

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

Test Report No. : W168R-D012
AGR No. : A165A-160
Applicant : Samsung Electronics Co Ltd
Address : 19 Chapin Rd., Building D, Pine Brook, New Jersey, 07058
Manufacturer : Samsung Electronics Co Ltd
Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-742, Rep of Korea
Type of Equipment : WLAN Access Point
FCC ID. : A3LWEA514I
IC Certification No. : 649E-WEA514I
Model Name : WEA514i
Serial number : N/A
Total page of Report : 233 pages (including this page)
Date of Incoming : May 19, 2016
Date of issue : August 03, 2016

SUMMARY

The equipment complies with the regulation; *FCC PART 15 SUBPART C Section 15.247 and IC RSS-Gen Issue 4 Nov 2014 and RSS-247 Issue 1 May 2015*

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: 

 Jae-Ho, Lee / Chief Engineer
 ONETECH Corp.

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 ONETECH Corp.

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Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
W168R-D012	August 03, 2016	Initial Issue	All

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
 Fax No. : 973-808-6361
 FCC ID : A3LWEA514I
 IC Certification No. : 649E-WEA514I
 Model Name : WEA514i
 Serial Number : N/A
 Date : August 03, 2016

EQUIPMENT CLASS	FCC : DTS – DIGITAL TRNSMISSION SYSTEM IC : Low Power License-Exempt Radio-communication Device
E.U.T. DESCRIPTION	WLAN Access Point
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, RSS-Gen Issue 4 Nov 2014, RSS-247 Issue 1 May 2015
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&IC 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.

2. TEST SUMMARY

2.1 Test items and results

SECTION		TEST ITEMS	RESULTS
15.247 (a) (2)	RSS-GEN, 4.6.1	Minimum 6 dB Bandwidth & 99 % Occupied Bandwidth	Met the Limit / PASS
15.247 (b) (3)	RSS-210, A8.4	Maximum Peak Conducted Output Power	Met the Limit / PASS
15.247 (d)	RSS-247, 5.5	100 kHz Bandwidth Outside the Frequency Band	Met the Limit / PASS
15.247 (d)	RSS-210, A8.5	Radiated Emission which fall in the Restricted Band	Met the Limit / PASS
15.247 (e)	RSS-210, A8.2	Peak Power Spectral Density	Met the Limit / PASS
15.205, 15.209	RSS-210, A8.5	Radiated Emission Limits	Met the Limit / PASS
15.207	RSS-Gen, 7.2.2	Conducted Emissions	Met the Limit / PASS
15.203	RSS-Gen, 7.1.2	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, IC RSS-Gen Issue 4 Nov 2014 and RSS-247 Issue 1 May 2015

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-666/ 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

3. GENERAL INFORMATION

3.1 Product Description

The Samsung Electronics Co Ltd, Model WEA514i (referred to as the EUT in this report) is a WLAN Access Point. Product specification information described herein was obtained from product data sheet or user’s manual.

DEVICE TYPE	WLAN Access Point	
OPERATING FREQUENCY	WLAN 2.4 GHz	2 412 MHz ~ 2 462 MHz (802.11b/g/n(HT20))
	5 150 MHz ~ 5 250 MHz Band	5 180 MHz ~ 5 240 MHz (802.11a/n(HT20)/ac(VHT20))
		5 190 MHz ~ 5 230 MHz (802.11n(HT40)/ac(VHT40))
		5 210 MHz (802.11ac(VHT80))
	5 250 MHz ~ 5 350 MHz Band	5 260 MHz ~ 5 320 MHz 802.11a/n(HT20)/ac(VHT20))
		5 270 MHz ~ 5 310 MHz (802.11n(HT40)/ac(VHT40))
		5 290 MHz (802.11ac(VHT80))
	5 470 MHz ~ 5 725 MHz Band	5 500 MHz ~ 5 700 MHz 802.11a/n(HT20)/ac(VHT20))
		5 510 MHz ~ 5 670 MHz (802.11n(HT40)/ac(VHT40))
		5 530 MHz (802.11ac(VHT80))
	5 725 MHz ~ 5 850 MHz Band	5 745 MHz ~ 5 825 MHz (802.11a/n(HT20)/ac(VHT20))
		5 755 MHz ~ 5 795 MHz (802.11n(HT40)/ac(VHT40))
5 775 MHz (802.11ac(VHT80))		
MODULATION TYPE	WLAN 2.4 G	DSSS Modulation(DBPSK/DQPSK/CCK) OFDM Modulation(BPSK/QPSK/16QAM/64QAM)
	WLAN 5 G	OFDM Modulation(BPSK/QPSK/16QAM/64QAM)
ANTENNA TYPE	PIFA Antenna	
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	40 MHz	

Antenna Gain

-. 2.4 GHz Band

Service Port	Antenna Gain	802.11b/g/n20	Ant 0	2.71
			Ant 1	2.11
			Ant 2	3.06
			Ant 3	2.66
	Directional Antenna Gain	802.11b/g/n20	Ant 0 + 1	5.43
			Ant 0 + 2	5.90
			Ant 0 + 3	5.70
			Ant 1 + 2	5.62
			Ant 1 + 3	5.40
			Ant 2 + 3	5.87
			Ant 0 + 1 + 2	7.42
			Ant 0 + 1 + 3	7.27
			Ant 0 + 2 + 3	7.58
			Ant 1 + 2 + 3	7.40
			Ant 0 + 1 + 2 + 3	8.67

MAX. RF OUTPUT POWER

-. Service Port

Band	Mode	Ant 0 (dBm)	Ant 1 (dBm)	Ant 2 (dBm)	Ant 3 (dBm)	Ant 0+1+2+3 (dBm)
WLAN 2.4 GHz	802.11b	19.15	19.34	18.50	18.46	24.90
	802.11g	18.96	19.40	19.26	19.31	25.26
	802.11n(HT20)	18.35	18.43	18.51	18.38	24.44

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

-. None

4. EUT MODIFICATIONS

-. None

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	WDS-A504I	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
WEA514i	Samsung Electronics Co Ltd	WLAN Access Point (EUT)	Notebook PC
ProBooks 4540s	H.P	Notebook PC	EUT
H508	IPTIME	HUB	EUT

5.3 Mode of operation during the test

- Service Port

Modulation	DATA RATE	OUTPUT POWER[dBm]			
		Ant 0	Ant 1	Ant 2	Ant 3
802.11b	1 Mbps	19.15	19.34	18.50	18.46
	2 Mbps	18.67	18.56	18.23	18.30
	5.5 Mbps	18.23	18.73	18.11	18.10
	11 Mbps	17.48	18.23	18.01	17.88
802.11g	6 Mbps	18.96	19.40	19.26	19.31
	9 Mbps	18.56	19.11	19.11	19.15
	12 Mbps	18.23	18.89	19.02	19.01
	18 Mbps	17.85	18.67	18.85	18.92
	24 Mbps	17.58	18.52	18.67	18.67
	36 Mbps	17.43	18.23	18.54	18.37
	48 Mbps	17.22	18.10	18.34	18.22
	54 Mbps	17.15	17.93	18.13	18.01
HT20	6.5 Mbps	18.35	18.43	18.51	18.38
	13 Mbps	18.15	18.23	18.33	18.22
	19.5 Mbps	18.02	18.11	18.15	18.11
	26 Mbps	17.86	18.00	18.01	18.03
	39 Mbps	17.67	17.89	17.93	17.88
	52 Mbps	17.46	17.73	17.78	17.47
	58.5 Mbps	17.33	17.54	17.66	17.23
	65 Mbps	17.16	17.23	17.43	17.21

The worse case data rate for each modulation is determined 1 Mbps(Ant.0, 1, 2, 3) for IEEE 802.11b, 6 Mbps(Ant.0, 1, 2, 3) for IEEE 802.11g, 6.5 Mbps(Ant.0, 1, 2, 3) for HT20.

Port	Mode	Operating Mode	Operating Ant.
Service	802.11b/g/n(HT20)	SISO	Ant 0
			Ant 1
			Ant 2
			Ant 3
		MIMO	Ant 0+1
			Ant 0+2
			Ant 0+3
			Ant 1+2
			Ant 1+3
			Ant 2+3
			Ant 0+1+2
			Ant 0+1+3
			Ant 0+2+3
			Ant 1+2+3
			Ant 0+1+2+3

Note 1: This EUT is supported the AC adapter and POE. Because worst case is AC adapter, so we attached only the results for AC adapter.

Note 2: In case of radiation test, we have done all test case. Worst case is Ant 0+1+2+3 for Service. So, we attached the results of only worst case.

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 and RSS-Gen Issue 4 November 2014 Section 8.3, 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 PIFA antenna, so no consideration of replacement by the user.

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

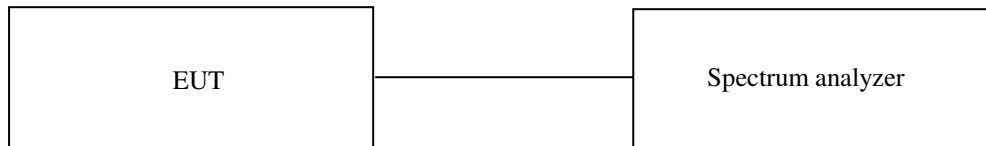
7. MIMIMUM 6 dB BANDWIDTH & 99 % OCCUPIED BANDWIDTH

7.1 Operating environment

Temperature : 24 °C
 Relative humidity : 48 % 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 Service Port

7.4.1 Test data for 802.11b WLAN Mode

7.4.1.1 Test data for Antenna 0

-. Test Date : June 20, 2016

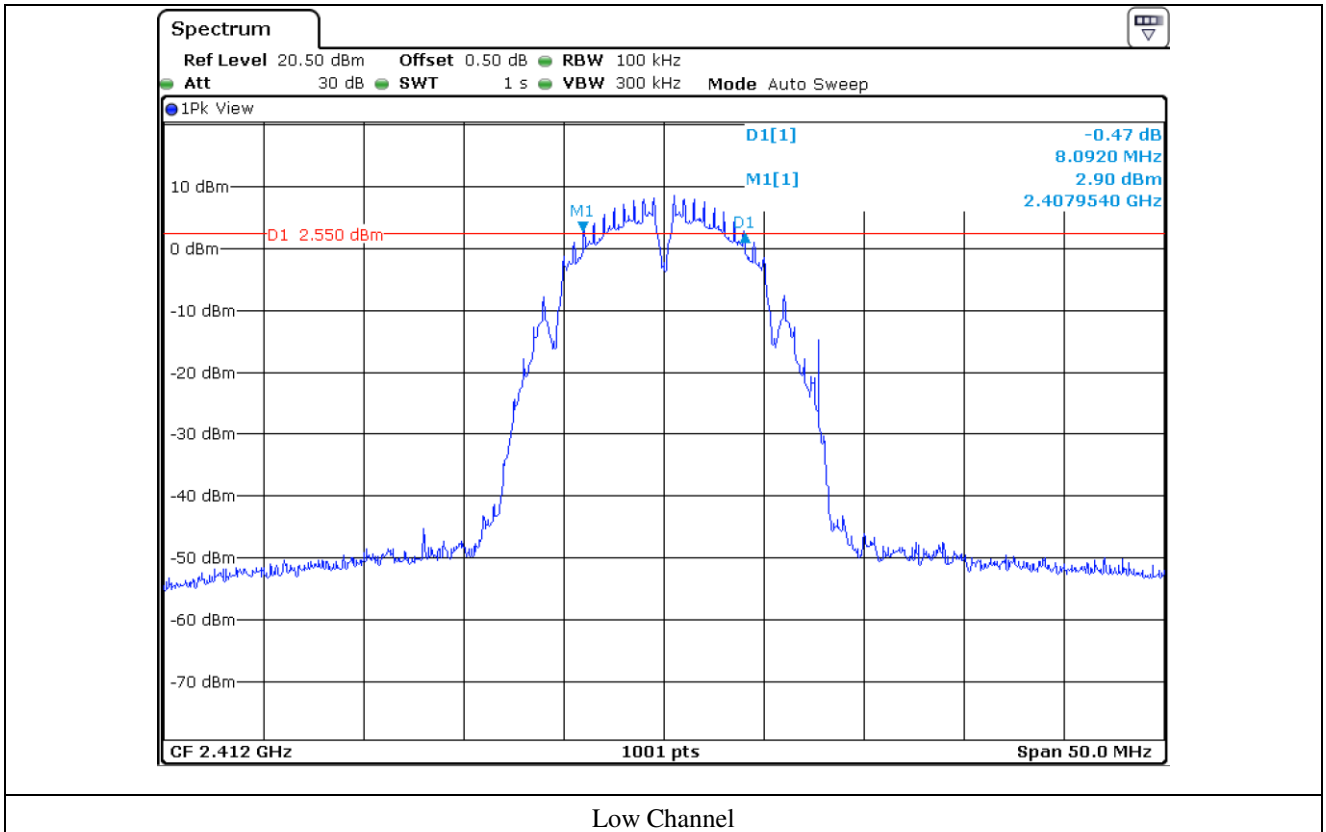
-. Test Result : Pass

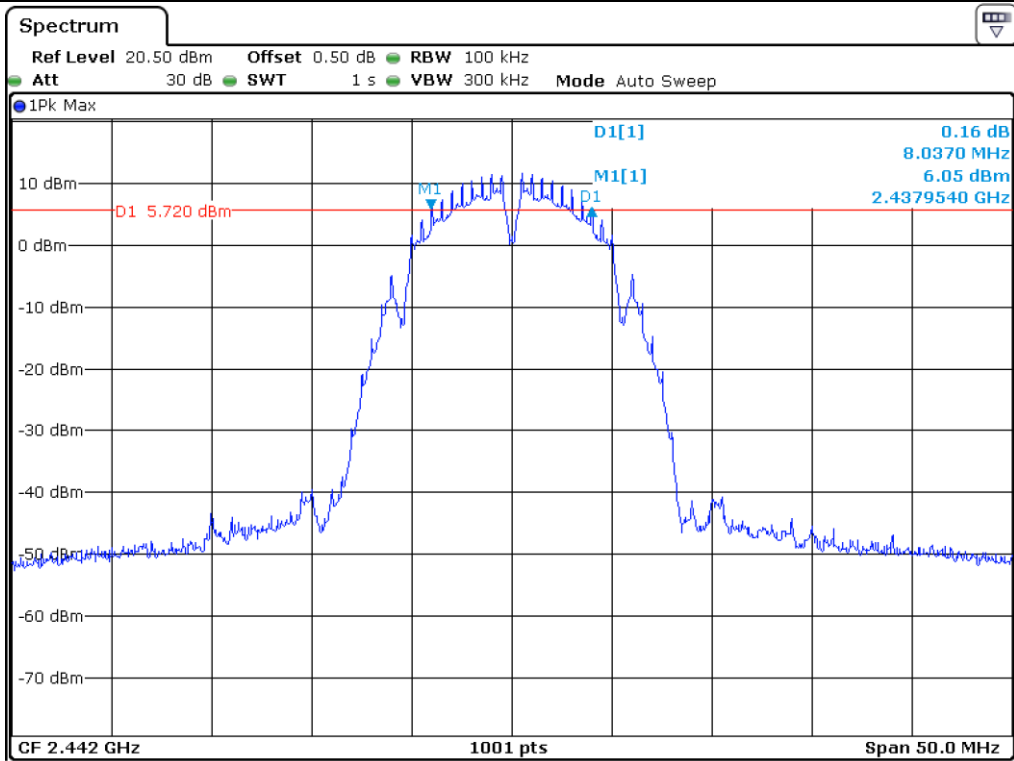
CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)	Margin(MHz)	
					FCC	IC
Low	2 412	8.09	10.19	0.5	7.59	9.69
Middle	2 442	8.04	10.19	0.5	7.54	9.69
High	2 462	8.04	10.14	0.5	7.54	9.64

Remark. Margin = Measured Value - Limit

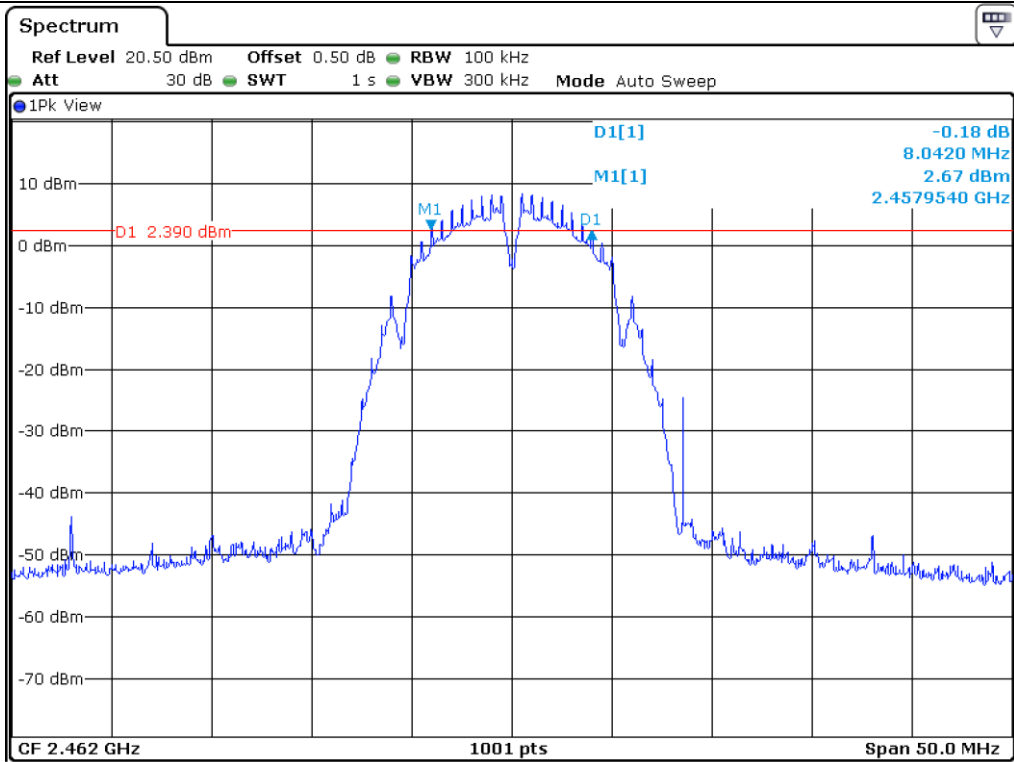
DZ

Tested by: Min-Gu, Ji / Project Engineer

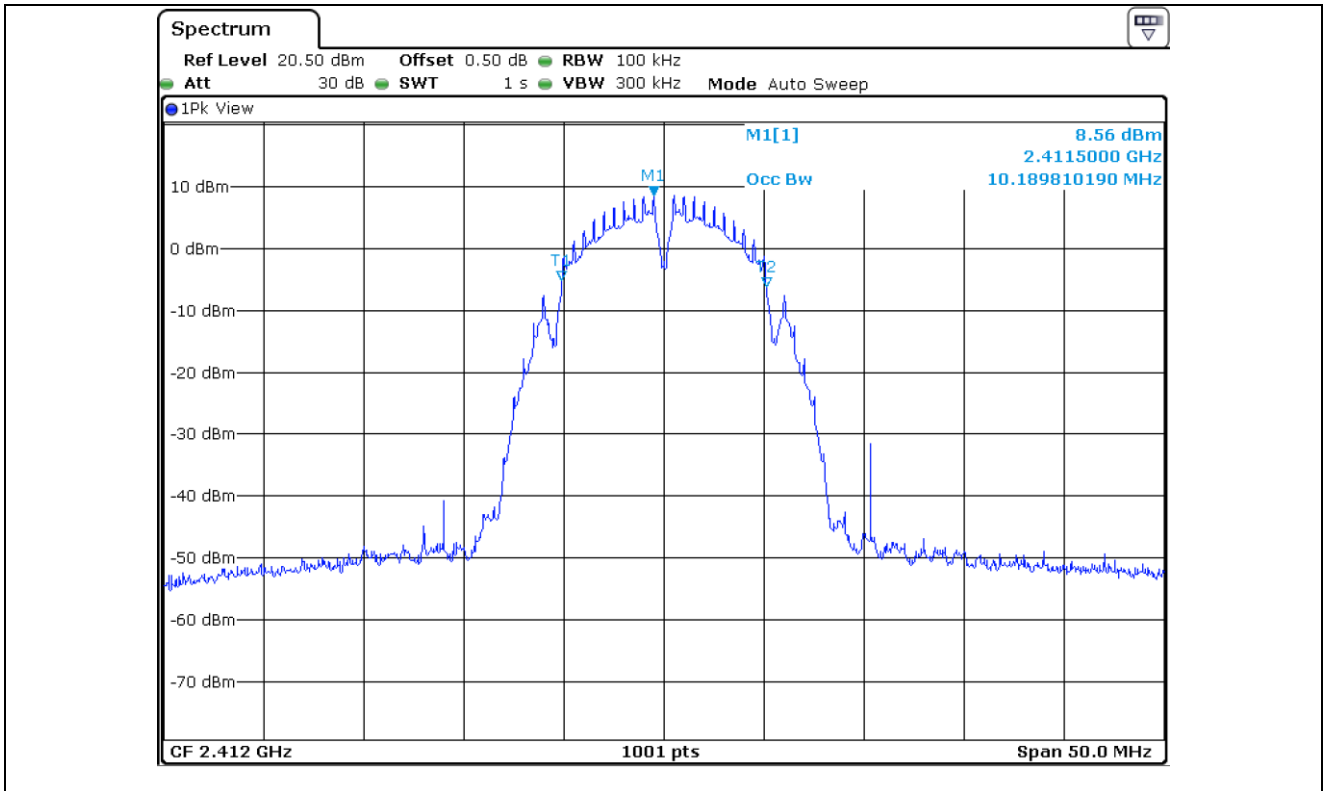




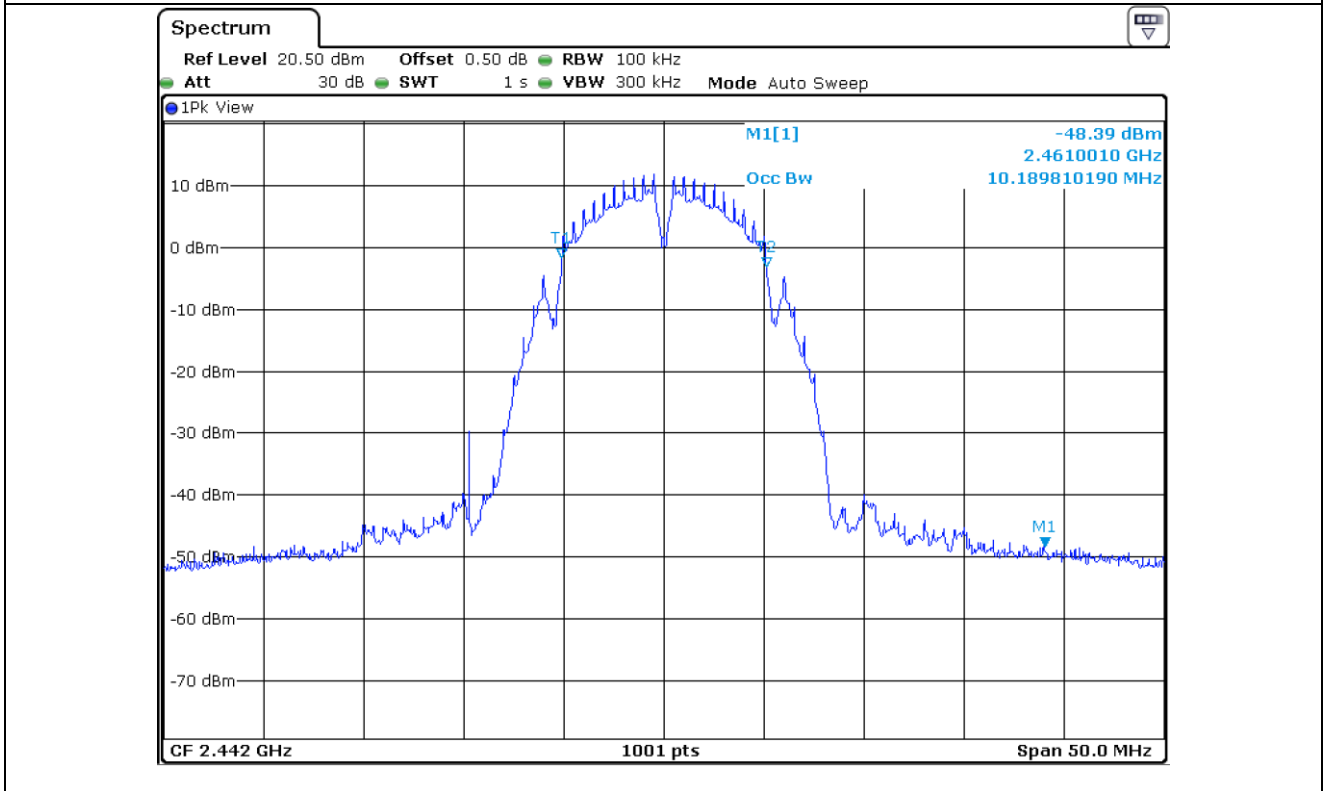
Middle Channel



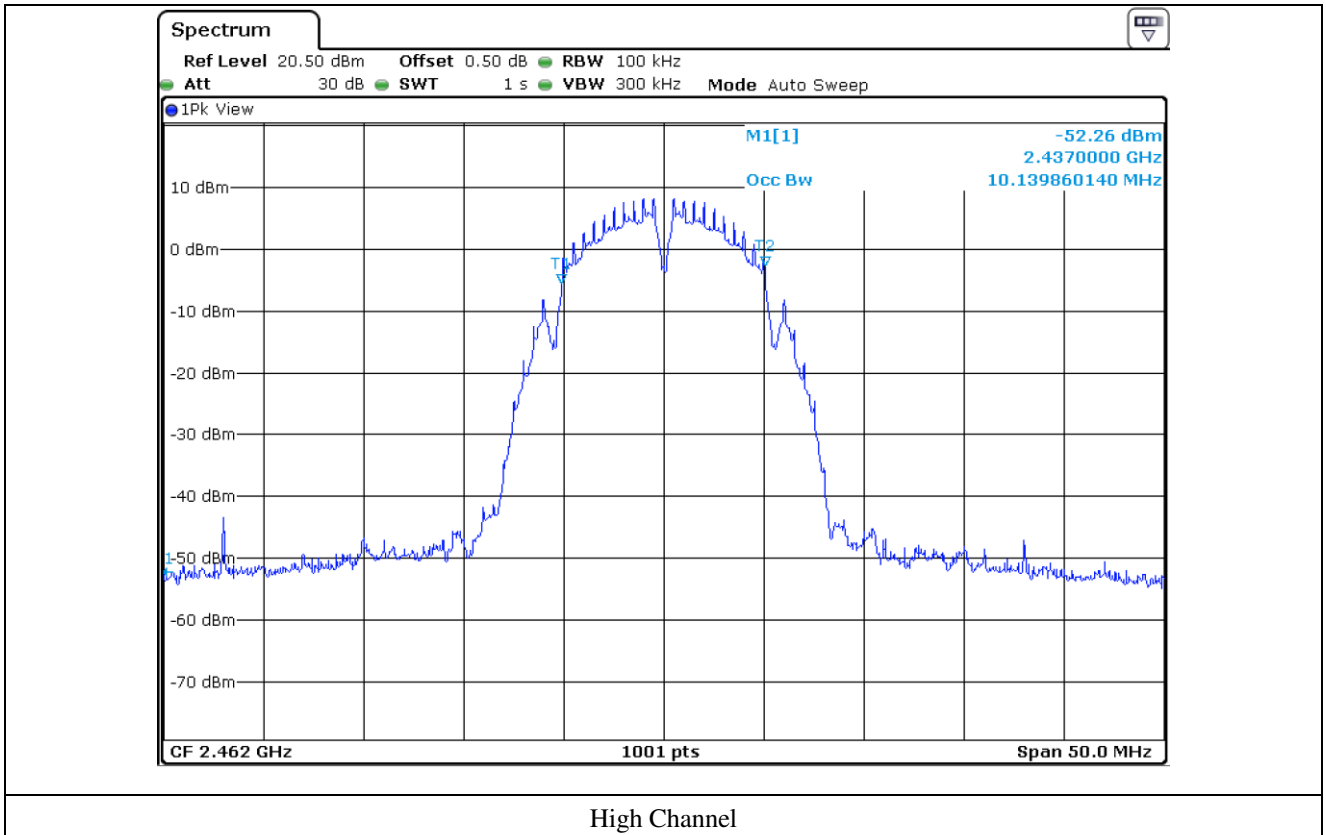
High Channel



Low Channel



Middle Channel



7.4.1.2 Test data for Antenna 1

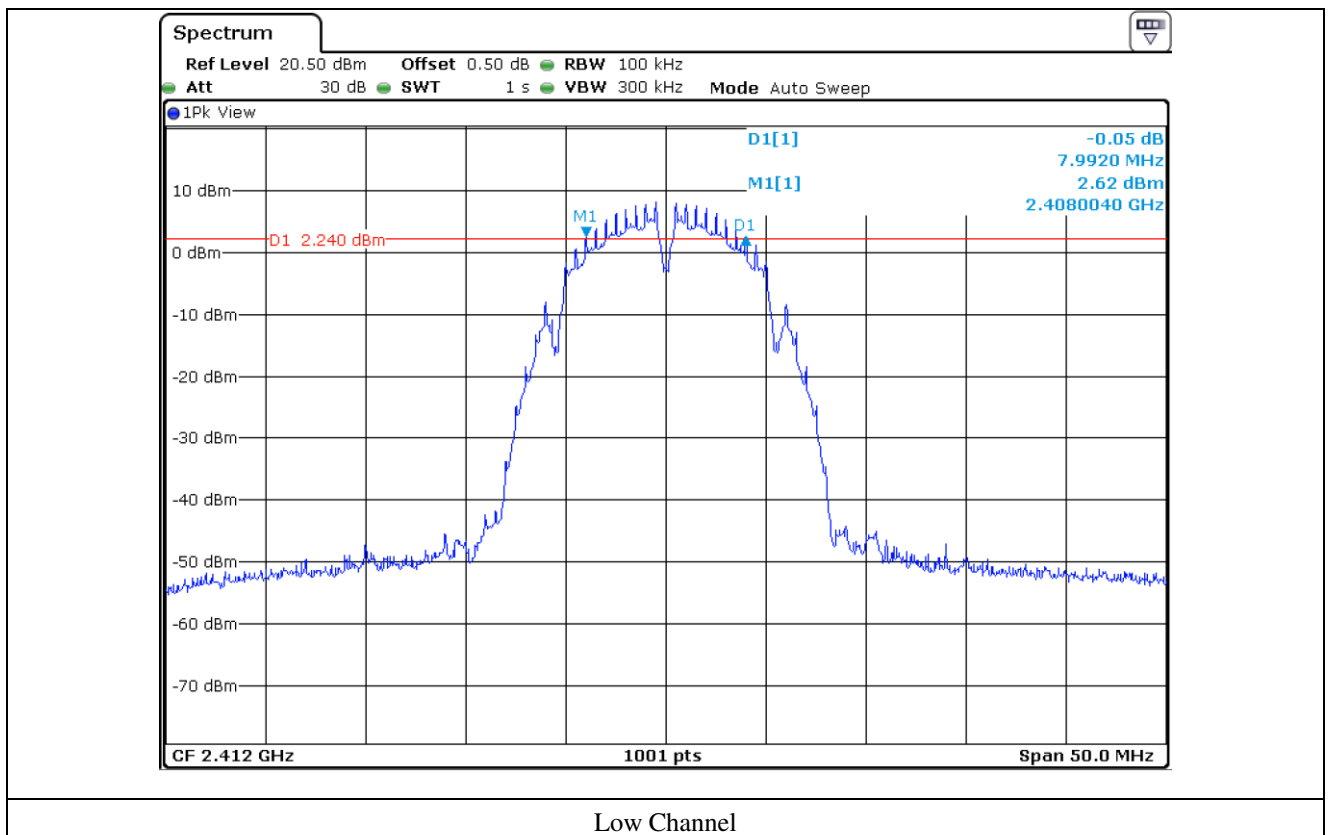
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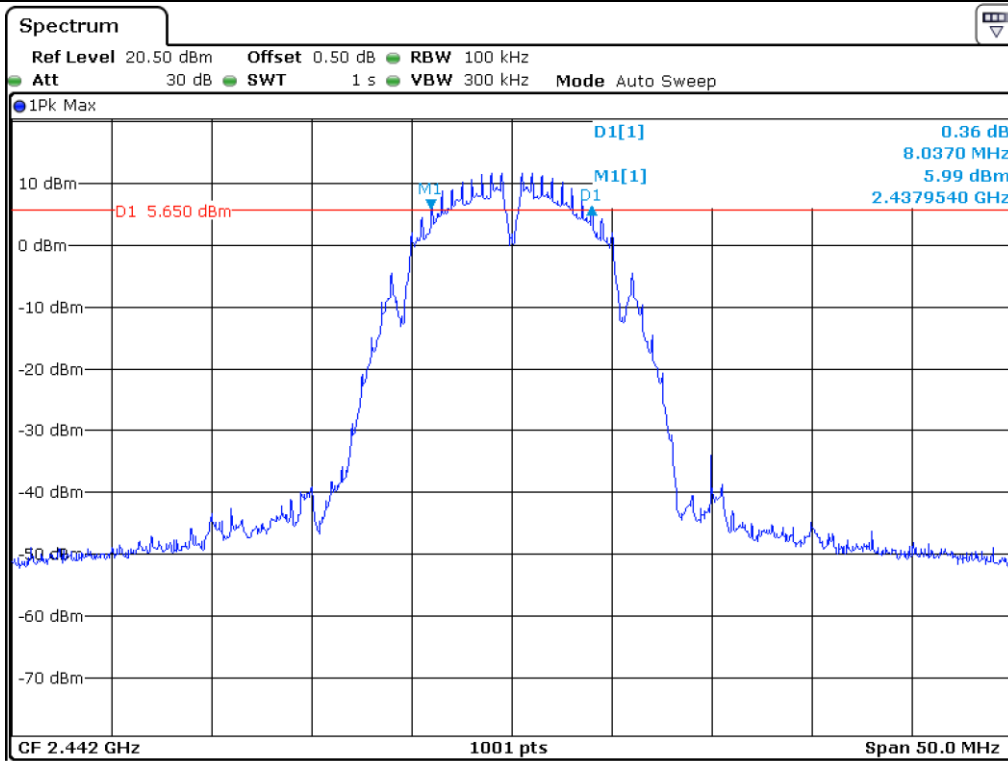
-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)	Margin(MHz)	
					FCC	IC
Low	2 412	7.99	10.14	0.5	7.49	9.64
Middle	2 442	8.04	10.14	0.5	7.54	9.64
High	2 462	8.09	10.14	0.5	7.59	9.64

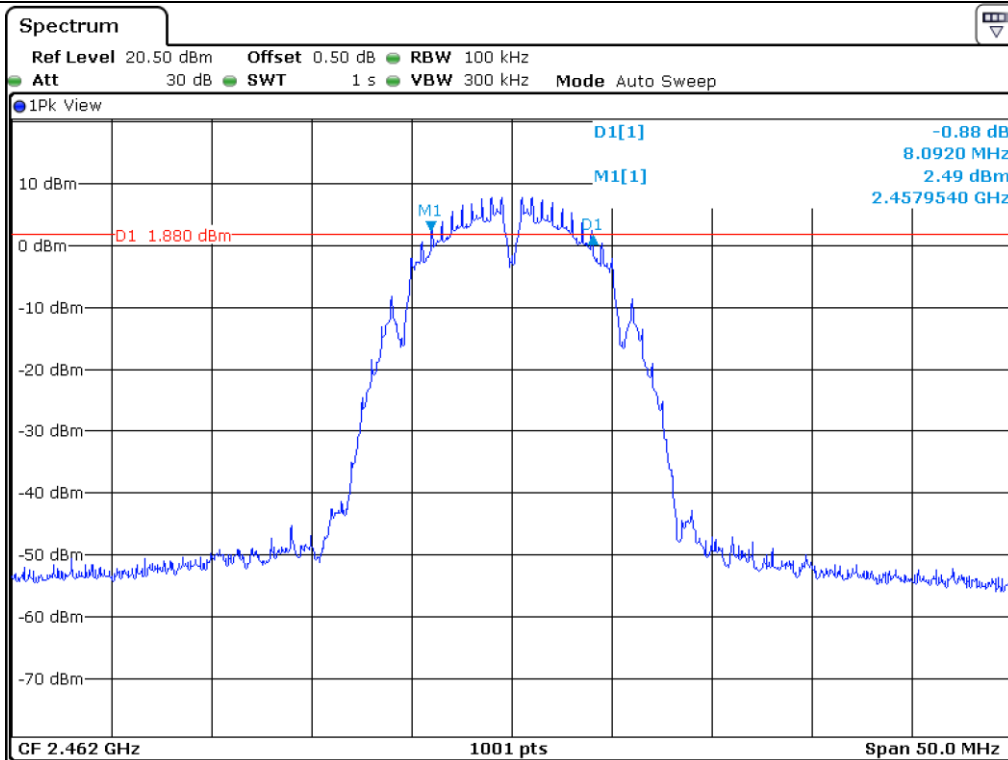
Remark. Margin = Measured Value - Limit

Tested by: Min-Gu, Ji / Project Engineer

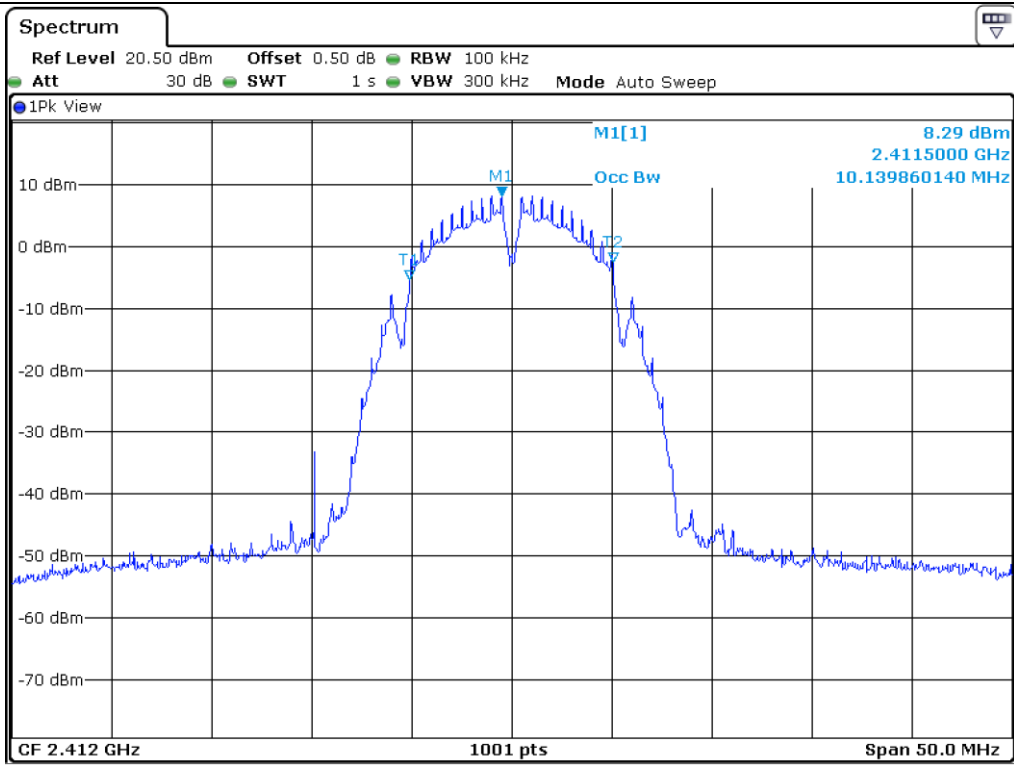




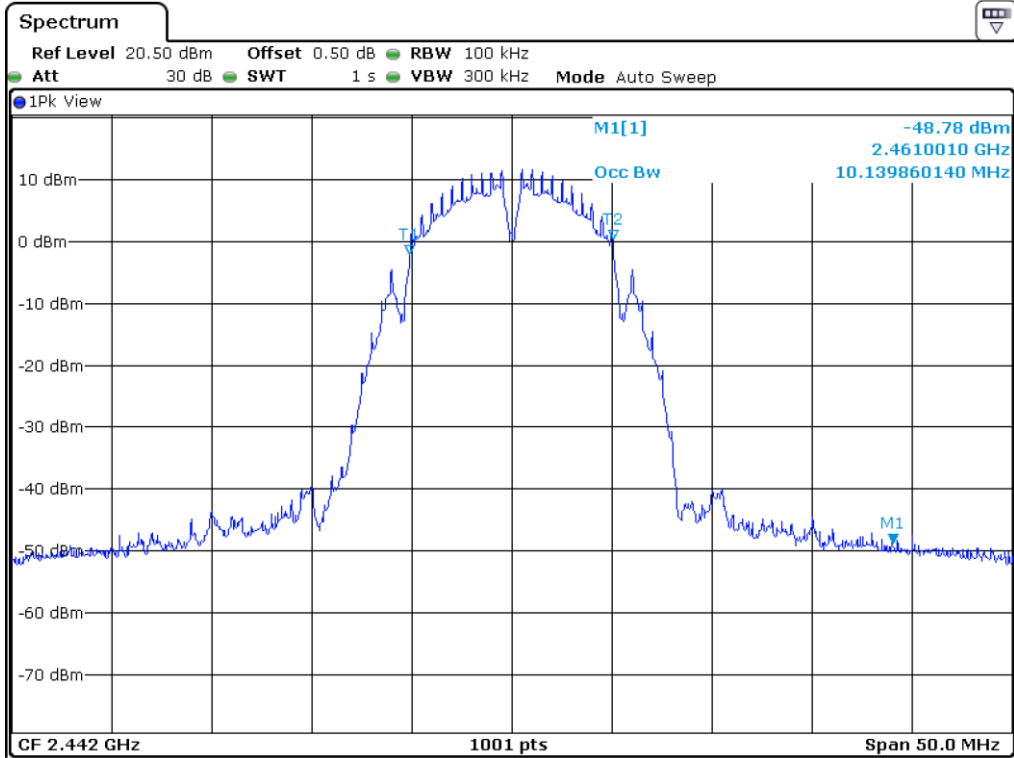
Middle Channel



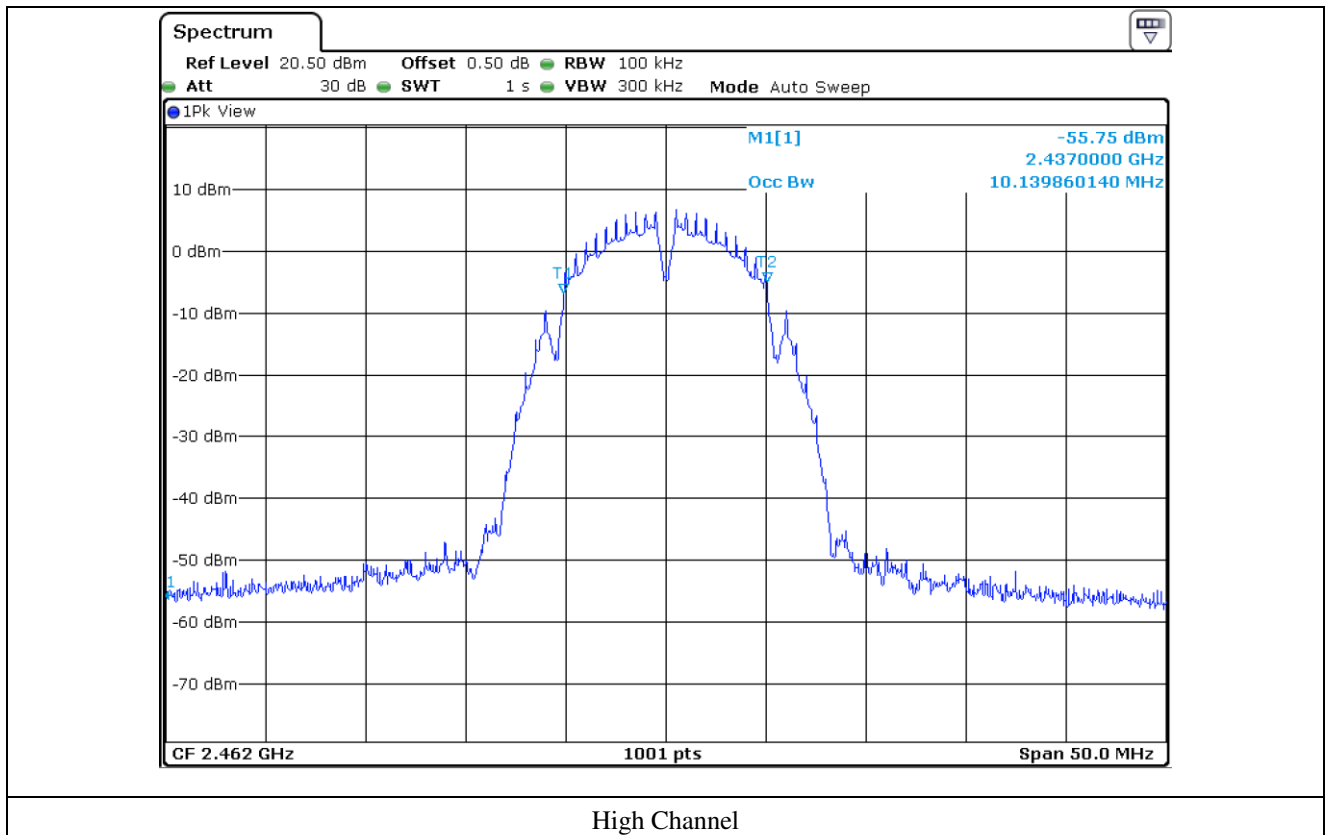
High Channel



Low Channel



Middle Channel



High Channel

7.4.1.3 Test data for Antenna 2

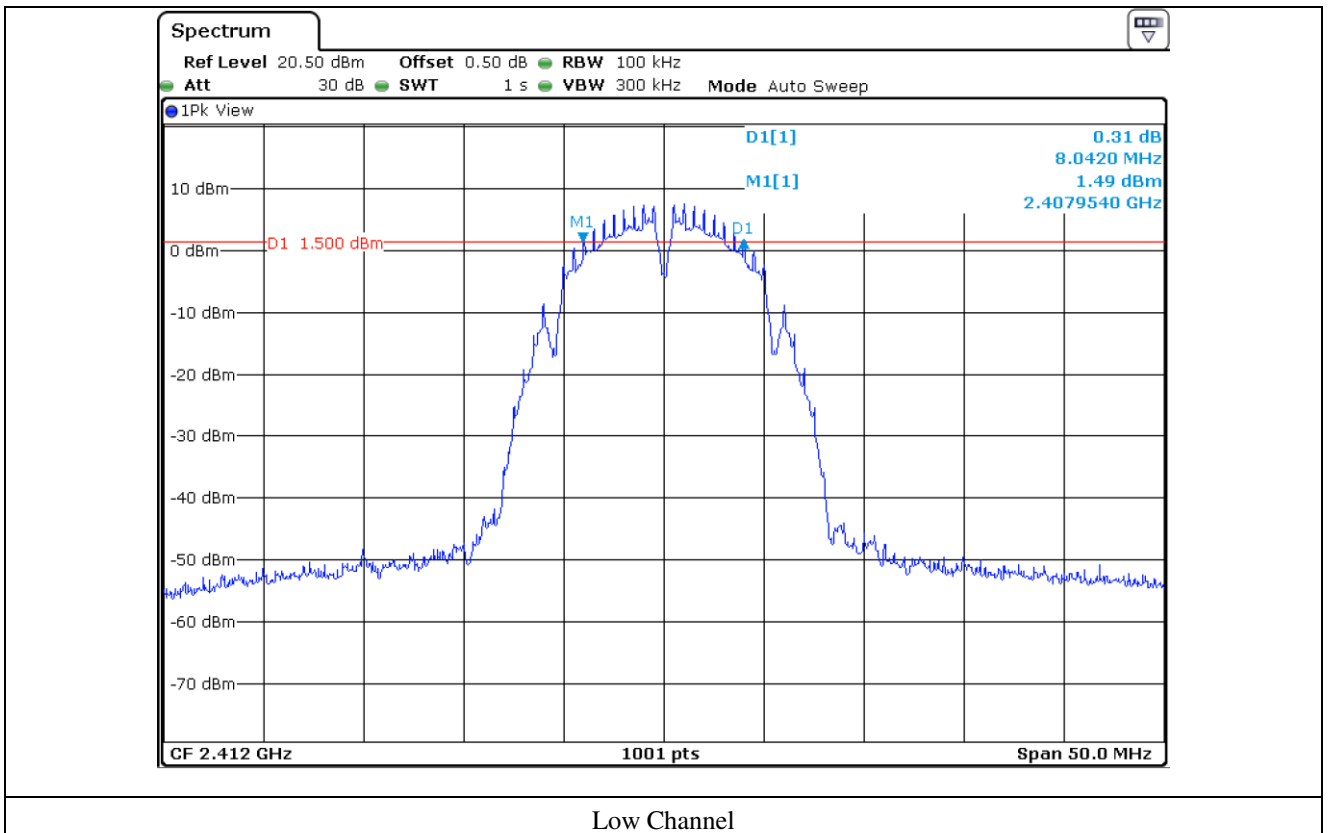
-. Test Date : June 20, 2016

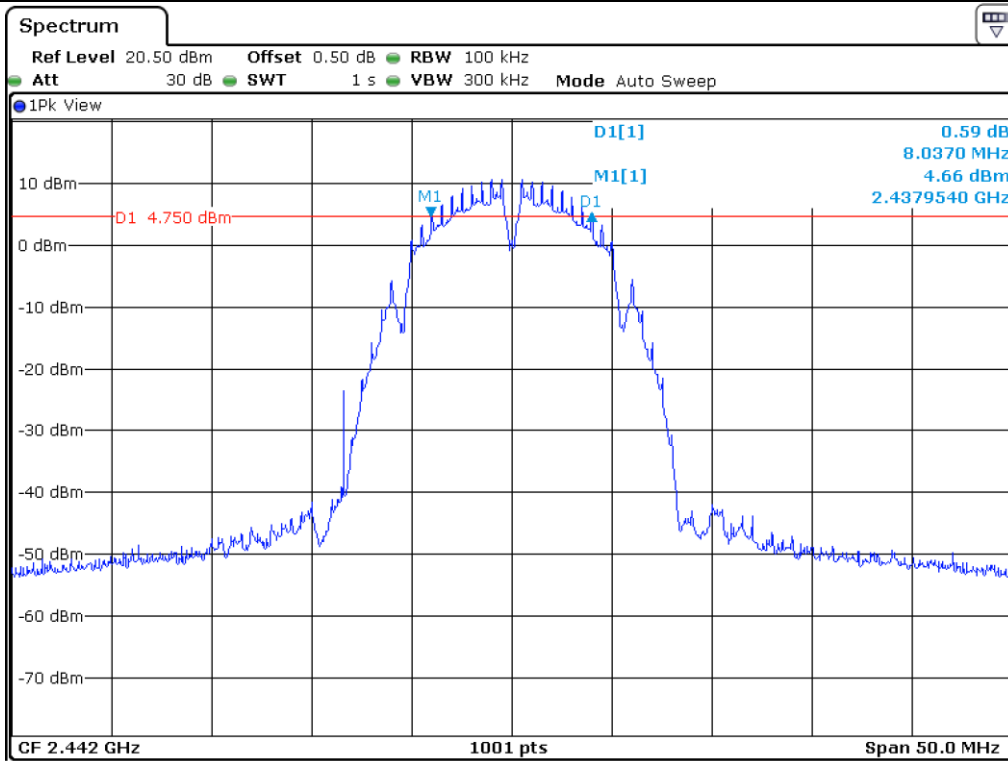
-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)	Margin(MHz)	
					FCC	IC
Low	2 412	8.04	10.14	0.5	7.54	9.64
Middle	2 442	8.04	10.14	0.5	7.54	9.64
High	2 462	8.04	10.14	0.5	7.54	9.64

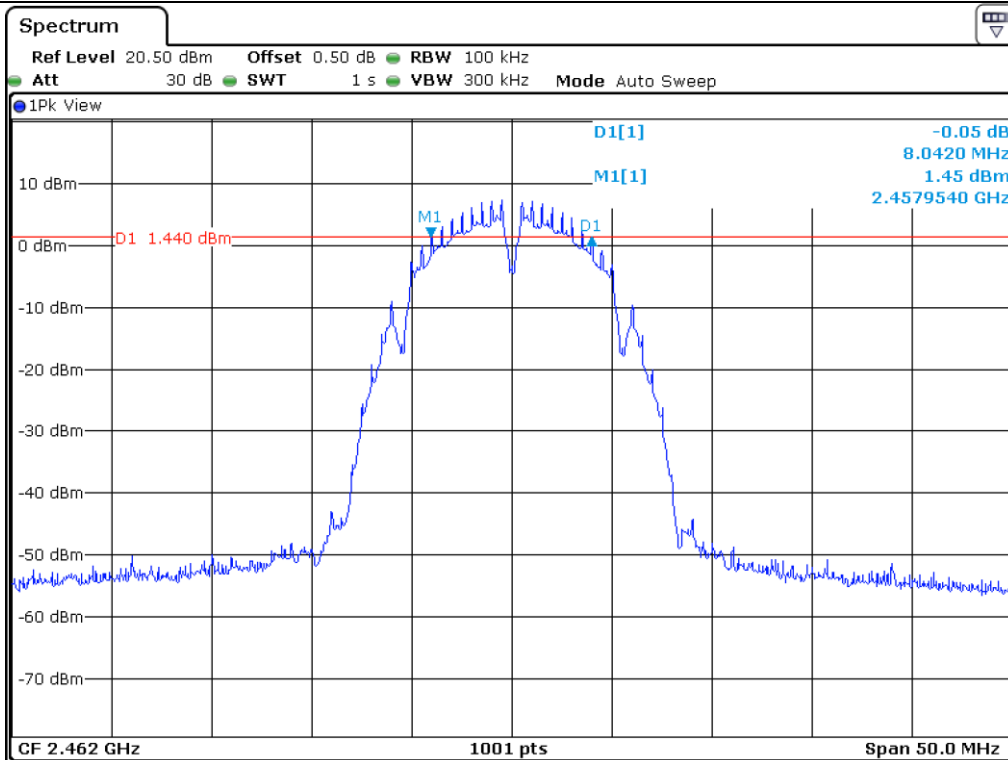
Remark. Margin = Measured Value - Limit

Tested by: Min-Gu, Ji / Project Engineer

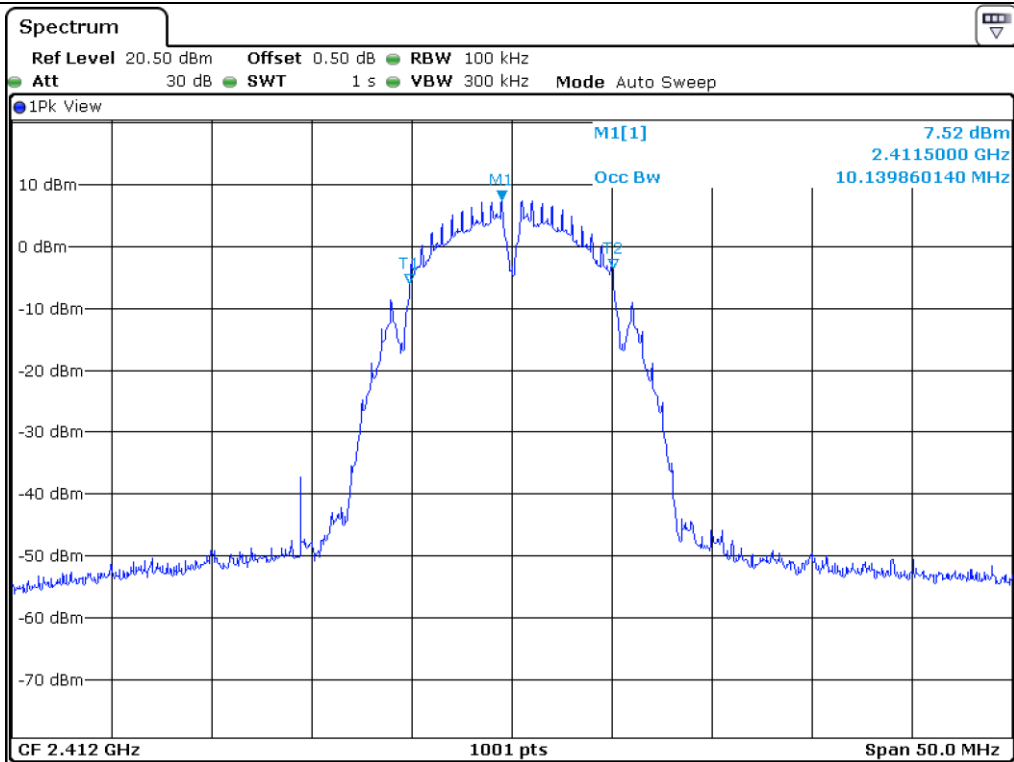




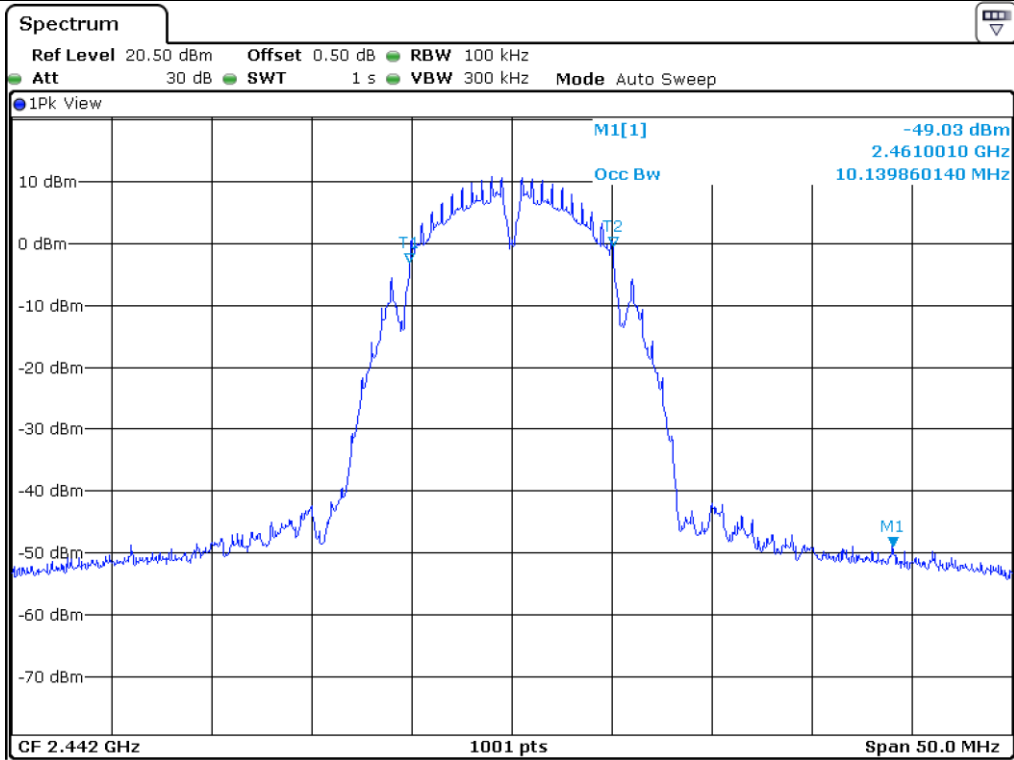
Middle Channel



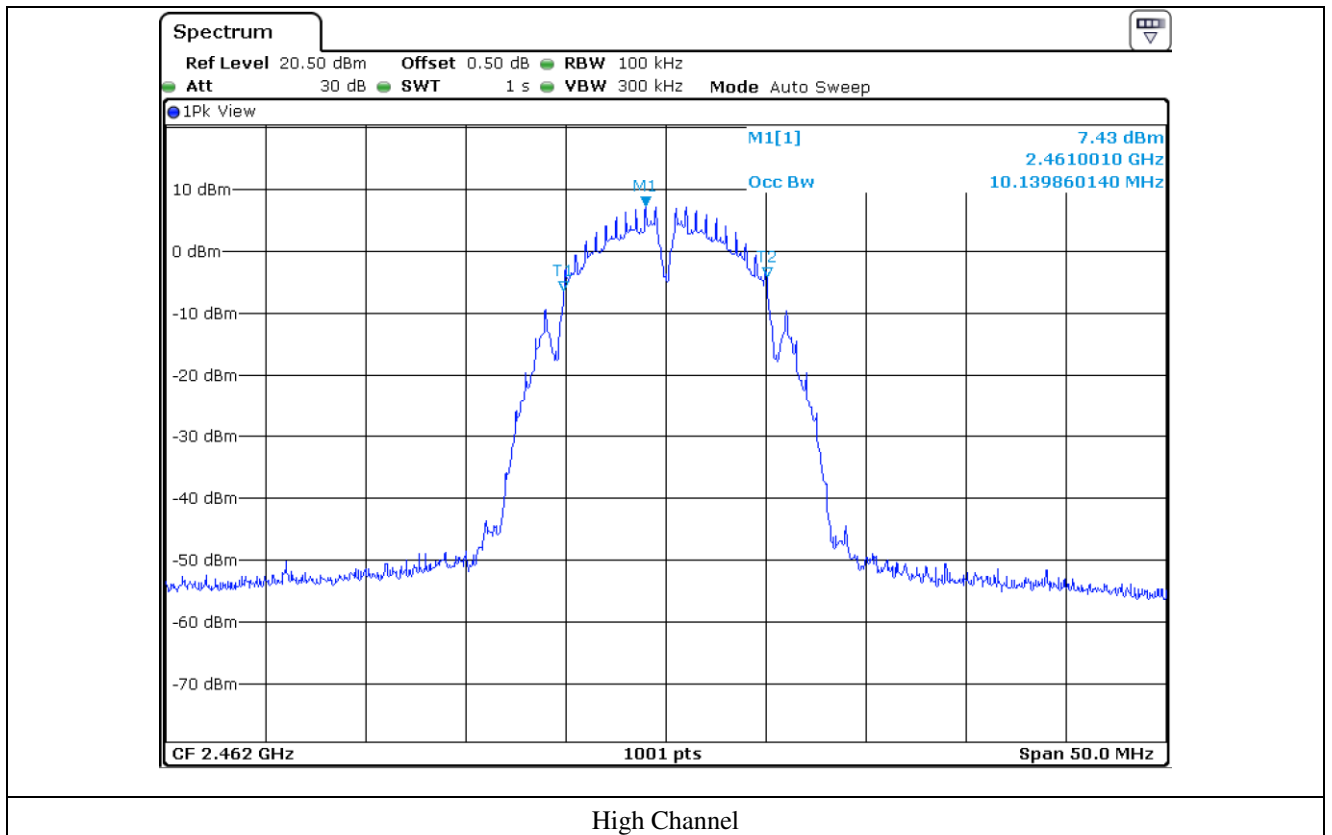
High Channel



Low Channel



Middle Channel



7.4.1.4 Test data for Antenna 3

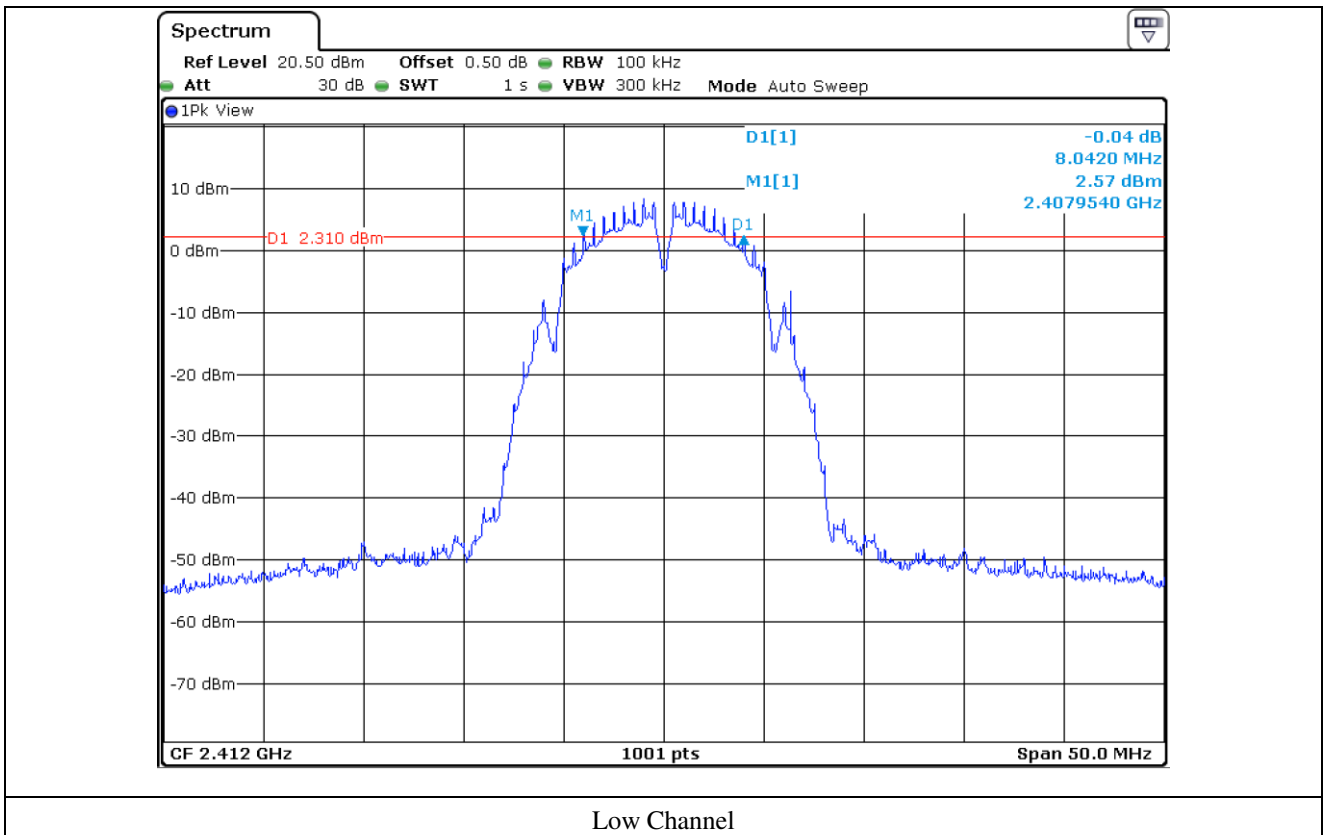
-. Test Date : June 20, 2016

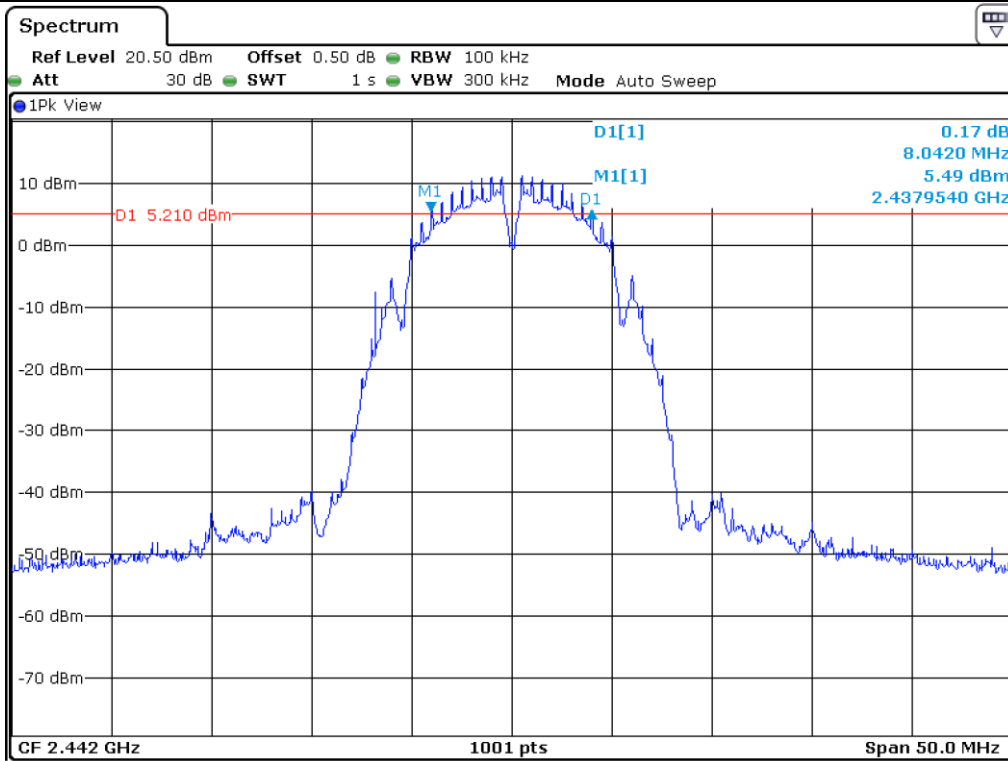
-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)	Margin(MHz)	
					FCC	IC
Low	2 412	8.04	10.14	0.5	7.54	9.64
Middle	2 442	8.04	10.14	0.5	7.54	9.64
High	2 462	8.04	10.14	0.5	7.54	9.64

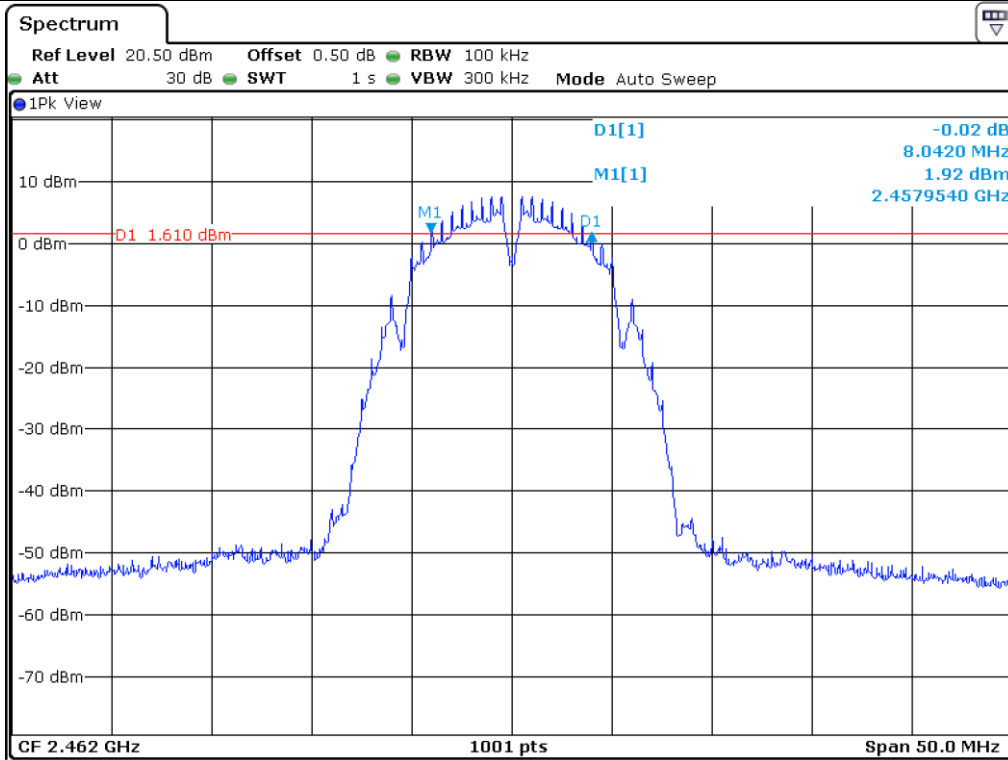
Remark. Margin = Measured Value - Limit

Tested by: Min-Gu, Ji / Project Engineer

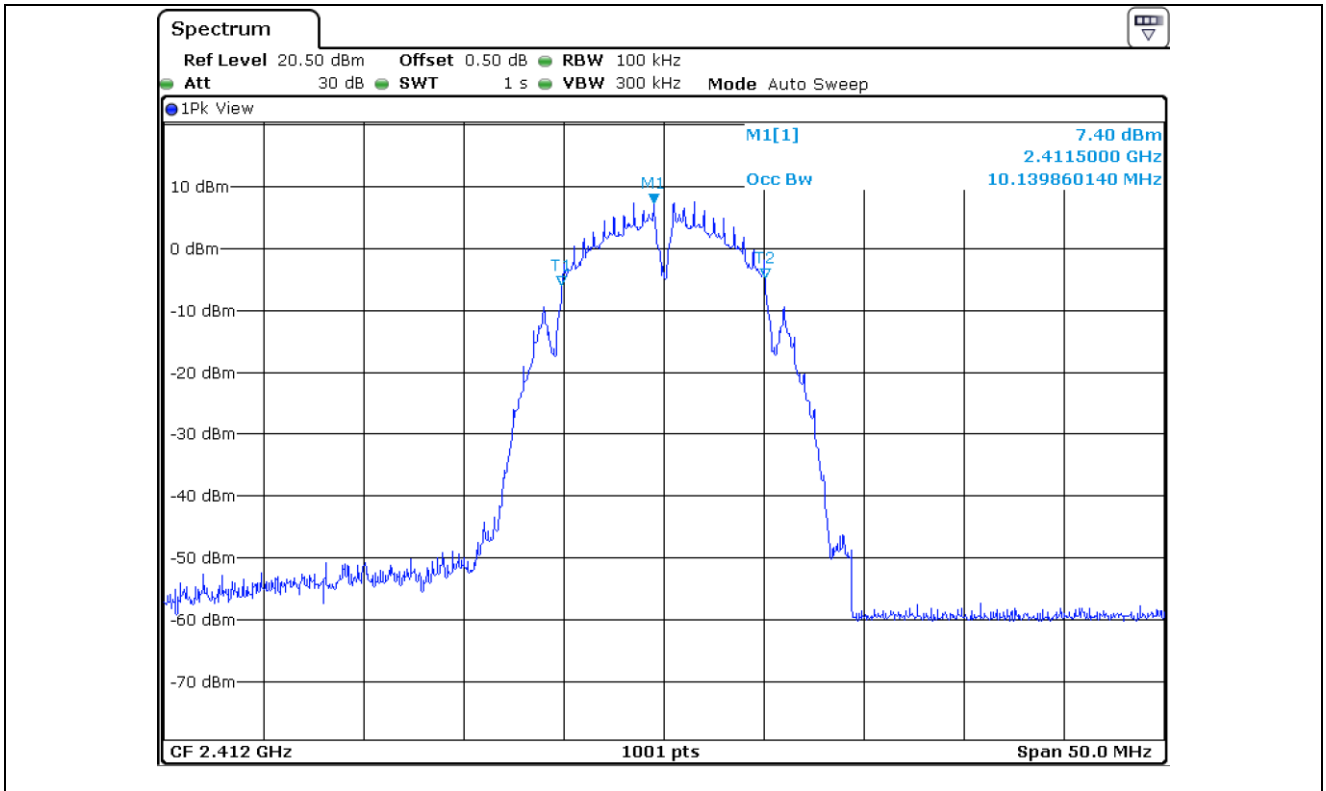




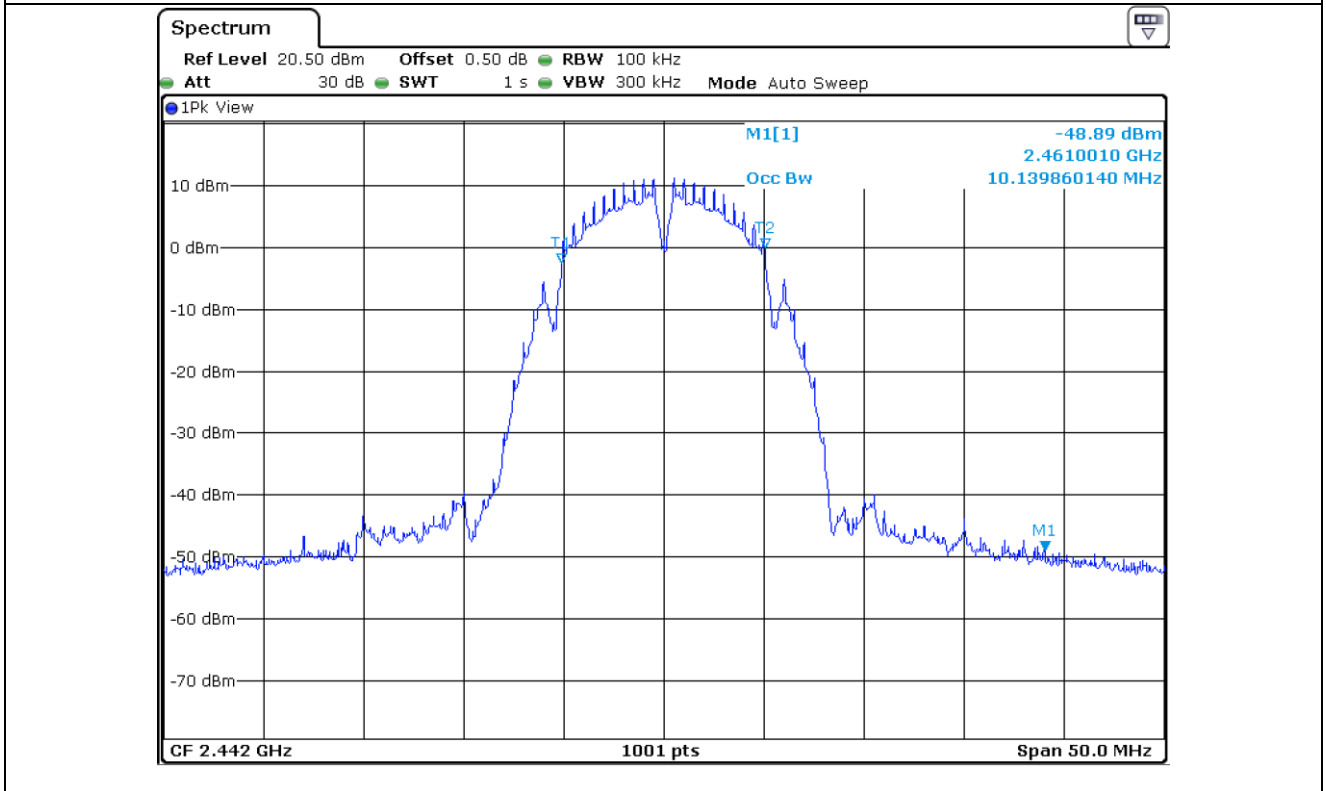
Middle Channel



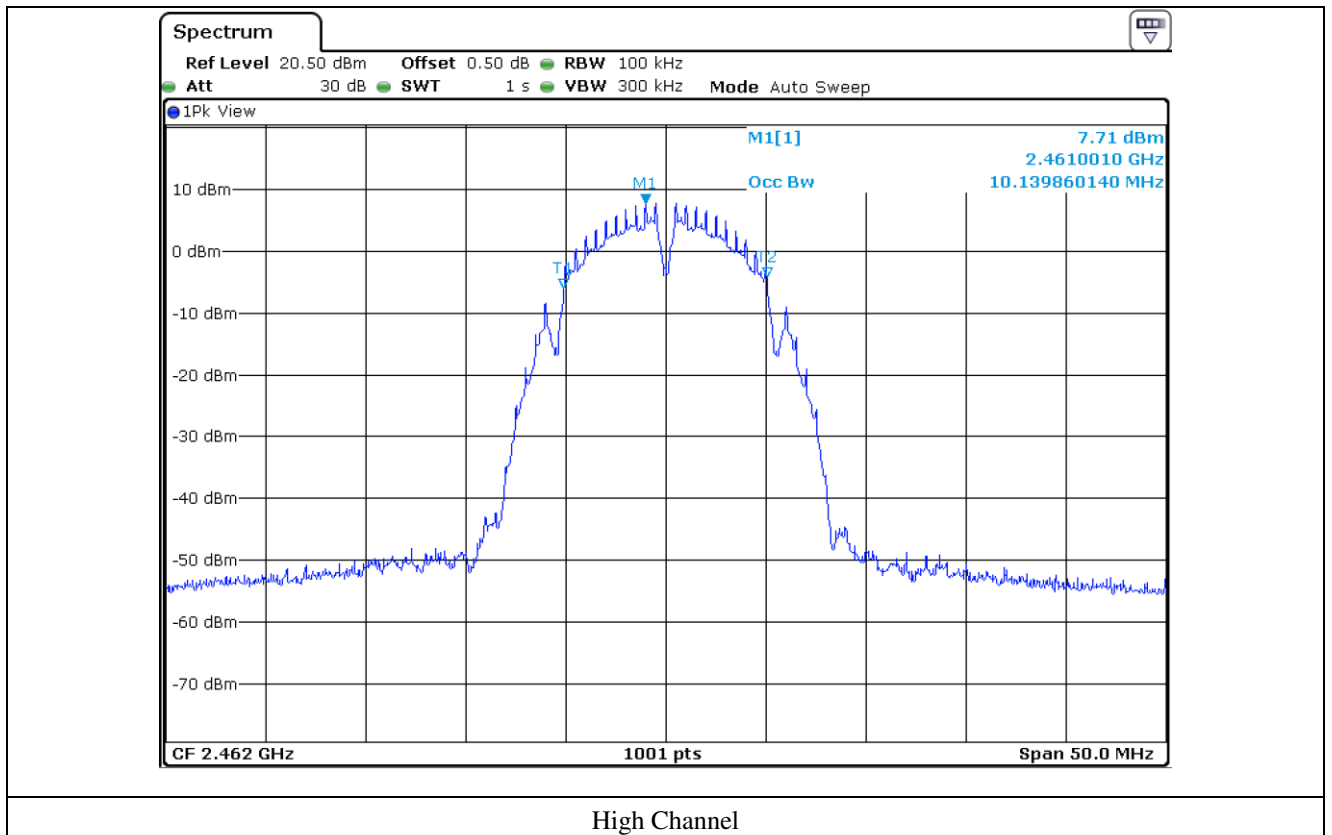
High Channel



Low Channel



Middle Channel



7.4.2 Test data for 802.11g WLAN Mode

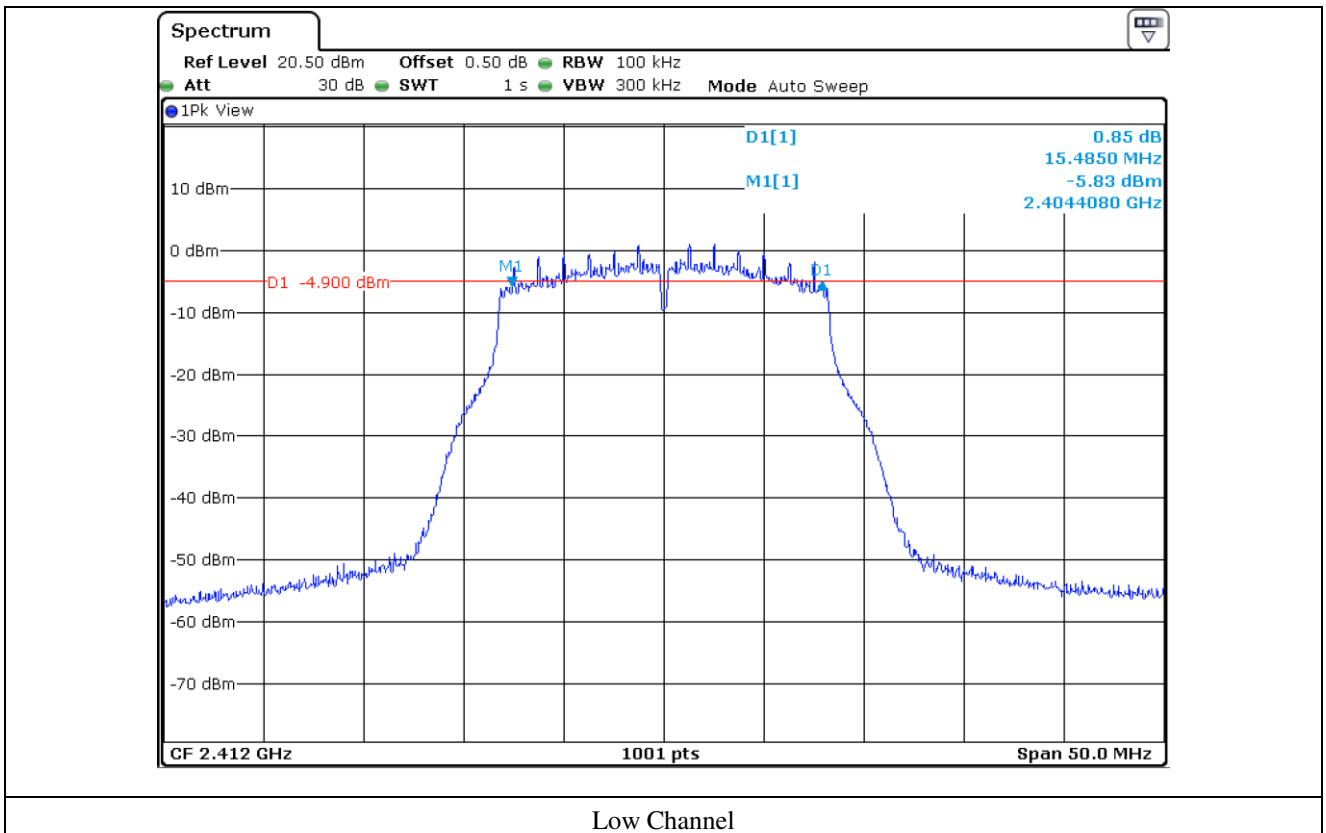
7.4.2.1 Test data for Antenna 0

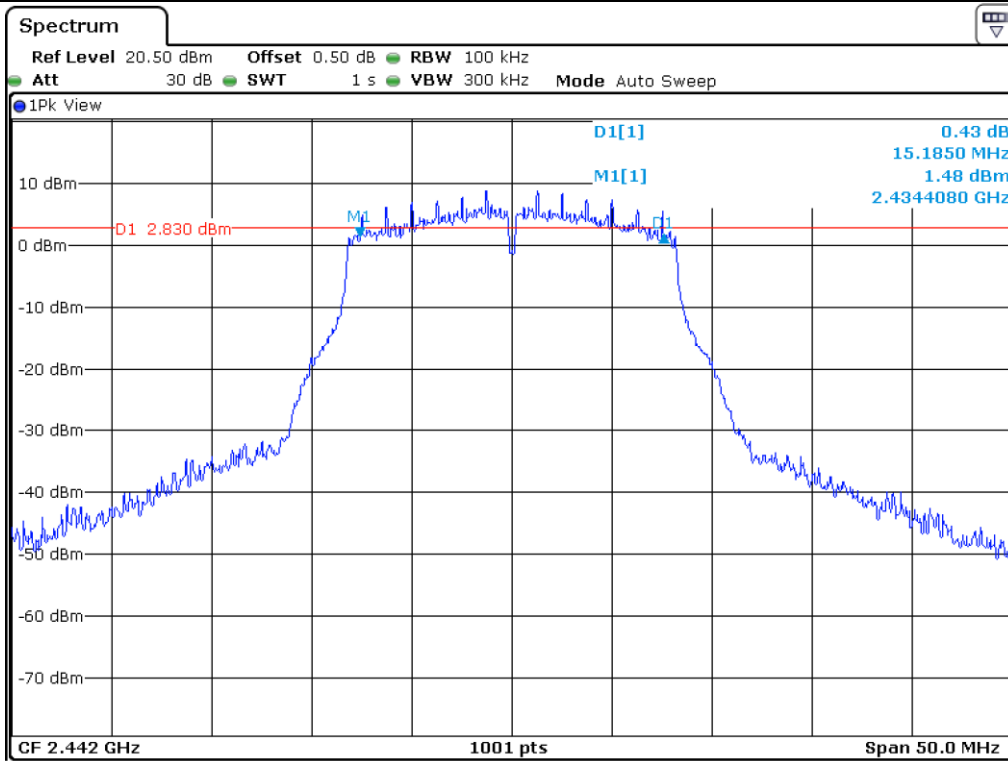
-. Test Date : June 20, 2016
 -. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)	Margin(MHz)	
					FCC	IC
Low	2 412	15.49	16.33	0.5	14.99	15.83
Middle	2 442	15.19	16.28	0.5	14.69	15.78
High	2 462	15.14	16.33	0.5	14.64	15.83

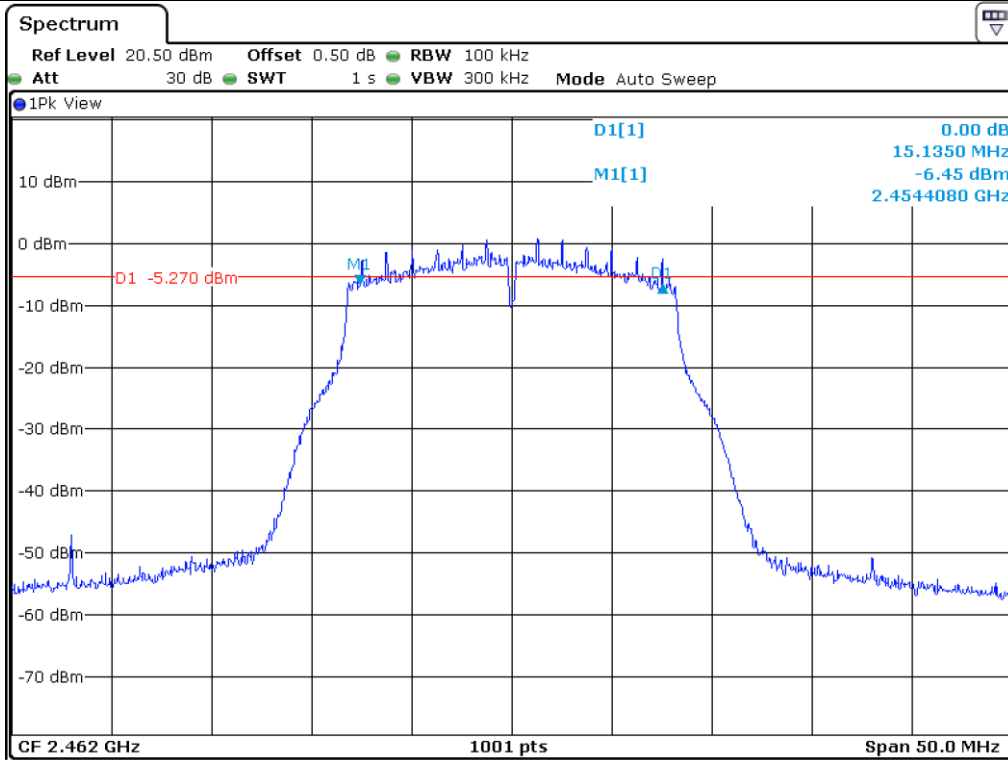
Remark. Margin = Measured Value - Limit

Tested by: Min-Gu, Ji / Project Engineer

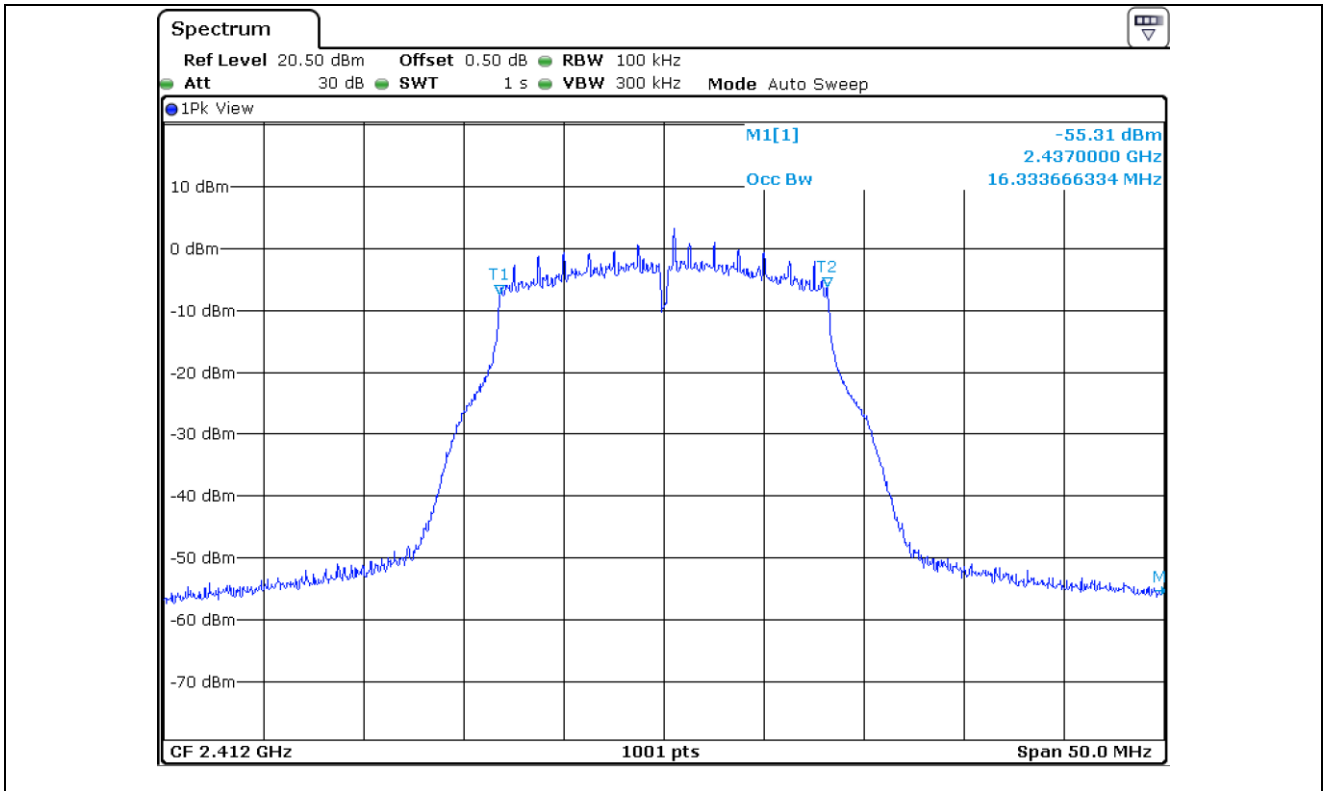




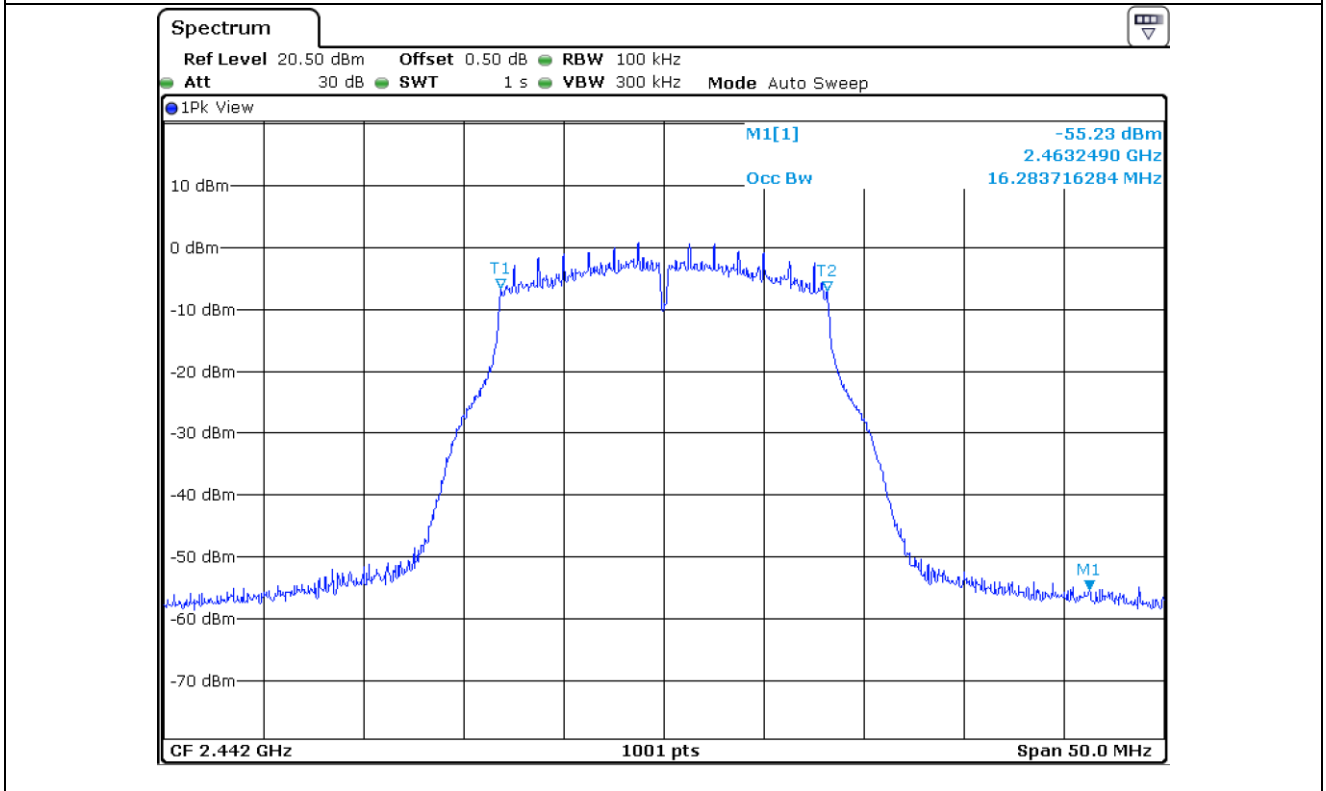
Middle Channel



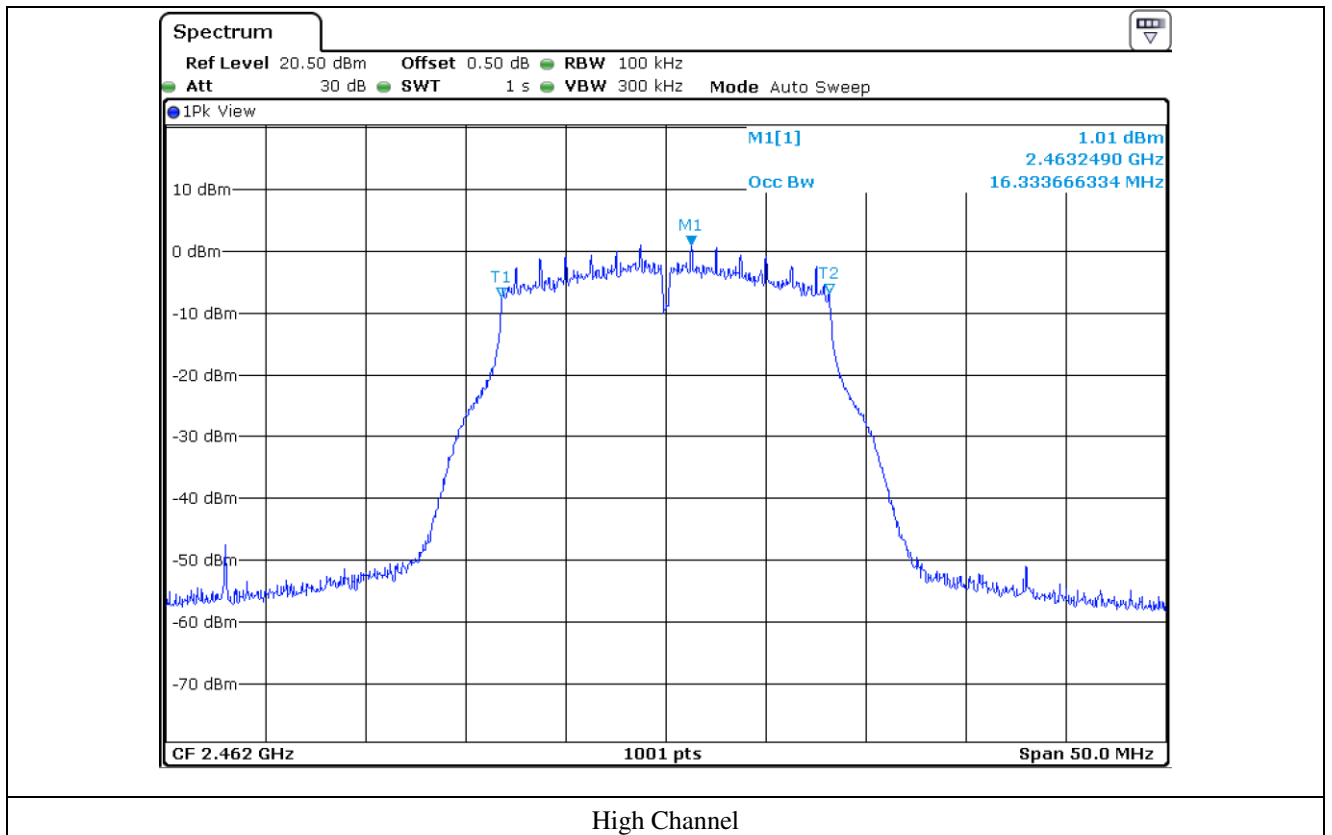
High Channel



Low Channel



Middle Channel



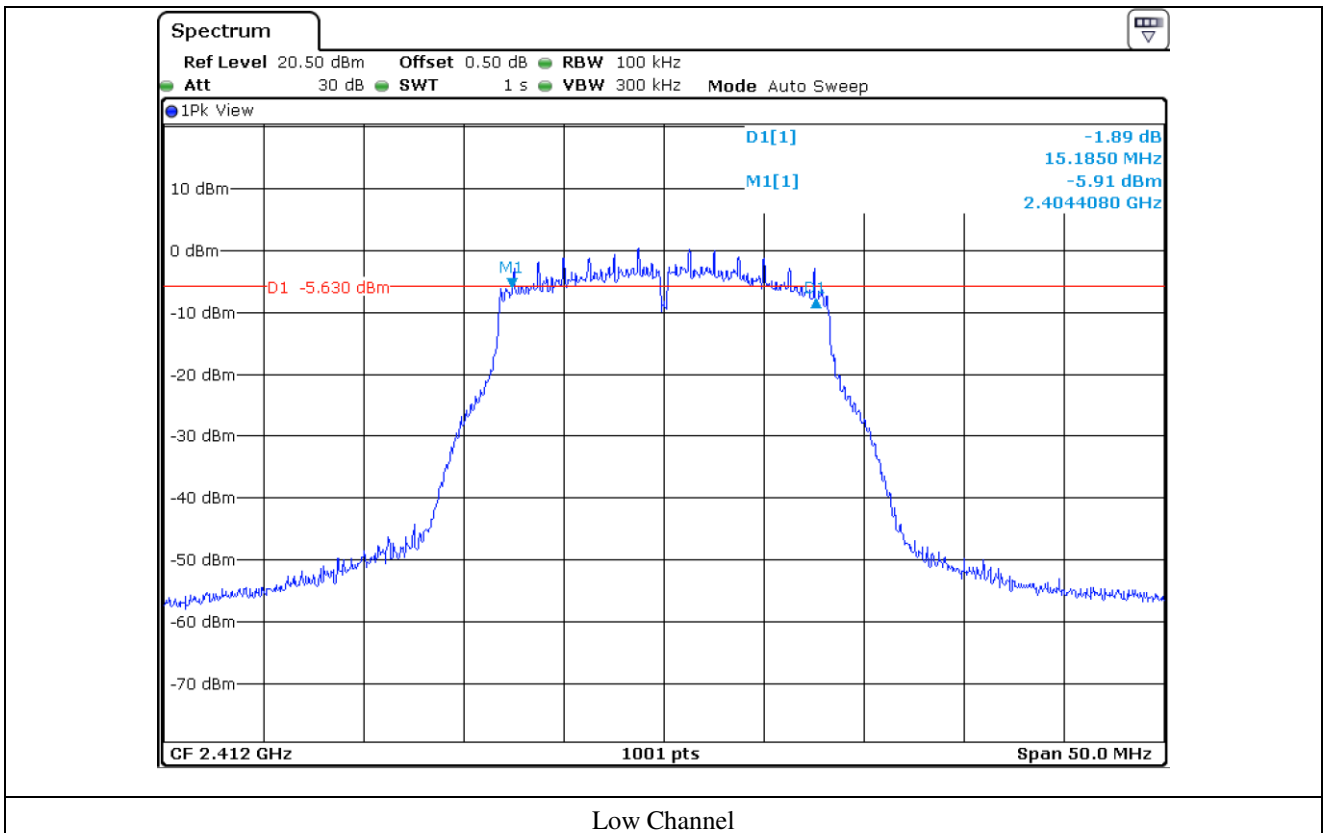
7.4.2.2 Test data for Antenna 1

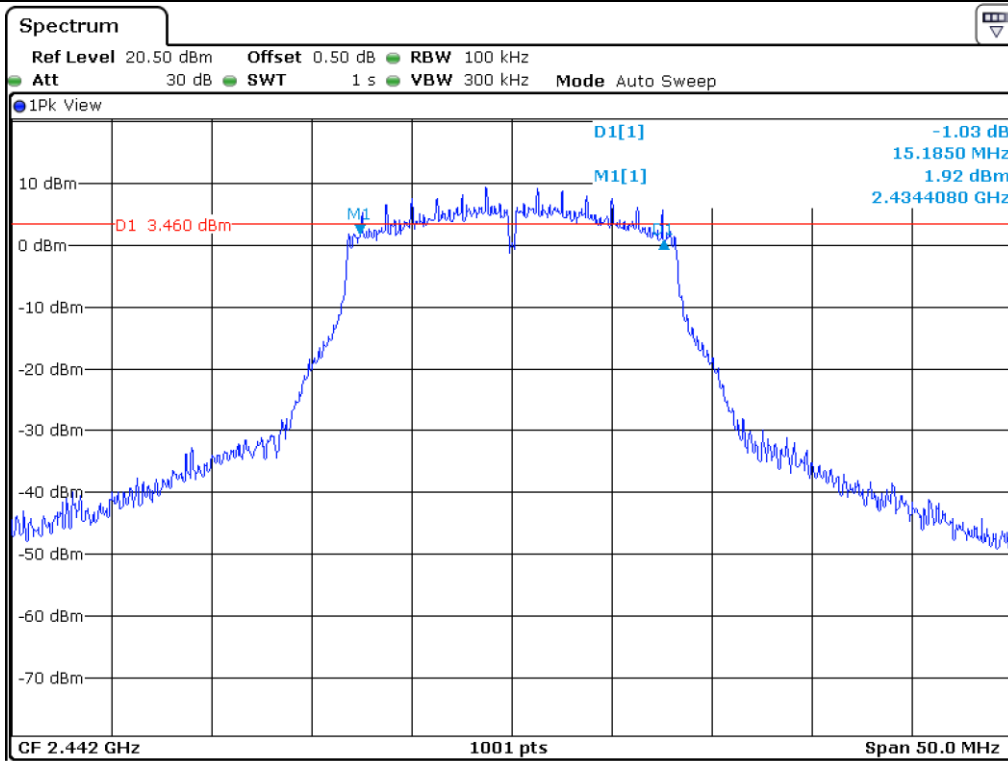
-. Test Date : June 20, 2016
 -. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)	Margin(MHz)	
					FCC	IC
Low	2 412	15.19	16.33	0.5	14.69	15.83
Middle	2 442	15.19	16.28	0.5	14.69	15.78
High	2 462	15.19	16.33	0.5	14.69	15.83

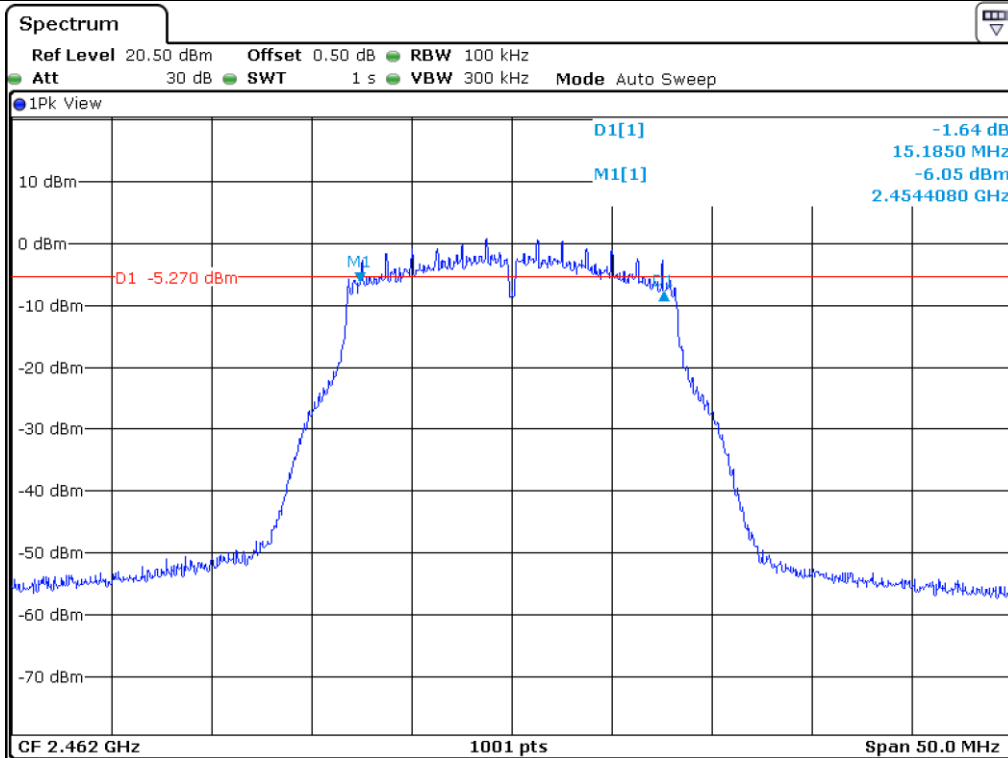
Remark. Margin = Measured Value - Limit

Tested by: Min-Gu, Ji / Project Engineer

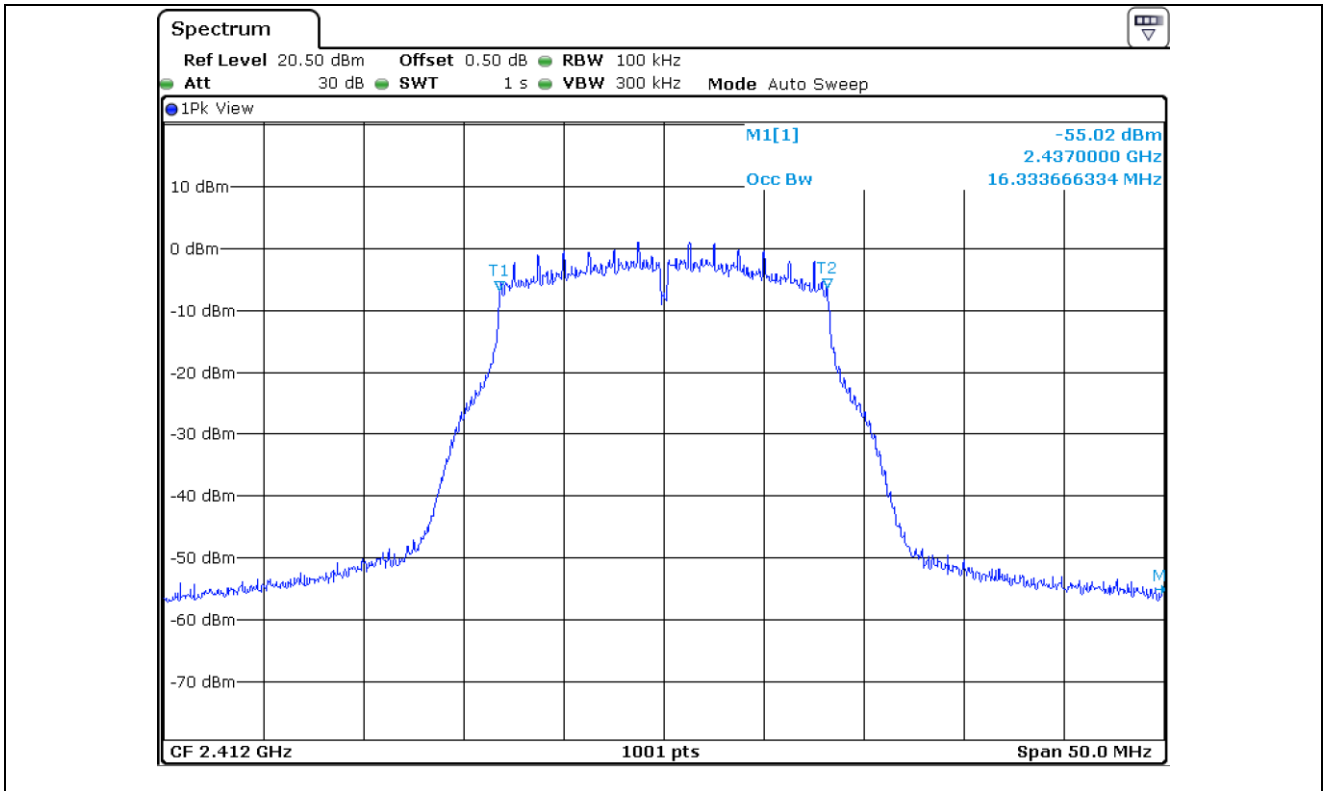




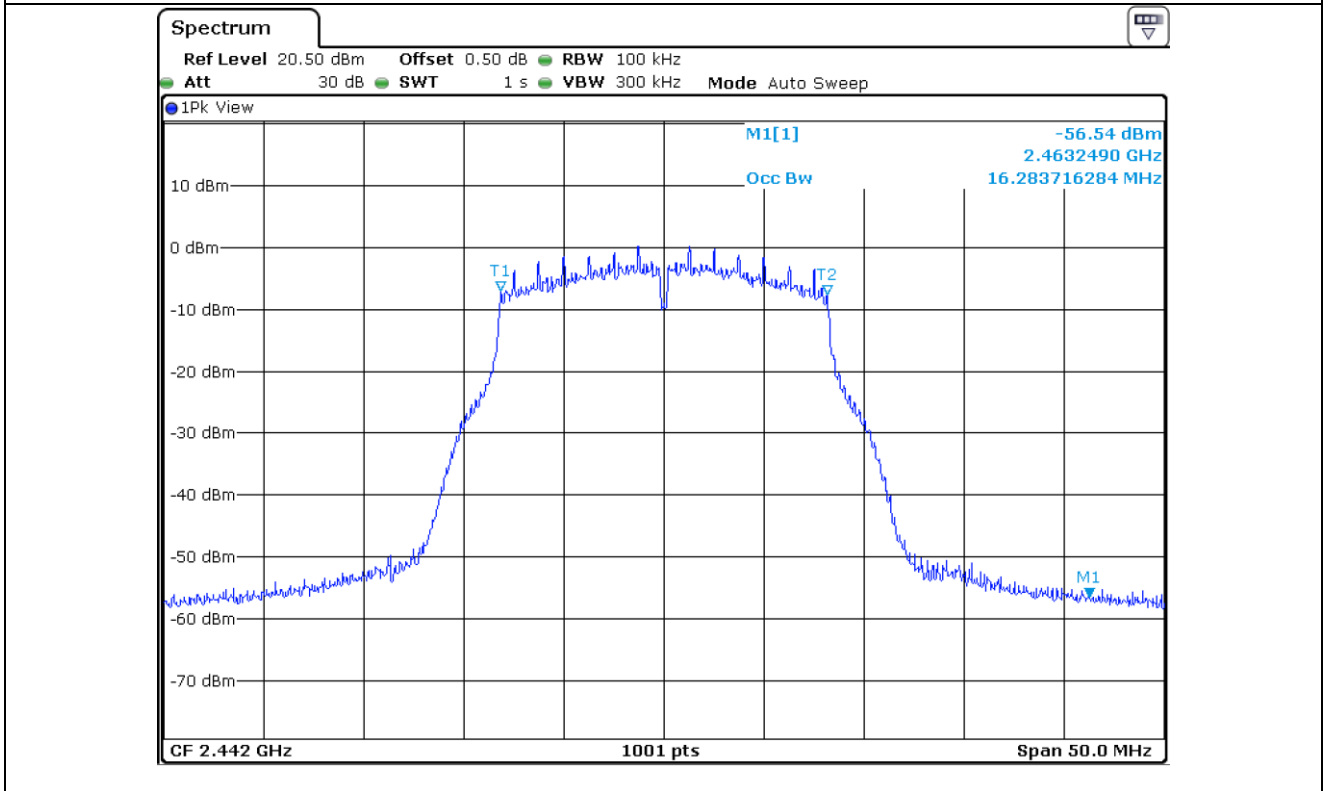
Middle Channel



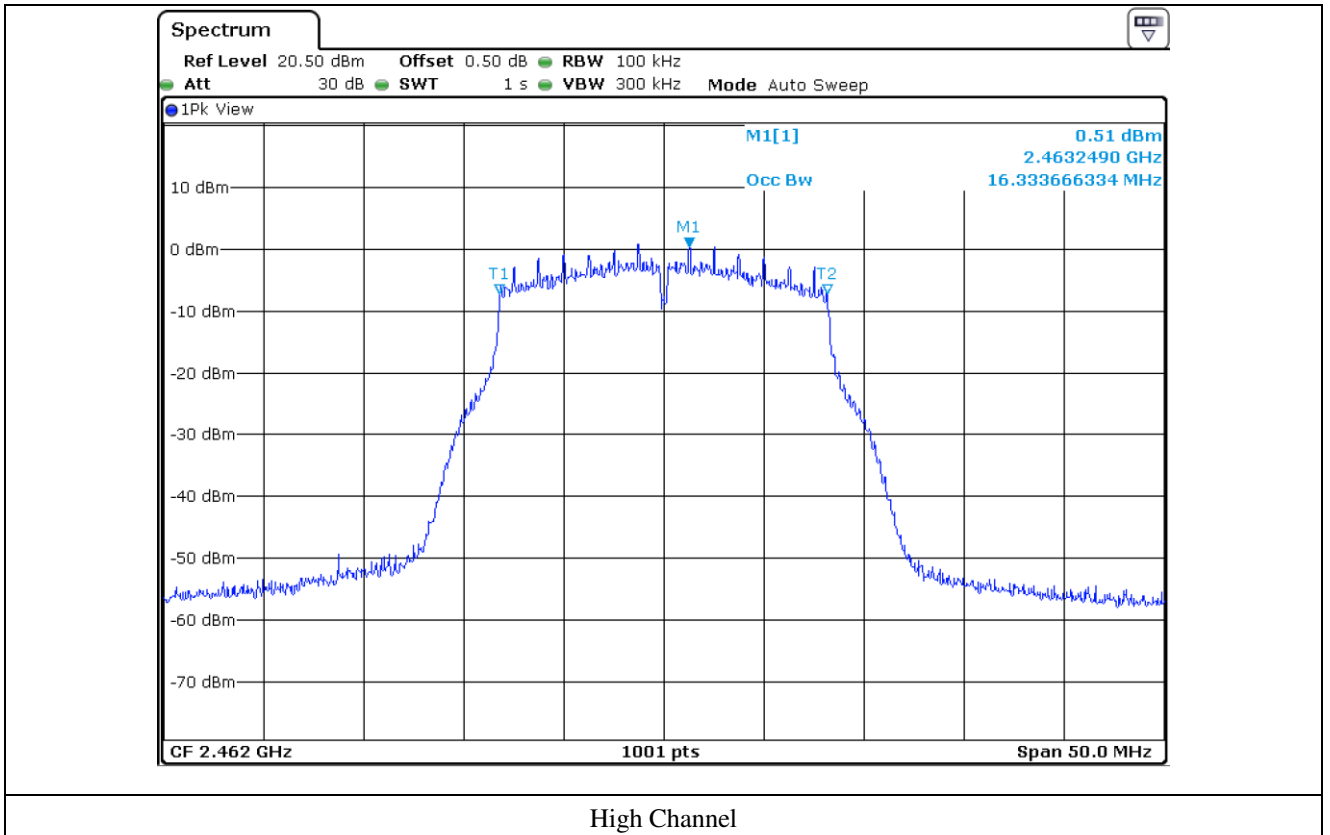
High Channel



Low Channel



Middle Channel



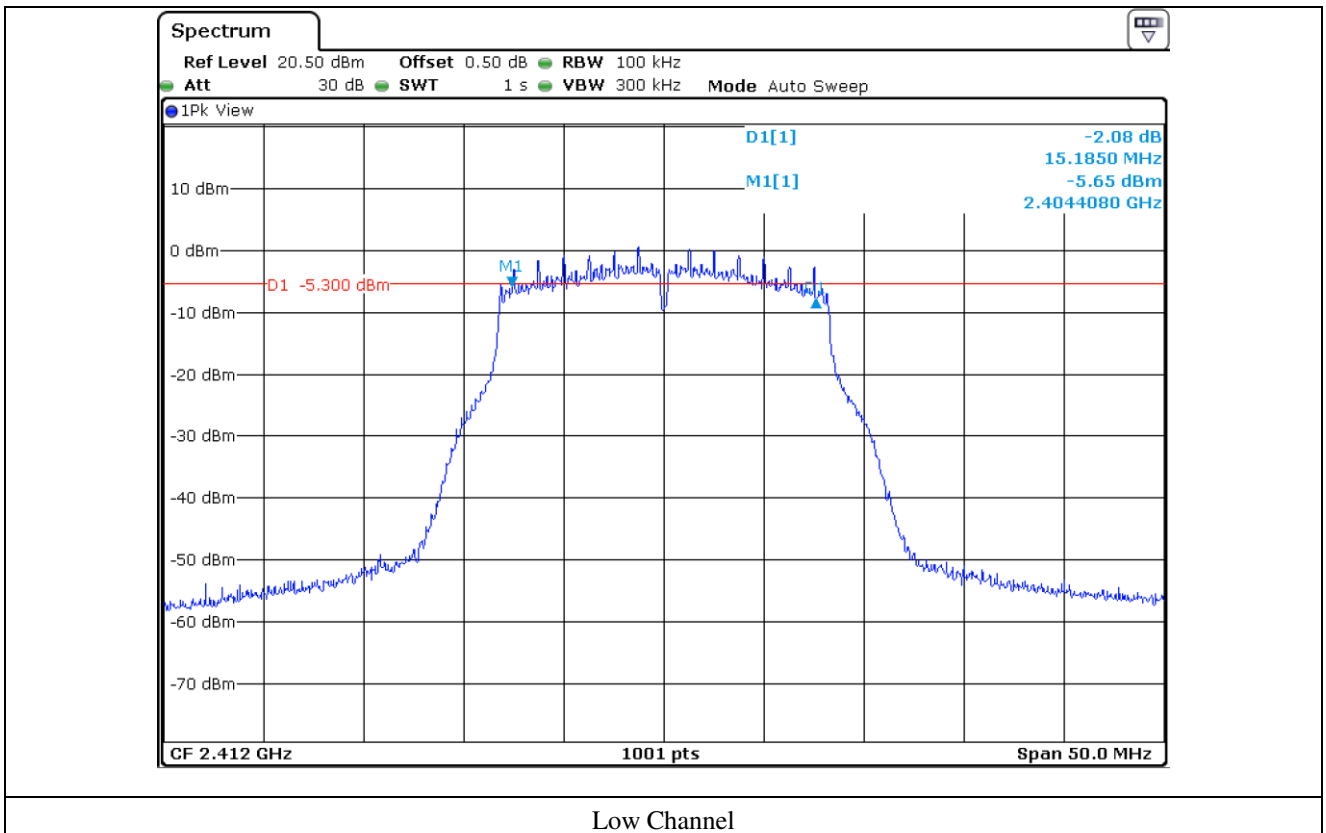
7.4.2.3 Test data for Antenna 2

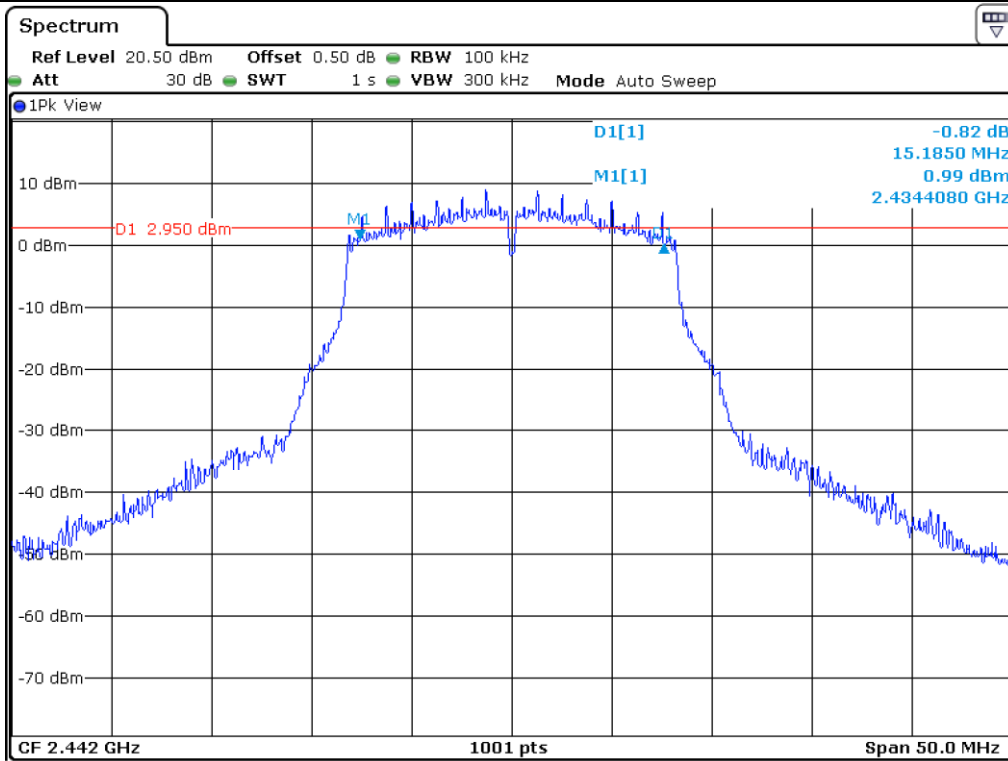
-. Test Date : June 20, 2016
 -. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)	Margin(MHz)	
					FCC	IC
Low	2 412	15.19	16.33	0.5	14.69	15.83
Middle	2 442	15.19	16.28	0.5	14.69	15.78
High	2 462	15.19	16.28	0.5	14.69	15.78

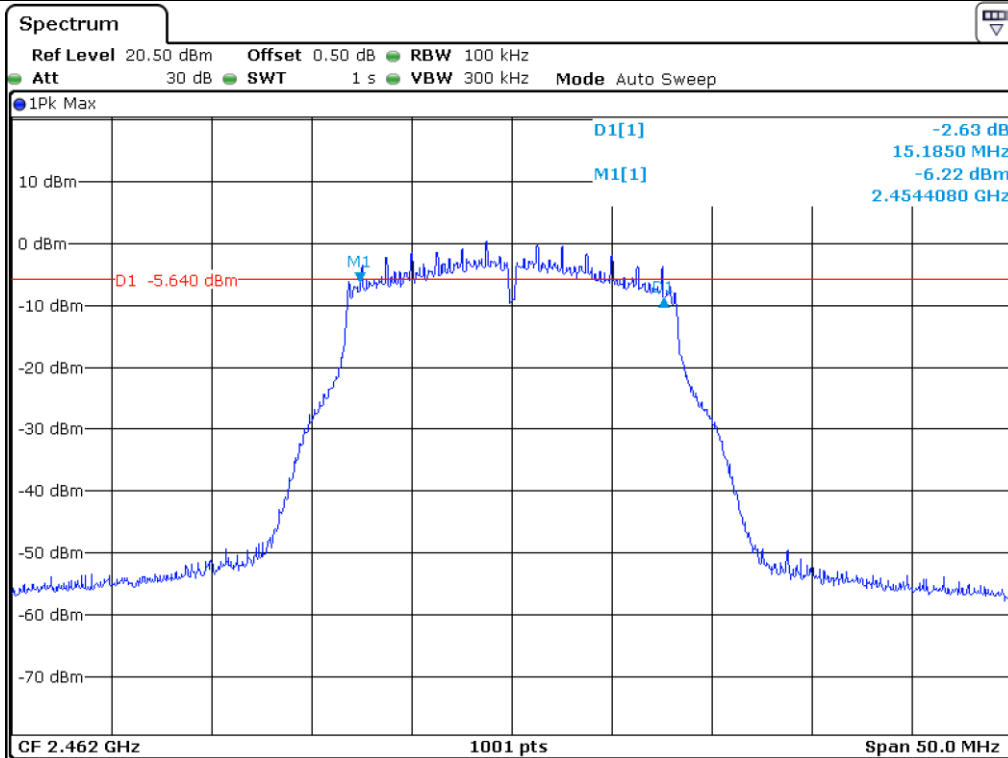
Remark. Margin = Measured Value - Limit

Tested by: Min-Gu, Ji / Project Engineer

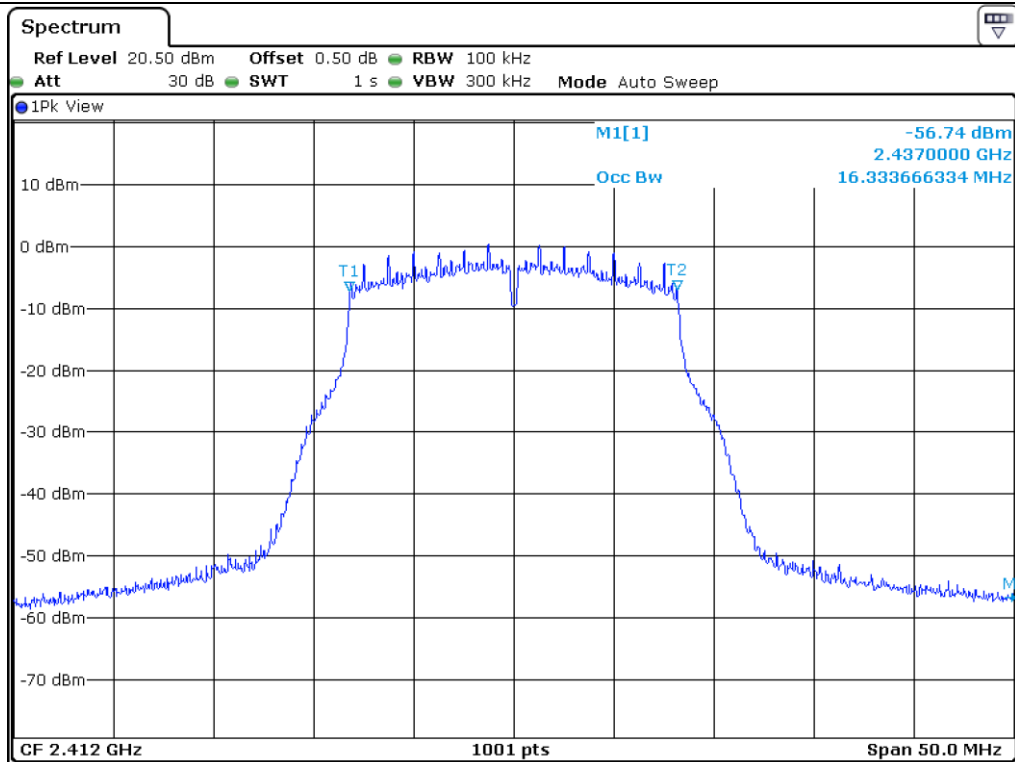




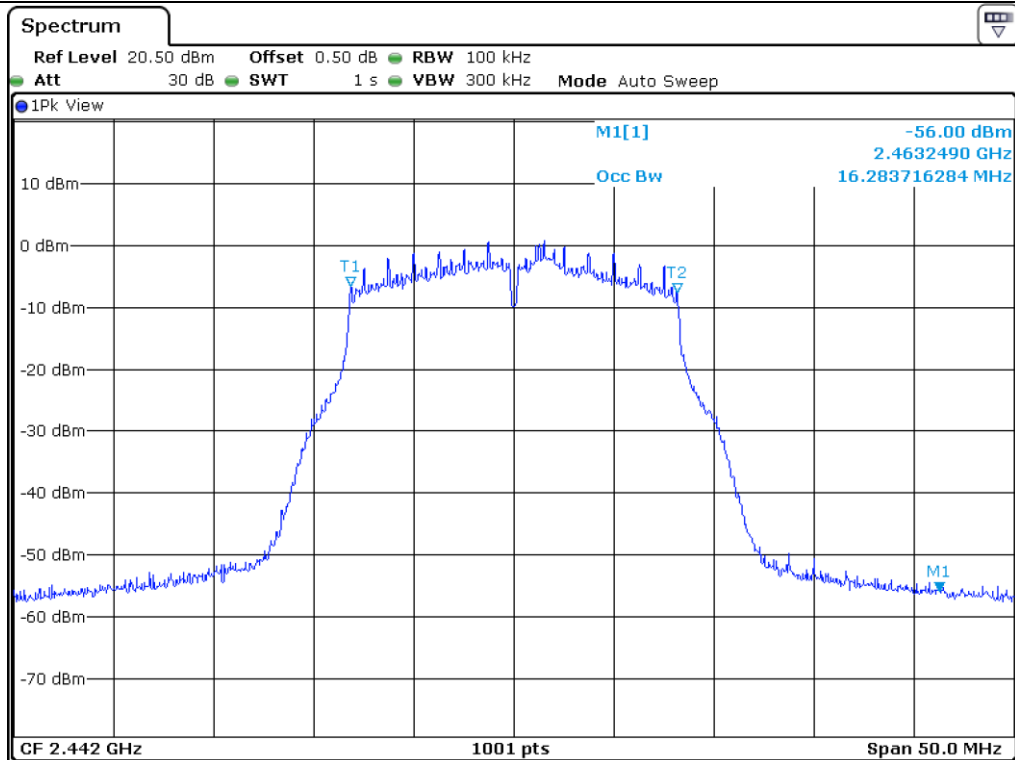
Middle Channel



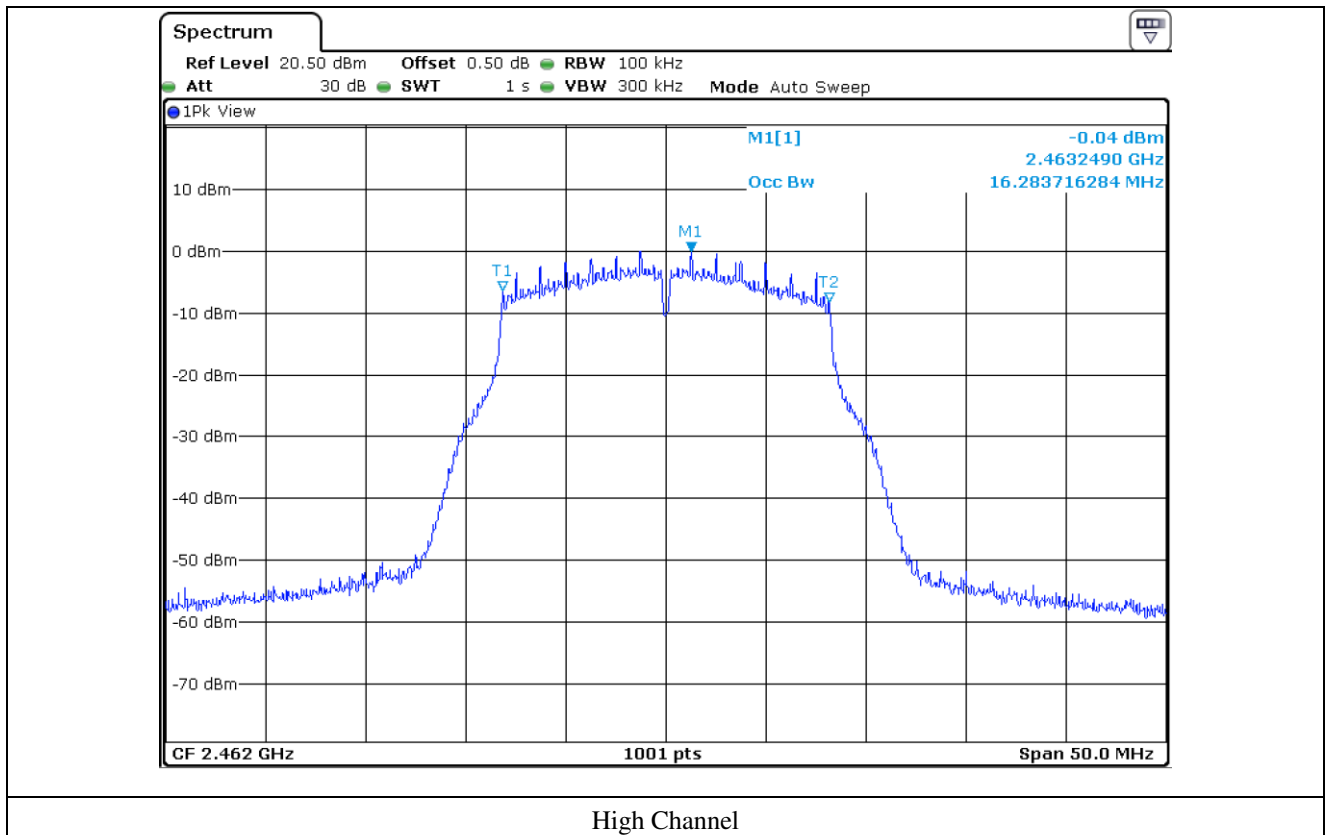
High Channel



Low Channel



Middle Channel



7.4.2.4 Test data for Antenna 3

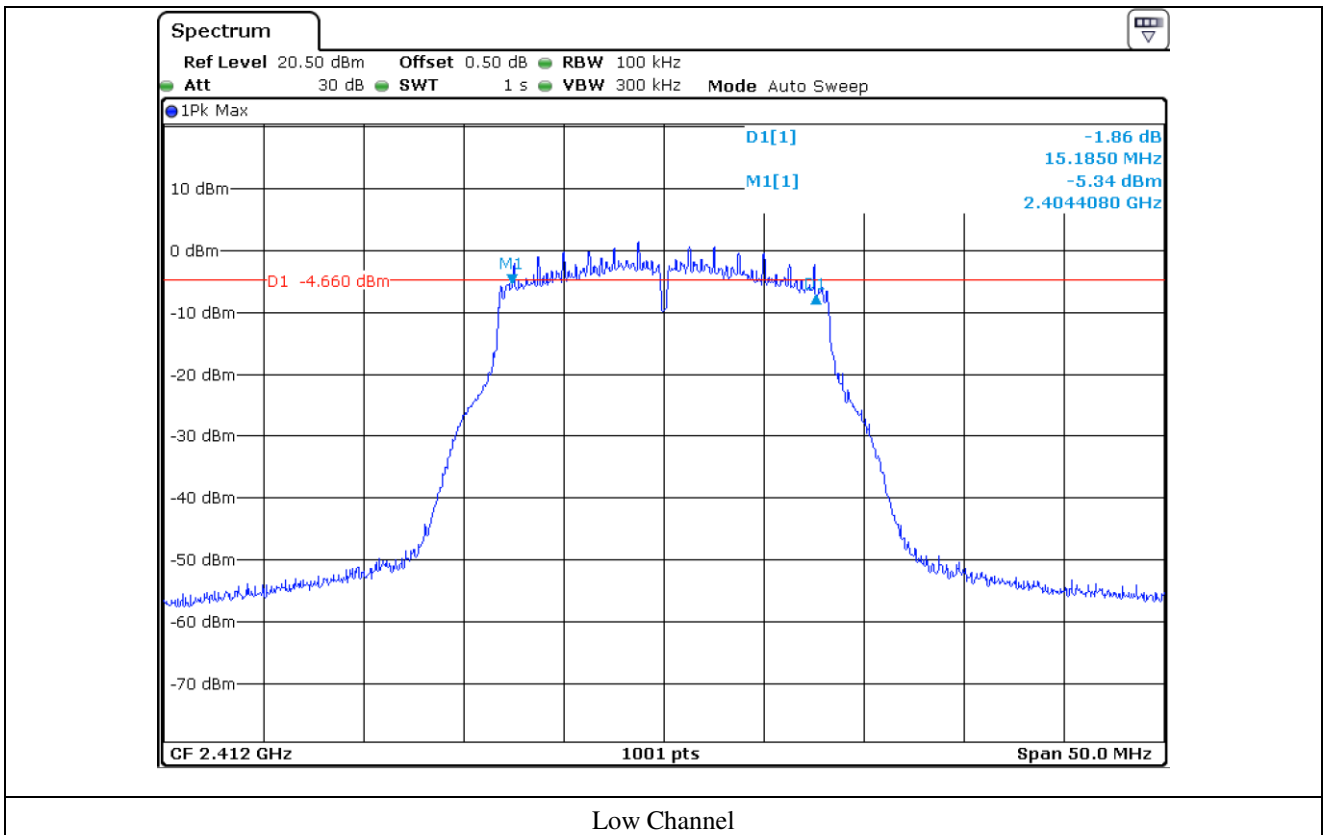
-. Test Date : June 20, 2016

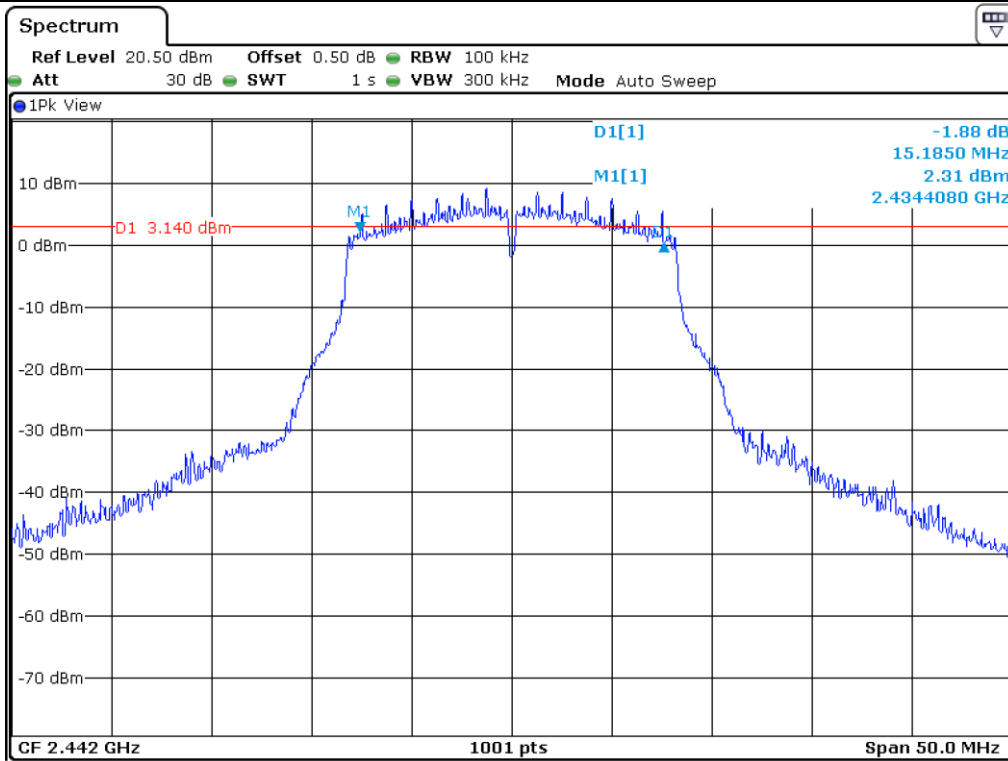
-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)	Margin(MHz)	
					FCC	IC
Low	2 412	15.19	16.33	0.5	14.69	15.83
Middle	2 442	15.19	16.28	0.5	14.69	15.78
High	2 462	15.19	16.23	0.5	14.69	15.73

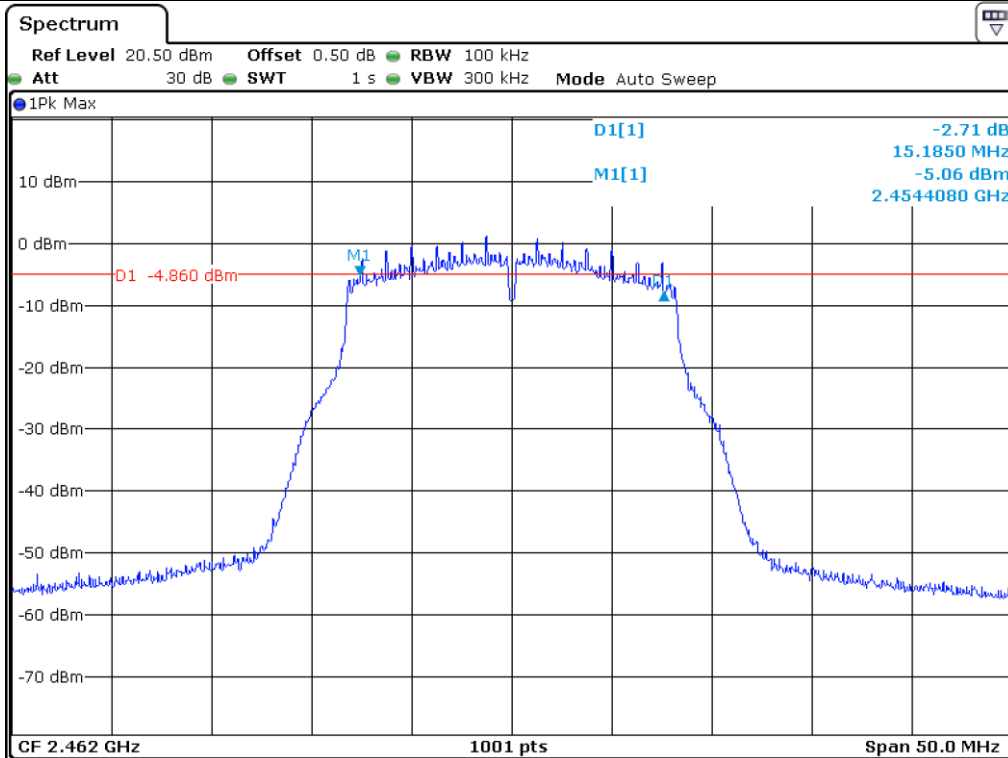
Remark. Margin = Measured Value - Limit

Tested by: Min-Gu, Ji / Project Engineer

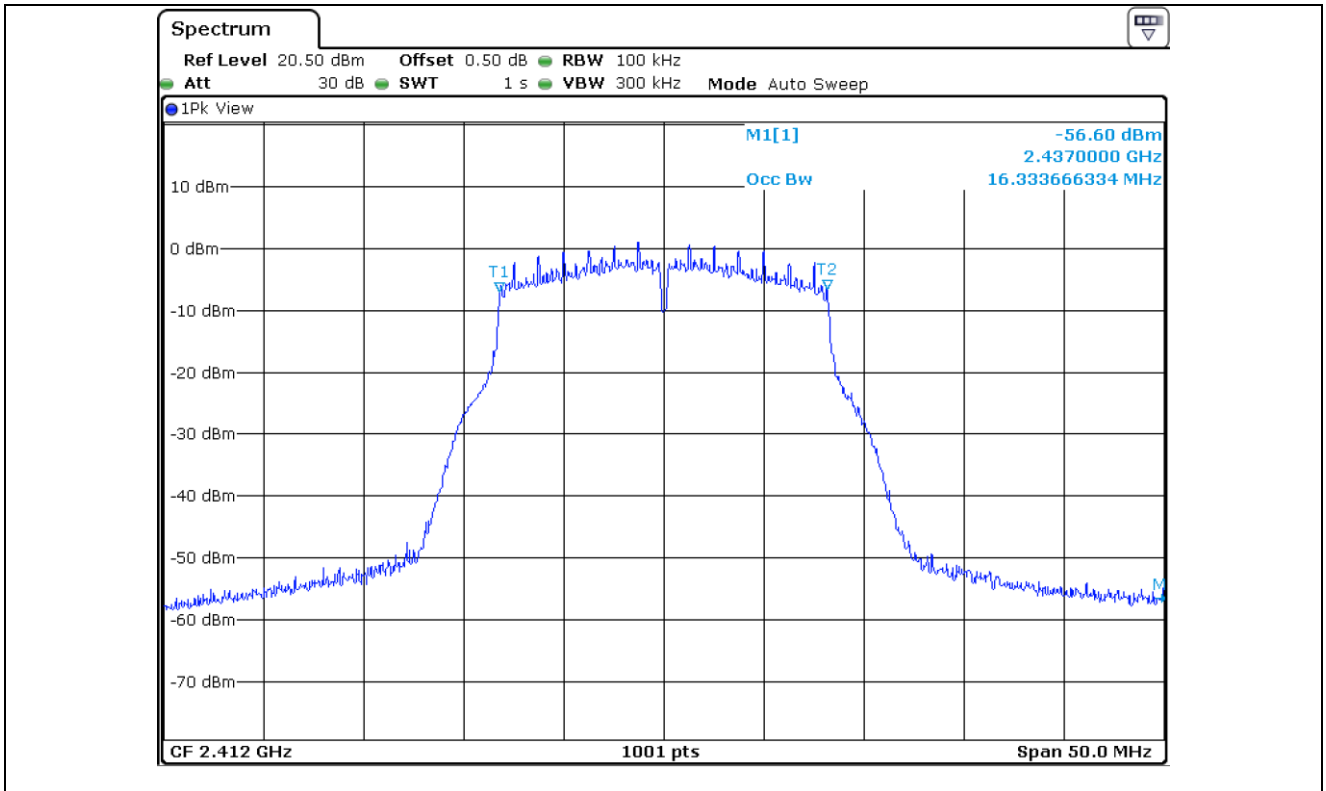




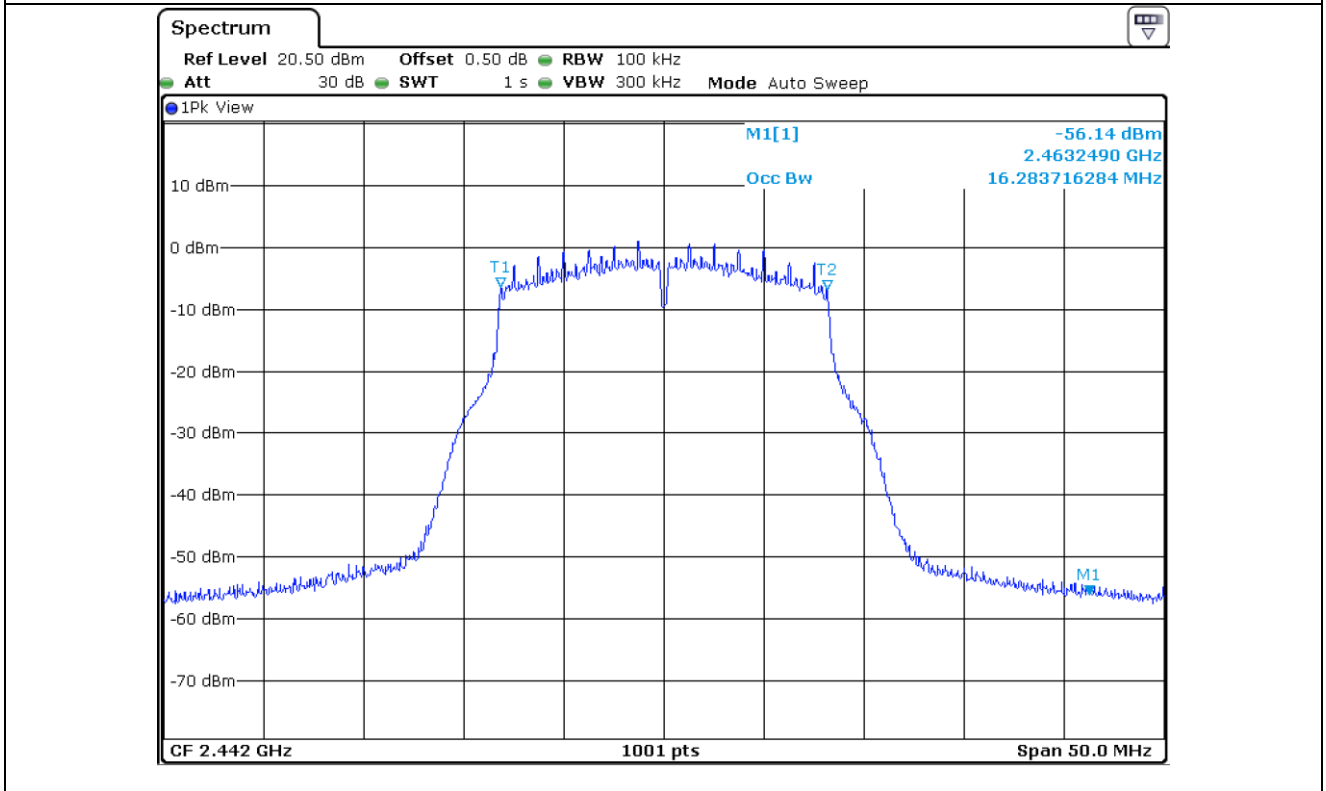
Middle Channel



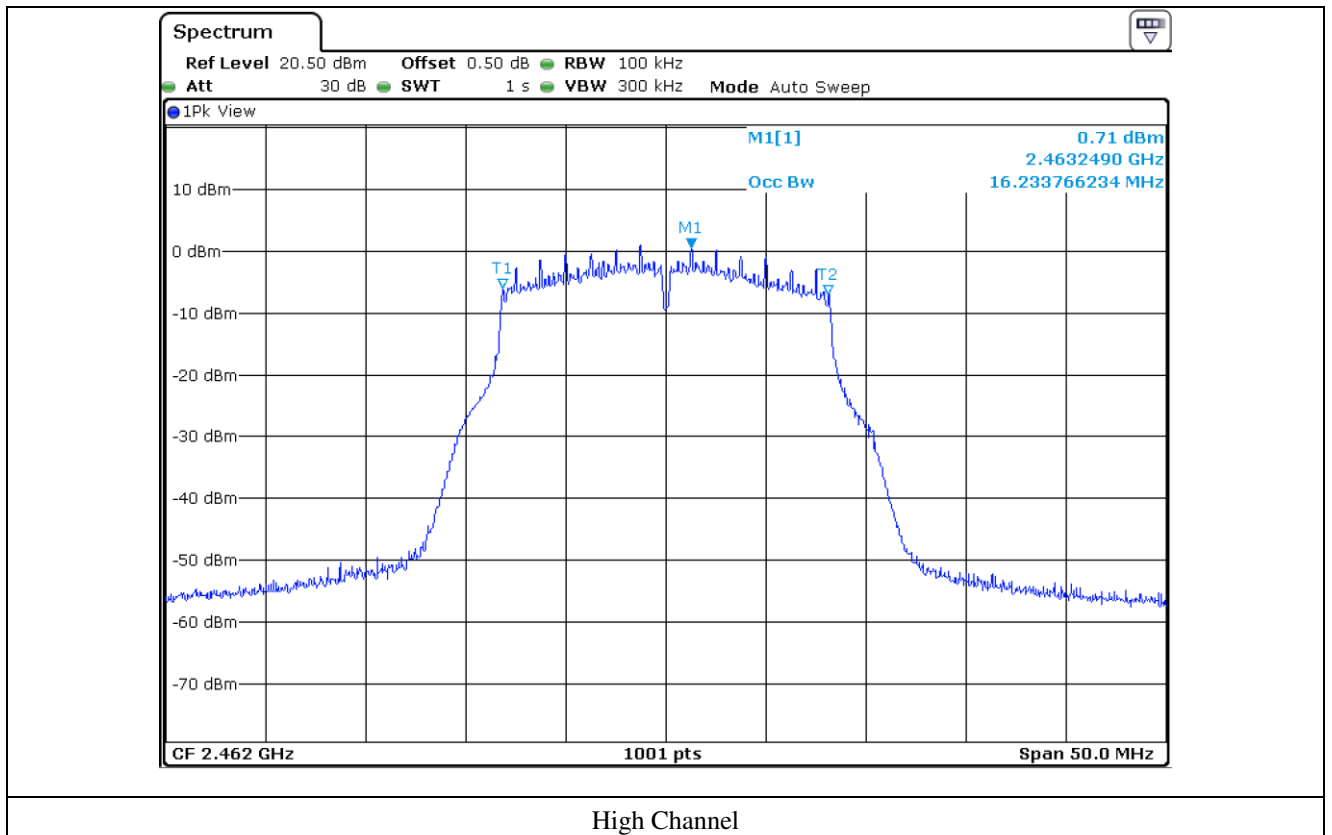
High Channel



Low Channel



Middle Channel



7.4.3 Test data for 802.11n_HT20 WLAN Mode

7.4.3.1 Test data for Antenna 0

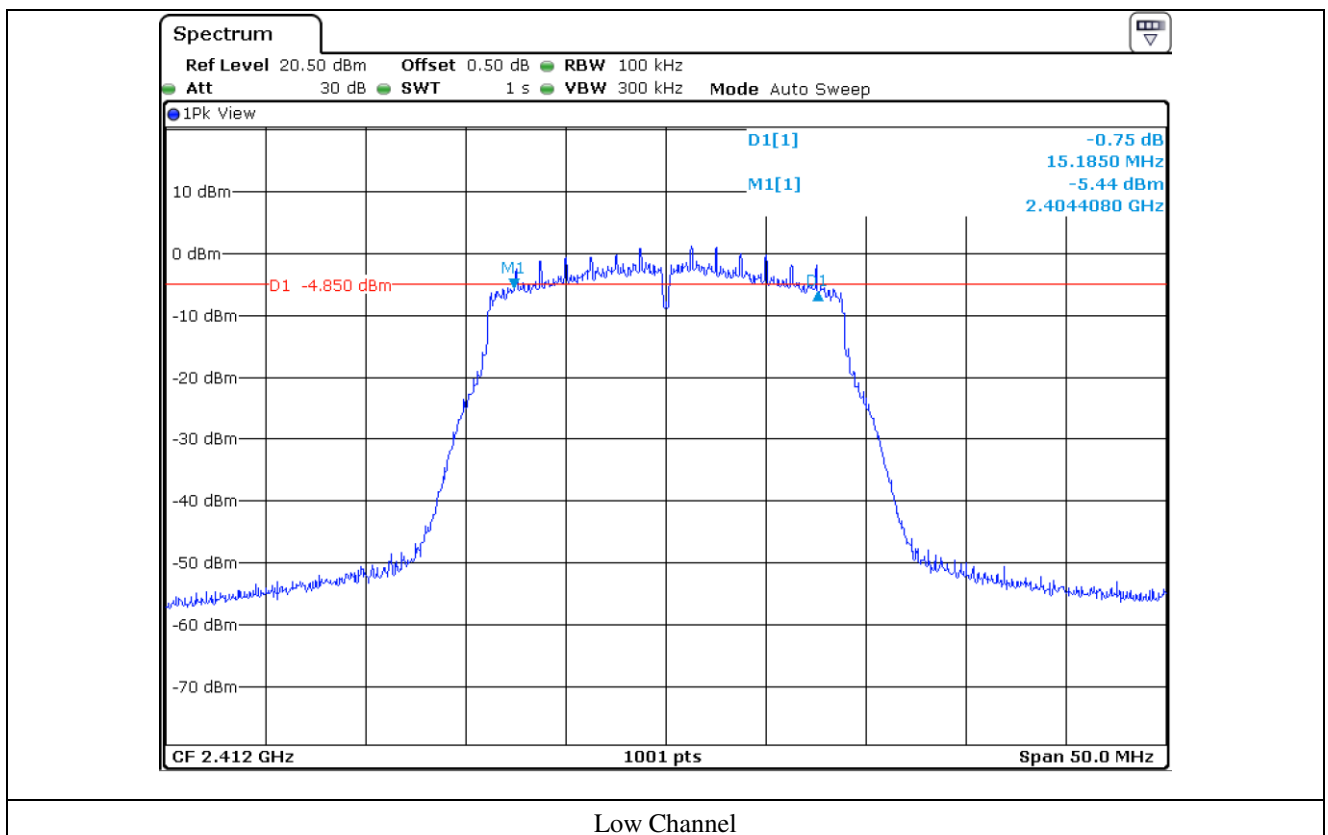
-. Test Date : June 20, 2016

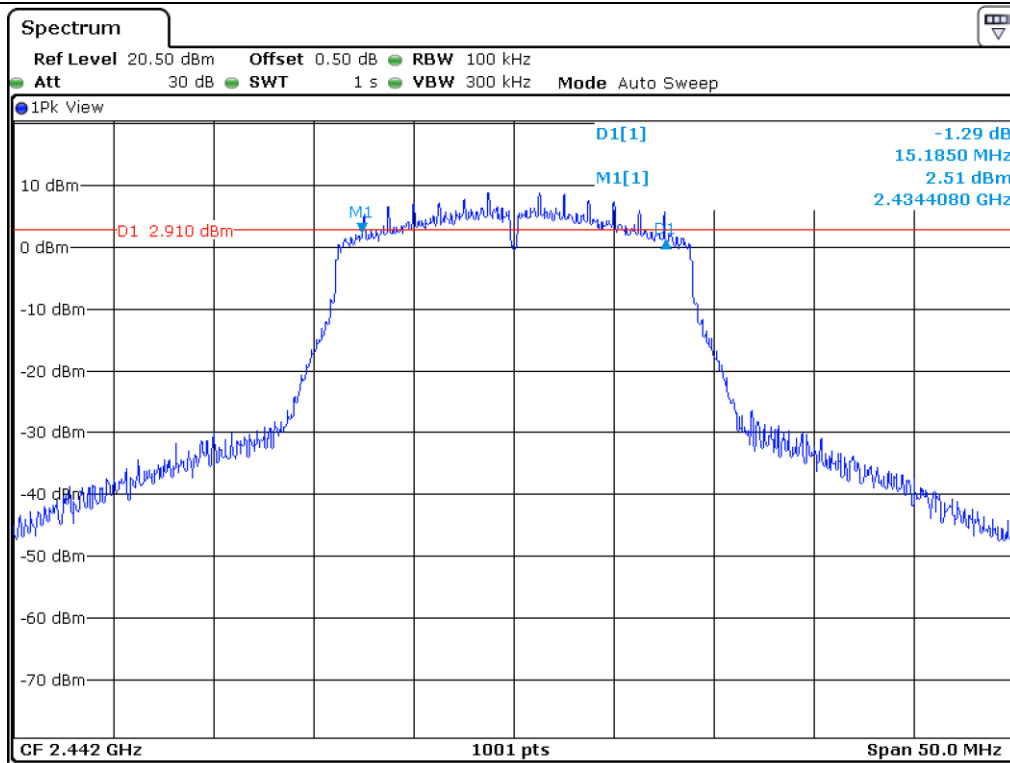
-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)	Margin(MHz)	
					FCC	IC
Low	2 412	15.19	17.48	0.5	14.69	16.98
Middle	2 442	15.19	17.48	0.5	14.69	16.98
High	2 462	15.19	17.48	0.5	14.69	16.98

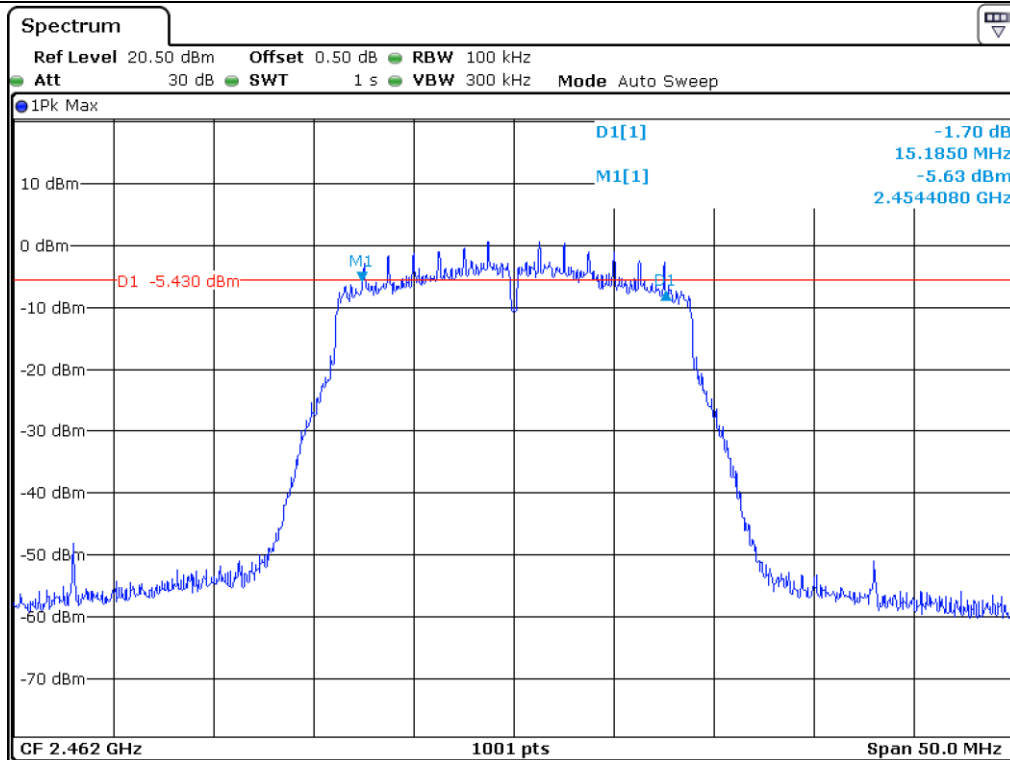
Remark. Margin = Measured Value - Limit

Tested by: Min-Gu, Ji / Project Engineer

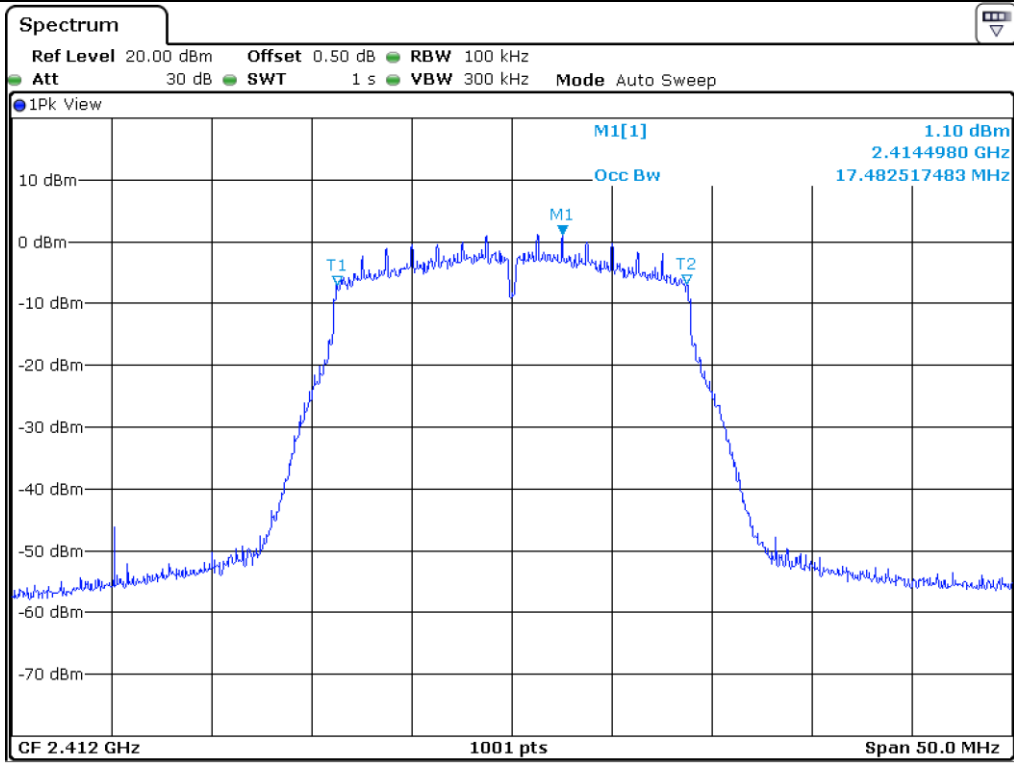




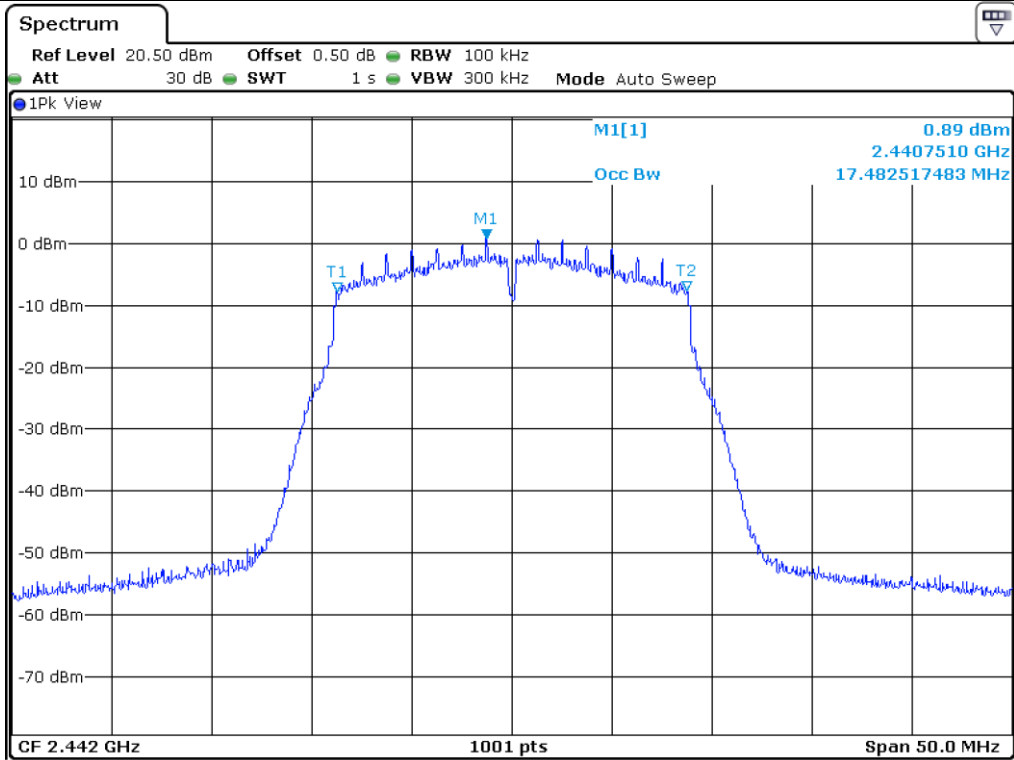
Middle Channel



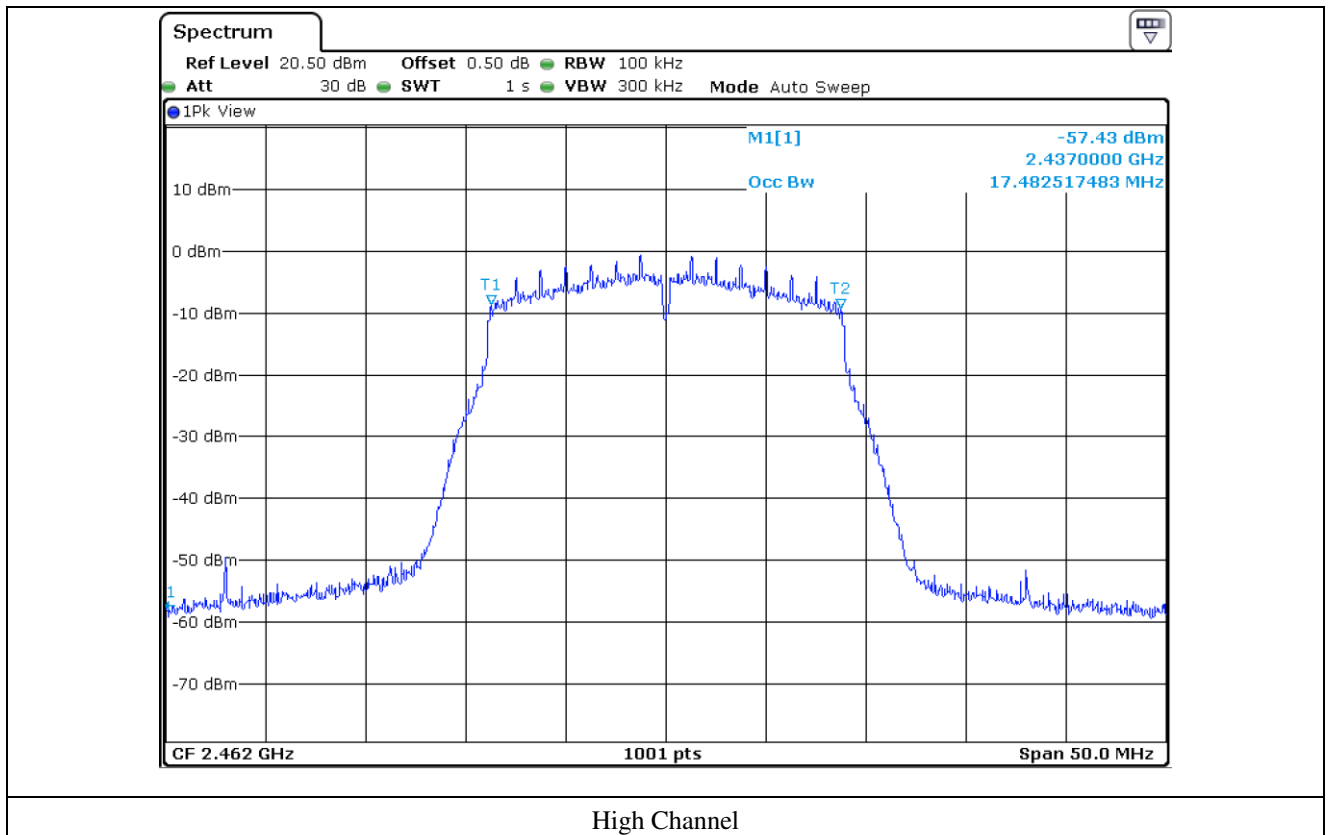
High Channel



Low Channel



Middle Channel



High Channel

7.4.3.2 Test data for Antenna 1

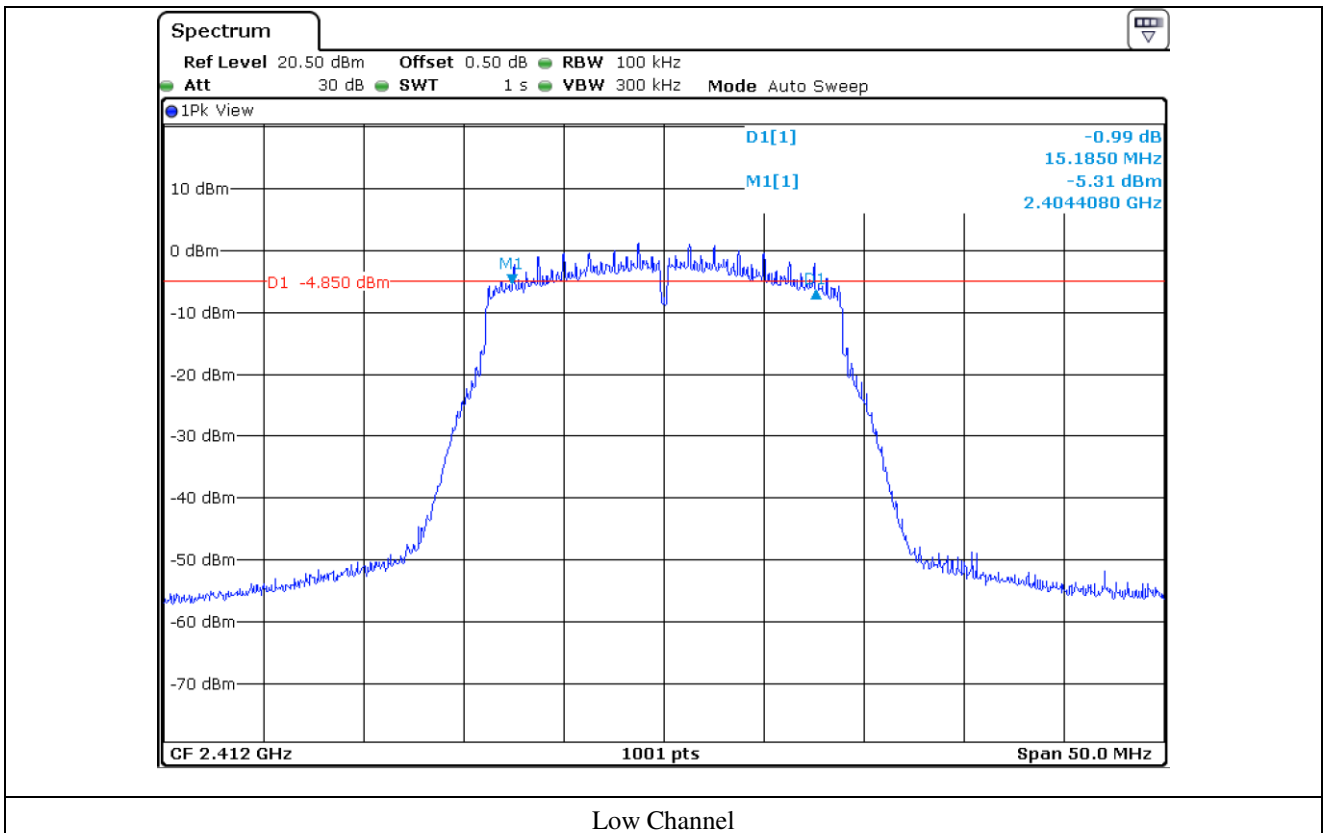
-. Test Date : June 20, 2016

-. Test Result : Pass

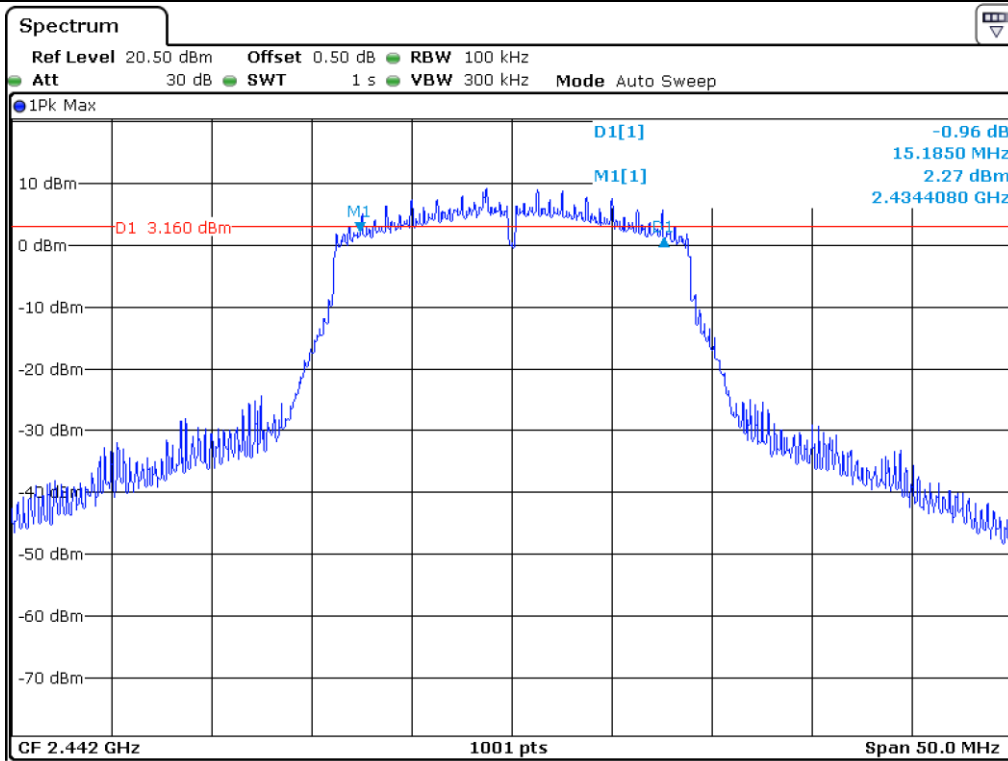
CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)	Margin(MHz)	
					FCC	IC
Low	2 412	15.19	17.48	0.5	14.69	16.98
Middle	2 442	15.19	17.48	0.5	14.69	16.98
High	2 462	15.19	17.48	0.5	14.69	16.98

Remark. Margin = Measured Value - Limit

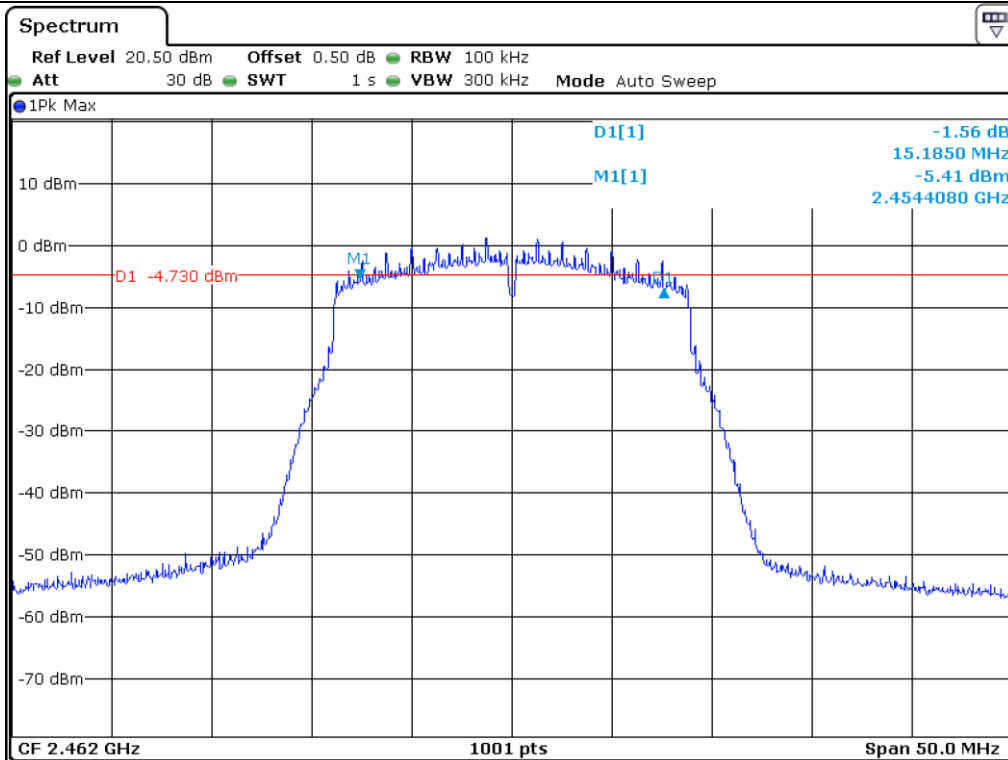
Tested by: Min-Gu, Ji / Project Engineer



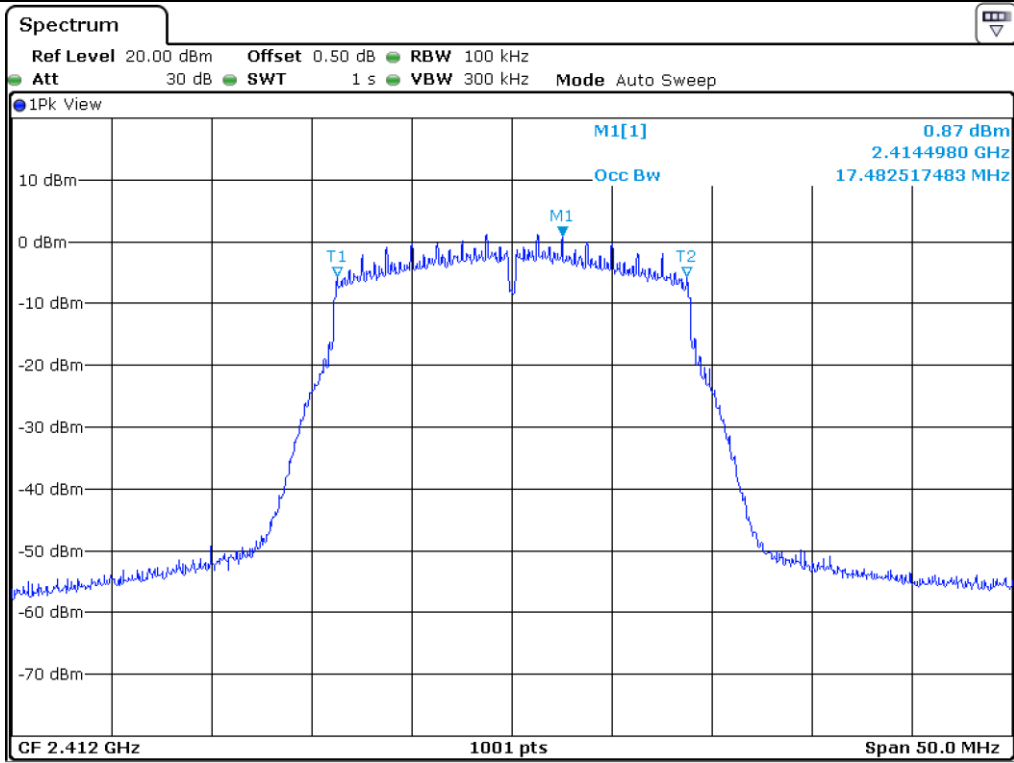
Low Channel



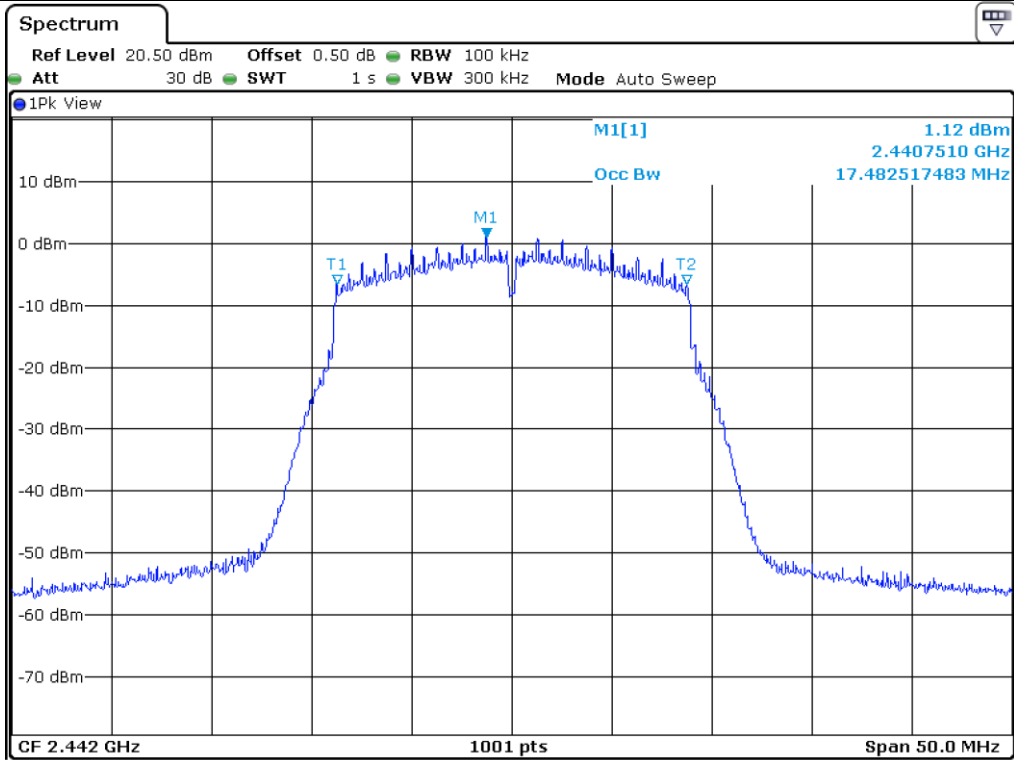
Middle Channel



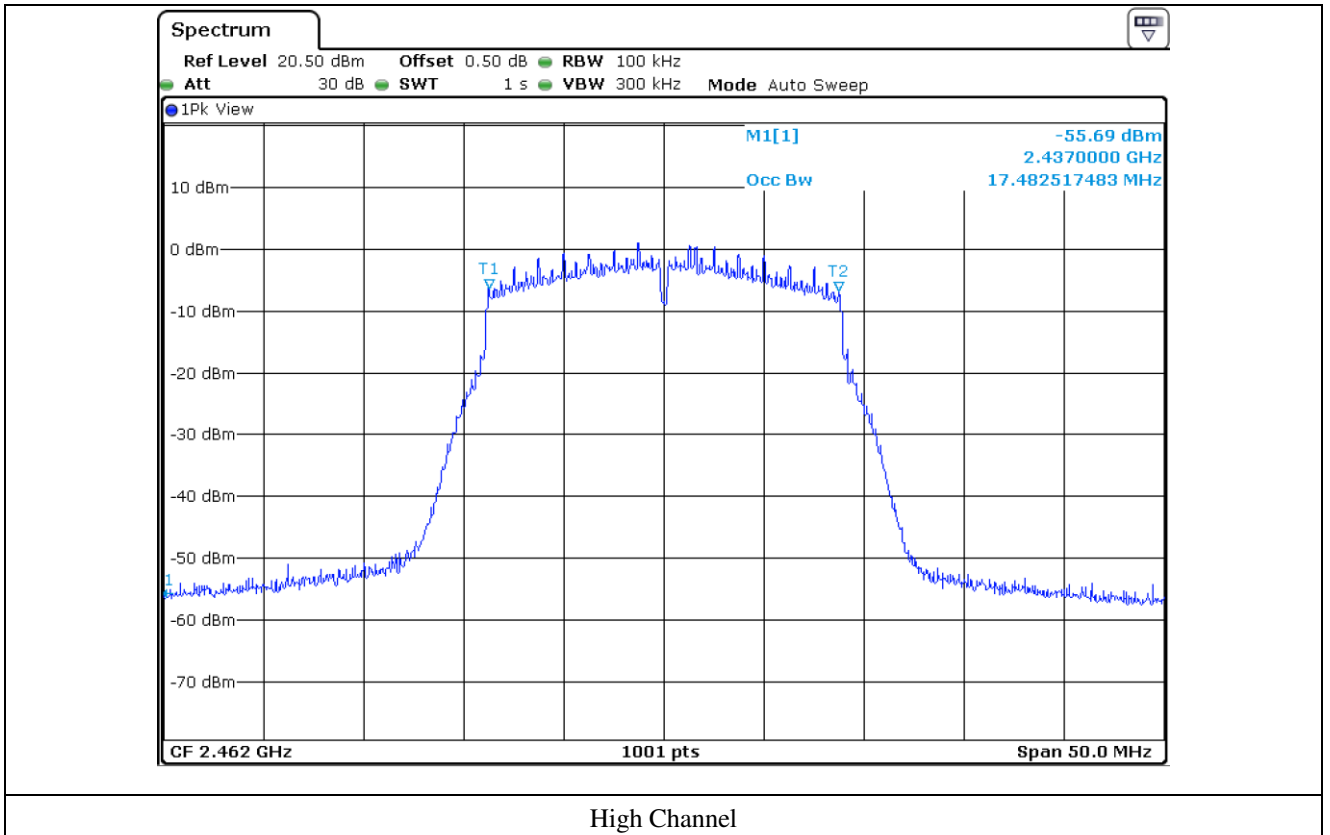
High Channel



Low Channel



Middle Channel



High Channel

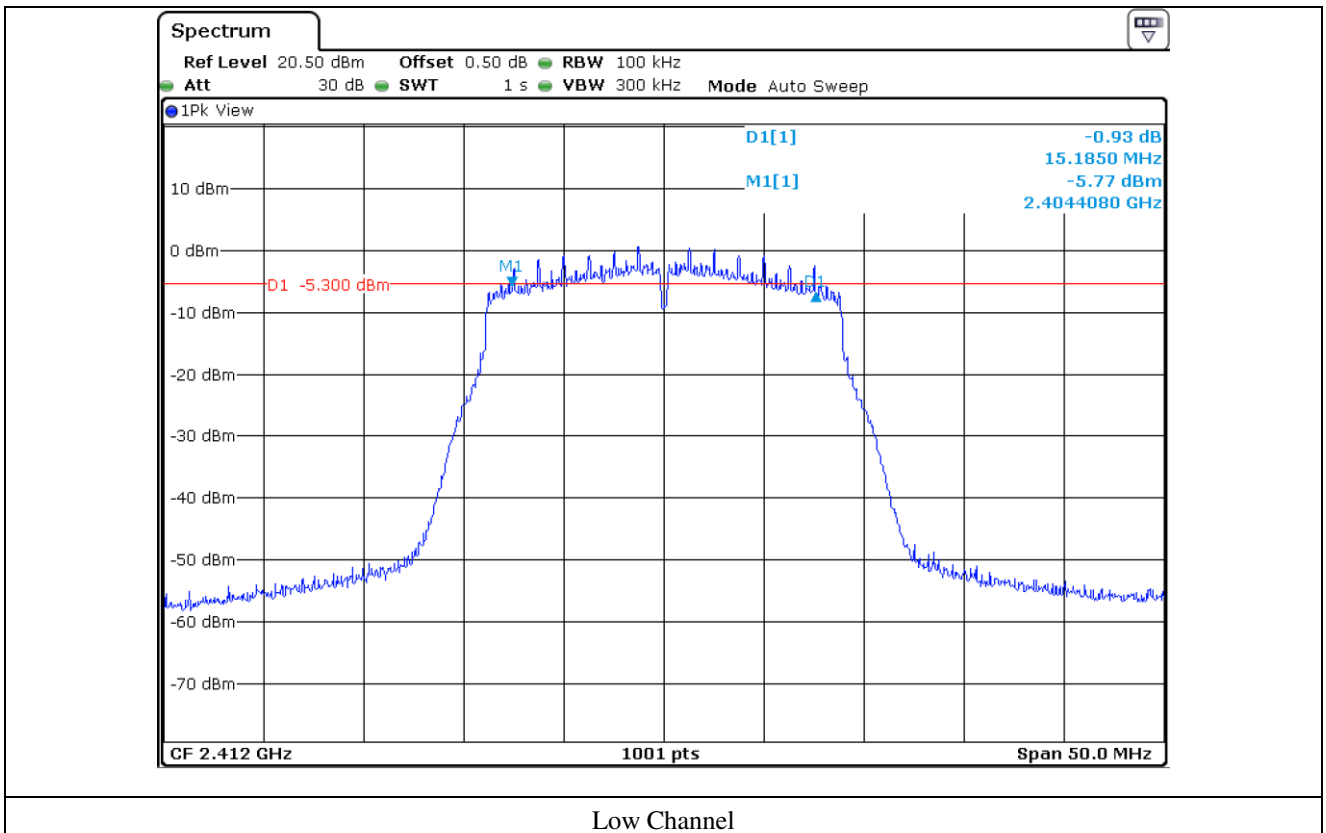
7.4.3.3 Test data for Antenna 2

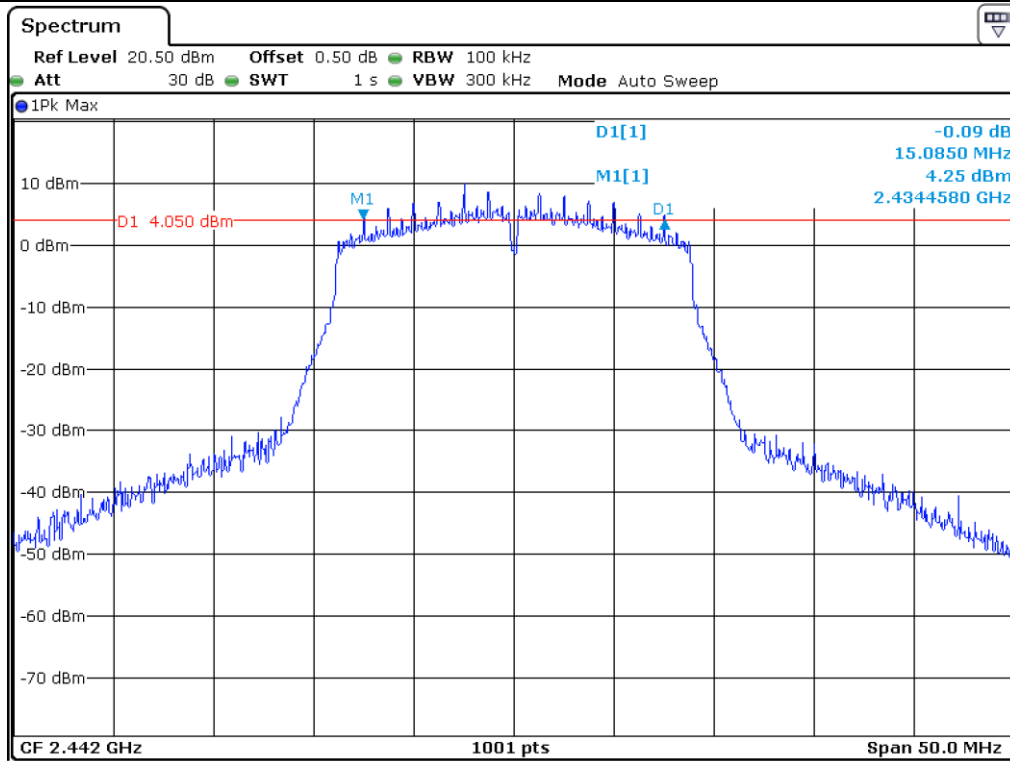
-. Test Date : June 20, 2016
 -. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)	Margin(MHz)	
					FCC	IC
Low	2 412	15.19	17.48	0.5	14.69	16.98
Middle	2 442	15.09	17.48	0.5	14.59	16.98
High	2 462	15.19	17.48	0.5	14.69	16.98

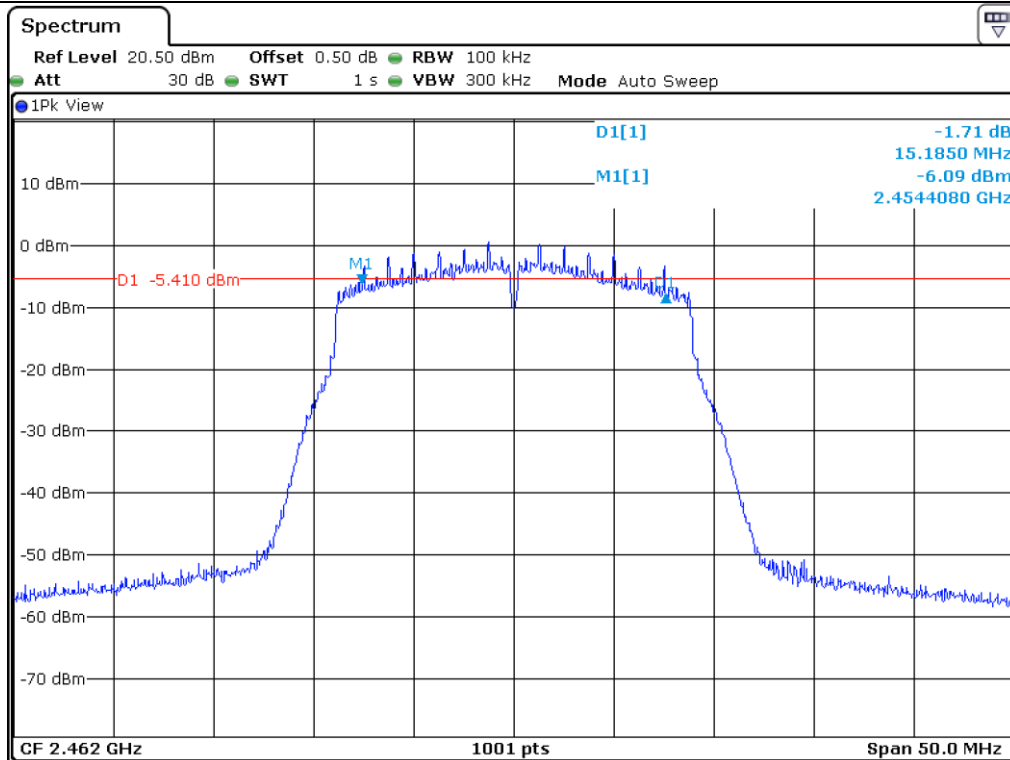
Remark. Margin = Measured Value - Limit

Tested by: Min-Gu, Ji / Project Engineer

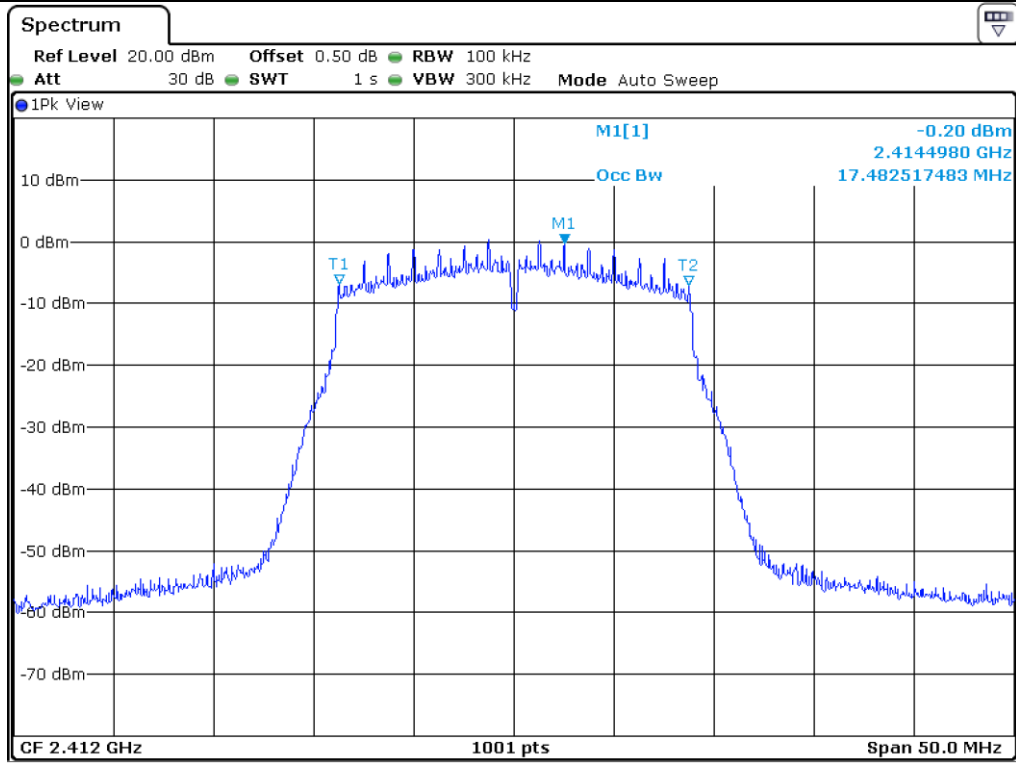




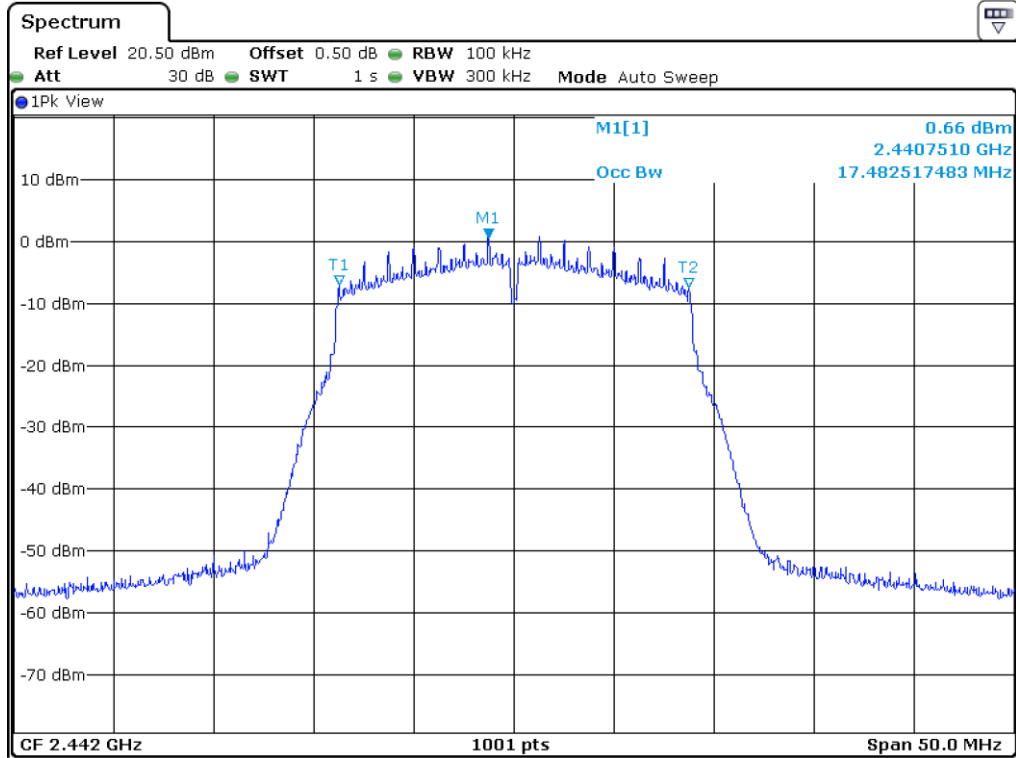
Middle Channel



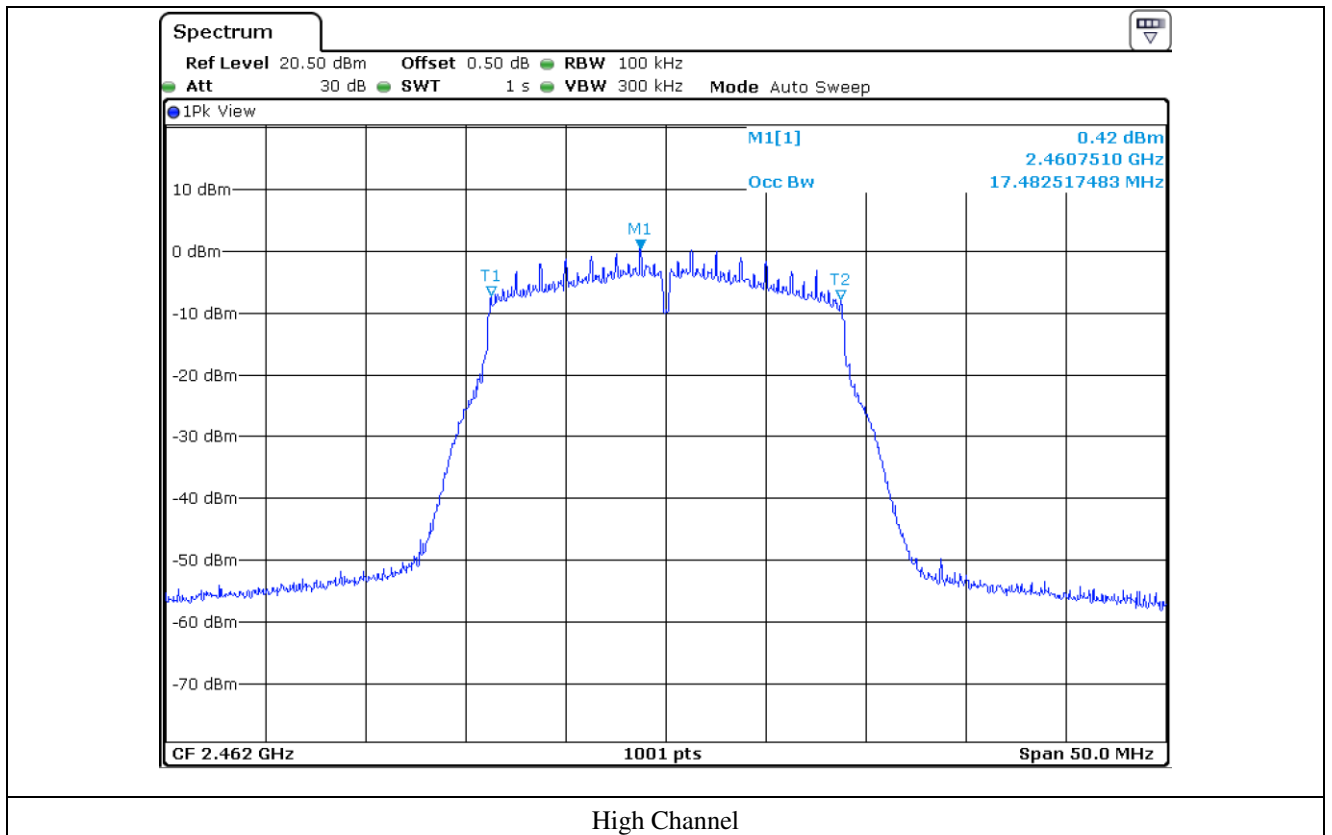
High Channel



Low Channel



Middle Channel



High Channel

7.4.3.4 Test data for Antenna 3

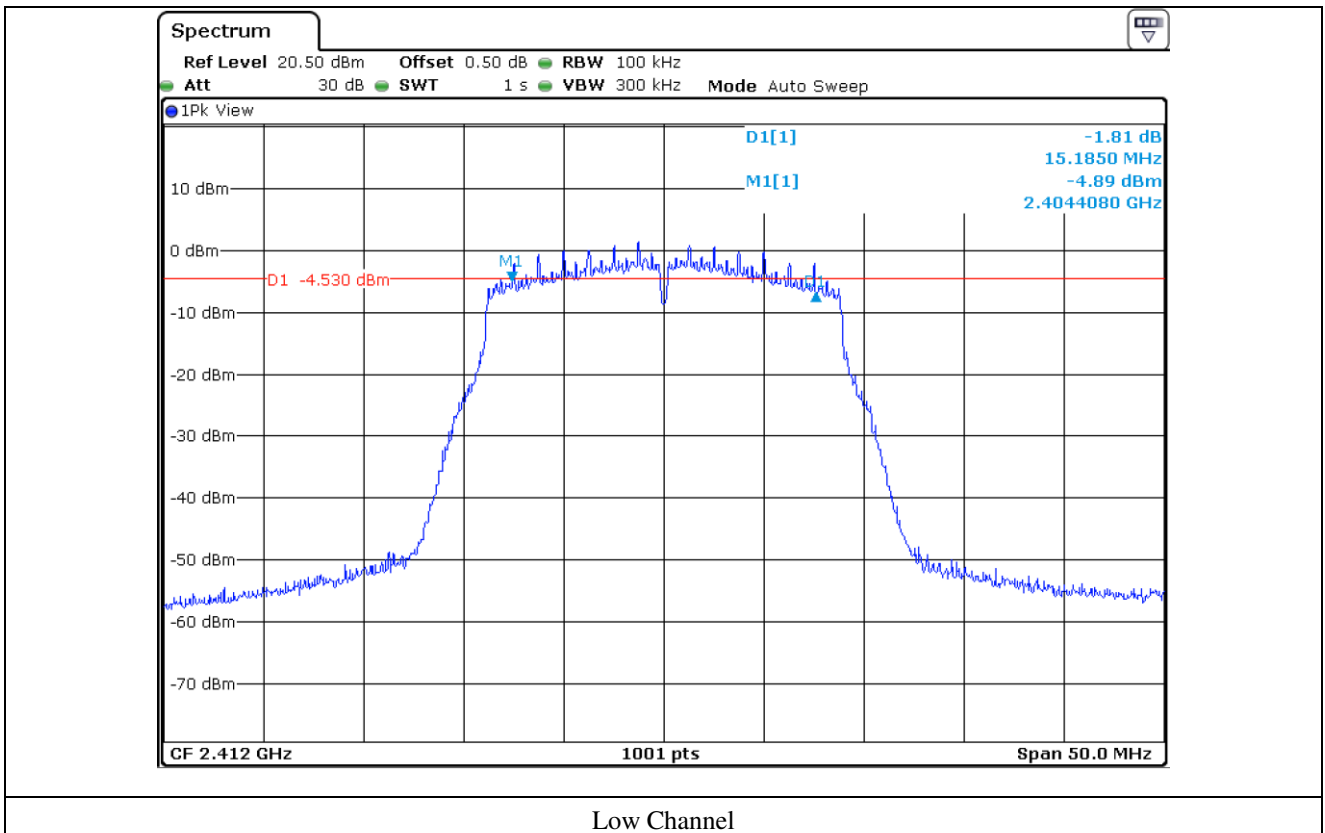
-. Test Date : June 20, 2016

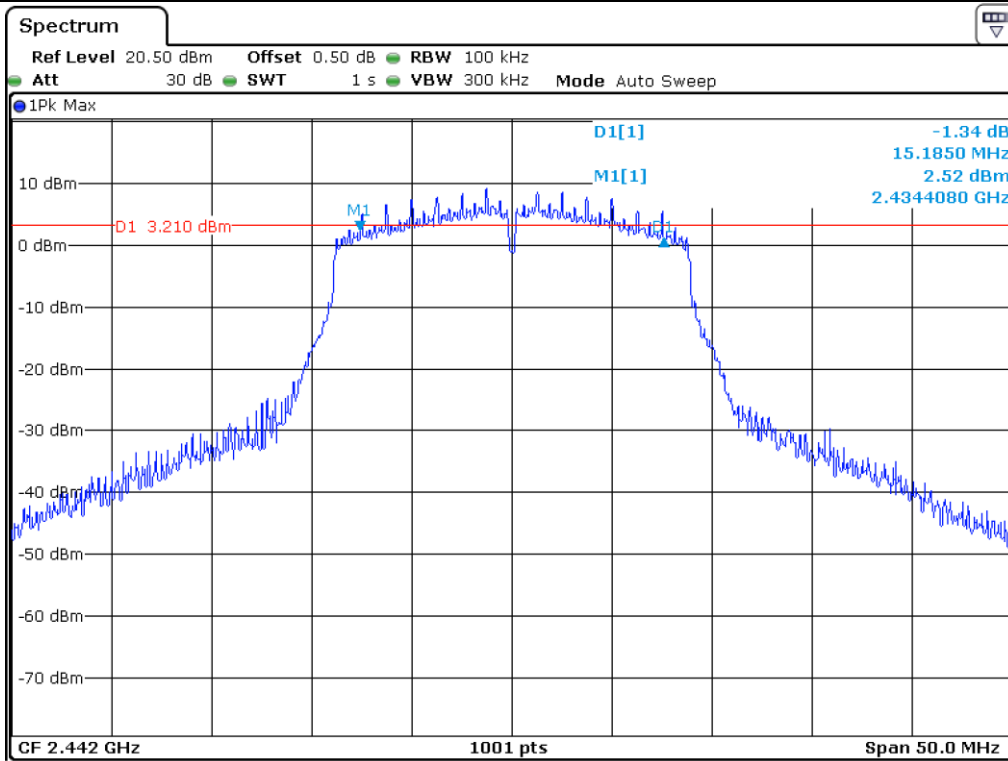
-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)	Margin(MHz)	
					FCC	IC
Low	2 412	15.19	17.48	0.5	14.69	16.98
Middle	2 442	15.19	17.48	0.5	14.69	16.98
High	2 462	15.14	17.53	0.5	14.64	17.03

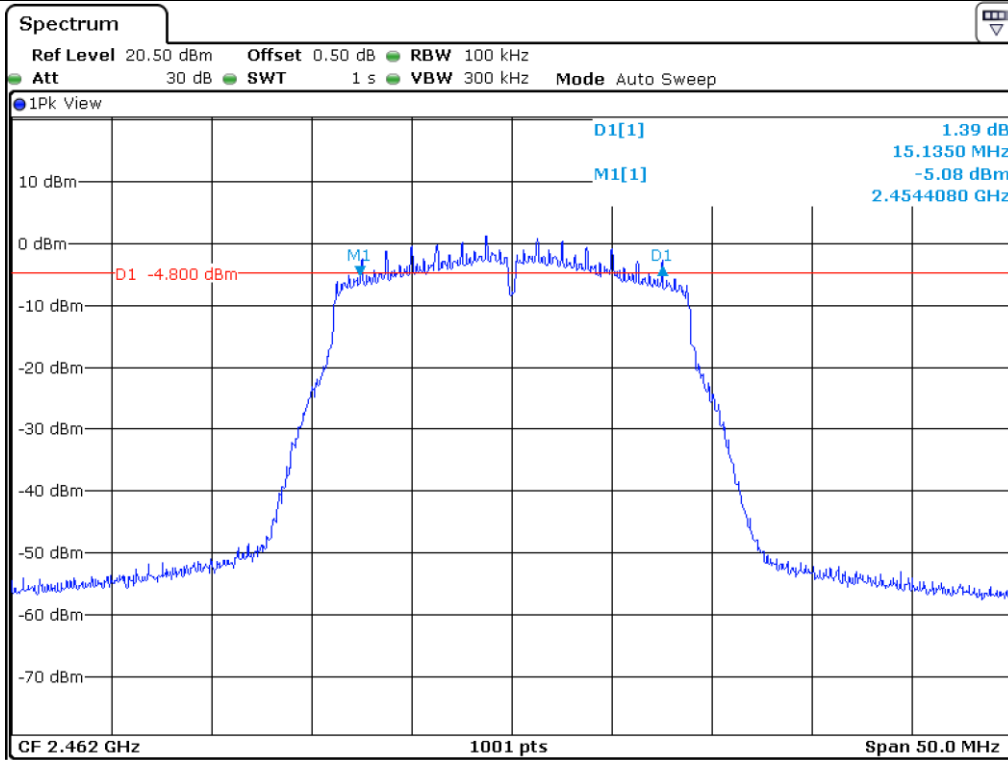
Remark. Margin = Measured Value - Limit

Tested by: Min-Gu, Ji / Project Engineer

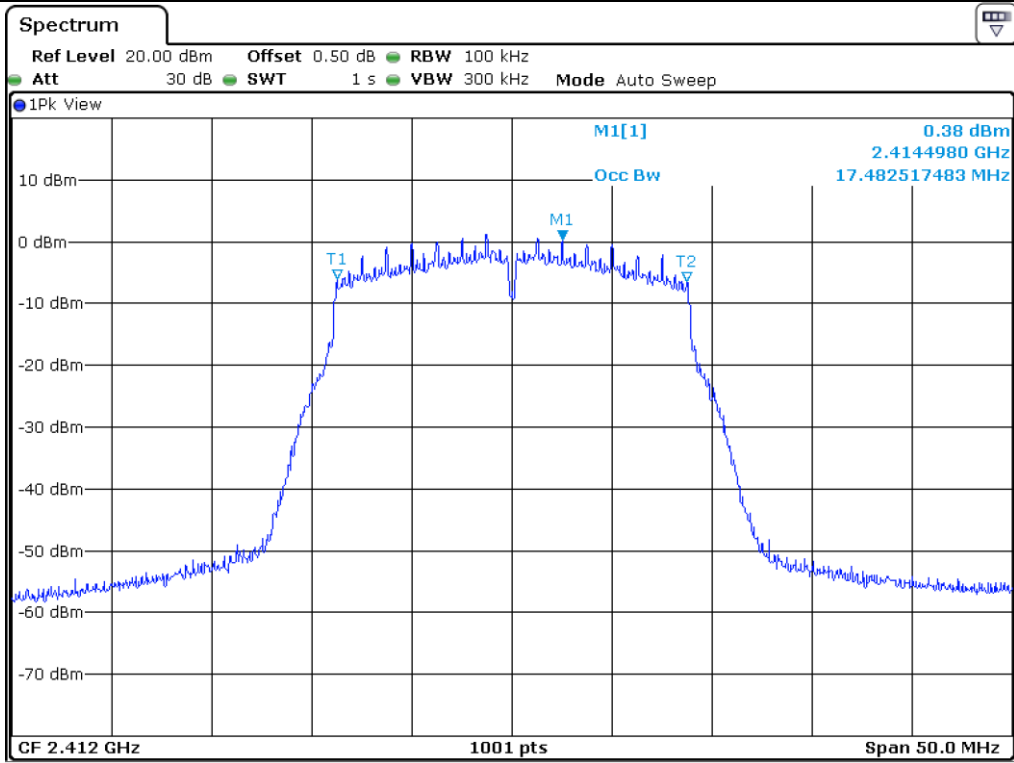




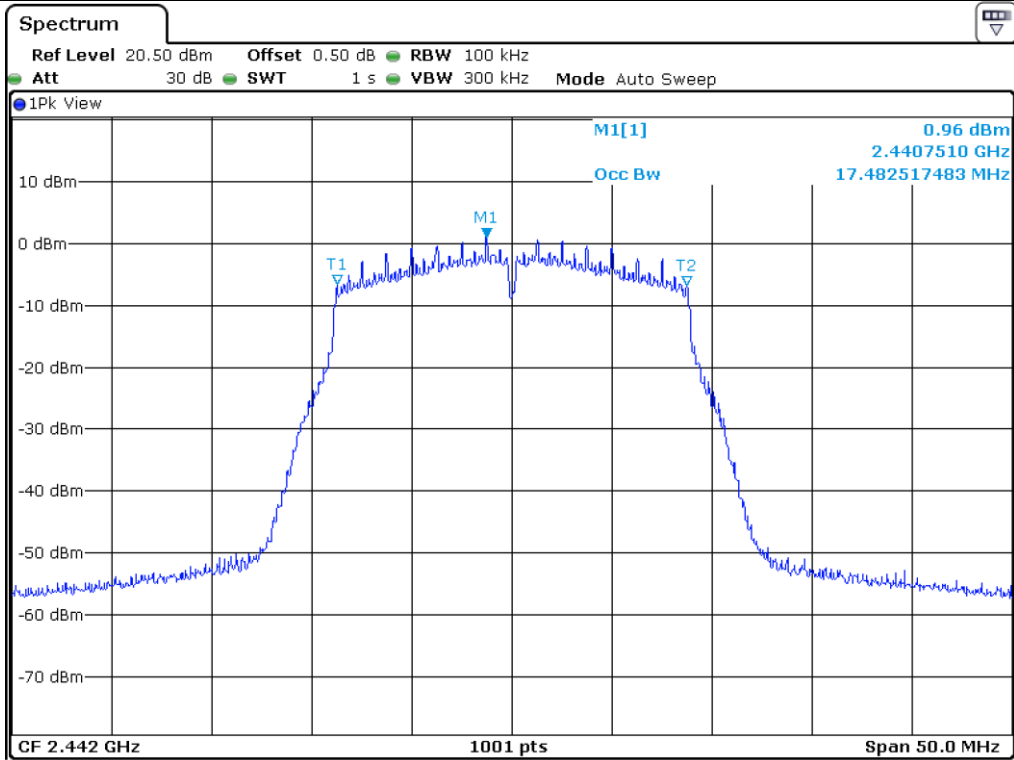
Middle Channel



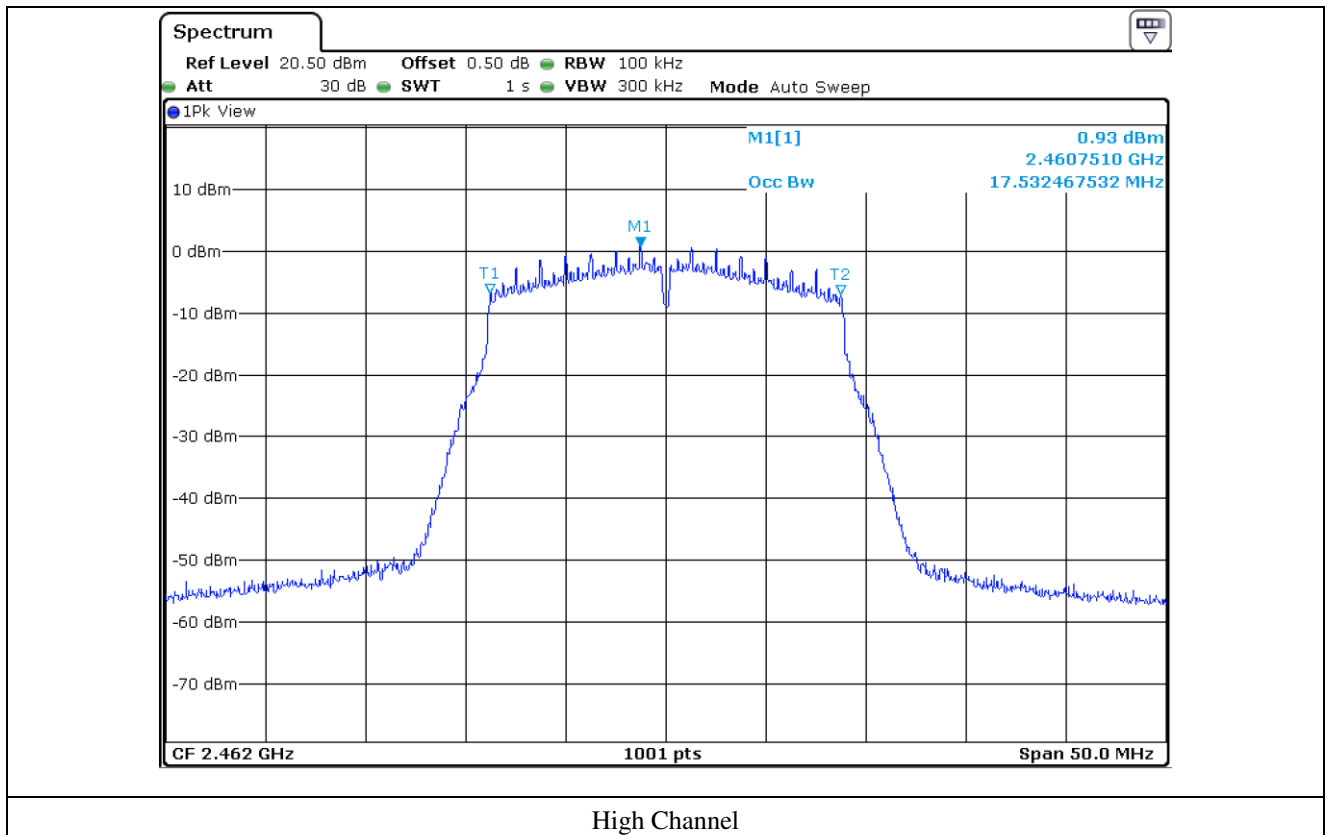
High Channel



Low Channel



Middle Channel



High Channel

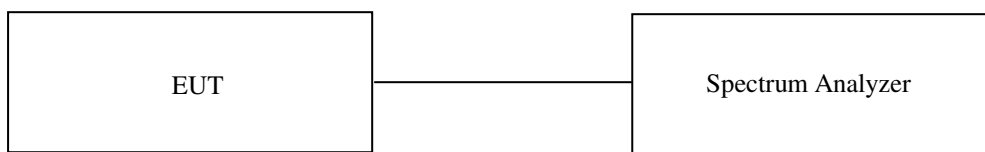
8. MAXIMUM PEAK OUTPUT POWER

8.1 Operating environment

Temperature : 25 °C
 Relative humidity : 46 % R.H.

8.2 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 over a bandwidth greater than or equal to the 99 % bandwidth. The EUT was operating in transmit mode at the appropriate center frequency.



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.

8.4 Test data for Service Port

8.4.1 Test data for 802.11b WLAN Mode

8.4.1.1 Test data for Antenna 0

-. Test Date : June 27, 2016

-. Test Result : Pass

-. FCC Test data

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412	8.09	16.64	30	13.36
MIDDLE	2 442	8.04	19.15	30	10.85
HIGH	2 462	8.04	16.87	30	13.13

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

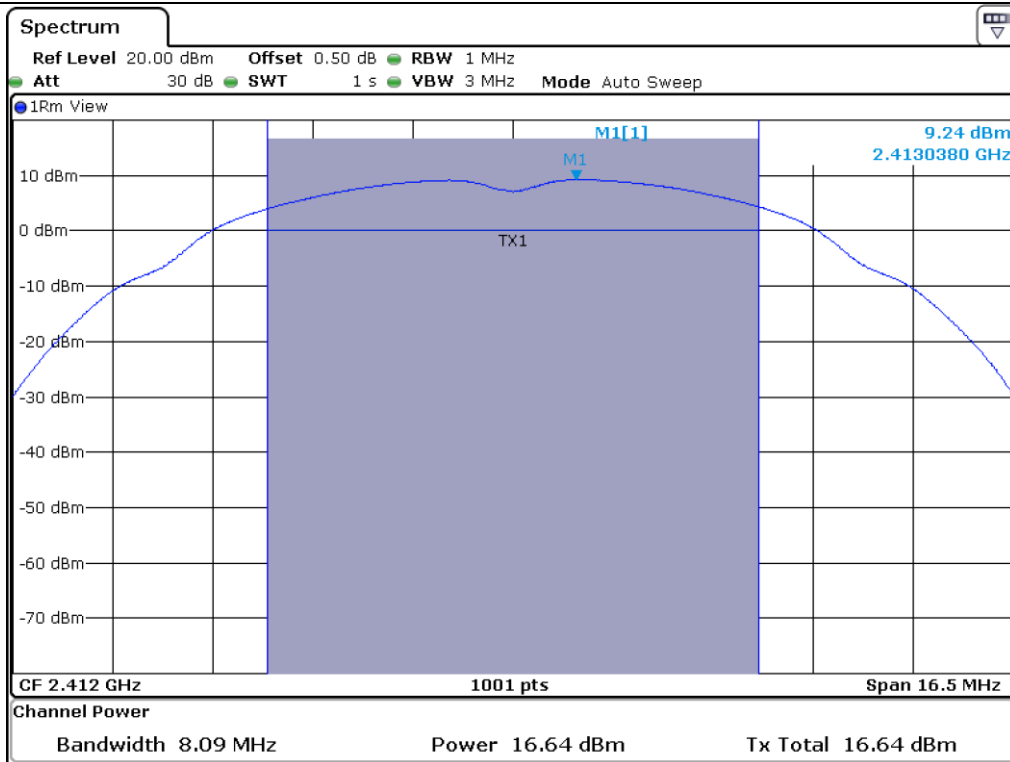
-. IC Test data

CHANNEL	FREQUENCY (MHz)	99 % bandwidth (MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412	10.19	16.83	30	13.17
MIDDLE	2 442	10.19	19.23	30	10.77
HIGH	2 462	10.14	17.03	30	12.97

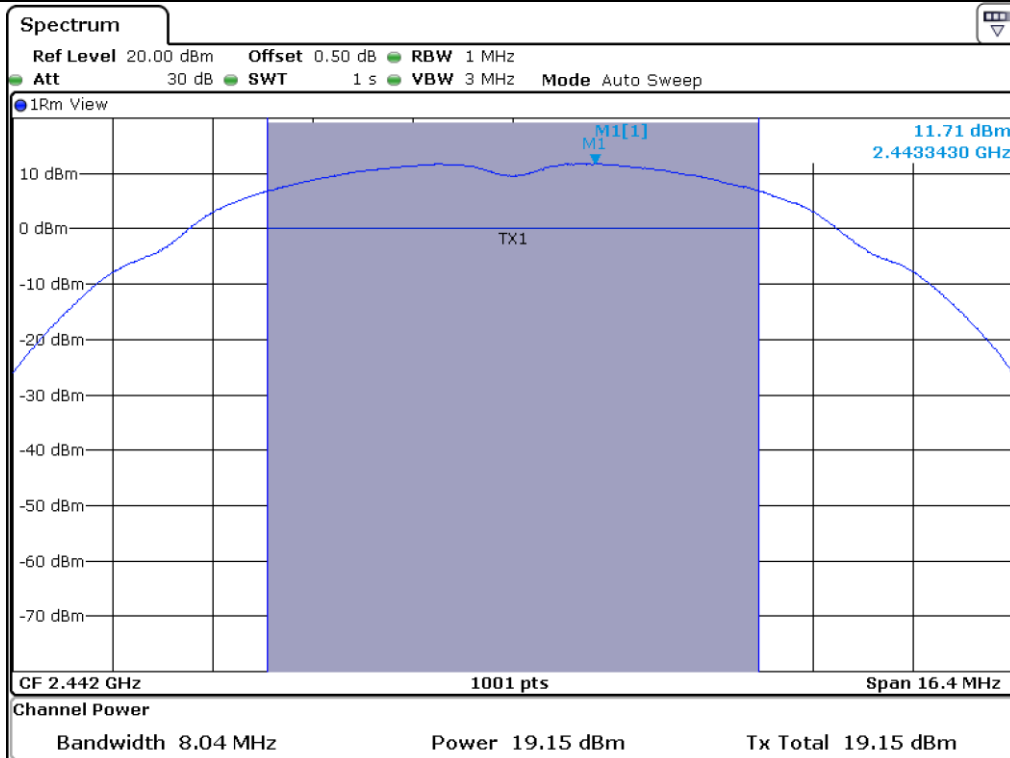
Remark. Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)



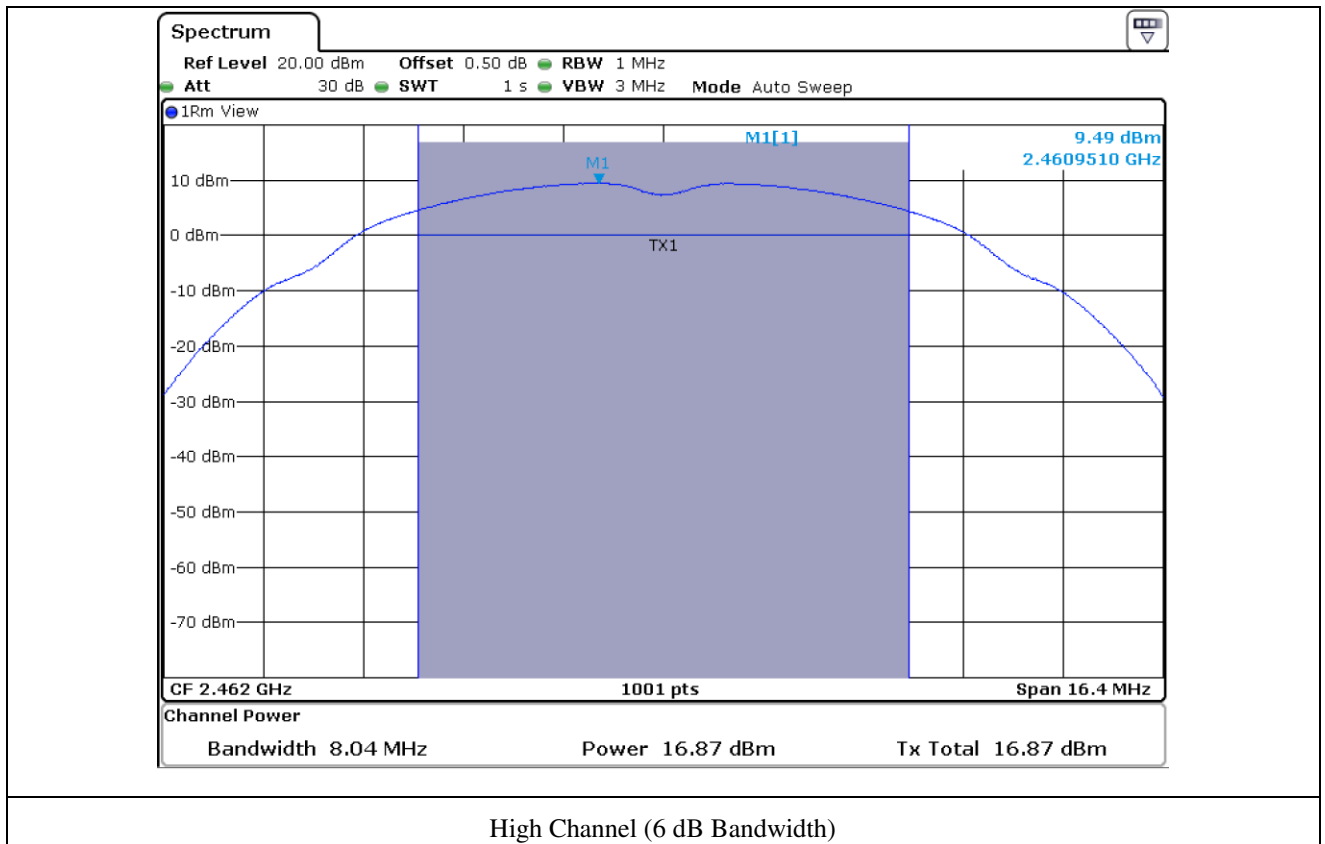
Tested by: Min-Gu, Ji / Project Engineer

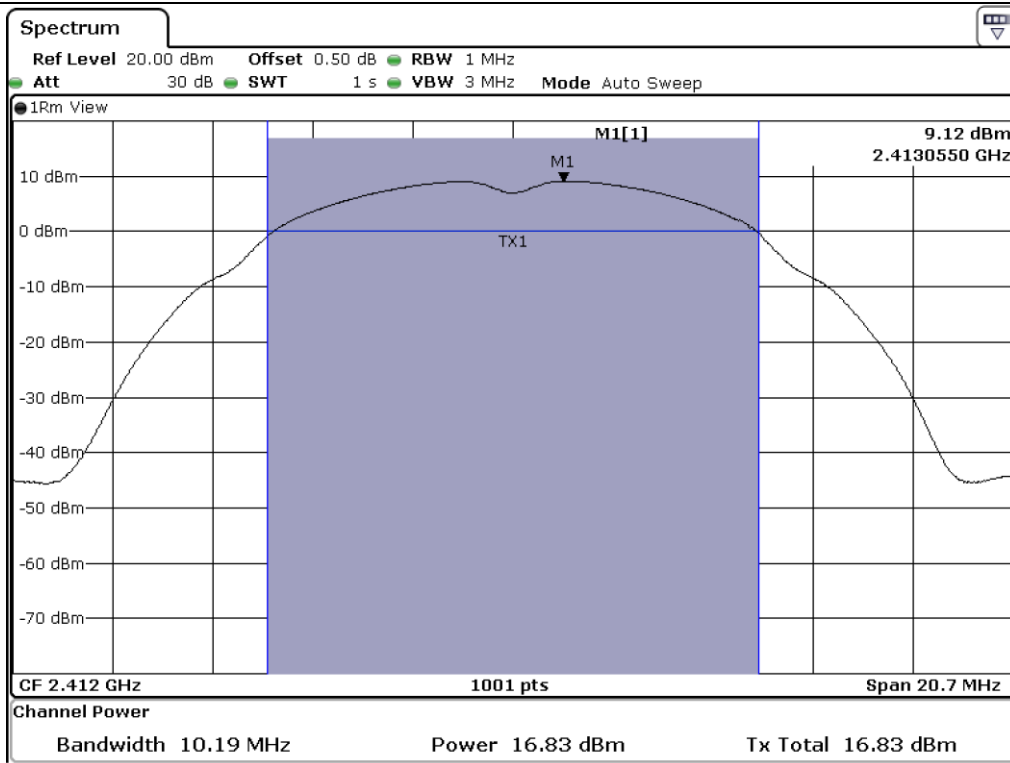


Low Channel (6 dB Bandwidth)

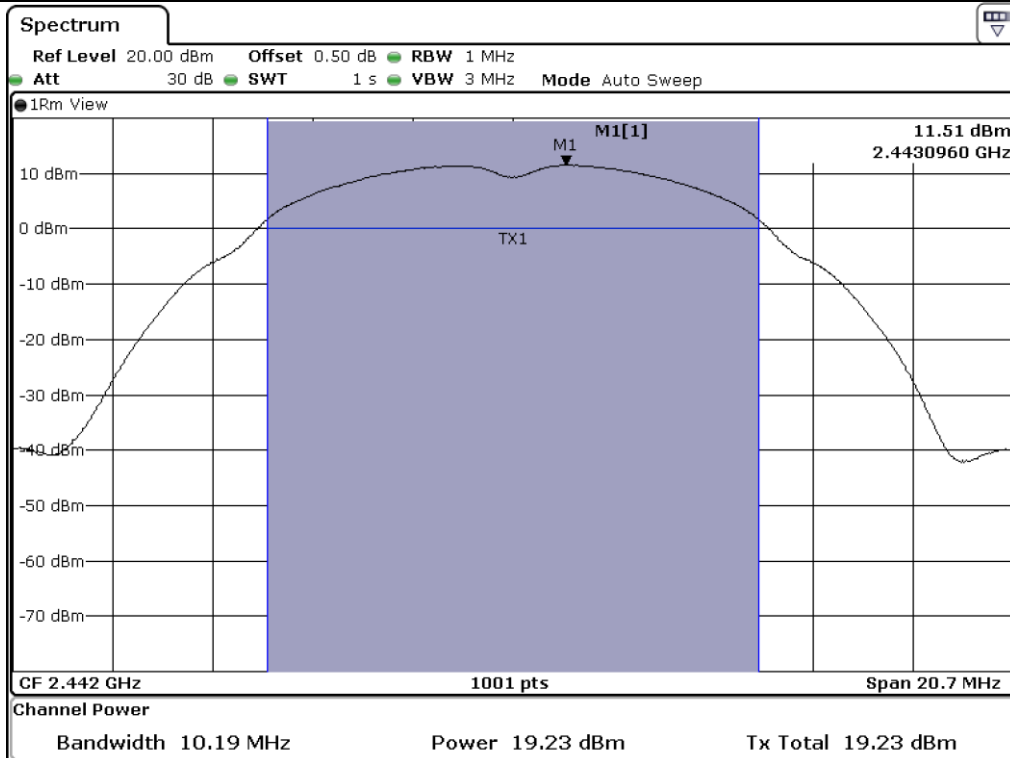


Middle Channel (6 dB Bandwidth)





Low Channel (99 % bandwidth)



Middle Channel (99 % bandwidth)