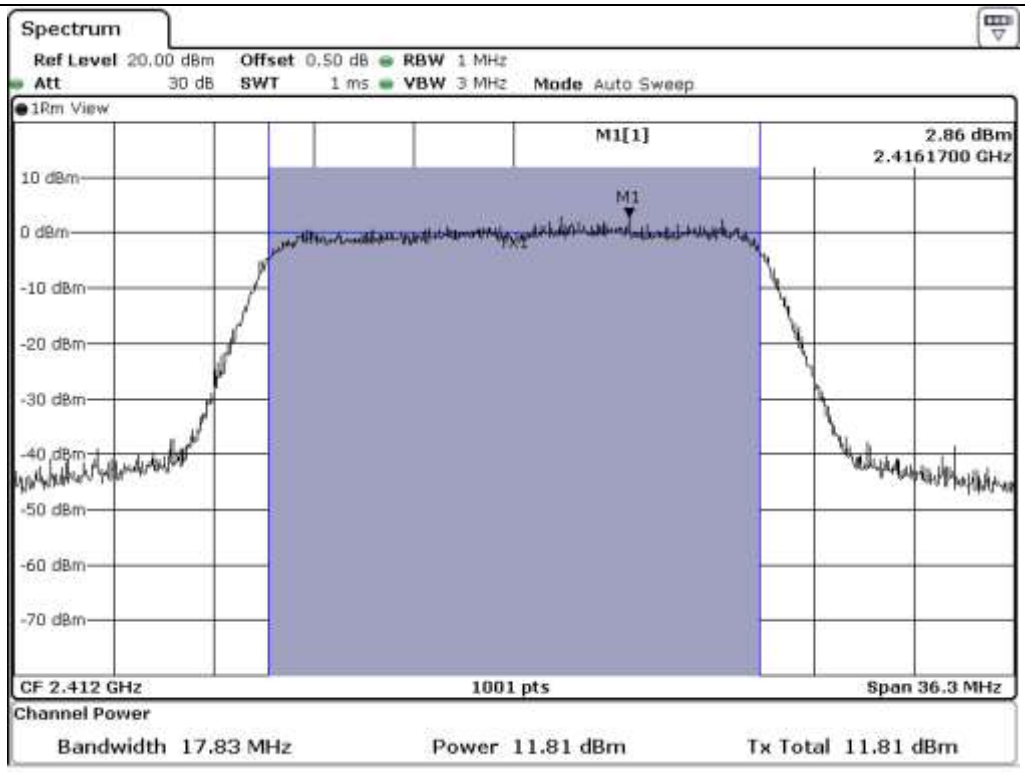
-. Test Date : March 21, 2017

-. Test Result : Pass

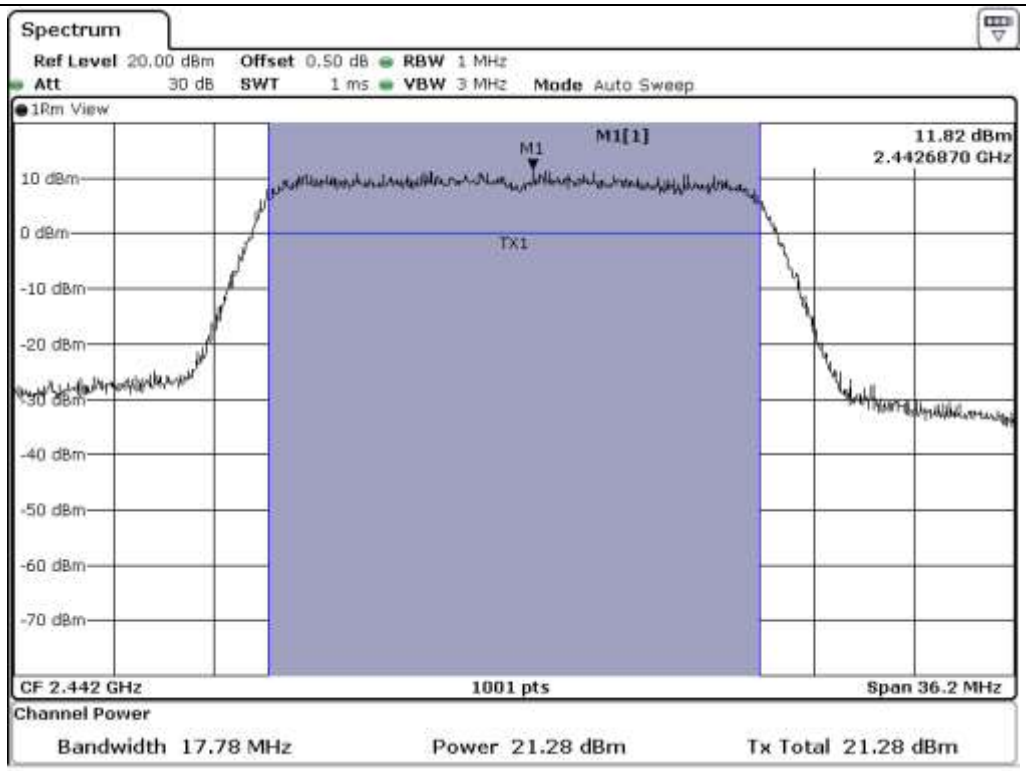
CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	17.83	11.81	30.00	18.19
MIDDLE	2 442.00	17.78	21.28	30.00	8.72
HIGH	2 462.00	17.83	10.72	30.00	19.28

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

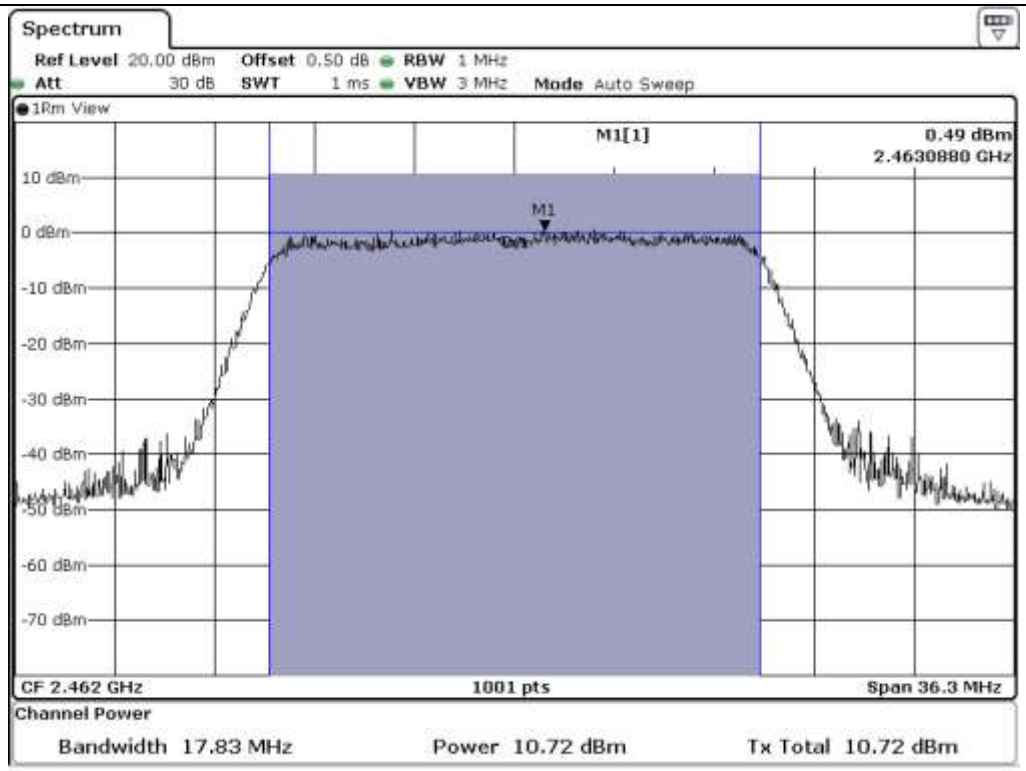
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9.6.4 Test data for Multiple transmit

-. Test Date : March 21, 2017

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	CALCULATED OUTPUT POWER (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	16.70	29.63	12.93
MIDDLE	2 442.00	25.67	29.63	3.96
HIGH	2 462.00	15.64	29.63	13.99

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

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

Remark 3 : Directional gain = $10*\log[(10^{G0/20}+10^{G1/20}+10^{G2/20})^2/N]$ dBi

Remark 4 : Limit = 30 dBm – Exceeds Antenna gain

Remark 5 : Exceeds Antenna gain = Above the limits is calculated according to antenna gain.

Because antenna gain is higher than 6 dBi.

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)

9.7 Test data for 802.11n_HT40 WLAN Mode

9.7.1 Test data for Antenna 0

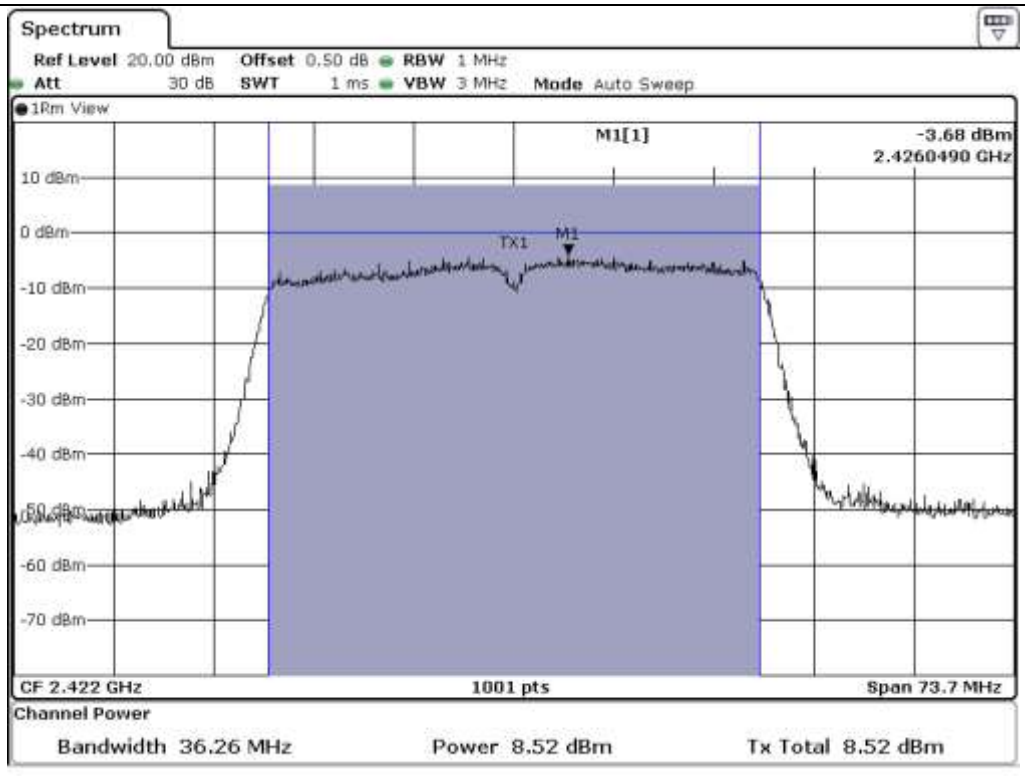
-. Test Date : March 21, 2017

-. Test Result : Pass

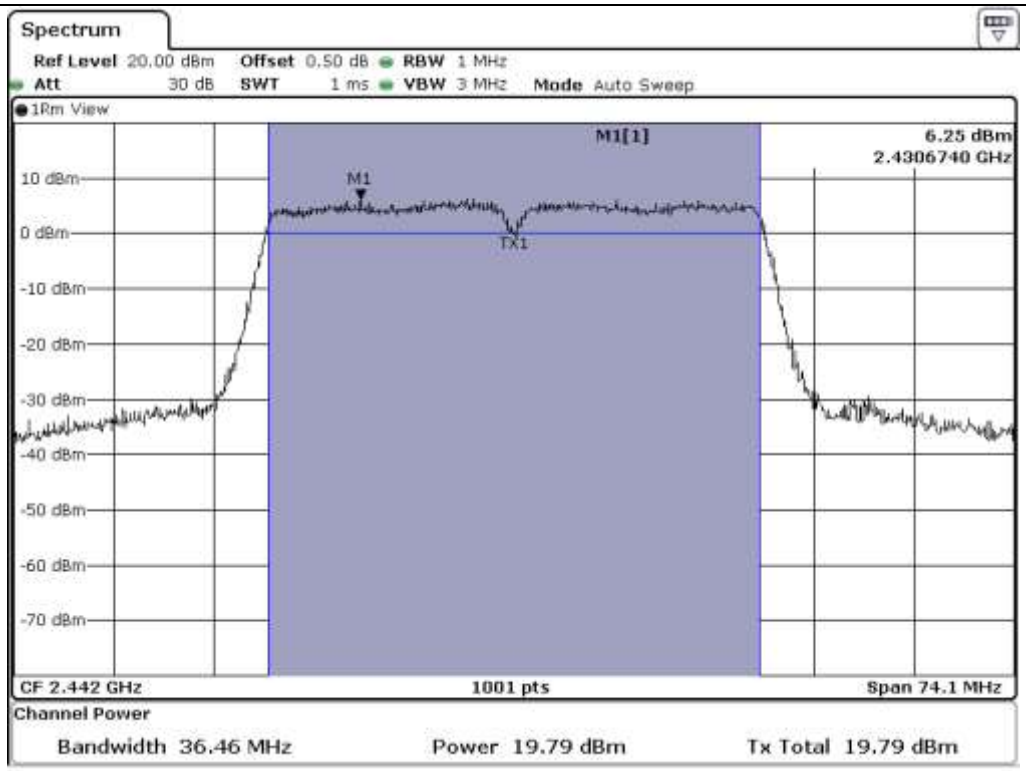
CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422.00	36.26	8.52	30.00	21.48
MIDDLE	2 442.00	36.46	19.79	30.00	10.21
HIGH	2 452.00	36.46	21.87	30.00	8.13

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

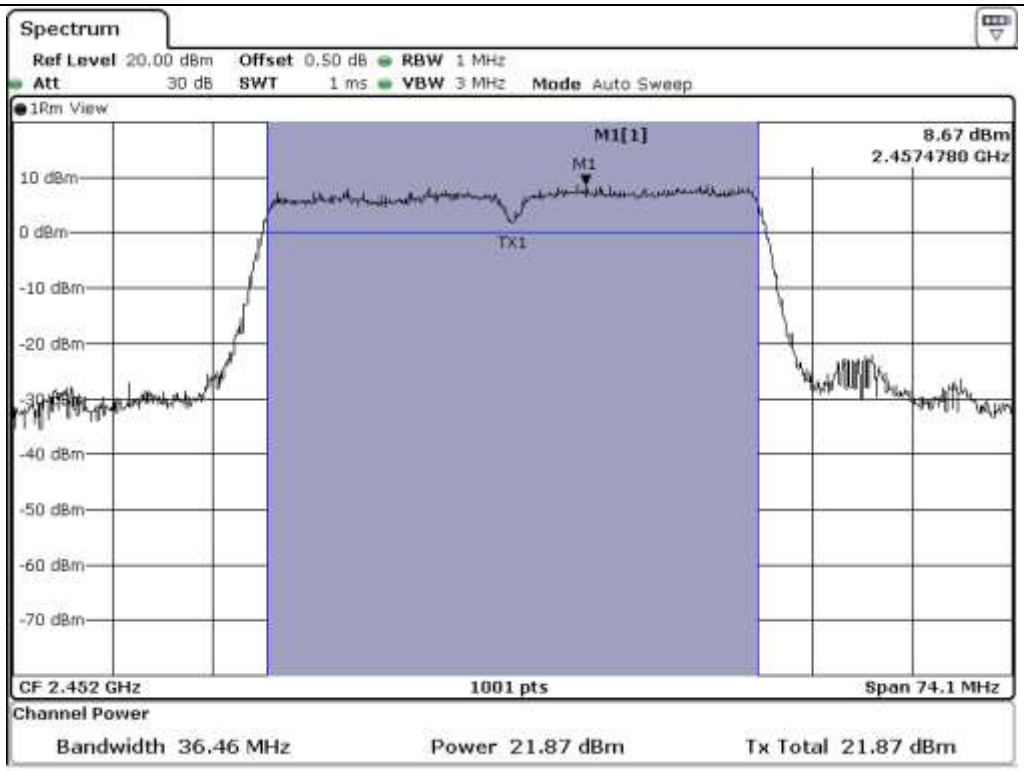
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9.7.2 Test data for Antenna 1

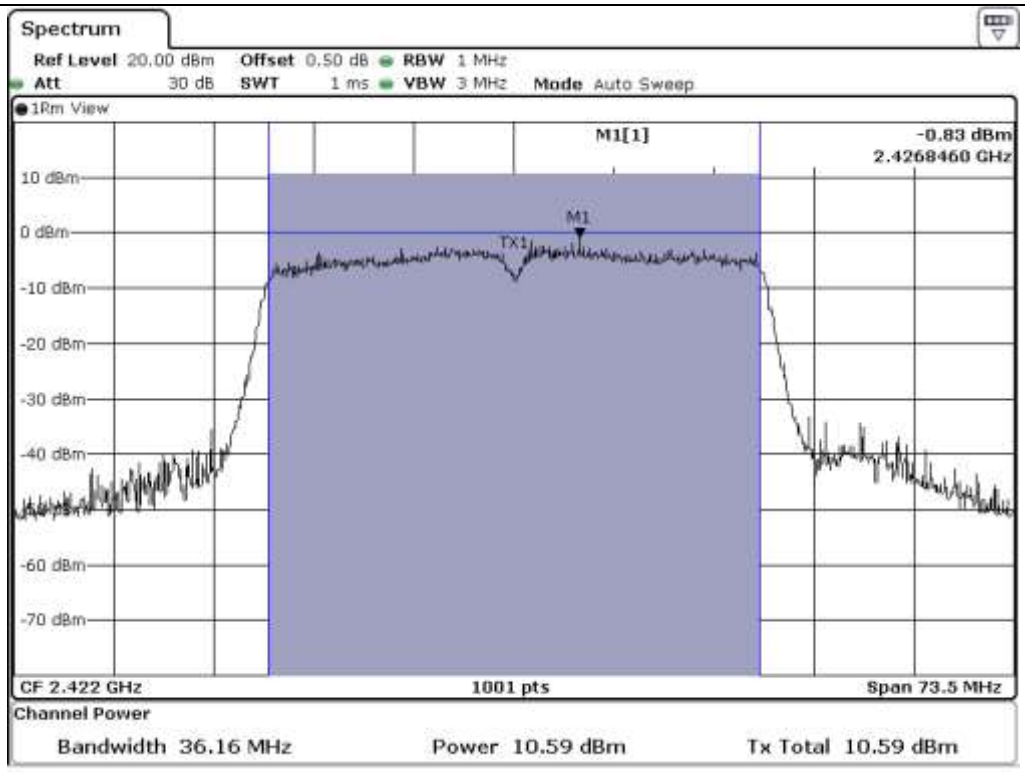
-. Test Date : March 21, 2017

-. Test Result : Pass

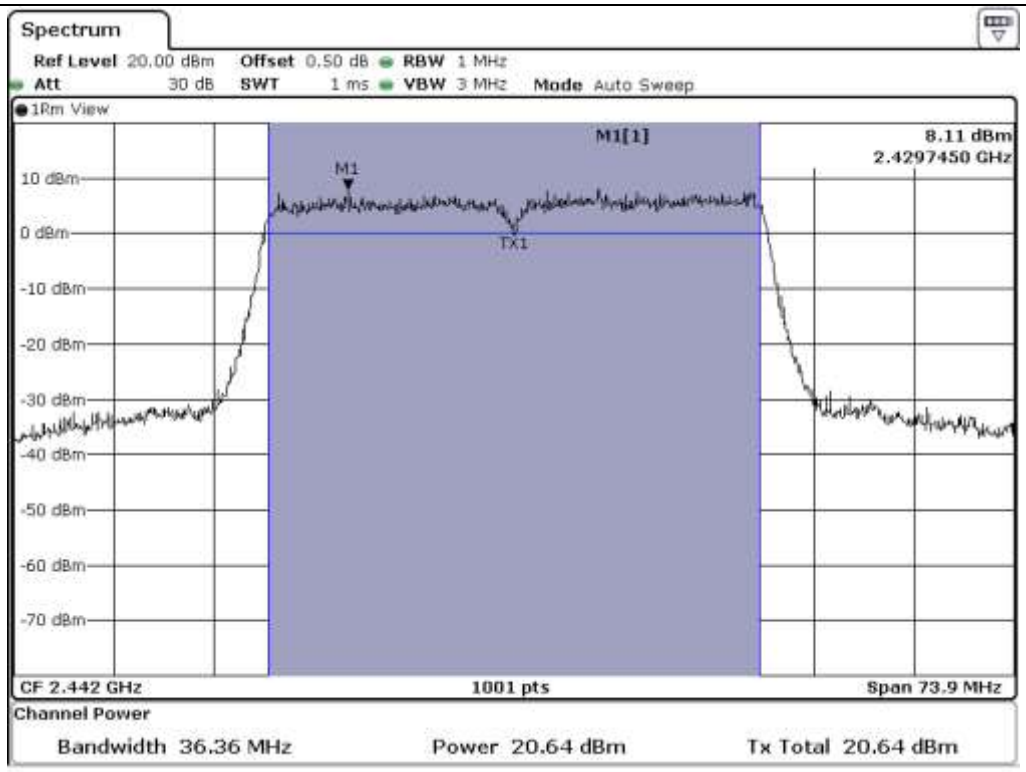
CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422.00	36.16	10.59	30.00	19.41
MIDDLE	2 442.00	36.36	20.64	30.00	9.36
HIGH	2 452.00	36.36	22.39	30.00	7.61

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

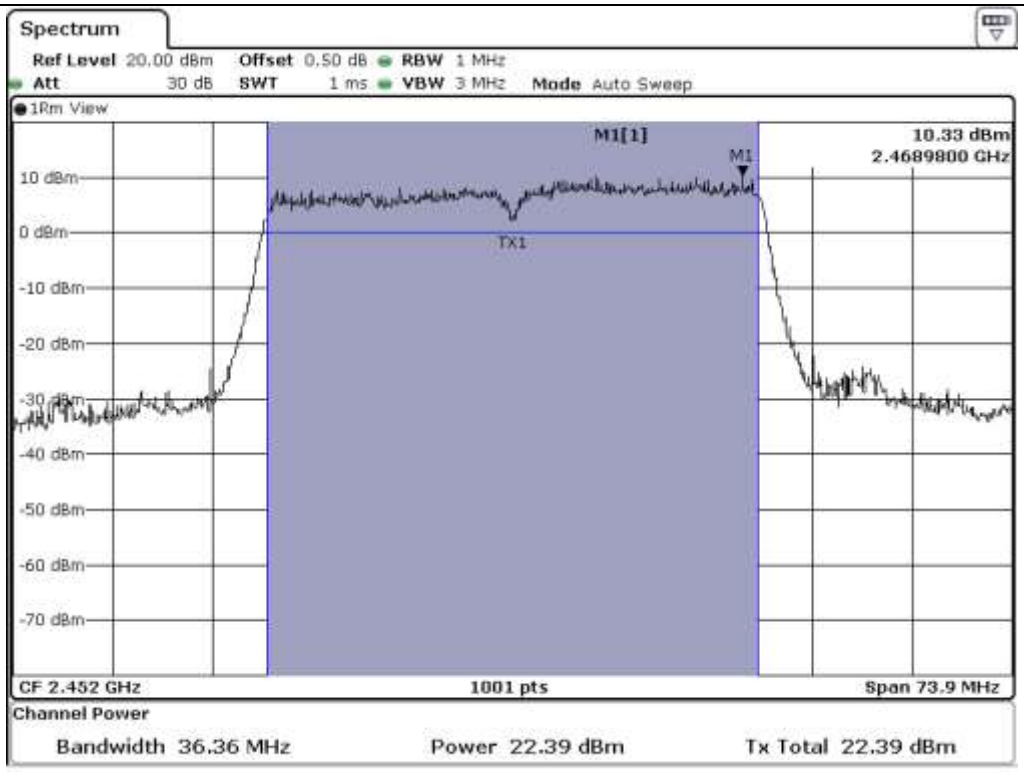
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9.7.3 Test data for Antenna 2

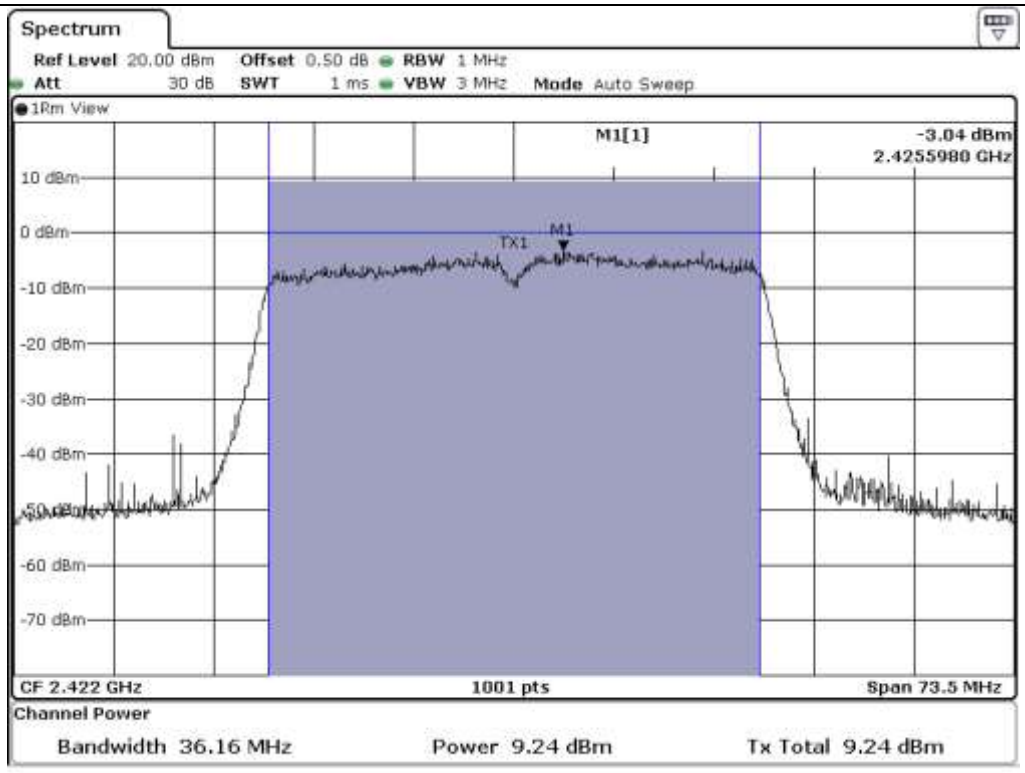
-. Test Date : March 21, 2017

-. Test Result : Pass

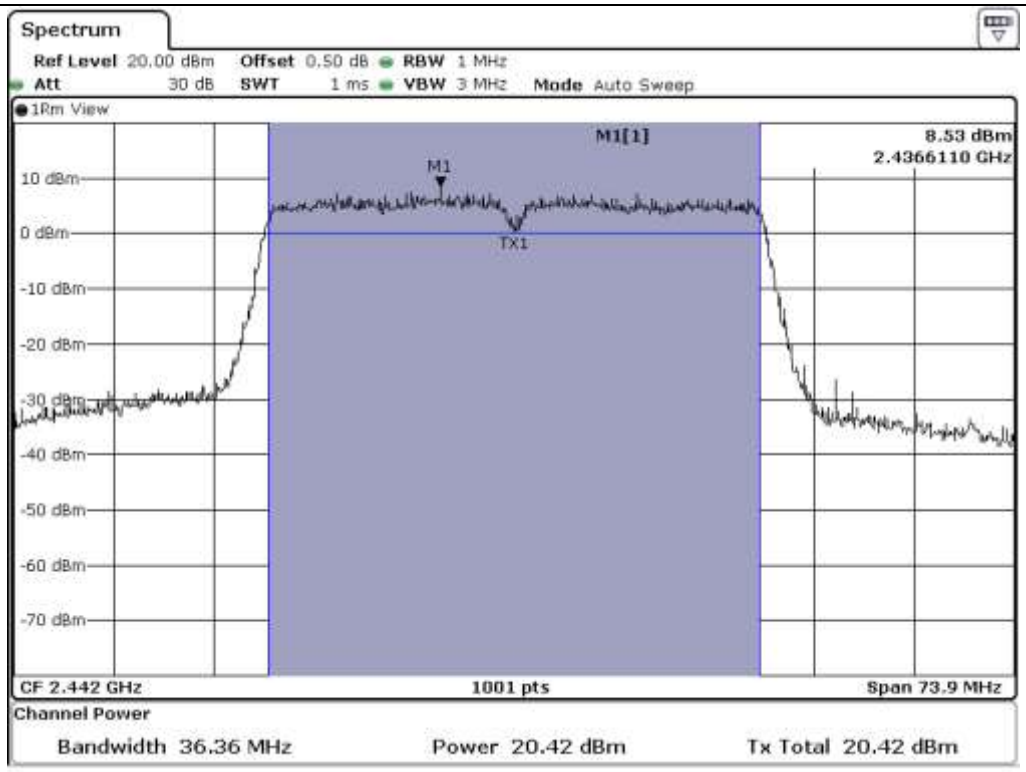
CHANNEL	FREQUENCY (MHz)	99 % Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422.00	36.16	9.24	30.00	20.76
MIDDLE	2 442.00	36.36	20.42	30.00	9.58
HIGH	2 452.00	36.36	21.74	30.00	8.26

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

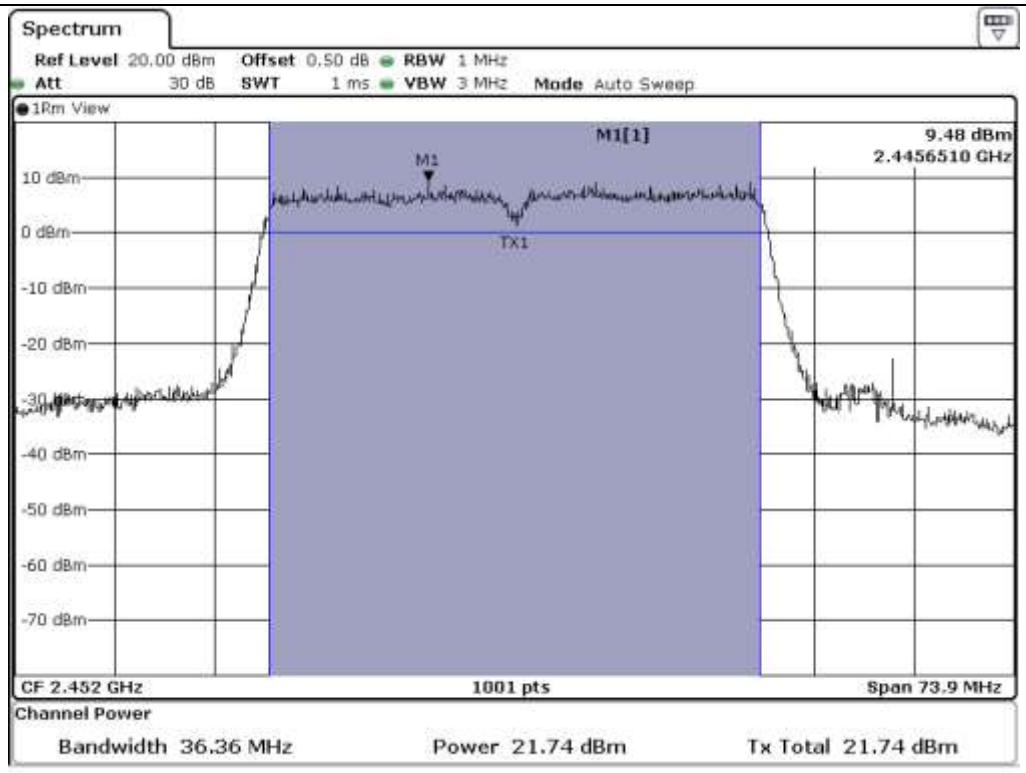
Tested by: Hyung-Kwon, Oh / Engineer



Low Channel



Middle Channel



High Channel

9.7.4 Test data for Multiple transmit

-. Test Date : March 21, 2017

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	CALCULATED OUTPUT POWER (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422.00	14.31	29.63	15.32
MIDDLE	2 442.00	25.07	29.63	4.56
HIGH	2 452.00	26.78	29.63	2.85

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

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

Remark 3 : Directional gain = $10*\log[(10^{G0/20}+10^{G1/20}+10^{G2/20})^2/N]$ dBi

Remark 4 : Limit = 30 dBm – Exceeds Antenna gain

Remark 5 : Exceeds Antenna gain = Above the limits is calculated according to antenna gain.

Because antenna gain is higher than 6 dBi.

Tested by: Hyung-Kwon, Oh / Engineer

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