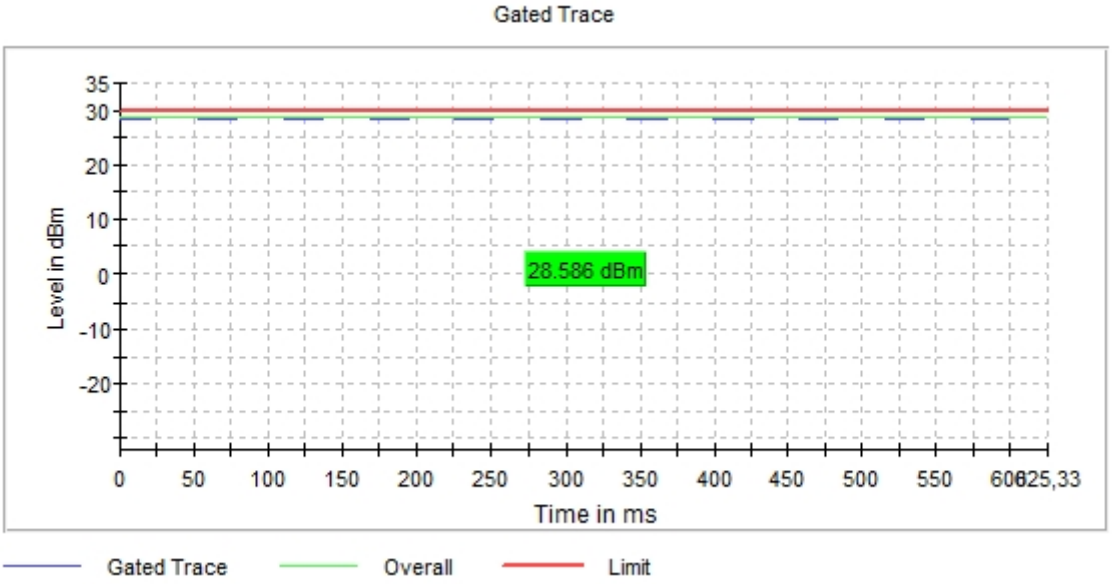
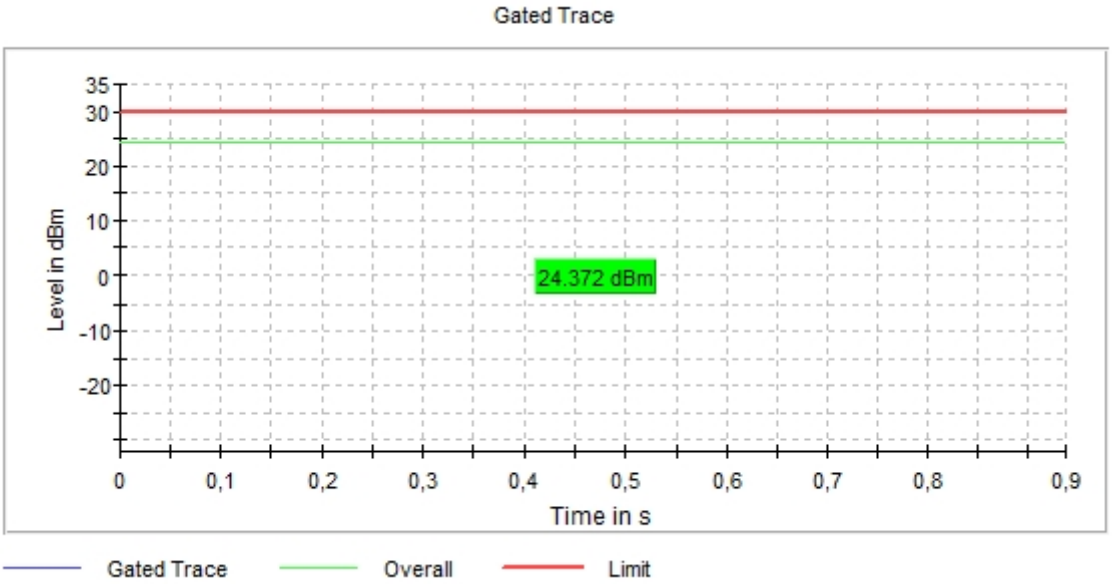
- High Channel (11):

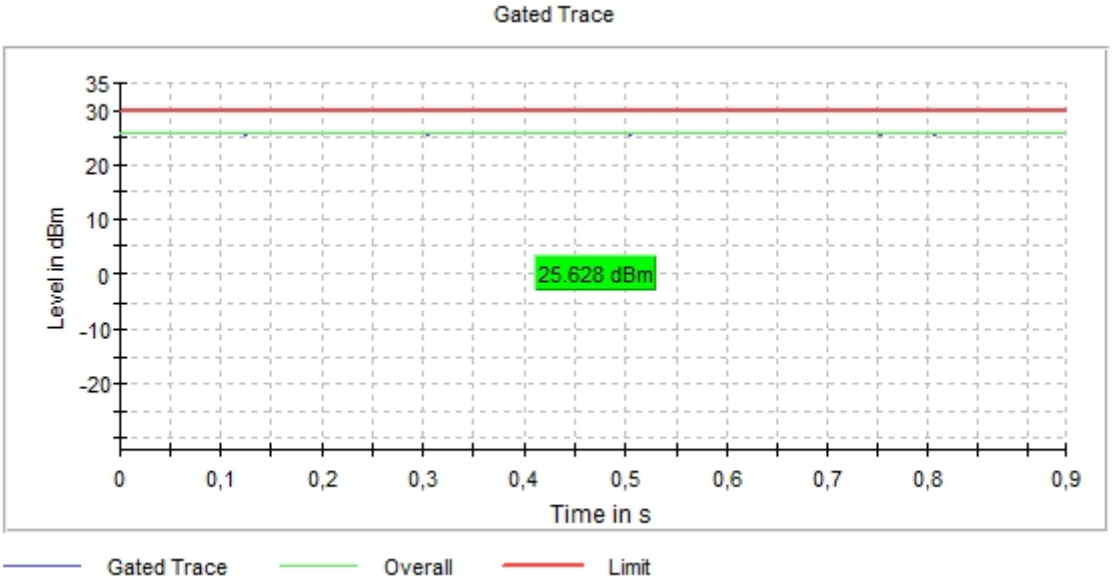


- **SISO 802.11 g – RF Output Power:**

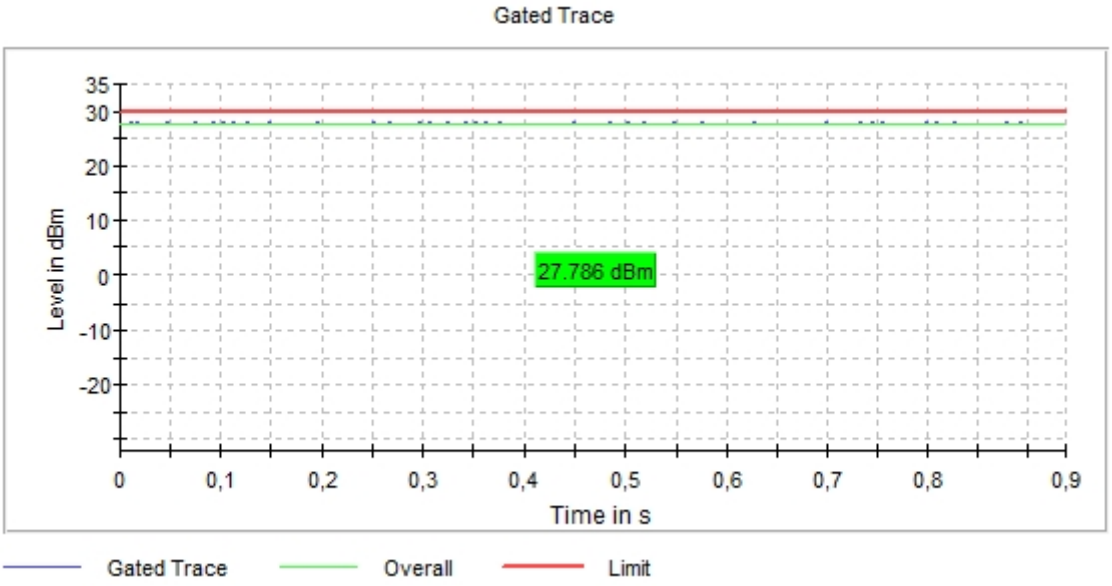
- Low Channel (1):



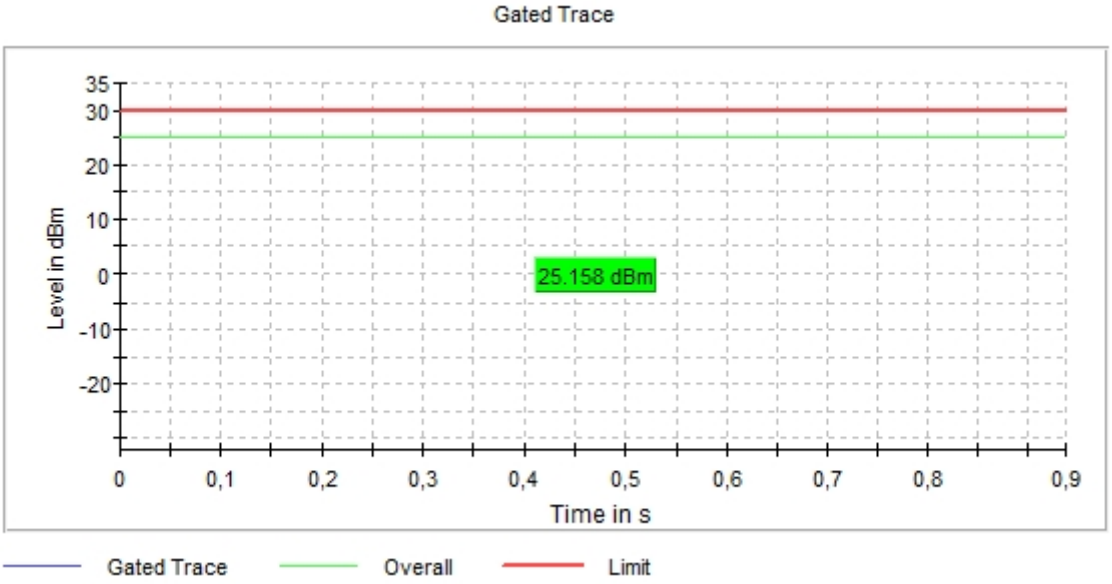
- Channel (2):



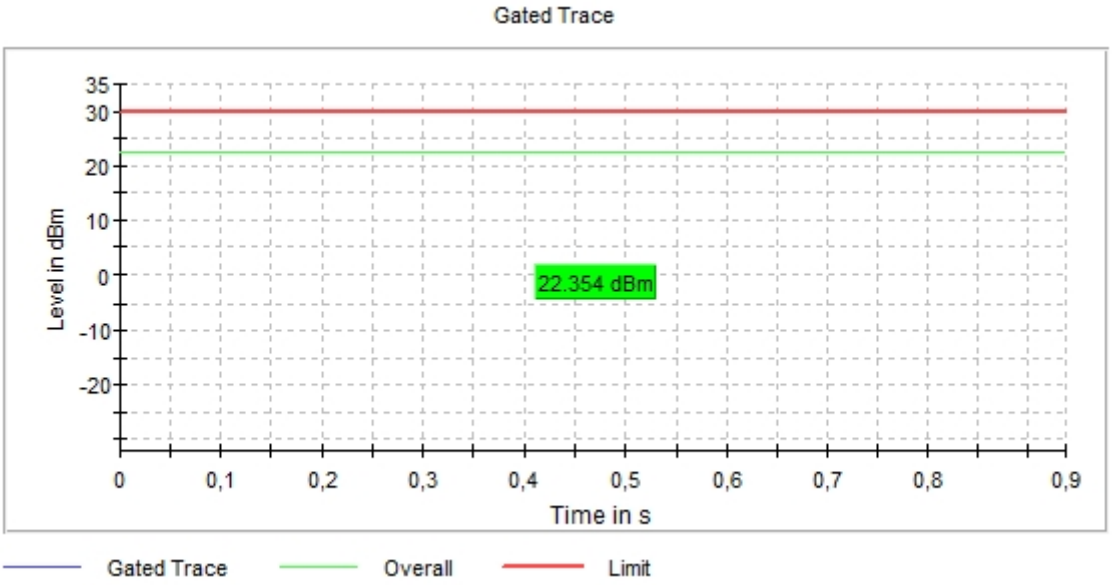
- Middle Channel (6):



- Channel (10):

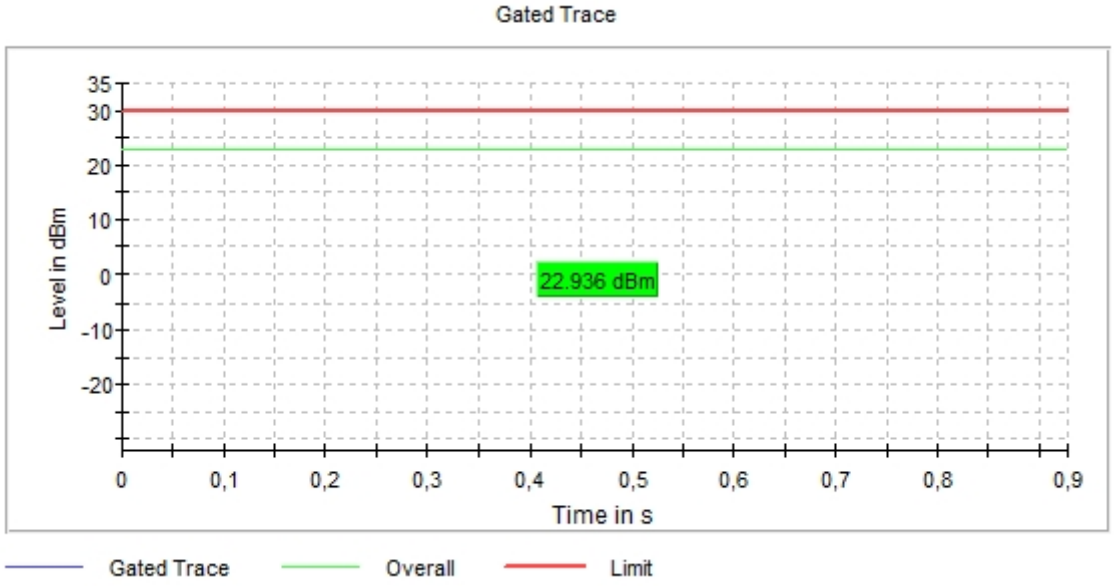


- High Channel (11):

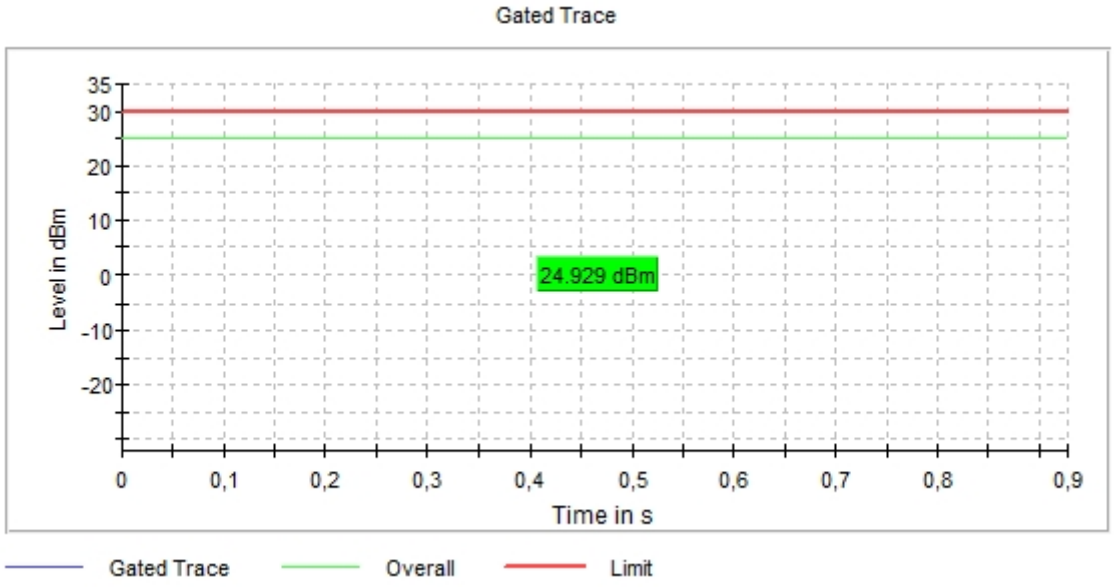


- **SISO 802.11 n20 – RF Output Power:**

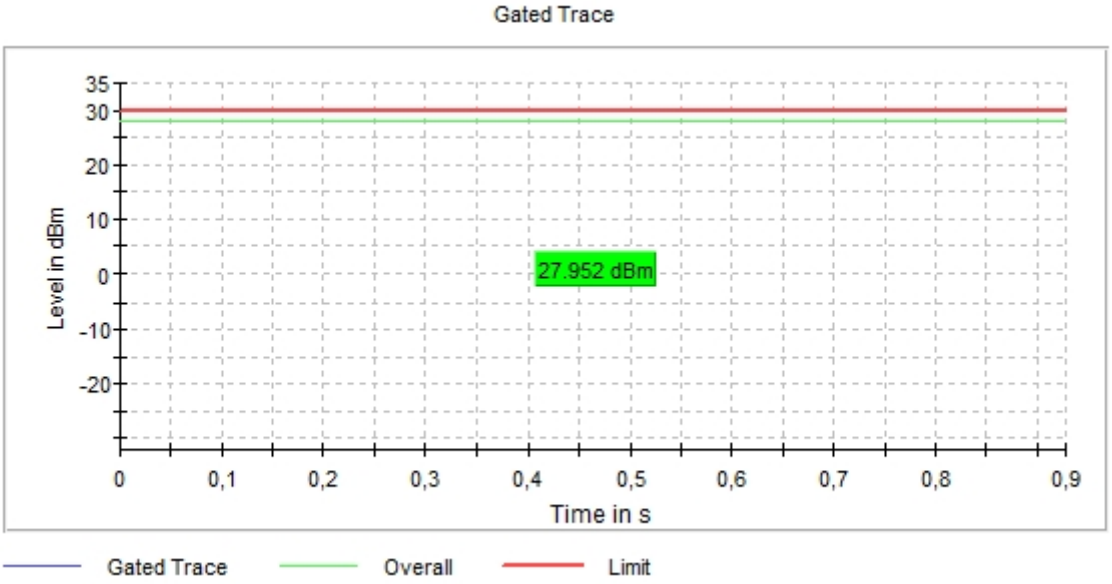
- Low Channel (1):



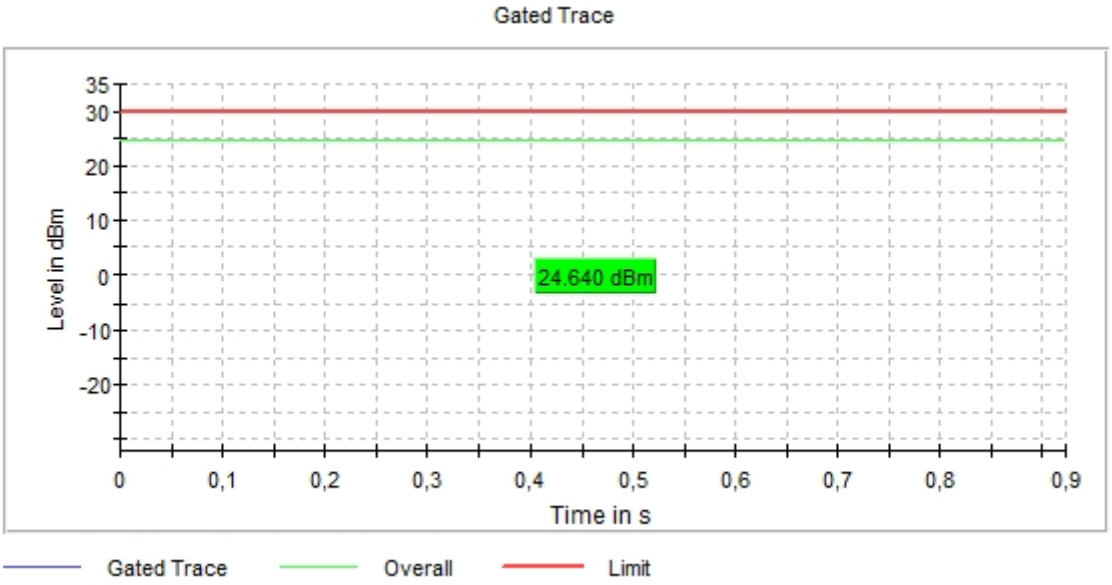
- Channel (2):



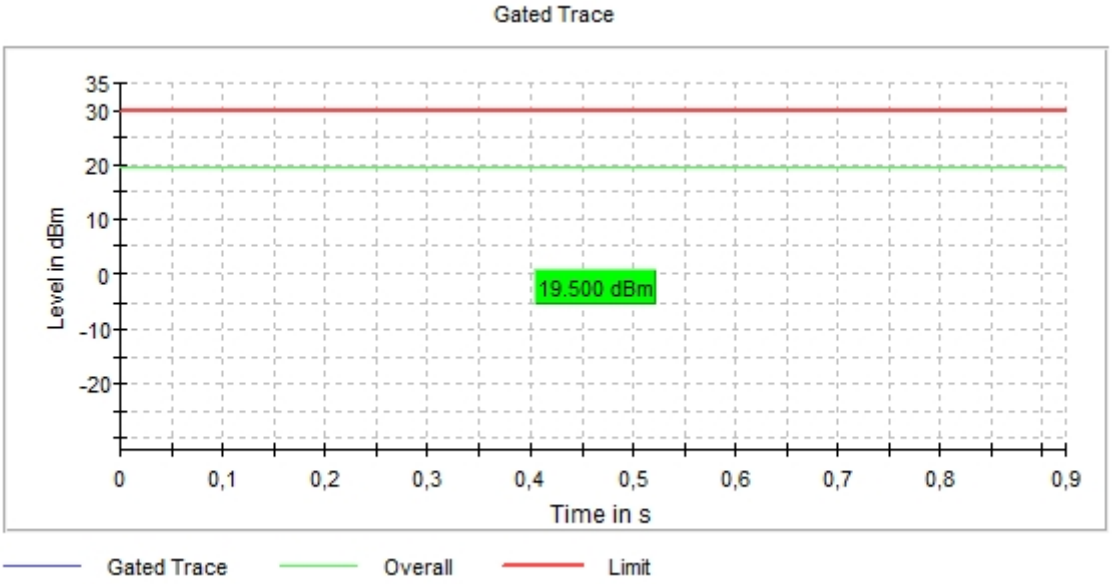
- Middle Channel (6):



- Channel (10):

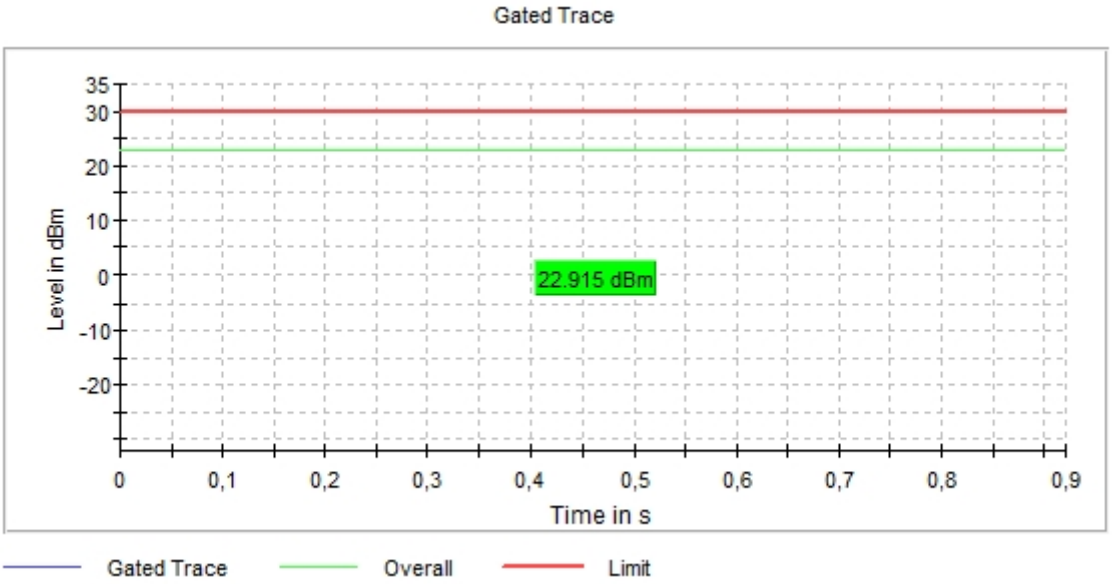


- High Channel (11):

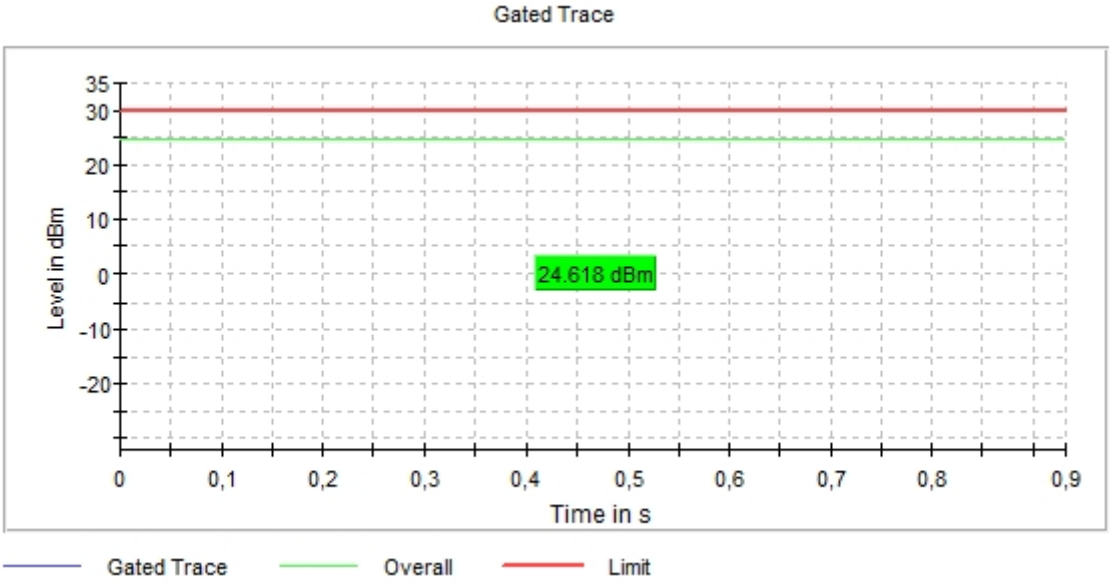


- **SISO 802.11 he20 – RF Output Power:**

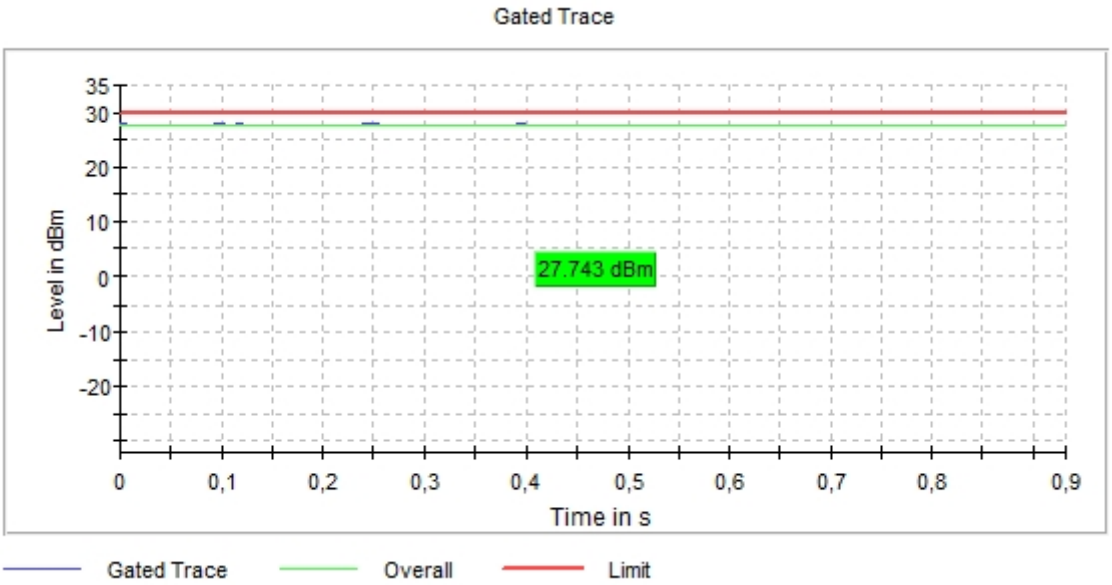
- Low Channel (1):



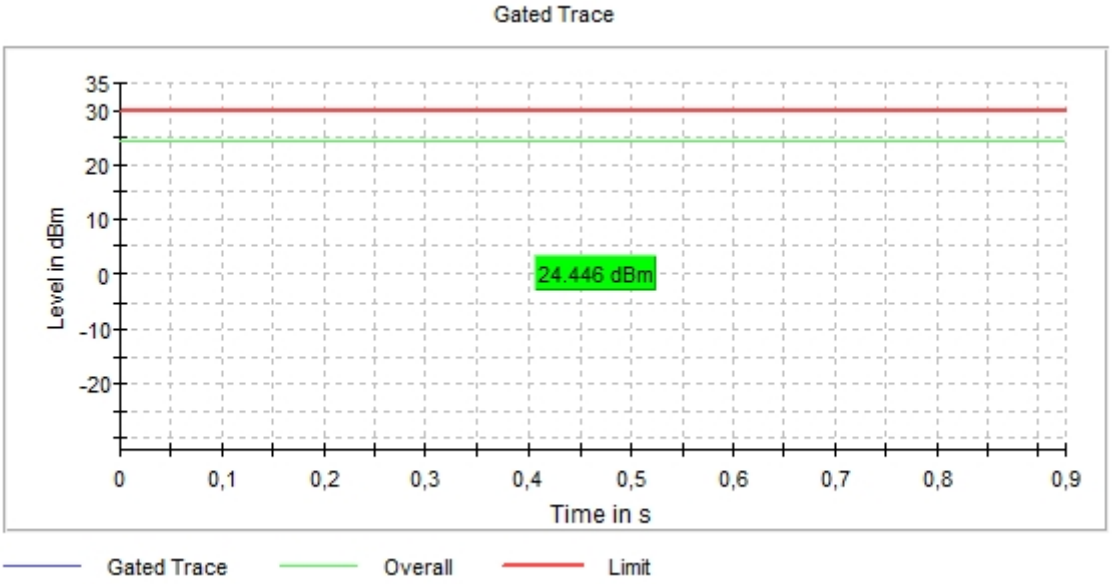
- Channel (2):



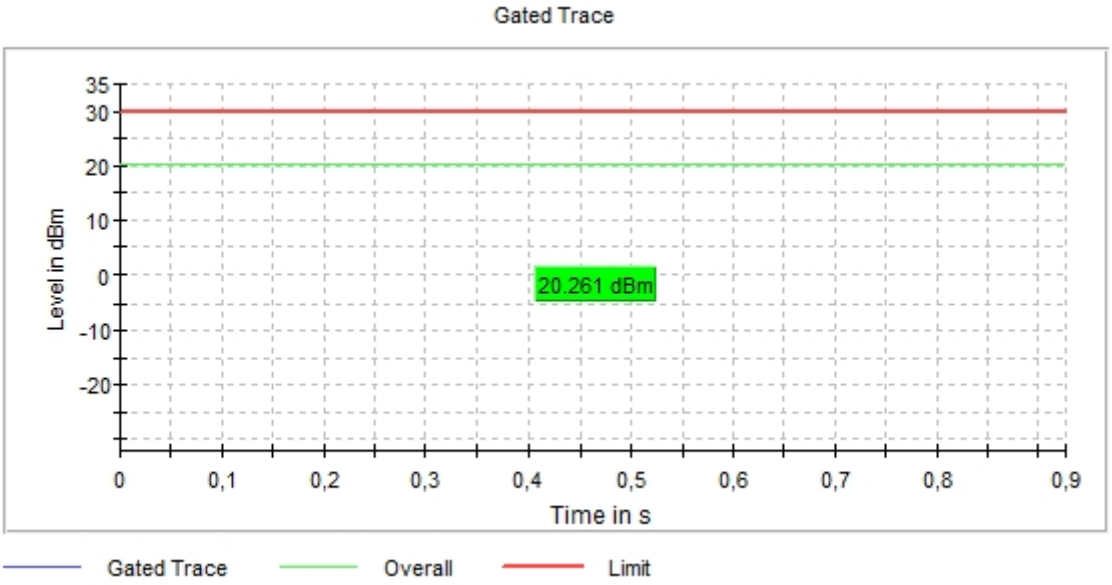
- Middle Channel (6):



- Channel (10):

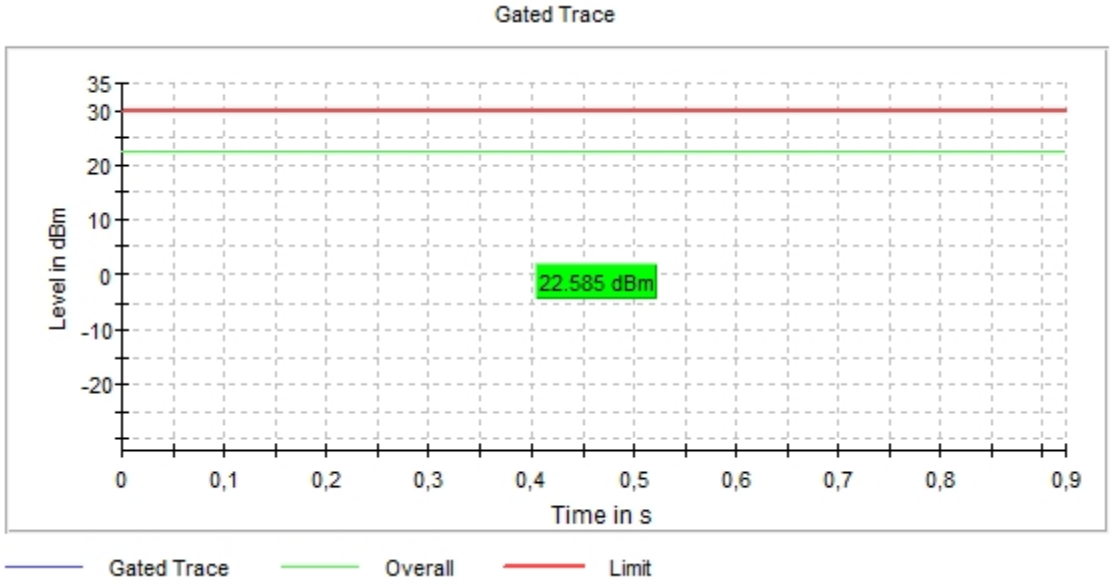


- High Channel (11):

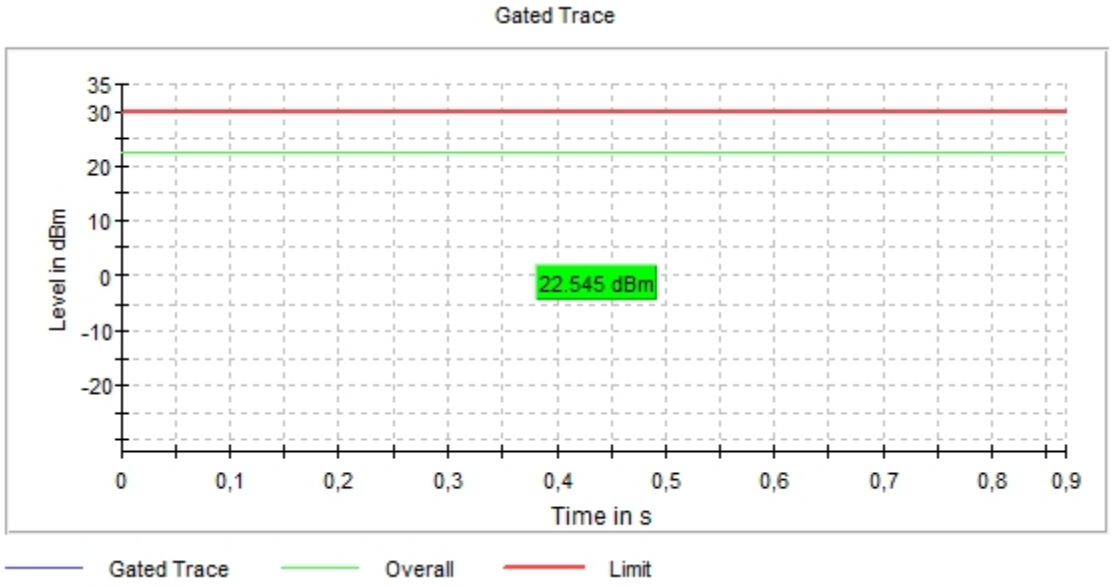


- **SISO 802.11 n40 – RF Output Power:**

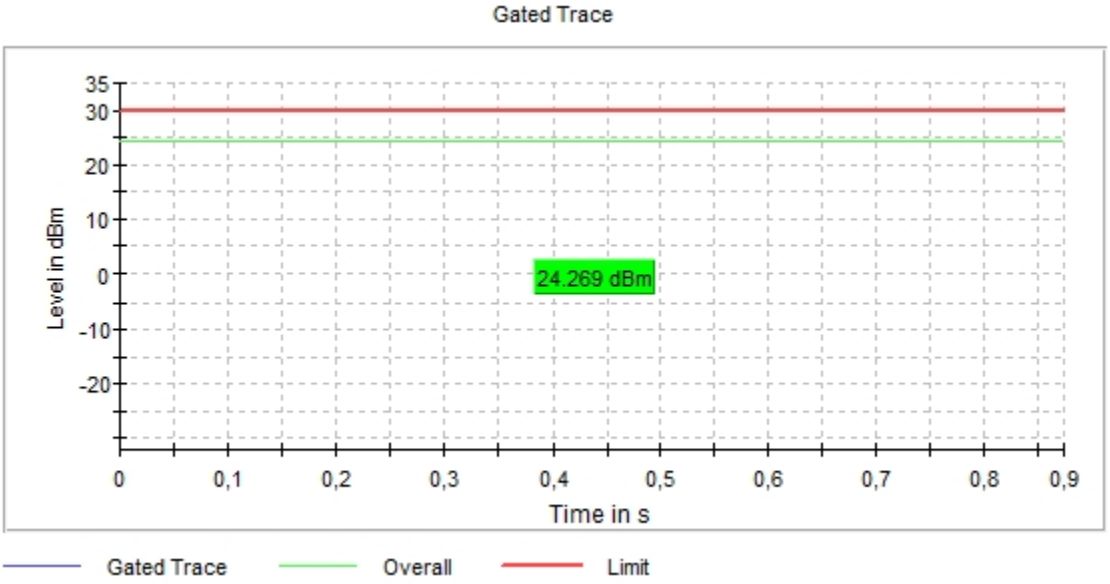
- Low Channel (3):



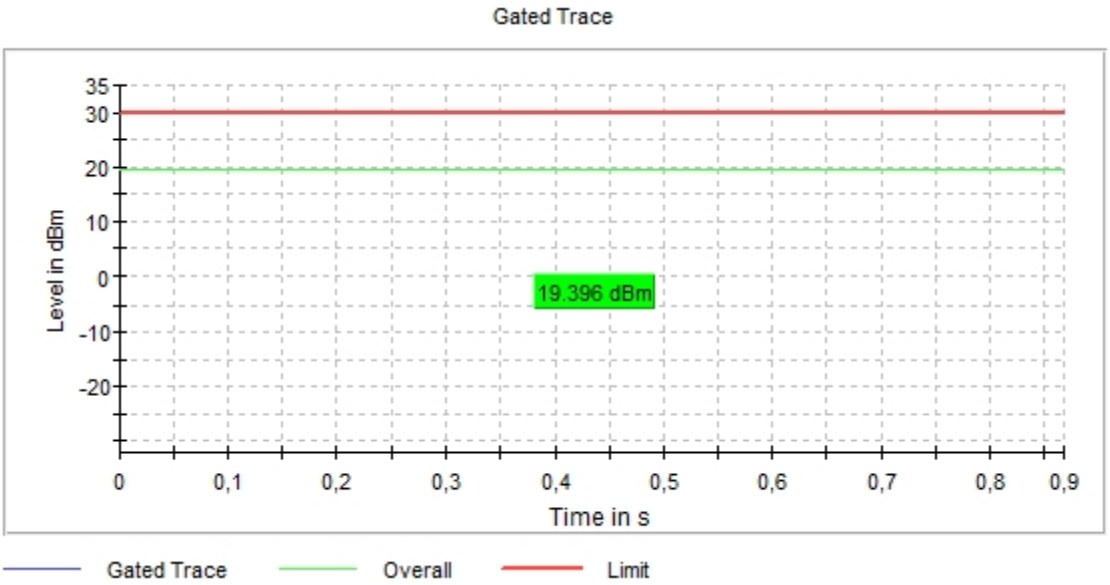
- Channel (4):



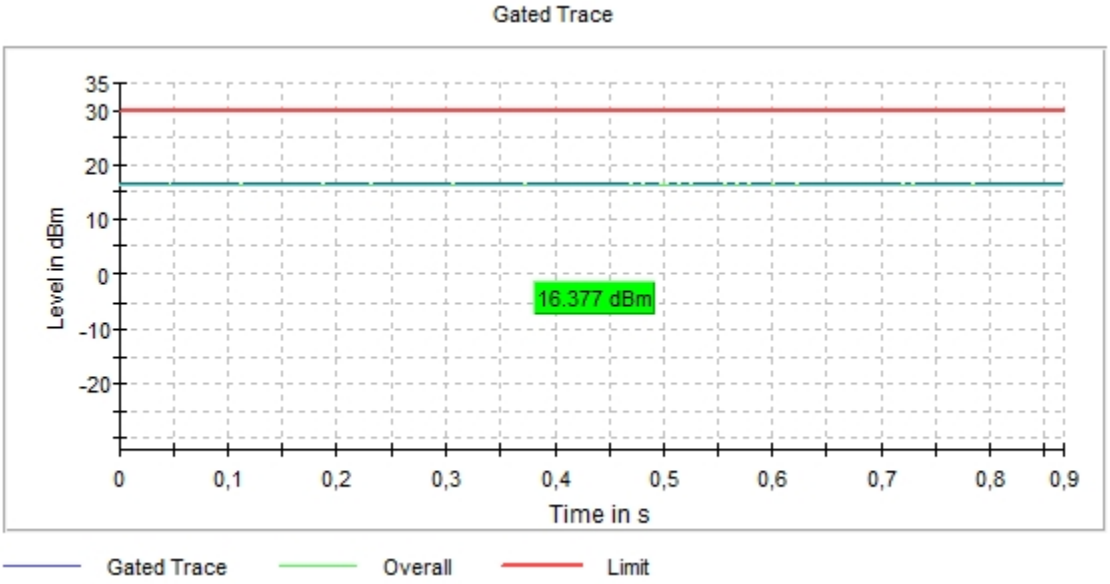
- Middle Channel (6):



- Channel (8):

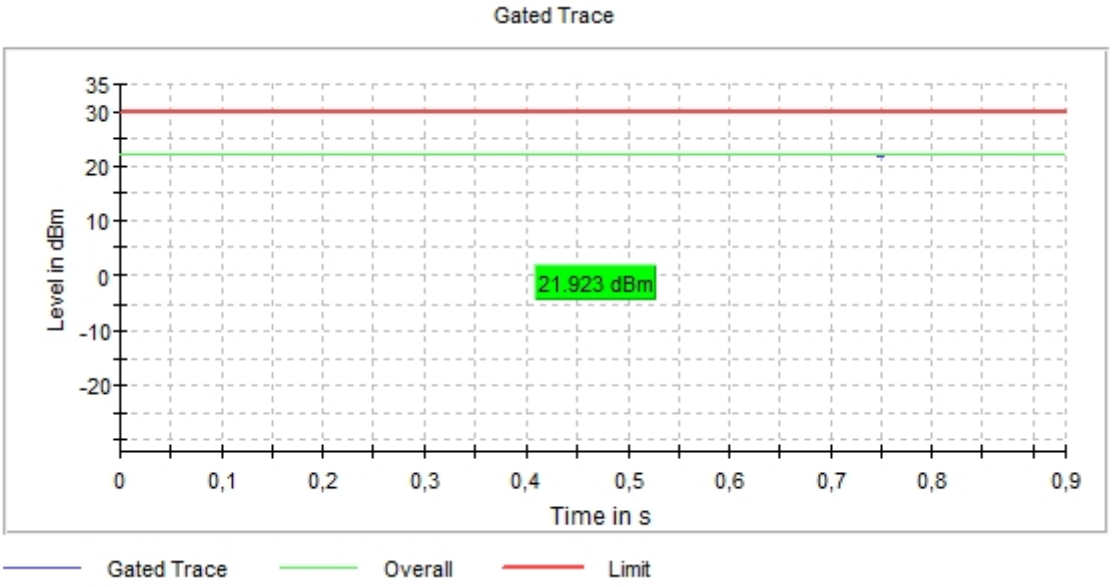


- High Channel (9):

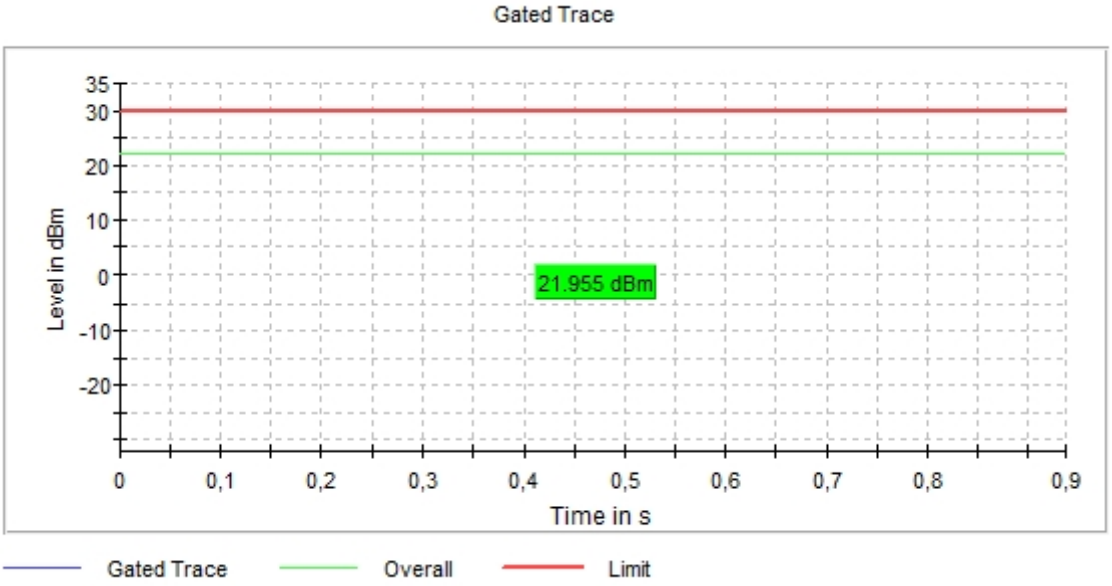


- **SISO 802.11 he40 – RF Output Power:**

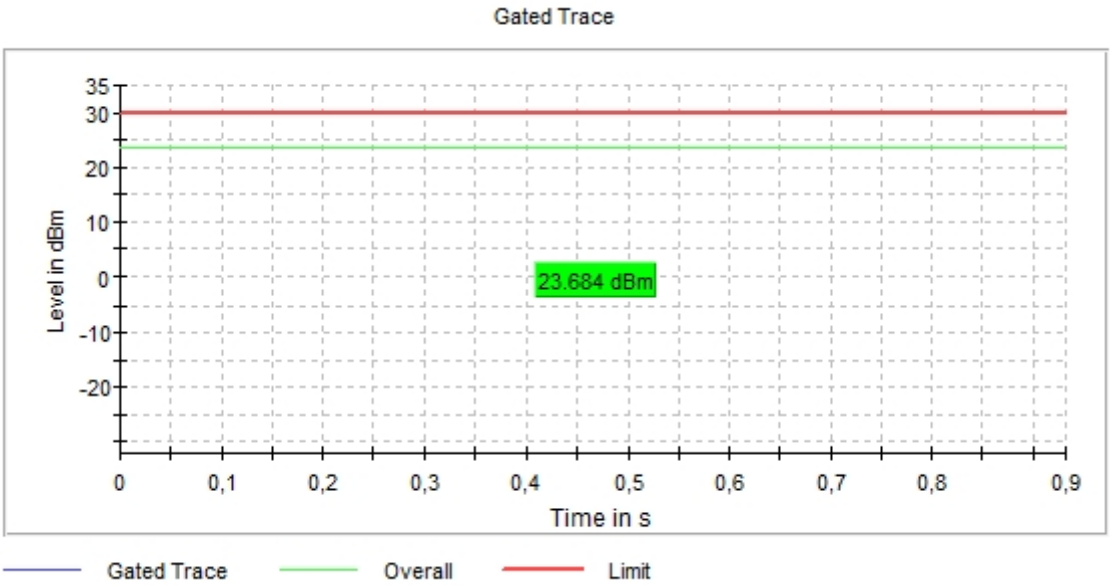
- Low Channel (3):



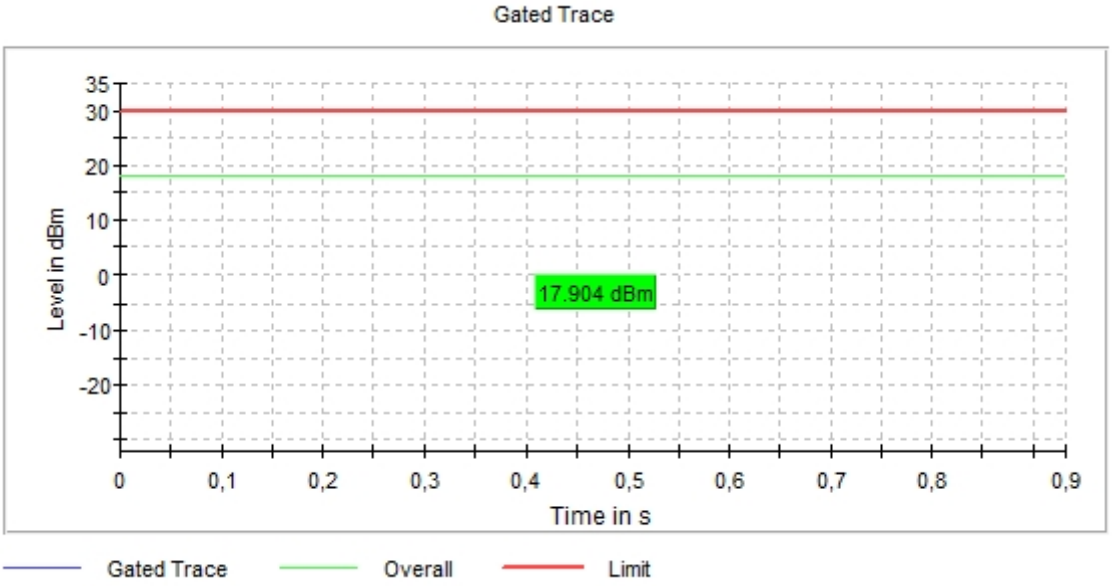
- Channel (4):



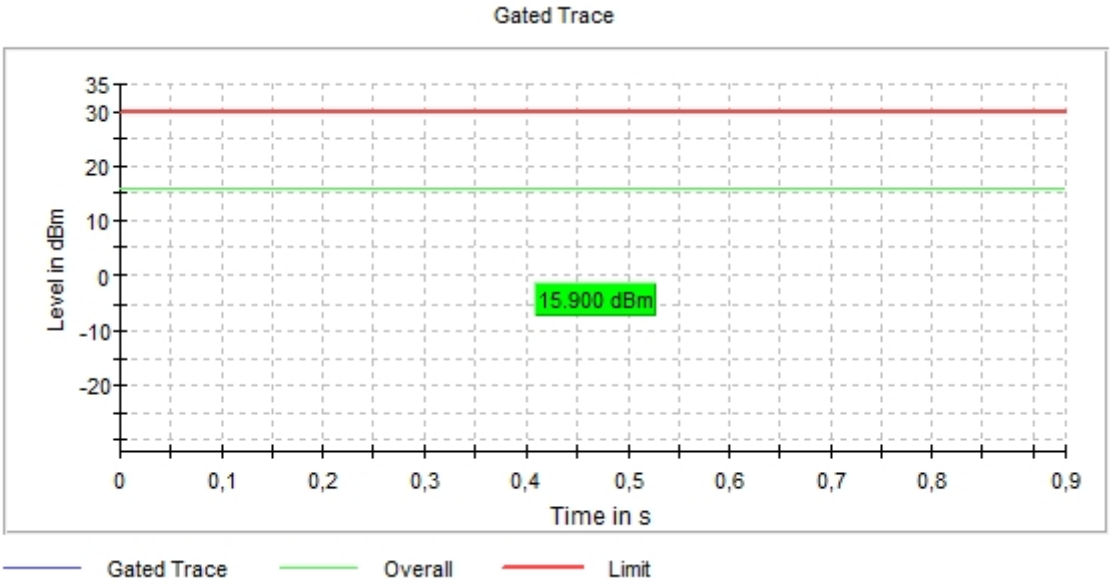
- Middle Channel (6):



- Channel (8):



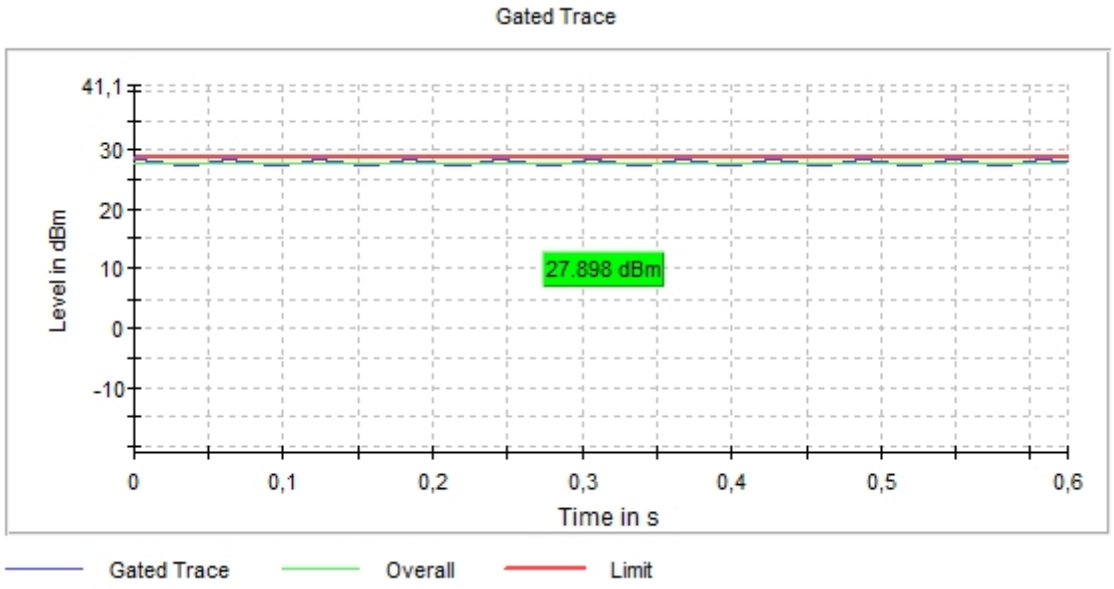
- High Channel (9):



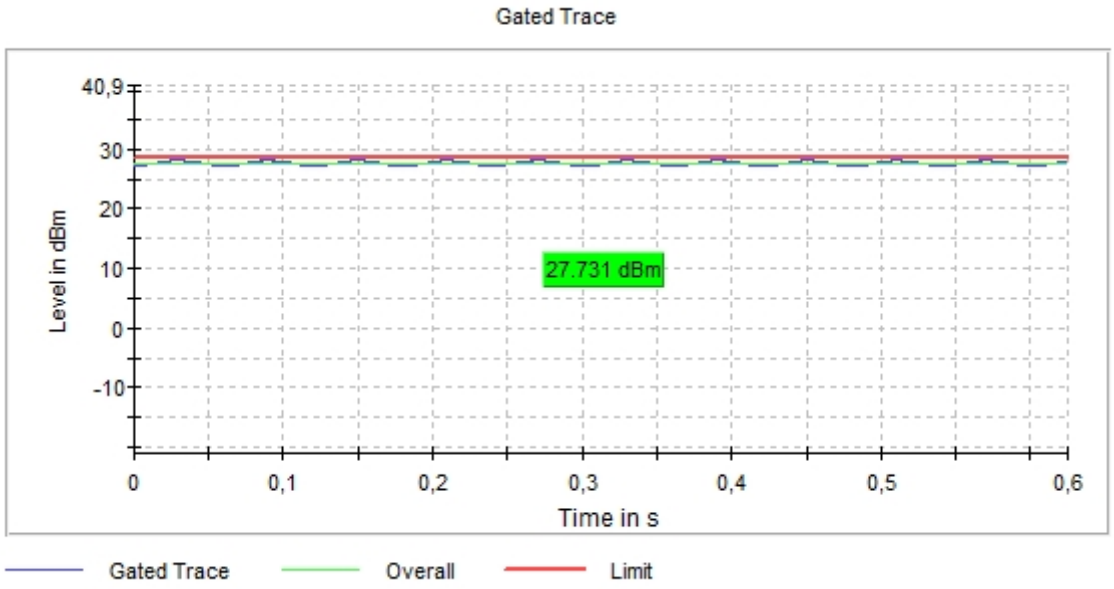
MIMO worst case:

- **MIMO 802.11 b – RF Output Power:**

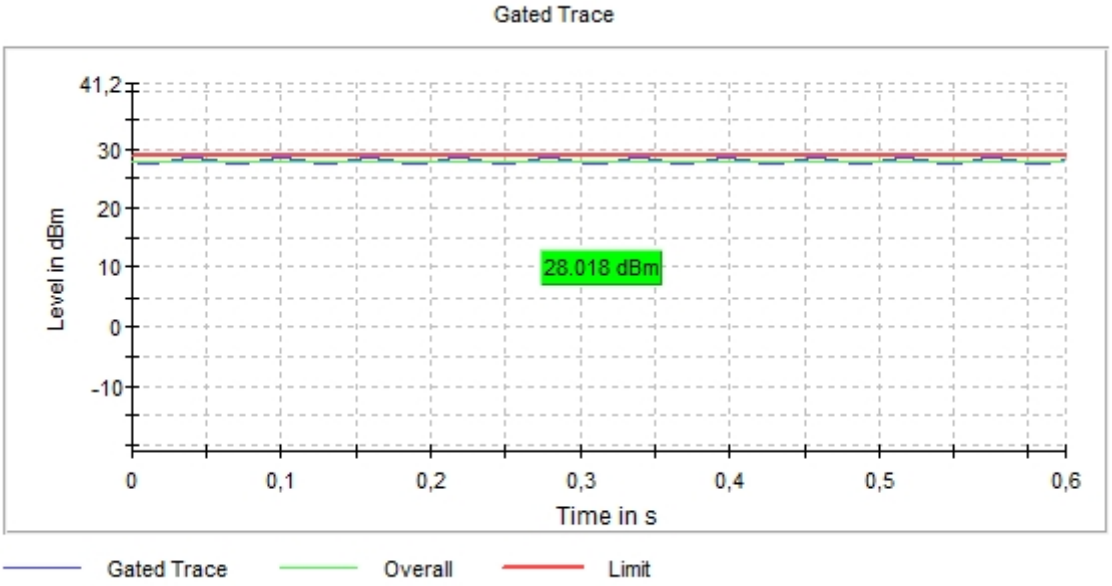
  - Low Channel (1):



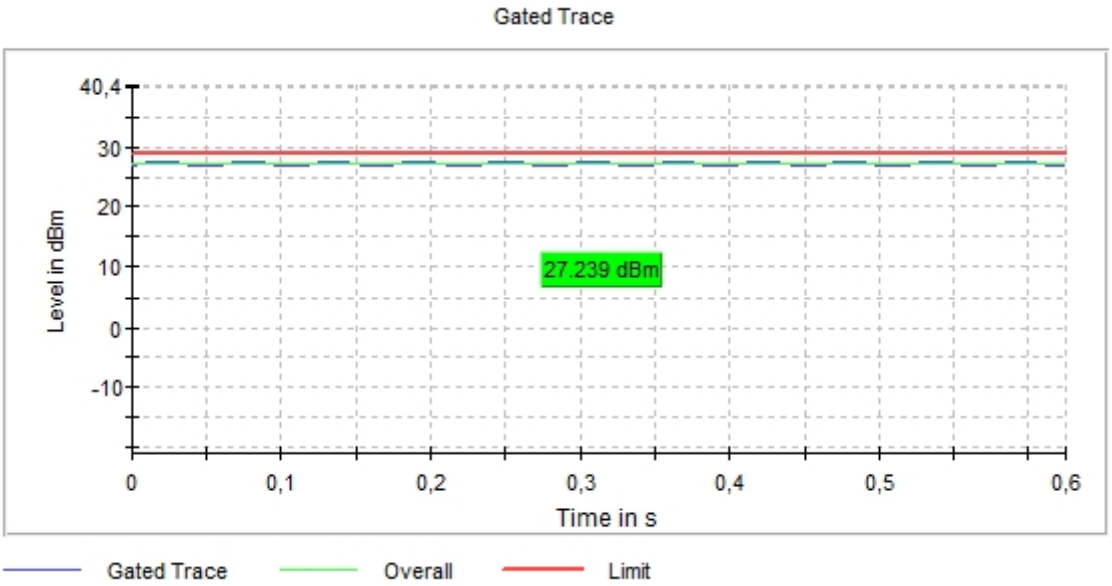
  - Channel (2):



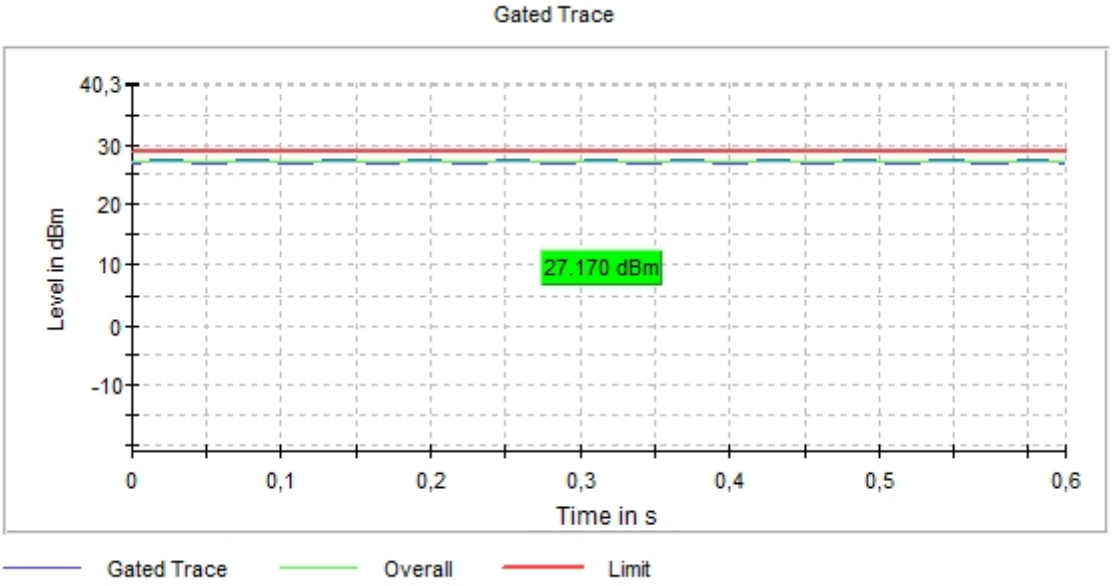
- Middle Channel (6):



- Channel (10):

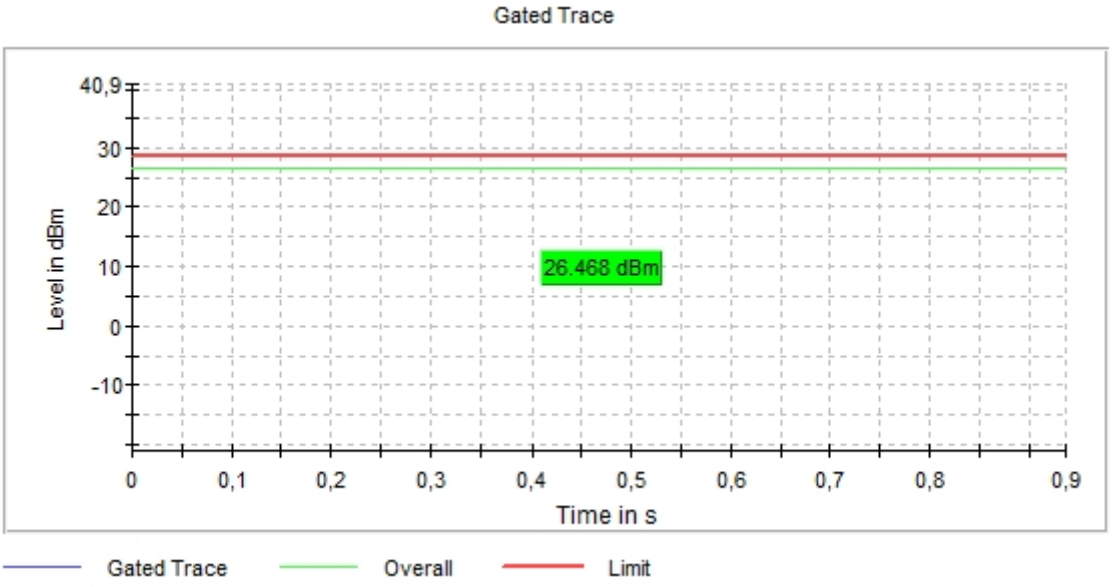


- High Channel (11):



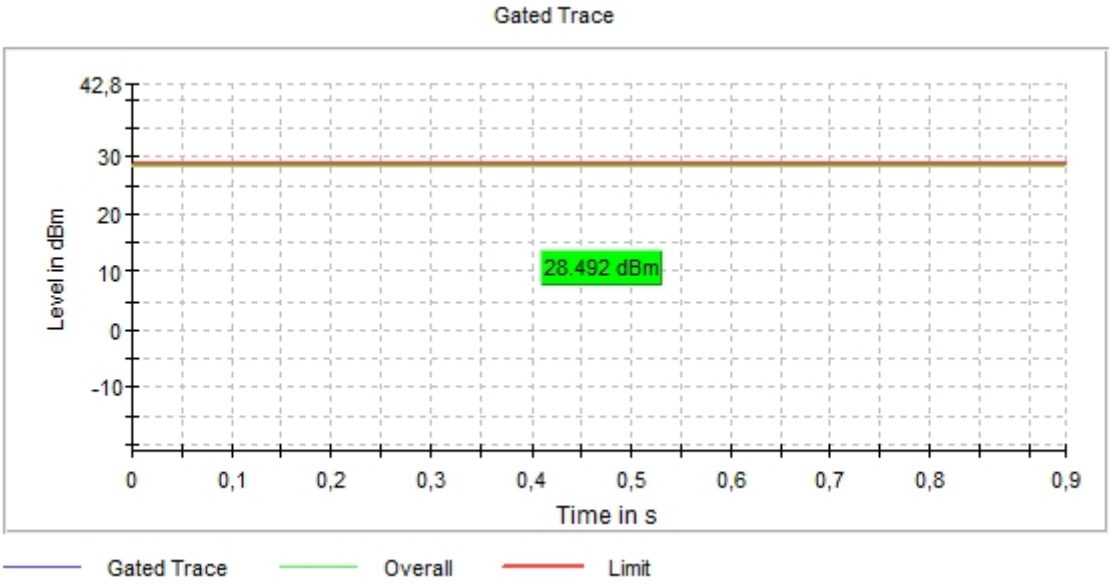
- **MIMO 802.11 g – RF Output Power:**

- Low Channel (1):



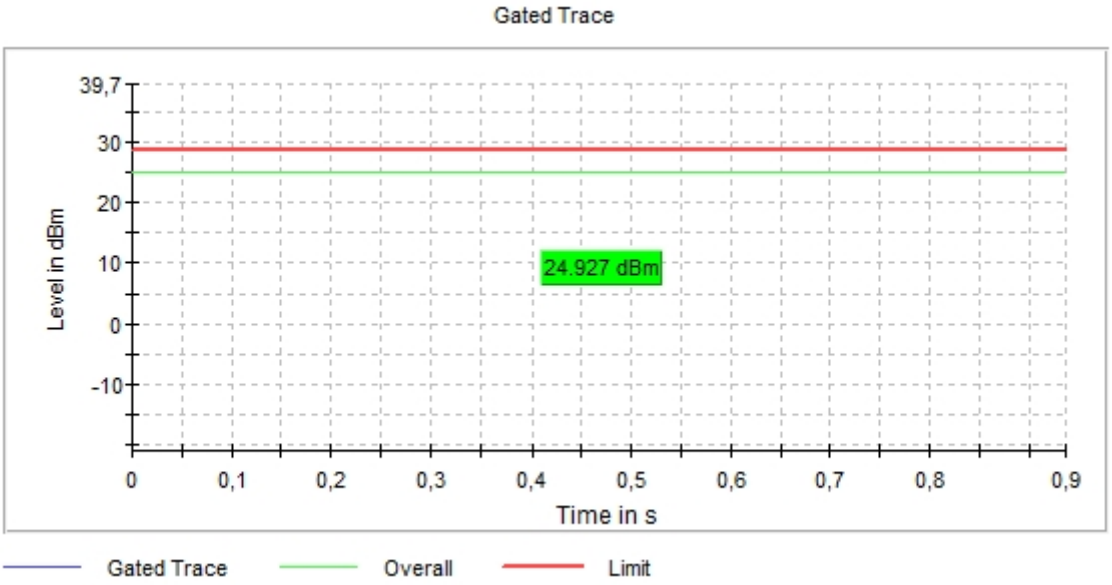
- Channel (2):

- Middle Channel (6):



- Channel (10):

- High Channel (11):

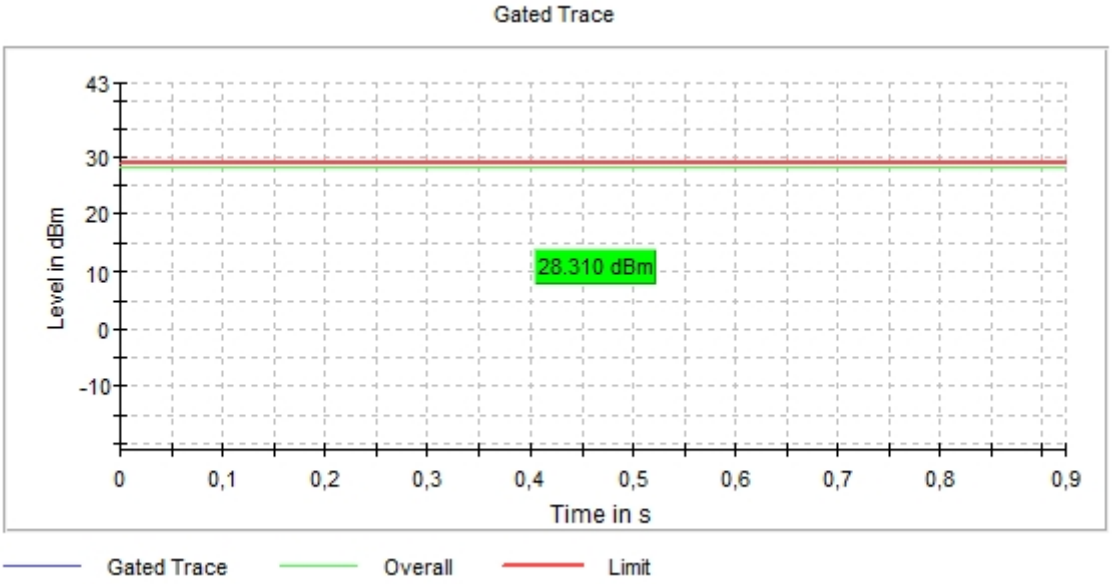


- **MIMO 802.11 n20 – RF Output Power:**

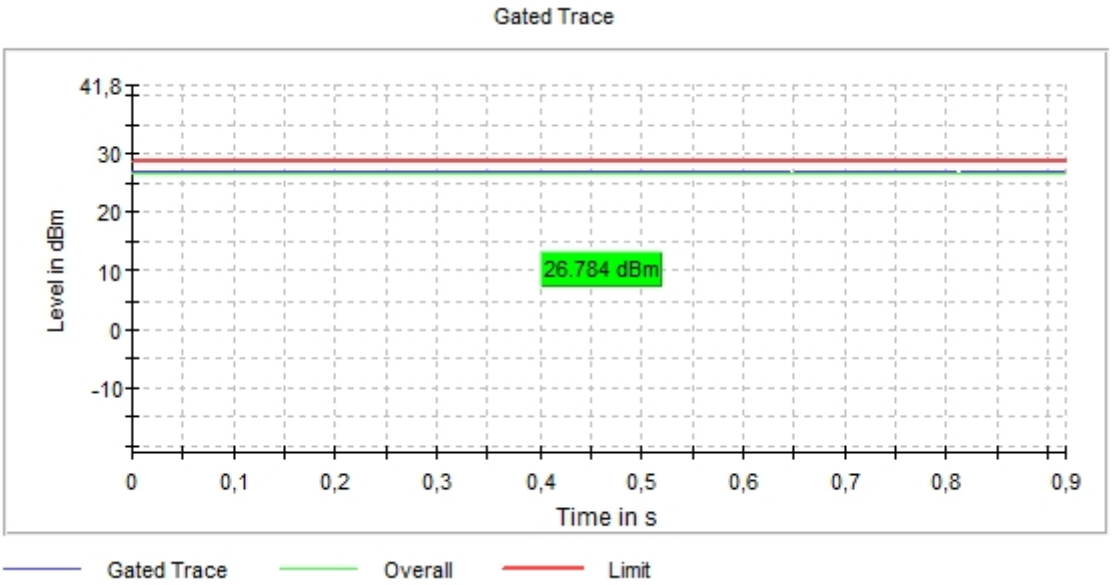
- Low Channel (1):

- Channel (2):

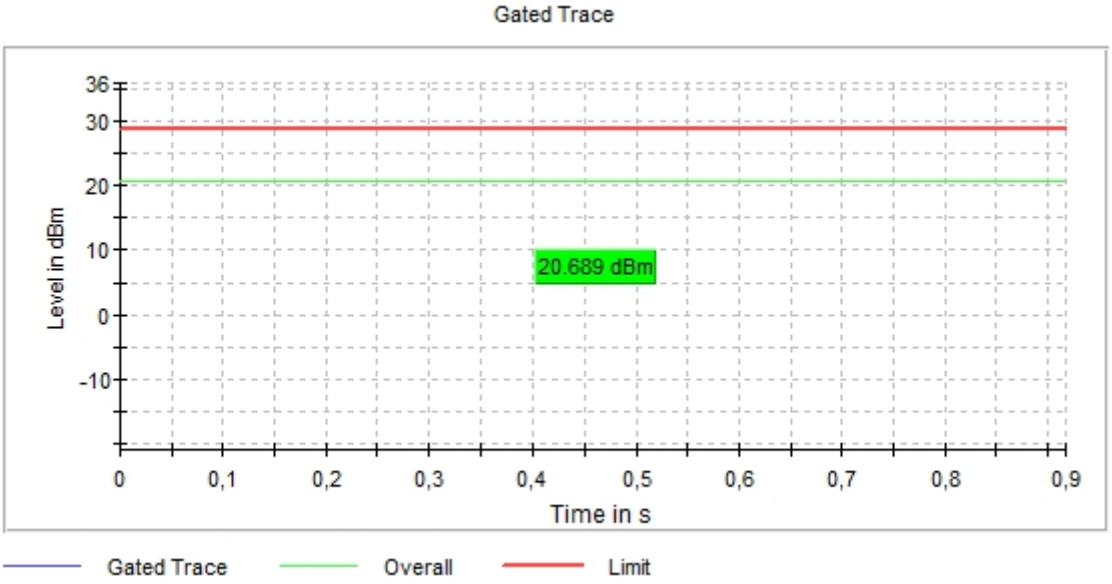
- Middle Channel (6):



- Channel (10):

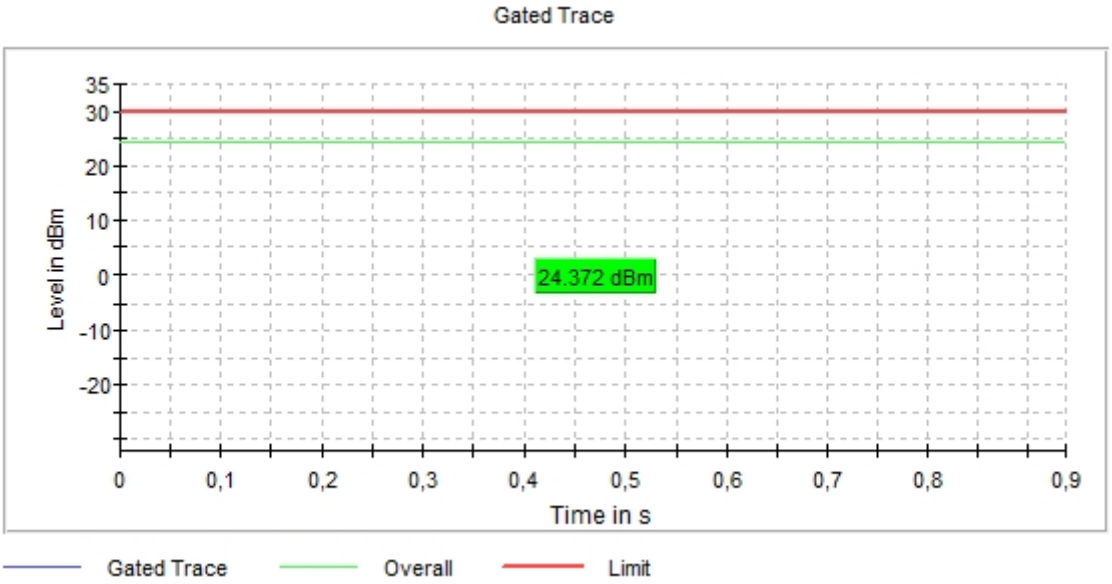


- High Channel (11):

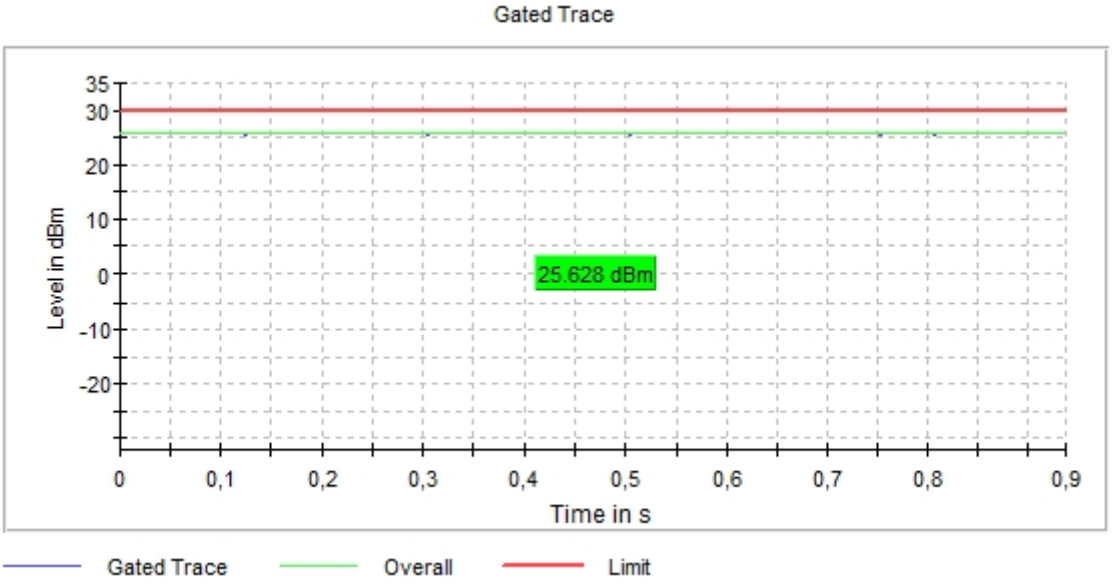


- **MIMO 802.11 he20 – RF Output Power:**

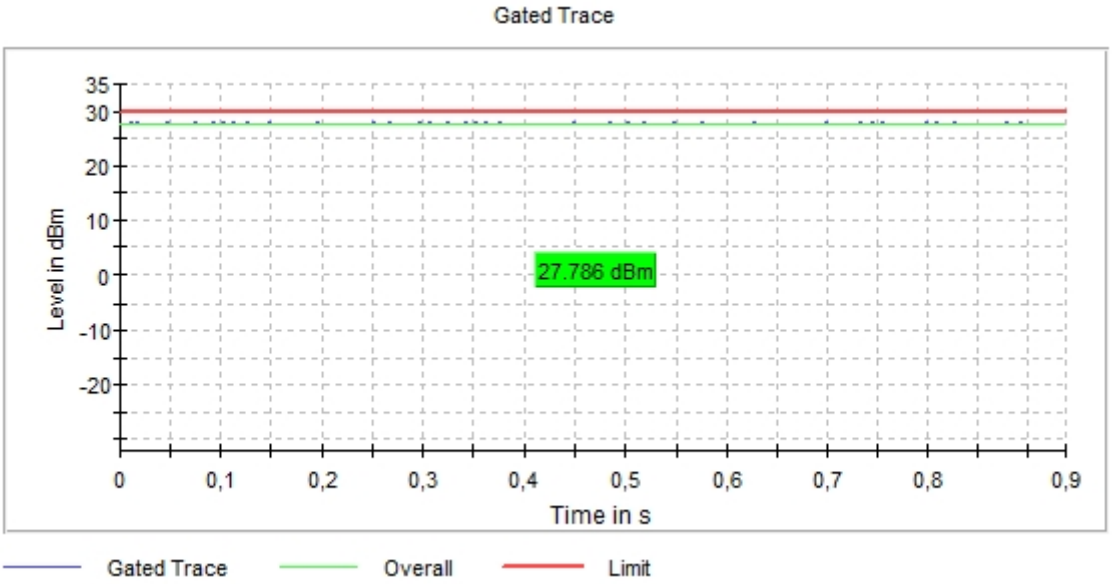
- Low Channel (1):



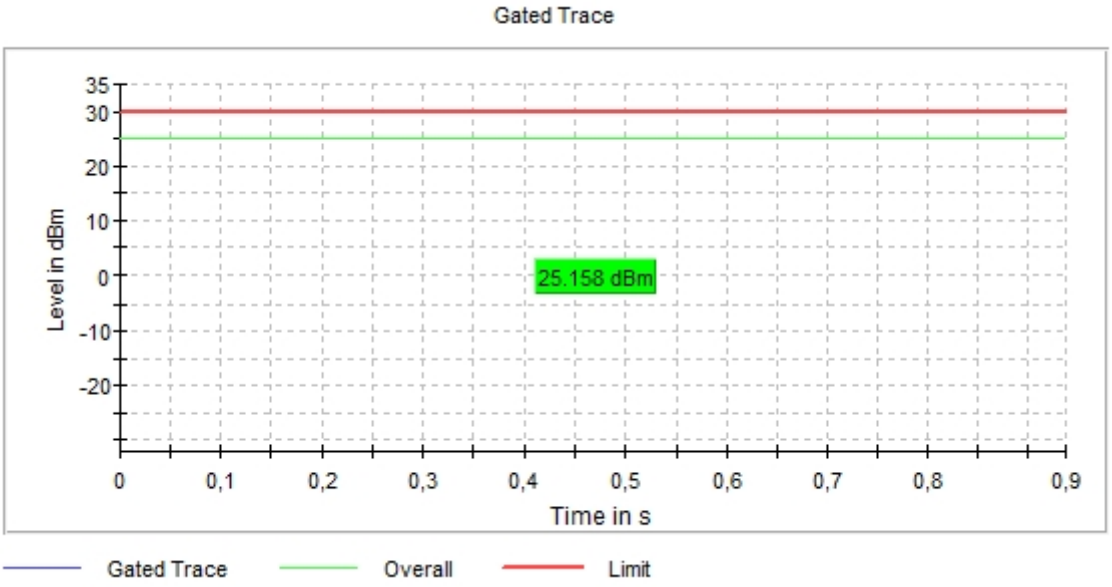
- Channel (2):



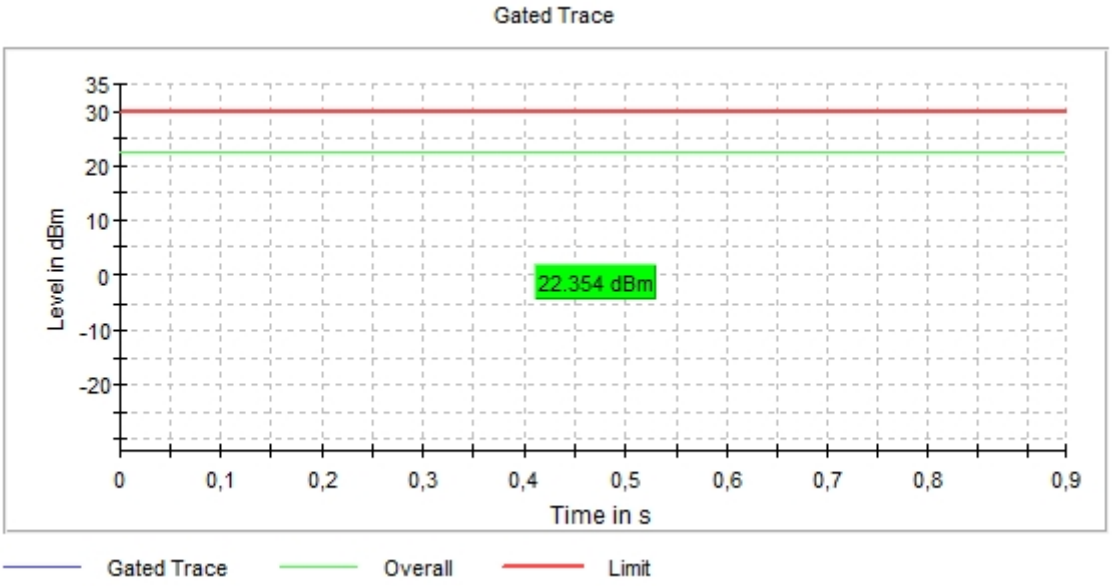
- Middle Channel (6):



- Channel (10):

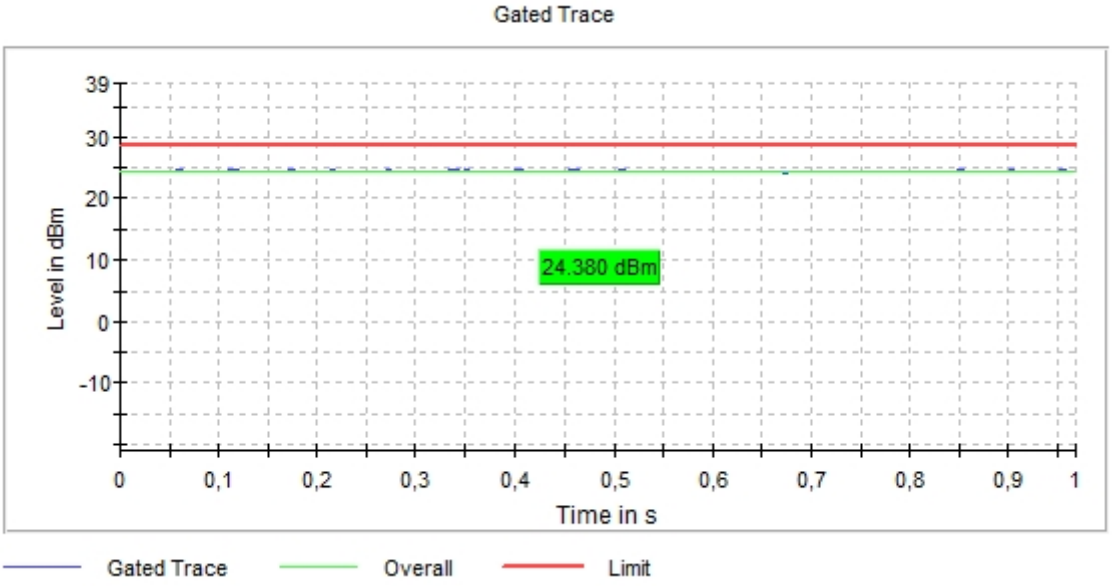


- High Channel (11):

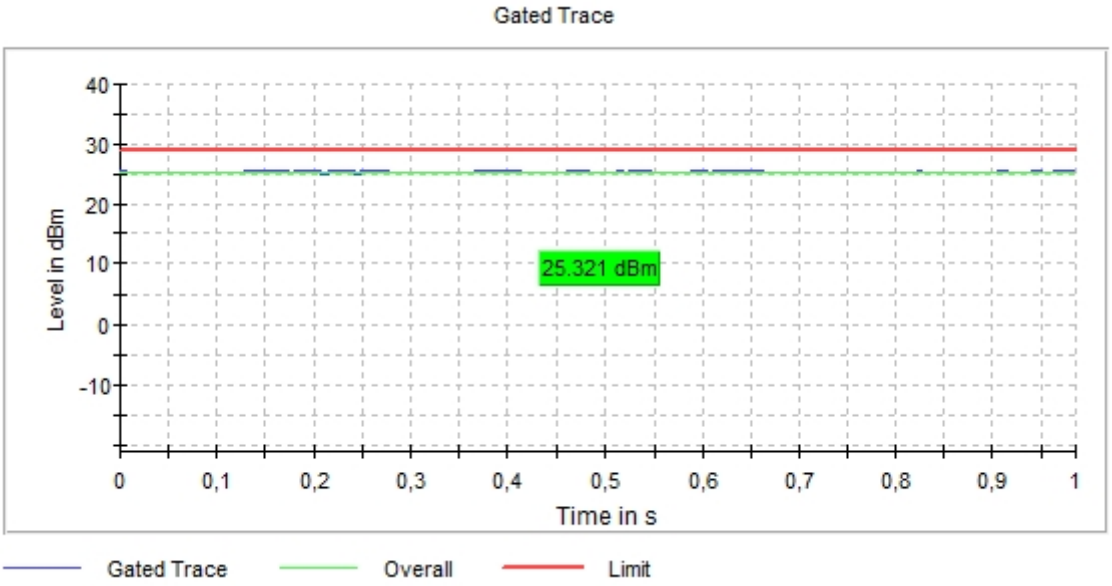


- **MIMO 802.11 n40 – RF Output Power:**

- Low Channel (3):

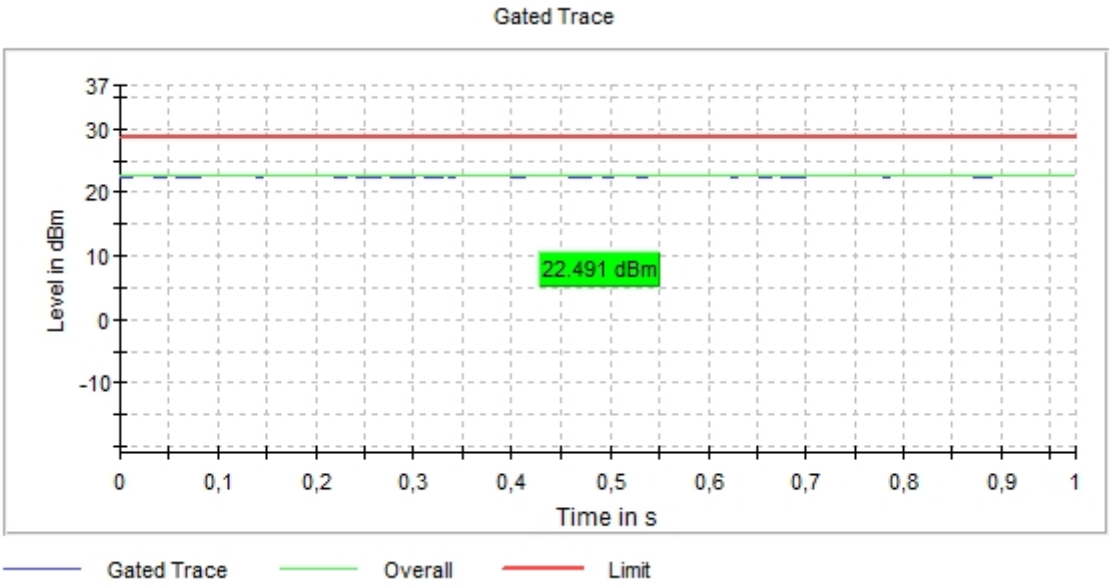


- Channel (4):

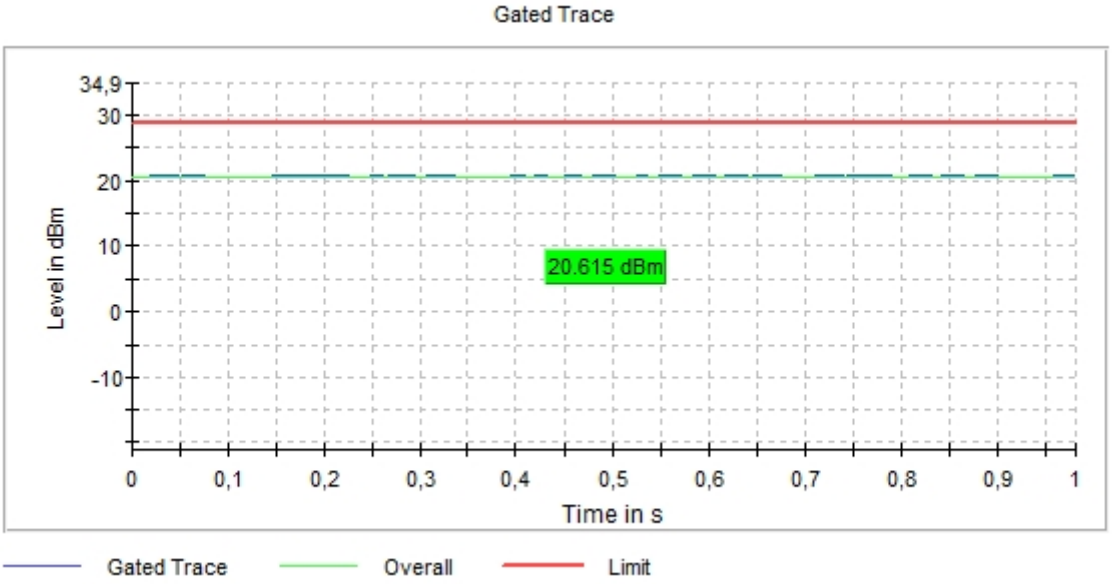


- Middle Channel (6):

- Channel (8):

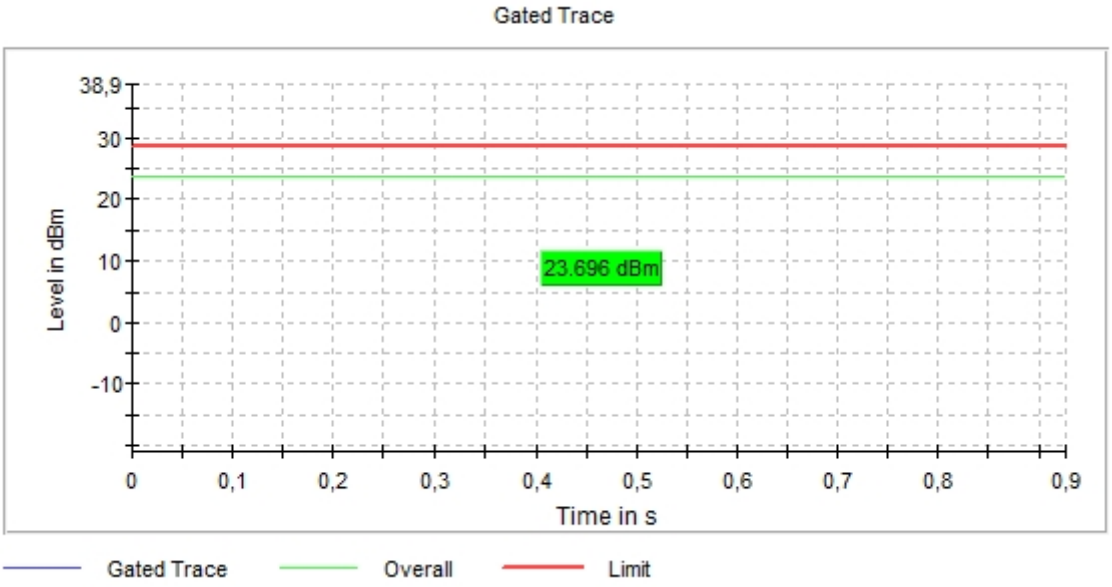


- High Channel (9):

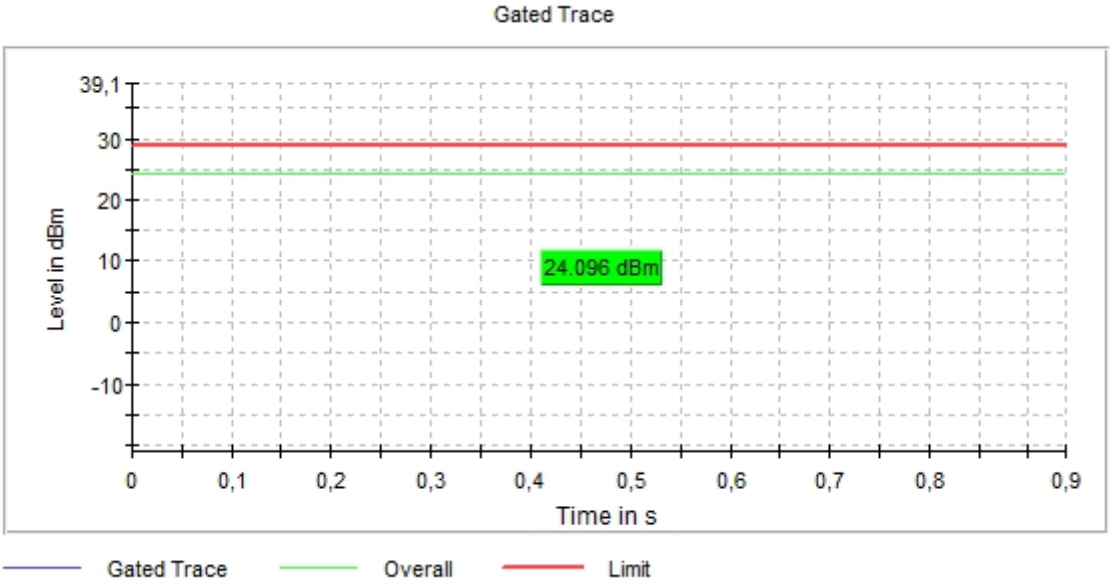


- **MIMO 802.11 he40 – RF Output Power:**

- Low Channel (3):



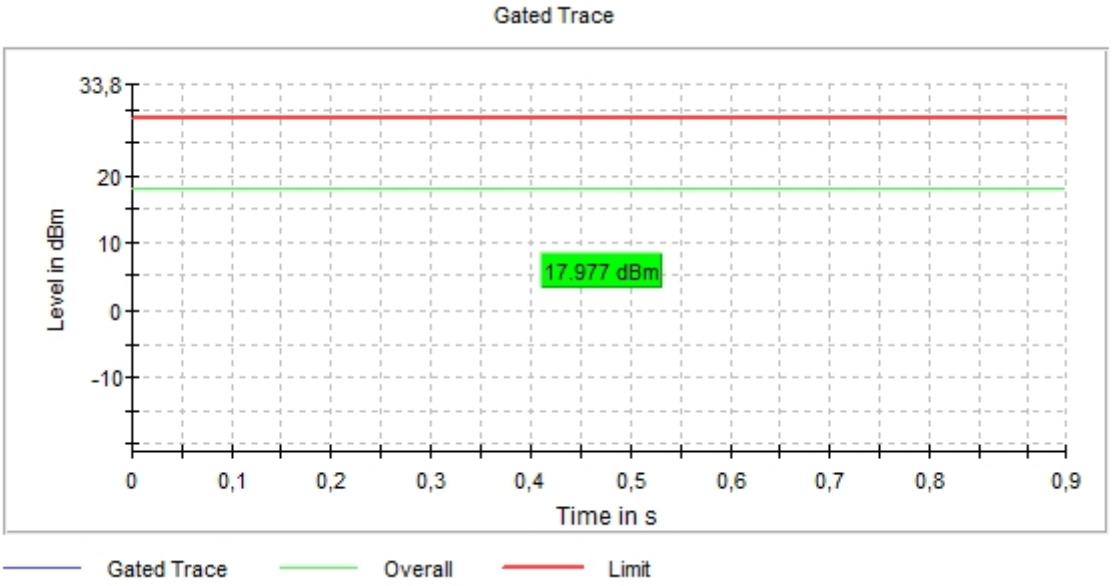
- Channel (4):



- Middle Channel (6):

- Channel (8):

- High Channel (9):



FCC 15.247 (d) / RSS-247 5.5. Band-edge emissions compliance (Transmitter)

SPECIFICATION:

In any 100 kHz bandwidths outside the frequency band in which the intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

RESULTS:

Radiated measurements were used to show compliance with the limits in the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

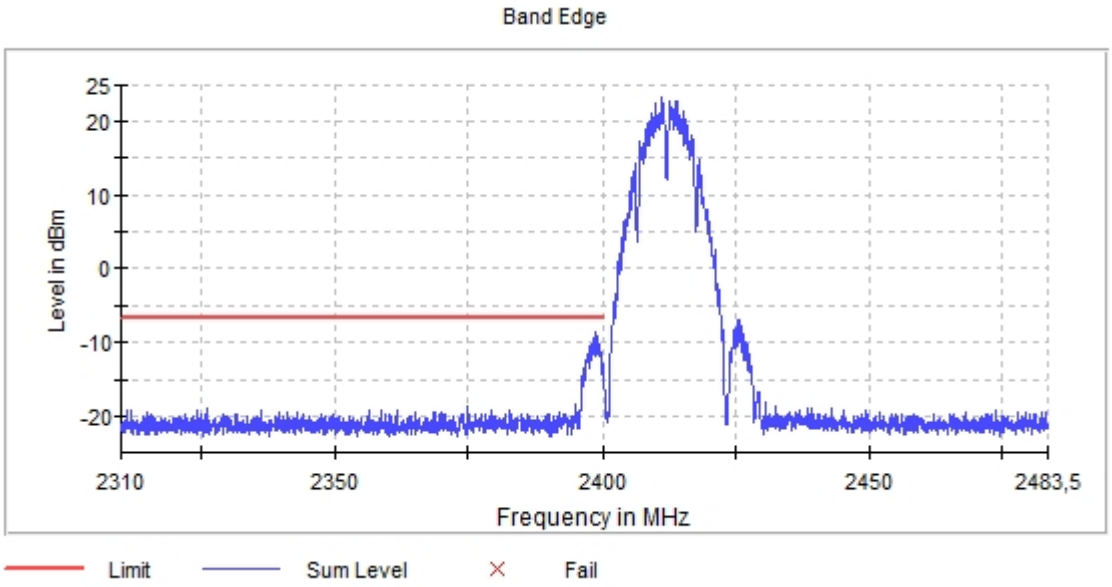
Measurement uncertainty (dB)	<± 1.53

- Preliminary tests determined the SISO worst case: WLAN1.
- Preliminary tests determined the MIMO worst case: WLAN1 & WLAN2.

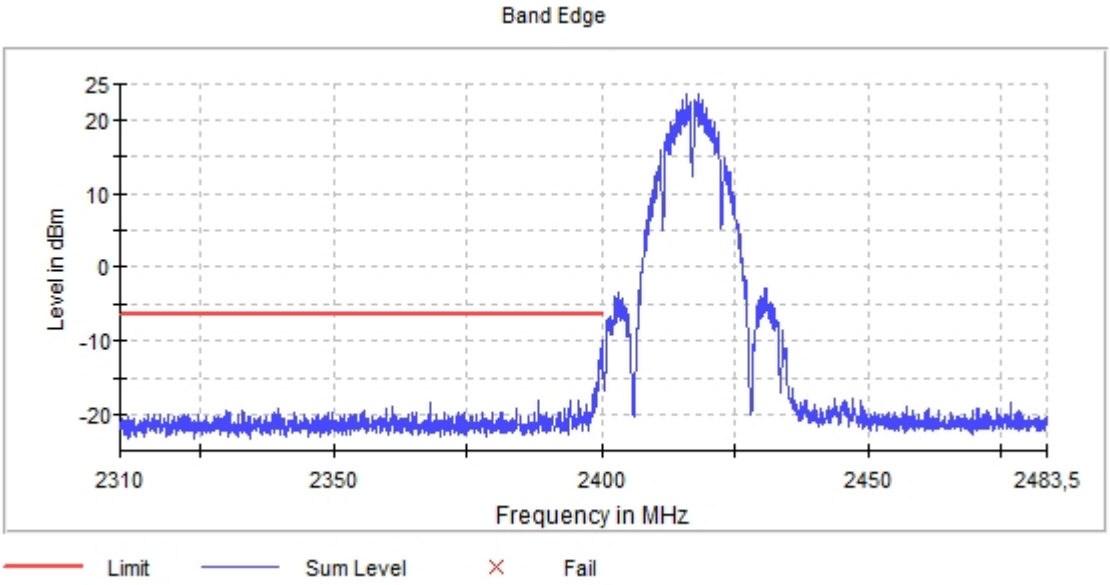
SISO worst case:

- **SISO 802.11 b – Band-edge emissions compliance:**

- Low Channel:



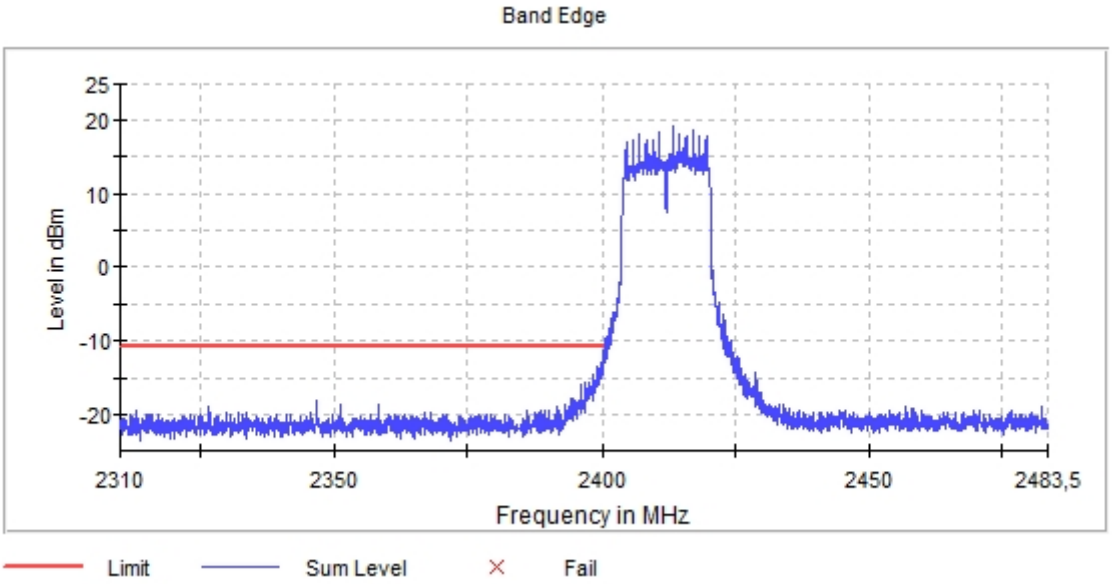
- Channel (2):



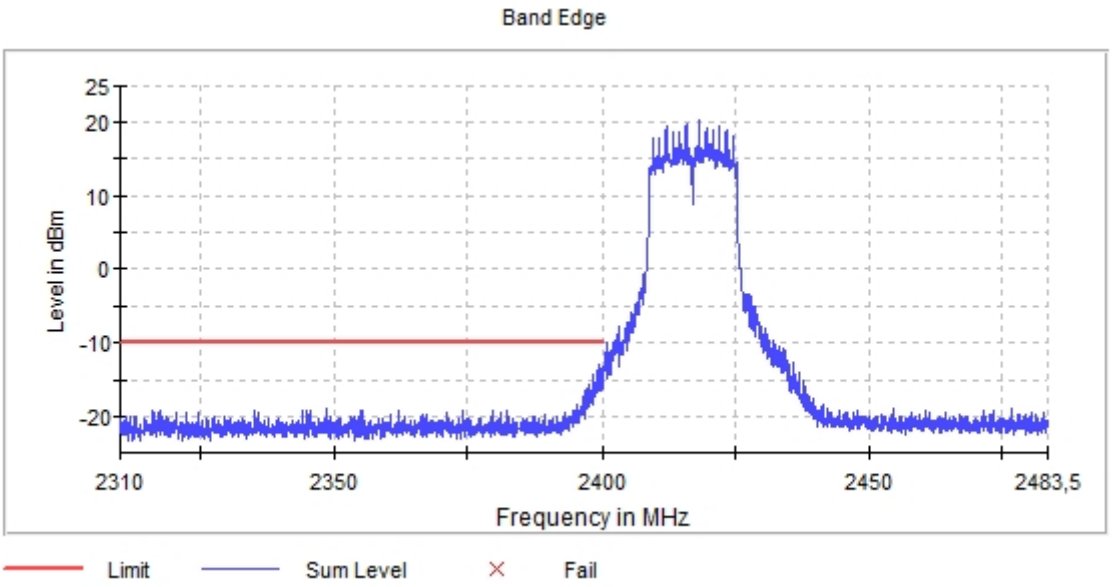
Verdict: PASS

- **SISO 802.11 g – Band-edge emissions compliance:**

- Low Channel:



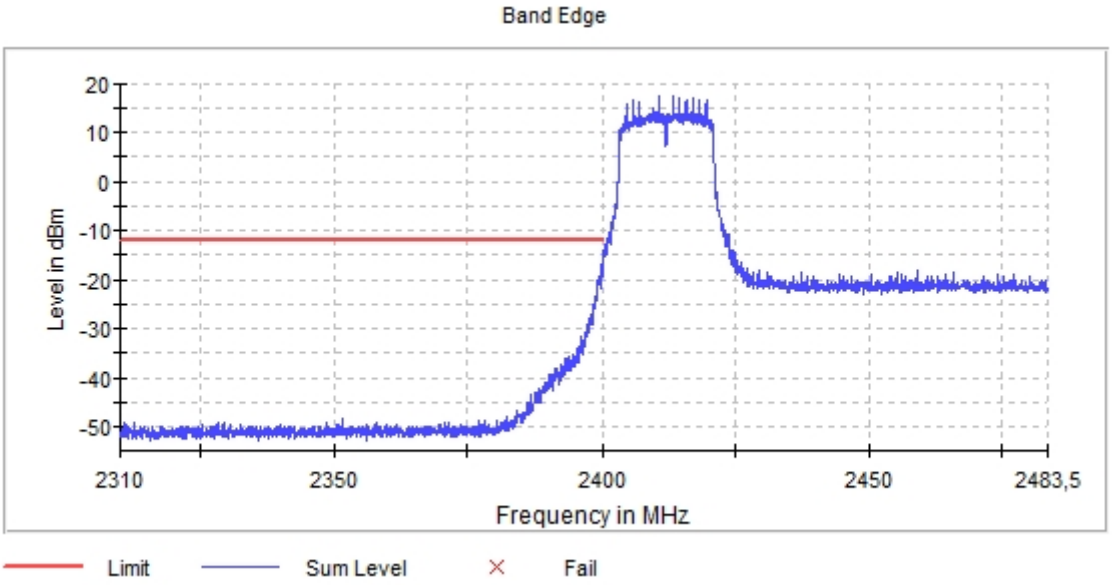
- Channel (2):



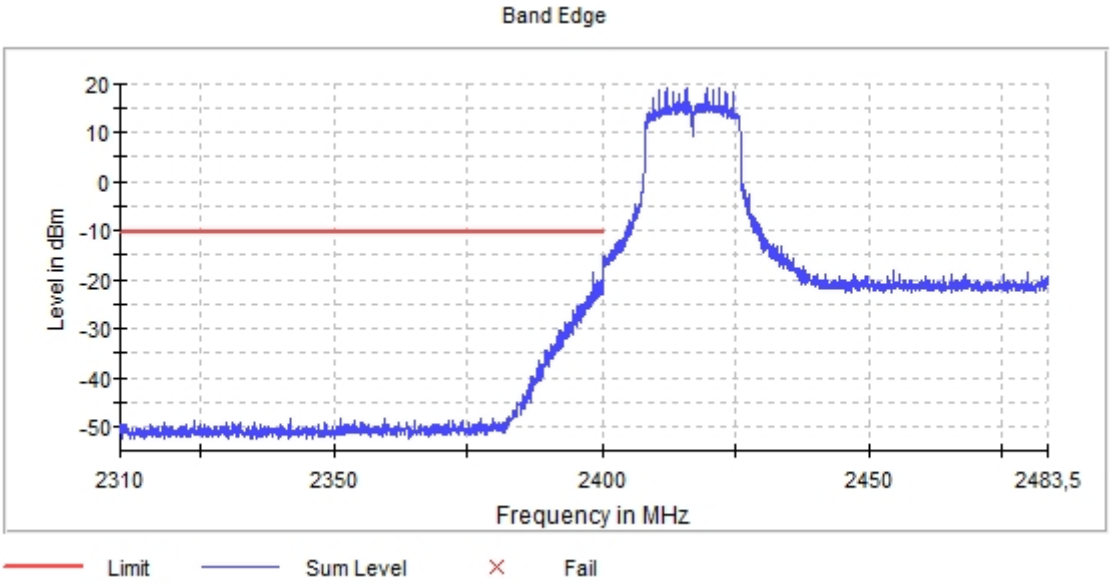
Verdict: PASS

- **SISO 802.11 n20 – Band-edge emissions compliance:**

- Low Channel:



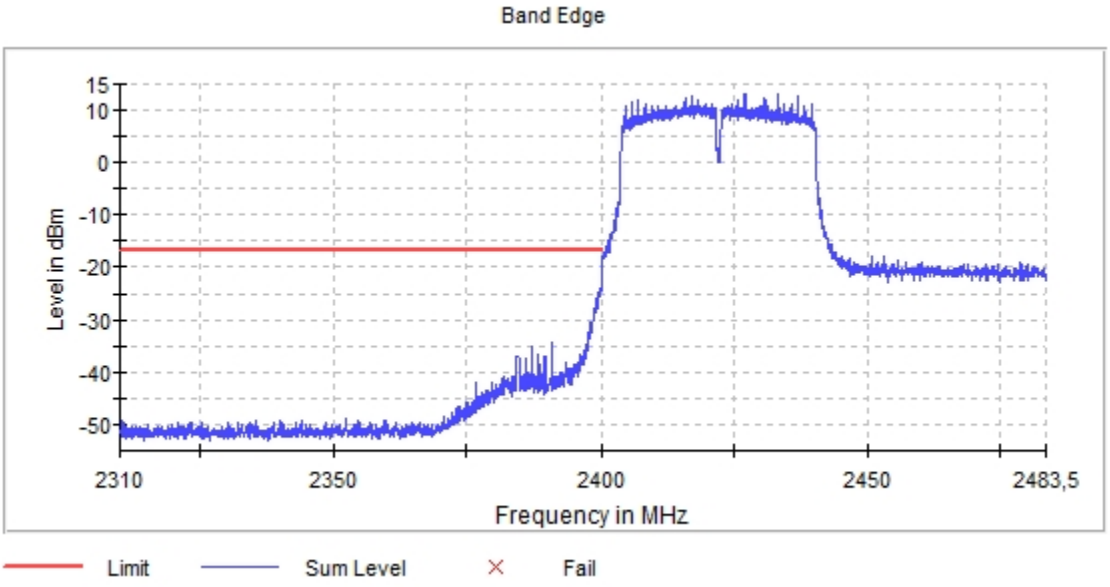
- Channel (2):



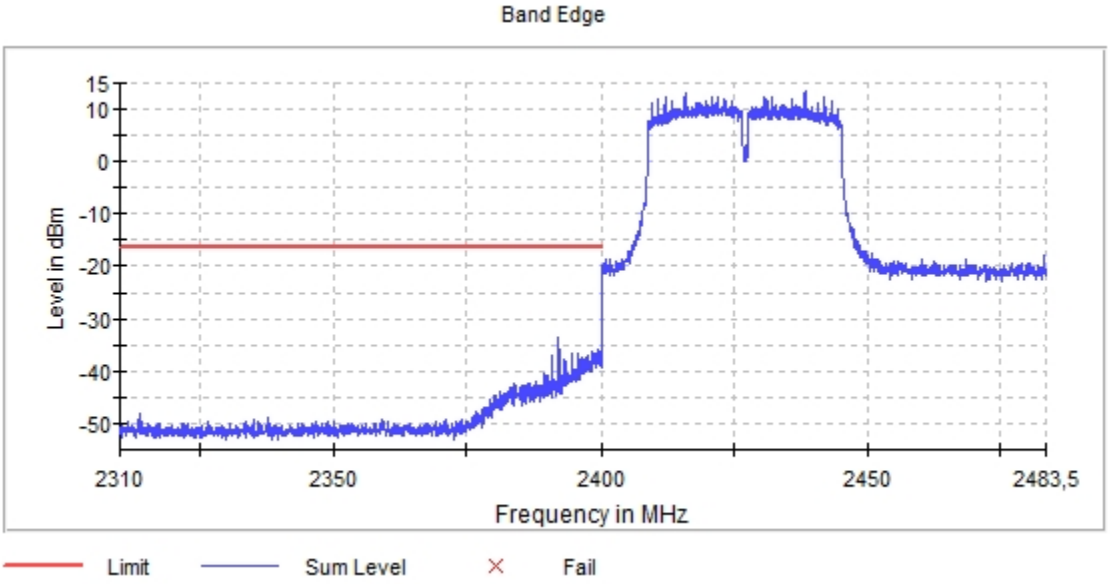
Verdict: PASS

- **SISO 802.11 n40 – Band-edge emissions compliance:**

- Low Channel:



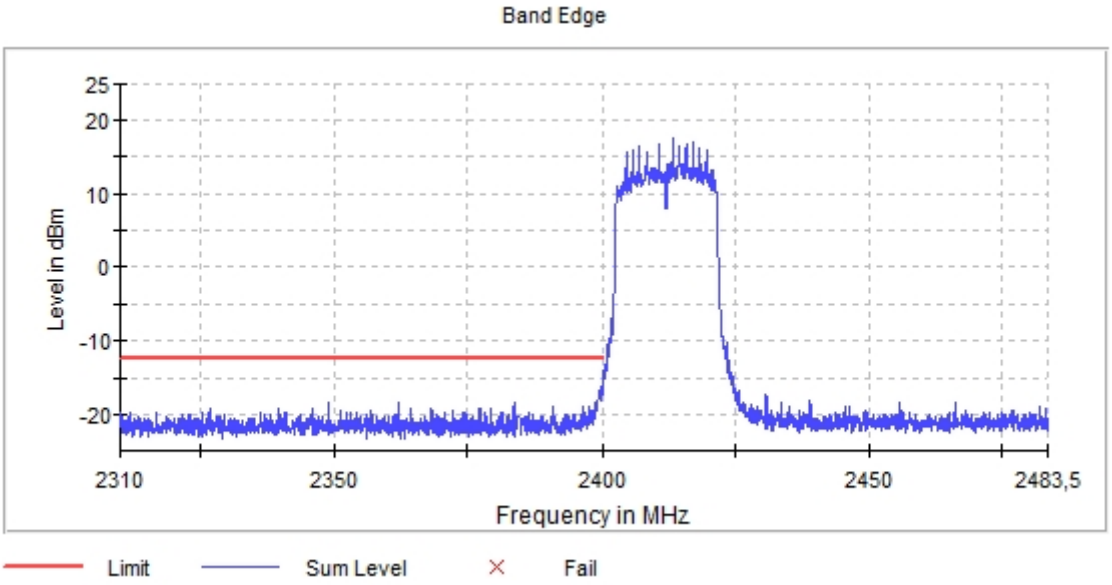
- Channel (4):



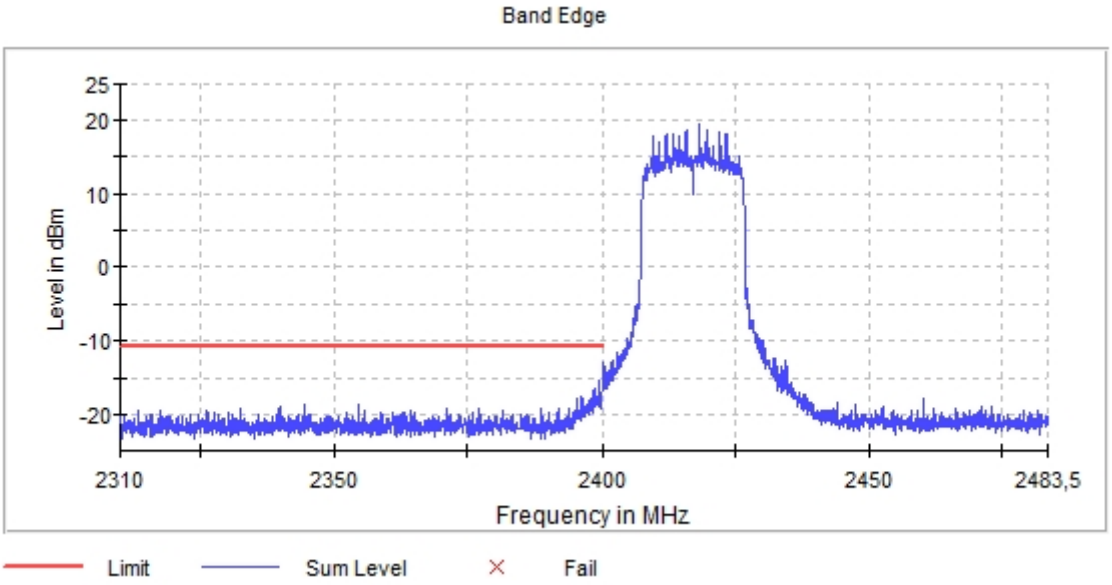
Verdict: PASS

- **SISO 802.11 he20 – Band-edge emissions compliance:**

- Low Channel:



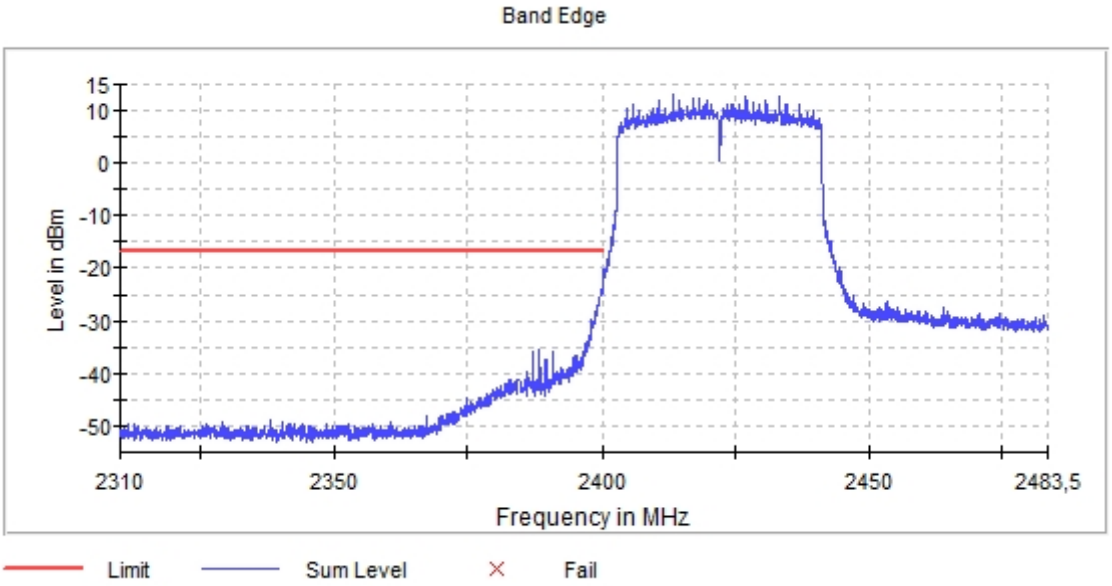
- Channel (2):



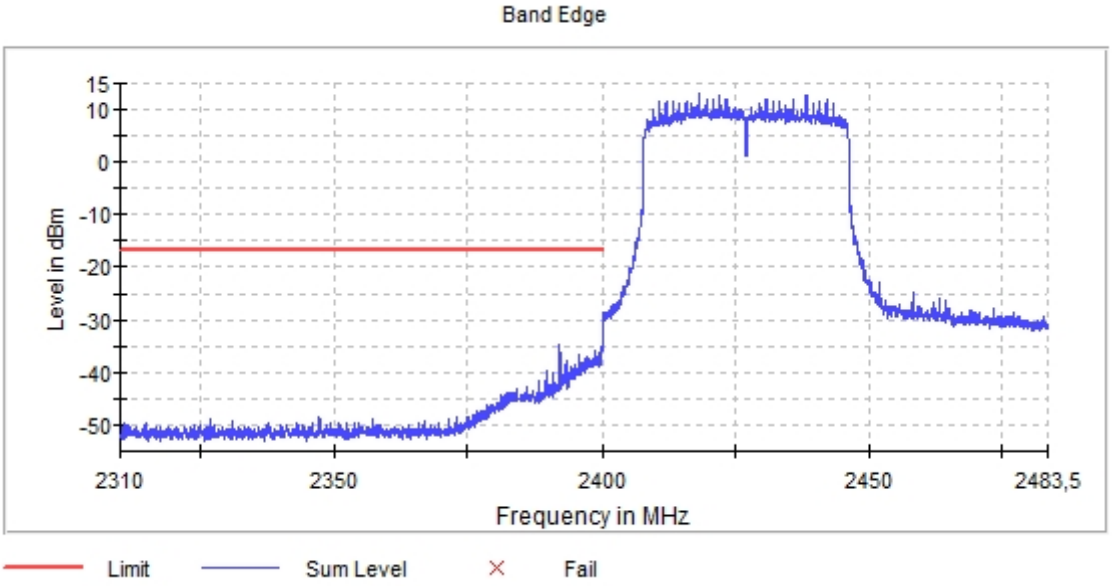
Verdict: PASS

- **SISO 802.11 he40 – Band-edge emissions compliance:**

- Low Channel:



- Channel (4):

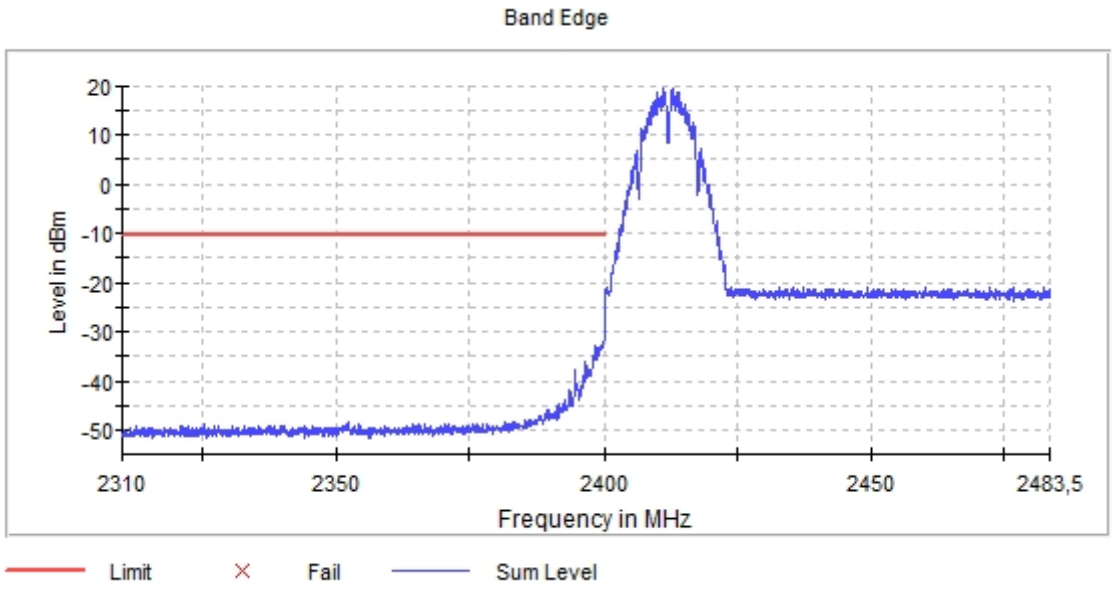


Verdict: PASS

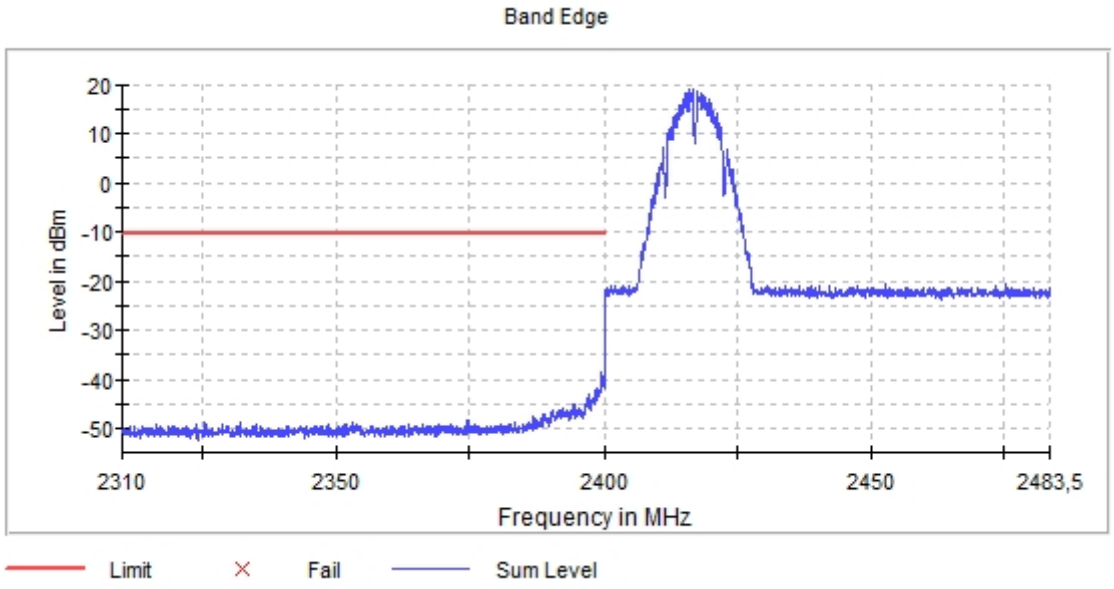
MIMO worst case:

- **MIMO 802.11 b – Band-edge emissions compliance:**

- Low Channel:



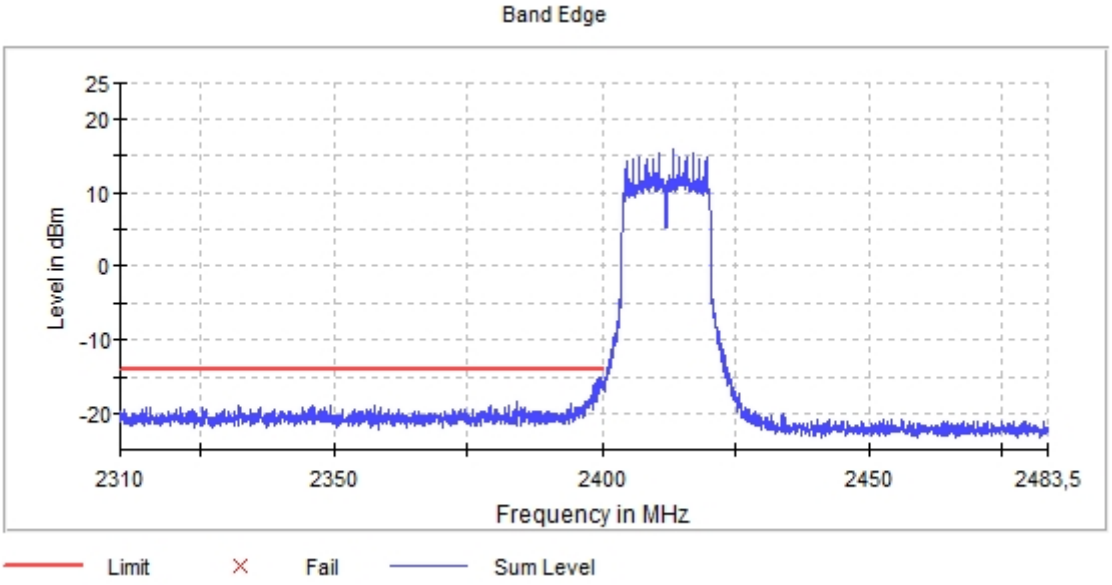
- Channel (2):



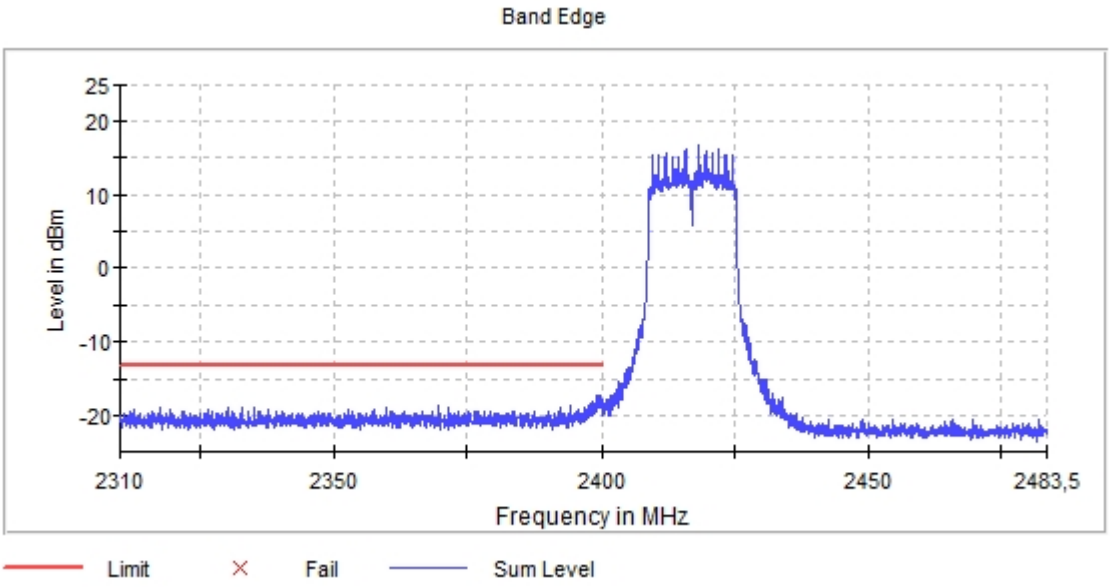
Verdict: PASS

- **MIMO 802.11 g – Band-edge emissions compliance:**

- Low Channel:



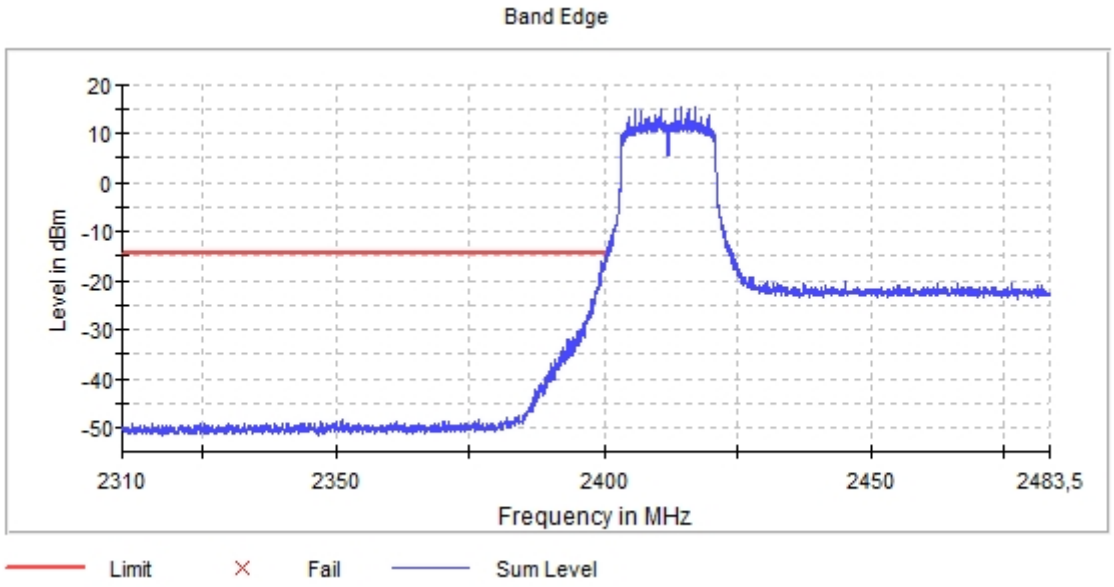
- Channel (2):



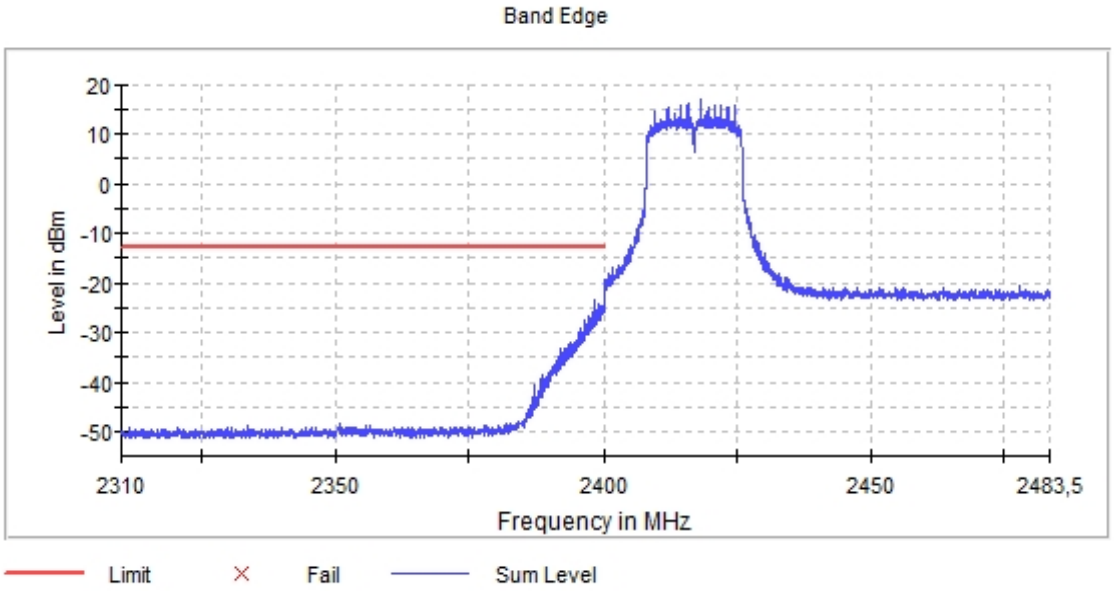
Verdict: PASS

- **MIMO 802.11 n20 – Band-edge emissions compliance:**

- Low Channel:



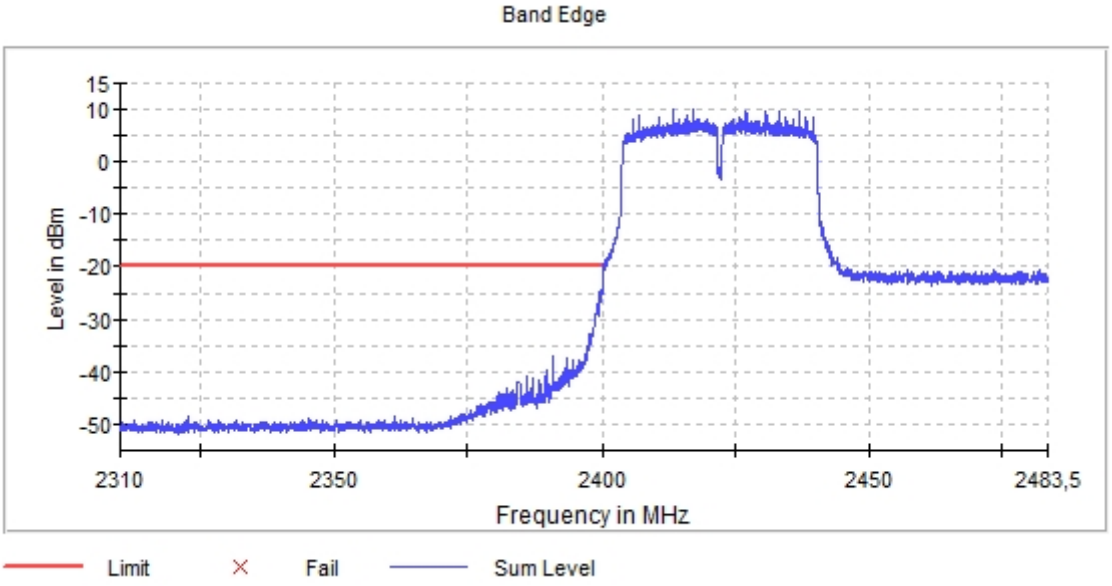
- Channel (2):



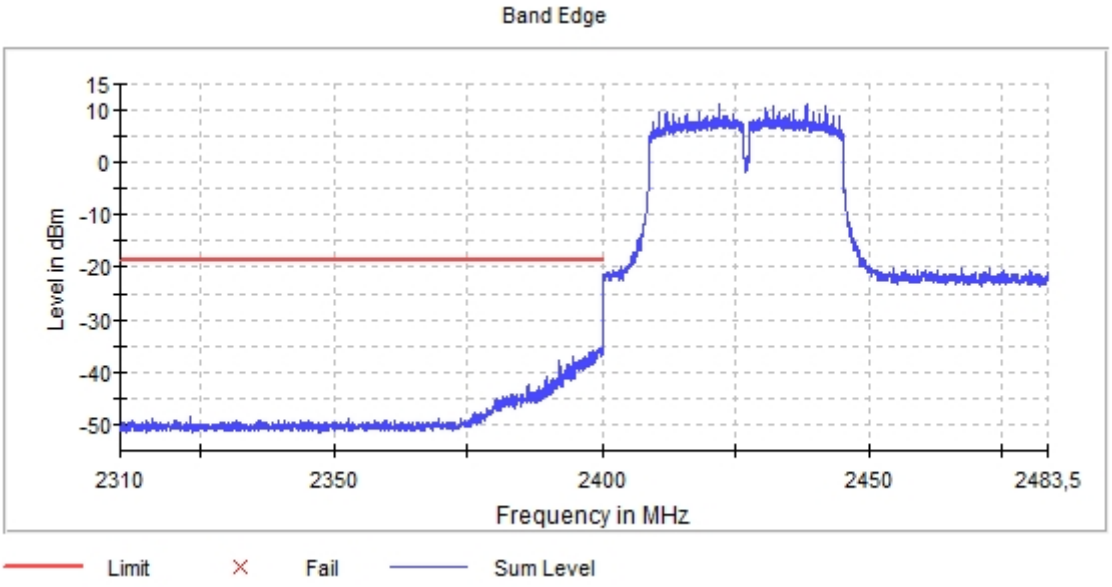
Verdict: PASS

- **MIMO 802.11 n40 – Band-edge emissions compliance:**

- Low Channel:



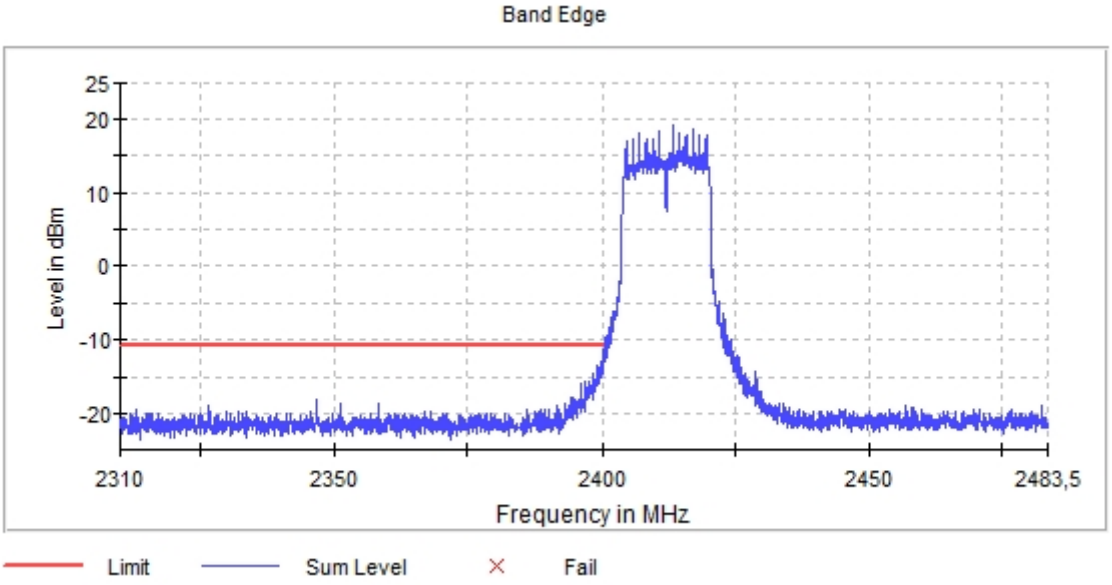
- Channel (4):



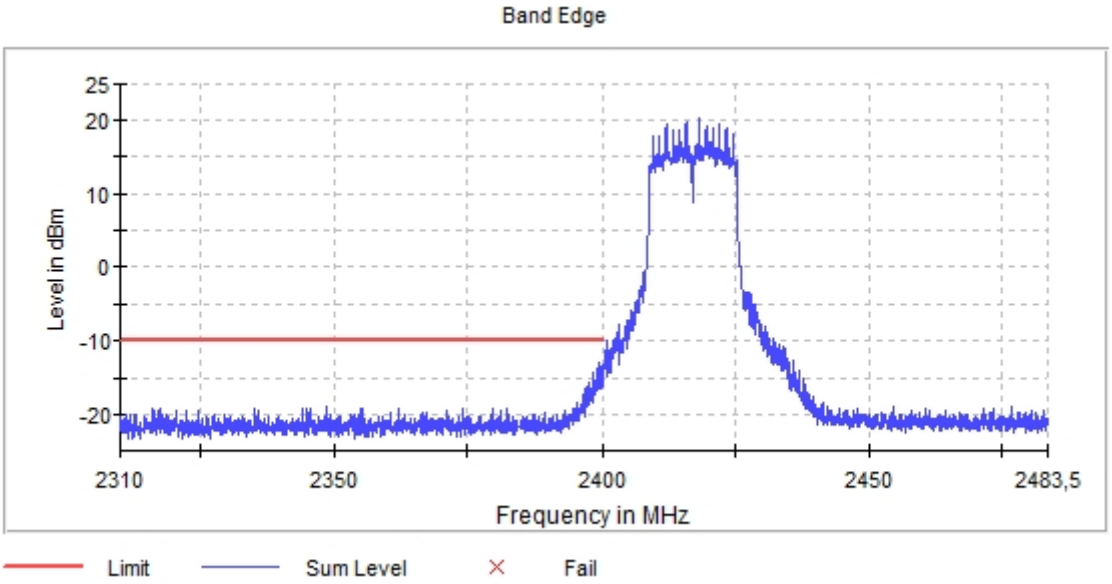
Verdict: PASS

- **MIMO 802.11 he20 – Band-edge emissions compliance:**

- Low Channel:



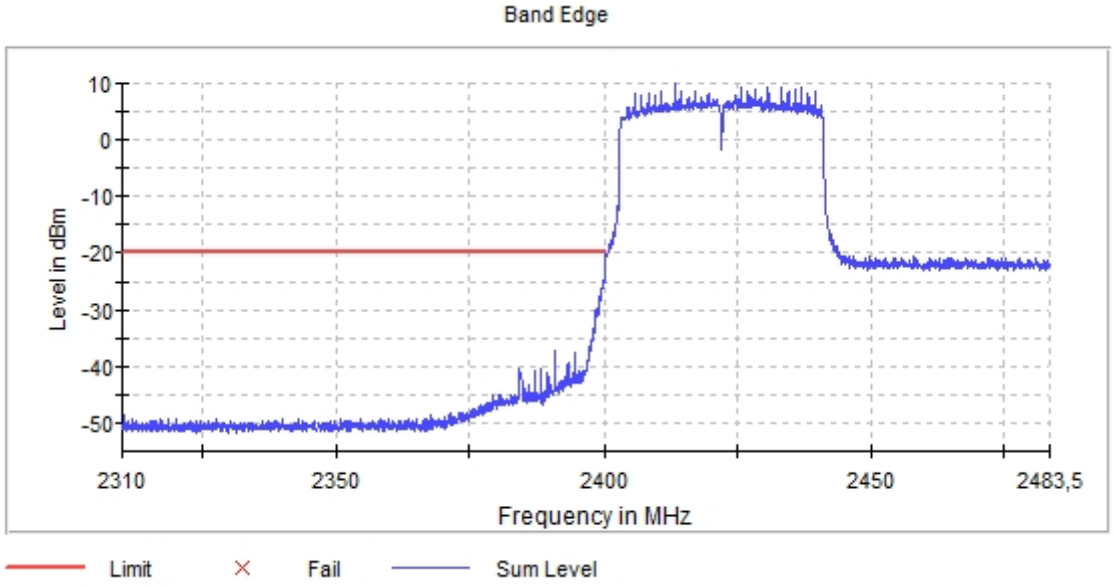
- Channel (2):



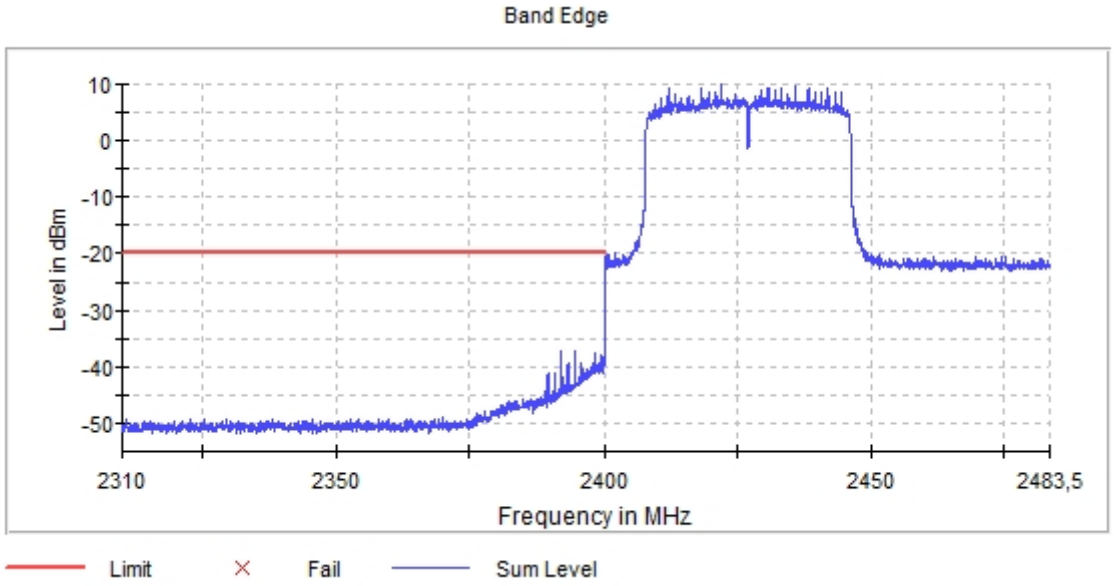
Verdict: PASS

- **MIMO 802.11 he40 – Band-edge emissions compliance:**

- Low Channel:



- Channel (4):



Verdict: PASS

FCC 15.247 (e) / RSS-247 5.2. (b) Power spectral density

SPECIFICATION:

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.

RESULTS:

The power spectral density was measured using the method according to FCC title 47 part 15 §15.247(a),(e), KDB 558074 D01 DTS Meas Guidance v05r02 F and ANSI C63.10-2013.

The testing was performed in according with Method AVGPSD-1.

- Preliminary tests determined the SISO worst case: WLAN1.
- Preliminary tests determined the MIMO worst case: WLAN1 & WLAN2.

The PSD was measured on all ports and then using the measure and sum spectral maxima across the outputs technique, stated in FCC KDB 662911 D01 Section E)2)b).

SISO worst case:

- **SISO 802.11 b – Power Spectral Density:**

	Low Channel (1) 2412MHz	Channel (2) 2417MHz	Middle Channel (6) 2437MHz	Channel (10) 2457MHz	High Channel (11) 2462MHz
Average Power Spectral Density (dBm)	7.661	7.543	7.904	5.274	7.672
Measurement uncertainty (dB)	<± 0.99				

- **SISO 802.11 g – Power Spectral Density:**

	Low Channel (1) 2412MHz	Channel (2) 2417MHz	Middle Channel (6) 2437MHz	Channel (10) 2457MHz	High Channel (11) 2462MHz
Average Power Spectral Density (dBm)	3.283	4.296	6.284	3.683	1.193
Measurement uncertainty (dB)	<± 0.99				

- **SISO 802.11 n20 – Power Spectral Density:**

	Low Channel (1) 2412MHz	Channel (2) 2417MHz	Middle Channel (6) 2437MHz	Channel (10) 2457MHz	High Channel (11) 2462MHz
Average Power Spectral Density (dBm)	1.347	3.393	5.637	3.032	-2.142
Measurement uncertainty (dB)	<± 0.99				

- **SISO 802.11 he20 – Power Spectral Density:**

	Low Channel (1) 2412MHz	Channel (2) 2417MHz	Middle Channel (6) 2437MHz	Channel (10) 2457MHz	High Channel (11) 2462MHz
Average Power Spectral Density (dBm)	-0.374	1.606	4.210	1.369	-2.700
Measurement uncertainty (dB)	<± 0.99				

- **SISO 802.11 n40 – Power Spectral Density:**

	Low Channel (3) 2422MHz	Channel (4) 2427MHz	Middle Channel (6) 2437MHz	Channel (8) 2447MHz	High Channel (9) 2452MHz
Average Power Spectral Density (dBm)	-2.008	-2.344	-0.707	-5.199	-8.388
Measurement uncertainty (dB)	<± 0.99				

- **SISO 802.11 he40 – Power Spectral Density:**

	Low Channel (3) 2422MHz	Channel (4) 2427MHz	Middle Channel (6) 2437MHz	Channel (8) 2447MHz	High Channel (9) 2452MHz
Average Power Spectral Density (dBm)	-3.567	-3.866	-2.355	-7.711	-9.678
Measurement uncertainty (dB)	<± 0.99				

Verdict: PASS

MIMO worst case:

- **MIMO 802.11 b – Power Spectral Density:**

	Low Channel (1) 2412MHz	Channel (2) 2417MHz	Middle Channel (6) 2437MHz	Channel (10) 2457MHz	High Channel (11) 2462MHz
Average Power Spectral Density (dBm)	-3.164	-3.361	-2.912	-4.208	-4.182
Measurement uncertainty (dB)	<± 0.99				

NOTE: RBW=3KHz/VBW=10KHz

- **MIMO 802.11 g – Power Spectral Density:**

	Low Channel (1) 2412MHz	Channel (2) 2417MHz	Middle Channel (6) 2437MHz	Channel (10) 2457MHz	High Channel (11) 2462MHz
Average Power Spectral Density (dBm)	4.758	5.579	6.590	5.215	3.113
Measurement uncertainty (dB)	<± 0.99				

- **MIMO 802.11 n20 – Power Spectral Density:**

	Low Channel (1) 2412MHz	Channel (2) 2417MHz	Middle Channel (6) 2437MHz	Channel (10) 2457MHz	High Channel (11) 2462MHz
Average Power Spectral Density (dBm)	4.288	5.120	6.441	4.732	-1.393
Measurement uncertainty (dB)	<± 0.99				

- **MIMO 802.11 he20 – Power Spectral Density:**

	Low Channel (1) 2412MHz	Channel (2) 2417MHz	Middle Channel (6) 2437MHz	Channel (10) 2457MHz	High Channel (11) 2462MHz
Average Power Spectral Density (dBm)	3.283	4.296	6.284	3.683	1.193
Measurement uncertainty (dB)	<± 0.99				

- **MIMO 802.11 n40 – Power Spectral Density:**

	Low Channel (3) 2422MHz	Channel (4) 2427MHz	Middle Channel (6) 2437MHz	Channel (8) 2447MHz	High Channel (9) 2452MHz
Average Power Spectral Density (dBm)	-0.709	0.081	1.469	-3.504	-6.356
Measurement uncertainty (dB)	<± 0.99				

- **MIMO 802.11 he40 – Power Spectral Density:**

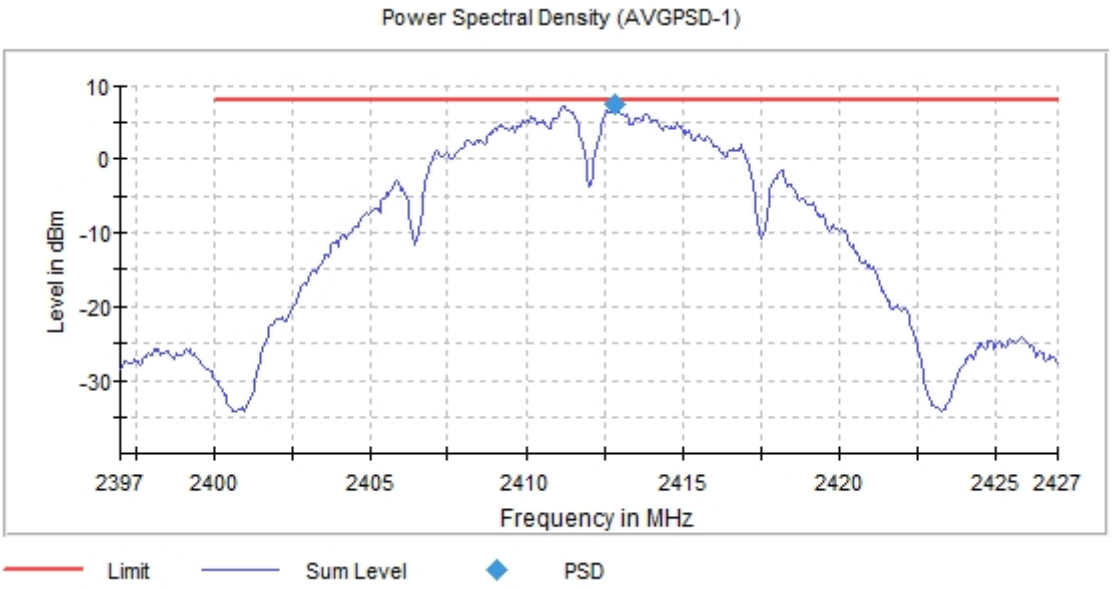
	Low Channel (3) 2422MHz	Channel (4) 2427MHz	Middle Channel (6) 2437MHz	Channel (8) 2447MHz	High Channel (9) 2452MHz
Average Power Spectral Density (dBm)	-2.066	-1.869	-3.138	-4.785	-7.875
Measurement uncertainty (dB)	<± 0.99				

Verdict: PASS

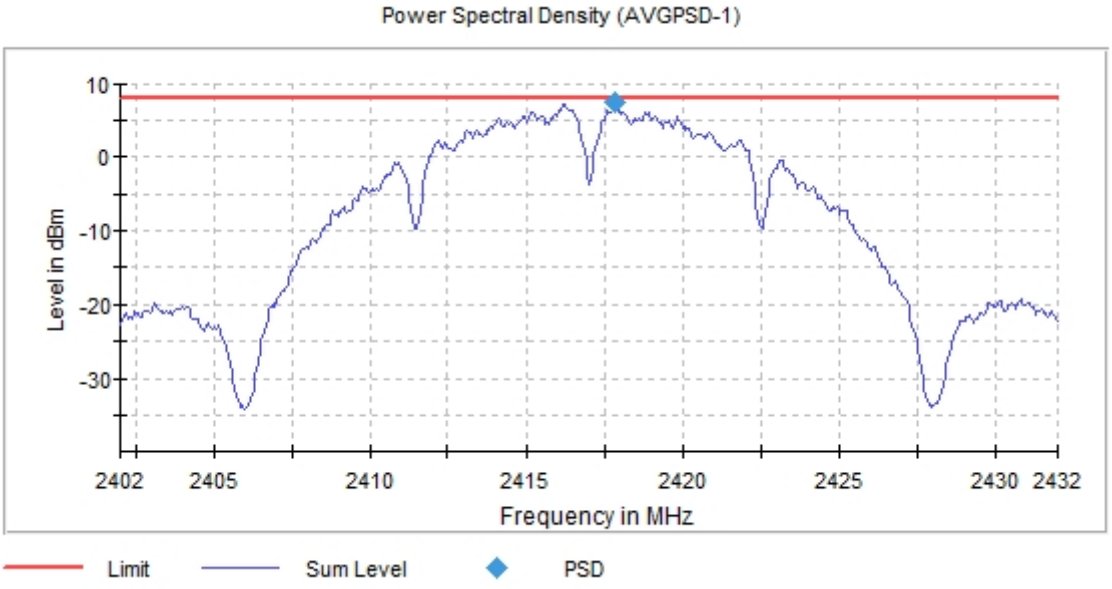
SISO worst case:

- **SISO 802.11 b – Power Spectral Density:**

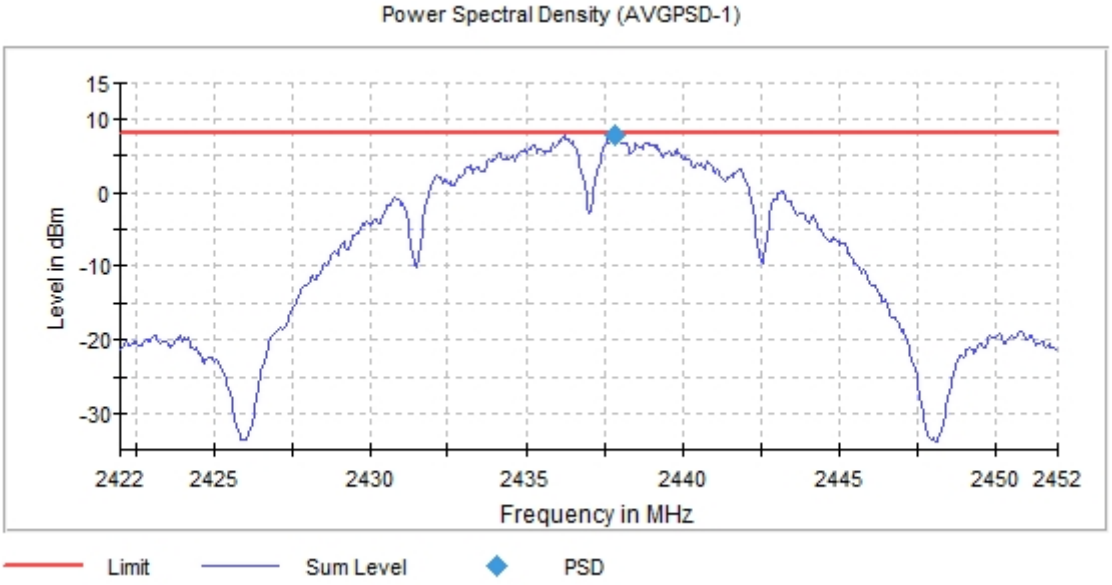
- Low Channel (1):



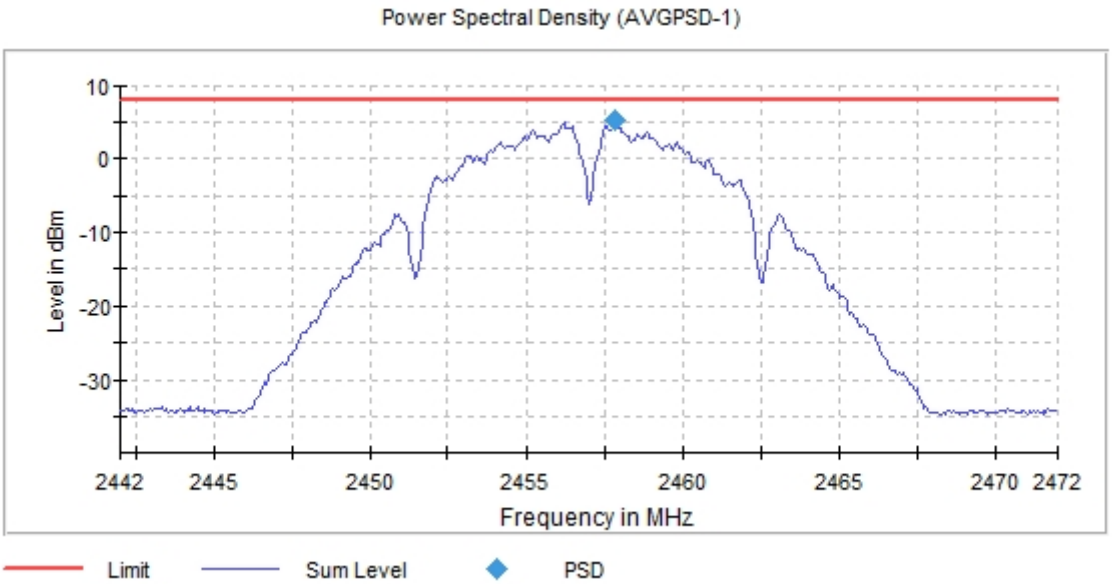
- Channel (2):



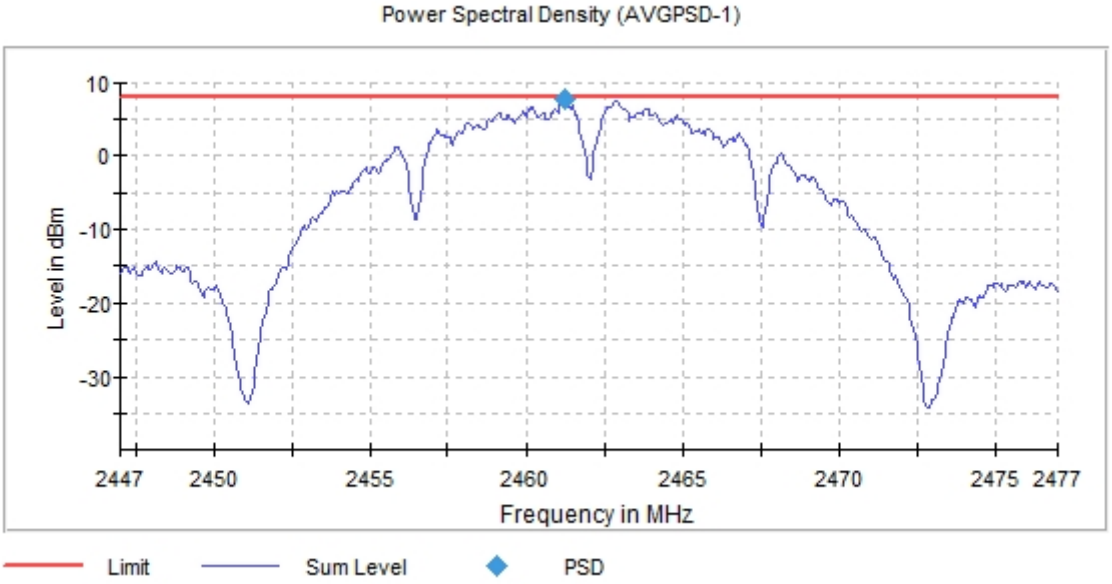
- Middle Channel (6):



- Channel (10):

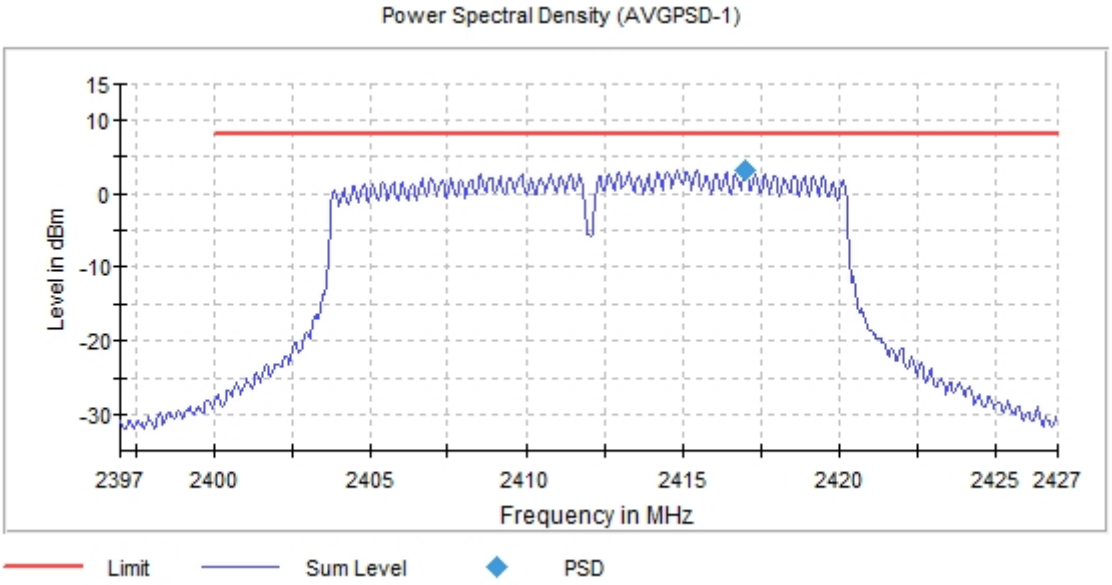


- High Channel (11):

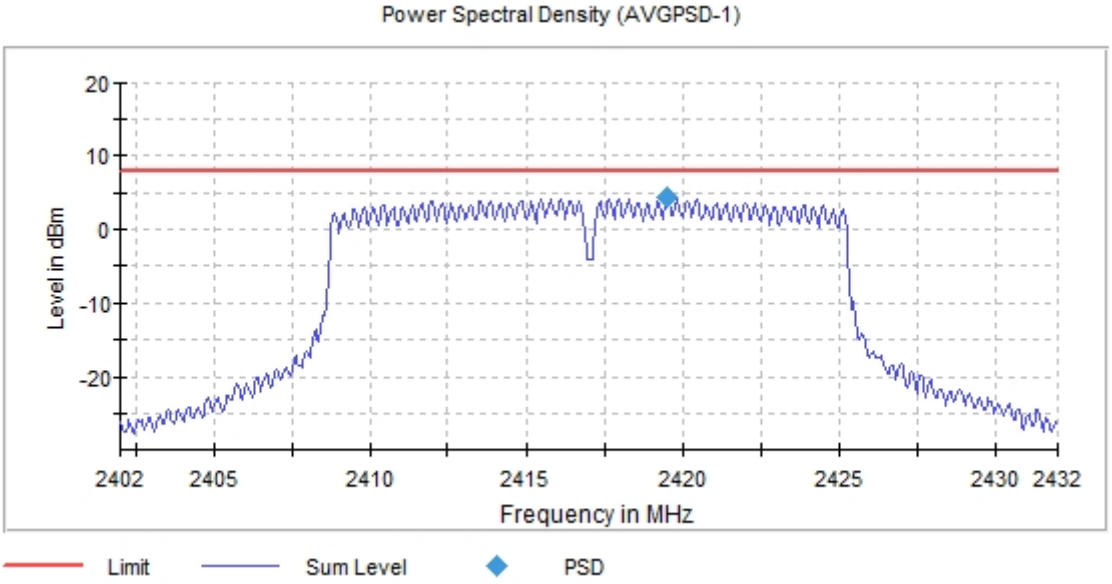


- **SISO 802.11 g – Power Spectral Density:**

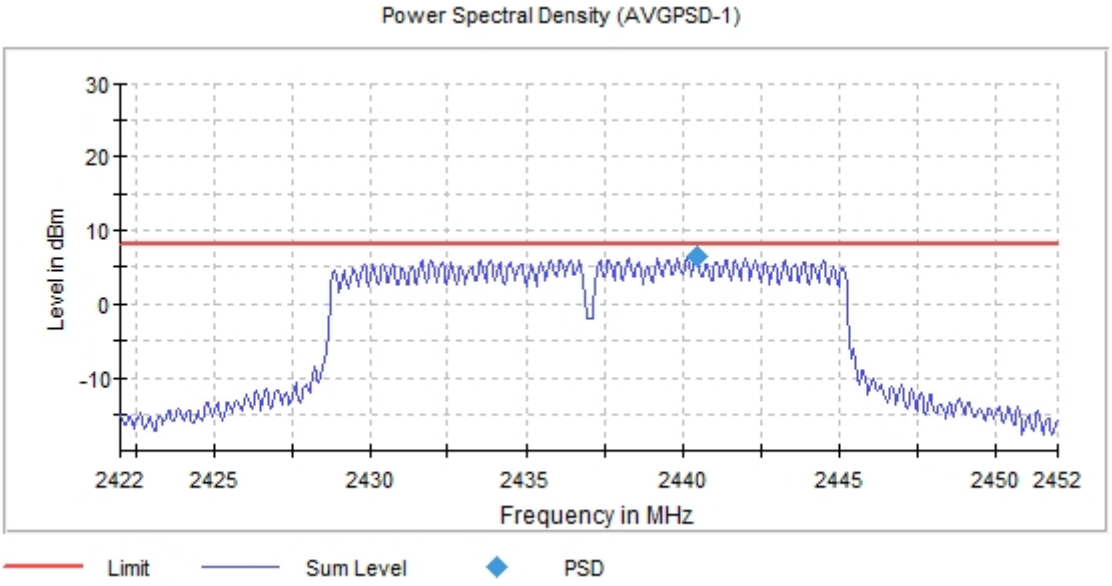
- Low Channel (1):



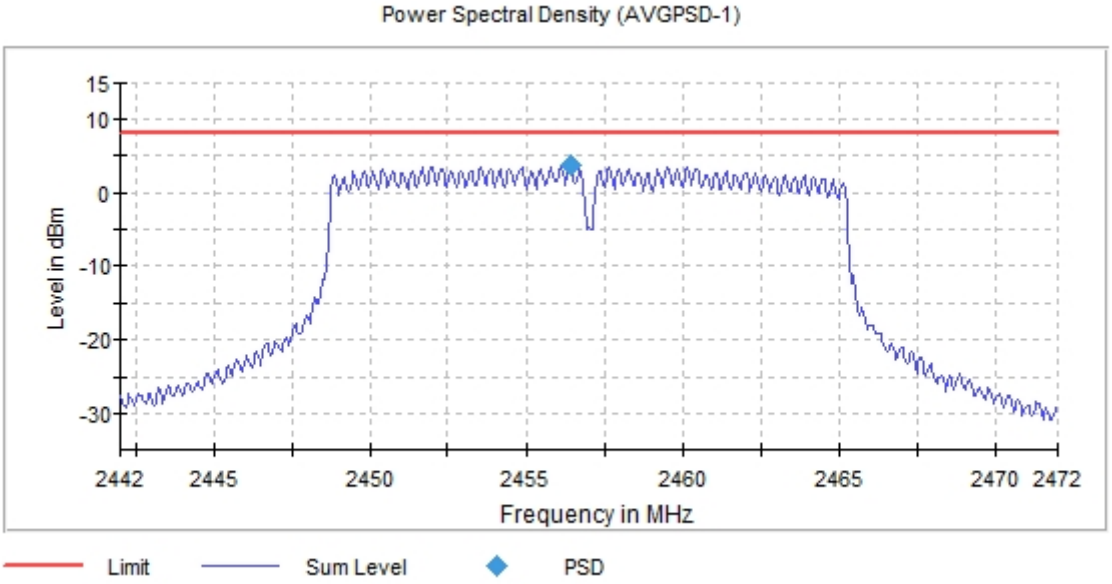
- Channel (2):



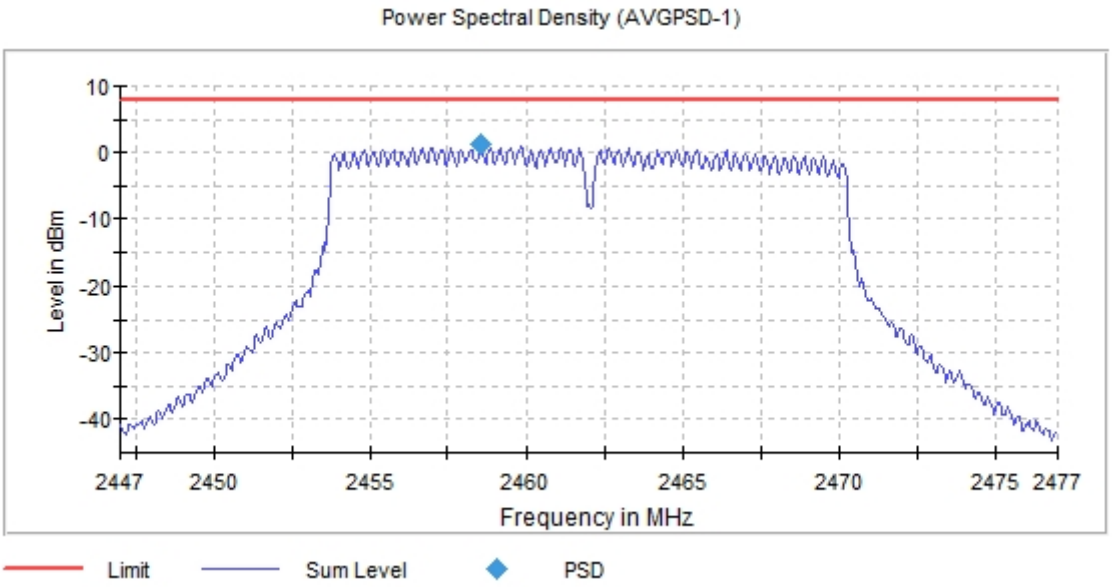
- Middle Channel (6):



- Channel (10):

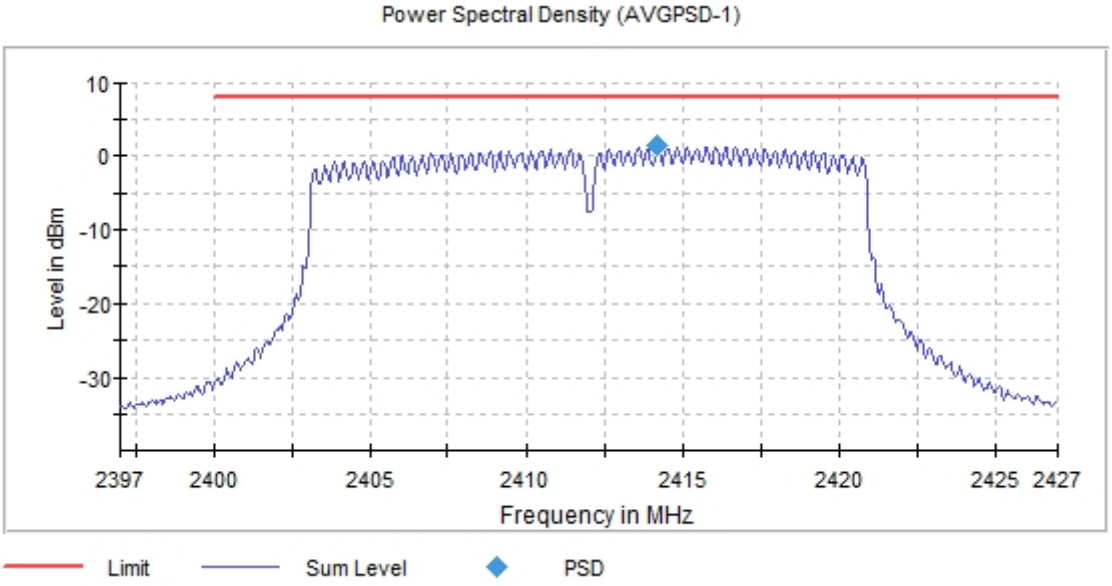


- High Channel (11):

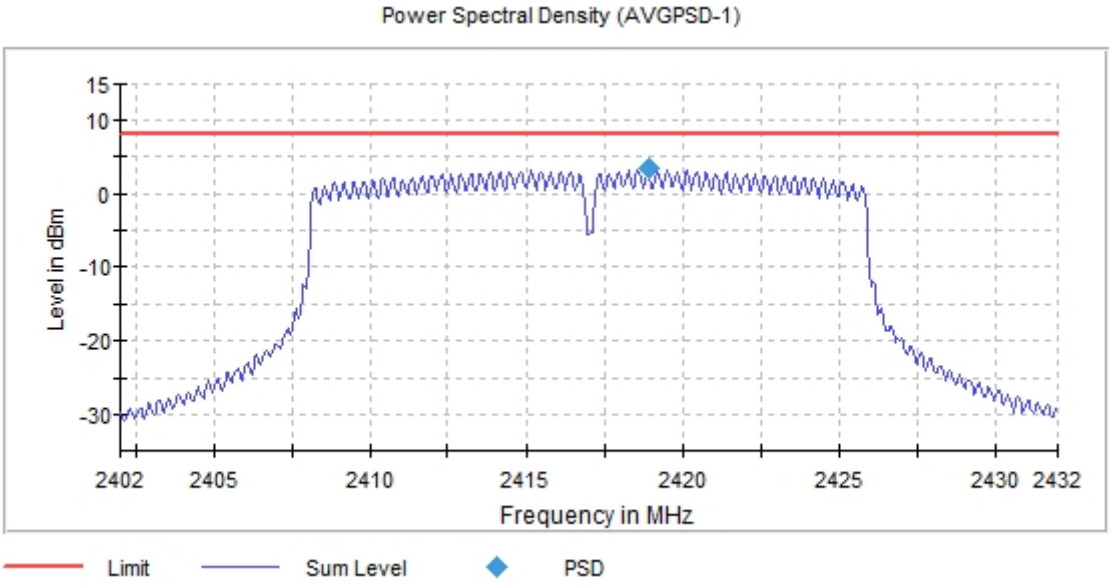


- **SISO 802.11 n20 – Power Spectral Density:**

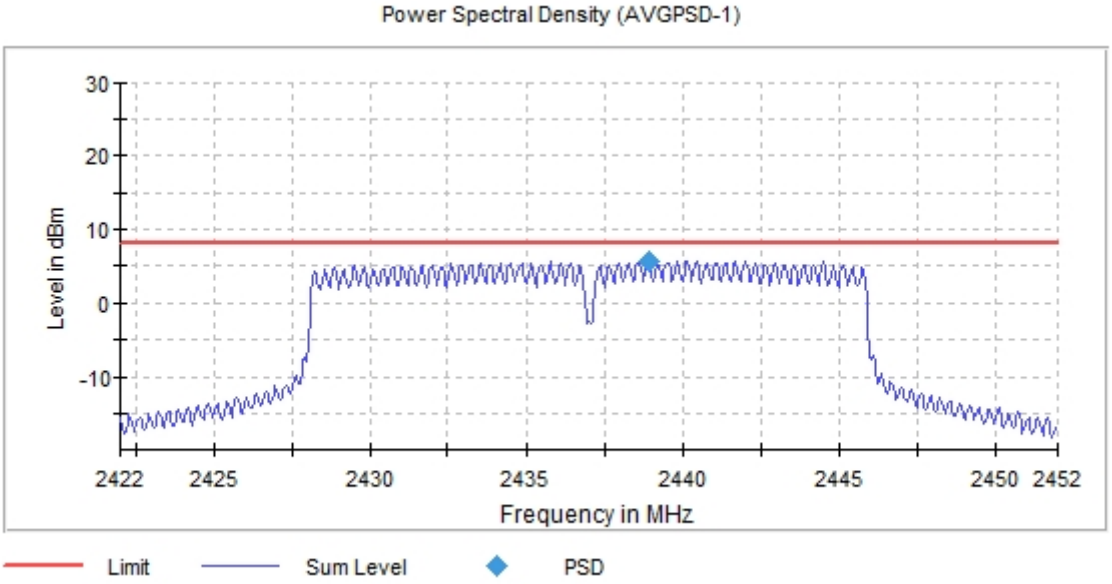
- Low Channel (1):



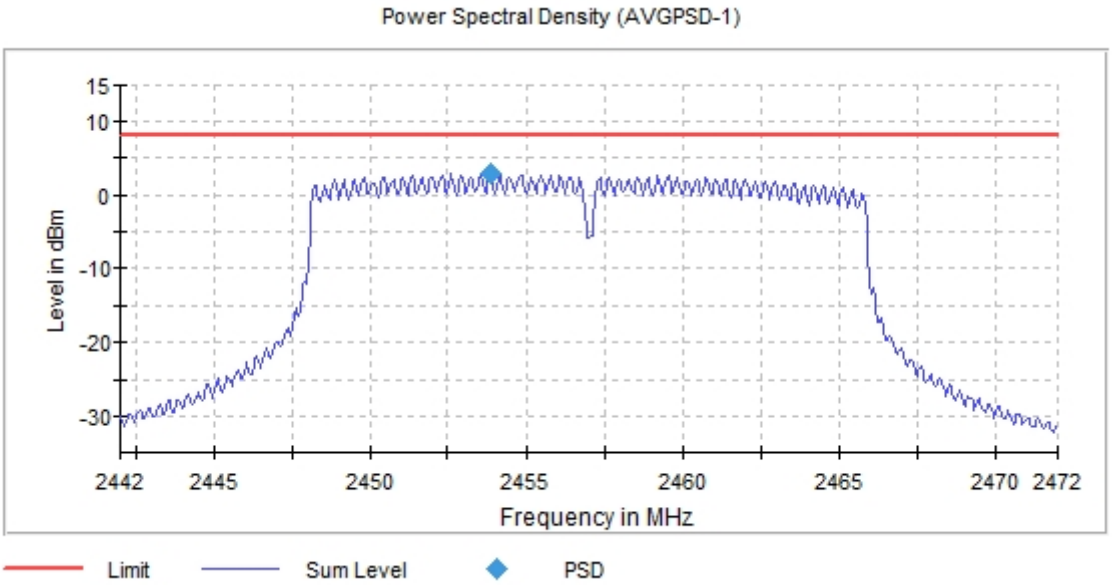
- Channel (2):



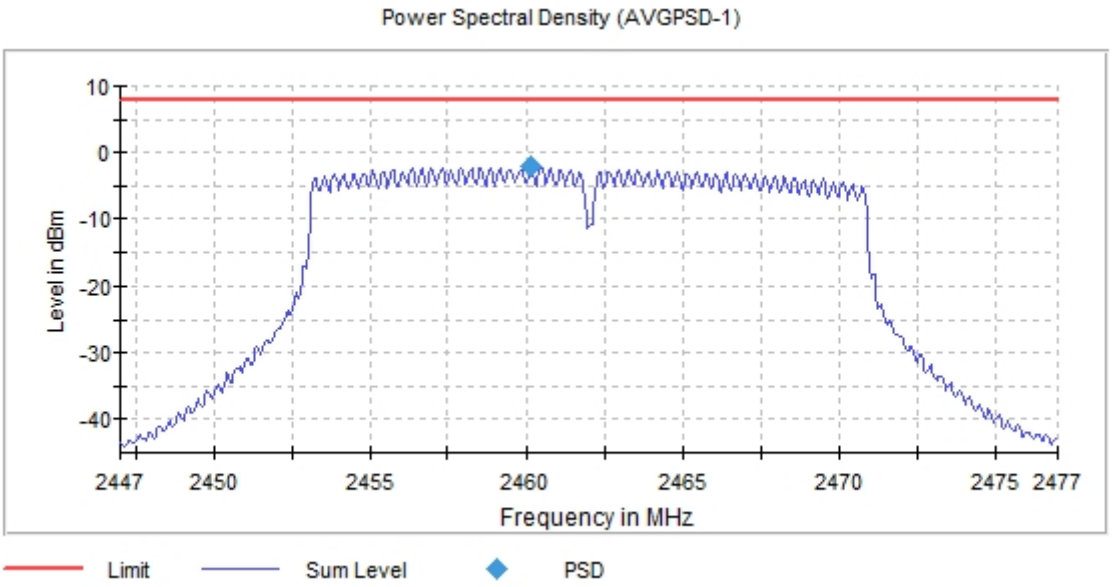
- Middle Channel (6):



- Channel (10):

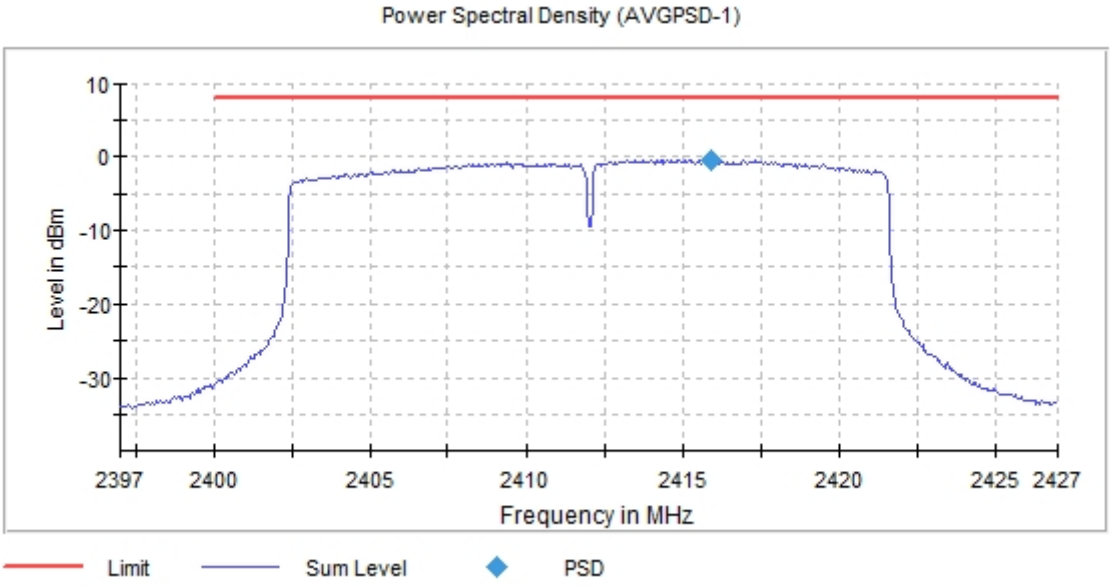


- High Channel (11):

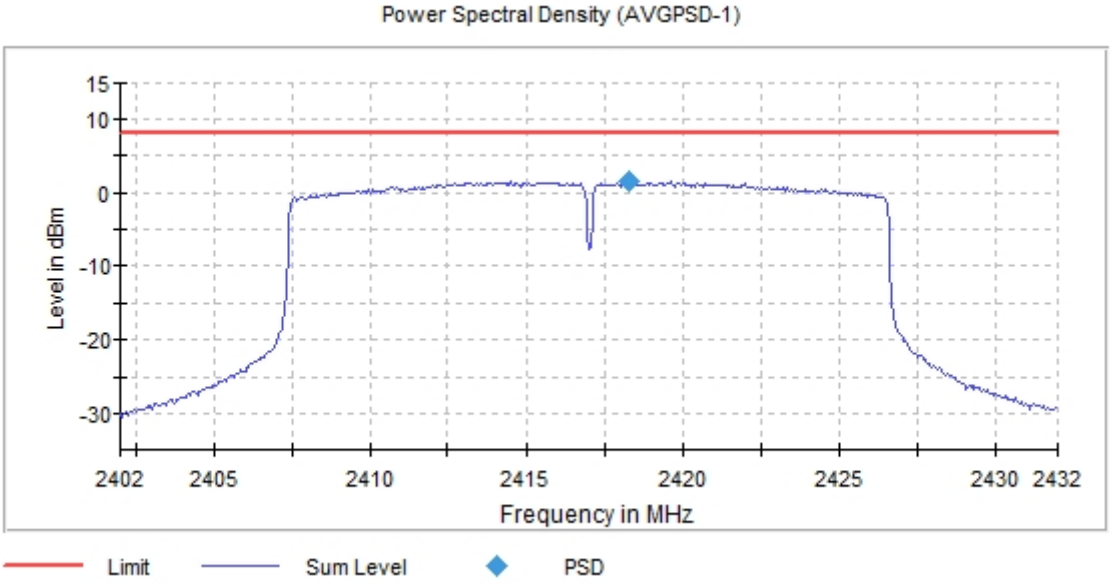


- **SISO 802.11 he20 – Power Spectral Density:**

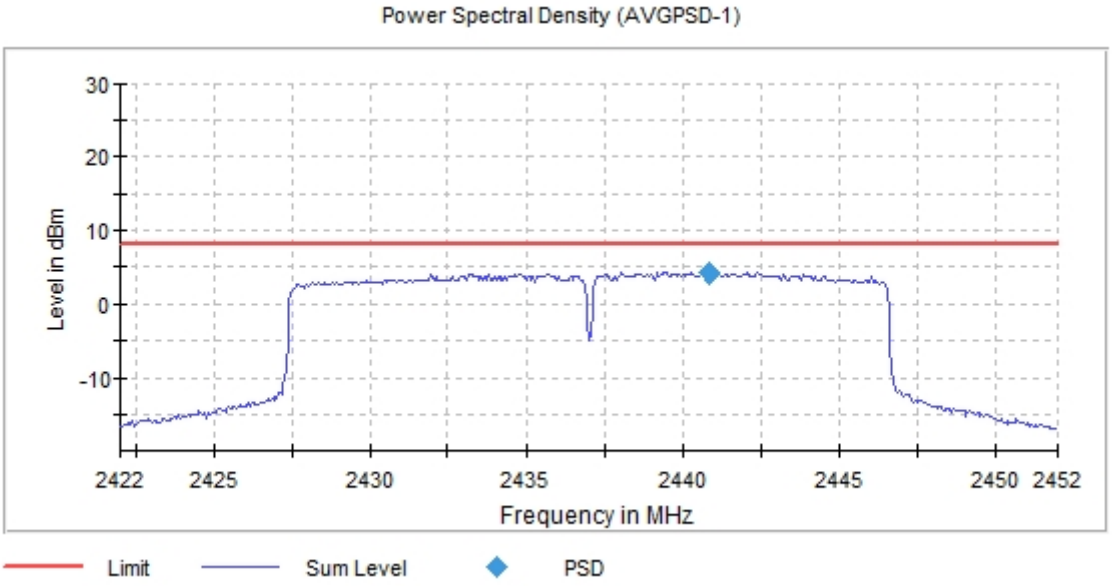
- Low Channel (1):



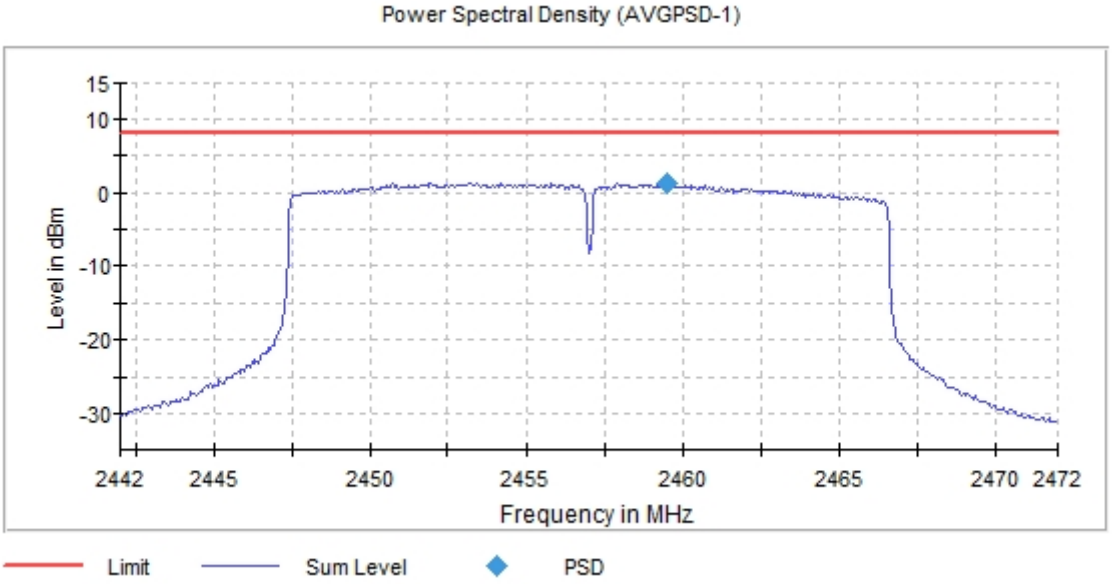
- Channel (2):



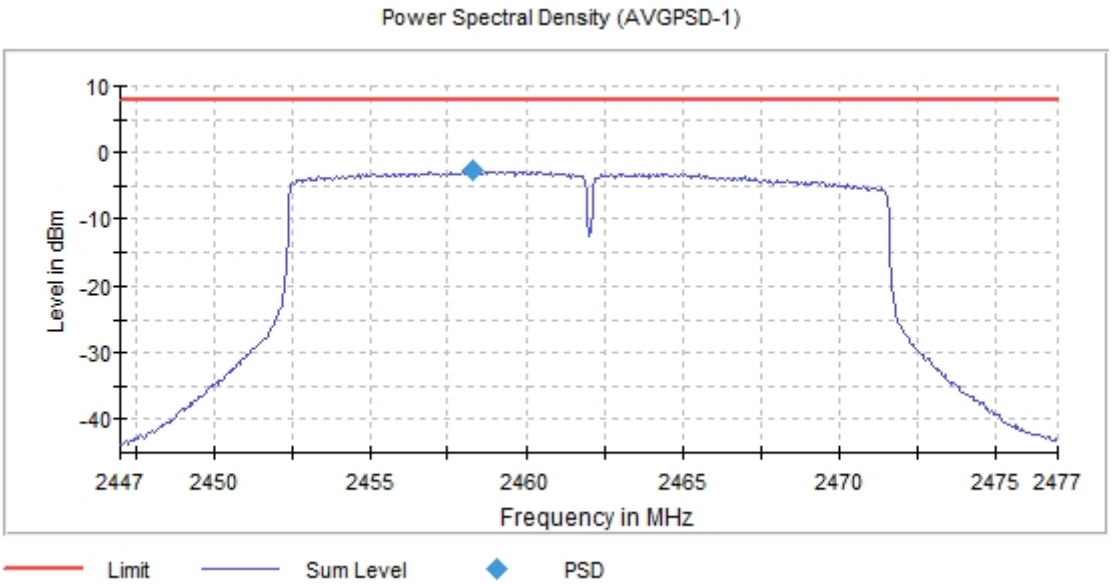
- Middle Channel (6):



- Channel (10):

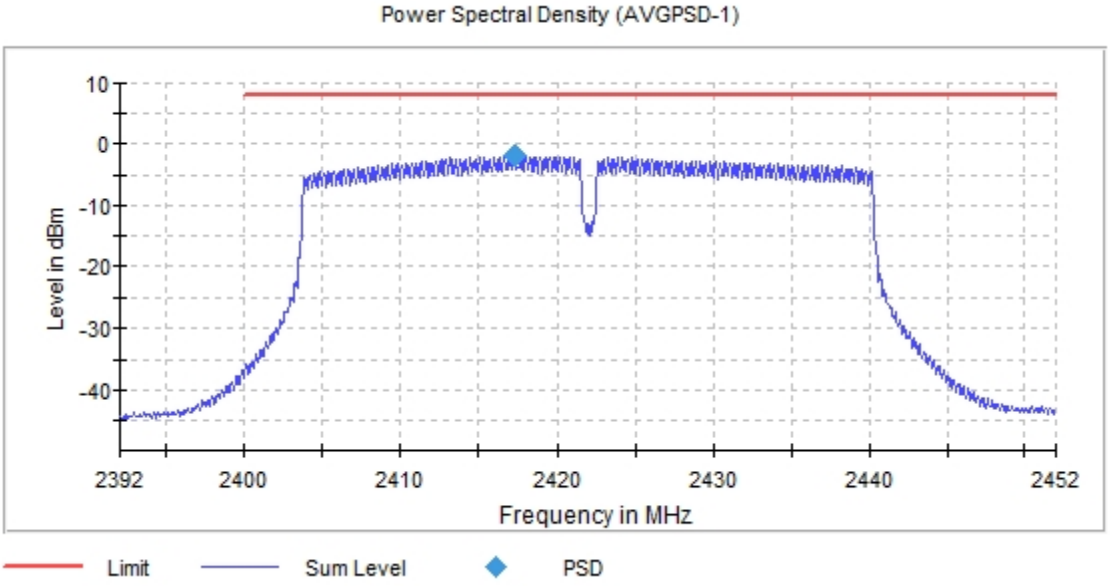


- High Channel (11):

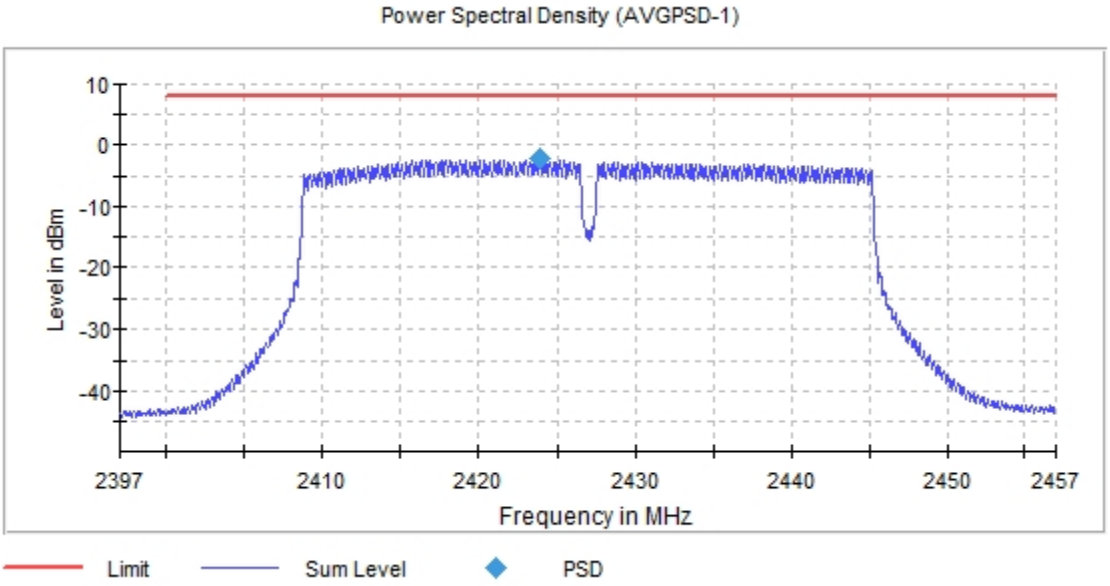


- **SISO 802.11 n40 – Power Spectral Density:**

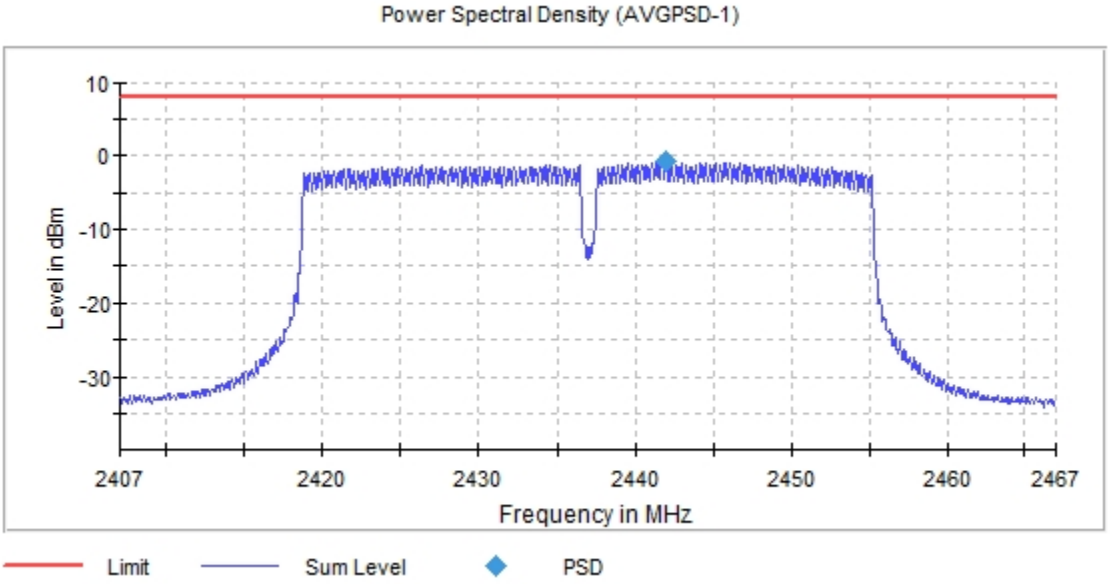
- Low Channel (3):



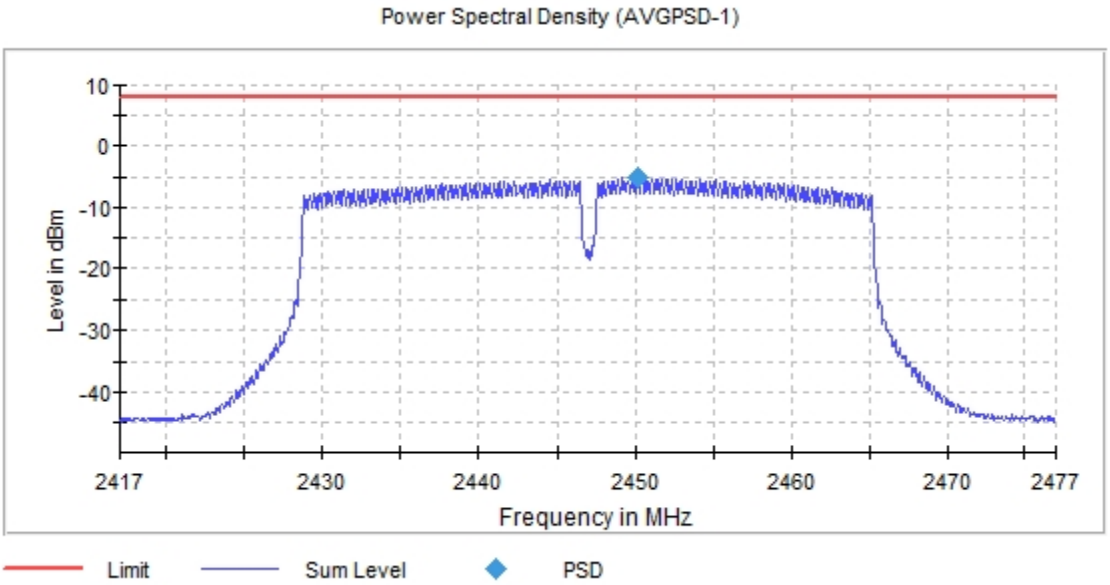
- Channel (4):



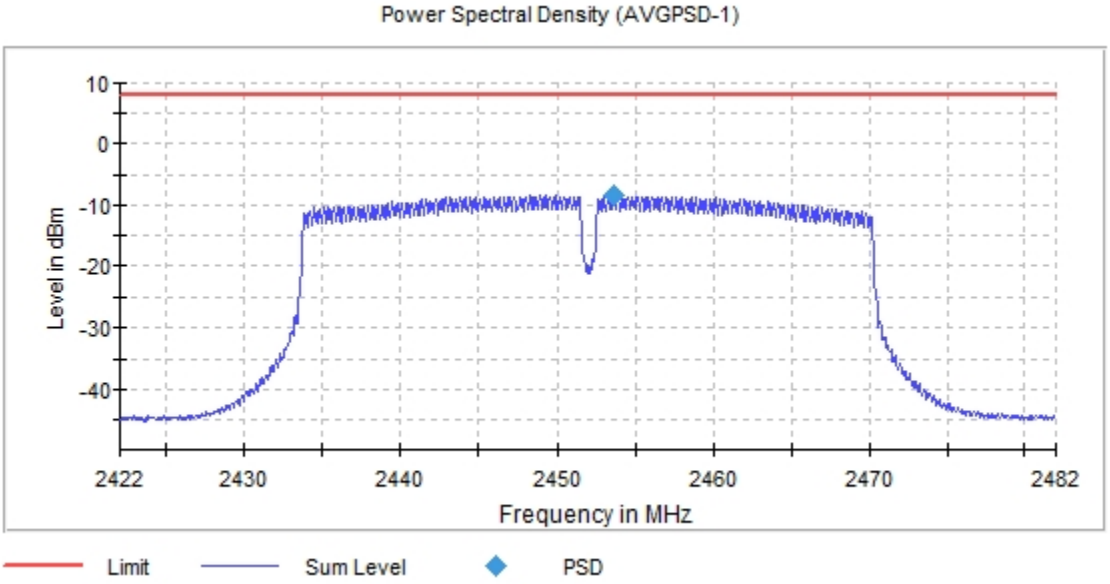
- Middle Channel (6):



- Channel (8):

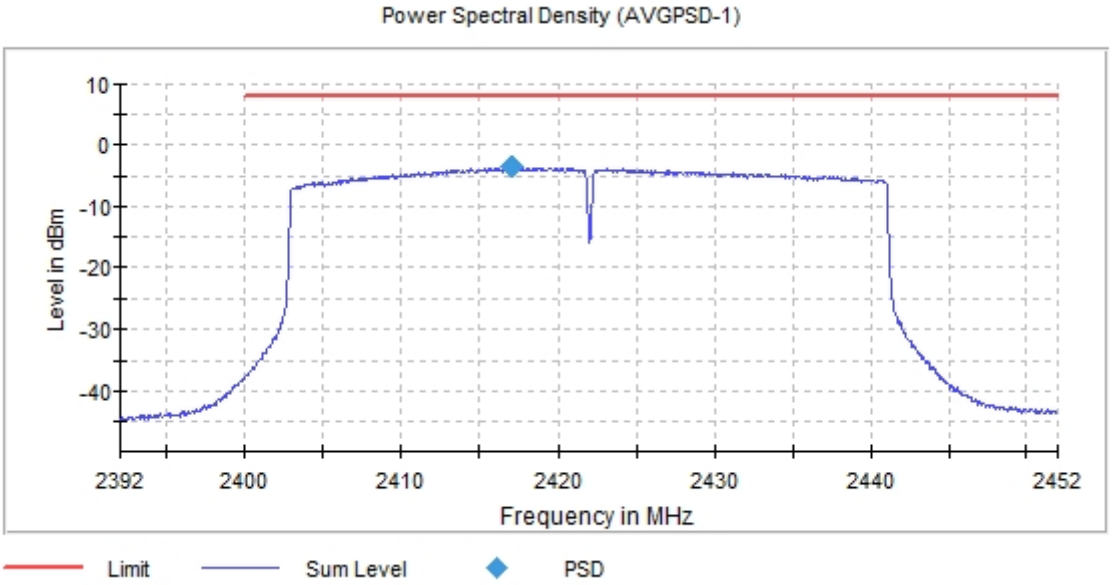


- High Channel (9):

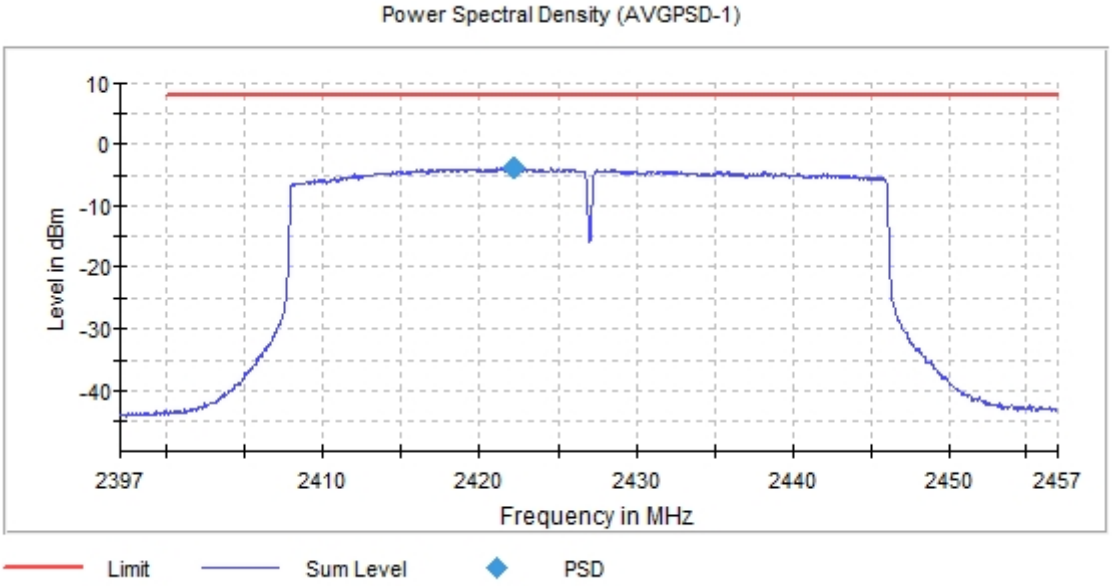


- **SISO 802.11 he40 – Power Spectral Density:**

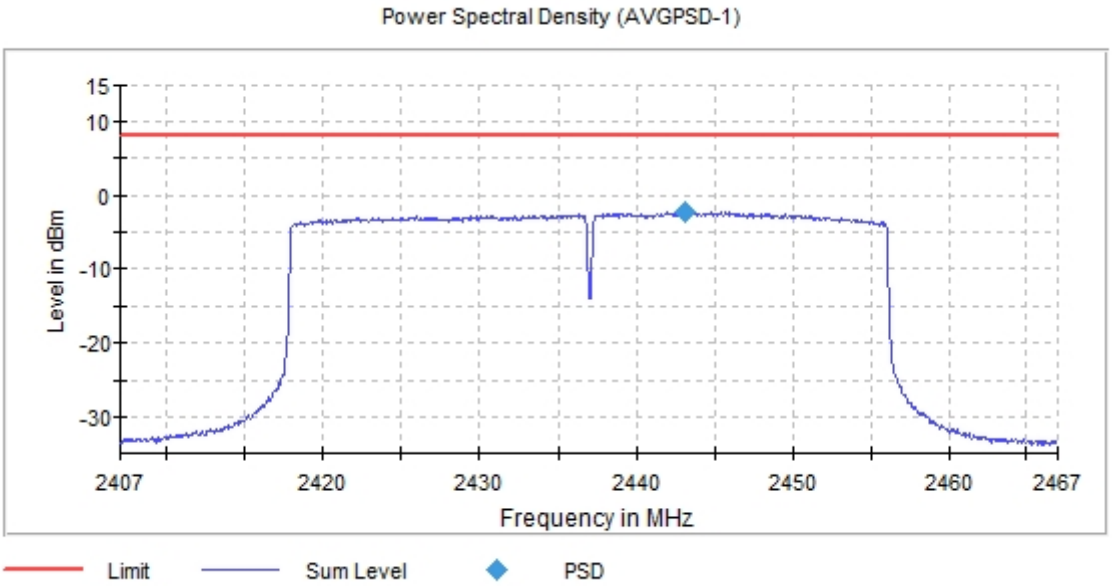
- Low Channel (3):



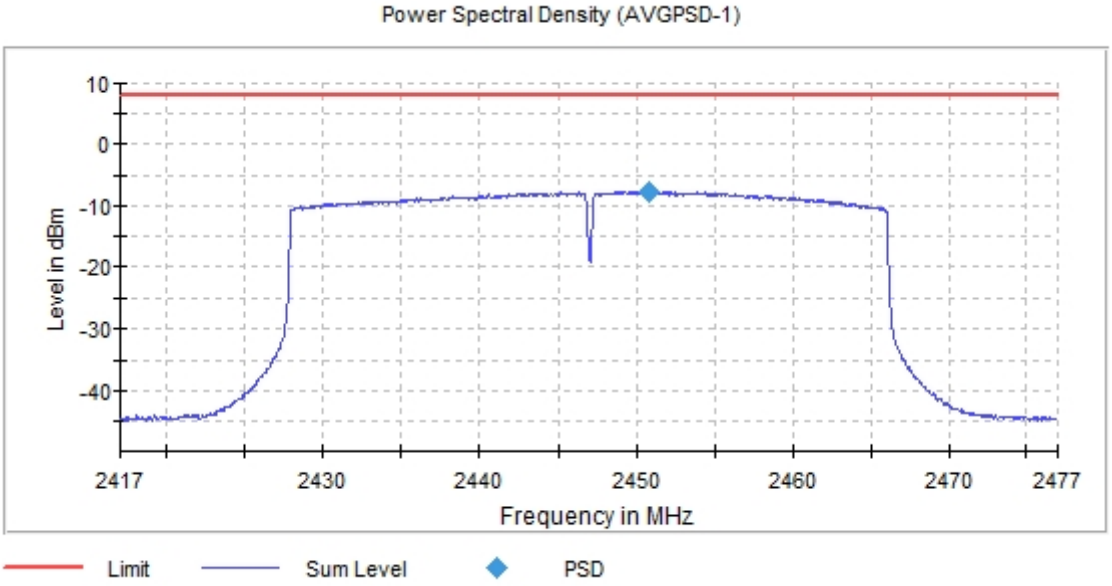
- Channel (4):



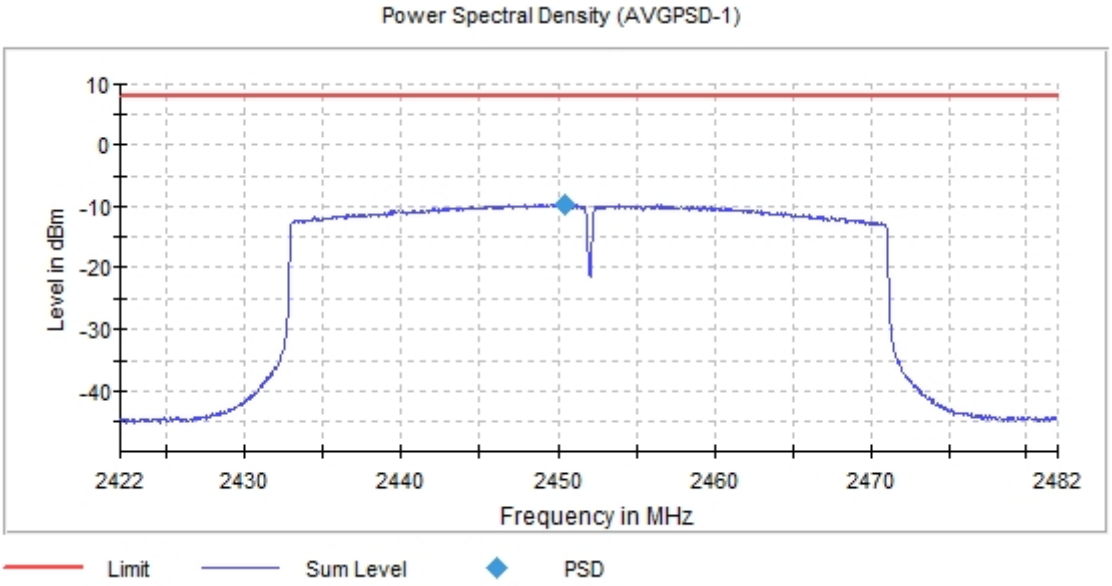
- Middle Channel (6):



- Channel (8):



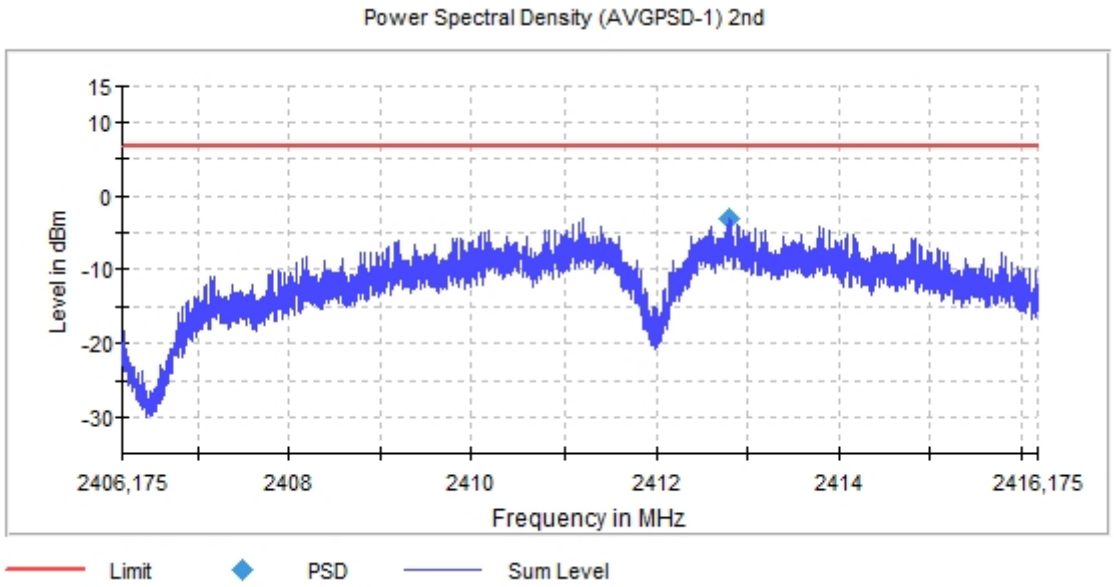
- High Channel (9):



MIMO worst case:

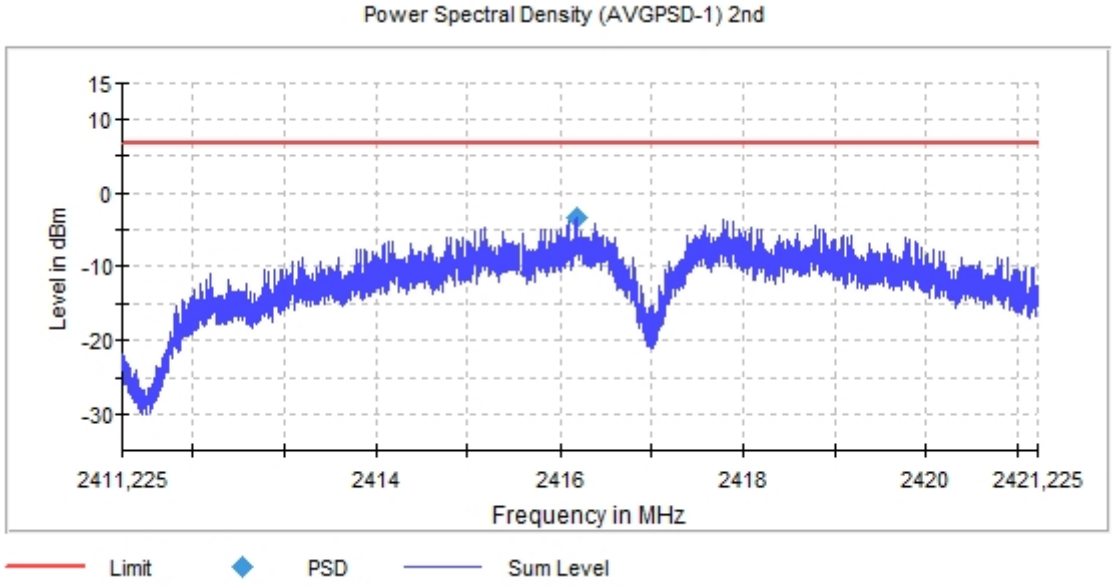
- **MIMO 802.11 b – Power Spectral Density:**

- Low Channel (1):



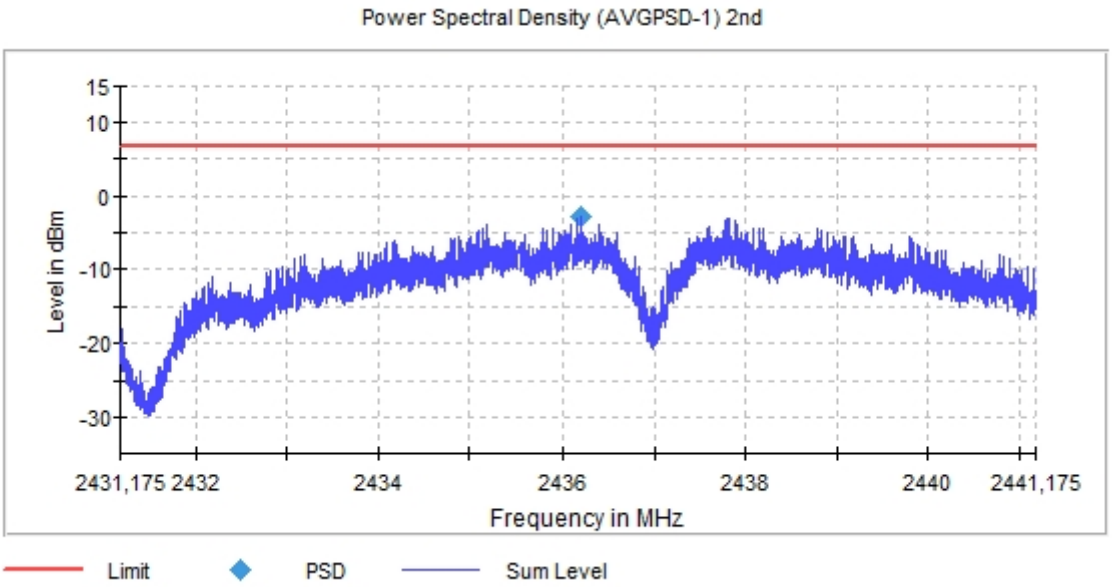
NOTE: RBW=3KHz/VBW=10KHz

- Channel (2):



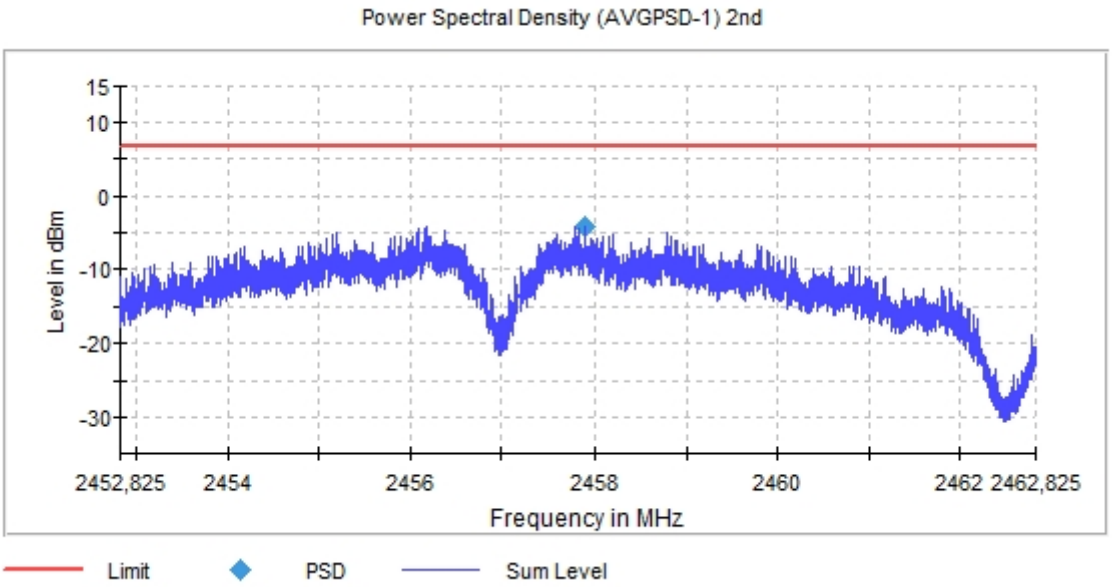
NOTE: RBW=3KHz/VBW=10KHz

- Middle Channel (6):



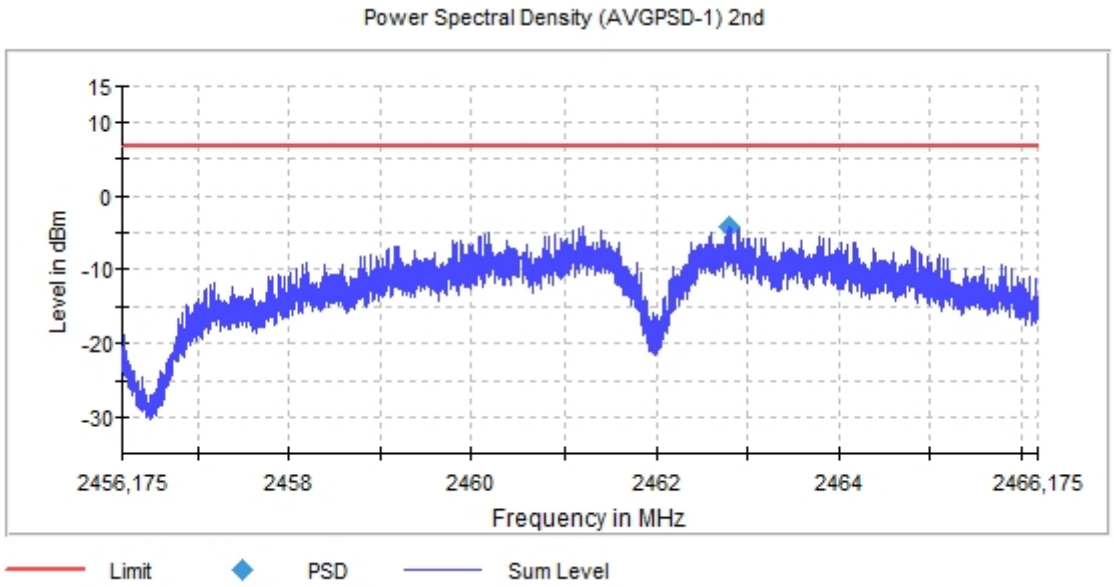
NOTE: RBW=3KHz/VBW=10KHz

- Channel (10):



NOTE: RBW=3KHz/VBW=10KHz

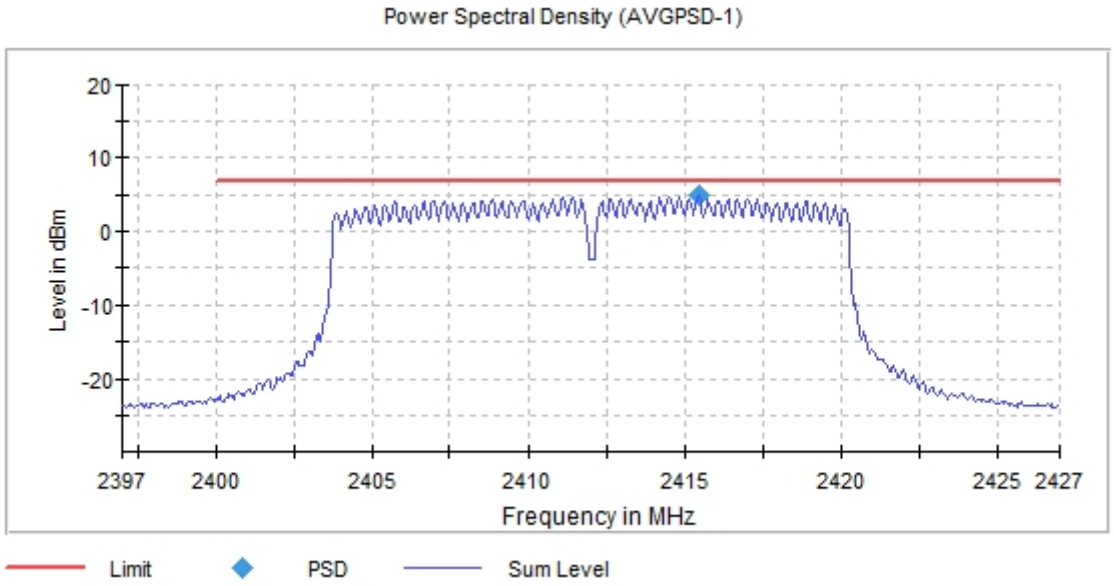
- High Channel (11):



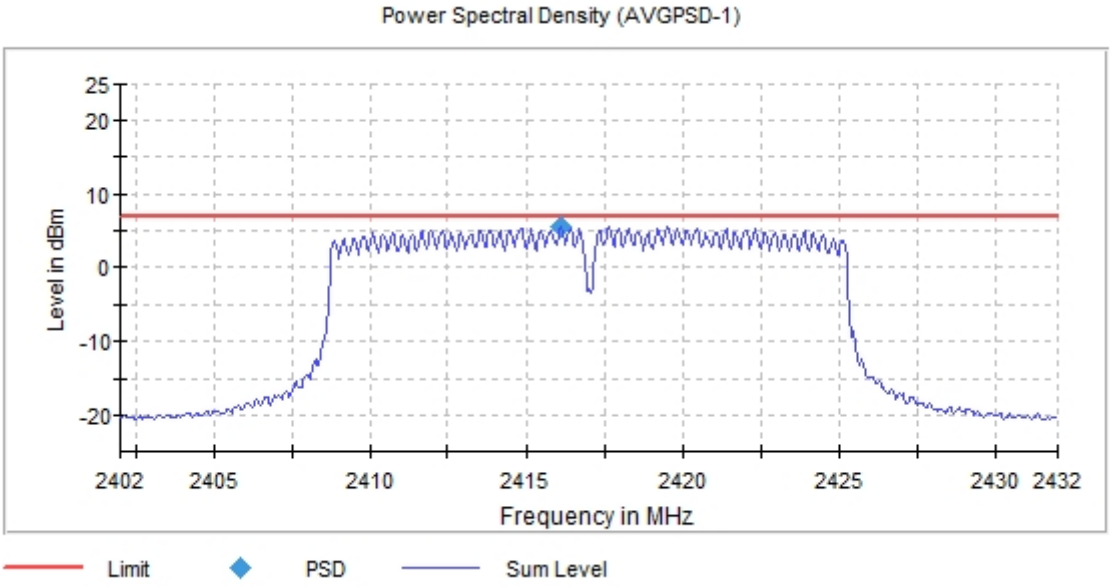
NOTE: RBW=3KHz/VBW=10KHz

- **MIMO 802.11 g – Power Spectral Density:**

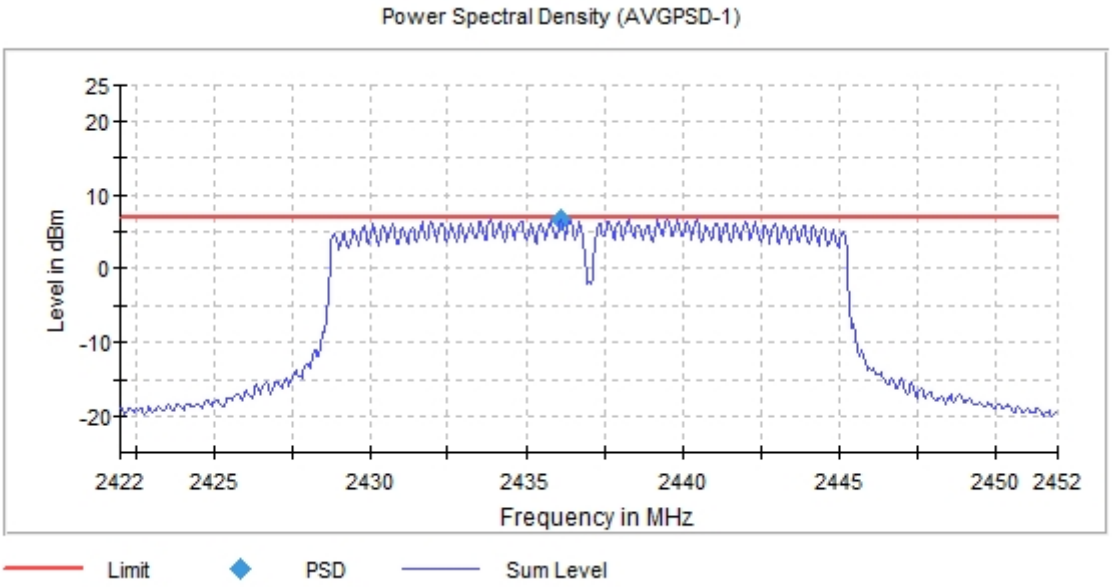
- Low Channel (1):



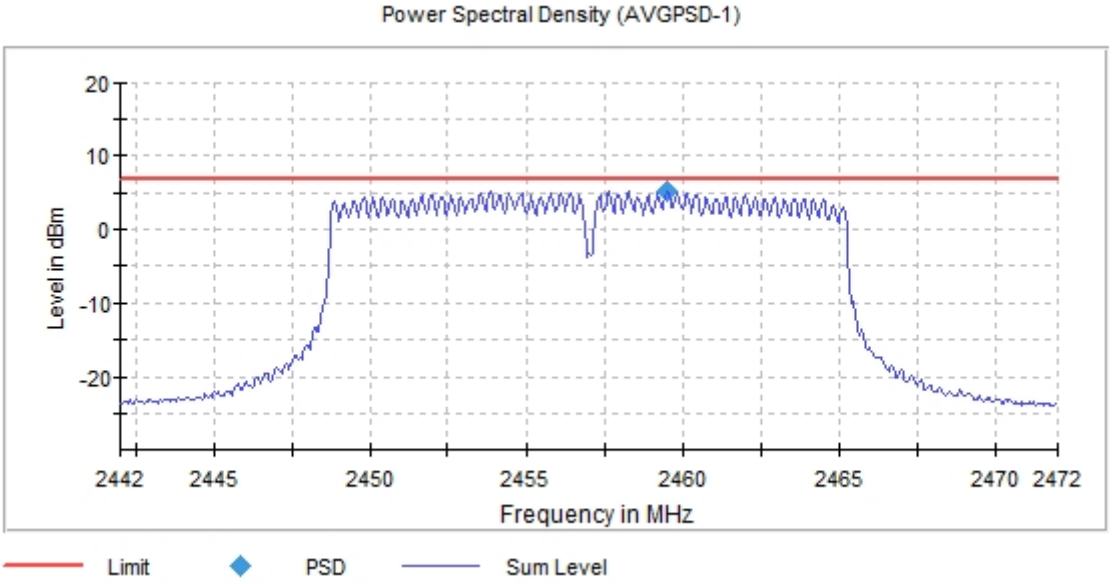
- Low Channel (2):



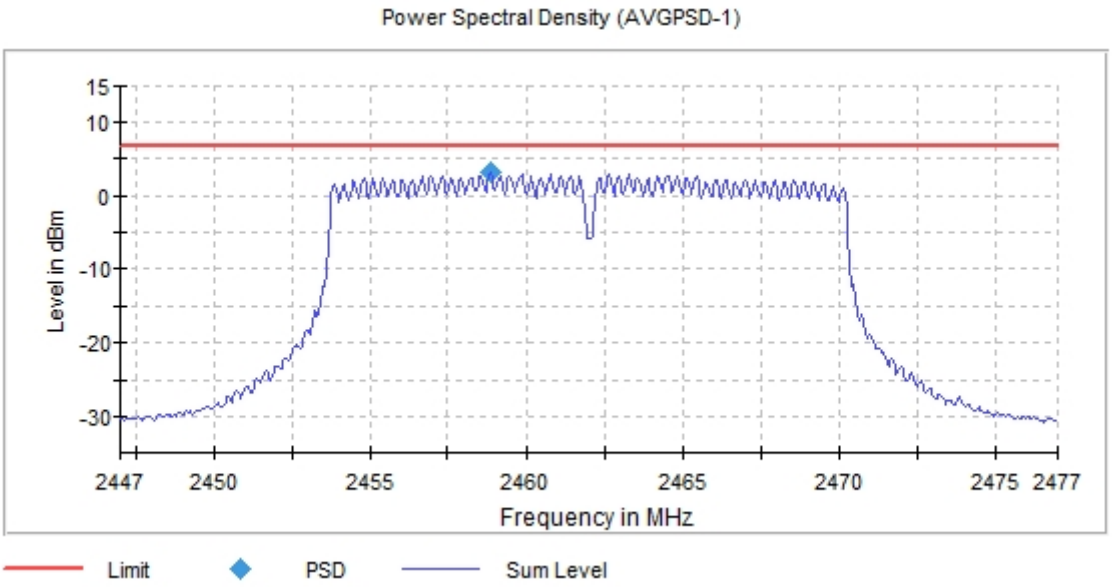
- Middle Channel (6):



- Channel (10):

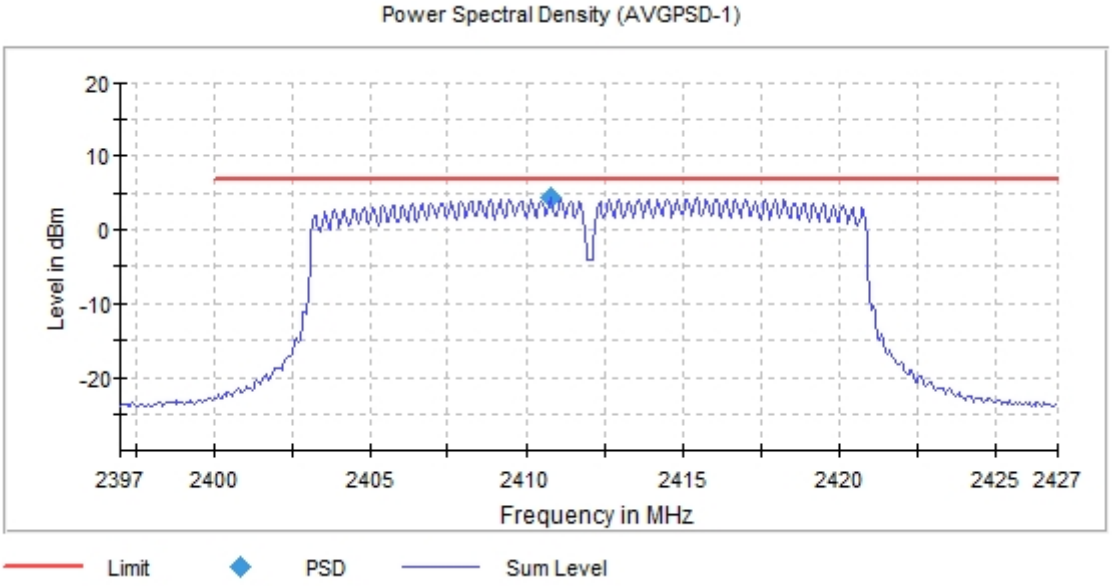


- High Channel (11):

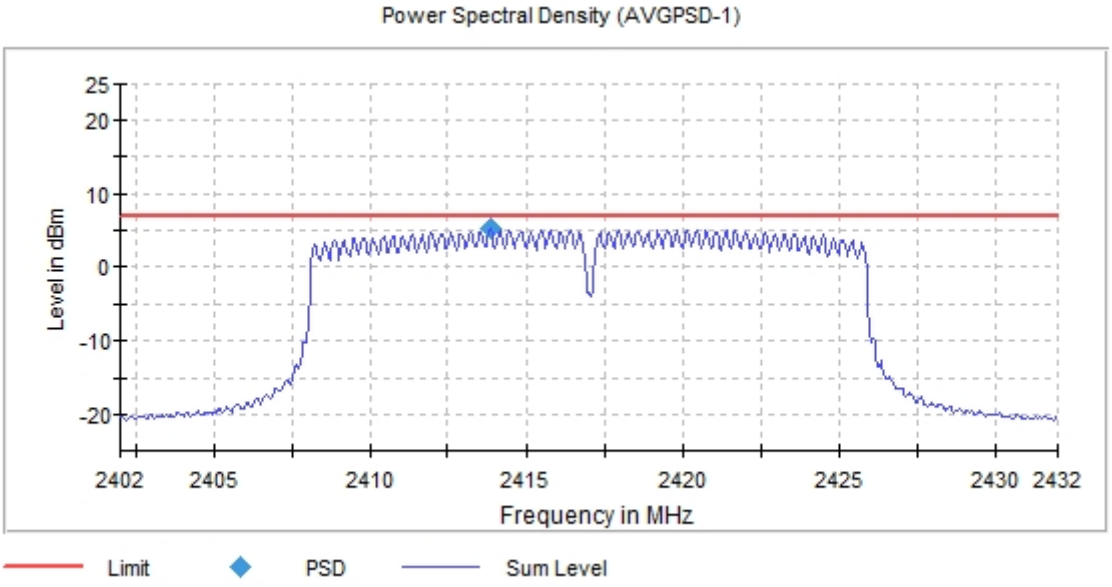


- **MIMO 802.11 n20 – Power Spectral Density:**

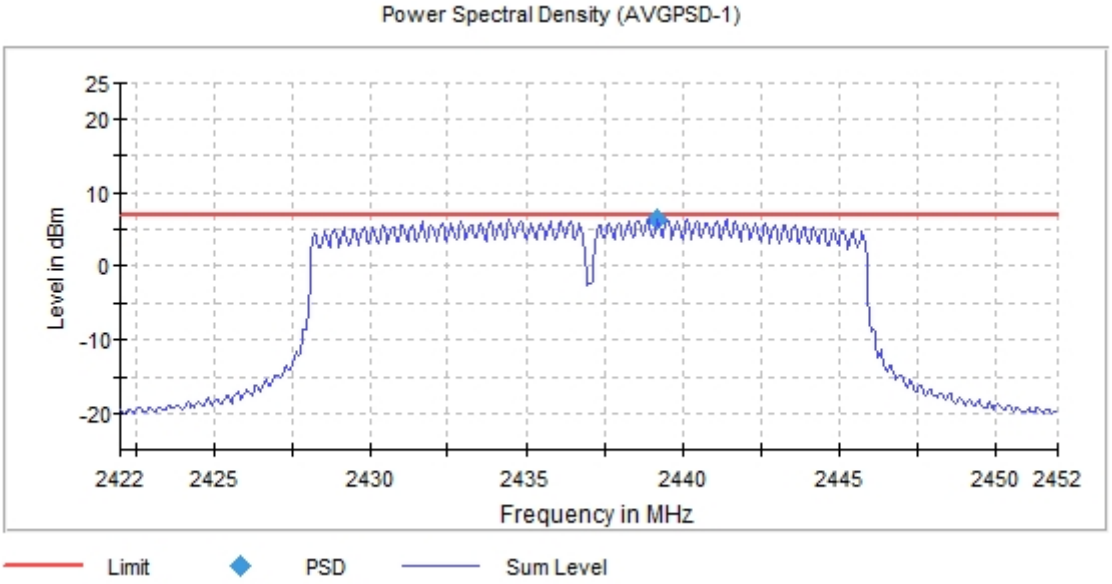
- Low Channel (1):



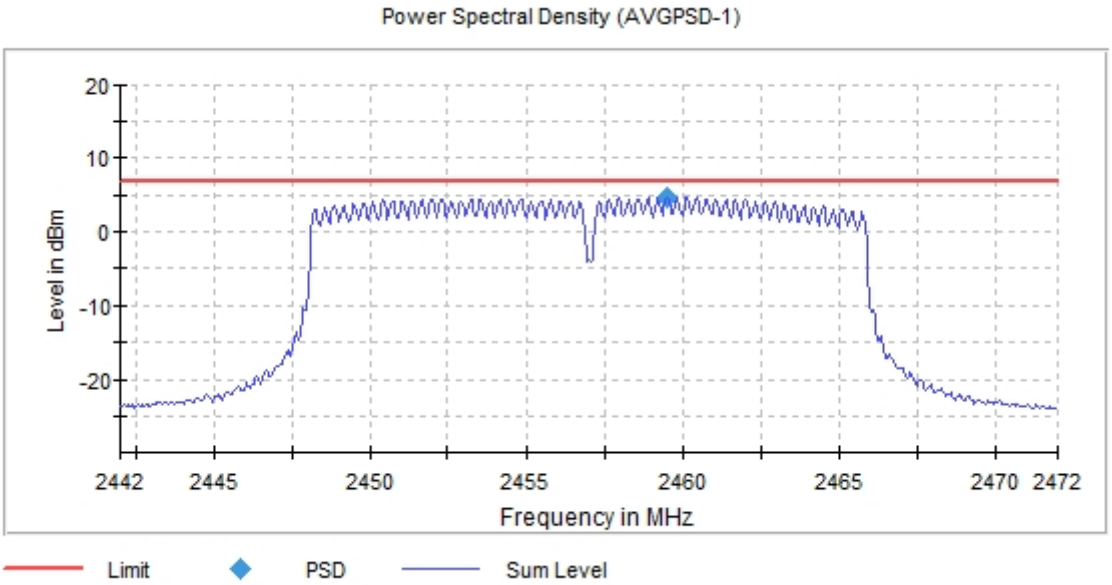
- Channel (2):



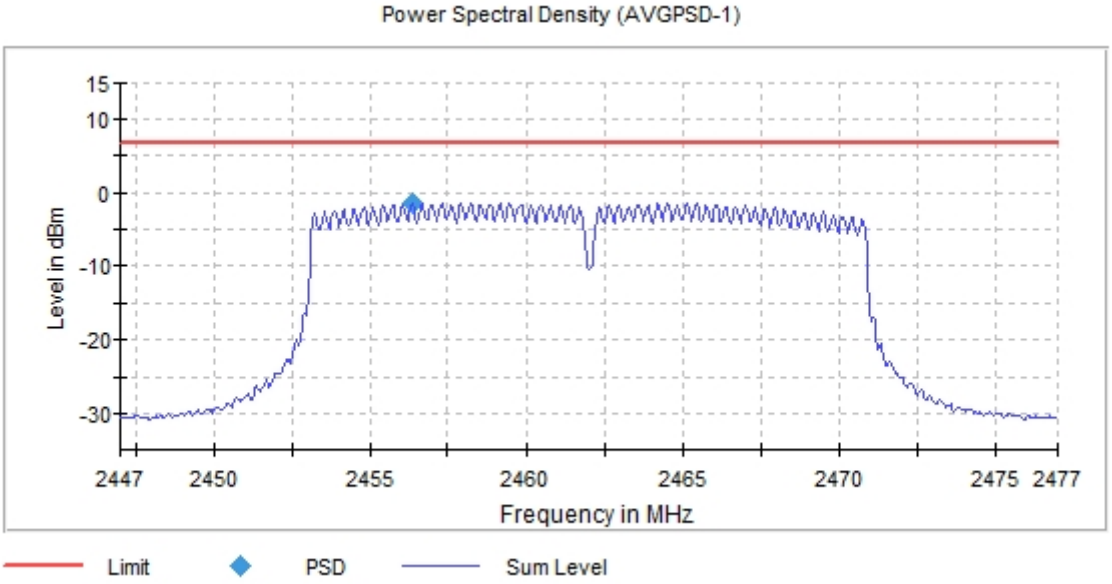
- Middle Channel (6):



- Channel (10):

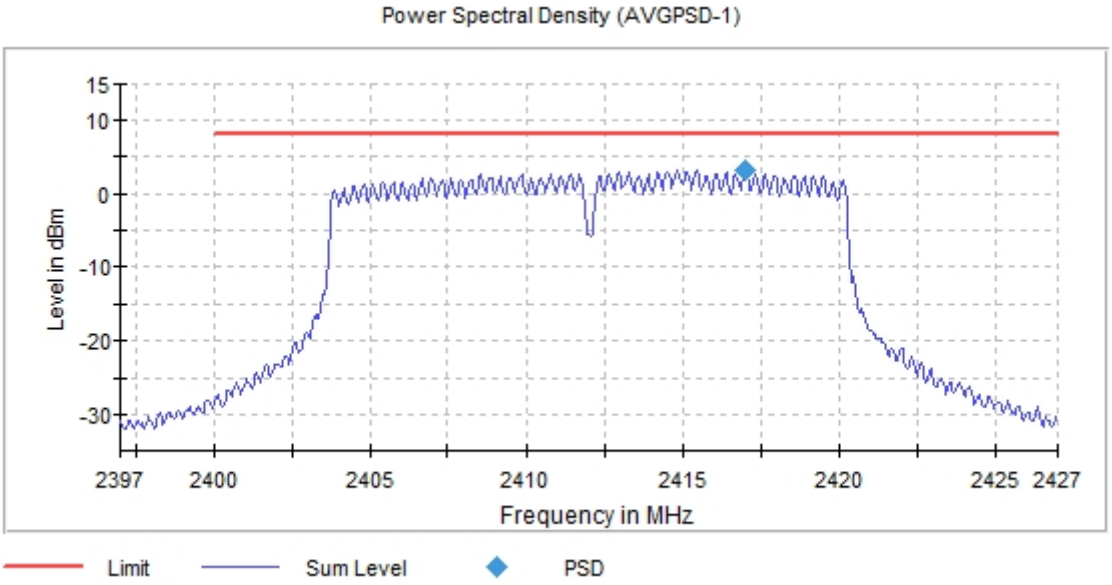


- High Channel (11):

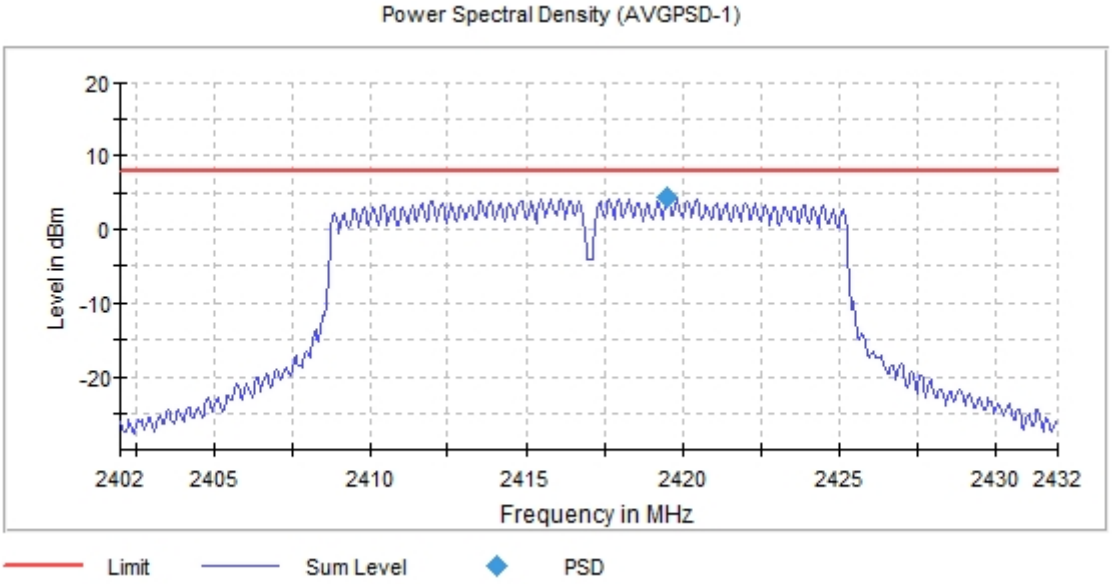


- **MIMO 802.11 he20 – Power Spectral Density:**

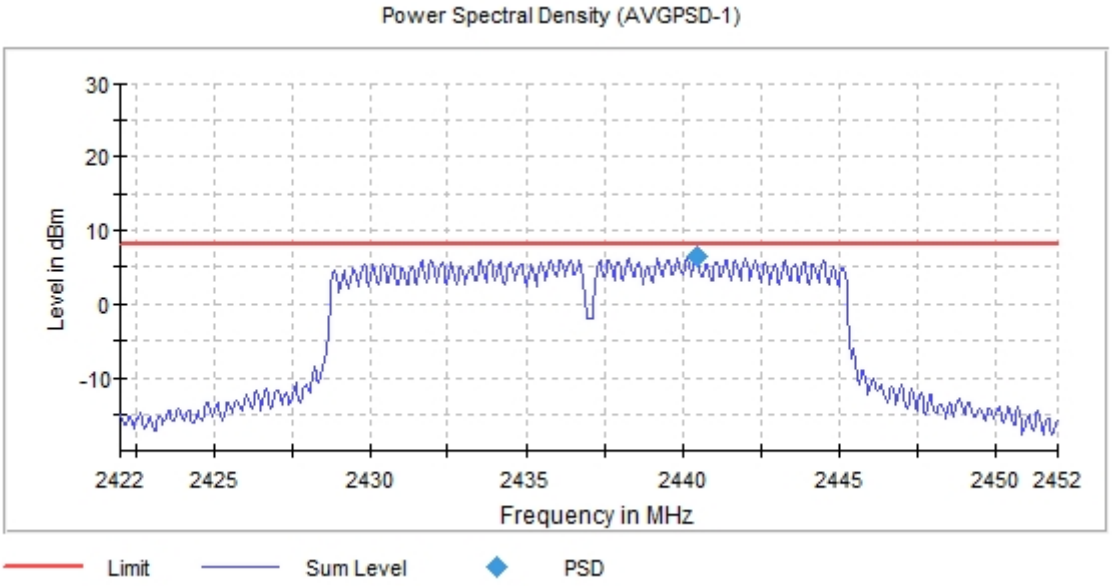
- Low Channel (1):



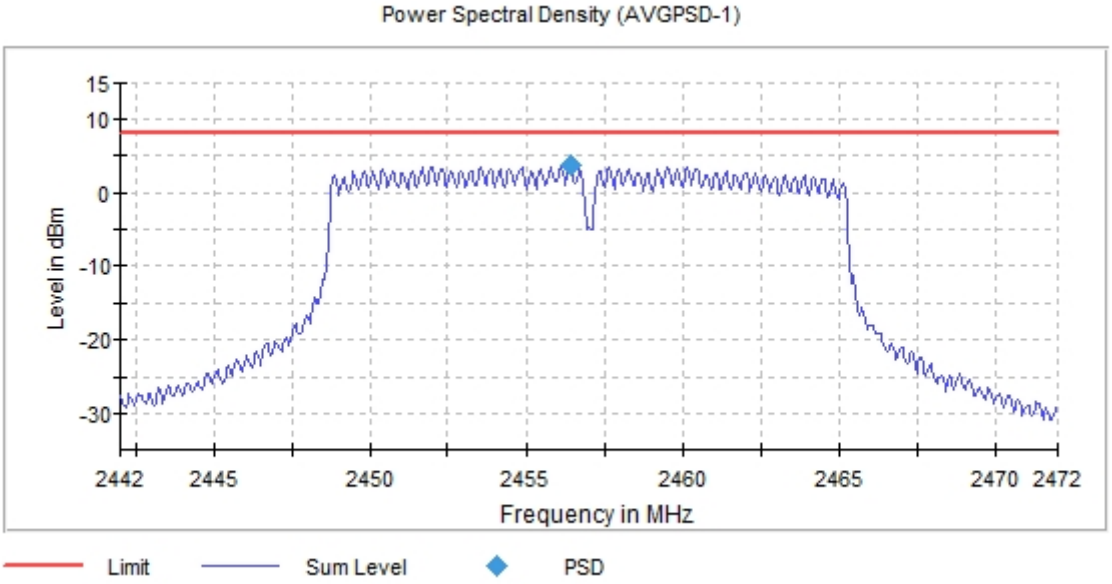
- Channel (2):



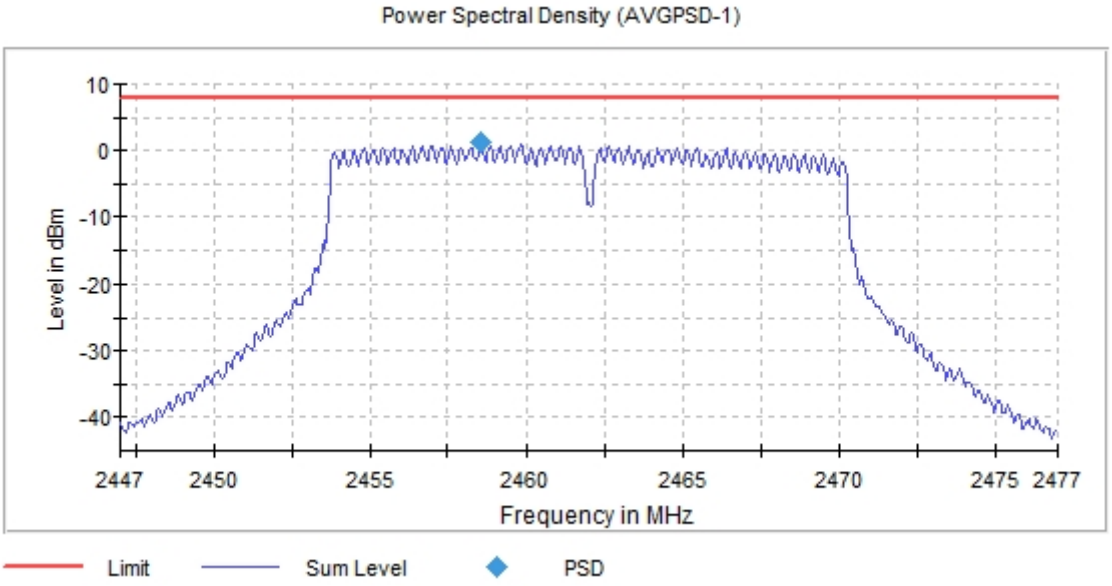
- Middle Channel (6):



- Channel (10):

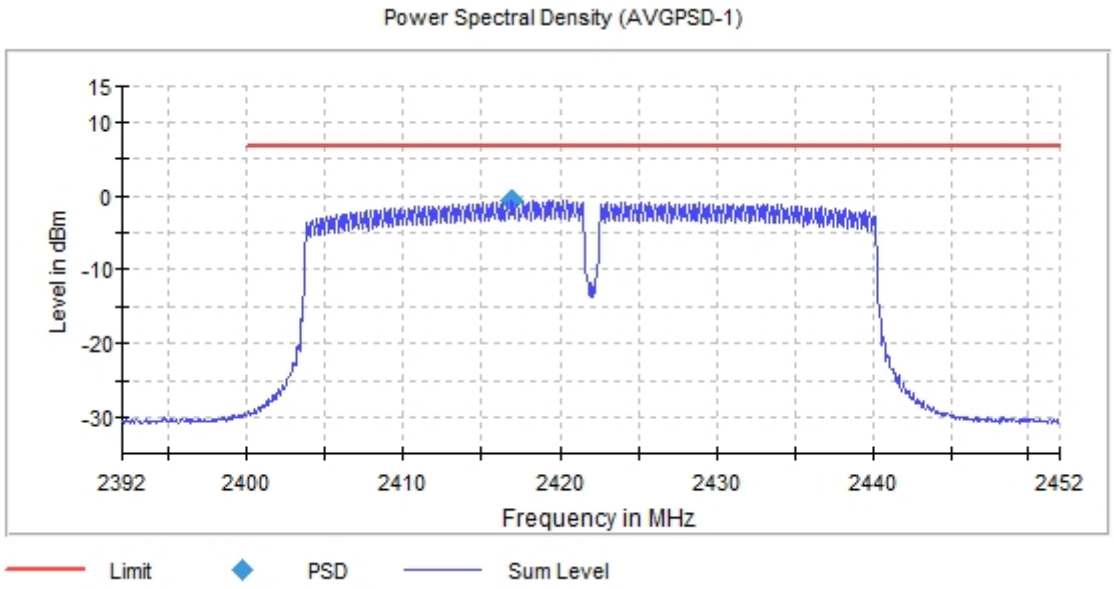


- High Channel (11):

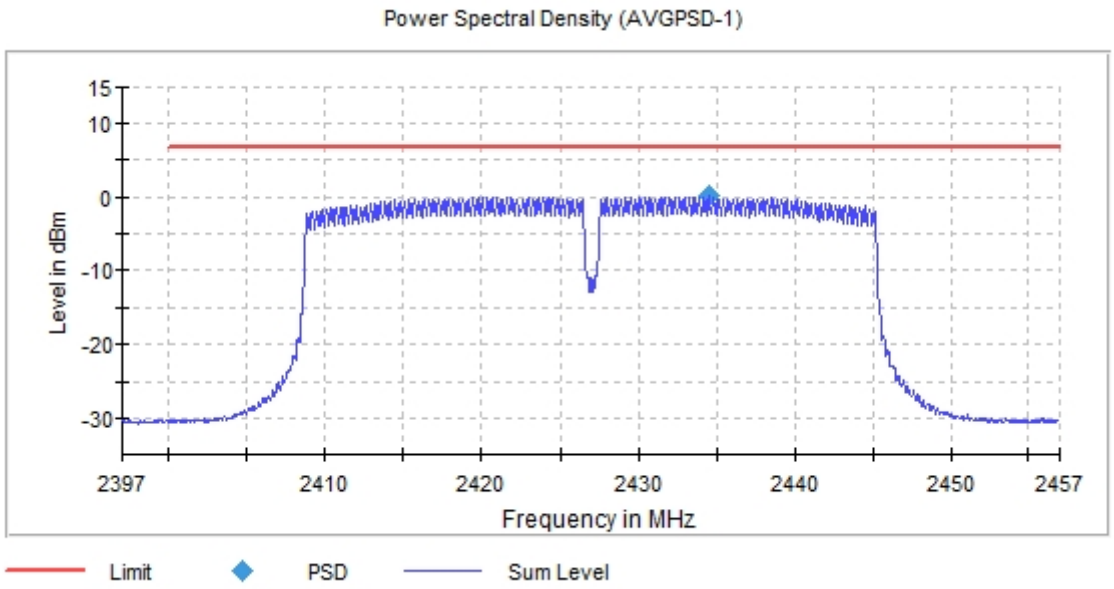


- **MIMO 802.11 n40 – Power Spectral Density:**

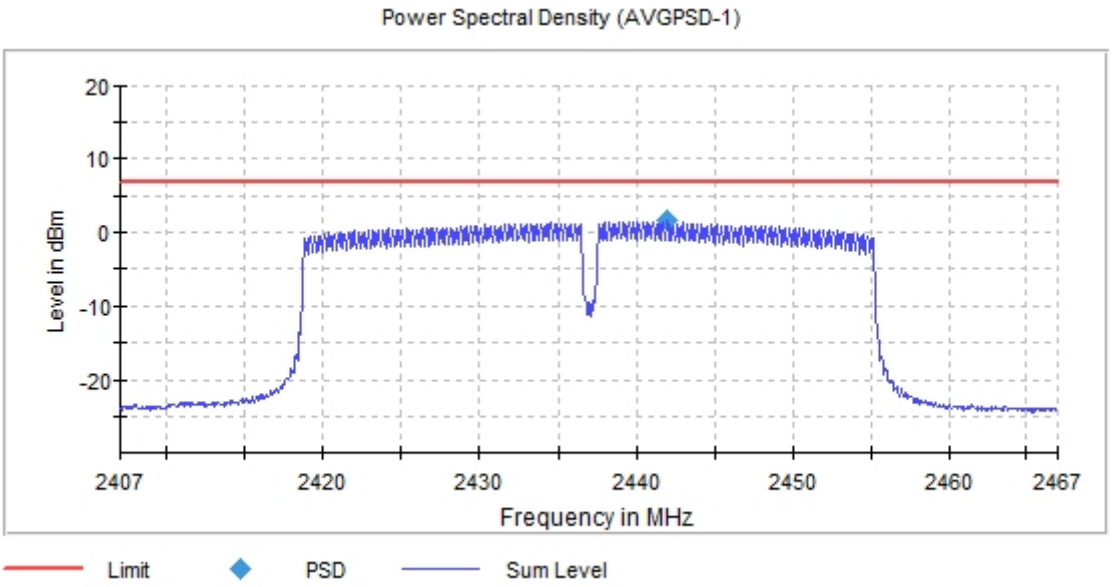
- Low Channel (3):



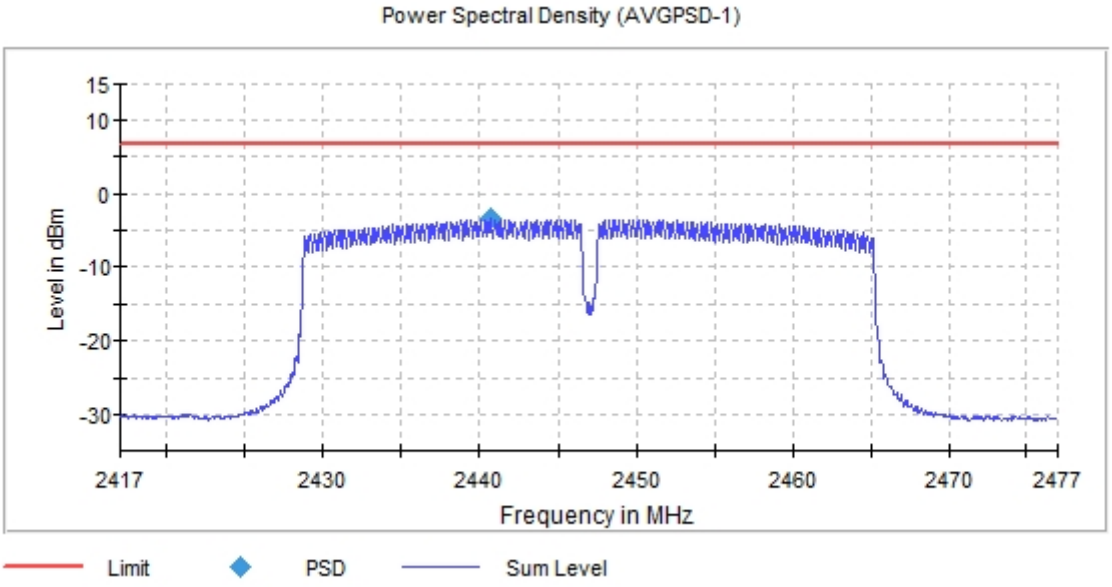
- Channel (4):



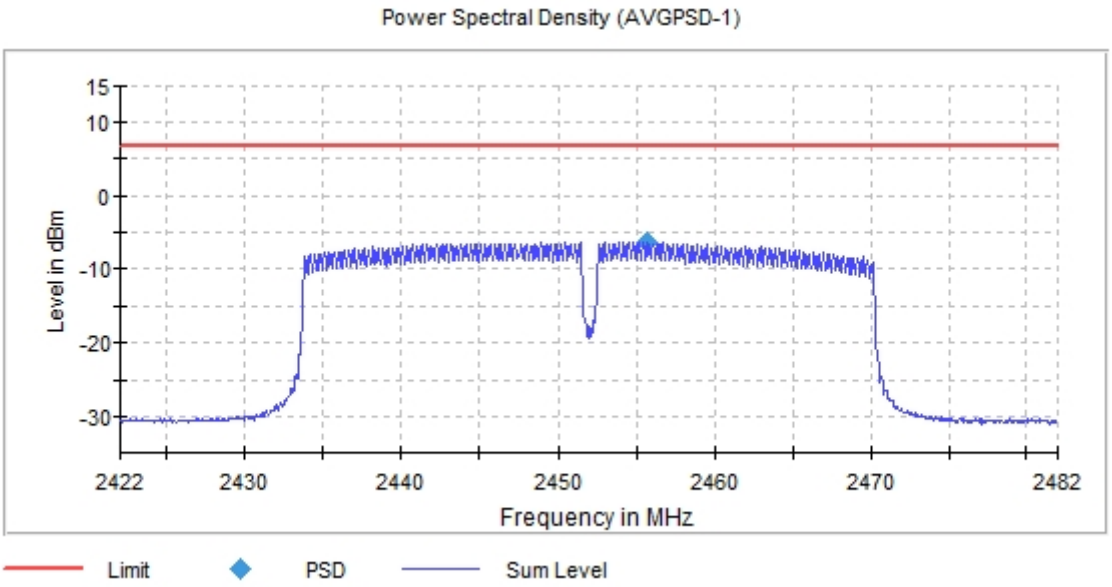
- Middle Channel (6):



- Channel (8):

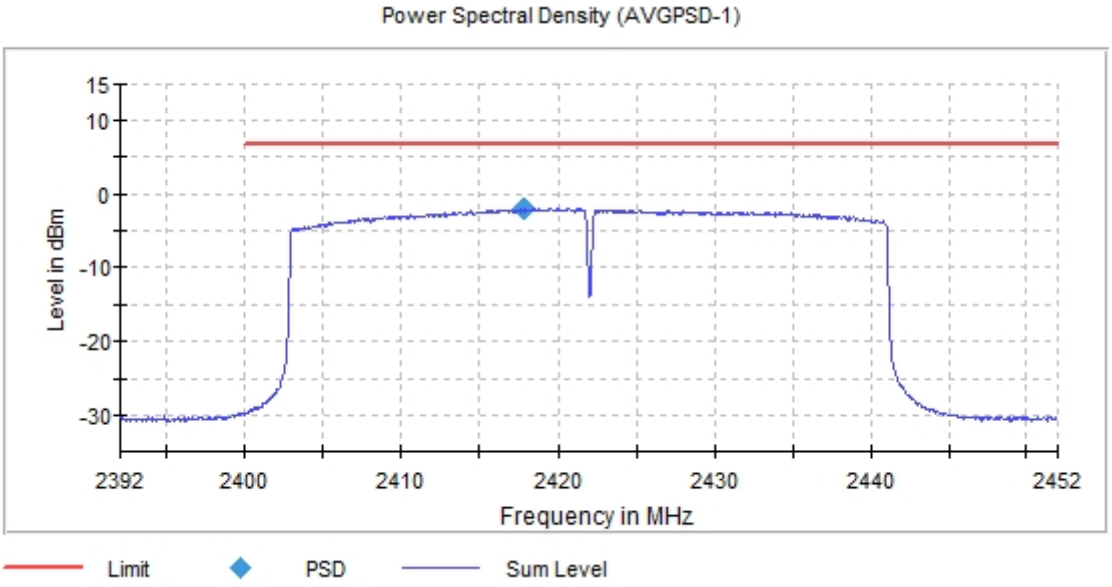


- High Channel (9):

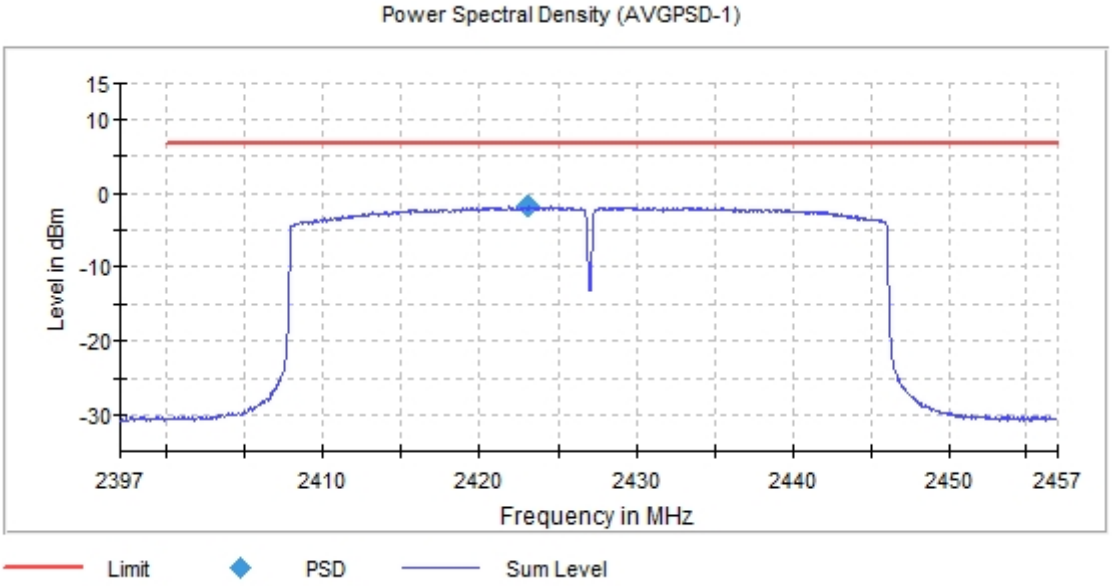


- **MIMO 802.11 he40 – Power Spectral Density:**

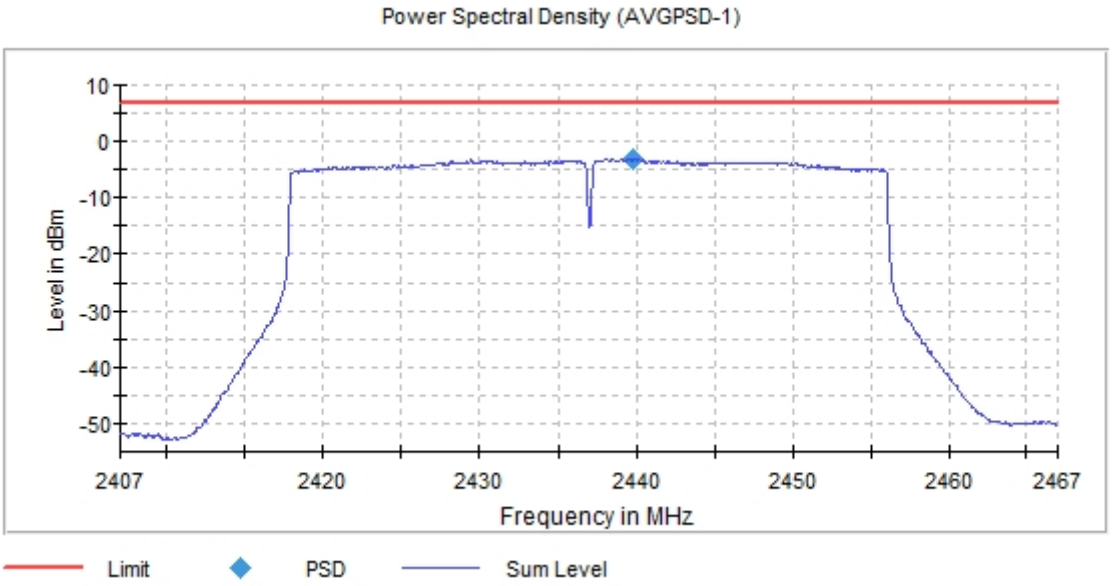
- Low Channel (3):



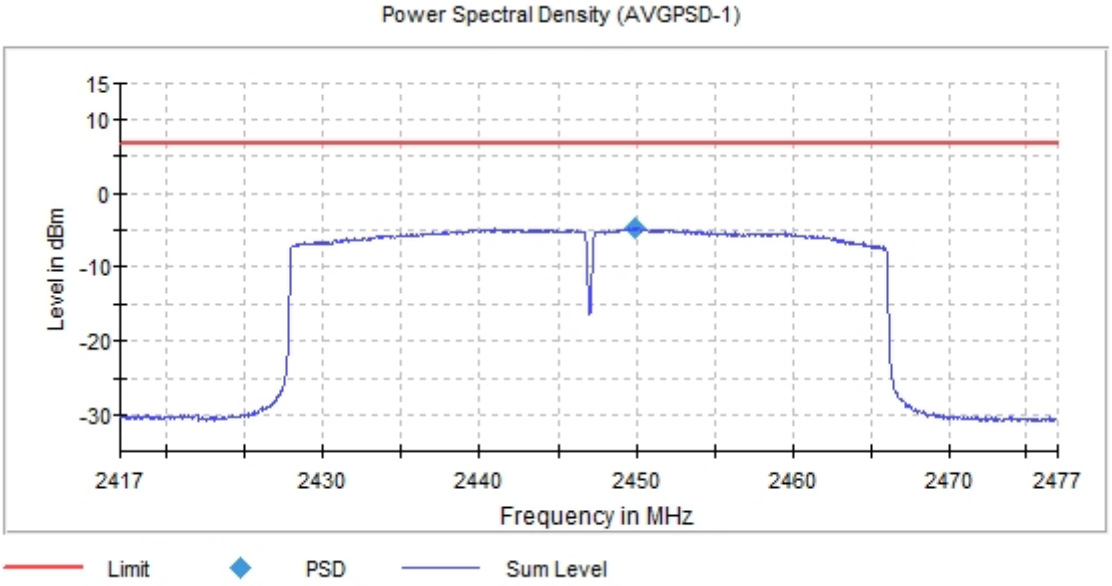
- Channel (4):



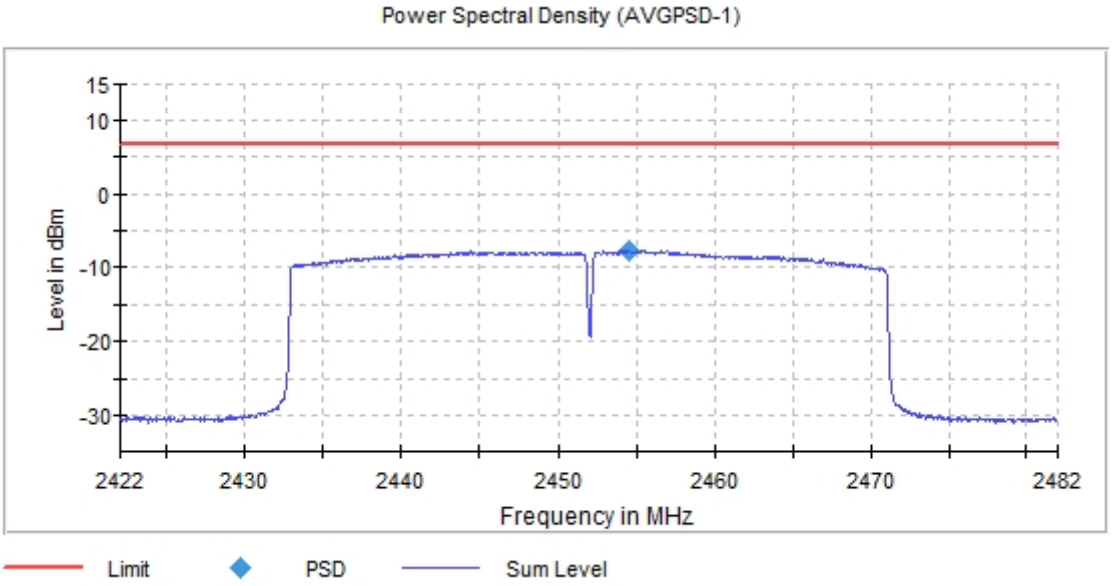
- Middle Channel (6):



- Channel (8):



- High Channel (9):



FCC 15.247 (d) / RSS-247 5.5. 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) / RSS-Gen):

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)	-	30
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-17 GHz and at distance of 1 m for the frequency range 17 GHz-26 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.

- Preliminary tests determined the SISO worst case: WLAN1.
- Preliminary tests determined the MIMO worst case: WLAN1 & WLAN2.

SISO worst case:

Frequency range 30 MHz - 1 GHz (SISO worst case):

The spurious frequencies do not depend neither on the operating channel nor the modulation mode.

Spurious frequencies detected at less than 20 dB below the limit:

Spurious Frequency (MHz)	Emission Level (dBµV/m)	Polarization	Detector
125.884500	26.90	V	Quasi-Peak
150.716500	25.47	V	Quasi-Peak

Measurement Uncertainty (dB) <± 5.1

- **SISO 802.11 b (DSSS):**

  Frequency range 1 - 26 GHz:

  The results in the next tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

  Spurious frequencies 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.

  ** Duty Cycle Correction (dB): 2.03.*

  - LOW CHANNEL (1). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2386.400000	62.18	62.18	H	Peak
	46.50	48.53		Average
2387.600000	62.40	62.40	H	Peak
	49.28	51.31		Average
3687.500000	46.26	46.26	H	Peak
3749.500000	47.54	47.54	H	Peak
3812.500000	47.30	47.30	V	Peak
4031.500000	46.11	46.11	H	Peak
4093.500000	43.88	43.88	H	Peak
4823.500000	46.27	46.27	V	Peak
6000.000000	48.50	48.50	V	Peak
6250.000000	49.64	49.64	H	Peak
8206.500000	53.22	53.22	H	Peak
9648.000000	56.46	56.46	V	Peak
	43.68	45.71		Average
15531.000000	58.43	58.43	H	Peak
	45.65	47.68		Average

  - CHANNEL(2). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2385.46667	60.97	60.97	H	Peak
	46.60	48.63		Average
2387.86667	61.59	61.59	H	Peak
	48.41	50.43		Average
2491.40000	57.36	57.36	H	Peak
	43.01	45.03		Average
3687.500000	45.57	45.57	H	Peak
3750.000000	48.03	48.03	H	Peak
3812.500000	47.16	47.16	V	Peak
4031.000000	44.75	44.75	H	Peak
4312.500000	45.11	45.11	V	Peak
4375.000000	44.17	44.17	H	Peak
4834.000000	47.76	47.76	V	Peak
6250.000000	49.94	49.94	H	Peak
9668.000000	56.95	56.95	V	Peak
	46.14	48.17		Average
15531.500000	58.84	58.84	V	Peak
	45.52	47.55		Average

- MIDDLE CHANNEL(6). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2377.600000	59.40	59.40	H	Peak
	43.58	45.61		Average
2485.933333	63.25	63.25	H	Peak
	50.90	52.93		Average
2487.266667	60.33	60.33	H	Peak
	48.49	50.52		Average
3687.500000	46.35	46.35	H	Peak
3750.000000	47.83	47.83	H	Peak
3812.500000	47.50	47.50	V	Peak
4031.000000	44.74	44.74	V	Peak
4094.000000	44.10	44.10	H	Peak
4312.500000	45.18	45.18	H	Peak
4375.000000	45.28	45.28	H	Peak
4874.000000	47.14	47.14	V	Peak
6250.000000	49.91	49.91	H	Peak
9748.000000	60.52	60.52	V	Peak
	50.95	52.98		Average
15528.500000	59.16	59.16	H	Peak
	45.94	47.97		Average

- CHANNEL (10). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2347.000000	57.64	57.64	H	Peak
	43.03	45.06		Average
2483.800000	62.31	62.31	H	Peak
	51.81	53.84		Average
2485.500000	62.46	62.46	H	Peak
	51.00	53.03		Average
3687.500000	46.37	46.37	H	Peak
3750.000000	48.72	48.72	V	Peak
3812.500000	47.83	47.83	V	Peak
4031.000000	43.99	43.99	V	Peak
4375.000000	44.70	44.70	V	Peak
4914.000000	48.15	48.15	V	Peak
6000.000000	48.52	48.52	V	Peak
6250.000000	49.86	49.86	H	Peak
15530.500000	58.07	58.07	H	Peak
	45.26	47.29		Average

- HIGH CHANNEL (11). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2369.533333	57.22	57.22	H	Peak
	41.45	43.48		Average
2491.400000	66.14	66.14	H	Peak
	50.44	52.47		Average
2498.333333	62.63	62.63	H	Peak
	46.87	48.90		Average
3687.500000	46.03	46.03	H	Peak
3750.000000	48.74	48.74	H	Peak
3812.500000	45.45	45.45	V	Peak
4031.000000	43.04	43.04	H	Peak
4093.500000	44.23	44.23	V	Peak
4375.000000	44.51	44.51	V	Peak
4924.000000	47.78	47.78	V	Peak
6000.000000	47.46	47.46	V	Peak
6250.000000	49.46	49.46	H	Peak
9848.000000	56.93	56.93	V	Peak
	44.71	46.74		Average
15528.000000	58.46	58.46	H	Peak
	45.03	47.06		Average

Measurement Uncertainty (dB): 1 GHz $\leq$ f $\leq$ 17 GHz: <± 5.13
17 GHz $\leq$ f $\leq$ 26 GHz: <± 5.08

Verdict: PASS

OFDM modes:

For spurious emissions in the range 30 MHz - 26 GHz (except field strength at the band edges that was performed for all modes) a preliminary scan was performed to determine the worst case mode.

Spurious emissions in the Restricted Bands 2.31-2.39 GHz and 2.4835-2.5 GHz are measured for all modes.
The following results and plots are for the OFDM worst case mode.

- **SISO OFDM worst case mode: 802.11 g.**
  - **SISO 802.11 g (OFDM worst case for spurious emissions):**

    Frequency range 1 - 26 GHz:

    The results in the next tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

    Spurious frequencies 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.

    ** Duty Cycle Correction (dB): 0.26.*

    - LOW CHANNEL (1). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2388.800000	65.02	65.03	H	Peak
	51.12	51.38		Average
2389.733333	68.31	68.31	H	Peak
	53.30	53.56		Average
2493.466667	58.70	58.70	H	Peak
	45.13	45.39		Average
3687.500000	45.03	45.03	H	Peak
3750.000000	48.51	48.51	V	Peak
3812.500000	46.58	46.58	V	Peak
4031.000000	45.90	45.90	H	Peak
4093.500000	46.24	46.24	H	Peak
4375.000000	46.40	46.40	V	Peak
6000.000000	49.35	49.35	V	Peak
6250.000000	48.45	48.45	H	Peak
14472.000000	61.10	61.10	V	Peak
	48.88	49.14		Average
15538.000000	57.55	57.55	V	Peak
	44.10	44.36		Average
16742.500000	61.74	61.74	V	Peak
	49.52	49.78		Average

- CHANNEL (2). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2386.866667	69.16	69.16	H	Peak
	52.94	53.20		Average
2389.266667	67.64	67.64	H	Peak
	52.10	52.36		Average
2492.466667	57.90	57.90	H	Peak
	44.69	44.95		Average
3687.500000	47.17	47.17	V	Peak
3750.000000	48.88	48.88	H	Peak
3812.500000	47.06	47.06	V	Peak
4093.500000	45.29	45.29	V	Peak
5999.500000	47.10	47.10	V	Peak
6250.000000	50.23	50.23	H	Peak
14323.500000	62.84	62.84	H	Peak
	49.52	49.78		Average
15532.500000	57.88	57.88	H	Peak
	44.76	45.02		Average
16745.500000	61.57	61.57	V	Peak
	48.56	48.82		Average

- MIDDLE CHANNEL (6). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2373.866667	67.07	67.07	H	Peak
	50.55	50.81		Average
2388.200000	68.02	68.02	H	Peak
	52.96	53.32		Average
2389.200000	68.72	68.72	H	Peak
	53.13	53.49		Average
2484.600000	67.14	67.14	H	Peak
	51.58	51.74		Average
3687.500000	47.32	47.32	H	Peak
3750.000000	48.56	48.56	H	Peak
3812.500000	46.50	46.50	V	Peak
4031.500000	44.54	44.54	H	Peak
4093.500000	44.37	44.37	V	Peak
6250.000000	49.70	49.70	H	Peak
9746.000000	56.02	56.02	V	Peak
	42.75	43.01		Average
14320.500000	61.53	61.53	H	Peak
	48.64	48.9		Average
15529.500000	57.97	57.97	V	Peak
	44.72	44.98		Average
16757.500000	60.10	60.10	V	Peak
	47.24	47.5		Average

- CHANNEL (10). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2358.666667	58.31	58.31	H	Peak
	45.00	45.26		Average
2484.533333	66.79	66.79	H	Peak
	52.90	53.16		Average
2491.466667	65.93	65.93	H	Peak
	50.47	50.73		Average
3687.500000	46.61	46.61	H	Peak
3749.000000	44.07	44.07	V	Peak
3818.000000	43.76	43.76	H	Peak
4031.000000	45.35	45.35	H	Peak
4093.500000	43.74	43.74	H	Peak
4375.000000	44.59	44.59	V	Peak
6250.000000	50.74	50.74	H	Peak
14320.000000	61.62	61.62	V	Peak
	48.39	48.65		Average
15533.000000	57.73	57.73	H	Peak
	44.78	45.04		Average
16763.500000	59.92	59.92	V	Peak
	47.14	47.4		Average

- HIGH CHANNEL (11). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2358.533333	56.80	56.80	H	Peak
	43.56	43.82		Average
2483.933333	67.50	67.50	H	Peak
	53.13	53.39		Average
2486.933333	67.73	67.73	H	Peak
	52.88	53.14		Average
3687.000000	44.85	44.85	H	Peak
3750.000000	48.72	48.72	H	Peak
3812.500000	47.22	47.22	V	Peak
4031.000000	44.57	44.57	V	Peak
4093.500000	44.27	44.27	H	Peak
6250.000000	50.11	50.11	H	Peak
15527.500000	57.65	57.65	H	Peak
	44.54	44.8		Average

Measurement Uncertainty (dB): 1 GHz $\leq$ f $\leq$ 17 GHz: $\leq \pm$ 5.13
17 GHz $\leq$ f $\leq$ 26 GHz: $\leq \pm$ 5.08

Verdict: PASS

- **SISO 802.11 n20 (OFDM):**

The results in the next tables show the maximum measured levels in the Restricted Bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

Spurious frequencies 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.

** Duty Cycle Correction (dB): 0.15.*

- RESTRICTED BAND 2.31-2.39 GHz. LOW CHANNEL (1). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2385.400000	61.65	61.65	H	Peak
	46.79	46.94		Average
2389.266667	65.17	65.17	H	Peak
	51.28	51.43		Average

CHANNEL (2). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2386.000000	64.50	64.50	H	Peak
	49.34	49.49		Average
2388.866667	67.11	67.11	H	Peak
	50.93	51.08		Average

MIDDLE CHANNEL. Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2384.266667	64.34	64.34	H	Peak
	48.86	49.01		Average
2389.733333	69.91	69.91	H	Peak
	53.43	53.58		Average

- RESTRICTED BAND 2.4835-2.5 GHz.

MIDDLE CHANNEL. Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2483.800000	68.07	68.07	H	Peak
	52.51	52.66		Average
2487.133333	64.47	64.47	H	Peak
	49.27	49.42		Average

CHANNEL (10). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2483.800000	67.31	67.31	H	Peak
	53.21	53.36		Average
2488.066667	65.25	65.25	H	Peak
	51.49	51.64		Average

HIGH CHANNEL (11). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2483.666667	68.28	68.28	H	Peak
	52.35	52.5		Average
2486.333333	67.92	67.92	H	Peak
	51.39	51.54		Average

Measurement Uncertainty (dB): 1 GHz ≤ f ≤ 17 GHz: <± 5.13
17 GHz ≤ f ≤ 26 GHz: <± 5.08

Verdict: PASS

- **SISO 802.11 n40 (OFDM):**

The results in the next tables show the maximum measured levels in the Restricted Bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

Spurious frequencies 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.

** Duty Cycle Correction (dB): 0.61.*

- RESTRICTED BAND 2.31-2.39 GHz. LOW CHANNEL (3). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2384.800000	66.02	66.02	H	Peak
	50.91	51.52		Average
2389.666667	65.45	65.45	H	Peak
	51.11	51.72		Average

CHANNEL (4). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2377.933333	64.07	64.07	H	Peak
	49.49	50.10		Average
2389.466667	68.78	68.78	H	Peak
	52.75	53.36		Average

MIDDLE CHANNEL. Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2388.400000	67.40	67.40	H	Peak
	52.41	53.02		Average

- RESTRICTED BAND 2.4835-2.5 GHz.

MIDDLE CHANNEL. Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2484.800000	67.54	67.54	H	Peak
	52.86	53.47		Average

CHANNEL (8). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2484.866667	68.58	68.58	H	Peak
	53.37	53.98		Average
2492.933333	66.70	66.70	H	Peak
	51.69	52.30		Average

HIGH CHANNEL (9). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2483.733333	66.98	66.98	H	Peak
	52.45	53.06		Average

Measurement Uncertainty (dB): 1 GHz $\leq$ f $\leq$ 17 GHz: <± 5.13
17 GHz $\leq$ f $\leq$ 26 GHz: <± 5.08

Verdict: PASS

OFDMA modes:

For spurious emissions in the range 30 MHz - 26 GHz (except field strength at the band edges that was performed for all modes) a preliminary scan was performed to determine the worst case mode.

Spurious emissions in the Restricted Bands 2.31-2.39 GHz and 2.4835-2.5 GHz are measured for all modes.
The following results and plots are for the OFDMA worst case mode.

- **SISO OFDMA worst case mode: 802.11 he20.**
  - **SISO 802.11 he20 (OFDMA worst case for spurious emissions):**

    Frequency range 1 - 26 GHz:

    The results in the next tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

    Spurious frequencies 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.

    ** Duty Cycle Correction (dB): 0.15.*

    - LOW CHANNEL (1). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2387.466667	63.60	63.60	H	Peak
	49.31	49.46		Average
2389.666667	65.54	65.54	H	Peak
	51.47	51.62		Average
2489.866667	57.60	57.60	H	Peak
	44.51	44.66		Average
3687.500000	46.67	46.67	H	Peak
3749.500000	47.34	47.34	H	Peak
3812.500000	46.41	46.41	V	Peak
3937.500000	44.44	44.44	V	Peak
4031.000000	43.81	43.81	H	Peak
4093.500000	44.87	44.87	V	Peak
4312.500000	45.51	45.51	H	Peak
4375.000000	46.38	46.38	V	Peak
4454.500000	44.70	44.70	V	Peak
6000.000000	49.62	49.62	V	Peak
6250.000000	49.86	49.86	H	Peak
15533.500000	57.44	57.44	V	Peak
	44.29	44.44		Average

- CHANNEL (2). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2381.800000	60.85	60.85	H	Peak
	46.82	46.97		Average
2389.466667	69.75	69.75	H	Peak
	50.59	50.74		Average
2484.533333	59.16	59.16	H	Peak
	45.56	45.71		Average
3687.500000	46.43	46.43	H	Peak
3750.000000	48.12	48.12	H	Peak
3812.500000	46.80	46.80	H	Peak
4031.000000	45.18	45.18	H	Peak
4093.500000	43.09	43.09	V	Peak
4455.000000	46.66	46.66	V	Peak
6250.000000	48.99	48.99	H	Peak
15533.500000	57.41	57.41	V	Peak
	44.31	44.46		Average

- MIDDLE CHANNEL (6). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2370.266667	65.56	65.56	H	Peak
	48.97	49.12		Average
2389.933333	69.57	69.57	H	Peak
	51.91	52.06		Average
2483.533333	68.40	68.40	H	Peak
	51.86	52.01		Average
2484.866667	66.62	66.62	H	Peak
	51.25	51.4		Average
3687.500000	46.89	46.89	H	Peak
3750.000000	47.84	47.84	H	Peak
3812.500000	46.62	46.62	H	Peak
4031.000000	44.57	44.57	H	Peak
4093.500000	44.80	44.80	H	Peak
4454.500000	45.83	45.83	V	Peak
6250.000000	48.32	48.32	H	Peak
15534.000000	57.44	57.44	H	Peak
	44.56	44.71		Average

- CHANNEL (10). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2384.933333	58.37	58.37	H	Peak
	44.96	45.11		Average
2483.666667	68.90	68.90	H	Peak
	53.71	53.86		Average
2486.600000	67.76	67.76	H	Peak
	53.27	53.42		Average
3687.500000	46.06	46.06	H	Peak
3749.500000	45.97	45.97	V	Peak
3812.500000	46.90	46.90	V	Peak
4031.000000	45.38	45.38	V	Peak
4093.500000	43.21	43.21	V	Peak
4455.000000	46.32	46.32	V	Peak
6000.500000	47.73	47.73	V	Peak
6250.000000	50.04	50.04	H	Peak
15531.500000	57.78	57.78	H	Peak
	44.84	44.99		Average

- HIGH CHANNEL. Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2382.466667	55.95	55.95	H	Peak
	42.94	43.09		Average
2483.533333	67.40	67.40	H	Peak
	52.39	52.54		Average
2488.733333	65.94	65.94	H	Peak
	50.03	50.18		Average
3687.500000	46.82	46.82	H	Peak
3750.000000	48.05	48.05	V	Peak
3812.500000	48.07	48.07	H	Peak
4031.000000	45.13	45.13	H	Peak
4093.500000	44.40	44.40	H	Peak
4752.500000	45.77	45.77	V	Peak
6250.000000	49.08	49.08	H	Peak
15527.000000	56.90	56.90	V	Peak
	44.12	44.27		Average

Measurement Uncertainty (dB): 1 GHz $\leq$ f $\leq$ 17 GHz: <± 5.13
17 GHz $\leq$ f $\leq$ 26 GHz: <± 5.08

Verdict: PASS

- **SISO 802.11 he40 (OFDMA):**

The results in the next tables show the maximum measured levels in the Restricted Bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

Spurious frequencies 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.

** Duty Cycle Correction (dB): 0.20.*

- RESTRICTED BAND 2.31-2.39 GHz. LOW CHANNEL. Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2388.933333	68.01	68.01	H	Peak
	53.12	53.32		Average

- CHANNEL (4). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2387.266667	66.98	66.98	H	Peak
	52.02	52.42		Average

- MIDDLE CHANNEL. Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2384.933333	67.87	67.87	H	Peak
	52.37	52.57		Average

- RESTRICTED BAND 2.4835-2.5 GHz.

- MIDDLE CHANNEL. Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2484.000000	68.11	68.11	H	Peak
	52.98	53.18		Average

- CHANNEL (8). Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2483.800000	67.94	67.94	H	Peak
	53.30	53.50		Average

- HIGH CHANNEL. Spurious frequencies closest to the limit:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Corrected Emission Level (dBµV/m)	Polarization	Detector
2483.666667	67.87	67.87	H	Peak
	53.25	53.45		Average

Measurement Uncertainty (dB): 1 GHz ≤ f ≤ 17 GHz: <± 5.13
17 GHz ≤ f ≤ 26 GHz: <± 5.08

Verdict: PASS