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FCC LISTED, REGISTRATION NUMBER: 720267

IC LISTED REGISTRATION NUMBER IC 4621A

Test report No:

NIE: 41308RRF.001

Test report

REFERENCE STANDARD:
USA FCC Part 15.247, 15.209
CANADA RSS-210, RSS-Gen

Radio Frequency Devices. Operation within the bands 902 - 928 MHz, 2400 -2483.5 MHz, and 5725 - 5850 MHz.
Licence-Exempt Radio Apparatus (All Frequency Bands): Category I Equipment.
General Requirements and Information for the Certification of Radio Apparatus.

Identificación del objeto ensayado.....: Identification of item tested	WiFi/3G Router
Marca .....: Trade	BRCK
Modelo y/o referencia tipo .....: Model and /or type reference	BRCK V1
Other identification of the product .....:	Commercial name: BRCK V1 FCC ID: 2ACBL002725001 IC: 11959A-002725001
Final HW version .....:	V10
Final SW version .....:	V10
Serial number .....:	---
Características .....: Features	WLAN 802.11b/g/n
Peticionario .....: Applicant	BRCK Inc. 12472 Lake Underhill Rd #525, Orlando, FL 32828.USA Passport/V.A.T.: 463878519 Contact person: REG ORTON Phone: +254 0700 196 429 / e-mail: REG@BRCK.COM
Método de ensayo solicitado, norma.....: Test method requested, standard	USA FCC Part 15.247 10-1-12 Edition: Operation within the bands 902 - 928 MHz, 2400 -2483.5 MHz, and 5725 - 5850 MHz. USA FCC Part 15.209 10-1-12 Edition: Radiated emission limits; general requirements. CANADA RSS-210 Issue 8 (December 2010). CANADA RSS-Gen Issue 3 (December 2010). Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 558074 D01 DTS Meas Guidance v03r01 dated 09/04/2013. ANSI C63.10-2009: American National Standard for Testing Unlicensed Wireless Devices.

Resultado.....: Summary	IN CONPLIANCE
Aprobado por (nombre / cargo y firma) .....: Approved by (name / position & signature)	A. Llamas RF Lab. Manager  Firmado digitalmente por Alejandro Llamas Rodríguez Fecha: 2014.05.13 12:31:01 +02'00'
Fecha de realización .....: Date of issue	2014-05-13
Formato de informe No. .....: Report template No	FDT08_15

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Competences and guarantees

AT4 wireless is a laboratory with a measurement facility in compliance with the requirements of Section 2.948 of the FCC rules and has been added to the list of facilities whose measurements data will be accepted in conjuction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Registration Number: 720267.

AT4 wireless is a laboratory with a measurement site in compliance with the requirements of RSS 212, Issue 1 (Provisional) and has been added to the list of filed sites of the Canadian Certification and Engineering Bureau. Reference File Number: IC 4621A.

In order to assure the traceability to other national and international laboratories, AT4 wireless has a calibration and maintenance program for its measurement equipment.

AT4 wireless guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at AT4 wireless at the time of performance of the test.

AT4 wireless is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
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4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of AT4 wireless and the Accreditation Bodies.

Uncertainty

Uncertainty (factor k=2) was calculated according to the AT4 wireless internal document PODT000.

Usage of samples

Samples undergoing test have been selected by: **the client**.

Sample M/01 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
41308B/002	WiFi/3G Router	BRCK V1	---	2014-03-27
41308B/008	AC/DC adaptor	HKA00605010-2B	13057000510	2014-03-27

1. Sample M/01 has undergone following test(s).

All radiated tests indicated in appendix A.

Test sample description

The test sample consists of a router WiFi/3G with its AC/DC adaptor as power supply.

Test samples supplier

BRCK Inc.

12472 Lake Underhill Rd #525, Orlando, FL 32828.USA

Passport/V.A.T.: 463878519

Contact person: REG ORTON

Phone: +254 0700 196 429 / e-mail: REG@BRCK.COM

Testing period

The performed test started on 2014-04-09 and finished on 2014-04-11.

The tests have been performed at AT4 wireless.

Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 19.0 ºC Max. = 23.8 ºC
Relative humidity	Min. = 45 % Max. = 51 %
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω

In the semianechoic chamber (21 meters x 11 meters x 8 meters), the following limits were not exceeded during the test.

Temperature	Min. = 18.2 ºC Max. = 22.7 ºC
Relative humidity	Min. = 42 % Max. = 56 %
Air pressure	Min. = 1020 mbar Max. = 1020 mbar
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω
Normal site attenuation (NSA)	< ±4 dB at 10 m distance between item under test and receiver antenna, (30 MHz to 1000 MHz)
Field homogeneity	More than 75% of illuminated surface is between 0 and 6 dB (26 MHz to 1000 MHz).

Remarks and comments

1: The equipment is based on an approved RF module.

2: Used instrumentation:

		Last Cal. date	Cal. due date
1.	Semianechoic Absorber Lined Chamber ETS FACT3 200STP	N.A.	N.A.
2.	BiconicalLog antenna ETS LINDGREN 3142E	2014/03	2017/03
3.	Multi Device Controller EMCO 2090	N.A.	N.A.
4.	Double-ridge Guide Horn antenna 1-18 GHz SCHWARZBECK BBHA 9120 D	2013/11	2016/11
5.	Double-ridge Guide Horn antenna 18-40 GHz Agilent 119665J	2011/09	2014/09
6.	EMI Test Receiver R&S ESU 26	2013/08	2015/08
7.	Spectrum analyser Rohde & Schwarz FSW50	2013/10	2015/10
8.	RF pre-amplifier 10 MHz-6 GHz SCHWARZBECK BBV9743	2014/02	2015/02
9.	RF pre-amplifier 1-18 GHz Schwarzbeck BBV 9718	2014/02	2015/02
10.	RF pre-amplifier Miteq JS4-12002600-30-5A.	2012/07	2014/07

Testing verdicts

Not applicable ..... :	N/A
Pass ..... :	P
Fail ..... :	F
Not measured ..... :	N/M

FCC PART 15 PARAGRAFPH / RSS-210		VERDICT			
		NA	**P**	**F**	**NM**
Section 15.247 Subclause (a) (2) / RSS-210 A8.2. (a)	6 dB Bandwidth				NM[1]
Section 15.247 Subclause (b) / RSS-210 A8.4. (4)	Maximum output power and antenna gain				NM[1]
Section 15.247 Subclause (d) / RSS-210 A8.5. conducted	Emission limitations (Transmitter)				NM[1]
Section 15.247 Subclause (d) / RSS-210 A8.5. compliance	Band-edge emissions (Transmitter)				NM[1]
Section 15.247 Subclause (e) / RSS-210 A8.2. (b)	Power spectral density				NM[1]
Section 15.247 Subclause (d) / RSS-210 A8.5.	Emission limitations radiated (Transmitter)		P		

1: See section “Remarks and comments”.

Appendix A – Test result

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TEST CONDITIONS

Power supply (V):

Vnominal = 5 Vdc

Type of power supply = DC voltage from AC adaptor.

Type of antenna = Internal antenna.

TEST FREQUENCIES:

For WiFi 802.11b/g/n20:

Lowest channel (1): 2412 MHz

Middle channel (6): 2437 MHz

Highest channel (11): 2462 MHz

For WiFi 802.11n40:

Lowest channel (3): 2422 MHz

Middle channel (6): 2437 MHz

Highest channel (9): 2452 MHz

WiFi 2.4 GHz: 802.11b, 802.11g, 802.11n20 (20 MHz channel bandwidth) and 802.11n40 (40MHz channel bandwidth).

The field strength at the band edges was evaluated for each mode individually on the lowest and highest channels at the rated power for the channel under test. Where the power at the edge channels was lower than the power at the center channels additional measurements were made at the adjacent channels.

During transmitter test the EUT was being controlled by a proprietary test software tool to operate in a continuous transmit mode on the test channels as required and in each of the different modulation modes.

The data rates of 1Mb/s for 802.11b, 6Mb/s for 802.11g, HT0 for 802.11n20 and n40 were selected based on preliminary testing that identified those rates corresponding to the worst cases for output power and band edge levels at restricted bands.

RF output power target values in test software tool

Mode	BW (MHz)	Channel / Freq.	RF power (dBm)
802.11b	20	1 / 2412	15
		2 /2417	15
		3 / 2422	21
		6 / 2437	17.5
		10 / 2457	21
		11 / 2462	19
802.11g	20	1 / 2412	17.5
		6 / 2437	15
		11 / 2462	17.5
802.11n	20	1 / 2412	8.5
		2 / 2417	12
		3 / 2422	15.5
		4 / 2427	15.5
		5 / 2432	17.5
		6 / 2437	17.5
		7 / 2442	17.5
		8 / 2447	17.5
		9 / 2452	16
		10 / 2457	15
		11 / 2462	11
802.11n	40	3 / 2422	10
		4 / 2427	12
		5 / 2432	14
		6 / 2437	12.5
		7 / 2442	10
		8 / 2447	9
		9 / 2452	9

RADIATED MEASUREMENTS

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at a distance of 3 m for the frequency range 30 MHz-1000 MHz (30 MHz-1000 MHz Bilog antenna) and at a distance of 1m for the frequency range 1 GHz-25 GHz (1 GHz-18 GHz Double ridge horn antenna and 18 GHz-40 GHz horn antenna).

For radiated emissions in the range 1 GHz-25 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

The equipment under test was set up on a non-conductive (wooden) platform one meter above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

Section 15.247 Subclause (d) / RSS-210 A8.5. Emission limitations radiated (Transmitter)

SPECIFICATION

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)):

Frequency Range (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	300
1.705 - 30.0	30	-	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
960 - 25000	500	54	3

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

RESULTS:

The situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

All tests were performed in a semi-anechoic chamber at a distance of 3 m for the frequency range 30 MHz-1000 MHz and at distance of 1m for the frequency range 1 GHz-25 GHz.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

Frequency range 30 MHz-1000 MHz.

The spurious signals detected do not depend on either the operating channel or the modulation mode.

Spurious levels closest to the limit:

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
169.903846	H	Quasi-Peak	37.84	± 3.8
199.439102	V	Quasi-Peak	42.50	± 3.8
173.012820	V	Quasi-Peak	40.66	± 3.8
399.967948	V	Quasi-Peak	31.26	± 3.8
600.496794	V	Quasi-Peak	39.75	± 3.8
961.137820	H	Quasi-Peak	41.94	± 3.8

Frequency range 1 GHz-25 GHz

The results in the next tables show the maximum measured levels in the 1-25 GHz range including the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz (see next plots).

For OFDM modulation modes (802.11g, 802.11n20 and 802.11n40), a preliminary measurement in the central channel in the range 1-12.75 GHz was performed to determine the worst case. The lowest and highest channels were measured for out-of-band emissions for the worst case (802.11g).

The field strength at the band edges was evaluated for each mode and on each chain individually on the lowest and highest channels at the rated power for the channel under test. Where the power at the edge channels was lower than the power at the center channels additional measurements were made at the adjacent channels.

Spurious signals with peak levels above the average limit (54 dBµV/m at 3 m) are measured with average detector for checking compliance with the average limit.

1. WiFi 2.4GHz 802.11 b mode

1.1. CHANNEL 1: LOWEST (2412 MHz). Out-of-band spurious emissions in the 1-25 GHz range and inside restricted band 2.31-2.39 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
1.80000	V	Peak	46.58	± 4.09
1.92013	V	Peak	46.79	± 4.09
2.38780	V	Peak	66.29	± 4.09
		Average	53.16	± 4.09
2.386315	V	Peak	59.18	± 4.09
		Average	48.50	± 4.09
2.59988	V	Peak	49.14	± 4.09
4.82340	V	Peak	57.16	± 4.09
		Average	51.26	± 4.09
7.23660	V	Peak	49.93	± 4.09
9.64780	V	Peak	49.15	± 4.09

1.2. CHANNEL 3 (2422 MHz). Spurious emissions in restricted band 2.31-2.39 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38996	V	Peak	66.40	± 4.09
		Average	53.48	± 4.09

1.3. CHANNEL 6: MIDDLE (2437 MHz). Out-of-band spurious emissions in the 1-25 GHz range and inside restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
1.81300	V	Peak	46.30	± 4.09
1.92013	V	Peak	46.33	± 4.09
2.38484	V	Peak	54.83	± 4.09
		Average	44.10	± 4.09
2.38755	V	Peak	53.44	± 4.09
2.48404	V	Peak	51.93	± 4.09
2.49139	V	Peak	52.15	± 4.09
2.59938	V	Peak	48.38	± 4.09
4.87410	V	Peak	58.52	± 4.09
		Average	53.68	± 4.09
7.30970	V	Peak	47.29	± 4.09
9.74720	V	Peak	51.27	± 4.09

1.4. CHANNEL 10 (2457 MHz). Spurious emissions in restricted band 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48364	V	Peak	65.92	± 4.09
		Average	53.08	± 4.09

1.5. CHANNEL 11: HIGHEST (2462 MHz). Out-of-band spurious emissions in the 1-25 GHz range and inside restricted band 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
1.79988	V	Peak	46.61	± 4.09
1.92013	V	Peak	46.32	± 4.09
2.20013	V	Peak	46.14	± 4.09
2.48353	V	Peak	58.07	± 4.09
		Average	49.08	± 4.09
2.60013	V	Peak	51.25	± 4.09
4.92470	V	Peak	50.17	± 4.09

Verdict: PASS

2. WiFi 2.4GHz 802.11 g mode (worst case OFDM)

2.1. CHANNEL 1: LOWEST (2412 MHz). Out-of-band spurious emissions in the 1-25 GHz range and inside restricted band 2.31-2.39 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
1.79963	V	Peak	46.10	± 4.09
1.92013	V	Peak	46.54	± 4.09
2.20013	V	Peak	45.32	± 4.09
2.38620	V	Peak	64.68	± 4.09
		Average	52.97	± 4.09
2.60013	V	Peak	49.16	± 4.09
4.82340	V	Peak	57.58	± 4.09
		Average	51.73	± 4.09
7.23470	V	Peak	49.73	± 4.09
9.64780	V	Peak	49.97	± 4.09

2.2. CHANNEL 6: MIDDLE (2437 MHz). Out-of-band spurious emissions in the 1-25 GHz range and inside restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
1.79988	V	Peak	46.51	± 4.09
1.92013	V	Peak	46.80	± 4.09
2.20013	V	Peak	45.97	± 4.09
2.38712	V	Peak	53.72	± 4.09
2.37912	V	Peak	52.57	± 4.09
2.48409	V	Peak	52.12	± 4.09
2.48919	V	Peak	51.97	± 4.09
2.60013	V	Peak	51.39	± 4.09
4.87410	V	Peak	58.25	± 4.09
		Average	53.57	± 4.09
7.31160	V	Peak	48.46	± 4.09
9.74720	V	Peak	51.77	± 4.09

2.3. CHANNEL 11: HIGHEST (2462 MHz). Out-of-band spurious emissions in the 1-25 GHz range and inside restricted band 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
1.79988	V	Peak	46.17	± 4.09
1.92013	V	Peak	45.80	± 4.09
2.20013	V	Peak	45.95	± 4.09
2.48494	V	Peak	54.13	± 4.09
		Average	44.77	± 4.09
2.60013	V	Peak	49.27	± 4.09
4.92470	V	Peak	50.78	± 4.09
7.38660	V	Peak	43.84	± 4.09

Verdict: PASS

3. WiFi 2.4GHz 802.11 n20 mode

3.1. CHANNEL 1 (2412 MHz). Spurious emissions in restricted band 2.31-2.39 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38994	V	Peak	72.68	± 4.09
		Average	53.12	± 4.09

3.2. CHANNEL 2 (2417 MHz). Spurious emissions in restricted band 2.31-2.39 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38994	V	Peak	70.25	± 4.09
		Average	51.54	± 4.09

3.3. CHANNEL 3 (2422 MHz). Spurious emissions in restricted band 2.31-2.39 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38990	V	Peak	73.83	± 4.09
		Average	53.40	± 4.09

3.5. CHANNEL 5 (2432 MHz). Spurious emissions in restricted band 2.31-2.39 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38906	V	Peak	73.44	± 4.09
		Average	52.11	± 4.09

3.6. CHANNEL 6: MIDDLE (2437 MHz). Out-of-band spurious emissions in the 1-25 GHz range and inside restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
1.79988	V	Peak	47.14	± 4.09
1.92013	V	Peak	46.13	± 4.09
2.20013	V	Peak	47.77	± 4.09
2.38964	V	Peak	70.57	± 4.09
		Average	46.80	± 4.09
2.483591	V	Peak	65.02	± 4.09
		Average	42.77	± 4.09
2.60013	V	Peak	50.69	± 4.09
4.87220	V	Peak	60.74	± 4.09
		Average	46.62	± 4.09
7.30590	V	Peak	49.31	± 4.09
9.75090	V	Peak	49.51	± 4.09

3.8. CHANNEL 8 (2447 MHz). Spurious emissions in restricted band 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48364	V	Peak	70.92	± 4.09
		Average	49.55	± 4.09

3.9. CHANNEL 9 (2452 MHz). Spurious emissions in restricted band 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.485736	V	Peak	72.92	± 4.09
		Average	52.21	± 4.09

3.10. CHANNEL 10 (2457 MHz). Spurious emissions in restricted band 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.483508	V	Peak	70.34	± 4.09
		Average	51.20	± 4.09

3.11. CHANNEL 11 (2462 MHz). Spurious emissions in restricted band 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.483508	V	Peak	69.14	± 4.09
		Average	51.20	± 4.09

4. WiFi 2.4GHz 802.11 n40 mode

4.1. CHANNEL 3 (2422 MHz). Spurious emissions in restricted band 2.31-2.39 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38988	V	Peak	69.70	± 4.09
		Average	53.32	± 4.09

4.2. CHANNEL 4 (2427 MHz). Spurious emissions in restricted band 2.31-2.39 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38892	V	Peak	68.94	± 4.09
		Average	52.08	± 4.09

4.3. CHANNEL 5 (2432 MHz). Spurious emissions in restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38980	V	Peak	68.66	± 4.09
		Average	50.93	± 4.09
2.483508	V	Peak	67.91	± 4.09
		Average	53.26	± 4.09

4.4. CHANNEL 6: MIDDLE (2437 MHz). Out-of-band spurious emissions in the 1-25 GHz range and inside restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
1.79988	V	Peak	46.22	± 4.09
1.92013	V	Peak	45.98	± 4.09
2.20013	V	Peak	46.45	± 4.09
		Average	38.01	± 4.09
2.38948	V	Peak	55.25	± 4.09
		Average	41.65	± 4.09
2.483624	V	Peak	67.58	± 4.09
		Average	52.97	± 4.09
2.60013	V	Peak	49.21	± 4.09
4.85160	V	Peak	44.94	± 4.09

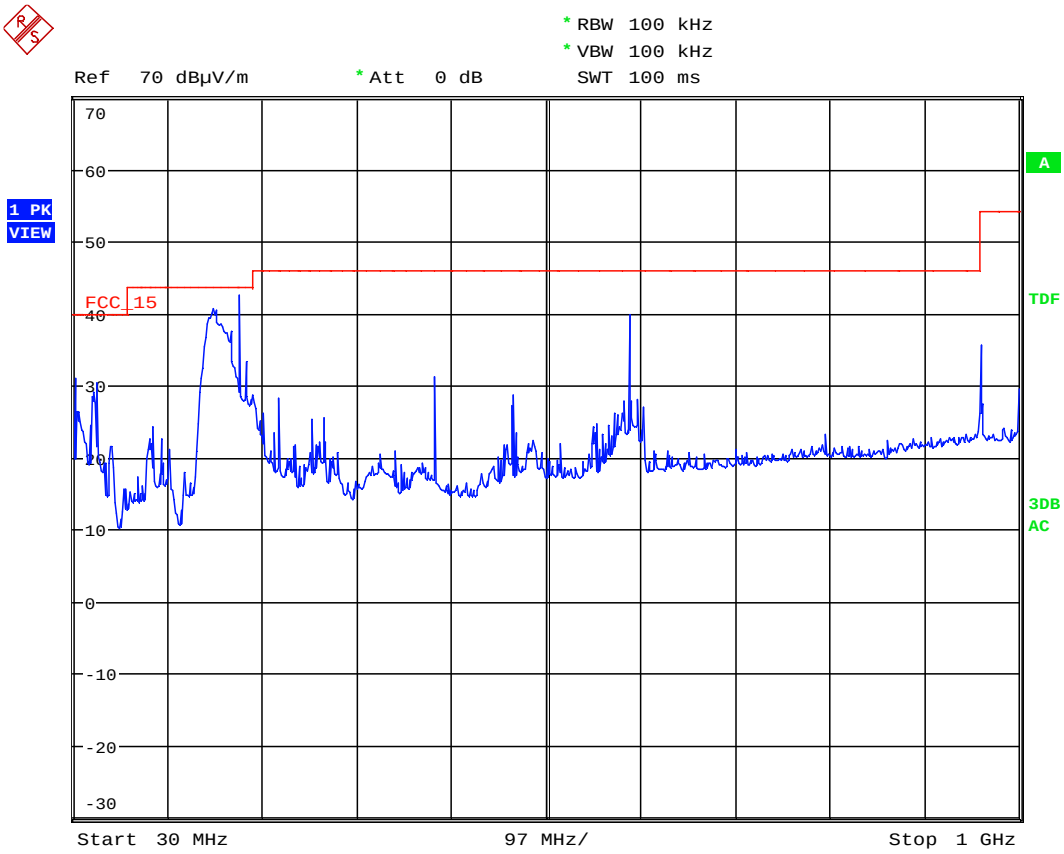
4.5. CHANNEL 7 (2442 MHz). Spurious emissions in restricted band 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.483558	V	Peak	64.55	± 4.09
		Average	50.69	± 4.09

4.7. CHANNEL 9 (2452 MHz). Spurious emissions in restricted band 2.4835-2.5 GHz.

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.483508	V	Peak	60.13	± 4.09
		Average	44.07	± 4.09

FREQUENCY RANGE 30 MHz-1000 MHz.

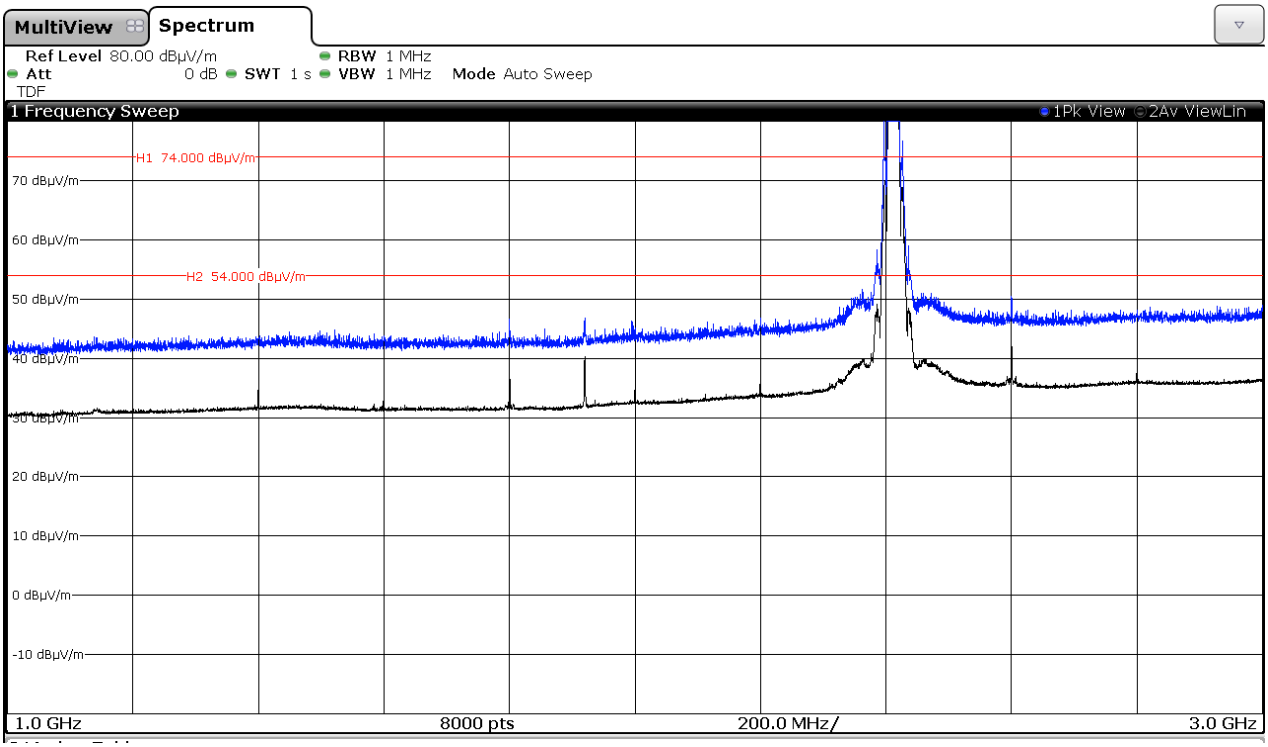


(This plot is valid for all three channels and all modulation modes).

FREQUENCY RANGE 1 GHz to 3 GHz.

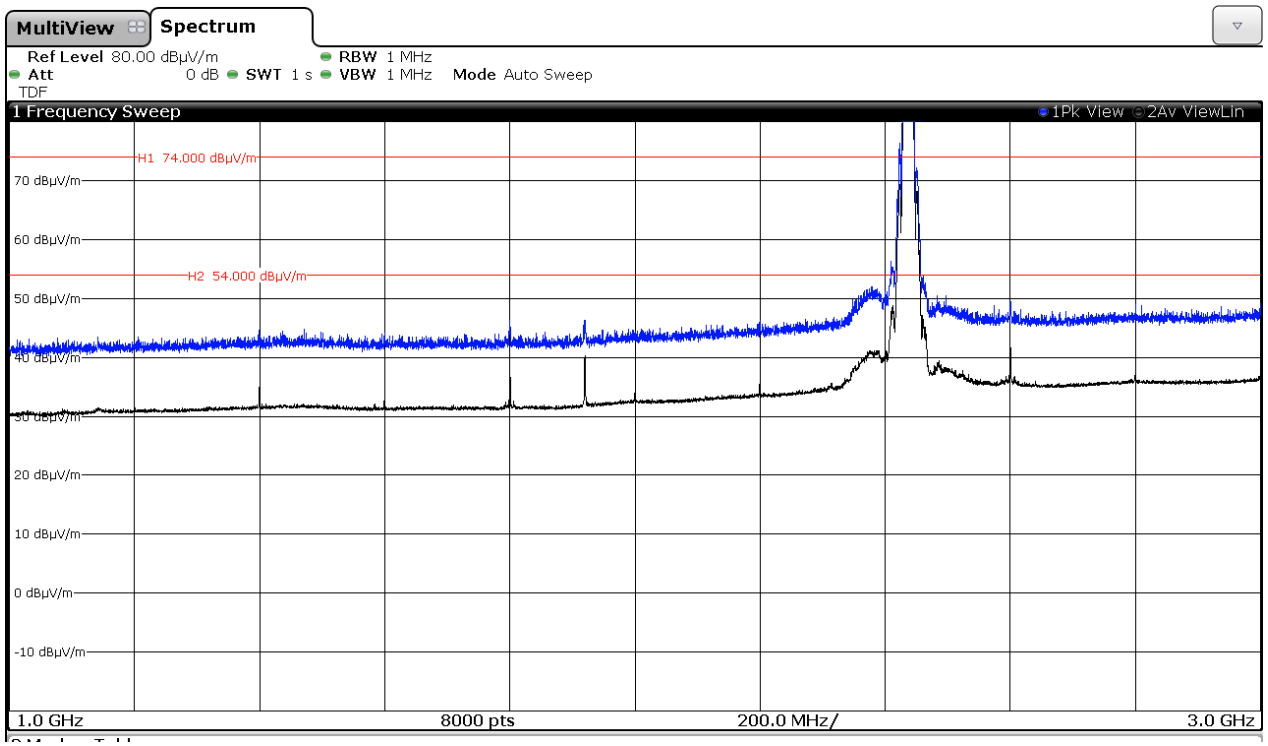
1. WiFi 2.4GHz 802.11 b mode

CHANNEL 1 (2412 MHz).



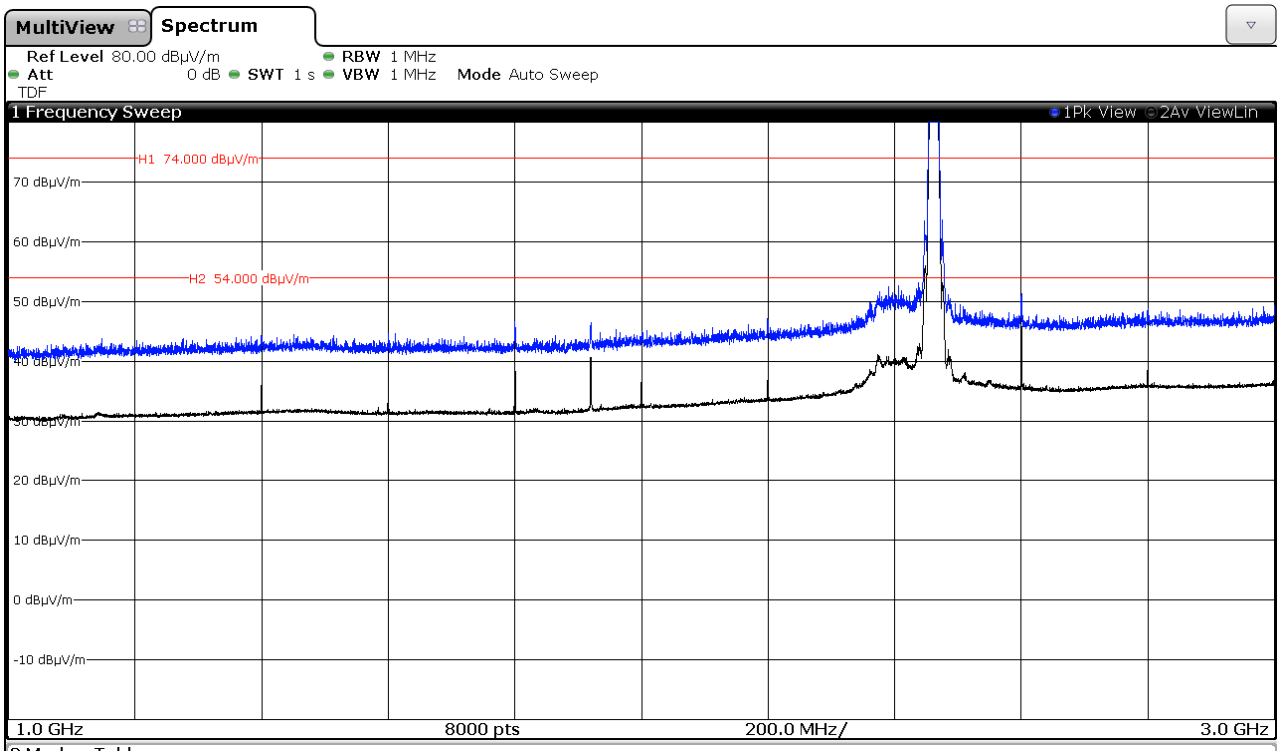
Note: The peak above the limit is the carrier frequency.

CHANNEL 6 (2437 MHz).



Note: The peak above the limit is the carrier frequency.

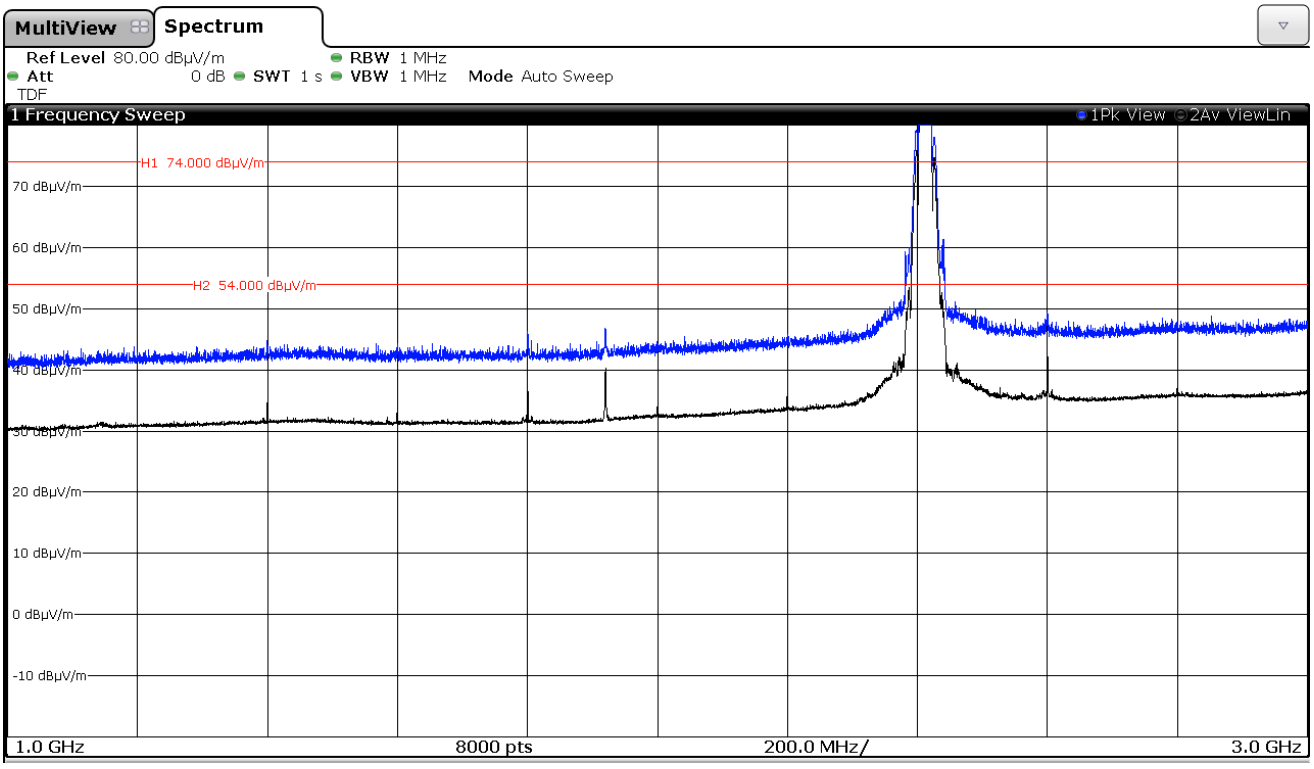
CHANNEL 11 (2462 MHz).



Note: The peak above the limit is the carrier frequency.

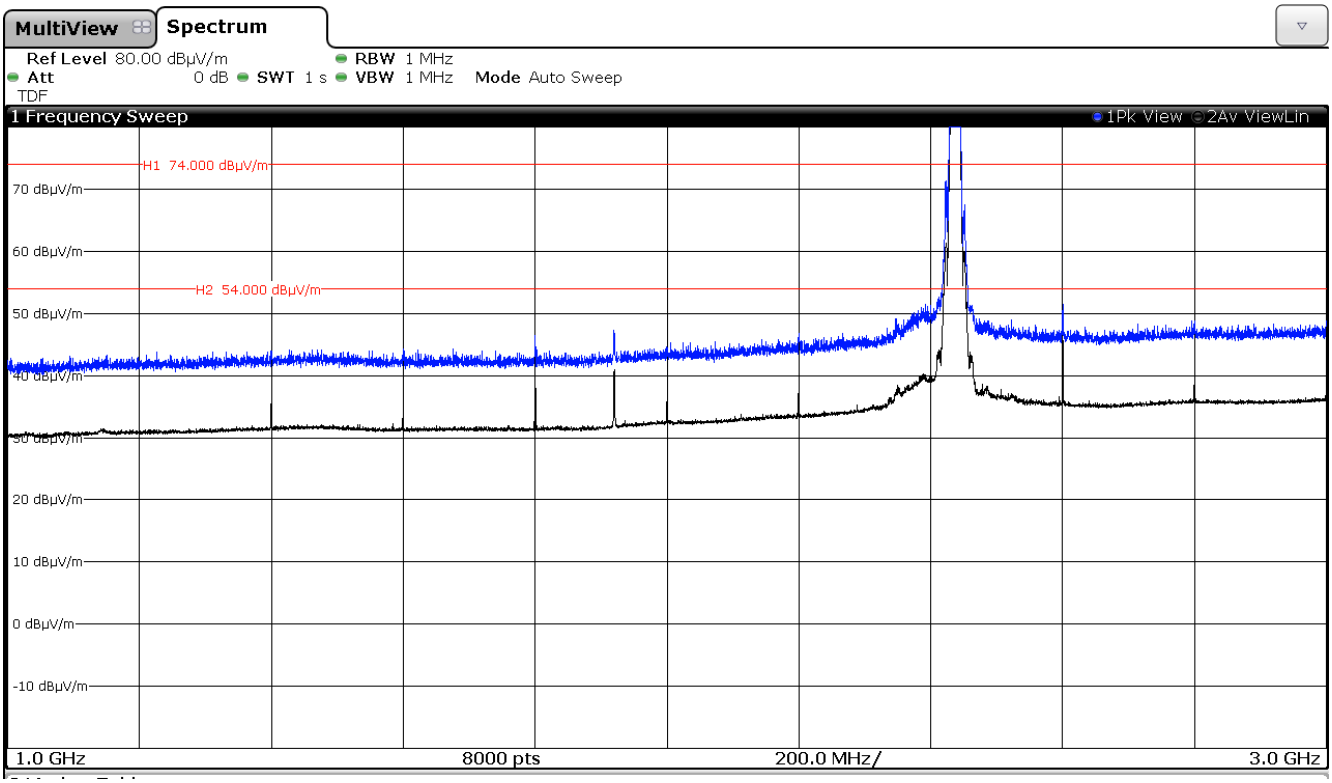
2. WiFi 2.4GHz 802.11 g mode

CHANNEL 1 (2412 MHz).



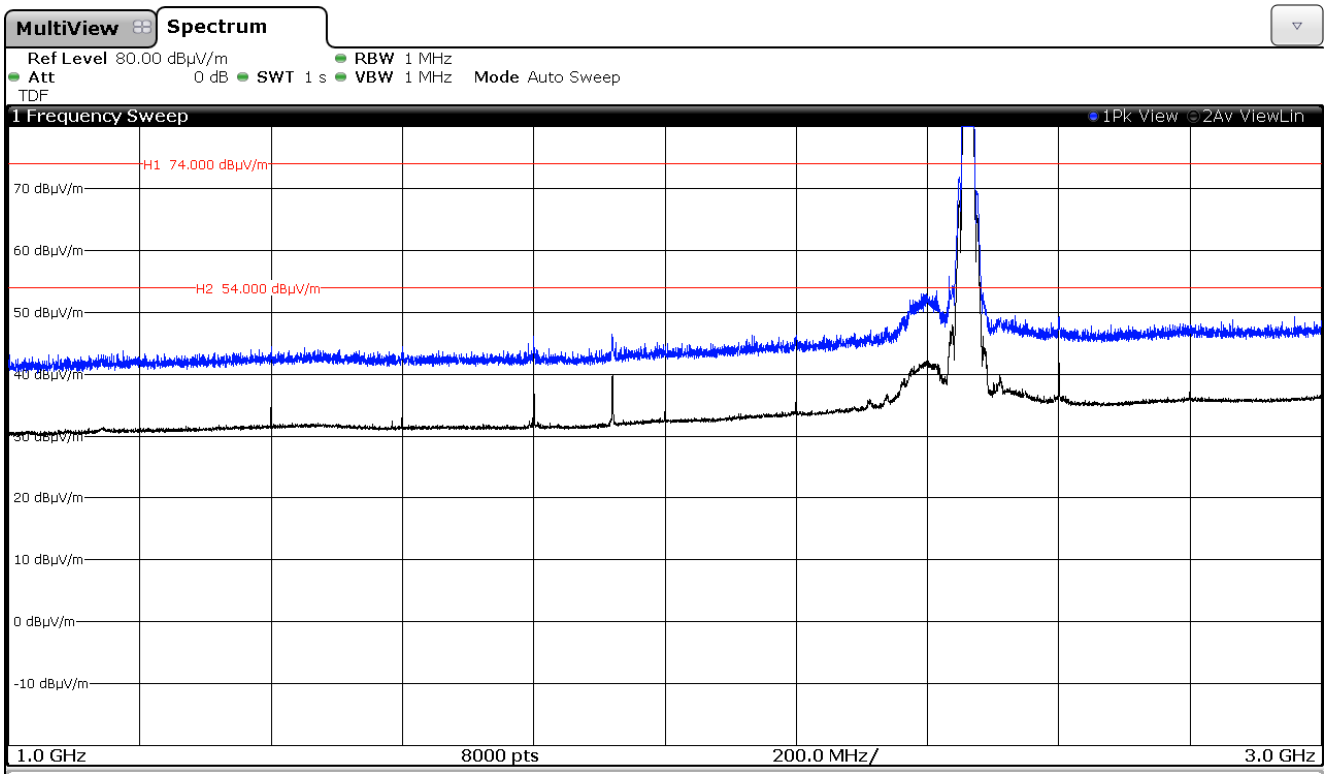
Note: The peak above the limit is the carrier frequency.

CHANNEL 6 (2437 MHz).



Note: The peak above the limit is the carrier frequency.

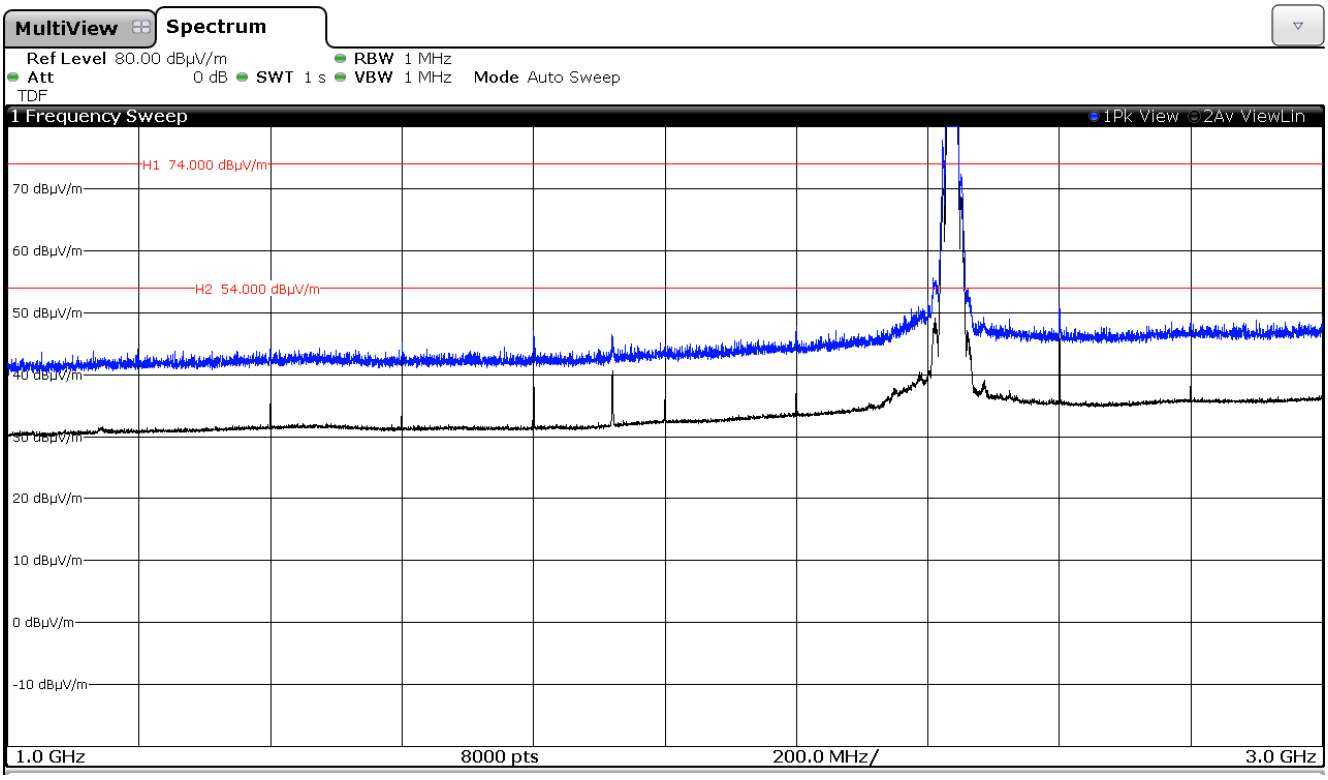
CHANNEL 11 (2462 MHz).



Note: The peak above the limit is the carrier frequency.

3. WiFi 2.4GHz 802.11 n20 mode

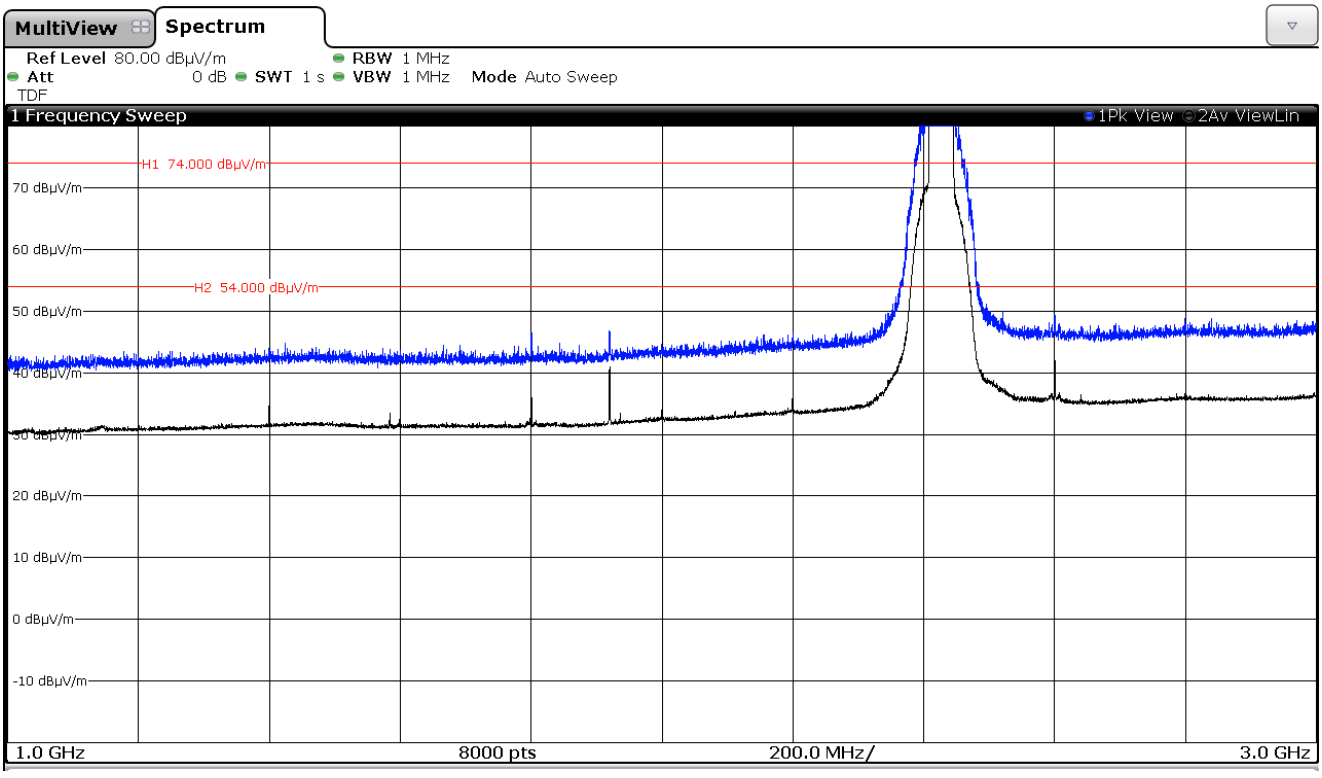
CHANNEL 6 (2437 MHz).



Note: The peak above the limit is the carrier frequency.

4. WiFi 2.4GHz 802.11 n40 mode

CHANNEL 6 (2437 MHz).

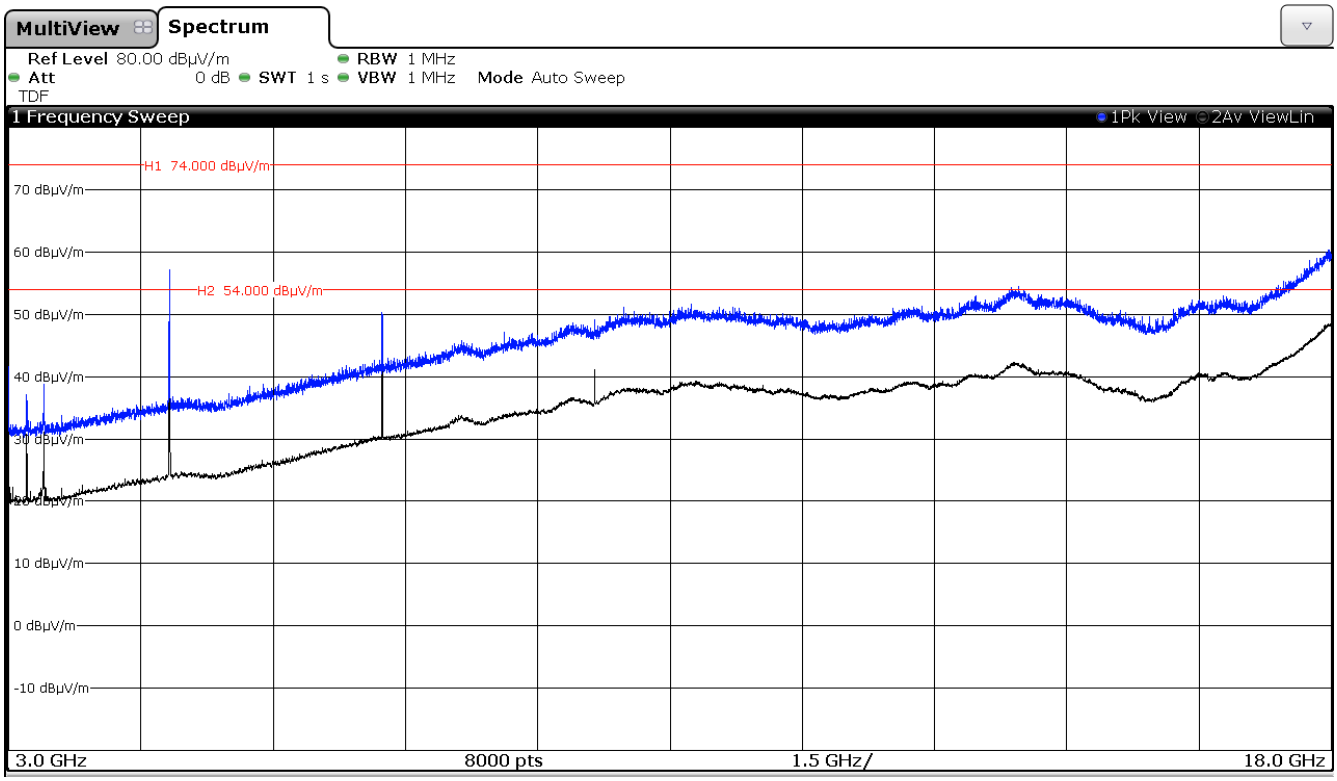


Note: The peak above the limit is the carrier frequency.

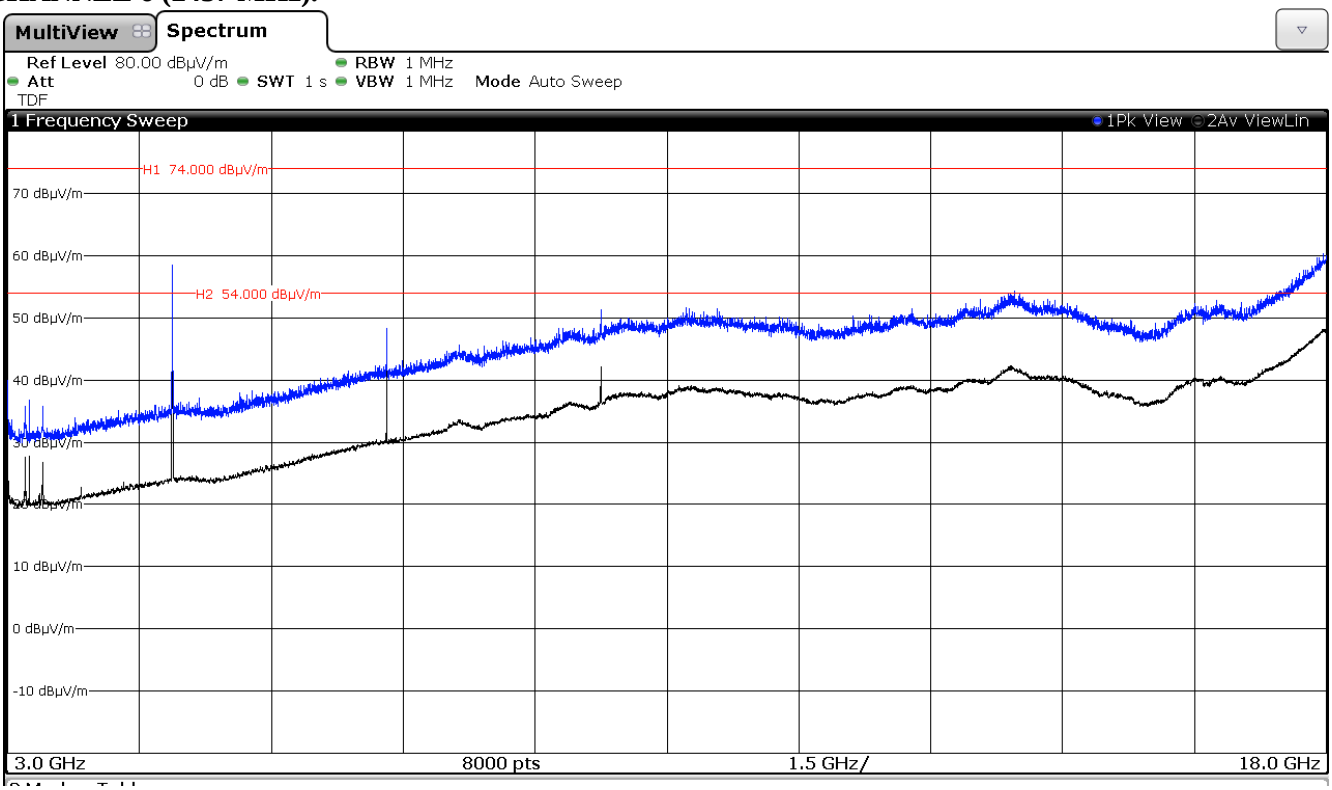
FREQUENCY RANGE 3 GHz to 18 GHz.

1. WiFi 2.4GHz 802.11 b mode

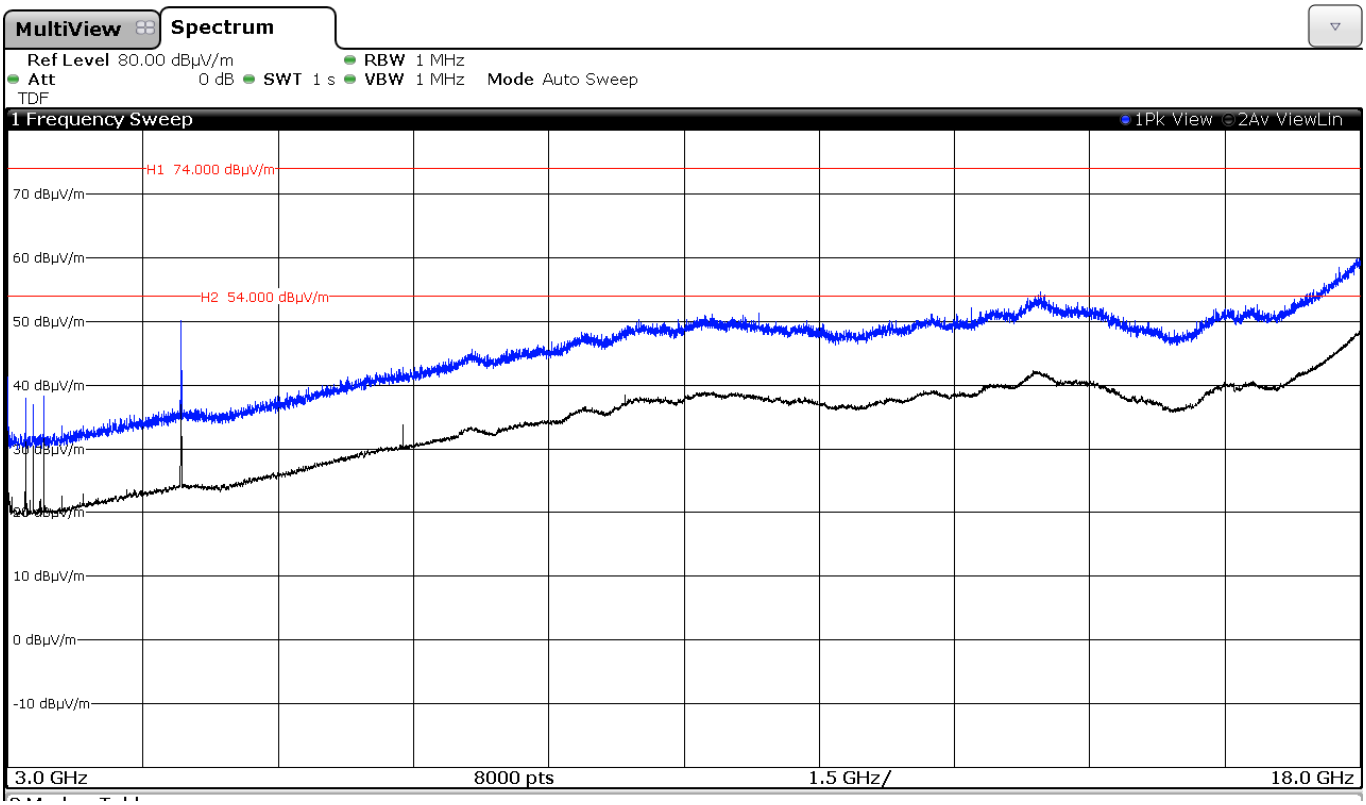
CHANNEL 1 (2412 MHz).



CHANNEL 6 (2437 MHz).

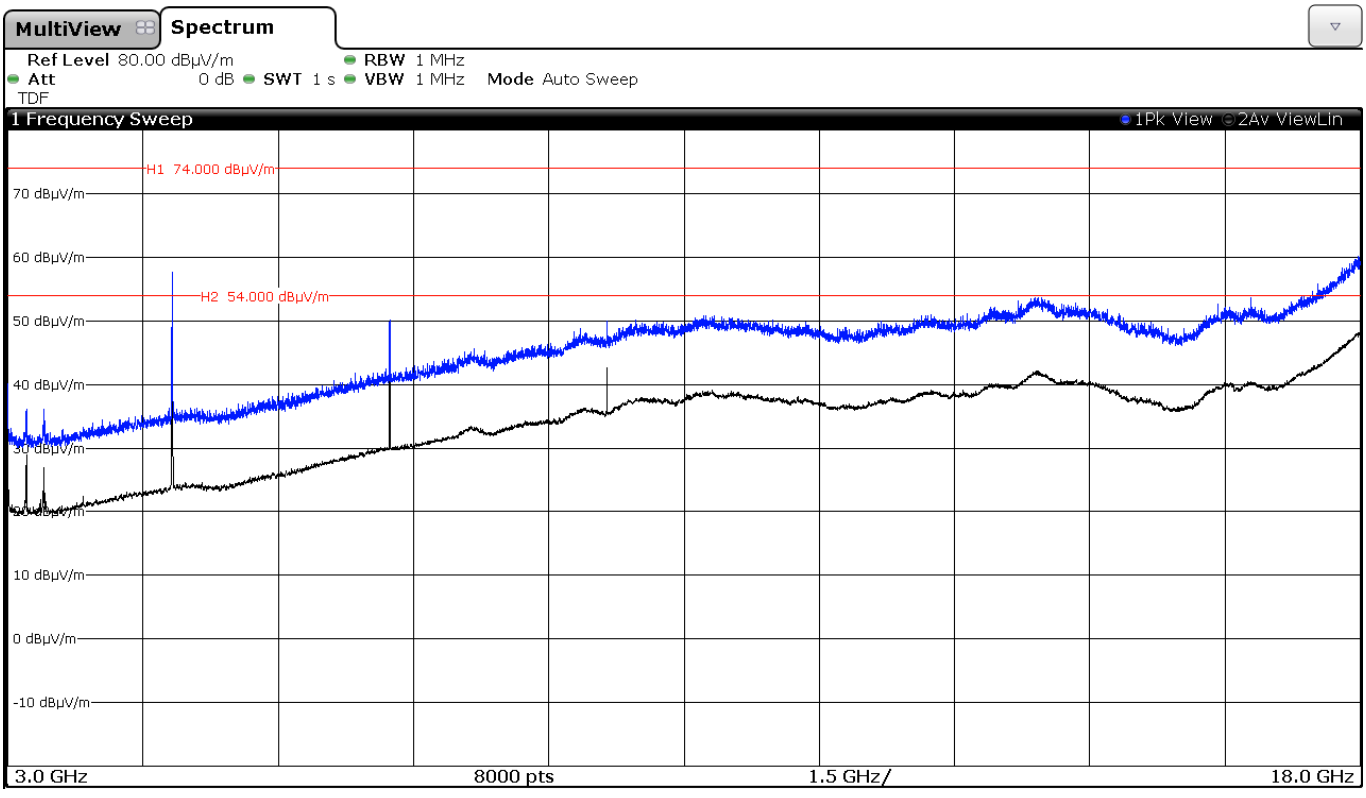


CHANNEL 11 (2462 MHz).

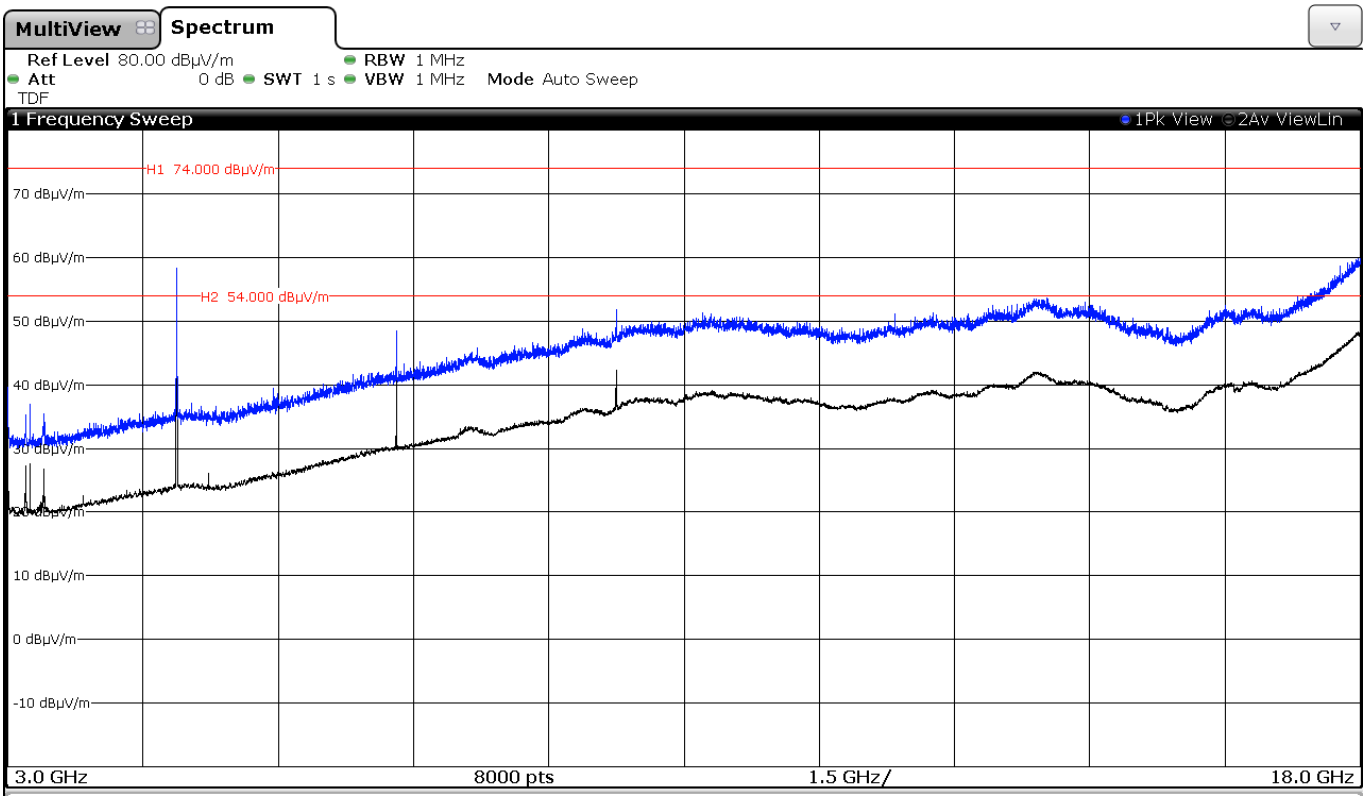


2. WiFi 2.4GHz 802.11 g mode (worst case OFDM)

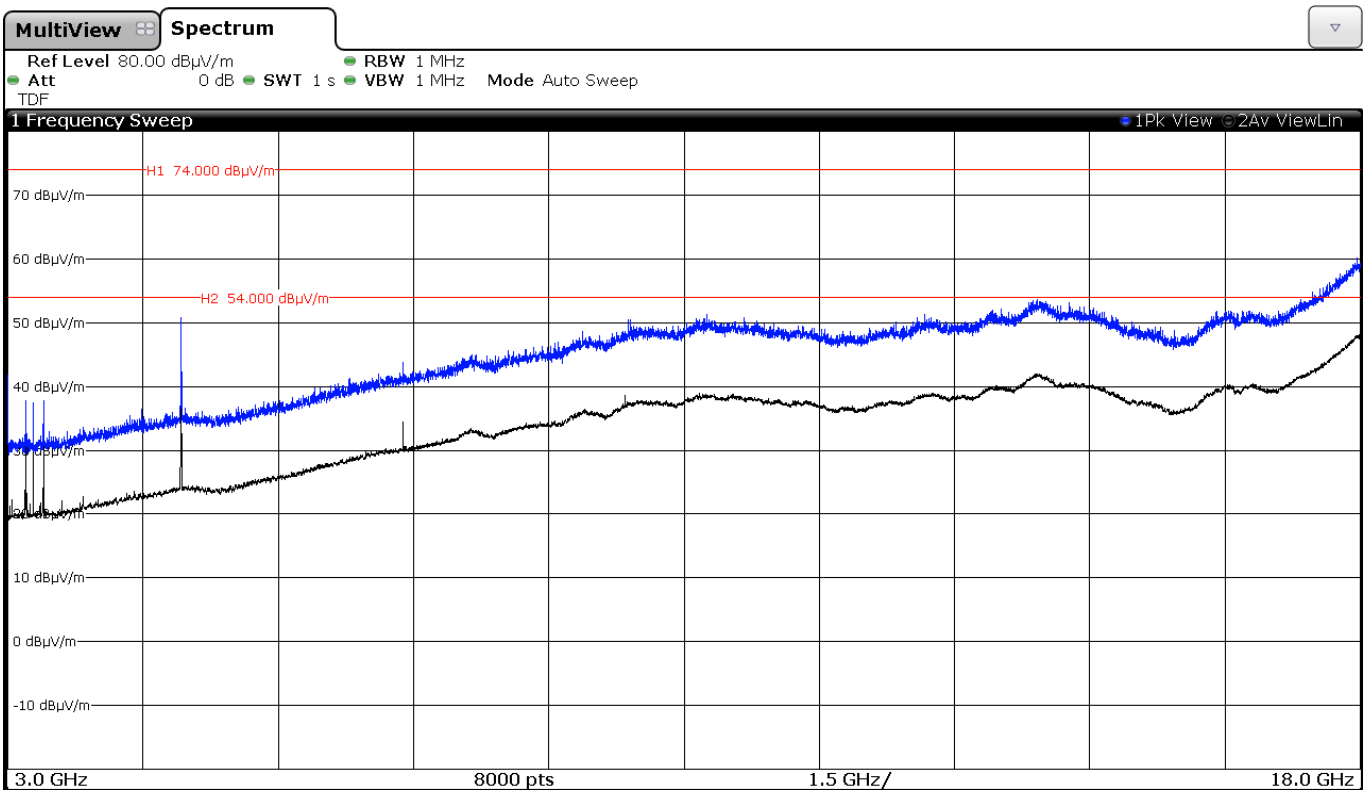
CHANNEL 1 (2412 MHz).



CHANNEL 6 (2437 MHz).

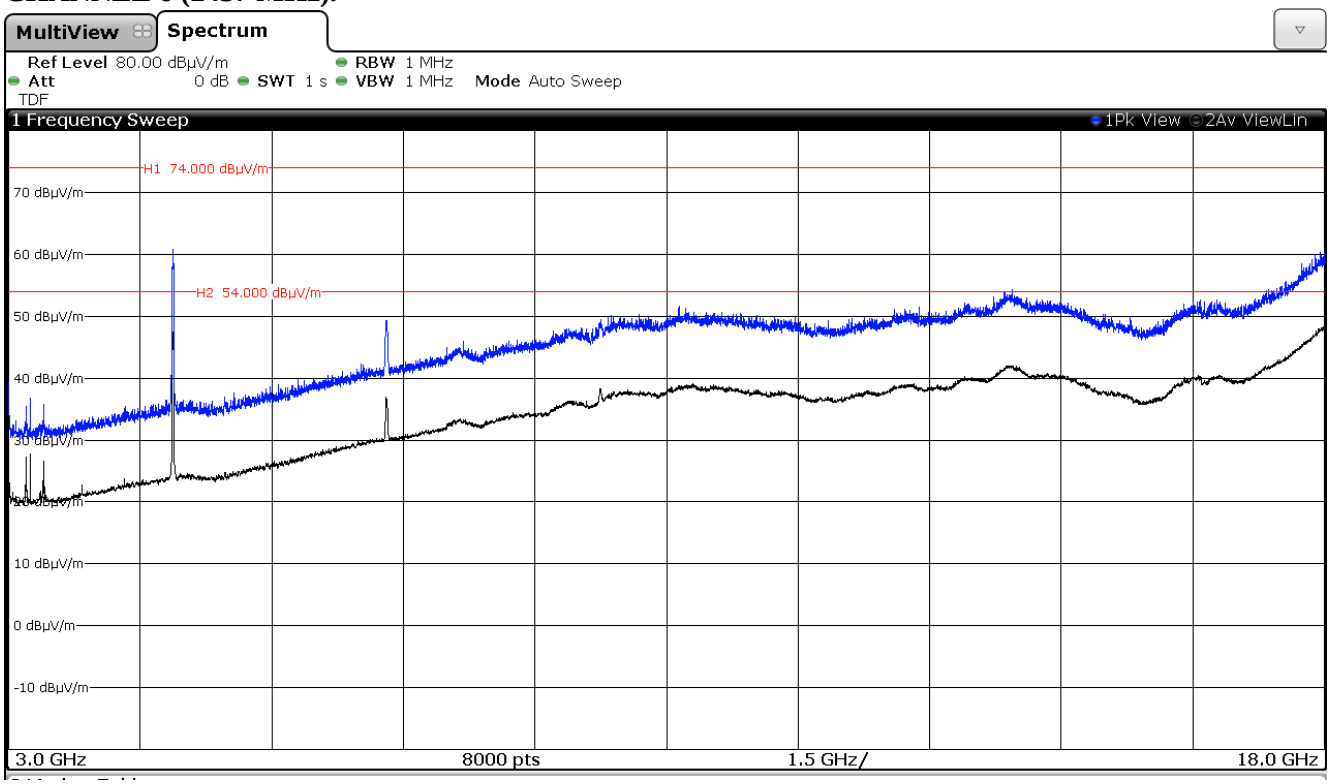


CHANNEL 11 (2462 MHz).



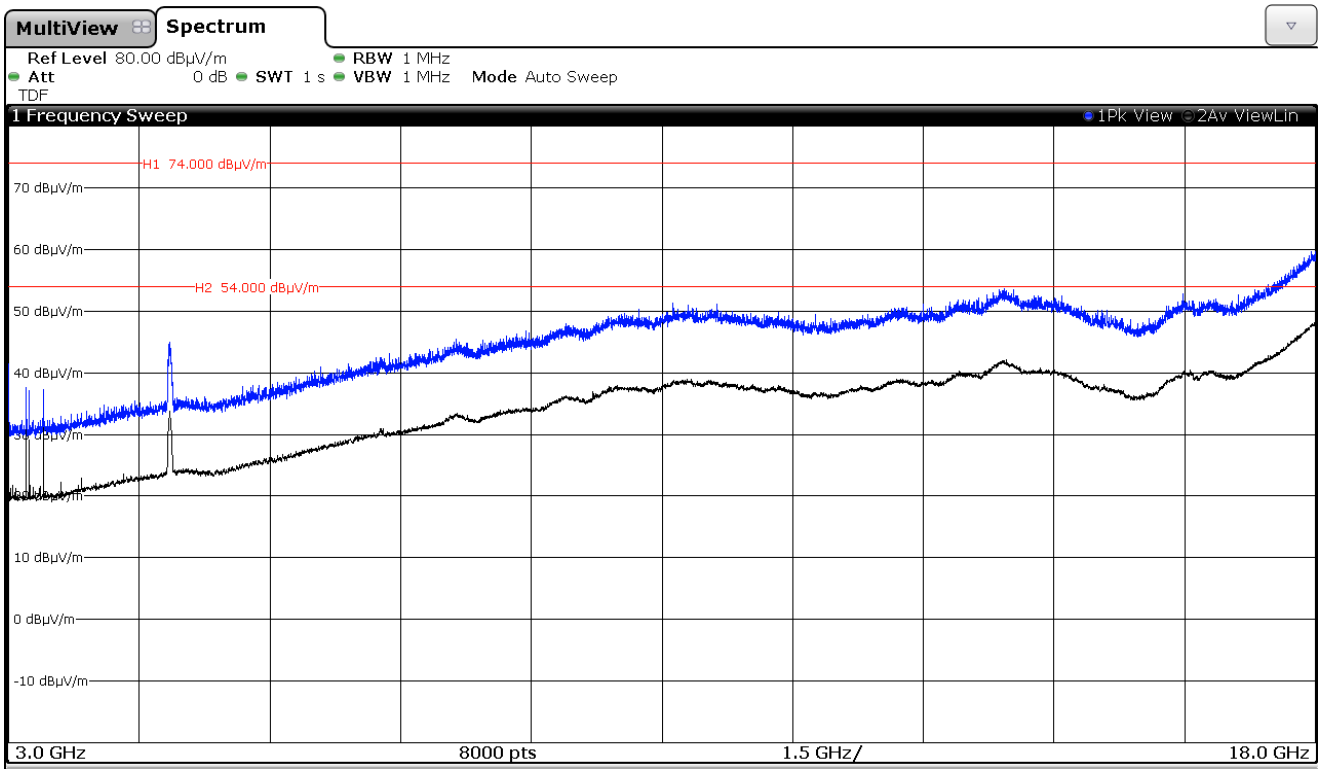
3. WiFi 2.4GHz 802.11 n20 mode

CHANNEL 6 (2437 MHz).



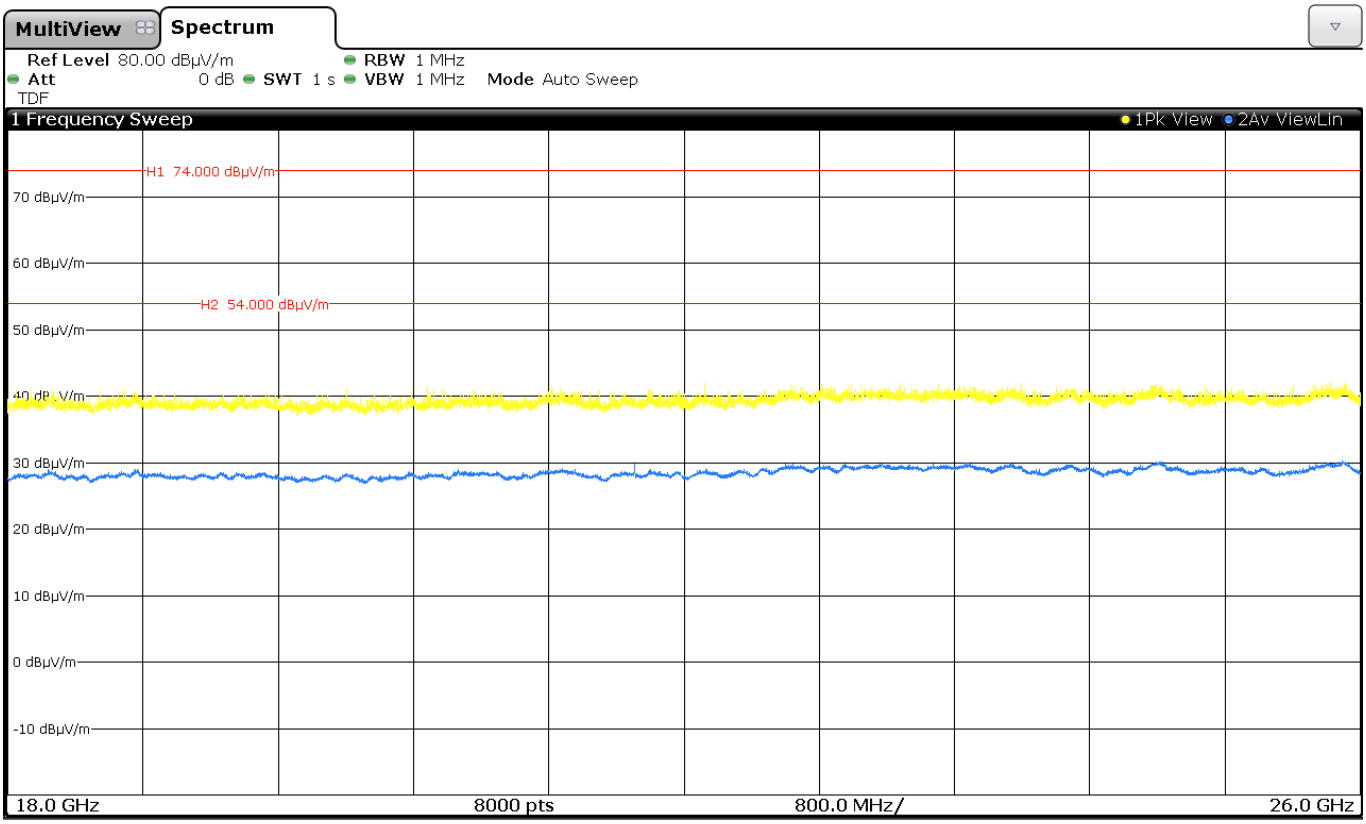
4. WiFi 2.4GHz 802.11 n40 mode

CHANNEL 6 (2437 MHz).



FREQUENCY RANGE 18 GHz to 25 GHz.

No spurious signals were detected in all modulation modes and channels tested.



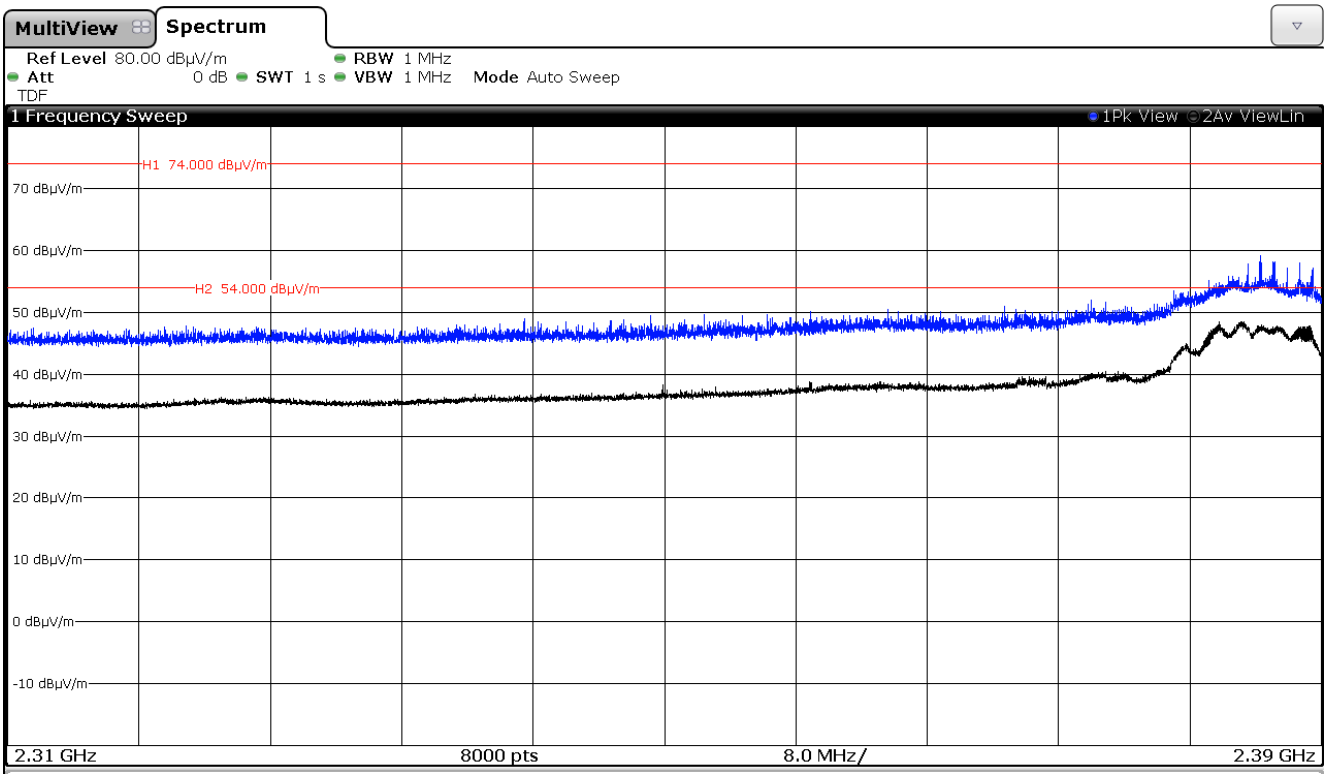
(This plot is valid for all three channels and all modulation modes).

Radiated spurious emissions at band-edges and inside restricted bands 2.31-2.39 GHz and 2.4835 – 2.5 GHz.

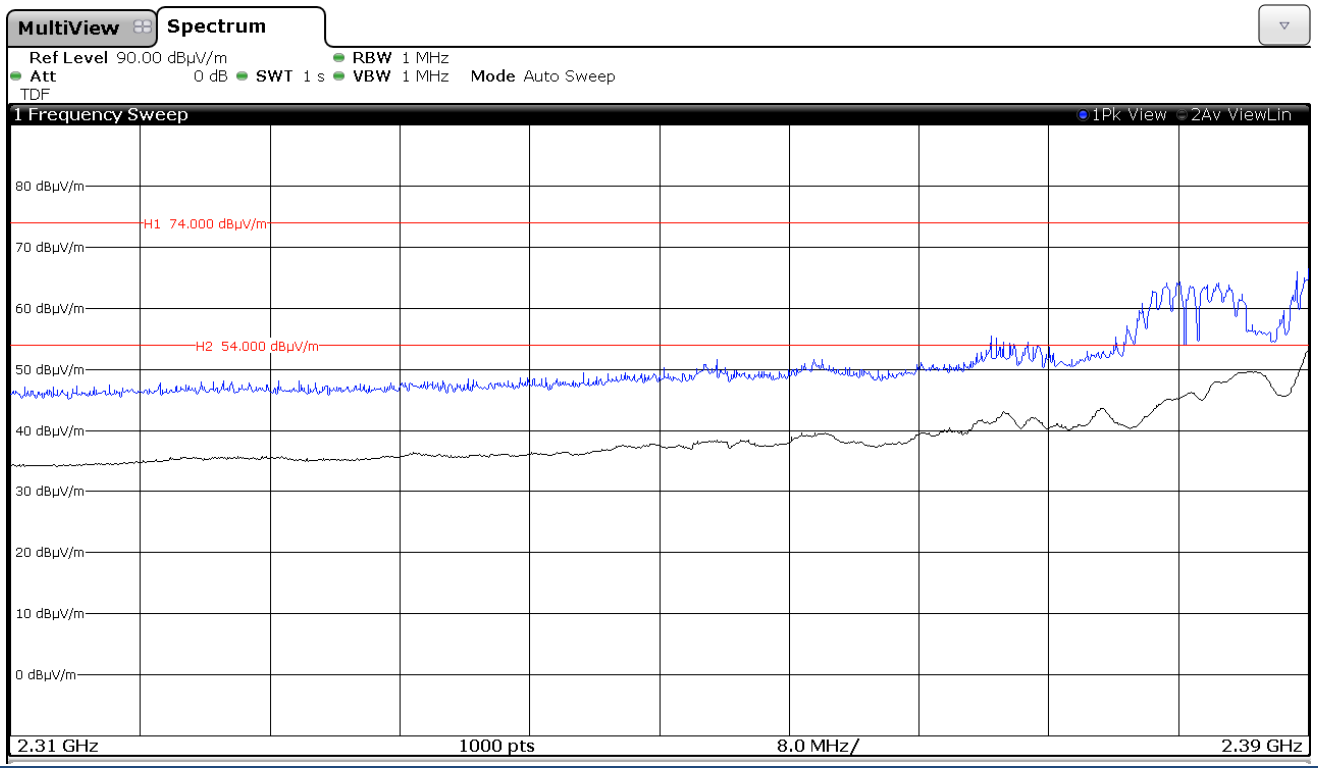
FREQUENCY RANGE 2.31 GHz to 2.39 GHz. (RESTRICTED BAND)

1. WiFi 2.4GHz 802.11 b mode

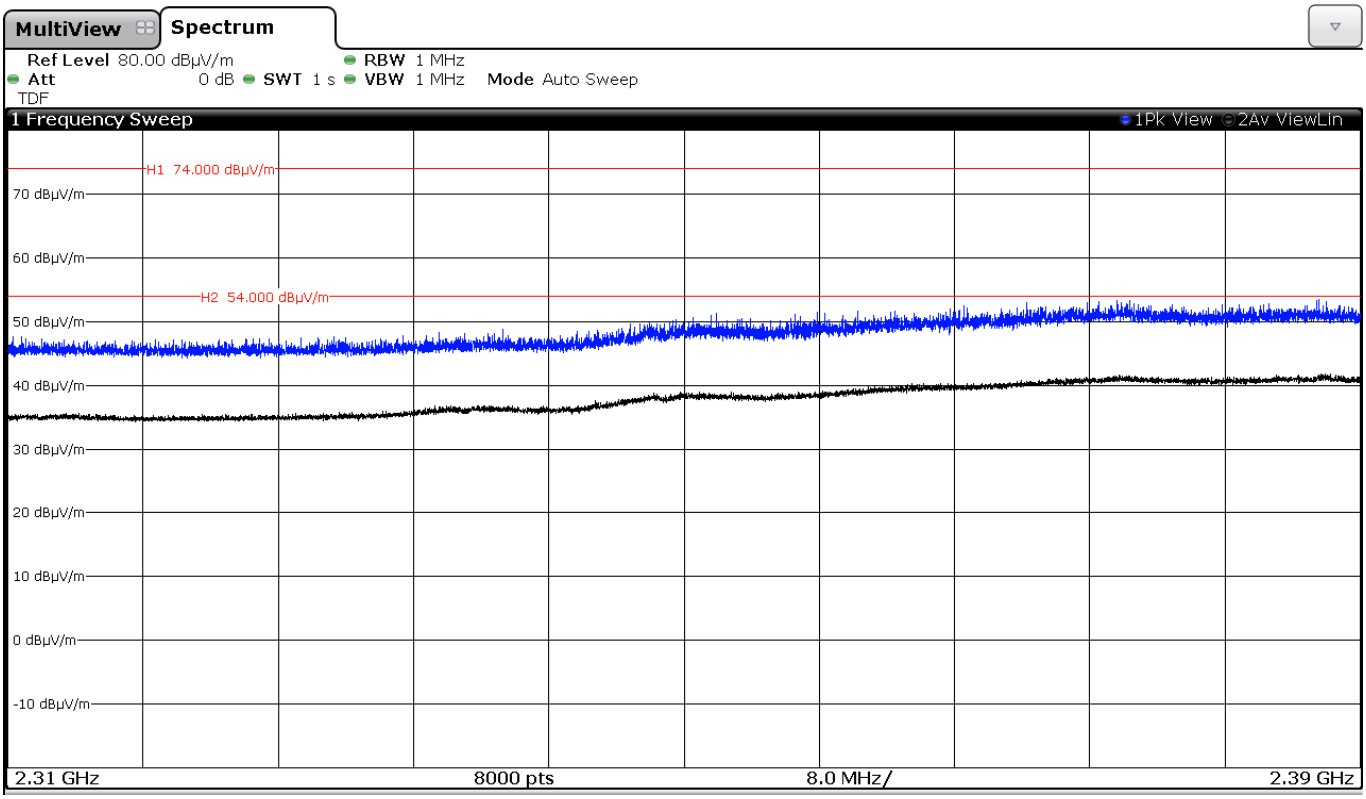
CHANNEL 1 (2412 MHz).



CHANNEL 3 (2422 MHz).

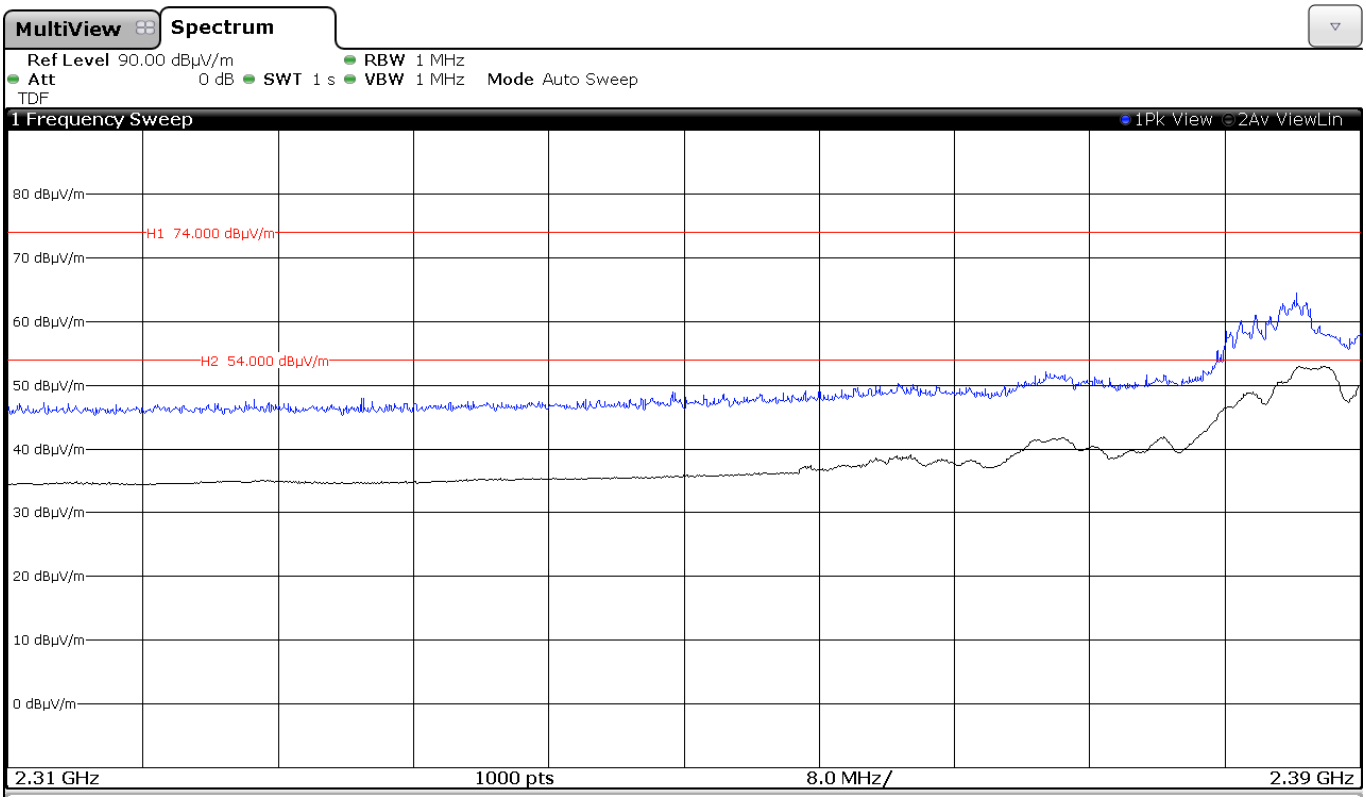


CHANNEL 6 (2437 MHz).

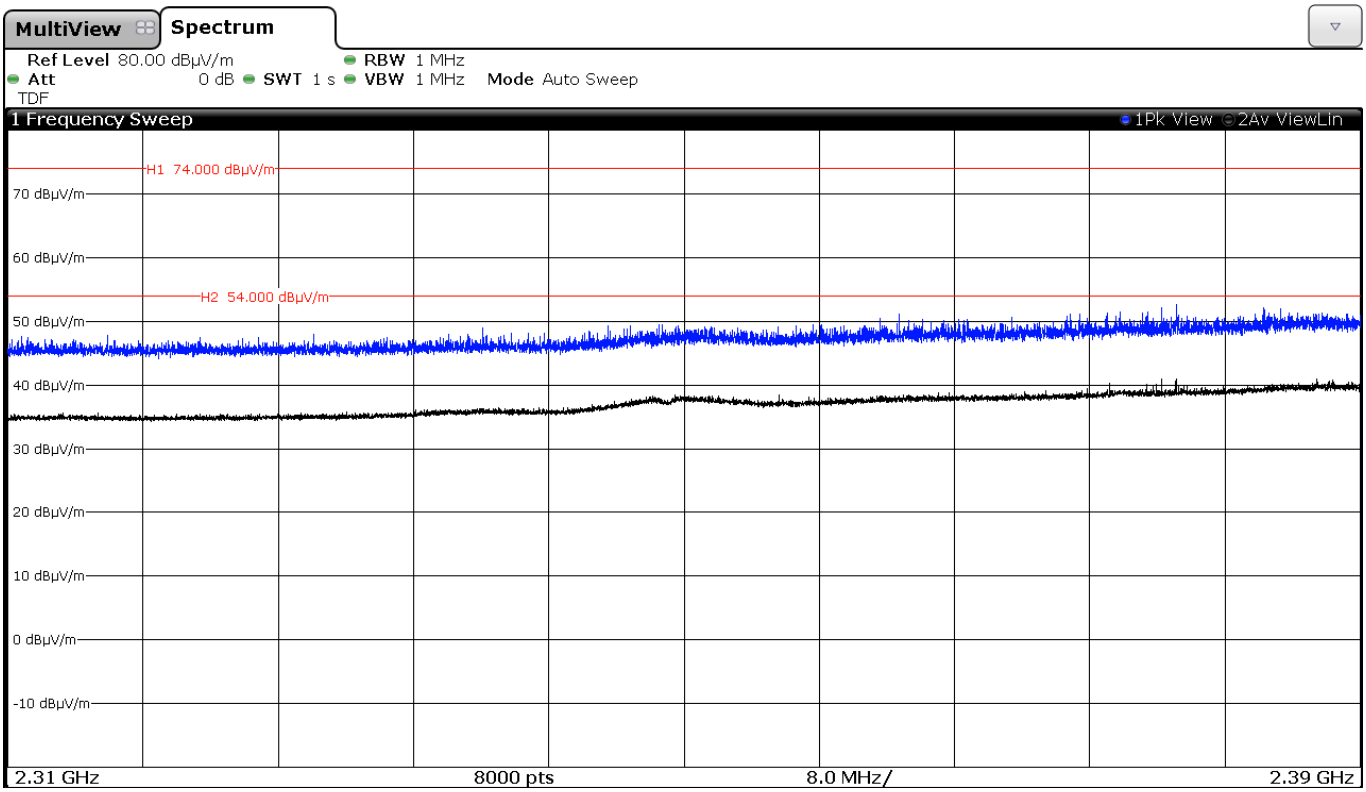


2. WiFi 2.4GHz 802.11 g mode

CHANNEL 1 (2412 MHz).

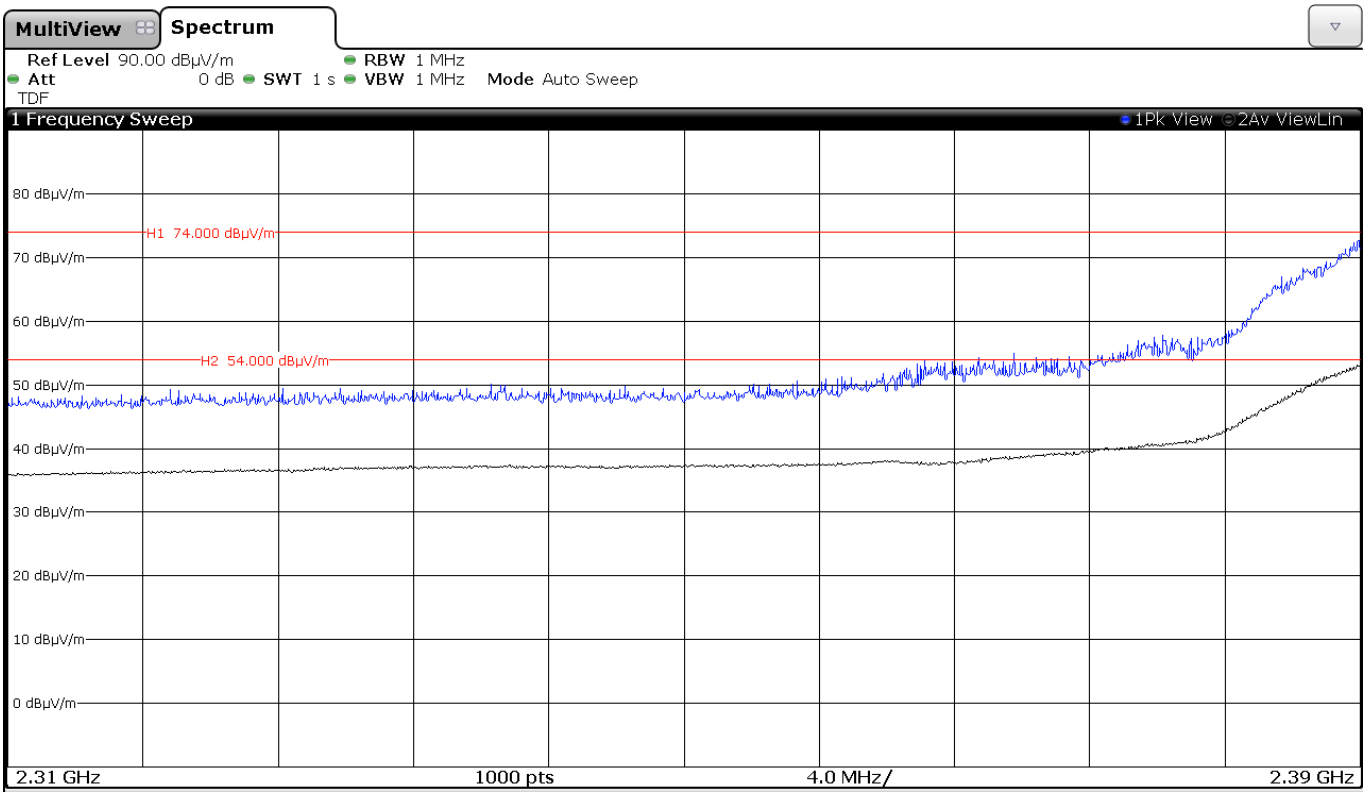


CHANNEL 6 (2437 MHz).

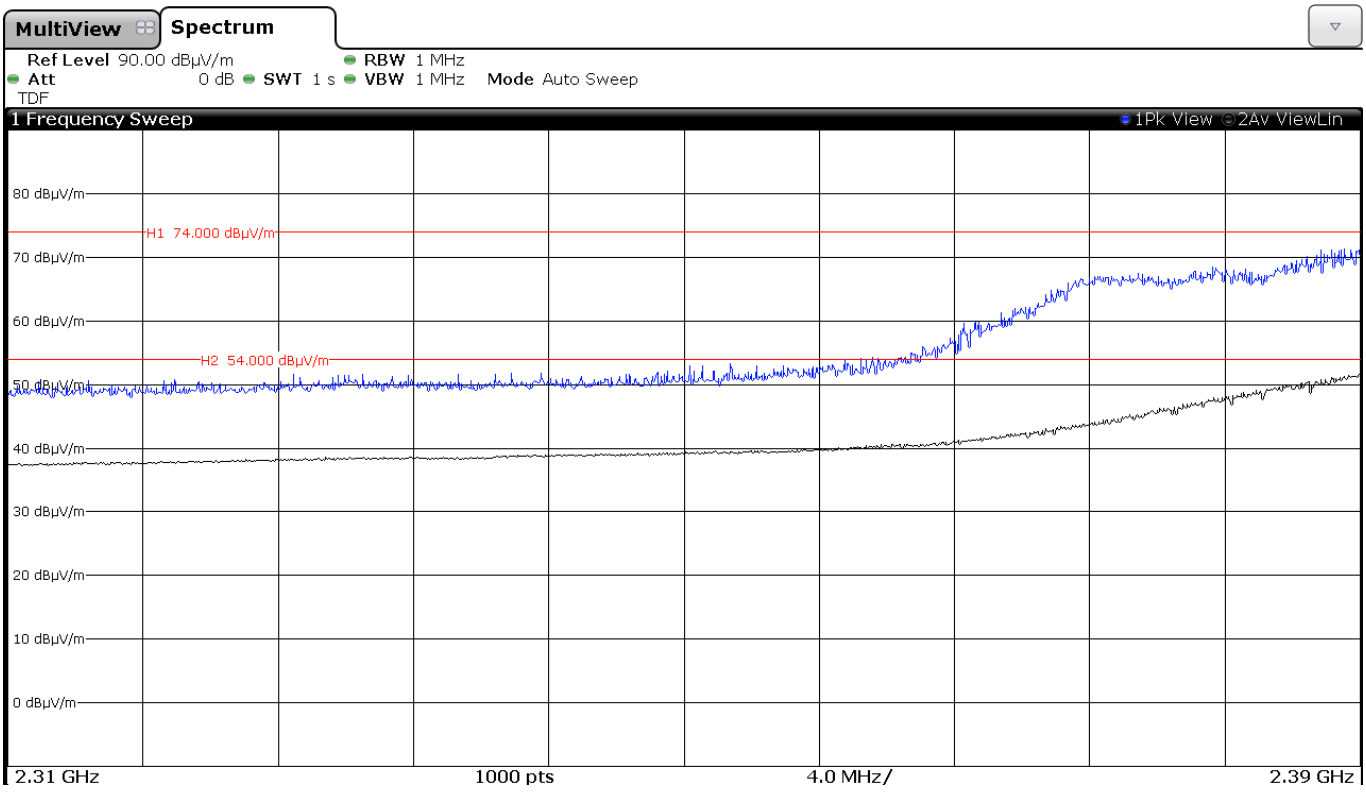


3. WiFi 2.4GHz 802.11 n20 mode

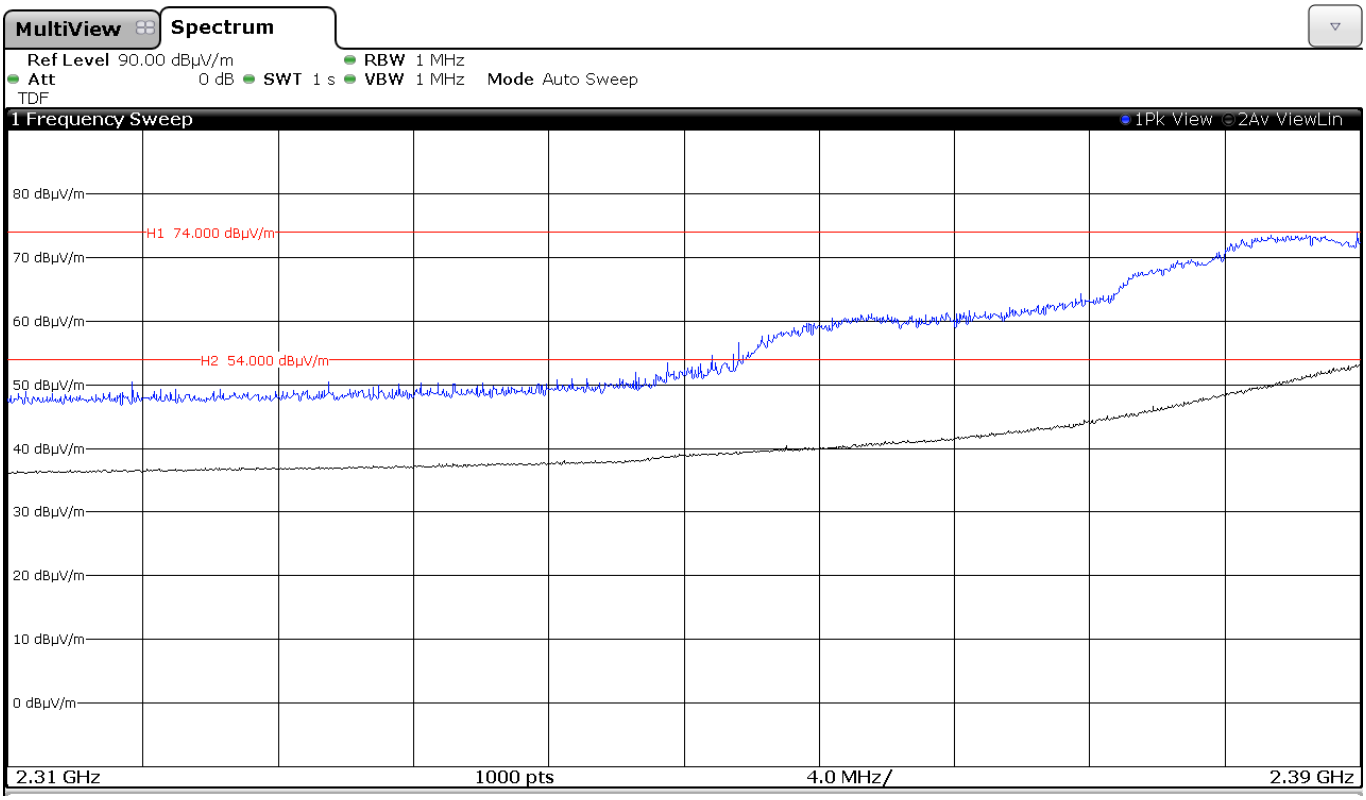
CHANNEL 1 (2412 MHz).



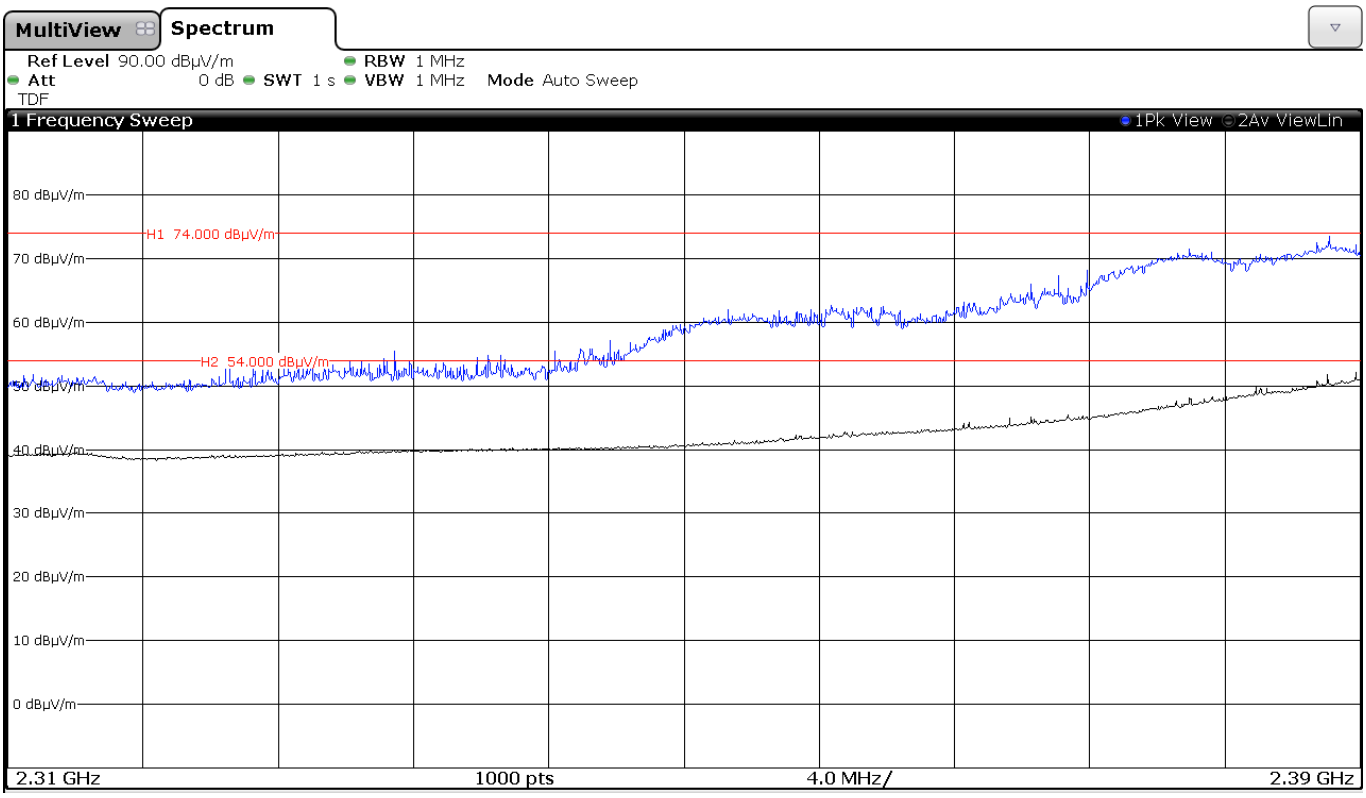
CHANNEL 2 (2417 MHz).



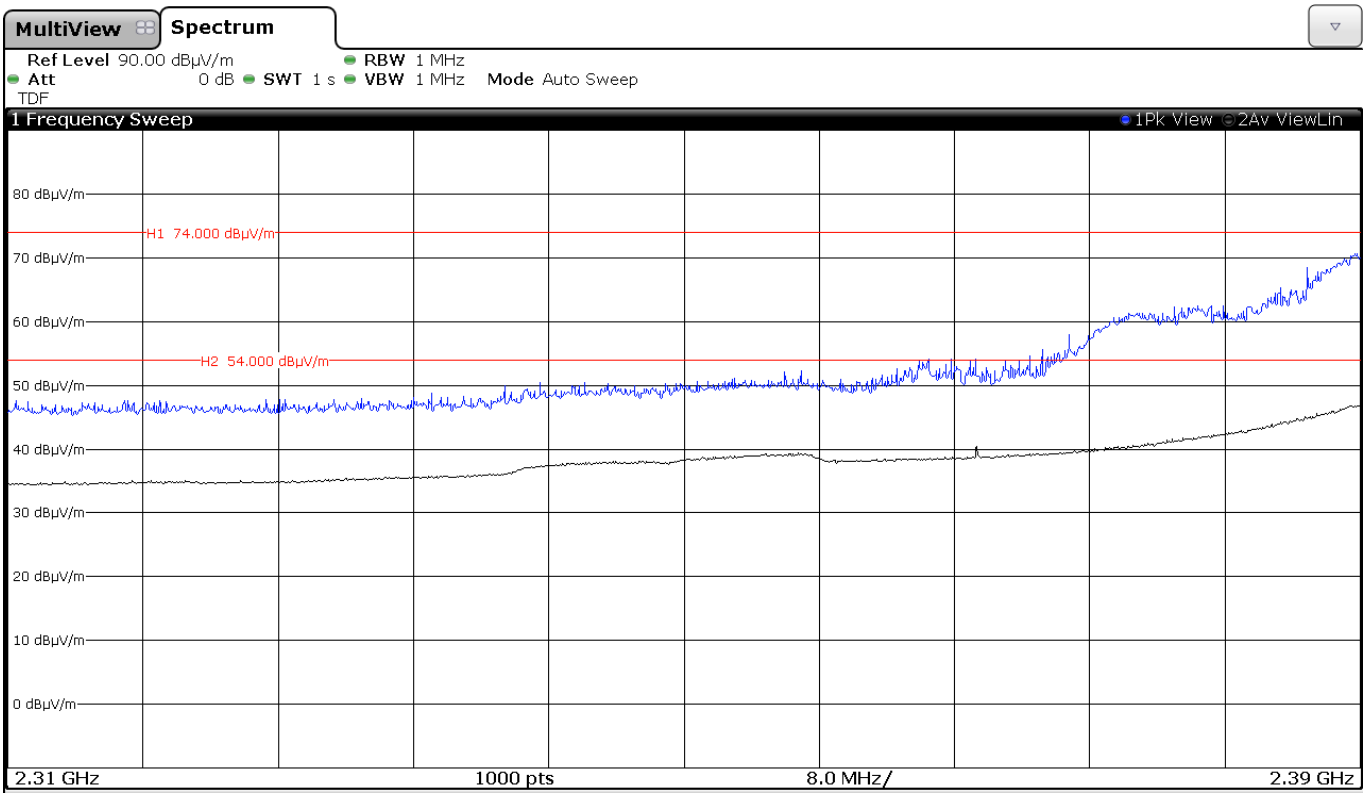
CHANNEL 3 (2422 MHz)



CHANNEL 5 (2432 MHz)

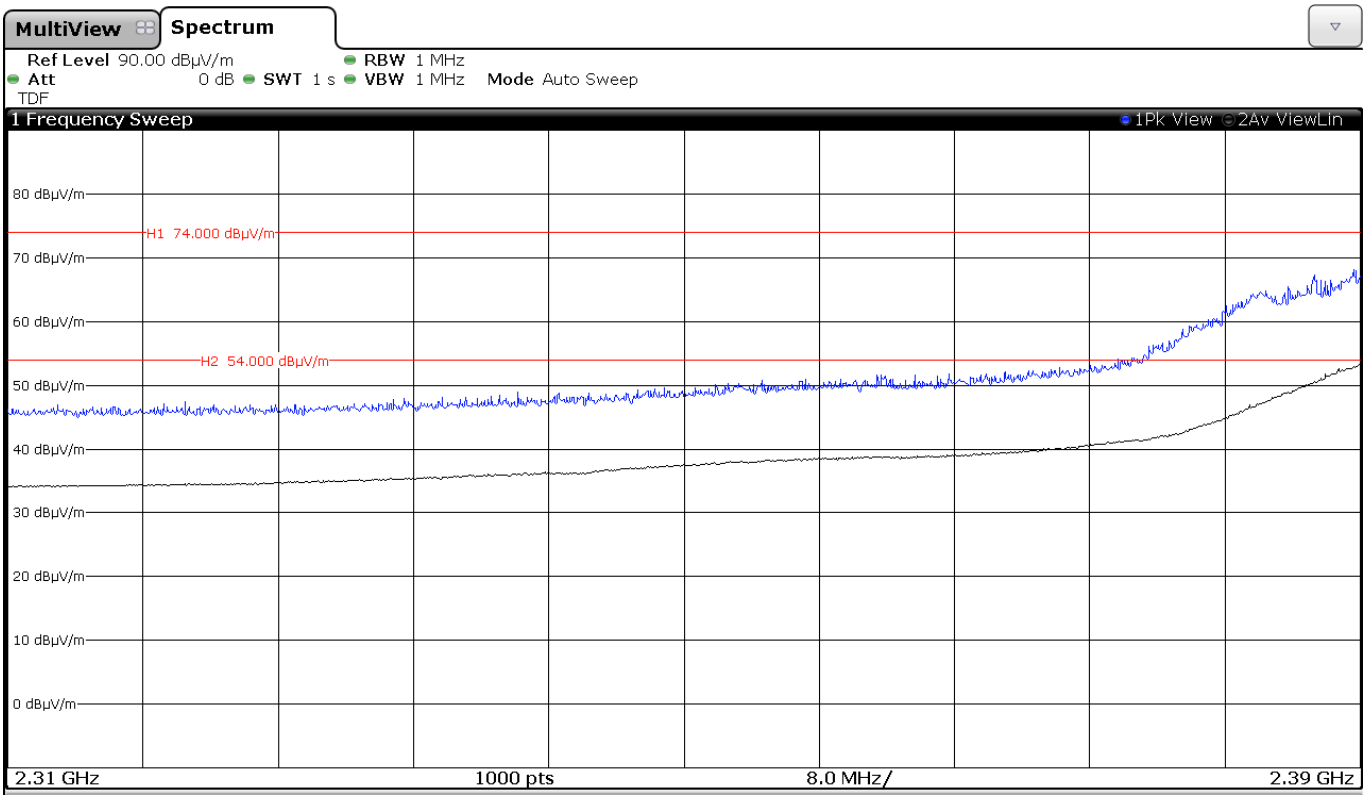


CHANNEL 6 (2437 MHz).

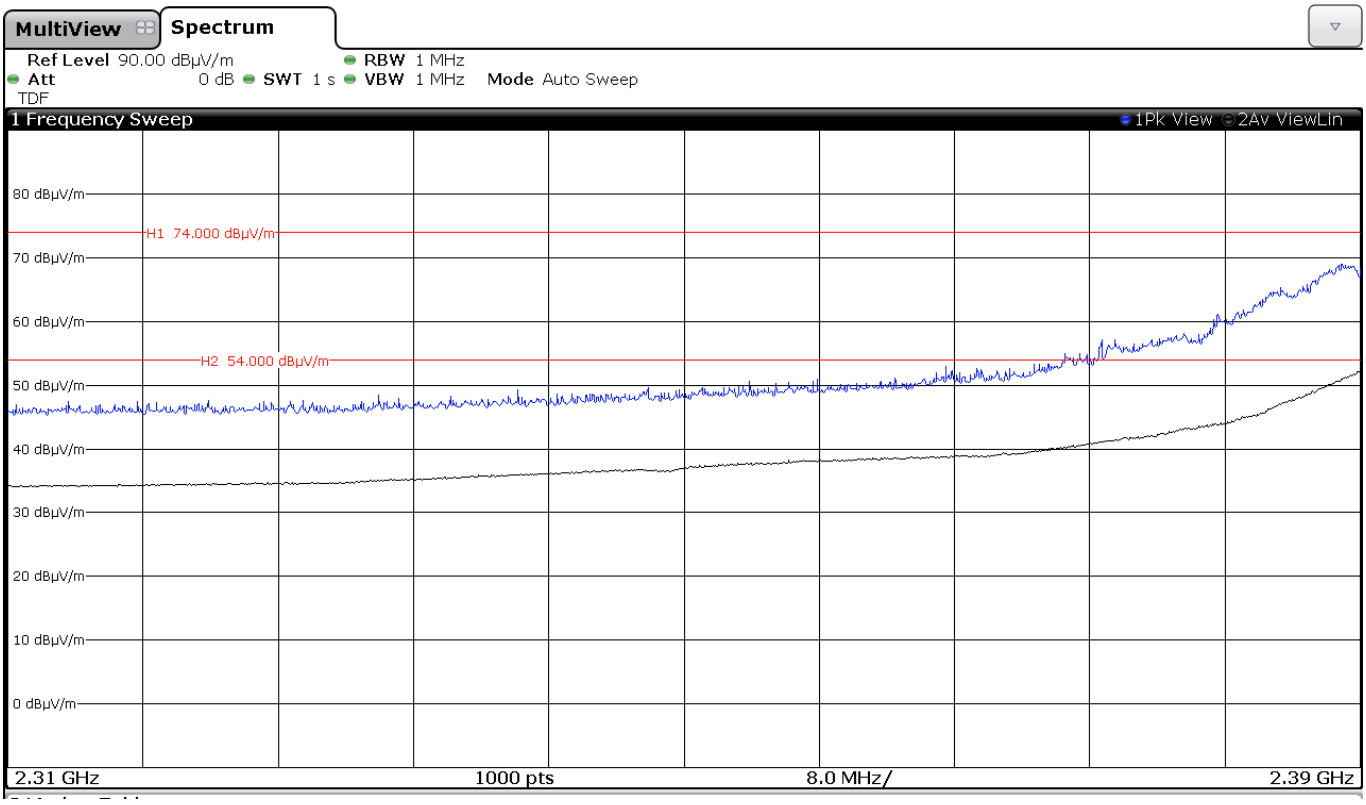


4. WiFi 2.4GHz 802.11 n40 mode

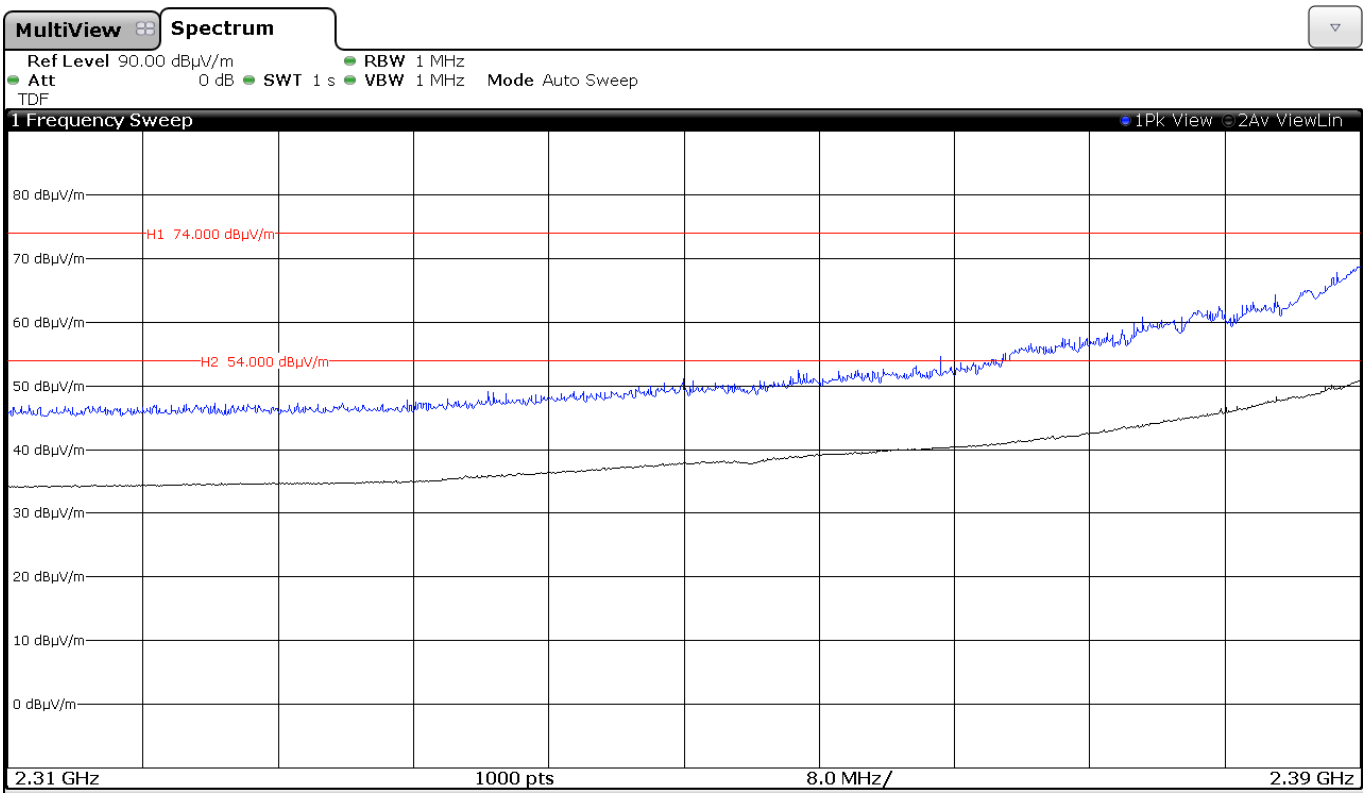
CHANNEL 3 (2422 MHz).



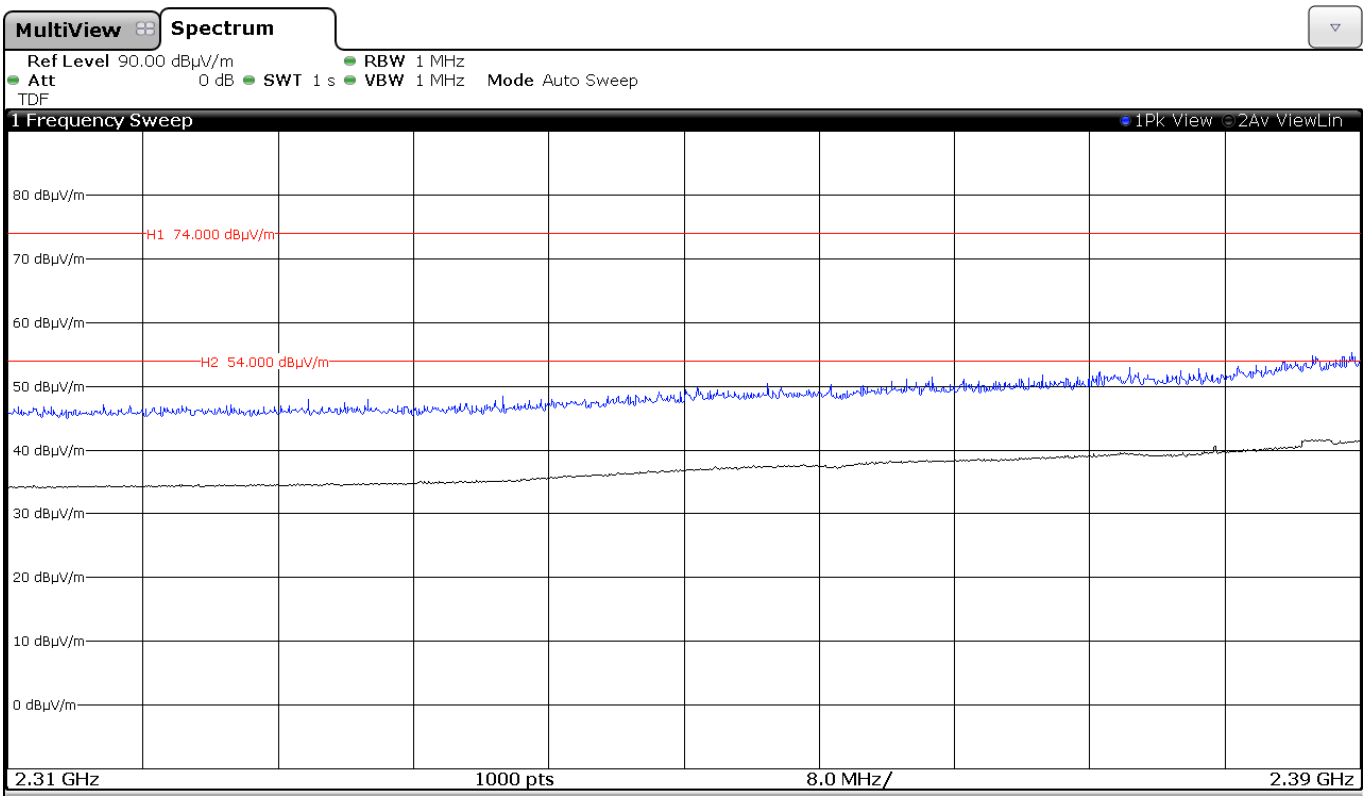
CHANNEL 4 (2427 MHz).



CHANNEL 5 (2432 MHz).



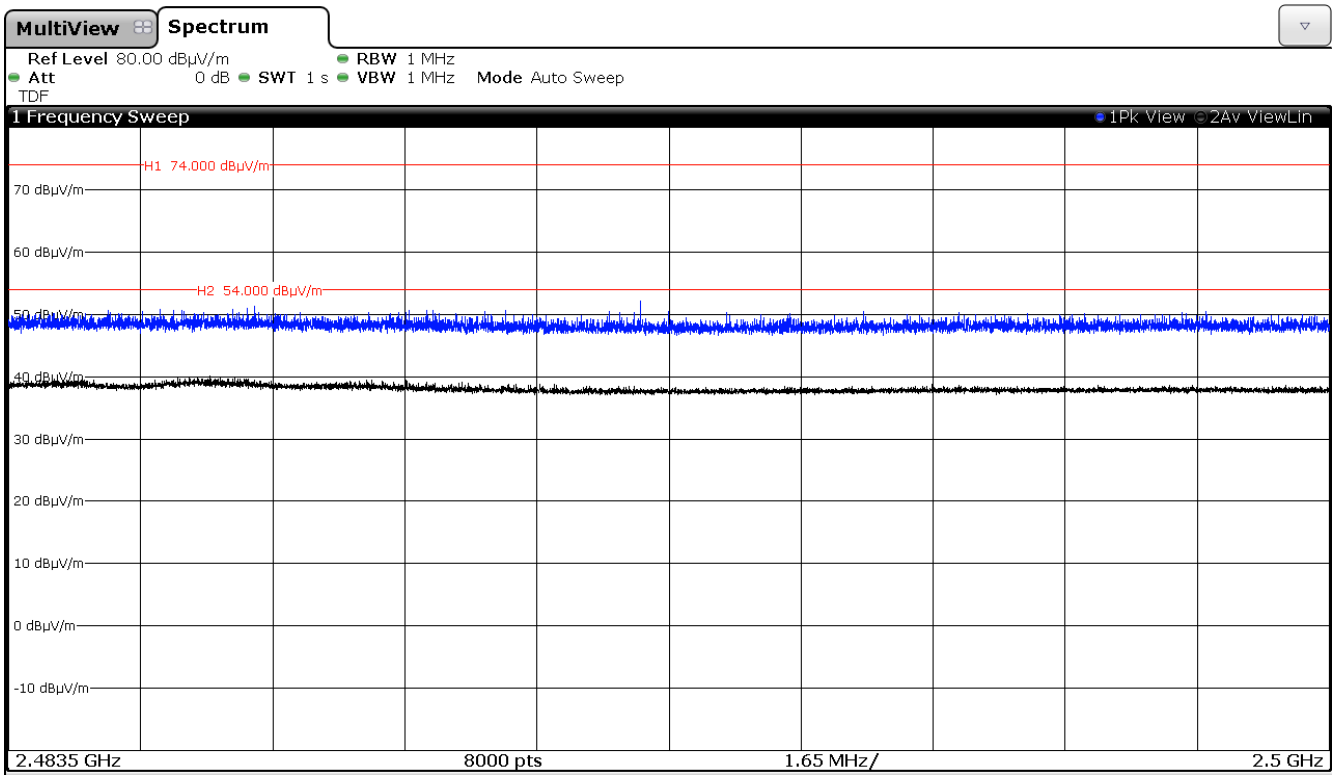
CHANNEL 6 (2437 MHz).



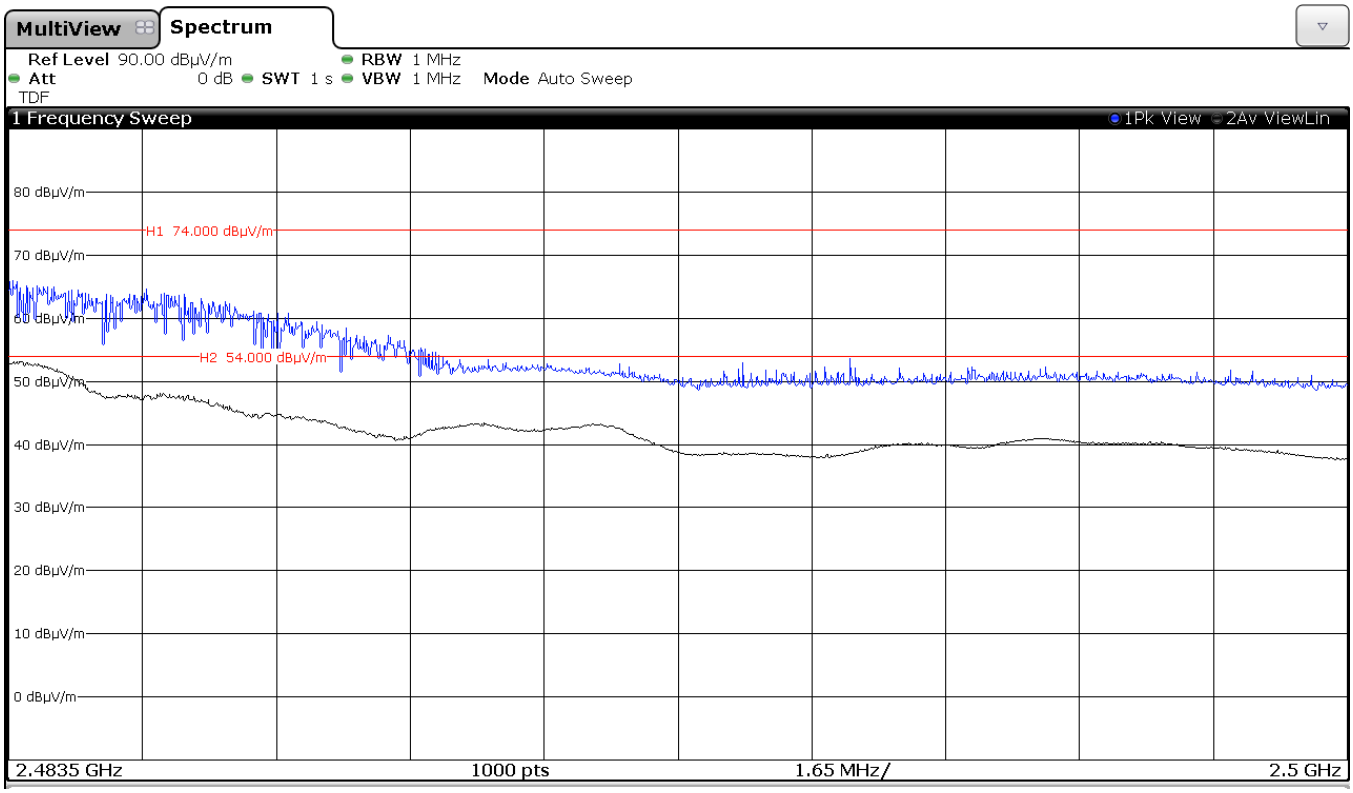
FREQUENCY RANGE 2.4835 GHz to 2.5 GHz. (RESTRICTED BAND)

1. WiFi 2.4GHz 802.11 b mode

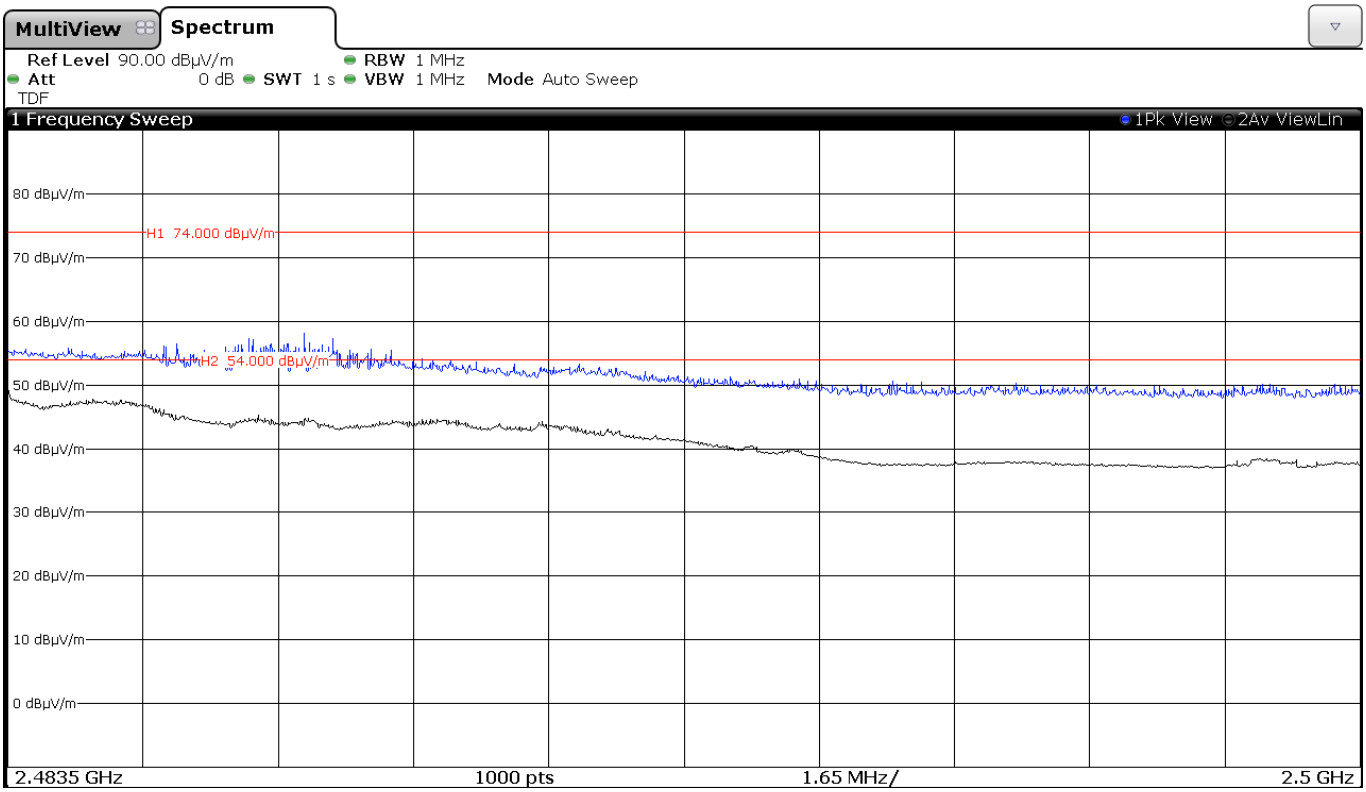
CHANNEL 6 (2437 MHz).



CHANNEL 10 (2457 MHz)

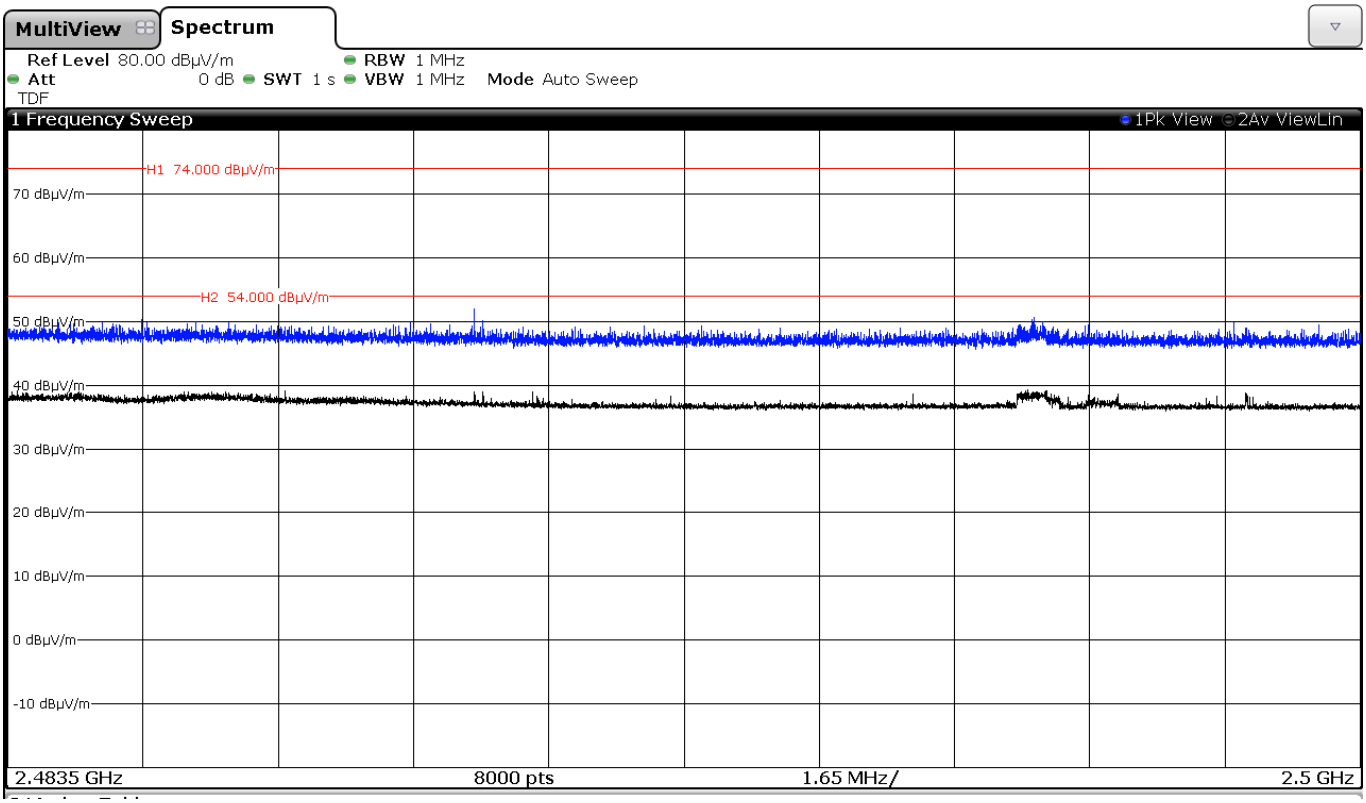


CHANNEL 11 (2462 MHz).

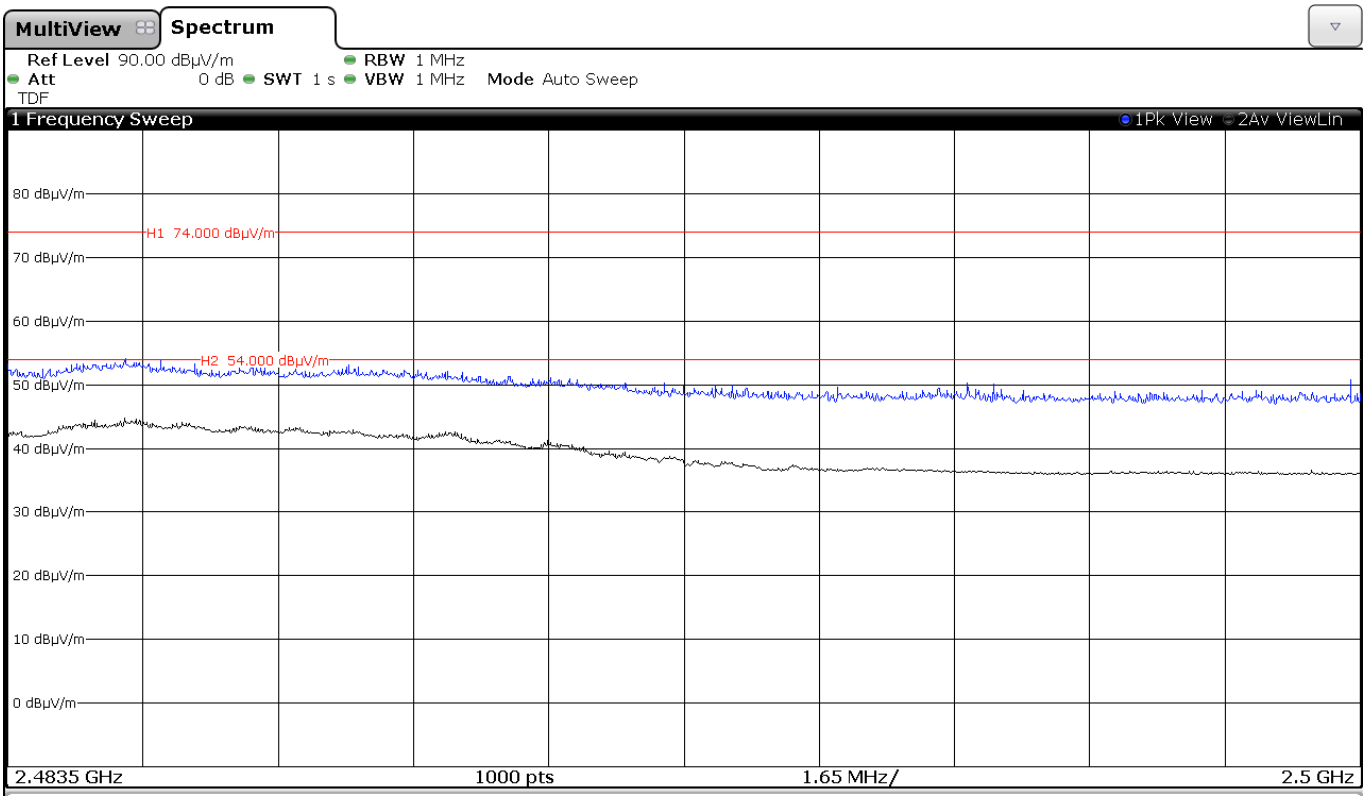


2. WiFi 2.4GHz 802.11 g mode

CHANNEL 6 (2437 MHz).

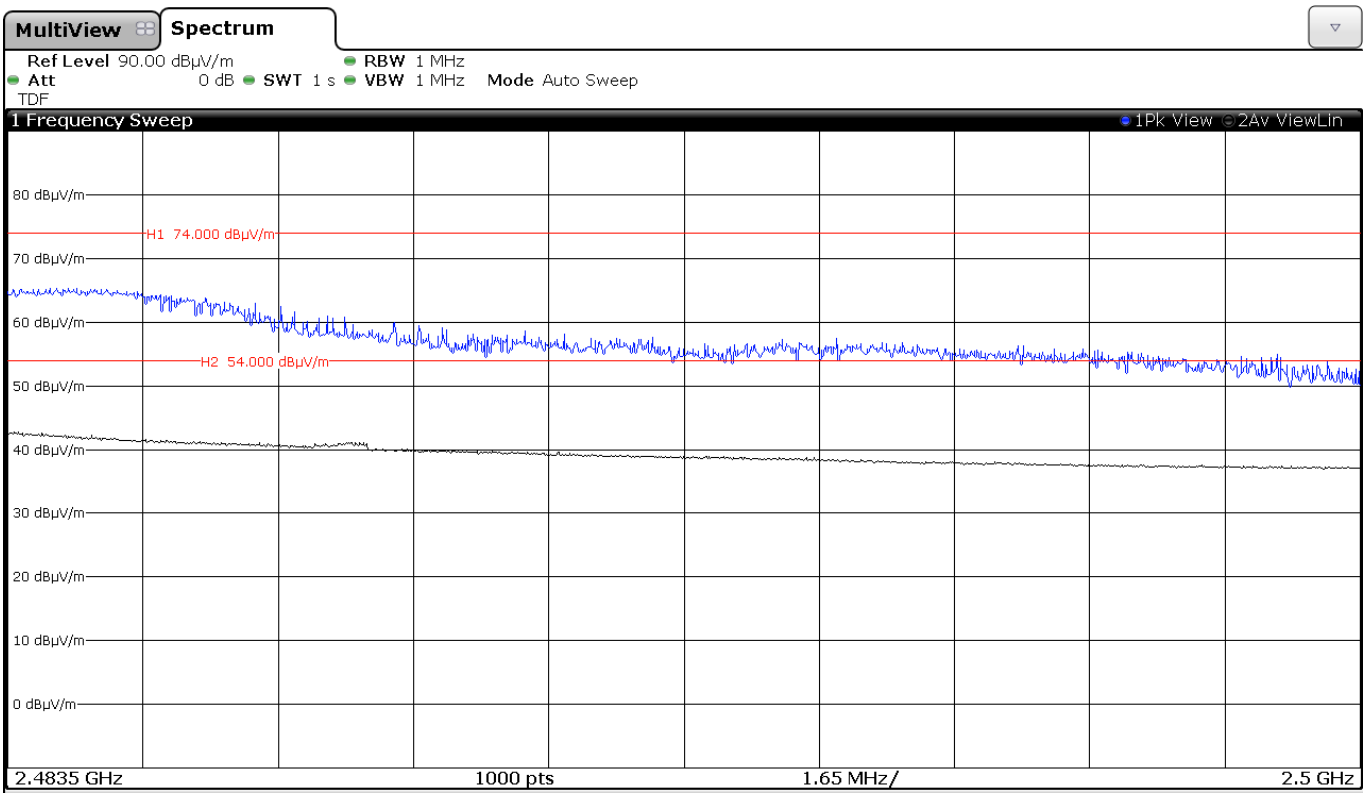


CHANNEL 11 (2462 MHz).

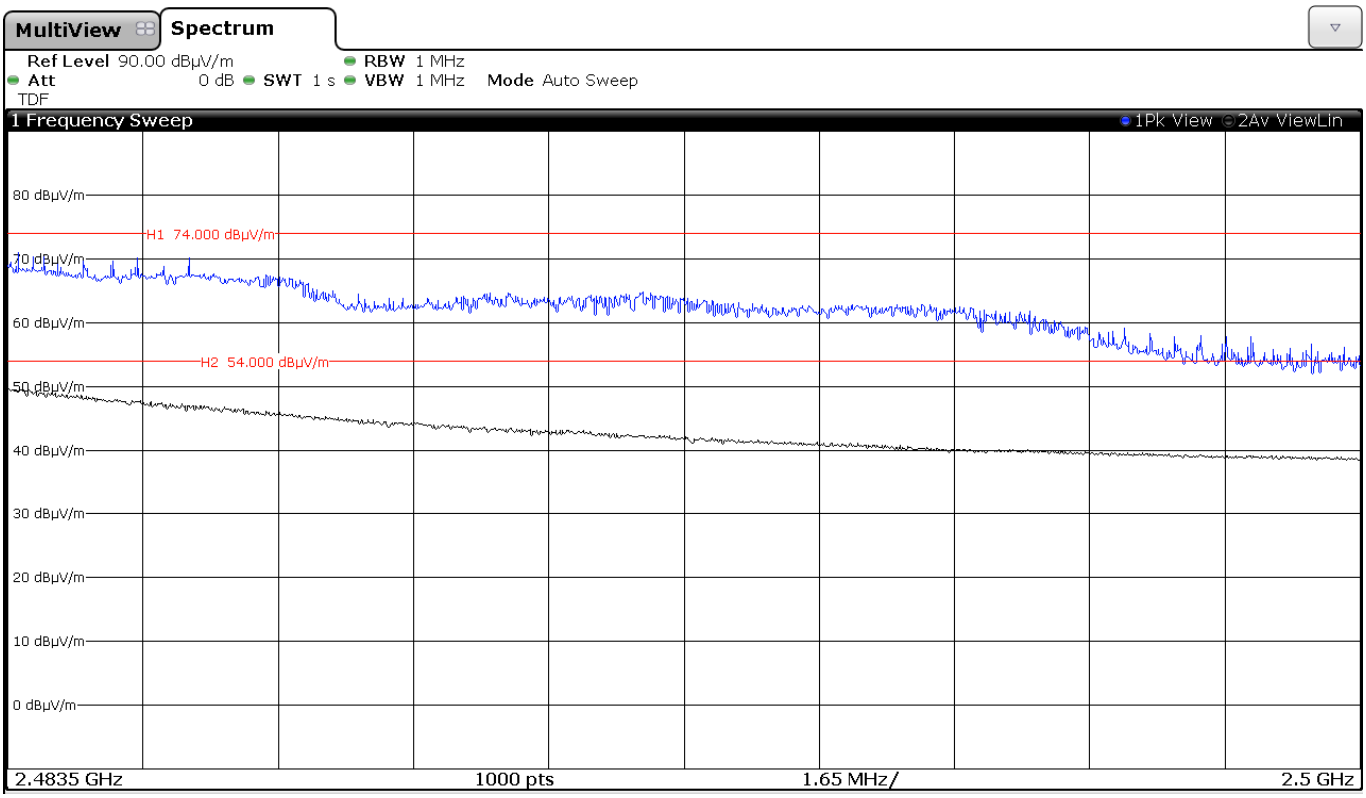


3. WiFi 2.4GHz 802.11 n20 mode

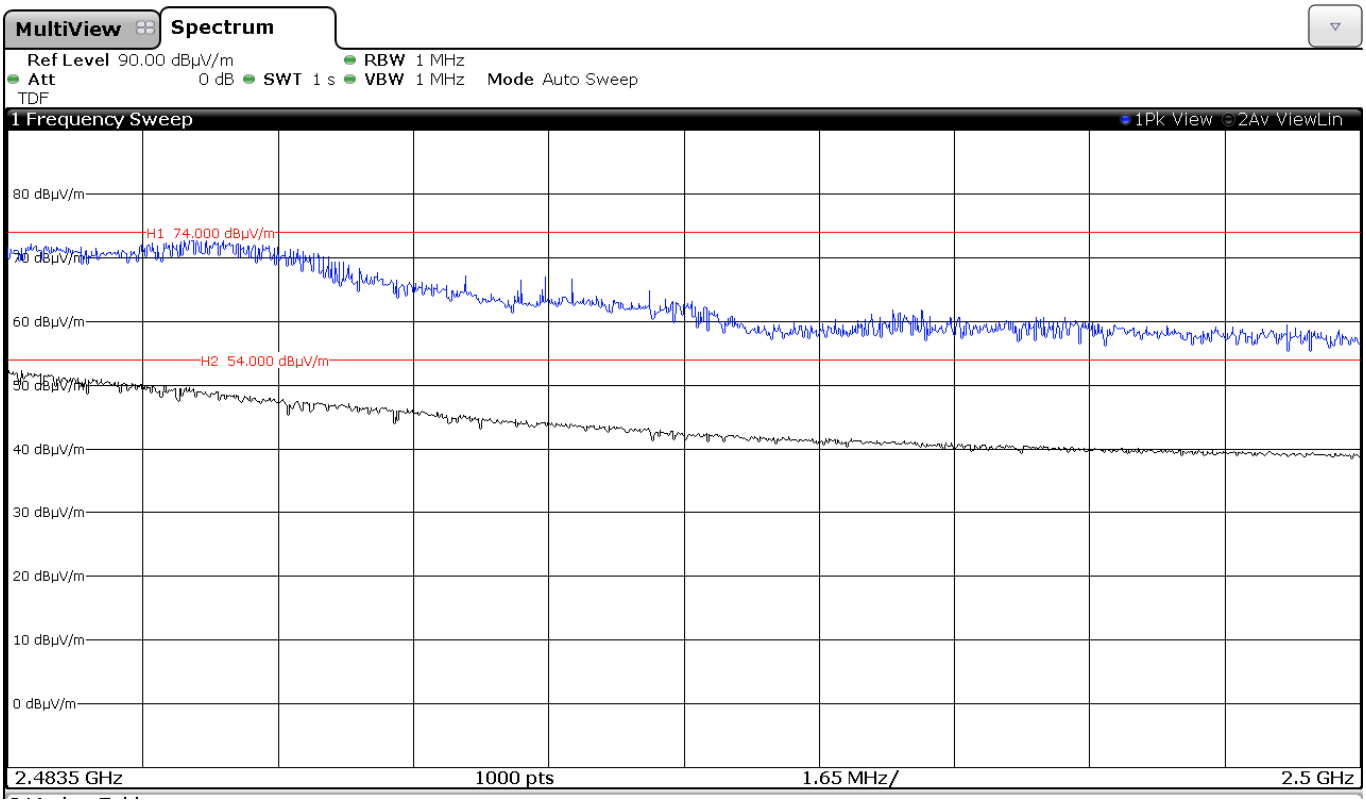
CHANNEL 6 (2437 MHz).



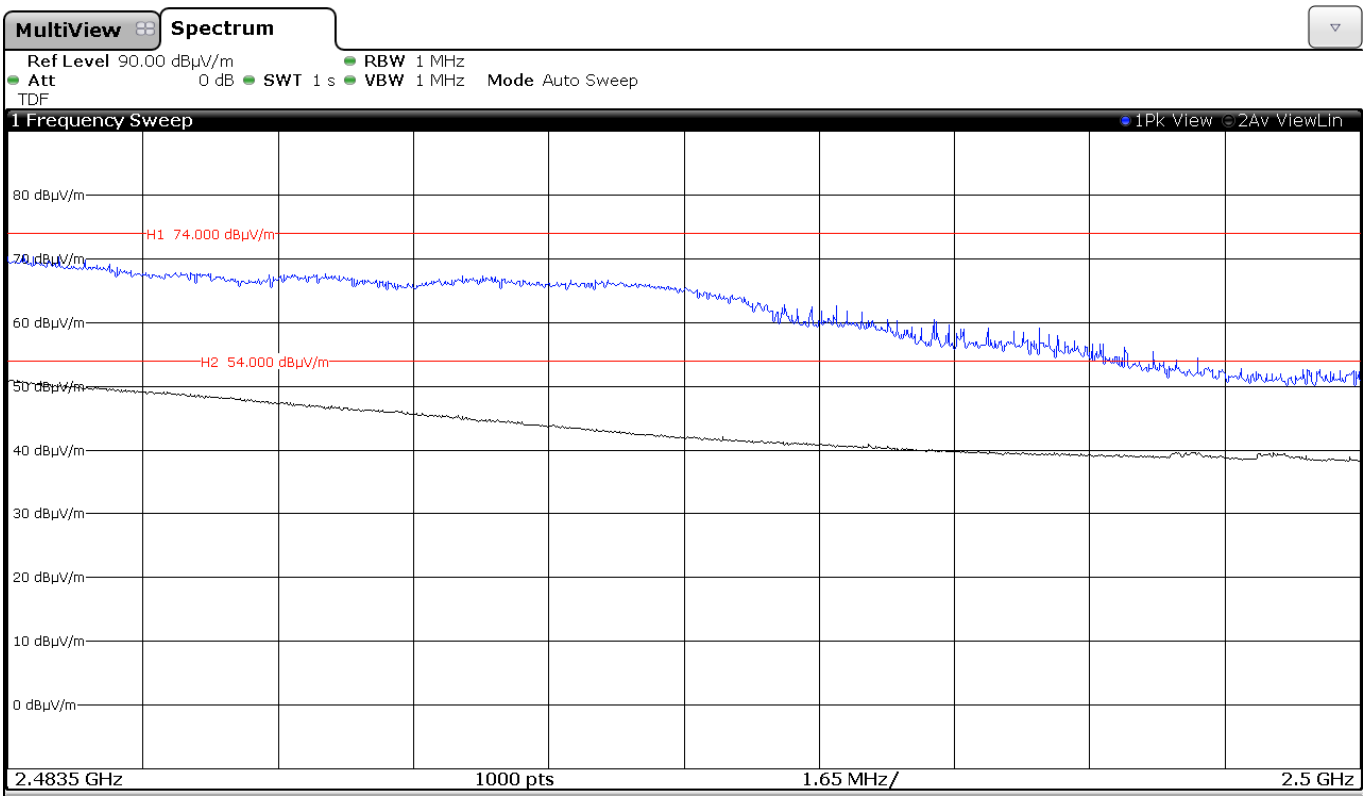
CHANNEL 8 (2447 MHz).



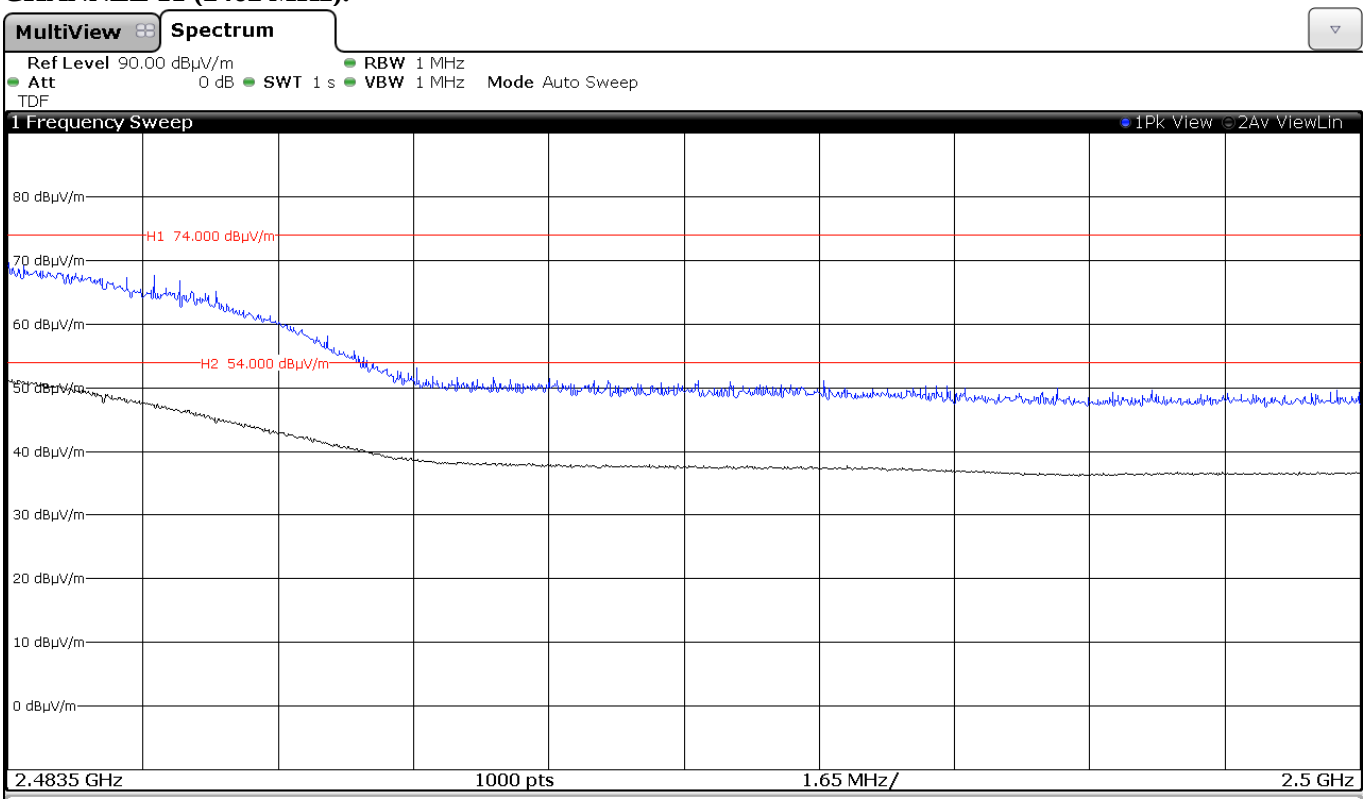
CHANNEL 9 (2452 MHz).



CHANNEL 10 (2457 MHz).

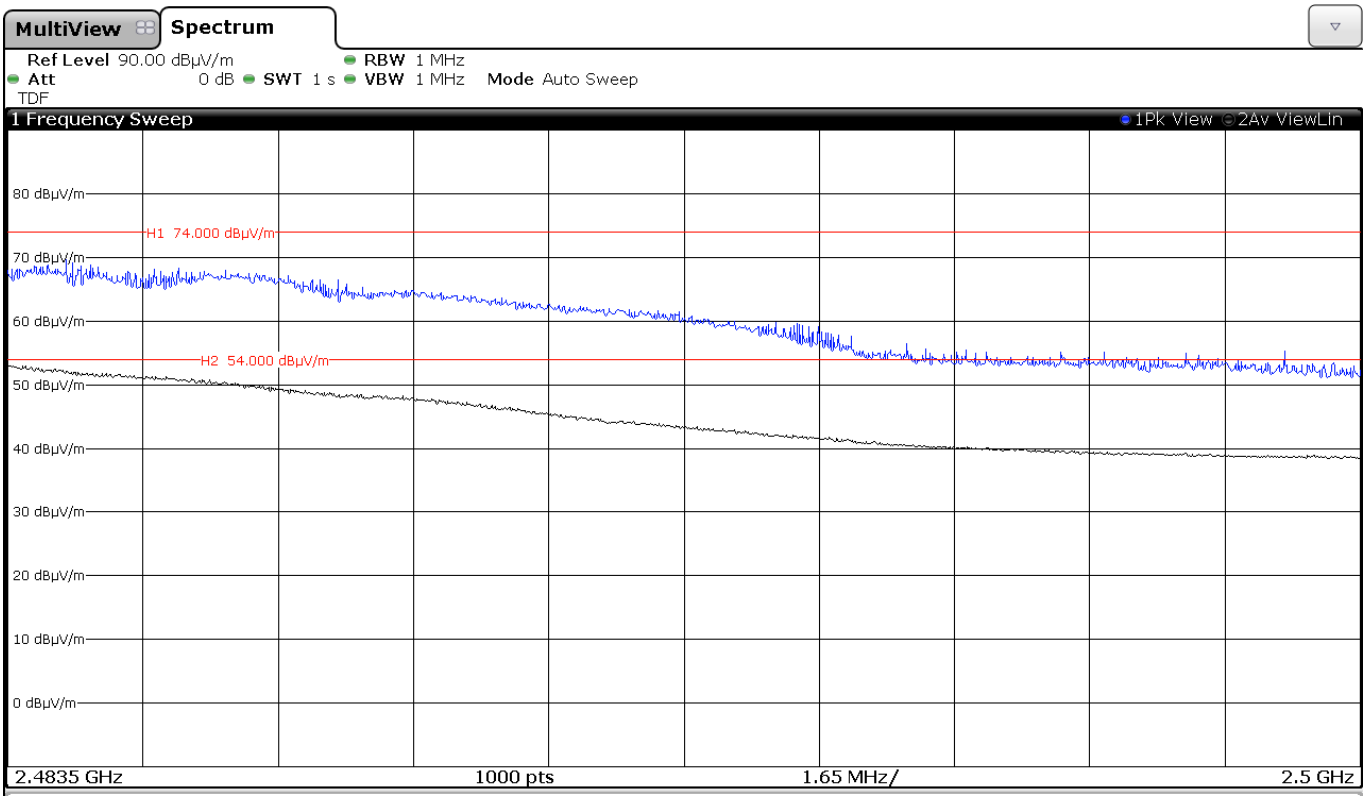


CHANNEL 11 (2462 MHz).

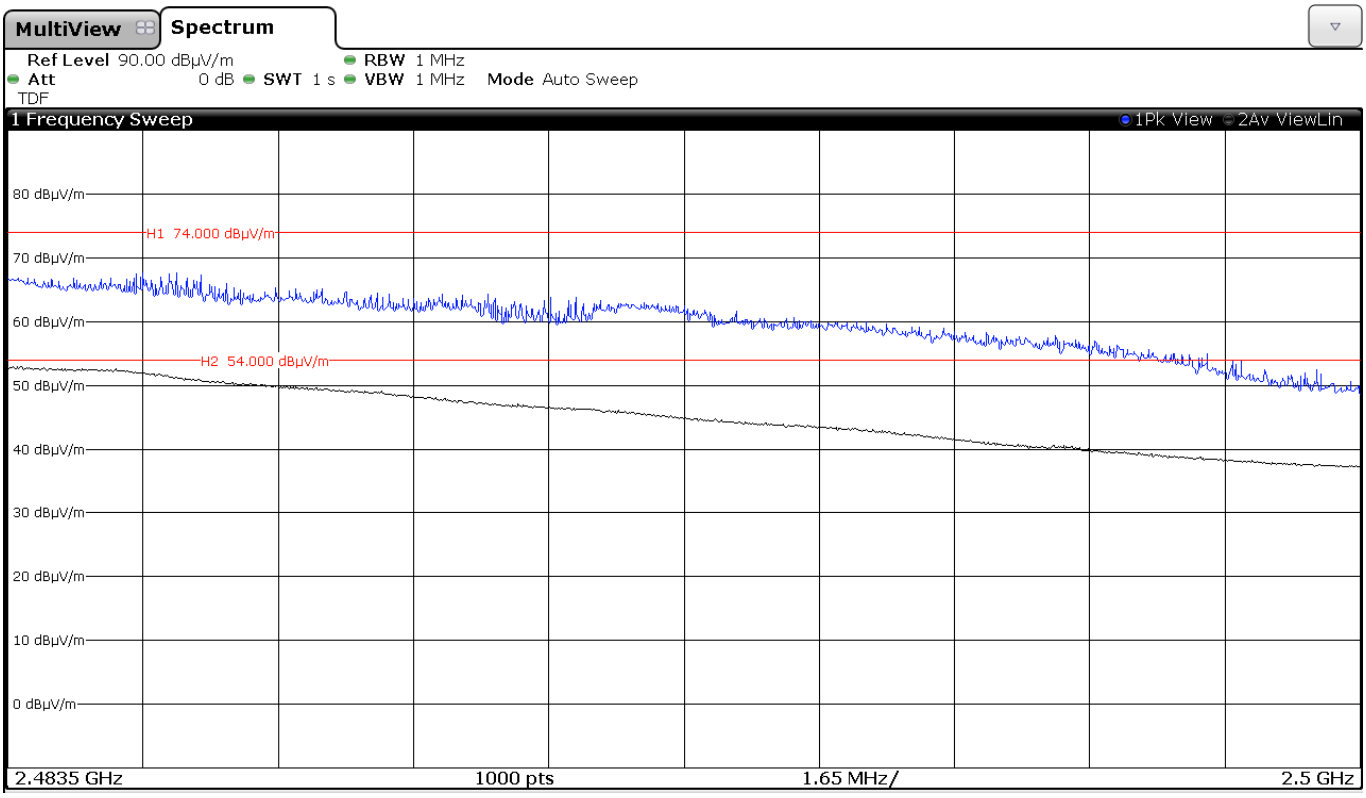


4. WiFi 2.4GHz 802.11 n40 mode

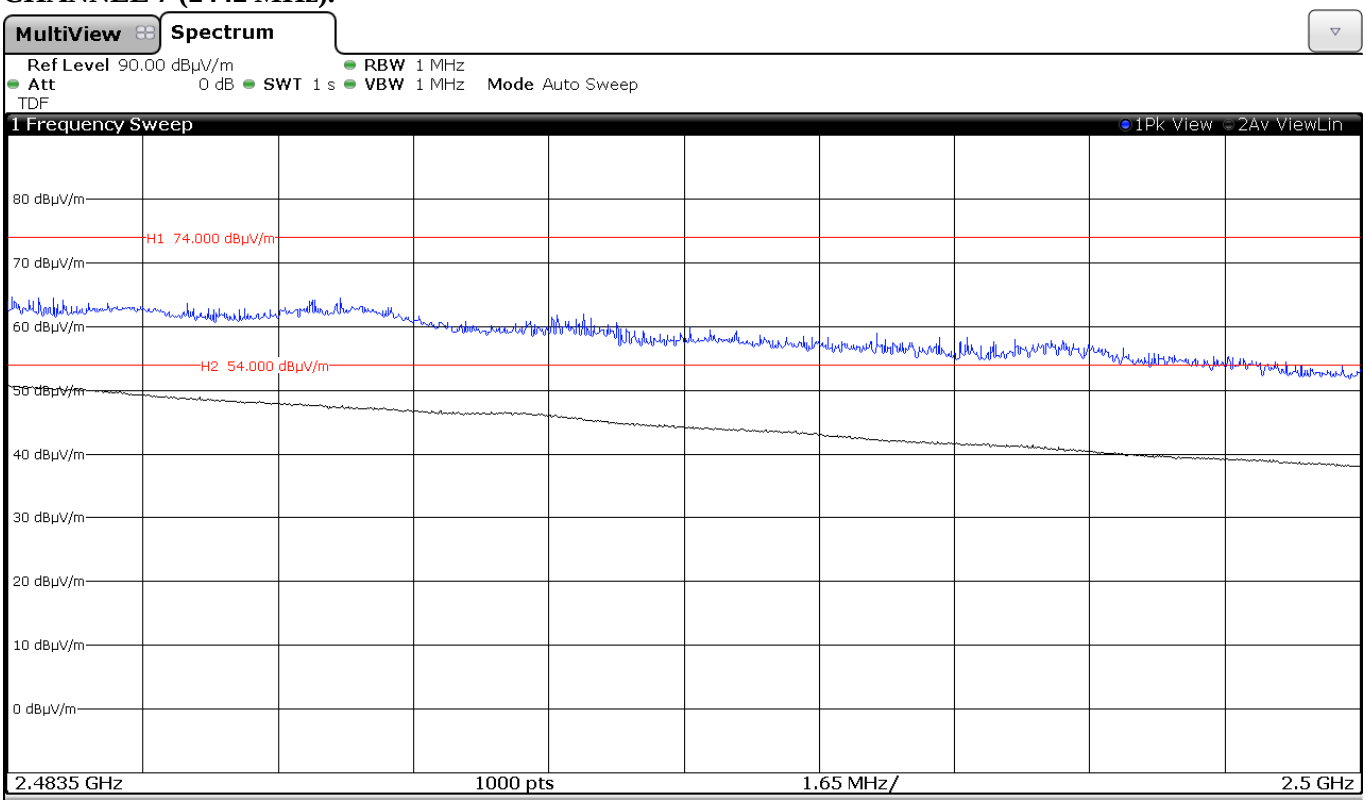
CHANNEL 5 (2432 MHz).



CHANNEL 6 (2437 MHz).



CHANNEL 7 (2442 MHz).



CHANNEL 9 (2452 MHz).