

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

Test Report No. : OT-209-RWD-064

Reception No. : 2008003233

Applicant : Samsung Electronics Co Ltd

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Manufacturer : Samsung Electronics Co Ltd

Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do 16677, Korea

Type of Equipment : Wi-Fi/BT Transceiver

FCC ID. : A3LWCA732M

Model Name : WCA732M

Serial number : N/A

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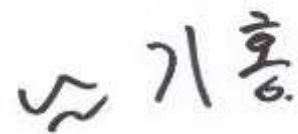
SUMMARY

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.





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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-209-RWD-064	September 21, 2020	Initial Release	All

1. VERIFICATION OF COMPLIANCE

Applicant : Samsung Electronics Co Ltd
 Address : 19 Chapin Rd., Building D, Pine Brook, New Jersey, 07058, United States
 Contact Person : Youngjoong Noh / Principal Engineer
 Telephone No. : +82-31-277-0598
 FCC ID : A3LWCA732M
 Model Name : WCA732M
 Brand Name : 
 Serial Number : N/A
 Date : September 21, 2020

EQUIPMENT CLASS	DTS – DIGITAL TRNSMISSION SYSTEM
E.U.T. DESCRIPTION	Modular Transmitter, Wi-Fi/BT Transceiver
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 15.247 Meas Guidance v05r02
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.

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
15.247 (b) (3)	Maximum Conducted(average) 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-14617/ G-10666/ T-11842

ISED (Innovation, Science and Economic Development Canada) – Registration No. Site# 3736A-3

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 WCA732M (referred to as the EUT in this report) is a Wi-Fi/BT Transceiver. The product specification described herein was obtained from product data sheet or user’s manual.

DEVICE TYPE	Wi-Fi/BT Transceiver	
Temperature Range	-20 °C ~ 50 °C	
OPERATING FREQUENCY	Bluetooth LE	2 402 MHz ~ 2 480 MHz
	Bluetooth	2 402 MHz ~ 2 480 MHz
	WLAN 2.4 GHz	2 412 MHz ~ 2 472 MHz (802.11b/g/n(HT20))
		2 422 MHz ~ 2 462 MHz (802.11n(HT40))
	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	Bluetooth LE	GFSK for 1 Mbps / 2 Mbps
	Bluetooth	GFSK for 1Mbps, $\pi/4$ -DQPSK for 2Mbps, 8-DPSK for 3Mbps
	WLAN 2.4 GHz	802.11b: DSSS Modulation(DBPSK/DQPSK/CCK)
		802.11g/n(HT20)/n(HT40): OFDM Modulation(BPSK/QPSK/16QAM/64QAM)
WLAN 5 GHz	802.11a/n(HT20)/n(HT40)/ac(VHT80): OFDM Modulation(BPSK/QPSK/16QAM/64QAM)	

RF OUTPUT POWER	Bluetooth LE	1 Mbps	9.85 dBm	
		2 Mbps	9.82 dBm	
	Bluetooth	1 Mbps	9.93 dBm	
		2 Mbps	9.60 dBm	
		3 Mbps	9.67 dBm	
	WLAN 2.4 GHz	Antenna 0	18.65 dBm(802.11b)	
			15.81 dBm(802.11g)	
			15.71 dBm(802.11n_HT20)	
			13.39 dBm(802.11n_HT40)	
		Antenna 1	18.55 dBm(802.11b)	
			15.40 dBm(802.11g)	
Multiple Antenna	15.14 dBm(802.11n_HT20)			
	13.25 dBm(802.11n_HT40)			
	18.41 dBm(802.11g)			
		18.21 dBm(802.11n_HT20)		
		16.31 dBm(802.11n_HT40)		

RF OUTPUT POWER	5 150 MHz ~ 5 250 MHz Band	Antenna 0	12.21 dBm(802.11a) 11.95 dBm(802.11n_HT20) 10.15 dBm(802.11n_HT40) 9.97 dBm(802.11ac_VHT80)
		Antenna 1	12.42 dBm(802.11a) 12.11 dBm(802.11n_HT20) 10.14 dBm(802.11n_HT40) 9.84 dBm(802.11ac_VHT80)
		Multiple Antenna	15.33 dBm(802.11a) 15.01 dBm(802.11n_HT20) 13.16 dBm(802.11n_HT40) 12.92 dBm(802.11ac_VHT80)
	5 250 MHz ~ 5 350 MHz Band	Antenna 0	13.65 dBm(802.11a) 13.57 dBm(802.11n_HT20) 11.60 dBm(802.11n_HT40) 11.17 dBm(802.11ac_VHT80)
		Antenna 1	12.18 dBm(802.11a) 11.88 dBm(802.11n_HT20) 10.35 dBm(802.11n_HT40) 9.71 dBm(802.11ac_VHT80)
		Multiple Antenna	15.83 dBm(802.11a) 15.64 dBm(802.11n_HT20) 13.81 dBm(802.11n_HT40) 13.51 dBm(802.11ac_VHT80)

RF OUTPUT POWER	5 470 MHz ~ 5 725 MHz Band	Antenna 0	14.11 dBm(802.11a) 13.95 dBm(802.11n_HT20) 12.16 dBm(802.11n_HT40) 11.80 dBm(802.11ac_VHT80)
		Antenna 0_Straddle	12.10 dBm(802.11a) 12.27 dBm(802.11n_HT20) 10.69 dBm(802.11n_HT40) 11.65 dBm(802.11ac_VHT80)
		Antenna 1	11.16 dBm(802.11a) 10.89 dBm(802.11n_HT20) 11.38 dBm(802.11n_HT40) 10.95 dBm(802.11ac_VHT80)
		Antenna 1_Straddle	13.12 dBm(802.11a) 13.00 dBm(802.11n_HT20) 10.79 dBm(802.11n_HT40) 12.23 dBm(802.11ac_VHT80)
		Multiple Antenna	15.89 dBm(802.11a) 15.69 dBm(802.11n_HT20) 14.66 dBm(802.11n_HT40) 14.41 dBm(802.11ac_VHT80)
		Multiple Antenna _Straddle	15.65 dBm(802.11a) 15.66 dBm(802.11n_HT20) 13.75 dBm(802.11n_HT40) 14.96 dBm(802.11ac_VHT80)

RF OUTPUT POWER	5 725 MHz ~ 5 850 MHz Band	Antenna 0	13.21 dBm(802.11a) 12.93 dBm(802.11n_HT20) 11.03 dBm(802.11n_HT40) 10.95 dBm(802.11ac_VHT80)
		Antenna 0_Straddle	4.04 dBm(802.11a) 4.66 dBm(802.11n_HT20) -1.44 dBm(802.11n_HT40) -3.22 dBm(802.11ac_VHT80)
		Antenna 1	10.11 dBm(802.11a) 9.58 dBm(802.11n_HT20) 11.07 dBm(802.11n_HT40) 10.91 dBm(802.11ac_VHT80)
		Antenna 1_Straddle	5.07 dBm(802.11a) 5.45 dBm(802.11n_HT20) -1.40 dBm(802.11n_HT40) -2.70 dBm(802.11ac_VHT80)
		Multiple Antenna	14.88 dBm(802.11a) 14.58 dBm(802.11n_HT20) 14.06 dBm(802.11n_HT40) 13.94 dBm(802.11ac_VHT80)
		Multiple Antenna _Straddle	7.60 dBm(802.11a) 8.08 dBm(802.11n_HT20) 1.59 dBm(802.11n_HT40) 0.06 dBm(802.11ac_VHT80)

ANTENNA TYPE	Chip Antenna			
ANTENNA GAIN	Bluetooth LE	0.28 dBi		
	Bluetooth	0.28 dBi		
	WLAN 2.4 GHz	Antenna 0	1.80 dBi	
		Antenna 1	1.83 dBi	
		Multiple Antenna	4.83 dBi	
	5 150 MHz ~ 5 250 MHz Band	Antenna 0	-0.54 dBi	
		Antenna 1	-3.09 dBi	
		Multiple Antenna	1.38 dBi	
	5 250 MHz ~ 5 350 MHz Band	Antenna 0	0.00 dBi	
		Antenna 1	-1.42 dBi	
		Multiple Antenna	2.36 dBi	
	5 470 MHz ~ 5 725 MHz Band	Antenna 0	2.34 dBi	
		Antenna 1	0.37 dBi	
		Multiple Antenna	4.48 dBi	
	5 725 MHz ~ 5 850 MHz Band	Antenna 0	-0.30 dBi	
		Antenna 1	-1.37 dBi	
		Multiple Antenna	2.21 dBi	
	List of each Osc. or crystal Freq.(Freq. >= 1 MHz)		40 MHz	

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	WCA732M	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
WCA732M	Samsung Electronics Co Ltd	Wi-Fi/BT Transceiver (EUT)	
HP Probook	HP	Notebook PC	EUT
PPP009L-E	LIE-ON TECHNOLOGY (CHANGZHOU)CO.,LTD.	AC Adapter	

5.3 Mode of operation during the test

For the testing, software used to control the EUT for staying in continuous transmitting mode is programmed.

-. Frequency / Channel Operations

Channel	Frequency
1	2 412
2	2 417
3	2 422
4	2 427
5	2 432
6	2 437
7	2 442
8	2 447
9	2 452
10	2 457
11	2 462
12	2 467
13	2 472

Modulation	DATA RATE	OUTPUT POWER[dBm]	
		Antenna 0	Antenna 1
802.11 b (Low Channel)	1 Mbps	18.17	18.55
	2 Mbps	18.10	18.48
	5.5 Mbps	18.05	18.36
	11 Mbps	18.01	18.34
802.11 g (Low Channel)	6 Mbps	14.93	15.40
	9 Mbps	14.90	15.33
	12 Mbps	14.80	15.24
	18 Mbps	14.62	15.19
	24 Mbps	14.55	15.09
	36 Mbps	14.20	14.59
	48 Mbps	13.54	13.99
	54 Mbps	13.46	13.91
802.11 HT 20 (Low Channel)	6.5 Mbps	14.43	15.13
	13 Mbps	14.35	15.08
	19.5 Mbps	14.29	15.00
	26 Mbps	14.25	14.98
	39 Mbps	13.89	14.52
	52 Mbps	13.84	14.46
	58.5 Mbps	13.15	13.68
	65 Mbps	13.04	13.64
802.11 HT 40 (Low Channel)	13.5 Mbps	12.63	13.13
	27 Mbps	12.58	13.07
	40.5 Mbps	12.49	12.97
	54 Mbps	12.42	12.90
	81 Mbps	12.20	12.48
	108 Mbps	12.12	12.45
	121.5 Mbps	11.16	11.52
	135 Mbps	11.05	11.40

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

-. To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis.

Modulation	DATA RATE	OUTPUT POWER[dBm]	
		Antenna 0	Antenna 1
802.11 b (Middle Channel)	1 Mbps	18.65	18.51
	2 Mbps	18.58	18.49
	5.5 Mbps	18.53	18.45
	11 Mbps	18.49	18.39
802.11 g (Middle Channel)	6 Mbps	15.38	15.29
	9 Mbps	15.32	15.21
	12 Mbps	15.25	15.18
	18 Mbps	15.13	15.14
	24 Mbps	15.05	15.08
	36 Mbps	14.68	14.48
	48 Mbps	13.86	13.71
	54 Mbps	13.84	13.67
802.11 HT 20 (Middle Channel)	6.5 Mbps	15.25	15.14
	13 Mbps	15.14	15.11
	19.5 Mbps	15.09	15.07
	26 Mbps	15.06	15.02
	39 Mbps	14.66	14.45
	52 Mbps	14.62	14.39
	58.5 Mbps	13.84	13.61
	65 Mbps	13.81	13.58
802.11 HT 40 (Middle Channel)	13.5 Mbps	13.27	13.23
	27 Mbps	13.21	13.16
	40.5 Mbps	13.11	13.06
	54 Mbps	13.07	13.01
	81 Mbps	12.76	12.35
	108 Mbps	12.63	12.31
	121.5 Mbps	11.77	11.24
	135 Mbps	11.63	11.15

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

-. To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis.

Modulation	DATA RATE	OUTPUT POWER[dBm]	
		Antenna 0	Antenna 1
802.11 b (High Channel_11)	1 Mbps	18.26	18.17
	2 Mbps	18.18	18.13
	5.5 Mbps	18.15	18.10
	11 Mbps	18.11	18.03
802.11 g (High Channel_11)	6 Mbps	15.81	14.94
	9 Mbps	15.77	14.87
	12 Mbps	15.70	14.79
	18 Mbps	15.58	14.73
	24 Mbps	15.52	14.65
	36 Mbps	15.06	14.15
	48 Mbps	14.33	13.43
	54 Mbps	14.25	13.36
802.11 HT 20 (High Channel_11)	6.5 Mbps	15.71	14.61
	13 Mbps	15.62	14.57
	19.5 Mbps	15.56	14.52
	26 Mbps	15.54	14.46
	39 Mbps	15.14	14.00
	52 Mbps	15.07	13.94
	58.5 Mbps	14.36	13.16
	65 Mbps	14.30	13.12
802.11 HT 40 (High Channel_11)	13.5 Mbps	13.34	13.25
	27 Mbps	13.27	13.17
	40.5 Mbps	13.19	13.09
	54 Mbps	13.10	13.02
	81 Mbps	12.81	12.40
	108 Mbps	12.73	12.34
	121.5 Mbps	11.81	11.49
	135 Mbps	11.75	11.27

- The worse case data rate for each modulation is determined 1 Mbps(Ant.0/Ant.1) for IEEE 802.11b, 6 Mbps(Ant.0/Ant.1) for IEEE 802.11g, 6.5 Mbps(Ant.0/Ant.1) for HT20, 13.5 Mbps(Ant.0/Ant.1) for HT40.
- To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis.

Modulation	DATA RATE	OUTPUT POWER[dBm]	
		Antenna 0	Antenna 1
802.11 b (High Channel_12)	1 Mbps	15.69	14.25
	2 Mbps	15.62	14.18
	5.5 Mbps	15.57	14.06
	11 Mbps	15.53	14.04
802.11 g (High Channel_12)	6 Mbps	15.05	13.65
	9 Mbps	15.02	13.59
	12 Mbps	14.92	13.49
	18 Mbps	14.77	13.44
	24 Mbps	14.71	13.34
	36 Mbps	14.32	12.84
	48 Mbps	13.66	12.24
	54 Mbps	13.58	12.16
802.11 HT 20 (High Channel_12)	6.5 Mbps	14.05	12.53
	13 Mbps	13.97	12.49
	19.5 Mbps	13.91	12.44
	26 Mbps	13.87	12.38
	39 Mbps	13.51	11.92
	52 Mbps	13.46	11.86
	58.5 Mbps	12.77	11.08
	65 Mbps	12.66	11.04
802.11 HT 40 (High Channel_12)	13.5 Mbps	13.39	13.13
	27 Mbps	13.34	13.07
	40.5 Mbps	13.25	12.98
	54 Mbps	13.18	12.90
	81 Mbps	12.96	12.38
	108 Mbps	12.88	12.45
	121.5 Mbps	11.92	11.52
	135 Mbps	11.81	11.40

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

-. To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes and the worst case is "XY" axis.

Modulation	DATA RATE	OUTPUT POWER[dBm]	
		Antenna 0	Antenna 1
802.11 b (High Channel_13)	1 Mbps	14.31	12.94
	2 Mbps	14.24	12.87
	5.5 Mbps	14.19	12.75
	11 Mbps	14.15	12.73
802.11 g (High Channel_13)	6 Mbps	12.56	11.59
	9 Mbps	12.53	11.52
	12 Mbps	12.43	11.43
	18 Mbps	12.25	11.38
	24 Mbps	12.18	11.28
	36 Mbps	11.83	10.78
	48 Mbps	11.17	10.18
	54 Mbps	11.09	10.10
802.11 HT 20 (High Channel_13)	6.5 Mbps	12.20	11.05
	13 Mbps	12.12	11.00
	19.5 Mbps	12.06	10.92
	26 Mbps	12.02	10.90
	39 Mbps	11.66	10.44
	52 Mbps	11.61	10.38
	58.5 Mbps	10.92	9.60
	65 Mbps	10.81	9.56
802.11 HT 40 (High Channel_13)	13.5 Mbps	13.33	12.78
	27 Mbps	13.28	12.72
	40.5 Mbps	13.19	12.62
	54 Mbps	13.12	12.55
	81 Mbps	12.90	12.13
	108 Mbps	12.82	12.10
	121.5 Mbps	11.86	11.17
	135 Mbps	11.75	11.05

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

-. To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes and the worst case is "XY" axis.

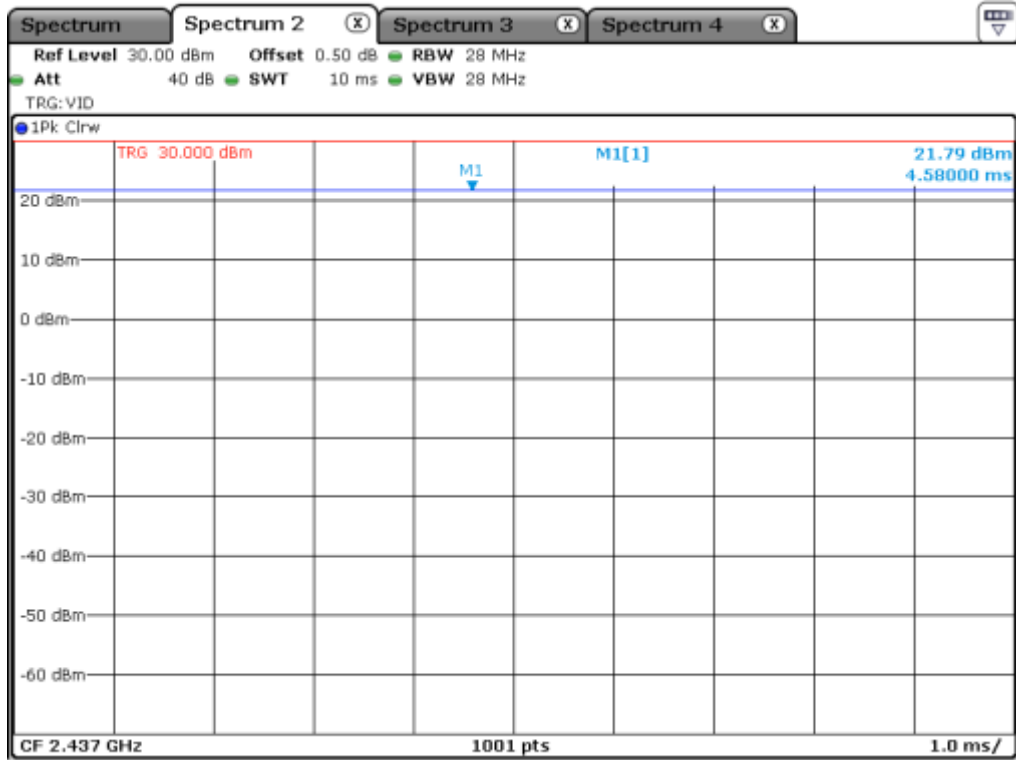
- . Duty Cycle

Mode	Tx On Time [ms]	Tx Off Time [ms]	Duty Cycle [%]	Correction Factor [dB]
802.11 b_Antenna 0	-	-	100.00	-
802.11 g_Antenna 0	-	-	100.00	-
802.11 HT 20_Antenna 0	-	-	100.00	-
802.11 HT 40_Antenna 0	-	-	100.00	-
802.11 b_Antenna 1	-	-	100.00	-
802.11 g_Antenna 1	-	-	100.00	-
802.11 HT 20_Antenna 1	-	-	100.00	-
802.11 HT 40_Antenna 1	-	-	100.00	-

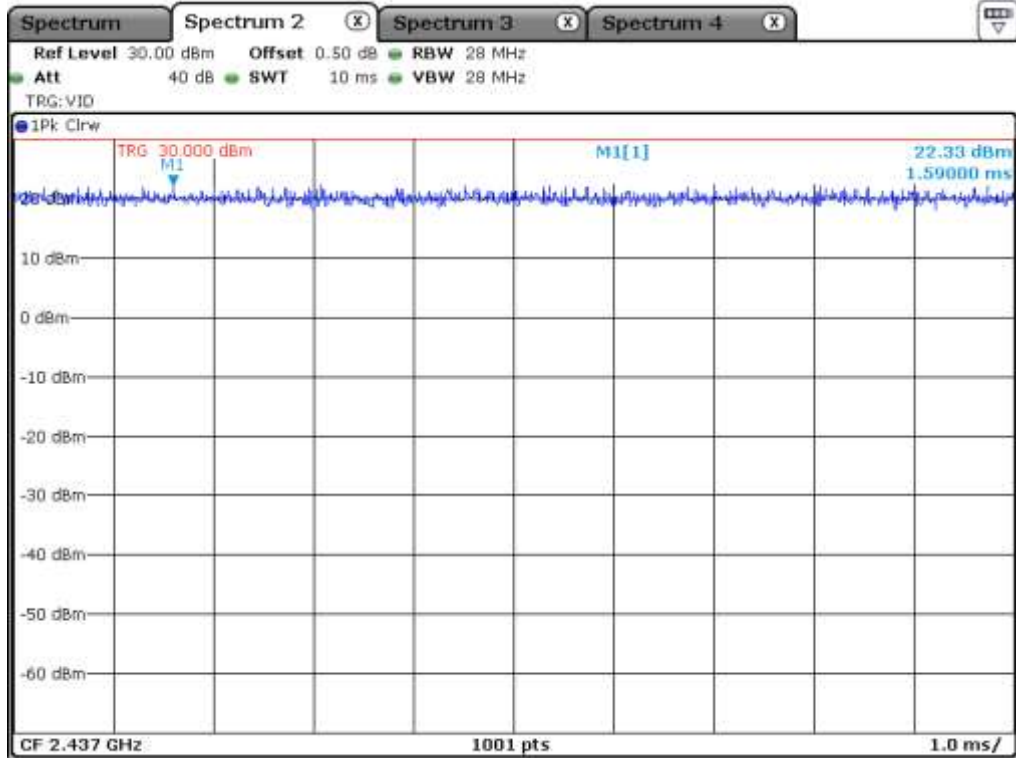
Note – Duty Cycle : $(Tx\ On\ Time / (Tx\ On\ Time + Tx\ Off\ Time)) * 100$

Correction Factor : $10 * \log(1 / (Duty\ Cycle / 100))$

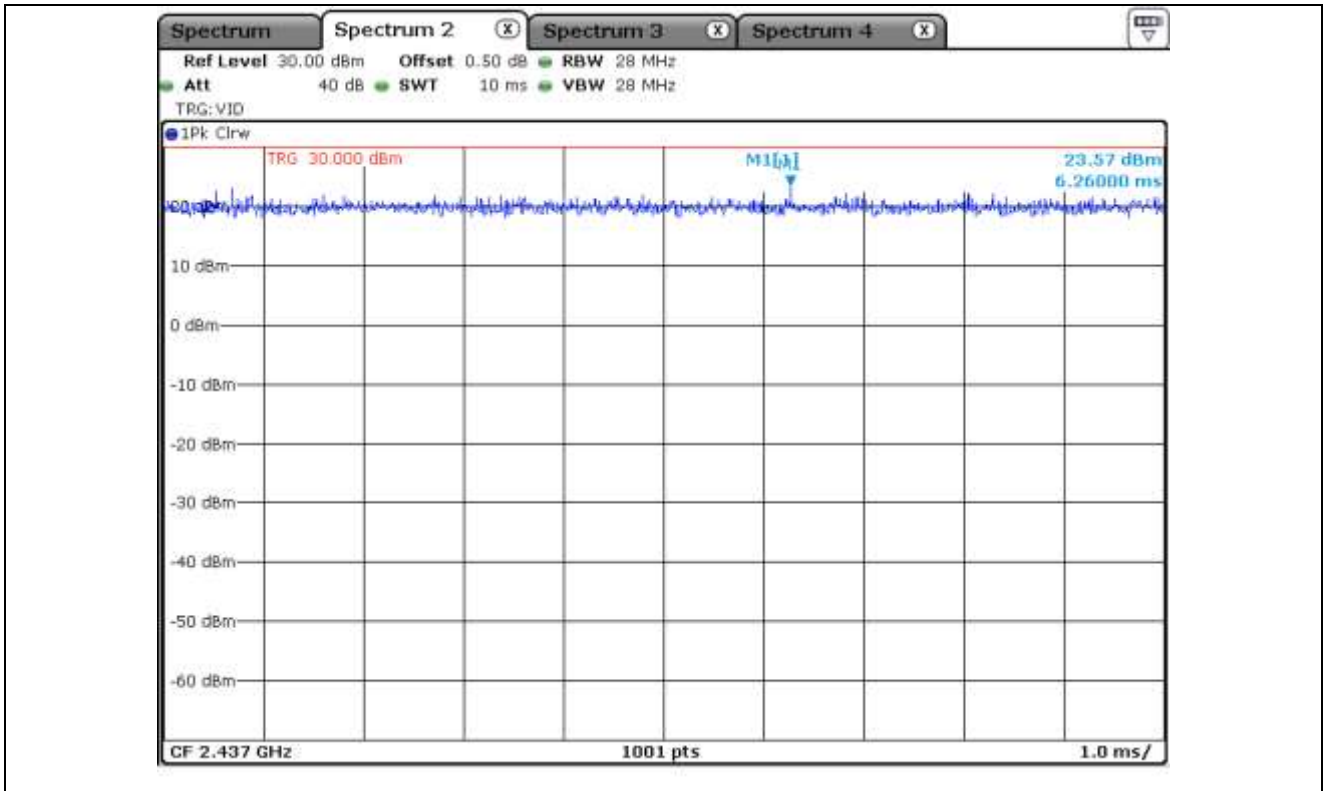
-. Test Plot



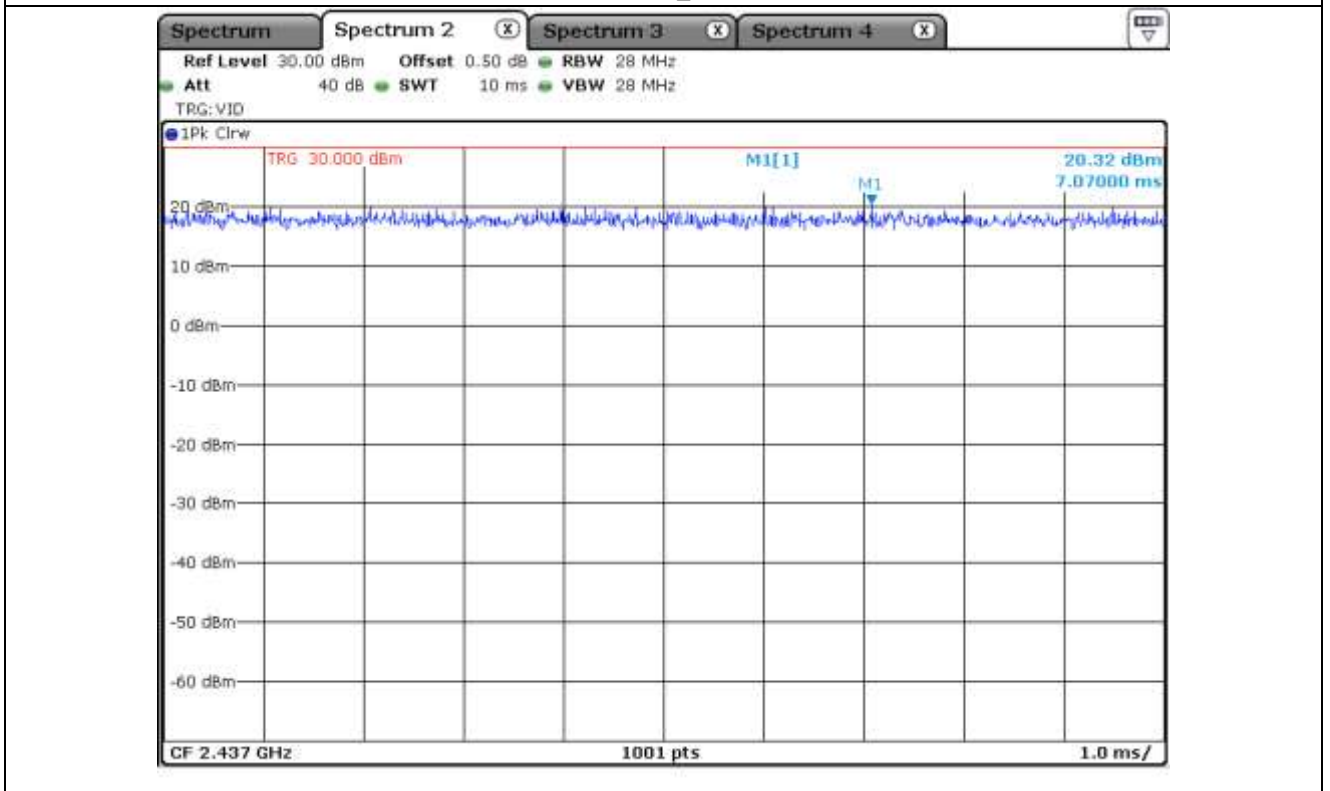
802.11 b_Antenna 0



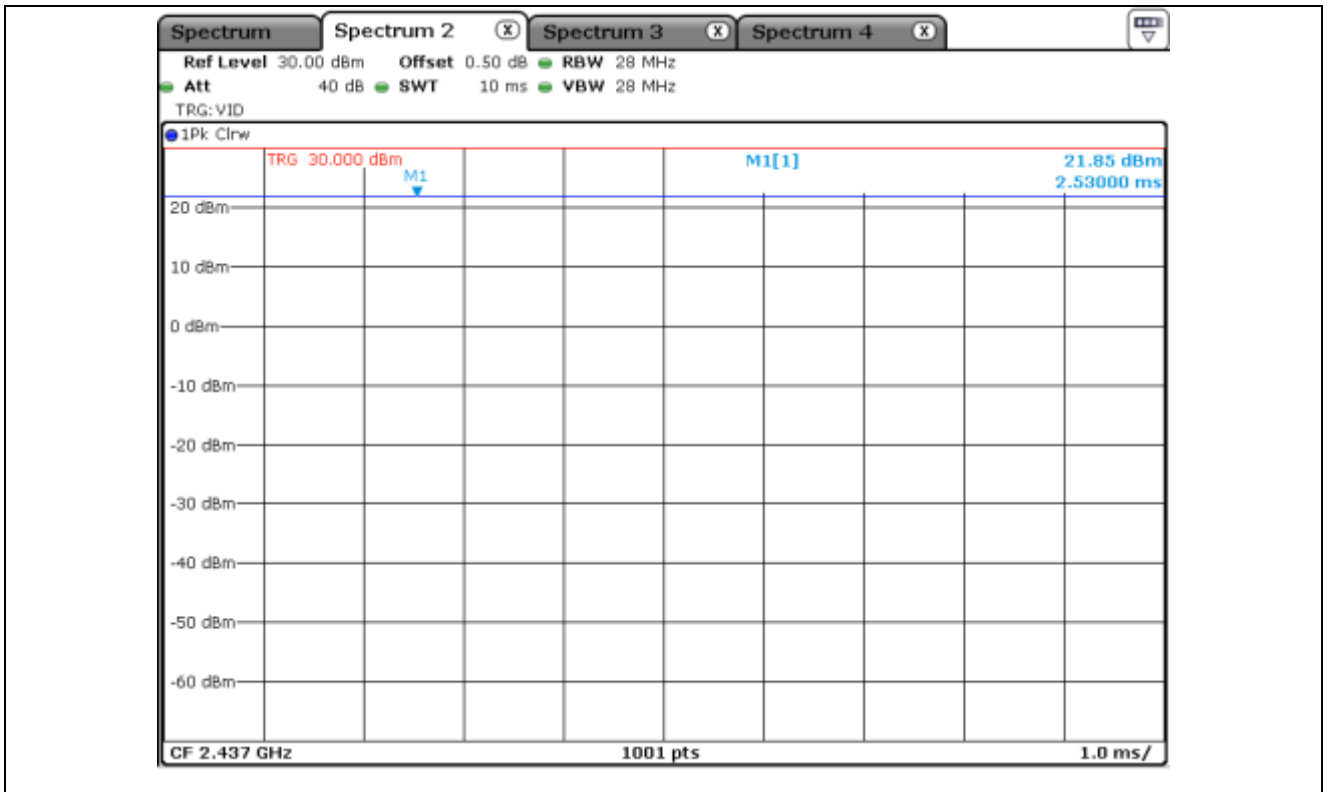
802.11 g_Antenna 0



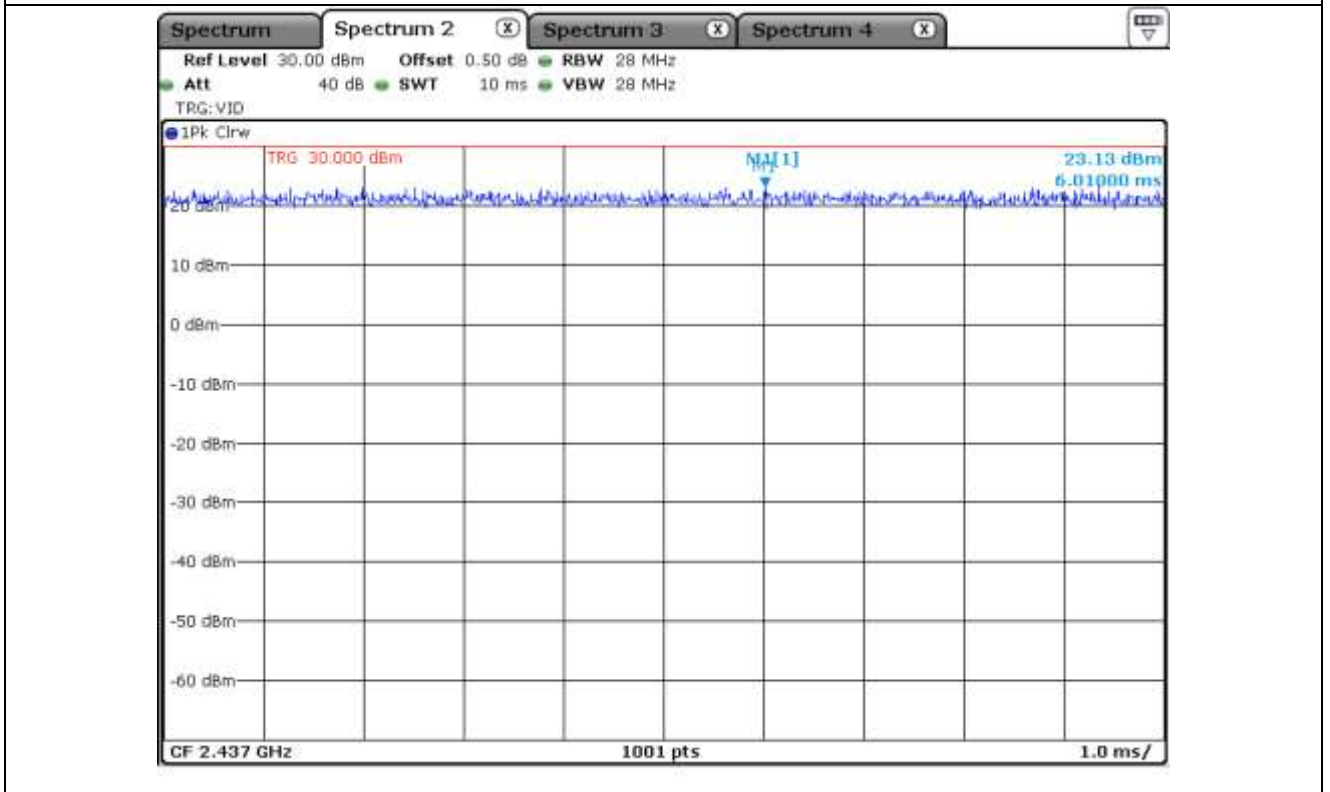
802.11 HT 20_Antenna 0



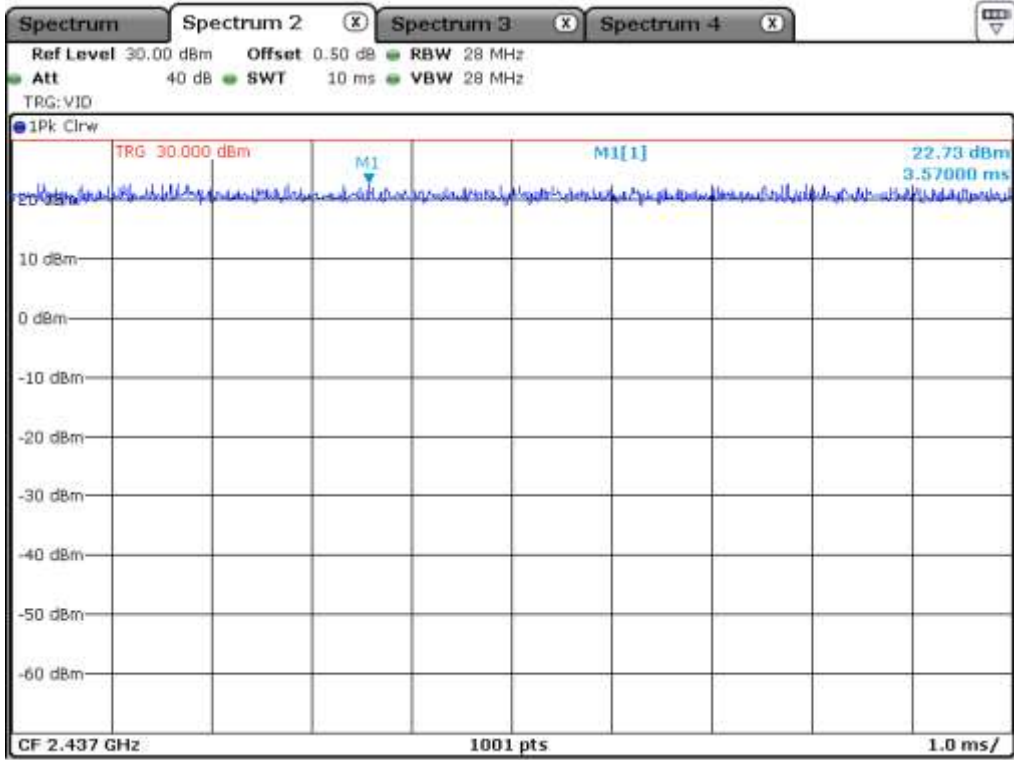
802.11 HT 40_Antenna 0



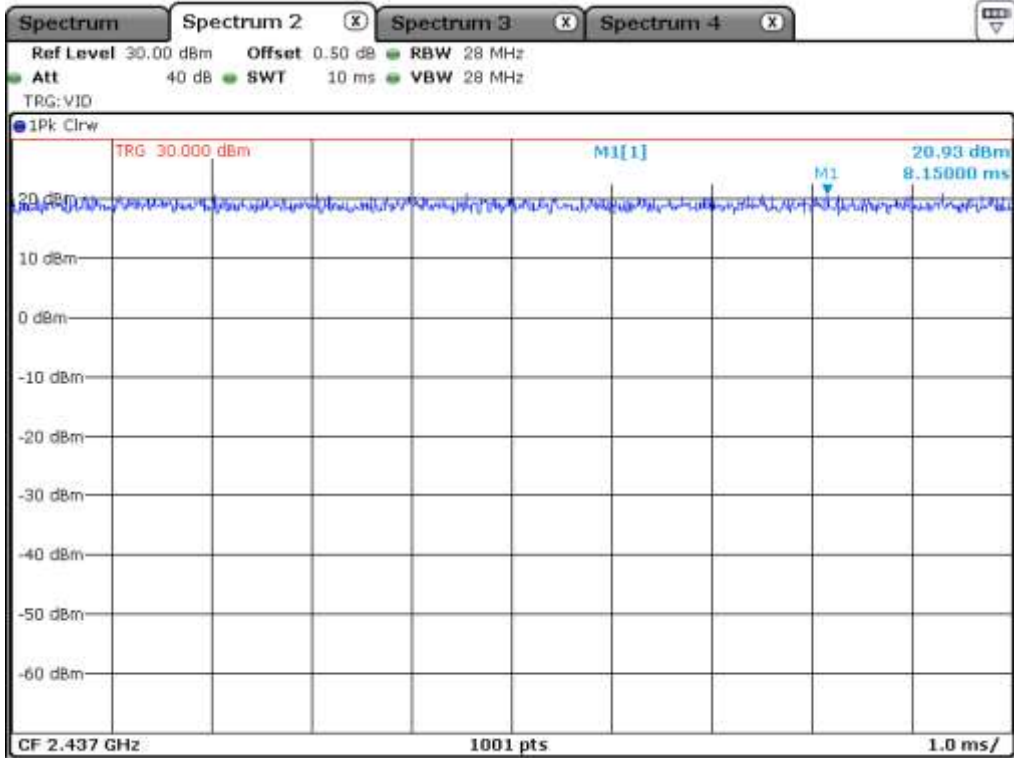
802.11 b_Antenna 1



802.11 g_Antenna 1



802.11 HT 20_Antenna 1



802.11 HT 40_Antenna 1

5.4 Configuration of Test System

Line Conducted Test: The EUT was connected to USB and the power of USB was connected to Notebook PC. 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 meter 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 antenna of the EUT is Chip Antenna on the main board in the EUT, 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

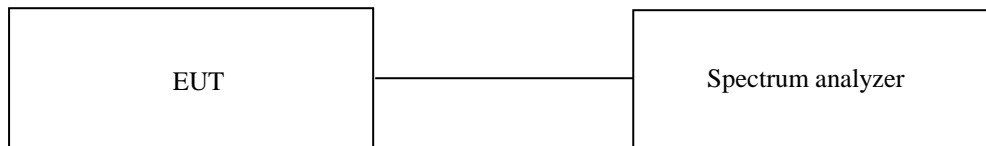
7. MIMIMUM 6 dB BANDWIDTH

7.1 Operating environment

Temperature : 23 °C
 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 Date

August 21, 2020 ~ September 08, 2020

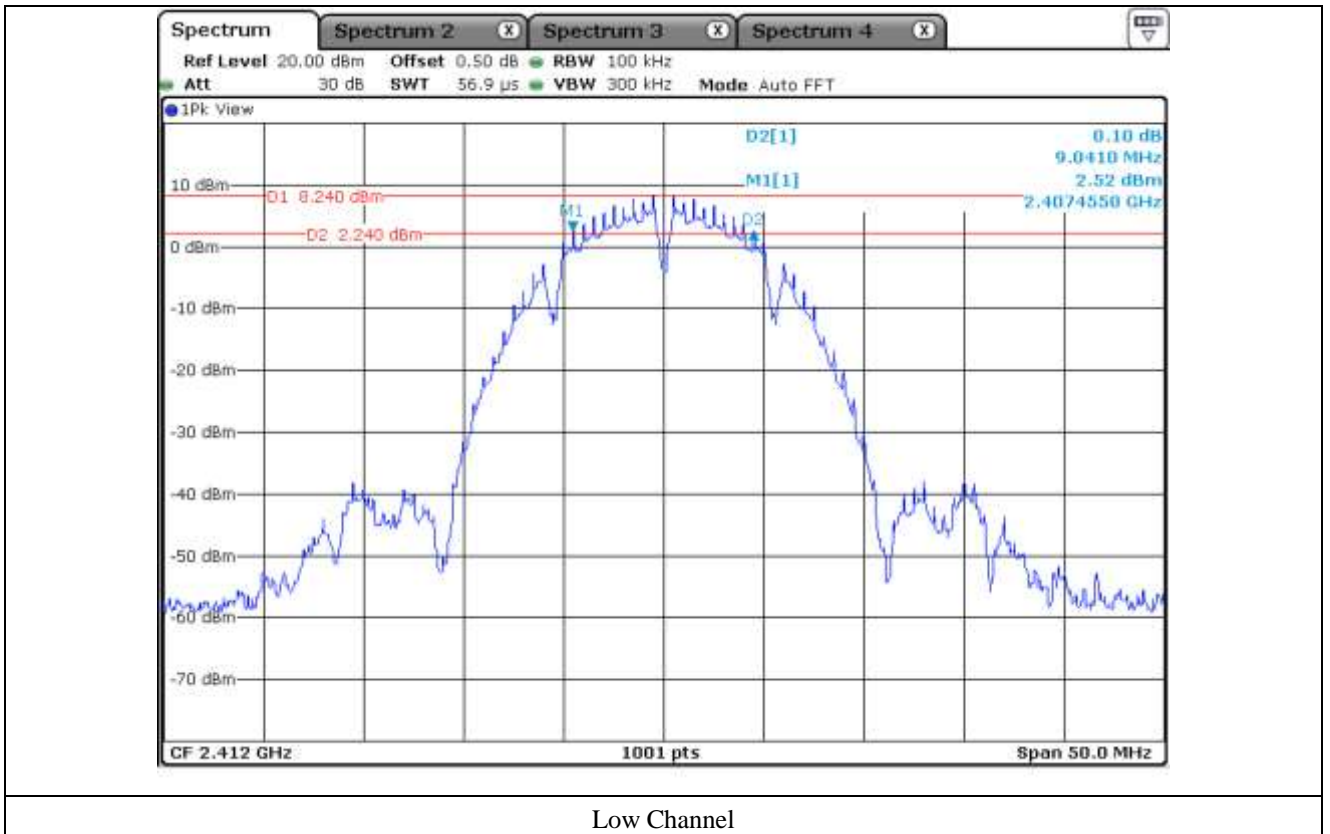
7.4 Test data for 802.11b WLAN Mode

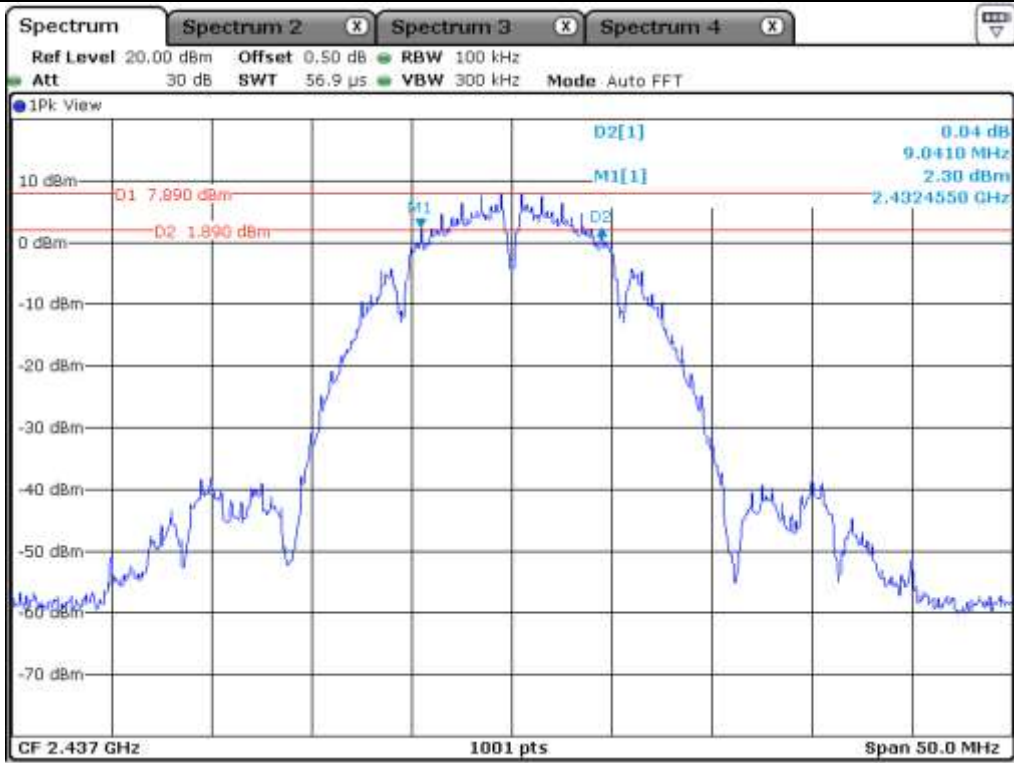
7.4.1 Test data for Antenna 0

-. Test Result : Pass

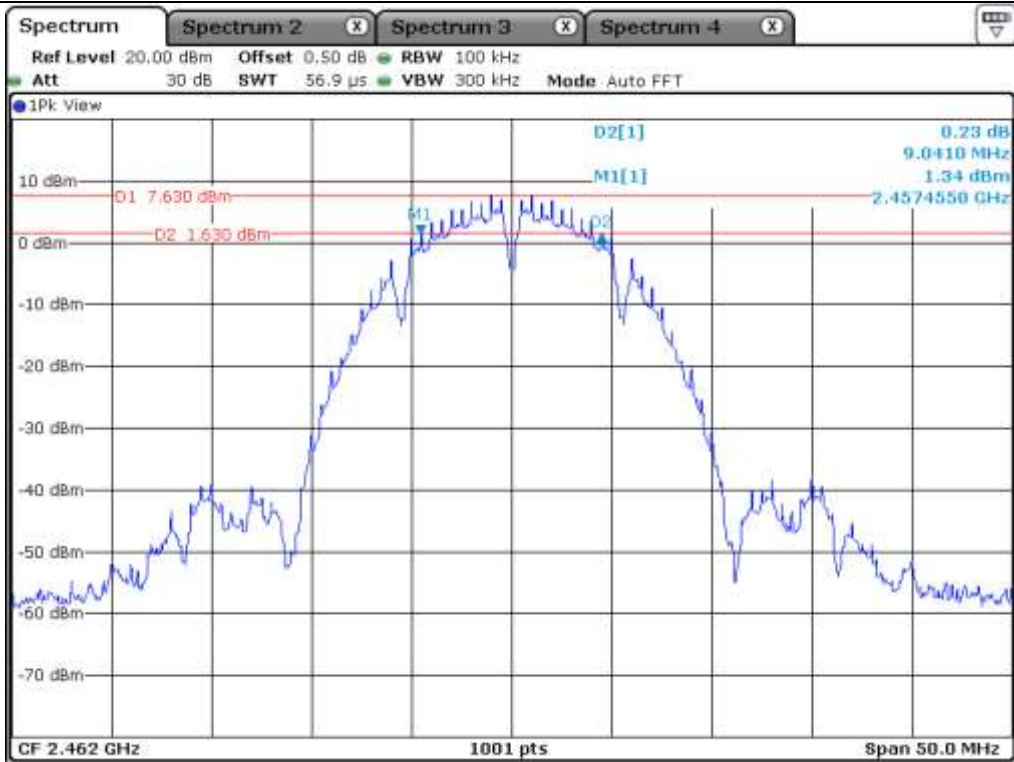
CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	9.04	0.50	8.54
Middle	2 437.00	9.04	0.50	8.54
High 11	2 462.00	9.04	0.50	8.54
High 12	2 467.00	9.04	0.50	8.54
High 13	2 472.00	9.04	0.50	8.54

Remark. Margin = Measured Value - Limit

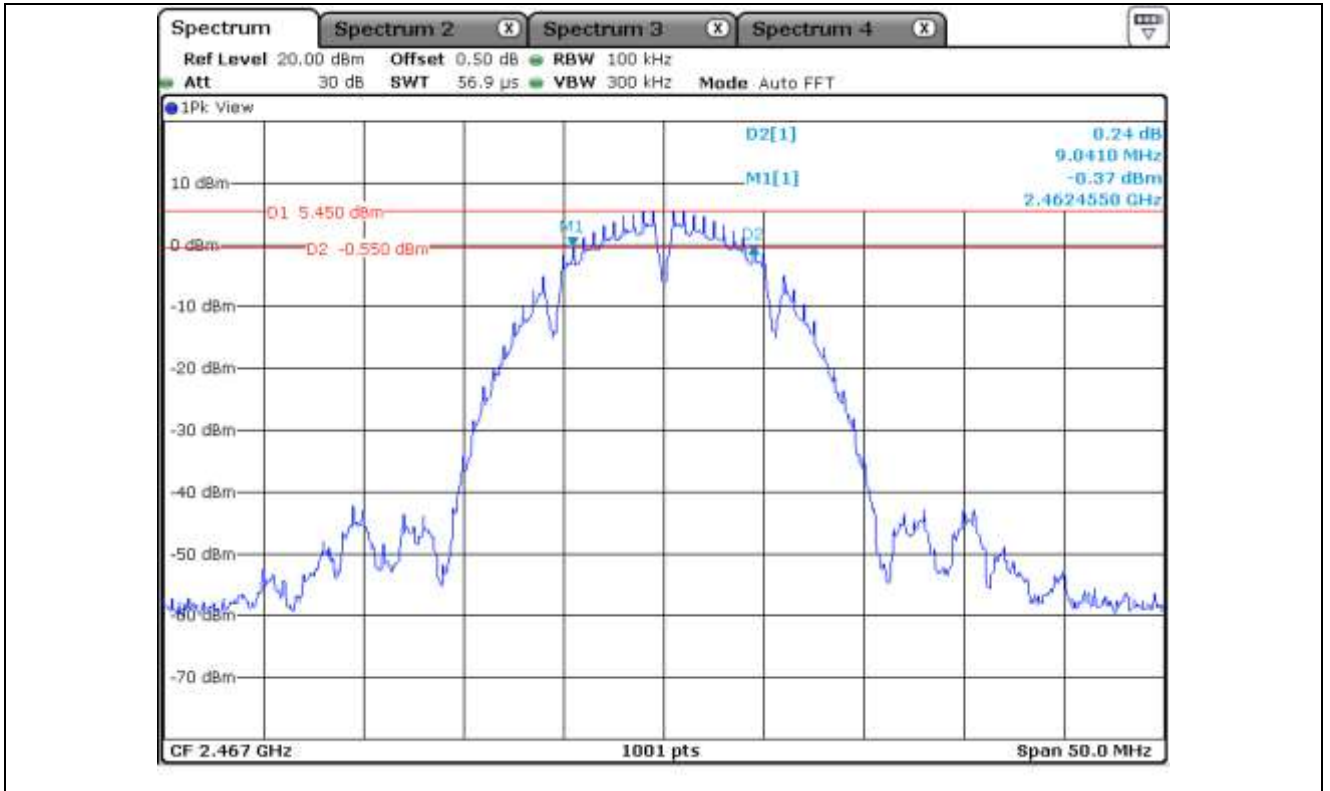




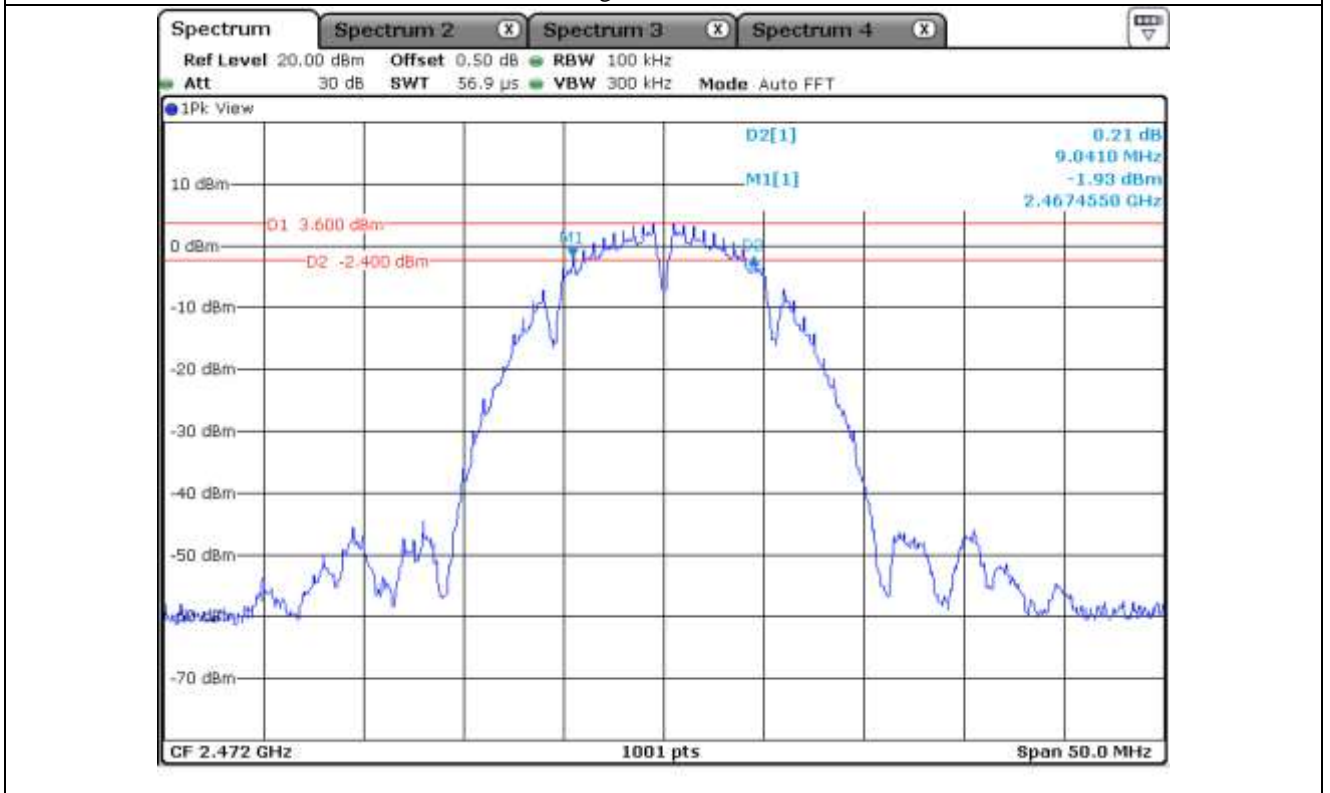
Middle Channel



High Channel 11



High Channel 12



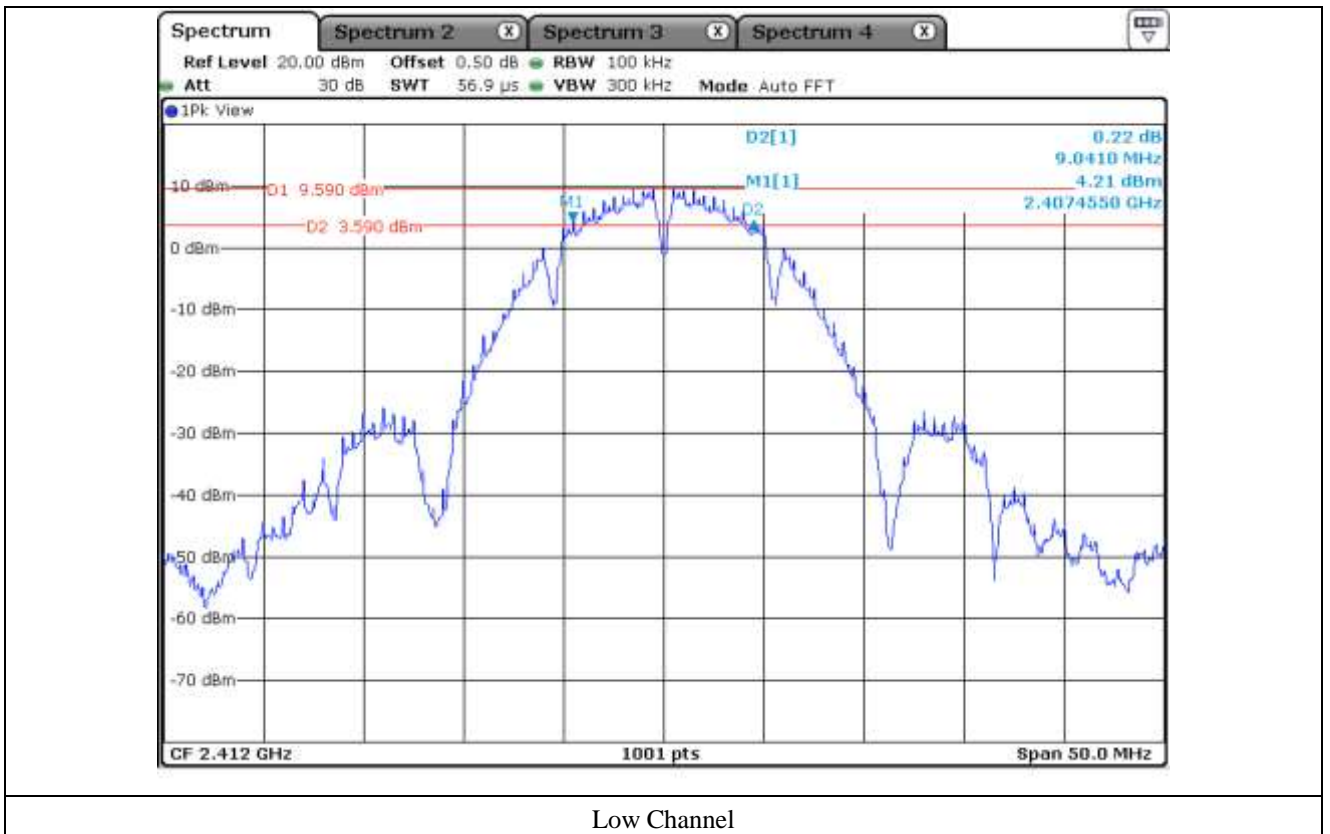
High Channel 13

7.4.2 Test data for Antenna 1

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	9.04	0.50	8.54
Middle	2 437.00	9.04	0.50	8.54
High 11	2 462.00	9.04	0.50	8.54
High 12	2 467.00	9.04	0.50	8.54
High 13	2 472.00	9.04	0.50	8.54

Remark. Margin = Measured Value - Limit

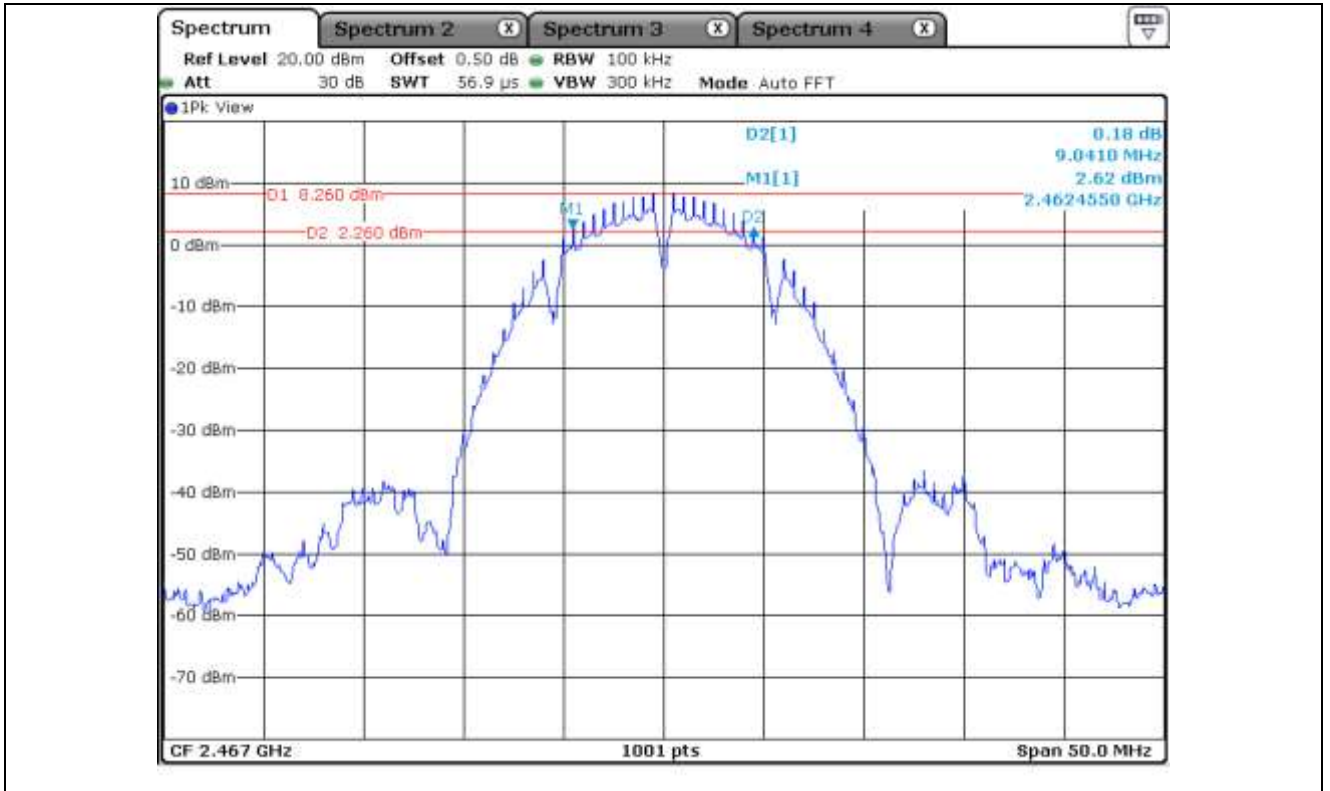




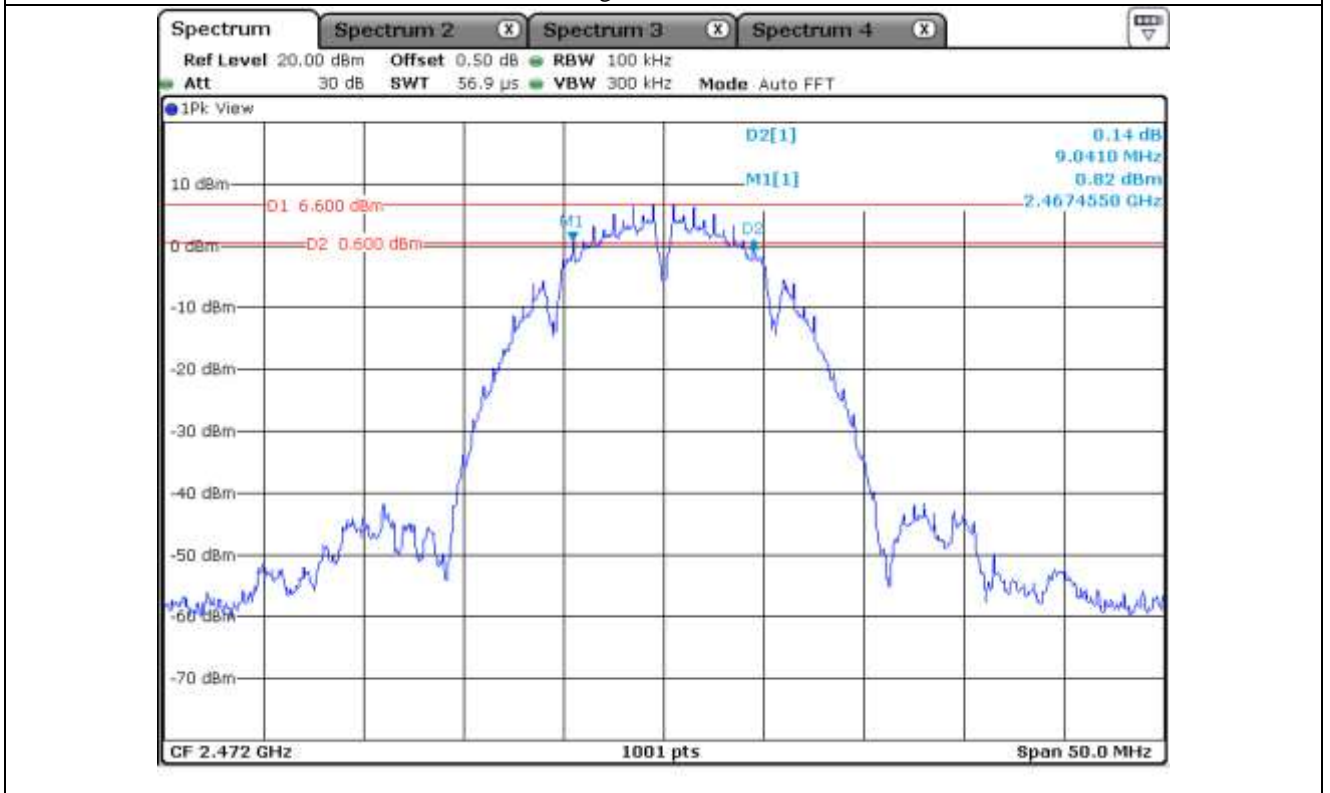
Middle Channel



High Channel 11



High Channel 12



High Channel 13

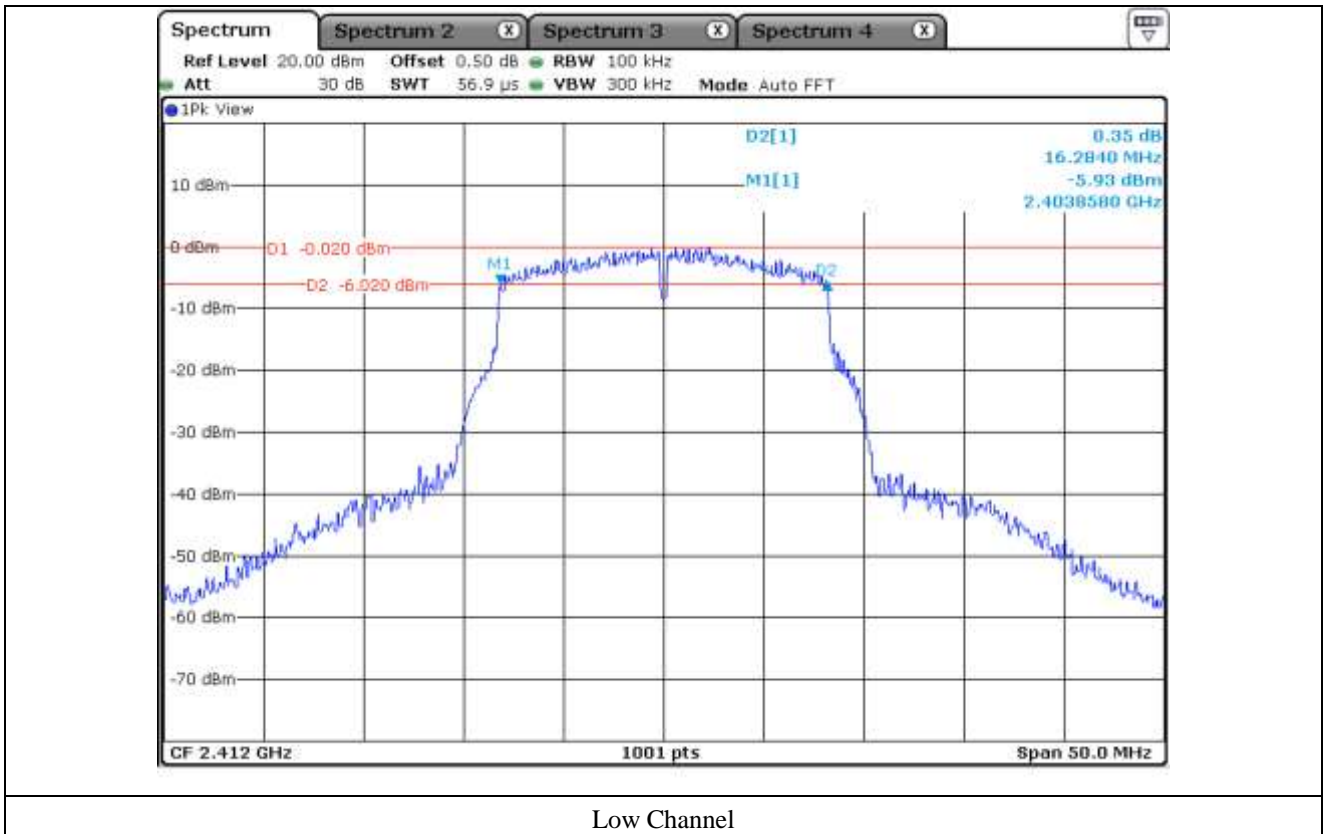
7.5 Test data for 802.11g WLAN Mode

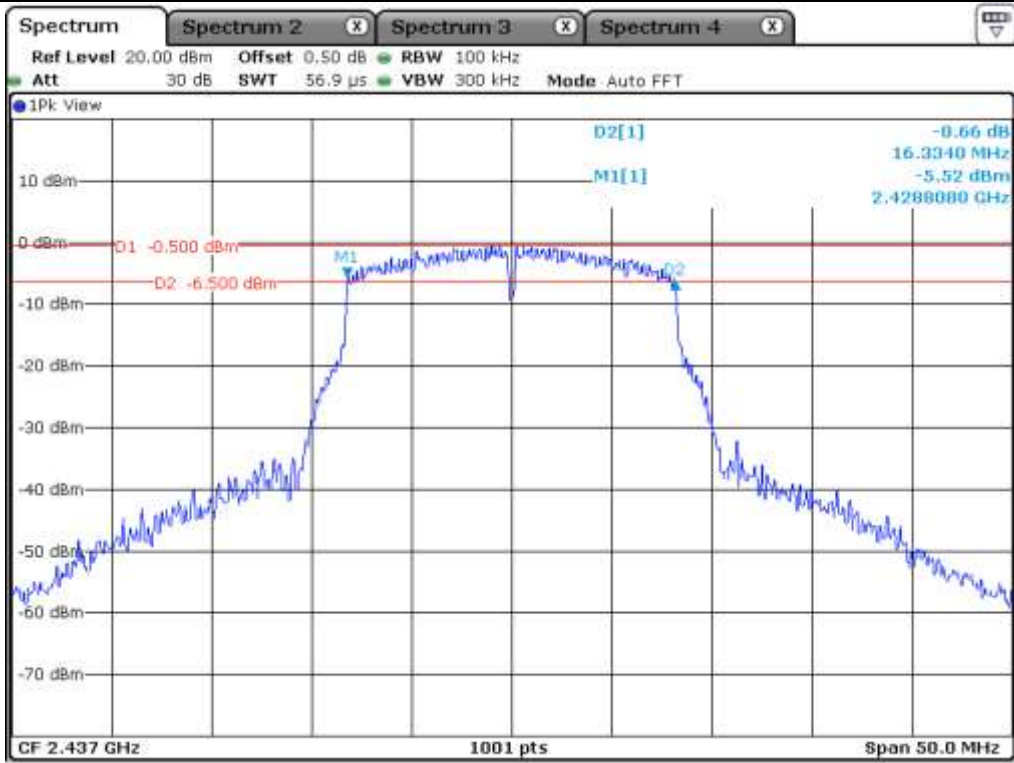
7.5.1 Test data for Antenna 0

-. Test Result : Pass

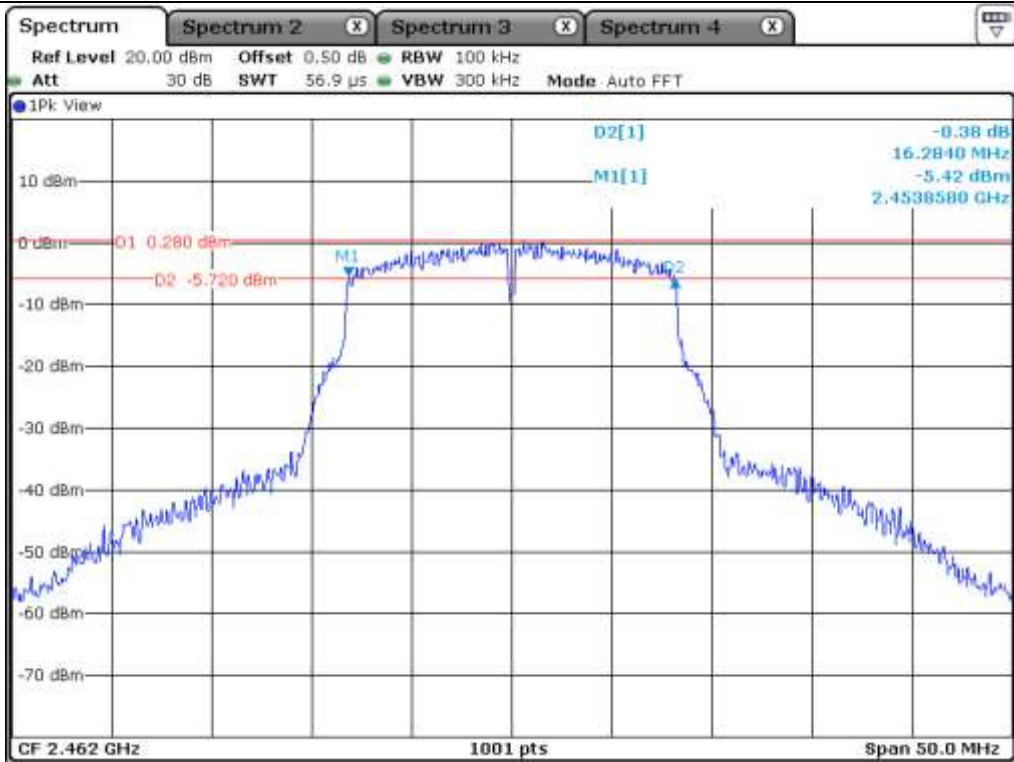
CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	16.28	0.50	15.78
Middle	2 437.00	16.33	0.50	15.83
High 11	2 462.00	16.28	0.50	15.78
High 12	2 467.00	16.28	0.50	15.78
High 13	2 472.00	16.33	0.50	15.83

Remark. Margin = Measured Value - Limit

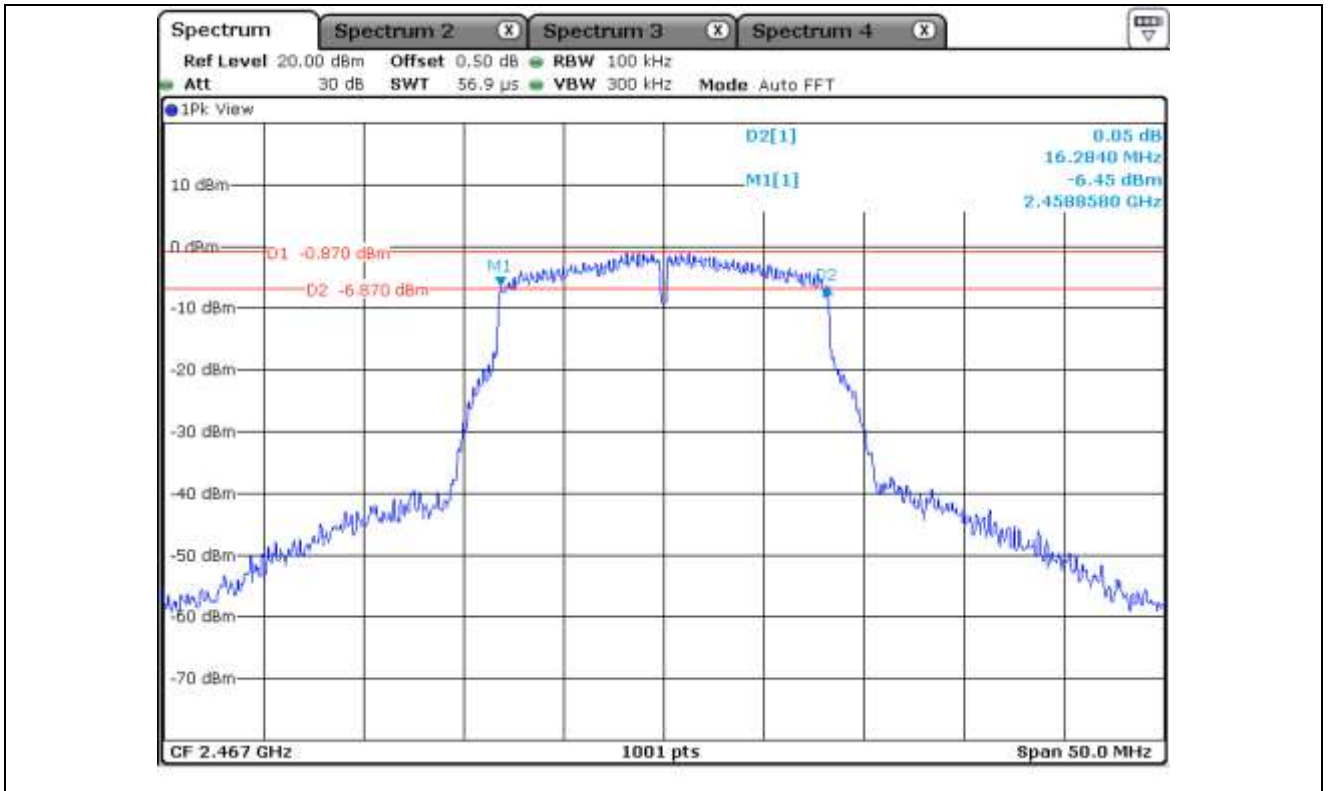




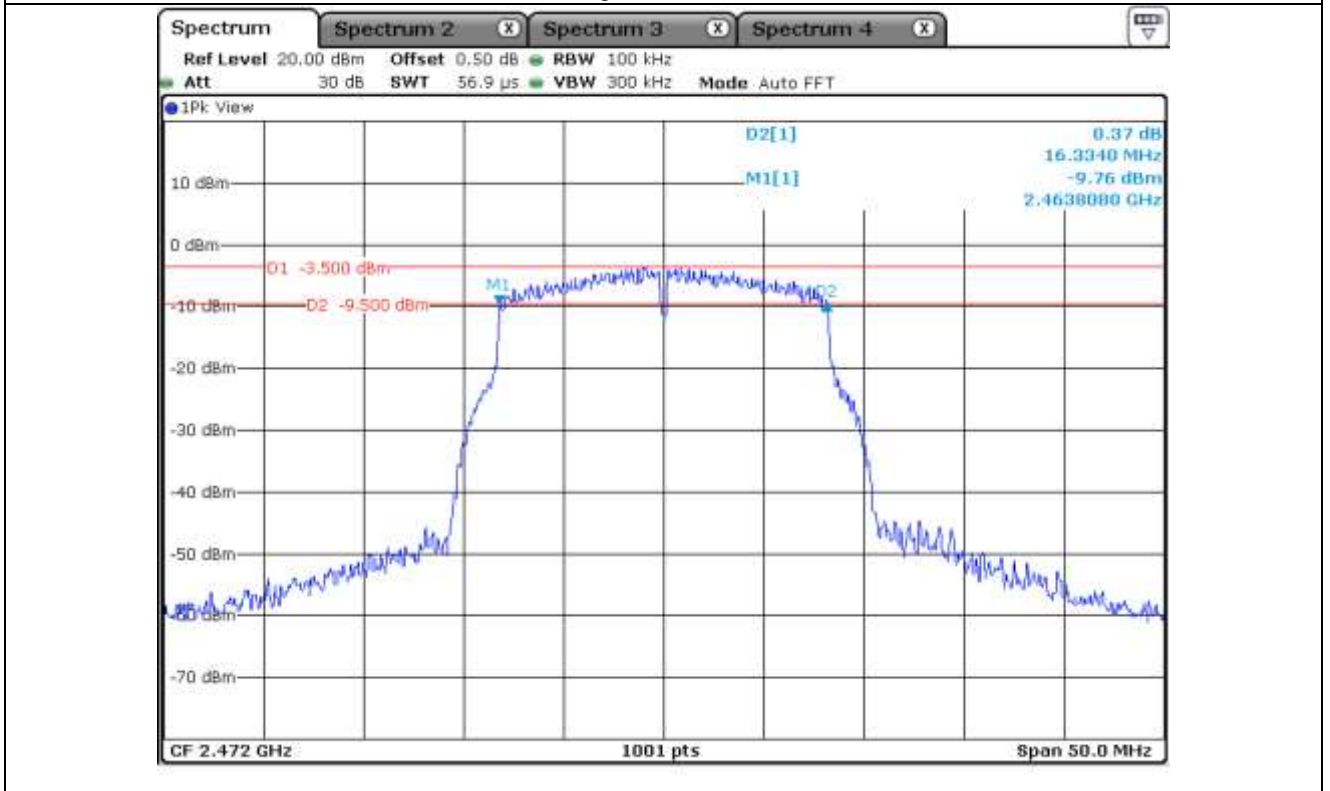
Middle Channel



High Channel 11



High Channel 12



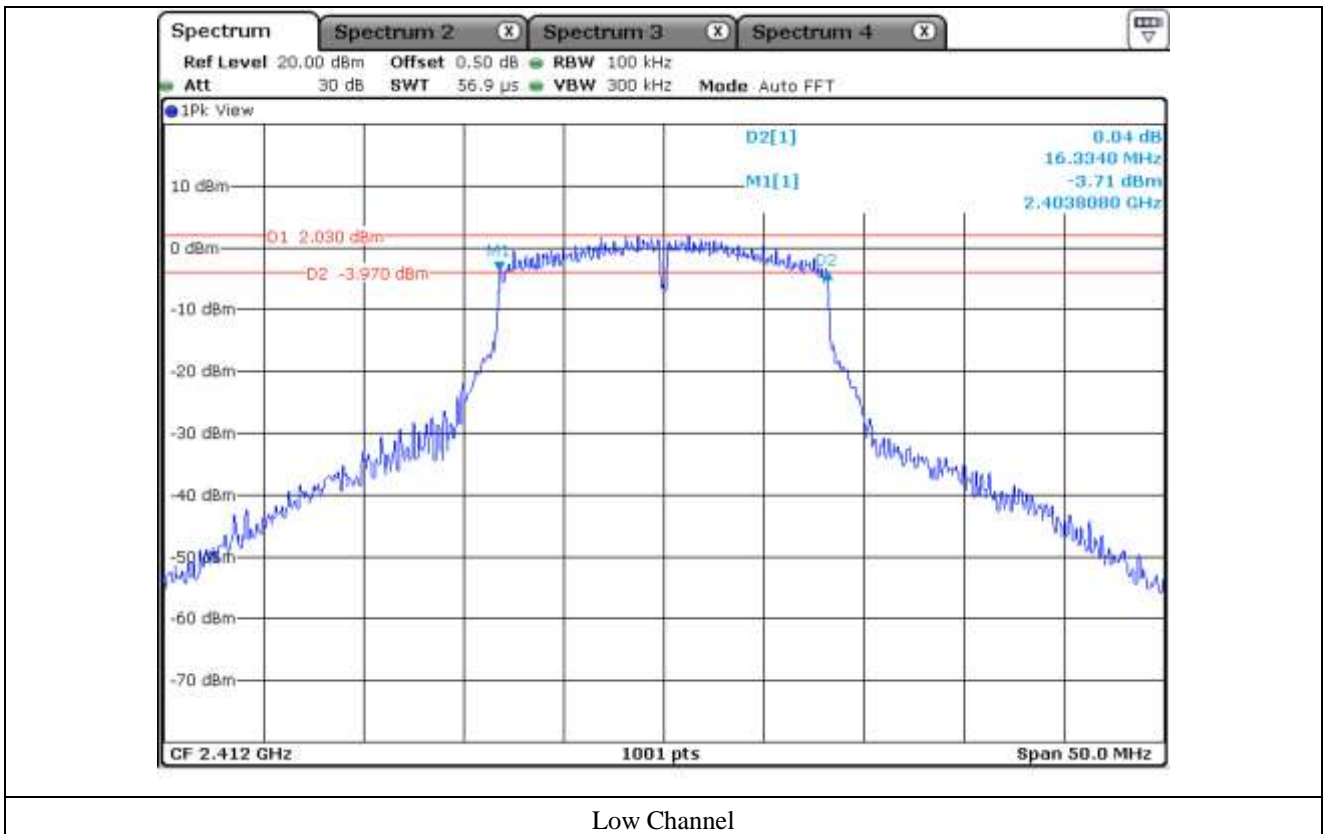
High Channel 13

7.5.2 Test data for Antenna 1

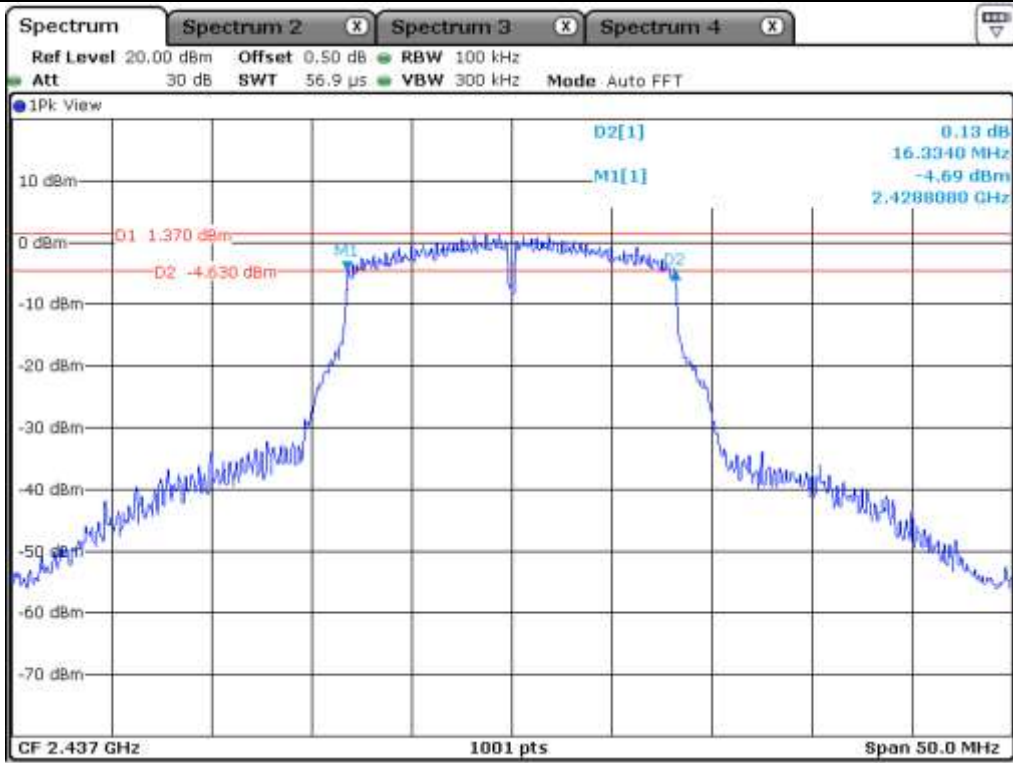
-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	16.33	0.50	15.83
Middle	2 437.00	16.33	0.50	15.83
High 11	2 462.00	16.33	0.50	15.83
High 12	2 467.00	16.28	0.50	15.78
High 13	2 472.00	16.23	0.50	15.73

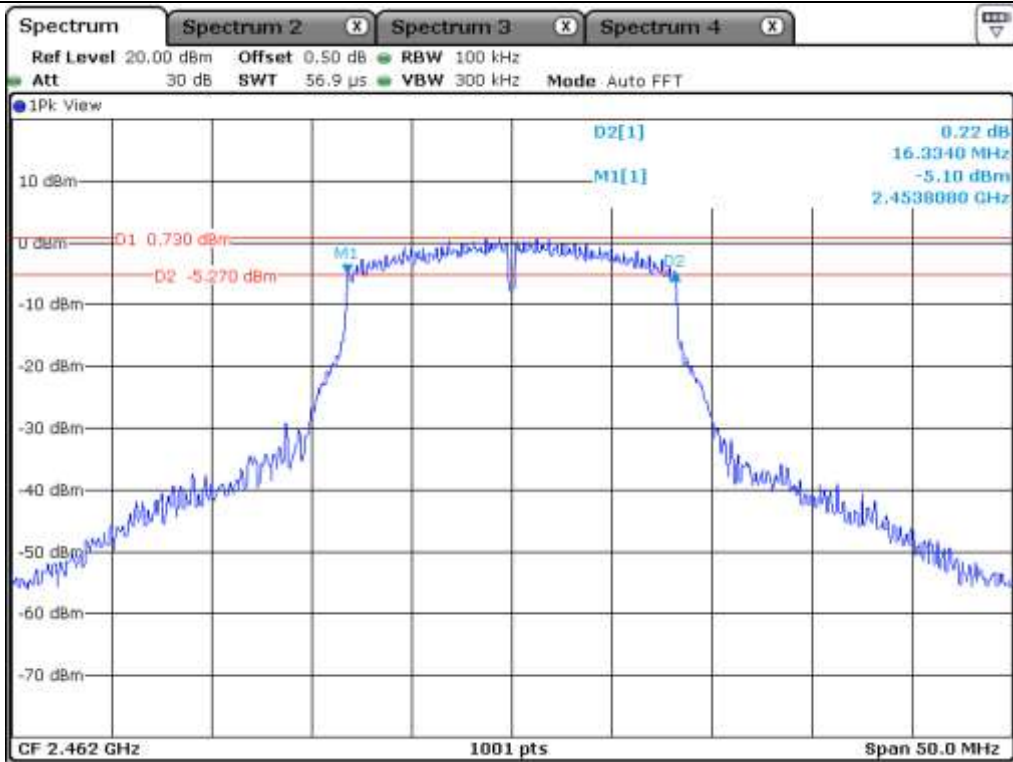
Remark. Margin = Measured Value – Limit



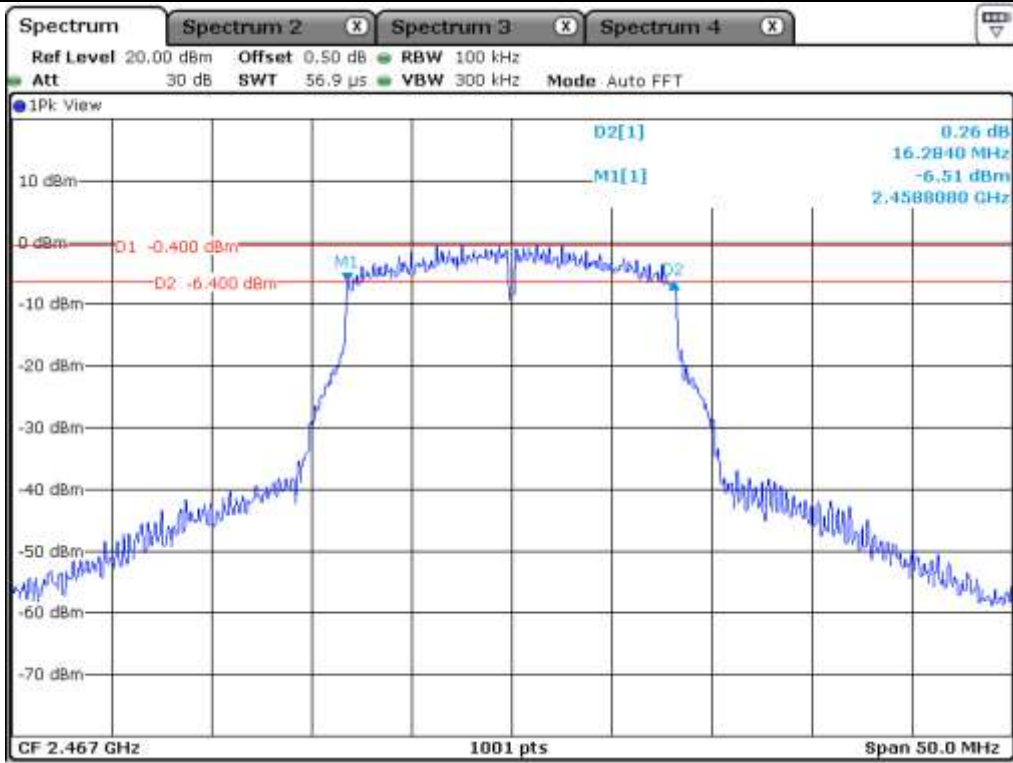
Low Channel



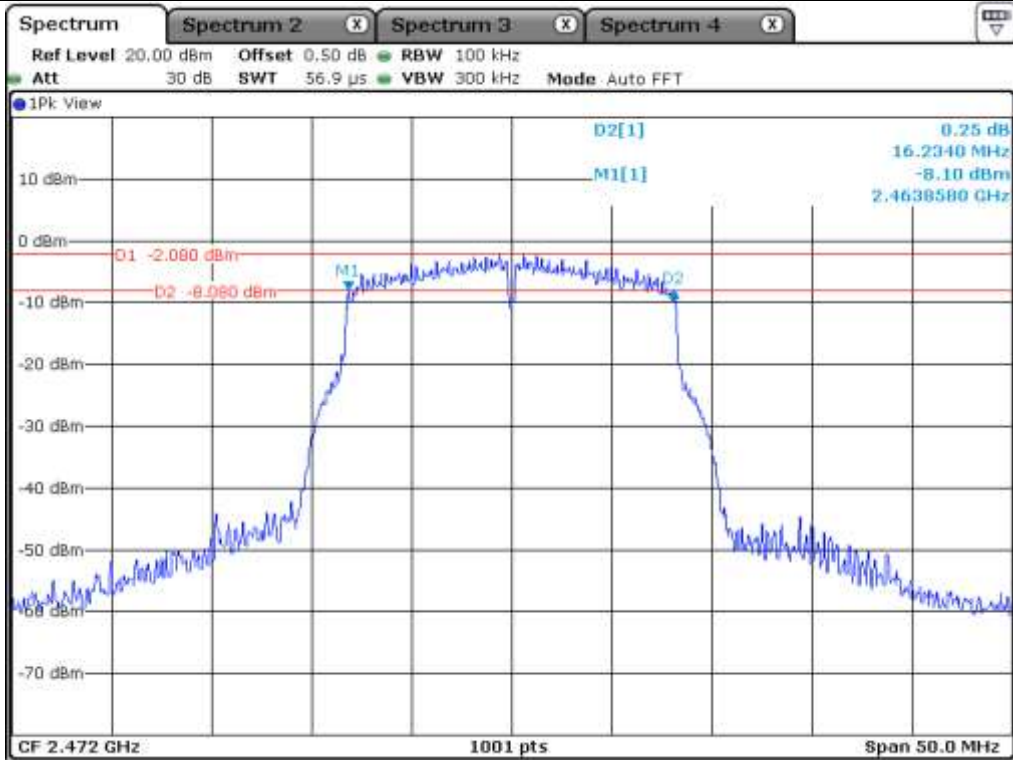
Middle Channel



High Channel 11



High Channel 12



High Channel 13

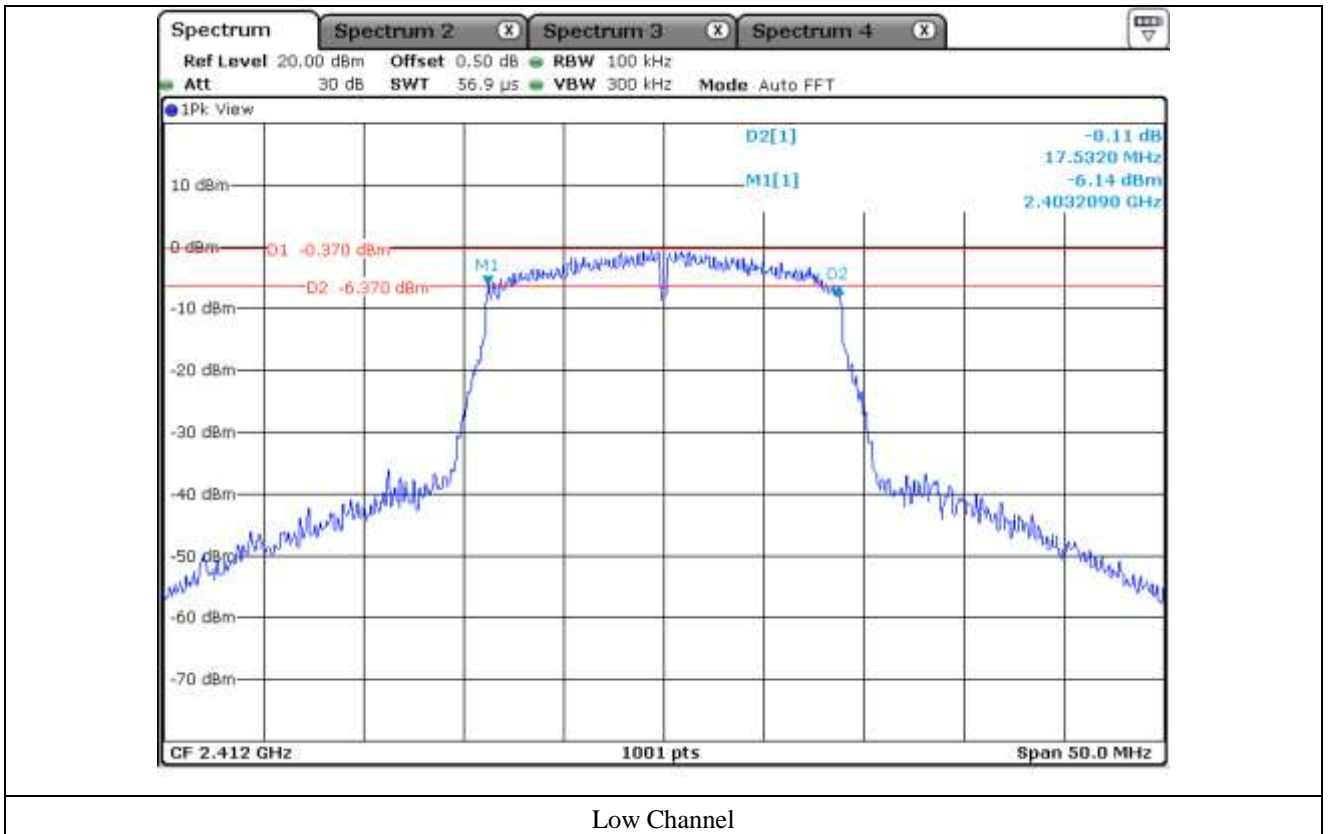
7.6 Test data for 802.11n_HT20 WLAN Mode

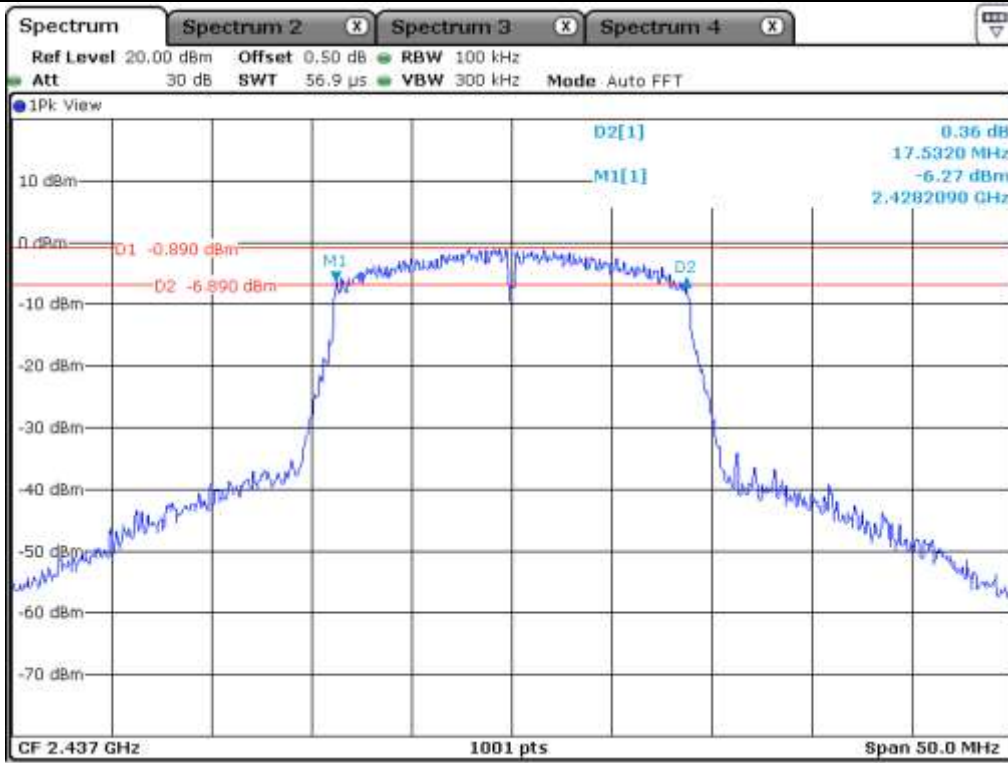
7.6.1 Test data for Antenna 0

-. Test Result : Pass

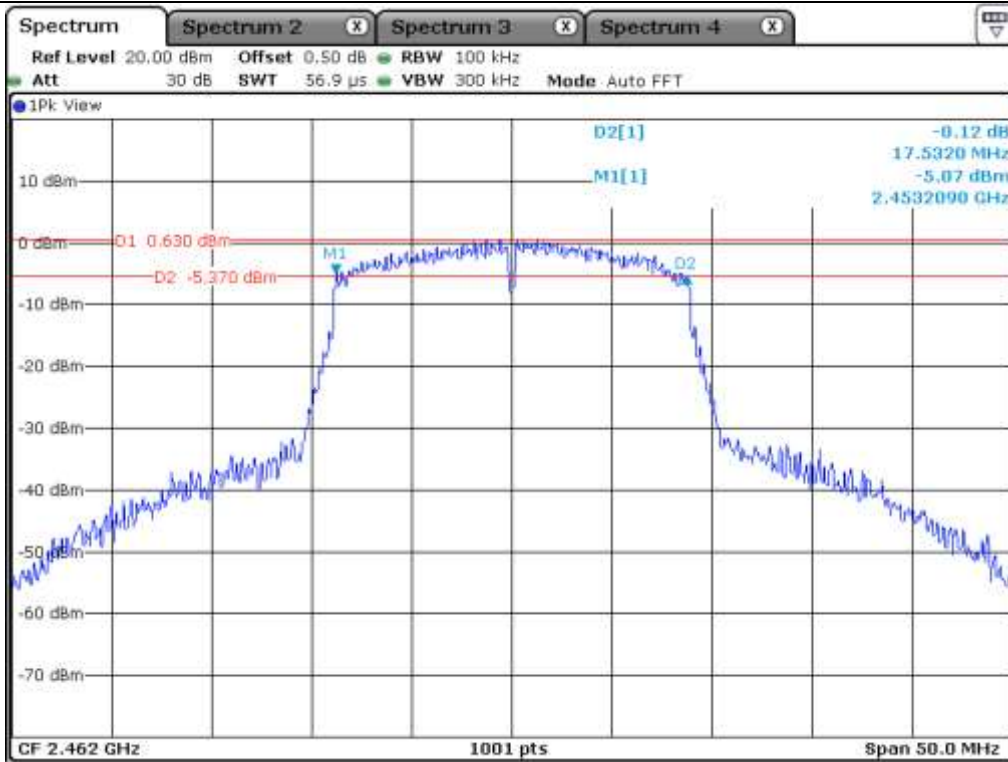
CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	17.53	0.50	17.03
Middle	2 437.00	17.53	0.50	17.03
High 11	2 462.00	17.53	0.50	17.03
High 12	2 467.00	17.53	0.50	17.03
High 13	2 472.00	17.53	0.50	17.03

Remark. Margin = Measured Value - Limit

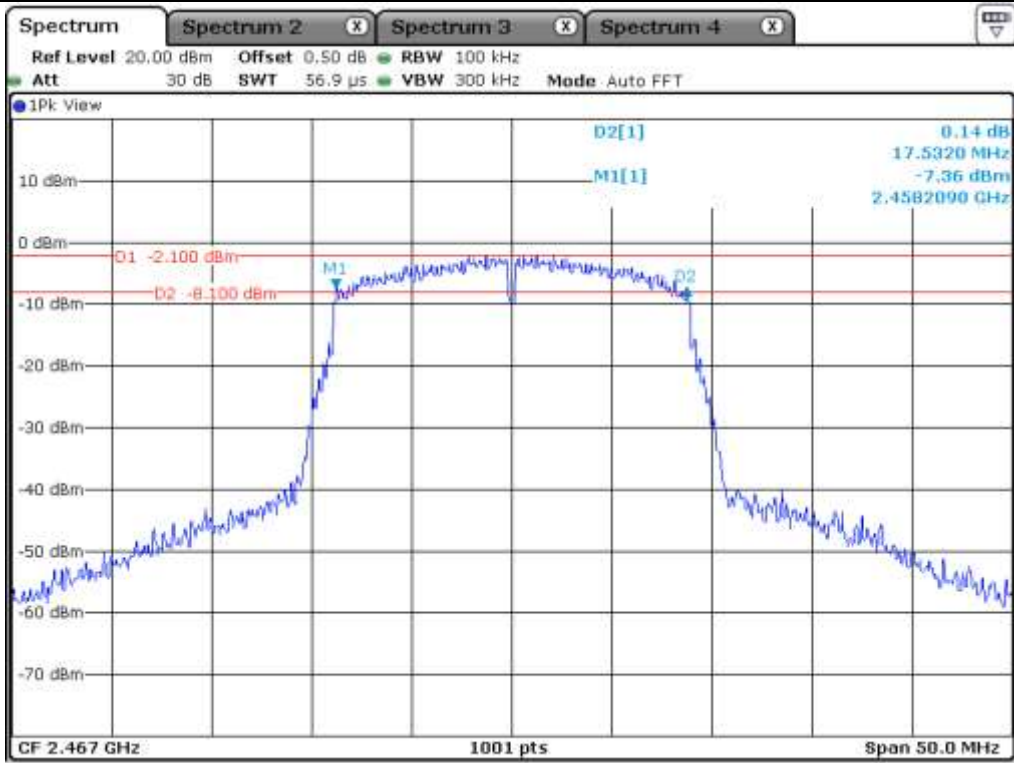




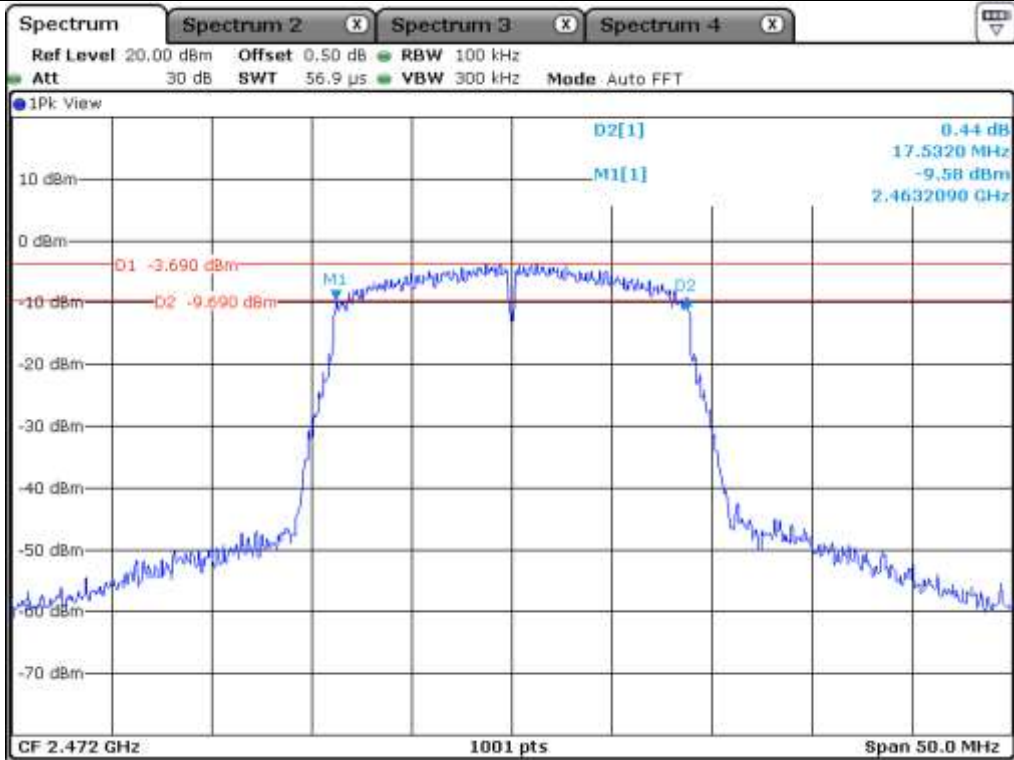
Middle Channel



High Channel 11



High Channel 12



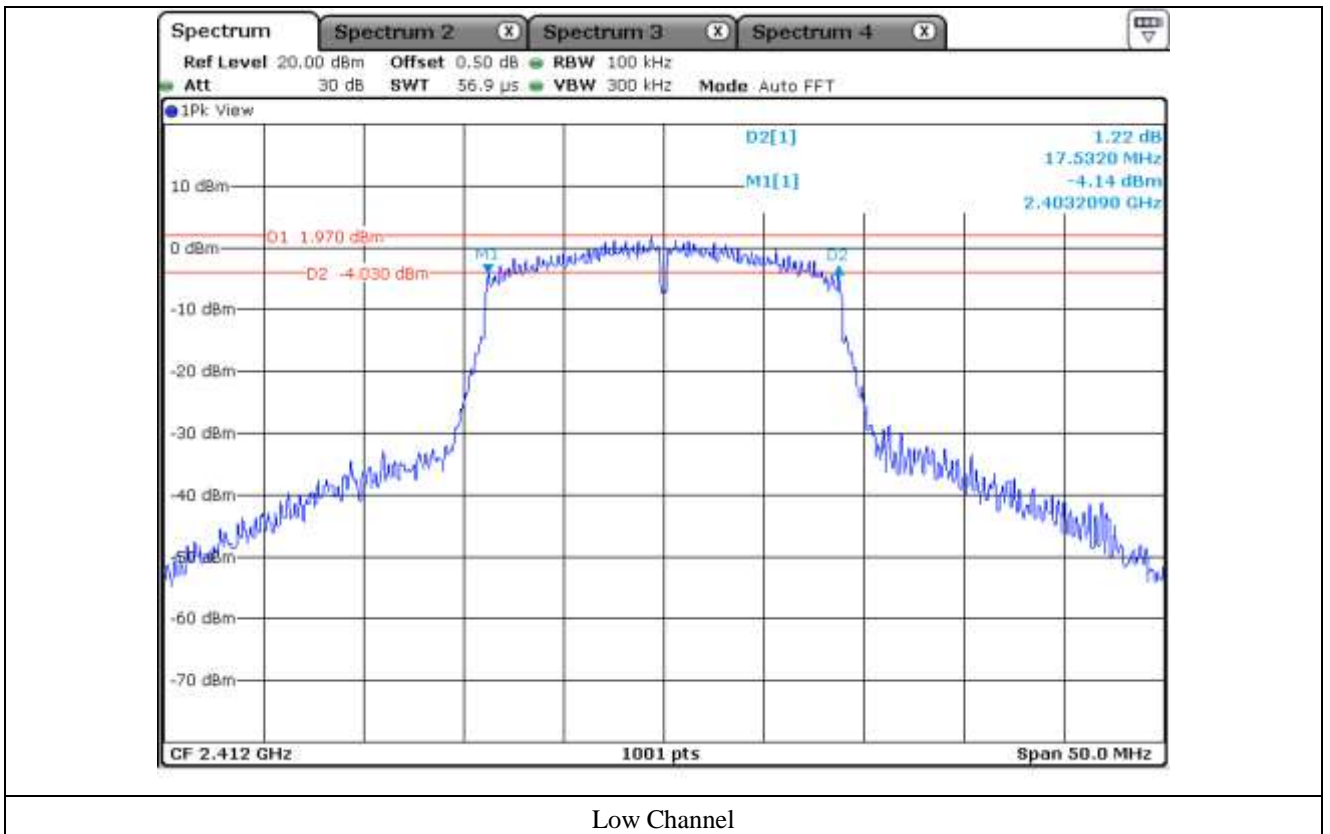
High Channel 13

7.6.2 Test data for Antenna 1

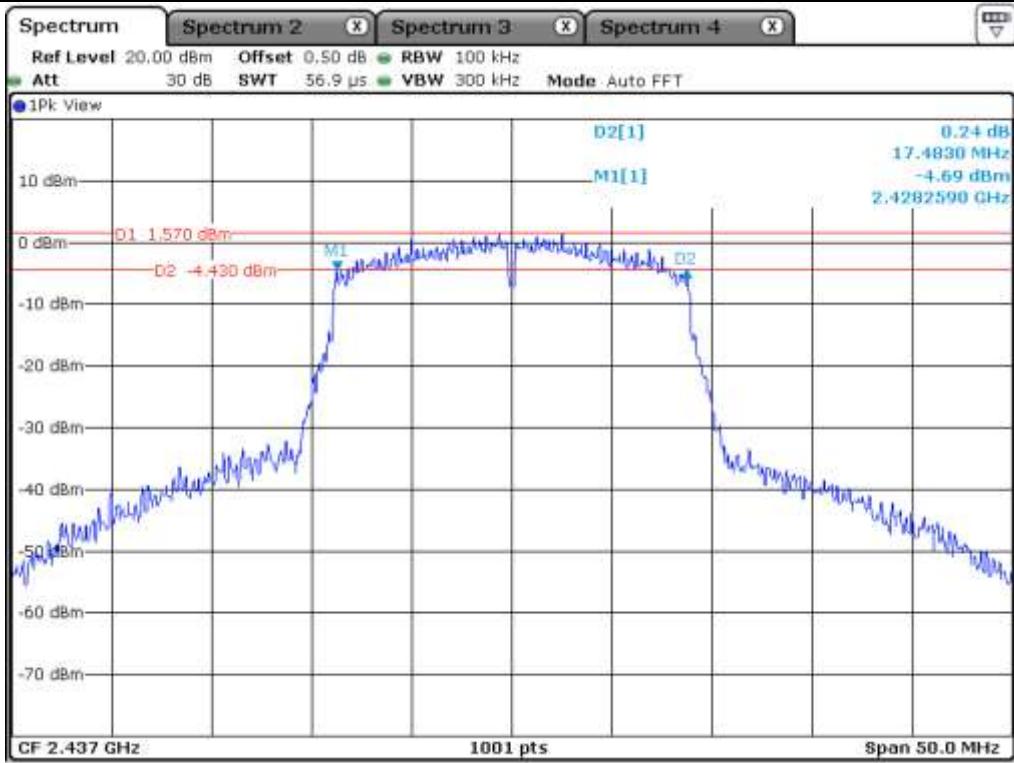
-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	17.53	0.50	17.03
Middle	2 437.00	17.48	0.50	16.98
High 11	2 462.00	17.53	0.50	17.03
High 12	2 467.00	17.48	0.50	16.98
High 13	2 472.00	17.53	0.50	17.03

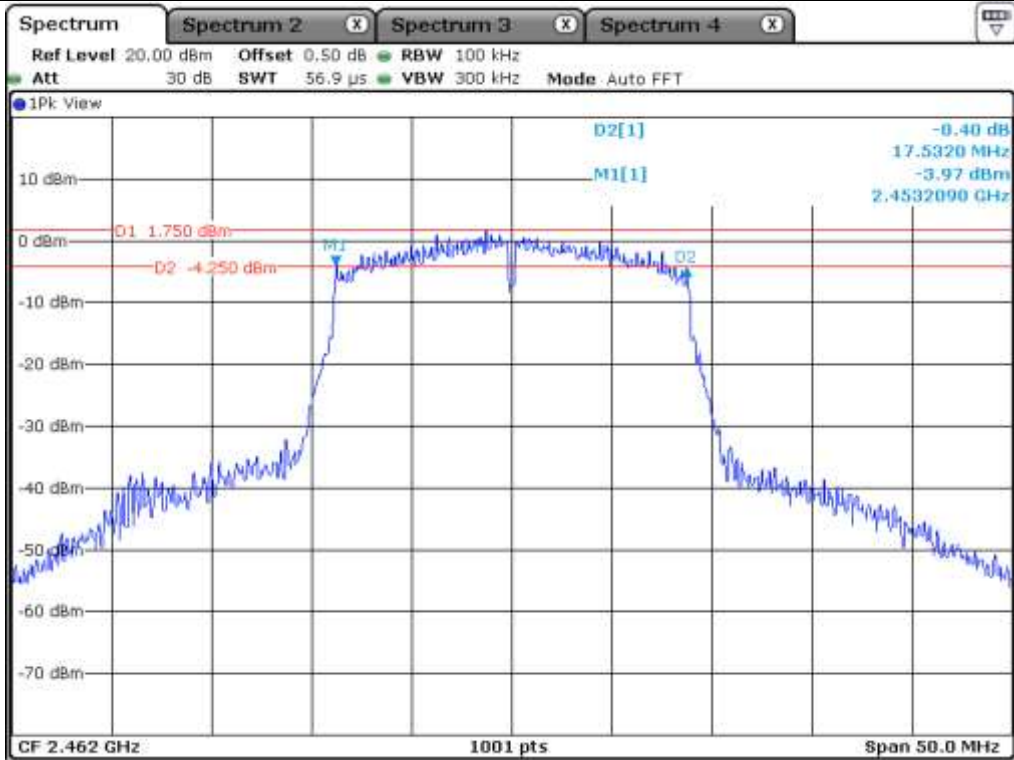
Remark. Margin = Measured Value - Limit



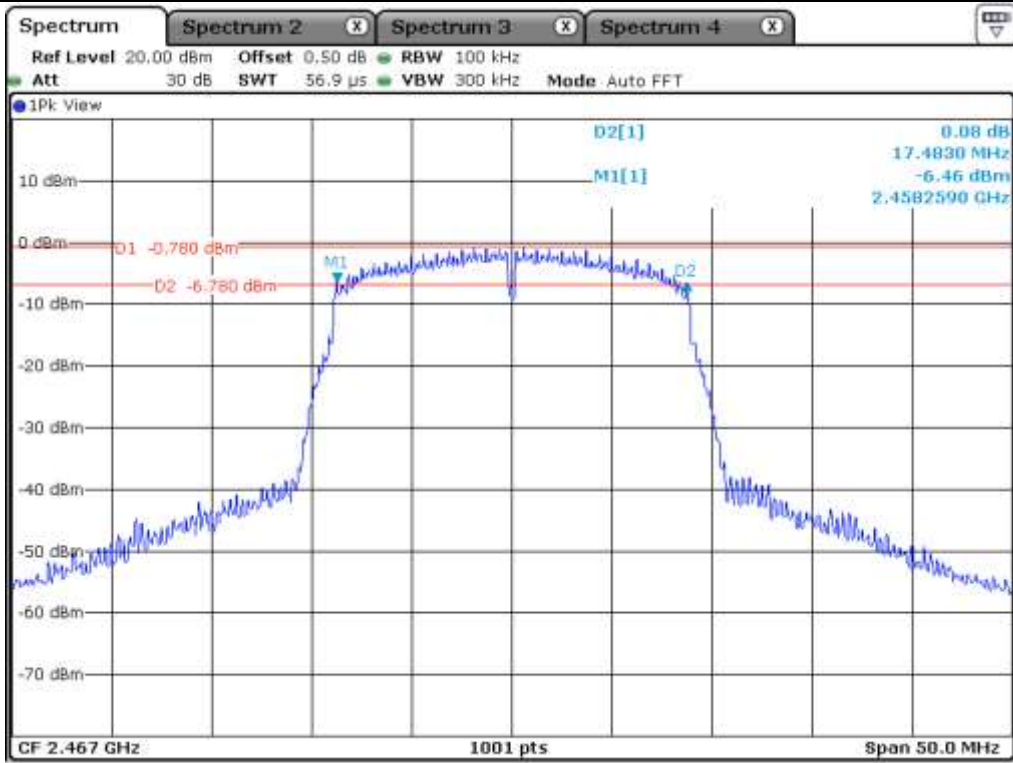
Low Channel



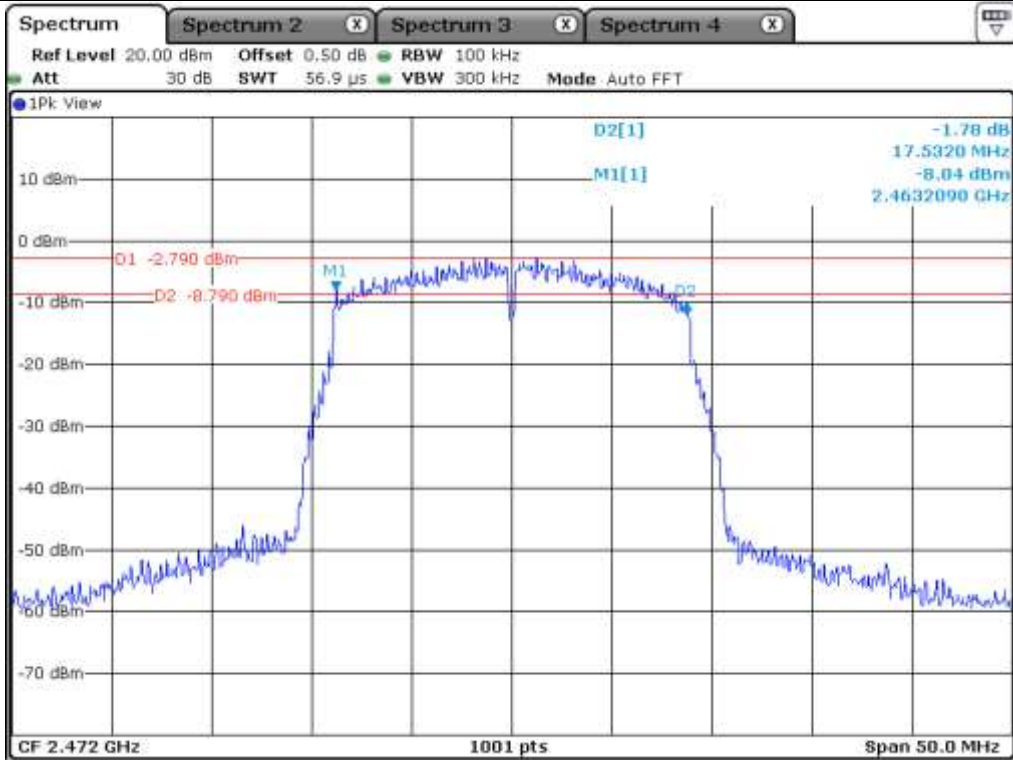
Middle Channel



High Channel 11



High Channel 12



High Channel 13

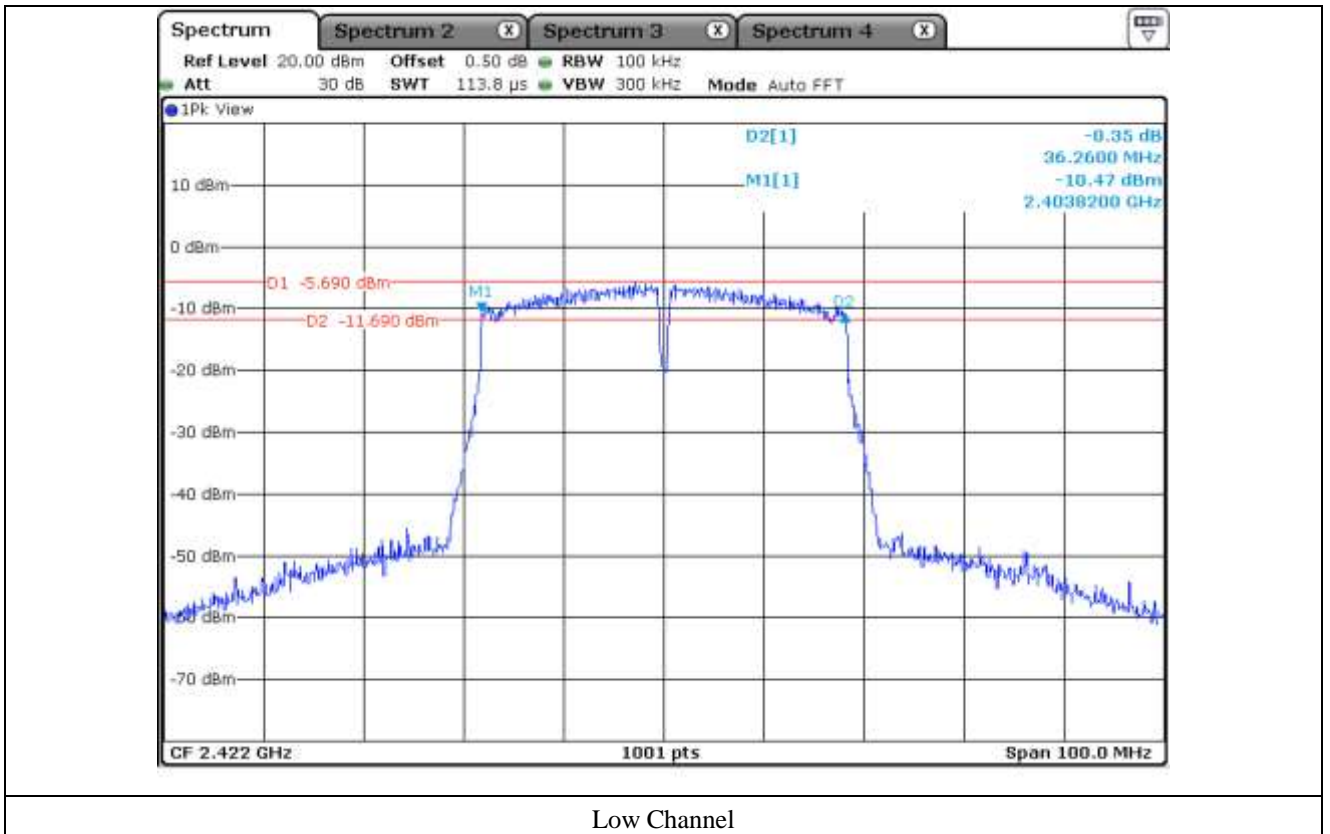
7.7 Test data for 802.11n_HT40 WLAN Mode

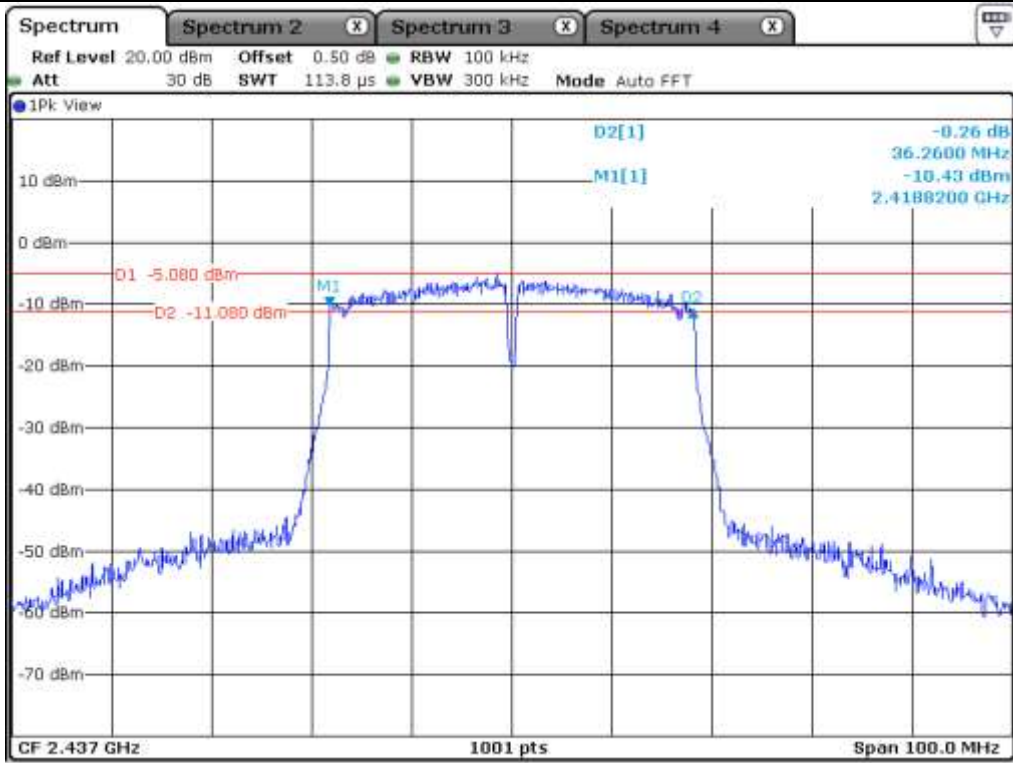
7.7.1 Test data for Antenna 0

-. Test Result : Pass

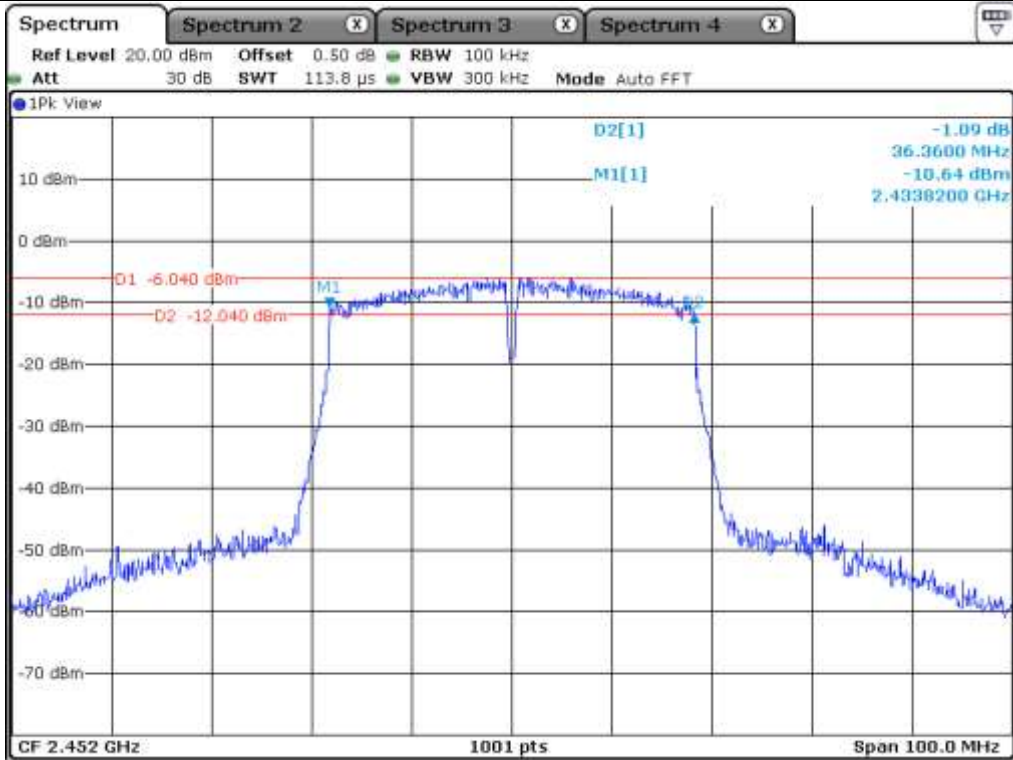
CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 422.00	36.26	0.50	35.76
Middle	2 437.00	36.26	0.50	35.76
High 9	2 452.00	36.36	0.50	35.86
High 10	2 457.00	36.36	0.50	35.86
High 11	2 462.00	36.36	0.50	35.86

Remark. Margin = Measured Value - Limit

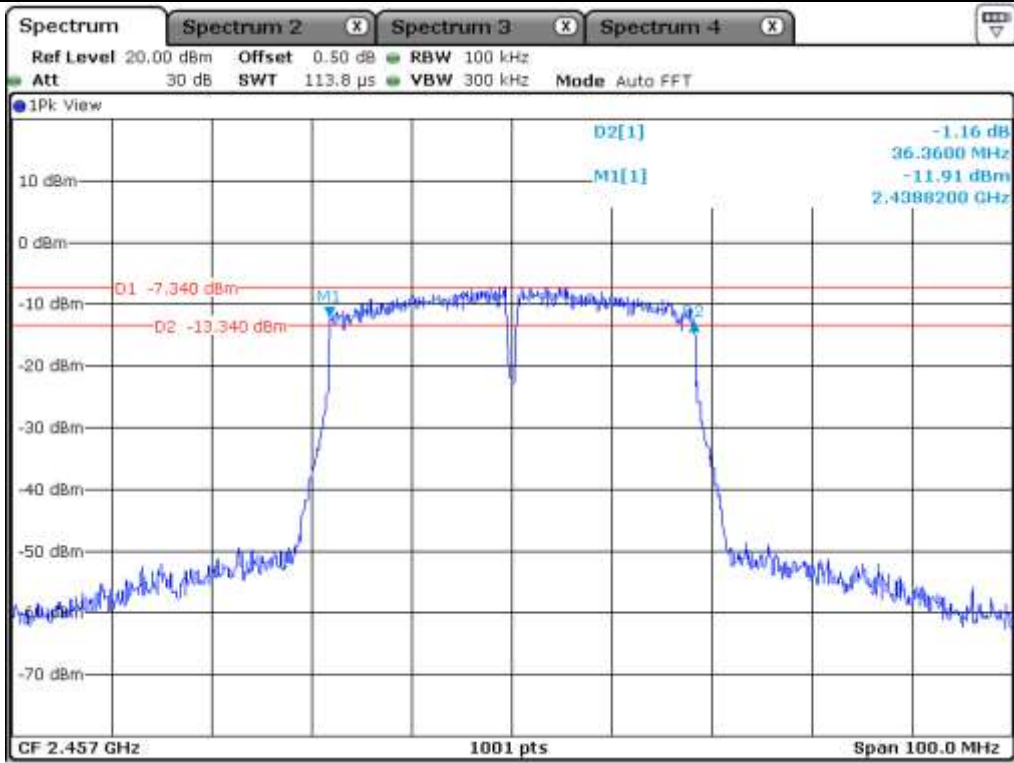




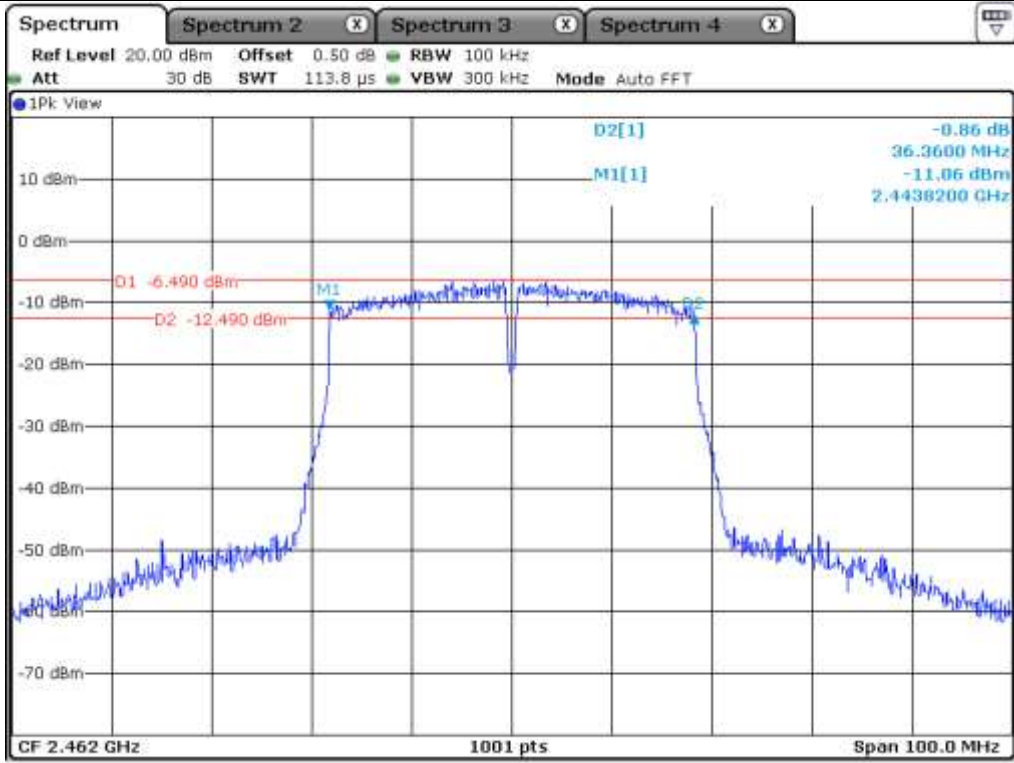
Middle Channel



High Channel 9



High Channel 10



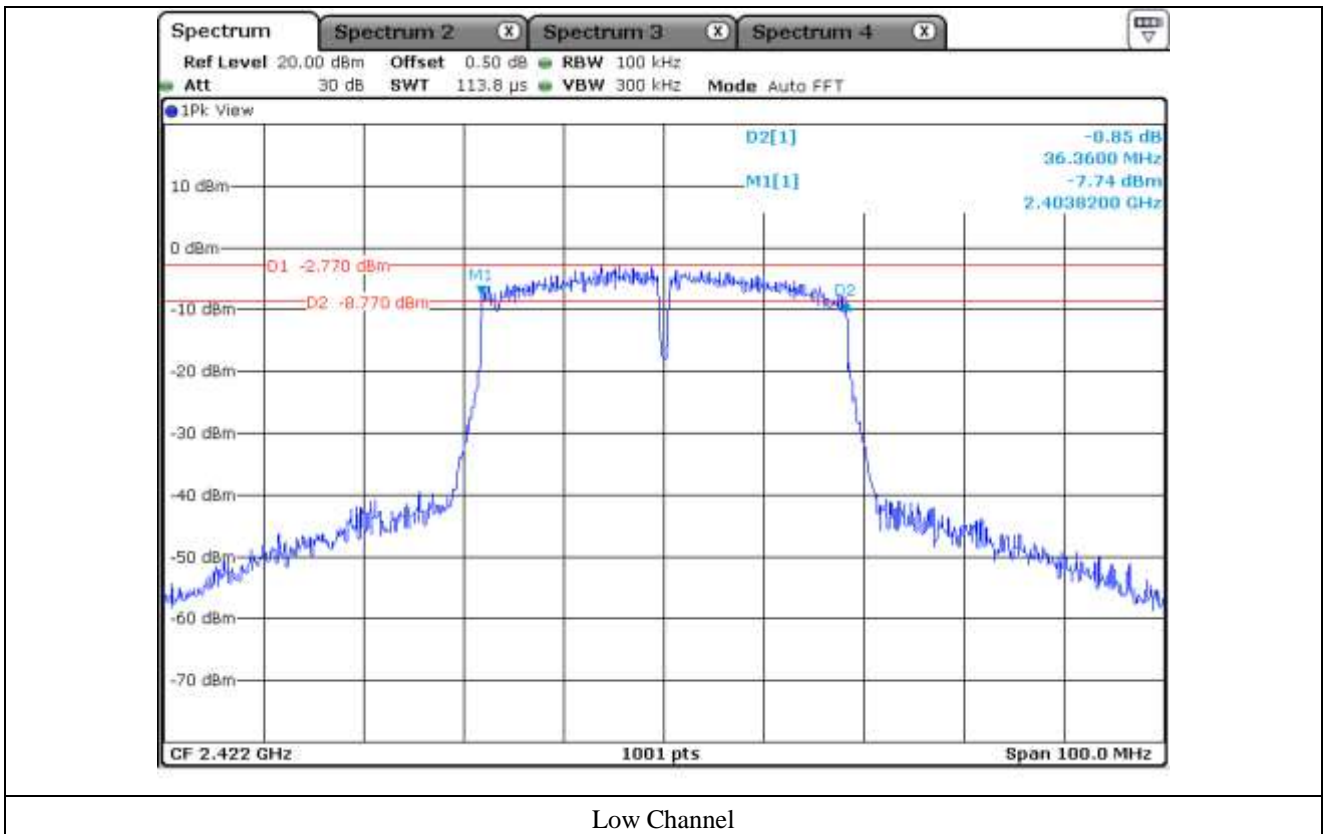
High Channel 11

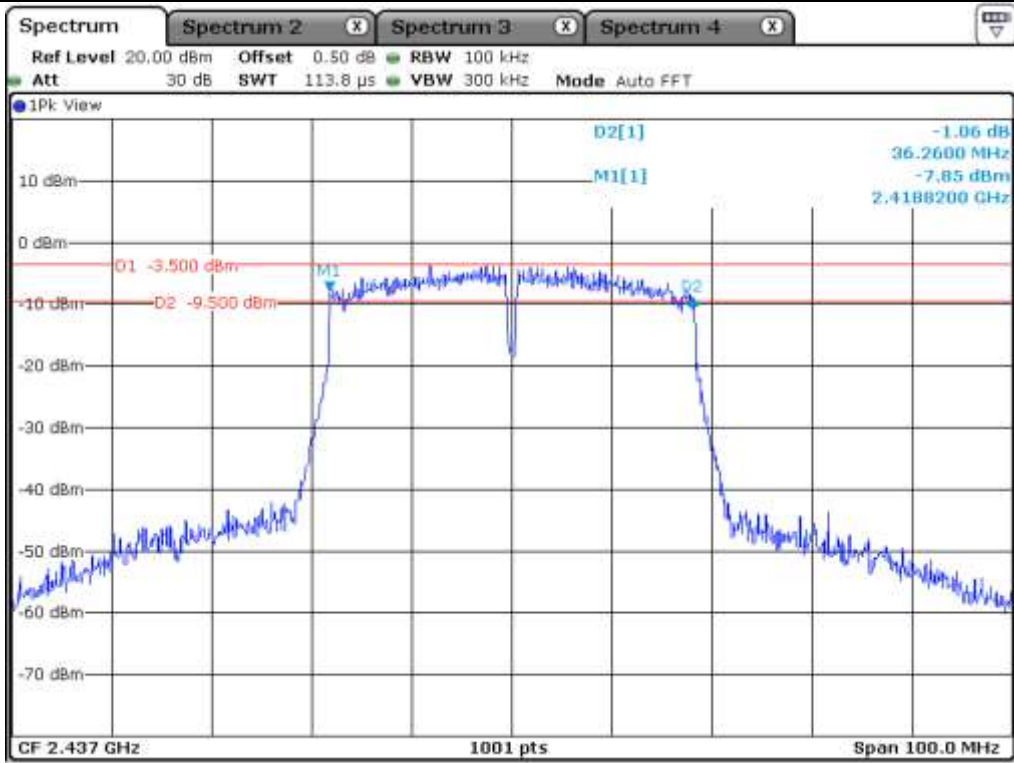
7.7.2 Test data for Antenna 1

-. Test Result : Pass

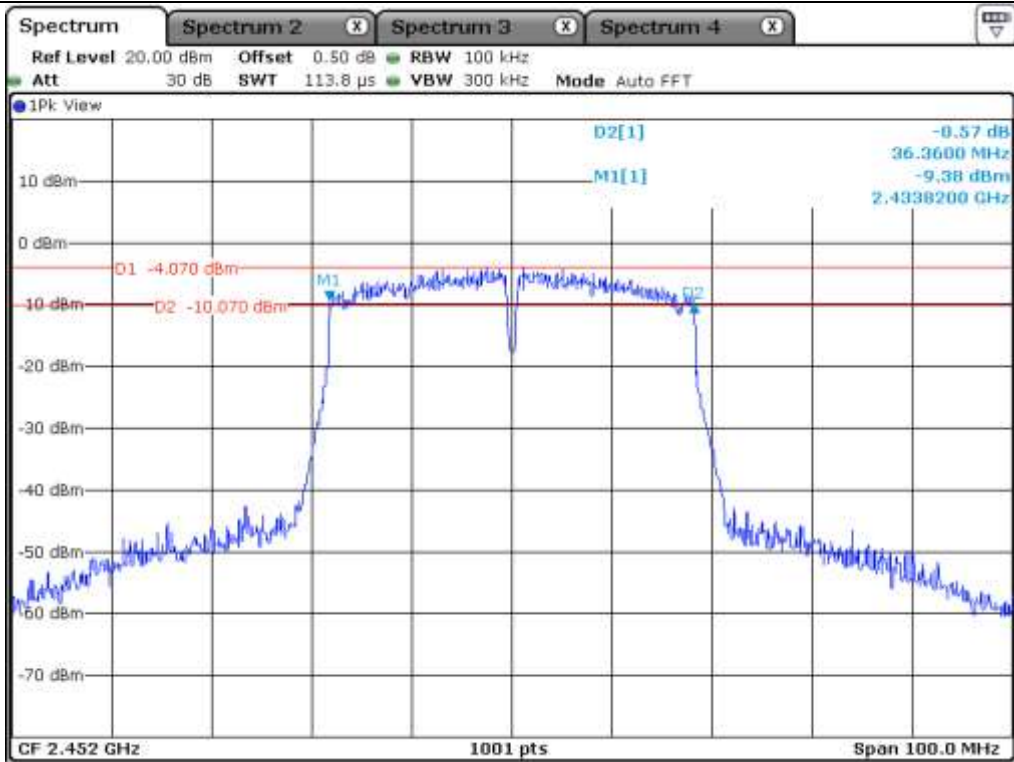
CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 422.00	36.36	0.50	35.86
Middle	2 437.00	36.26	0.50	35.76
High 9	2 452.00	36.36	0.50	35.86
High 10	2 457.00	36.26	0.50	35.76
High 11	2 462.00	36.26	0.50	35.76

Remark. Margin = Measured Value - Limit

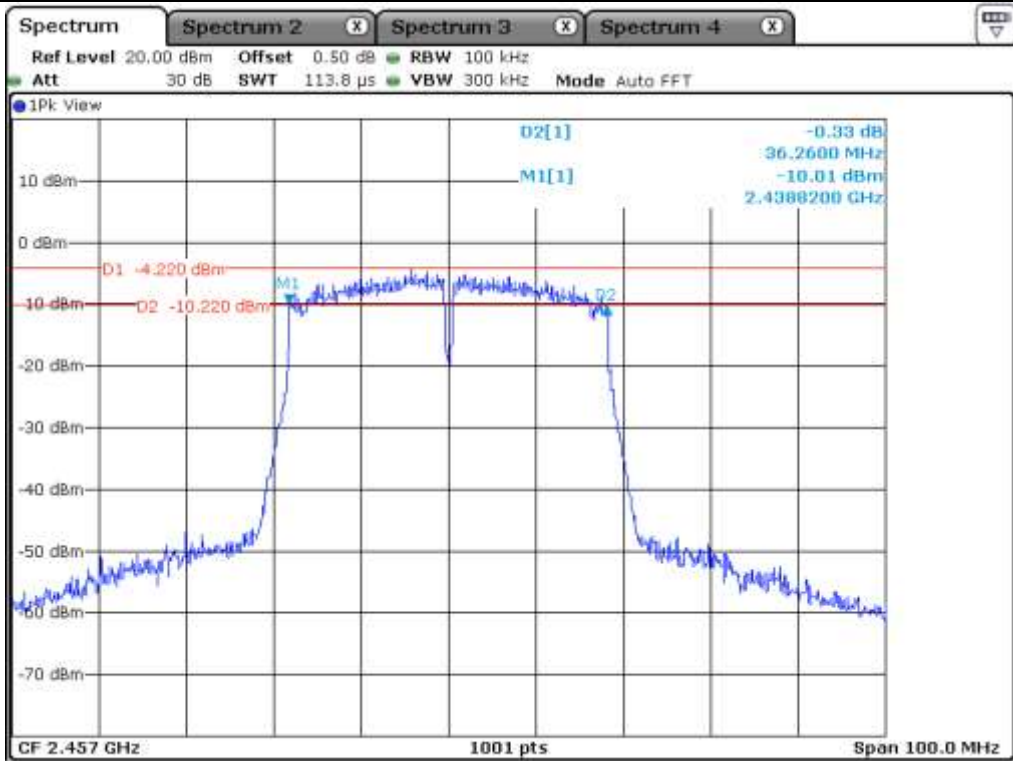




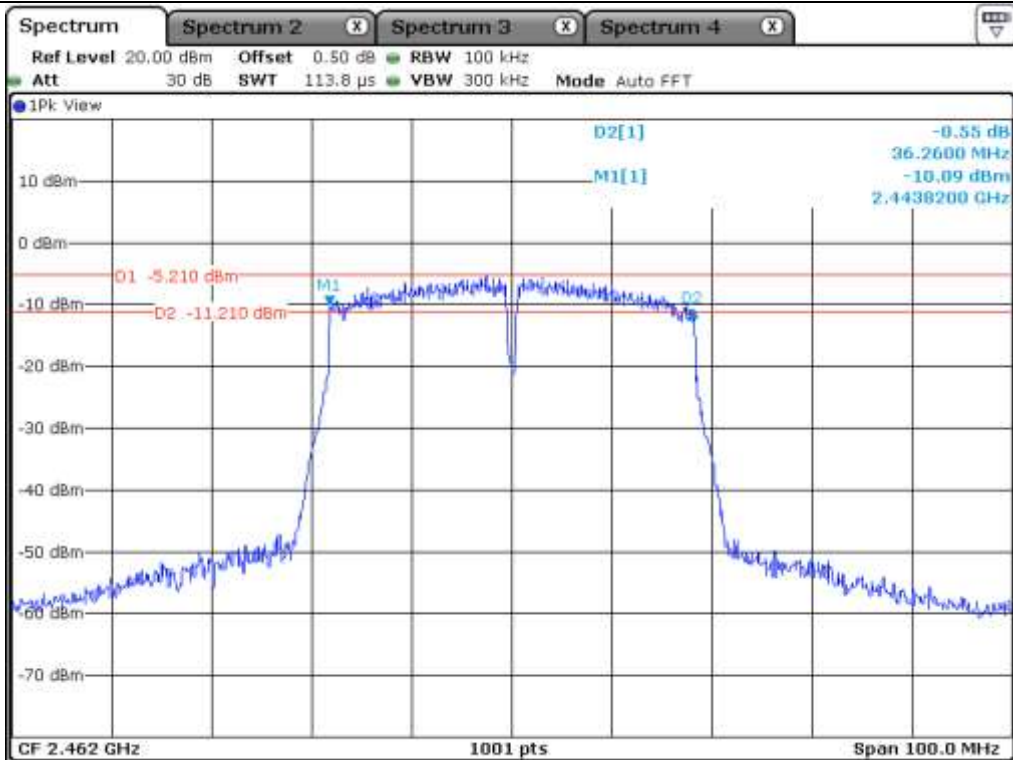
Middle Channel



High Channel 9



High Channel 10



High Channel 11

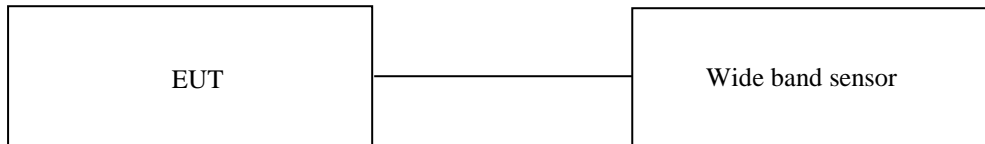
8. MAXIMUM CONDUCTED (AVERAGE) OUTPUT POWER

8.1 Operating environment

Temperature : 23 °C
 Relative humidity : 41 % R.H.

8.2 Test set-up

The maximum peak output power was measured with the wide band sensor connected to the antenna output of the EUT. The Wide Band Sensor is measured when the EUT is transmitting at the appropriate center frequency its maximum power control level as described in Section 8.3(558074 D01 15.247 Meas Guidance v05r02). Since this measurement is made only during the ON time of the transmitter, no duty cycle correction is required.



8.3 Test Date

August 21, 2020 ~ September 08, 2020

8.4 Test data for 802.11b WLAN Mode

8.4.1 Test data for Antenna 0

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	18.17	30.00	11.83
MIDDLE	2 437.00	18.65	30.00	11.35
HIGH 11	2 462.00	18.26	30.00	11.74
HIGH 12	2 467.00	15.69	30.00	14.31
HIGH 13	2 472.00	14.31	30.00	15.69

Remark : Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

8.4.2 Test data for Antenna 1

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	18.55	30.00	11.45
MIDDLE	2 437.00	18.51	30.00	11.49
HIGH 11	2 462.00	18.17	30.00	11.83
HIGH 12	2 467.00	14.25	30.00	15.75
HIGH 13	2 472.00	12.94	30.00	17.06

Remark : Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

8.5 Test data for 802.11g WLAN Mode

8.5.1 Test data for Antenna 0

- Test Result : Pass
- Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	14.93	30.00	15.07
MIDDLE	2 437.00	15.38	30.00	14.62
HIGH 11	2 462.00	15.81	30.00	14.19
HIGH 12	2 467.00	15.05	30.00	14.95
HIGH 13	2 472.00	12.56	30.00	17.44

Remark : Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

8.5.2 Test data for Antenna 1

- Test Result : Pass
- Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	15.40	30.00	14.60
MIDDLE	2 437.00	15.29	30.00	14.71
HIGH 11	2 462.00	14.94	30.00	15.06
HIGH 12	2 467.00	13.65	30.00	16.35
HIGH 13	2 472.00	11.59	30.00	18.41

Remark : Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

8.5.3 Test data for Multiple Transmit

- Test Result : Pass
- Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	18.18	30.00	11.82
MIDDLE	2 437.00	18.35	30.00	11.65
HIGH 11	2 462.00	18.41	30.00	11.59
HIGH 12	2 467.00	17.42	30.00	12.58
HIGH 13	2 472.00	15.11	30.00	14.89

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

Remark 2 : Calculated Output Power= 10log (10(Antenna0 Output Power/10)+10(Antenna1 Output Power/10))

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

8.6 Test data for 802.11n_HT20 WLAN Mode

8.6.1 Test data for Antenna 0

- Test Result : Pass
- Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	14.43	30.00	15.57
MIDDLE	2 437.00	15.25	30.00	14.75
HIGH 11	2 462.00	15.71	30.00	14.29
HIGH 12	2 467.00	14.05	30.00	15.95
HIGH 13	2 472.00	12.20	30.00	17.80

Remark : Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

8.6.2 Test data for Antenna 1

- Test Result : Pass
- Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	15.13	30.00	14.87
MIDDLE	2 437.00	15.14	30.00	14.86
HIGH 11	2 462.00	14.61	30.00	15.39
HIGH 12	2 467.00	12.53	30.00	17.47
HIGH 13	2 472.00	11.05	30.00	18.95

Remark : Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

8.6.3 Test data for Multiple Transmit

- Test Result : Pass
- Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	17.80	30.00	12.20
MIDDLE	2 437.00	18.21	30.00	11.79
HIGH 11	2 462.00	18.21	30.00	11.79
HIGH 12	2 467.00	16.37	30.00	13.63
HIGH 13	2 472.00	14.67	30.00	15.33

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

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

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

8.7 Test data for 802.11n_HT40 WLAN Mode

8.7.1 Test data for Antenna 0

- Test Result : Pass
- Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422.00	12.63	30.00	17.37
MIDDLE	2 437.00	13.27	30.00	16.73
HIGH 9	2 452.00	13.34	30.00	16.66
HIGH 10	2 457.00	13.39	30.00	16.61
HIGH 11	2 462.00	13.33	30.00	16.67

Remark : Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

8.7.2 Test data for Antenna 1

- Test Result : Pass
- Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422.00	13.13	30.00	16.87
MIDDLE	2 437.00	13.23	30.00	16.77
HIGH 9	2 452.00	13.25	30.00	16.75
HIGH 10	2 457.00	13.13	30.00	16.87
HIGH 11	2 462.00	12.78	30.00	17.22

Remark : Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

8.7.3 Test data for Multiple Transmit

- Test Result : Pass
- Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422.00	15.90	30.00	14.10
MIDDLE	2 437.00	16.26	30.00	13.74
HIGH 9	2 452.00	16.31	30.00	13.69
HIGH 10	2 457.00	16.27	30.00	13.73
HIGH 11	2 462.00	16.07	30.00	13.93

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

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

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

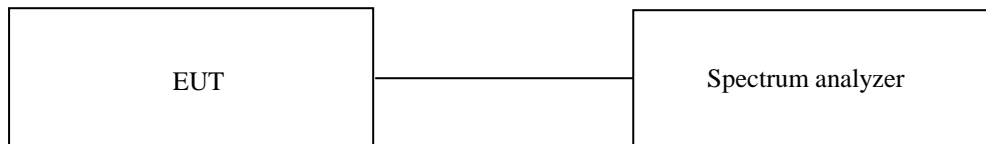
9. 100 kHz BANDWIDTH OUTSIDE THE FREQUENCY BAND

9.1 Operating environment

Temperature : 23 °C
Relative humidity : 45 % R.H.

9.2 Test set-up for conducted measurement

The antenna output of the EUT was connected to the spectrum analyzer. The resolution and video bandwidth is set to 100 kHz, and peak detection was used.



9.3 Test set-up for radiated measurement

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

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

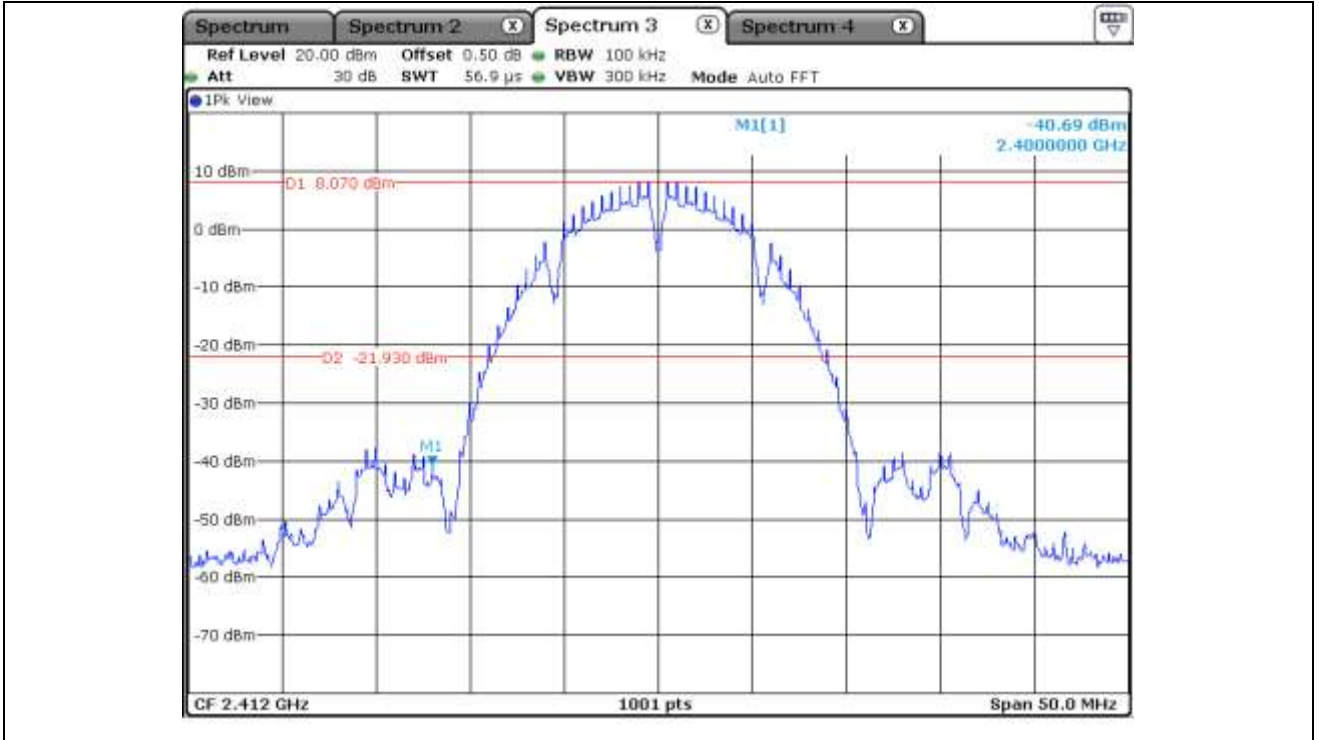
9.4 Test Date

August 21, 2020 ~ September 08, 2020

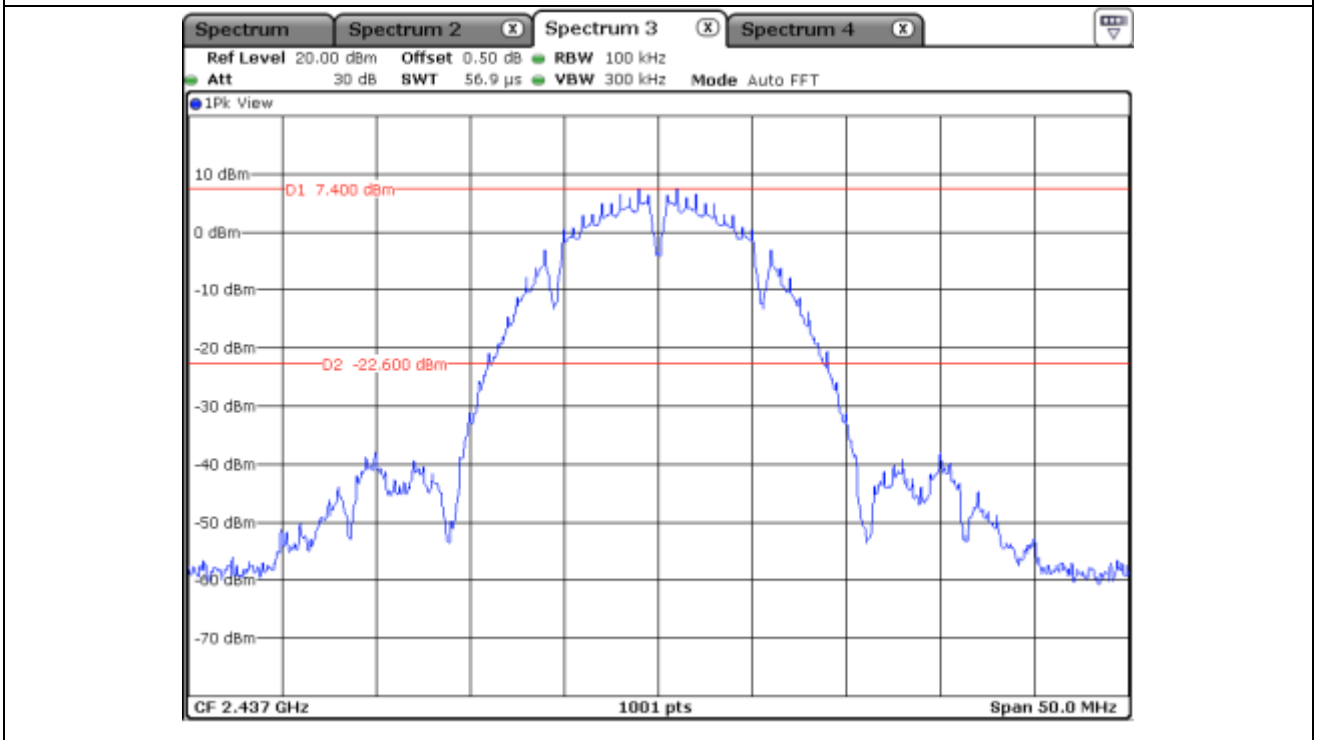
9.5 Test data for conducted emission

9.5.1 Test data for 802.11b WLAN Mode

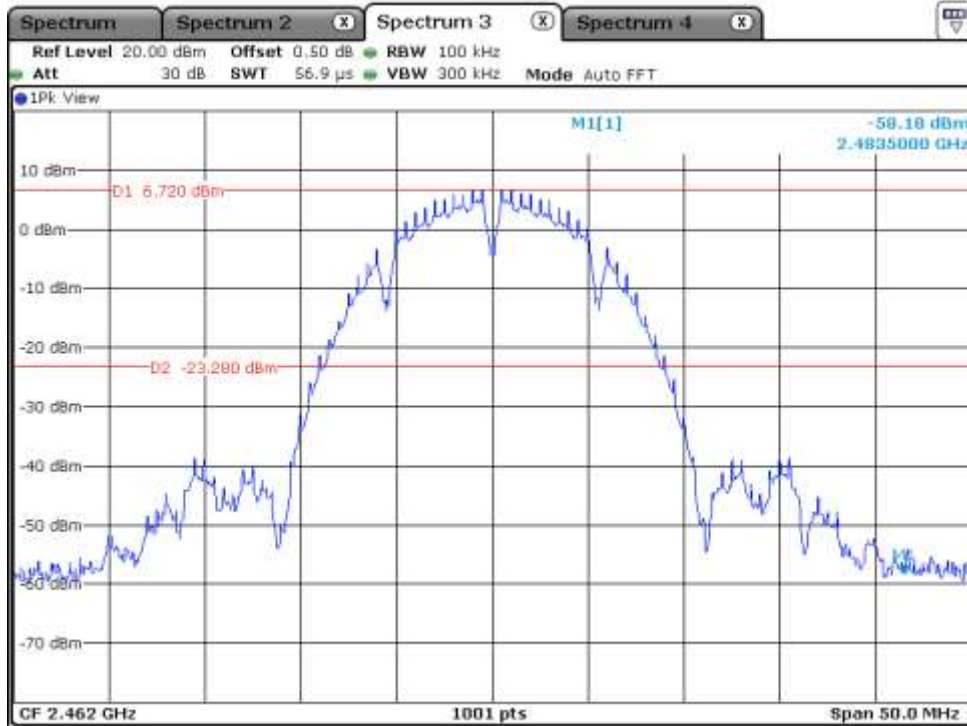
9.5.1.1 Test data for Antenna 0



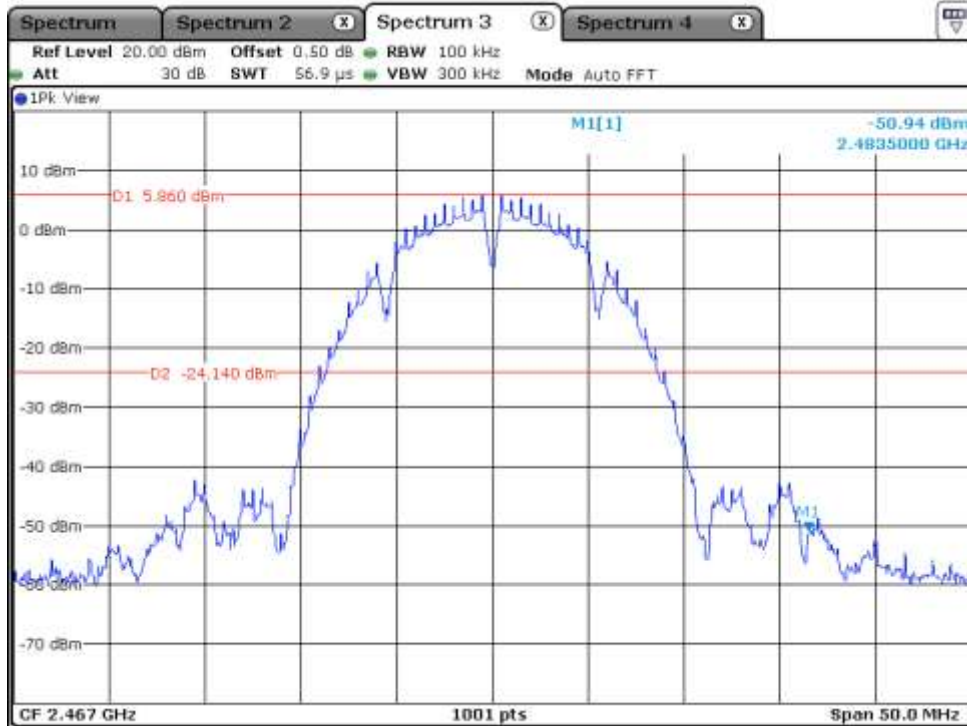
Low Channel



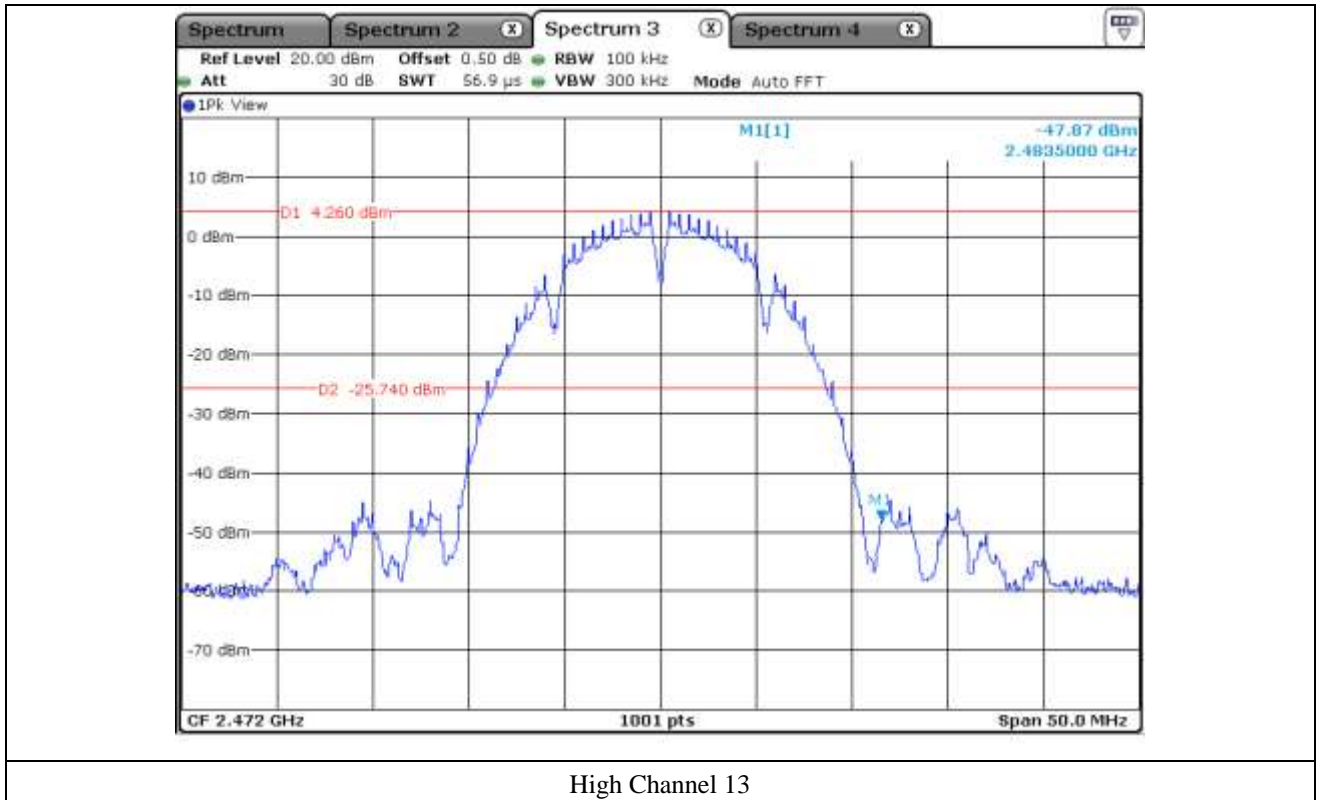
Middle Channel

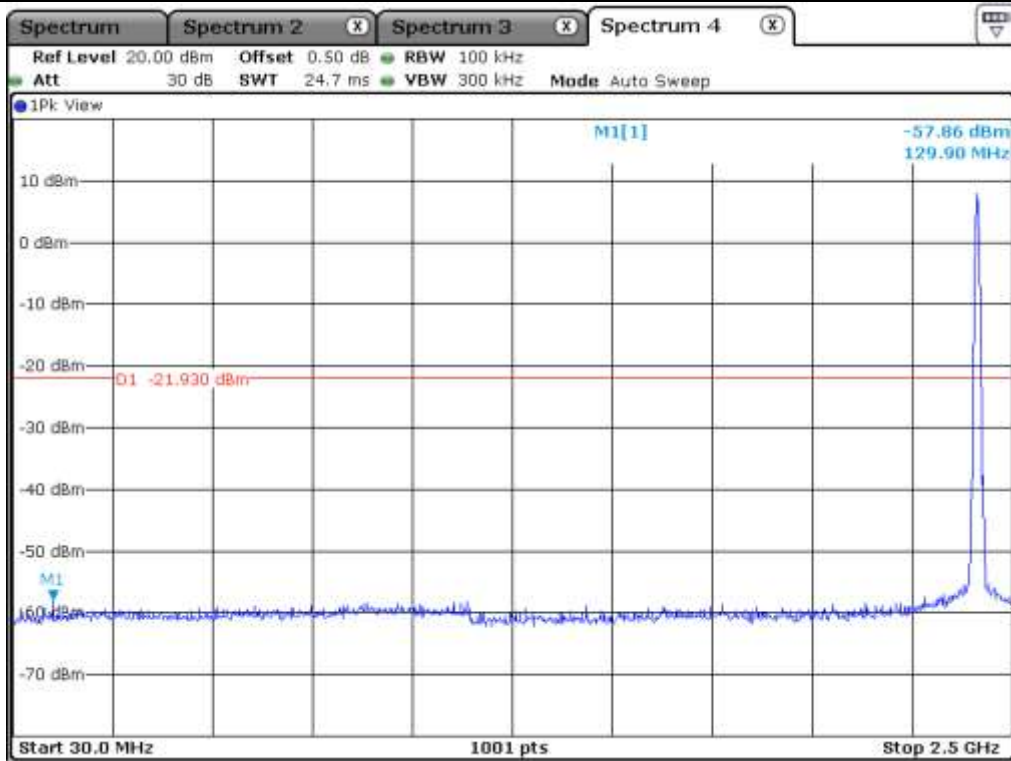


High Channel 11

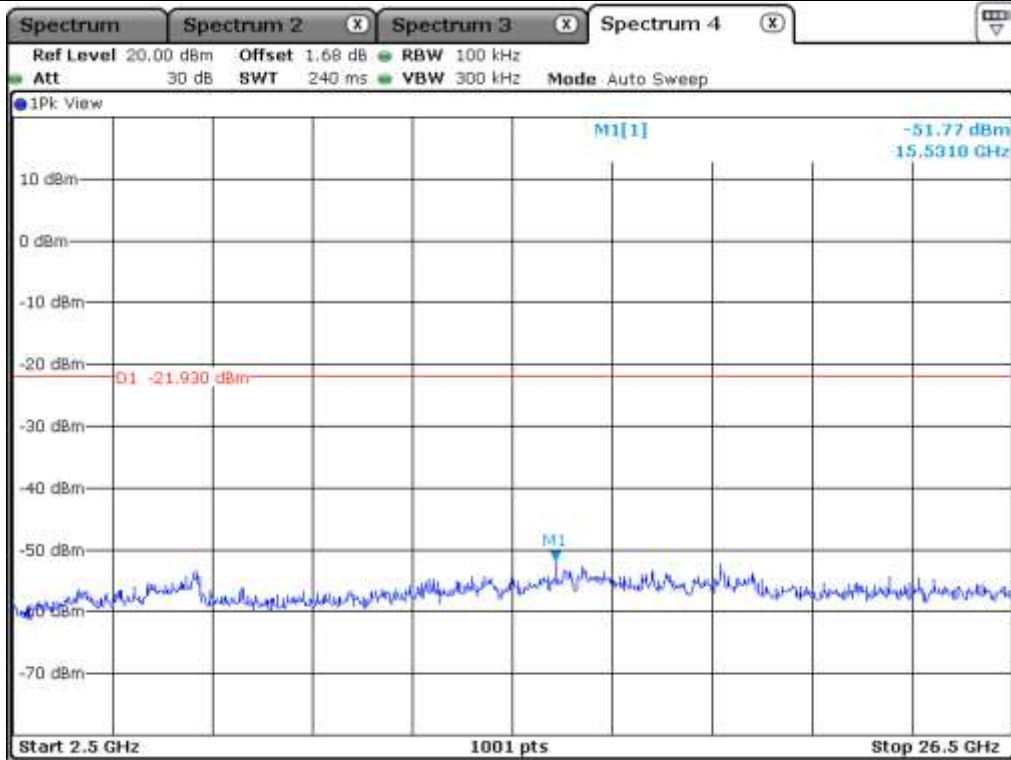


High Channel 12

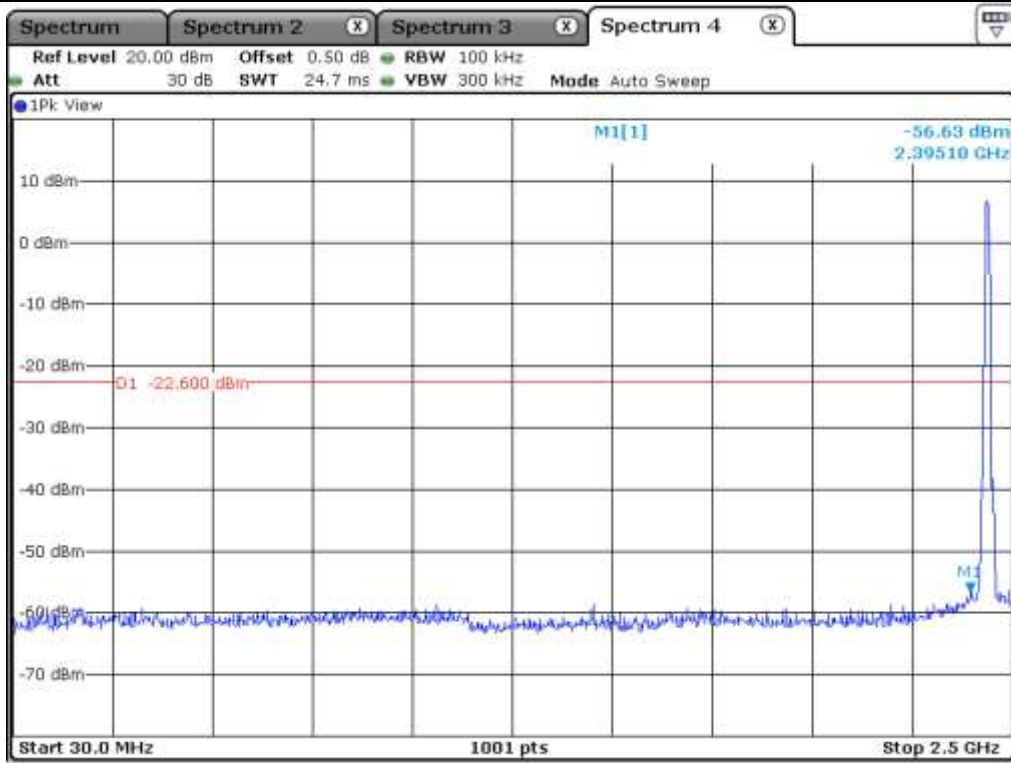




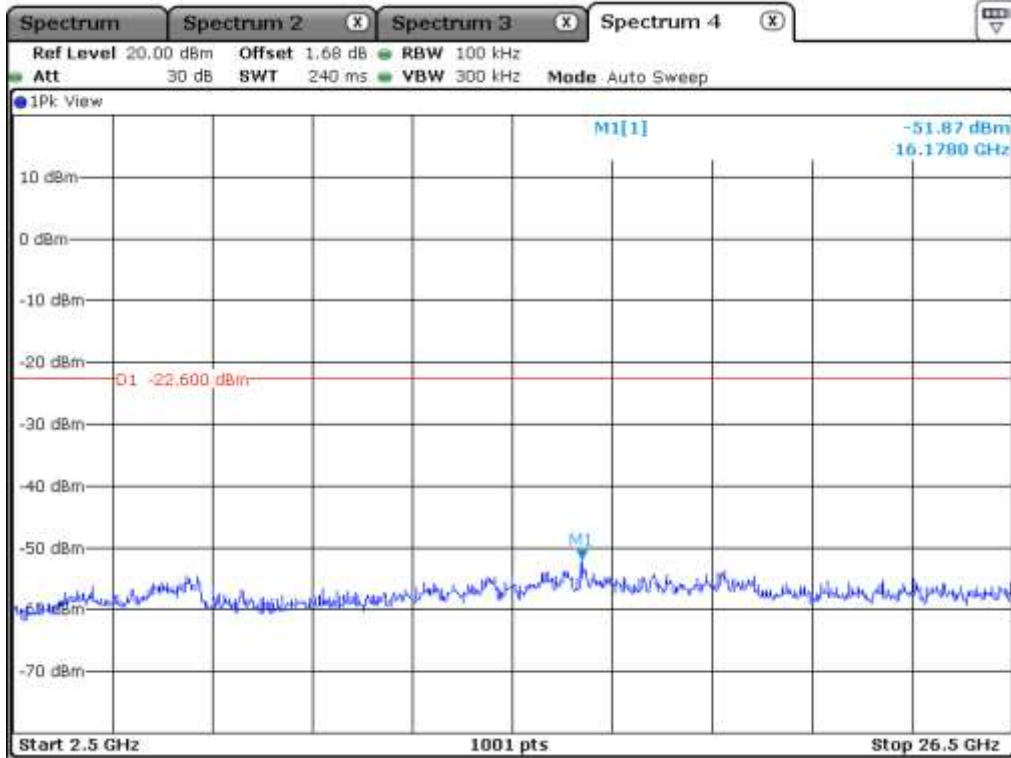
Low Channel



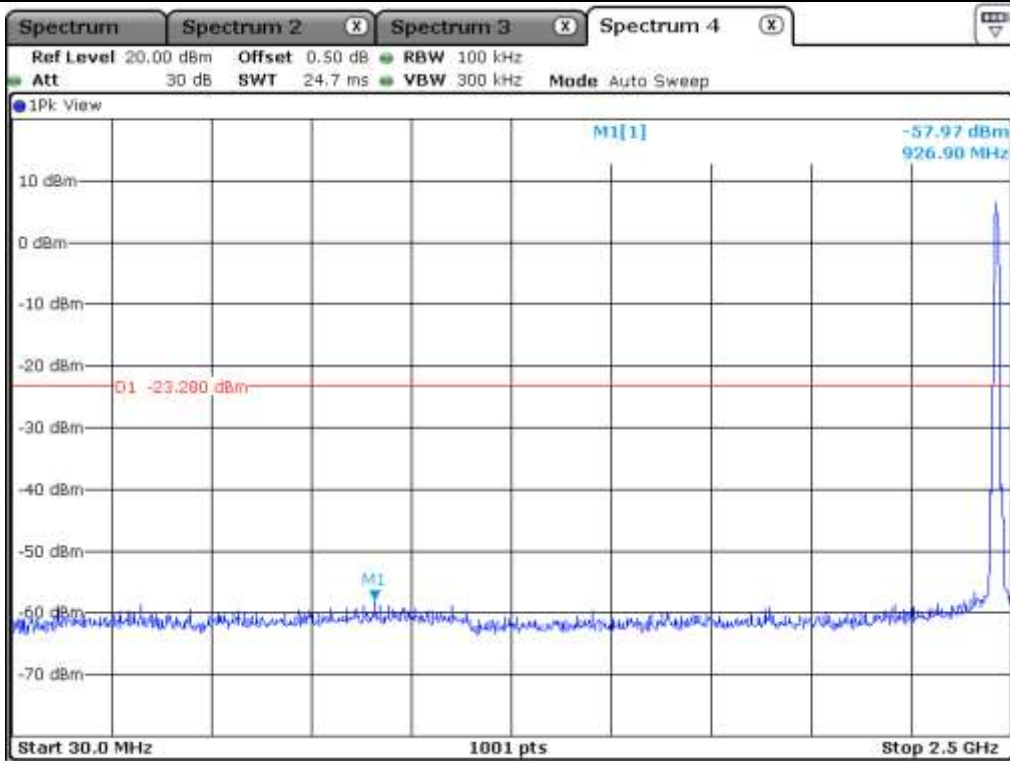
Low Channel



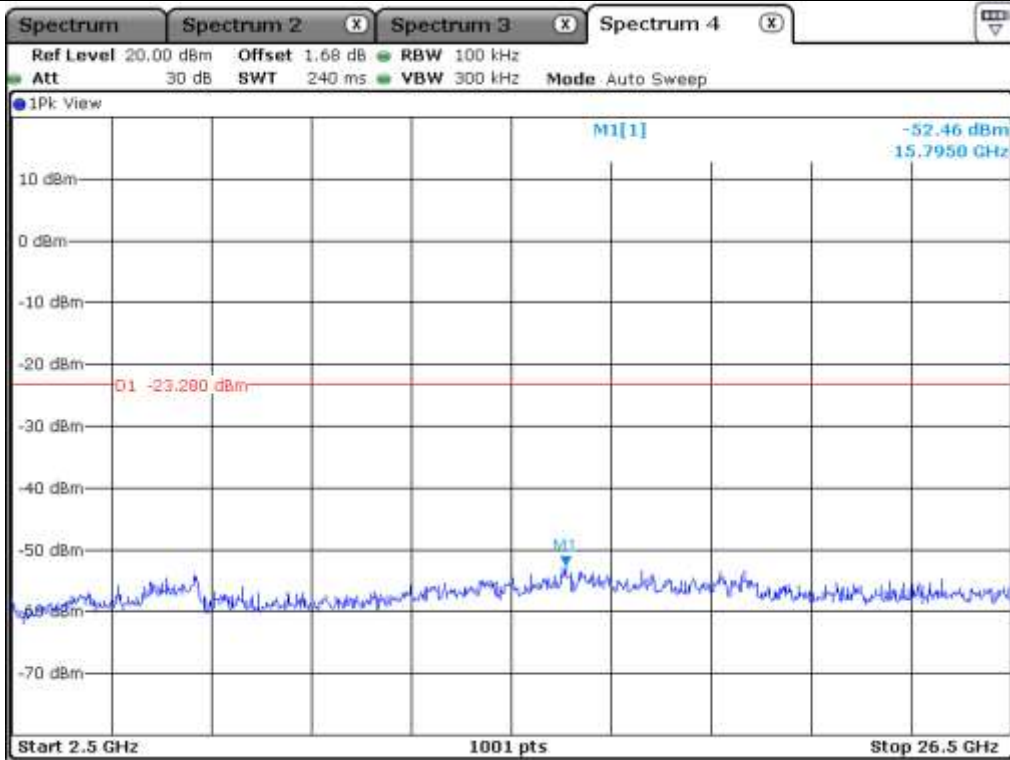
Middle Channel



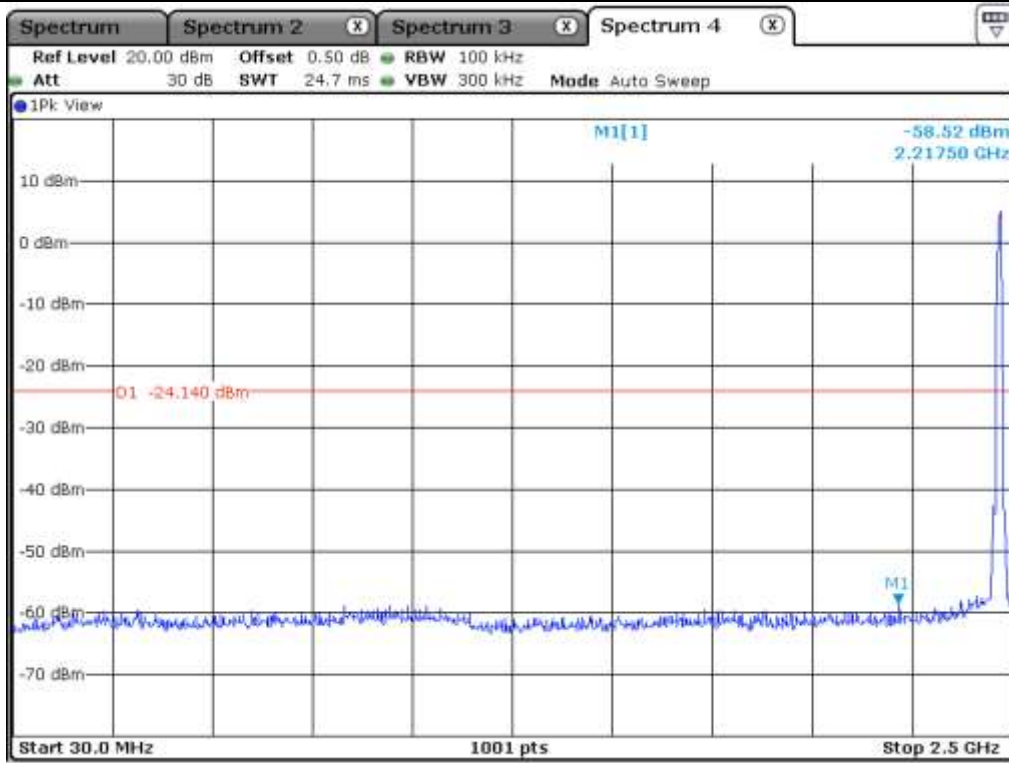
Middle Channel



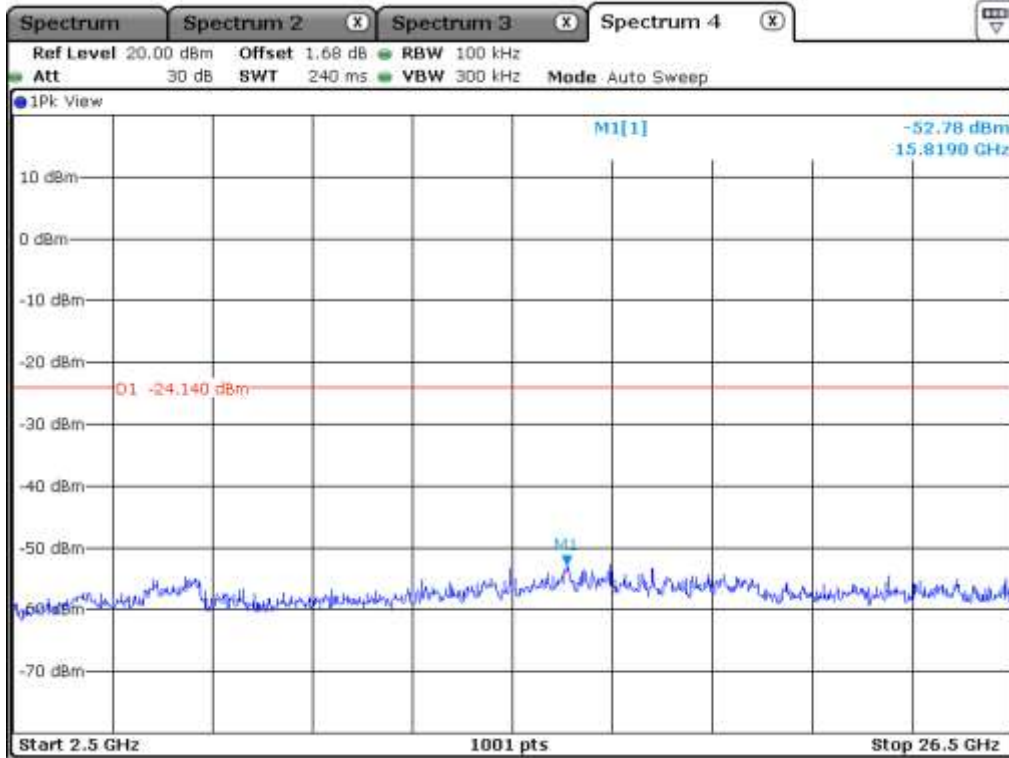
High Channel 11



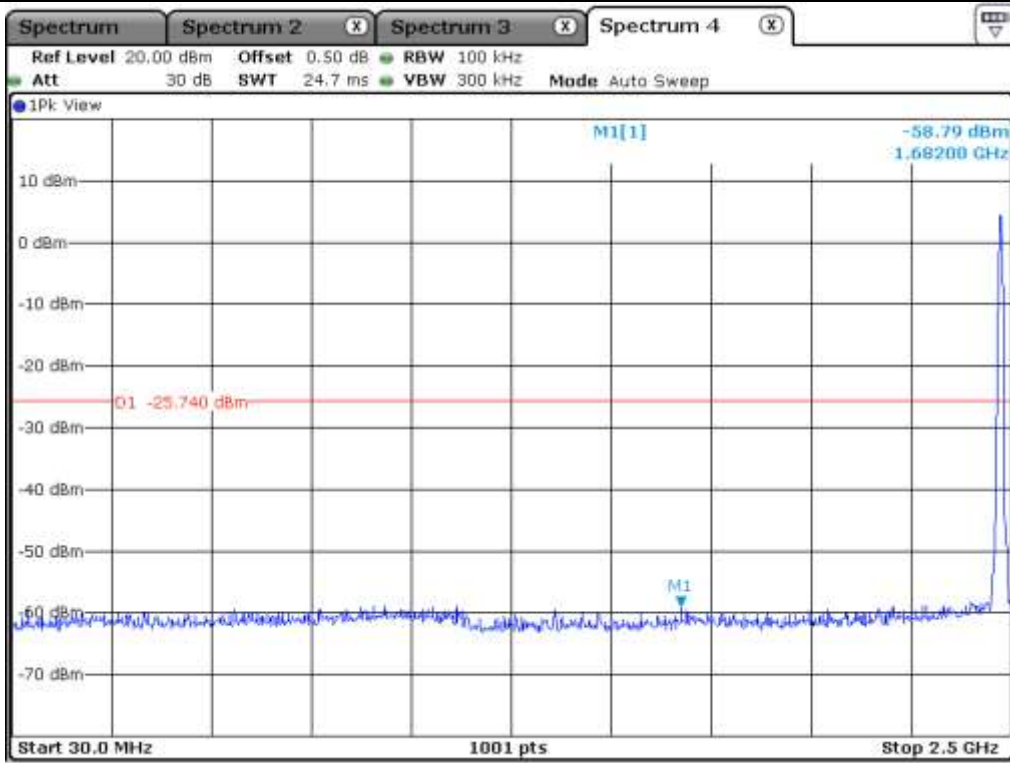
High Channel 11



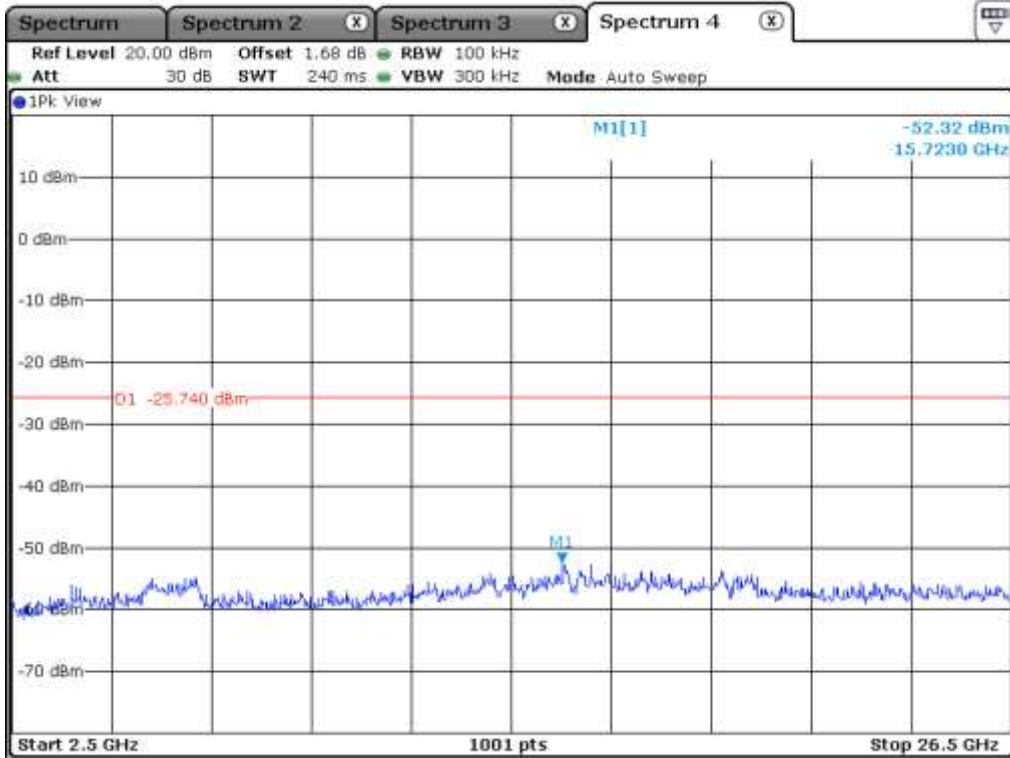
High Channel 12



High Channel 12

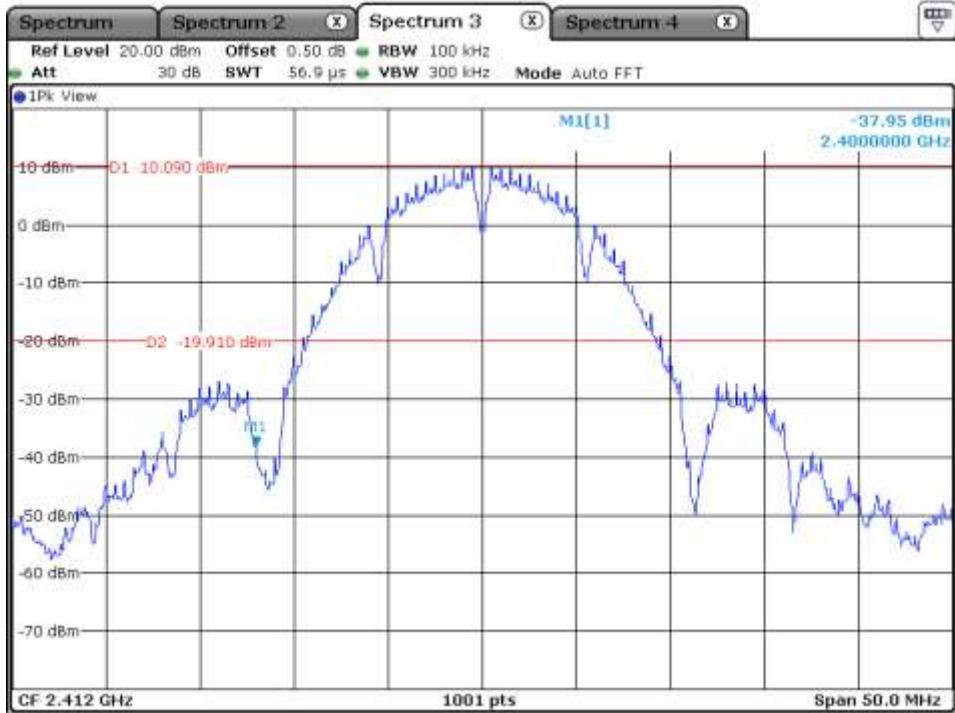


High Channel 13

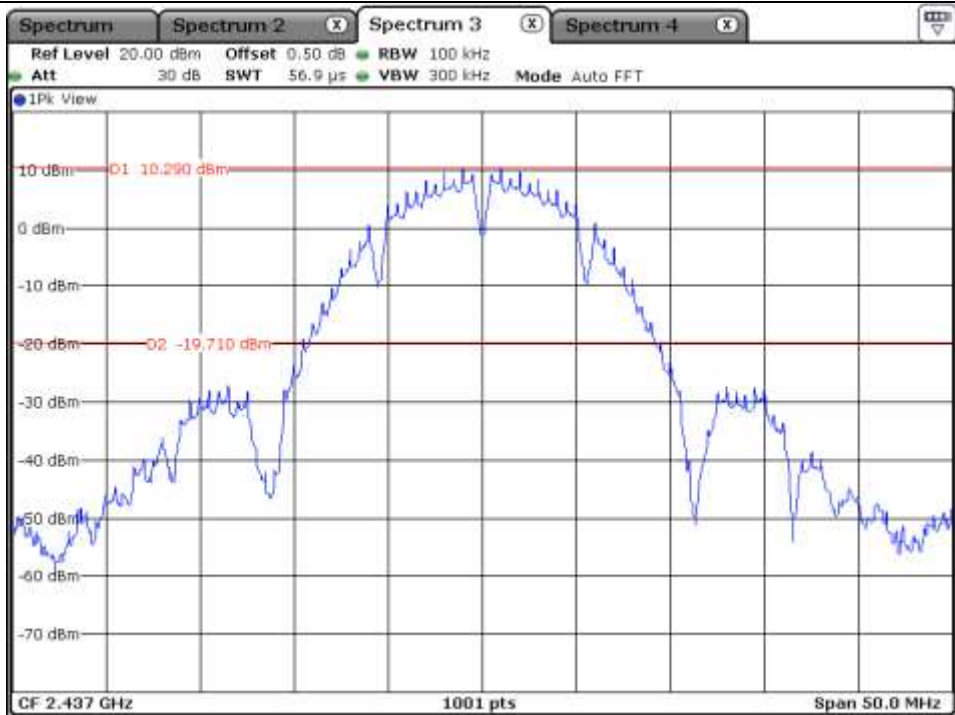


High Channel 13

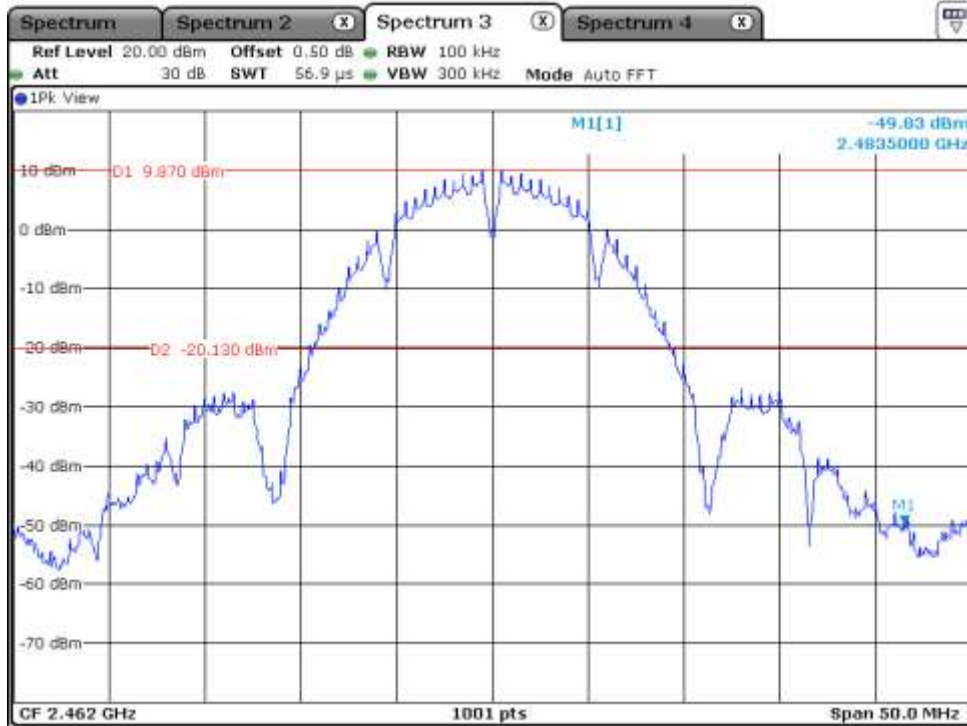
9.5.1.2 Test data for Antenna 1



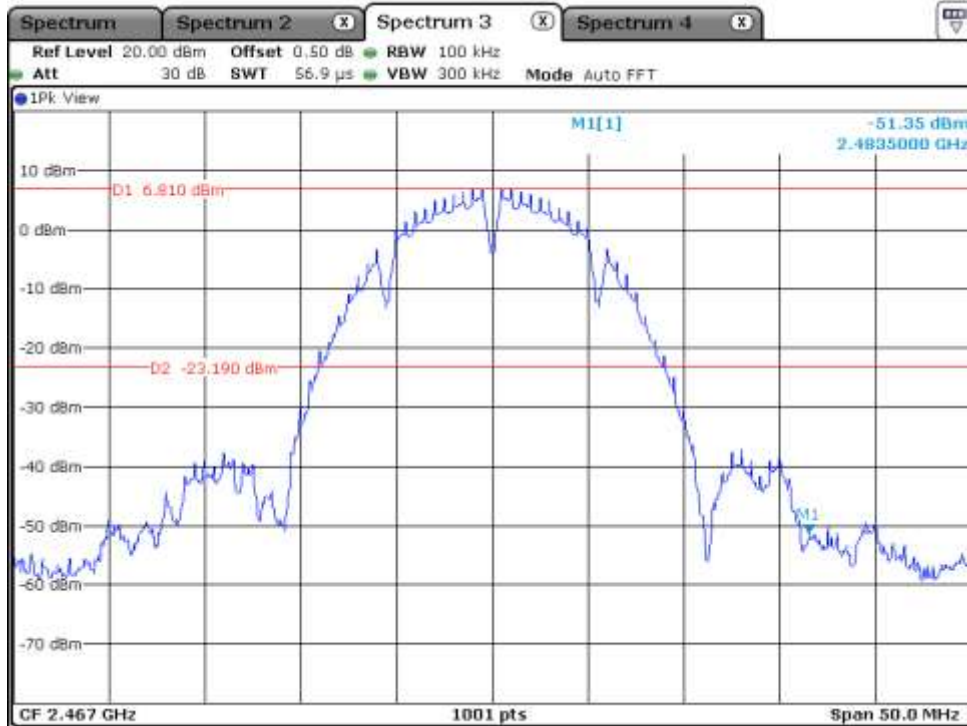
Low Channel



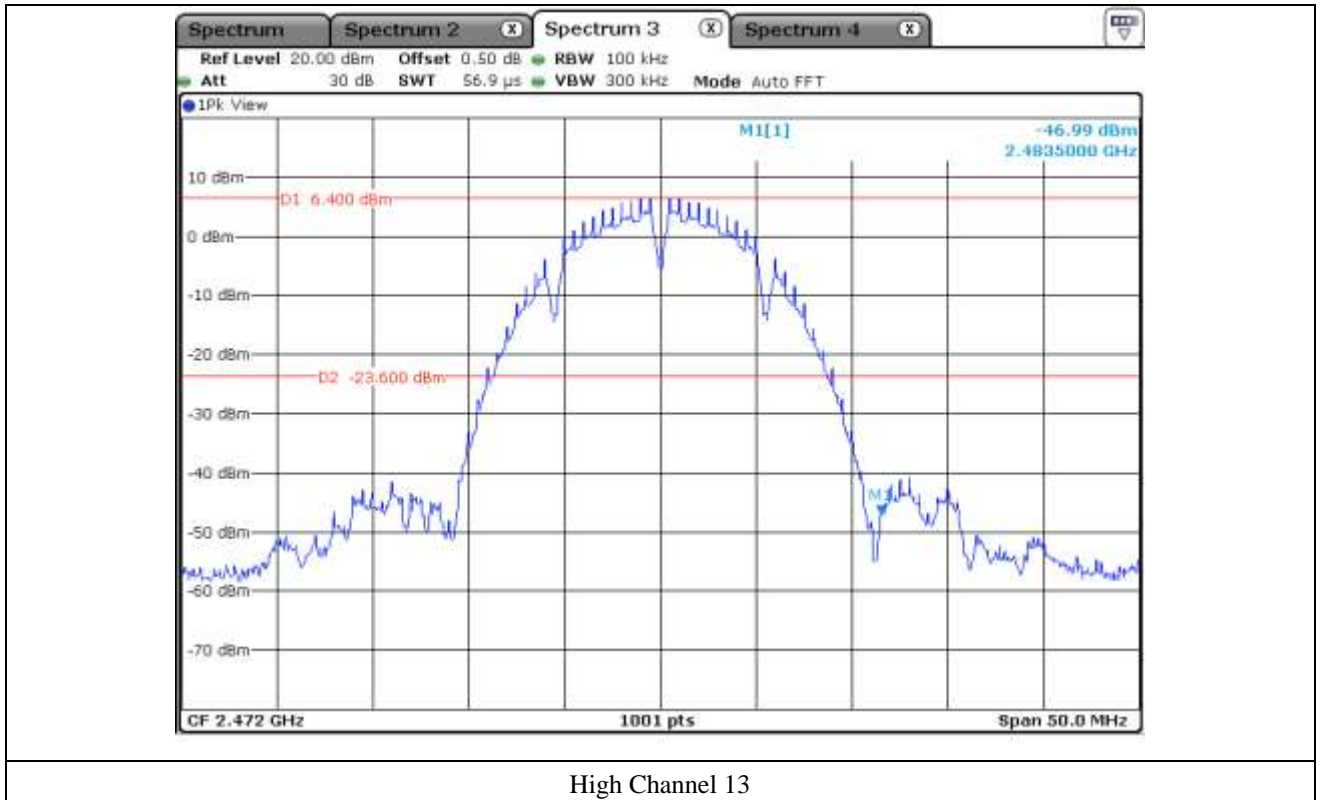
Middle Channel



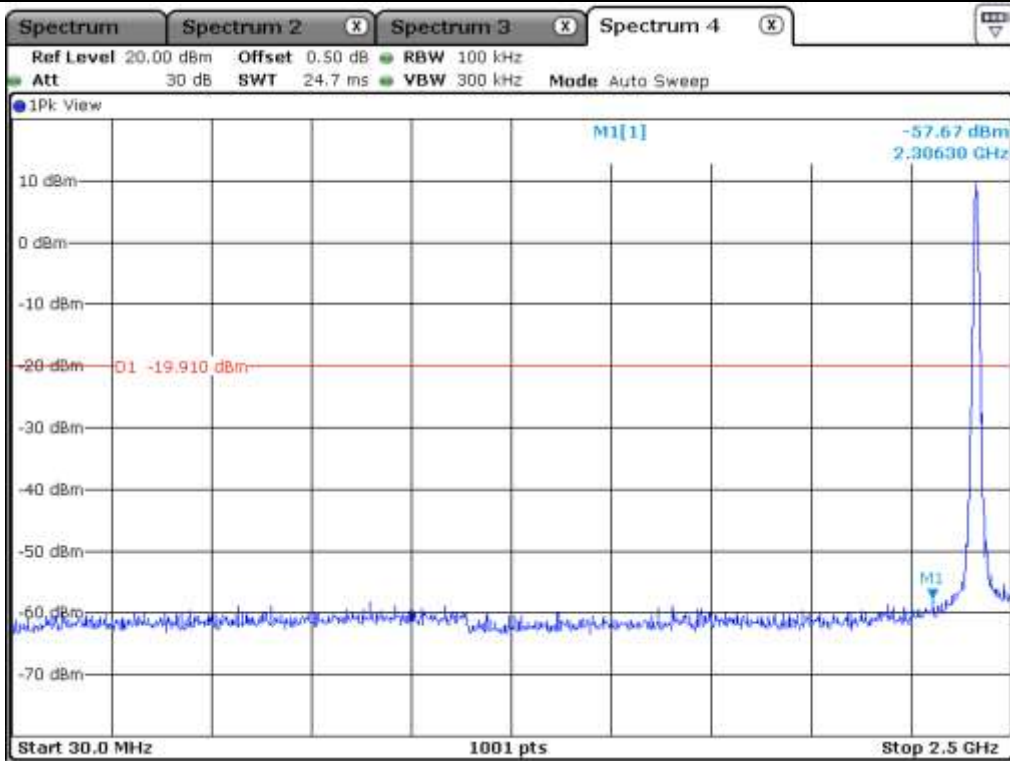
High Channel 11



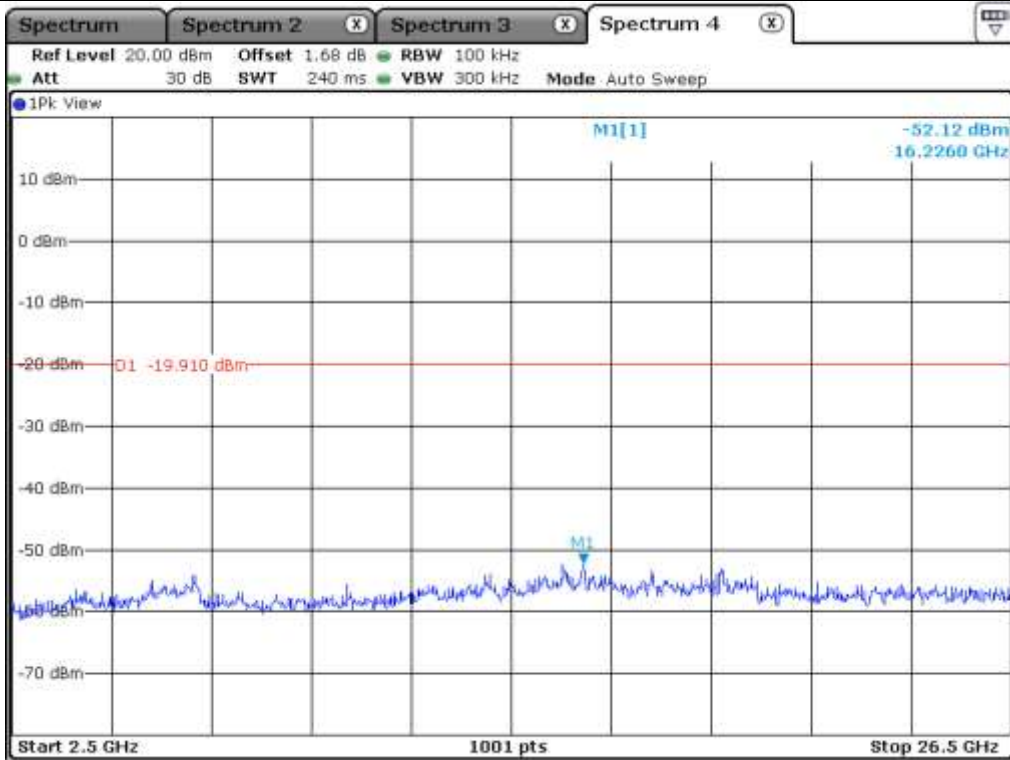
High Channel 12



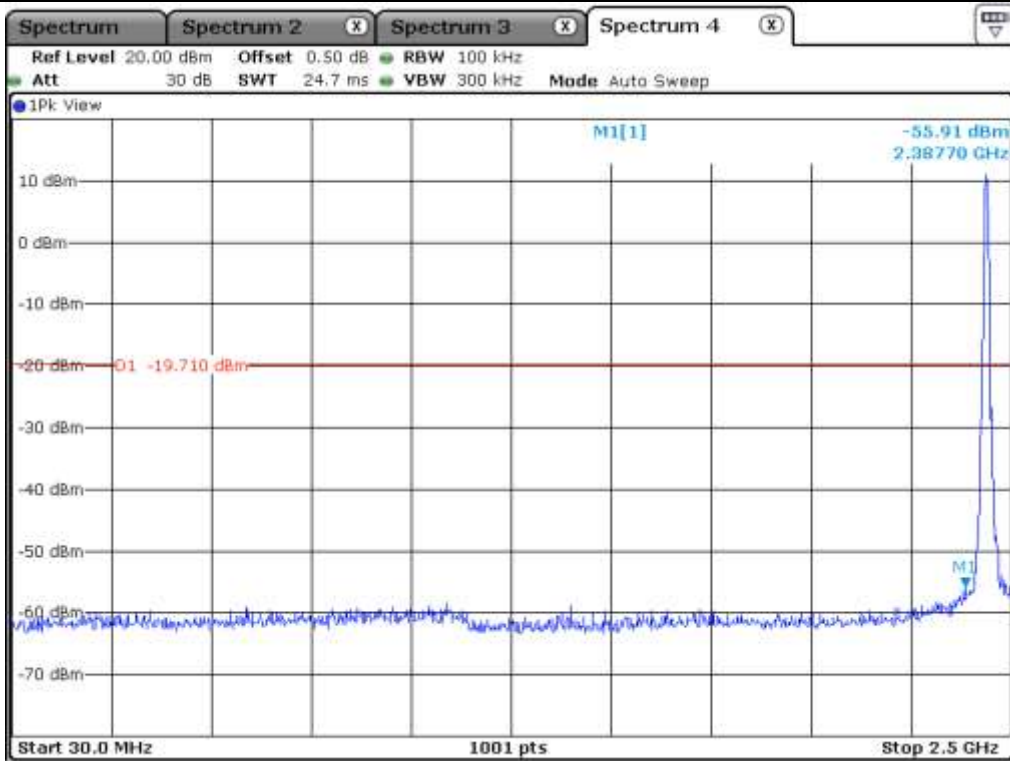
High Channel 13



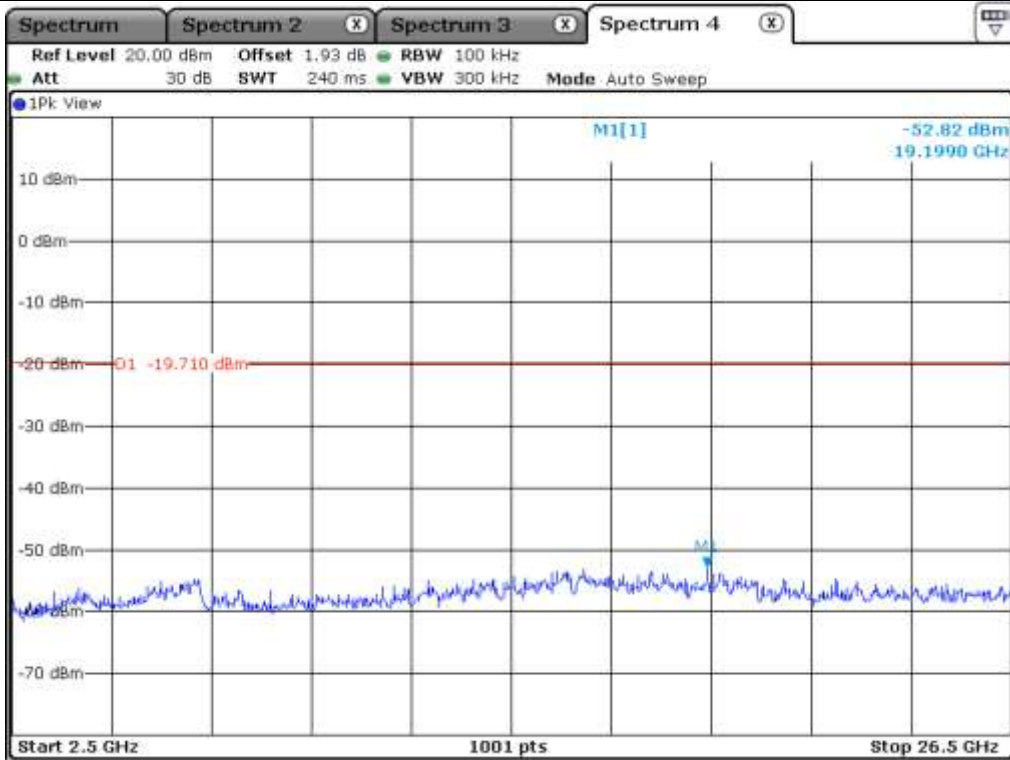
Low Channel



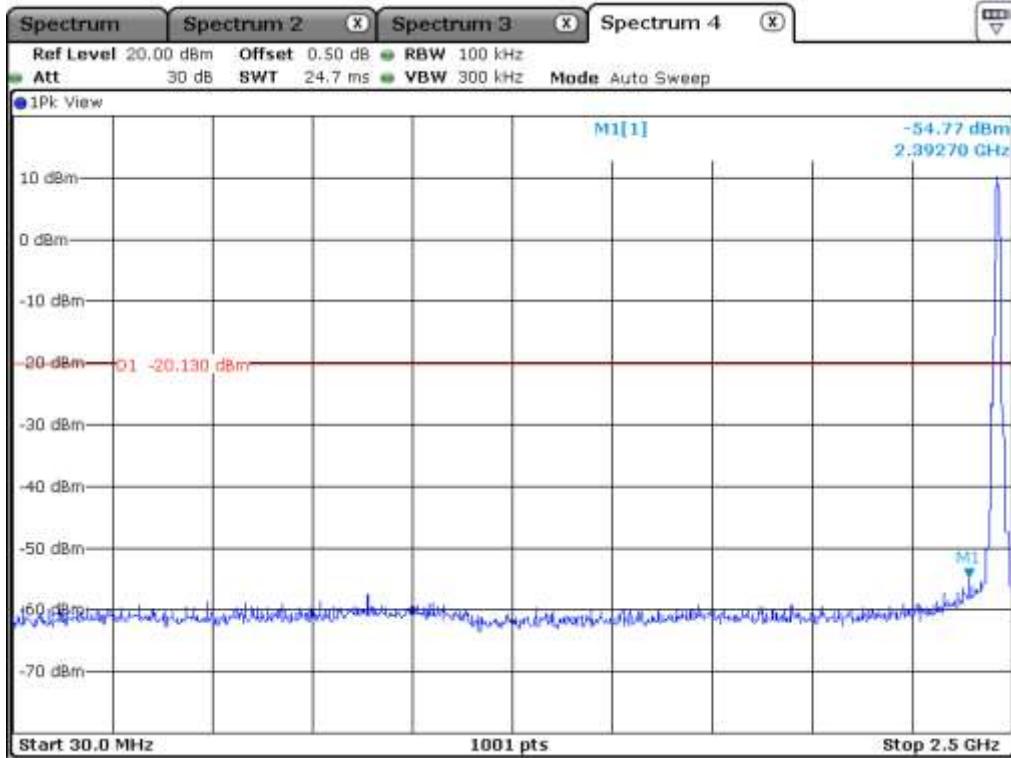
Low Channel



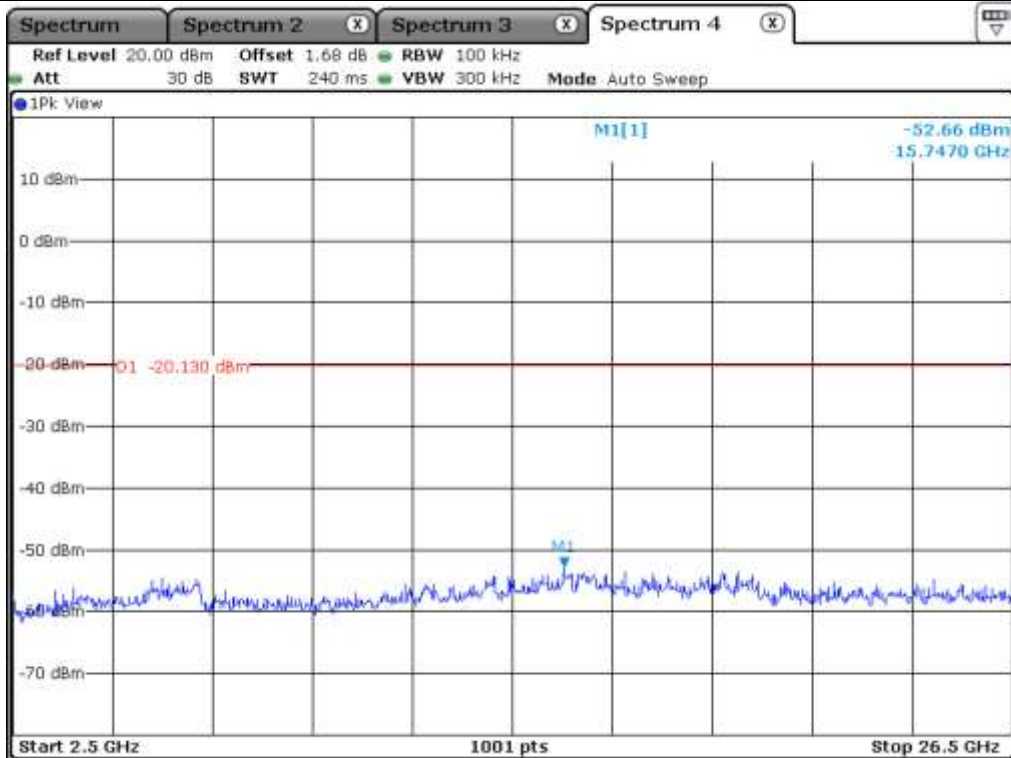
Middle Channel



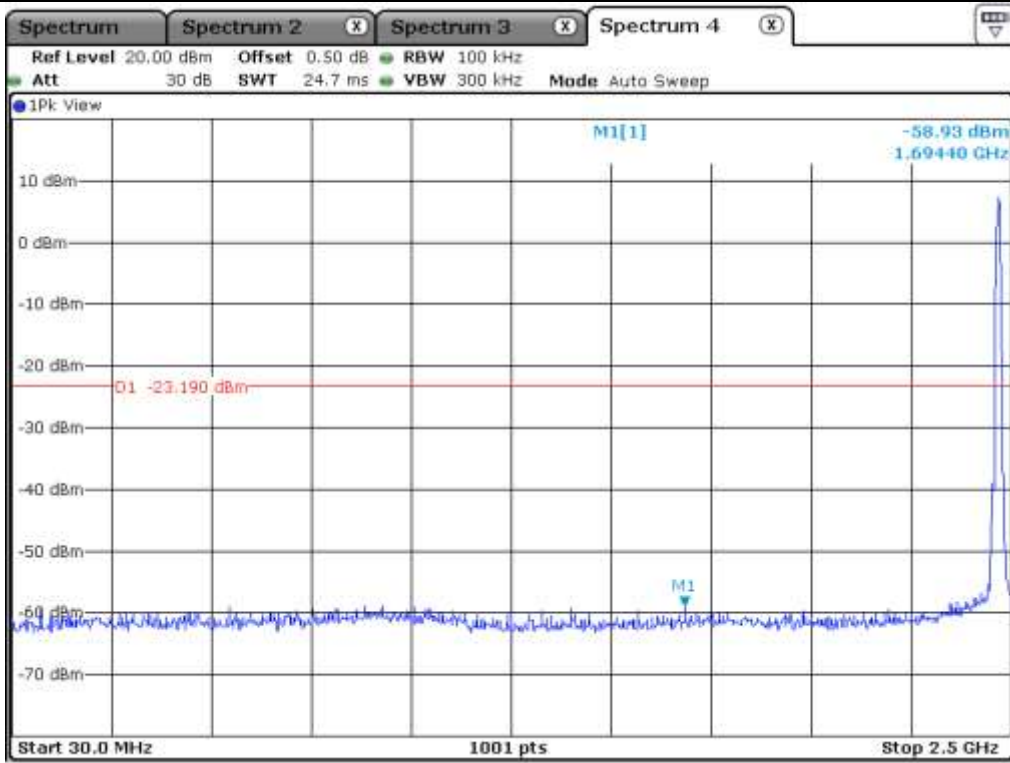
Middle Channel



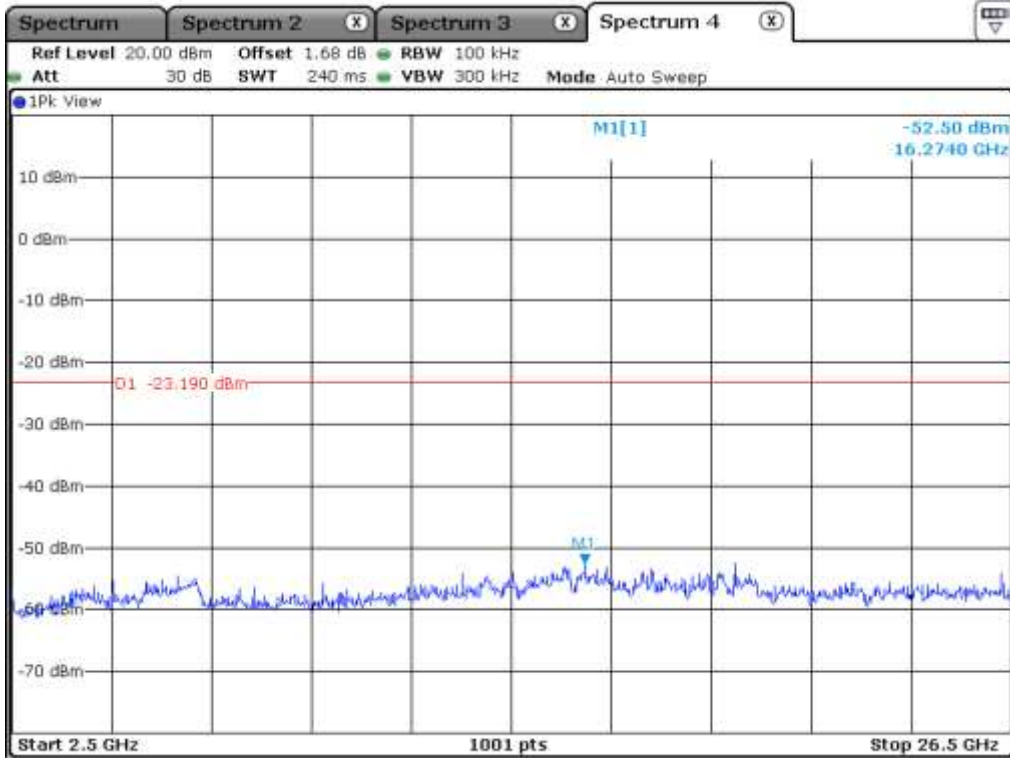
High Channel 11



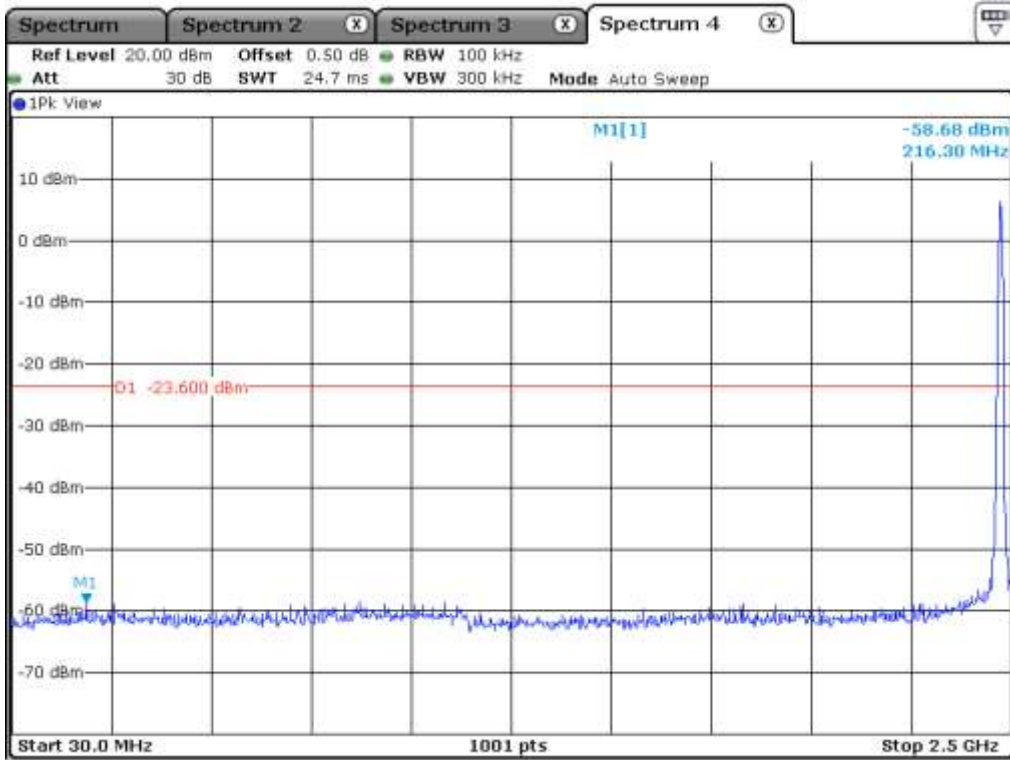
High Channel 11



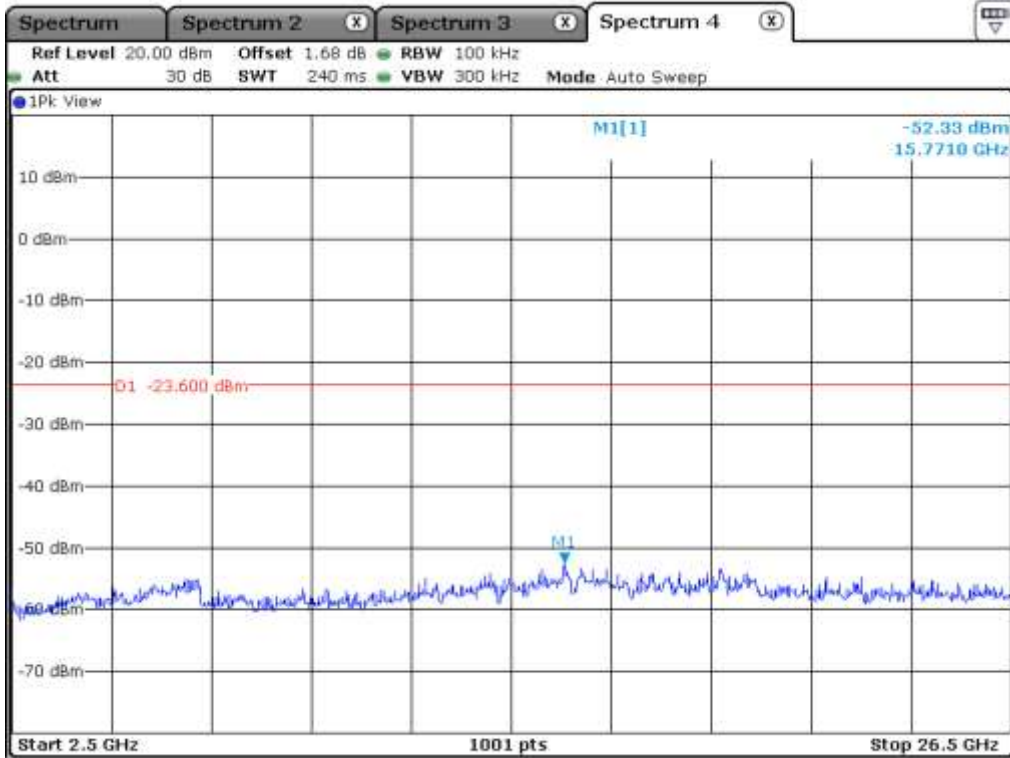
High Channel 12



High Channel 12



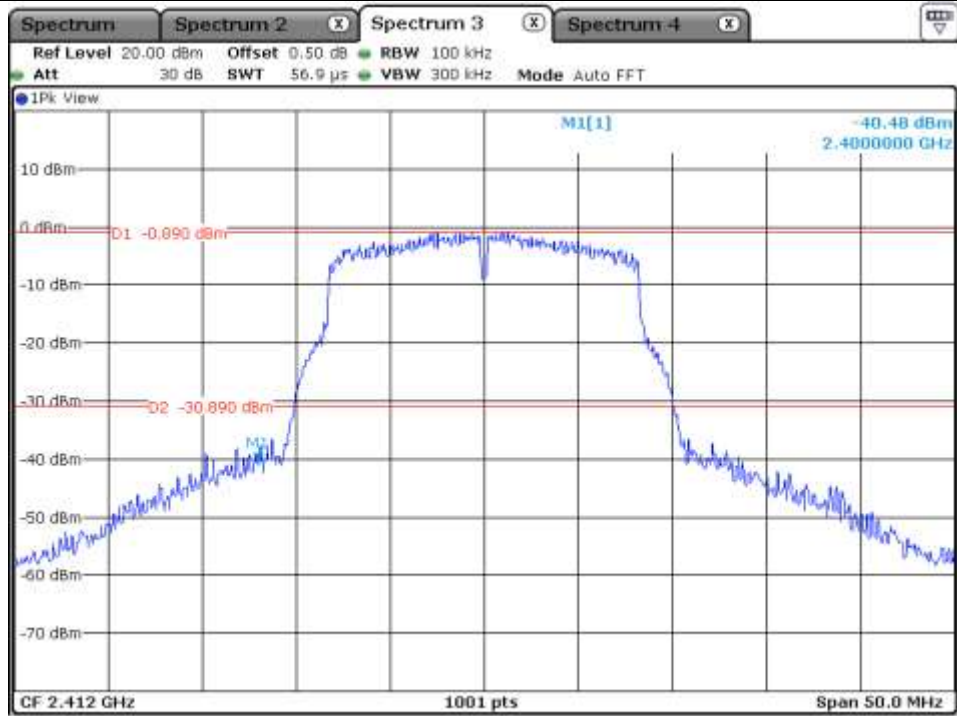
High Channel 13



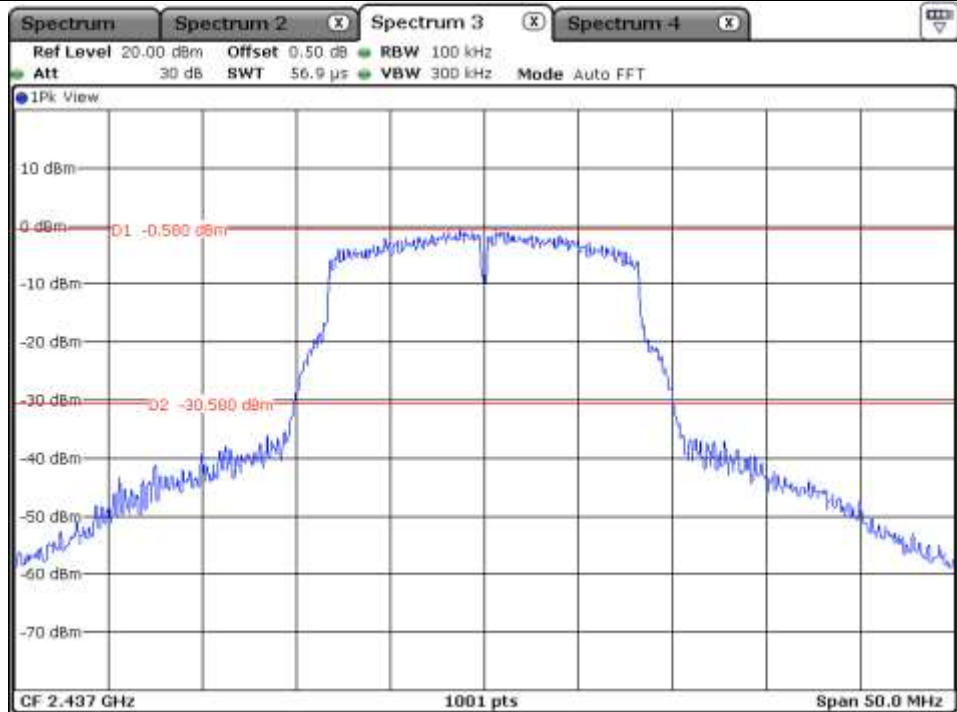
High Channel 13

9.5.2 Test data for 802.11g WLAN Mode

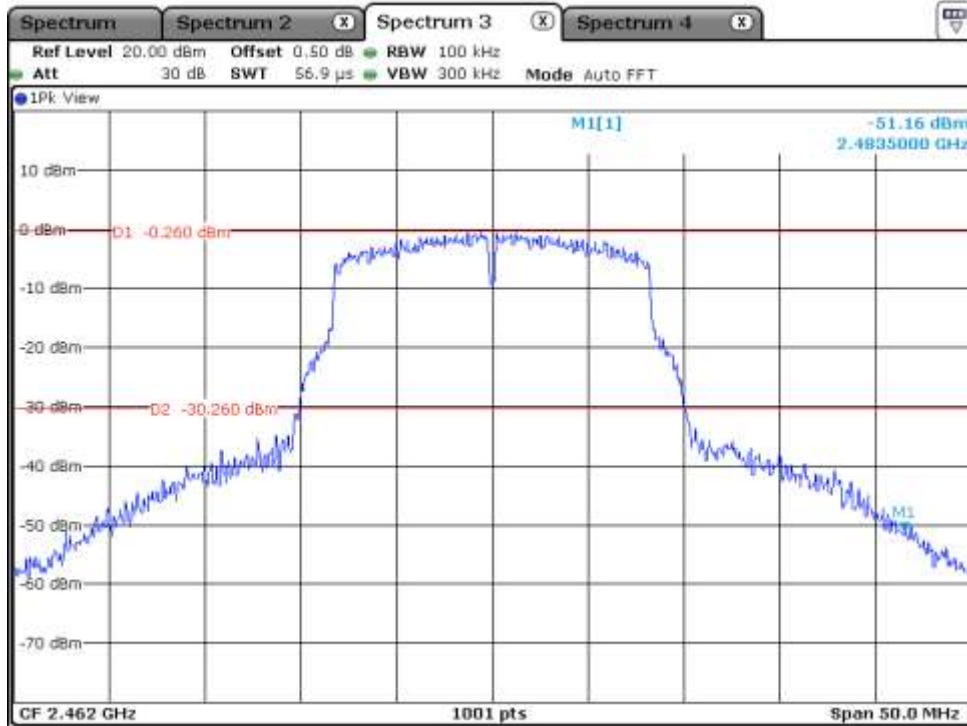
9.5.2.1 Test data for Antenna 0



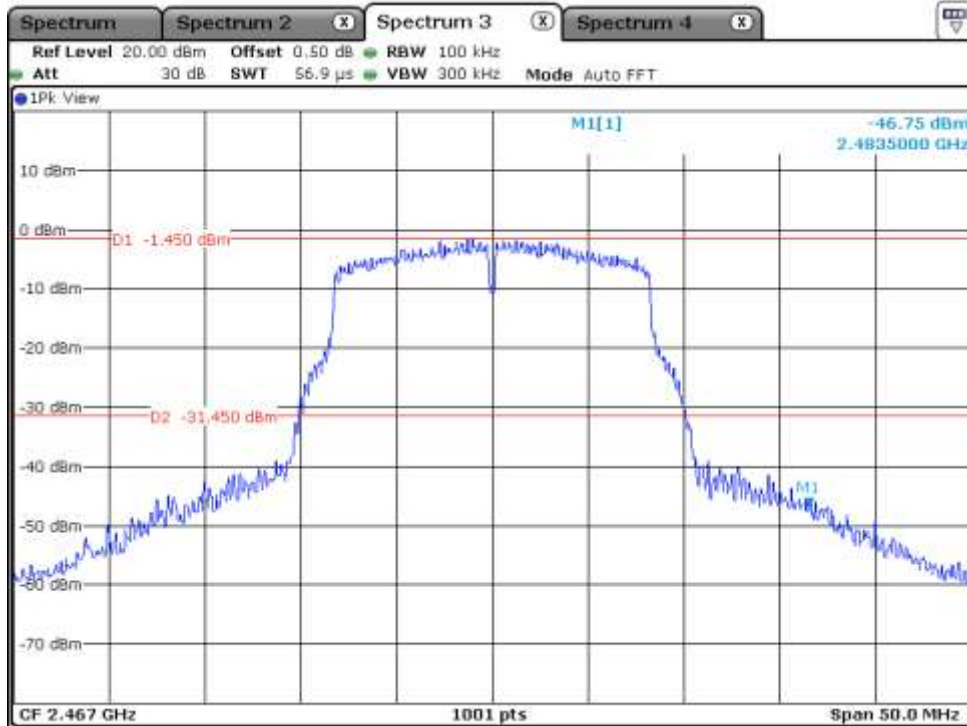
Low Channel



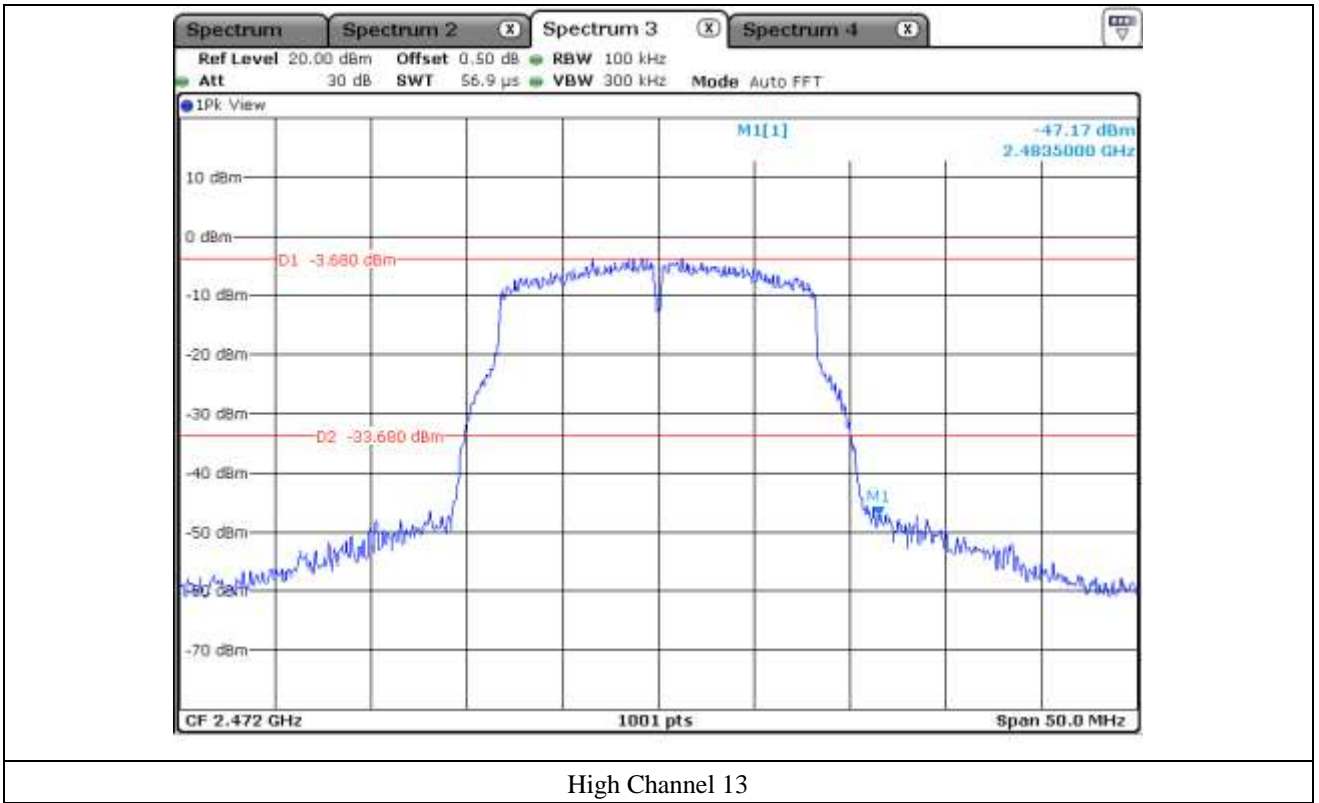
Middle Channel

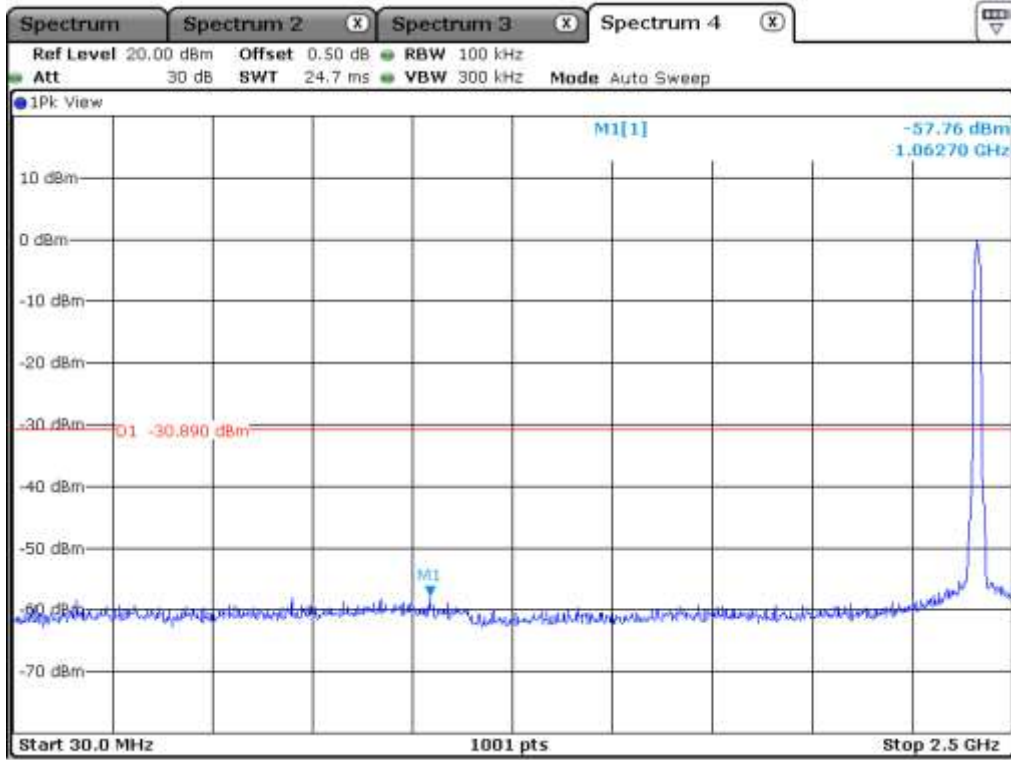


High Channel 11

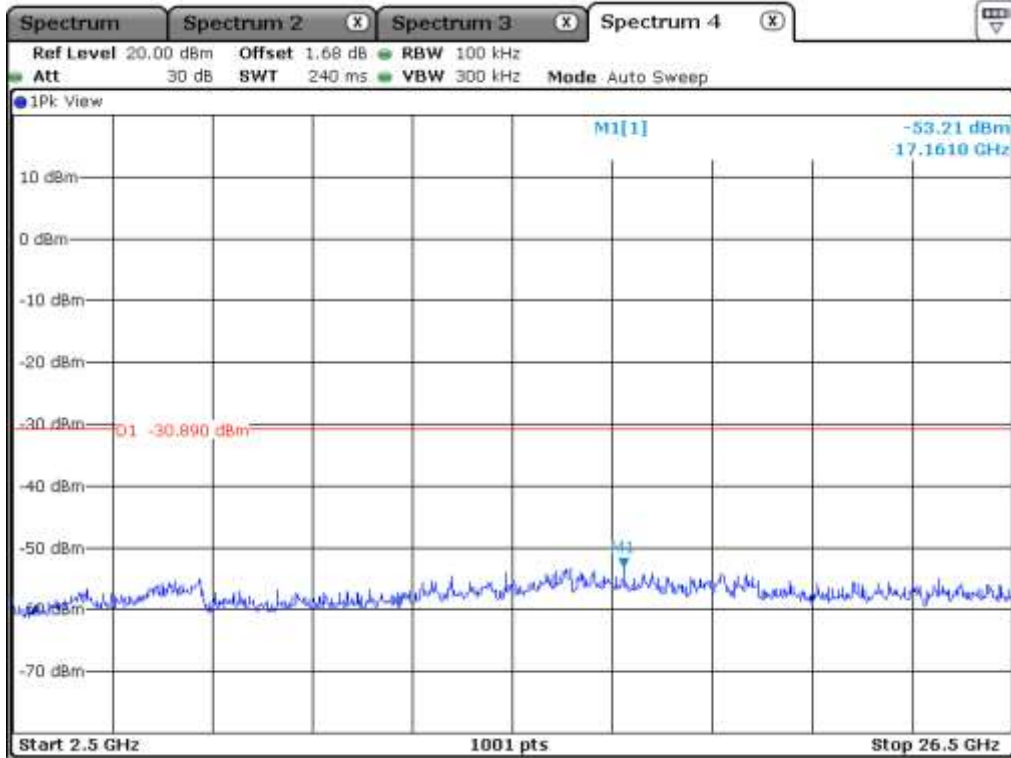


High Channel 12

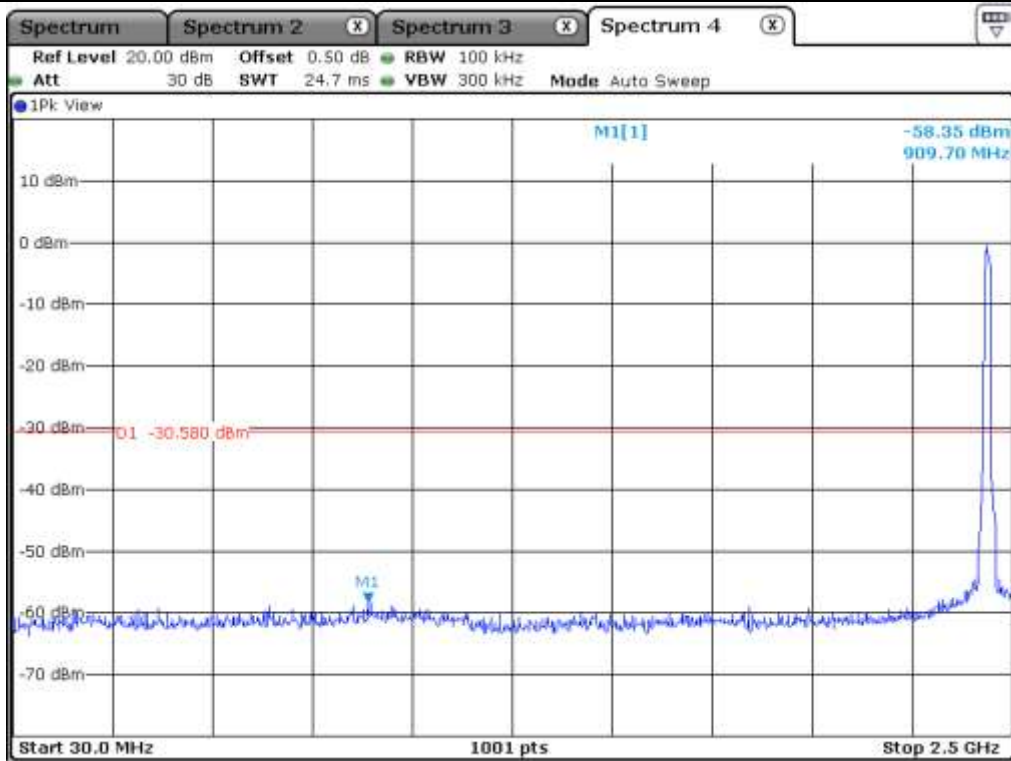




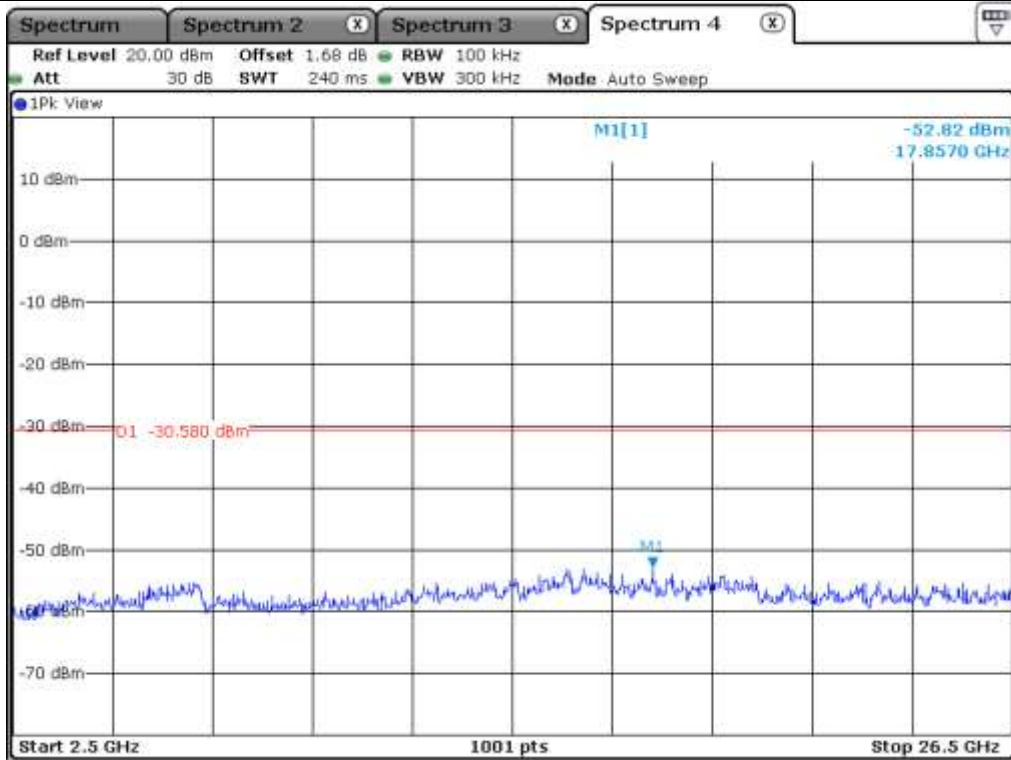
Low Channel



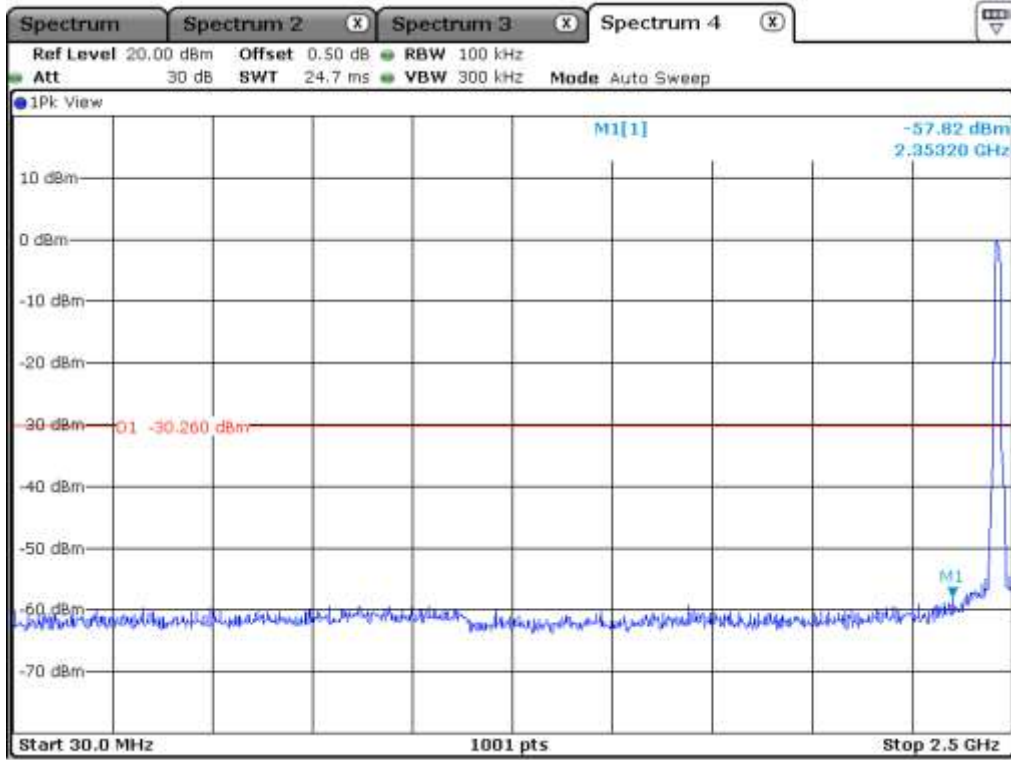
Low Channel



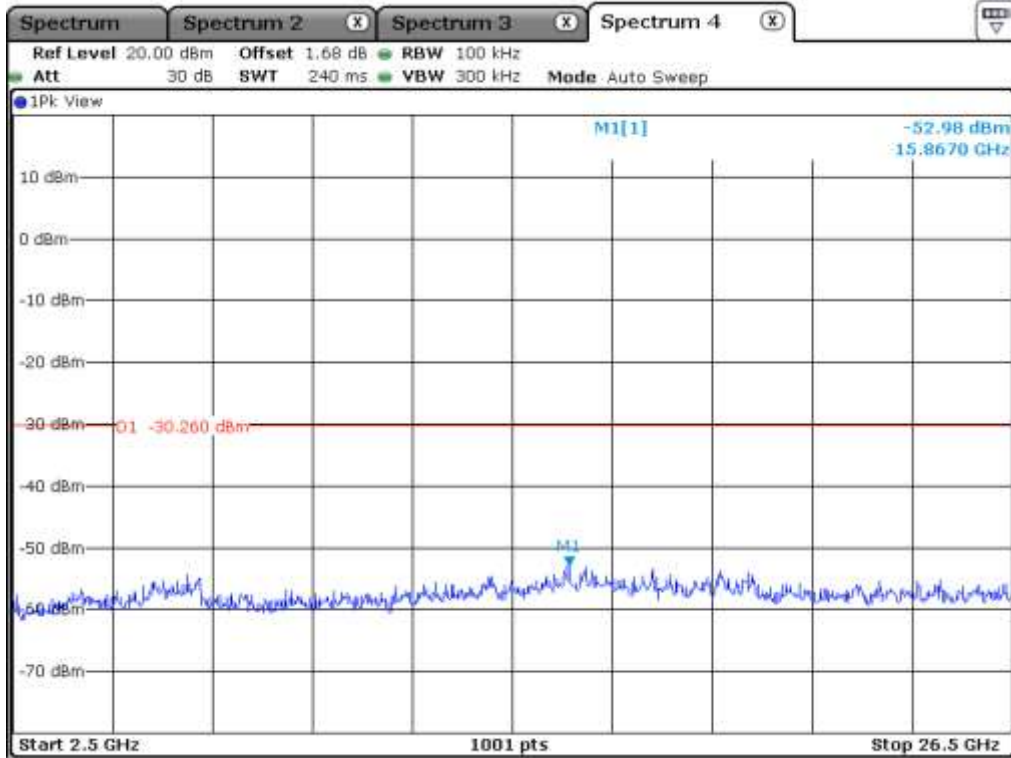
Middle Channel



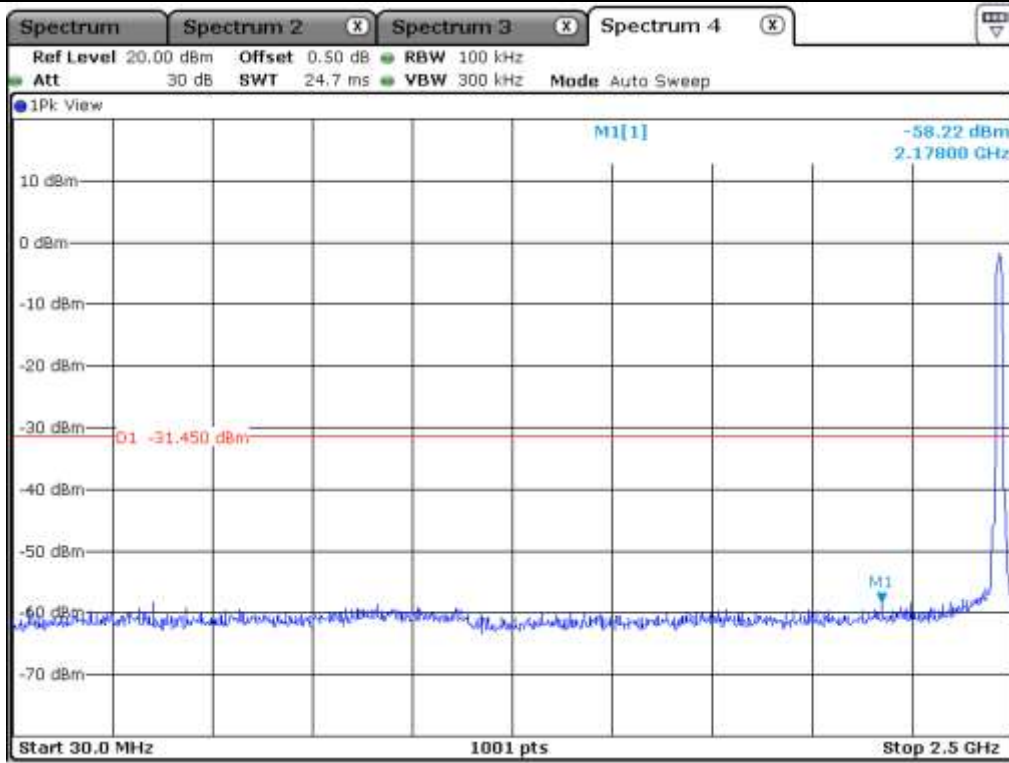
Middle Channel



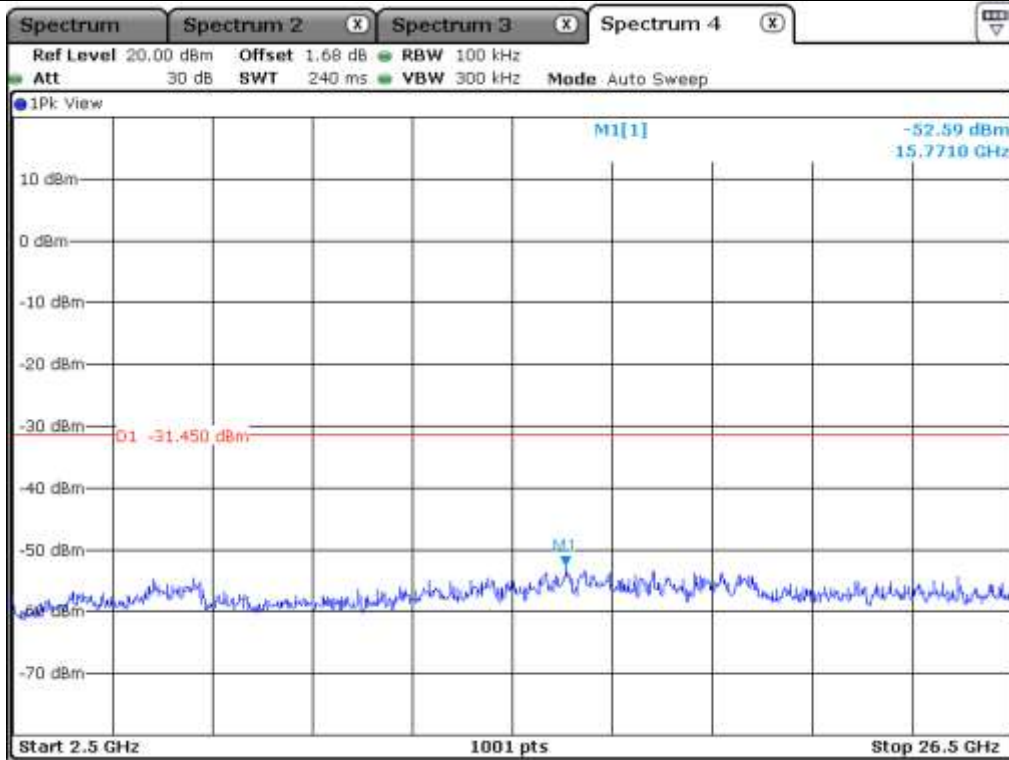
High Channel 11



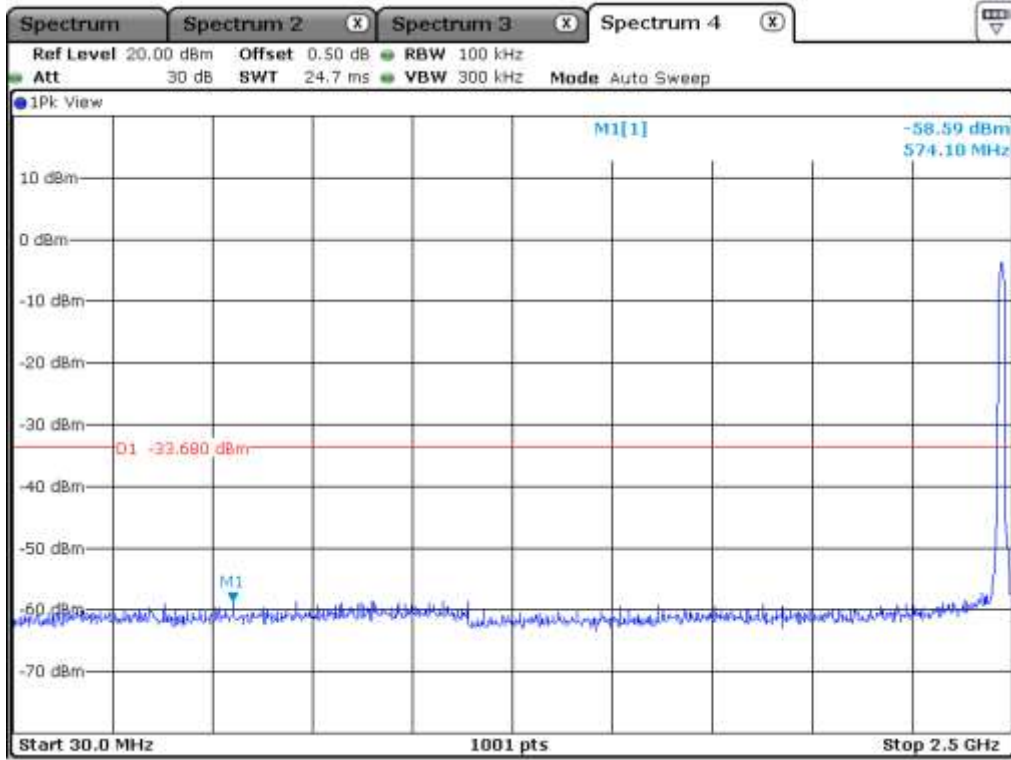
High Channel 11



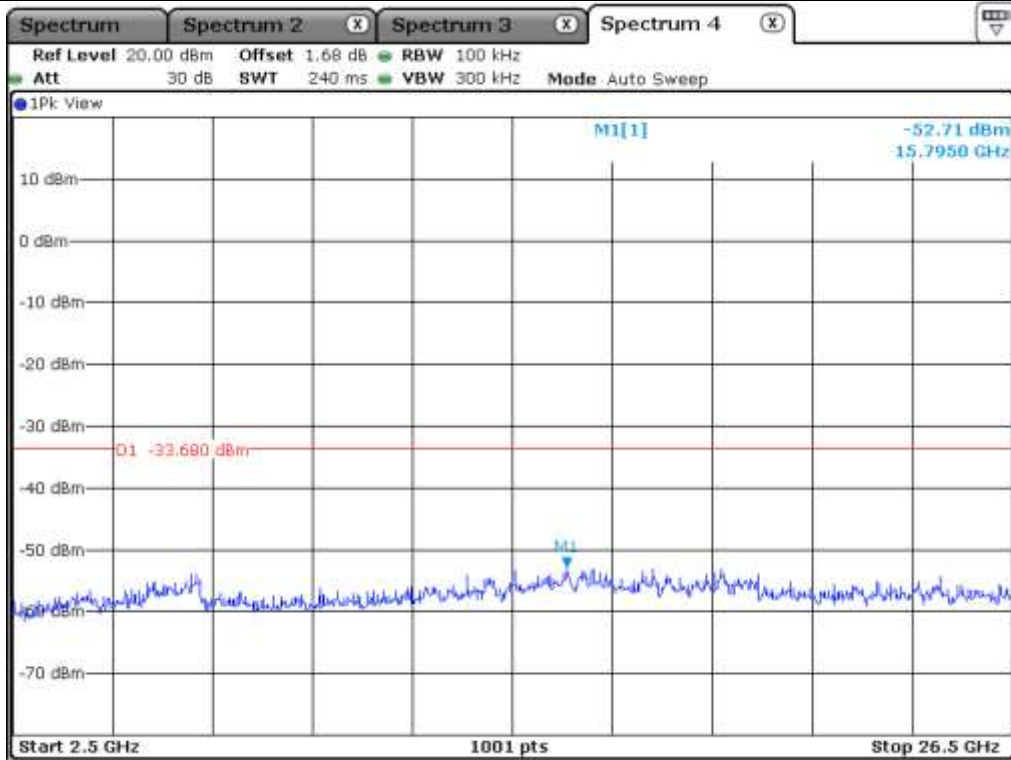
High Channel 12



High Channel 12

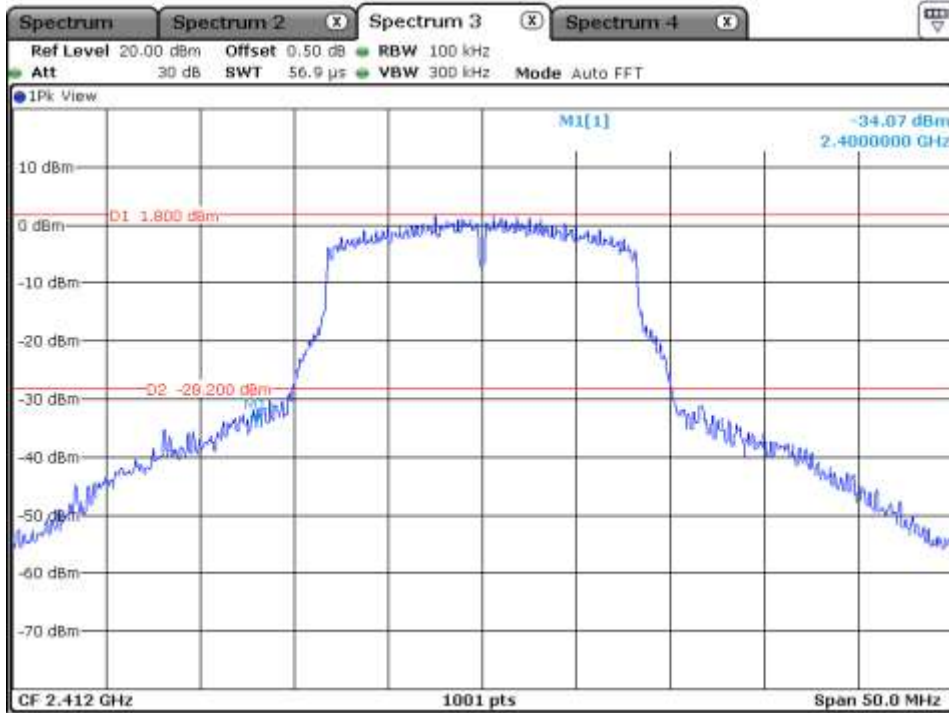


High Channel 13

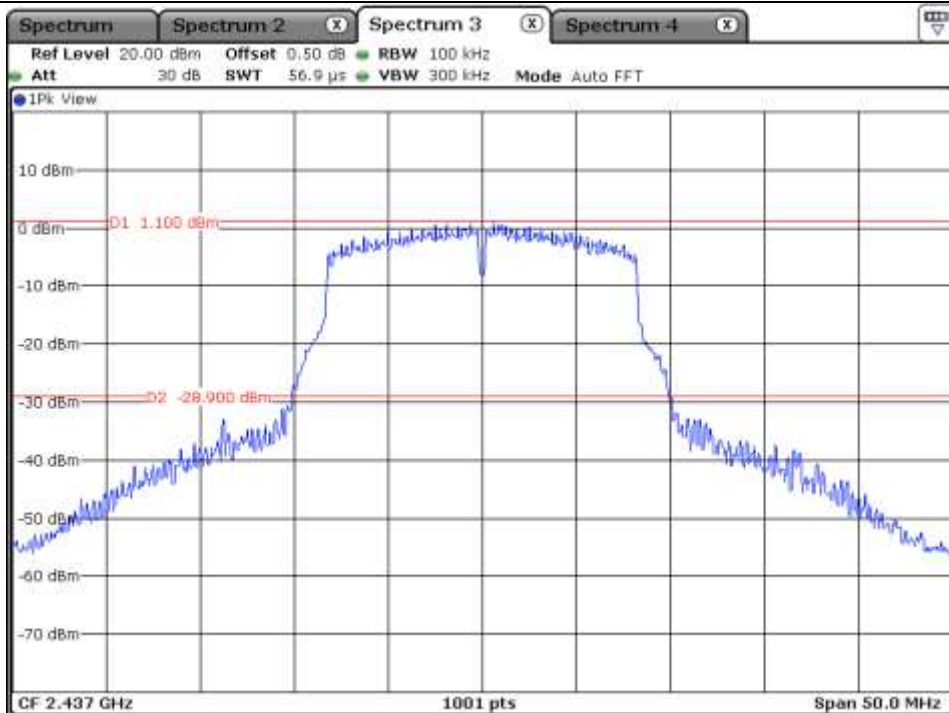


High Channel 13

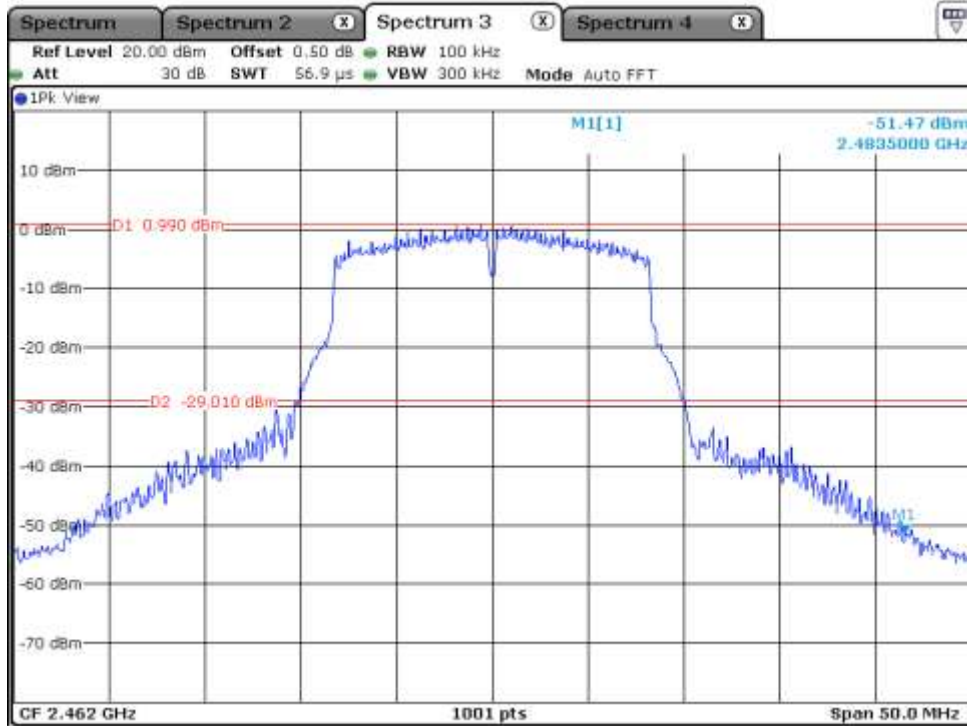
9.5.2.2 Test data for Antenna 1



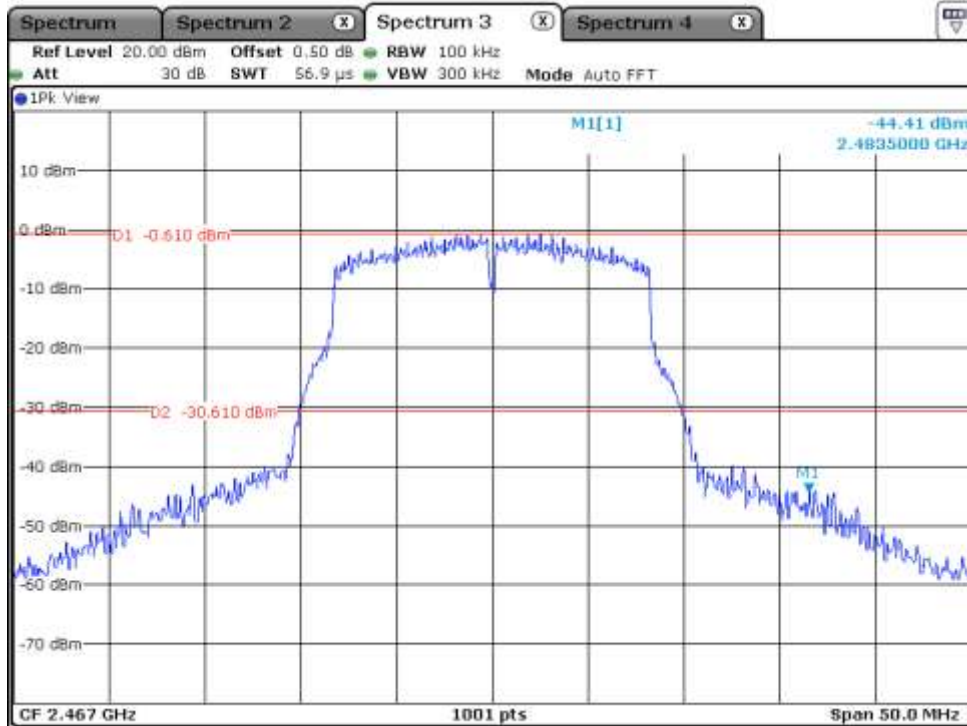
Low Channel



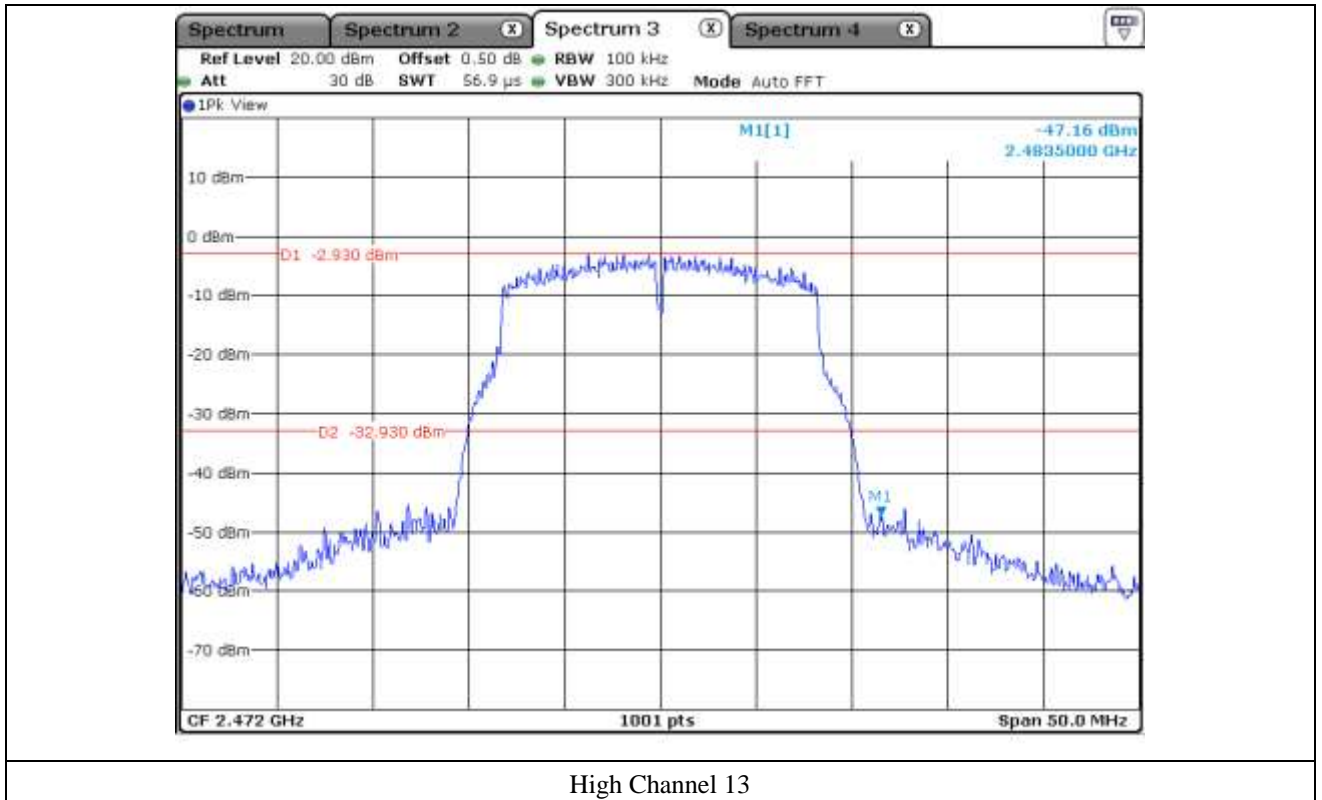
Middle Channel



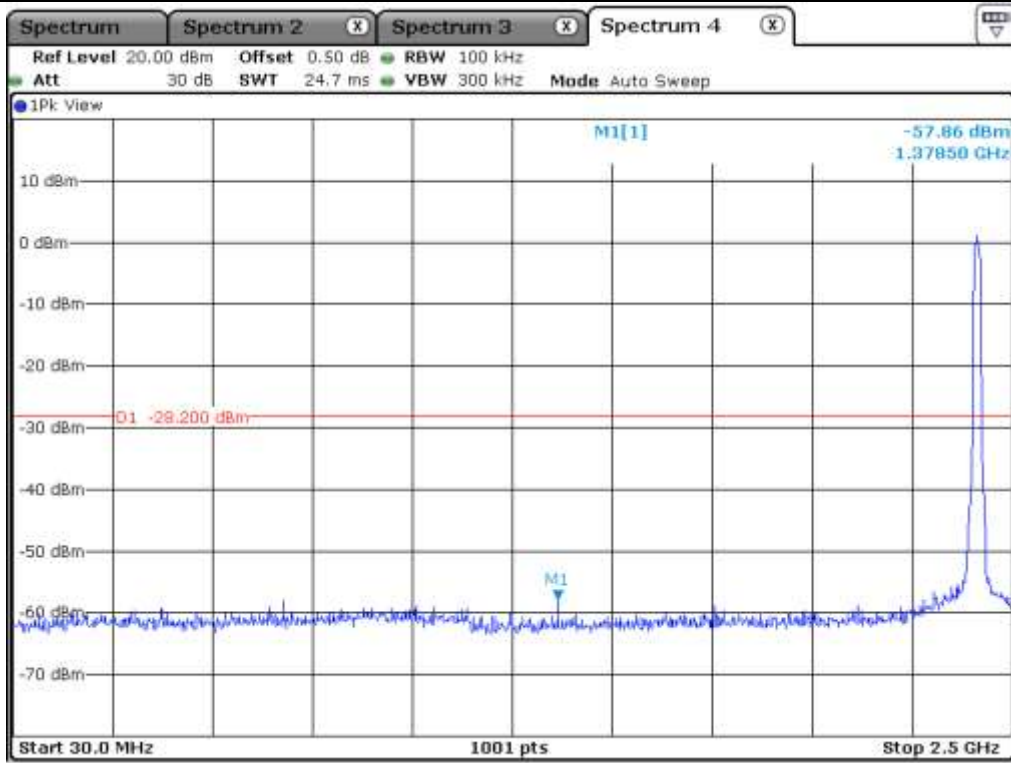
High Channel 11



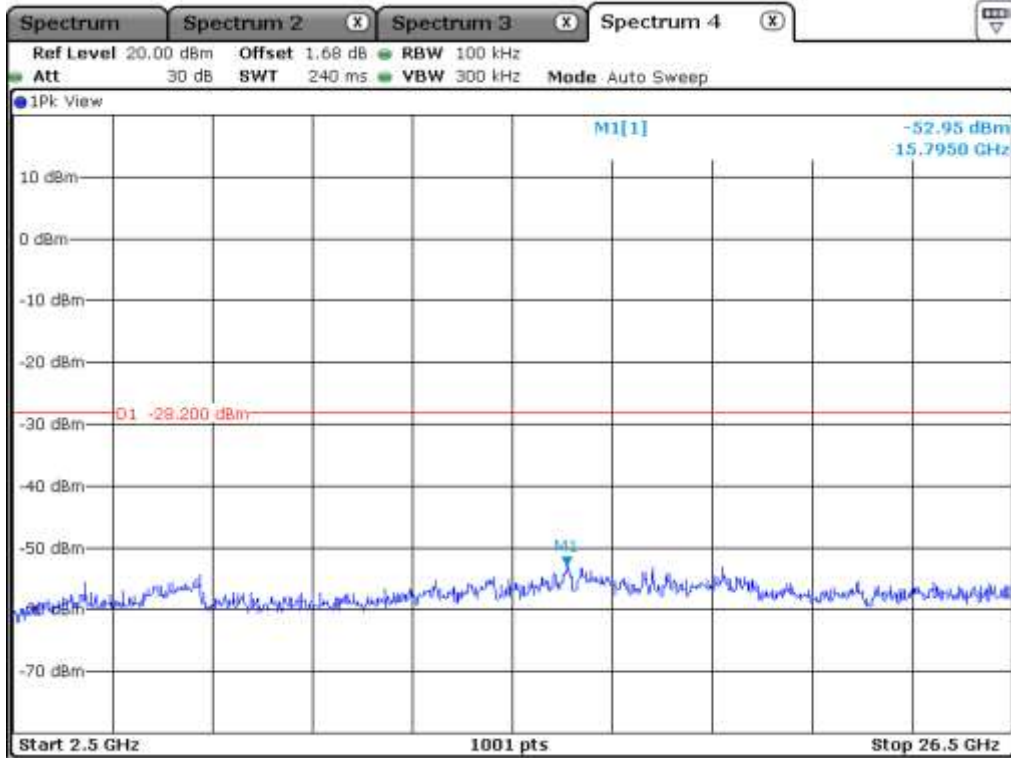
High Channel 12



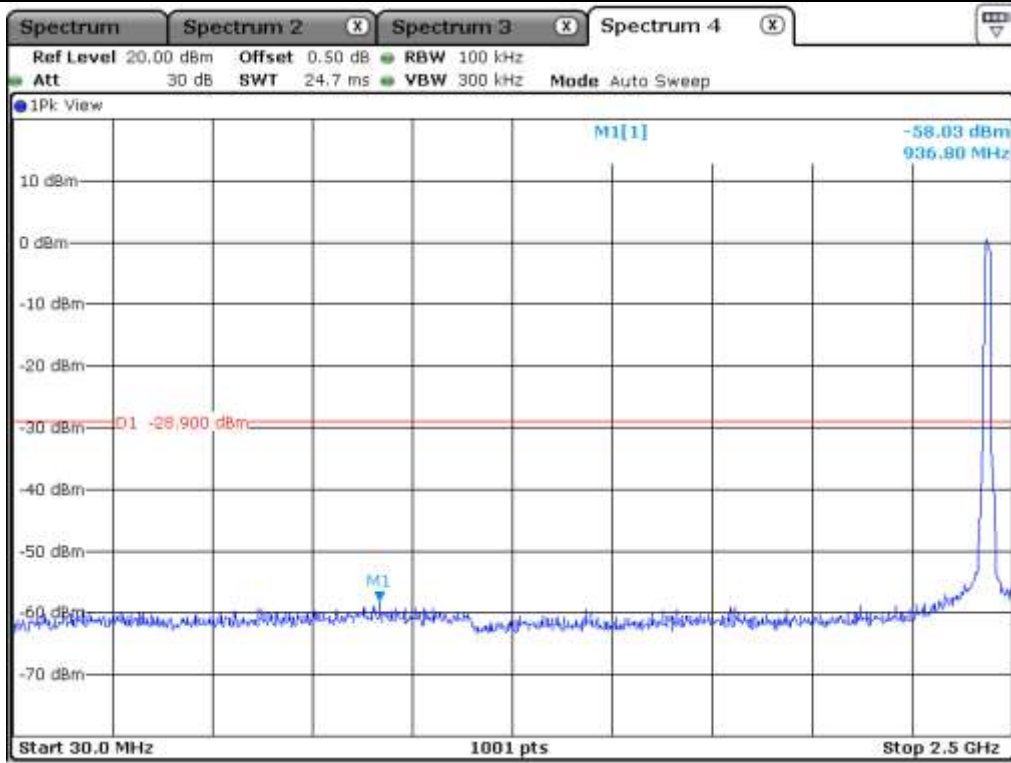
High Channel 13



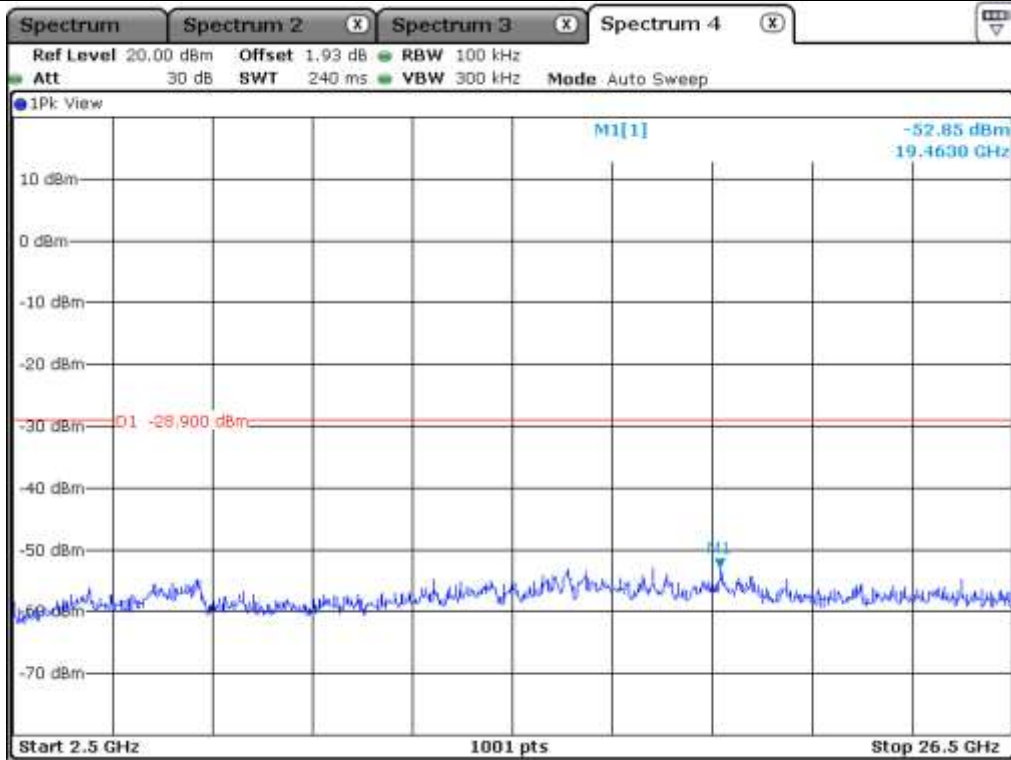
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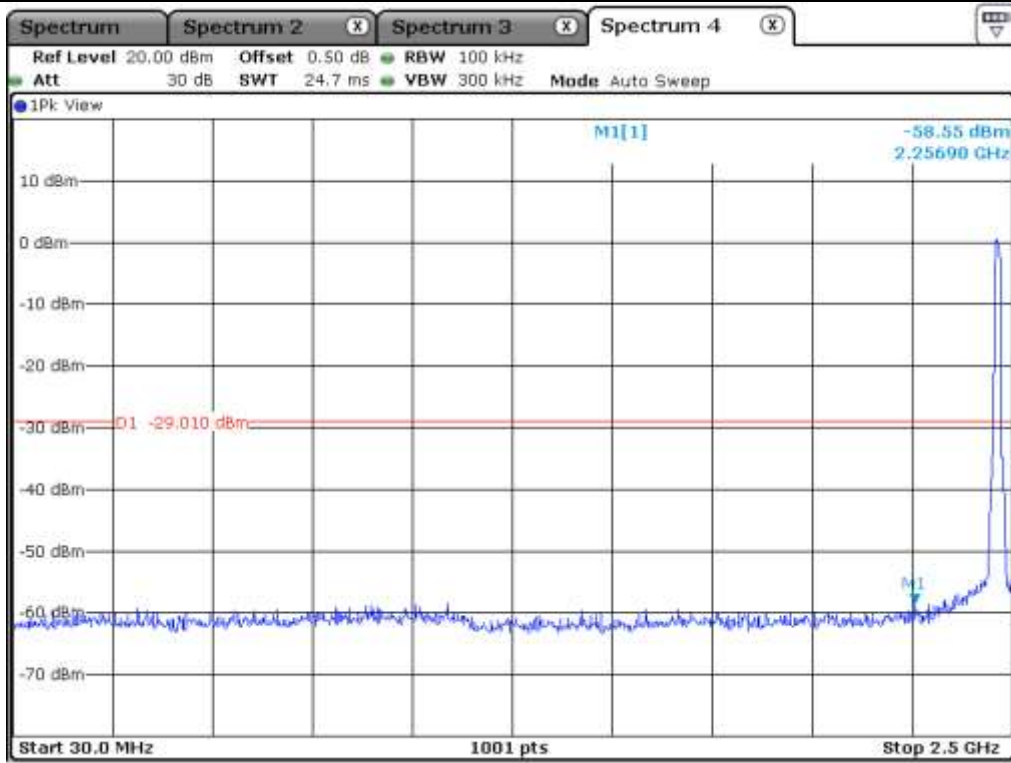
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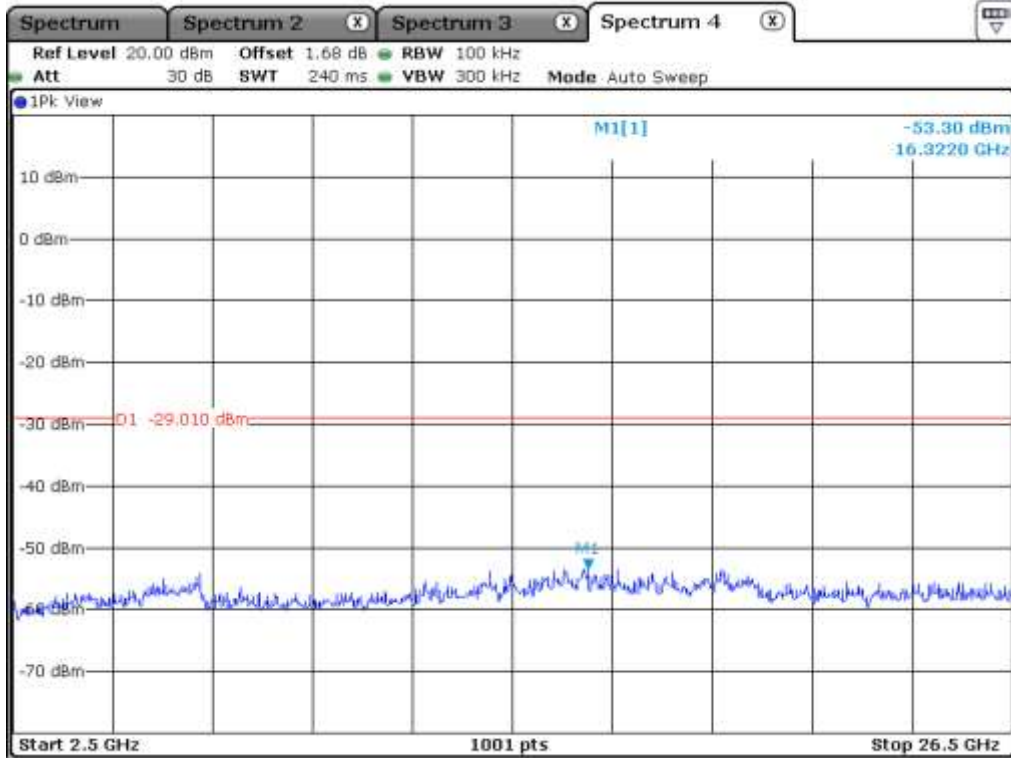
Middle Channel



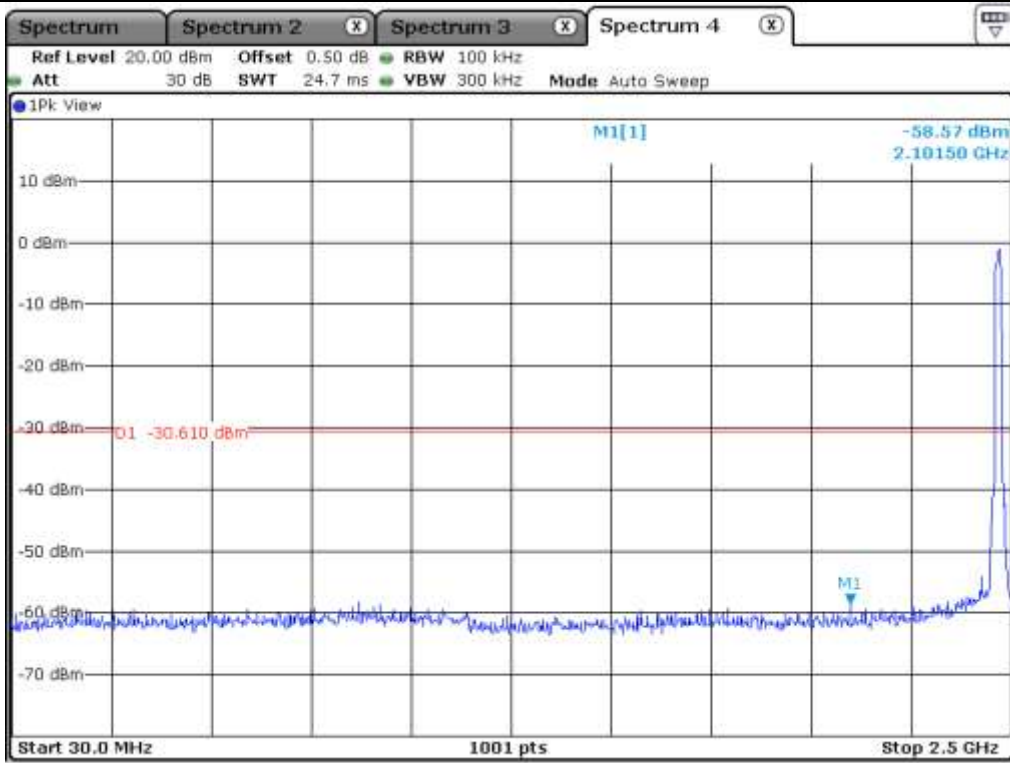
Middle Channel



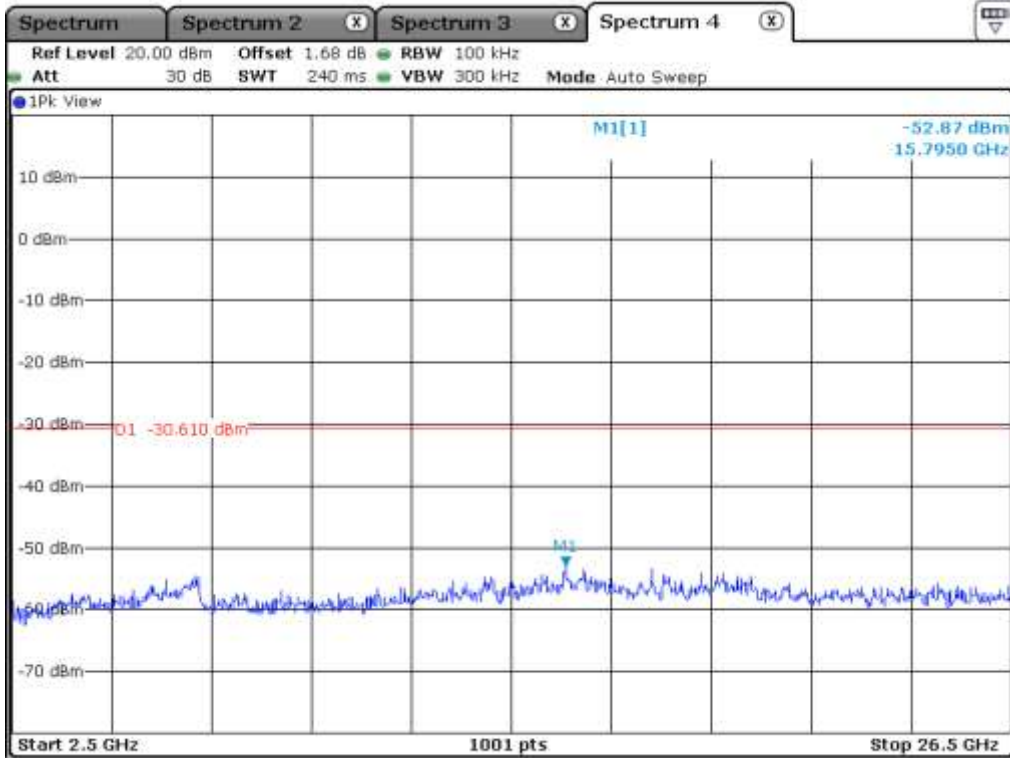
High Channel 11



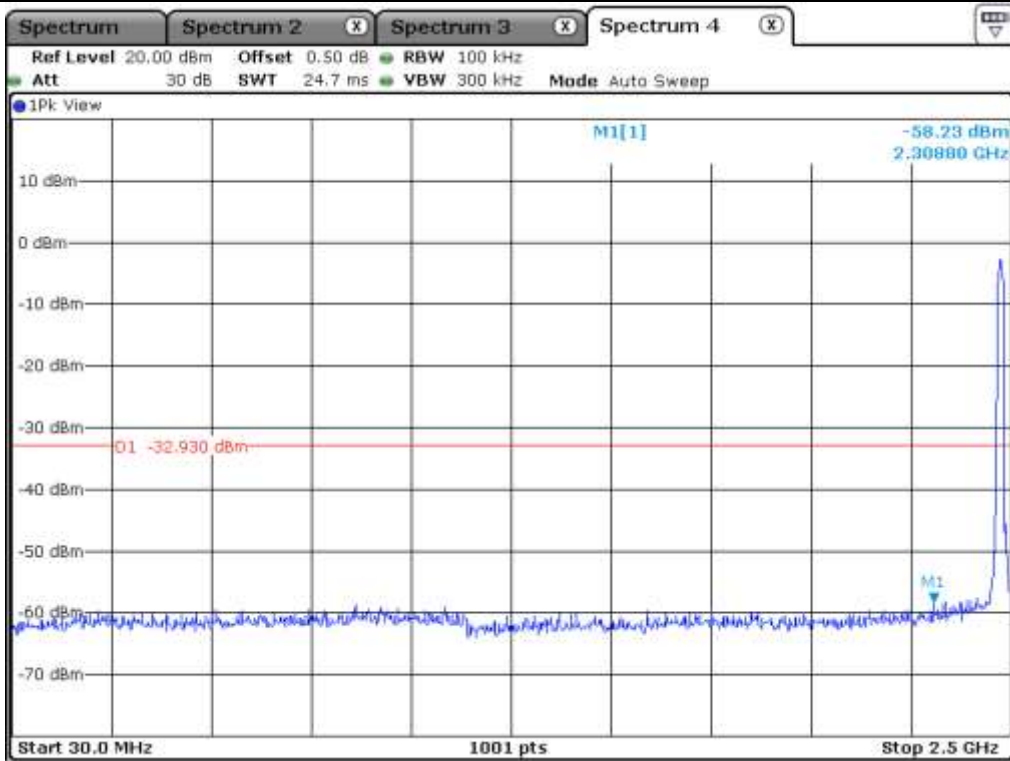
High Channel 11



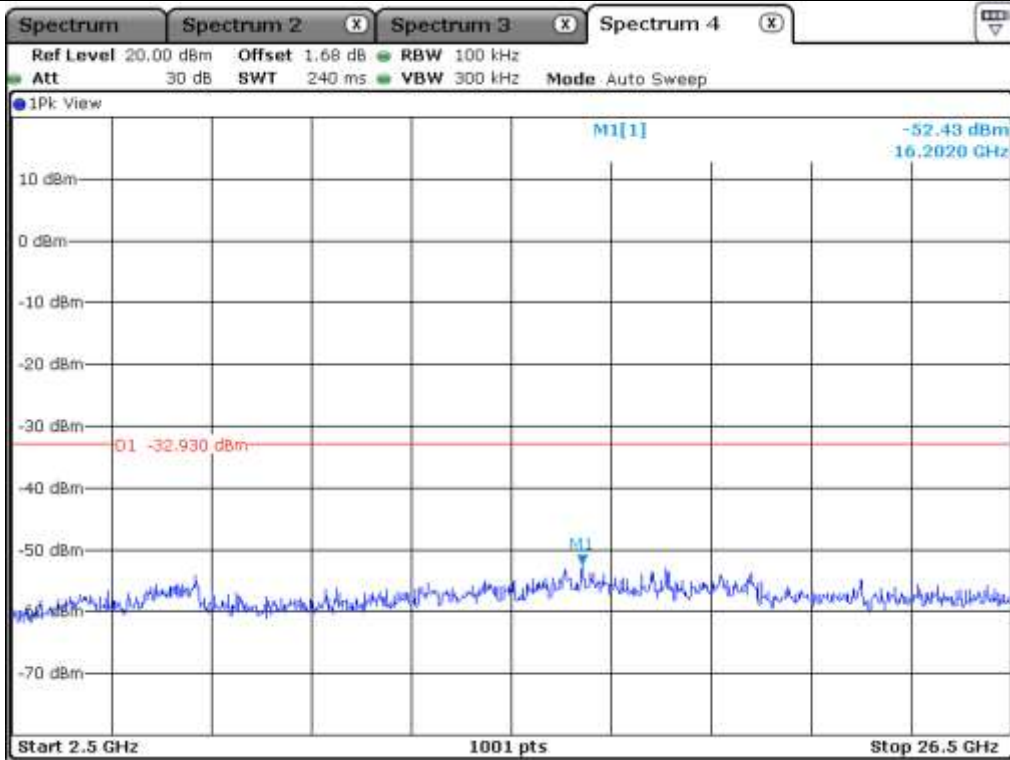
High Channel 12



High Channel 12



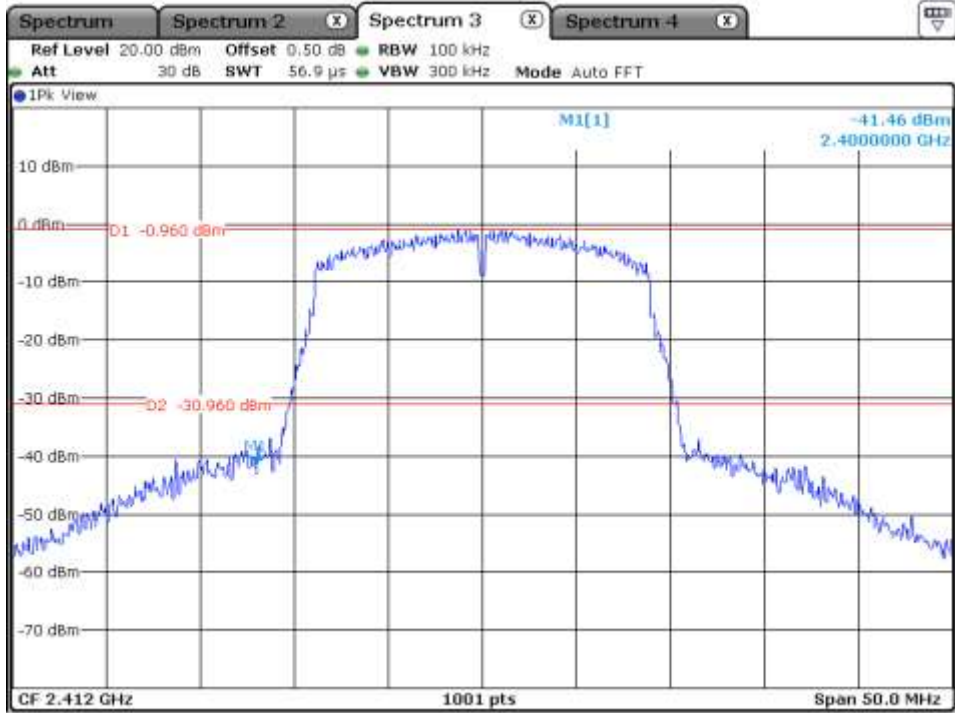
High Channel 13



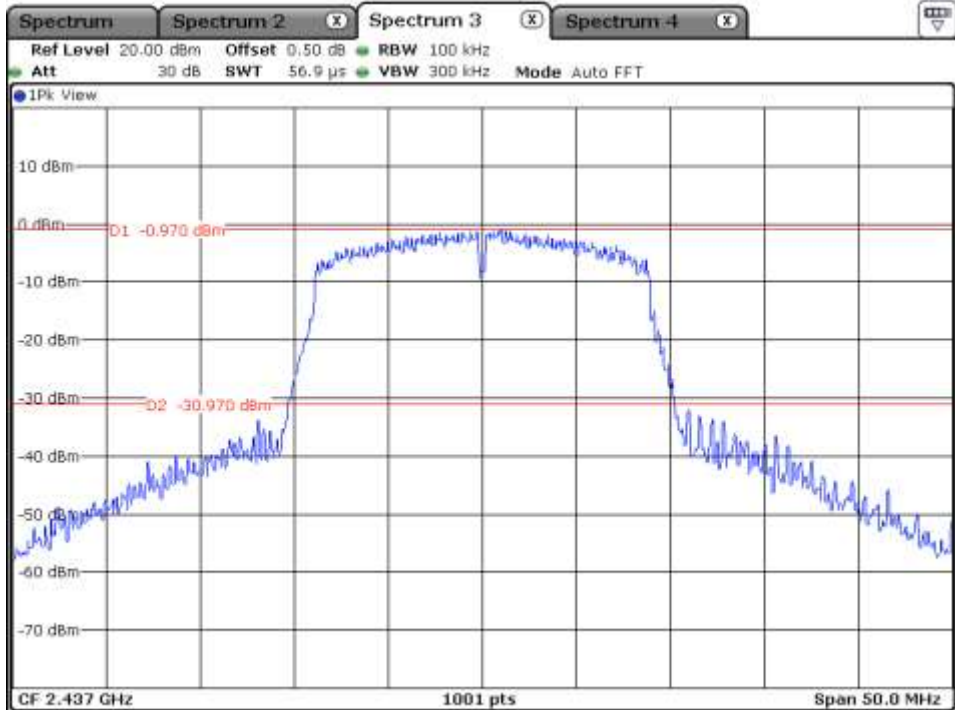
High Channel 13

9.5.3 Test data for 802.11n_HT20 WLAN Mode

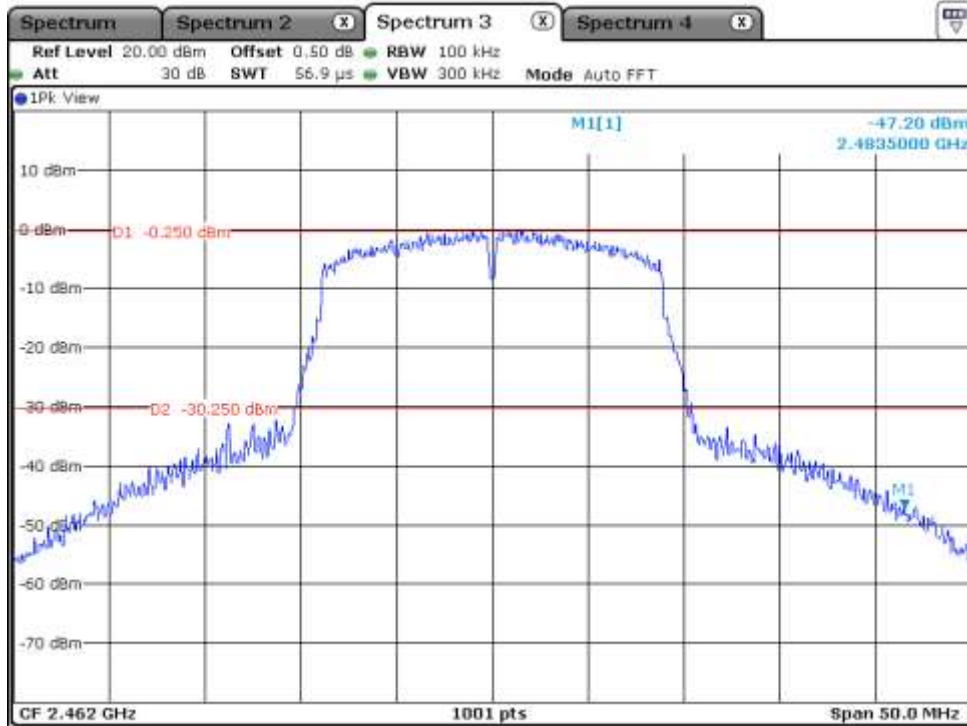
9.5.3.1 Test data for Antenna 0



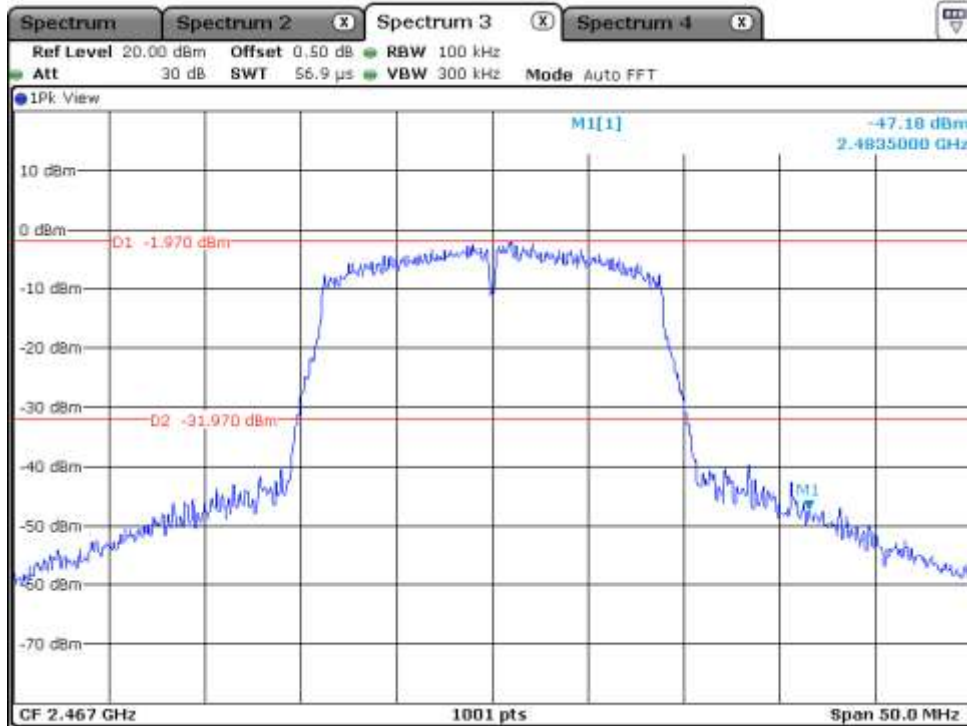
Low Channel



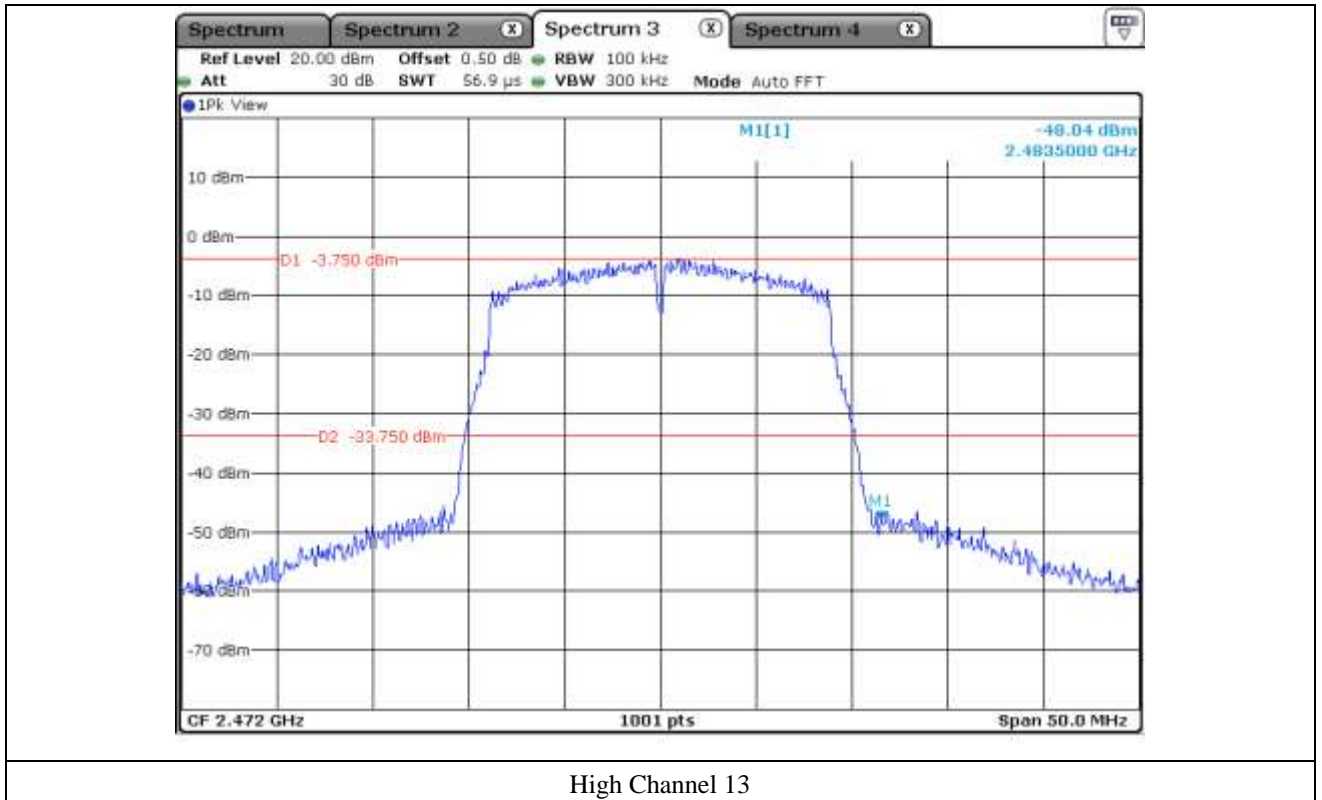
Middle Channel

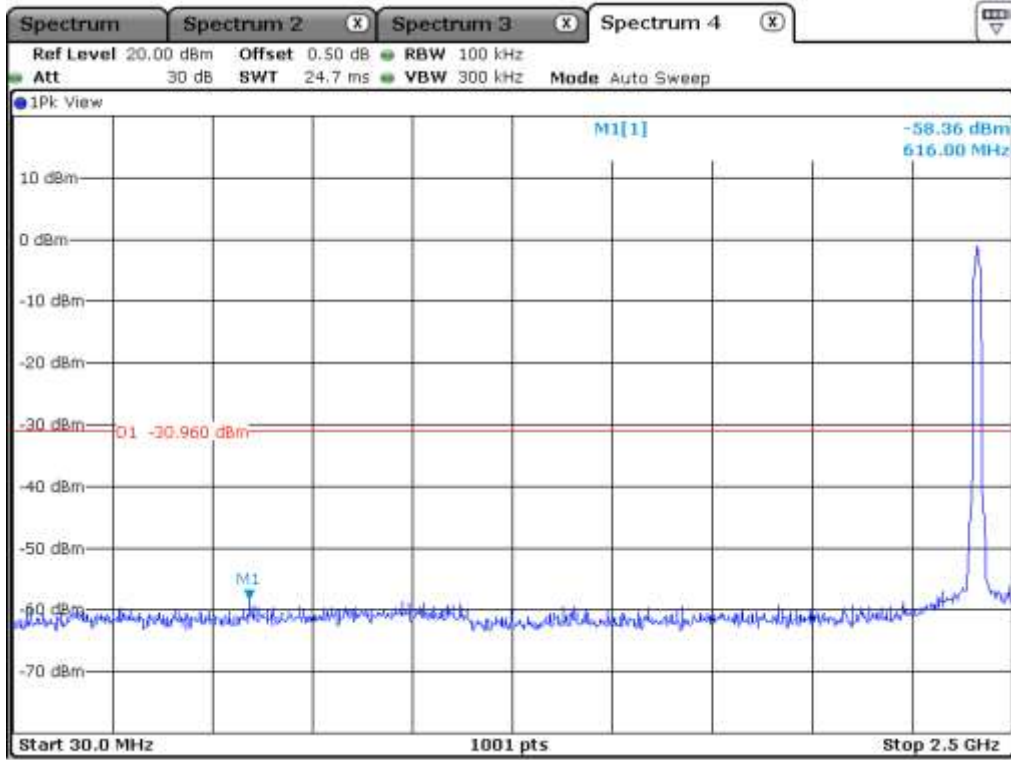


High Channel 11

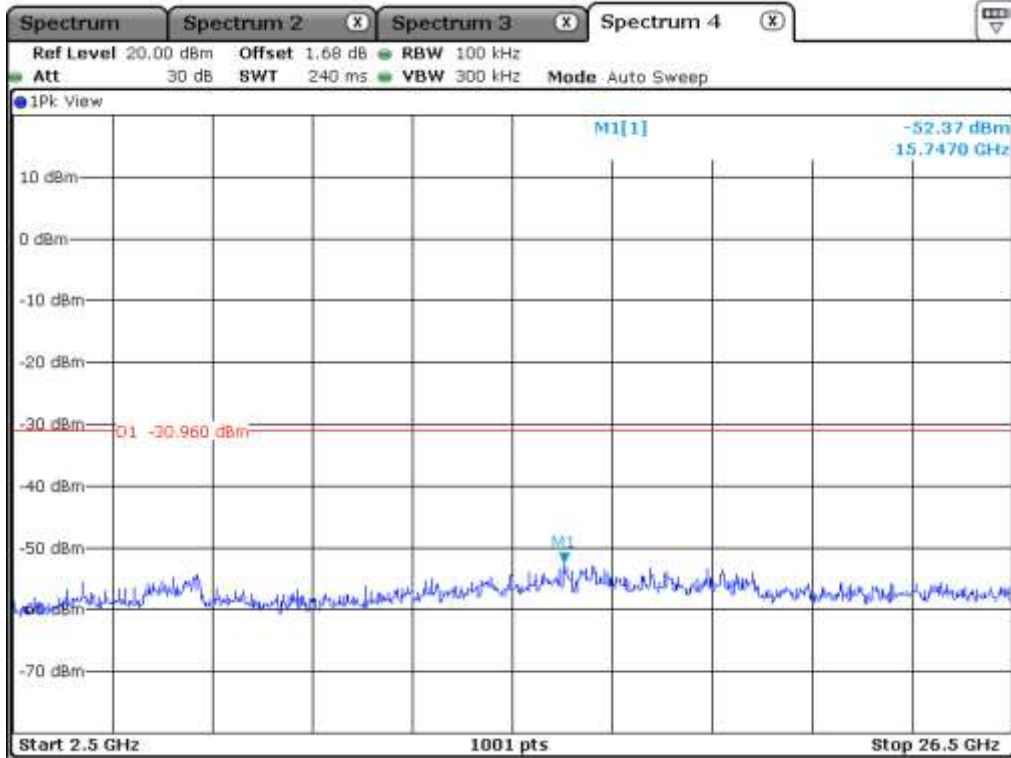


High Channel 12

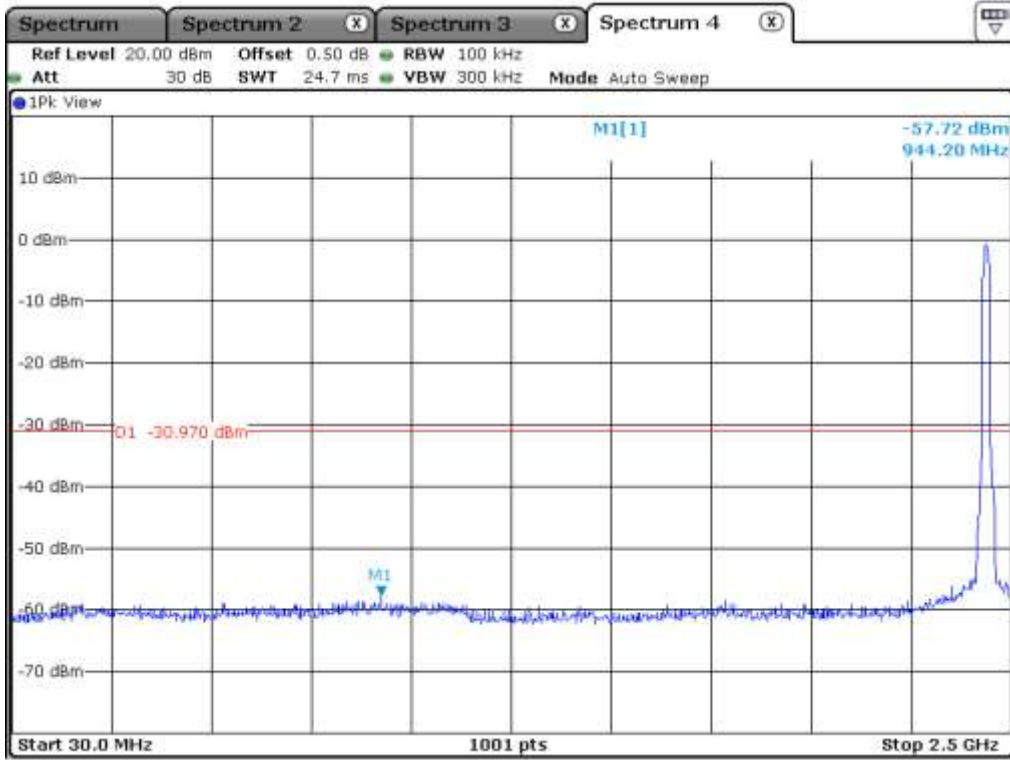




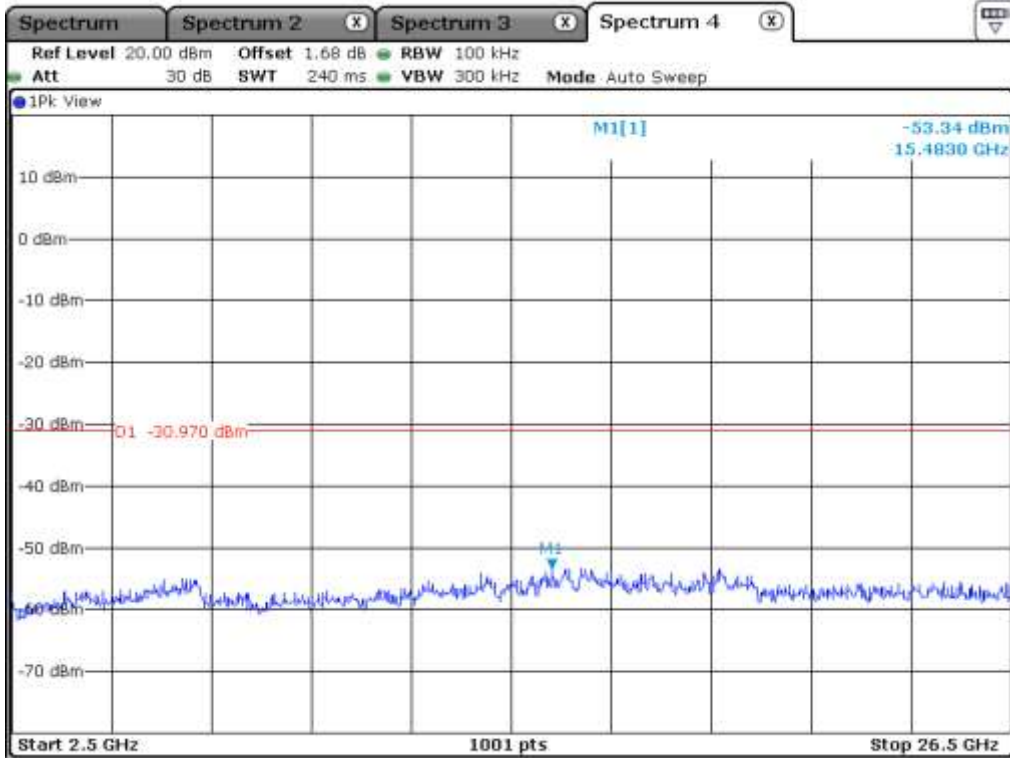
Low Channel



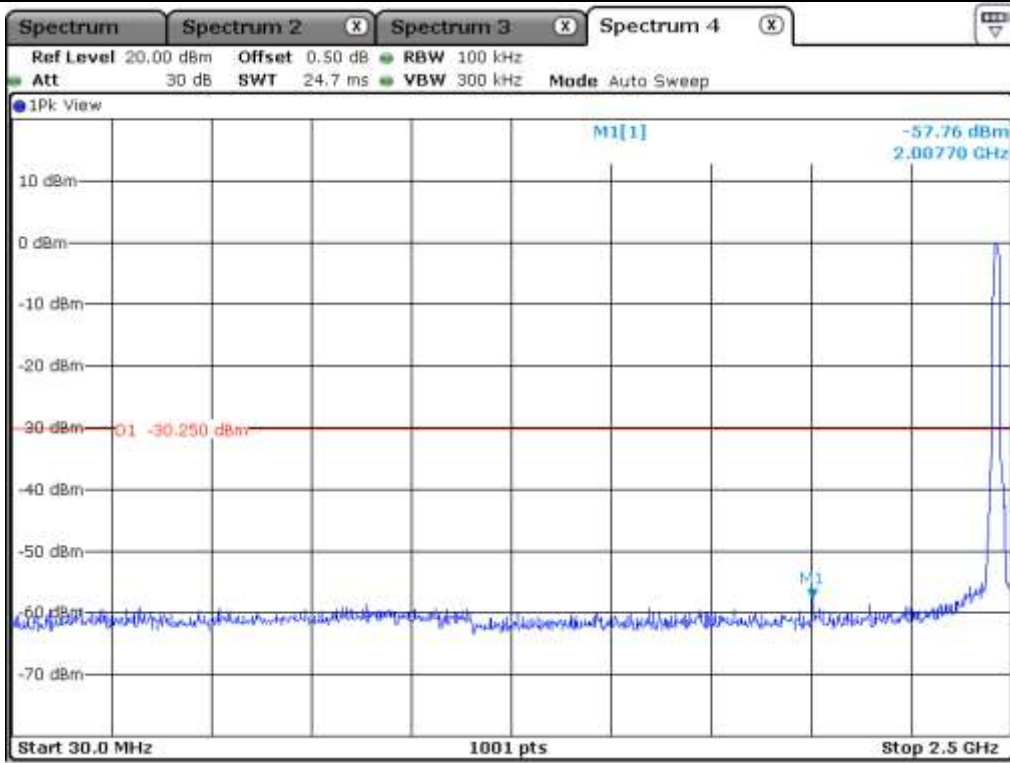
Low Channel



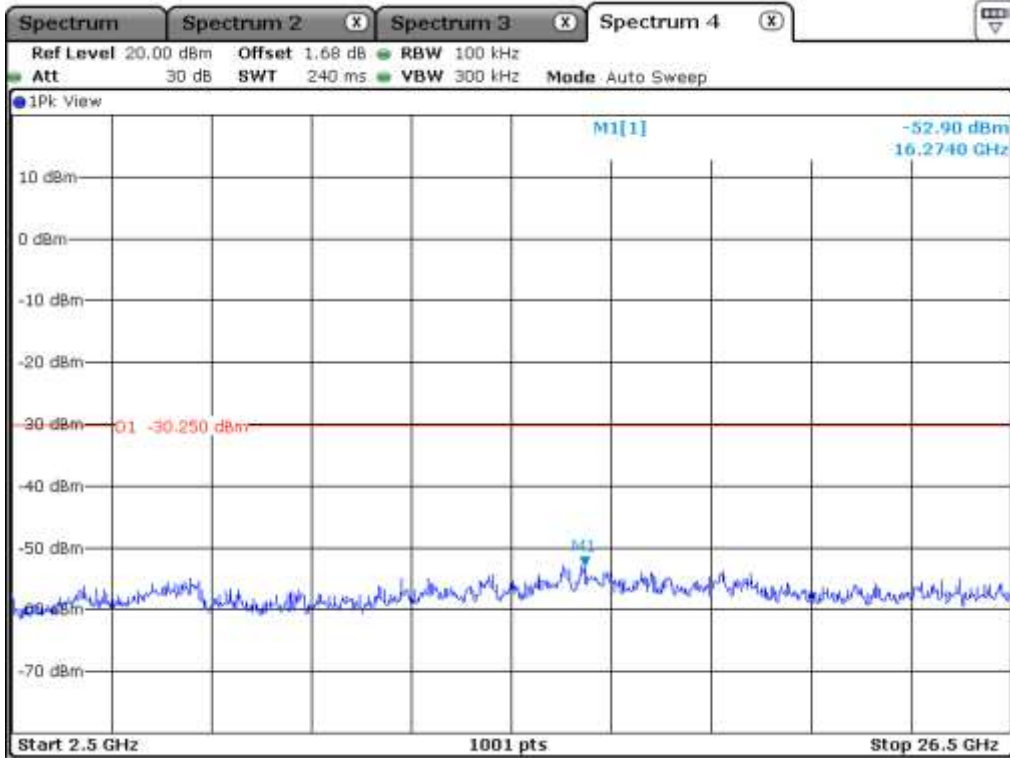
Middle Channel



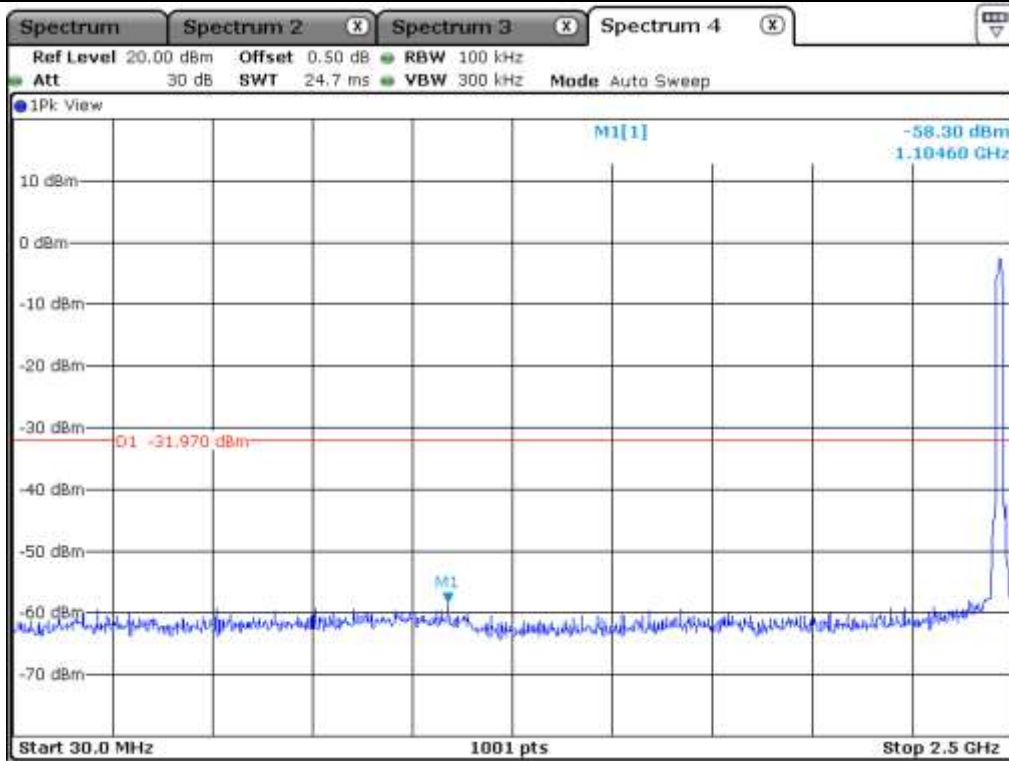
Middle Channel



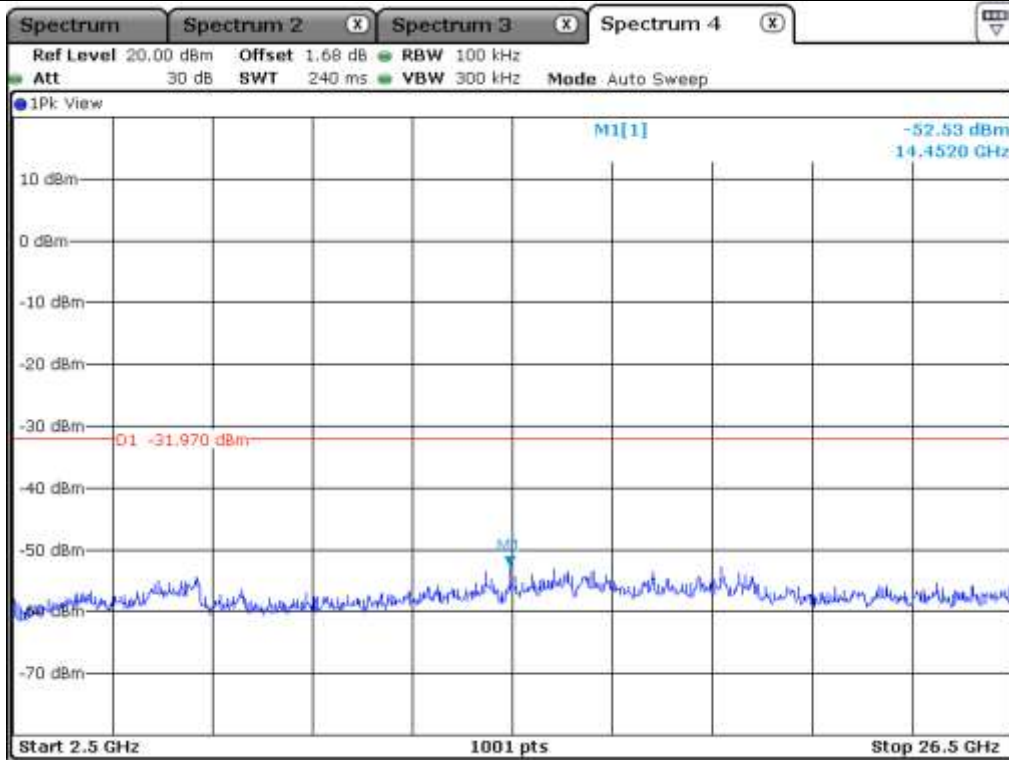
High Channel 11



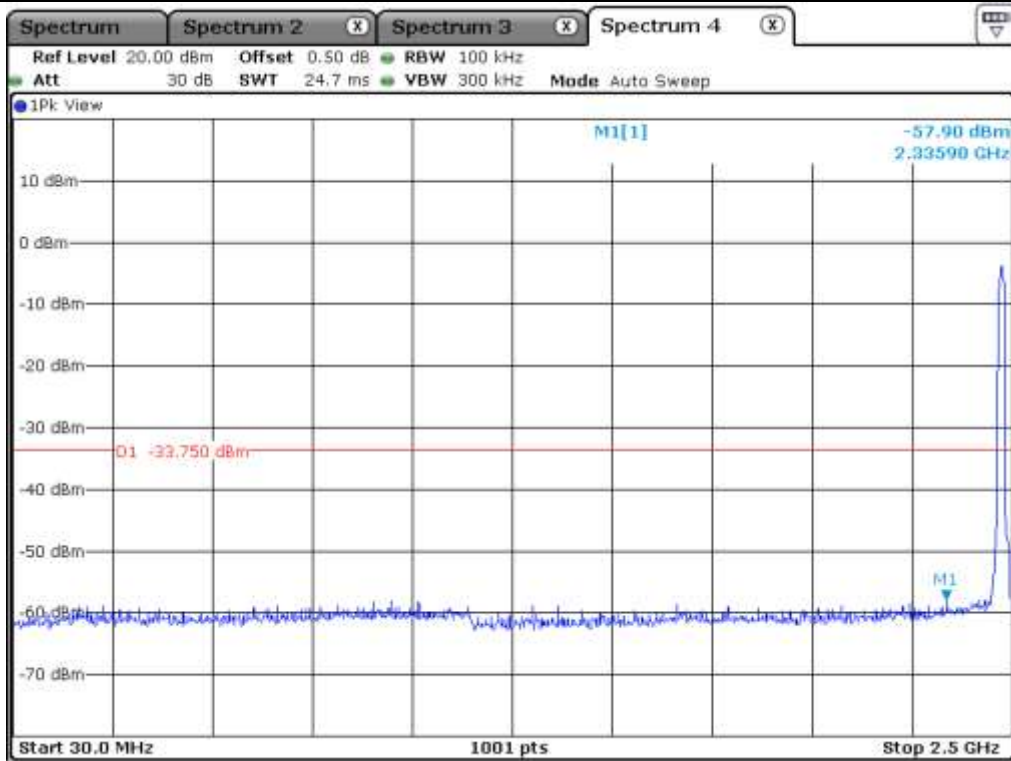
High Channel 11



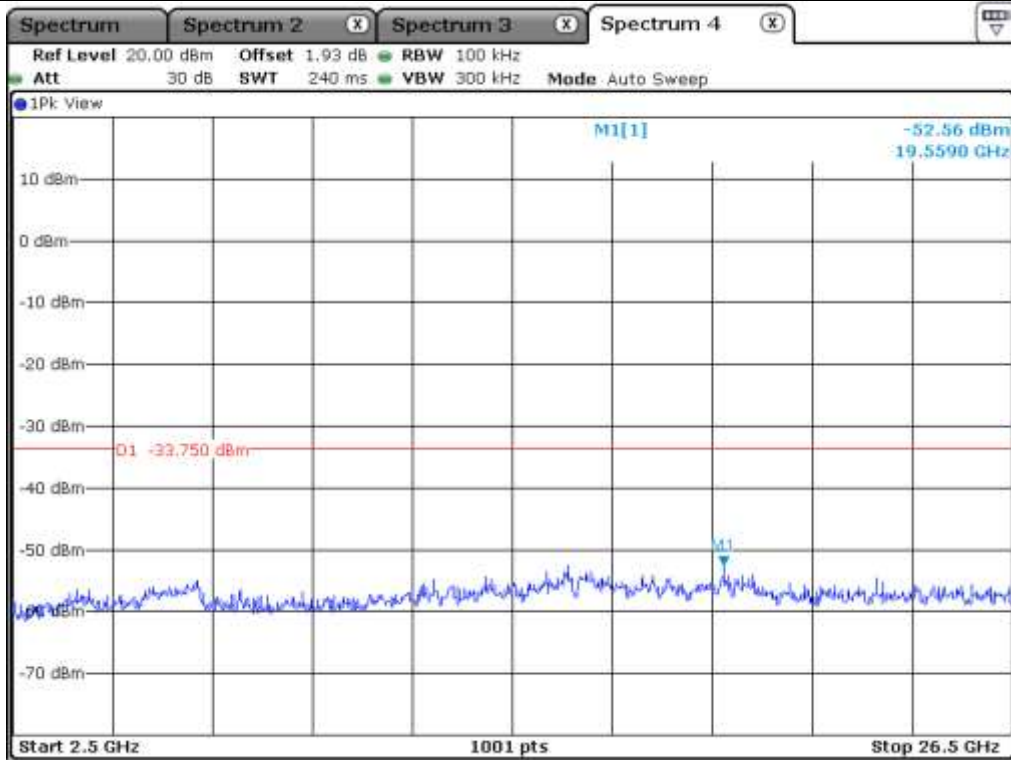
High Channel 12



High Channel 12

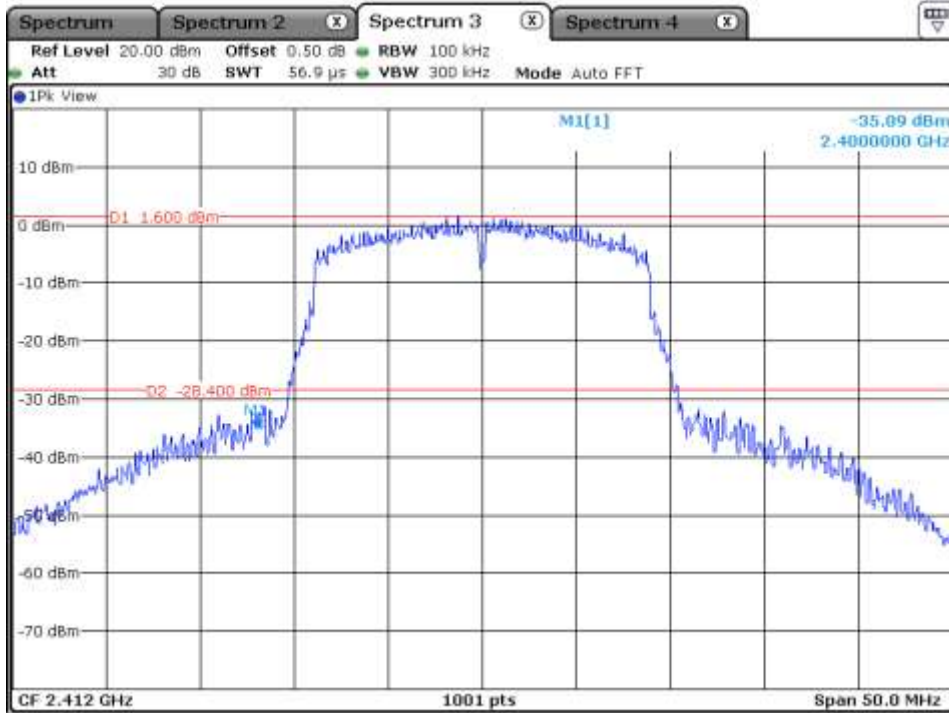


High Channel 13



High Channel 13

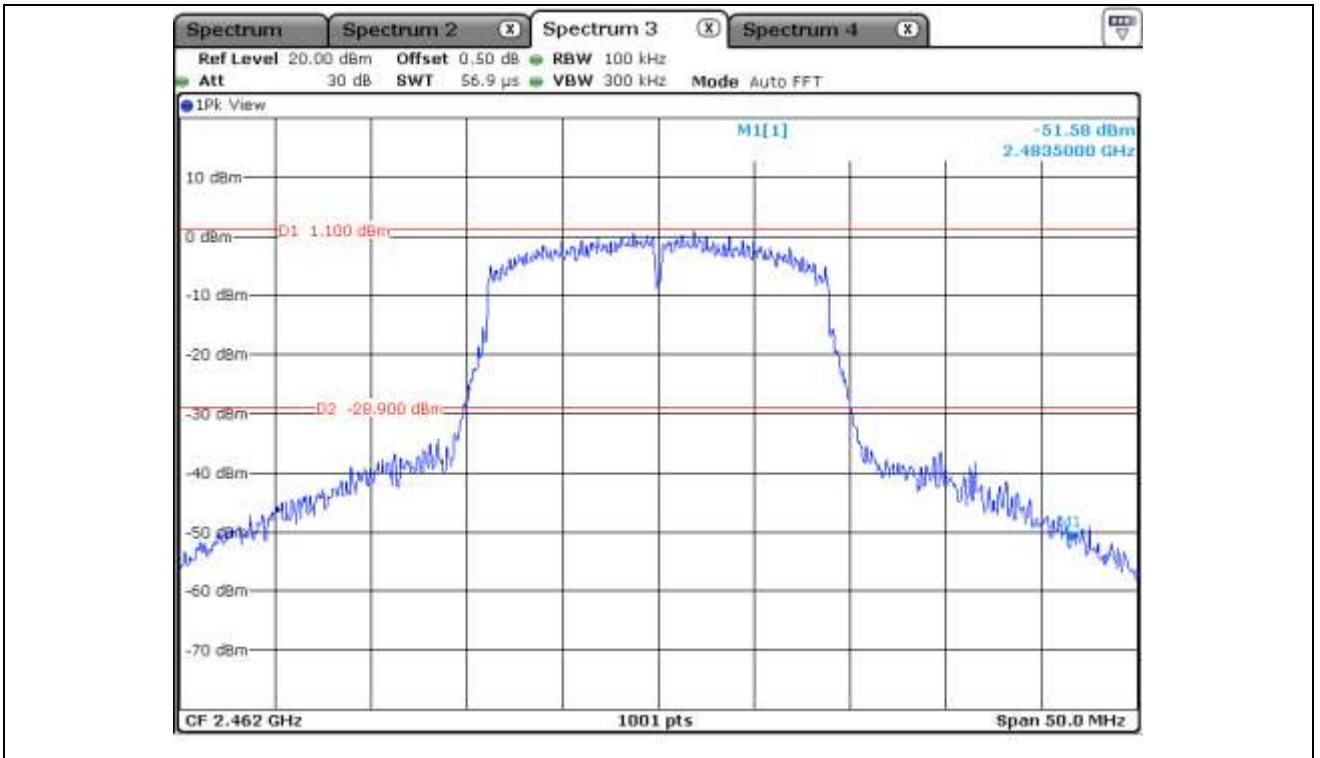
9.5.3.2 Test data for Antenna 1



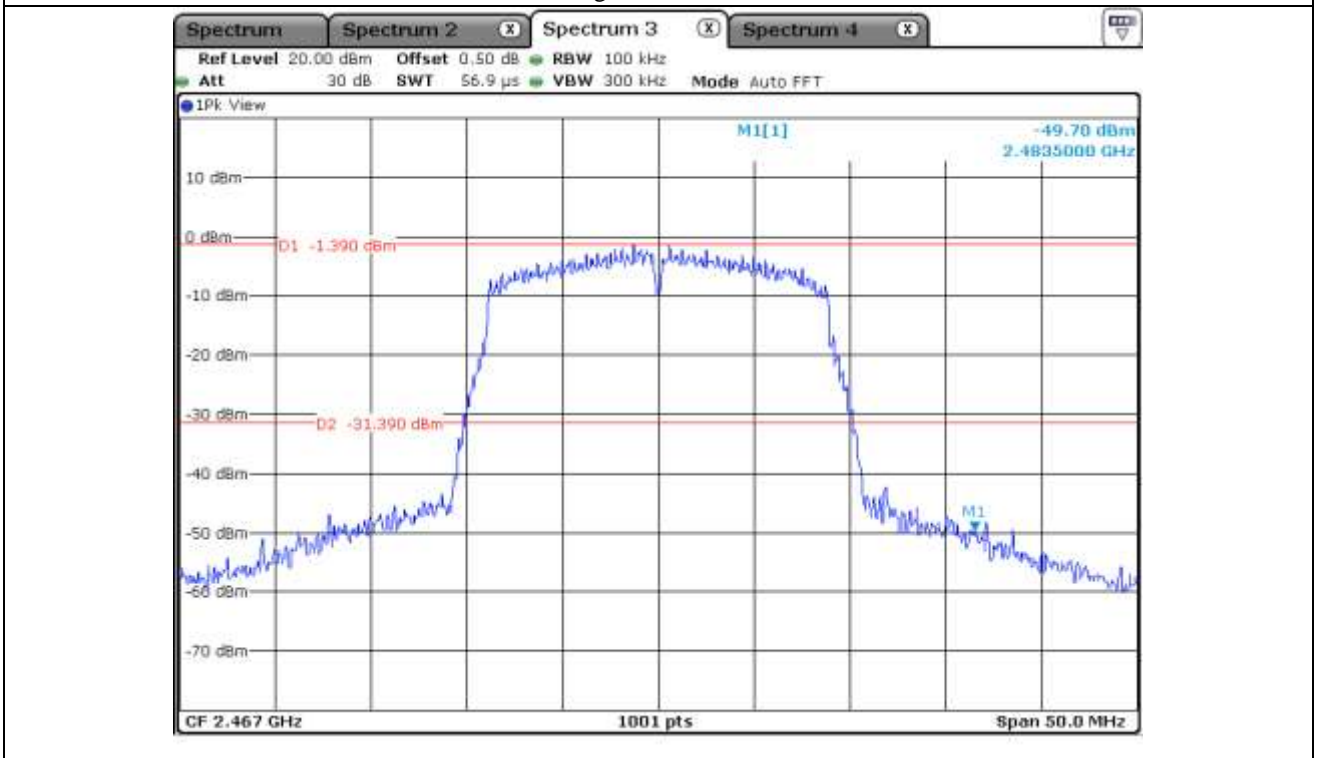
Low Channel



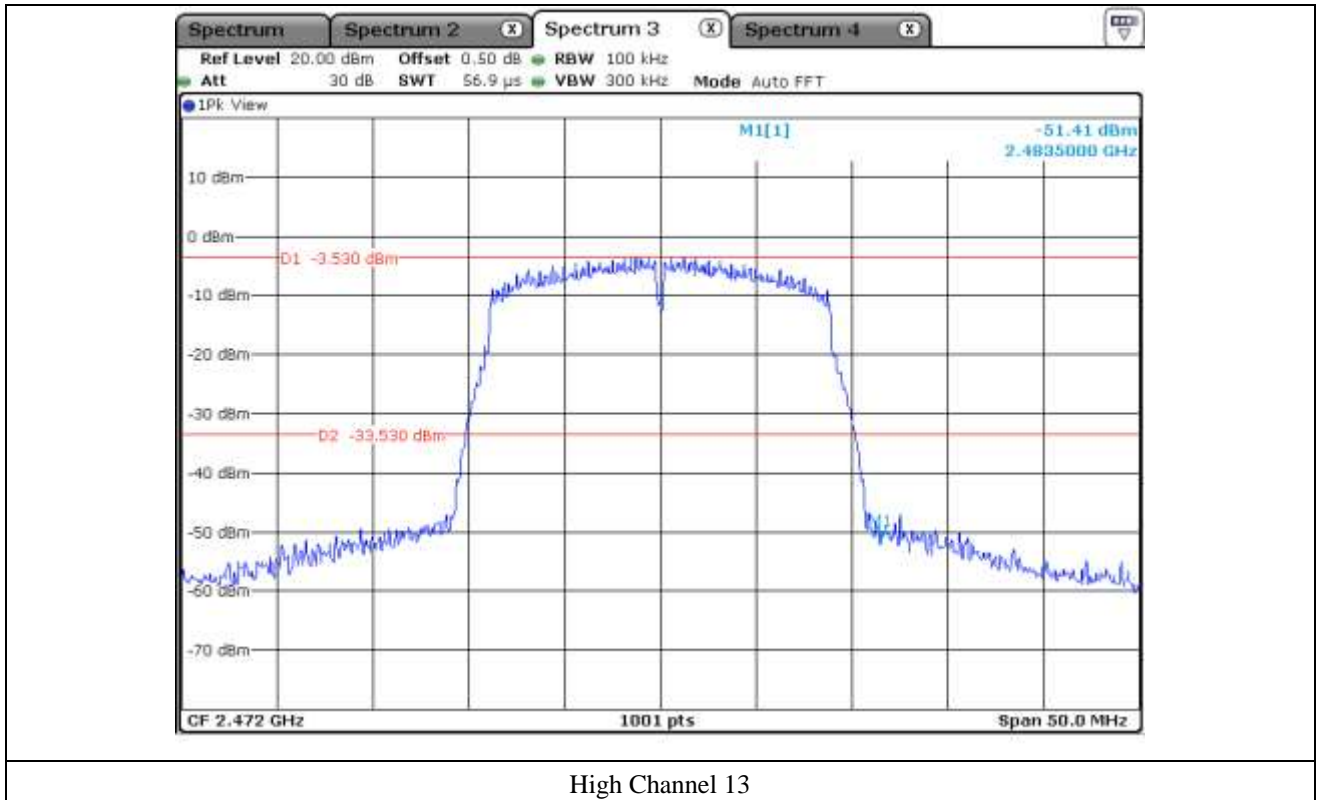
Middle Channel

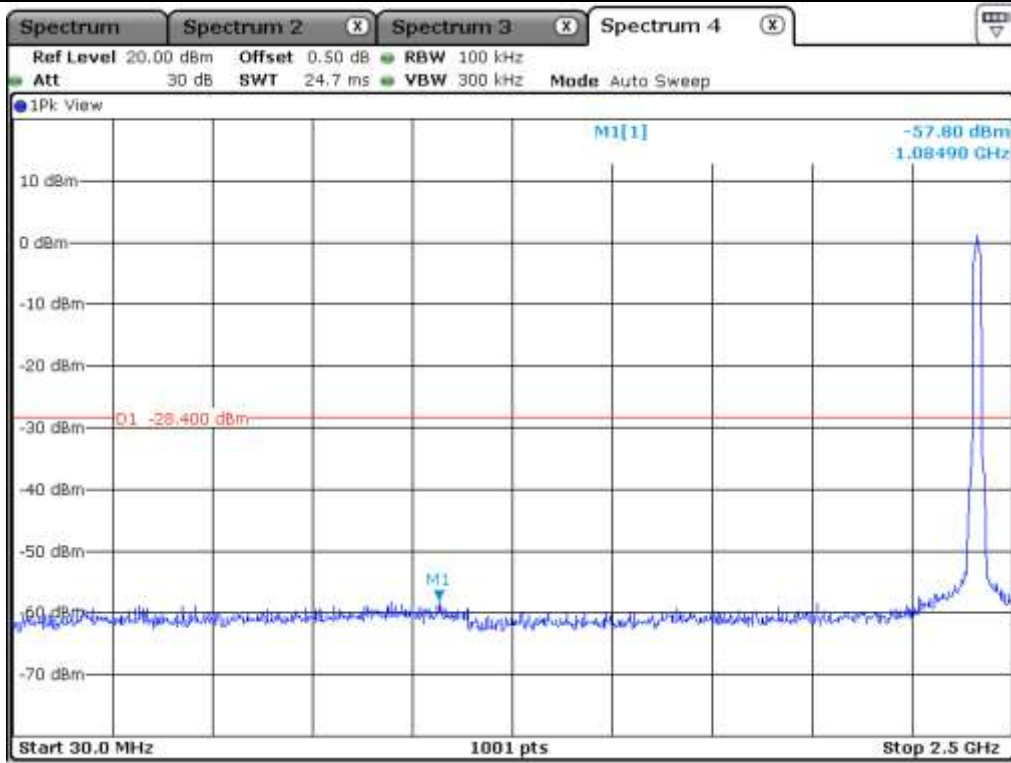


High Channel 11

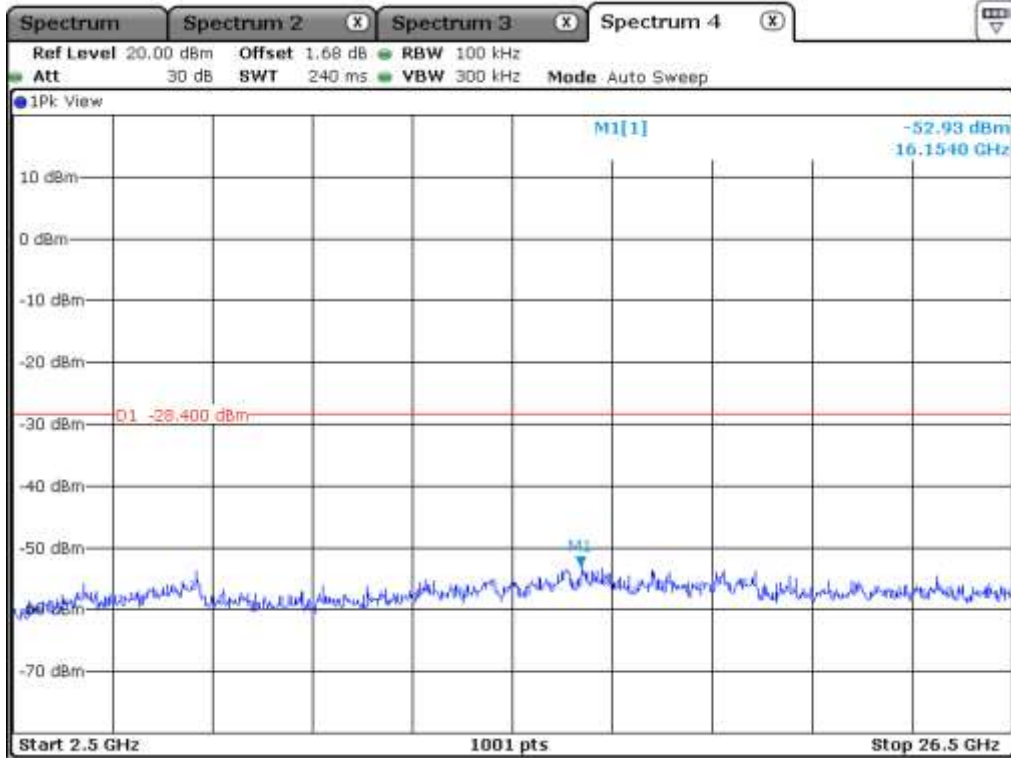


High Channel 12

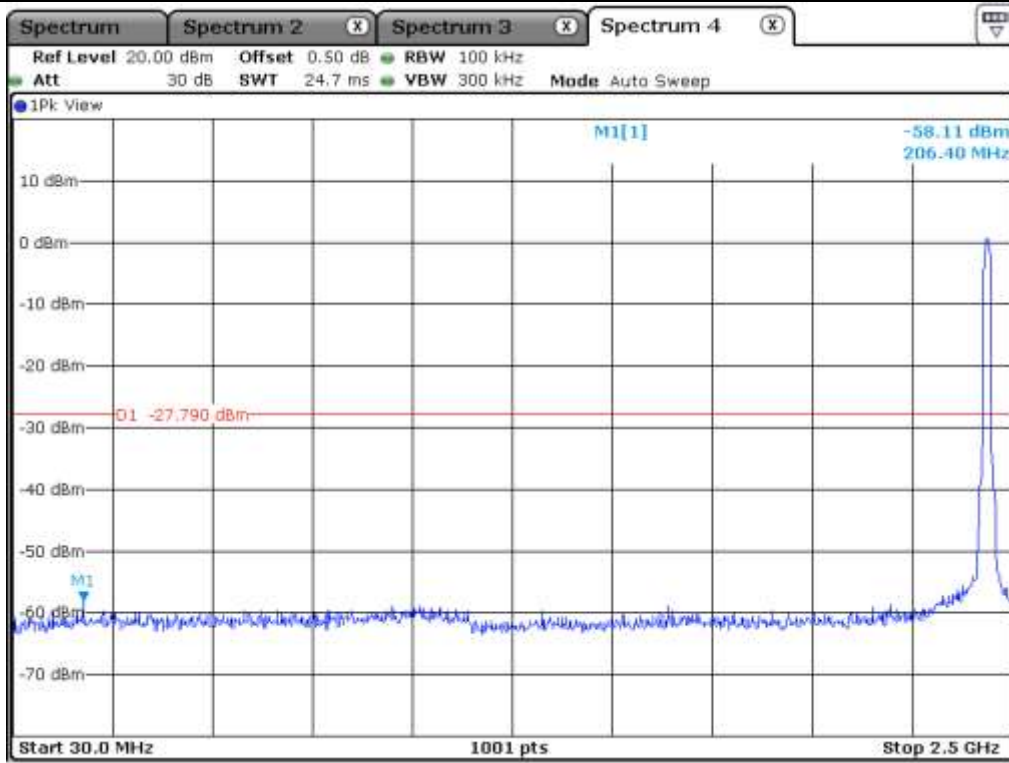




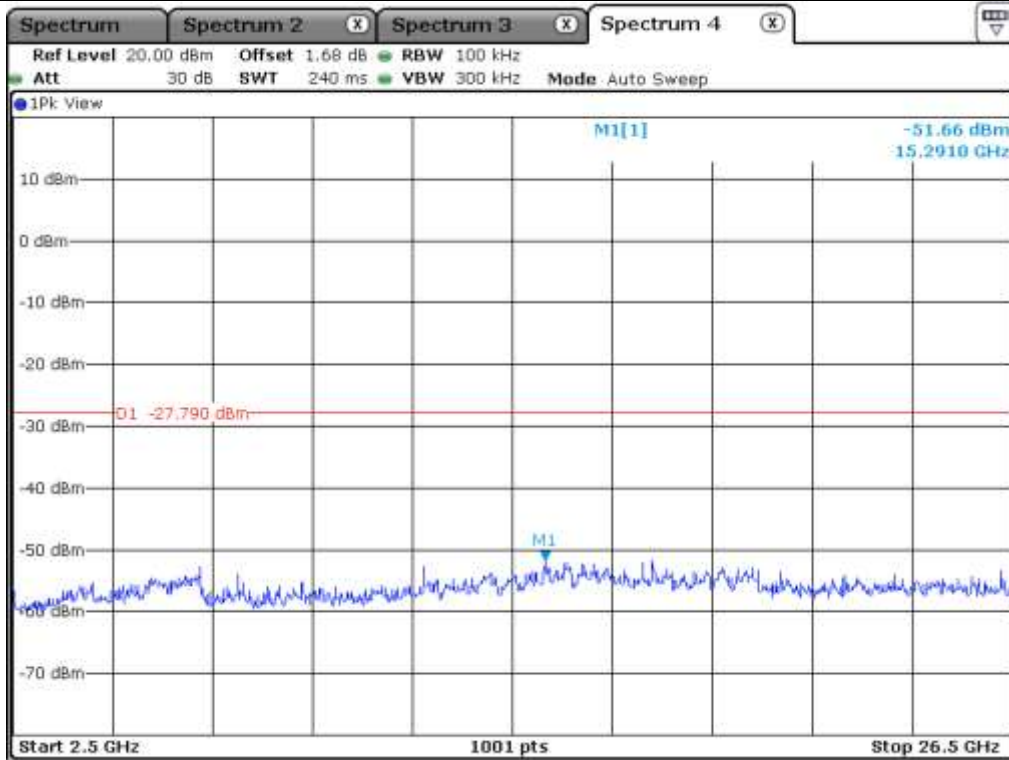
Low Channel



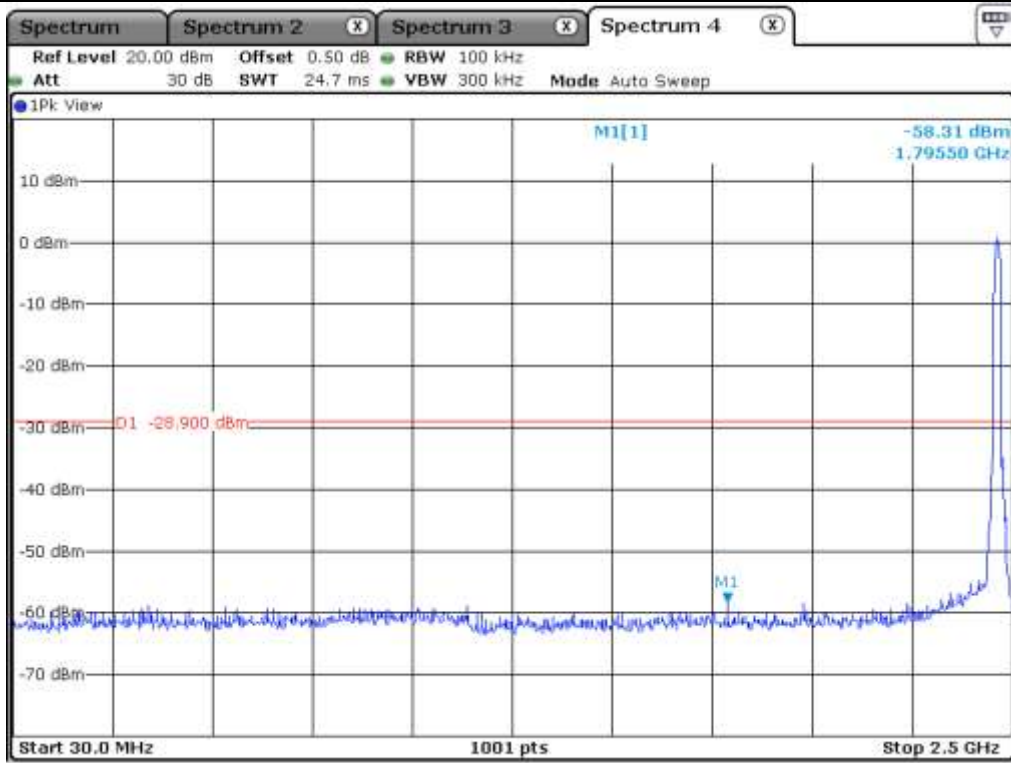
Low Channel



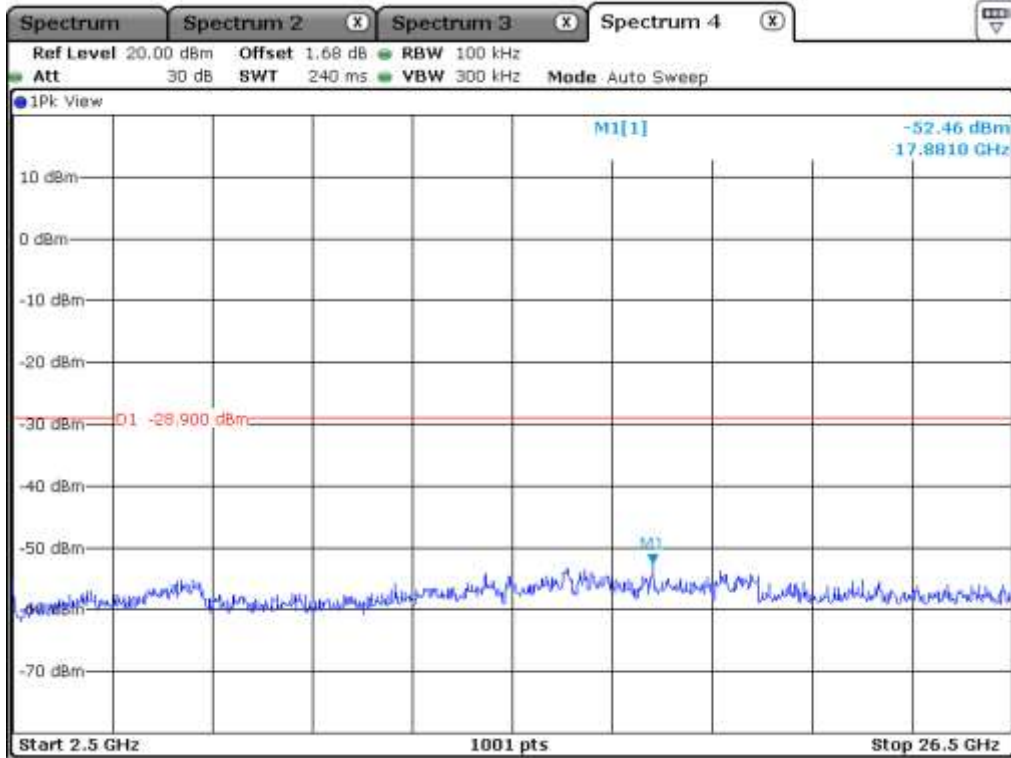
Middle Channel



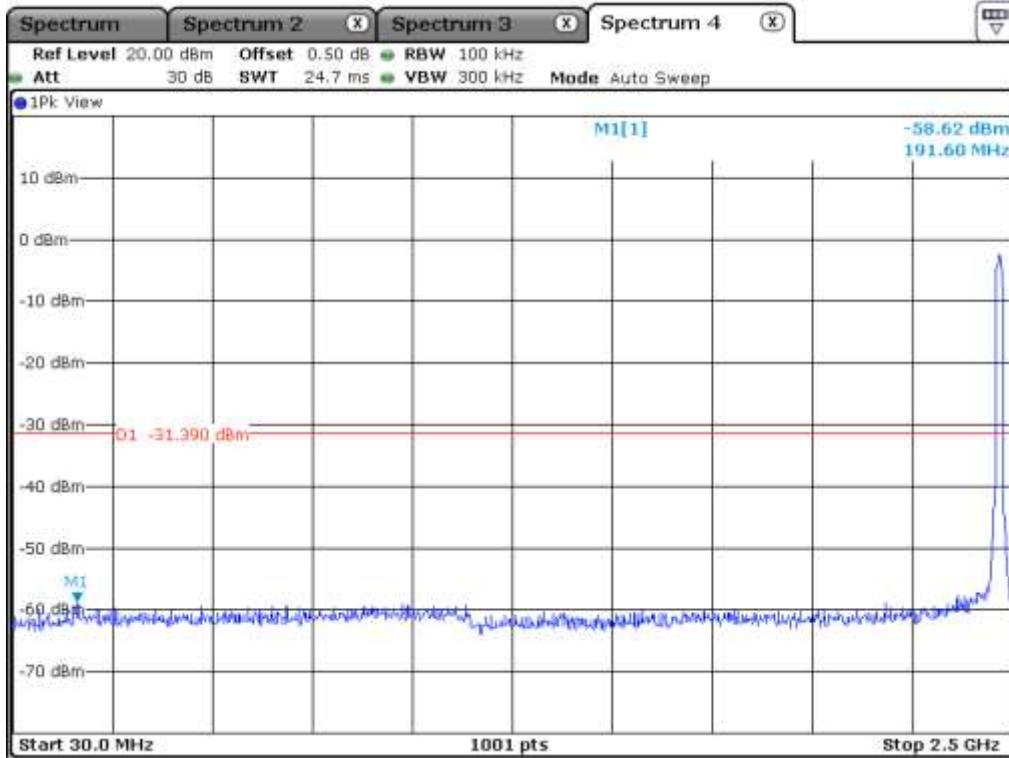
Middle Channel



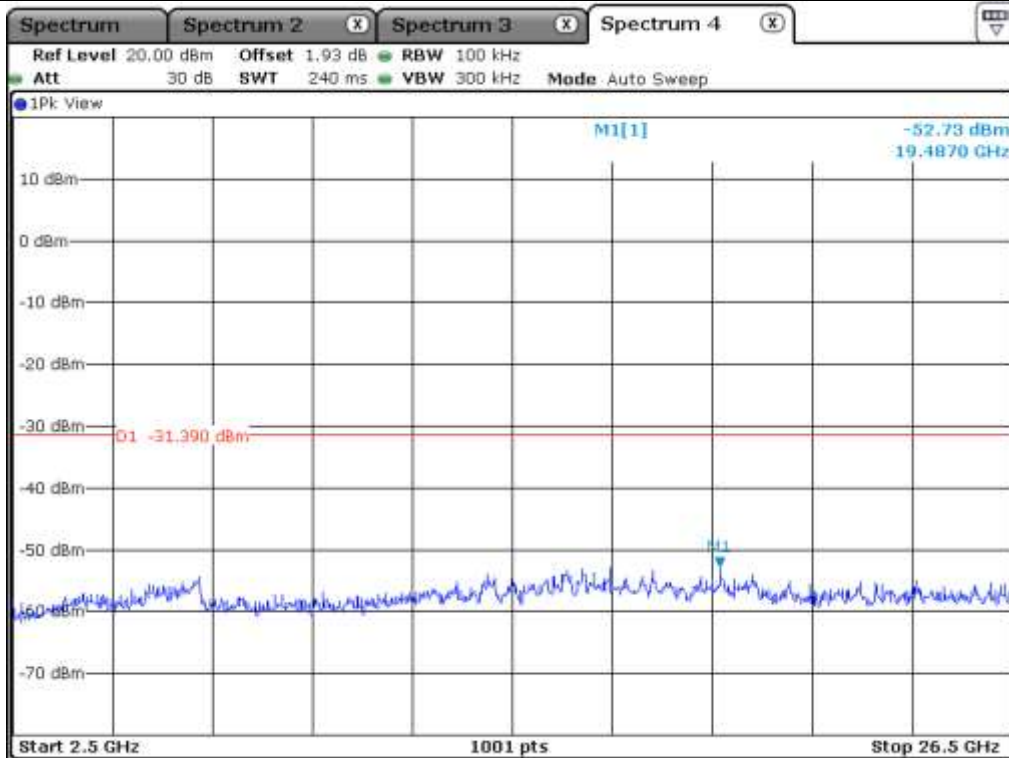
High Channel 11



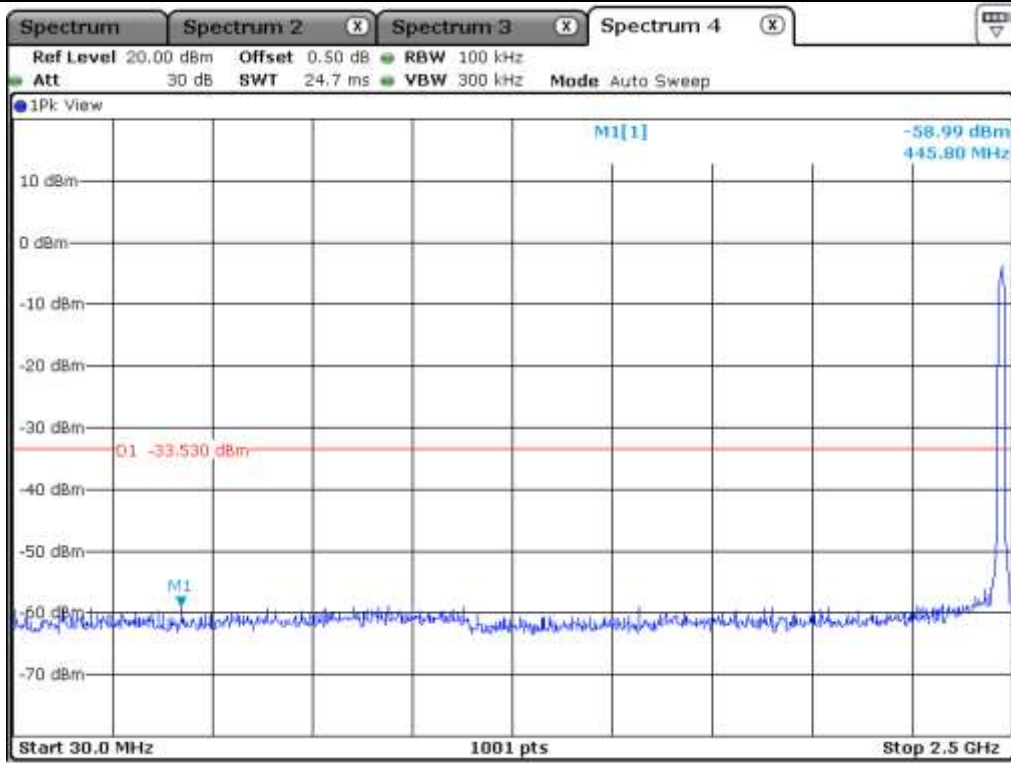
High Channel 11



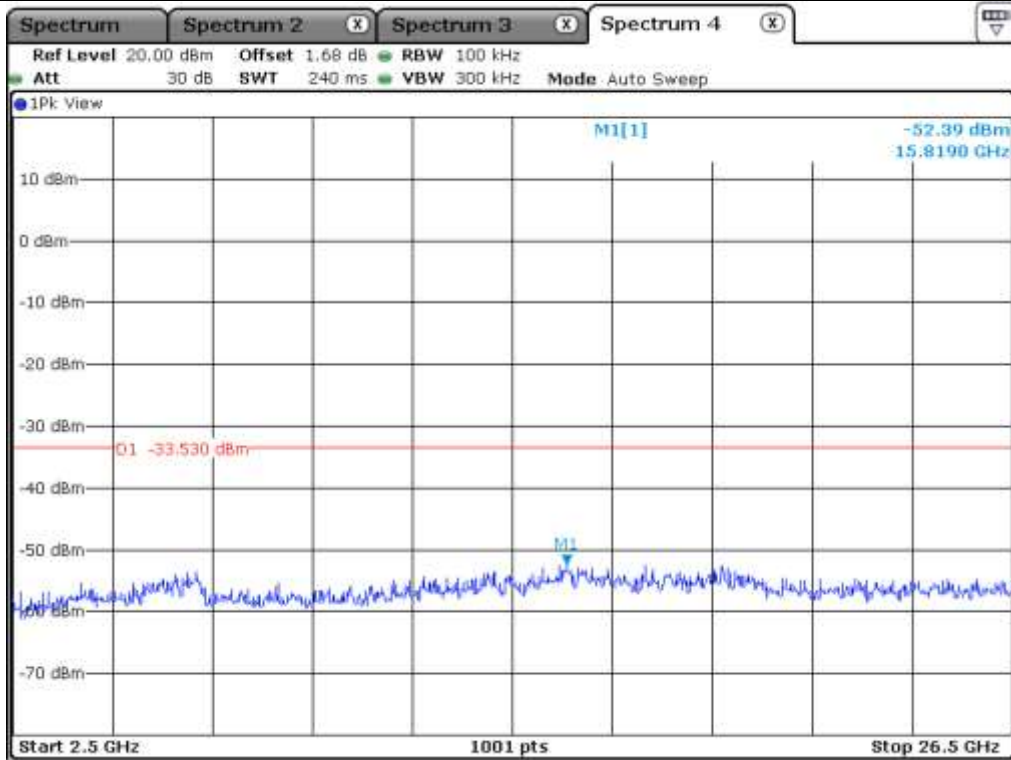
High Channel 12



High Channel 12



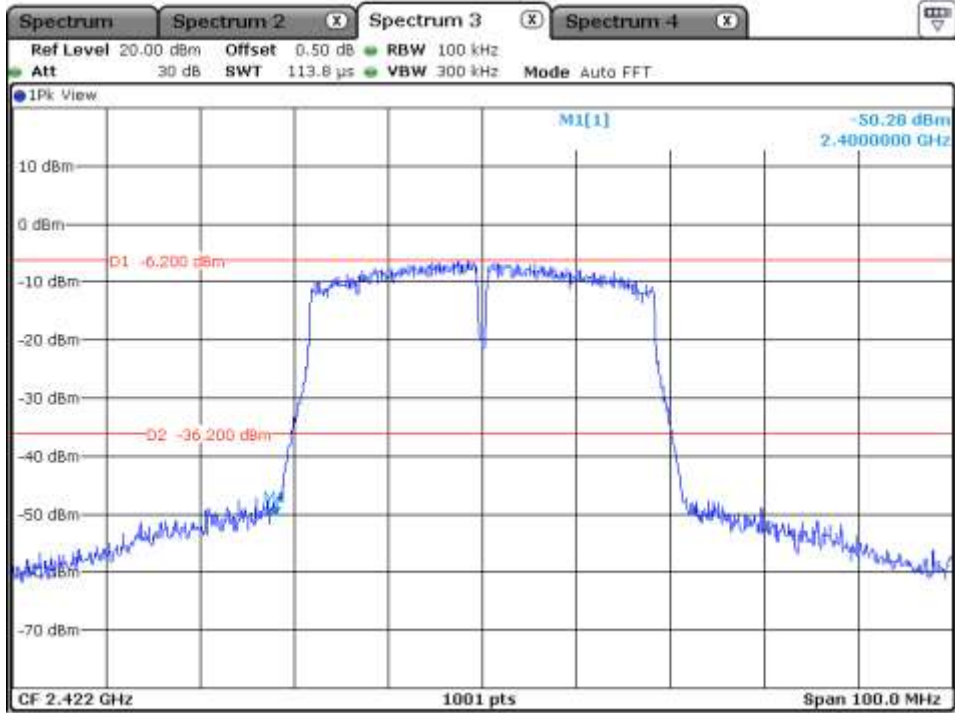
High Channel 13



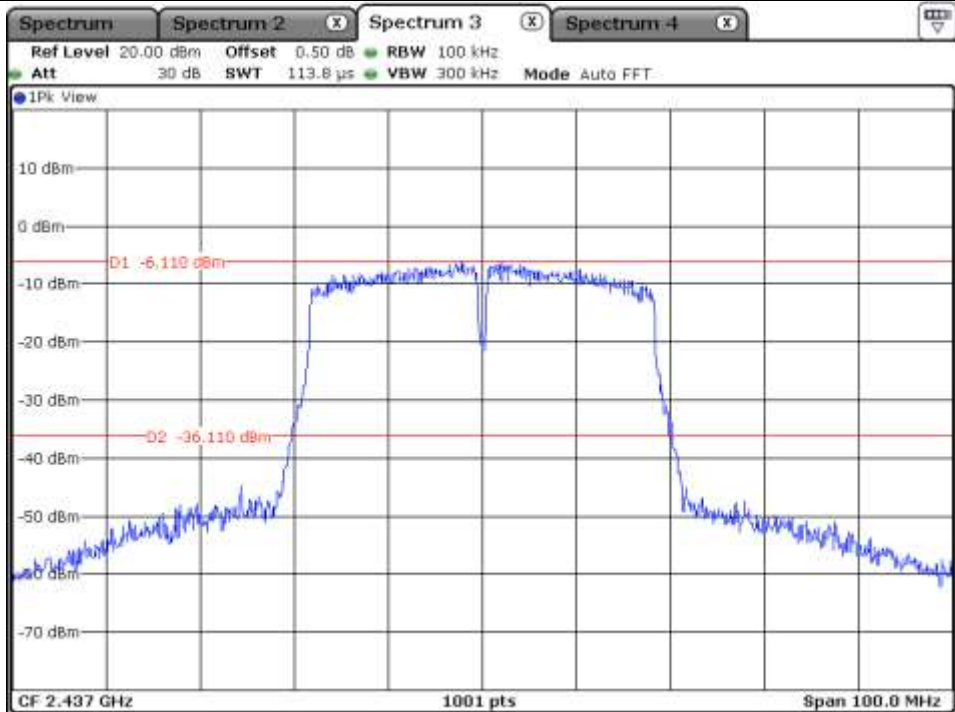
High Channel 13

9.5.4 Test data for 802.11n_HT40 WLAN Mode

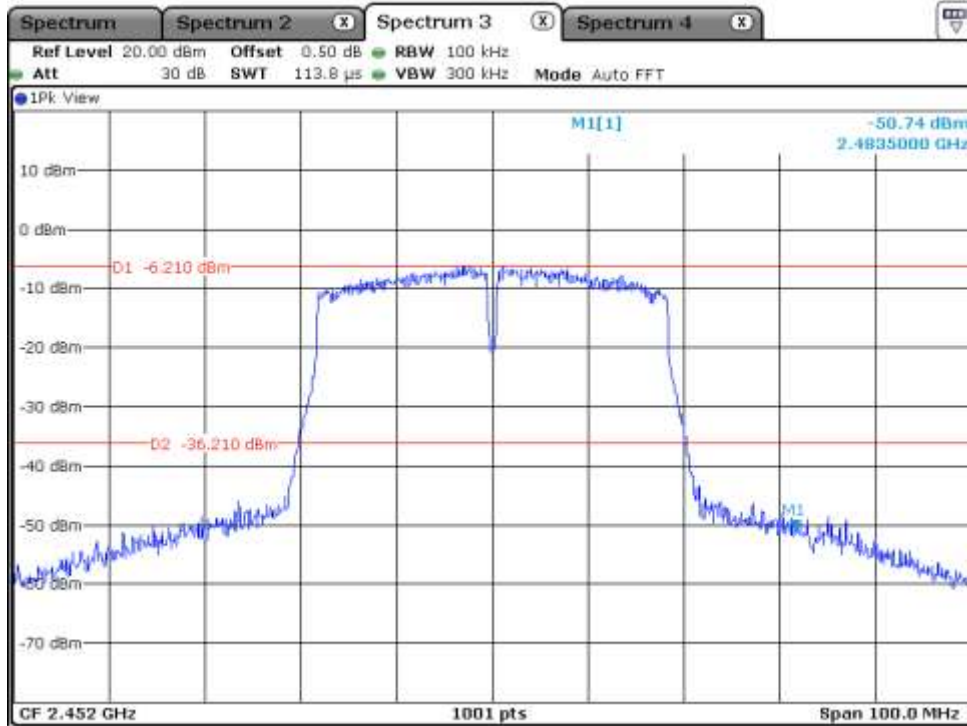
9.5.4.1 Test data for Antenna 0



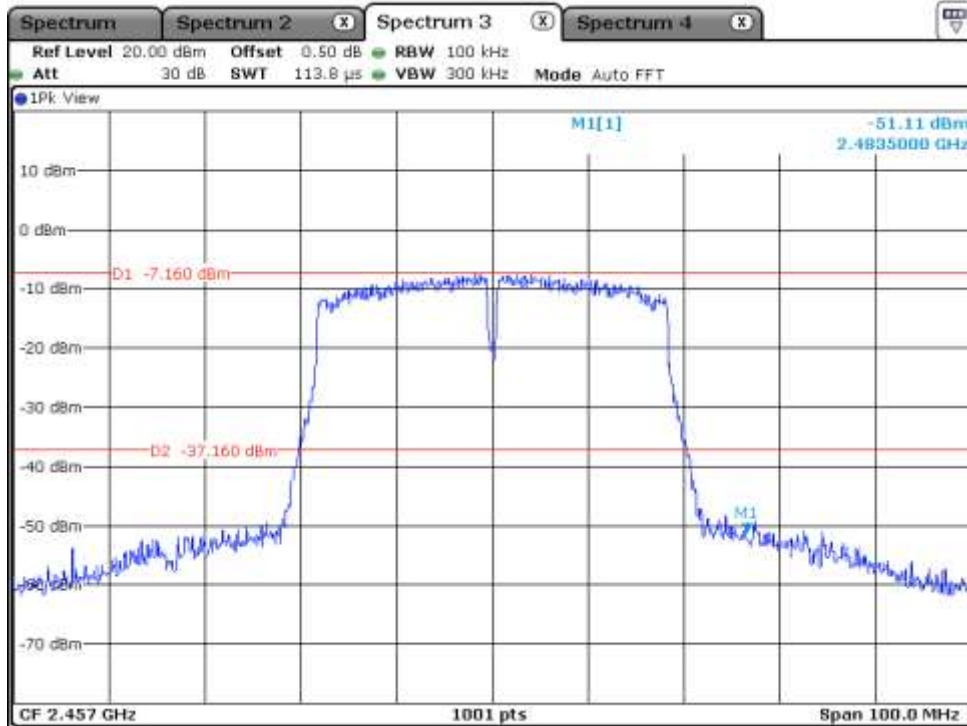
Low Channel



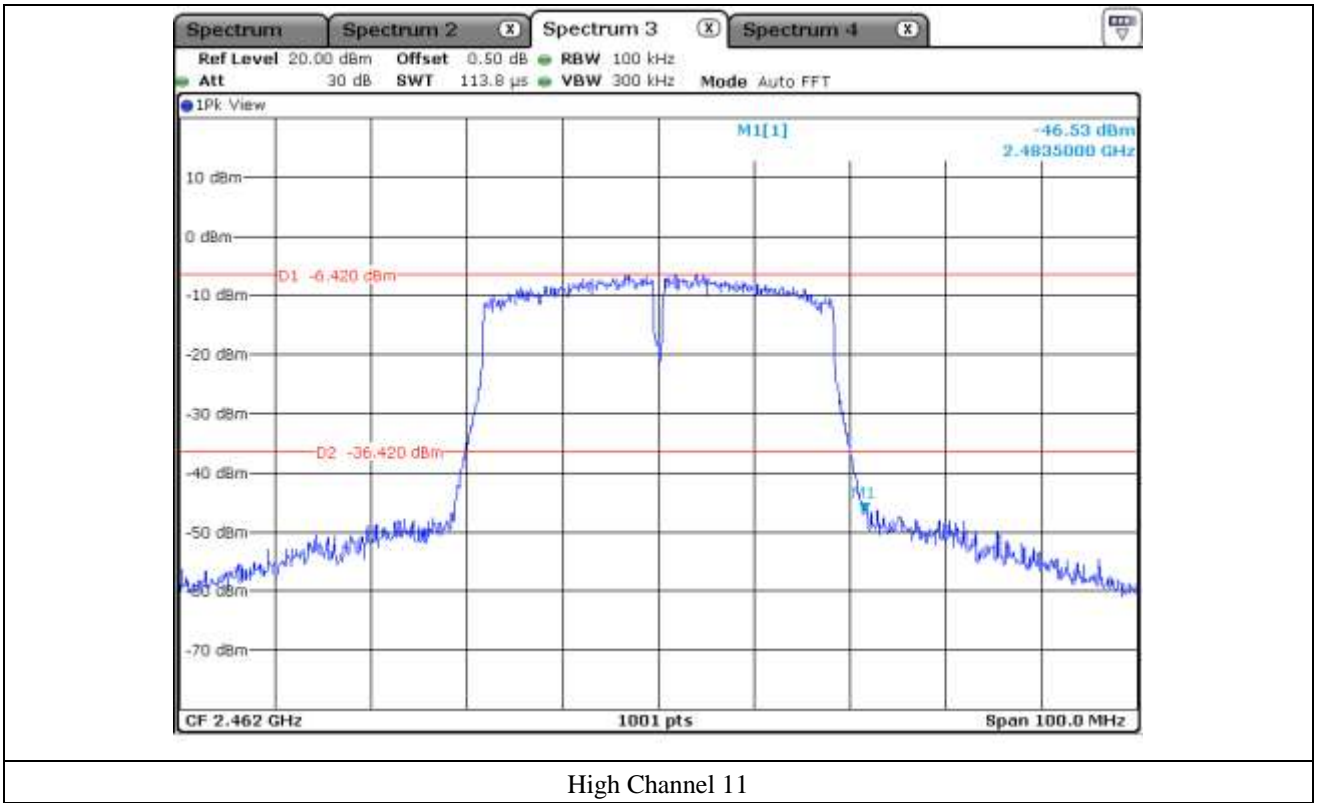
Middle Channel

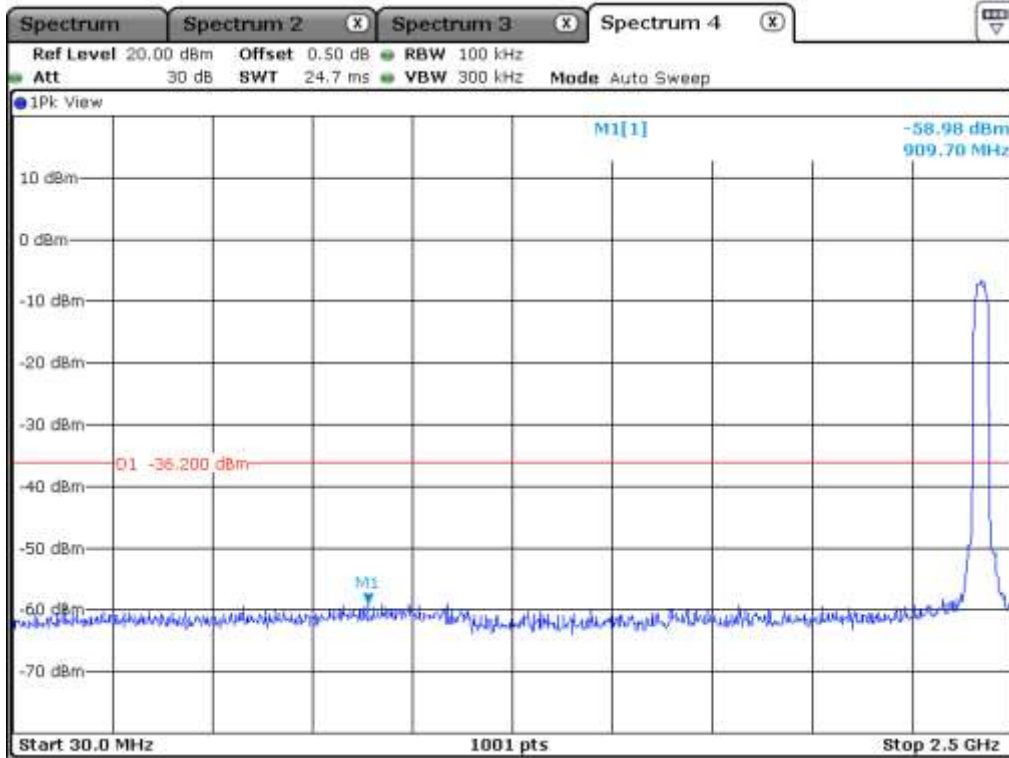


High Channel 9

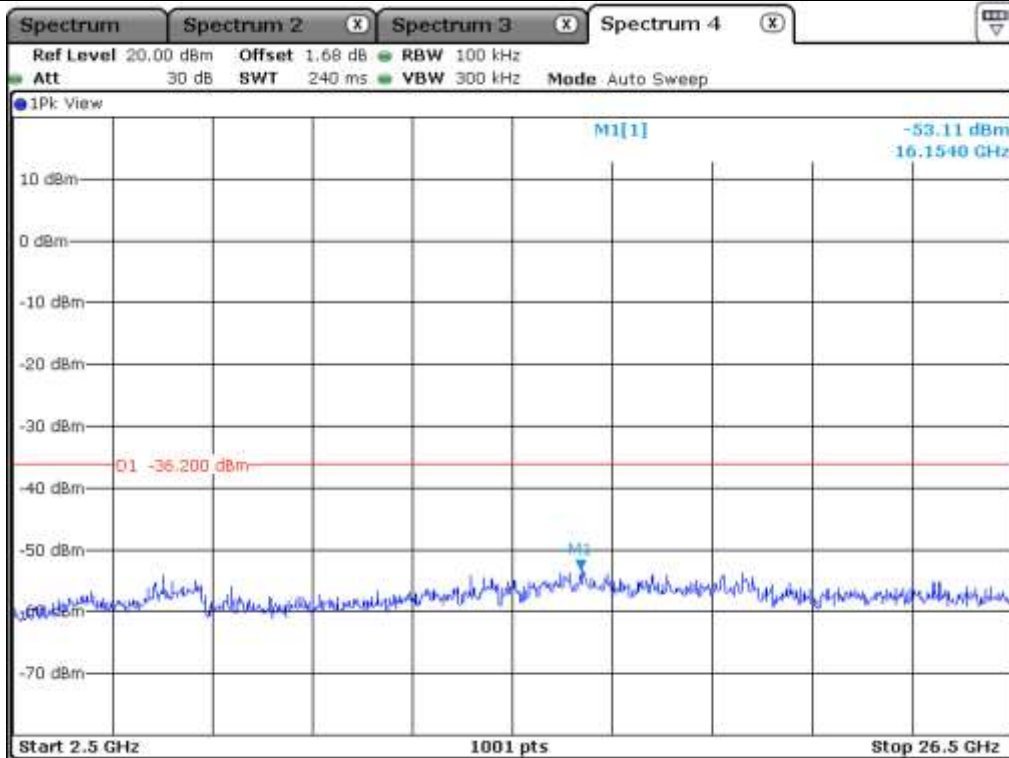


High Channel 10

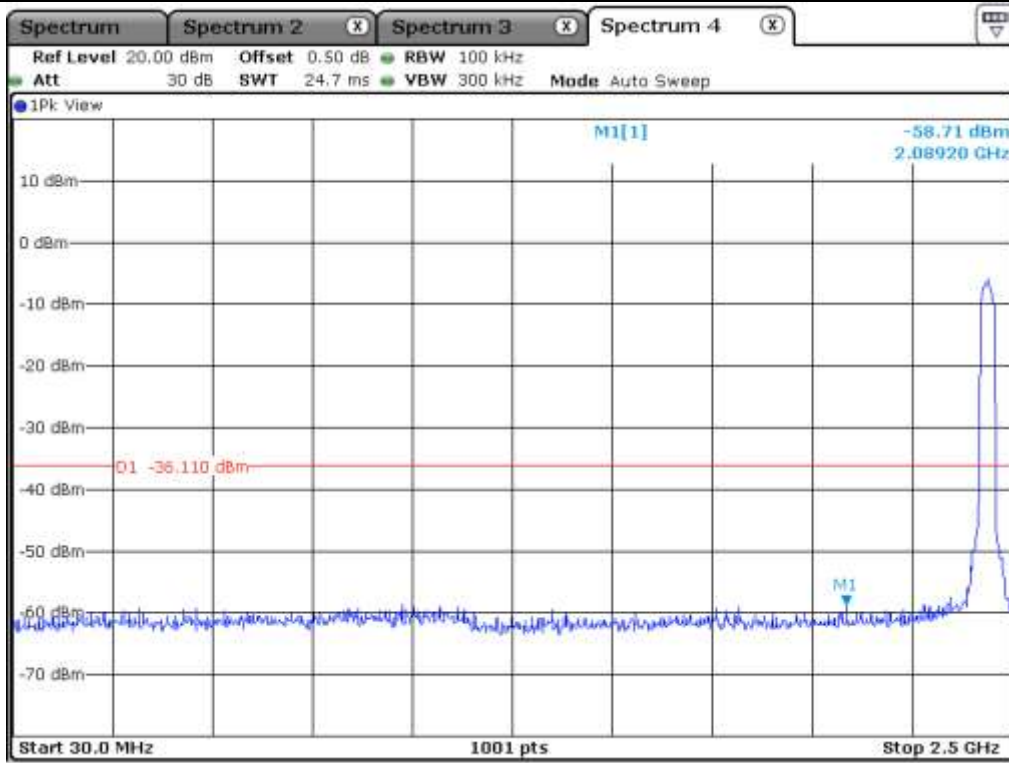




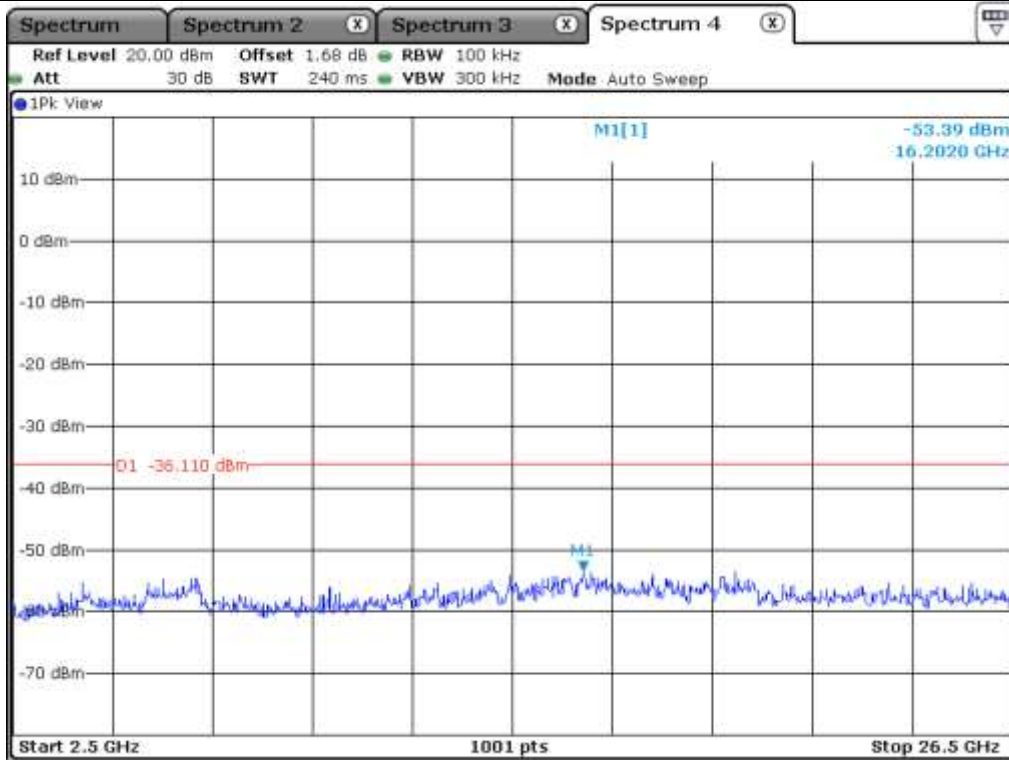
Low Channel



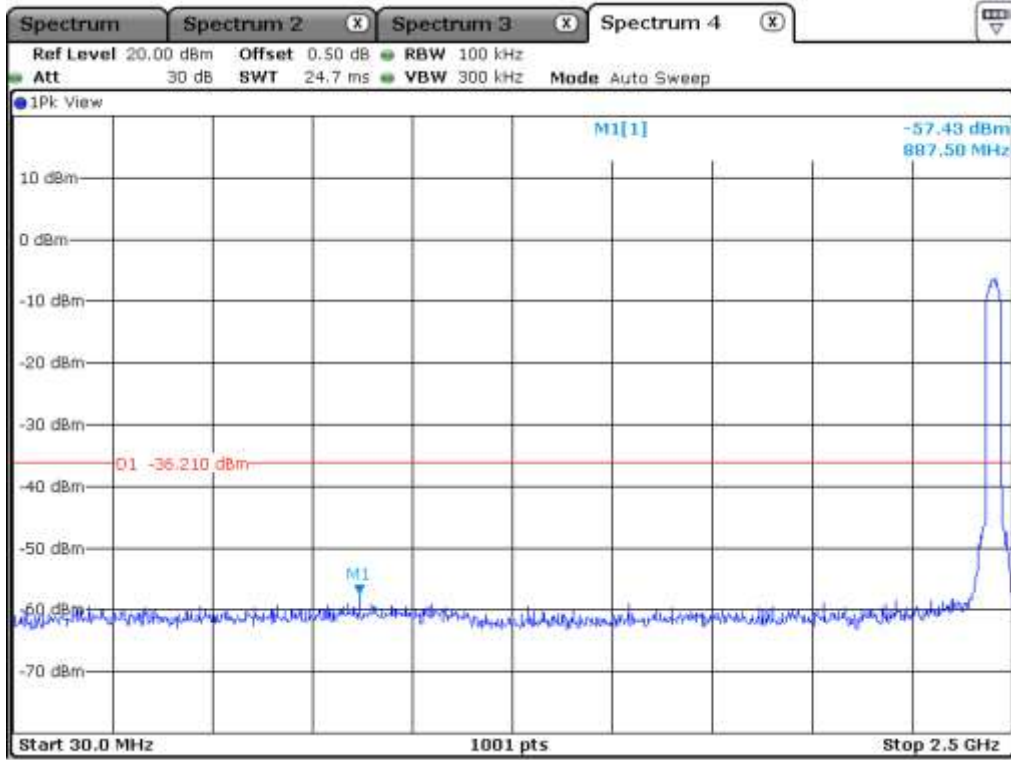
Low Channel



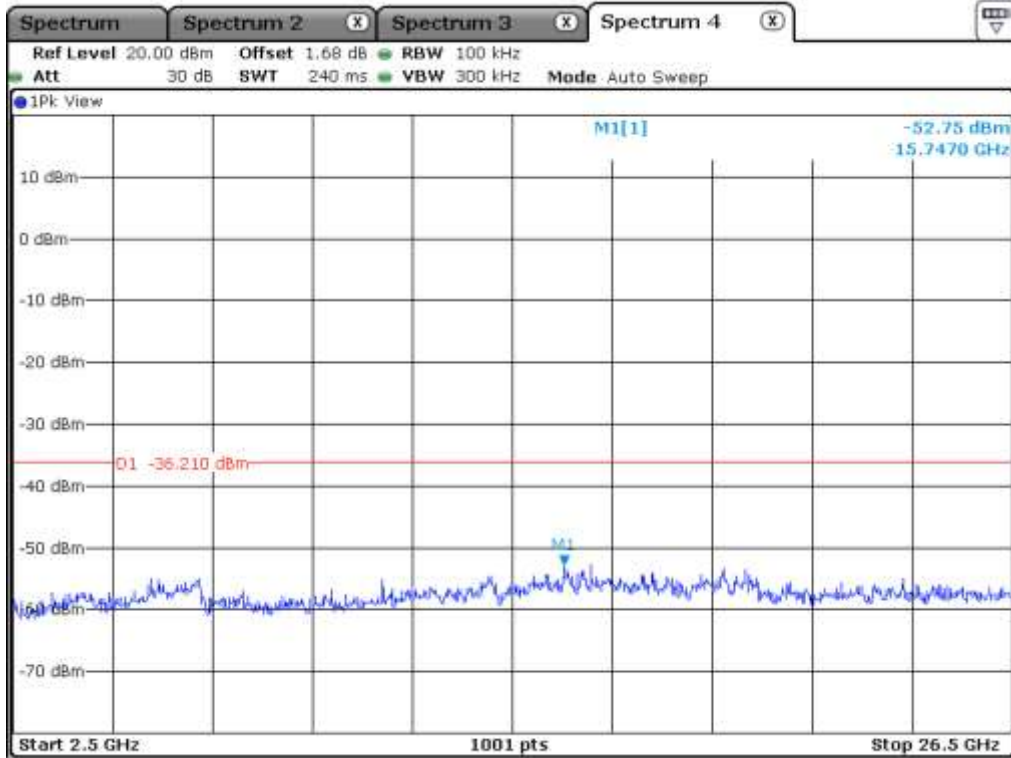
Middle Channel



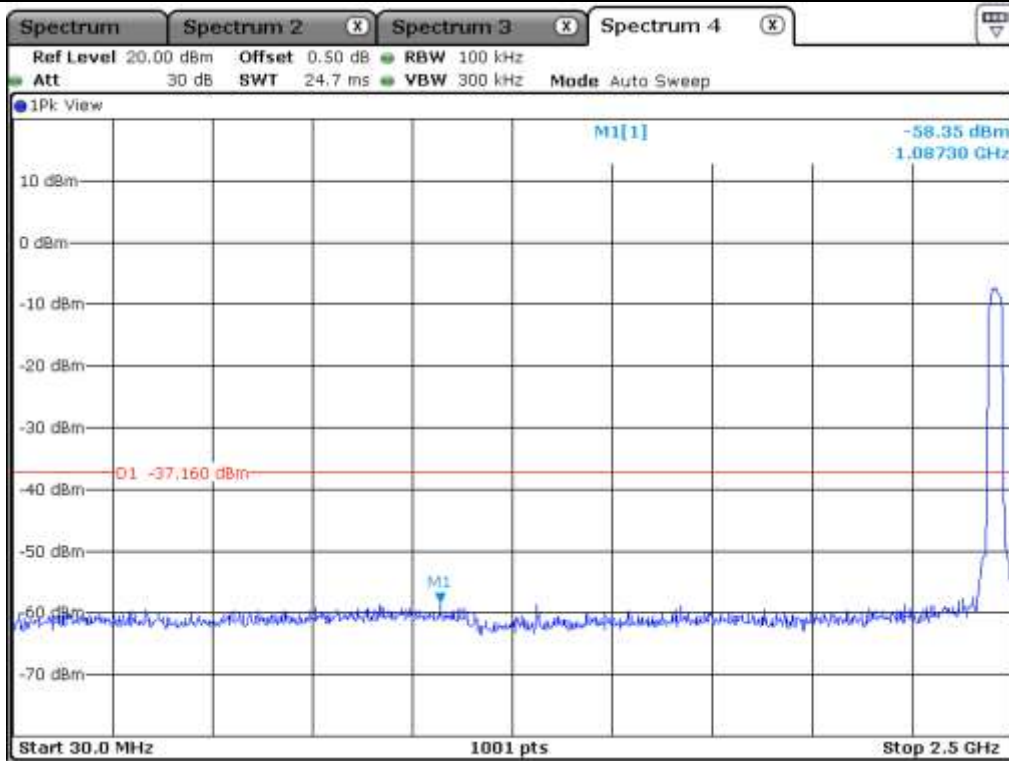
Middle Channel



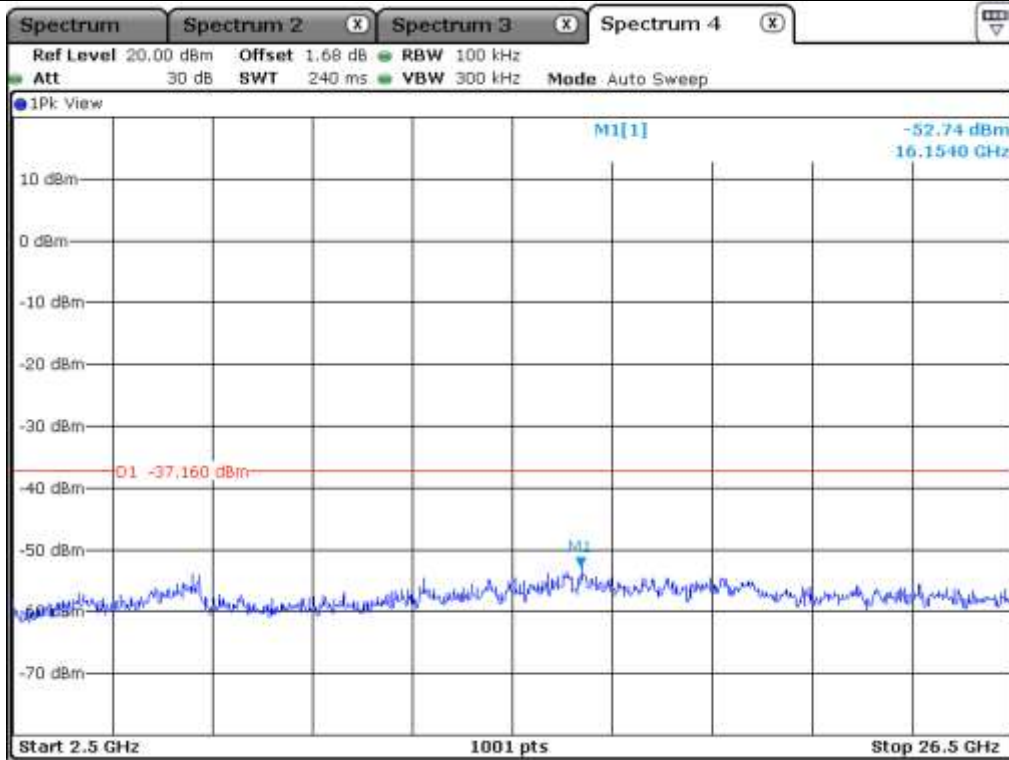
High Channel 9



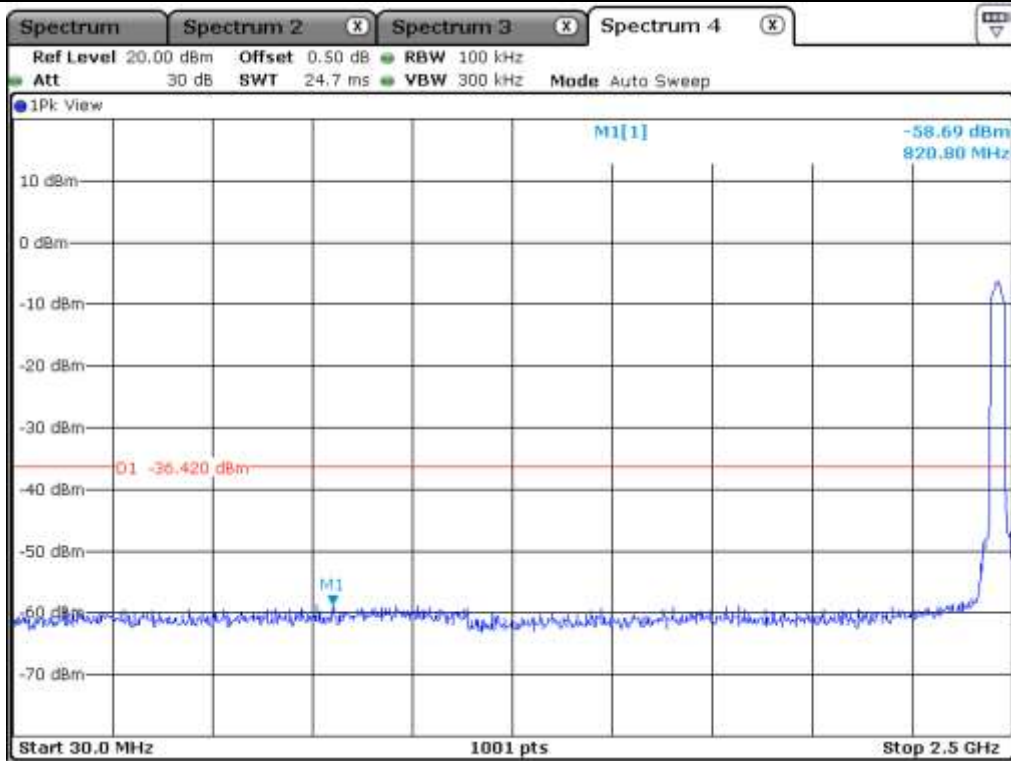
High Channel 9



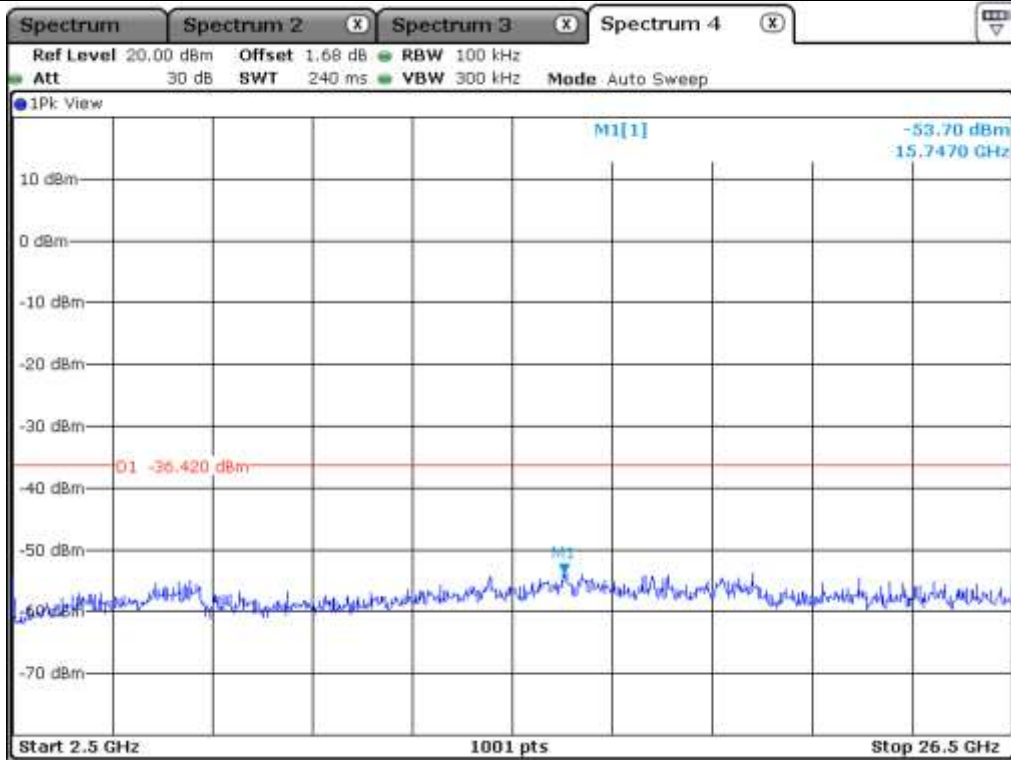
High Channel 10



High Channel 10

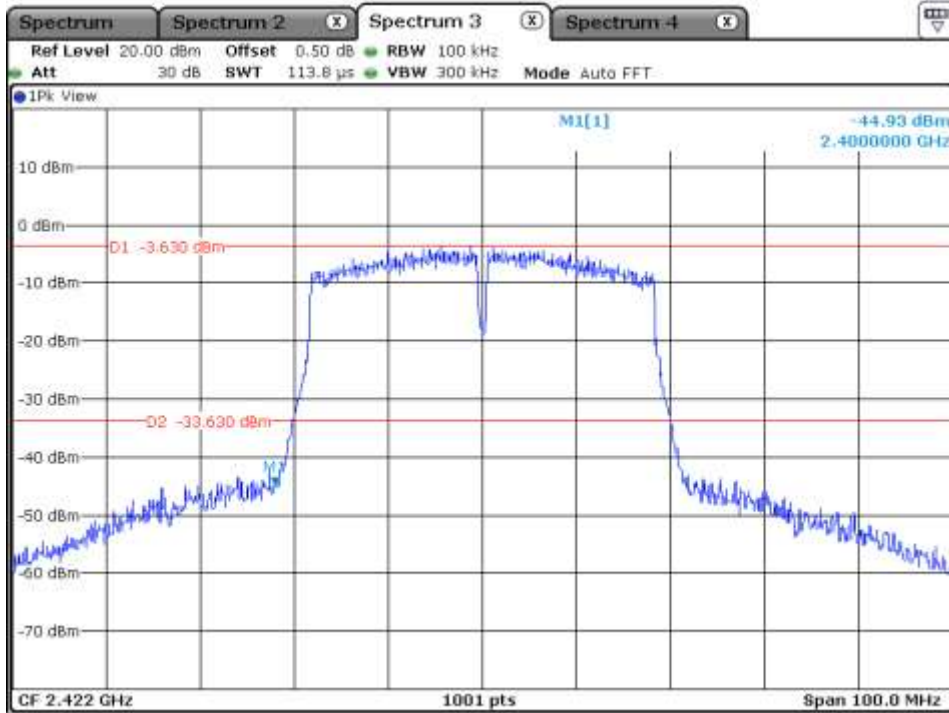


High Channel 11

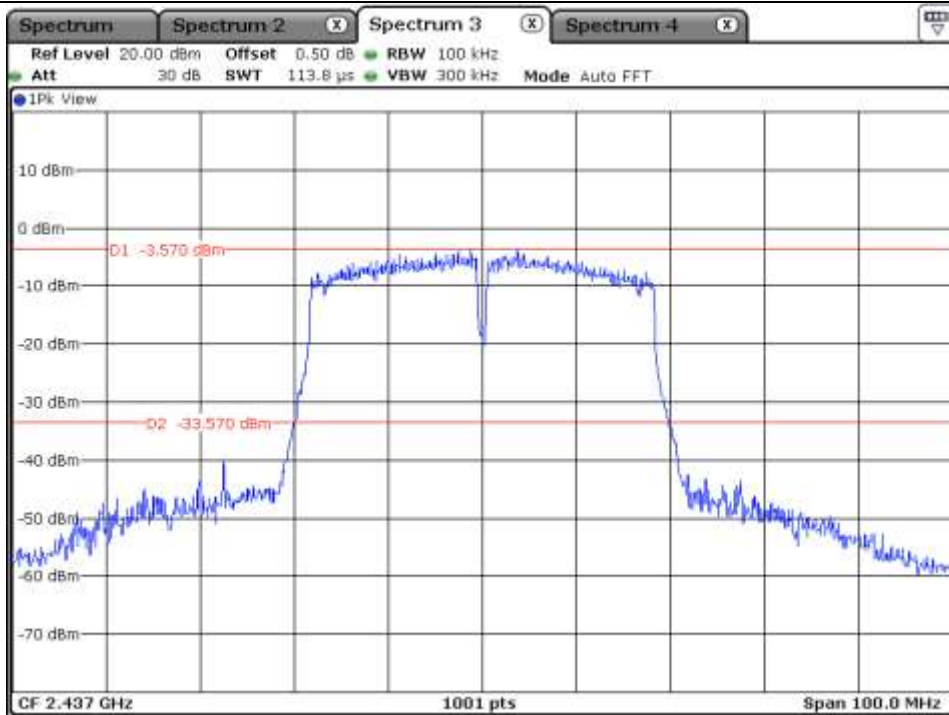


High Channel 11

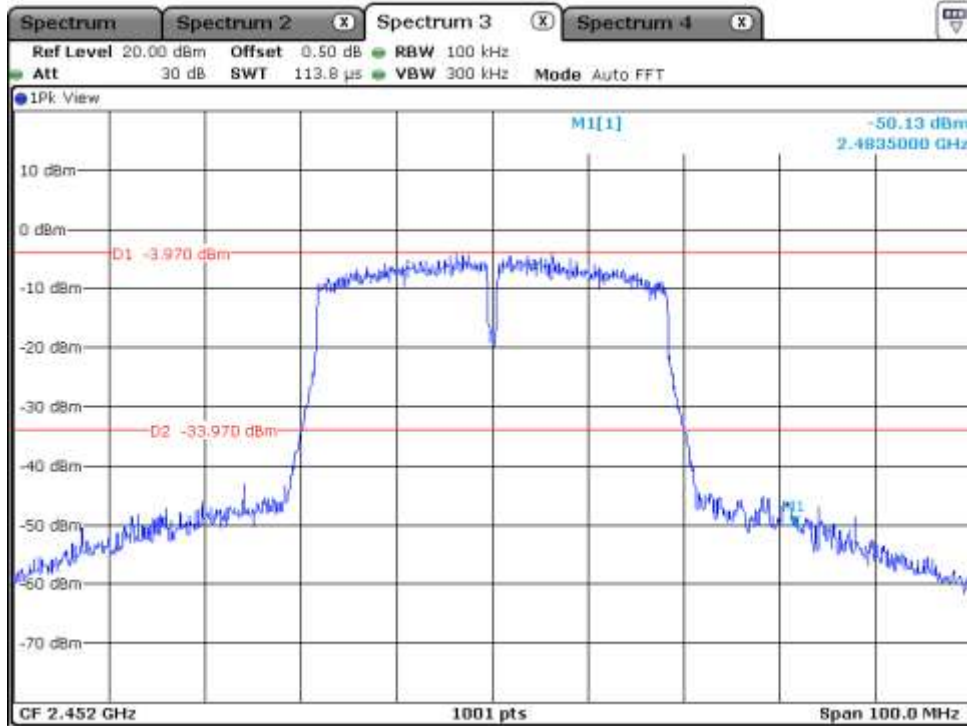
9.5.4.2 Test data for Antenna 1



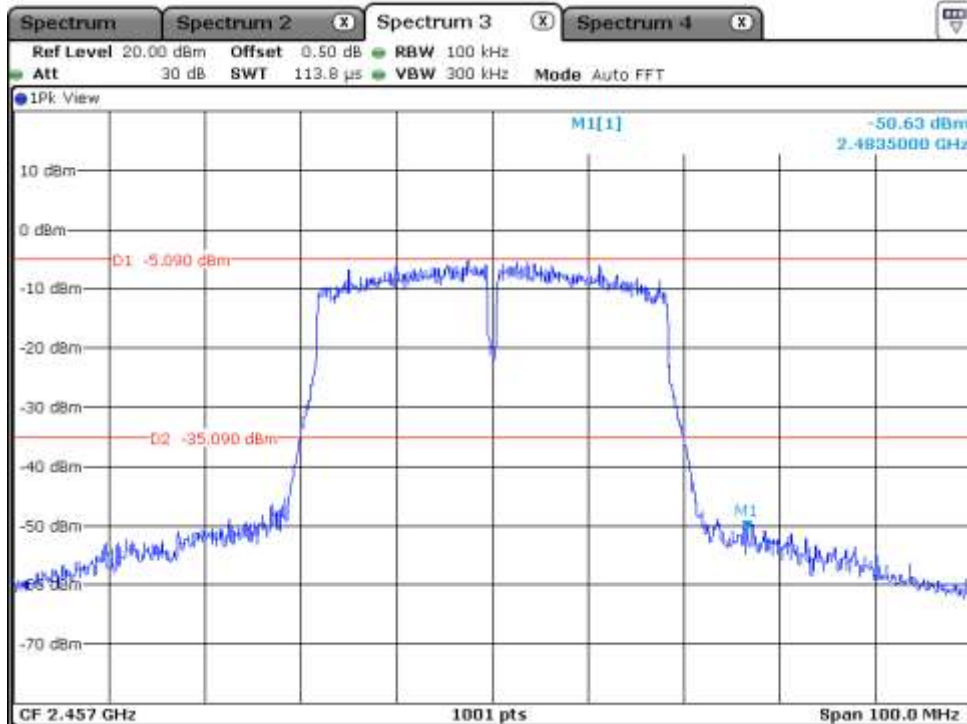
Low Channel



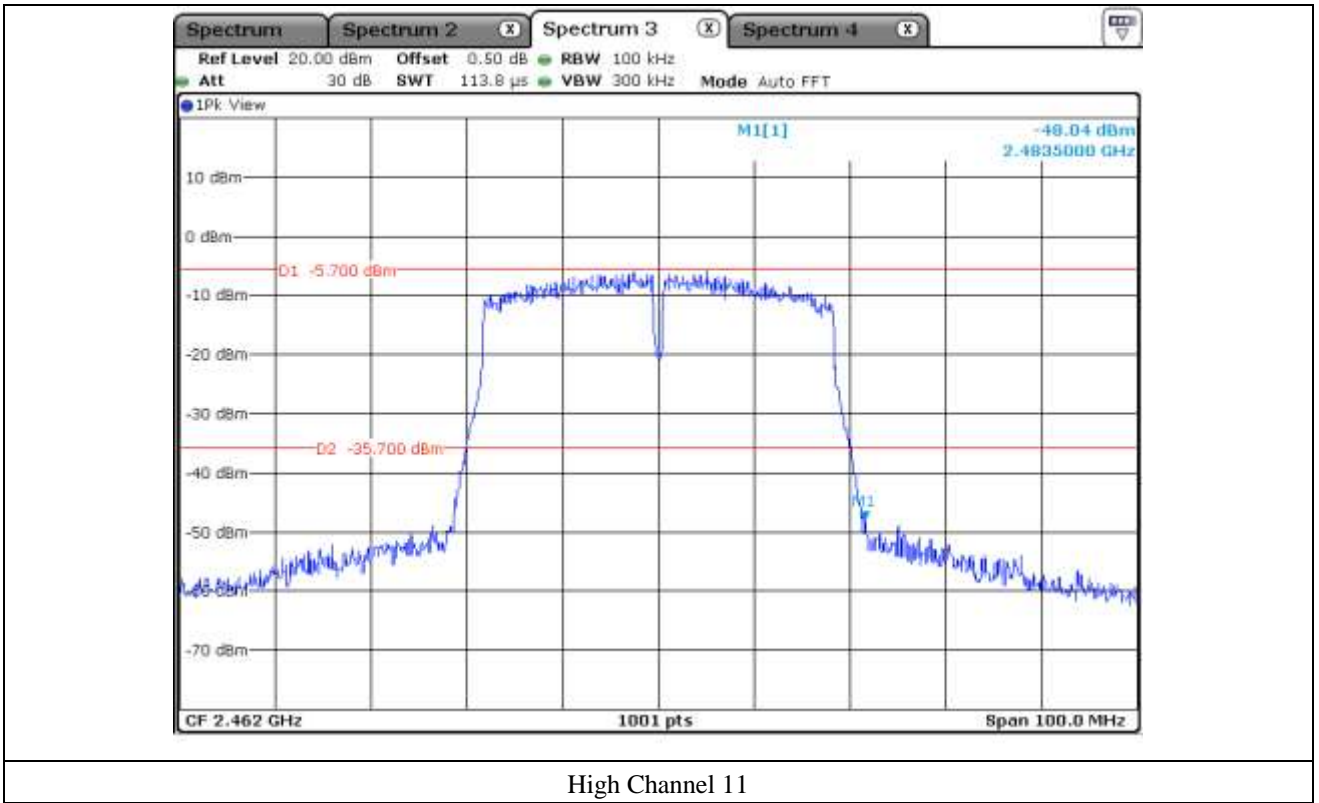
Middle Channel

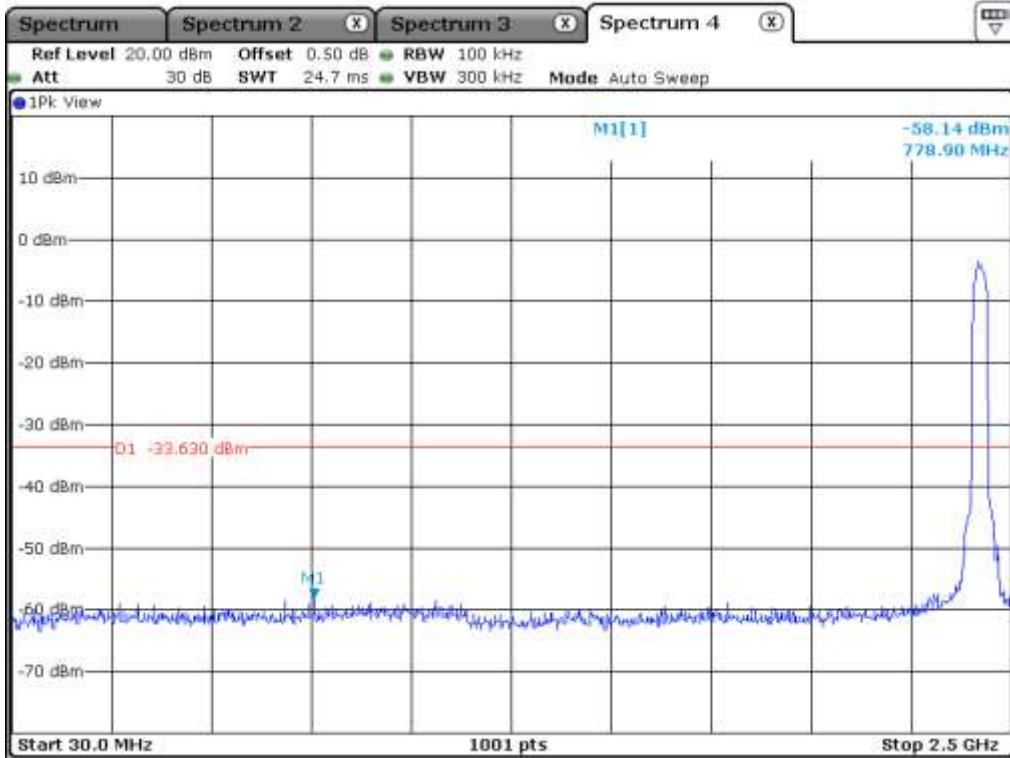


High Channel 9

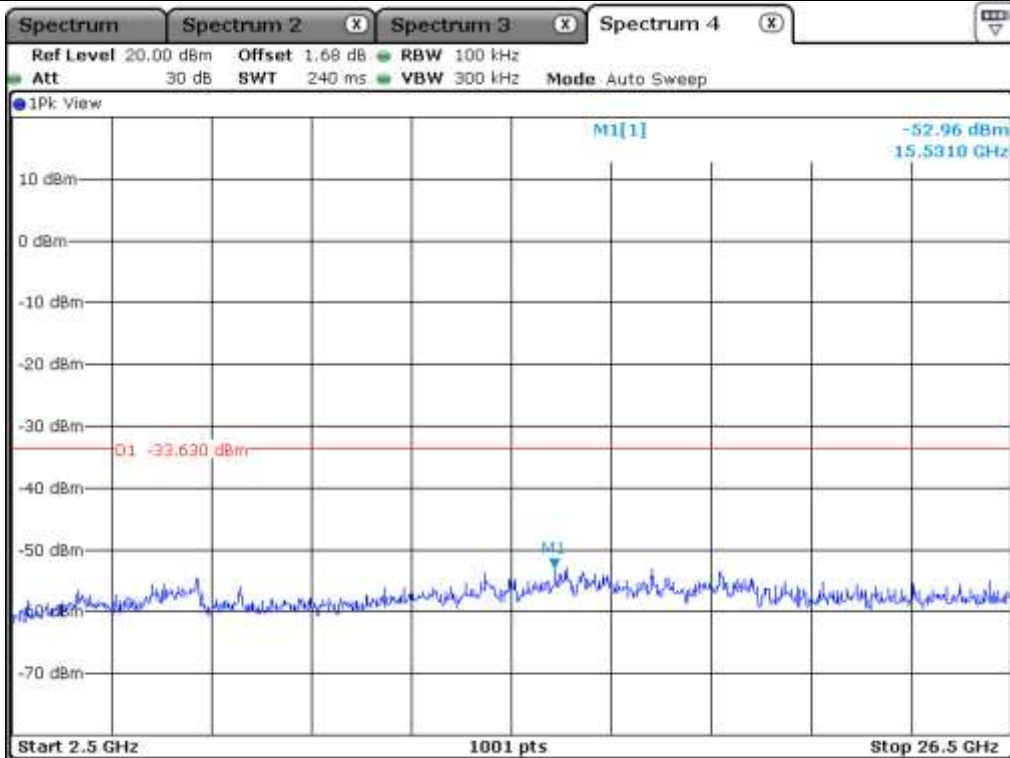


High Channel 10

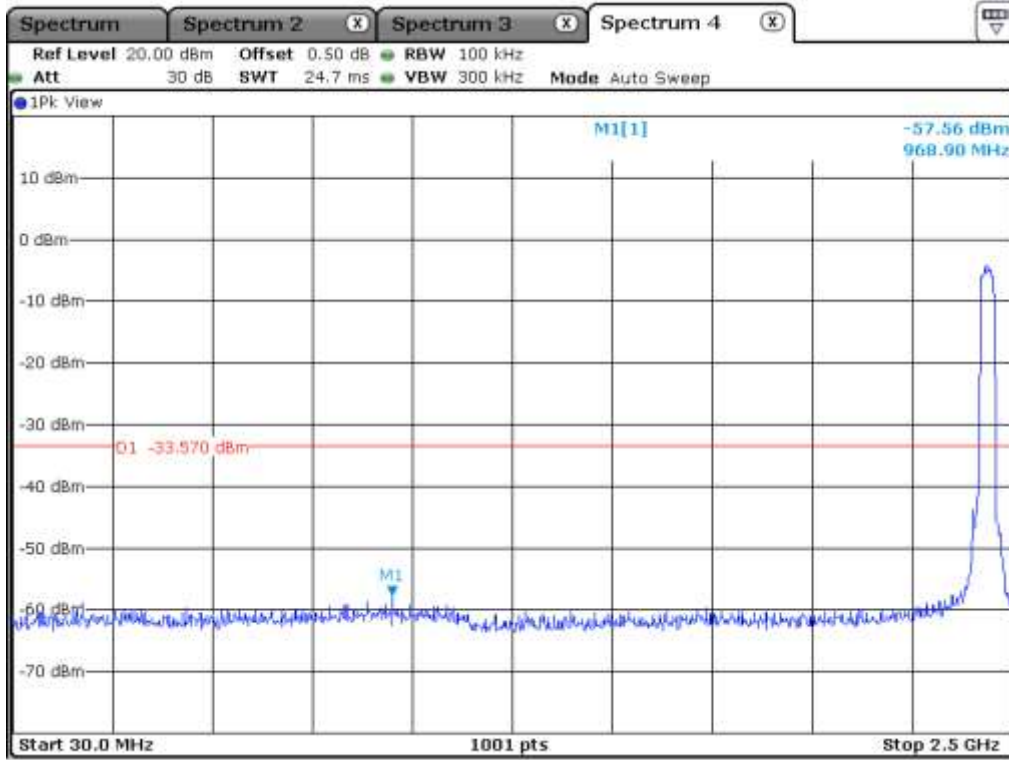




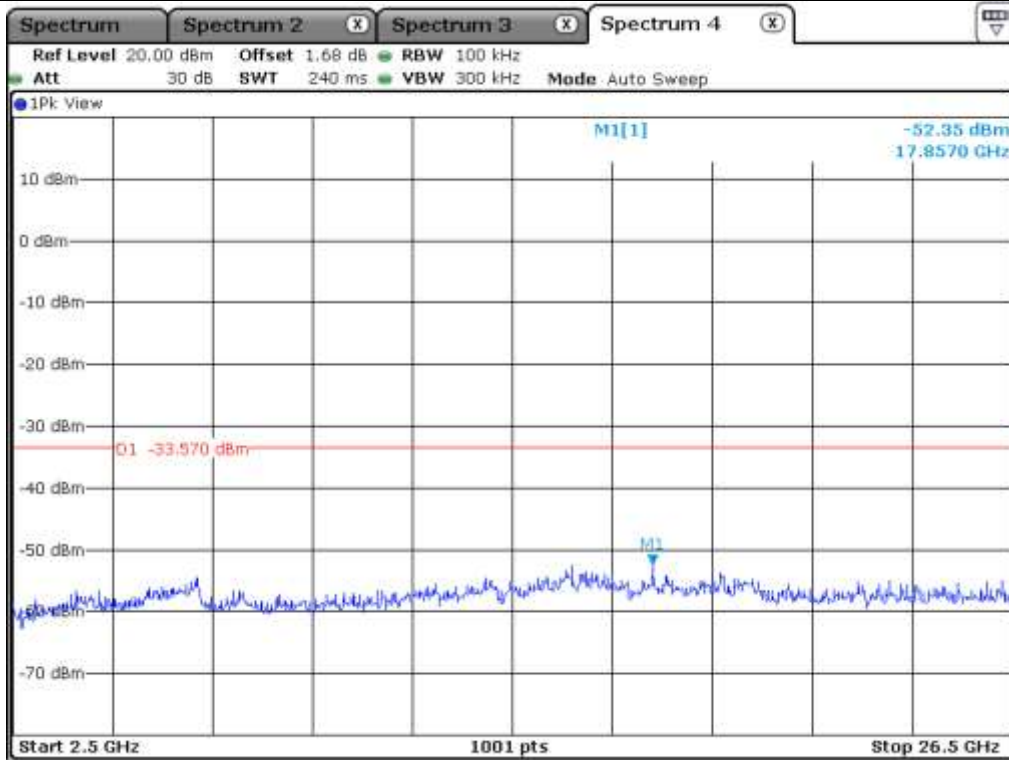
Low Channel



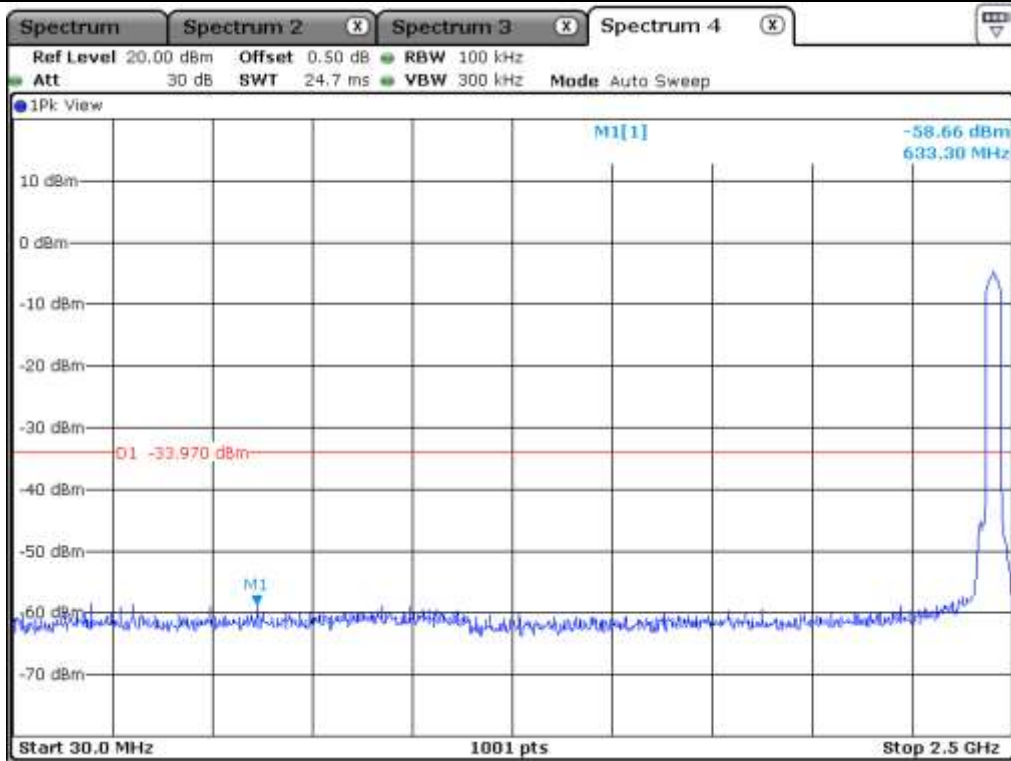
Low Channel



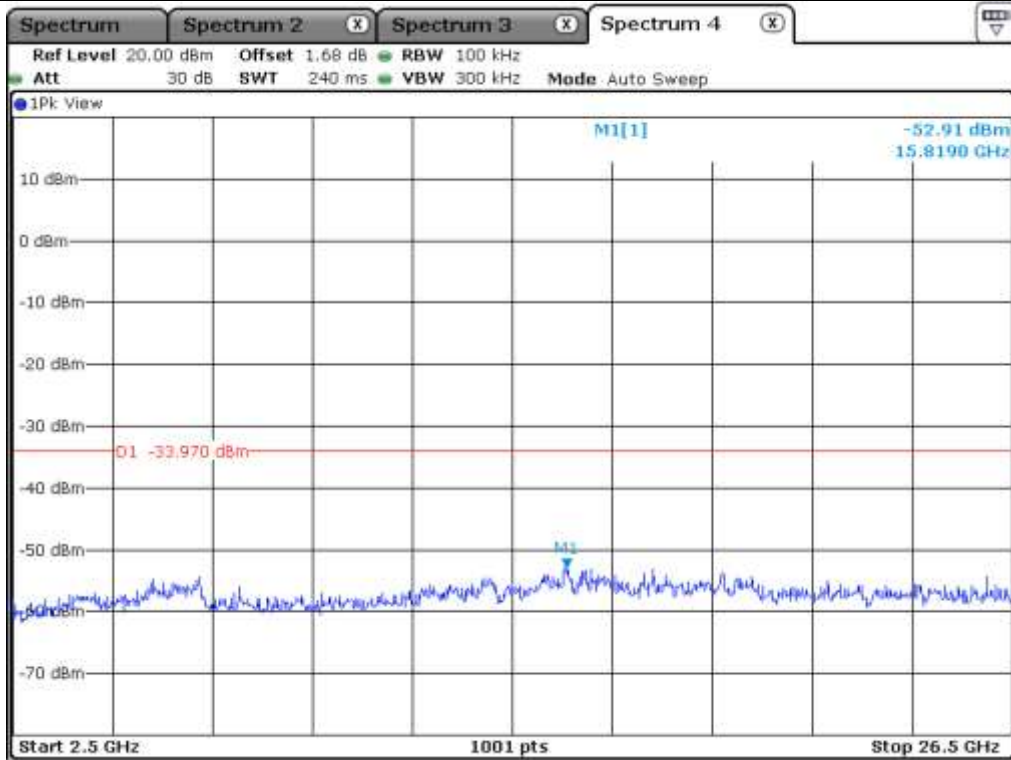
Middle Channel



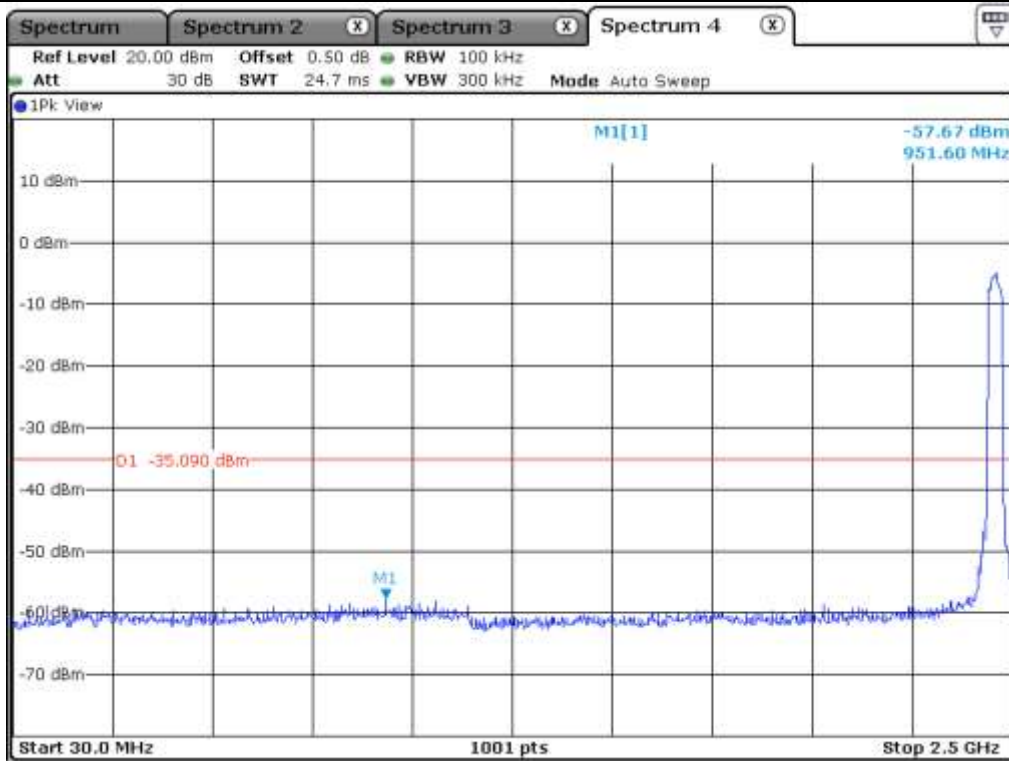
Middle Channel



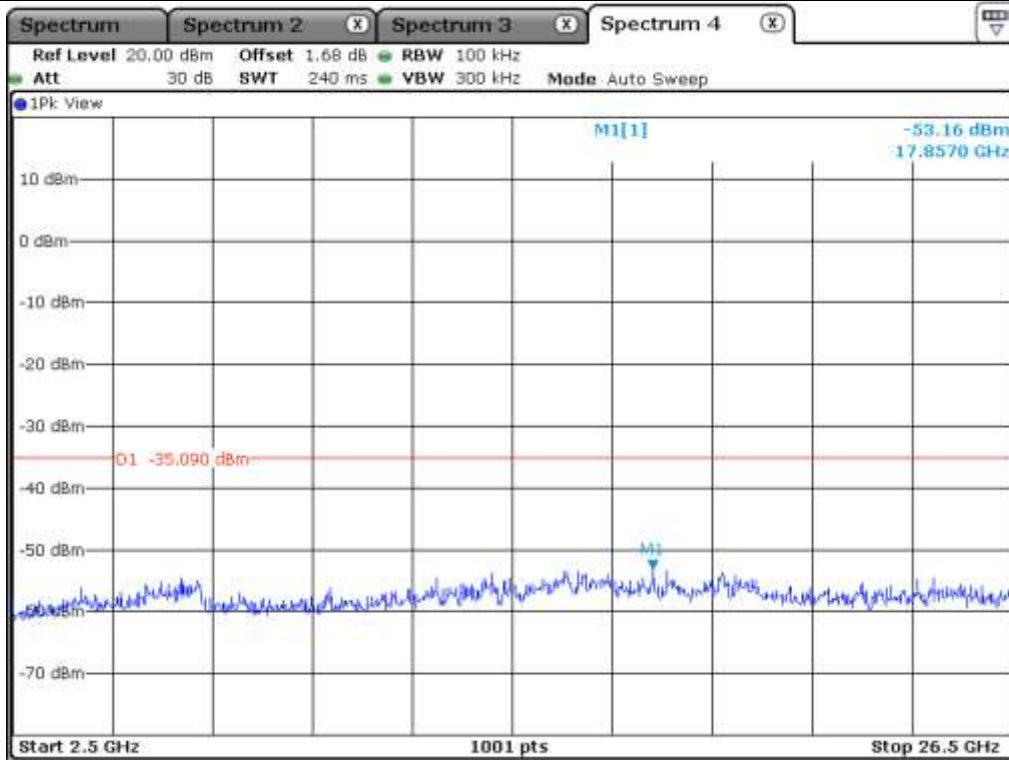
High Channel 9



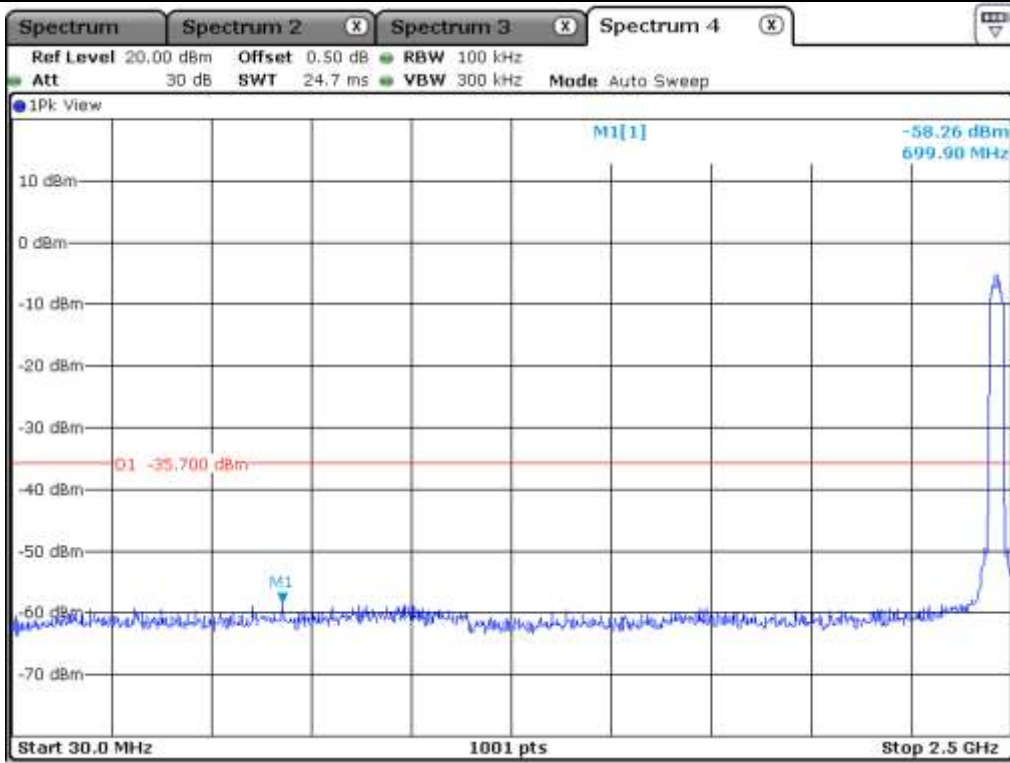
High Channel 9



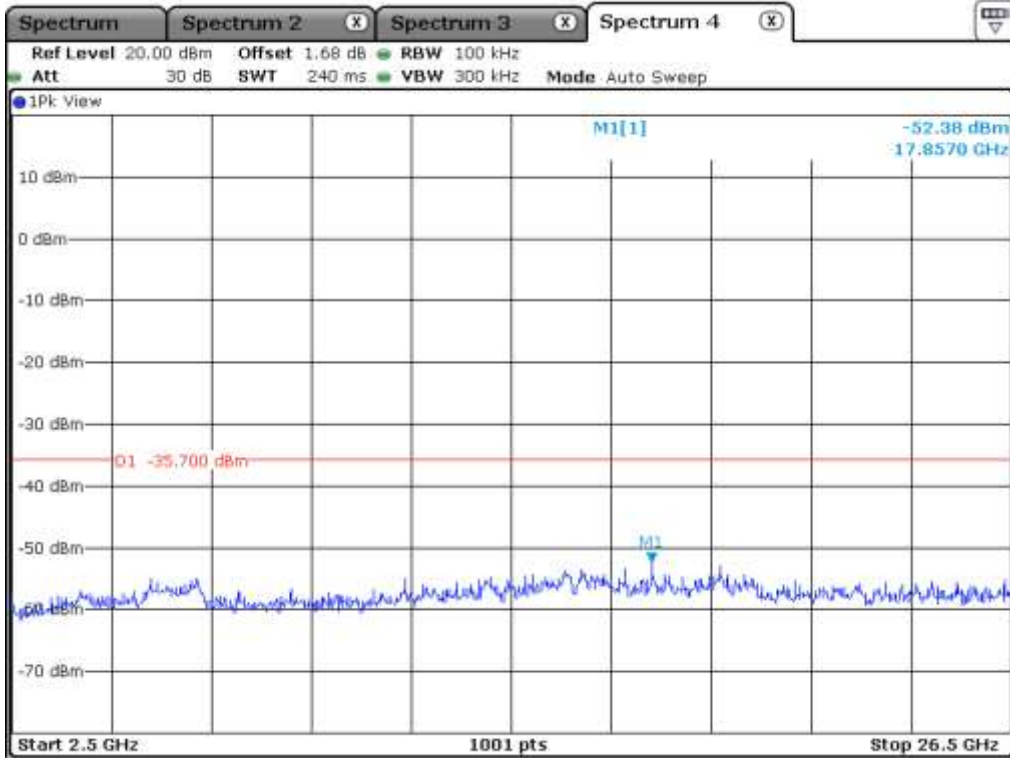
High Channel 10



High Channel 10



High Channel 11



High Channel 11

9.6 Test data for radiated emission

9.6.1 Radiated Emission which fall in the Restricted Band

9.6.1.1 Test data for 802.11b WLAN Mode

9.6.1.1.1 Test data for Antenna 0

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
2 386.207	20.90	Peak	H	26.90	3.07	50.87	74.00	23.13
2 387.844	11.65	Average	H	26.90	3.07	41.62	54.00	12.38
2 339.343	17.80	Peak	V	26.90	3.07	47.77	74.00	26.23
2 340.576	10.91	Average	V	26.90	3.07	40.88	54.00	13.12
Test Data for High 11 Channel								
2 483.508	28.95	Peak	H	26.60	3.16	58.71	74.00	15.29
2 483.508	20.52	Average	H	26.60	3.16	50.28	54.00	3.72
2 483.508	23.52	Peak	V	26.60	3.16	53.28	74.00	20.72
2 483.508	15.61	Average	V	26.60	3.16	45.37	54.00	8.63

Test Data for High 12 Channel								
2 483.508	29.17	Peak	H	26.60	3.16	58.93	74.00	15.07
2 483.508	20.41	Average	H	26.60	3.16	50.17	54.00	3.83
2 483.508	24.15	Peak	V	26.60	3.16	53.91	74.00	20.09
2 483.508	15.34	Average	V	26.60	3.16	45.10	54.00	8.90
Test Data for High 13 Channel								
2 483.736	29.98	Peak	H	26.60	3.16	59.74	74.00	14.26
2 483.784	21.05	Average	H	26.60	3.16	50.81	54.00	3.19
2 486.820	24.31	Peak	V	26.60	3.16	54.07	74.00	19.93
2 483.667	16.36	Average	V	26.60	3.16	46.12	54.00	7.88

Tabulated test data for Restricted Band

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

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

9.6.1.1.2 Test data for Antenna 1

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
2 386.188	21.92	Peak	H	26.90	3.07	51.89	74.00	22.11
2 387.768	14.11	Average	H	26.90	3.07	44.08	54.00	9.92
2 377.067	18.29	Peak	V	26.90	3.07	48.26	74.00	25.74
2 340.708	11.08	Average	V	26.90	3.07	41.05	54.00	12.95
Test Data for High 11 Channel								
2 483.508	28.78	Peak	H	26.60	3.16	58.54	74.00	15.46
2 483.508	21.05	Average	H	26.60	3.16	50.81	54.00	3.19
2 494.794	24.93	Peak	V	26.60	3.16	54.69	74.00	19.31
2 483.646	15.91	Average	V	26.60	3.16	45.67	54.00	8.33
Test Data for High 12 Channel								
2 483.508	30.67	Peak	H	26.60	3.16	60.43	74.00	13.57
2 483.508	20.88	Average	H	26.60	3.16	50.64	54.00	3.36
2 498.686	26.34	Peak	V	26.60	3.16	56.10	74.00	17.90
2 483.508	18.33	Average	V	26.60	3.16	48.09	54.00	5.91
Test Data for High 13 Channel								
2 484.144	29.56	Peak	H	26.60	3.16	59.32	74.00	14.68
2 484.509	21.43	Average	H	26.60	3.16	51.19	54.00	2.81
2 484.166	26.71	Peak	V	26.60	3.16	56.47	74.00	17.53
2 483.660	18.33	Average	V	26.60	3.16	48.09	54.00	5.91

Tabulated test data for Restricted Band

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

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

9.6.1.2 Test data for 802.11g WLAN Mode

9.6.1.2.1 Test data for Multiple Transmit

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
2 388.901	27.19	Peak	H	26.90	3.07	57.16	74.00	16.84
2 388.305	13.60	Average	H	26.90	3.07	43.57	54.00	10.43
2 341.112	24.15	Peak	V	26.90	3.07	54.12	74.00	19.88
2 339.191	12.66	Average	V	26.90	3.07	42.63	54.00	11.37
Test Data for High 11 Channel								
2 483.508	33.41	Peak	H	26.60	3.16	63.17	74.00	10.83
2 483.508	20.16	Average	H	26.60	3.16	49.92	54.00	4.08
2 483.508	20.99	Peak	V	26.60	3.16	50.75	74.00	23.25
2 483.508	14.33	Average	V	26.60	3.16	44.09	54.00	9.91
Test Data for High 12 Channel								
2 483.508	34.91	Peak	H	26.60	3.16	64.67	74.00	9.33
2 483.508	20.79	Average	H	26.60	3.16	50.55	54.00	3.45
2 483.354	33.22	Peak	V	26.60	3.16	62.98	74.00	11.02
2 483.508	19.63	Average	V	26.60	3.16	49.39	54.00	4.61
Test Data for High 13 Channel								
2 483.508	35.38	Peak	H	26.60	3.16	65.14	74.00	8.86
2 483.508	21.08	Average	H	26.60	3.16	50.84	54.00	3.16
2 483.508	31.27	Peak	V	26.60	3.16	61.03	74.00	12.97
2 483.508	20.41	Average	V	26.60	3.16	50.17	54.00	3.83

Tabulated test data for Restricted Band

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

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

9.6.1.3 Test data for 802.11n_HT20 WLAN Mode

9.6.1.3.1 Test data for Multiple Transmit

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
2 388.643	24.33	Peak	H	26.90	3.07	54.30	74.00	19.70
2 389.619	13.67	Average	H	26.90	3.07	43.64	54.00	10.36
2 318.703	20.48	Peak	V	26.90	3.07	50.45	74.00	23.55
2 338.760	12.54	Average	V	26.90	3.07	42.51	54.00	11.49
Test Data for High 11 Channel								
2 483.508	34.55	Peak	H	26.60	3.16	64.31	74.00	9.69
2 483.508	20.98	Average	H	26.60	3.16	50.74	54.00	3.26
2 483.508	30.61	Peak	V	26.60	3.16	60.37	74.00	13.63
2 483.508	17.61	Average	V	26.60	3.16	47.37	54.00	6.63
Test Data for High 12 Channel								
2 483.508	35.51	Peak	H	26.60	3.16	65.27	74.00	8.73
2 483.508	21.16	Average	H	26.60	3.16	50.92	54.00	3.08
2 483.508	33.18	Peak	V	26.60	3.16	62.94	74.00	11.06
2 483.508	19.37	Average	V	26.60	3.16	49.13	54.00	4.87
Test Data for High 13 Channel								
2 484.080	36.22	Peak	H	26.60	3.16	65.98	74.00	8.02
2 483.508	21.36	Average	H	26.60	3.16	51.12	54.00	2.88
2 483.508	34.11	Peak	V	26.60	3.16	63.87	74.00	10.13
2 483.521	20.39	Average	V	26.60	3.16	50.15	54.00	3.85

Tabulated test data for Restricted Band

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

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

9.6.1.4 Test data for 802.11n_HT40 WLAN Mode

9.6.1.4.1 Test data for Multiple Transmit

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
2 389.773	25.55	Peak	H	26.90	3.07	55.52	74.00	18.48
2 388.720	13.64	Average	H	26.90	3.07	43.61	54.00	10.39
2 344.365	21.48	Peak	V	26.90	3.07	51.45	74.00	22.55
2 337.835	12.28	Average	V	26.90	3.07	42.25	54.00	11.75
Test Data for High 9 Channel								
2 484.500	31.67	Peak	H	26.60	3.16	61.43	74.00	12.57
2 483.716	19.37	Average	H	26.60	3.16	49.13	54.00	4.87
2 486.396	29.34	Peak	V	26.60	3.16	59.10	74.00	14.90
2 484.032	17.64	Average	V	26.60	3.16	47.40	54.00	6.60
Test Data for High 10 Channel								
2 485.656	33.81	Peak	H	26.60	3.16	63.57	74.00	10.43
2 484.557	20.28	Average	H	26.60	3.16	50.04	54.00	3.96
2 484.927	29.43	Peak	V	26.60	3.16	59.19	74.00	14.81
2 483.866	19.54	Average	V	26.60	3.16	49.30	54.00	4.70
Test Data for High 11 Channel								
2 483.508	35.16	Peak	H	26.60	3.16	64.92	74.00	9.08
2 483.650	21.33	Average	H	26.60	3.16	51.09	54.00	2.91
2 486.747	31.26	Peak	V	26.60	3.16	61.02	74.00	12.98
2 483.751	20.51	Average	V	26.60	3.16	50.27	54.00	3.73

Tabulated test data for Restricted Band

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

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

9.6.2 Spurious & Harmonic Radiated Emission

9.6.2.1 Test data for 802.11b WLAN Mode

9.6.2.1.1 Test data for Antenna 0

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
4 824.00	18.19	Peak	H	28.20	4.85	51.24	74.00	22.76
4 824.00	7.10	Average	H	28.20	4.85	40.15	54.00	13.85
4 824.00	18.03	Peak	V	28.20	4.85	51.08	74.00	22.92
4 824.00	6.86	Average	V	28.20	4.85	39.91	54.00	14.09
Test Data for Middle Channel								
4 874.00	18.31	Peak	H	28.30	4.91	51.52	74.00	22.48
4 874.00	7.16	Average	H	28.30	4.91	40.37	54.00	13.63
4 874.00	18.21	Peak	V	28.30	4.91	51.42	74.00	22.58
4 874.00	6.98	Average	V	28.30	4.91	40.19	54.00	13.81

Test Data for High 11 Channel								
4 924.00	18.61	Peak	H	28.60	5.04	52.25	74.00	21.75
4 924.00	7.51	Average	H	28.60	5.04	41.15	54.00	12.85
4 924.00	18.25	Peak	V	28.60	5.04	51.89	74.00	22.11
4 924.00	6.33	Average	V	28.60	5.04	39.97	54.00	14.03
Test Data for High 12 Channel								
4 934.00	18.07	Peak	H	28.60	5.04	51.71	74.00	22.29
4 934.00	7.65	Average	H	28.60	5.04	41.29	54.00	12.71
4 934.00	19.13	Peak	V	28.60	5.04	52.77	74.00	21.23
4 934.00	7.23	Average	V	28.60	5.04	40.87	54.00	13.13
Test Data for High 13 Channel								
4 944.00	18.47	Peak	H	28.60	5.04	52.11	74.00	21.89
4 944.00	7.72	Average	H	28.60	5.04	41.36	54.00	12.64
4 944.00	17.72	Peak	V	28.60	5.04	51.36	74.00	22.64
4 944.00	7.16	Average	V	28.60	5.04	40.80	54.00	13.20

Tabulated test data for Restricted Band

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

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

9.6.2.1.2 Test data for Antenna 1

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
4 824.00	19.29	Peak	H	28.20	4.85	52.34	74.00	21.66
4 824.00	7.86	Average	H	28.20	4.85	40.91	54.00	13.09
4 824.00	19.06	Peak	V	28.20	4.85	52.11	74.00	21.89
4 824.00	6.65	Average	V	28.20	4.85	39.70	54.00	14.30
Test Data for Middle Channel								
4 874.00	19.07	Peak	H	28.30	4.91	52.28	74.00	21.72
4 874.00	7.56	Average	H	28.30	4.91	40.77	54.00	13.23
4 874.00	18.49	Peak	V	28.30	4.91	51.70	74.00	22.30
4 874.00	6.39	Average	V	28.30	4.91	39.60	54.00	14.40

Test Data for High 11 Channel								
4 924.00	18.70	Peak	H	28.60	5.04	52.34	74.00	21.66
4 924.00	6.96	Average	H	28.60	5.04	40.60	54.00	13.40
4 924.00	18.46	Peak	V	28.60	5.04	52.10	74.00	21.90
4 924.00	6.55	Average	V	28.60	5.04	40.19	54.00	13.81
Test Data for High 12 Channel								
4 934.00	18.75	Peak	H	28.60	5.04	52.39	74.00	21.61
4 934.00	7.97	Average	H	28.60	5.04	41.61	54.00	12.39
4 934.00	18.32	Peak	V	28.60	5.04	51.96	74.00	22.04
4 934.00	6.46	Average	V	28.60	5.04	40.10	54.00	13.90
Test Data for High 13 Channel								
4 944.00	18.47	Peak	H	28.60	5.04	52.11	74.00	21.89
4 944.00	7.43	Average	H	28.60	5.04	41.07	54.00	12.93
4 944.00	17.67	Peak	V	28.60	5.04	51.31	74.00	22.69
4 944.00	6.52	Average	V	28.60	5.04	40.16	54.00	13.84

Tabulated test data for Restricted Band

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

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

9.6.2.2 Test data for 802.11g WLAN Mode

9.6.2.2.1 Test data for Multiple Transmit

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
4 824.00	18.61	Peak	H	28.20	4.85	51.66	74.00	22.34
4 824.00	7.85	Average	H	28.20	4.85	40.90	54.00	13.10
4 824.00	18.93	Peak	V	28.20	4.85	51.98	74.00	22.02
4 824.00	6.49	Average	V	28.20	4.85	39.54	54.00	14.46
Test Data for Middle Channel								
4 874.00	18.14	Peak	H	28.30	4.91	51.35	74.00	22.65
4 874.00	7.03	Average	H	28.30	4.91	40.24	54.00	13.76
4 874.00	18.51	Peak	V	28.30	4.91	51.72	74.00	22.28
4 874.00	7.06	Average	V	28.30	4.91	40.27	54.00	13.73

Test Data for High 11 Channel								
4 924.00	18.34	Peak	H	28.60	5.04	51.98	74.00	22.02
4 924.00	6.77	Average	H	28.60	5.04	40.41	54.00	13.59
4 924.00	18.25	Peak	V	28.60	5.04	51.89	74.00	22.11
4 924.00	6.72	Average	V	28.60	5.04	40.36	54.00	13.64
Test Data for High 12 Channel								
4 934.00	18.99	Peak	H	28.60	5.04	52.63	74.00	21.37
4 934.00	7.68	Average	H	28.60	5.04	41.32	54.00	12.68
4 934.00	18.46	Peak	V	28.60	5.04	52.10	74.00	21.90
4 934.00	6.30	Average	V	28.60	5.04	39.94	54.00	14.06
Test Data for High 13 Channel								
4 944.00	19.23	Peak	H	28.60	5.04	52.87	74.00	21.13
4 944.00	6.60	Average	H	28.60	5.04	40.24	54.00	13.76
4 944.00	17.58	Peak	V	28.60	5.04	51.22	74.00	22.78
4 944.00	6.35	Average	V	28.60	5.04	39.99	54.00	14.01

Tabulated test data for Restricted Band

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

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

9.6.2.3 Test data for 802.11n_HT20 WLAN Mode

9.6.2.3.1 Test data for Multiple Transmit

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
4 824.00	18.96	Peak	H	28.20	4.85	52.01	74.00	21.99
4 824.00	6.73	Average	H	28.20	4.85	39.78	54.00	14.22
4 824.00	18.21	Peak	V	28.20	4.85	51.26	74.00	22.74
4 824.00	7.09	Average	V	28.20	4.85	40.14	54.00	13.86
Test Data for Middle Channel								
4 874.00	18.23	Peak	H	28.30	4.91	51.44	74.00	22.56
4 874.00	7.05	Average	H	28.30	4.91	40.26	54.00	13.74
4 874.00	18.55	Peak	V	28.30	4.91	51.76	74.00	22.24
4 874.00	6.46	Average	V	28.30	4.91	39.67	54.00	14.33

Test Data for High 11 Channel								
4 924.00	18.48	Peak	H	28.60	5.04	52.12	74.00	21.88
4 924.00	7.28	Average	H	28.60	5.04	40.92	54.00	13.08
4 924.00	17.98	Peak	V	28.60	5.04	51.62	74.00	22.38
4 924.00	6.96	Average	V	28.60	5.04	40.60	54.00	13.40
Test Data for High 12 Channel								
4 934.00	18.80	Peak	H	28.60	5.04	52.44	74.00	21.56
4 934.00	7.86	Average	H	28.60	5.04	41.50	54.00	12.50
4 934.00	17.87	Peak	V	28.60	5.04	51.51	74.00	22.49
4 934.00	6.96	Average	V	28.60	5.04	40.60	54.00	13.40
Test Data for High 13 Channel								
4 944.00	18.31	Peak	H	28.60	5.04	51.95	74.00	22.05
4 944.00	8.30	Average	H	28.60	5.04	41.94	54.00	12.06
4 944.00	18.97	Peak	V	28.60	5.04	52.61	74.00	21.39
4 944.00	6.44	Average	V	28.60	5.04	40.08	54.00	13.92

Tabulated test data for Restricted Band

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

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

9.6.2.4 Test data for 802.11n_HT40 WLAN Mode

9.6.2.4.1 Test data for Multiple Transmit

- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : > 98 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel								
4 844.00	18.86	Peak	H	28.20	4.85	51.91	74.00	22.09
4 844.00	7.11	Average	H	28.20	4.85	40.16	54.00	13.84
4 844.00	18.83	Peak	V	28.20	4.85	51.88	74.00	22.12
4 844.00	7.18	Average	V	28.20	4.85	40.23	54.00	13.77
Test Data for Middle Channel								
4 874.00	18.30	Peak	H	28.30	4.91	51.51	74.00	22.49
4 874.00	7.63	Average	H	28.30	4.91	40.84	54.00	13.16
4 874.00	17.97	Peak	V	28.30	4.91	51.18	74.00	22.82
4 874.00	7.19	Average	V	28.30	4.91	40.40	54.00	13.60

Test Data for High 11 Channel								
4 904.00	19.06	Peak	H	28.60	5.04	52.70	74.00	21.30
4 904.00	7.48	Average	H	28.60	5.04	41.12	54.00	12.88
4 904.00	17.75	Peak	V	28.60	5.04	51.39	74.00	22.61
4 904.00	7.04	Average	V	28.60	5.04	40.68	54.00	13.32
Test Data for High 12 Channel								
4 914.00	19.42	Peak	H	28.60	5.04	53.06	74.00	20.94
4 914.00	6.63	Average	H	28.60	5.04	40.27	54.00	13.73
4 914.00	18.58	Peak	V	28.60	5.04	52.22	74.00	21.78
4 914.00	6.93	Average	V	28.60	5.04	40.57	54.00	13.43
Test Data for High 13 Channel								
4 924.00	19.20	Peak	H	28.60	5.04	52.84	74.00	21.16
4 924.00	8.02	Average	H	28.60	5.04	41.66	54.00	12.34
4 924.00	17.70	Peak	V	28.60	5.04	51.34	74.00	22.66
4 924.00	7.60	Average	V	28.60	5.04	41.24	54.00	12.76

Tabulated test data for Restricted Band

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

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss}$$