RF TEST REPORT

Test Equipment	:	Wi-Fi Access Point
Model Name	:	W550CA
HVIN(IC)	:	W550CA, HX-W550CA-NA, HX-W550CA-EU, HX-W550CA-UK, HX-W550CA-00
FCC ID	:	PJZW550CA
IC	:	3691A-W550CA
Date of receipt	:	2022-02-24
Test duration	:	2022-03-07 ~ 2022-04-25 / 2022-06-02
Date of issue	:	2022-06-02

Applicant : DZS Inc.

5700 Tennyson Parkway Suite 400, Plano, TX 75024 USA

Test Laboratory : Lab-T, Inc.

2182-42 Baegok-daero, Mohyeon-eup, Cheoin-gu, Yongin-si
Gyeonggi-do 17036, Korea

Test specification : FCC Part 15 Subpart C 15.247

RSS-247 Issue 2 (2017-02), RSS-GEN Issue 5 A2 (2021-02)

RF Output Power : 25.96 dBm

Test result : Pass

The above equipment was tested by Lab-T Testing Laboratory for compliance with the requirements of FCC,IC Rules and Regulations.
The test results presented in this test report are limited only to the sample supplied by applicant and the use of this test report is inhibited other than its purpose.
This test report shall not be reproduced except in full, without the written approval of Lab-T, Inc

Tested by:

Engineer
SungSin Kim

Reviewed by:

Technical Manager
SangHoon Yu

CONTENTS

1. Revision history

Test Report No.	Date	Description
TRRCER22-0007	2022-05-27	Initial issue
TRRCER22-0007(1)	2022-06-02	OBW re-measurement

2. Information

2.1 Applicant Information

Applicant name	DZS Inc.
Address	5700 Tennyson Parkway Suite 400, Plano, TX 75024 USA
Telephone No.	+82 70-7010-1514
Person in charge	YangSik Ryu / ys.ryu@dzsi.com
Manufacturer	DZS Inc.
Address	5700 Tennyson Parkway Suite 400, Plano, TX 75024 USA

2.2 Test Laboratory information

Corporate name	Lab-T, Inc.
Representative	Duke (Jongyoung) Kim
Address	2182-42 Baegok-daero, Mohyeon-eup, Cheoin-gu, Yongin-si, Gyeonggi-do 17036, Korea(Republic of)
Telephone	+82-31-322-6767
Fax	+82-31-322-6768
E-mail	info@lab-t.net

2.3 Test Location

Test Site	used	Address
Building L	☒	2182-40 Baegok-daero, Mohyeon-eup, Cheoin-gu, Yongin-si, Gyeonggi-do 17036, Korea(Republic of)
Building T	☒	2182-42 Baegok-daero, Mohyeon-eup, Cheoin-gu, Yongin-si, Gyeonggi-do 17036, Korea(Republic of)
Building A	☐	2182-44 Baegok-daero, Mohyeon-eup, Cheoin-gu, Yongin-si, Gyeonggi-do 17036, Korea(Republic of)

3. Information About Test Equipment

3.1 Equipment Information

Equipment type	Wi-Fi Access Point
Equipment model name	W550CA
Variant model name[Note2]	HX-W550CA-NA, HX-W550CA-EU, HX-W550CA-UK, HX-W550CA-00
HVIN[Note3]	W550CA, HX-W550CA-NA, HX-W550CA-EU, HX-W550CA-UK, HX-W550CA-00
Frequency range	2 412 MHz ~ 2 462 MHz / 2 422 MHz ~ 2 452 MHz
Modulation type	DSSS, CCK, OFDM
Power supply	DC 12 V
H/W version	DS-NN-92S-A1
S/W version	V5.2.XX

Note 1 : The above EUT information was declared by the manufacturer.
Note 2 : Variant model name by Buyer request
Note 3 : HVIN is model name of the IC

3.2 Antenna Information

Type	Model No.	Gain	Note.
PCB antenna	Ant.1	2.7 dBi	-
PCB antenna	Ant.2	2.9 dBi	-

3.3 Test Frequency

Test mode	Test frequency (MHz)		
	Lowest frequency	Middle frequency	Highest frequency
802.11b	2 412	2 437	2 462
802.11g	2 412	2 437	2 462
802.11n(HT20)	2 412	2 437	2 462
802.11n(HT40)	2 422	2 437	2 452
802.11ax(HE20)	2 412	2 437	2 462
802.11ax(HE40)	2 422	2 437	2 452

3.4 Worst case

802.11b_SISO	11 Mbps	802.11n(HT40)_MIMO	MCS15
802.11g_SISO	54 Mbps	802.11ax(HE20)_SISO	MCS9
802.11n(HT20)_SISO	MCS7	802.11ax(HE20)_MIMO	MCS9
802.11n(HT20)_MIMO	MCS15	802.11ax(HE40)_SISO	MCS9
802.11n(HT40)_SISO	MCS7	802.11ax(HE40)_MIMO	MCS9

Note1 : The power measurement has been conducted to determine the worst-case mode from all possible combi nations between available modulations, data rates.

3.5 Tested Companion Device Information

Type	Manufacturer	Model	Note
-	-	-	-
-	-	-	-

3.6 Operating conditions for the EUT

Firmware state		2.08-00XX
Test software name(version)		QATool(UIv2.17 / DLLv6.00)
Test power setting(Avg.)		Default setting value
Serial number (Setup mode)	EUT #1	#1 (Conducted / Radiated Emission)

4. Test Report

4.1 Summary

FCC Part 15				
FCC Rule	IC Rule	Parameter	Clause	Status
Transmitter Requirements				
15.203 15.247(b)(4)	RSS-247 5.4(f)	Antenna Requirement	4.3.1	C
15.247(b)(3)	RSS-247 5.4(d)	Maximum Peak Output Power	4.3.2	C
15.247(e)	RSS-247 5.2(b)	Peak Power Spectral Density	4.3.3	C
15.247(a)(2)	RSS-247 5.2(a)	6 dB Channel Bandwidth	4.3.4	C
-	RSS-GEN 6.7	Occupied Bandwidth	4.3.4	C
15.247(d) 15.205(a) 15.209(a)	RSS-247 5.5 RSS-GEN 8.9 RSS-GEN 8.10	Spurious Emission, Band Edge and Restricted bands	4.3.5	C
15.207(a)	RSS-GEN 8.8	Conducted Emissions	4.3.6	C

NOTE 1 : C = Comply N/C = Not Comply N/T = Not Tested N/A = Not Applicable
: .

* The general test methods used to test this device is ANSI C63.10:2020

4.2 Measurement Uncertainty

Mesurement items	Expanded Uncertainty	
RF Output Power	0.77 dB	(The confidence level is about 95 %, *k*=2)
Power Spectral Density	0.94 dB	(The confidence level is about 95 %, *k*=2)
Occupied Channel Bandwidth	6.46 kHz	(The confidence level is about 95 %, *k*=2)
Conducted Spurious Emissions	0.41 dB	(The confidence level is about 95 %, *k*=2)
Radiated Spurious Emissions (1 GHz under)	4.84 dB	(The confidence level is about 95 %, *k*=2)
Radiated Spurious Emissions (Above 1 GHz)	5.96 dB	(The confidence level is about 95 %, *k*=2)
Conducted emission	2.52 dB	(The confidence level is about 95 %, *k*=2)

4.3 Transmitter Requirements

4.3.1 Antenna Requirement

4.3.1.1 Regulation

Accoding to §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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Accoding to §15.247(b)(4) e conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Accoding to §RSS-247 5.4(f)(ii) If the transmitter employs an antenna system that emits multiple directional beams, but does not emit multiple directional beams simultaneously, the total output power conducted to the array or arrays that comprise the device (i.e. the sum of the power supplied to all antennas, antenna elements, staves, etc., and summed across all carriers or frequency channels) shall not exceed the applicable output power limit specified in sections 5.4(b) and 5.4(d). However, the total conducted output power shall be reduced by 1 dB below the specified limits for each 3 dB that the directional gain of the antenna/antenna array exceeds 6 dBi. The directional antenna gain shall be computed as the sum of 10 log (number of array elements or staves) plus the directional gain of the element or stave having the highest gain.

4.3.1.2 Result

Comply

	Antenna 1	Antenna 2
Type	PCB Antenna	
Connector type	U.FL	
Gain	2.7 dBi	2.9 dBi

Antenna	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
1	2.7	2.7	0.00	0.00
2	2.9	2.9	0.00	0.00
1+2	2.9	5.81	0.00	0.00

4.3.2 Maximum Peak Output Power

4.3.2.1 Regulation

According to §15.247(b)(3) and RSS-247 §5.4(d) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

According to §15.247(b)(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.3.2.2 Measurement Procedure

ANSI C63.10 § 11.9.1 Maximum peak condected output power

4.3.2.2.1 PKPM1 Peak power meter method

The maximum peak conducted output power may be measured using a broadband peak RF power meter.
The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector

4.3.2.3 Result

Comply (measurement data : refer to the next page)

4.3.2.4 Measurement data

Test mode : 802.11b

Antenna	Freq. (MHz)	Result (dBm)	Result (mW)	Limit (mW)
SISO ANT1	2 412	25.12	325.09	1 000
	2 437	25.43	349.14	1 000
	2 462	25.75	375.84	1 000
SISO ANT2	2 412	25.11	324.34	1 000
	2 437	25.34	341.98	1 000
	2 462	25.47	352.37	1 000

Test mode : 802.11g

Antenna	Freq. (MHz)	Result (dBm)	Result (mW)	Limit (mW)
SISO ANT1	2 412	26.35	431.52	1 000
	2 437	26.26	422.67	1 000
	2 462	26.03	400.87	1 000
SISO ANT2	2 412	26.43	439.54	1 000
	2 437	26.47	443.61	1 000
	2 462	26.53	449.78	1 000

Test mode : 802.11n(HT20)

Antenna	Freq. (MHz)	Result (dBm)	Result (mW)	Limit (mW)
SISO ANT1	2 412	25.65	367.28	1 000
	2 437	26.02	399.94	1 000
	2 462	25.83	382.82	1 000
SISO ANT2	2 412	26.24	420.73	1 000
	2 437	26.28	424.62	1 000
	2 462	26.34	430.53	1 000

Antenna	Freq. (MHz)	ANT1 (dBm)	ANT2 (dBm)	Result (dBm)	Result (mW)	Limit (mW)
MIMO	2 412	23.56	25.38	27.57	572.13	1 000
	2 437	23.73	25.72	27.85	609.30	1 000
	2 462	23.79	25.80	27.92	619.52	1 000

Note 1 : refer to 4.4.1 for information on limit reduction.
Note 2 : We took the insertion loss of the cable loss into consideration within the measuring instrument.
Note 3 : Result(dBm) = ANT1(dBm) + ANT2(dBm)

Test mode : 802.11n(HT40)

Antenna	Freq. (MHz)	Result (dBm)	Result (mW)	Limit (mW)
SISO ANT1	2 422	26.27	423.64	1 000
	2 437	25.62	364.75	1 000
	2 452	25.31	339.63	1 000
SISO ANT2	2 422	25.36	343.56	1 000
	2 437	25.87	386.37	1 000
	2 452	25.86	385.48	1 000

Antenna	Freq. (MHz)	ANT1 (dBm)	ANT2 (dBm)	Result (dBm)	Result (mW)	Limit (mW)
MIMO	2 422	22.83	23.89	26.40	436.77	1 000
	2 437	22.87	24.13	26.56	452.46	1 000
	2 452	25.19	24.74	27.98	628.22	1 000

Test mode : 802.11ax(HE20)

Antenna	Freq. (MHz)	Result (dBm)	Result (mW)	Limit (mW)
SISO ANT1	2 412	26.54	450.82	1 000
	2 437	26.31	427.56	1 000
	2 462	26.27	423.64	1 000
SISO ANT2	2 412	26.57	453.94	1 000
	2 437	26.53	449.78	1 000
	2 462	26.70	467.74	1 000

Antenna	Freq. (MHz)	ANT1 (dBm)	ANT2 (dBm)	Result (dBm)	Result (mW)	Limit (mW)
MIMO	2 412	24.38	26.04	28.30	675.95	1 000
	2 437	24.29	25.90	28.18	657.58	1 000
	2 462	24.63	25.78	28.25	668.84	1 000

Test mode : 802.11ax(HE40)

Antenna	Freq. (MHz)	Result (dBm)	Result (mW)	Limit (mW)
SISO ANT1	2 422	26.59	456.04	1 000
	2 437	26.56	452.90	1 000
	2 452	26.41	437.52	1 000
SISO ANT2	2 422	26.62	459.20	1 000
	2 437	26.72	469.89	1 000
	2 452	26.66	463.45	1 000

Antenna	Freq. (MHz)	ANT1 (dBm)	ANT2 (dBm)	Result (dBm)	Result (mW)	Limit (mW)
MIMO	2 422	24.84	25.10	27.98	628.38	1 000
	2 437	25.12	25.48	28.31	678.27	1 000
	2 452	25.13	25.26	28.21	661.57	1 000

Note 1 : refer to 4.4.1 for information on limit reduction.
Note 2 : We took the insertion loss of the cable loss into consideration within the measuring instrument.
Note 3 : Result(dBm) = ANT1(dBm) + ANT2(dBm)

4.3.3 Peak Power Spectral Density

4.3.3.1 Regulation

According to §15.247(e) and RSS-247 §5.2(b) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

4.3.3.2 Measurement Procedure

ANSI C63.10 § 11.10 Maximum power spectral density level in the fundamental emission

4.3.3.2.1 Method PKPSD (peak PSD)

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance, and is optional if the maximum conducted (average) output power was used to demonstrate compliance.

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 times the DTS bandwidth.
c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ 3 RBW.
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

4.3.3.3 Result

Comply (measurement data : refer to the next page)

4.3.3.4 Measurement data

Test mode : 802.11b

Antenna	Freq. (MHz)	Result (dBm)	Limit (dBm)
SISO ANT1	2 412	0.69	8.00
	2 437	1.06	8.00
	2 462	1.44	8.00
SISO ANT2	2 412	1.42	8.00
	2 437	1.56	8.00
	2 462	1.70	8.00

Test mode : 802.11g

Antenna	Freq. (MHz)	Result (dBm)	Limit (dBm)
SISO ANT1	2 412	-6.86	8.00
	2 437	-6.71	8.00
	2 462	-5.00	8.00
SISO ANT2	2 412	-6.57	8.00
	2 437	-5.86	8.00
	2 462	-5.01	8.00

Test mode : 802.11n(HT20)

Antenna	Freq. (MHz)	Result (dBm)	Limit (dBm)
SISO ANT1	2 412	-7.08	8.00
	2 437	-5.52	8.00
	2 462	-6.05	8.00
SISO ANT2	2 412	-5.35	8.00
	2 437	-6.20	8.00
	2 462	-5.18	8.00

Antenna	Freq. (MHz)	ANT1 (dBm)	ANT2 (dBm)	Result (dBm)	Limit (dBm)
MIMO	2 412	-6.86	-7.03	-3.93	8.00
	2 437	-6.61	-7.03	-3.80	8.00
	2 462	-5.95	-6.40	-3.16	8.00

Note 1 : refer to 4.4.1 for information on limit reduction.
Note 2 : We took the insertion loss of the cable loss into consideration within the measuring instrument.
Note 3 : Result(dBm) = ANT1(dBm) + ANT2(dBm)

Test mode : 802.11n(HT40)

Antenna	Freq. (MHz)	Result (dBm)	Limit (dBm)
SISO ANT1	2 422	-12.29	8.00
	2 437	-11.70	8.00
	2 452	-12.24	8.00
SISO ANT2	2 422	-11.69	8.00
	2 437	-11.43	8.00
	2 452	-10.38	8.00

Antenna	Freq. (MHz)	ANT1 (dBm)	ANT2 (dBm)	Result (dBm)	Limit (dBm)
MIMO	2 422	-16.22	-12.94	-11.26	8.00
	2 437	-15.91	-11.83	-10.40	8.00
	2 452	-16.00	-11.15	-9.92	8.00

Test mode : 802.11ax(HE20)

Antenna	Freq. (MHz)	Result (dBm)	Limit (dBm)
SISO ANT1	2 412	-6.34	8.00
	2 437	-6.69	8.00
	2 462	-5.71	8.00
SISO ANT2	2 412	-5.91	8.00
	2 437	-5.57	8.00
	2 462	-4.69	8.00

Antenna	Freq. (MHz)	ANT1 (dBm)	ANT2 (dBm)	Result (dBm)	Limit (dBm)
MIMO	2 412	-6.58	-8.78	-4.53	8.00
	2 437	-6.67	-8.35	-4.42	8.00
	2 462	-6.01	-7.82	-3.81	8.00

Test mode : 802.11ax(HE40)

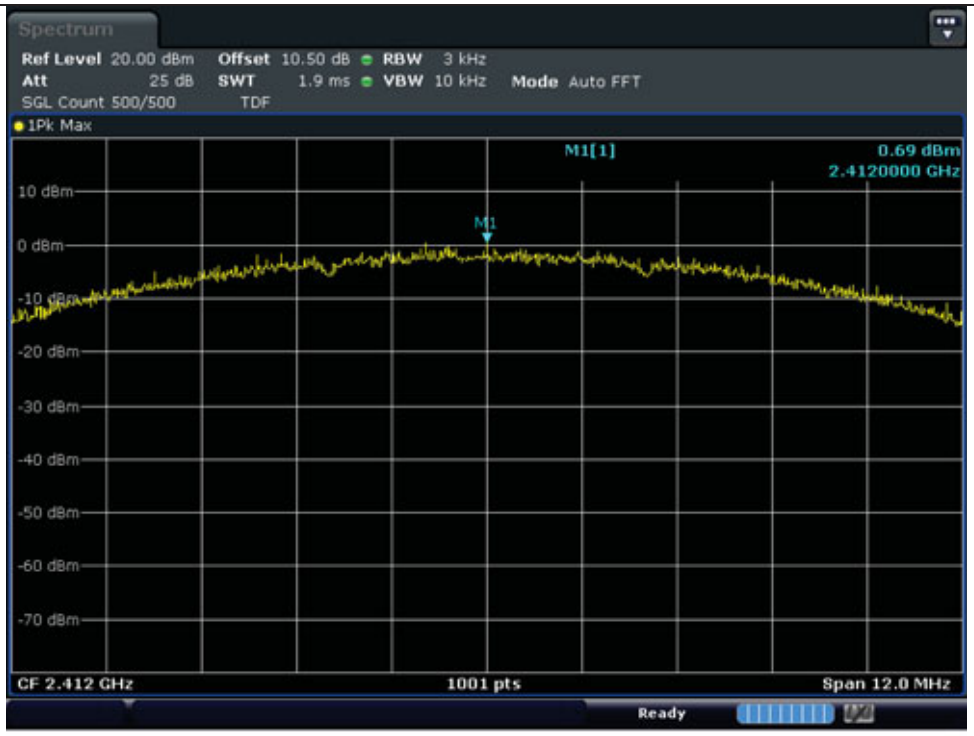
Antenna	Freq. (MHz)	Result (dBm)	Limit (dBm)
SISO ANT1	2 422	-10.11	8.00
	2 437	-8.88	8.00
	2 452	-9.40	8.00
SISO ANT2	2 422	-7.94	8.00
	2 437	-7.52	8.00
	2 452	-7.53	8.00

Antenna	Freq. (MHz)	ANT1 (dBm)	ANT2 (dBm)	Result (dBm)	Limit (dBm)
MIMO	2 422	-12.72	-11.27	-8.92	8.00
	2 437	-12.27	-10.69	-8.40	8.00
	2 452	-12.33	-10.79	-8.48	8.00

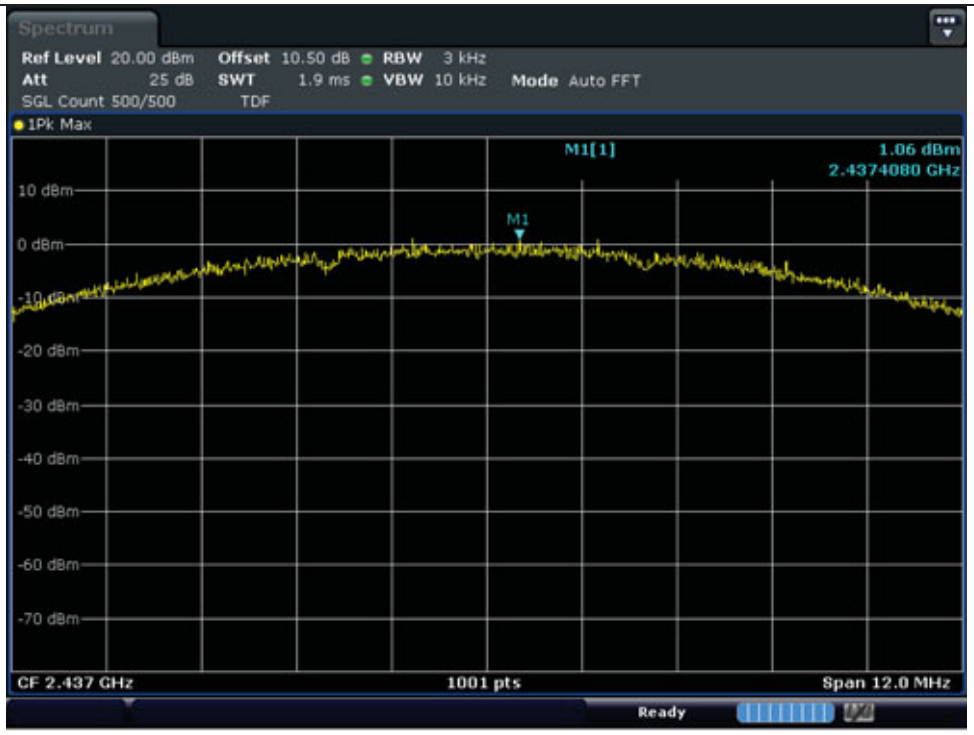
Note 1 : refer to 4.4.1 for information on limit reduction.
Note 2 : We took the insertion loss of the cable loss into consideration within the measuring instrument.
Note 3 : Result(dBm) = ANT1(dBm) + ANT2(dBm)

4.3.3.5 Test Plot

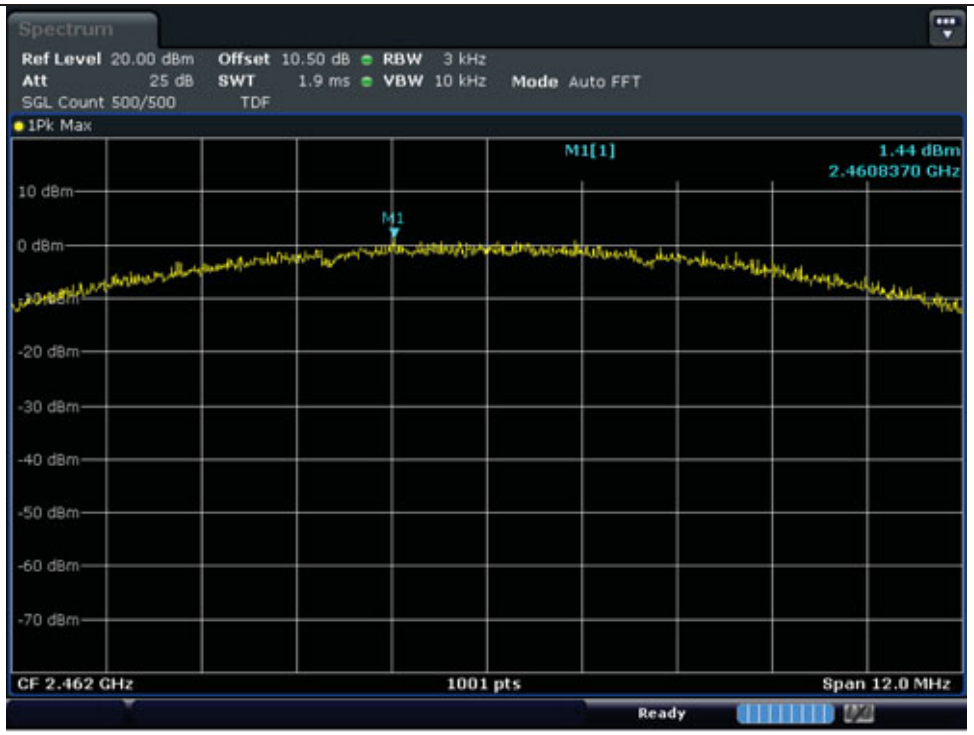
Test mode : 802.11b / ANT1 / 2412 MHz



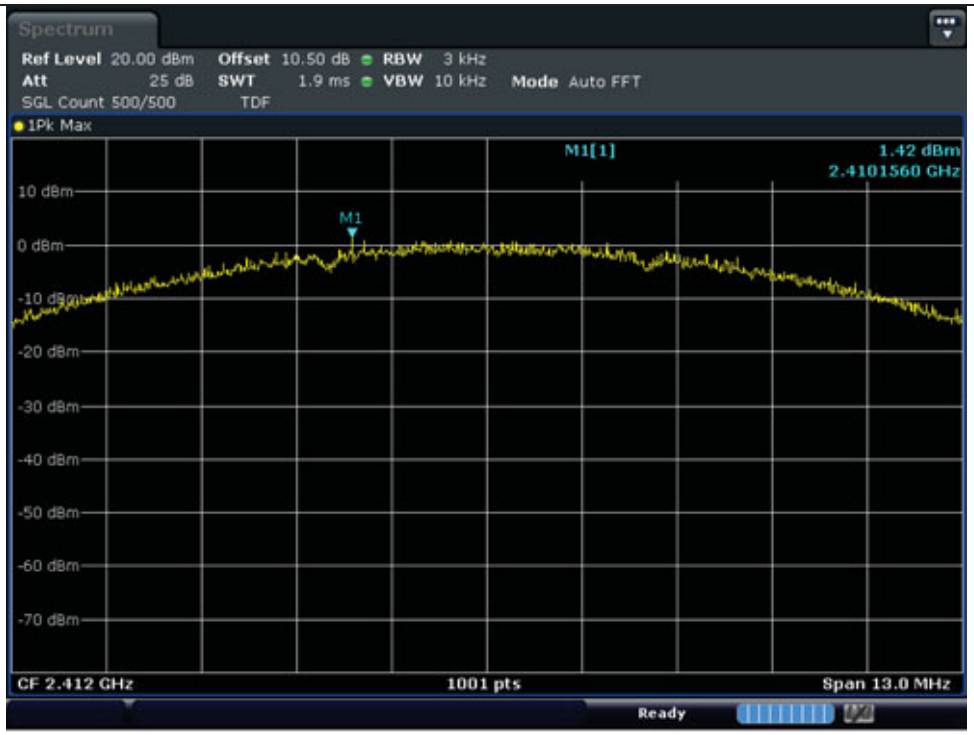
Test mode : 802.11b / ANT1 / 2437 MHz



Test mode : 802.11b / ANT1 / 2462 MHz



Test mode : 802.11b / ANT2 / 2412 MHz



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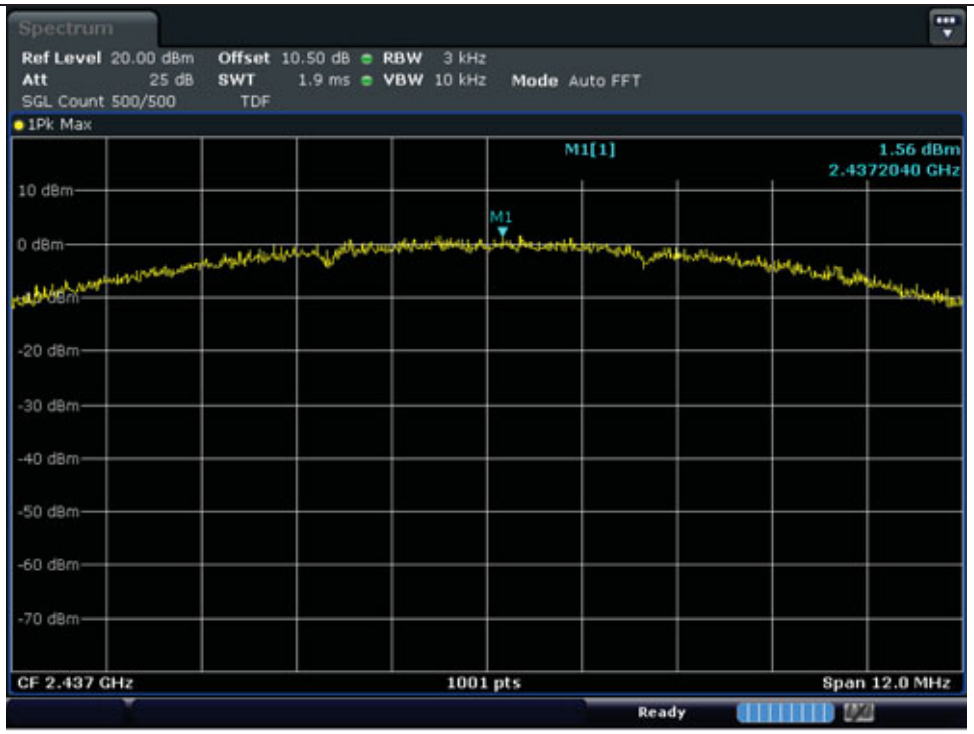
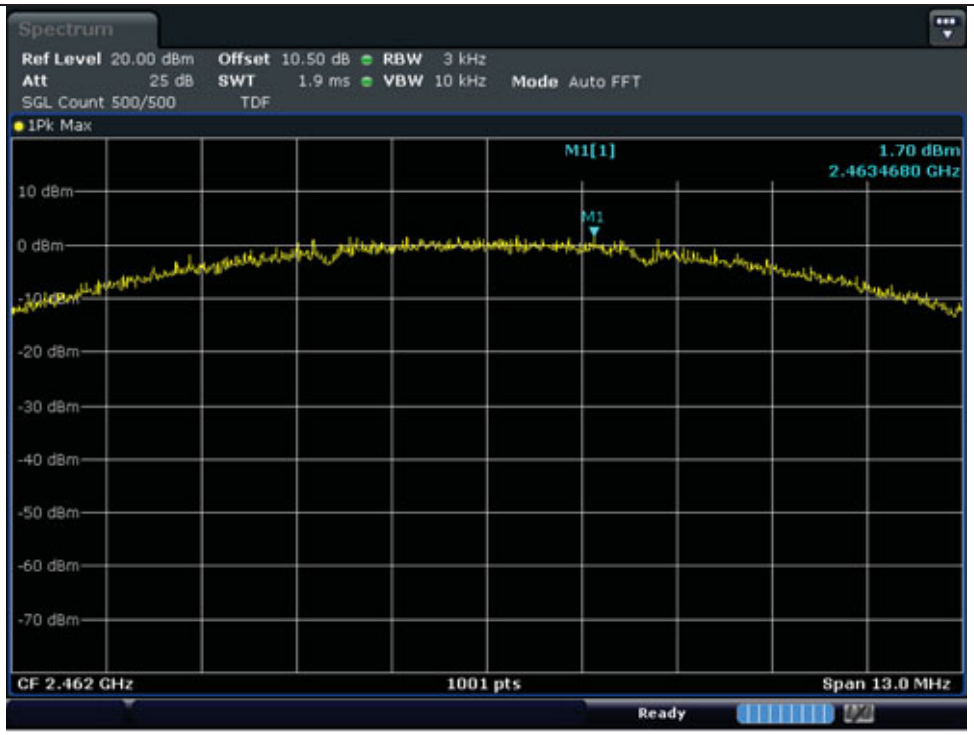
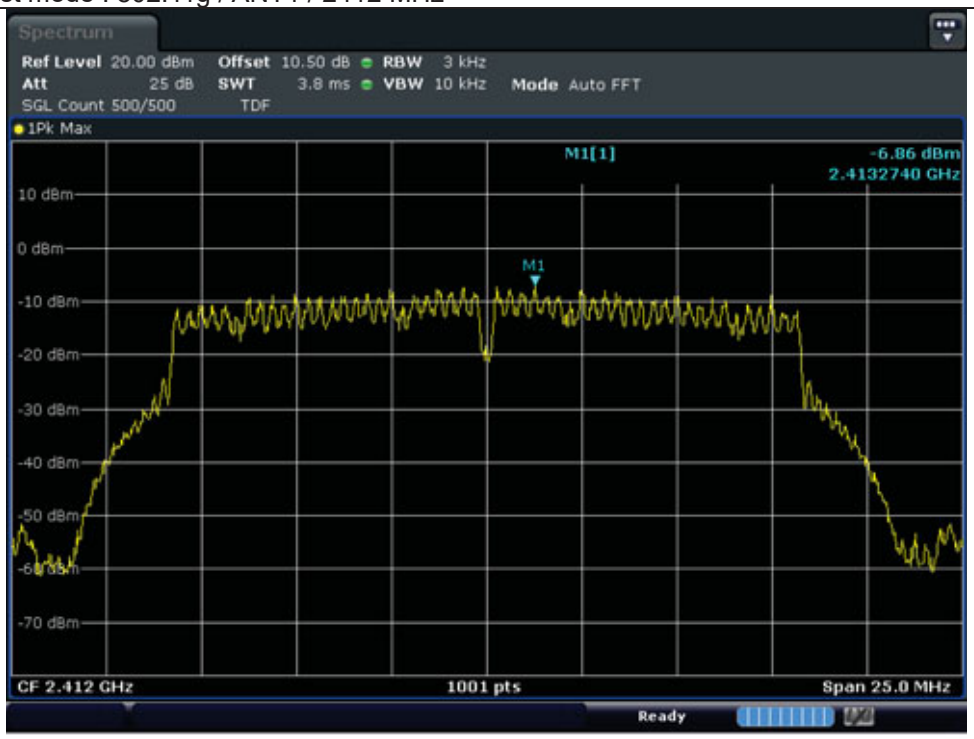


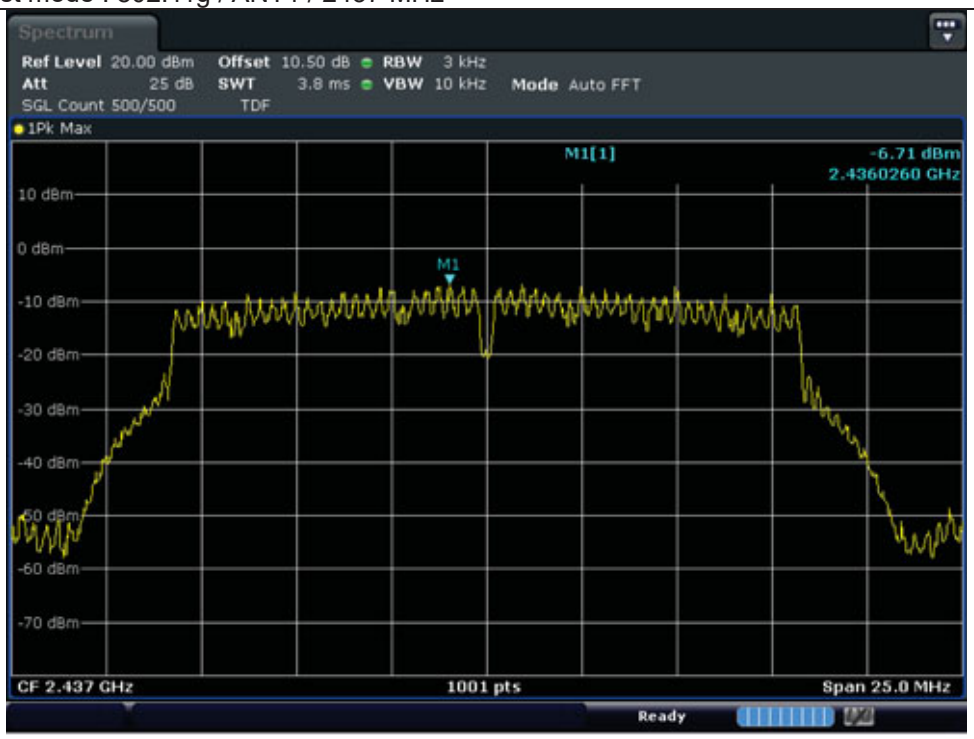
Test mode : 802.11b / ANT2 / 2462 MHz



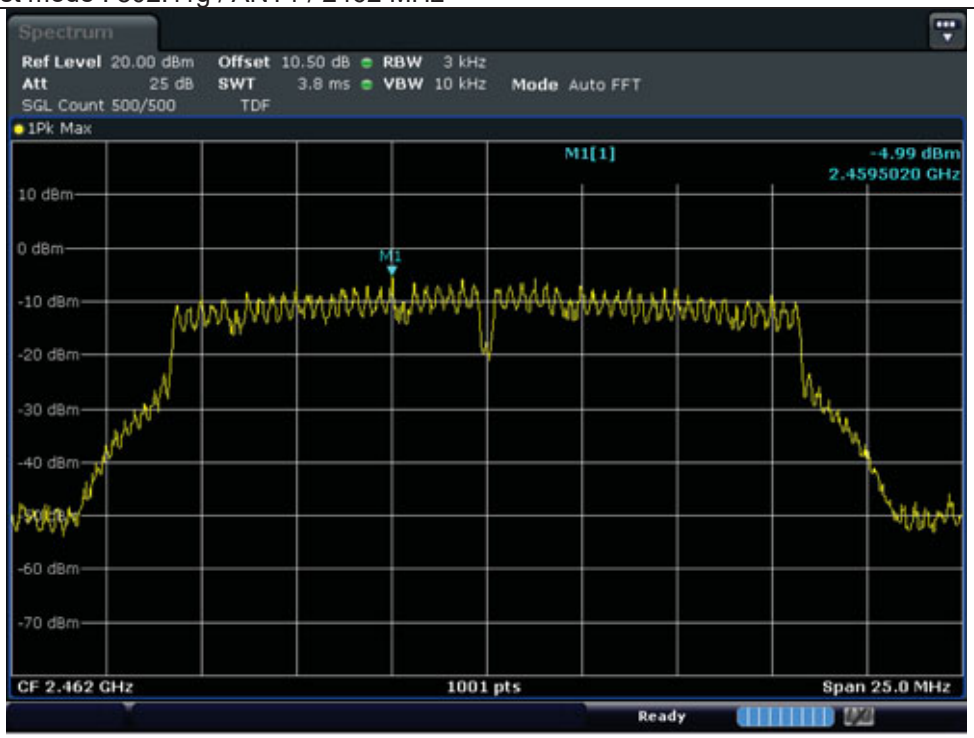
Test mode : 802.11g / ANT1 / 2412 MHz



Test mode : 802.11g / ANT1 / 2437 MHz



Test mode : 802.11g / ANT1 / 2462 MHz



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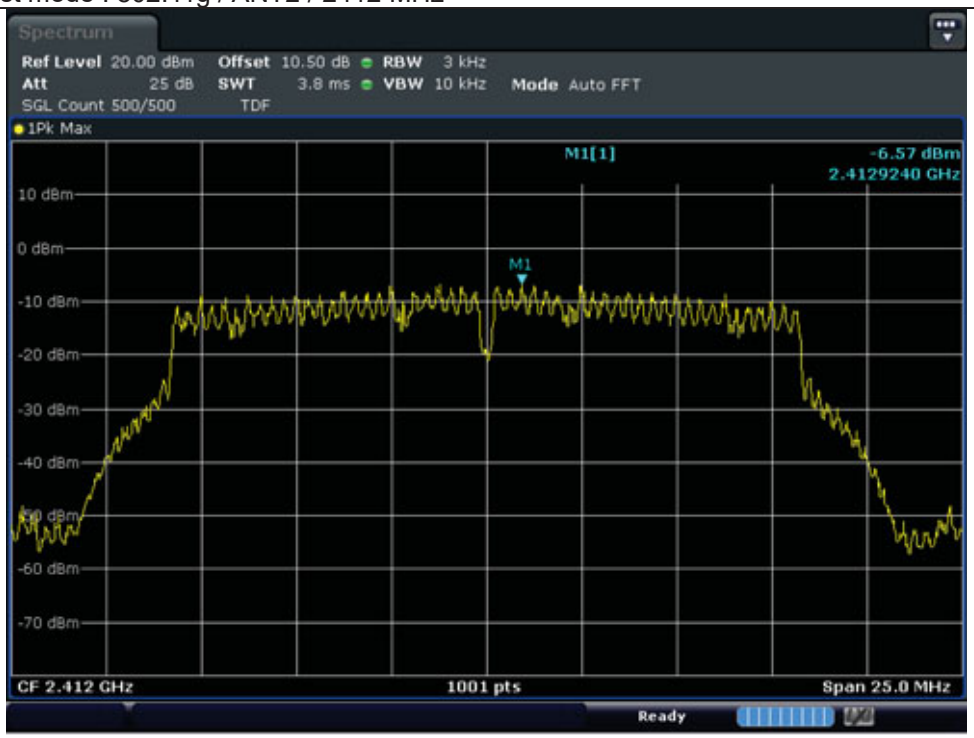
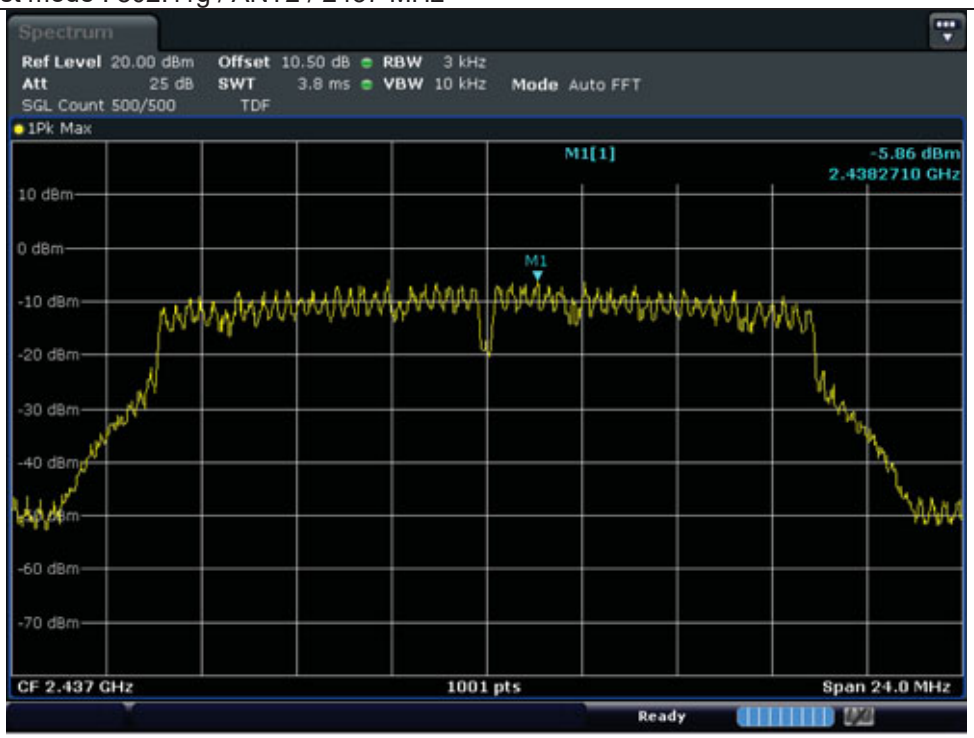
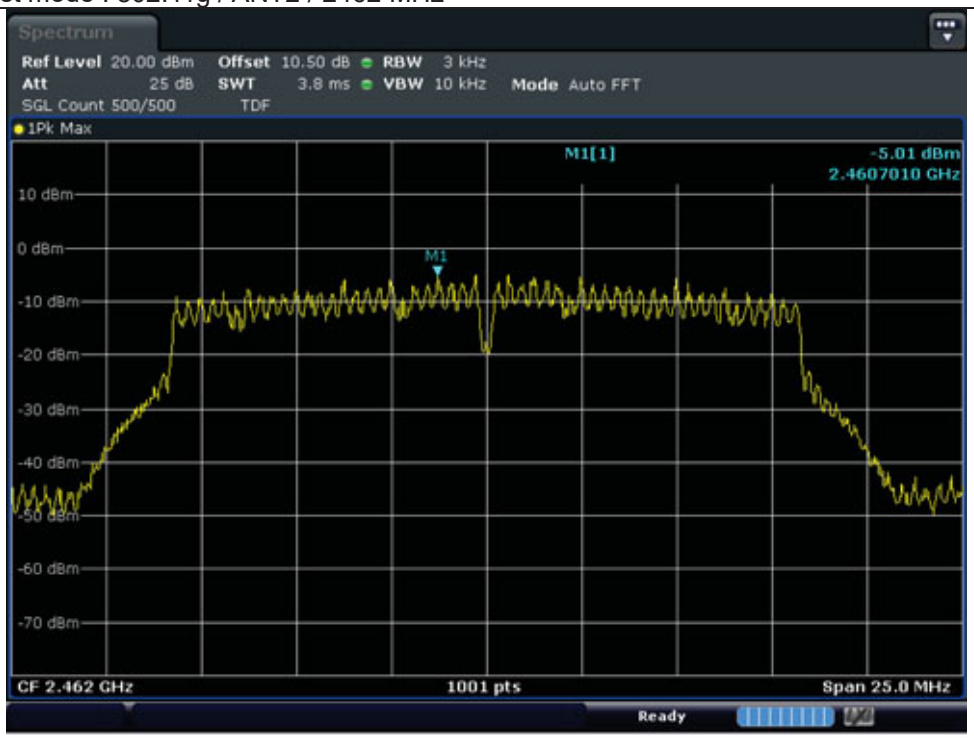


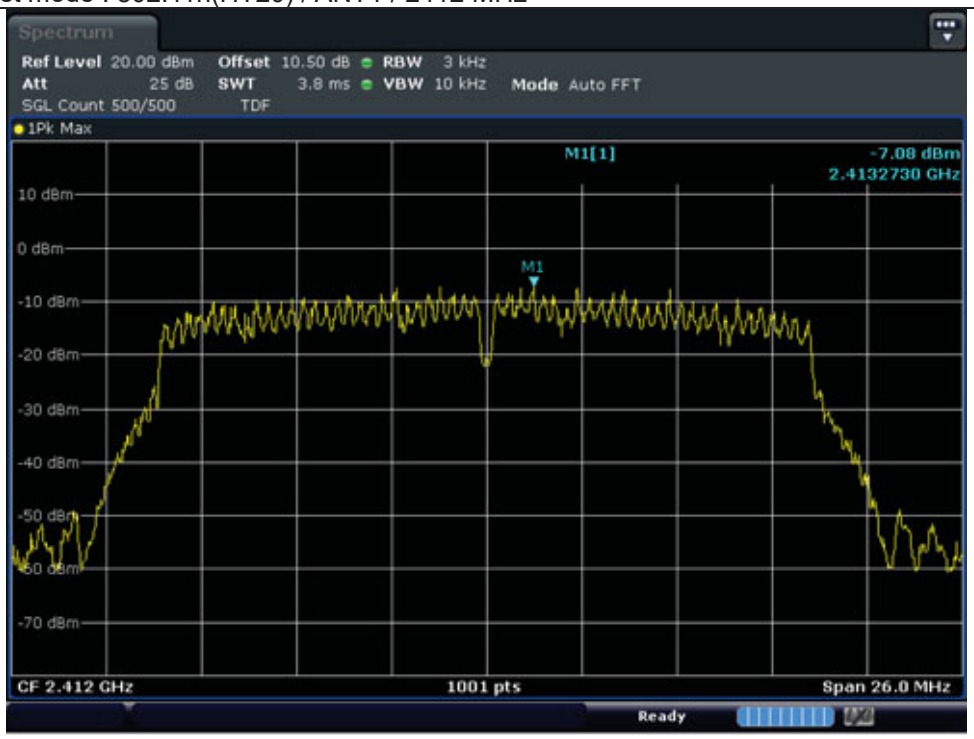
Test mode : 802.11g / ANT2 / 2437 MHz



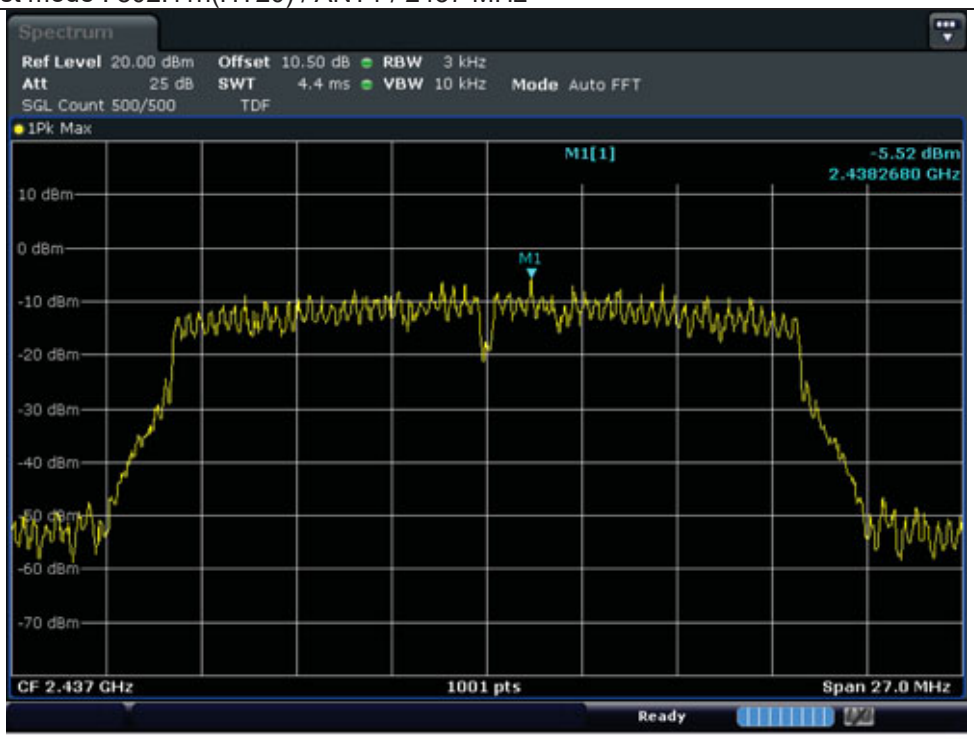
Test mode : 802.11g / ANT2 / 2462 MHz



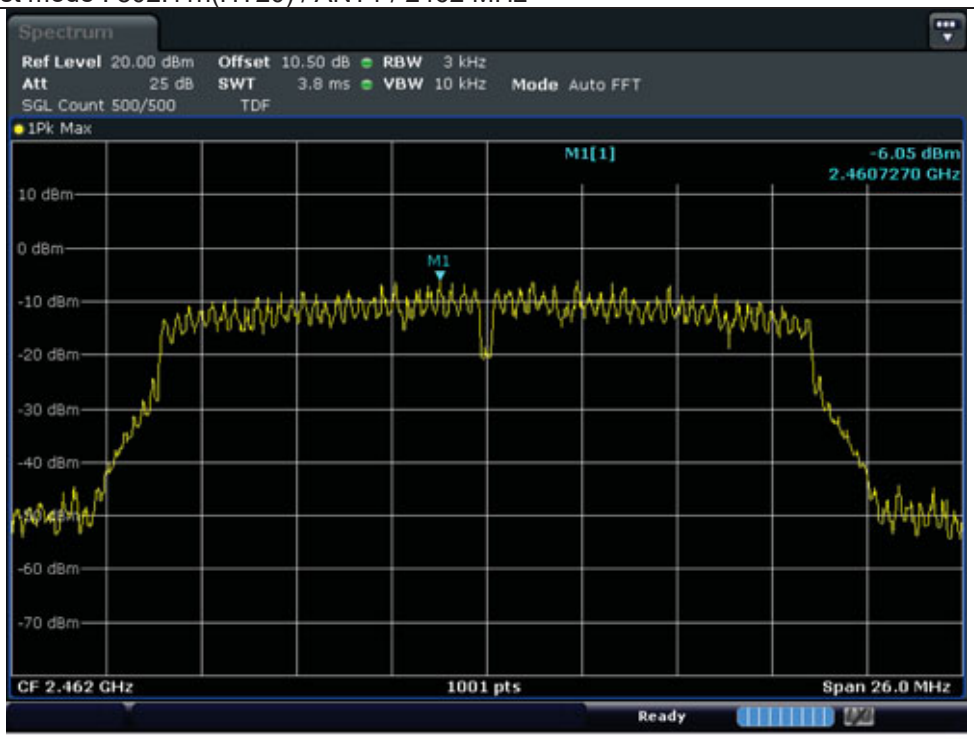
Test mode : 802.11n(HT20) / ANT1 / 2412 MHz



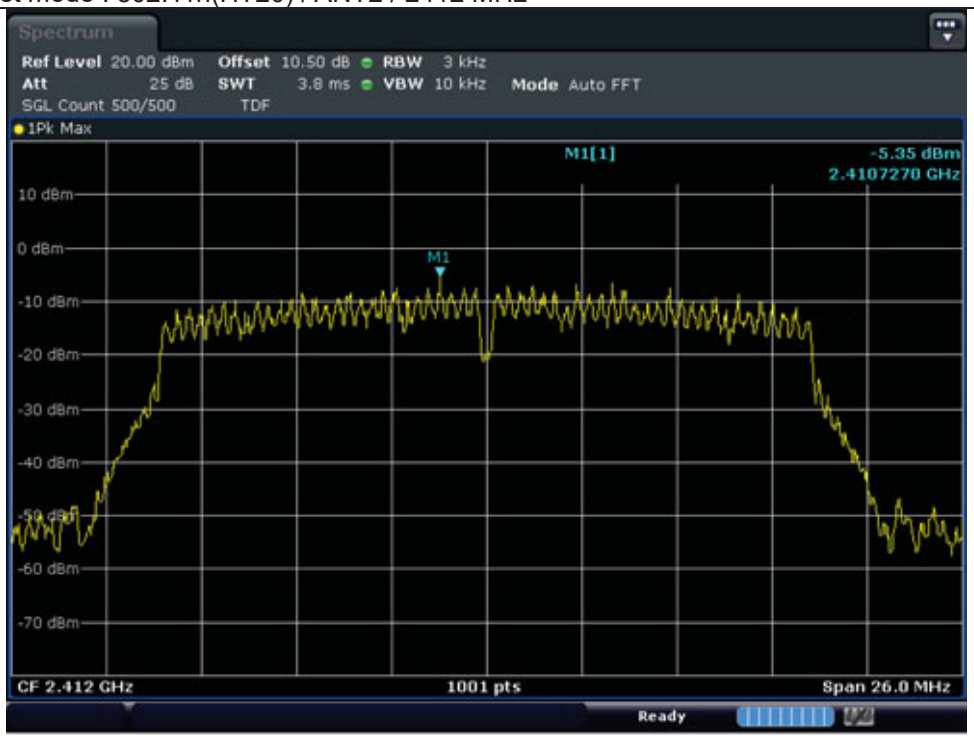
Test mode : 802.11n(HT20) / ANT1 / 2437 MHz



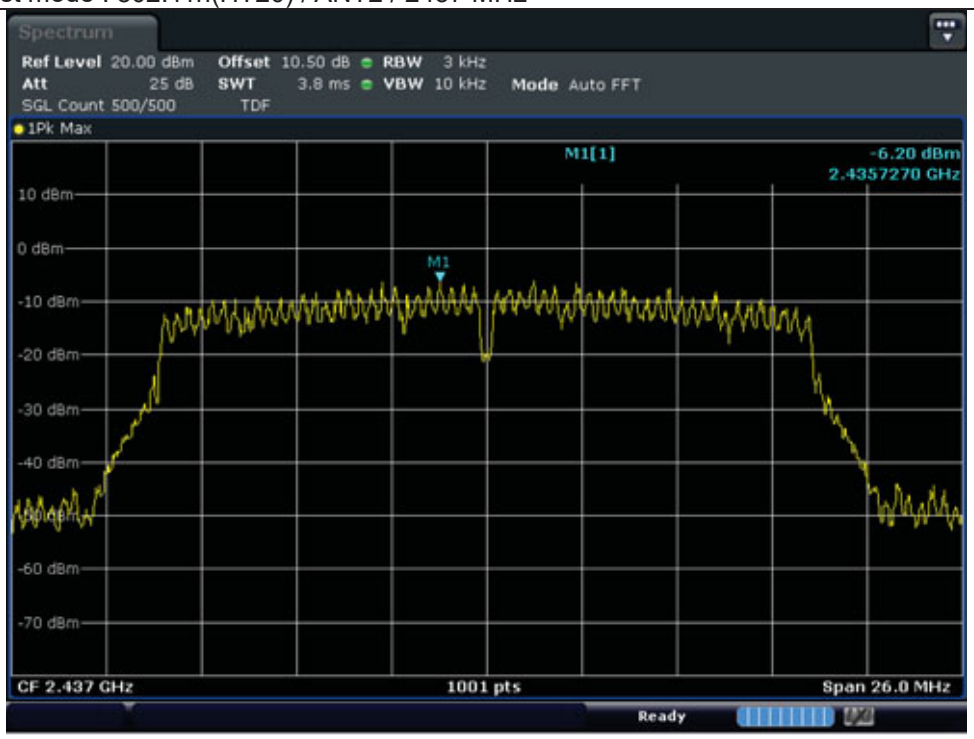
Test mode : 802.11n(HT20) / ANT1 / 2462 MHz



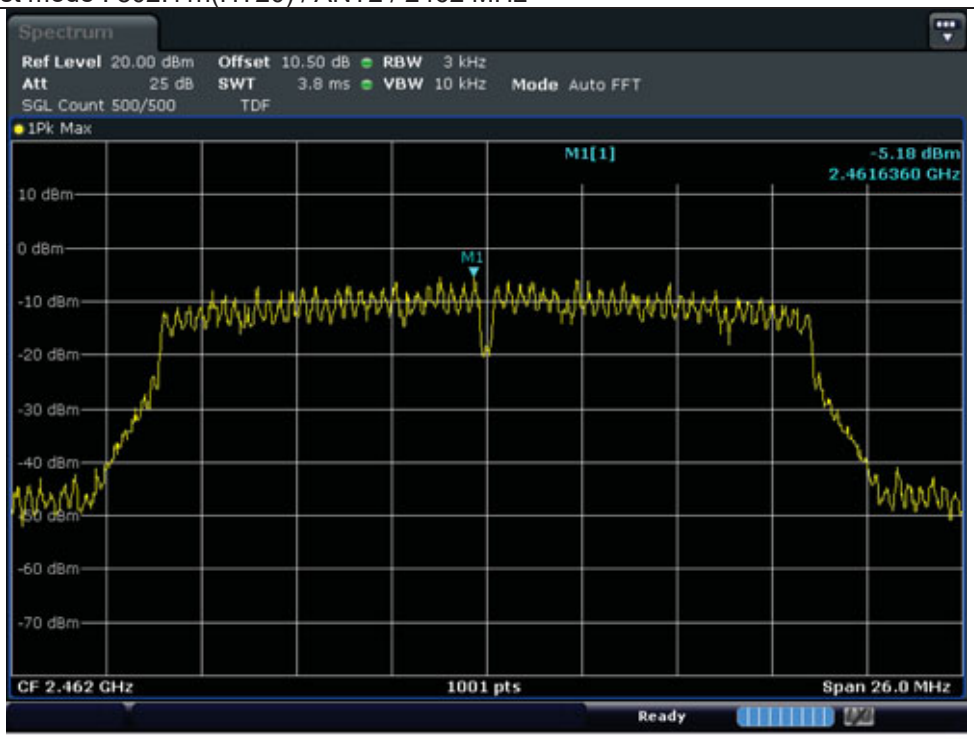
Test mode : 802.11n(HT20) / ANT2 / 2412 MHz



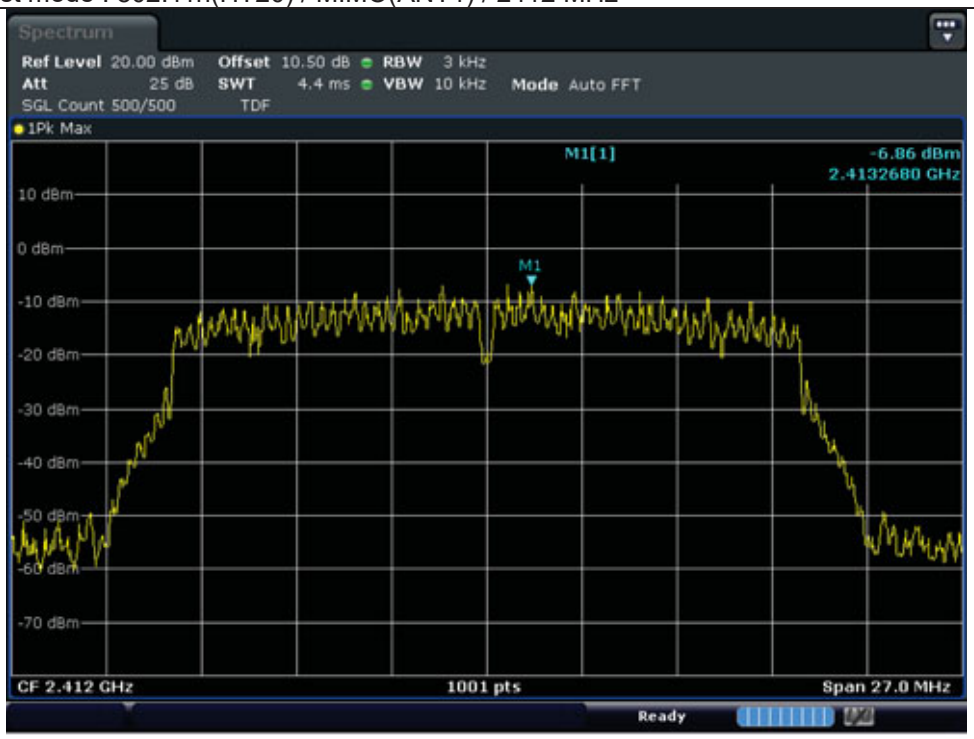
Test mode : 802.11n(HT20) / ANT2 / 2437 MHz



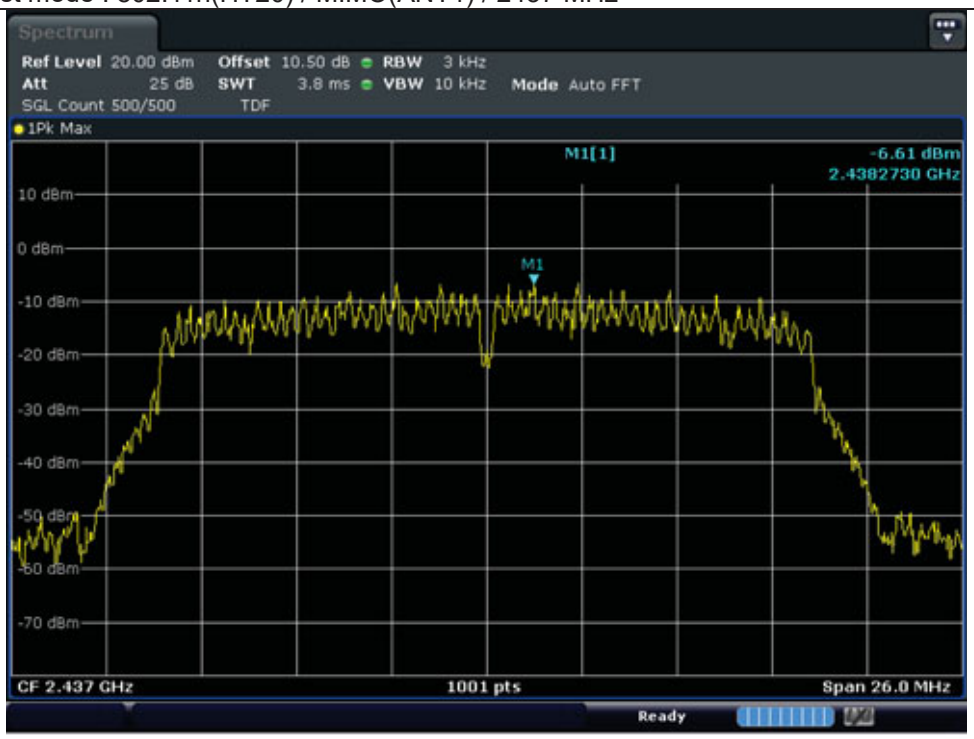
Test mode : 802.11n(HT20) / ANT2 / 2462 MHz



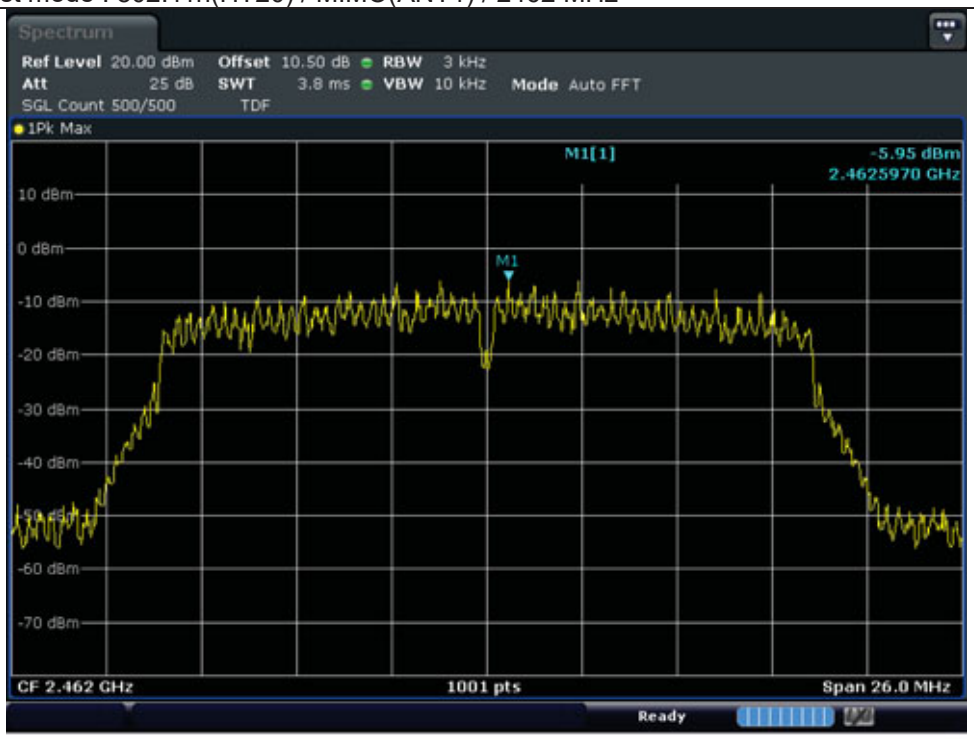
Test mode : 802.11n(HT20) / MIMO(ANT1) / 2412 MHz



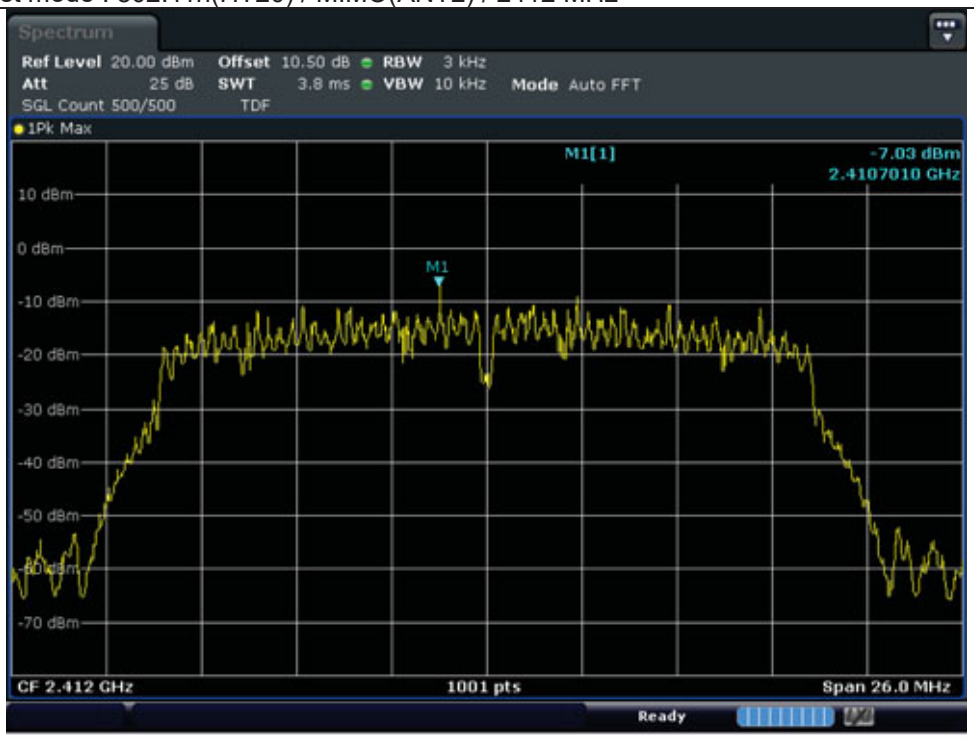
Test mode : 802.11n(HT20) / MIMO(ANT1) / 2437 MHz



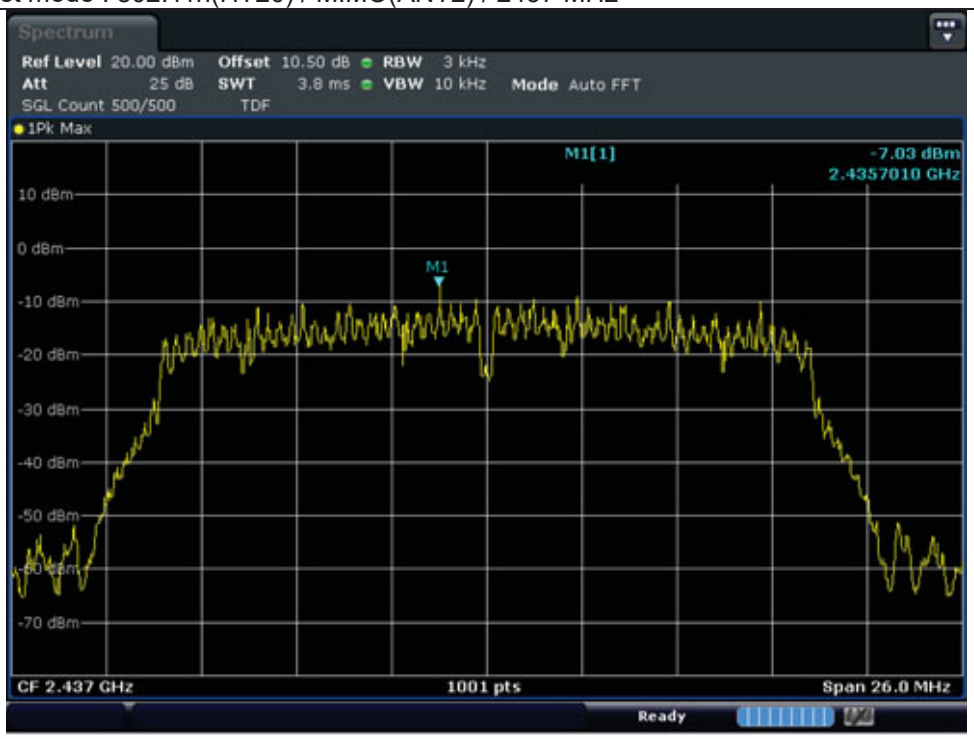
Test mode : 802.11n(HT20) / MIMO(ANT1) / 2462 MHz



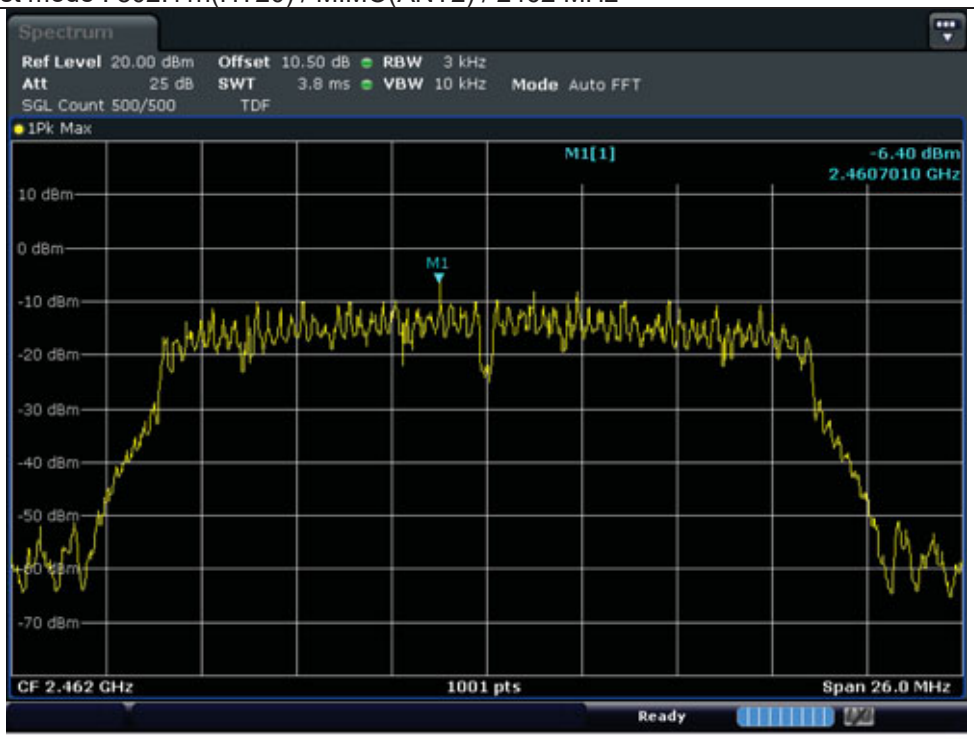
Test mode : 802.11n(HT20) / MIMO(ANT2) / 2412 MHz



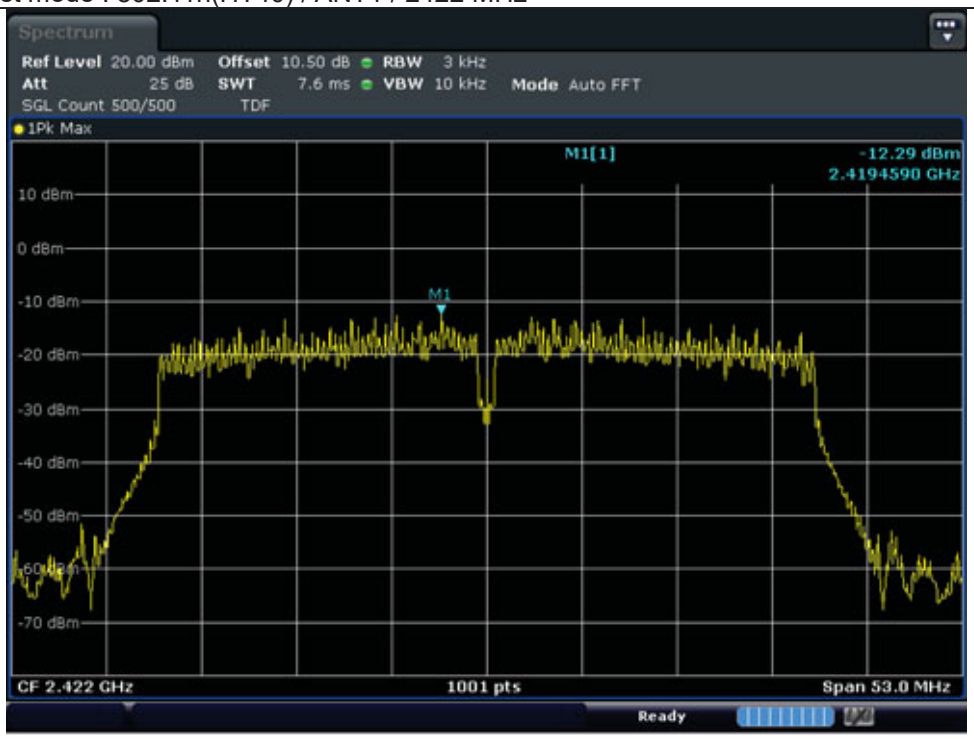
Test mode : 802.11n(HT20) / MIMO(ANT2) / 2437 MHz



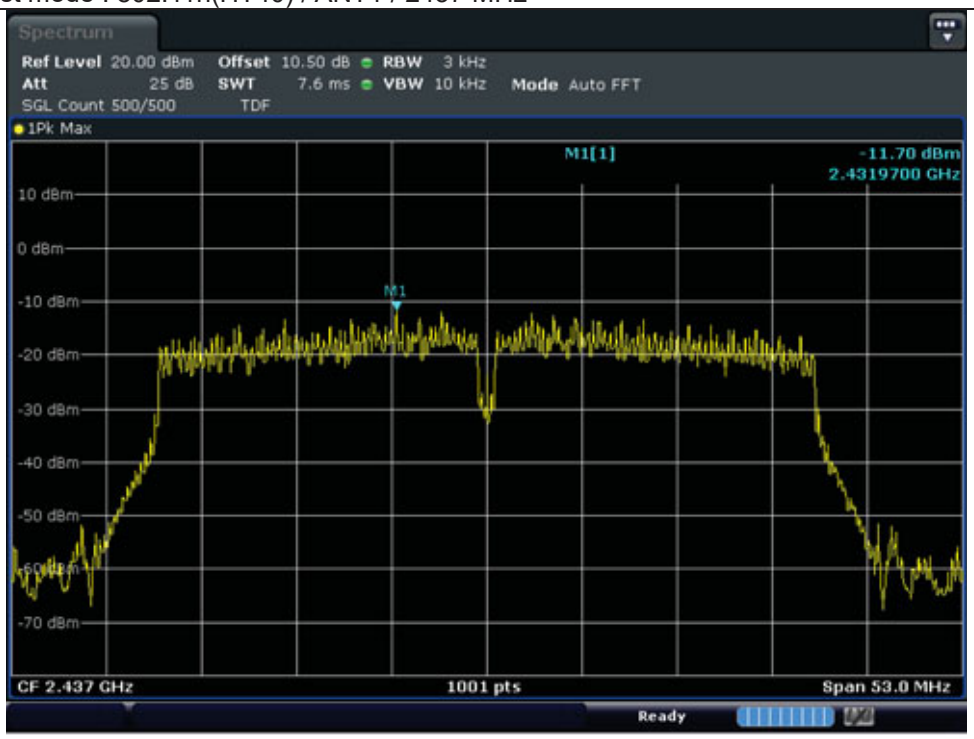
Test mode : 802.11n(HT20) / MIMO(ANT2) / 2462 MHz



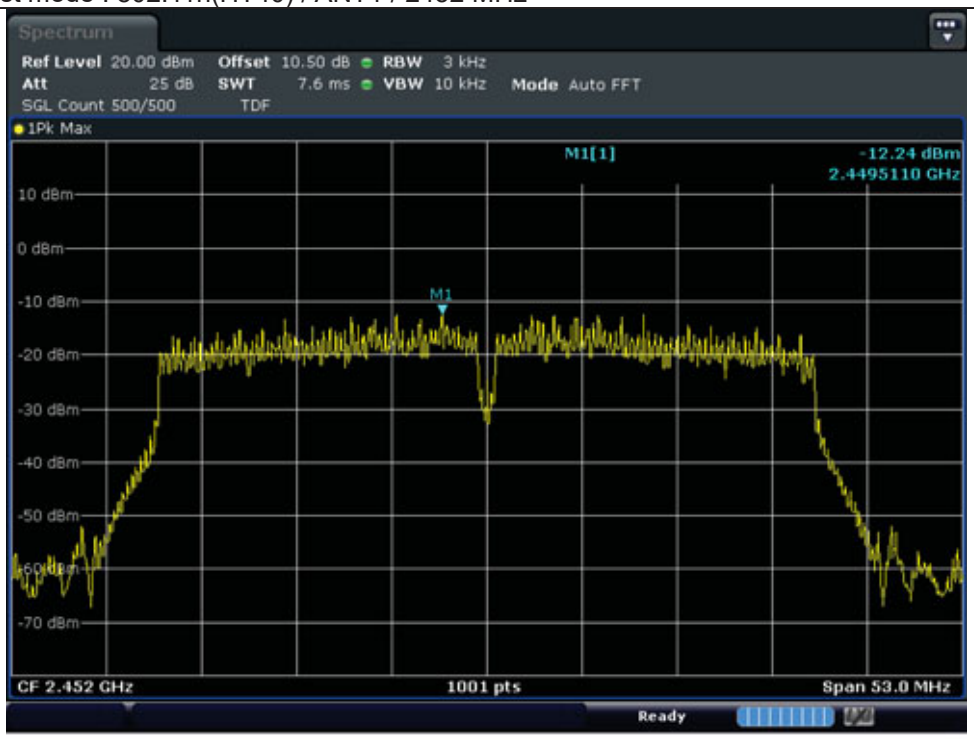
Test mode : 802.11n(HT40) / ANT1 / 2422 MHz



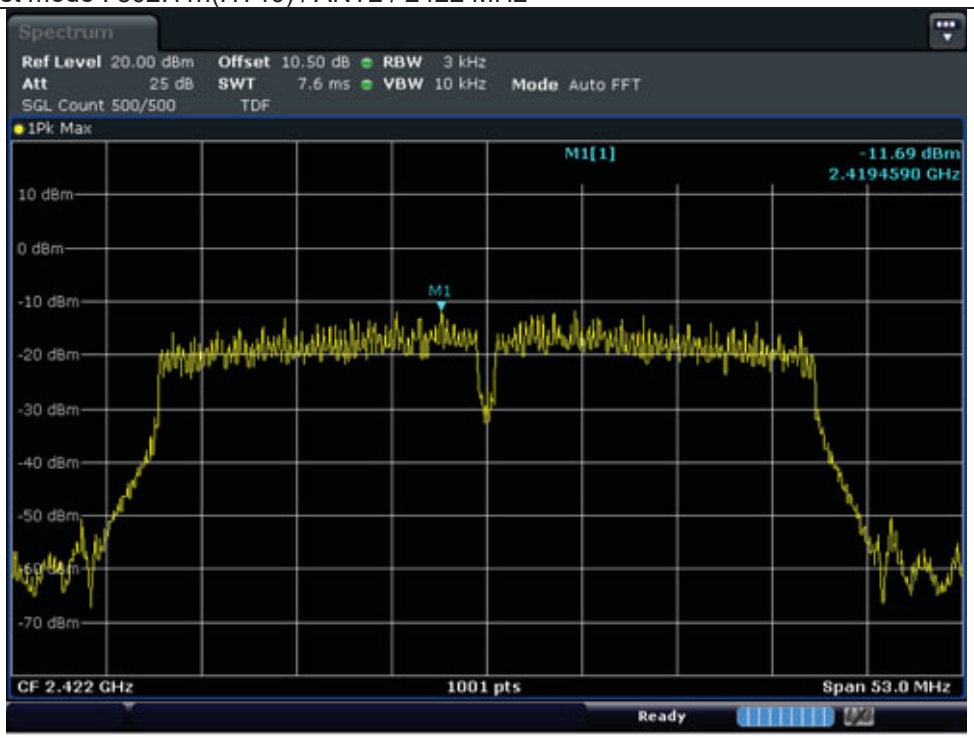
Test mode : 802.11n(HT40) / ANT1 / 2437 MHz



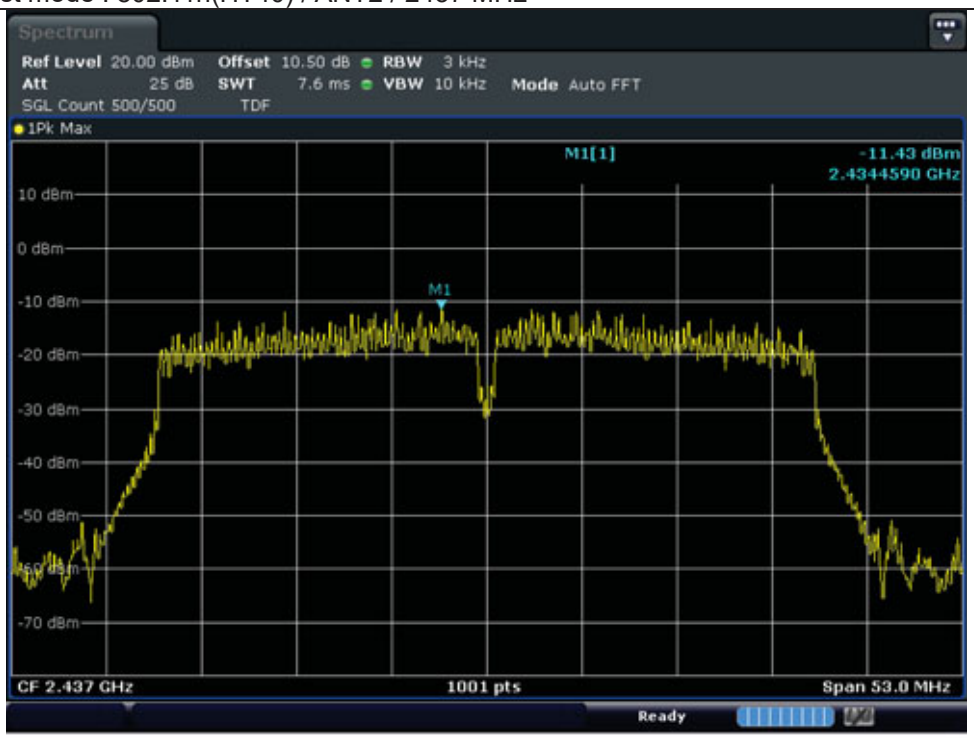
Test mode : 802.11n(HT40) / ANT1 / 2452 MHz



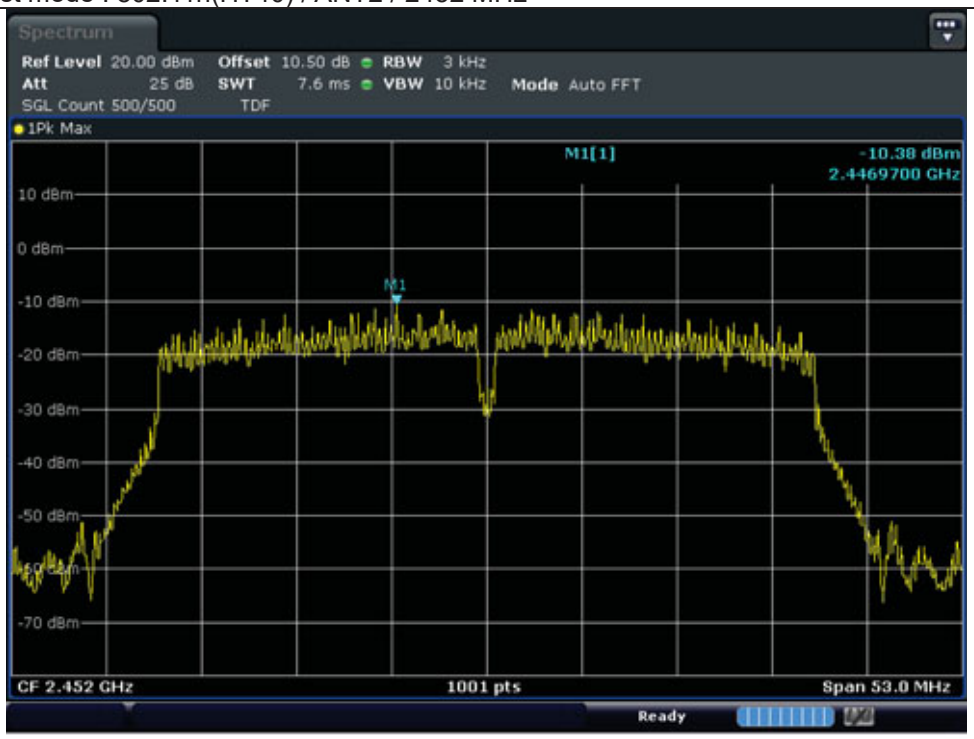
Test mode : 802.11n(HT40) / ANT2 / 2422 MHz



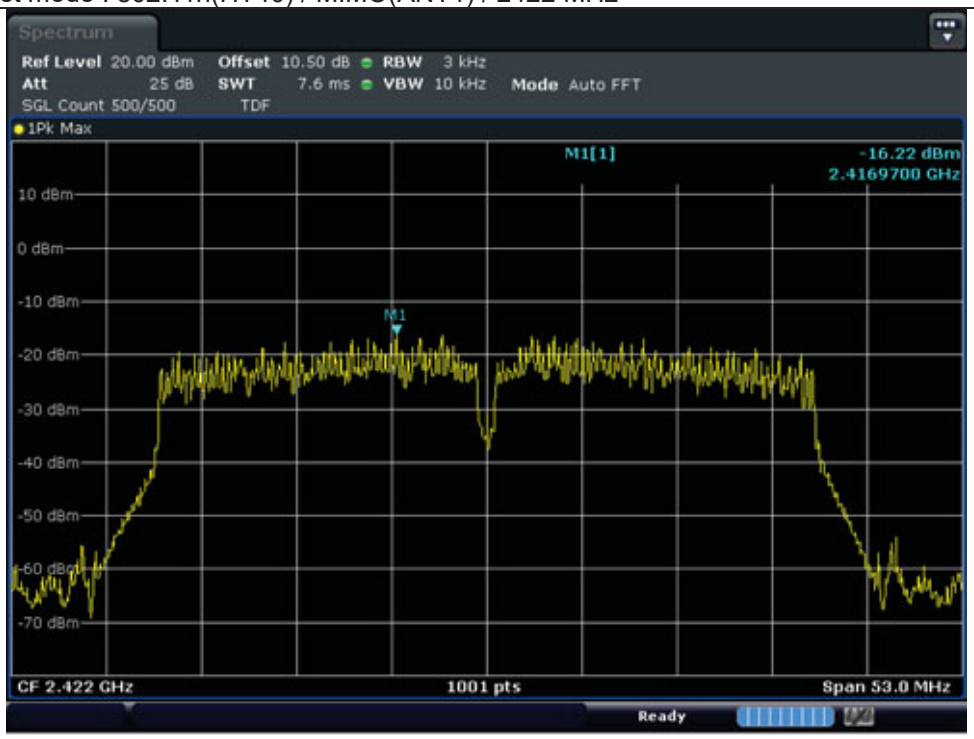
Test mode : 802.11n(HT40) / ANT2 / 2437 MHz



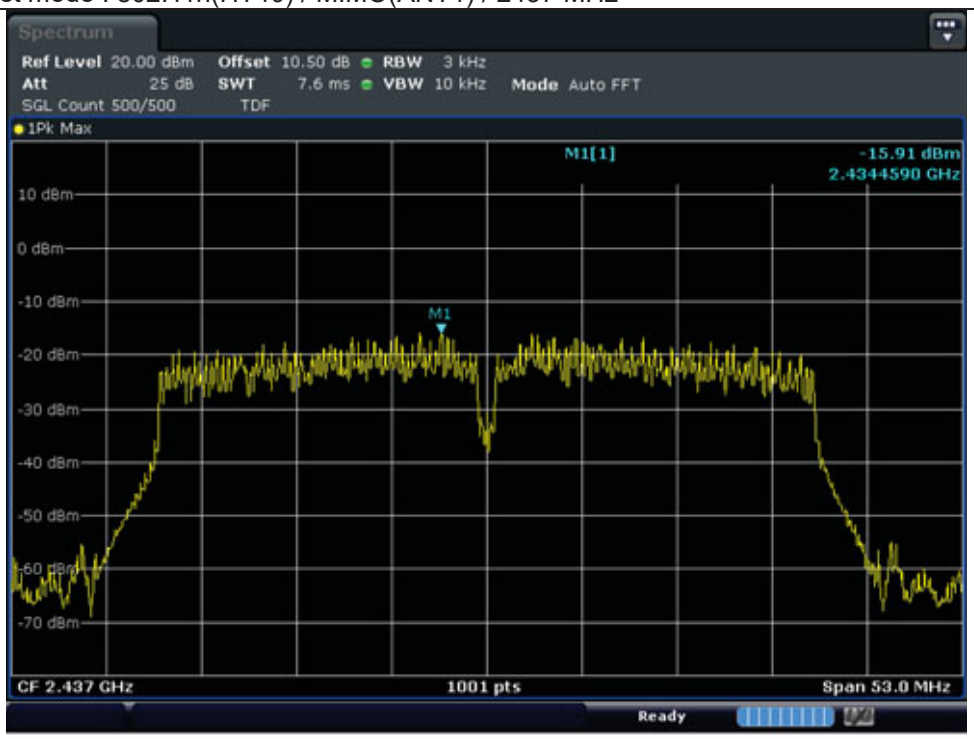
Test mode : 802.11n(HT40) / ANT2 / 2452 MHz



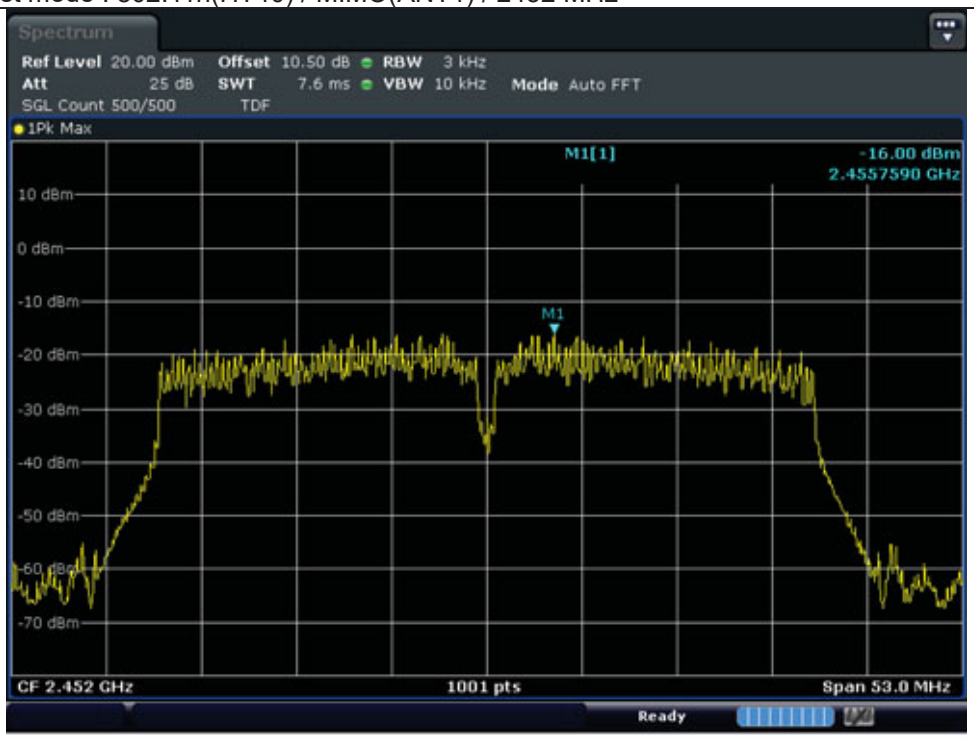
Test mode : 802.11n(HT40) / MIMO(ANT1) / 2422 MHz



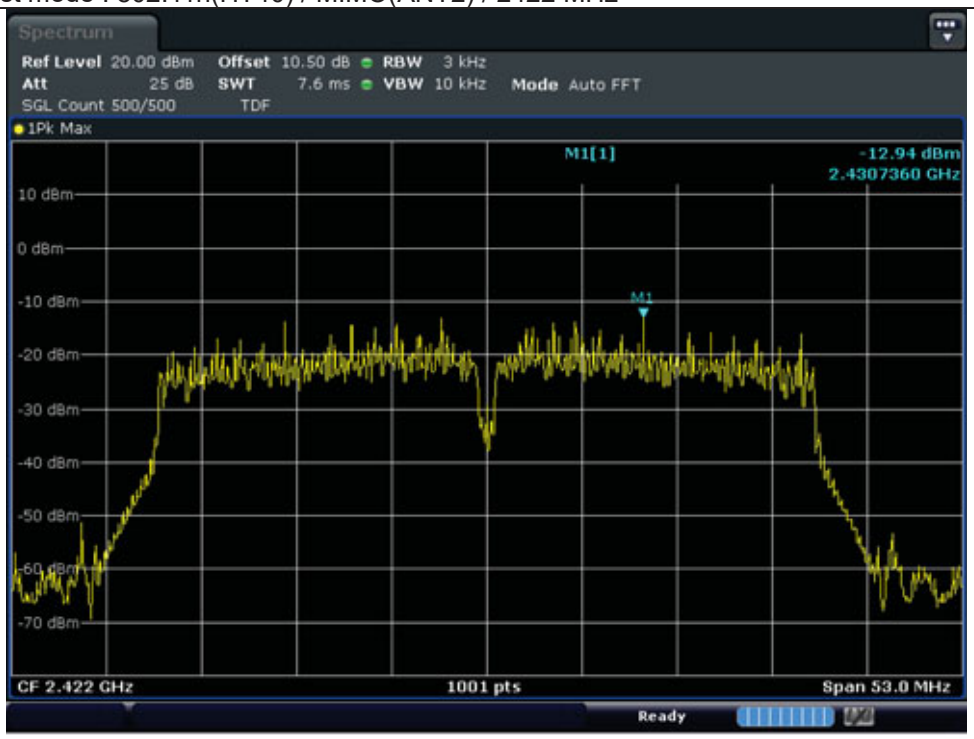
Test mode : 802.11n(HT40) / MIMO(ANT1) / 2437 MHz



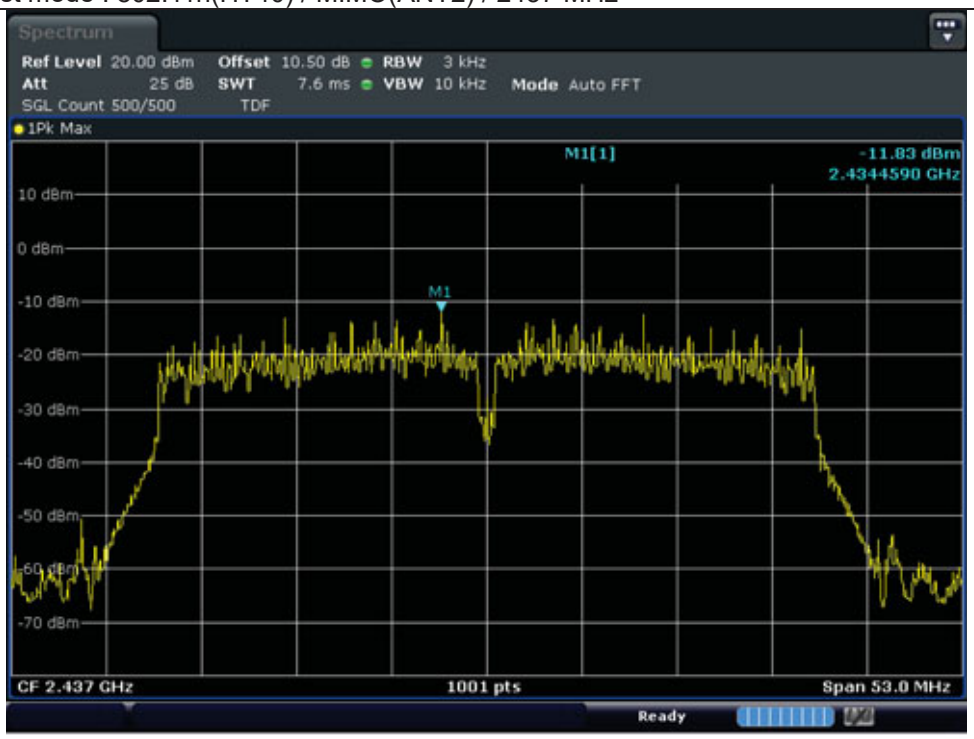
Test mode : 802.11n(HT40) / MIMO(ANT1) / 2452 MHz



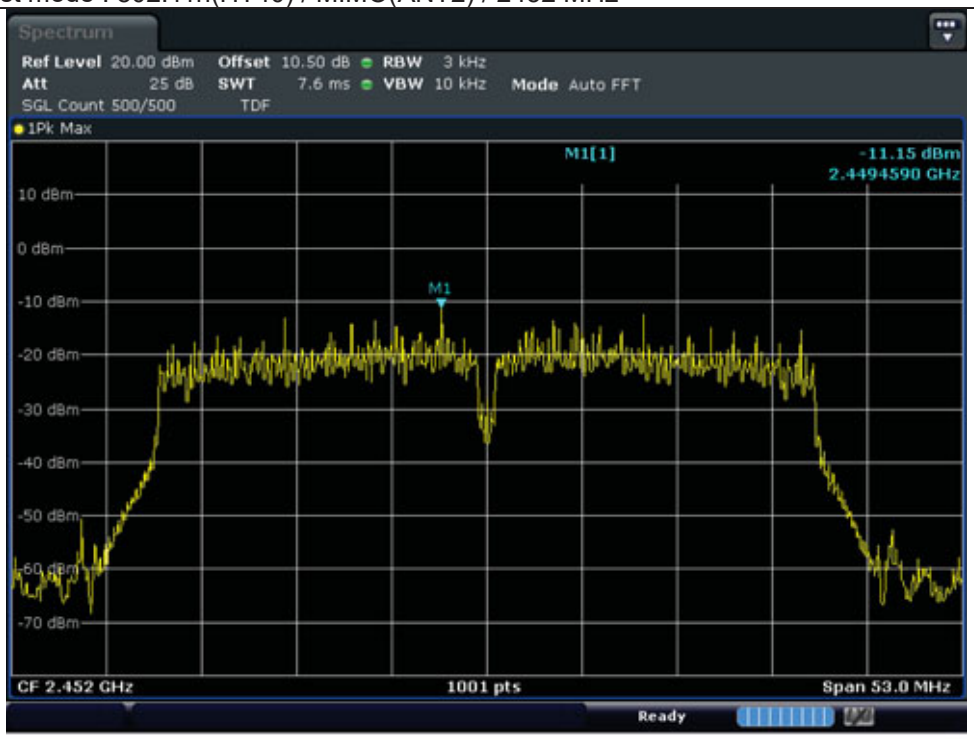
Test mode : 802.11n(HT40) / MIMO(ANT2) / 2422 MHz



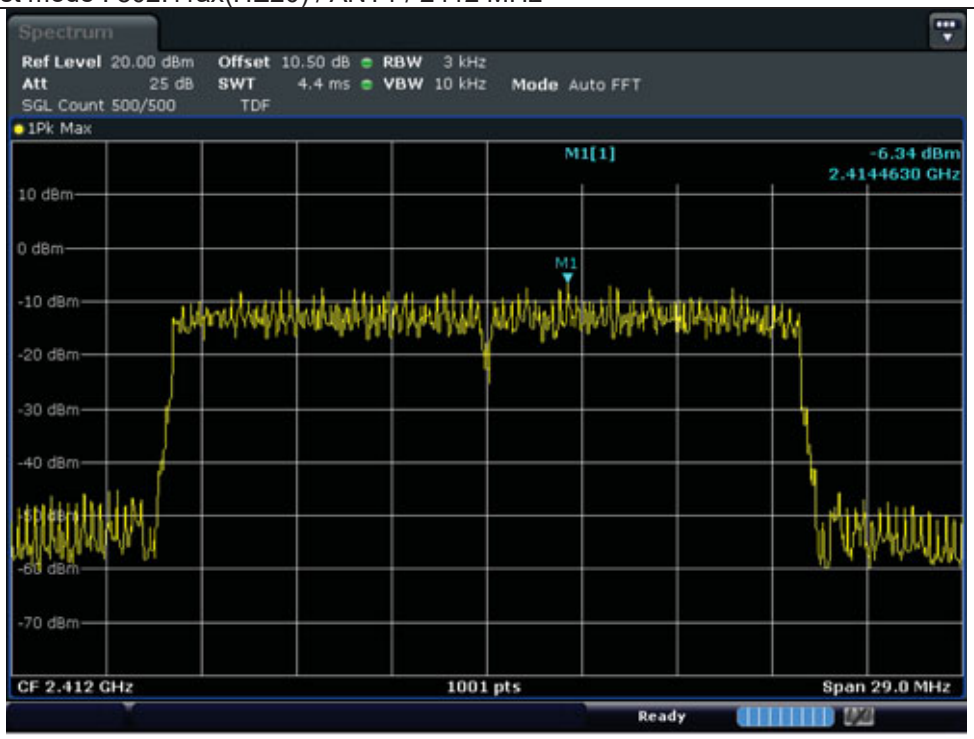
Test mode : 802.11n(HT40) / MIMO(ANT2) / 2437 MHz



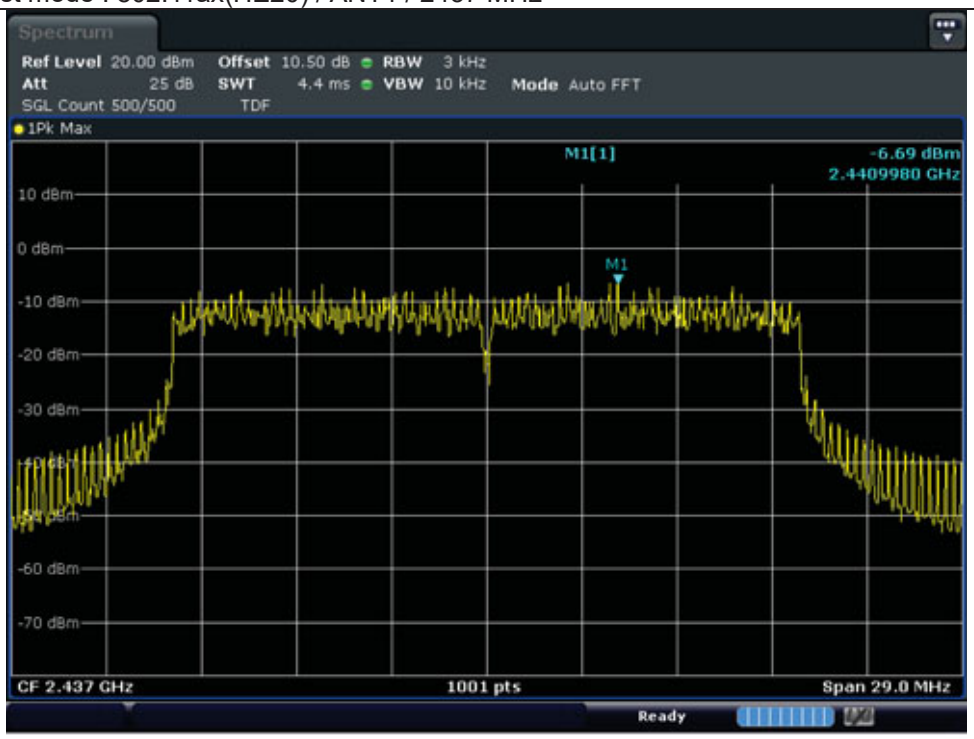
Test mode : 802.11n(HT40) / MIMO(ANT2) / 2452 MHz



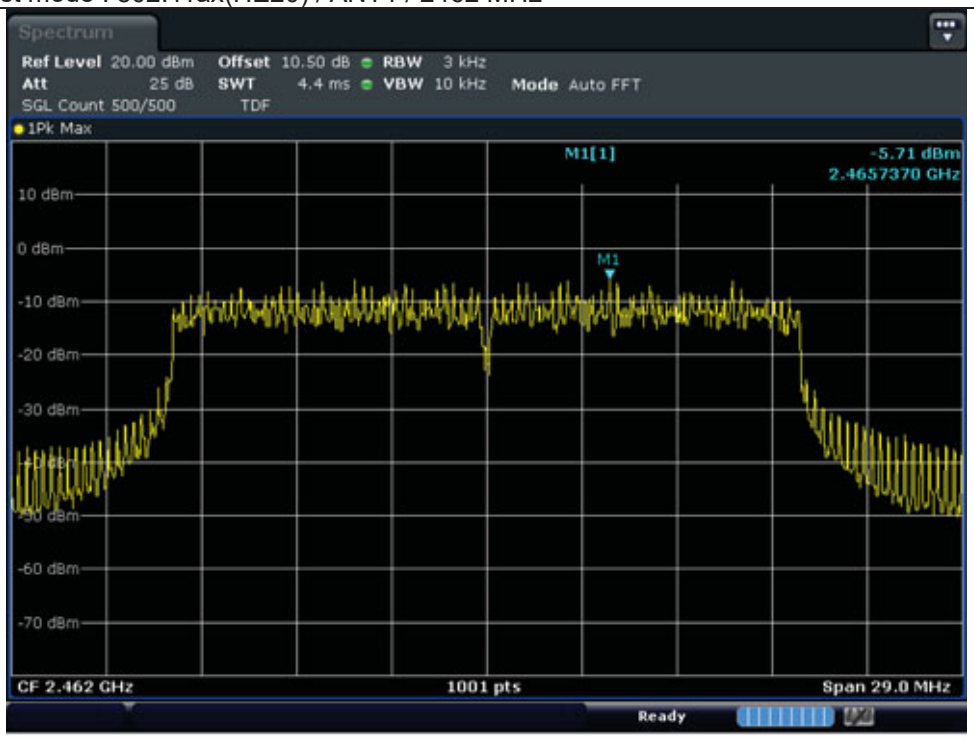
Test mode : 802.11ax(HE20) / ANT1 / 2412 MHz



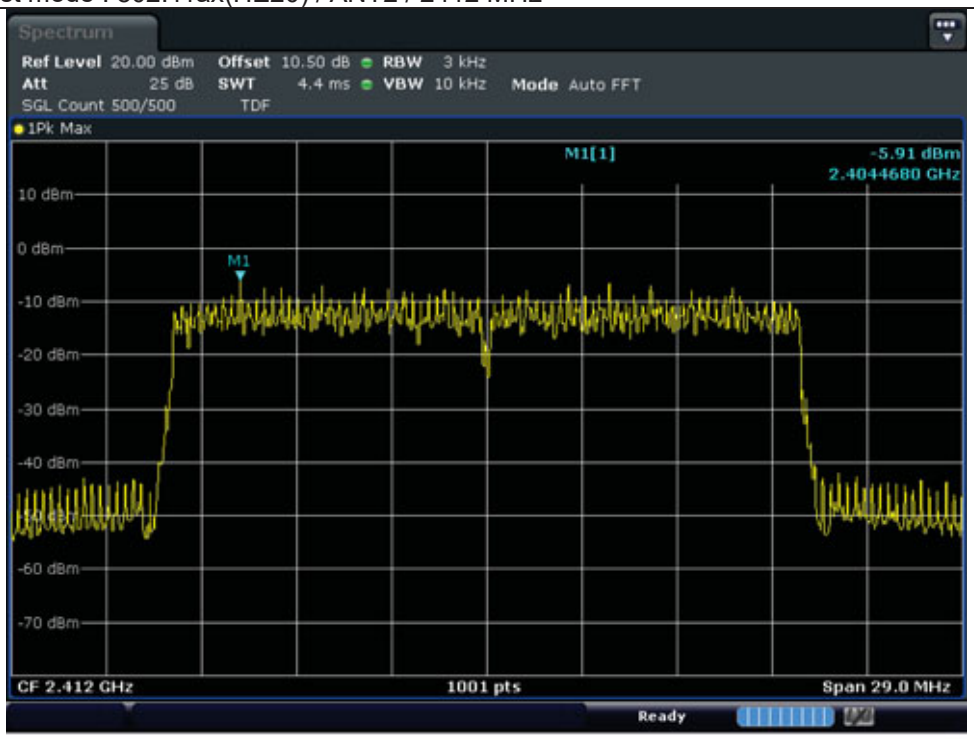
Test mode : 802.11ax(HE20) / ANT1 / 2437 MHz



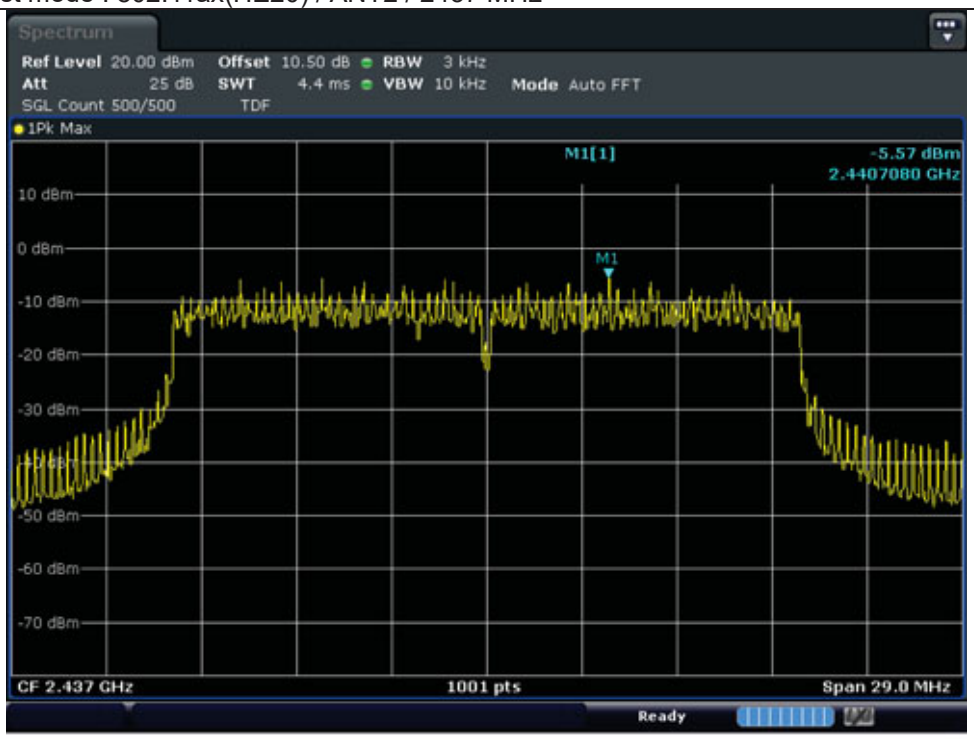
Test mode : 802.11ax(HE20) / ANT1 / 2462 MHz



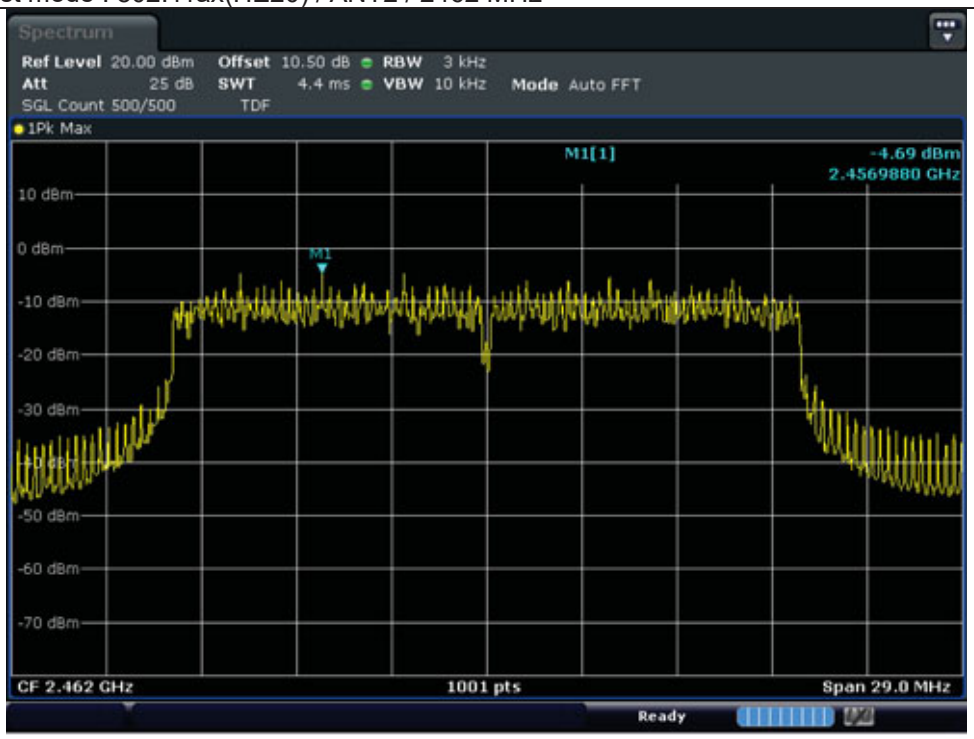
Test mode : 802.11ax(HE20) / ANT2 / 2412 MHz



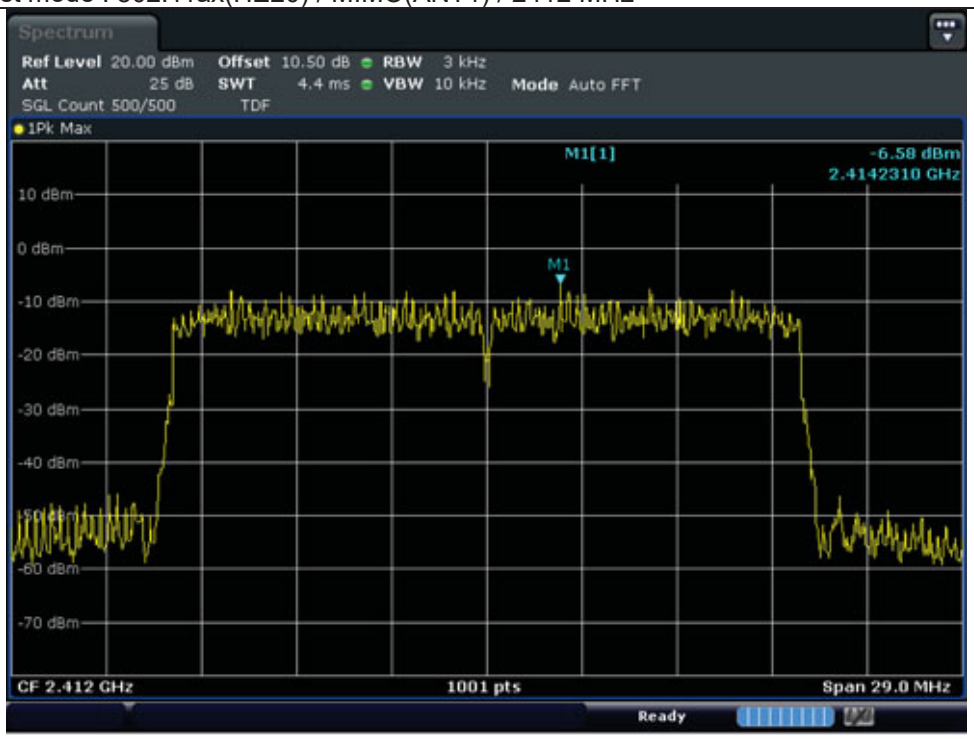
Test mode : 802.11ax(HE20) / ANT2 / 2437 MHz



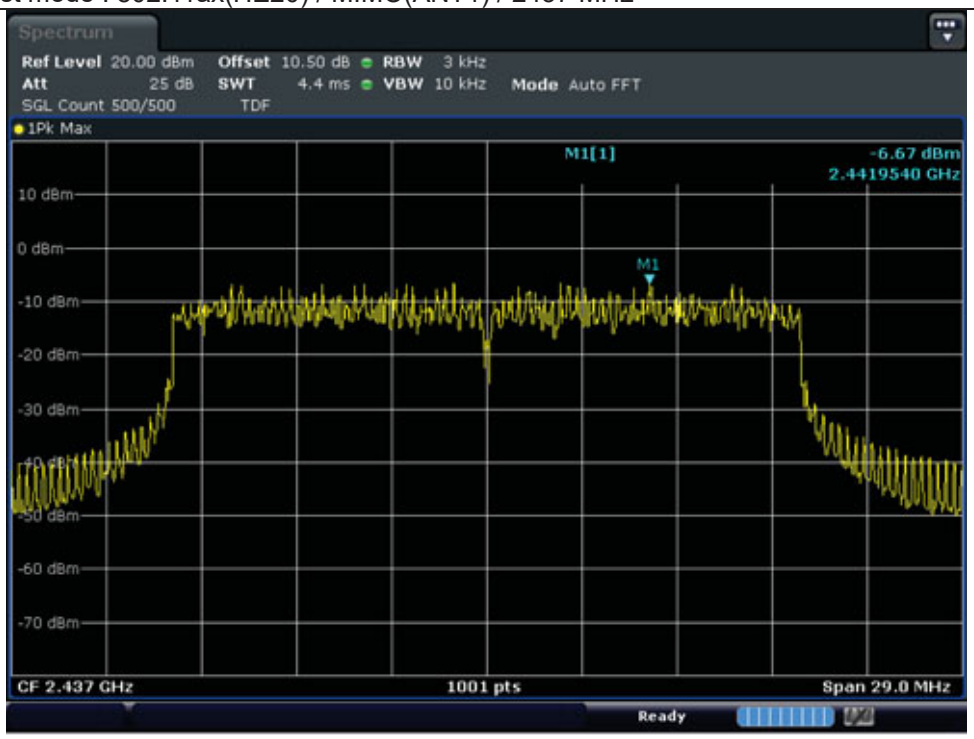
Test mode : 802.11ax(HE20) / ANT2 / 2462 MHz



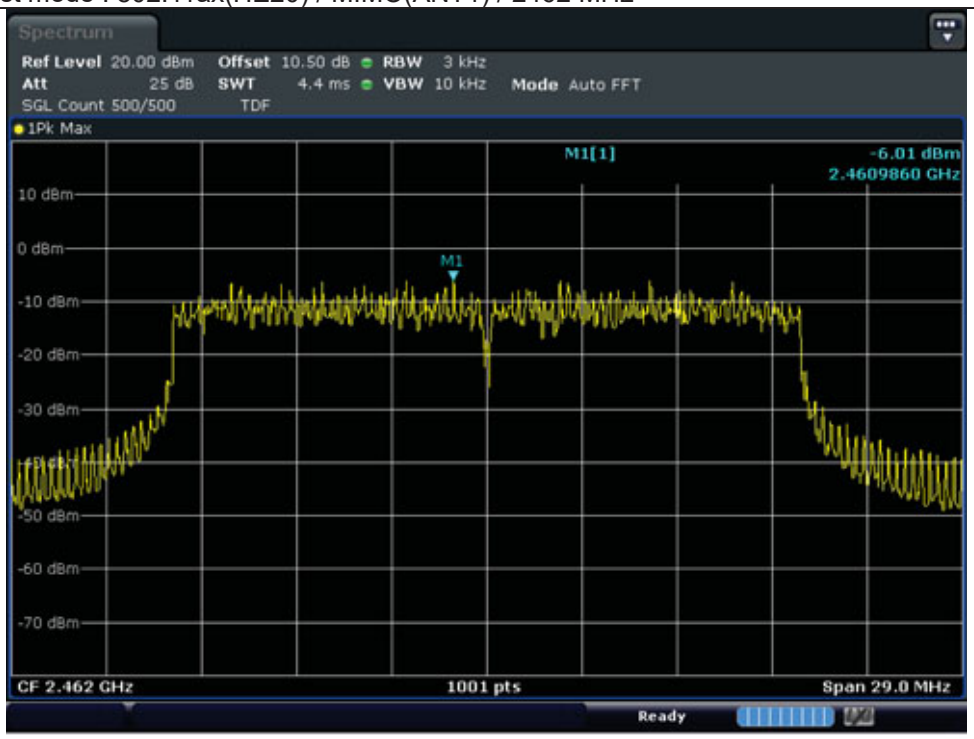
Test mode : 802.11ax(HE20) / MIMO(ANT1) / 2412 MHz



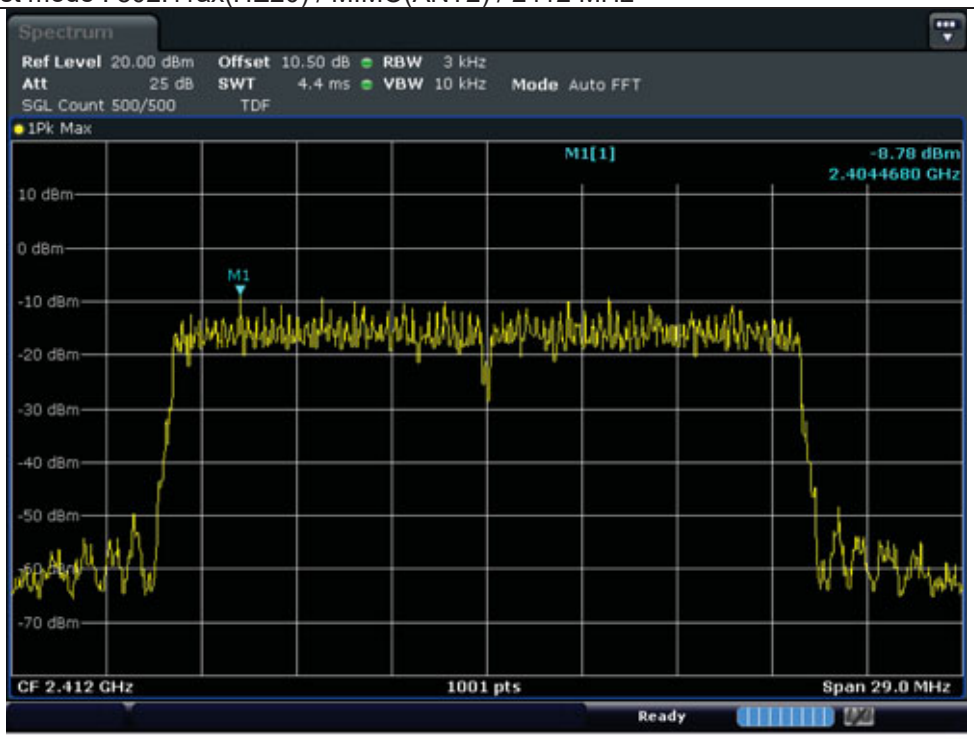
Test mode : 802.11ax(HE20) / MIMO(ANT1) / 2437 MHz



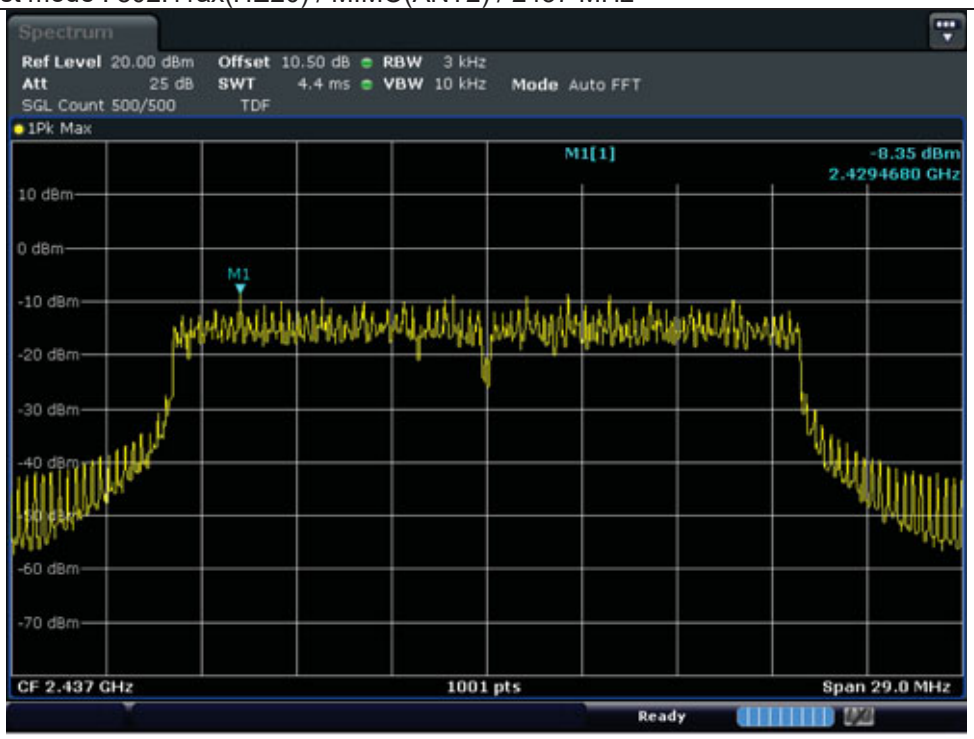
Test mode : 802.11ax(HE20) / MIMO(ANT1) / 2462 MHz



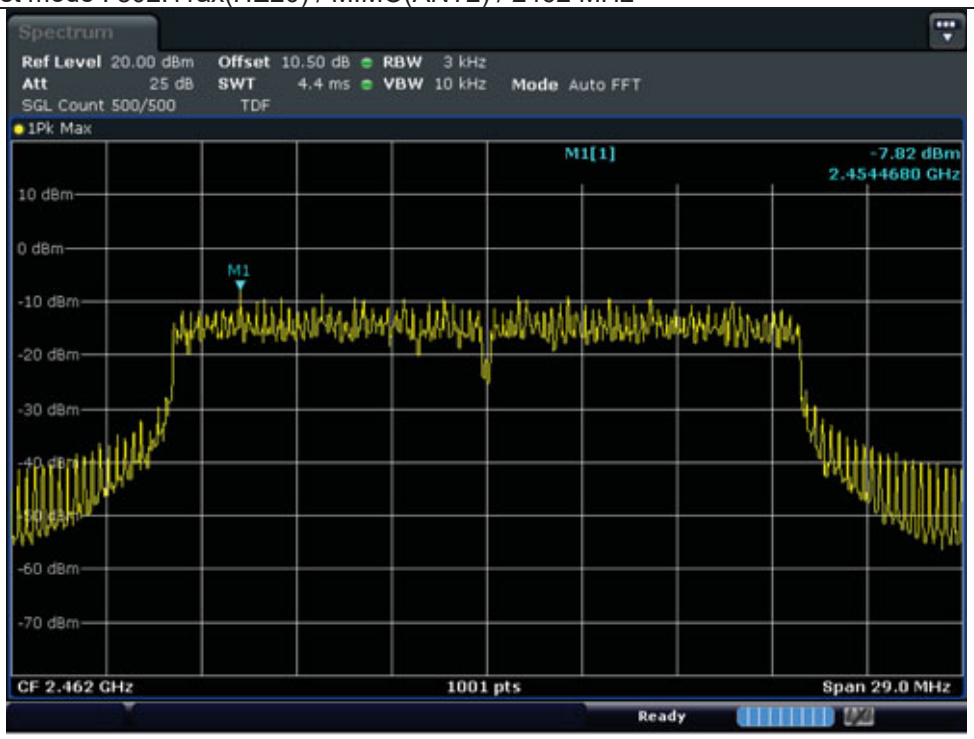
Test mode : 802.11ax(HE20) / MIMO(ANT2) / 2412 MHz



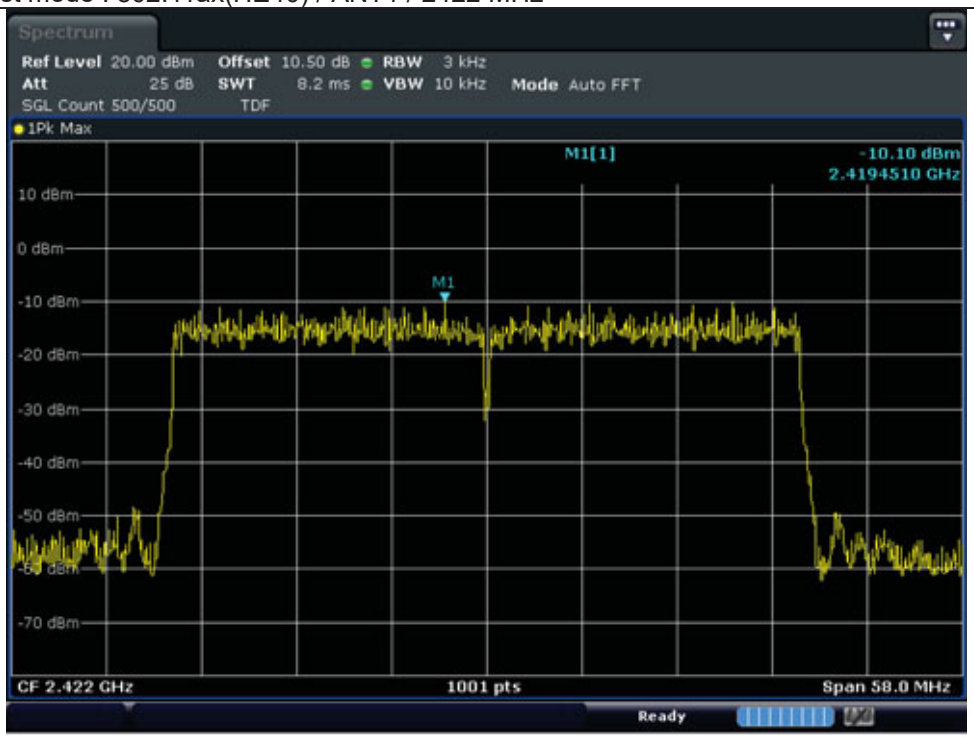
Test mode : 802.11ax(HE20) / MIMO(ANT2) / 2437 MHz



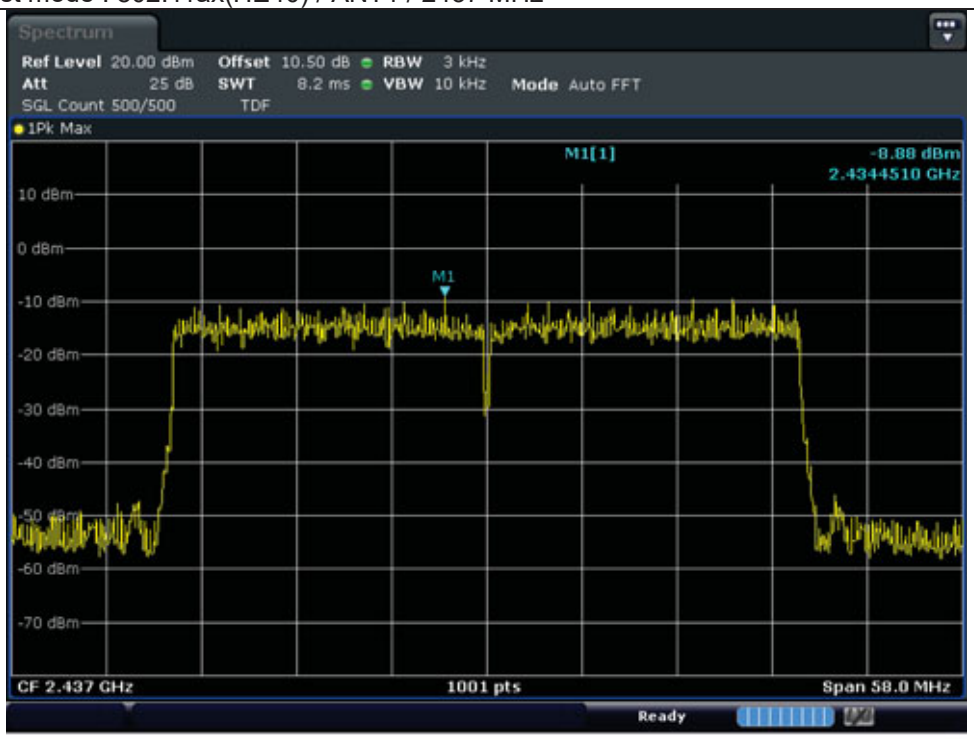
Test mode : 802.11ax(HE20) / MIMO(ANT2) / 2462 MHz



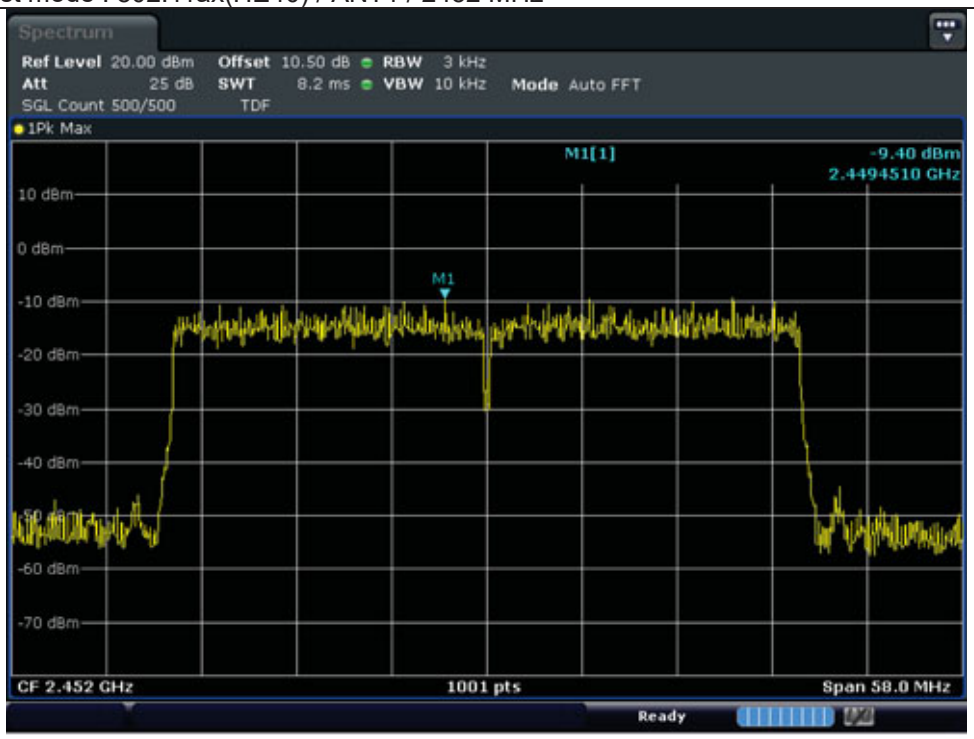
Test mode : 802.11ax(HE40) / ANT1 / 2422 MHz



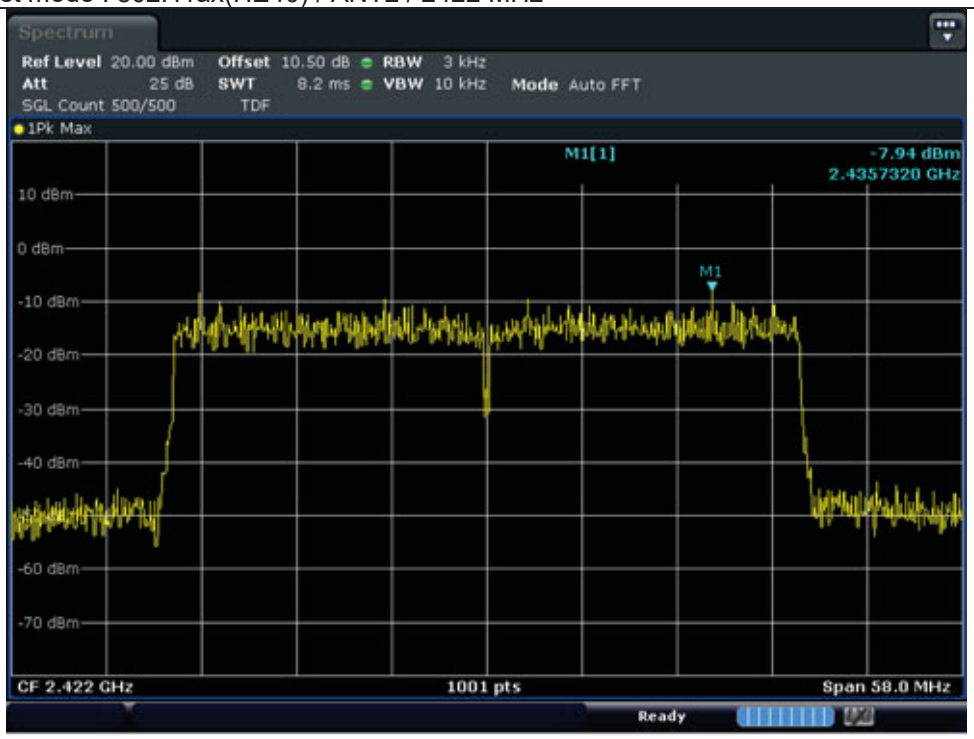
Test mode : 802.11ax(HE40) / ANT1 / 2437 MHz



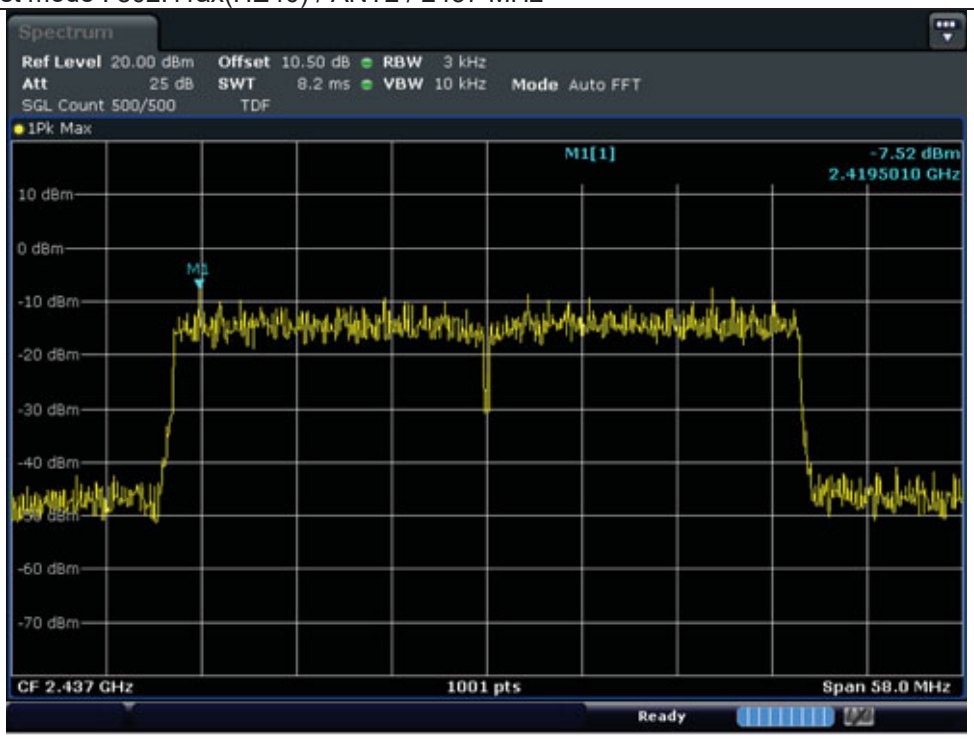
Test mode : 802.11ax(HE40) / ANT1 / 2452 MHz



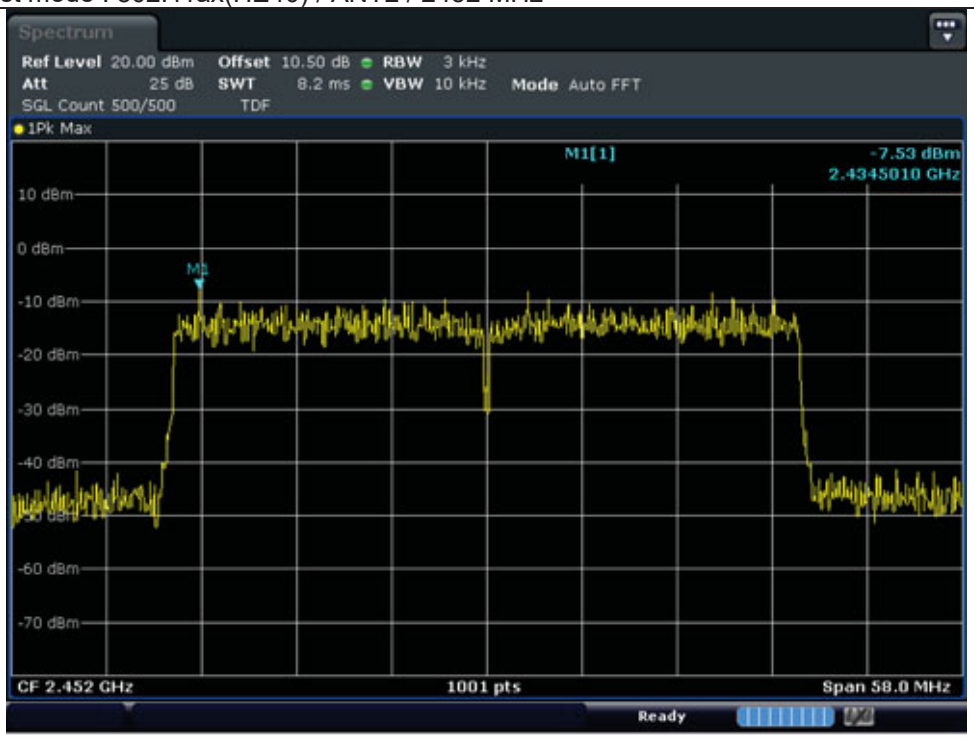
Test mode : 802.11ax(HE40) / ANT2 / 2422 MHz



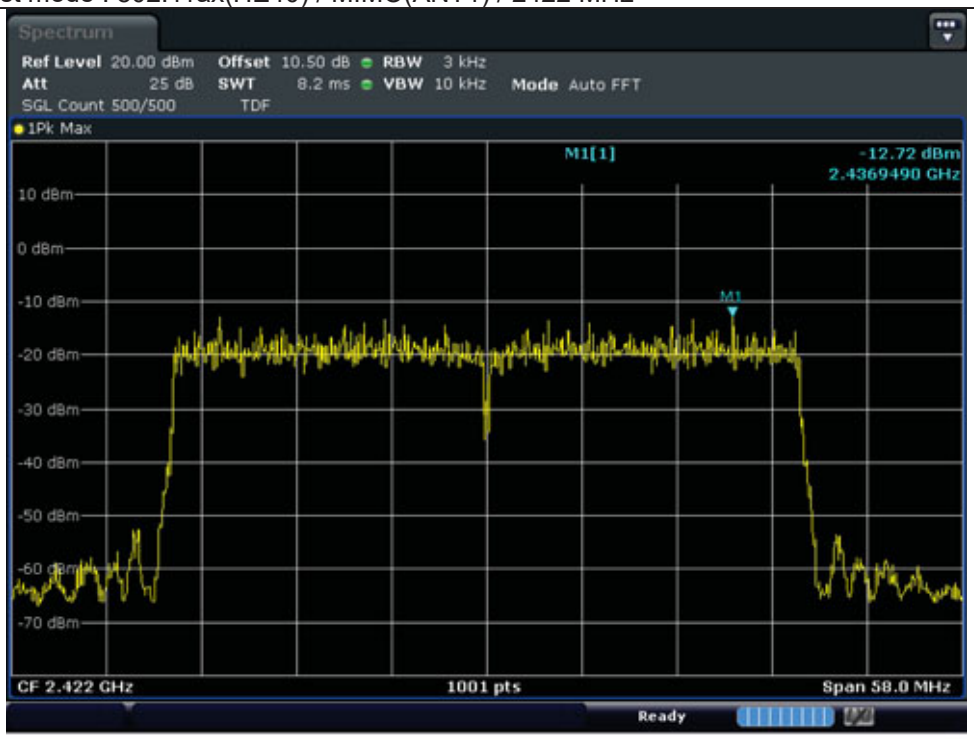
Test mode : 802.11ax(HE40) / ANT2 / 2437 MHz



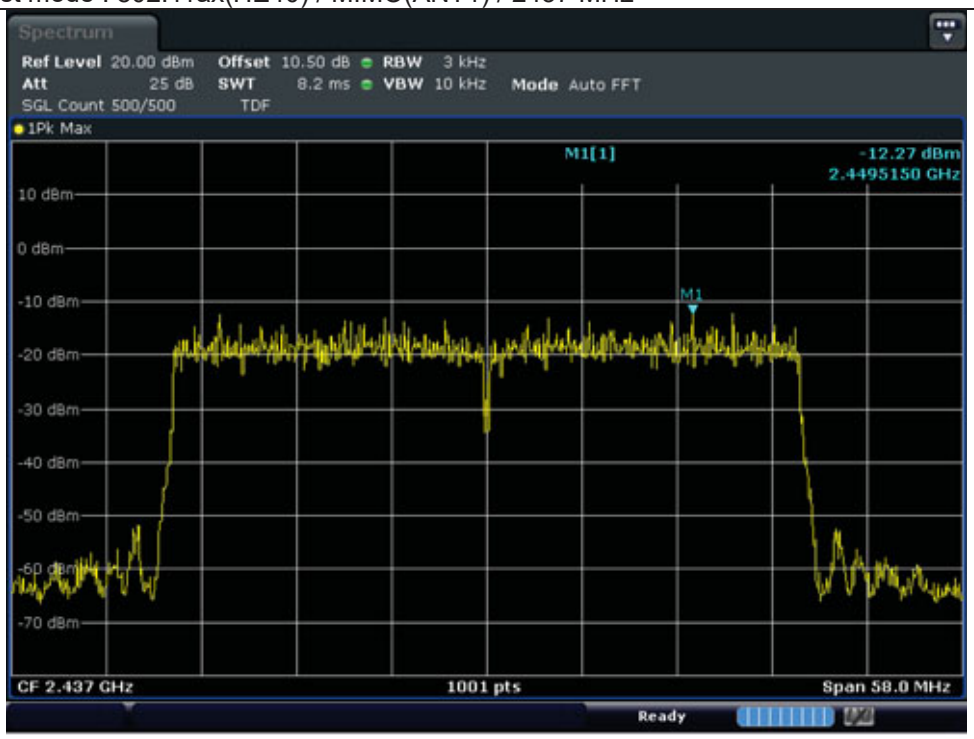
Test mode : 802.11ax(HE40) / ANT2 / 2452 MHz



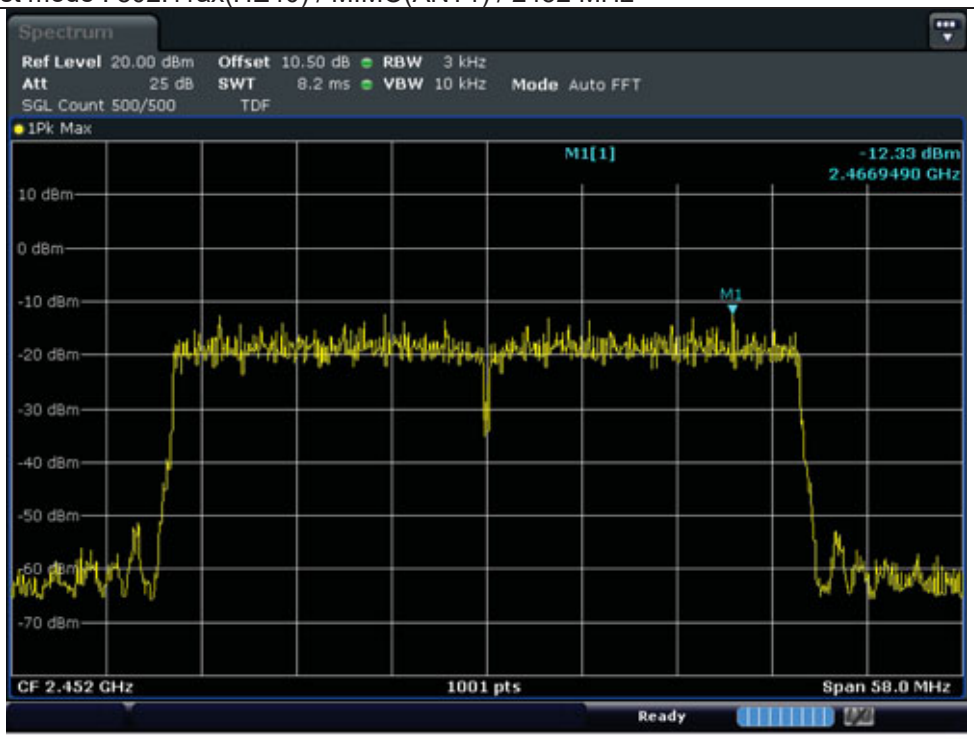
Test mode : 802.11ax(HE40) / MIMO(ANT1) / 2422 MHz



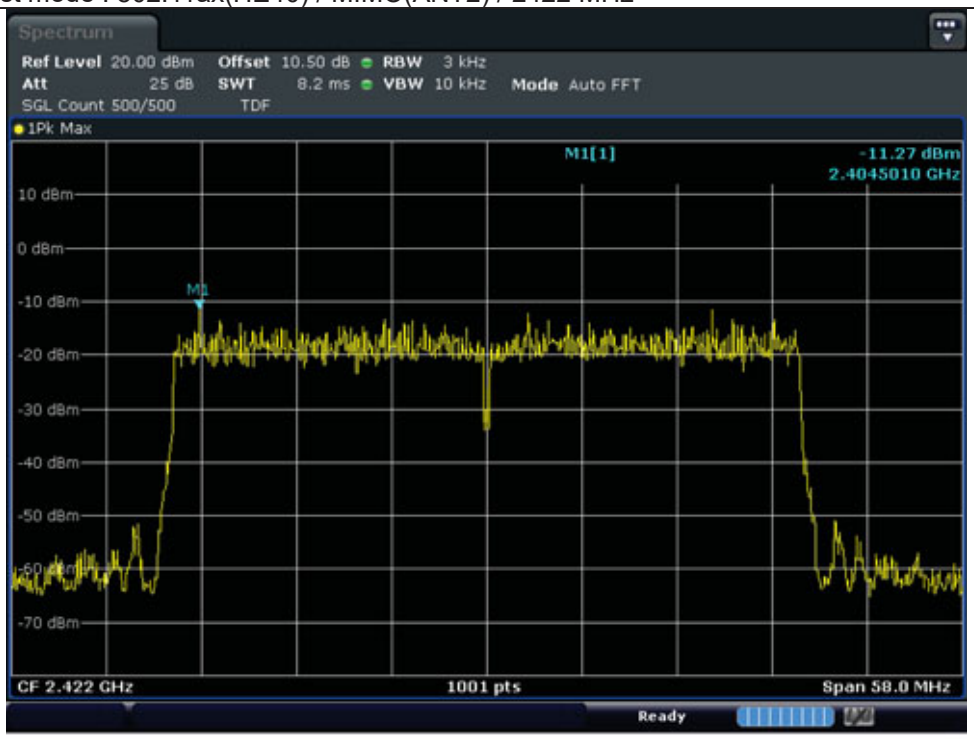
Test mode : 802.11ax(HE40) / MIMO(ANT1) / 2437 MHz



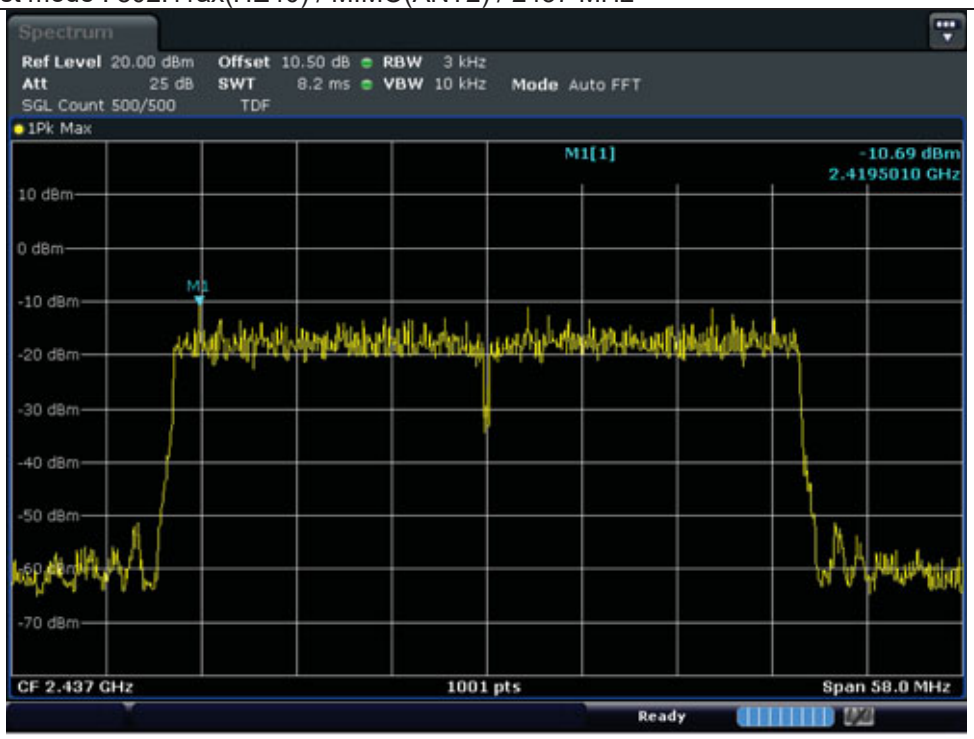
Test mode : 802.11ax(HE40) / MIMO(ANT1) / 2452 MHz



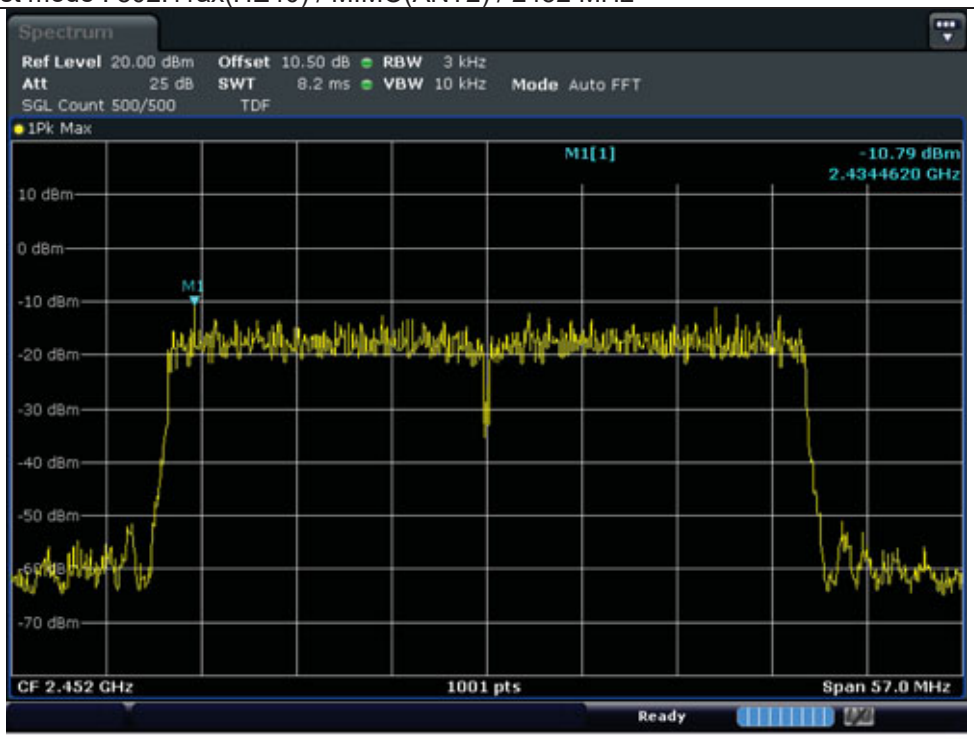
Test mode : 802.11ax(HE40) / MIMO(ANT2) / 2422 MHz



Test mode : 802.11ax(HE40) / MIMO(ANT2) / 2437 MHz



Test mode : 802.11ax(HE40) / MIMO(ANT2) / 2452 MHz



4.3.4 6 dB Bandwidth(DTS Bandwidth)

4.3.4.1 Regulation

According to §15.247(e) and RSS-247 §5.2(a) Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

4.3.4.2 Measurement Procedure

These test measurement settings are specified in section 8.0 of 558074 D01 DTS Meas Guidance

4.3.4.2.1 DTS Channel Bandwidth-Option 1

a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

4.3.4.2.2 DTS Channel Bandwidth Measurement Procedure-Option 2

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW ≥3 RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.

4.3.4.3 Result

Comply (measurement data : refer to the next page)

4.3.4.4 Measurement data

Test mode : 802.11b

Antenna	Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (MHz)	Occupied Bandwidth (MHz)
SISO ANT1	2412	7.72	0.50	12.32
	2437	7.96	0.50	12.62
	2462	7.85	0.50	12.76
SISO ANT2	2412	8.16	0.50	12.44
	2437	7.54	0.50	12.77
	2462	8.60	0.50	13.12

Test mode : 802.11g

Antenna	Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (MHz)	Occupied Bandwidth (MHz)
SISO ANT1	2412	16.27	0.50	16.42
	2437	16.29	0.50	16.37
	2462	16.33	0.50	16.40
SISO ANT2	2412	16.35	0.50	16.39
	2437	15.94	0.50	16.37
	2462	16.27	0.50	16.43

Test mode : 802.11n(HT20)

Antenna	Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (MHz)	Occupied Bandwidth (MHz)
SISO ANT1	2412	17.23	0.50	17.58
	2437	17.53	0.50	17.56
	2462	17.22	0.50	17.53
SISO ANT2	2412	16.88	0.50	17.59
	2437	17.32	0.50	17.59
	2462	16.86	0.50	17.60
MIMO	2412	16.85	0.50	17.55
	2437	17.53	0.50	17.57
	2462	17.22	0.50	17.60

4.3.4.4 Measurement data

Test mode : 802.11n(HT40)

Antenna	Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (MHz)	Occupied Bandwidth (MHz)
SISO ANT1	2422	35.10	0.50	36.10
	2437	35.10	0.50	36.10
	2452	35.12	0.50	35.95
SISO ANT2	2422	35.10	0.50	36.04
	2437	35.10	0.50	36.00
	2452	35.12	0.50	36.00
MIMO	2422	35.09	0.50	35.96
	2437	35.11	0.50	35.94
	2452	35.11	0.50	35.97

Test mode : 802.11ax(HE20)

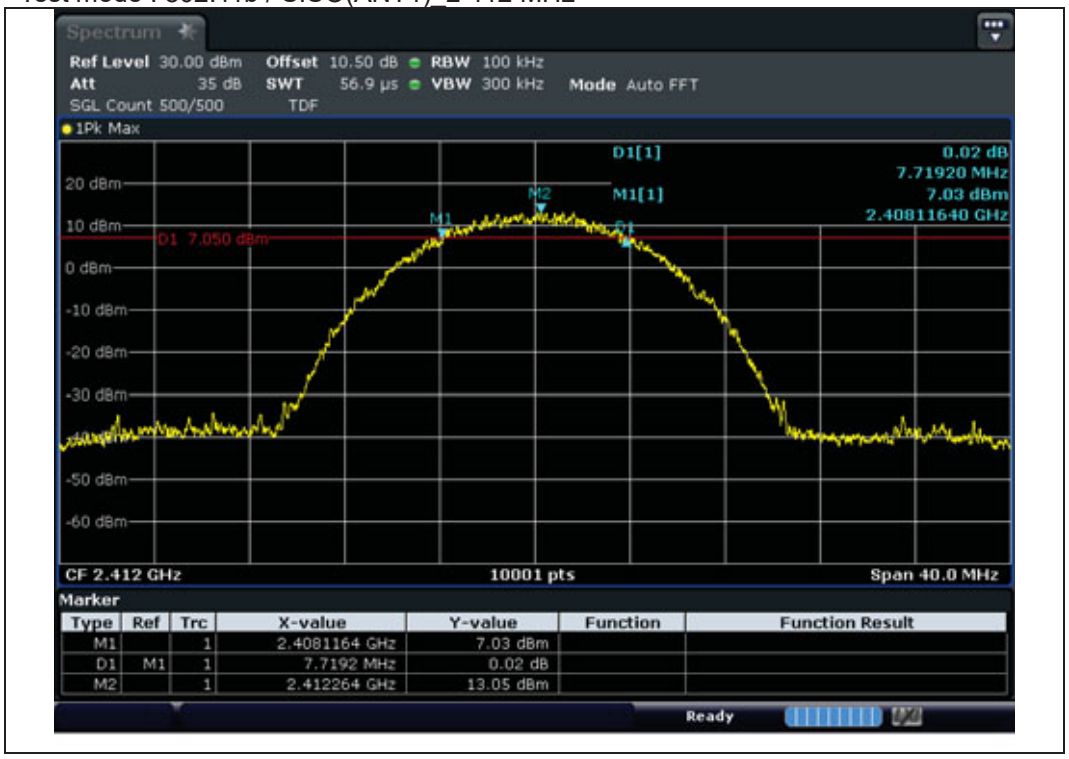
Antenna	Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (MHz)	Occupied Bandwidth (MHz)
SISO ANT1	2412	19.05	0.50	18.96
	2437	19.09	0.50	19.11
	2462	19.09	0.50	19.35
SISO ANT2	2412	19.08	0.50	18.95
	2437	19.09	0.50	19.09
	2462	19.07	0.50	19.08
MIMO	2412	19.05	0.50	18.98
	2437	19.11	0.50	19.19
	2462	19.10	0.50	19.09

Test mode : 802.11ax(HE40)

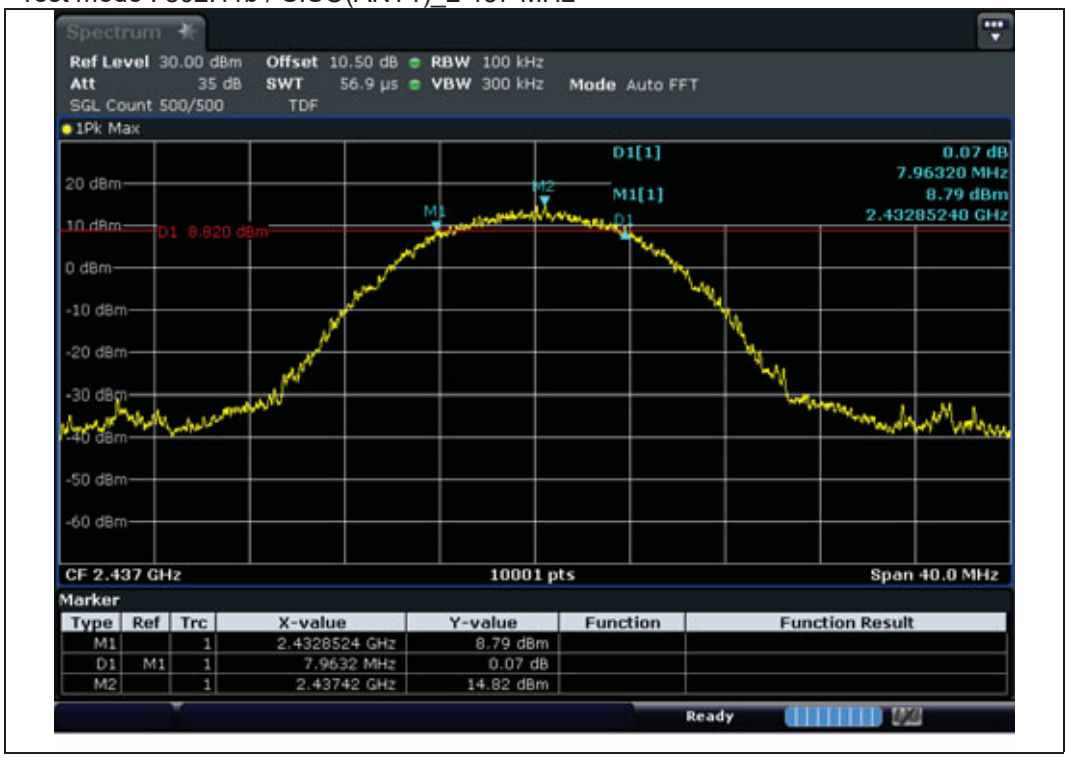
Antenna	Frequency (MHz)	6 dB Bandwidth (MHz)	Min. Limit (MHz)	Occupied Bandwidth (MHz)
SISO ANT1	2422	38.12	0.50	37.84
	2437	38.11	0.50	37.85
	2452	38.12	0.50	37.98
SISO ANT2	2422	38.07	0.50	37.81
	2437	38.10	0.50	37.82
	2452	38.08	0.50	37.84
MIMO	2422	38.12	0.50	37.92
	2437	38.13	0.50	37.85
	2452	38.13	0.50	37.75

4.3.4.5 6 dB Bandwidth Test Plot

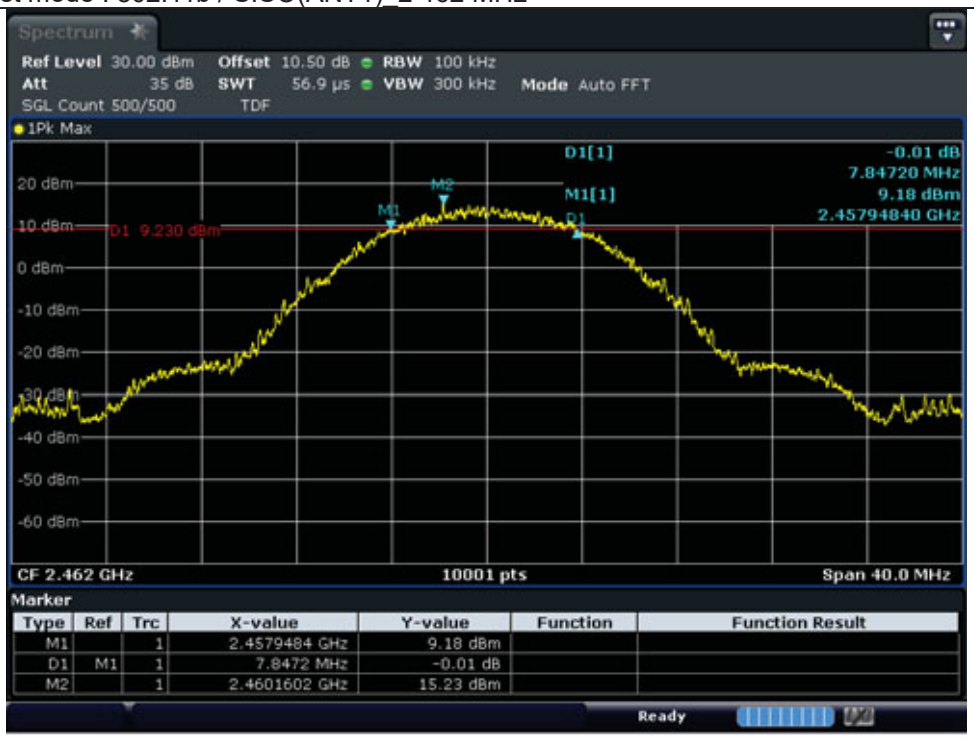
Test mode : 802.11b / SISO(ANT1)_2 412 MHz



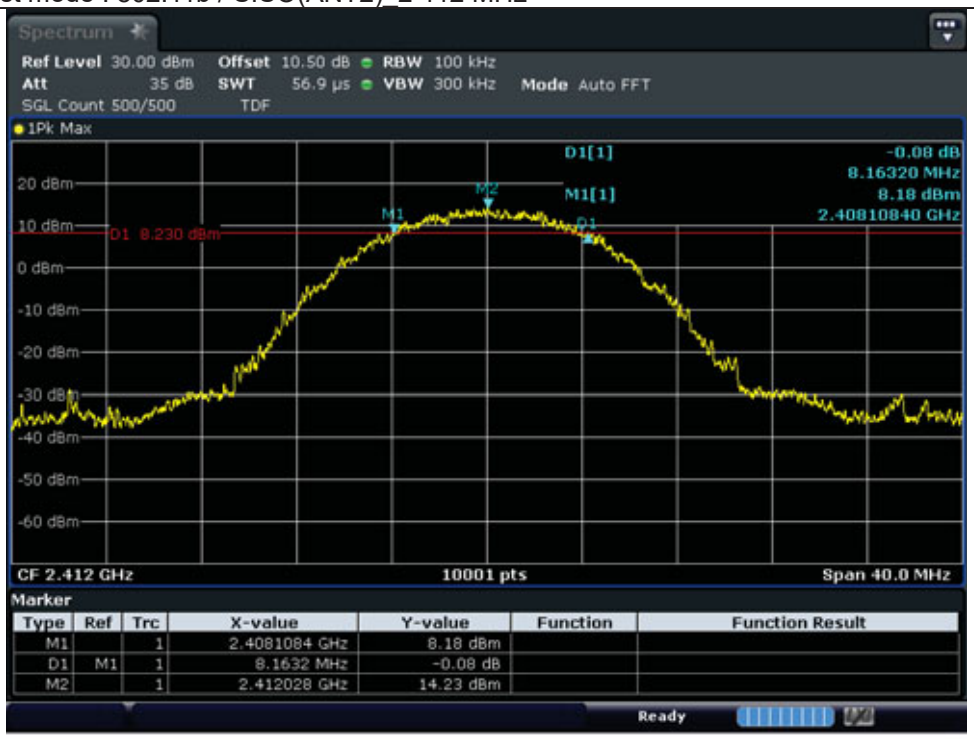
Test mode : 802.11b / SISO(ANT1)_2 437 MHz



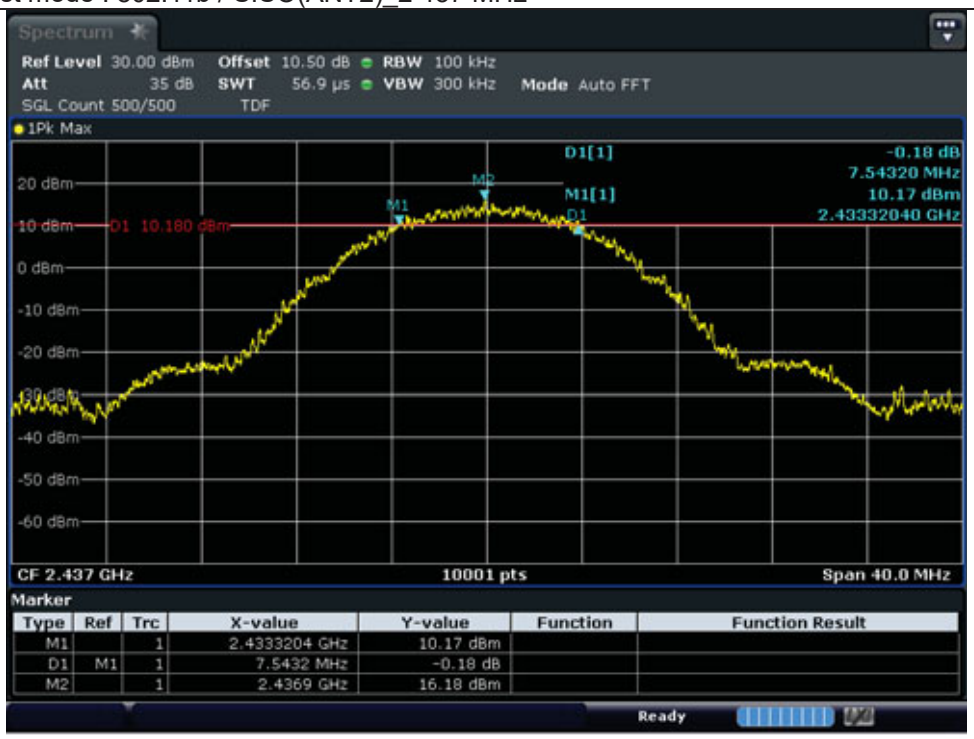
Test mode : 802.11b / SISO(ANT1)_2 462 MHz



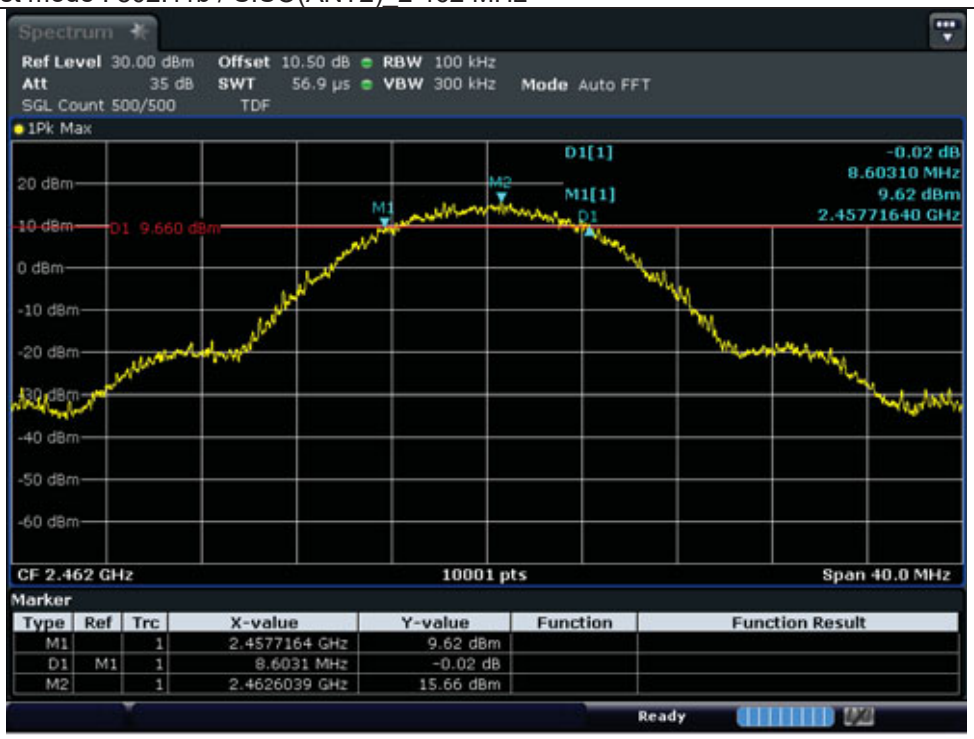
Test mode : 802.11b / SISO(ANT2)_2 412 MHz



Test mode : 802.11b / SISO(ANT2)_2 437 MHz

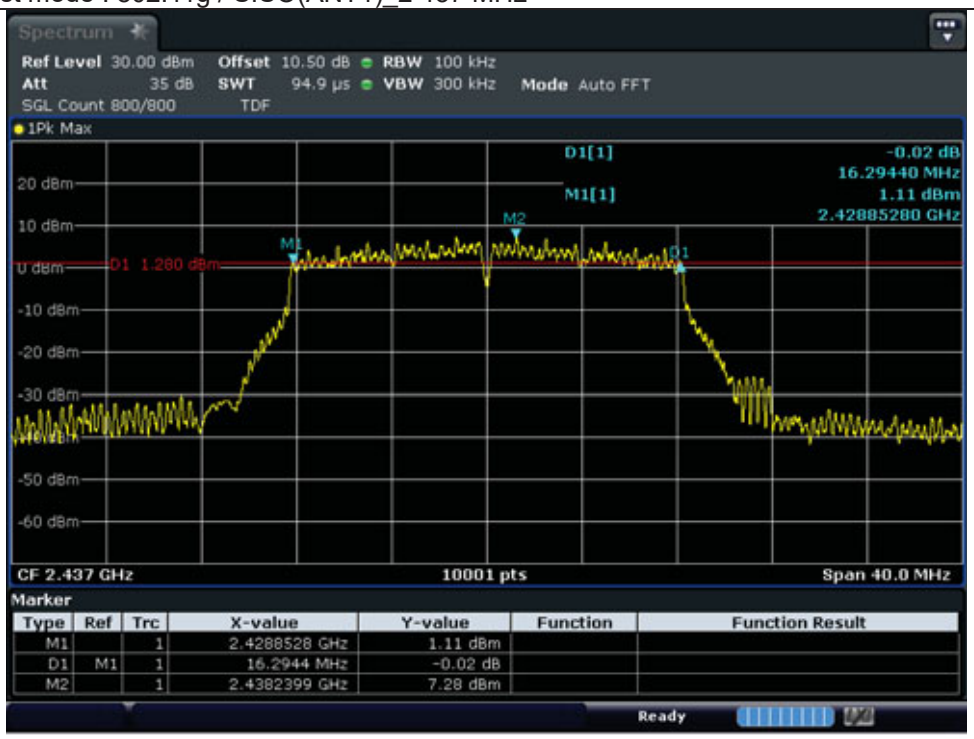


Test mode : 802.11b / SISO(ANT2)_2 462 MHz



Test mode : 802.11g / SISO(ANT1)_2 412 MHz

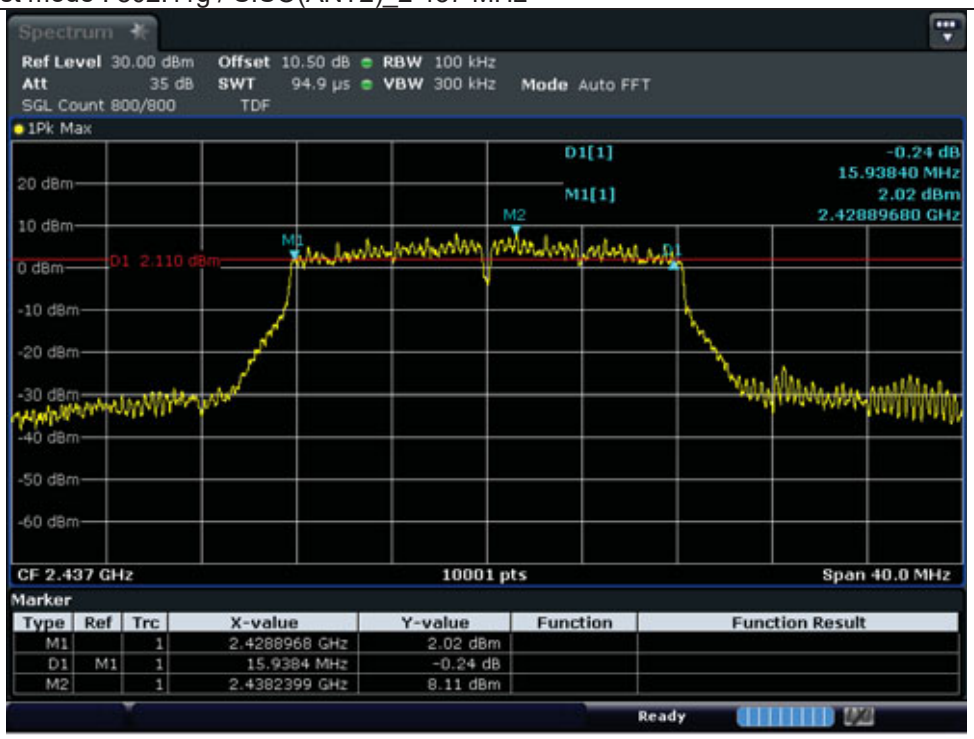
Test mode : 802.11g / SISO(ANT1)_2 437 MHz



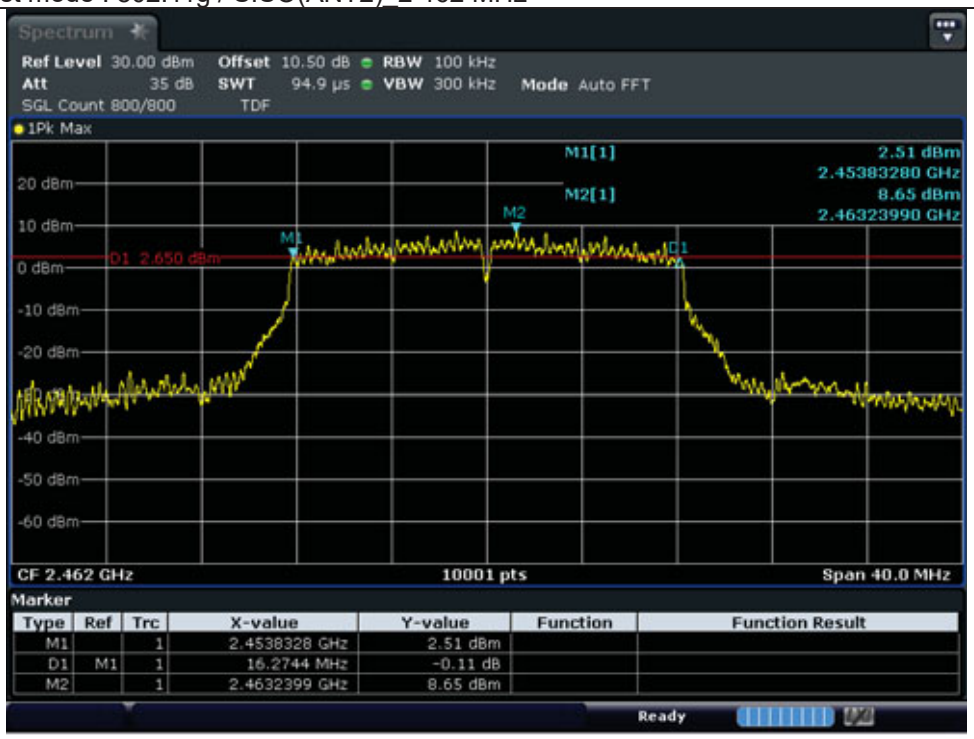
Test mode : 802.11g / SISO(ANT1)_2 462 MHz

Test mode : 802.11g / SISO(ANT2)_2 412 MHz

Test mode : 802.11g / SISO(ANT2)_2 437 MHz

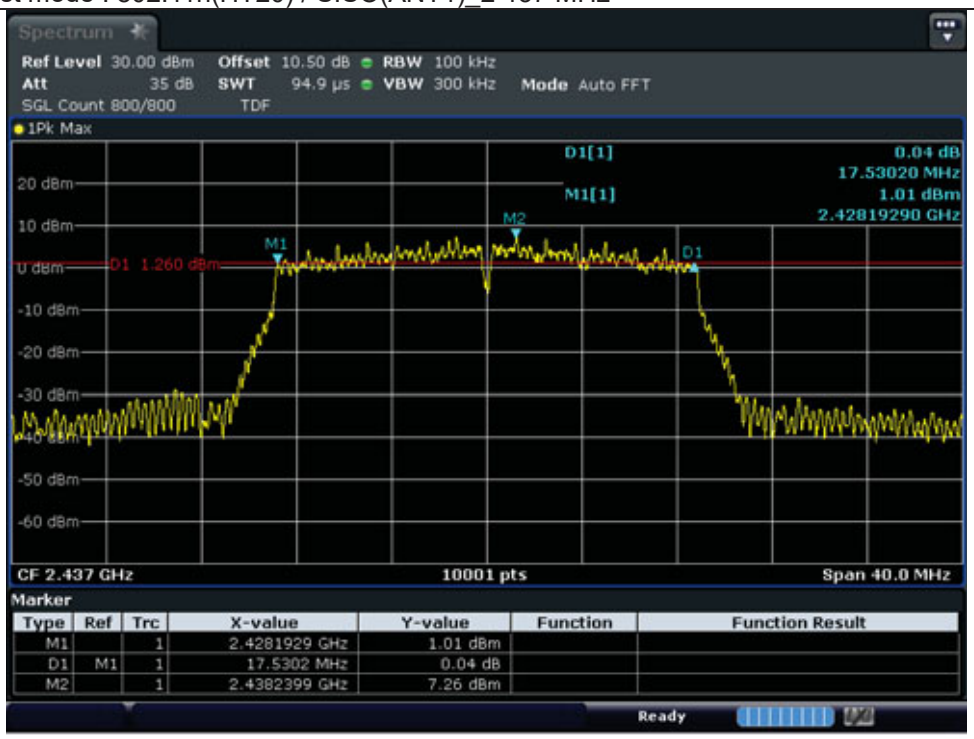


Test mode : 802.11g / SISO(ANT2)_2 462 MHz

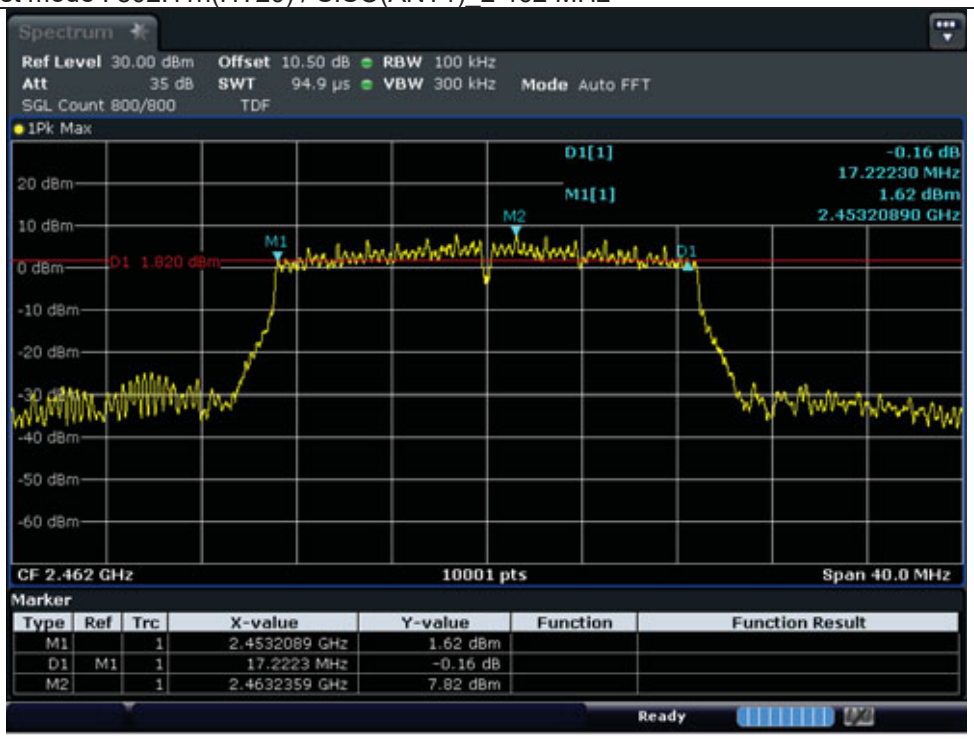


Test mode : 802.11n(HT20) / SISO(ANT1)_2 412 MHz

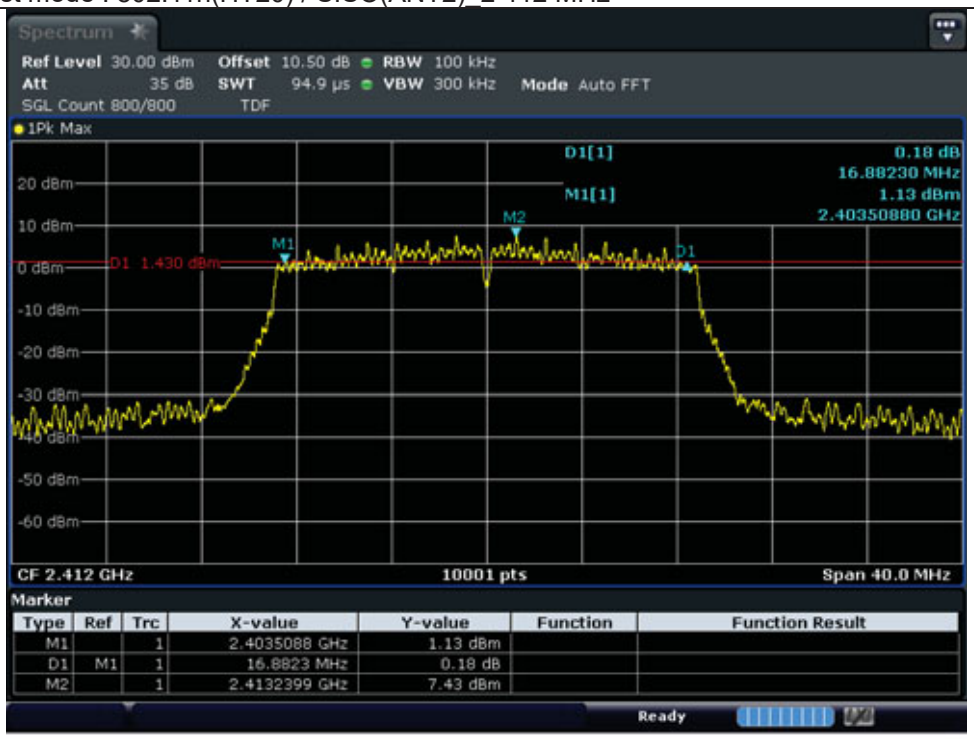
Test mode : 802.11n(HT20) / SISO(ANT1)_2 437 MHz



Test mode : 802.11n(HT20) / SISO(ANT1)_2 462 MHz

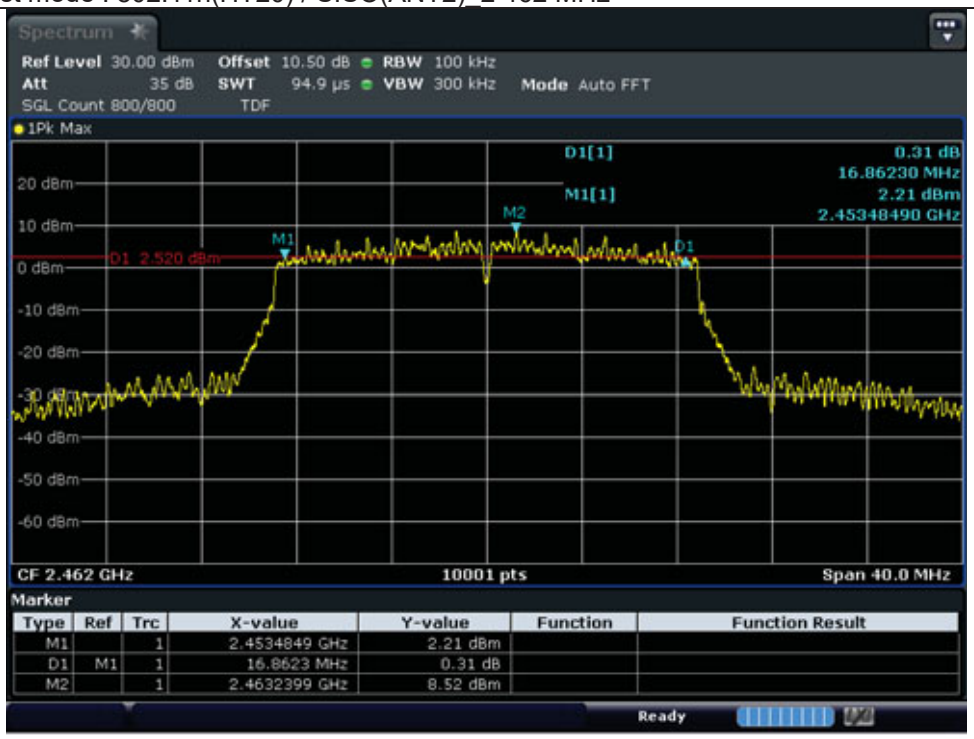


Test mode : 802.11n(HT20) / SISO(ANT2)_2 412 MHz

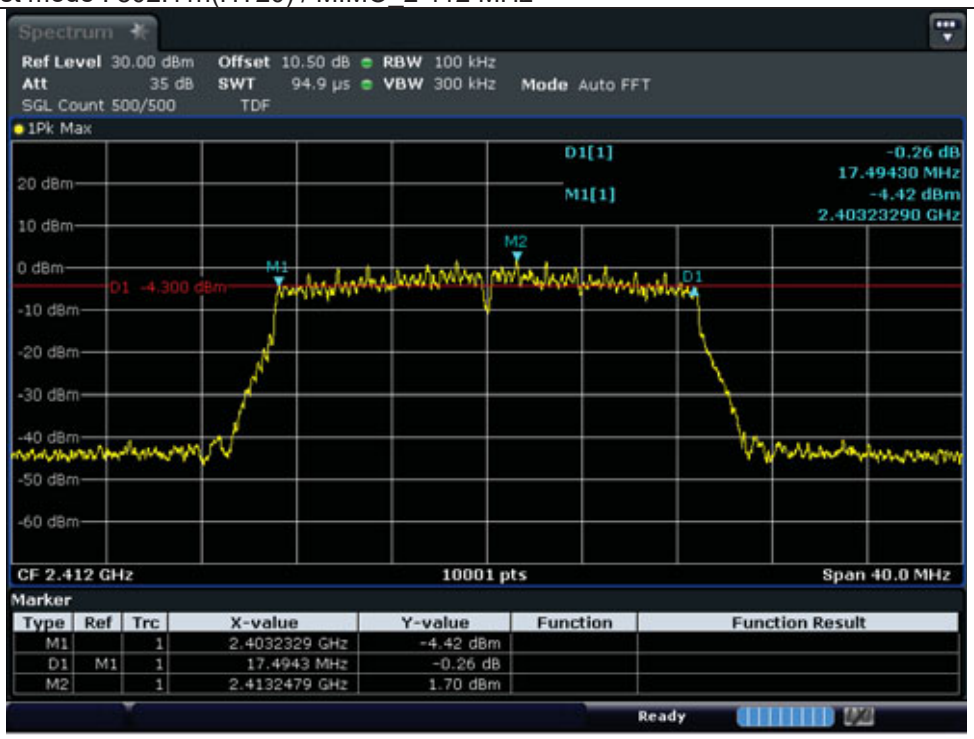


Test mode : 802.11n(HT20) / SISO(ANT2)_2 437 MHz

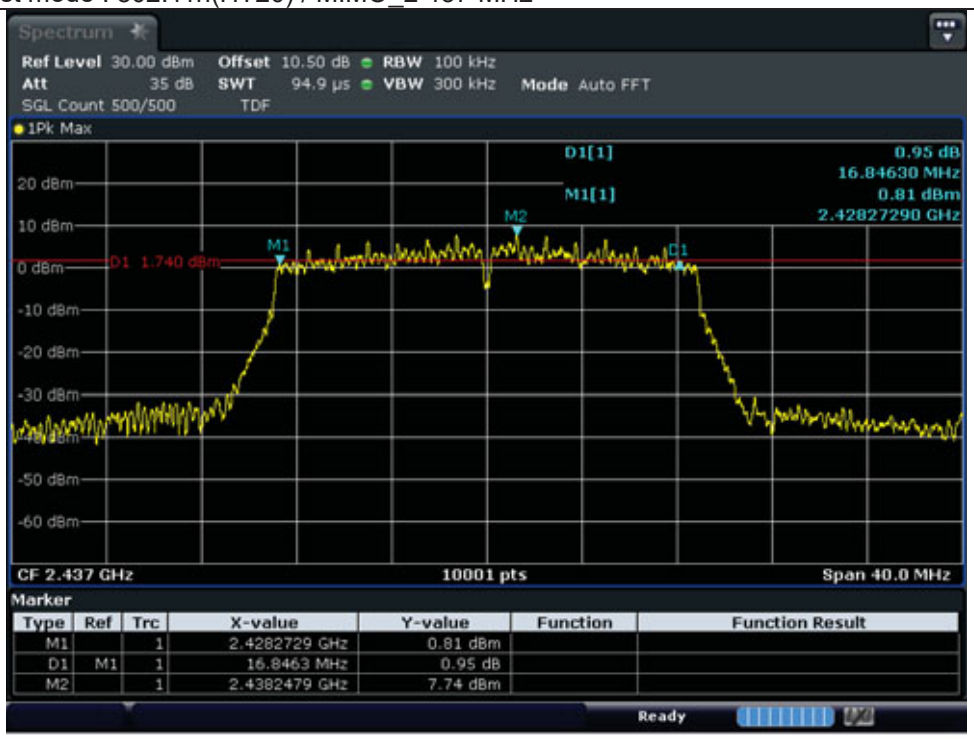
Test mode : 802.11n(HT20) / SISO(ANT2)_2 462 MHz



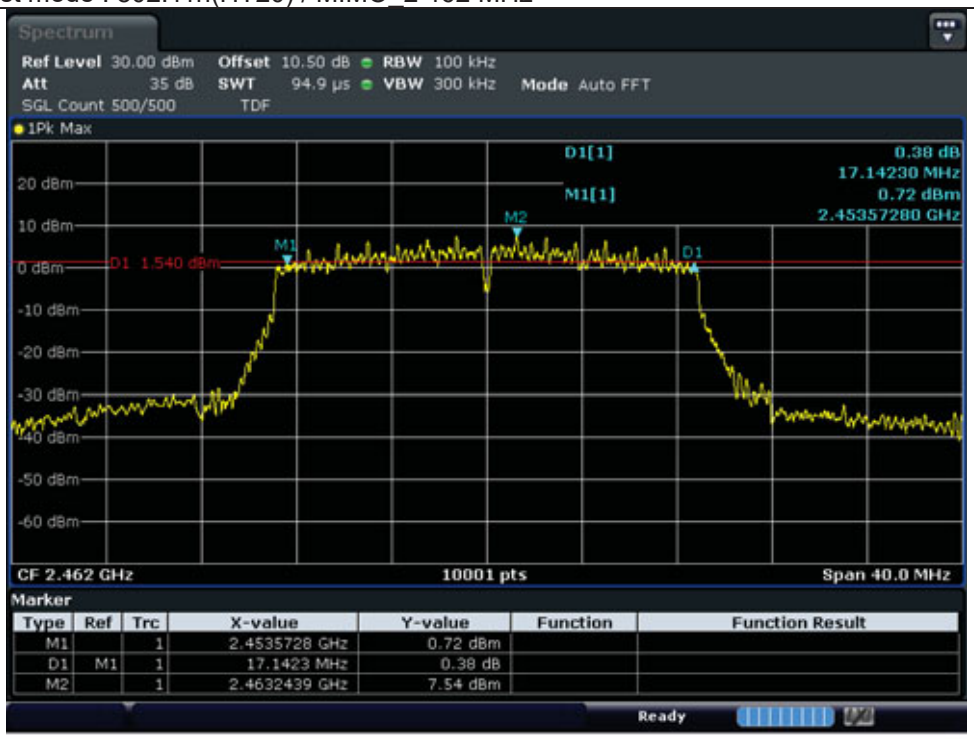
Test mode : 802.11n(HT20) / MIMO_2 412 MHz



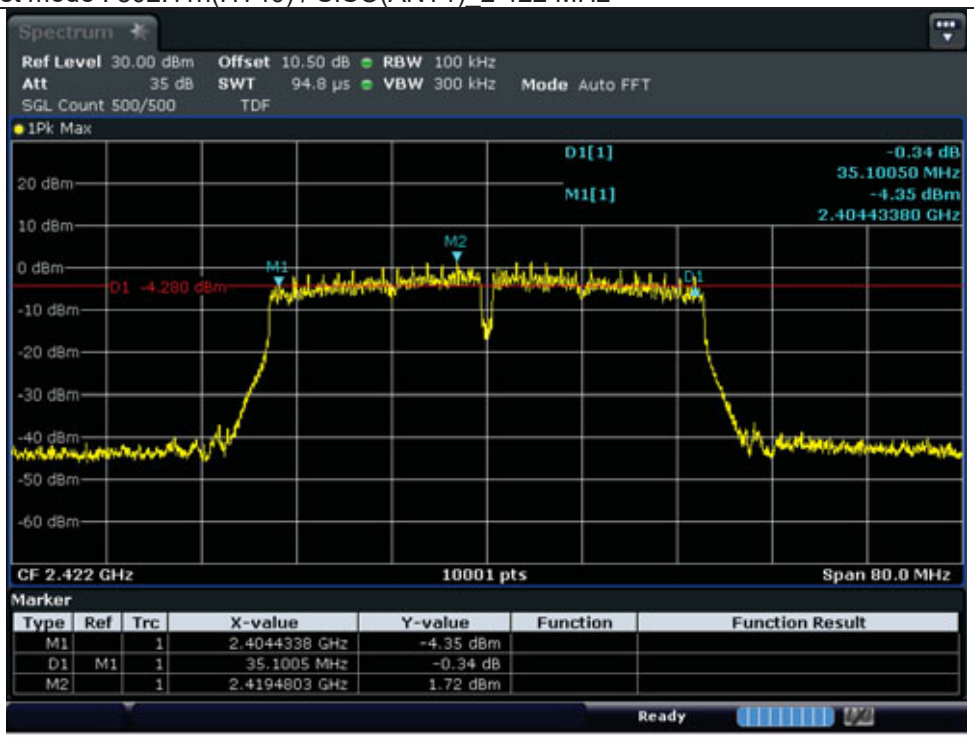
Test mode : 802.11n(HT20) / MIMO_2 437 MHz



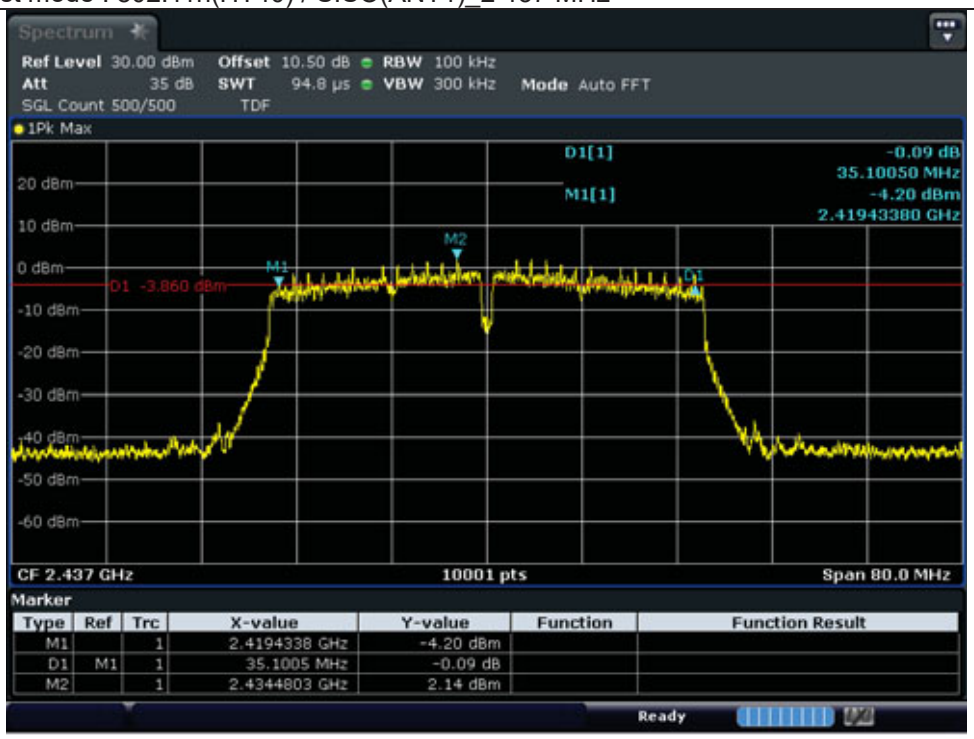
Test mode : 802.11n(HT20) / MIMO_2 462 MHz



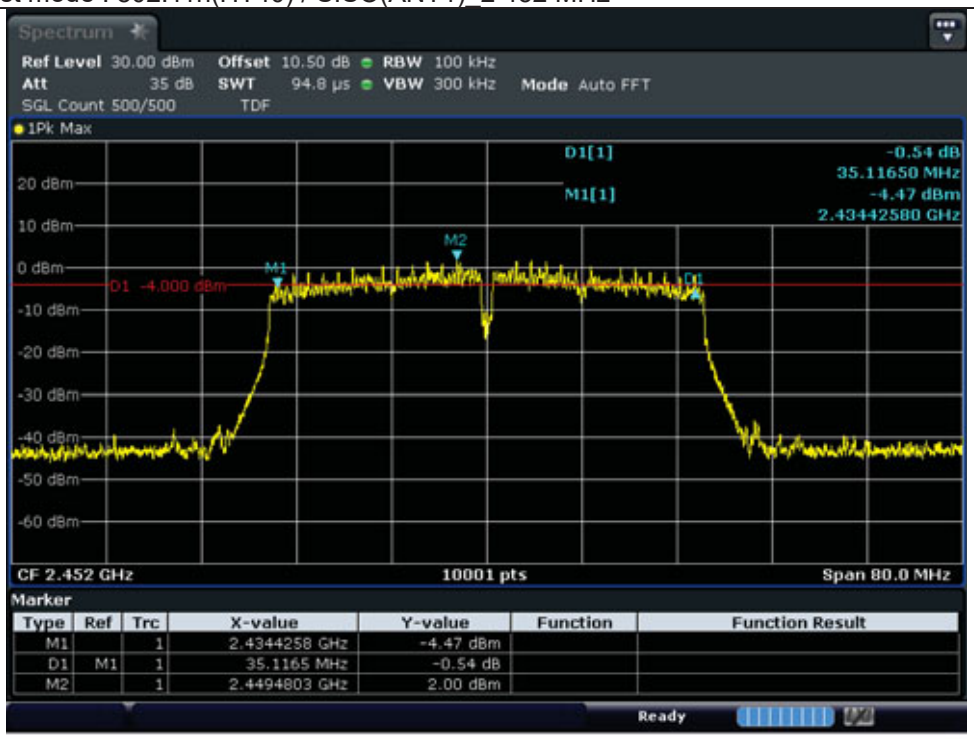
Test mode : 802.11n(HT40) / SISO(ANT1)_2 422 MHz



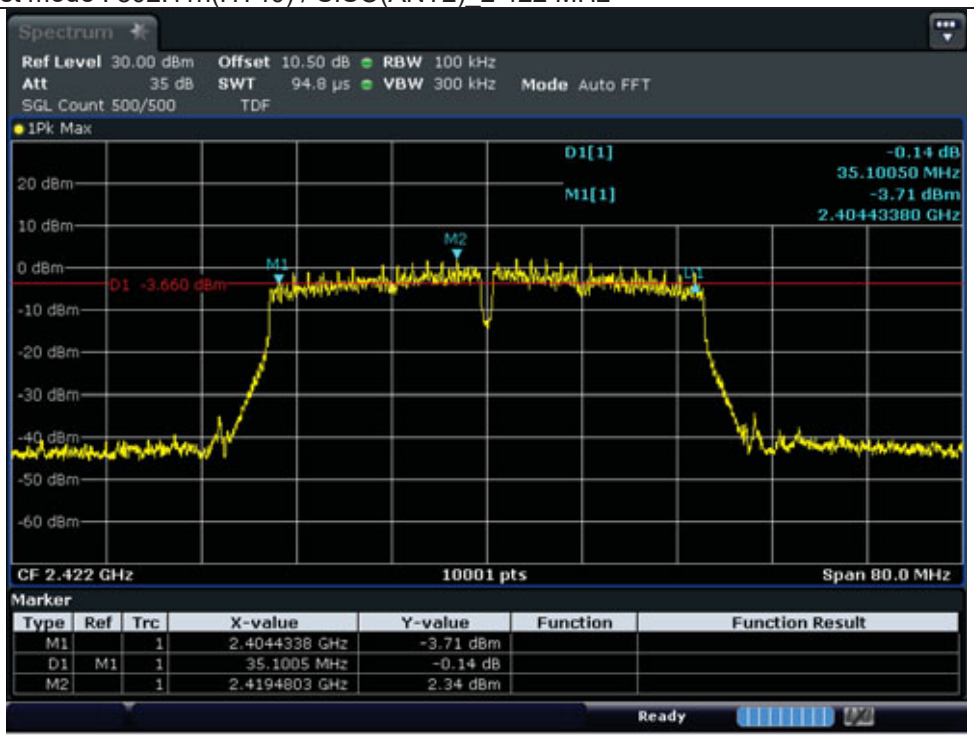
Test mode : 802.11n(HT40) / SISO(ANT1)_2 437 MHz



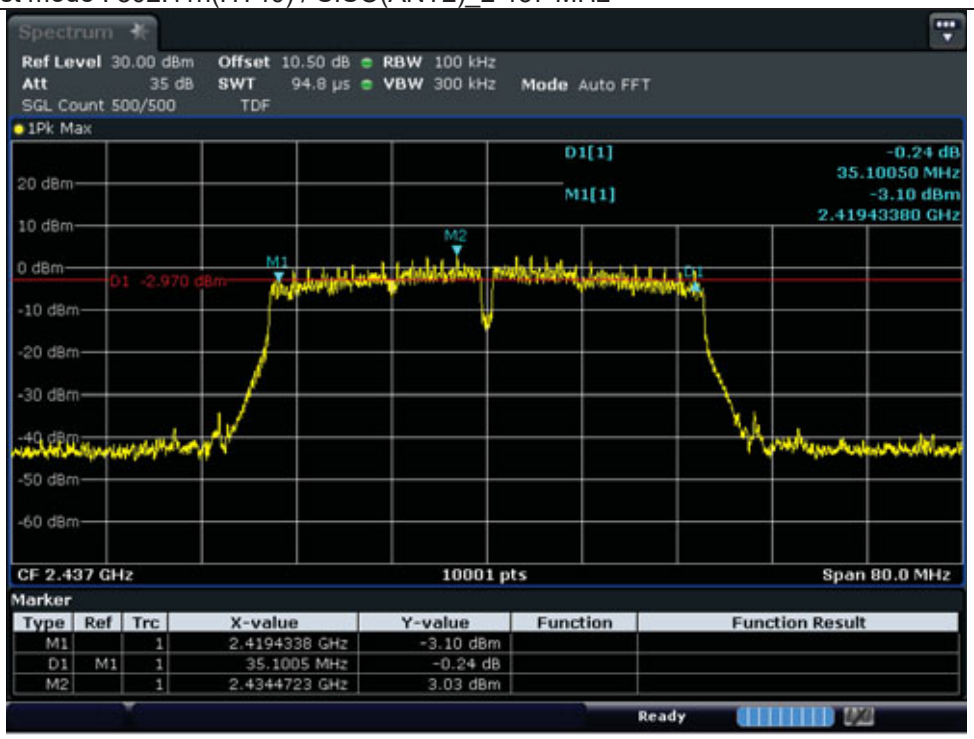
Test mode : 802.11n(HT40) / SISO(ANT1)_2 452 MHz



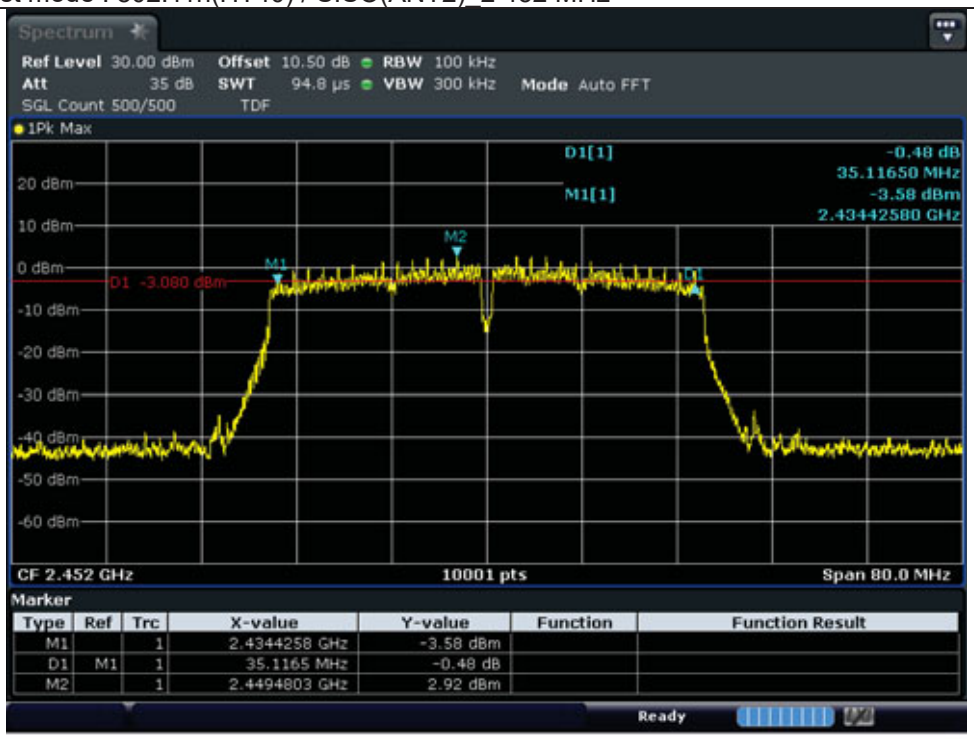
Test mode : 802.11n(HT40) / SISO(ANT2)_2 422 MHz



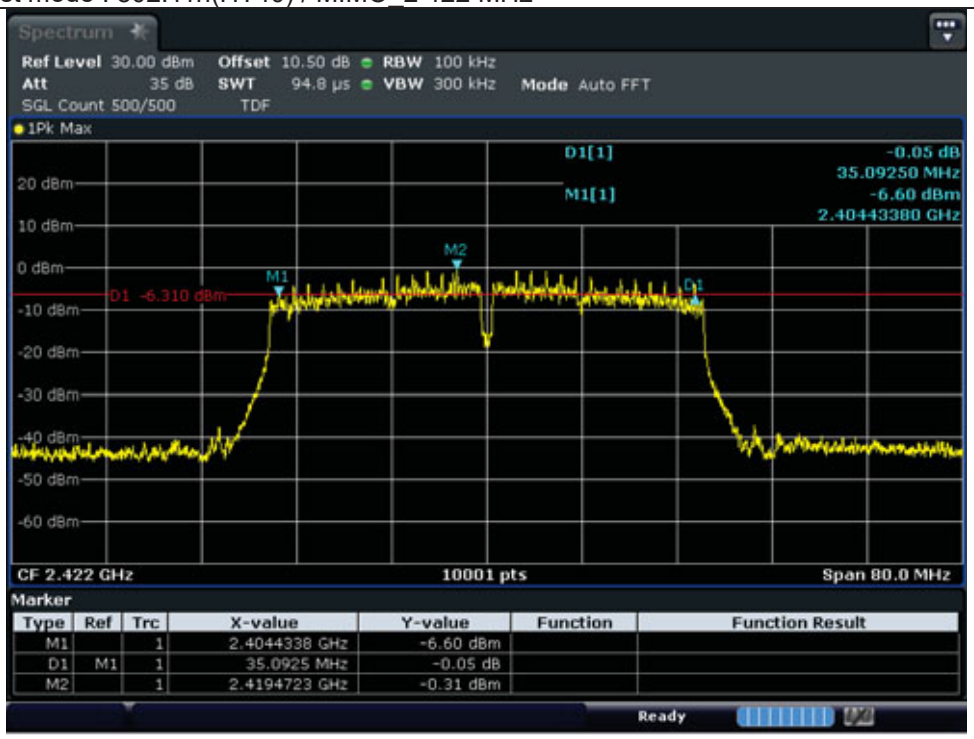
Test mode : 802.11n(HT40) / SISO(ANT2)_2 437 MHz



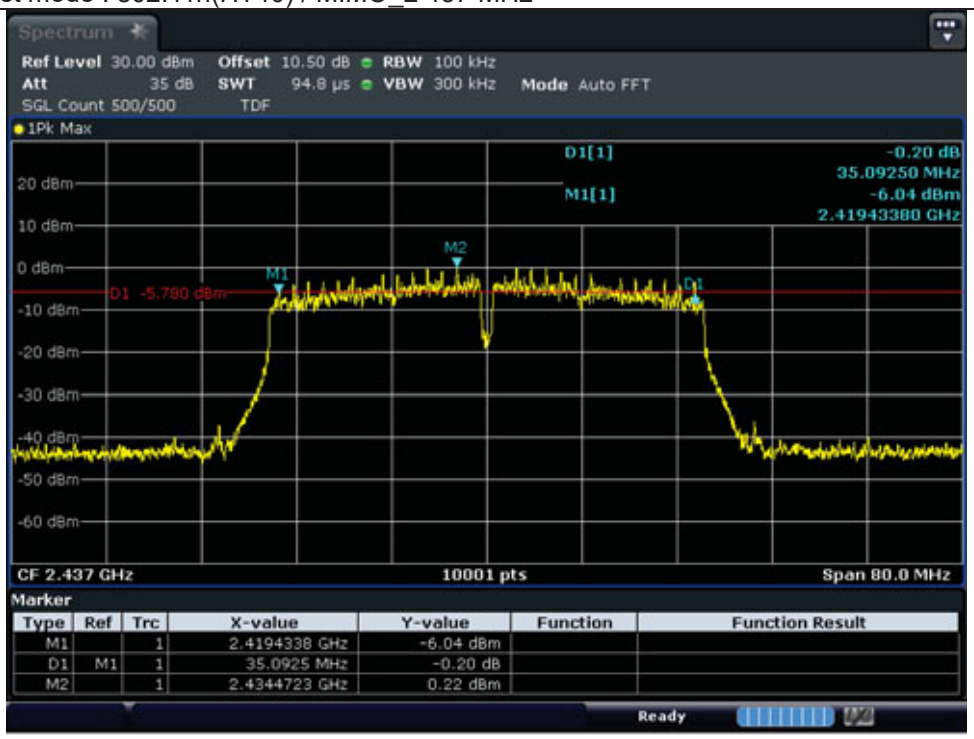
Test mode : 802.11n(HT40) / SISO(ANT2)_2 452 MHz



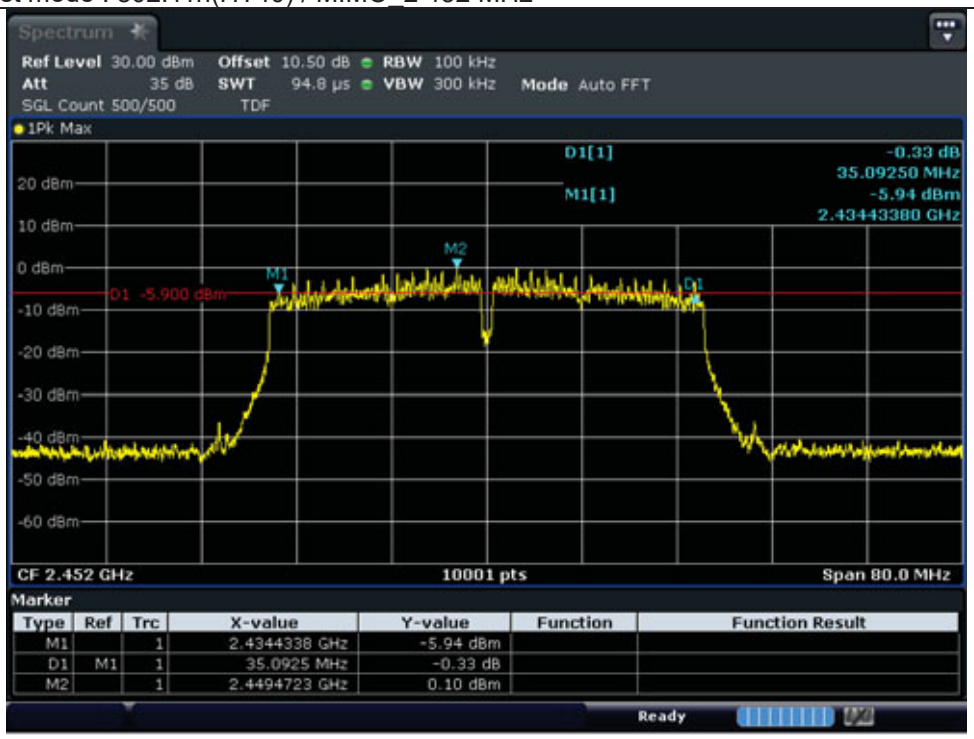
Test mode : 802.11n(HT40) / MIMO_2 422 MHz



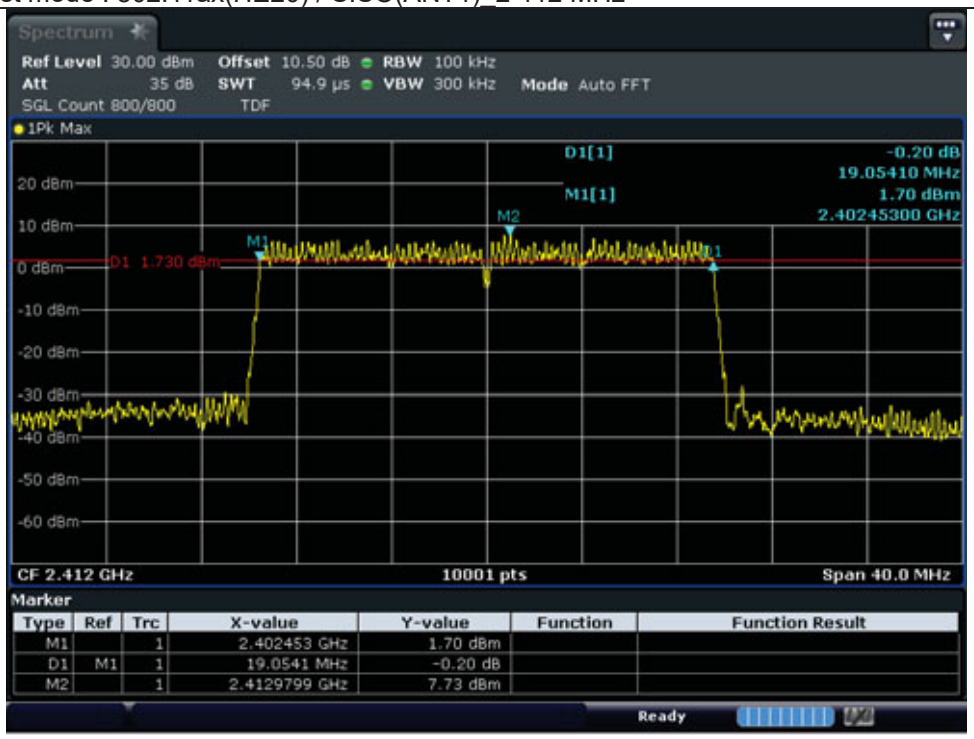
Test mode : 802.11n(HT40) / MIMO_2 437 MHz



Test mode : 802.11n(HT40) / MIMO_2 452 MHz

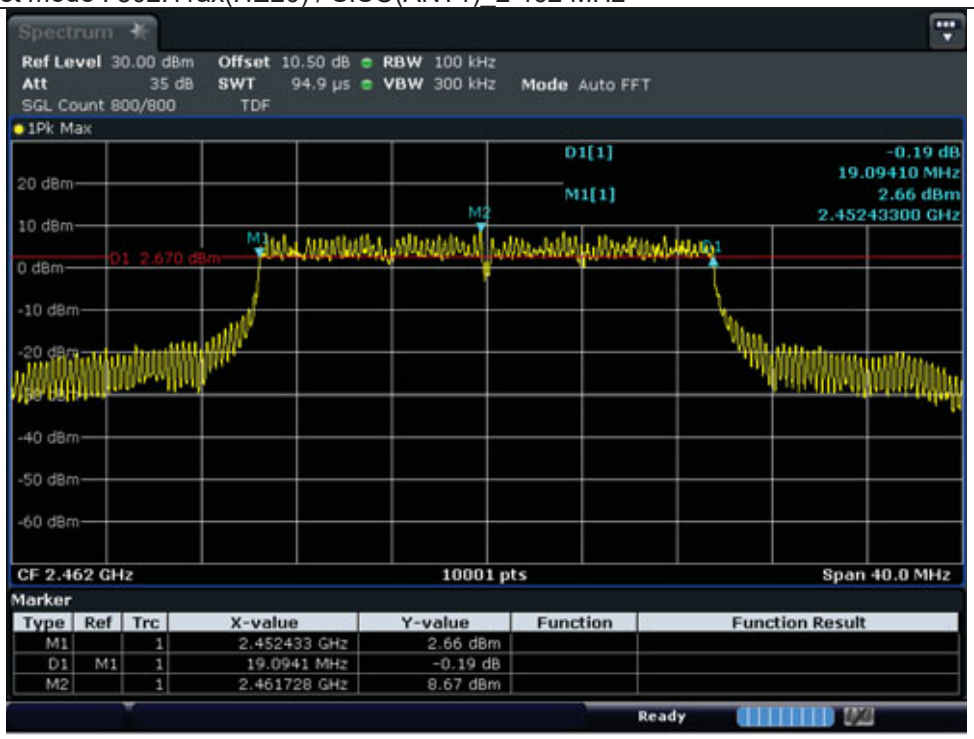


Test mode : 802.11ax(HE20) / SISO(ANT1)_2 412 MHz



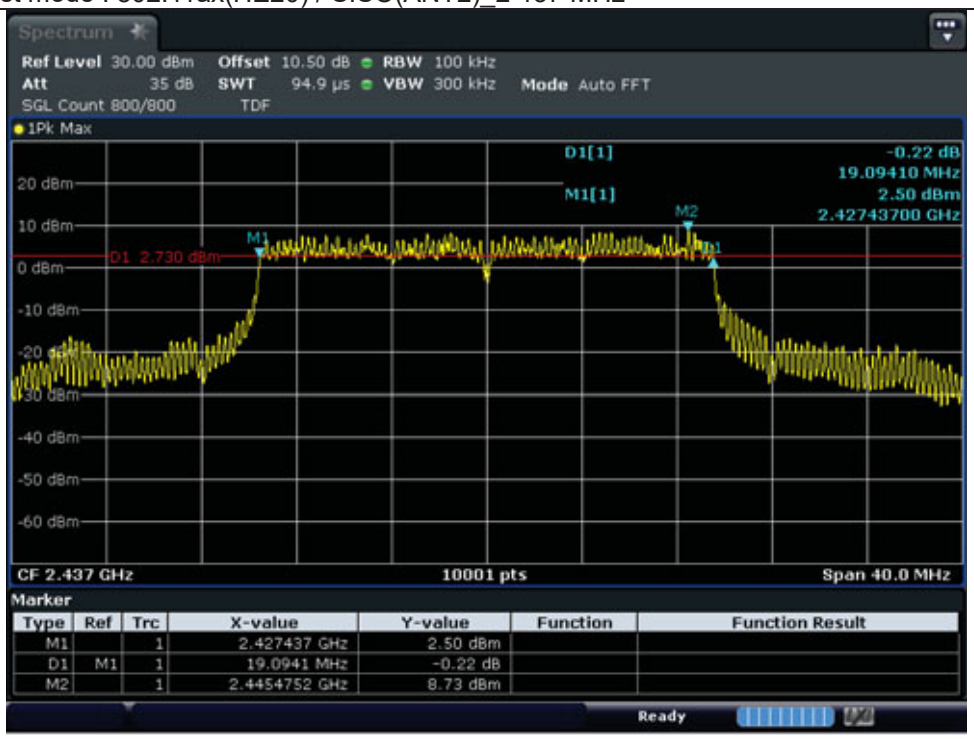
Test mode : 802.11ax(HE20) / SISO(ANT1)_2 437 MHz

Test mode : 802.11ax(HE20) / SISO(ANT1)_2 462 MHz

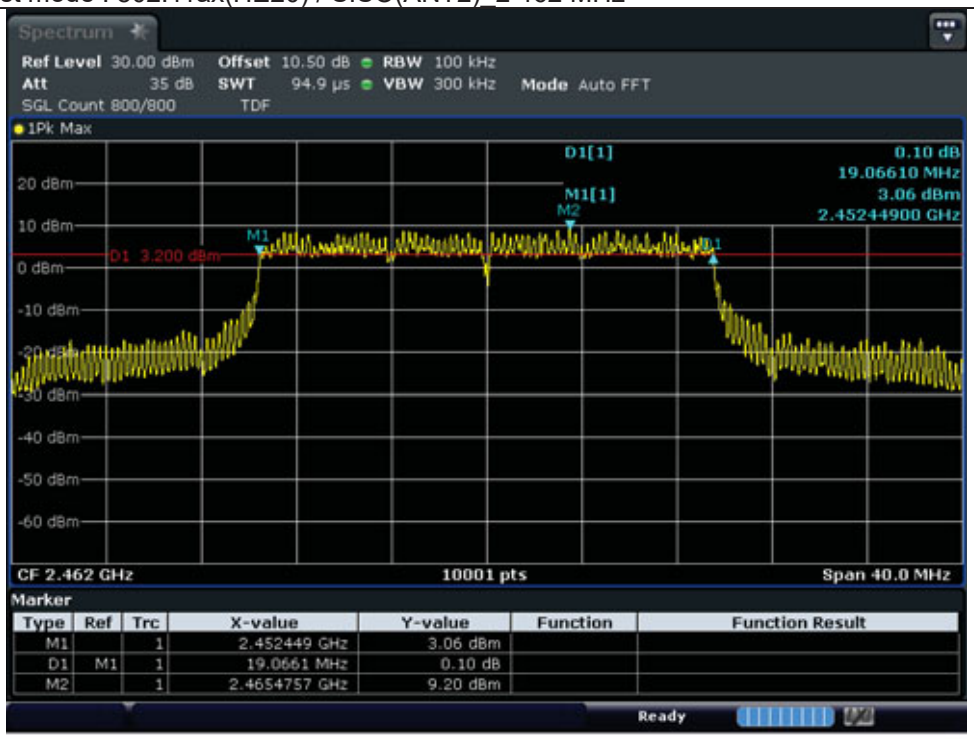


Test mode : 802.11ax(HE20) / SISO(ANT2)_2 412 MHz

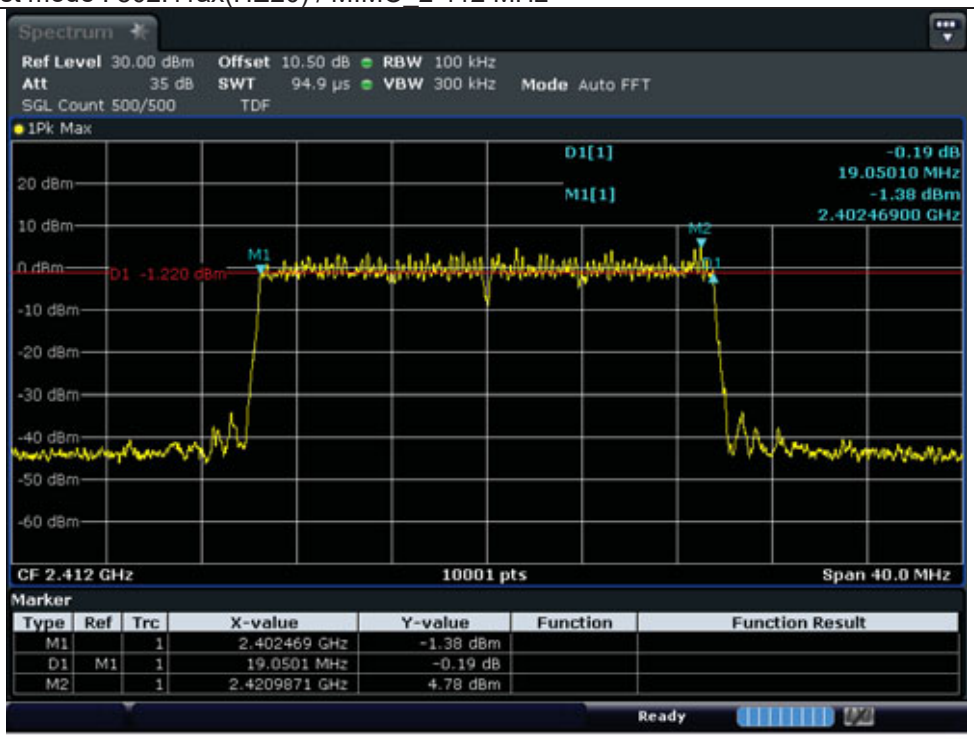
Test mode : 802.11ax(HE20) / SISO(ANT2)_2 437 MHz



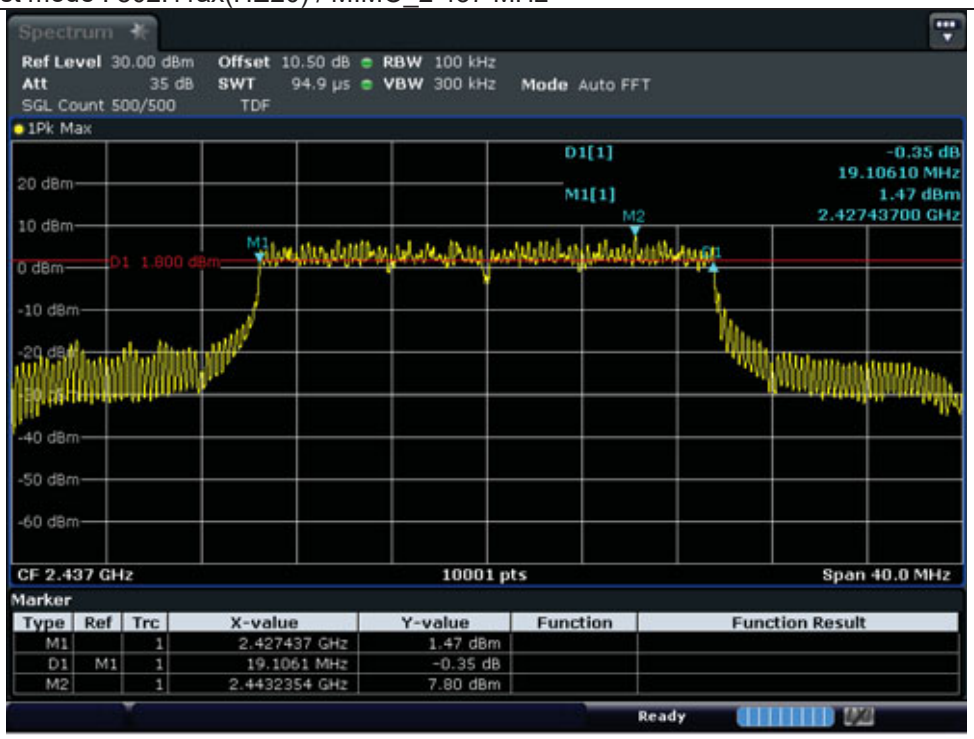
Test mode : 802.11ax(HE20) / SISO(ANT2)_2 462 MHz



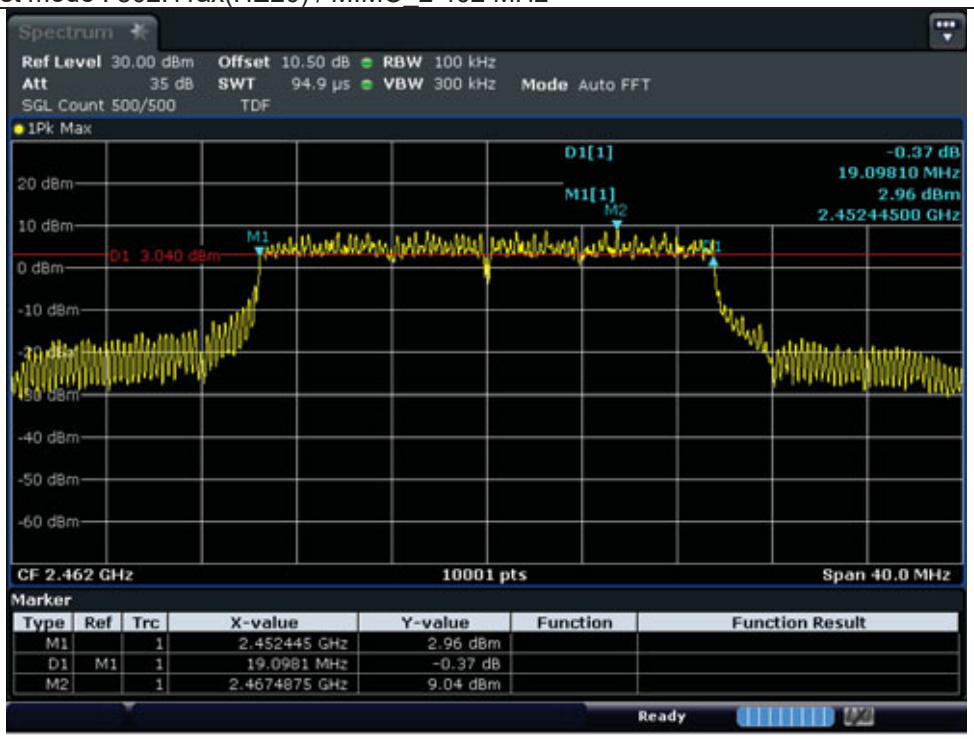
Test mode : 802.11ax(HE20) / MIMO_2 412 MHz



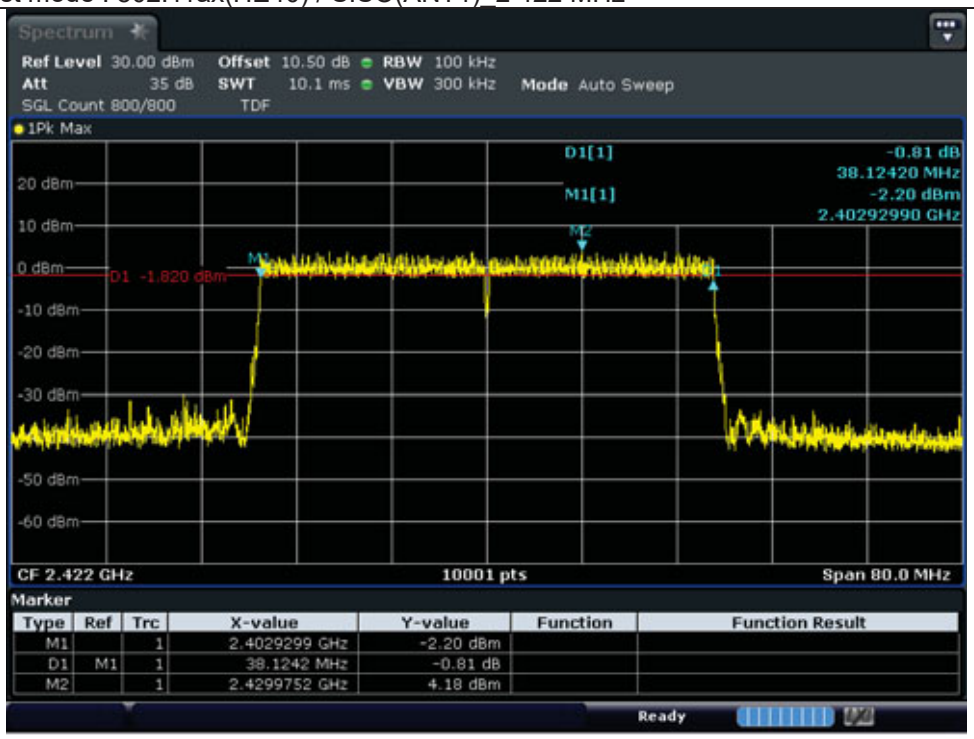
Test mode : 802.11ax(HE20) / MIMO_2 437 MHz



Test mode : 802.11ax(HE20) / MIMO_2 462 MHz

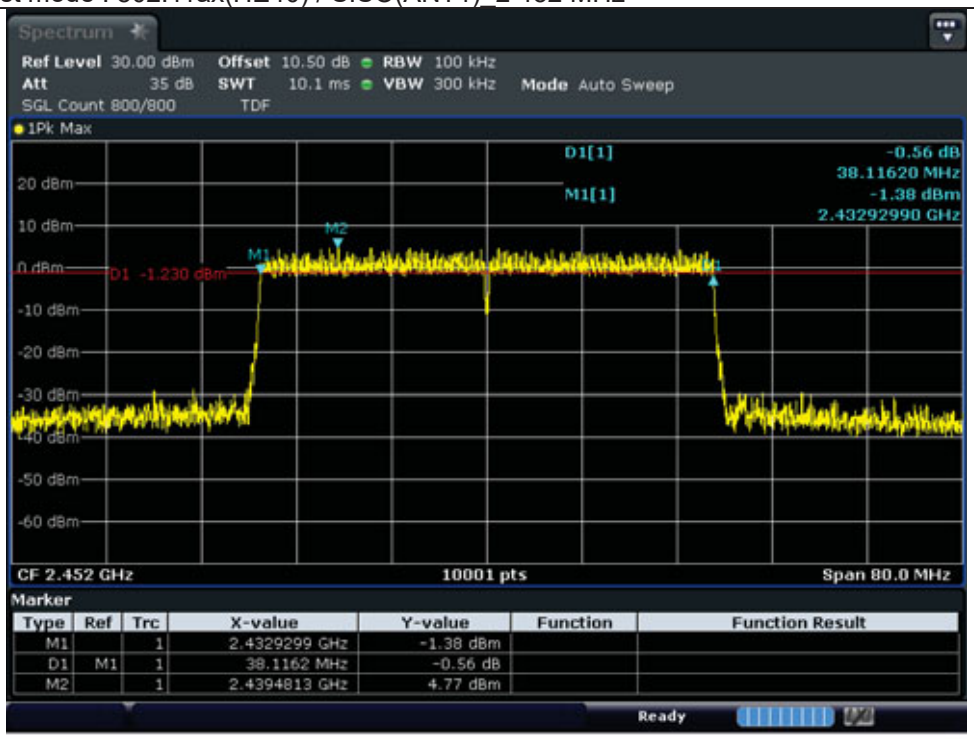


Test mode : 802.11ax(HE40) / SISO(ANT1)_2 422 MHz



Test mode : 802.11ax(HE40) / SISO(ANT1)_2 437 MHz

Test mode : 802.11ax(HE40) / SISO(ANT1)_2 452 MHz



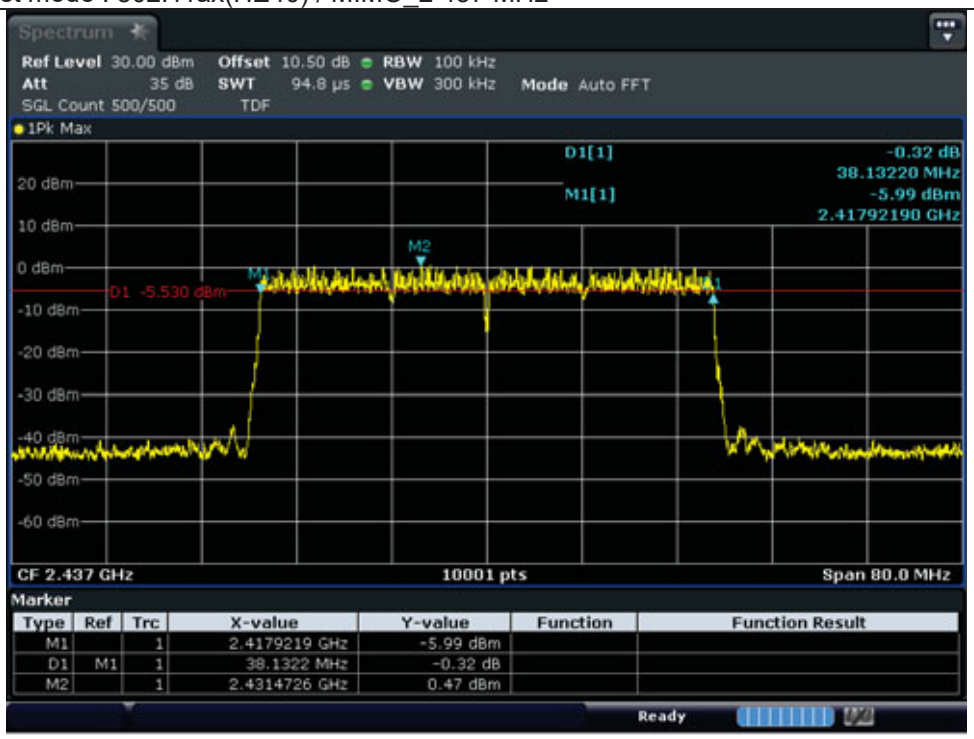
Test mode : 802.11ax(HE40) / SISO(ANT2)_2 422 MHz

Test mode : 802.11ax(HE40) / SISO(ANT2)_2 437 MHz

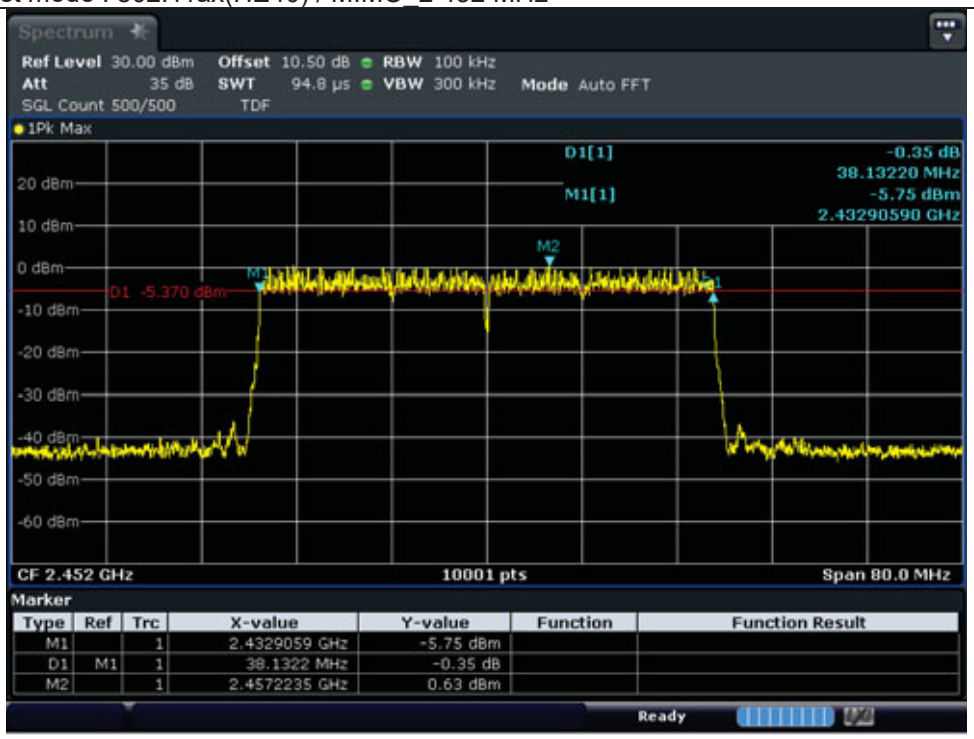
Test mode : 802.11ax(HE40) / SISO(ANT2)_2 452 MHz

Test mode : 802.11ax(HE40) / MIMO_2 422 MHz

Test mode : 802.11ax(HE40) / MIMO_2 437 MHz

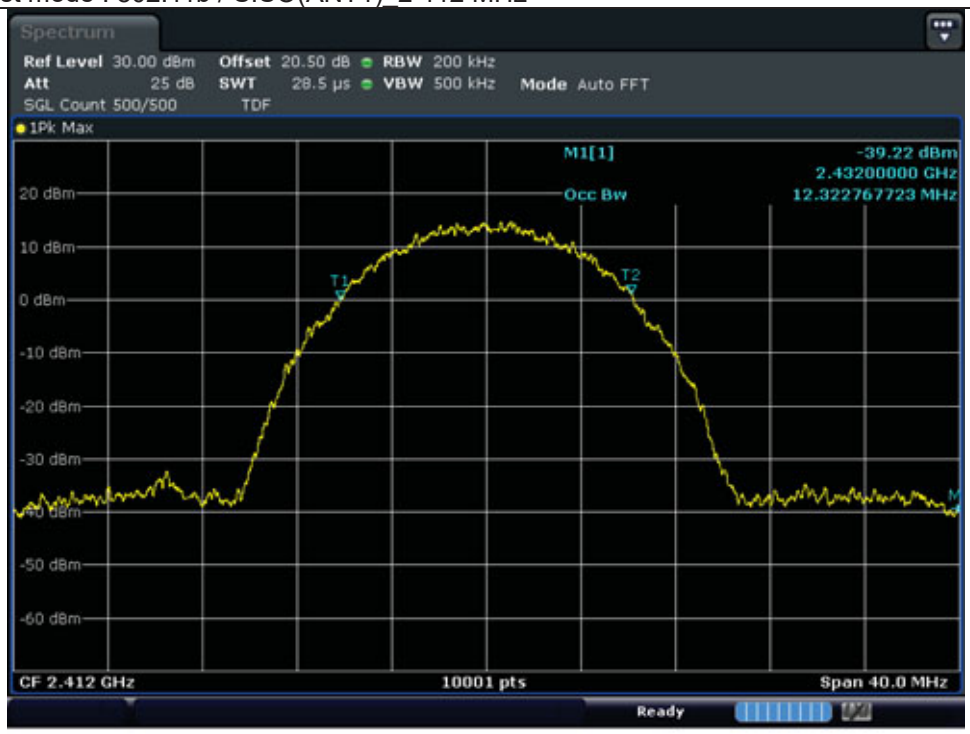


Test mode : 802.11ax(HE40) / MIMO_2 452 MHz



4.3.4.6 99% Occupied Bandwidth Test Plot

Test mode : 802.11b / SISO(ANT1)_2 412 MHz



Test mode : 802.11b / SISO(ANT1)_2 437 MHz