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.

The equipment transmits continuously in the selected channel so it is not necessary a duty cycle correction factor.

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)
158.04	PV	Quasi-Peak	28.16	± 4.12
257.95	PV	Quasi-Peak	25.83	± 4.12
340.40	PV	Quasi-Peak	32.06	± 4.12
484.93	PV	Quasi-Peak	30.53	± 4.12

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 1-18 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. Single transmission at each chain and simultaneous transmission at both chains modes were fully evaluated.

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

Note: For the lowest and highest channels the power was adjusted to the values of the adjacent respective channels, which are 1 dB higher, for checking compliance inside the restricted bands for lowest, highest and adjacent channels.

1.1. CHANNEL 1: LOWEST (2412 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.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38772	PH	Peak	53.16	± 4.00
2.49295	PH	Peak	48.28	± 4.00
4.82396	PV	Peak	46.65	± 4.00
7.23674	PV	Peak	47.12	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38596	PH	Peak	52.62	± 4.00
2.483723	PH	Peak	50.00	± 4.00
2.570685	PH	Peak	50.94	± 4.00
4.824036	PV	Peak	48.39	± 4.00

1.2. 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.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38868	PH	Peak	50.87	± 4.00
2.48569	PH	Peak	50.32	± 4.00
3.04106	PV	Peak	39.19	± 4.00
4.87395	PV	Peak	47.69	± 4.00
7.30879	PV	Peak	48.16	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38996	PH	Peak	50.85	± 4.00
2.48384	PH	Peak	52.18	± 4.00
4.87699	PV	Peak	45.07	± 4.00

1.3. CHANNEL 11: HIGHEST (2462 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.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38996	PH	Peak	47.25	± 4.00
2.49971	PH	Peak	52.35	± 4.00
2.62383	PH	Peak	48.82	± 4.00
7.38694	PV	Peak	49.37	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38996	PH	Peak	48.14	± 4.00
2.48361	PH	Peak	51.99	± 4.00
2.62013	PH	Peak	49.17	± 4.00
4.92396	PV	Peak	54.26	± 4.00
		Average	53.30	± 4.00

Verdict: PASS

1.4. CHANNEL 12: (2467 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. For information purposes only.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38940	PH	Peak	46.25	± 4.00
2.48559	PH	Peak	49.36	± 4.00
4.93412	PV	Peak	38.92	± 4.00
7.40160	PV	Peak	44.89	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38780	PH	Peak	46.37	± 4.00
2.48354	PH	Peak	53.47	± 4.00
4.93410	PV	Peak	36.97	± 4.00

Verdict: PASS

1.5. CHANNEL 13: (2472 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. For information purposes only.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.37764	PH	Peak	44.86	± 4.00
2.48673	PH	Peak	50.06	± 4.00
4.94340	PV	Peak	39.28	± 4.00
7.41470	PV	Peak	43.02	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38732	PH	Peak	46.47	± 4.00
2.48476	PH	Peak	55.22	± 4.00
		Average	48.07	± 4.00
4.94340	PV	Peak	37.84	± 4.00

Verdict: PASS

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

Note: For checking compliance of adjacent channels inside the restricted bands, mode n20 was tested, which has the same channel power adjustment, modulation scheme and a wider occupied bandwidth.

2.1. CHANNEL 1: LOWEST (2412 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.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38996	PH	Peak	59.83	± 4.00
		Average	48.23	± 4.00
2.48437	PH	Peak	47.67	± 4.00
2.56797	PH	Peak	47.83	± 4.00
4.82380	PV	Peak	40.16	± 4.00
7.23366	PV	Peak	45.85	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38988	PH	Peak	60.76	± 4.00
		Average	46.21	± 4.00
2.48394	PH	Peak	48.65	± 4.00
4.82342	PV	Peak	58.19	± 4.00
		Average	46.12	± 4.00

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.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38996	PH	Peak	54.15	± 4.00
		Average	41.17	± 4.00
2.48402	PH	Peak	59.78	± 4.00
		Average	41.87	± 4.00
2.59369	PH	Peak	48.42	± 4.00
4.87373	PV	Peak	47.02	± 4.00
7.31195	PV	Peak	44.41	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38956	PH	Peak	60.20	± 4.00
		Average	47.15	± 4.00
2.48007	PH	Peak	59.95	± 4.00
		Average	46.37	± 4.00
4.87455	PV	Peak	60.62	± 4.00
		Average	50.79	± 4.00

2.5. CHANNEL 11: HIGHEST (2462 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.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38892	PH	Peak	47.47	± 4.00
2.48357	PH	Peak	54.04	± 4.00
		Average	40.35	± 4.00
7.38516	PV	Peak	49.51	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38772	PH	Peak	47.08	± 4.00
2.48359	PH	Peak	53.27	± 4.00
4.92393	PV	Peak	49.40	± 4.00

Verdict: PASS

2.6. CHANNEL 12: (2467 MHz). Spurious emissions inside restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz. For information purposes only.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.39000	PH	Peak	44.44	± 4.00
2.48354	PH	Peak	61.70	± 4.00
		Average	43.43	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38980	PH	Peak	45.42	± 4.00
2.48351	PH	Peak	62.06	± 4.00
		Average	44.68	± 4.00

Verdict: PASS

2.7. CHANNEL 13: (2472 MHz). Spurious emissions inside restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz. For information purposes only.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38660	PH	Peak	46.59	± 4.00
2.48354	PH	Peak	65.54	± 4.00
		Average	47.38	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.36268	PH	Peak	45.42	± 4.00
2.48357	PH	Peak	65.71	± 4.00
		Average	49.07	± 4.00

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.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38972	PH	Peak	62.98	± 4.00
		Average	49.91	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38996	PH	Peak	61.73	± 4.00
		Average	48.24	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38996	PH	Peak	66.25	± 4.00
		Average	51.83	± 4.00

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

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38980	PH	Peak	63.78	± 4.00
		Average	49.69	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38988	PH	Peak	63.20	± 4.00
		Average	45.50	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38996	PH	Peak	61.43	± 4.00
		Average	47.13	± 4.00

3.3. 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.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38972	PH	Peak	52.26	± 4.00
2.48379	PH	Peak	55.75	± 4.00
		Average	41.86	± 4.00
2.59892	PH	Peak	48.21	± 4.00
4.87324	PV	Peak	47.17	± 4.00
7.31017	PV	Peak	43.93	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38980	PH	Peak	60.85	± 4.00
		Average	47.47	± 4.00
2.48369	PV	Peak	59.70	± 4.00
		Average	46.22	± 4.00
2.59300	PH	Peak	49.24	± 4.00
4.87498	PV	Peak	60.04	± 4.00
		Average	50.78	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38996	PH	Peak	64.09	± 4.00
		Average	51.72	± 4.00
2.48409	PH	Peak	66.52	± 4.00
		Average	52.20	± 4.00
4.87404	PV	Peak	56.70	± 4.00
		Average	45.28	± 4.00
7.31340	PV	Peak	45.95	± 4.00

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

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48369	PH	Peak	58.44	± 4.00
		Average	43.92	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48369	PH	Peak	57.34	± 4.00
		Average	44.52	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48395	PH	Peak	67.15	± 4.00
		Average	53.88	± 4.00

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

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48371	PH	Peak	57.77	± 4.00
		Average	42.49	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48353	PH	Peak	57.43	± 4.00
		Average	43.76	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48353	PH	Peak	65.00	± 4.00
		Average	50.42	± 4.00

3.6. CHANNEL 12: (2467 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. For information purposes only.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.37796	PH	Peak	45.69	± 4.00
2.48357	PH	Peak	59.82	± 4.00
		Average	43.53	± 4.00
7.3997	PV	Peak	43.42	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38900	PH	Peak	47.14	± 4.00
2.48359	PH	Peak	62.66	± 4.00
		Average	44.44	± 4.00
4.93410	PV	Peak	36.60	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38676	PH	Peak	45.97	± 4.00
2.48351	PH	Peak	63.70	± 4.00
		Average	47.40	± 4.00
4.93412	PV	Peak	39.36	± 4.00

3.7. CHANNEL 13: (2472 MHz). Spurious emissions inside restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz. For information purposes only.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.37860	PH	Peak	45.06	± 4.00
2.48351	PH	Peak	66.72	± 4.00
		Average	47.12	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38660	PH	Peak	45.11	± 4.00
2.48361	PH	Peak	67.14	± 4.00
		Average	48.32	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.37452	PH	Peak	45.69	± 4.00
2.48354	PH	Peak	68.03	± 4.00
		Average	49.41	± 4.00

4. WiFi 2.4GHz 802.11 n40 mode

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

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38996	PH	Peak	60.72	± 4.00
		Average	50.10	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38980	PH	Peak	64.73	± 4.00
		Average	53.57	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38956	PH	Peak	63.31	± 4.00
		Average	51.56	± 4.00

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

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38988	PH	Peak	60.71	± 4.00
		Average	49.73	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38924	PH	Peak	64.91	± 4.00
		Average	52.54	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38988	PH	Peak	64.83	± 4.00
		Average	52.16	± 4.00

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

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38972	PH	Peak	61.92	± 4.00
		Average	49.89	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38988	PH	Peak	65.46	± 4.00
		Average	50.86	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38980	PH	Peak	62.35	± 4.00
		Average	49.33	± 4.00

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.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38988	PH	Peak	64.77	± 4.00
		Average	50.50	± 4.00
2.48353	PH	Peak	66.27	± 4.00
		Average	53.01	± 4.00
4.87425	PV	Peak	42.15	± 4.00
7.30408	PV	Peak	42.72	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38972	PH	Peak	71.93	± 4.00
		Average	53.78	± 4.00
2.48353	PH	Peak	67.85	± 4.00
		Average	53.91	± 4.00
2.59500	PH	Peak	50.53	± 4.00
4.87664	PV	Peak	55.61	± 4.00
		Average	46.32	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38988	PH	Peak	62.51	± 4.00
		Average	48.65	± 4.00
2.48369	PH	Peak	65.72	± 4.00
		Average	50.42	± 4.00
4.87181	PH	Peak	52.60	± 4.00

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

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48377	PH	Peak	58.65	± 4.00
		Average	47.69	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48369	PH	Peak	58.73	± 4.00
		Average	46.79	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48357	PH	Peak	65.71	± 4.00
		Average	51.75	± 4.00

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

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48354	PH	Peak	56.76	± 4.00
		Average	45.33	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48353	PH	Peak	59.56	± 4.00
		Average	47.15	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48422	PH	Peak	65.88	± 4.00
		Average	51.75	± 4.00

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

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48351	PH	Peak	56.40	± 4.00
		Average	45.03	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48354	PH	Peak	59.63	± 4.00
		Average	47.41	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.48351	PH	Peak	59.97	± 4.00
		Average	46.87	± 4.00

4.8. CHANNEL 10F: (2457 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. For information purposes only.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.37884	PH	Peak	45.16	± 4.00
2.48351	PH	Peak	54.36	± 4.00
		Average	41.75	± 4.00

Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38932	PH	Peak	48.14	± 4.00
2.48353	PH	Peak	58.37	± 4.00
		Average	47.18	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38972	PH	Peak	46.08	± 4.00
2.48353	PH	Peak	58.37	± 4.00
		Average	47.18	± 4.00
4.91342	PV	Peak	36.70	± 4.00

4.9. CHANNEL 11F: (2462 MHz). Spurious emissions inside restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz. For information purposes only.

Chain A

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.37932	PH	Peak	45.08	± 4.00
2.48366	PH	Peak	60.11	± 4.00
		Average	45.04	± 4.00

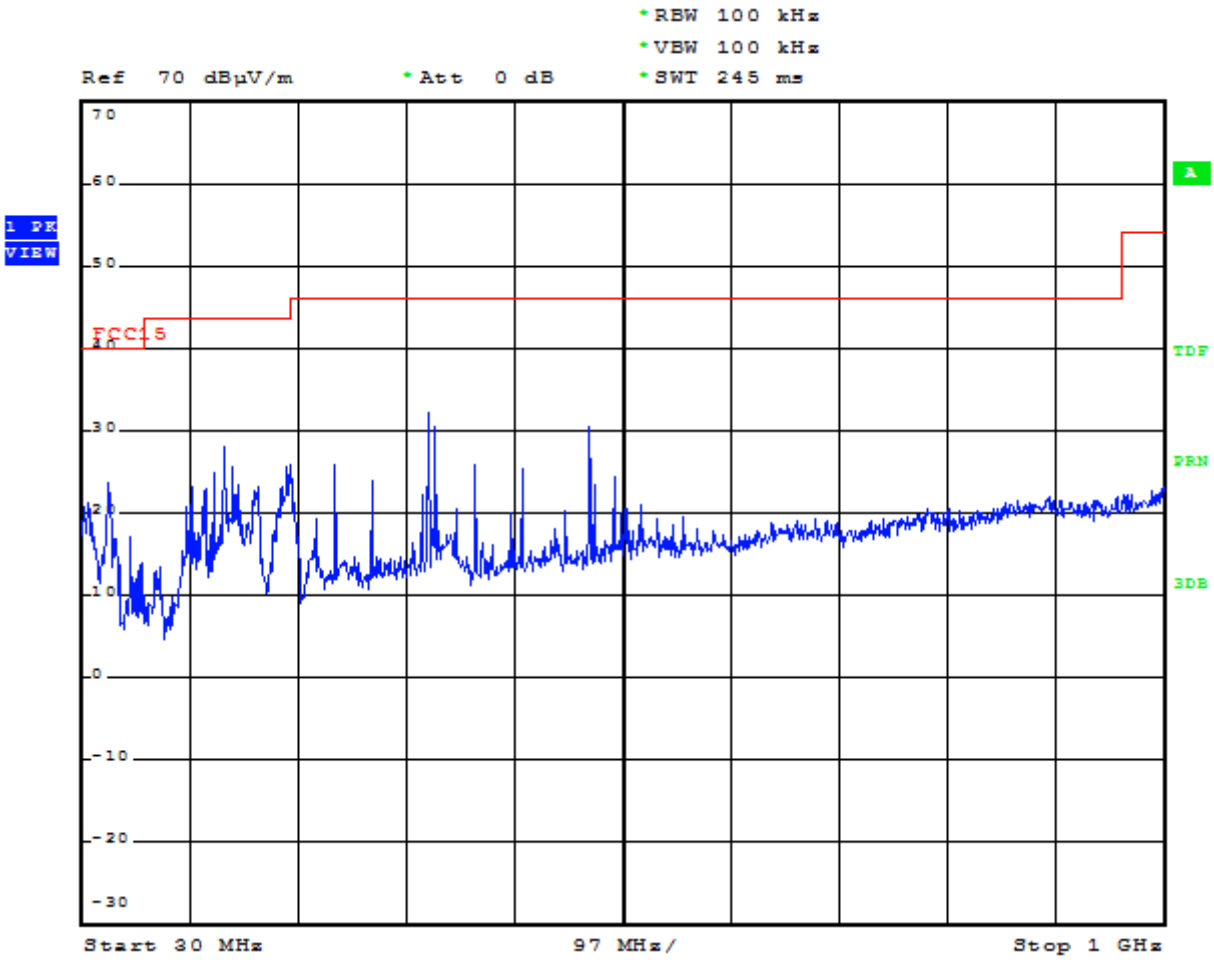
Chain B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38465	PH	Peak	45.12	± 4.00
2.48369	PH	Peak	60.05	± 4.00
		Average	46.91	± 4.00

Chain A+B

Spurious frequency (GHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
2.38924	PH	Peak	45.61	± 4.00
2.48353	PH	Peak	60.63	± 4.00
		Average	47.40	± 4.00

FREQUENCY RANGE 30 MHz-1000 MHz.

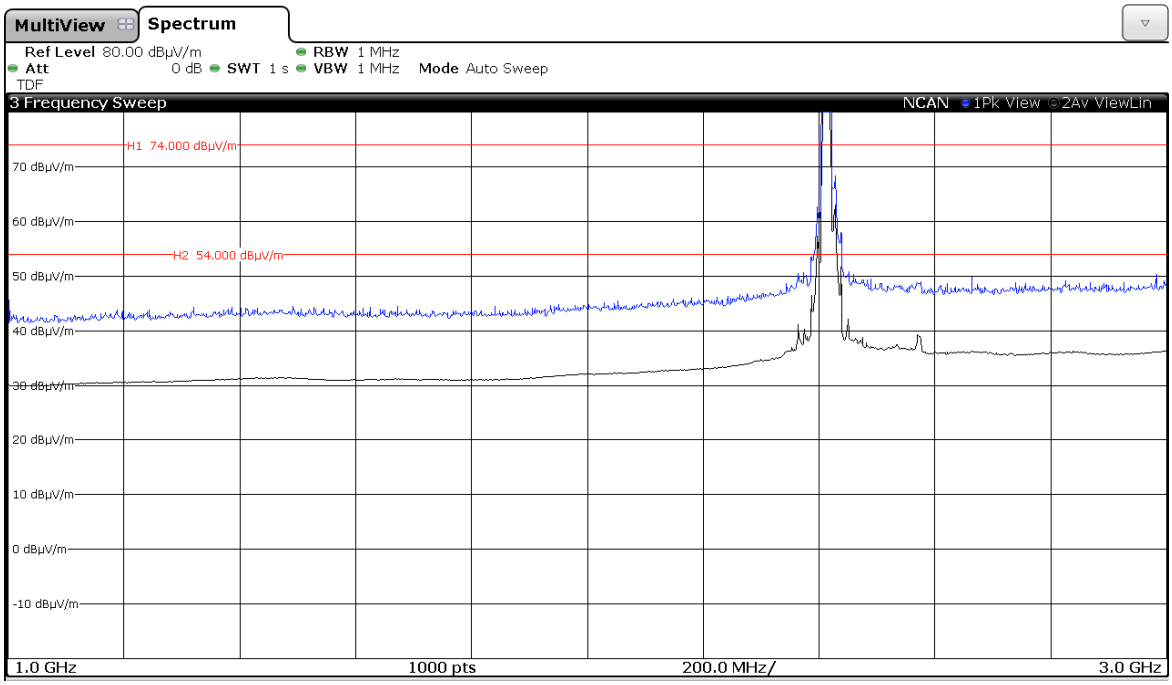


(This plot is valid for all three channels and all modulation modes).

FREQUENCY RANGE 1 GHz to 3 GHz.

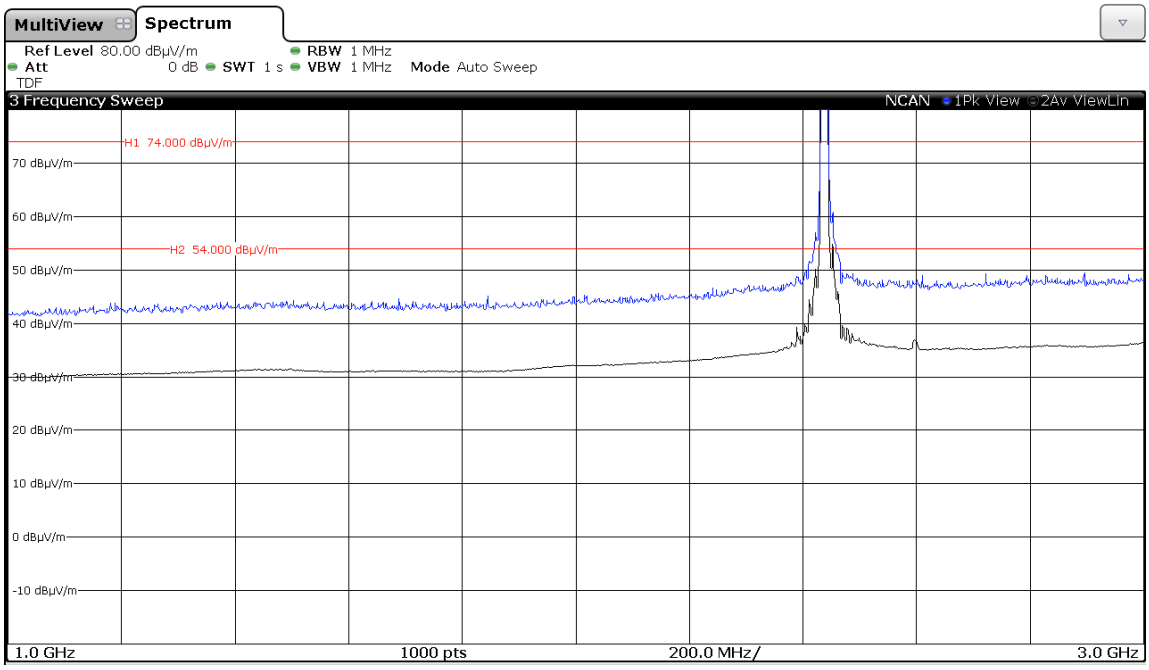
1. WiFi 2.4GHz 802.11 b mode

CHANNEL 1 (2412 MHz).



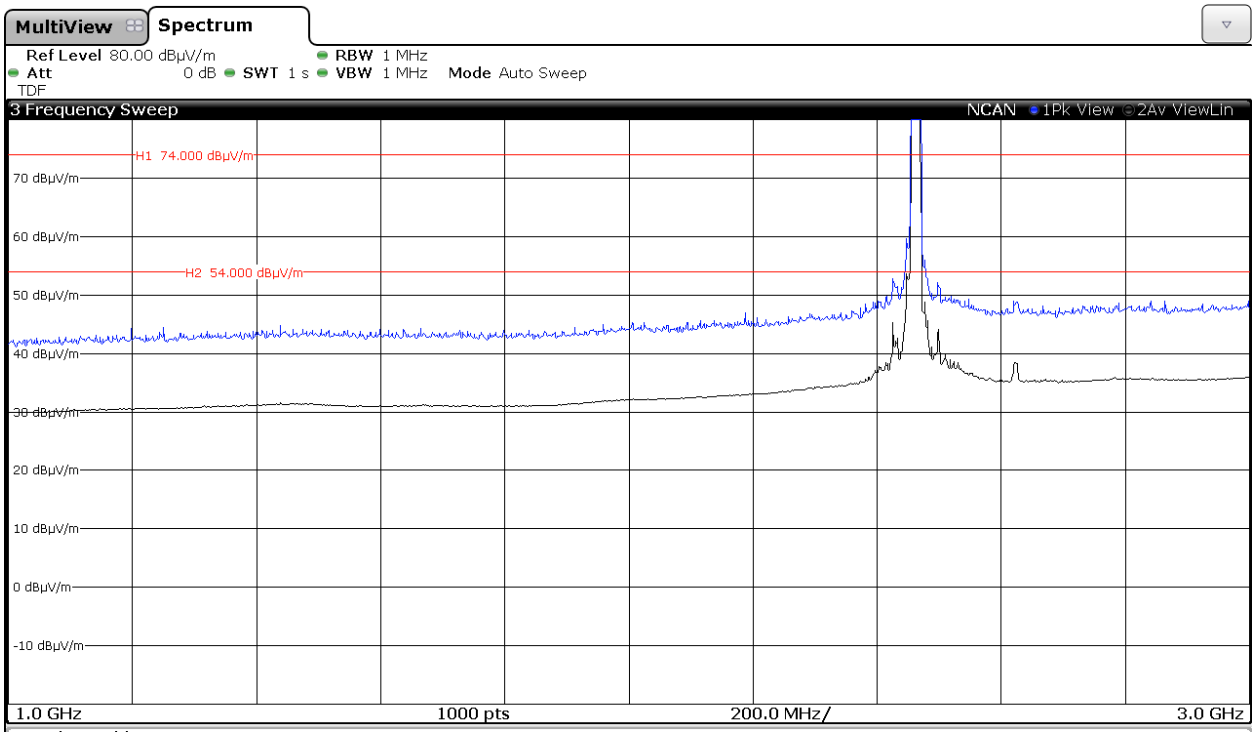
Note: The peak above the limit is the carrier frequency. This plot is valid for both Chain A and Chain B.

CHANNEL 6 (2437 MHz).



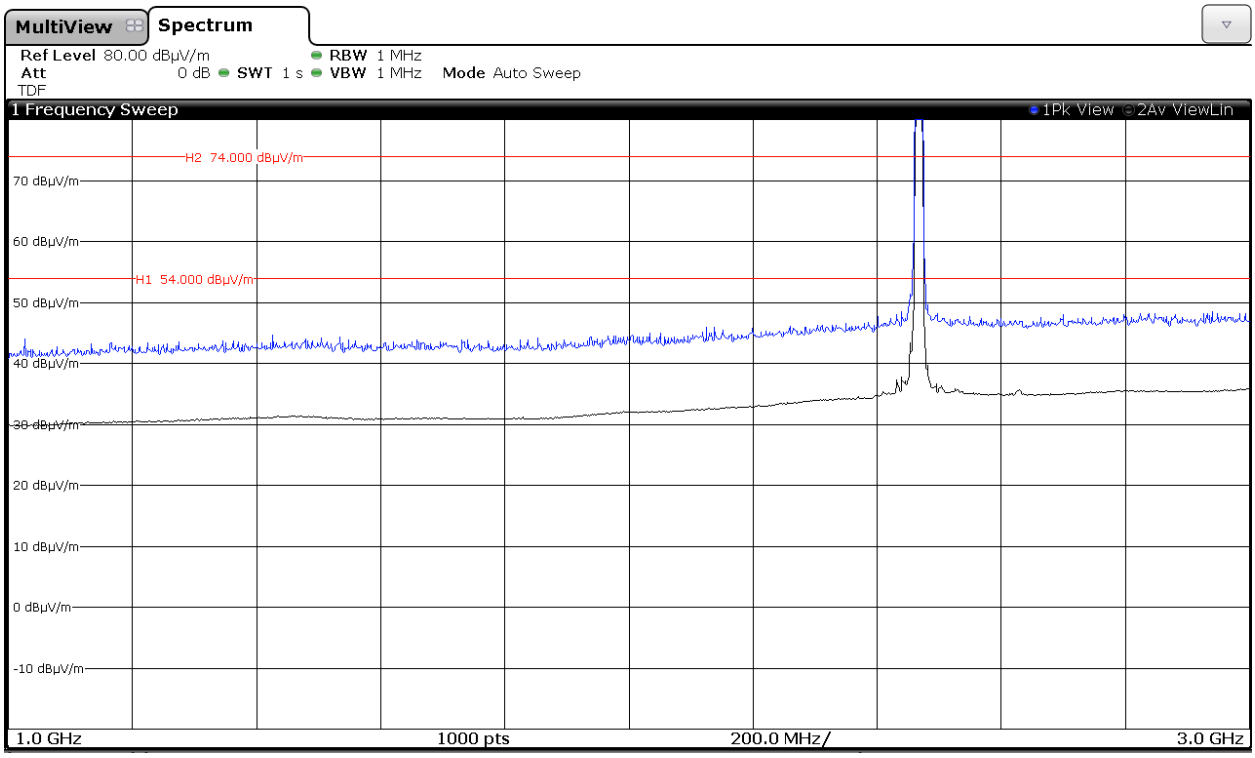
Note: The peak above the limit is the carrier frequency. This plot is valid for both Chain A and Chain B.

CHANNEL 11 (2462 MHz).



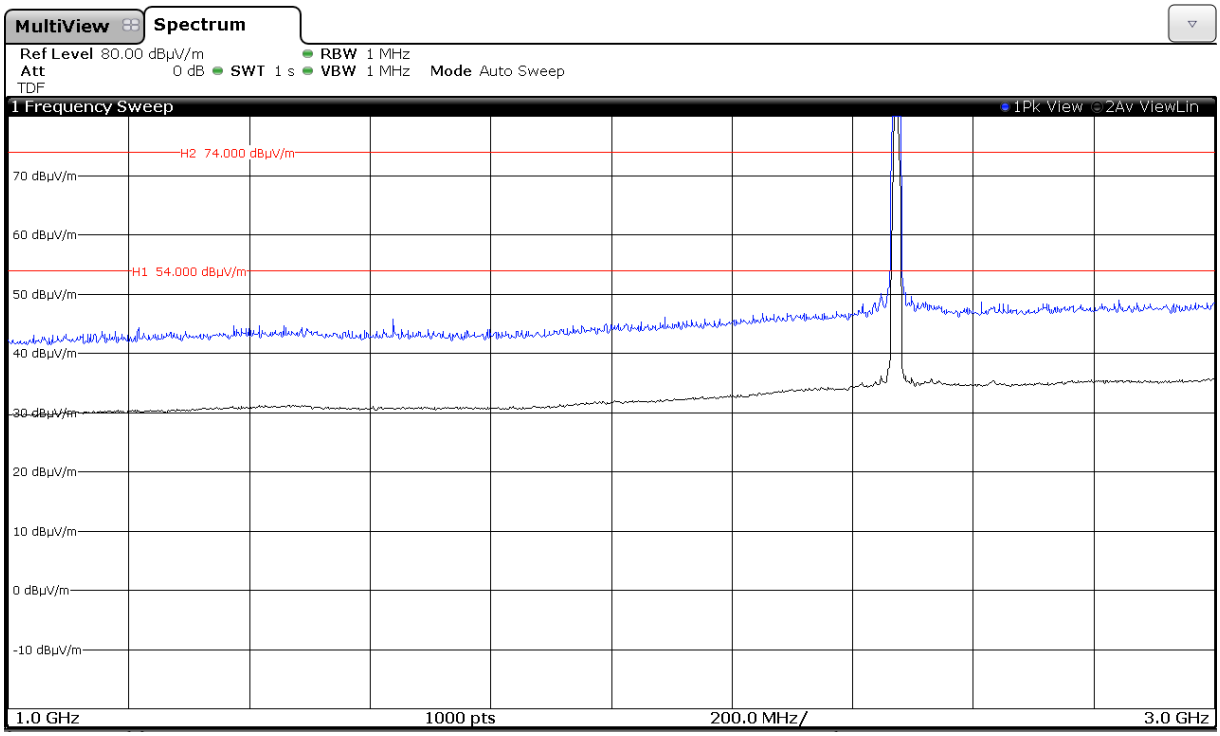
Note: The peak above the limit is the carrier frequency. This plot is valid for both Chain A and Chain B.

CHANNEL 12 (2467 MHz).



Note: The peak above the limit is the carrier frequency. This plot is valid for both Chain A and Chain B.

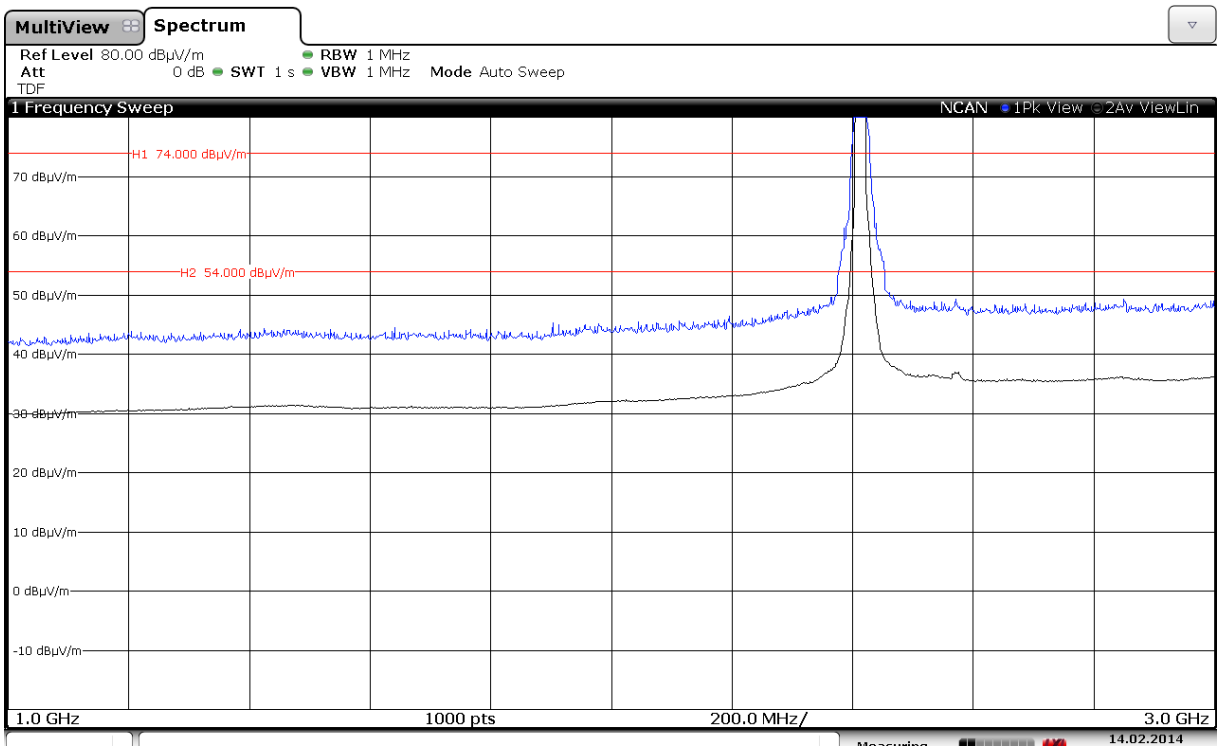
CHANNEL 13 (2472 MHz).



Note: The peak above the limit is the carrier frequency. This plot is valid for both Chain A and Chain B.

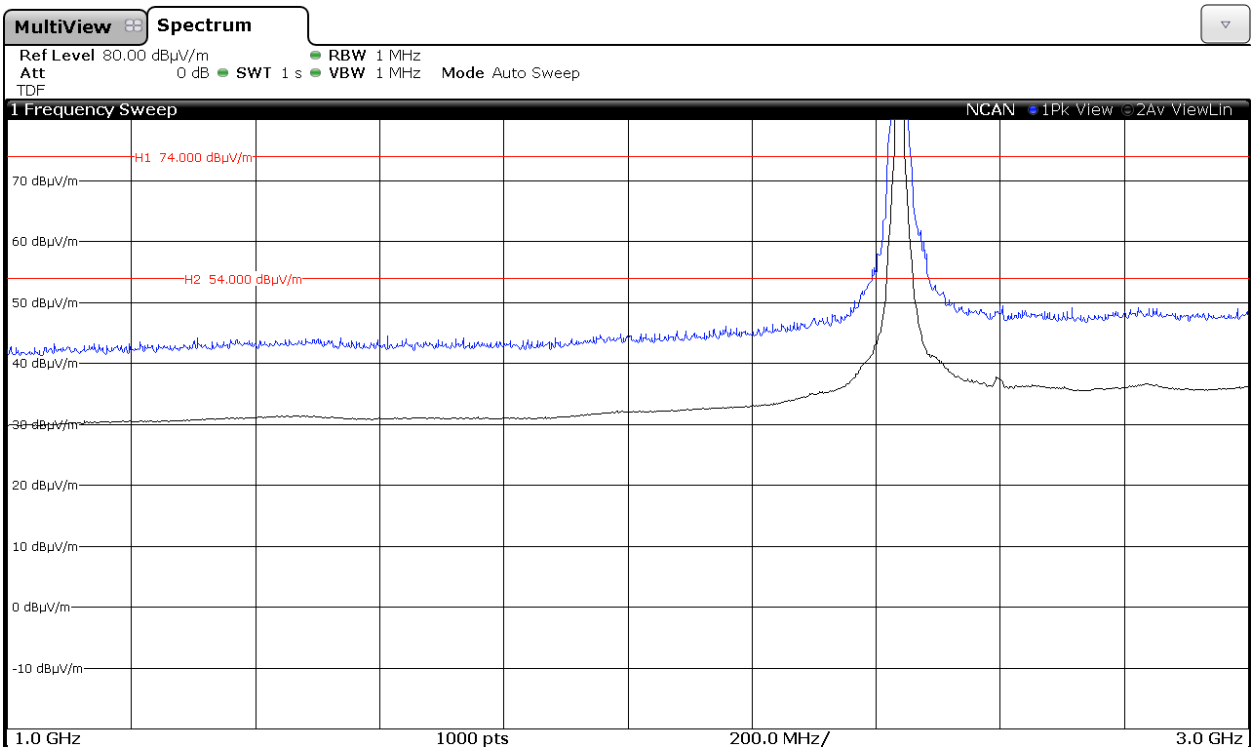
2. WiFi 2.4GHz 802.11 g mode (worst case)

CHANNEL 1 (2412 MHz).



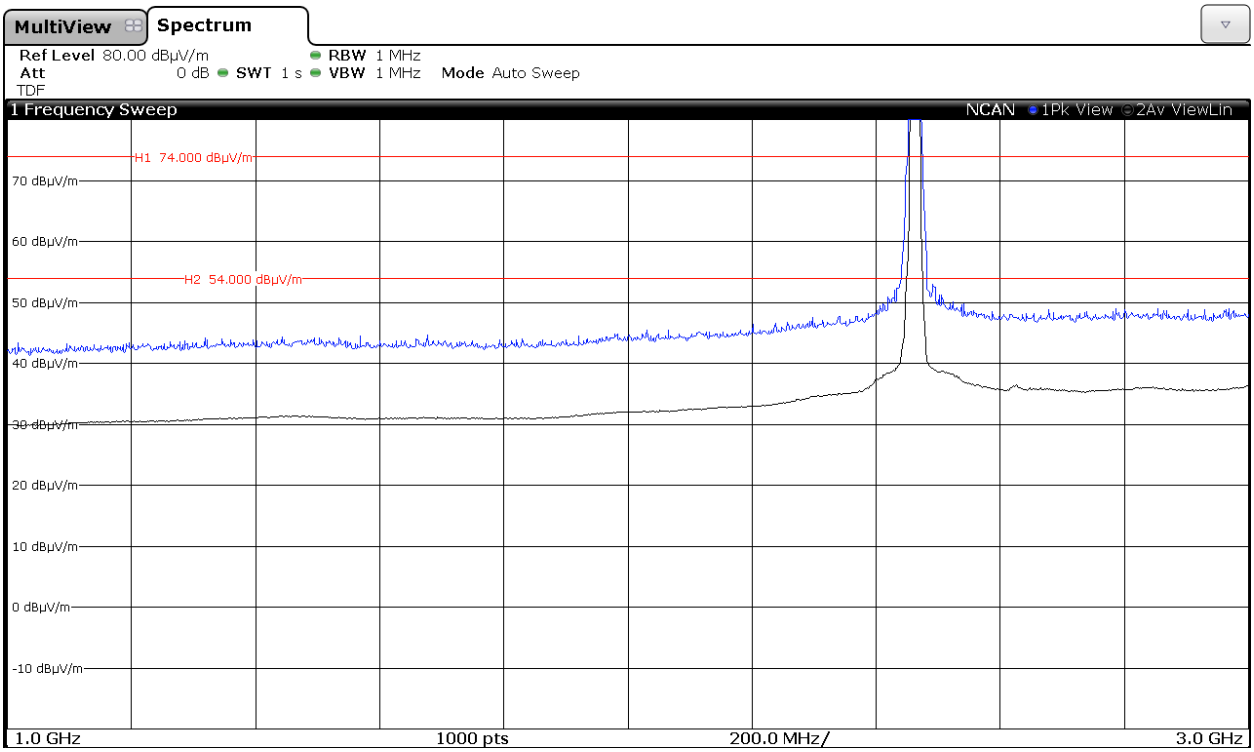
Note: The peak above the limit is the carrier frequency. This plot is valid for both Chain A and Chain B.

CHANNEL 6 (2437 MHz).



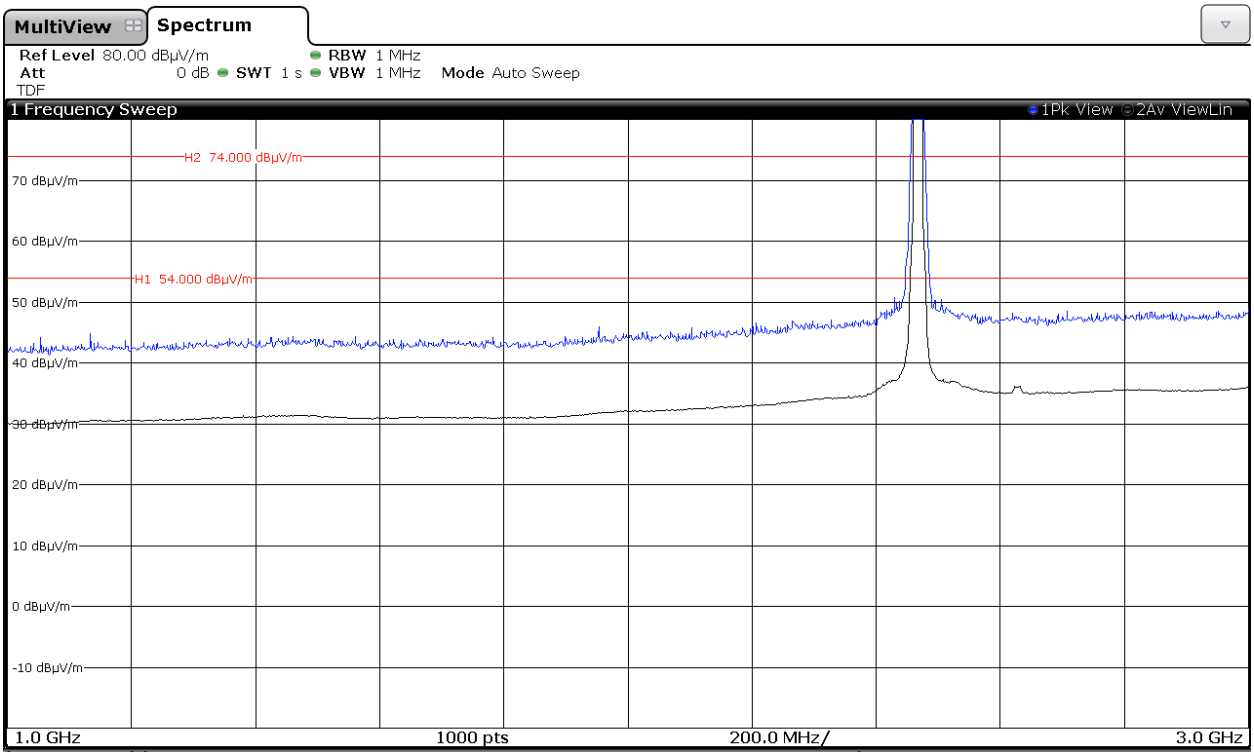
Note: The peak above the limit is the carrier frequency. This plot is valid for both Chain A and Chain B.

CHANNEL 11 (2462 MHz).



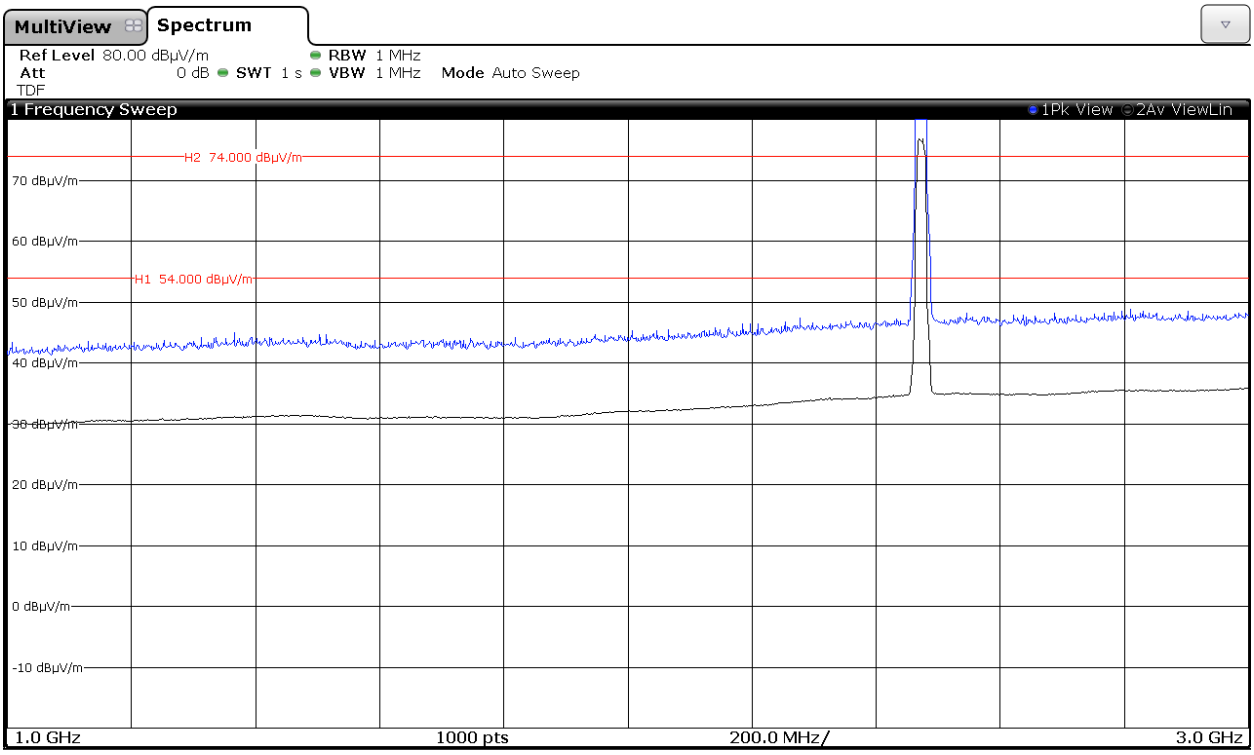
Note: The peak above the limit is the carrier frequency. This plot is valid for both Chain A and Chain B.

CHANNEL 12 (2467 MHz).



Note: The peak above the limit is the carrier frequency. This plot is valid for both Chain A and Chain B.

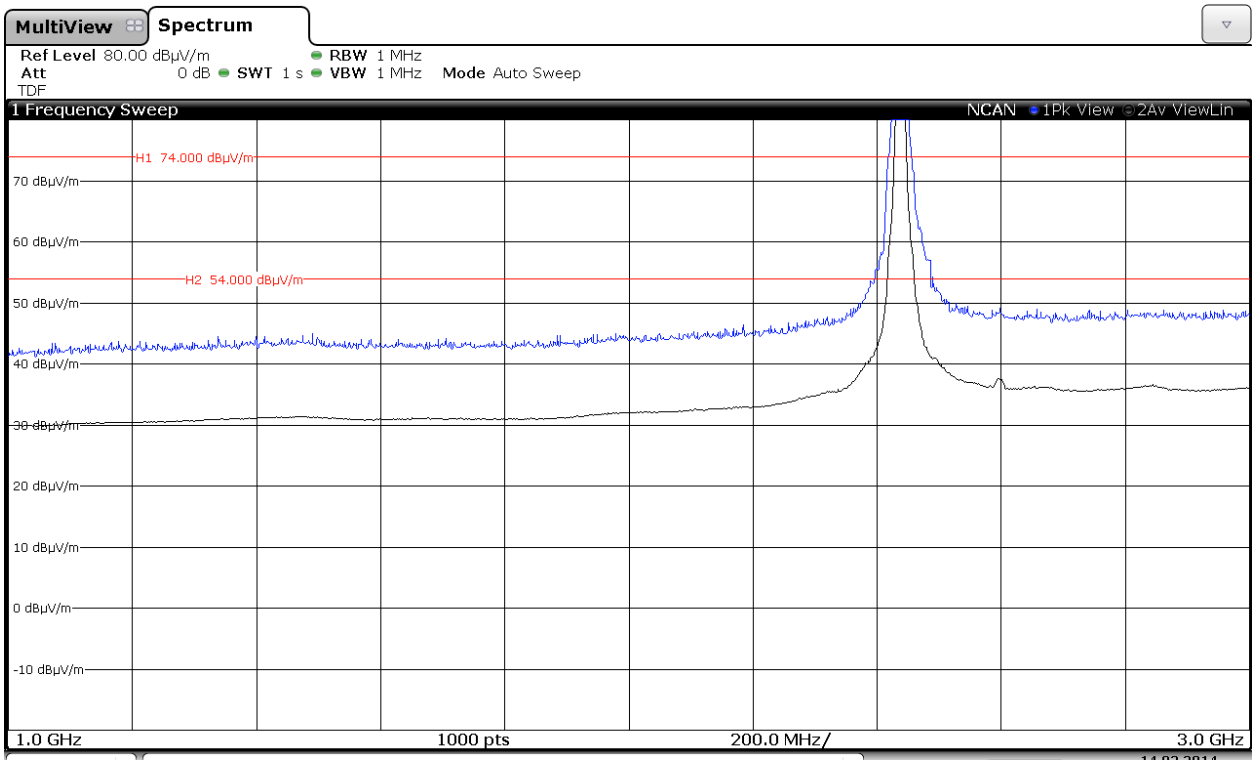
CHANNEL 13 (2472 MHz).



Note: The peak above the limit is the carrier frequency. This plot is valid for both Chain A and Chain B.

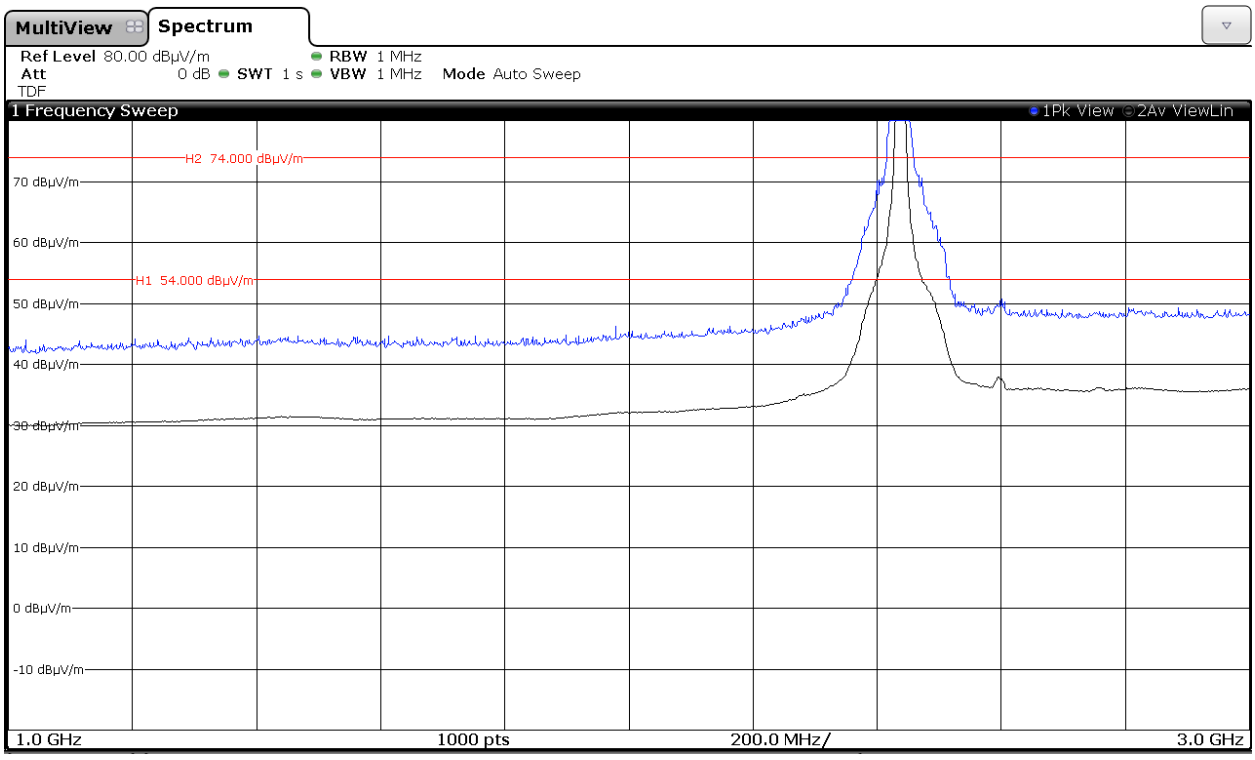
3.WiFi 2.4GHz 802.11 n20 mode

CHANNEL 6 (2437 MHz).



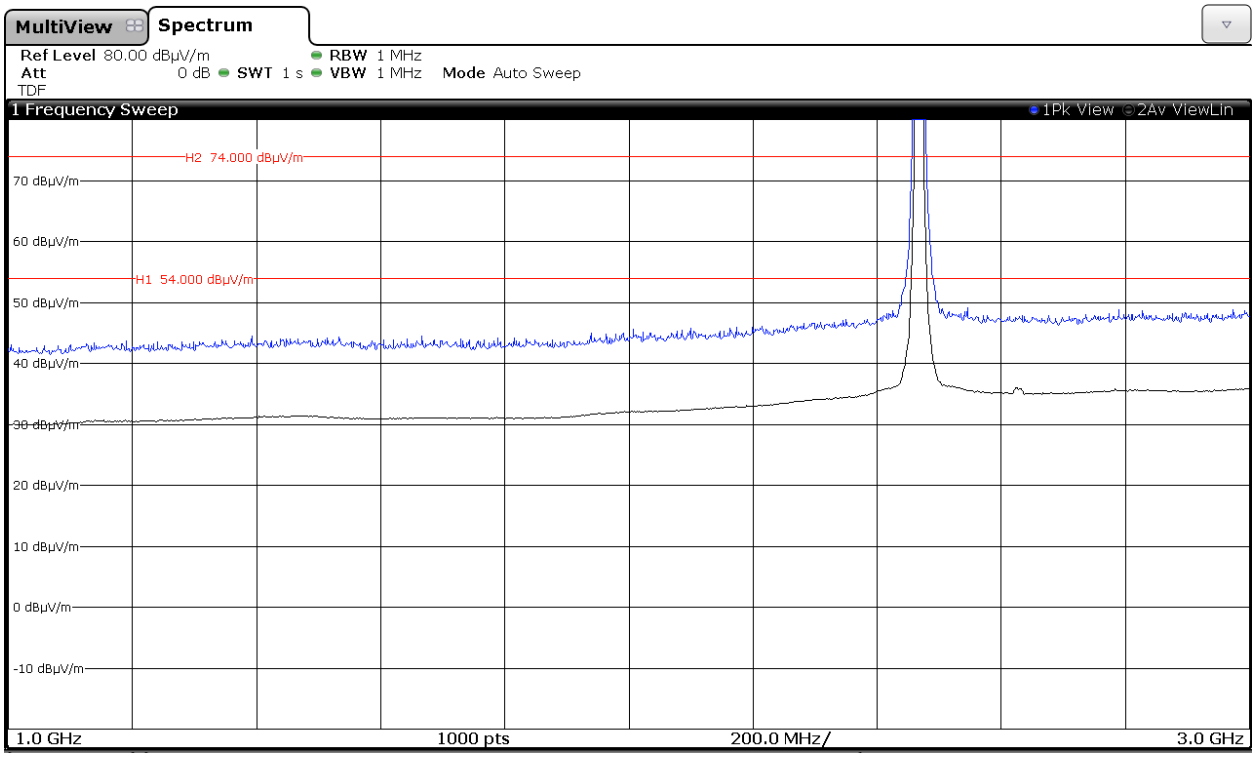
Note: The peak above the limit is the carrier frequency. This plot is valid for both Chain A and Chain B.

Chain A+B.



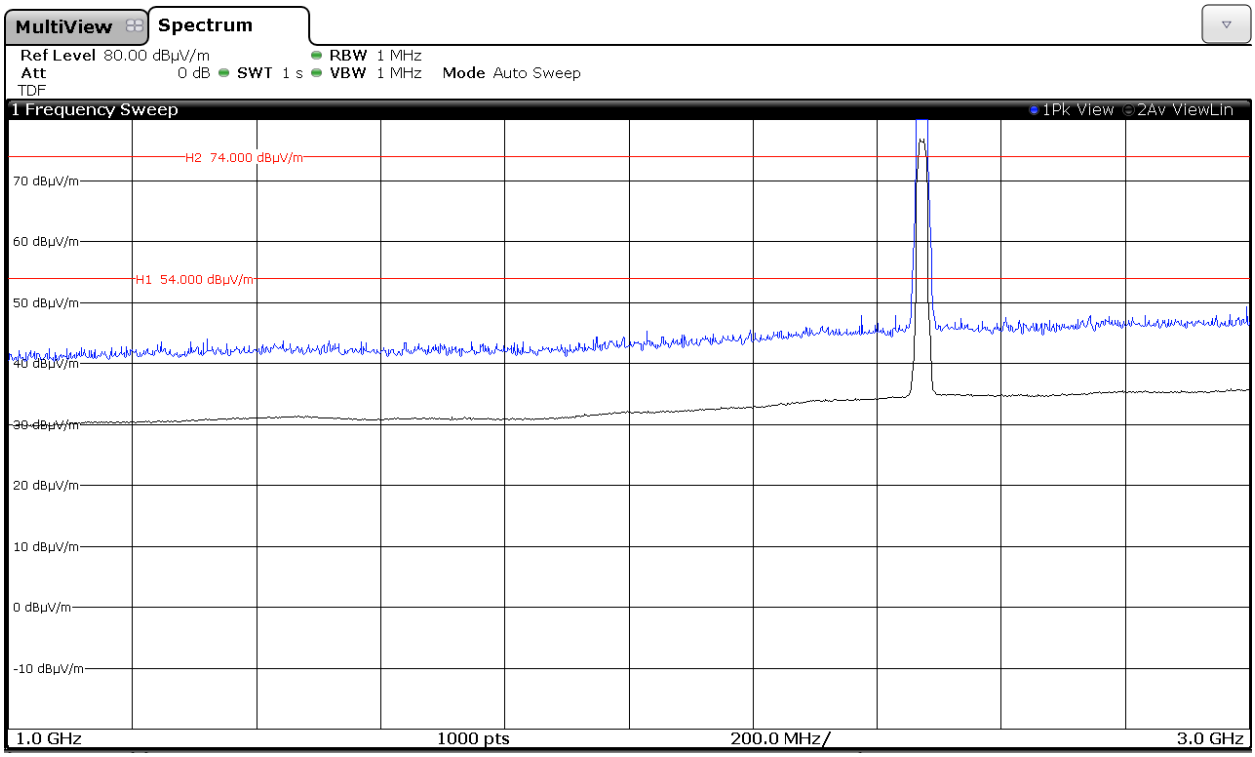
Note: The peak above the limit is the carrier frequency.

CHANNEL 12 (2467 MHz).



Note: The peak above the limit is the carrier frequency. This plot is valid for Chain A, Chain B and Chain A+B.

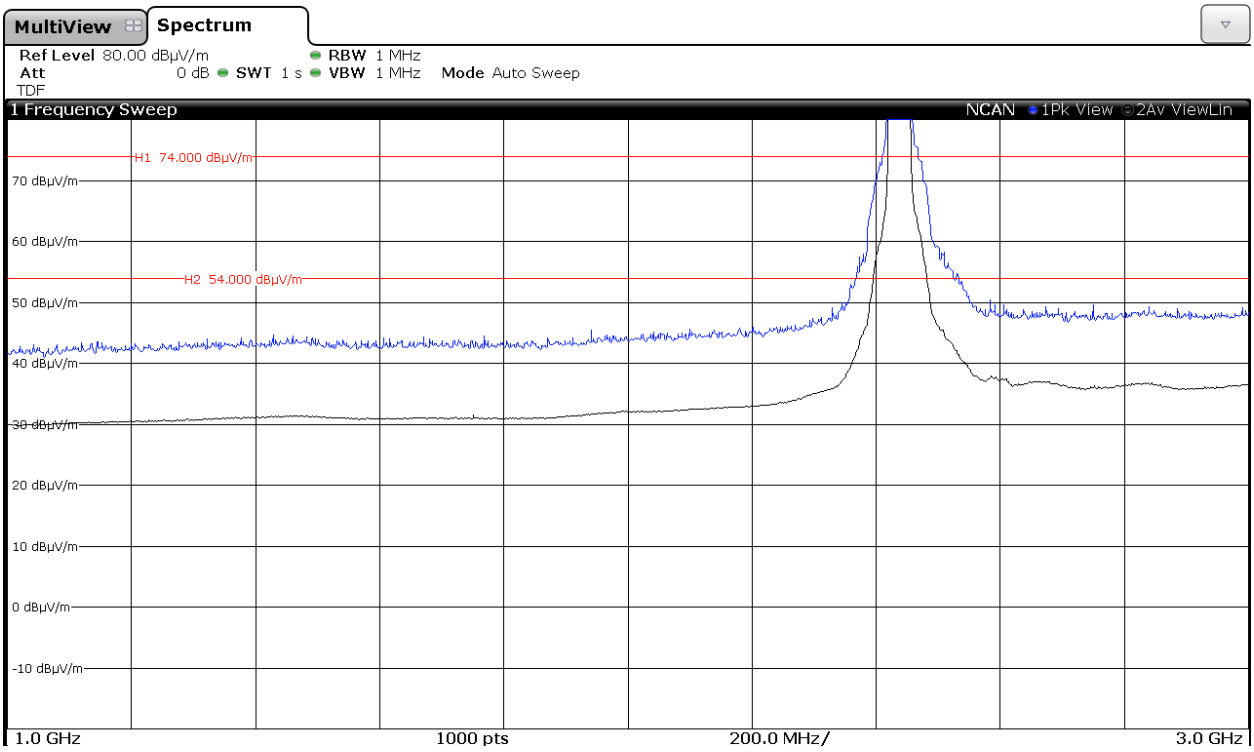
CHANNEL 13 (2472 MHz).



Note: The peak above the limit is the carrier frequency. This plot is valid for Chain A, Chain B and Chain A+B.

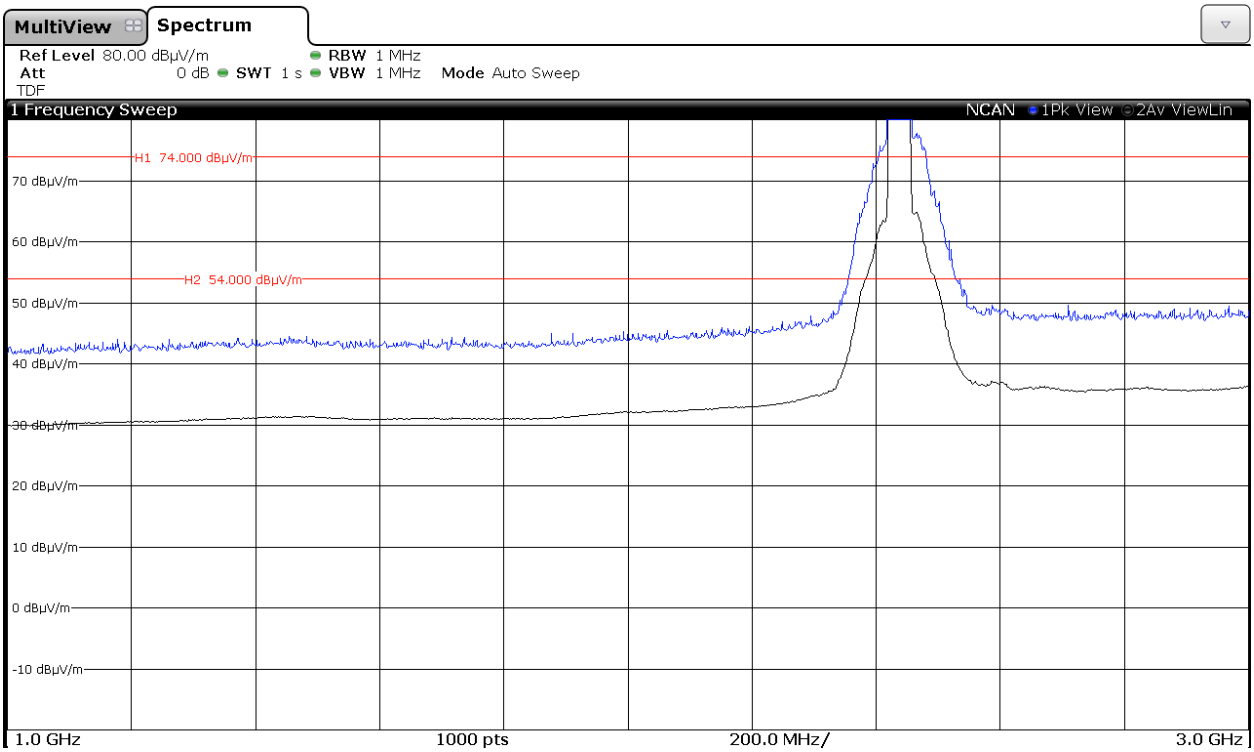
4. WiFi 2.4GHz 802.11 n40 mode

CHANNEL 6 (2437 MHz).



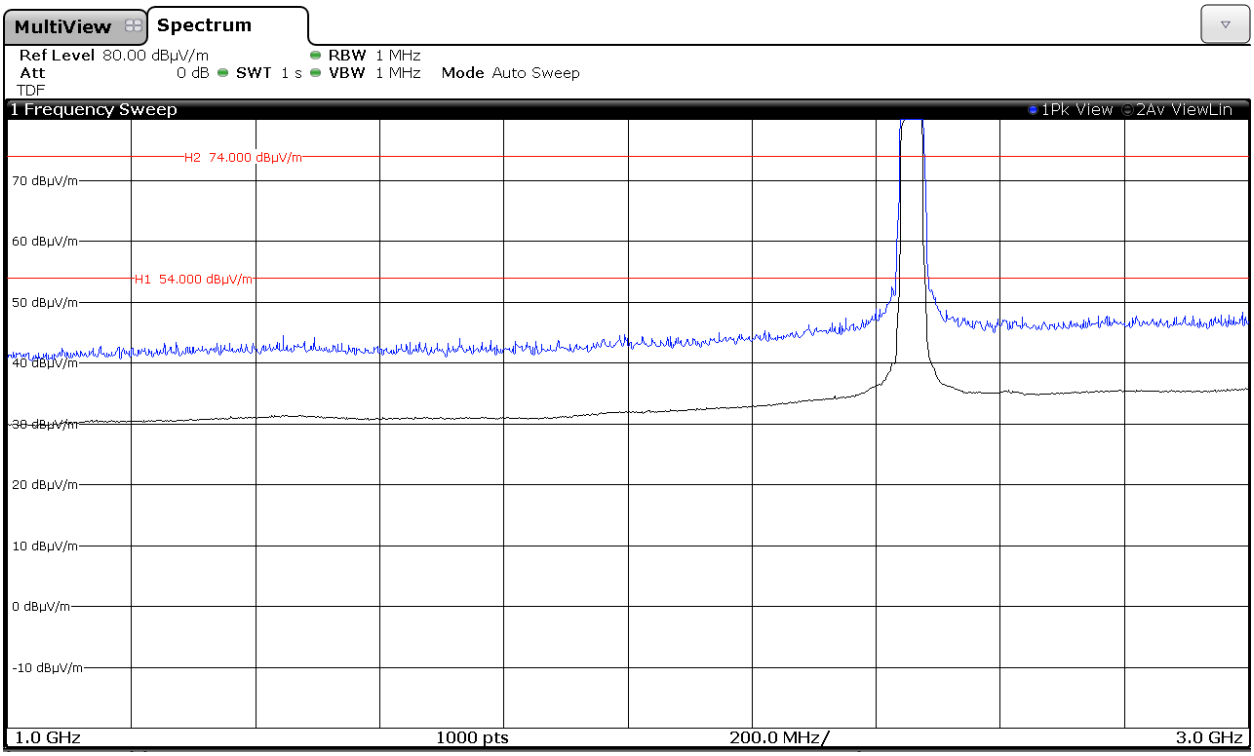
Note: The peak above the limit is the carrier frequency. This plot is valid for both Chain A and Chain B.

Chain A+B.



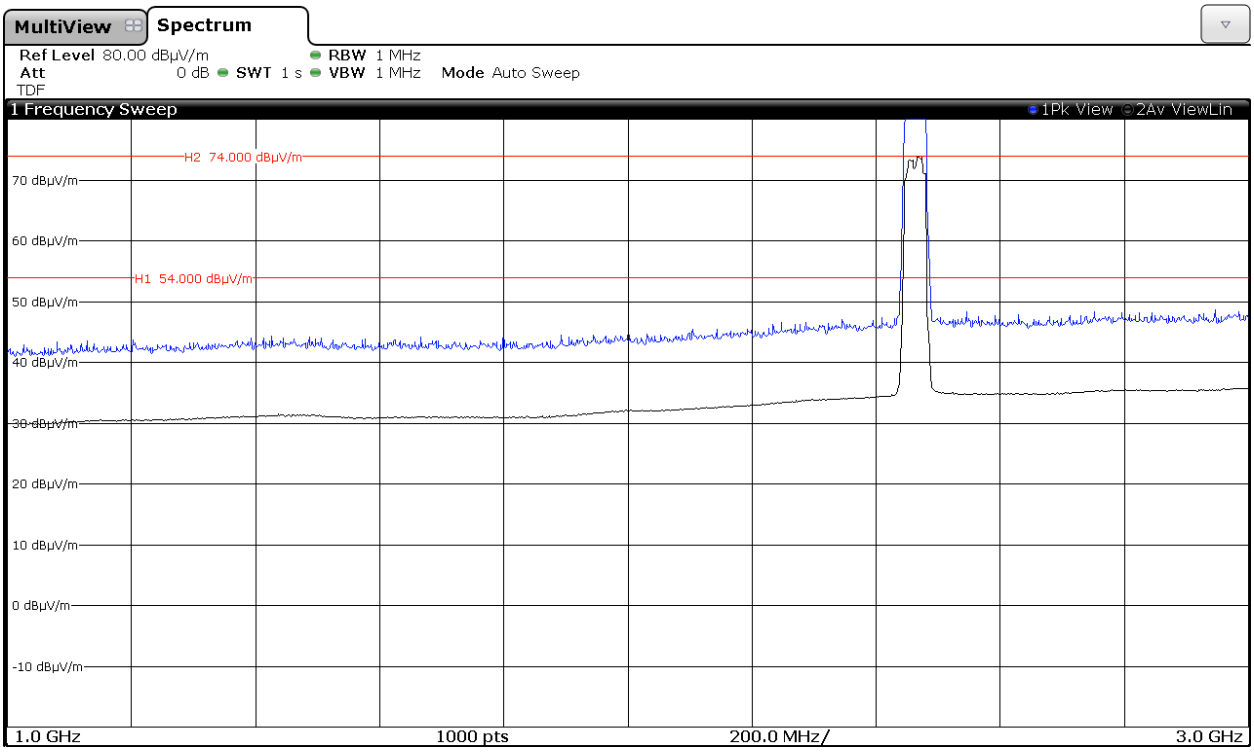
Note: The peak above the limit is the carrier frequency.

CHANNEL 10F (2457 MHz).



Note: The peak above the limit is the carrier frequency. This plot is valid for Chain A, Chain B and Chain A+B.

CHANNEL 11F (2462 MHz).



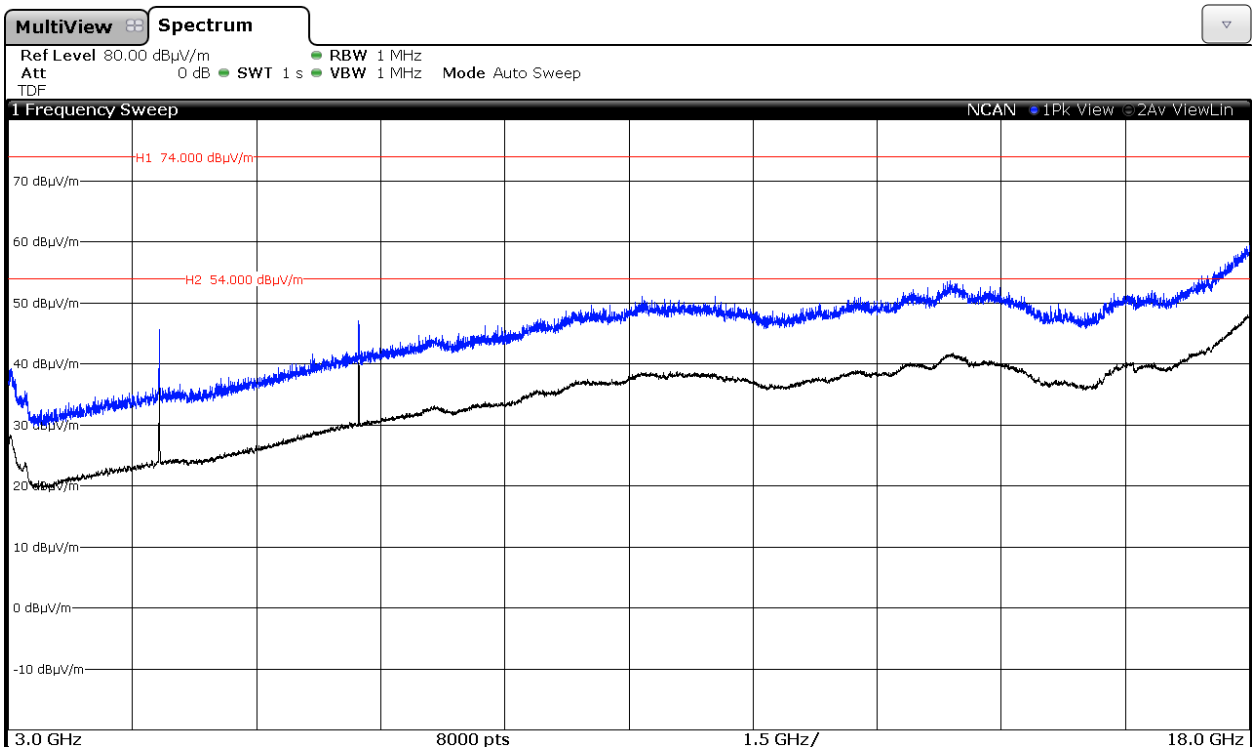
Note: The peak above the limit is the carrier frequency. This plot is valid for Chain A, Chain B and Chain A+B.

FREQUENCY RANGE 3 GHz to 18 GHz.

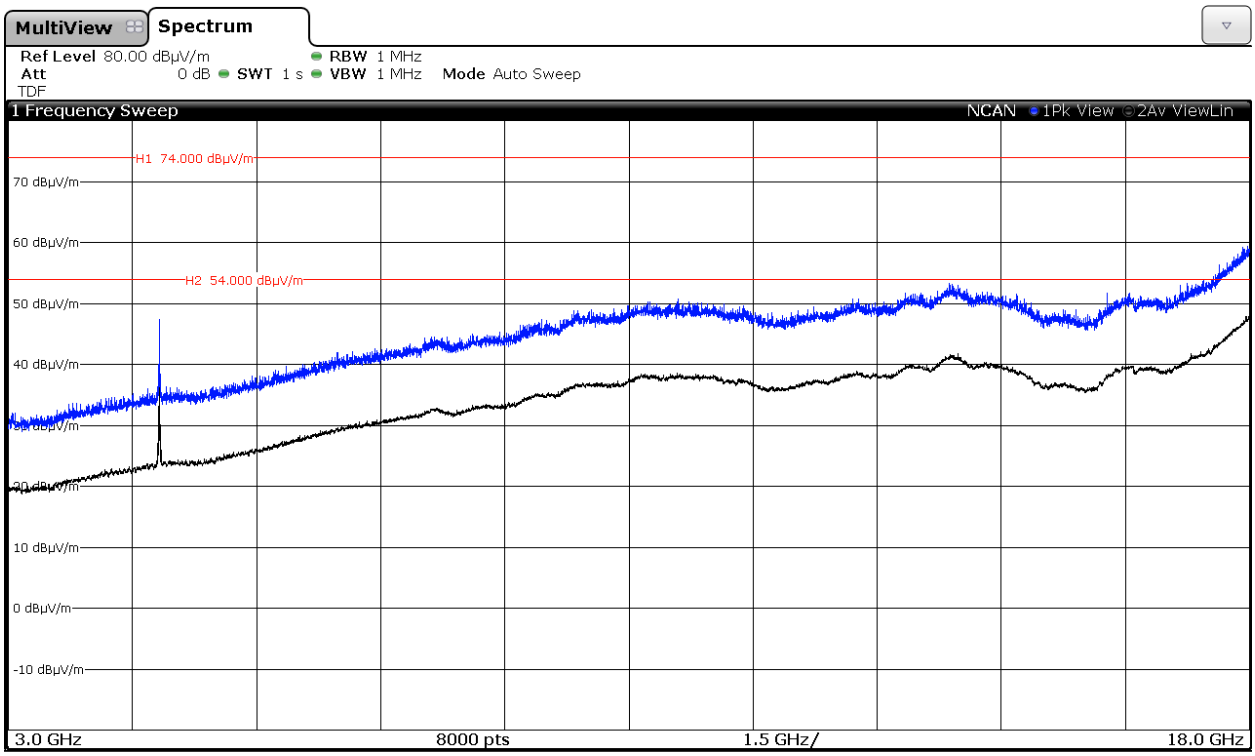
1. WiFi 2.4GHz 802.11 b mode

CHANNEL 1 (2412 MHz).

Chain A

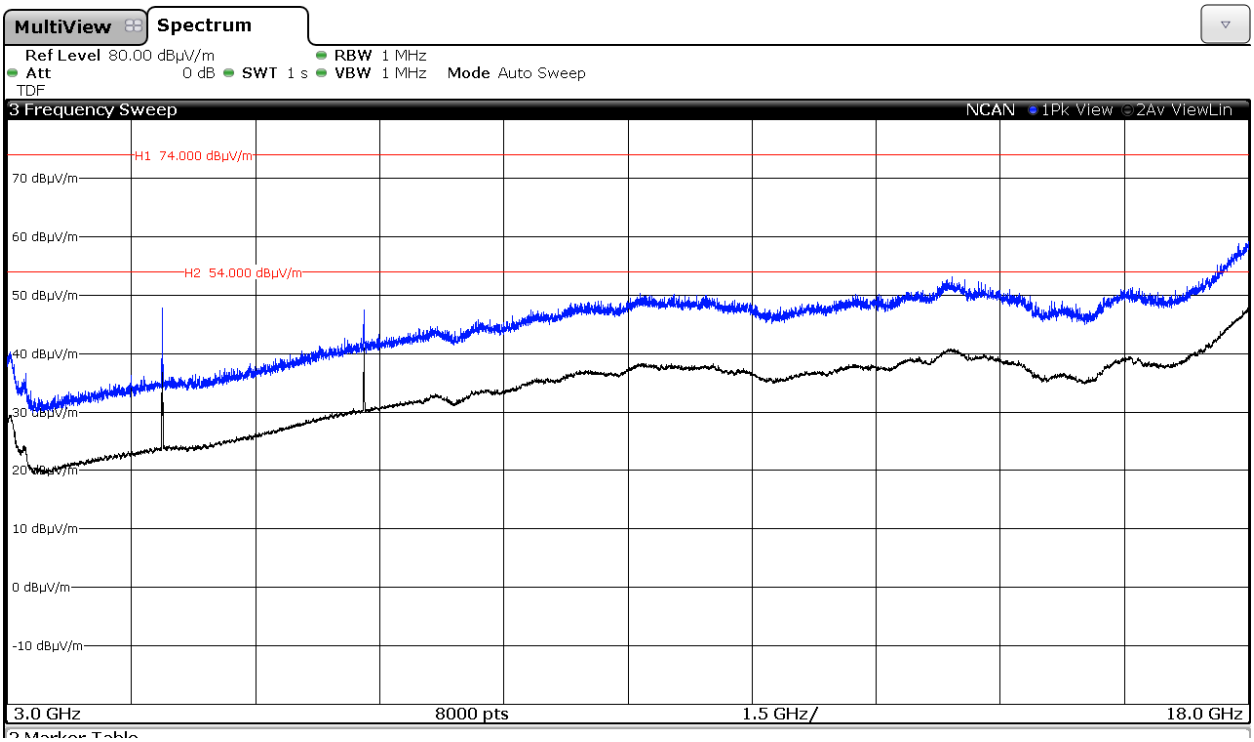


Chain B

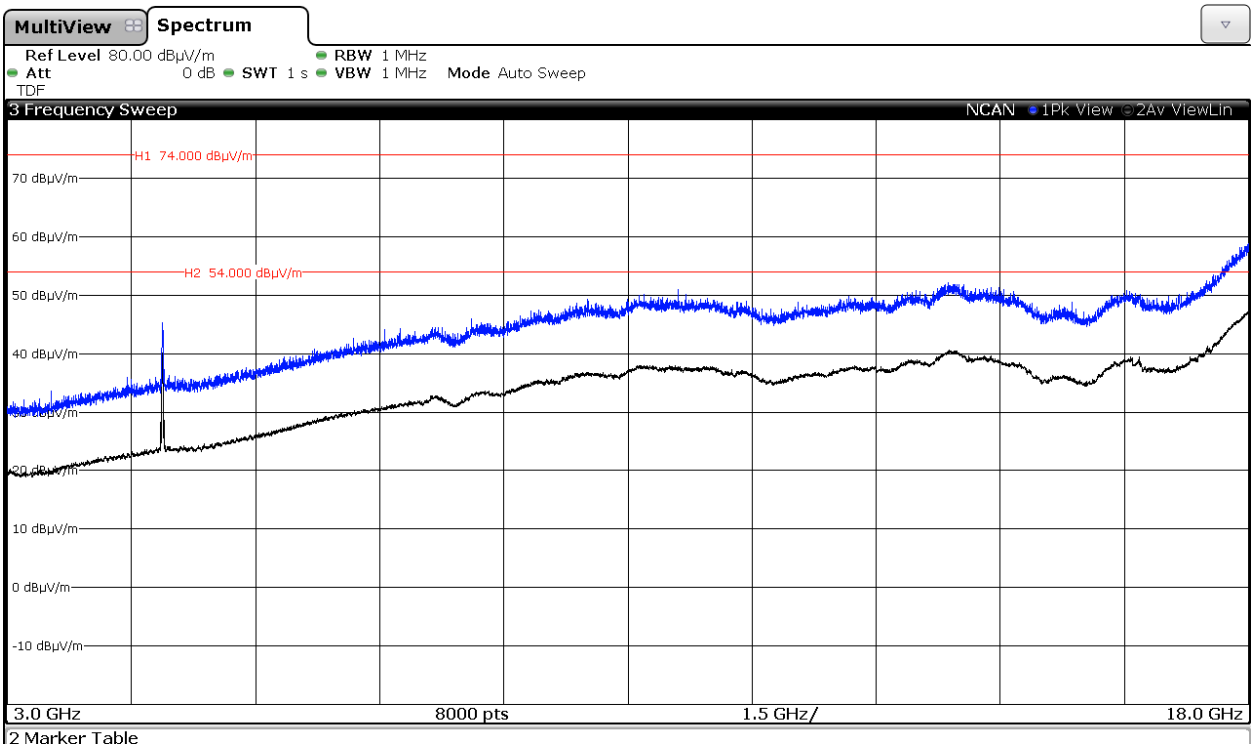


CHANNEL 6 (2437 MHz).

Chain A

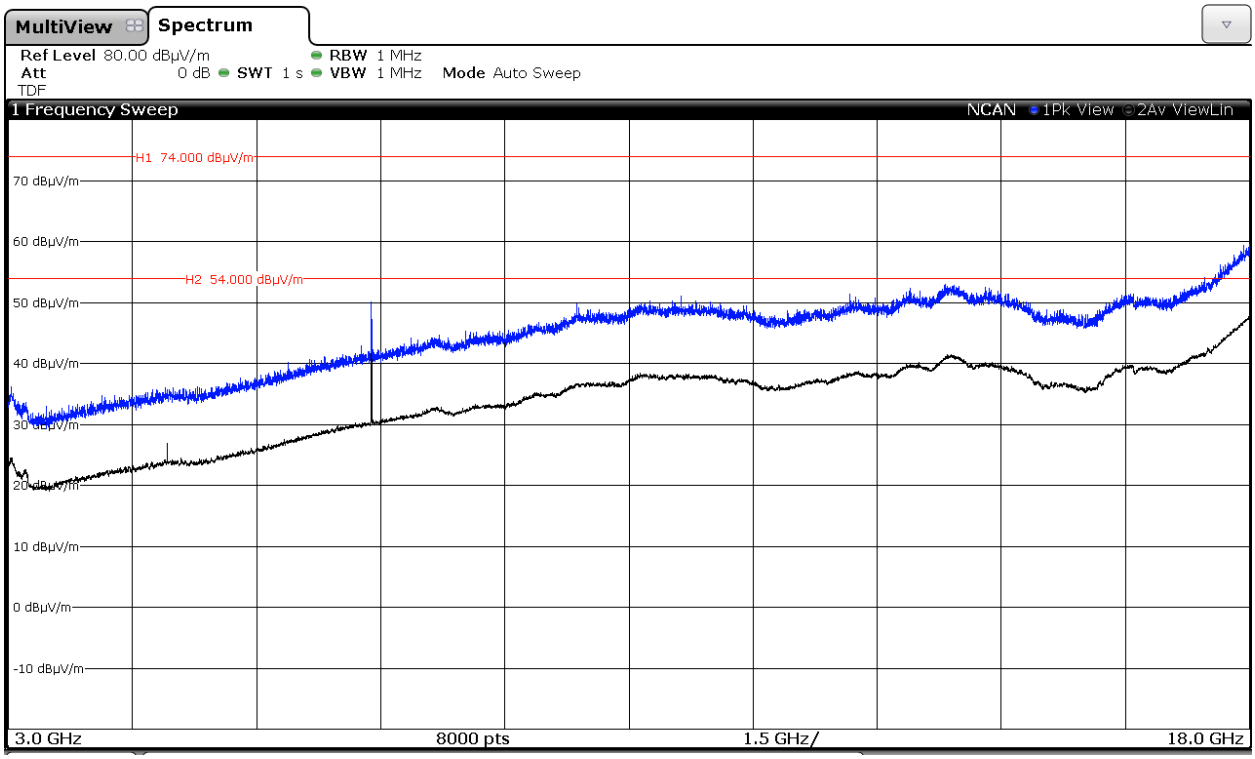


Chain B

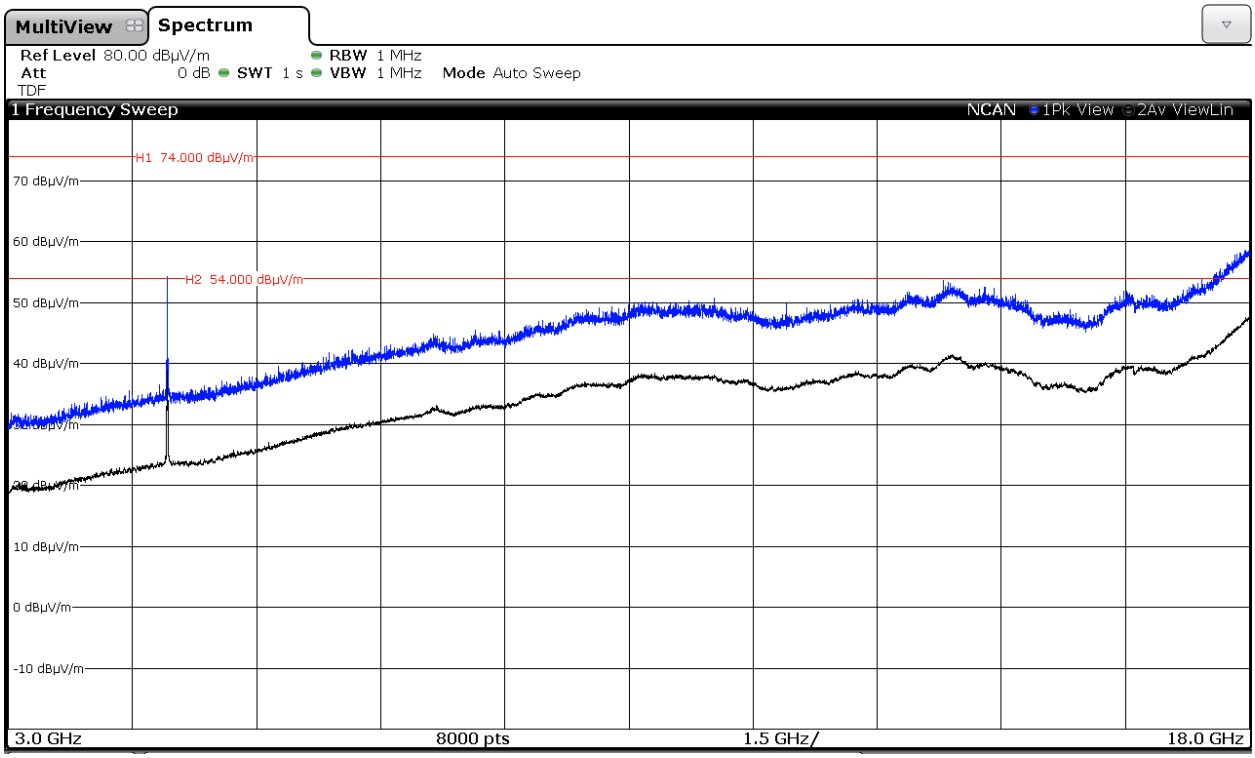


CHANNEL 11 (2462 MHz).

Chain A

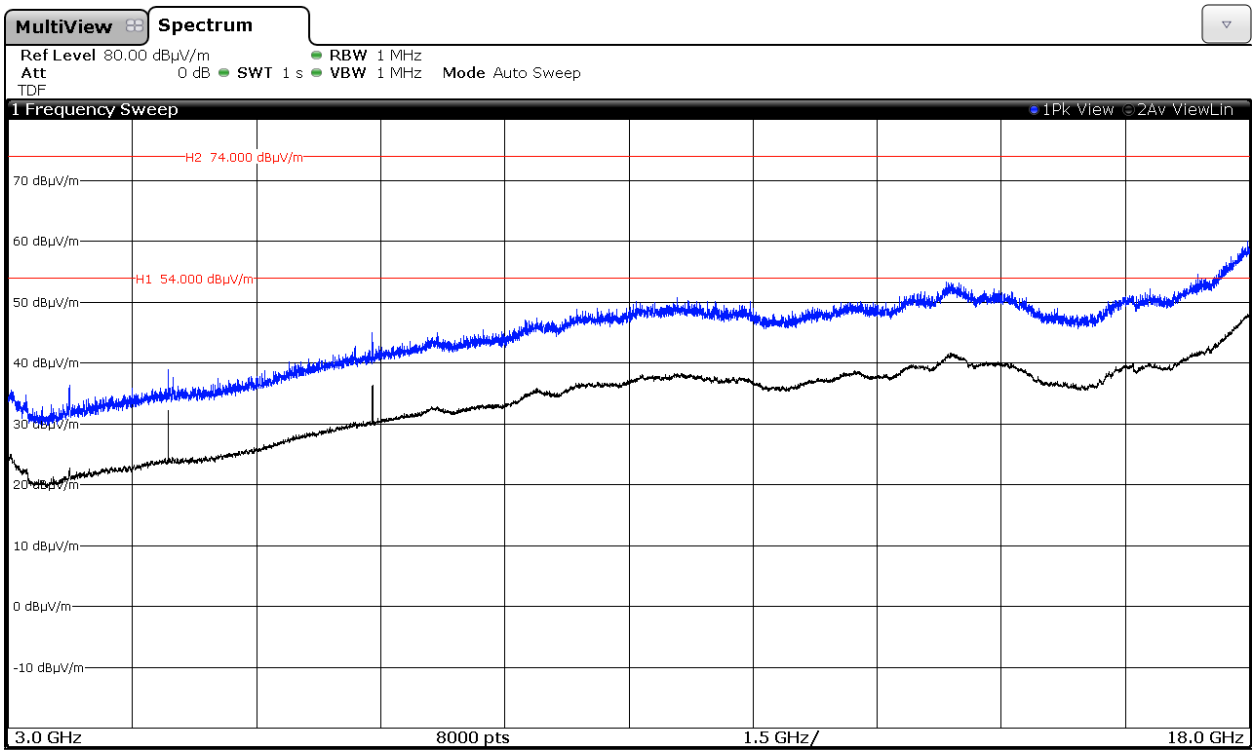


Chain B

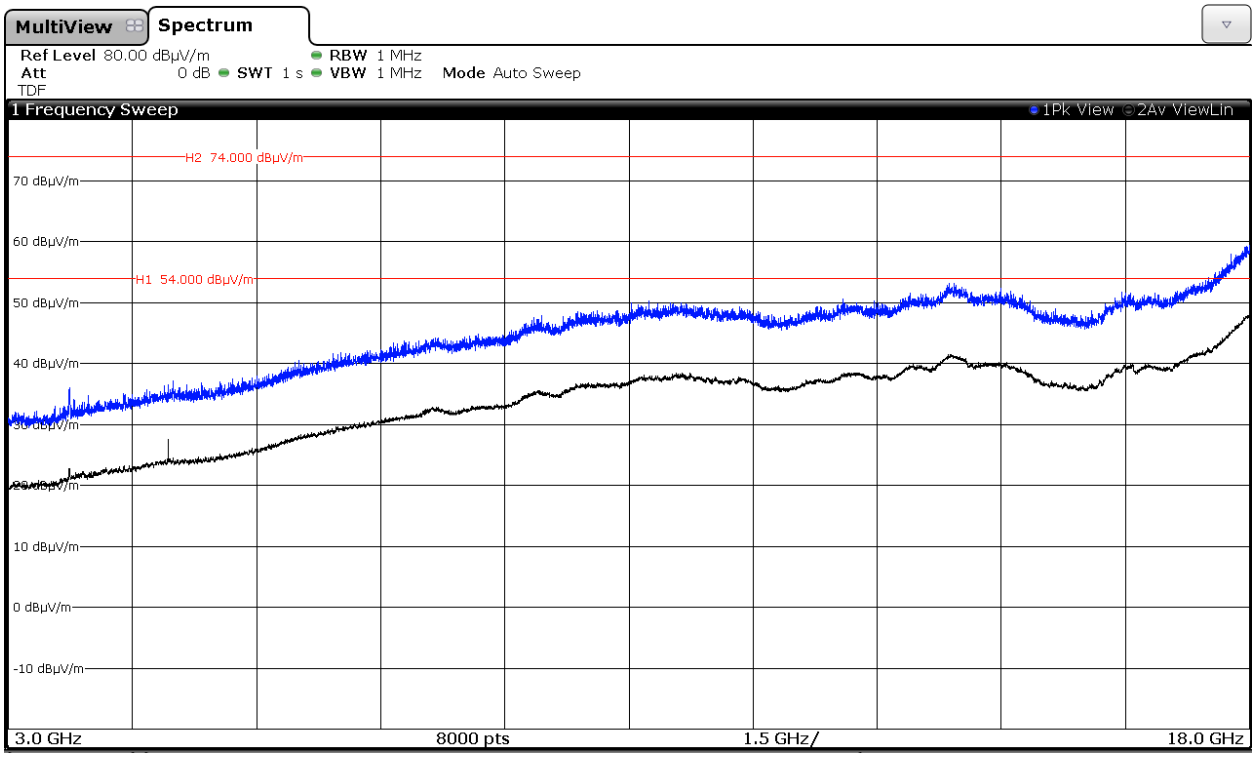


CHANNEL 12 (2467 MHz).

Chain A

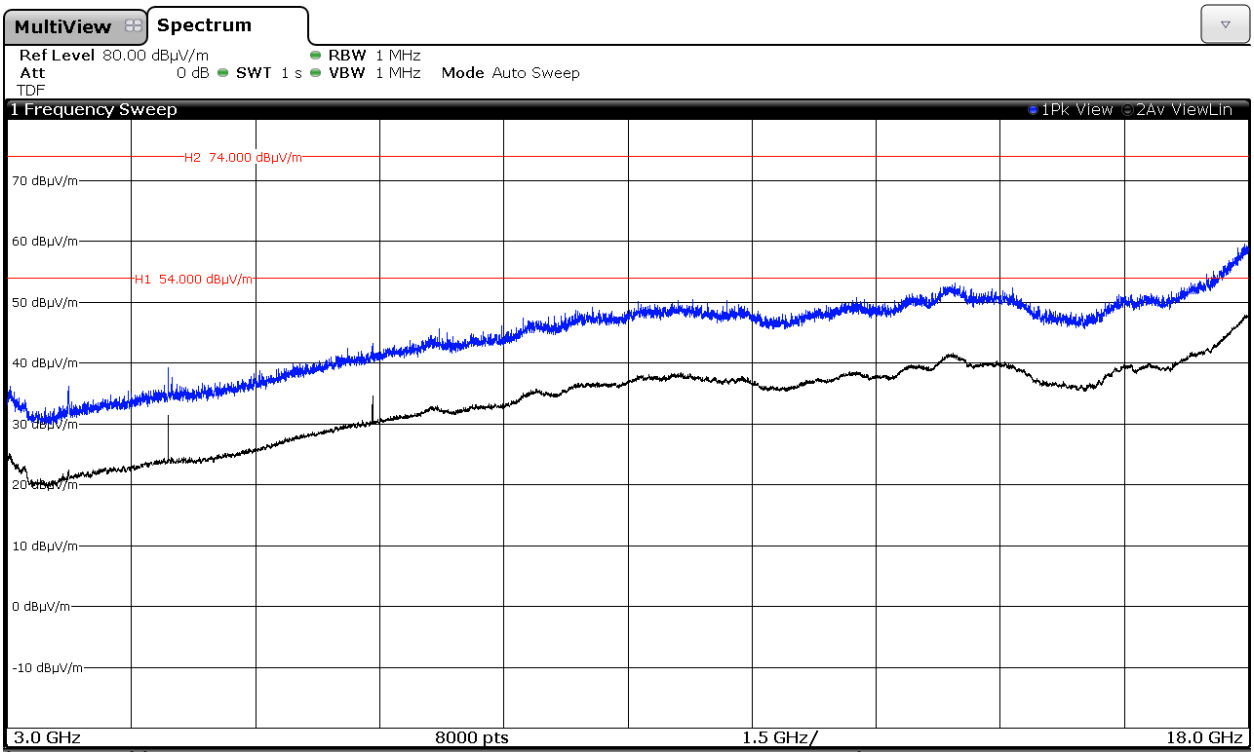


Chain B

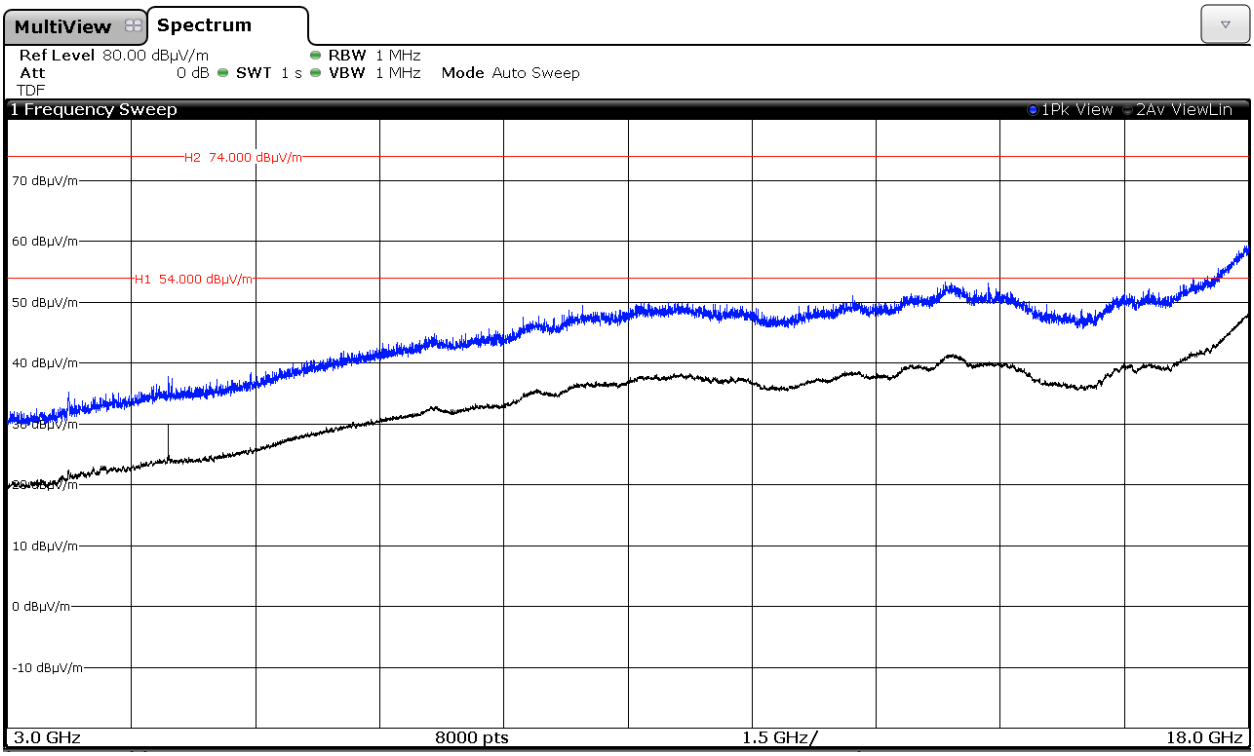


CHANNEL 13 (2472 MHz).

Chain A



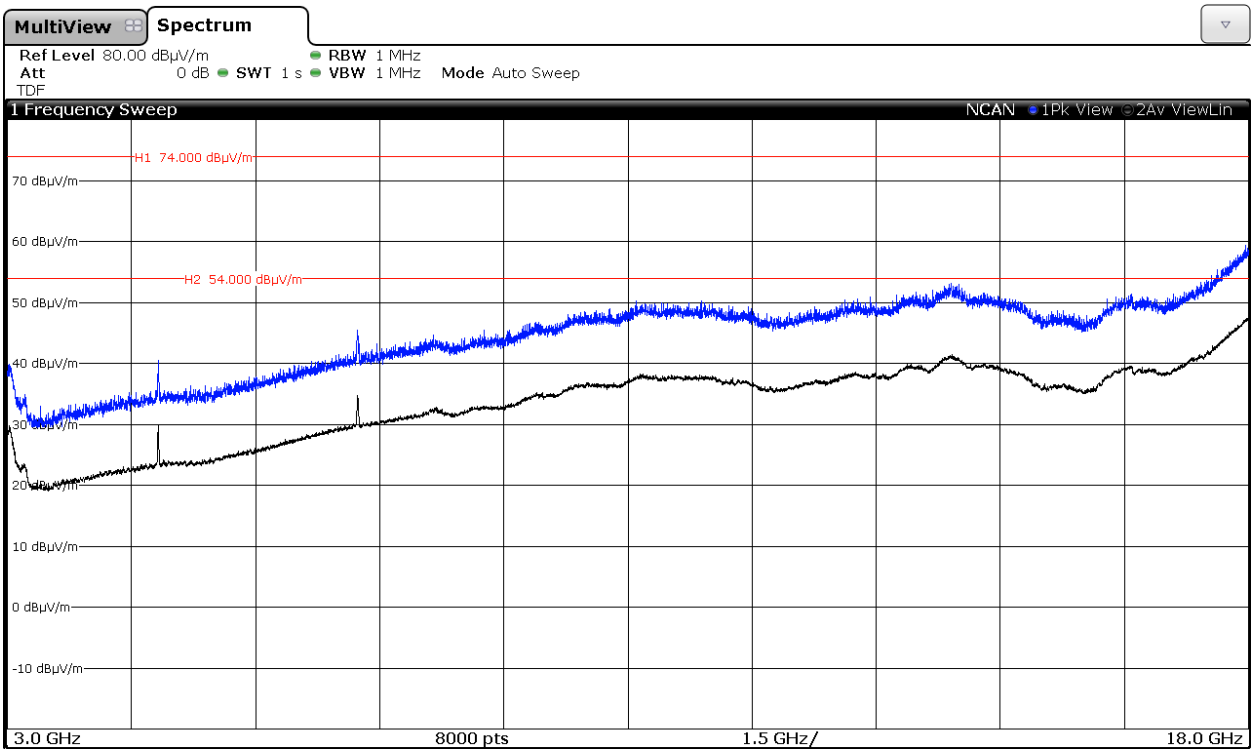
Chain B



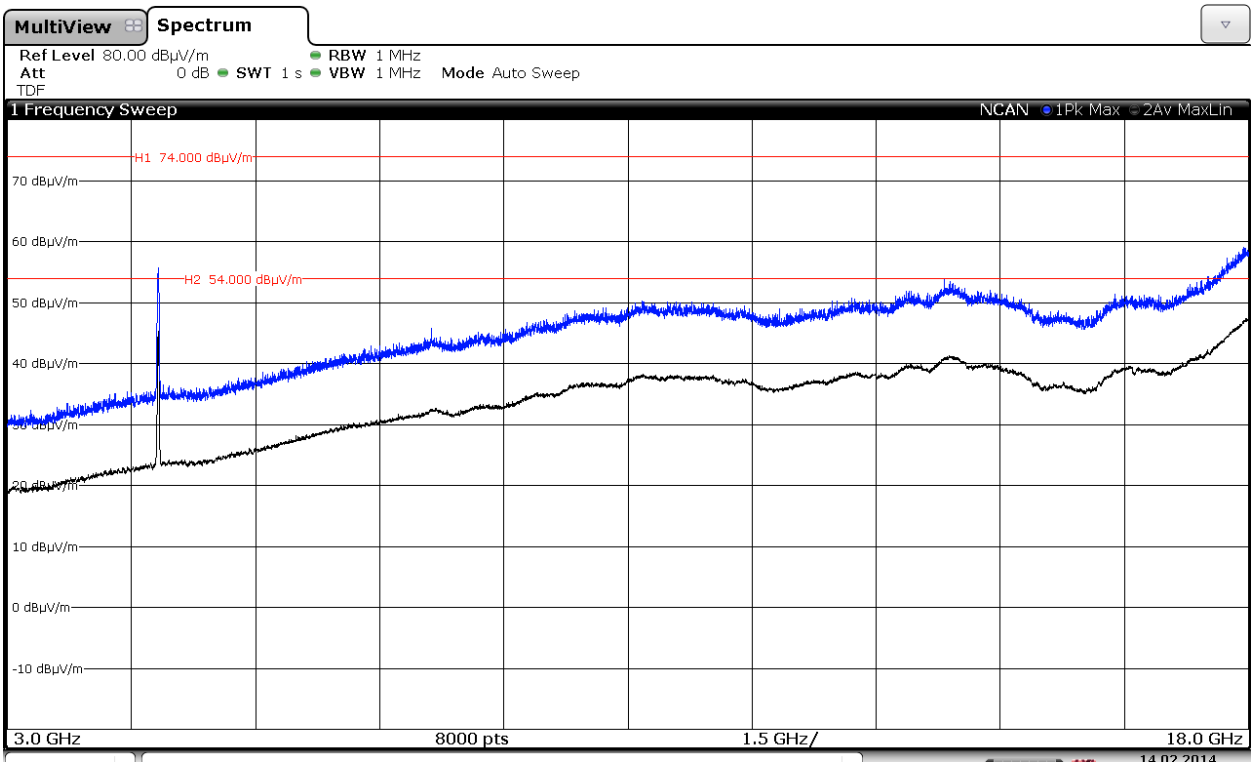
2. WiFi 2.4GHz 802.11 g mode (worst case)

CHANNEL 1 (2412 MHz).

Chain A

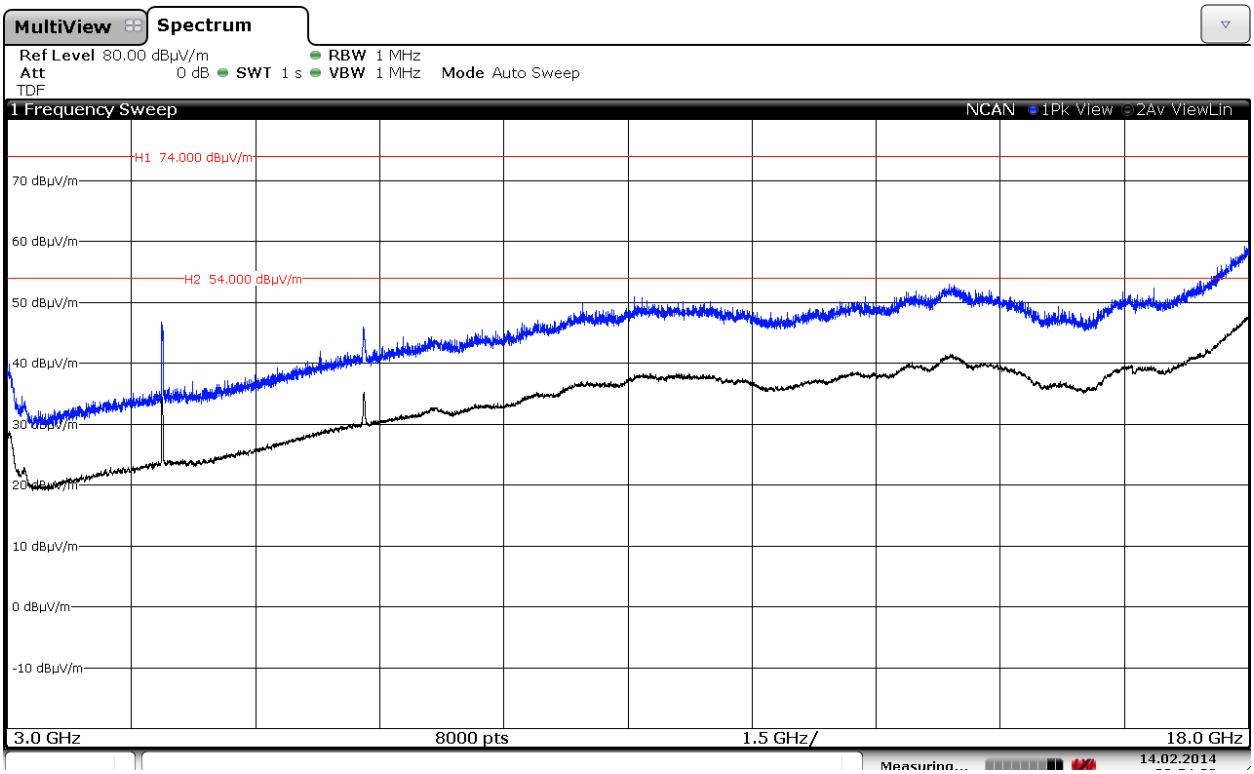


Chain B

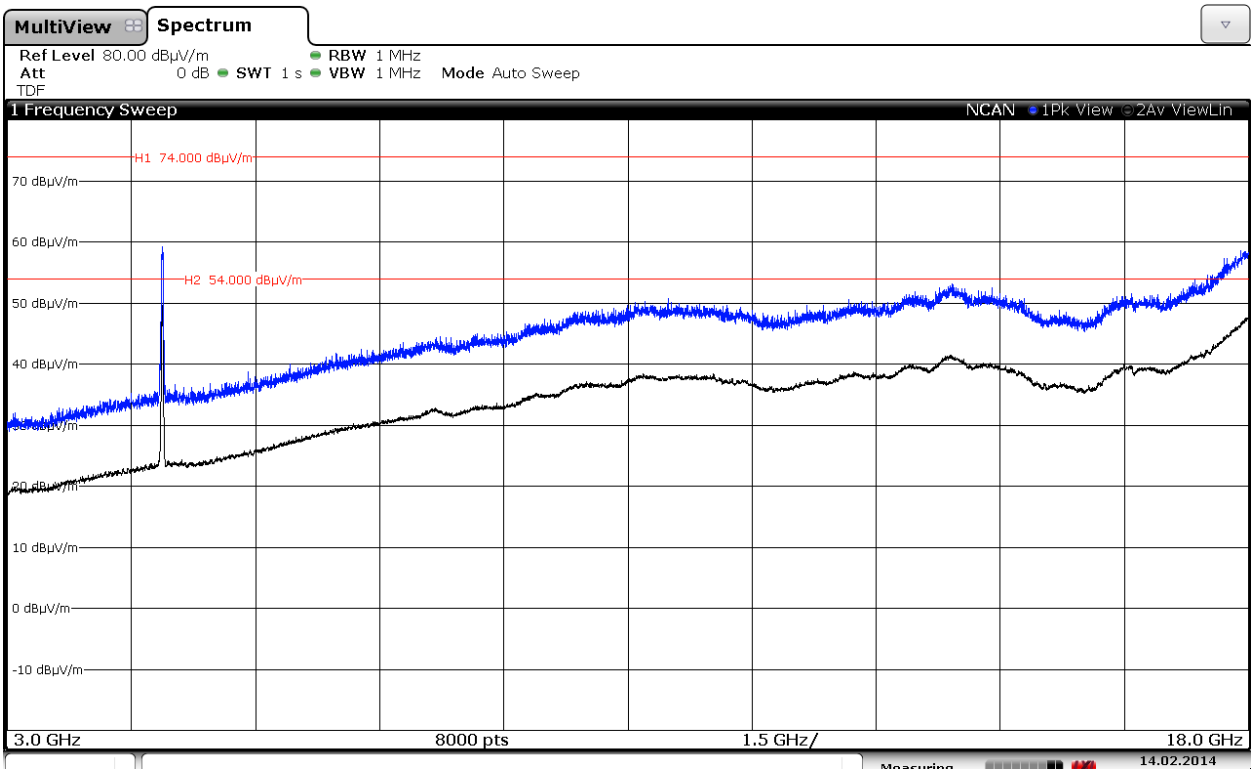


CHANNEL 6 (2437 MHz).

Chain A

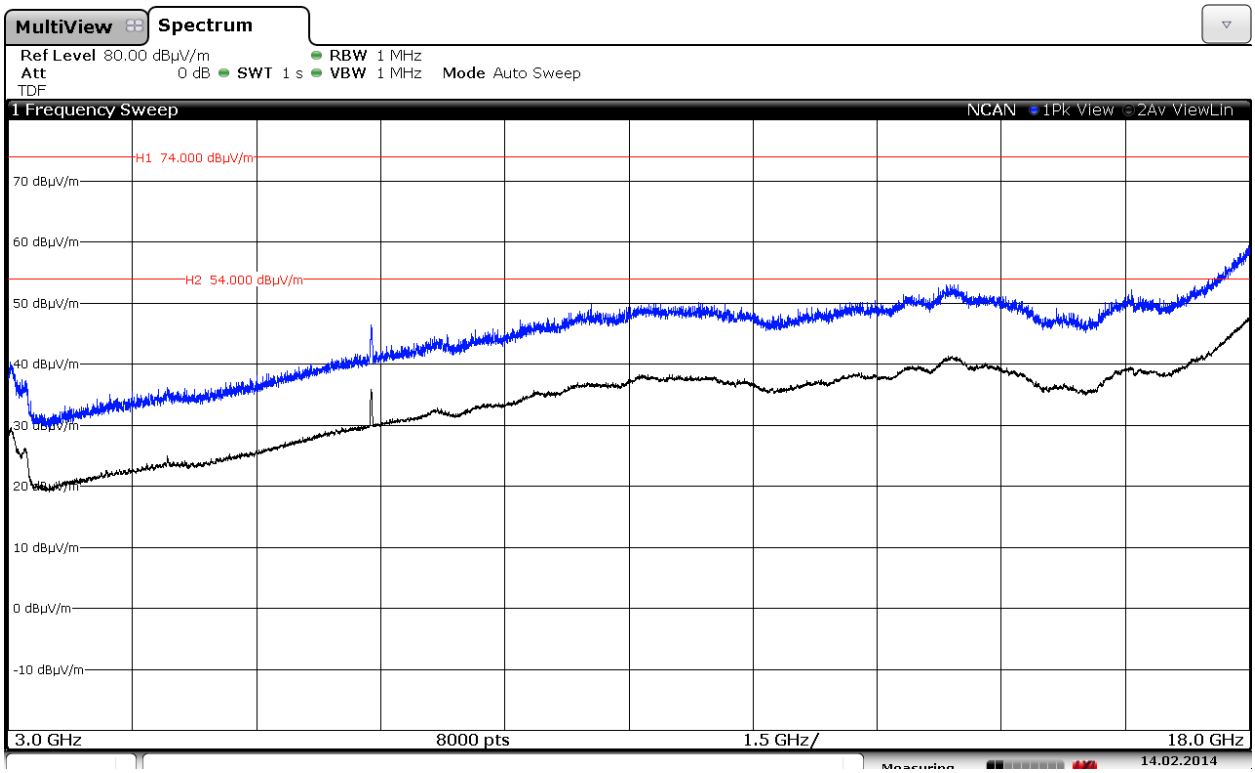


Chain B

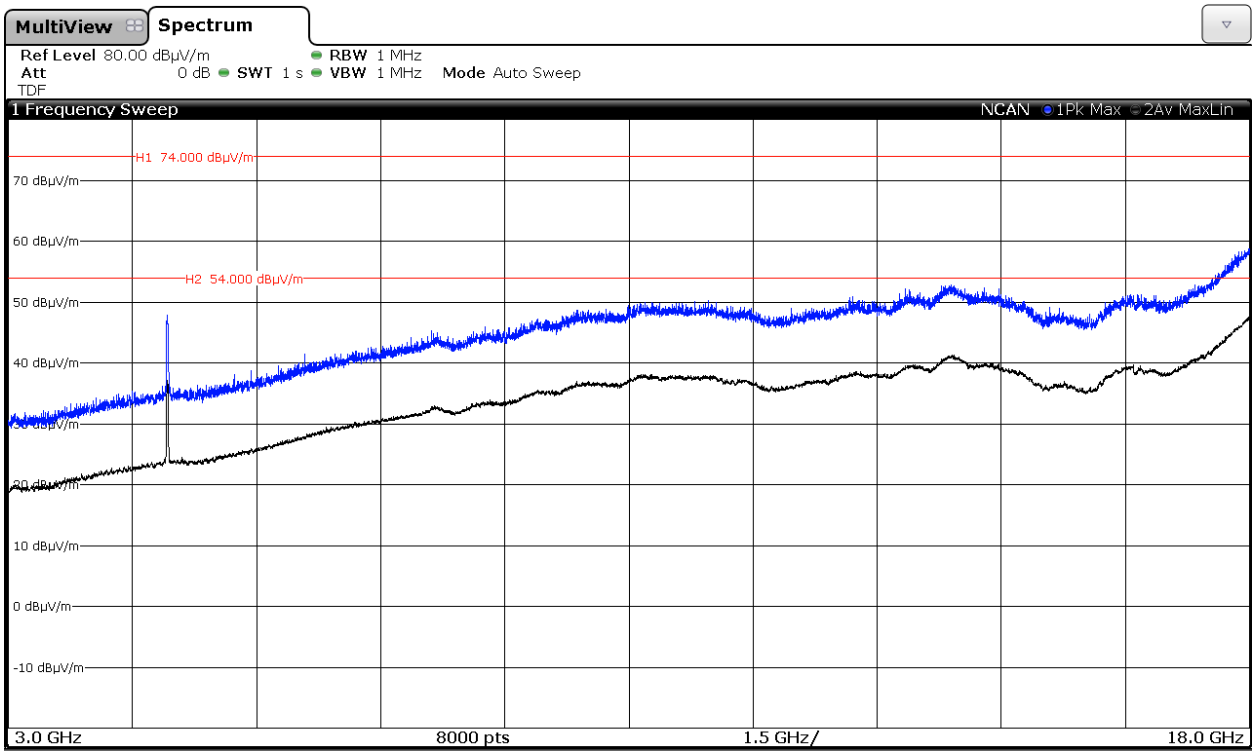


CHANNEL 11 (2462 MHz).

Chain A

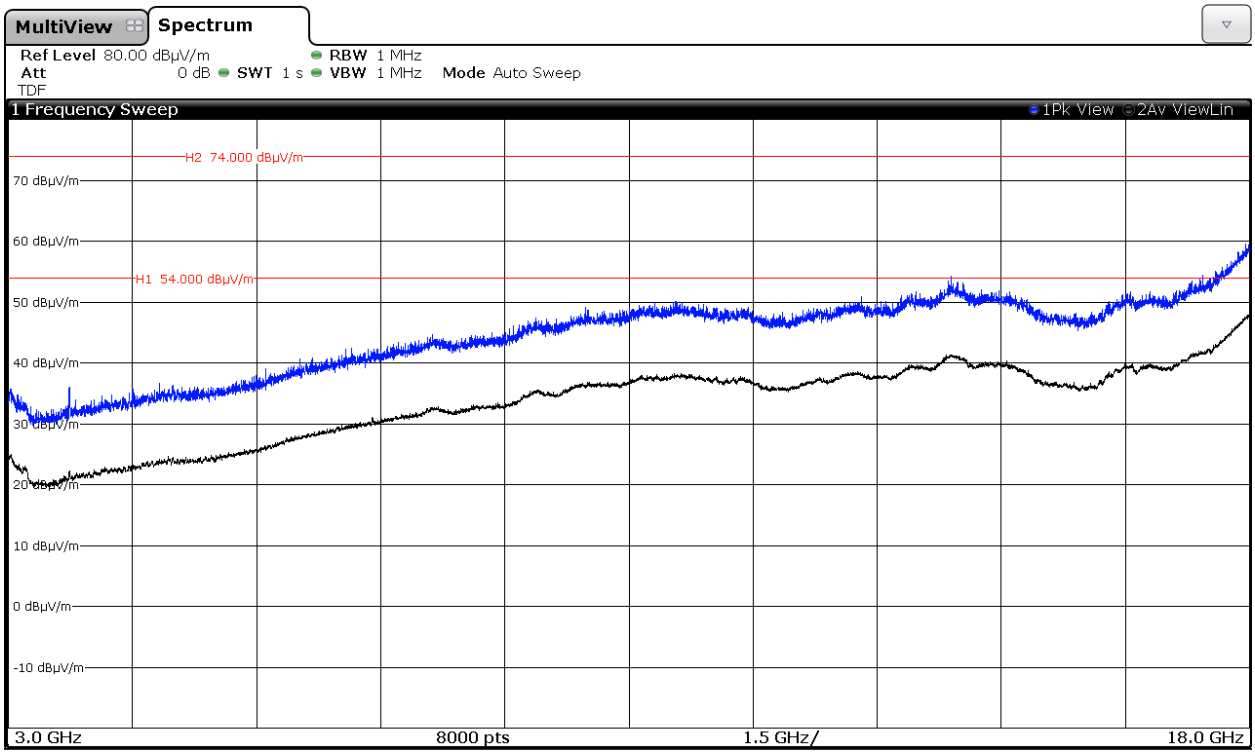


Chain B

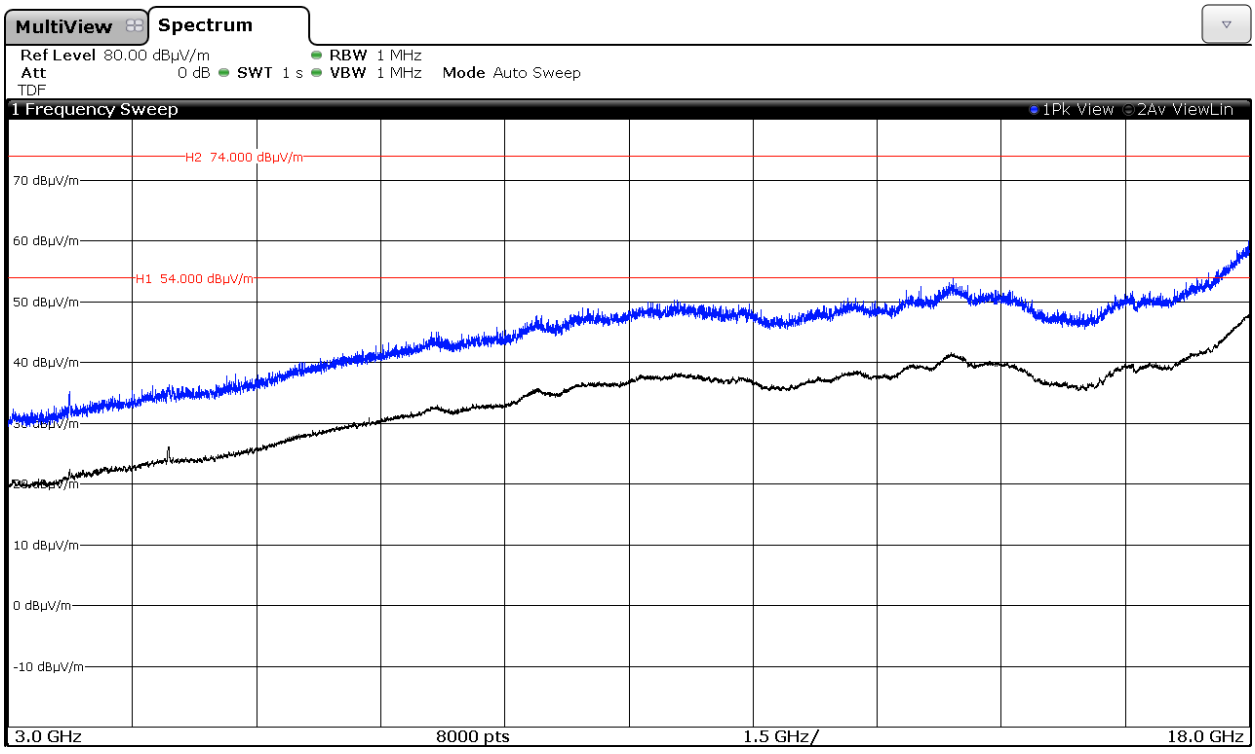


CHANNEL 12 (2467 MHz).

Chain A

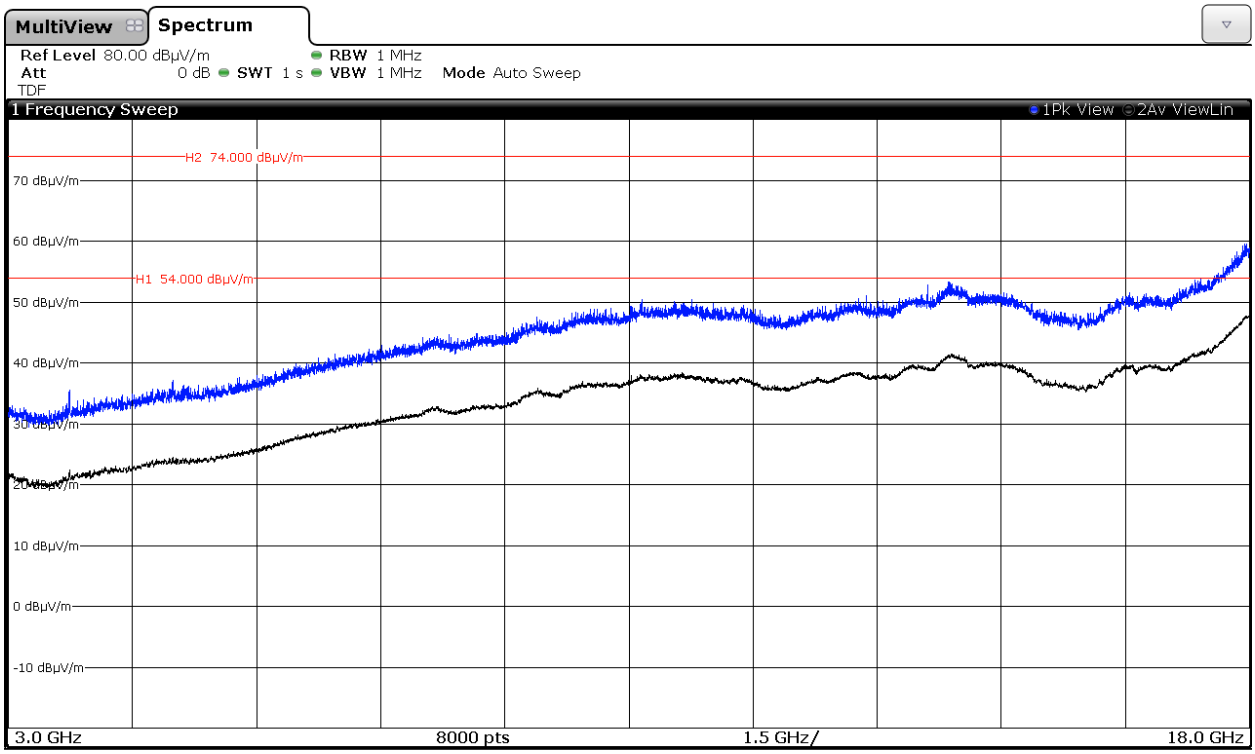


Chain B

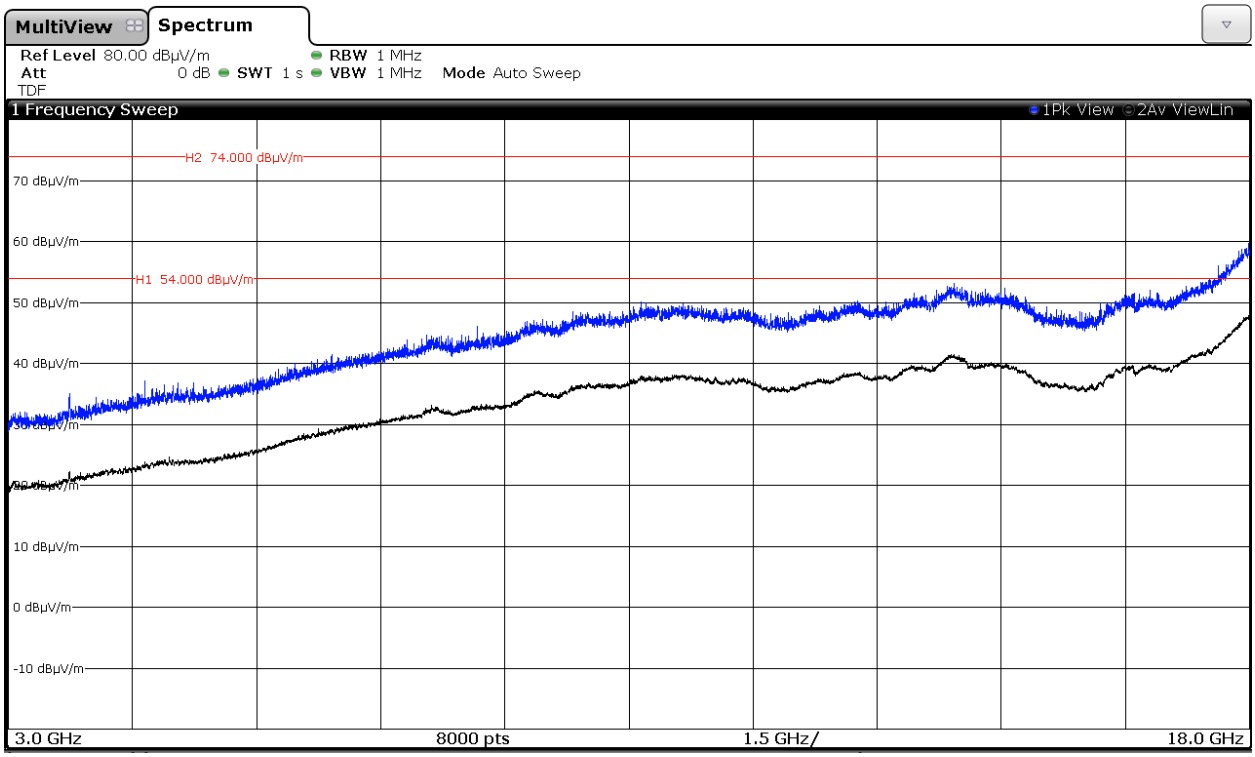


CHANNEL 13 (2472 MHz).

Chain A



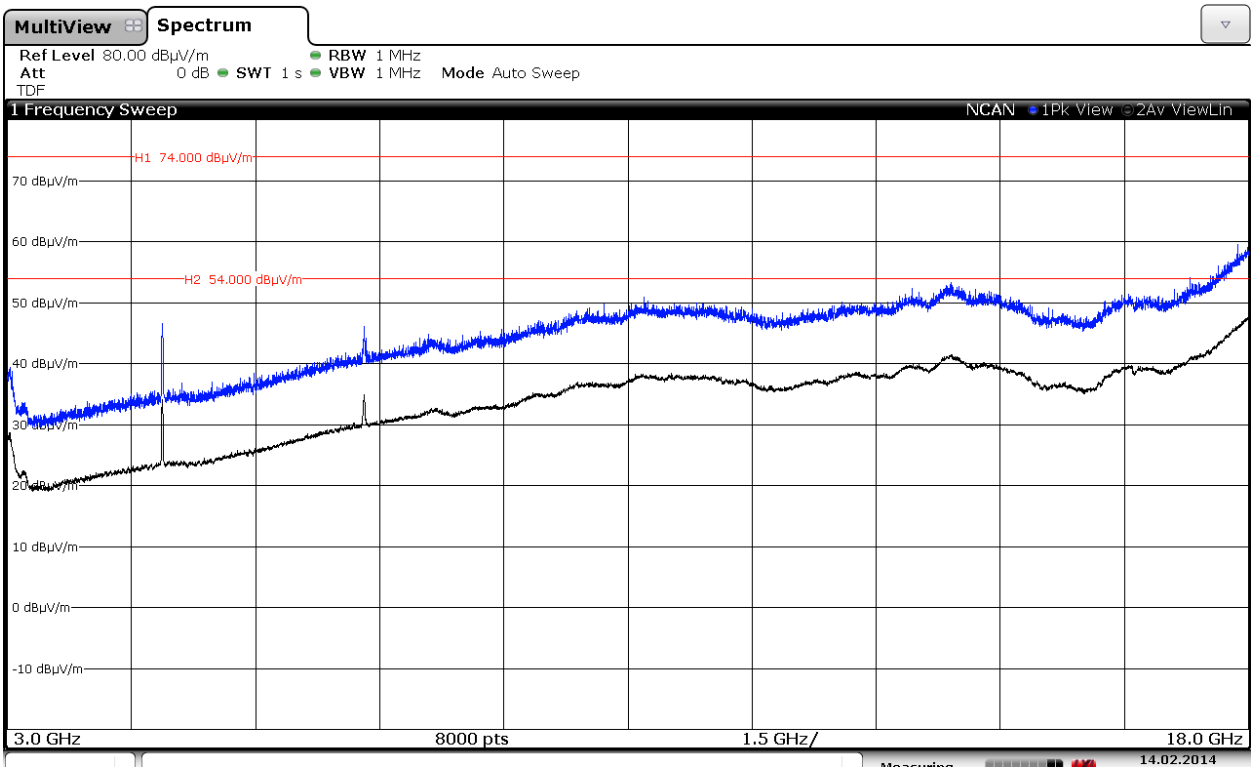
Chain B



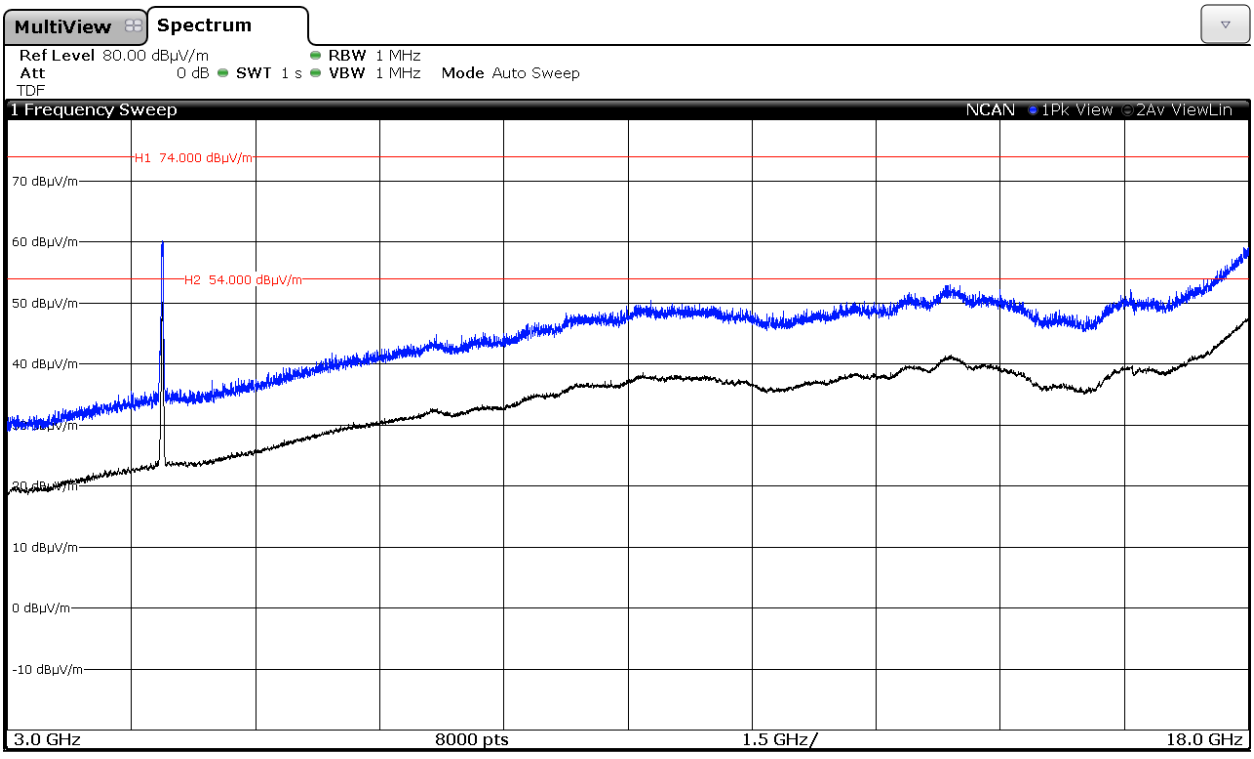
3.WiFi 2.4GHz 802.11 n20 mode

CHANNEL 6 (2437 MHz).

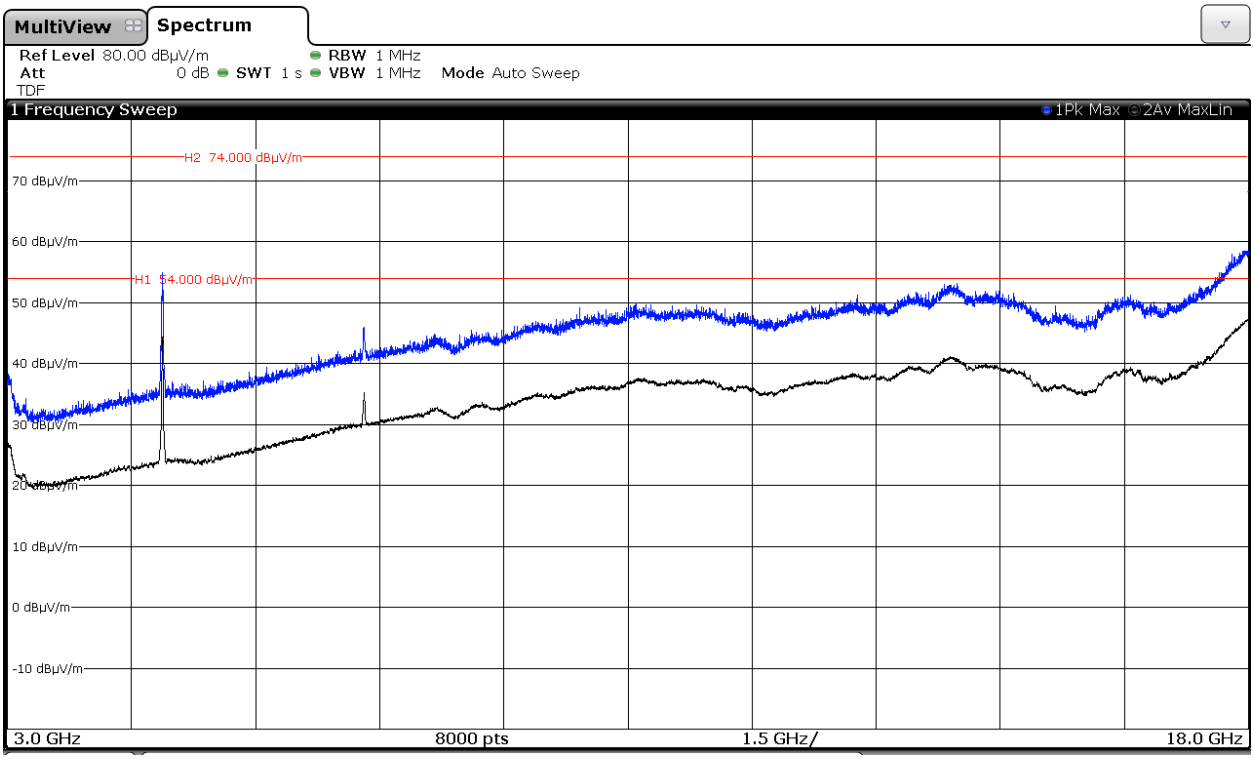
Chain A.



Chain B.

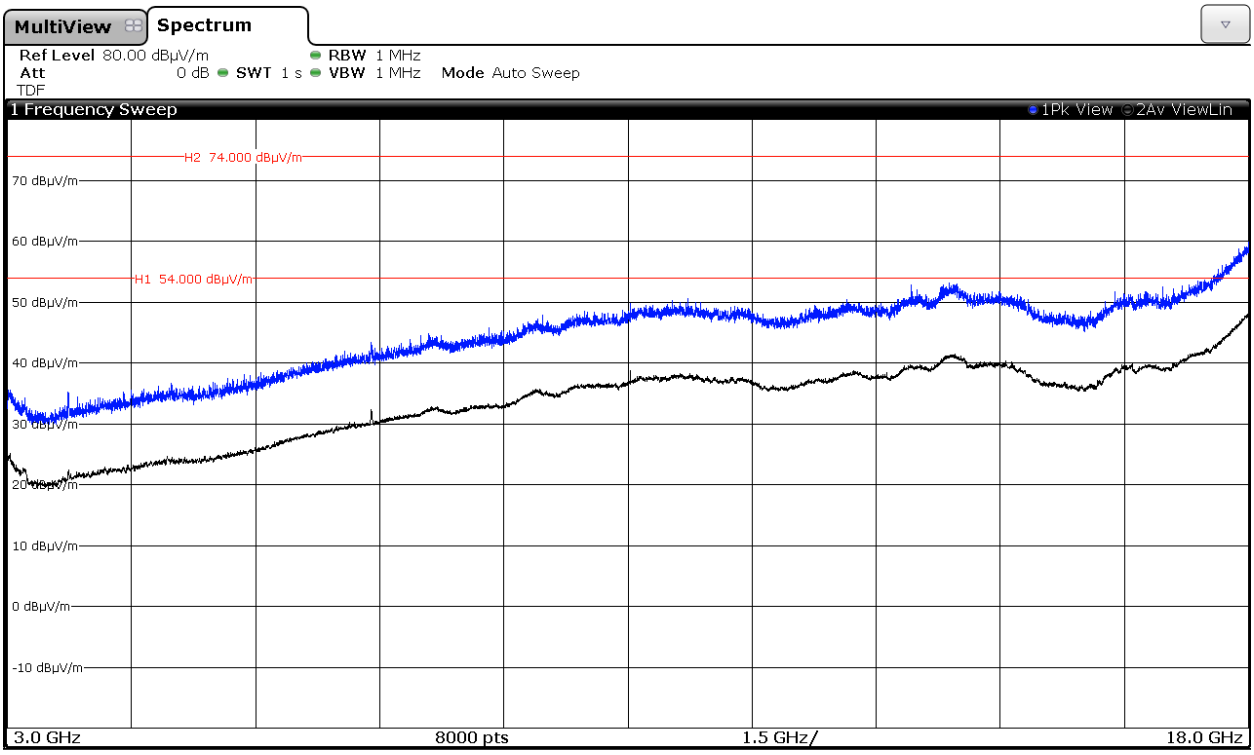


Chain A+B.

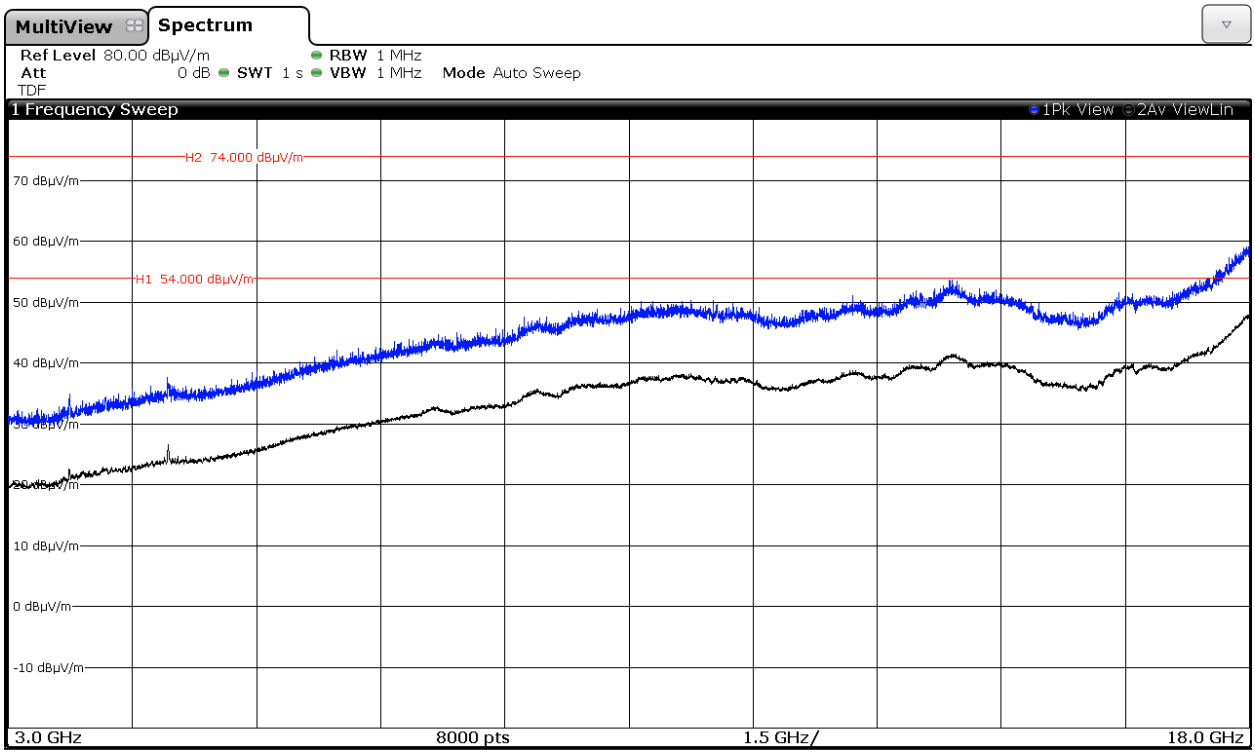


CHANNEL 12 (2467 MHz).

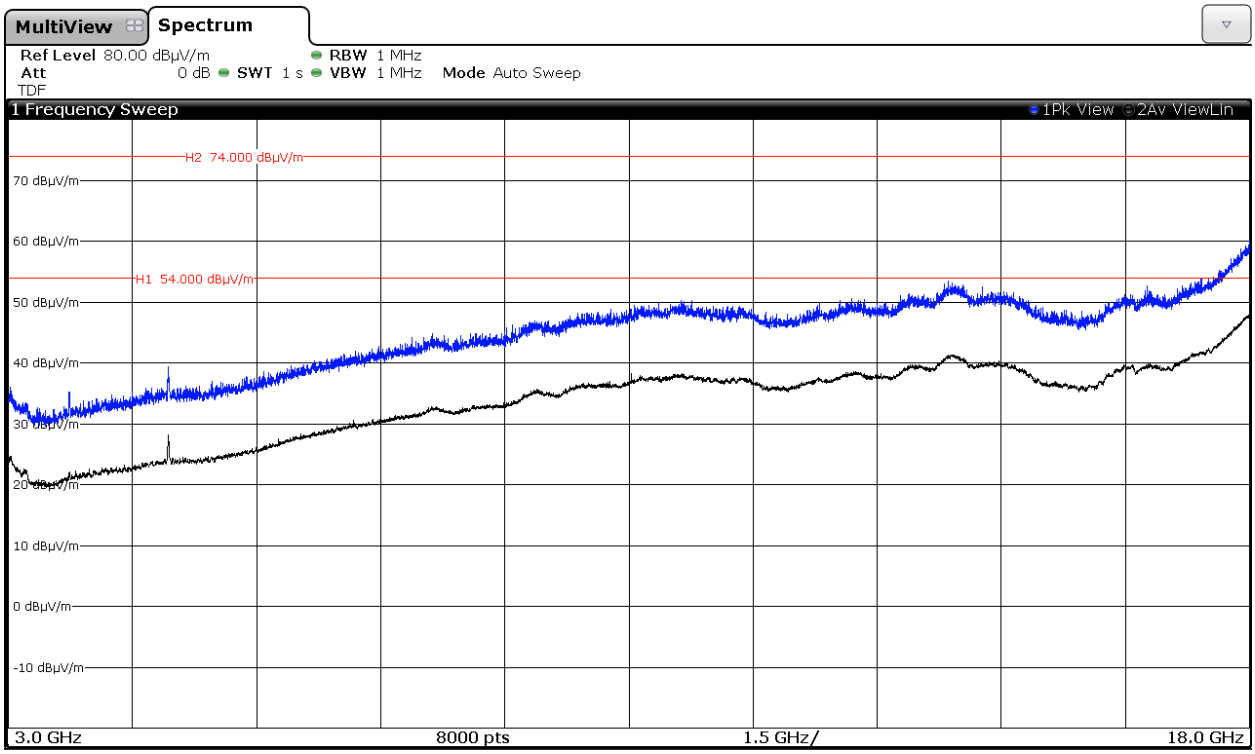
Chain A



Chain B

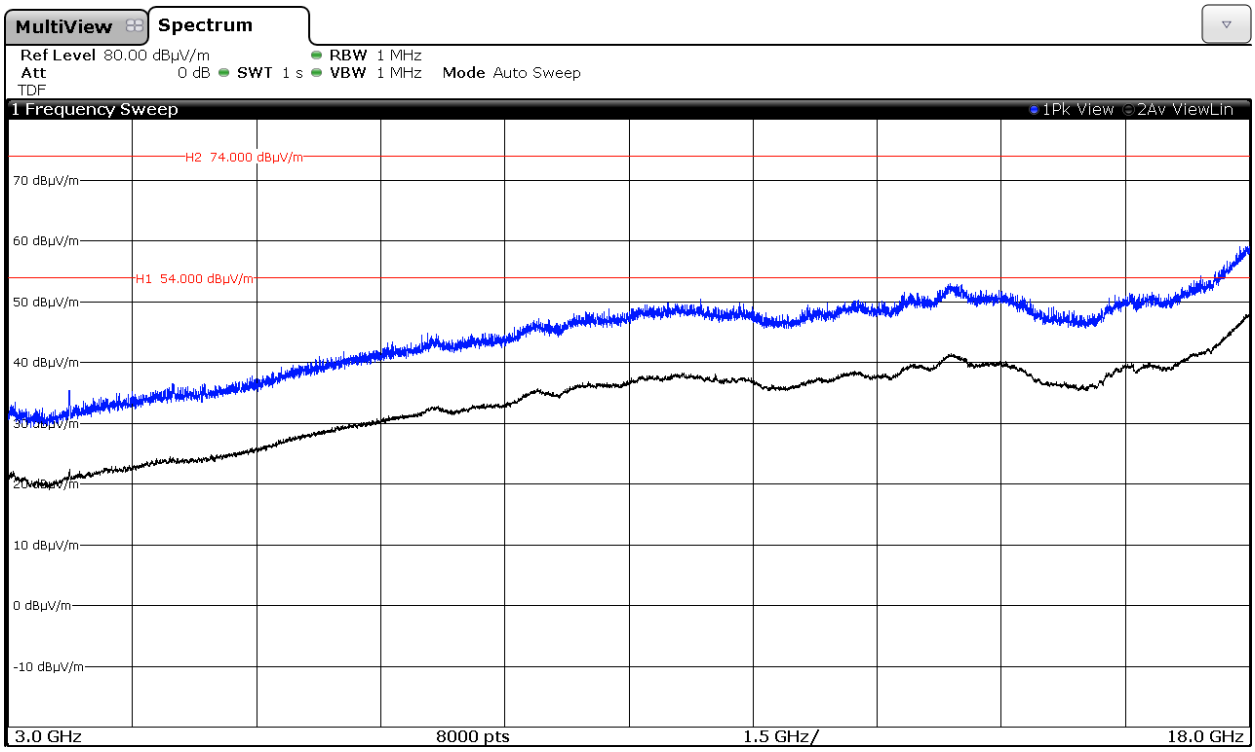


Chain A+B

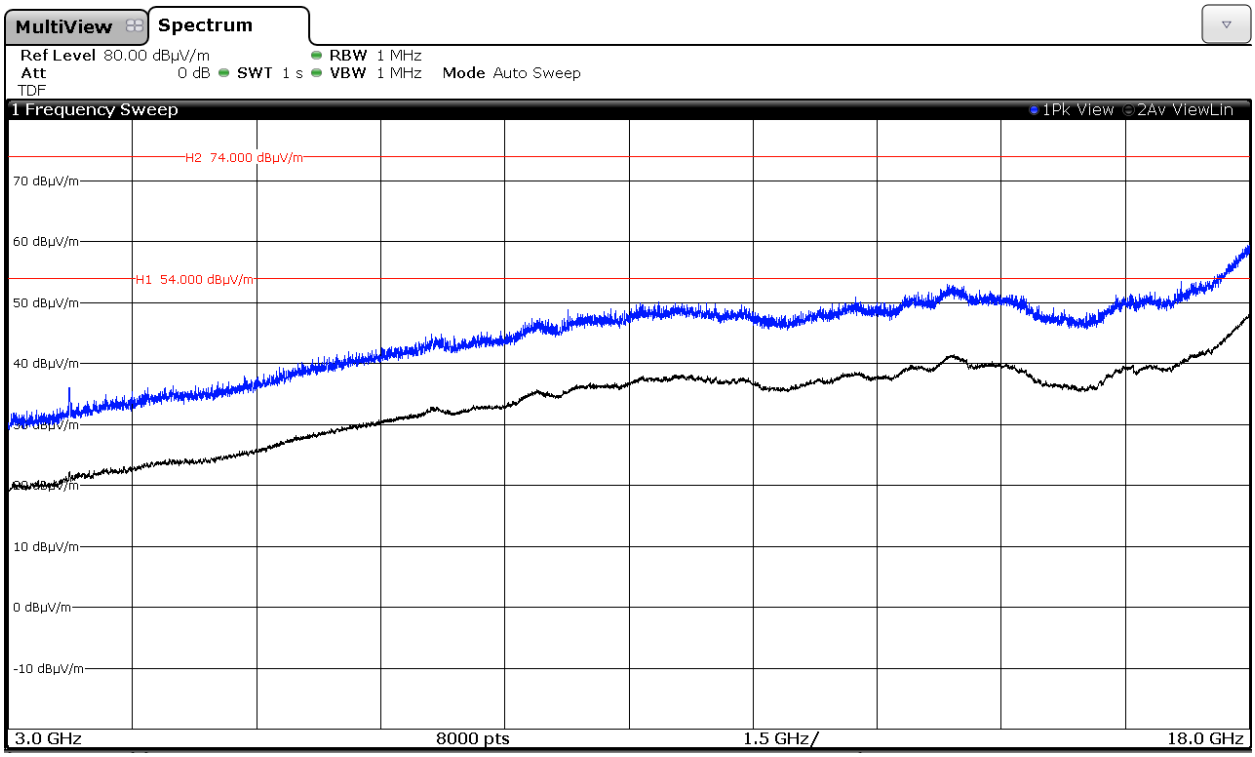


CHANNEL 13 (2472 MHz).

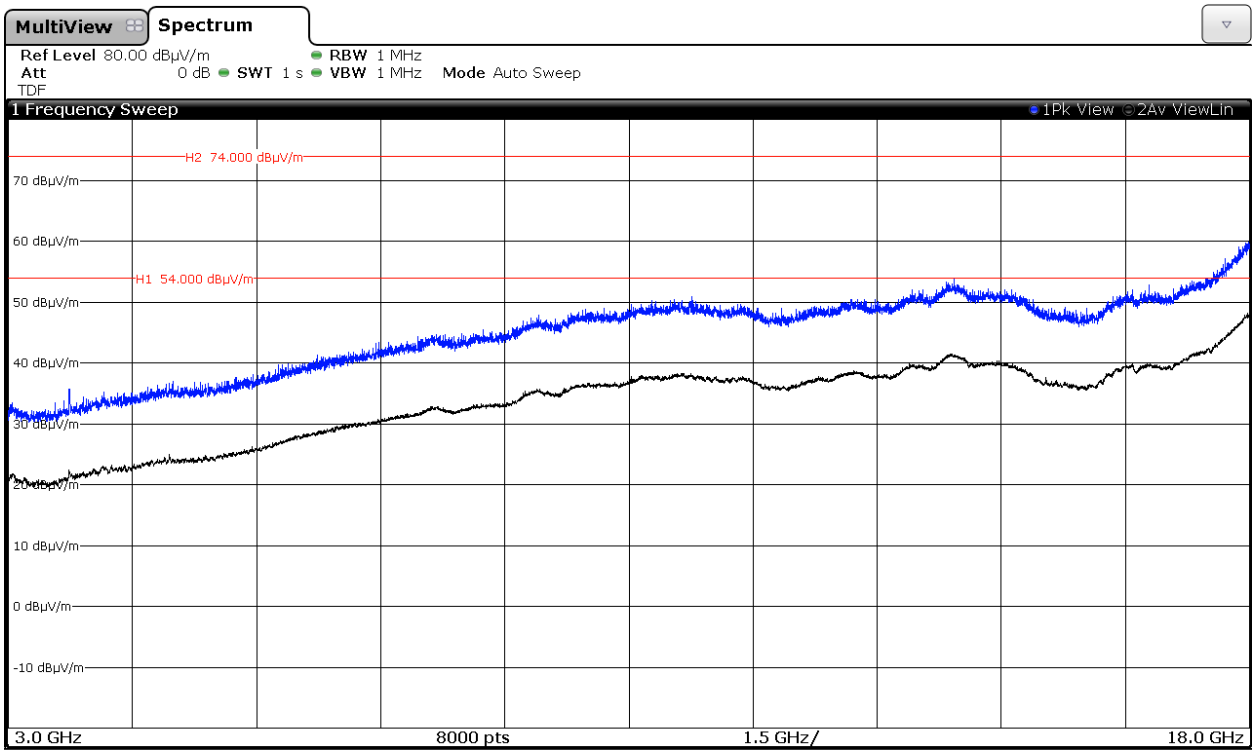
Chain A



Chain B



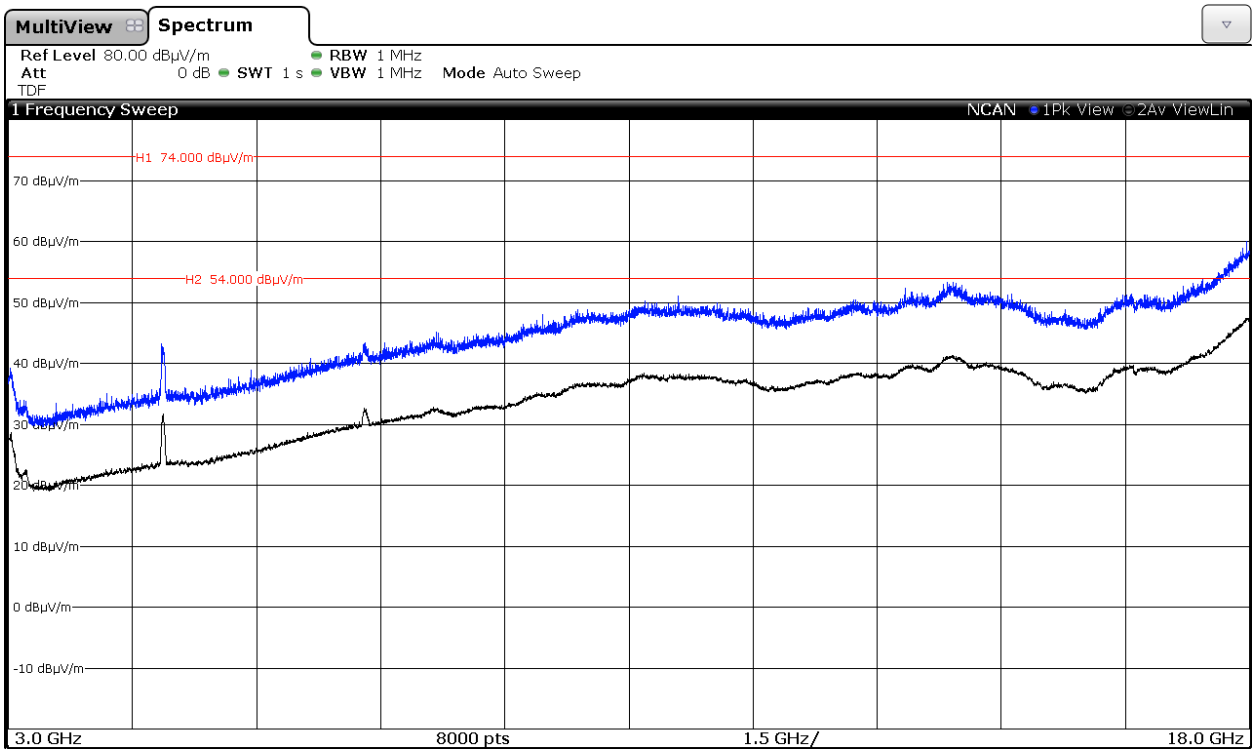
Chain A+B



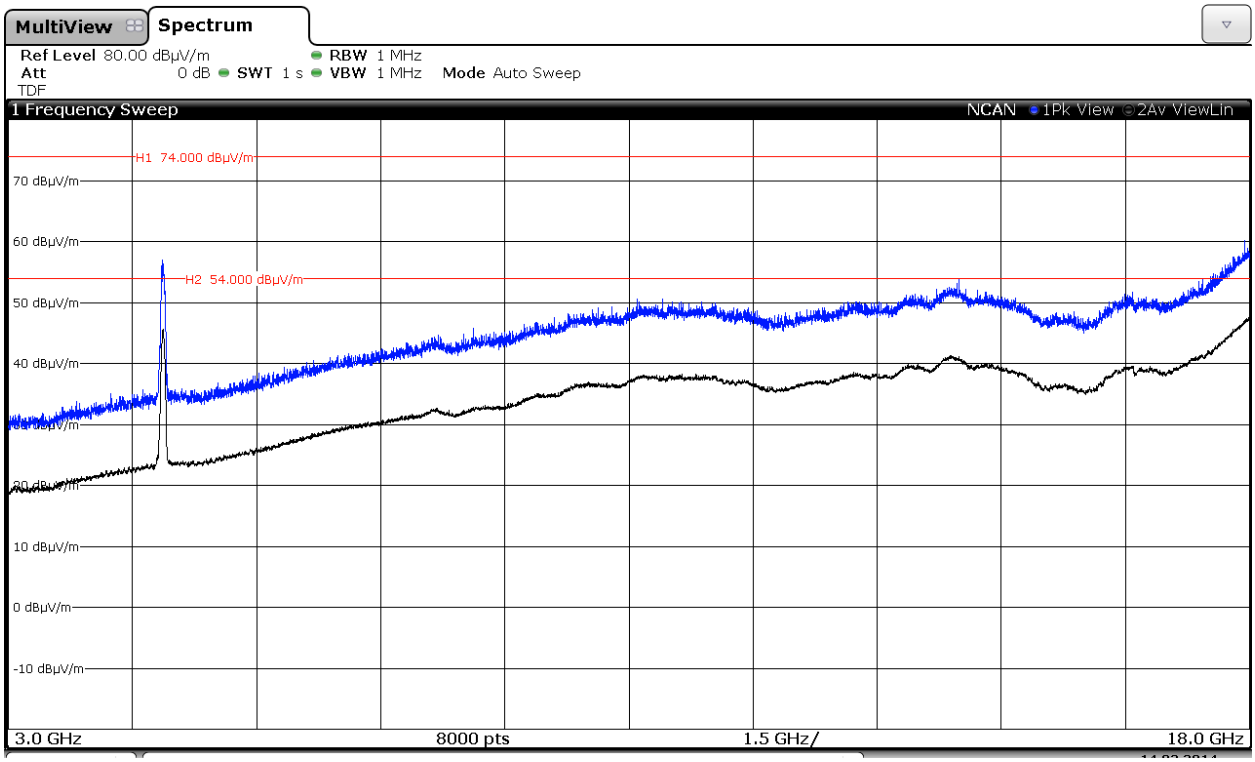
4. WiFi 2.4GHz 802.11 n40 mode

CHANNEL 6 (2437 MHz).

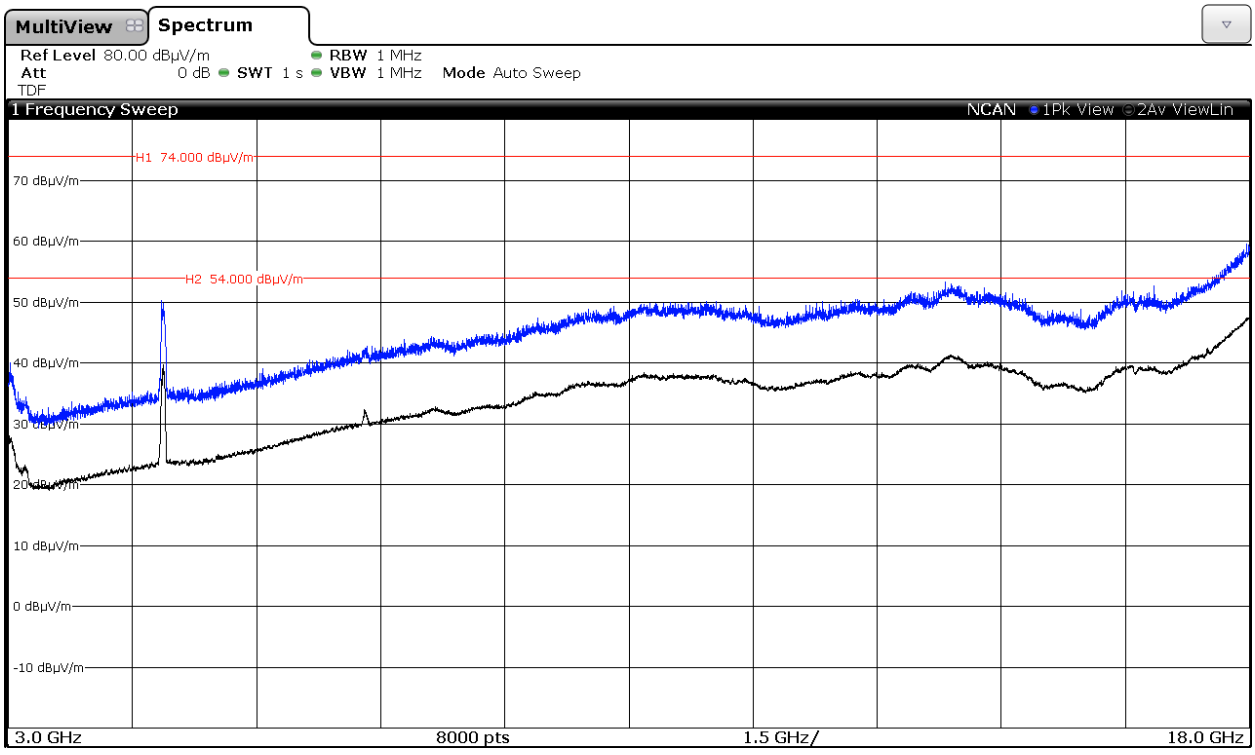
Chain A.



Chain B

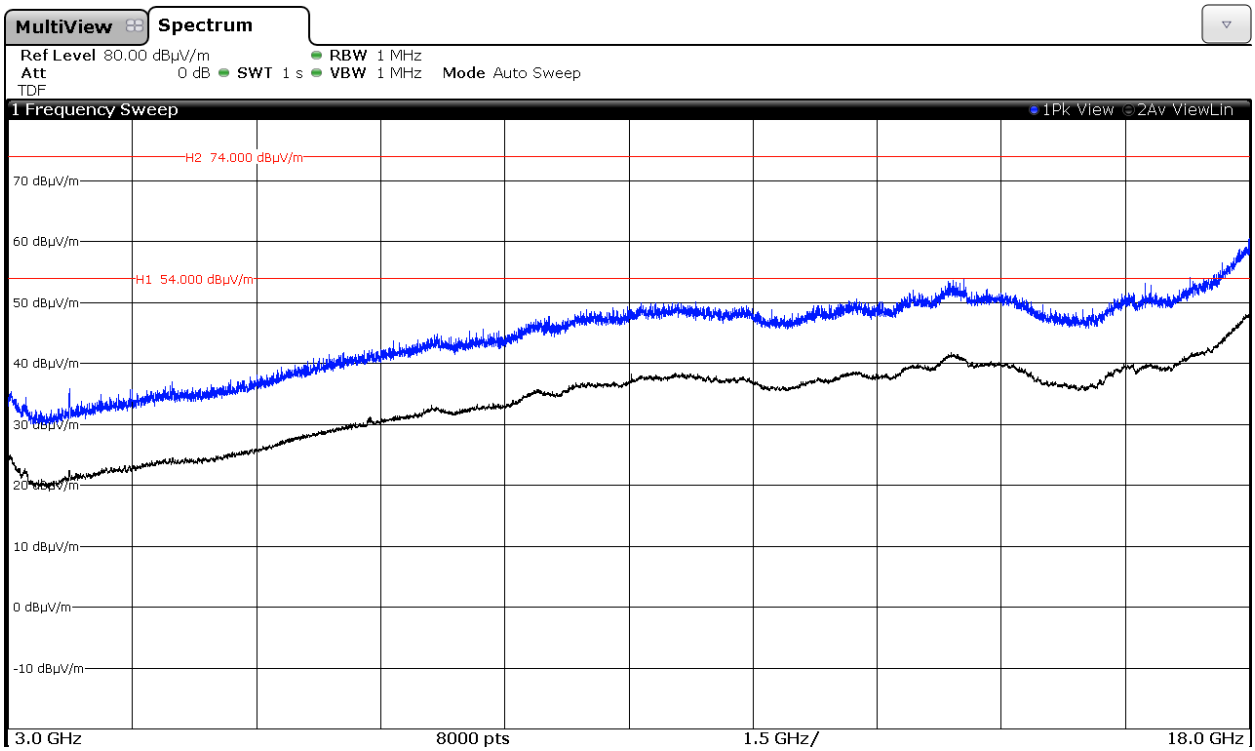


Chain A+B

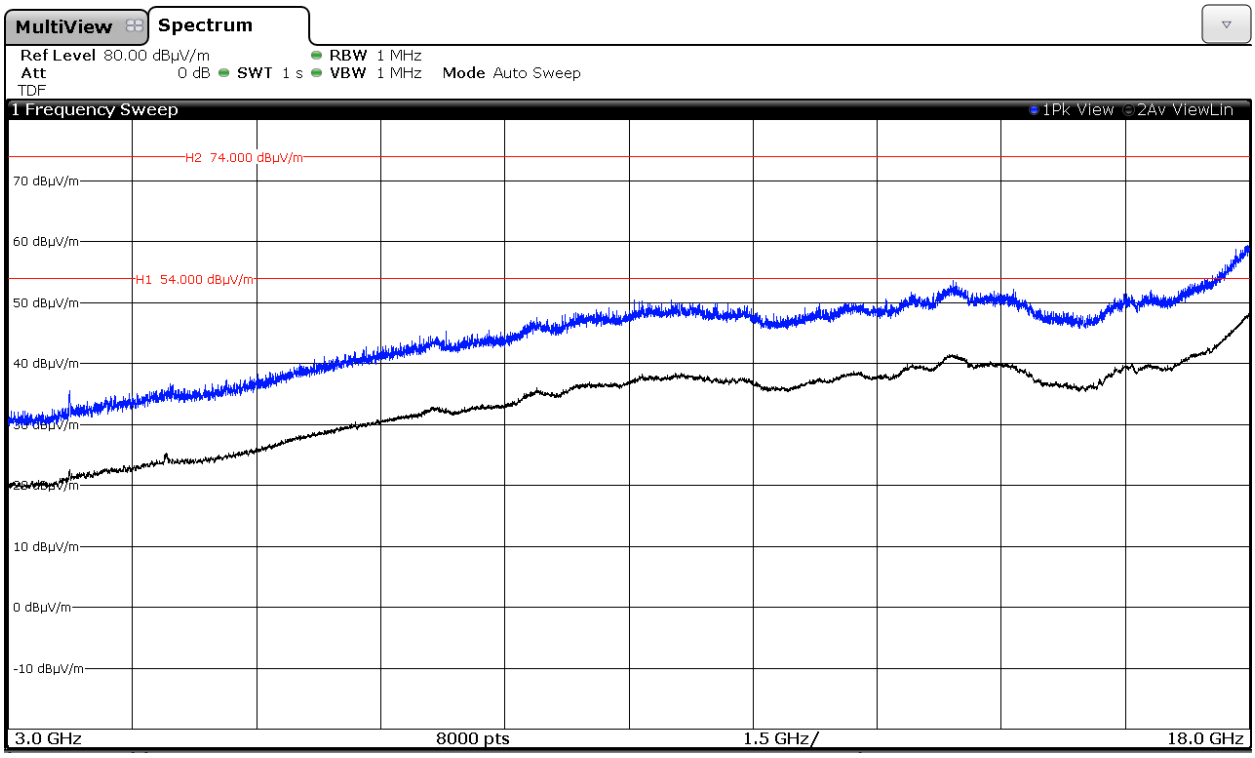


CHANNEL 10F (2457 MHz).

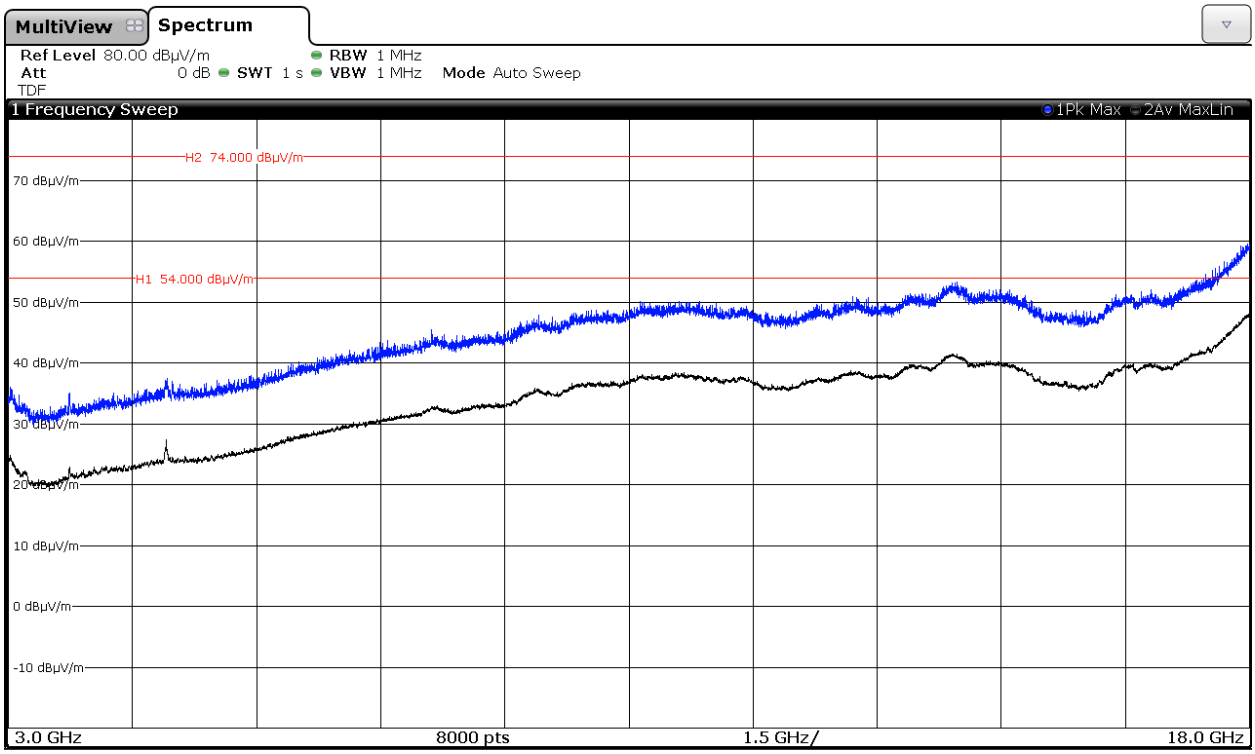
Chain A



Chain B

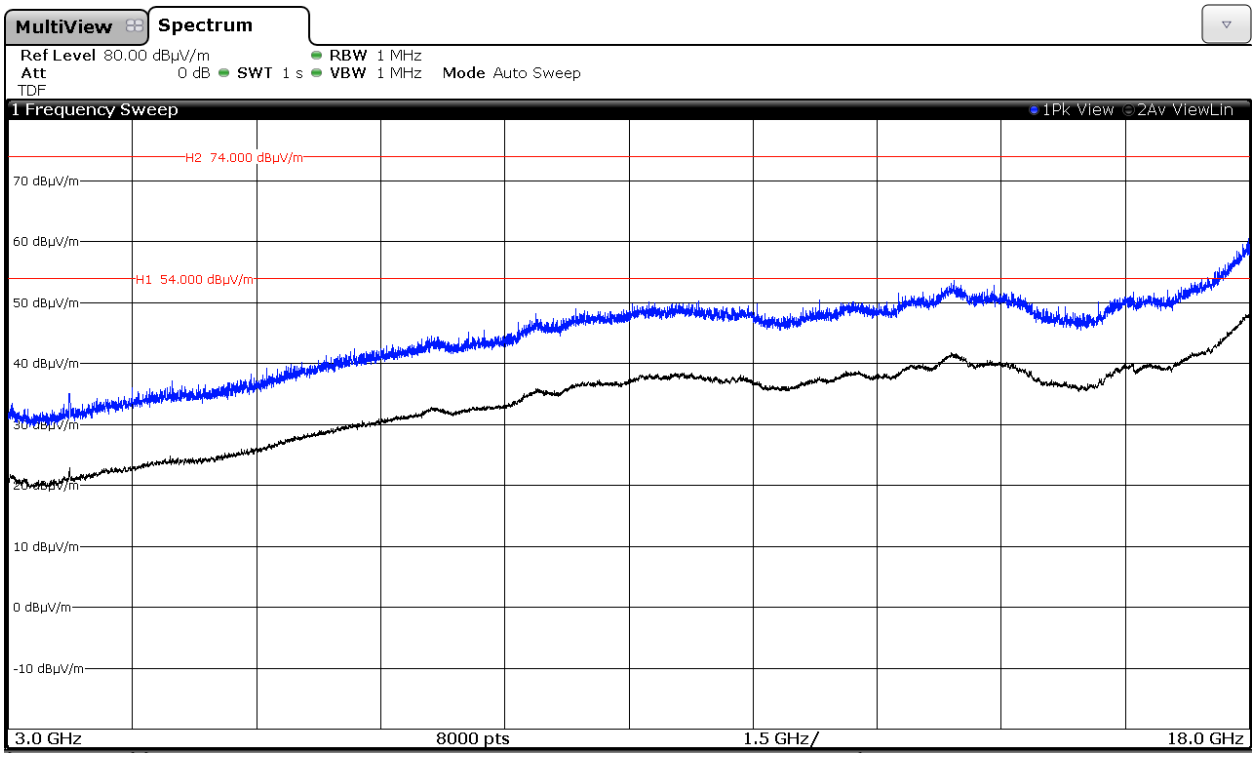


Chain A+B

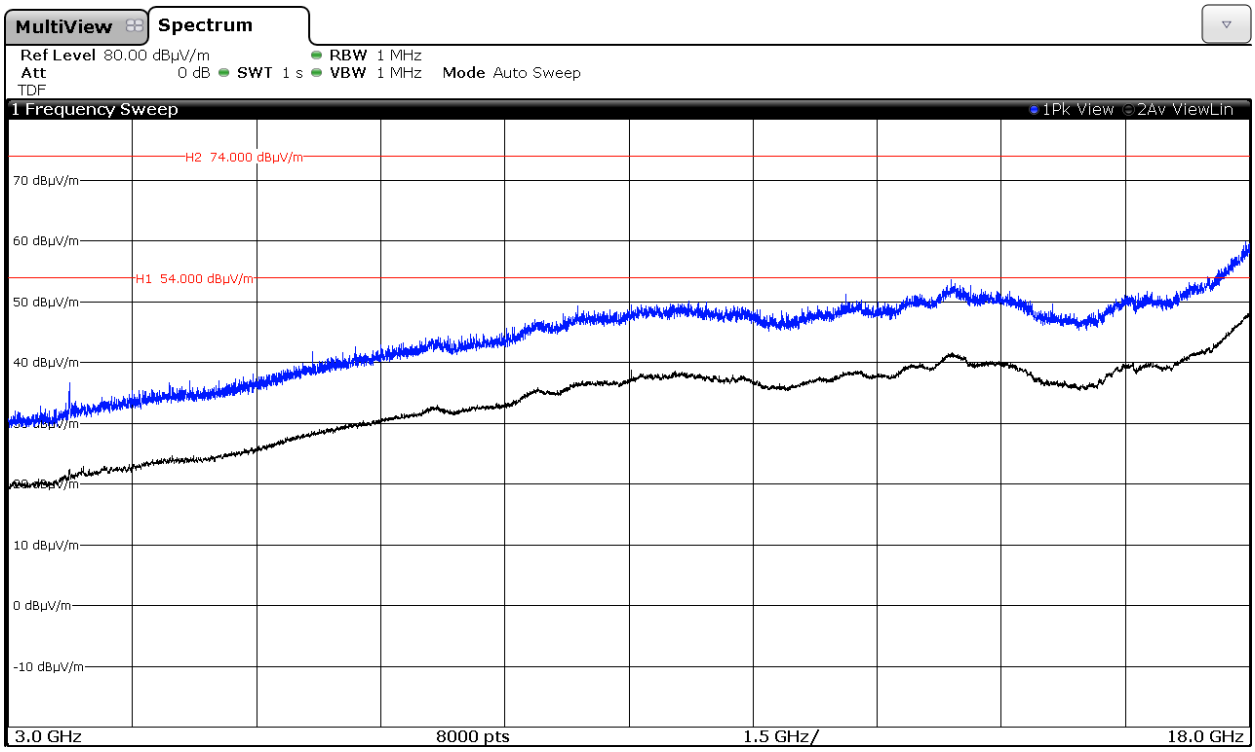


CHANNEL 11F (2462 MHz).

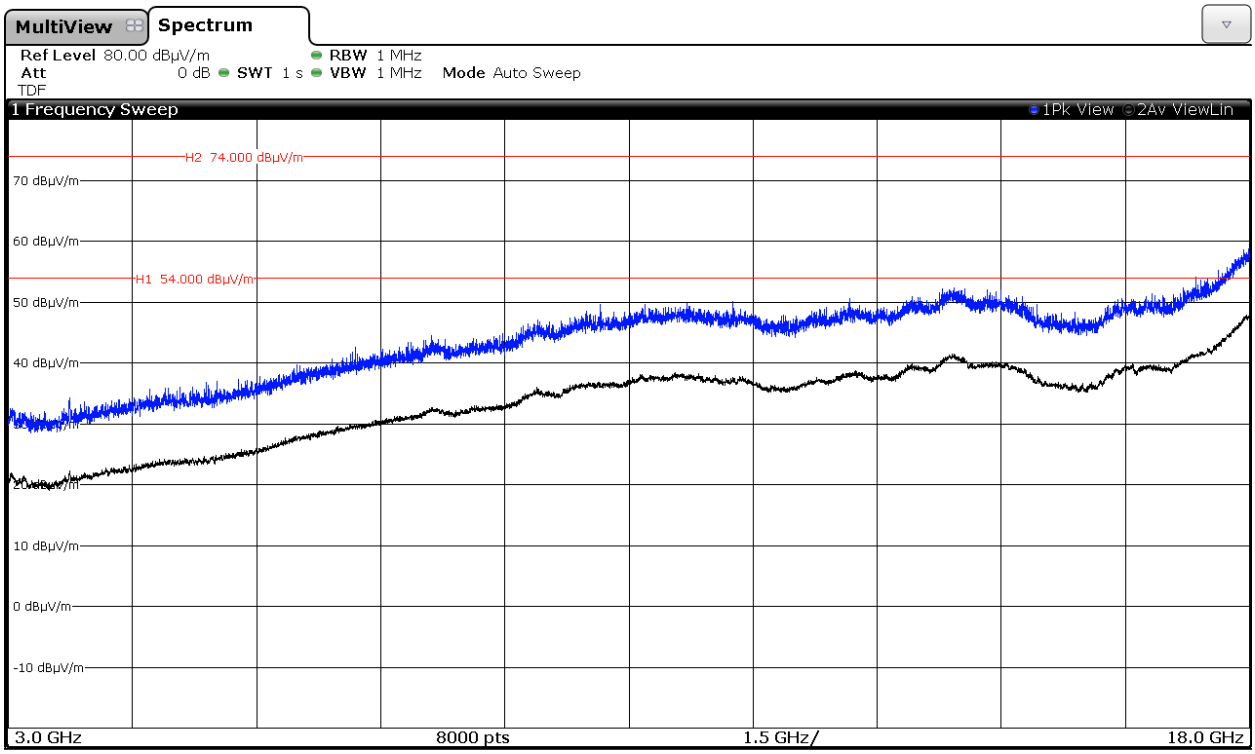
Chain A



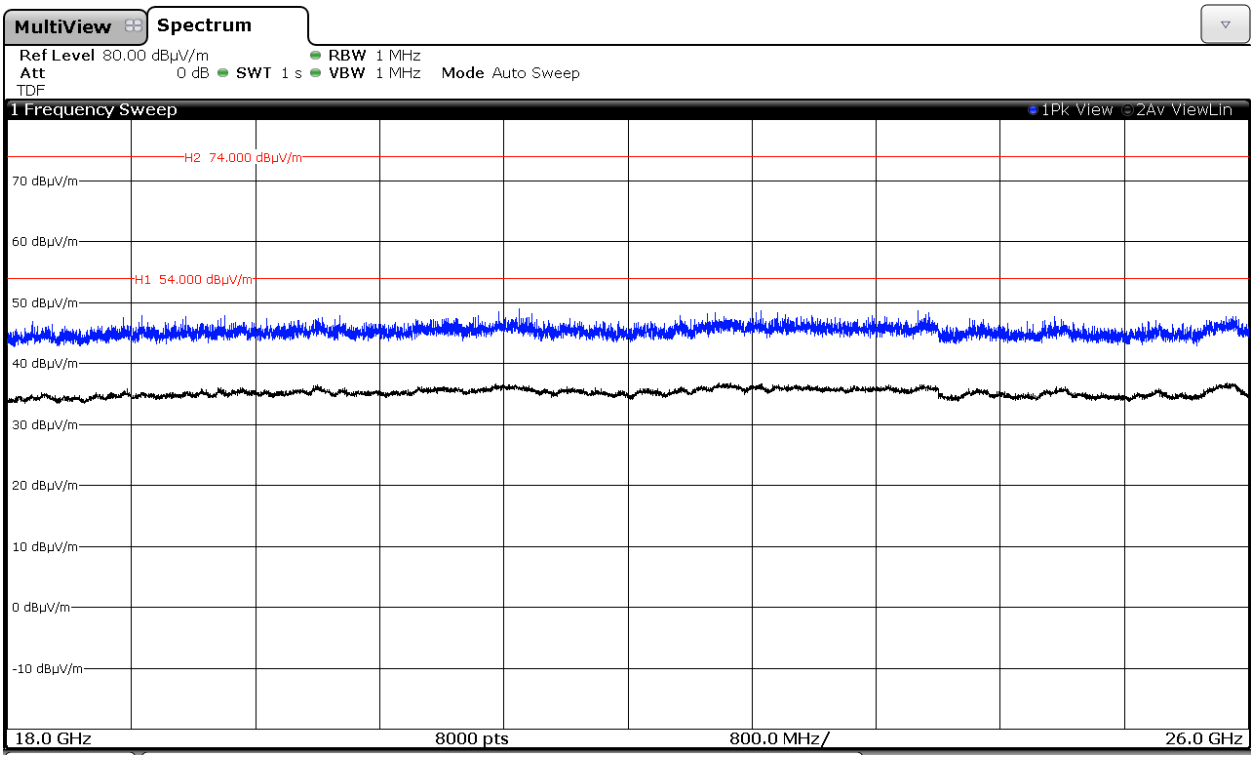
Chain B



Chain A+B



FREQUENCY RANGE 18 GHz to 25 GHz. No spurious signals were detected.



(This plot is valid for SISO and MIMO modes).

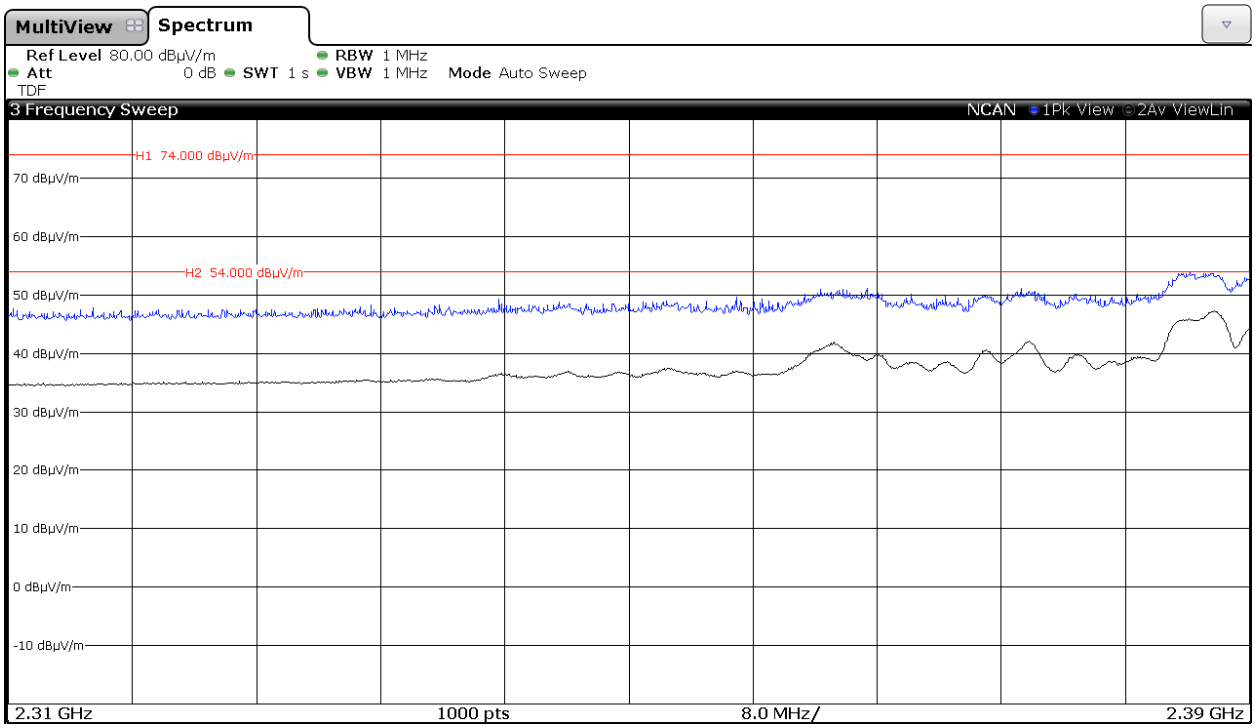
Radiated spurious emissions at band-edges and inside restricted bands 2.31-2.39 GHz and 2.4835 – 2.5 GHz.

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

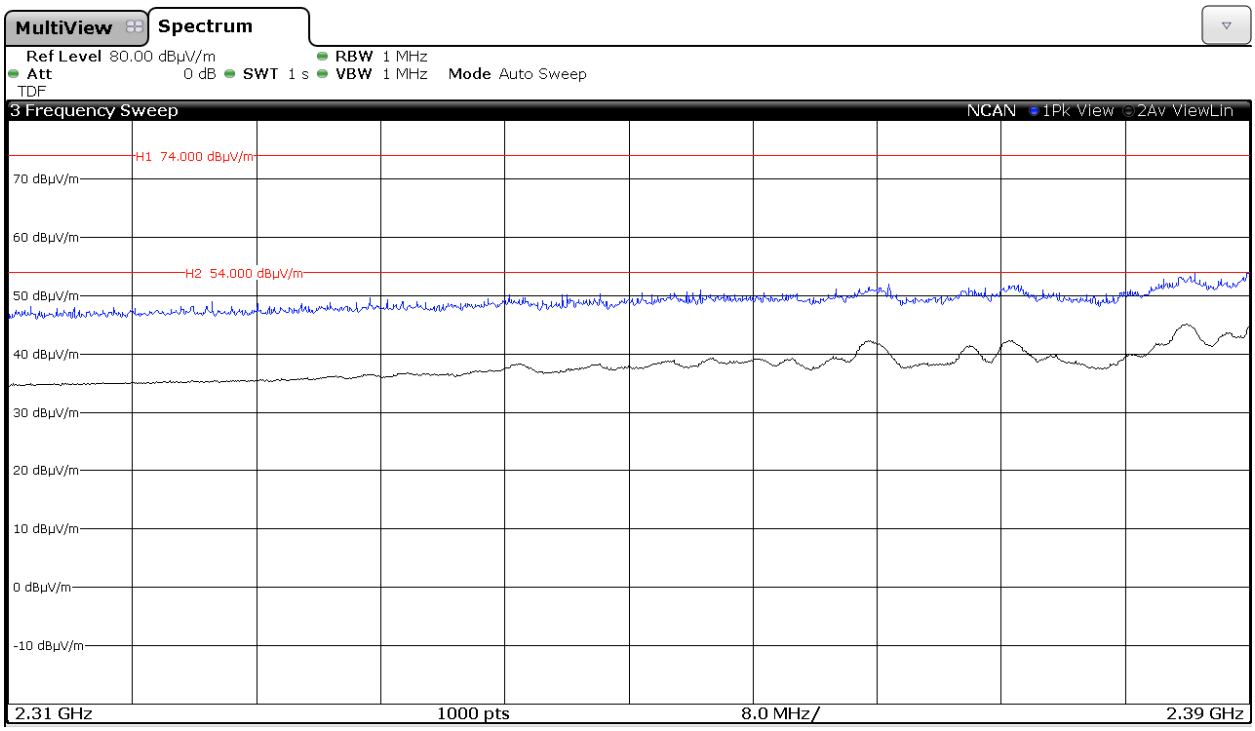
1. WiFi 2.4GHz 802.11 b mode

CHANNEL 1 (2412 MHz).

Chain A

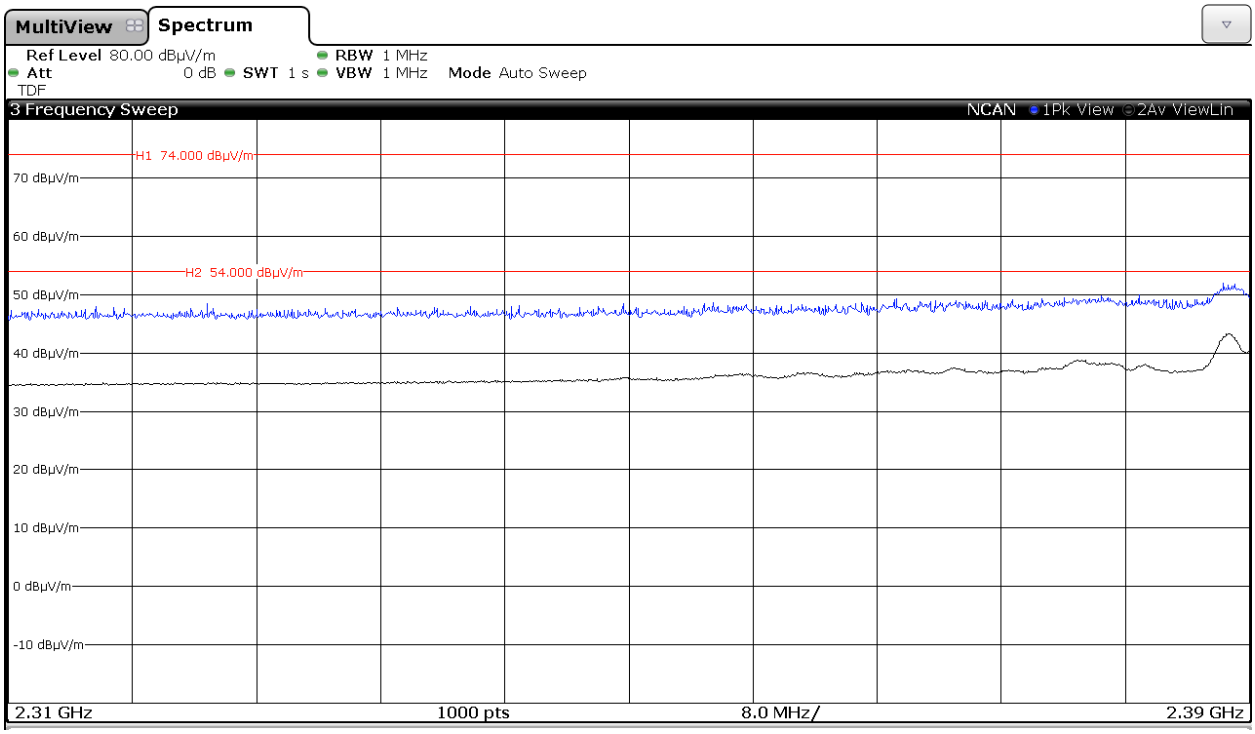


Chain B

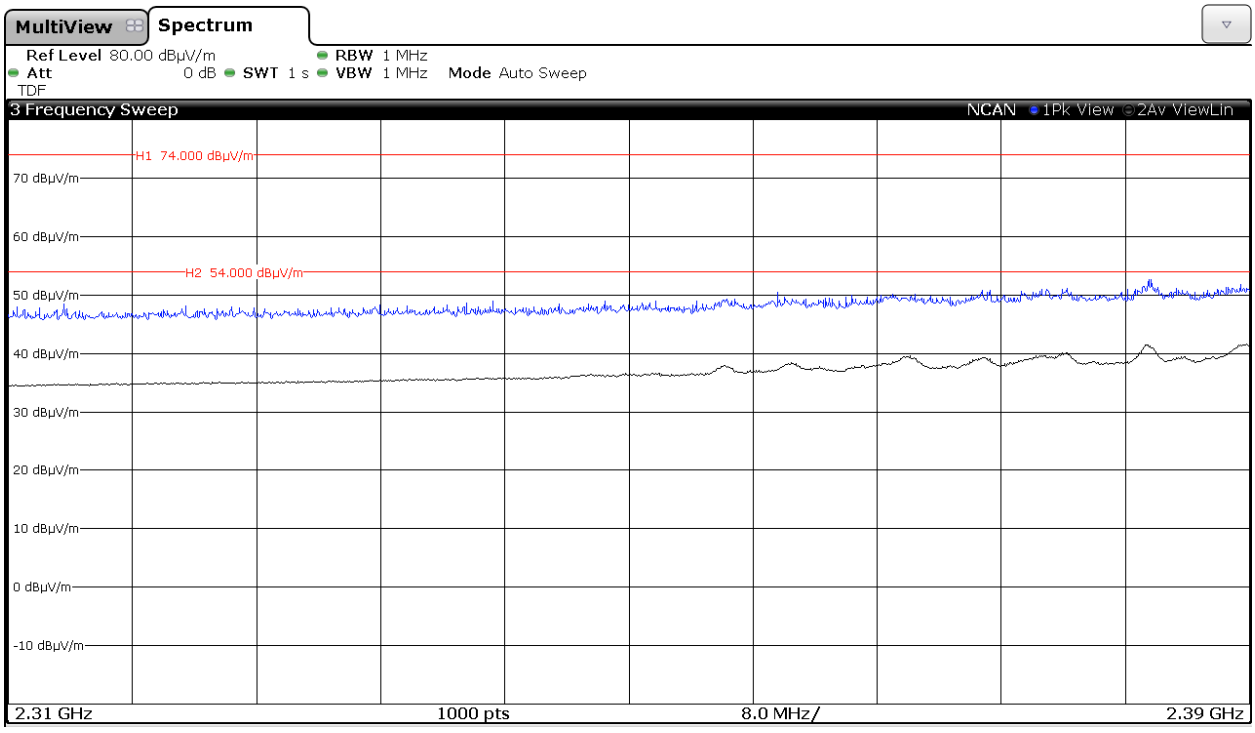


CHANNEL 6 (2437 MHz).

Chain A

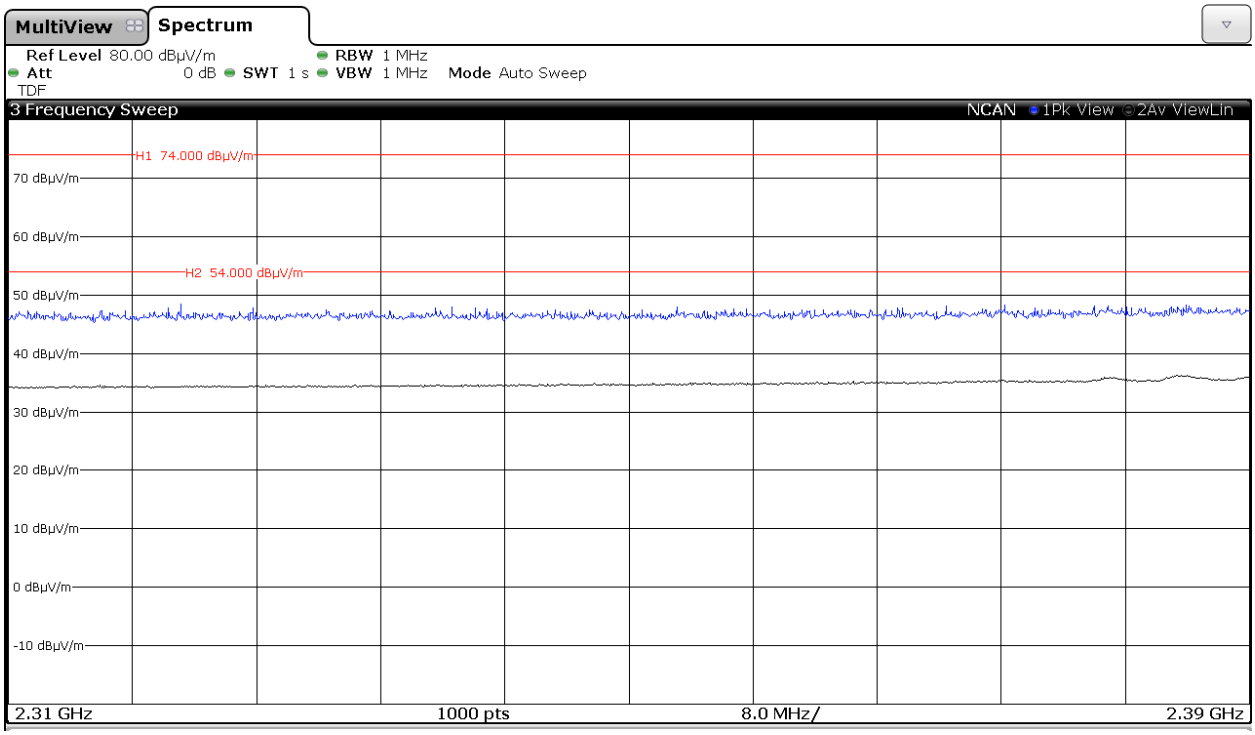


Chain B

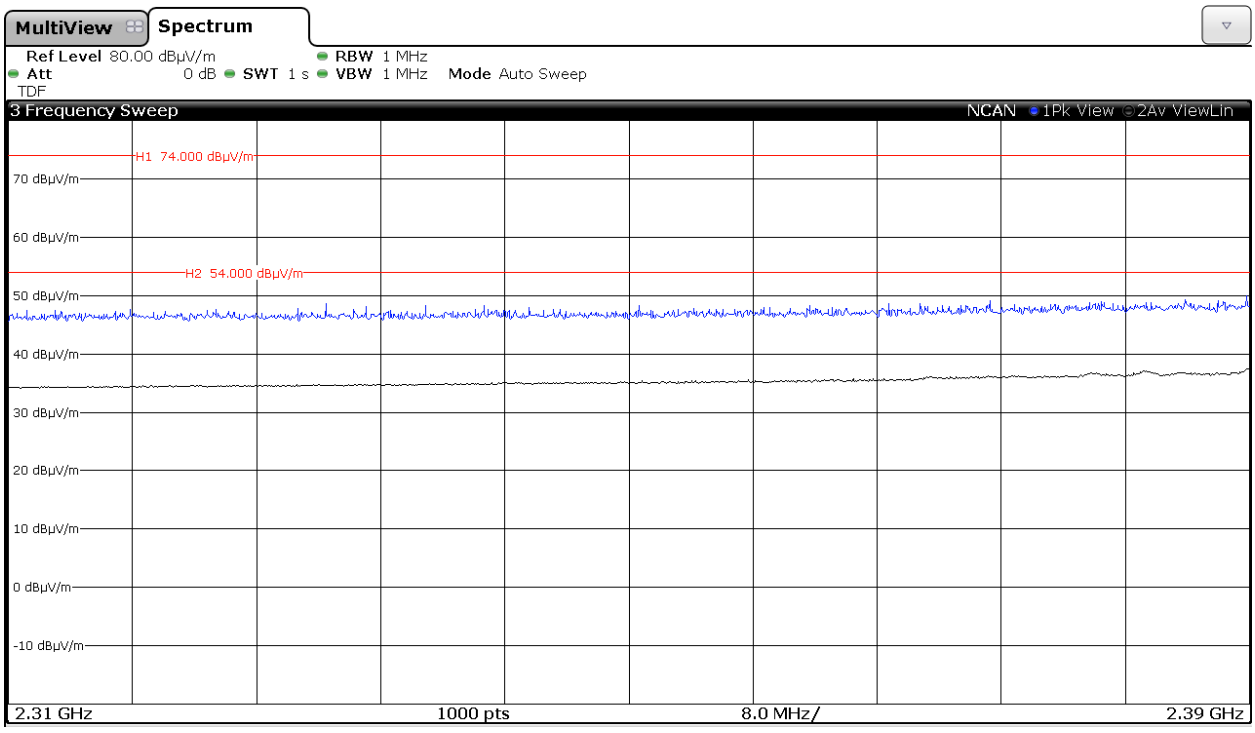


CHANNEL 11 (2462 MHz).

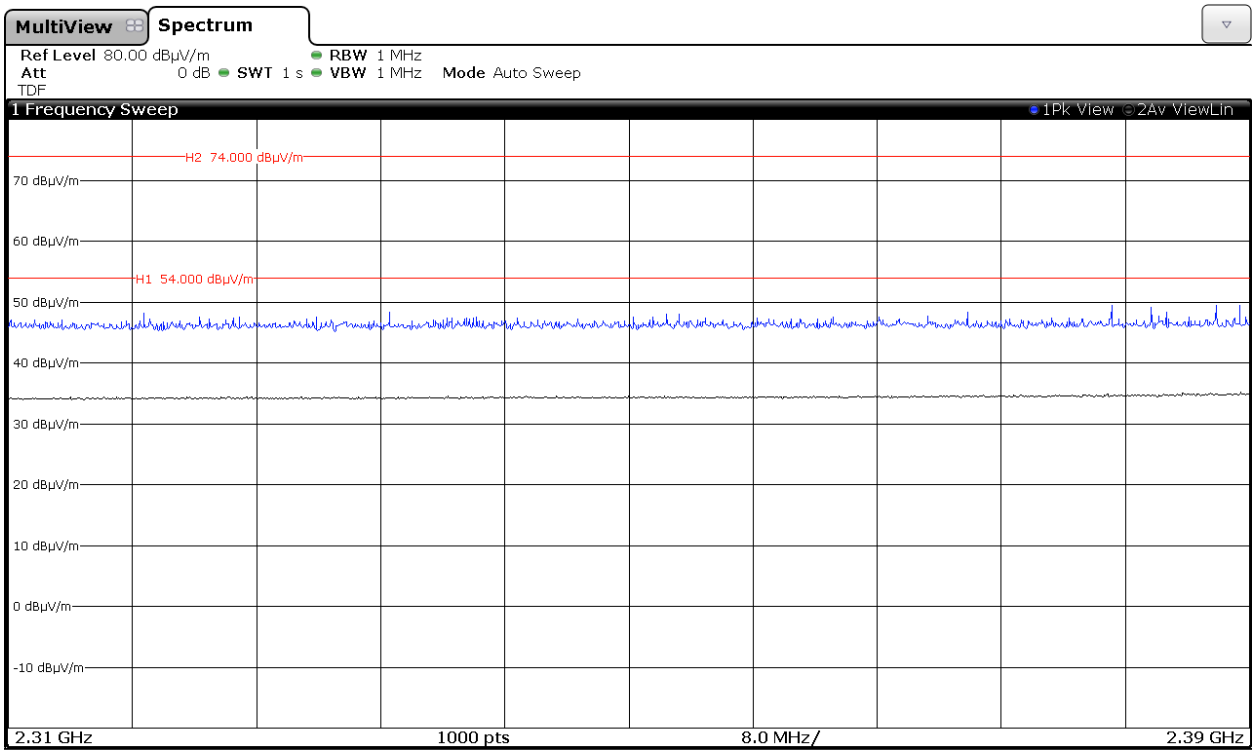
Chain A



Chain B

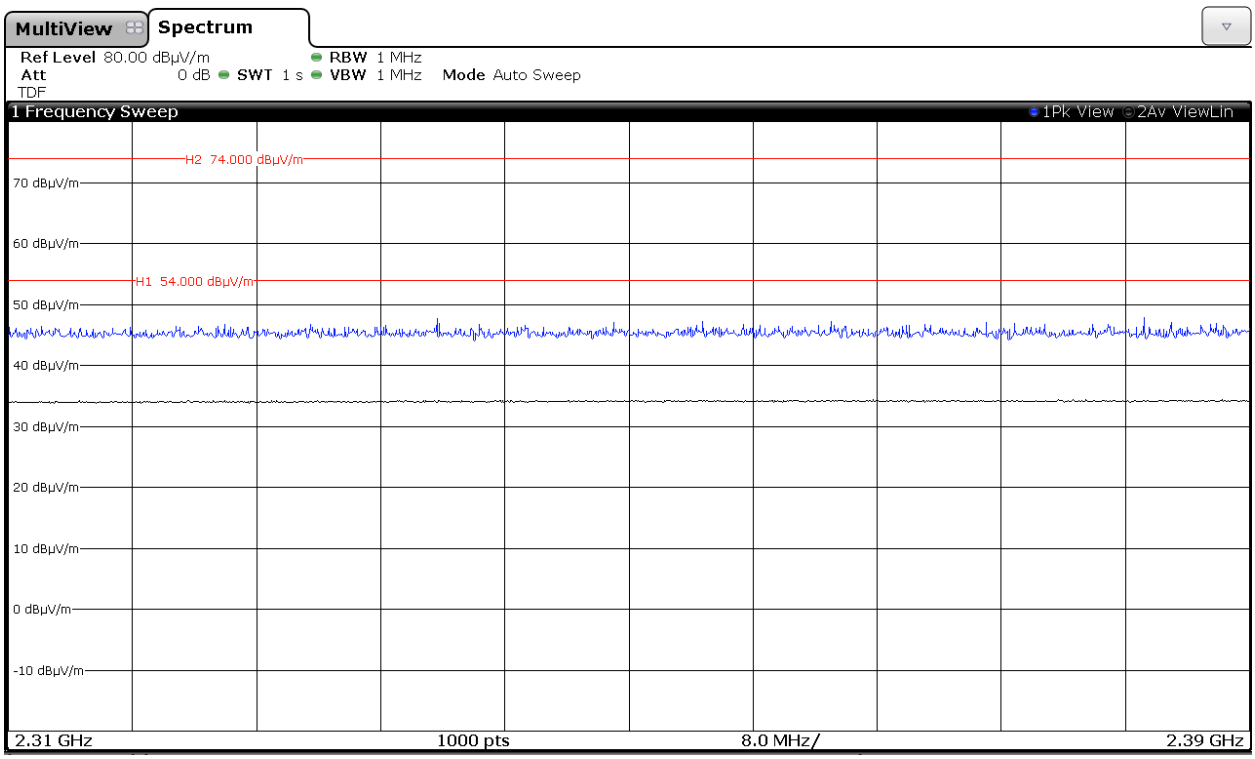


CHANNEL 12 (2467 MHz).



Note: This plot is valid for both Chain A and Chain B

CHANNEL 13 (2472 MHz).

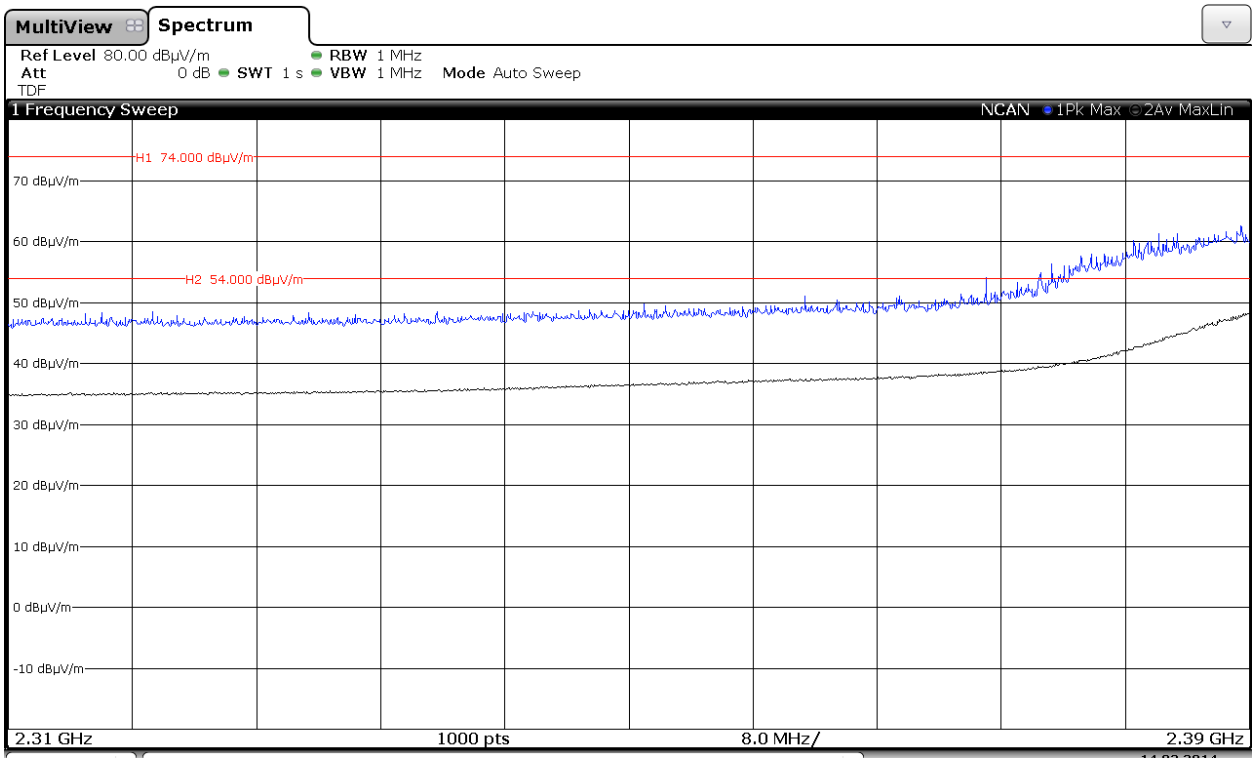


Note: This plot is valid for both Chain A and Chain B

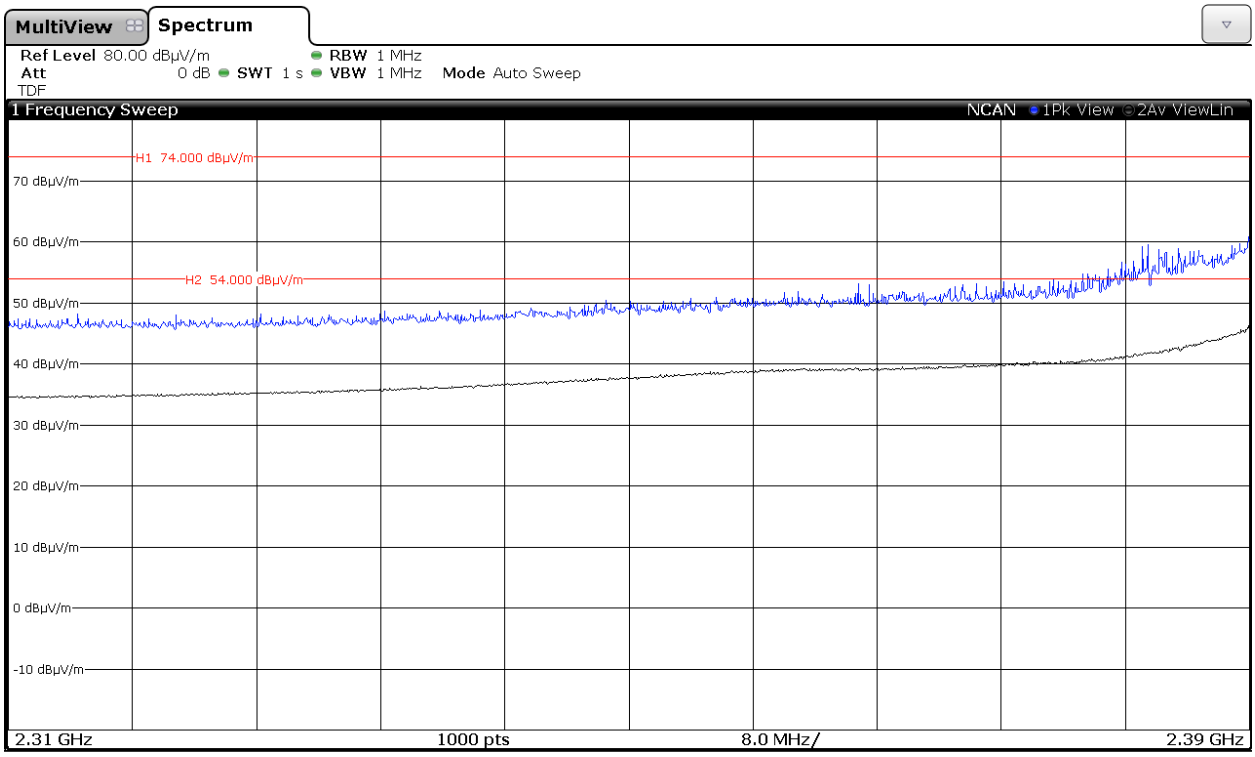
2. WiFi 2.4GHz 802.11 g mode

CHANNEL 1 (2412 MHz).

Chain A

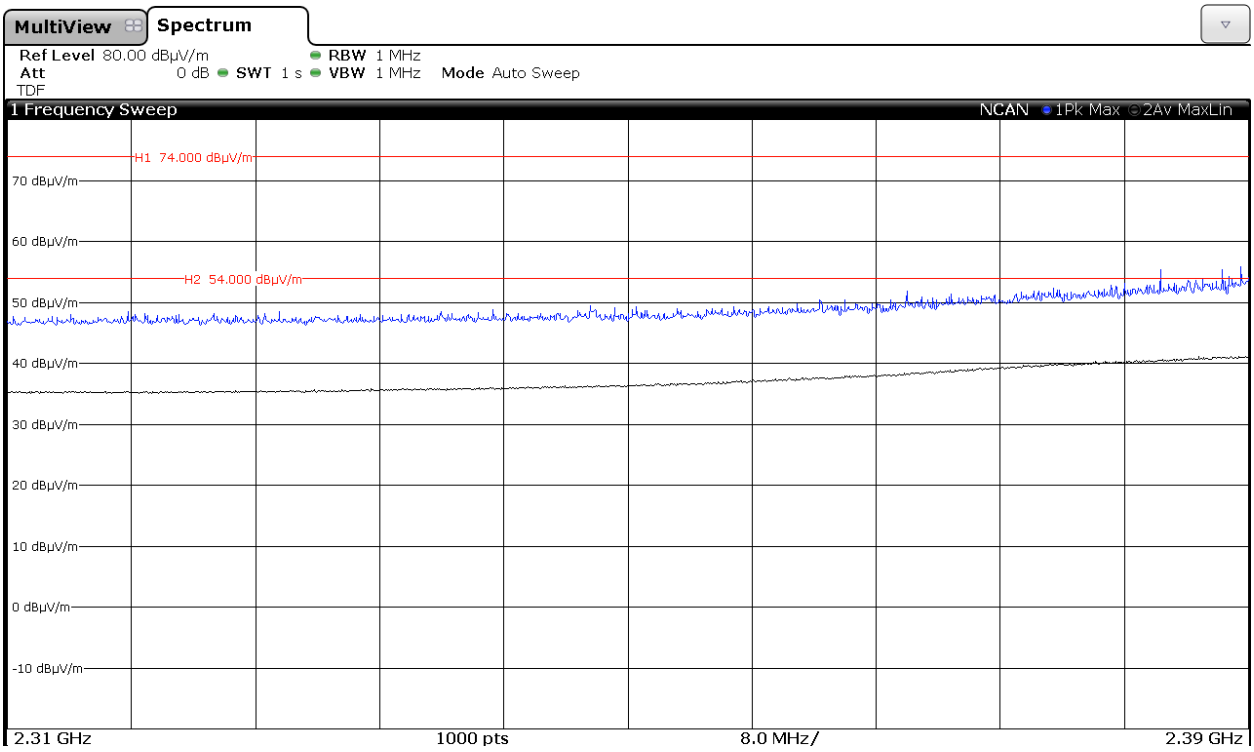


Chain B

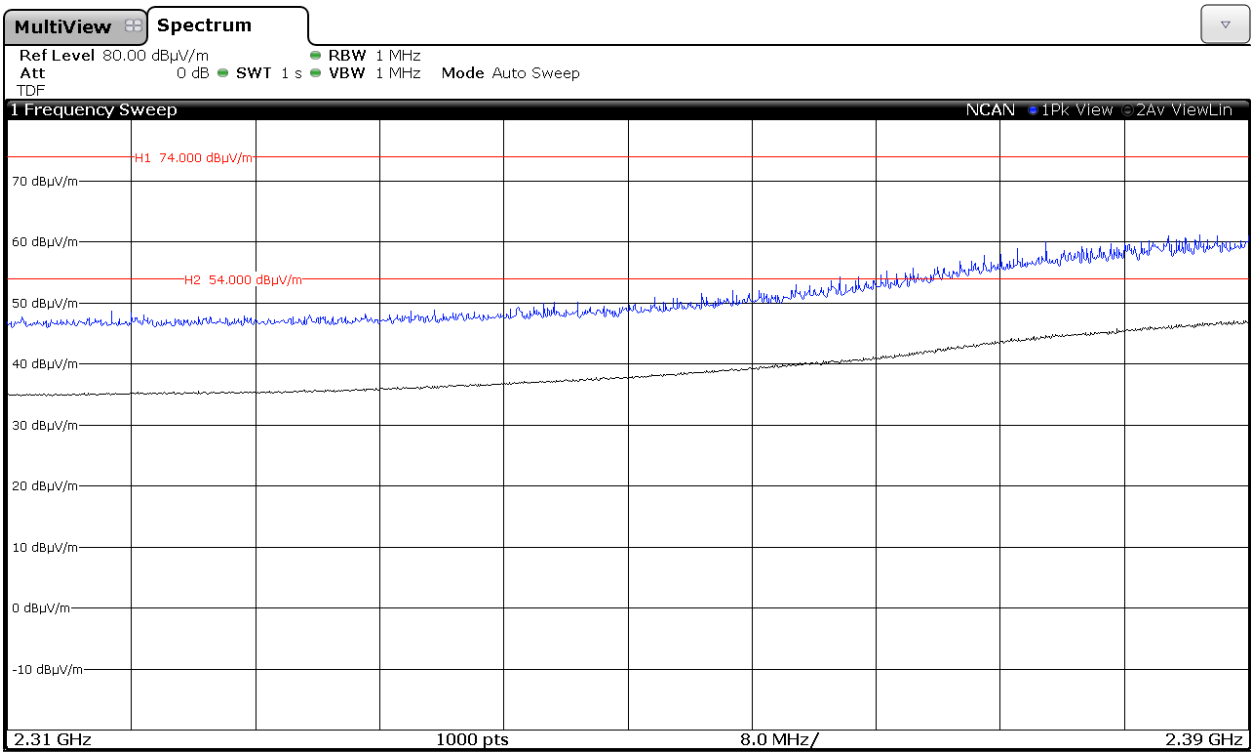


CHANNEL 6 (2437 MHz).

Chain A

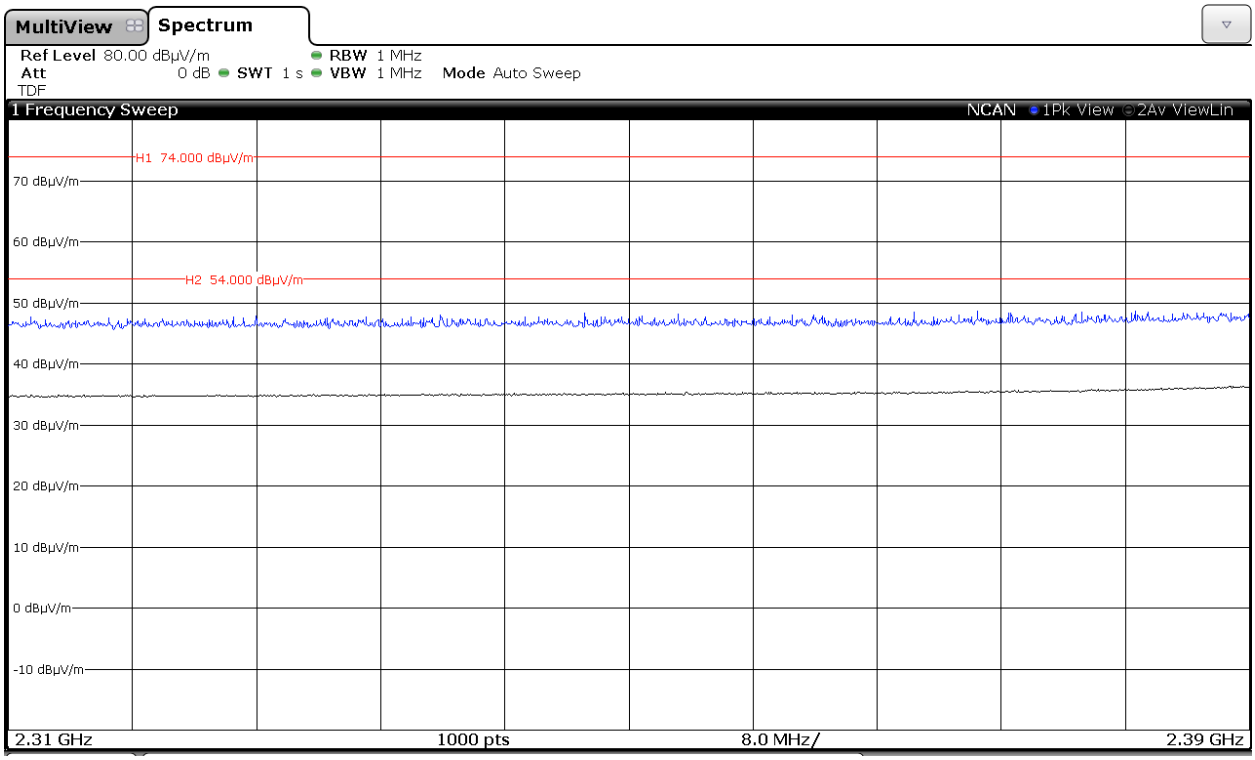


Chain B

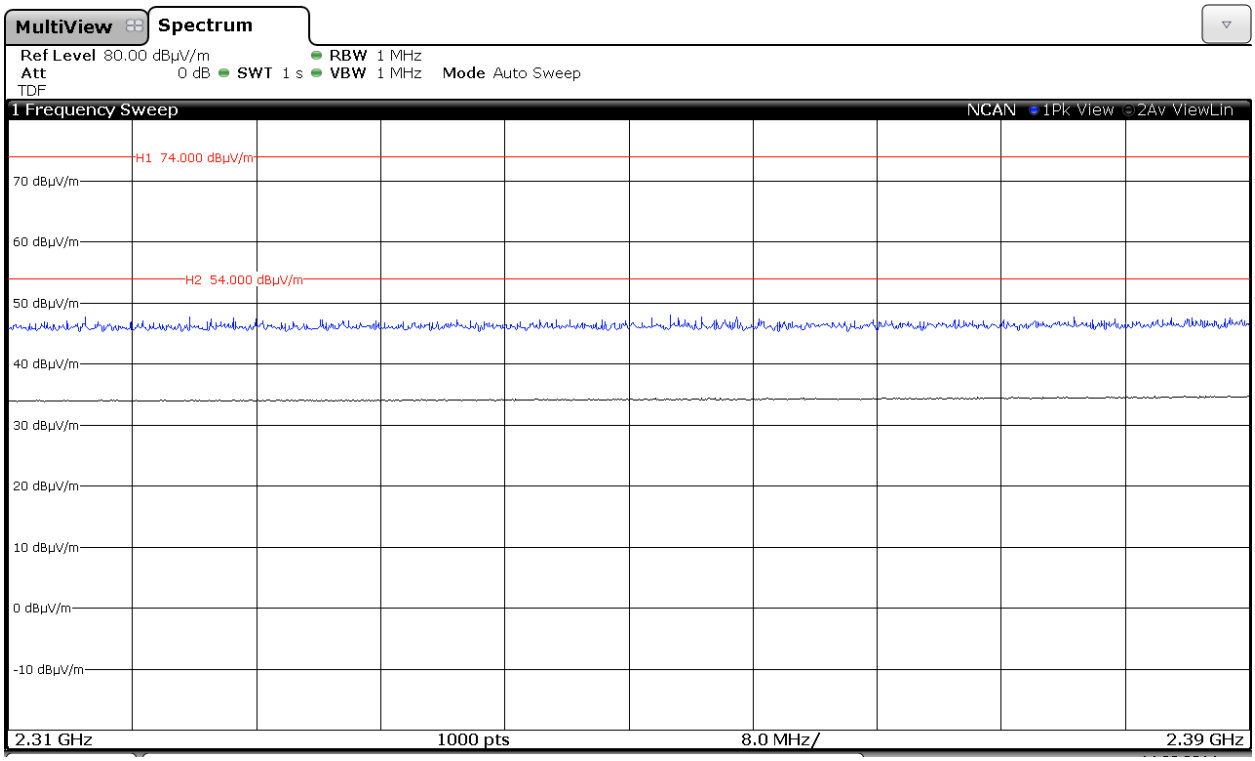


CHANNEL 11 (2462 MHz).

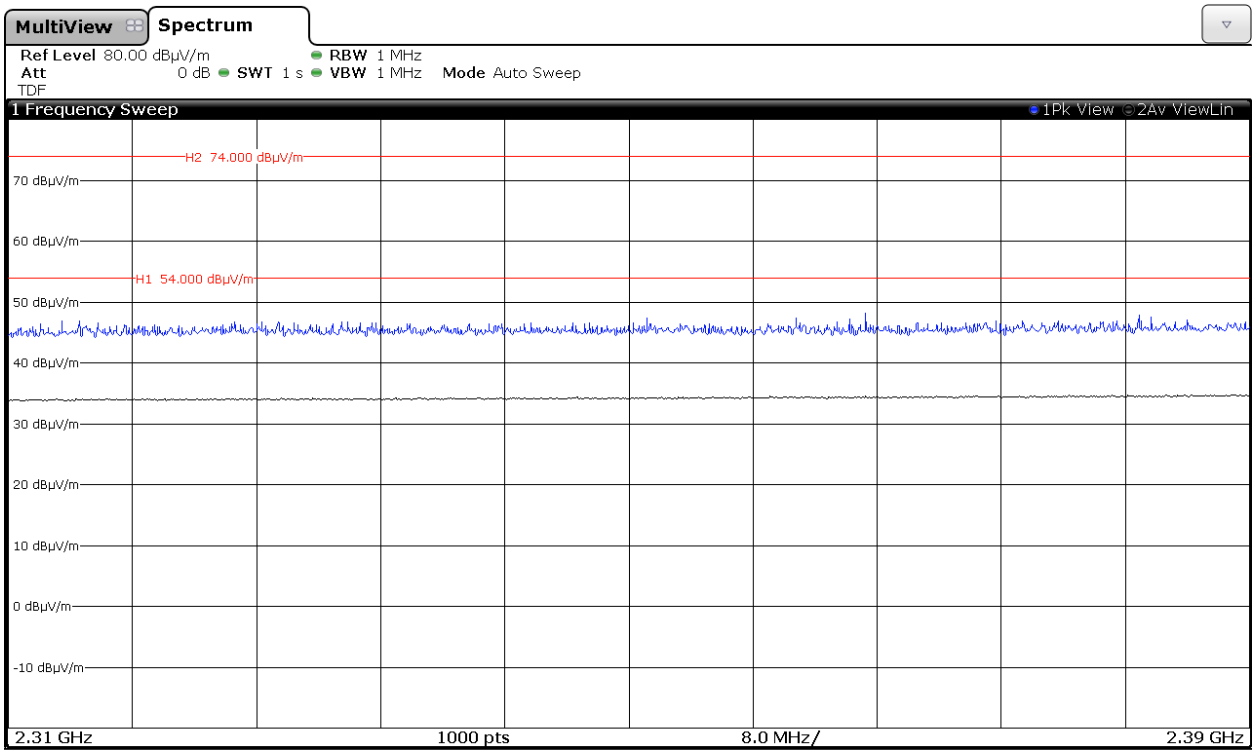
Chain A



Chain B

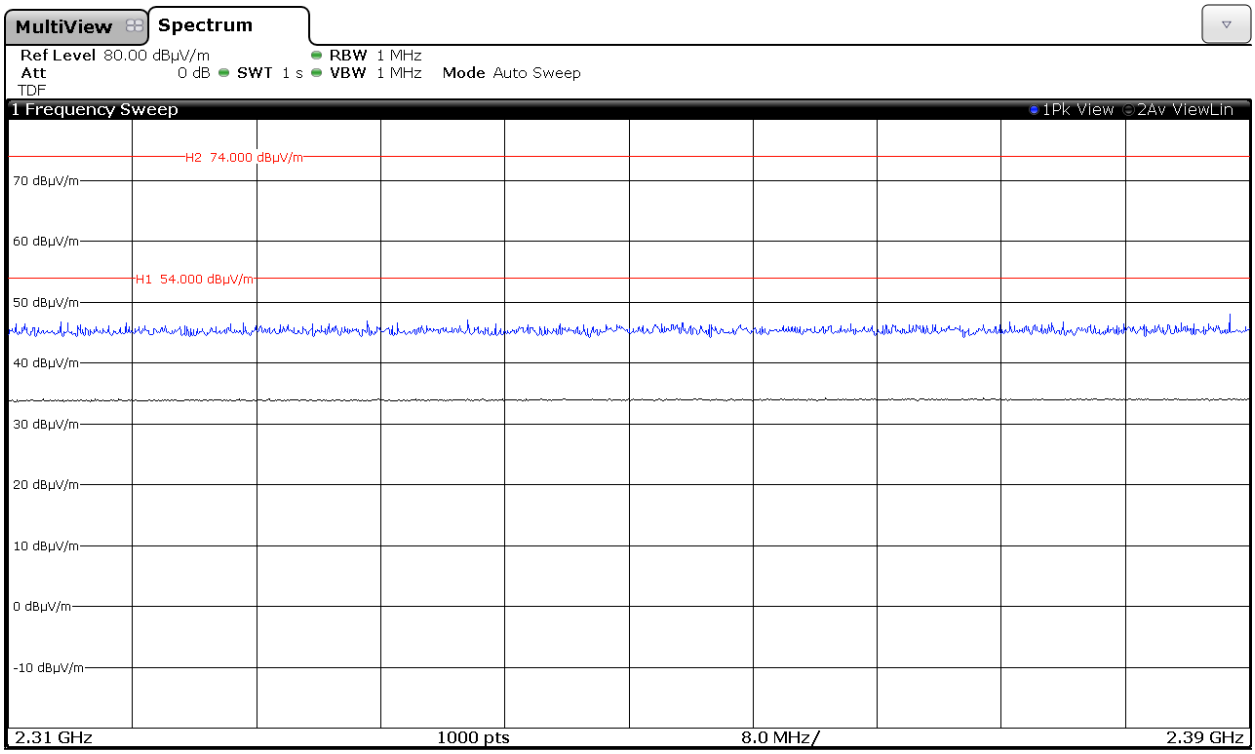


CHANNEL 12 (2467 MHz).



Note: This plot is valid for both Chain A and Chain B

CHANNEL 13 (2472 MHz).

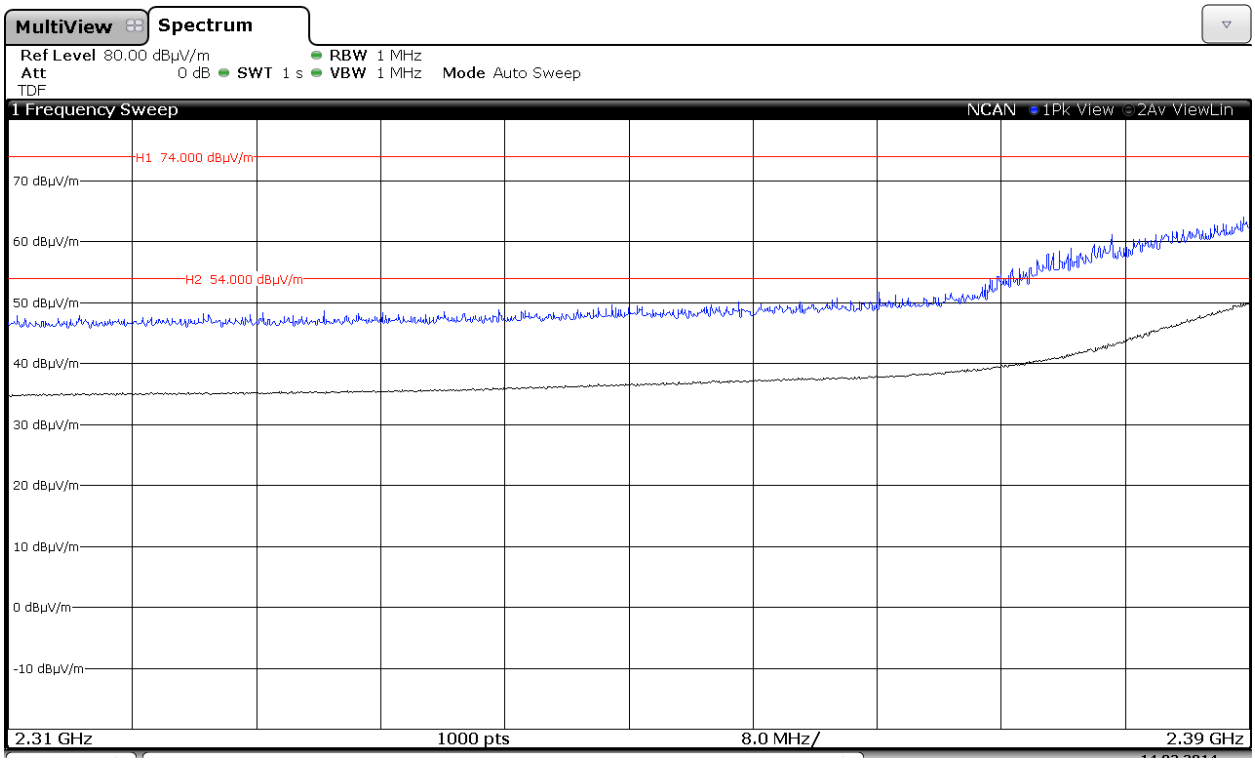


Note: This plot is valid for both Chain A and Chain B

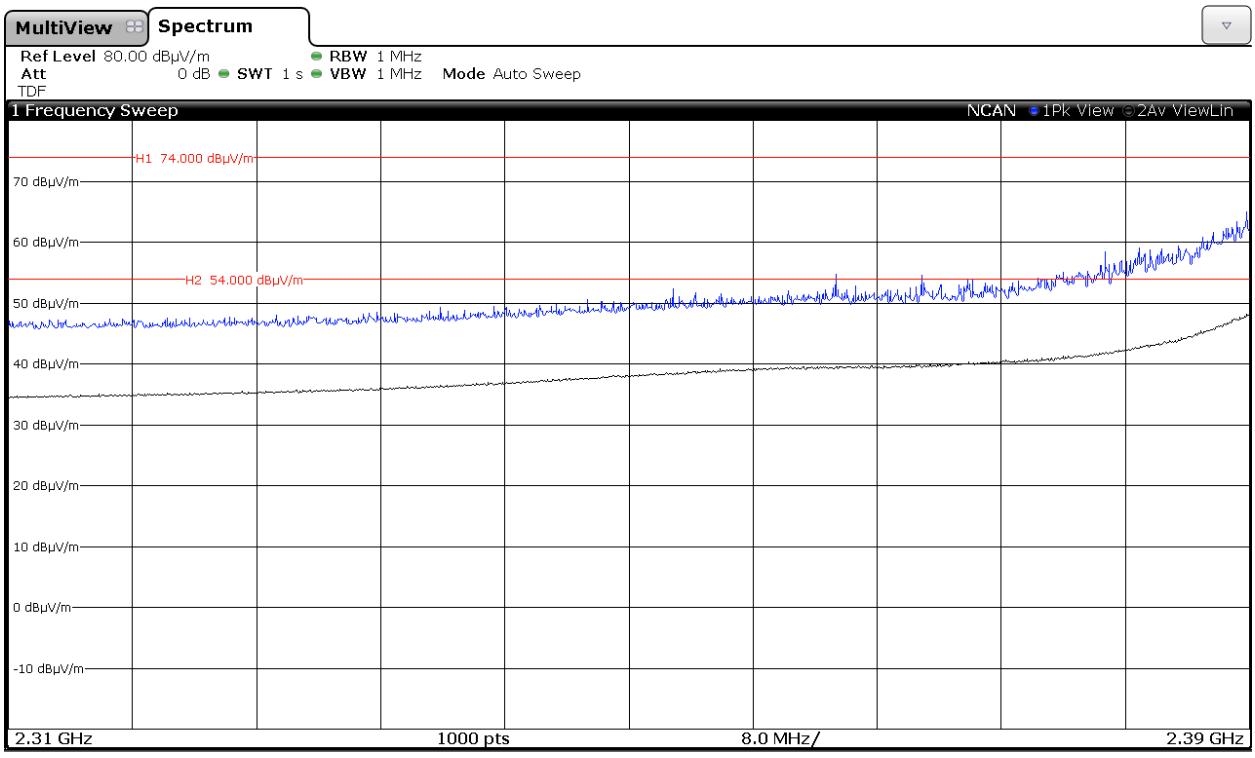
3. WiFi 2.4GHz 802.11 n20 mode

CHANNEL 1 (2412 MHz).

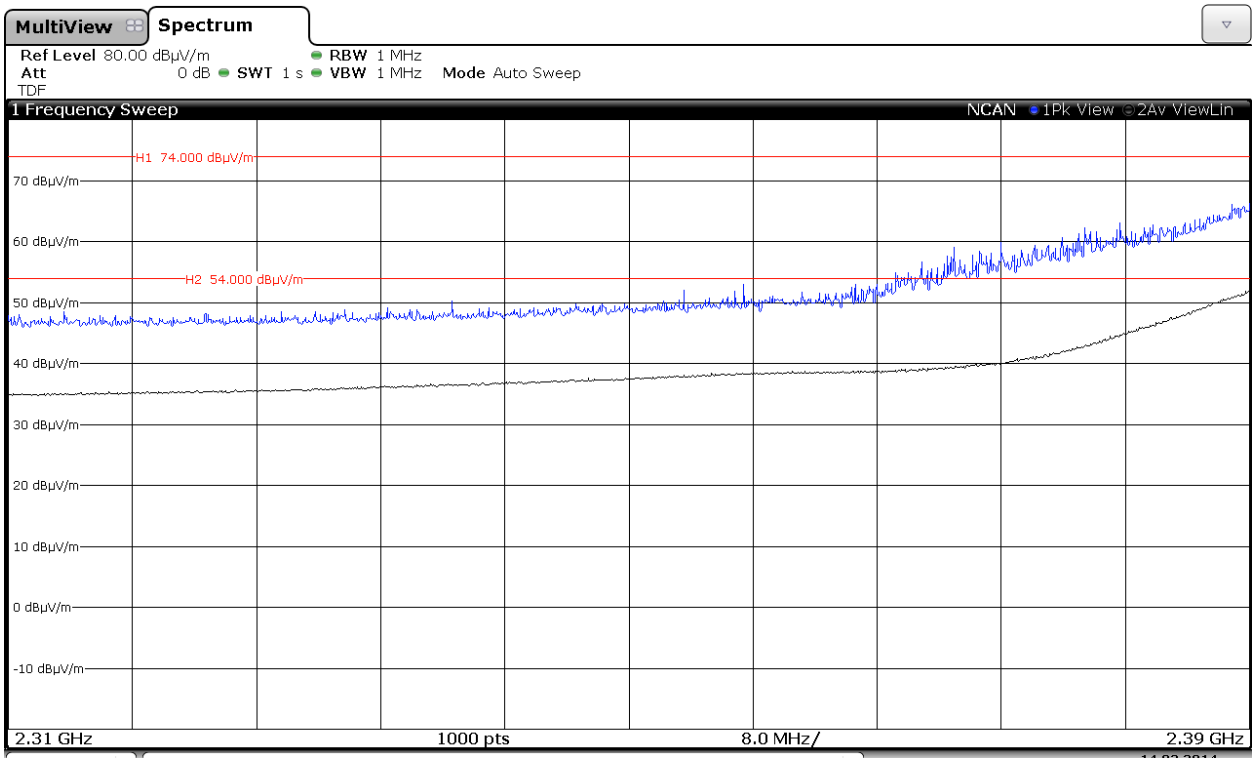
Chain A



Chain B

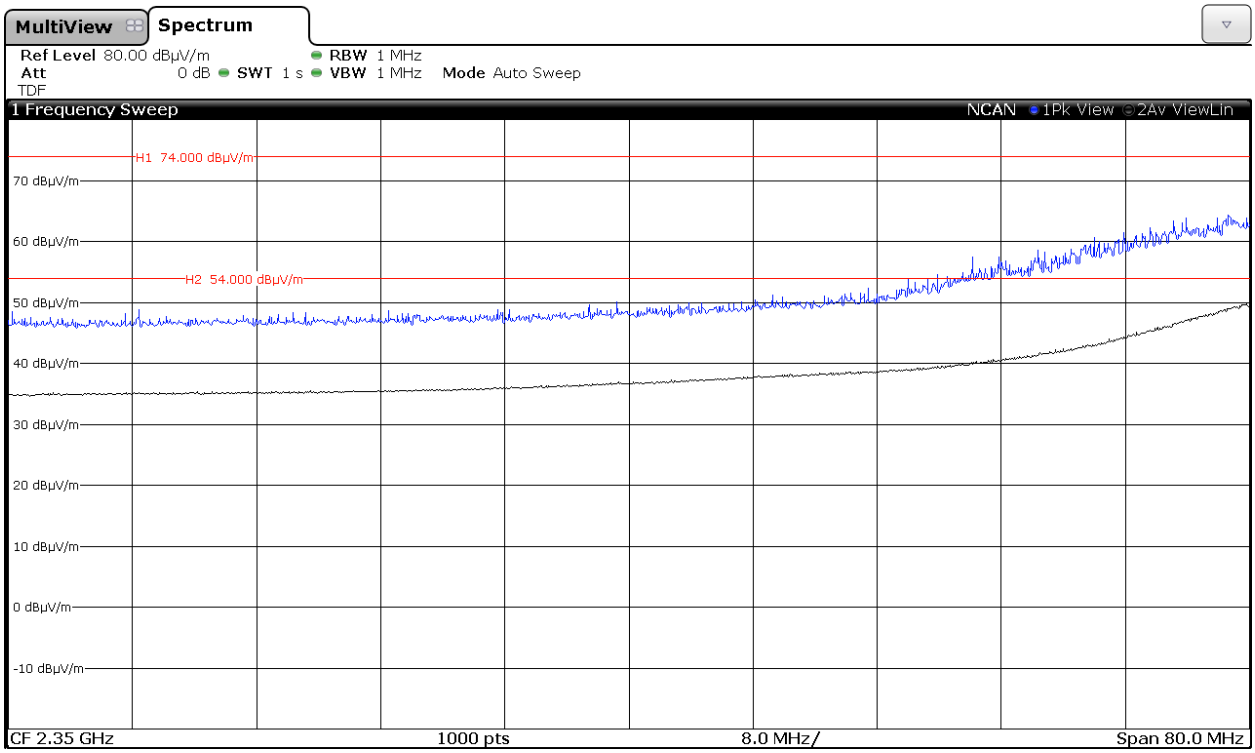


Chain A+B

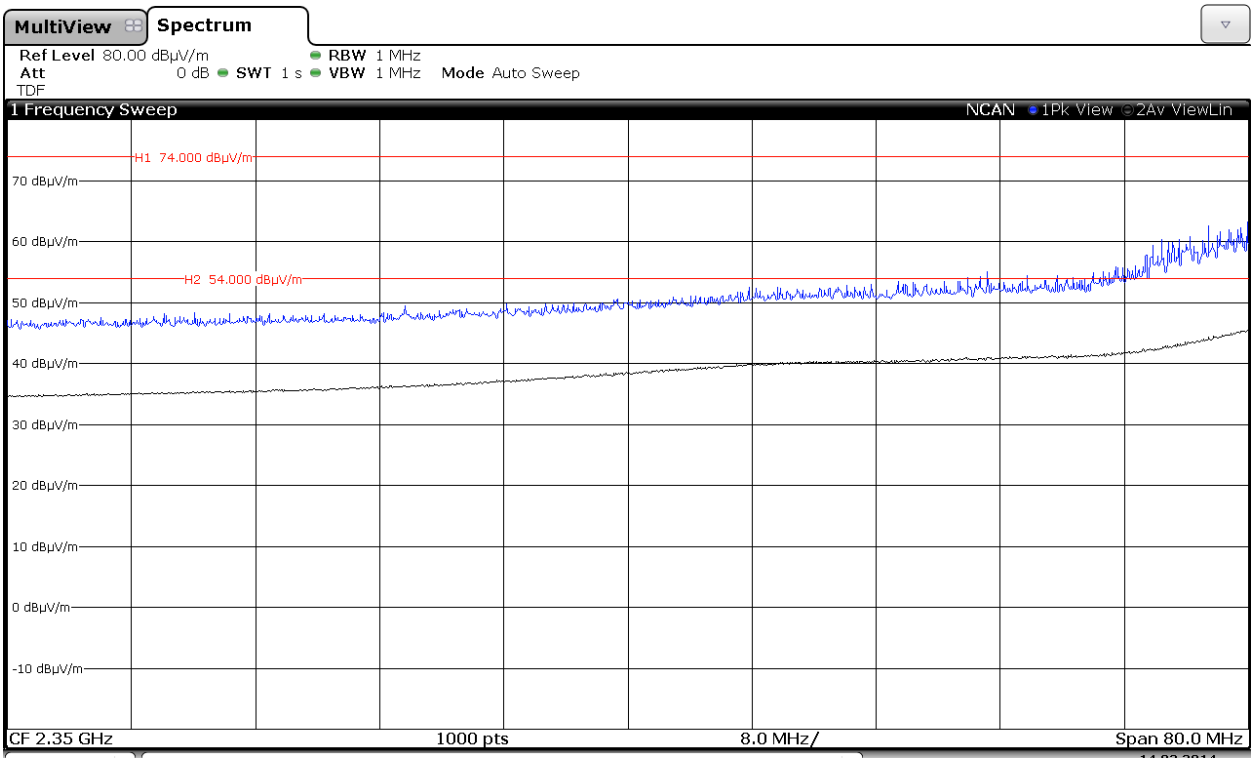


CHANNEL 2 (2417 MHz).

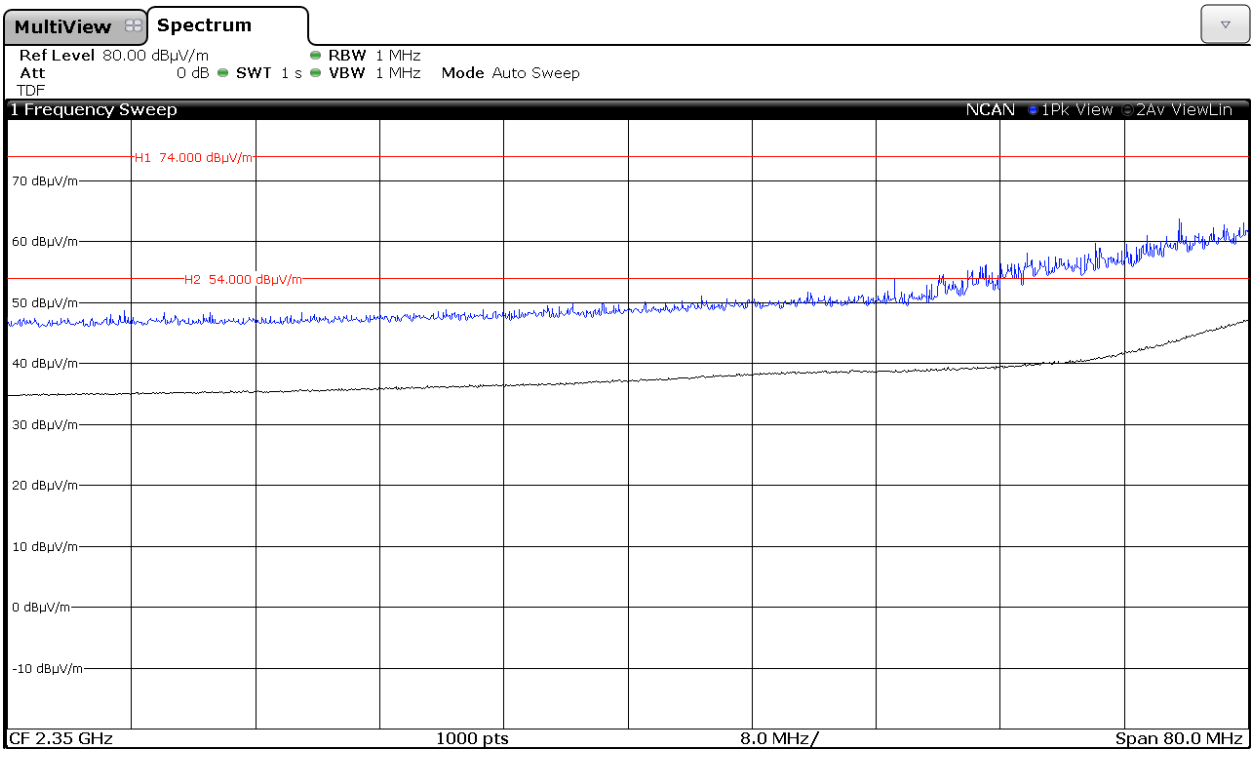
Chain A



Chain B

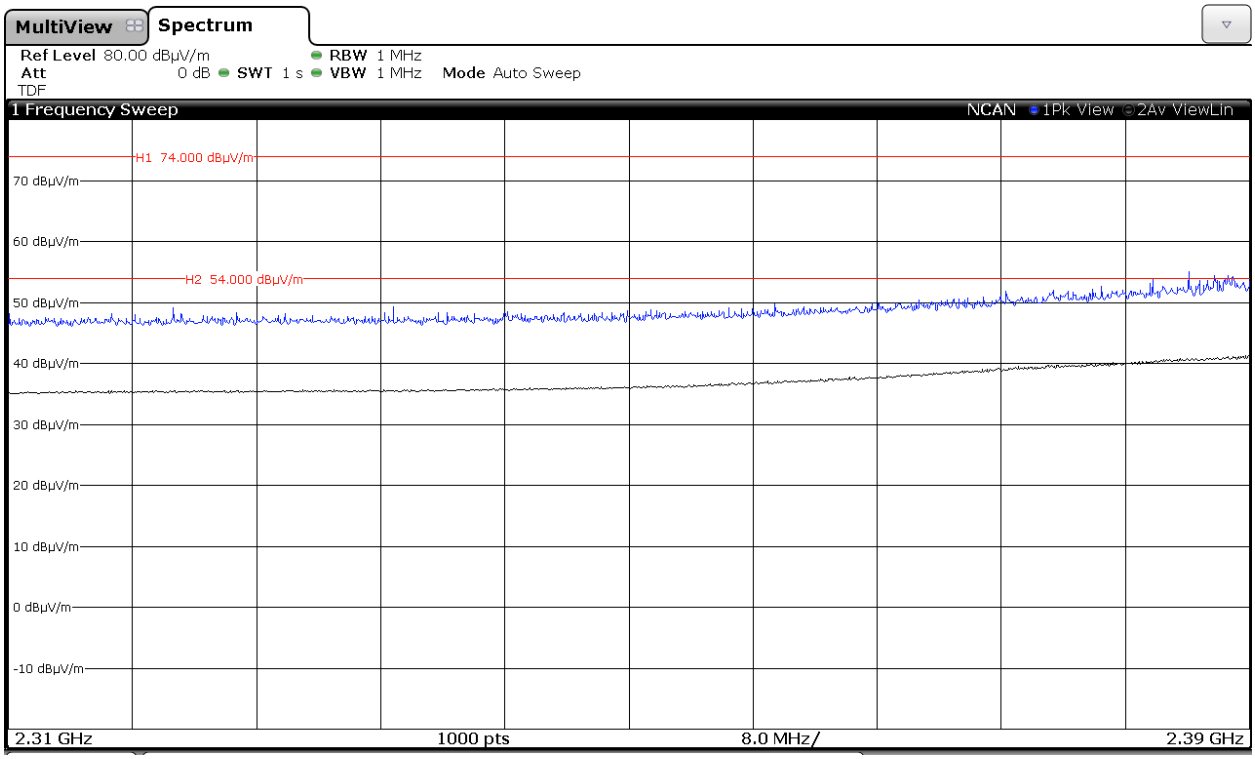


Chain A+B

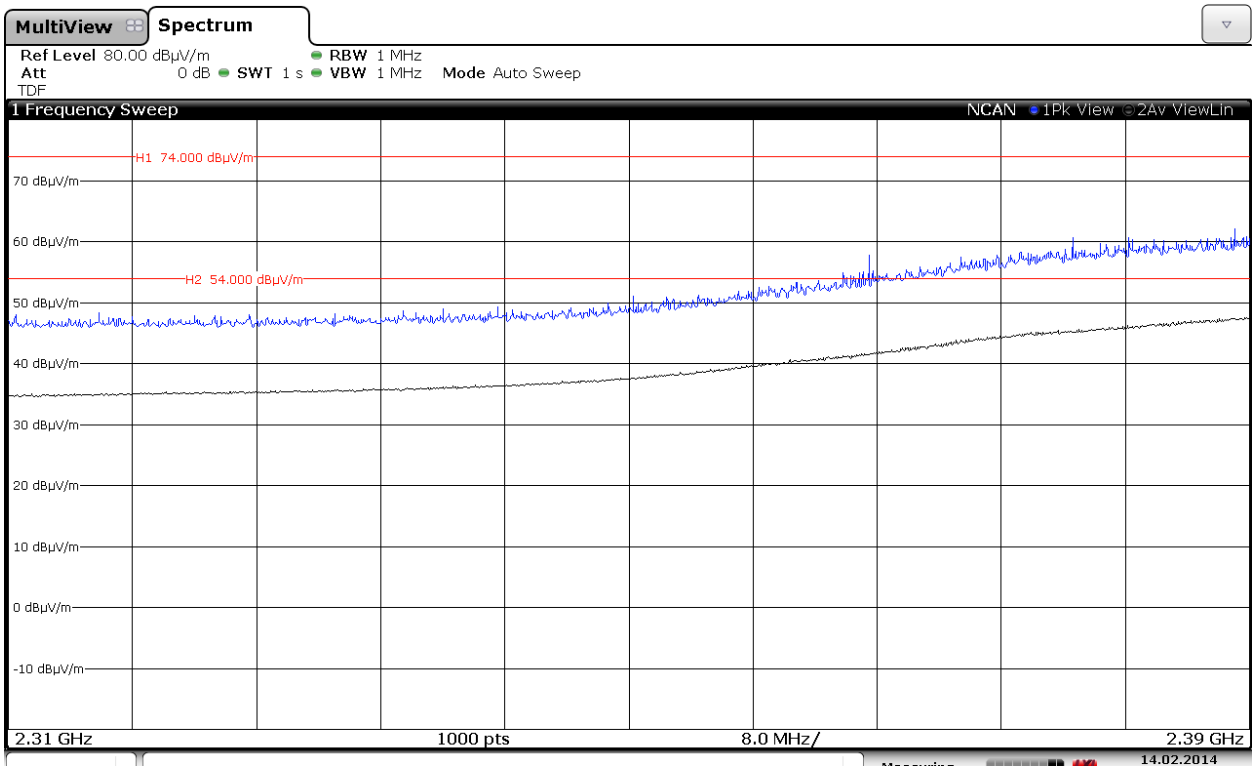


CHANNEL 6 (2437MHz).

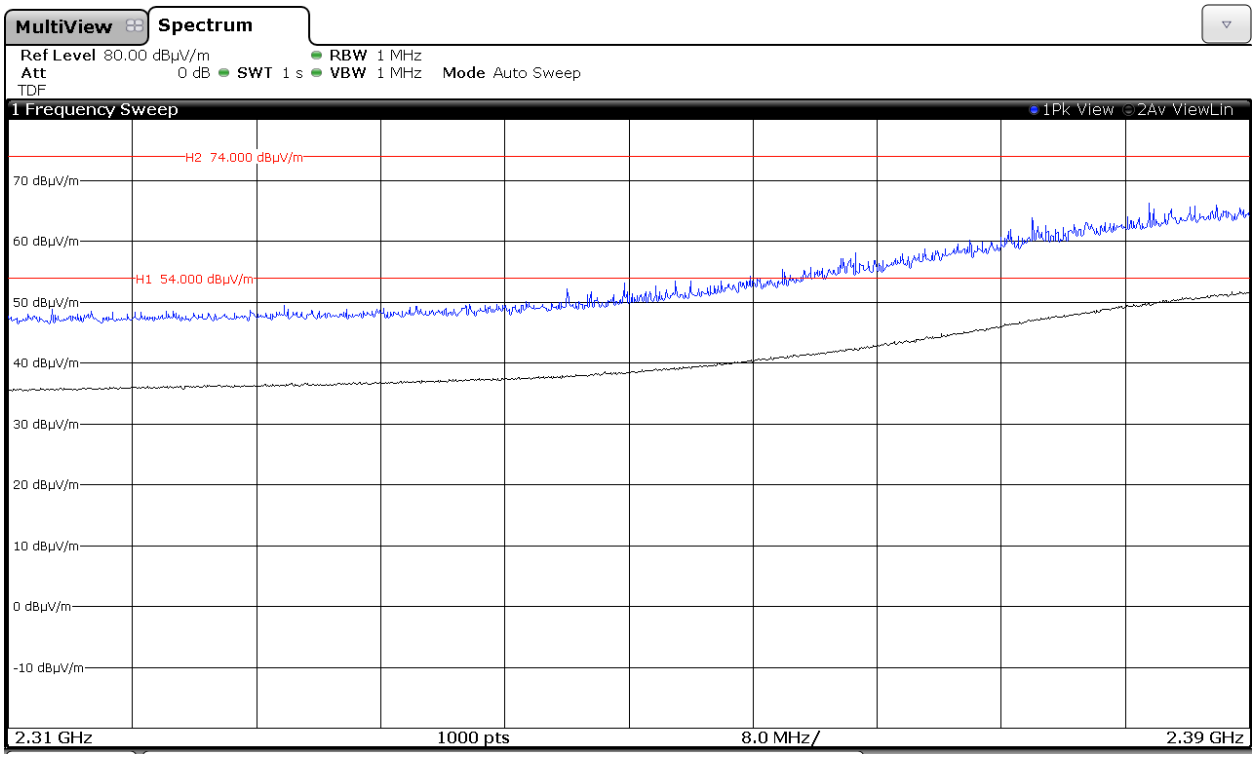
Chain A



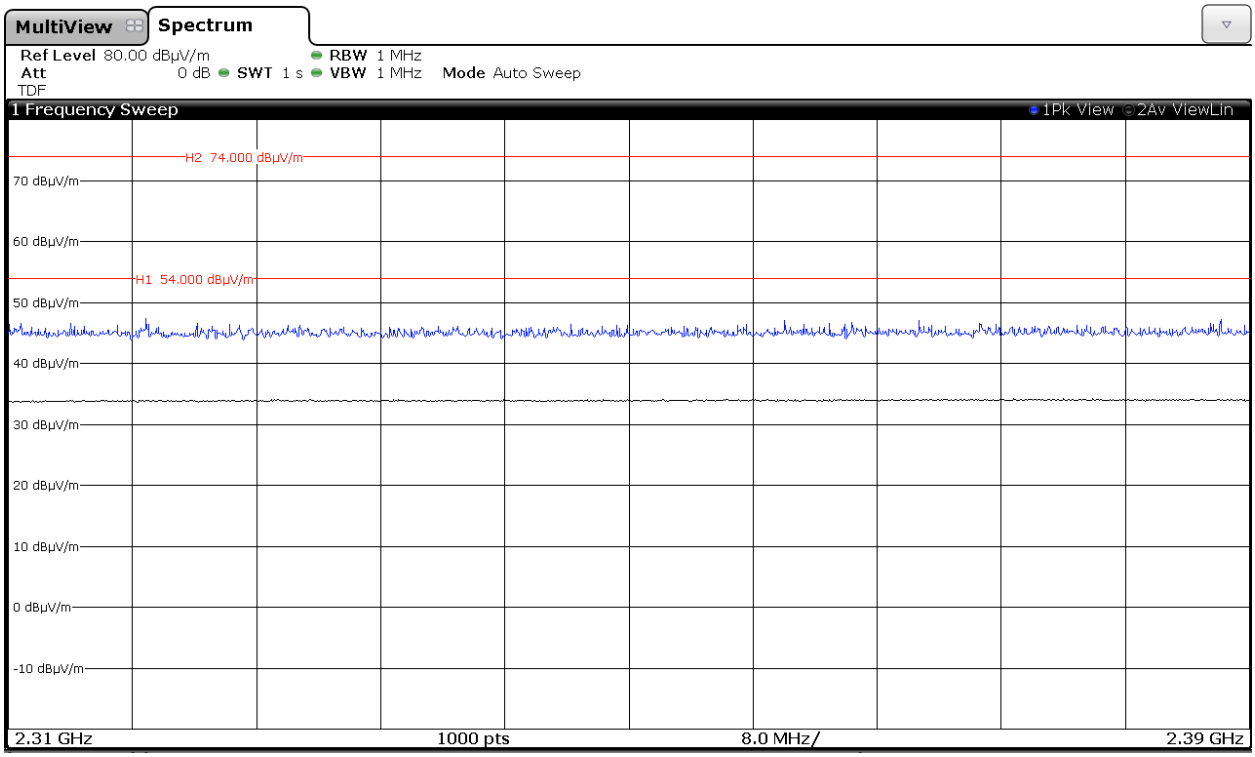
Chain B



Chain A+B

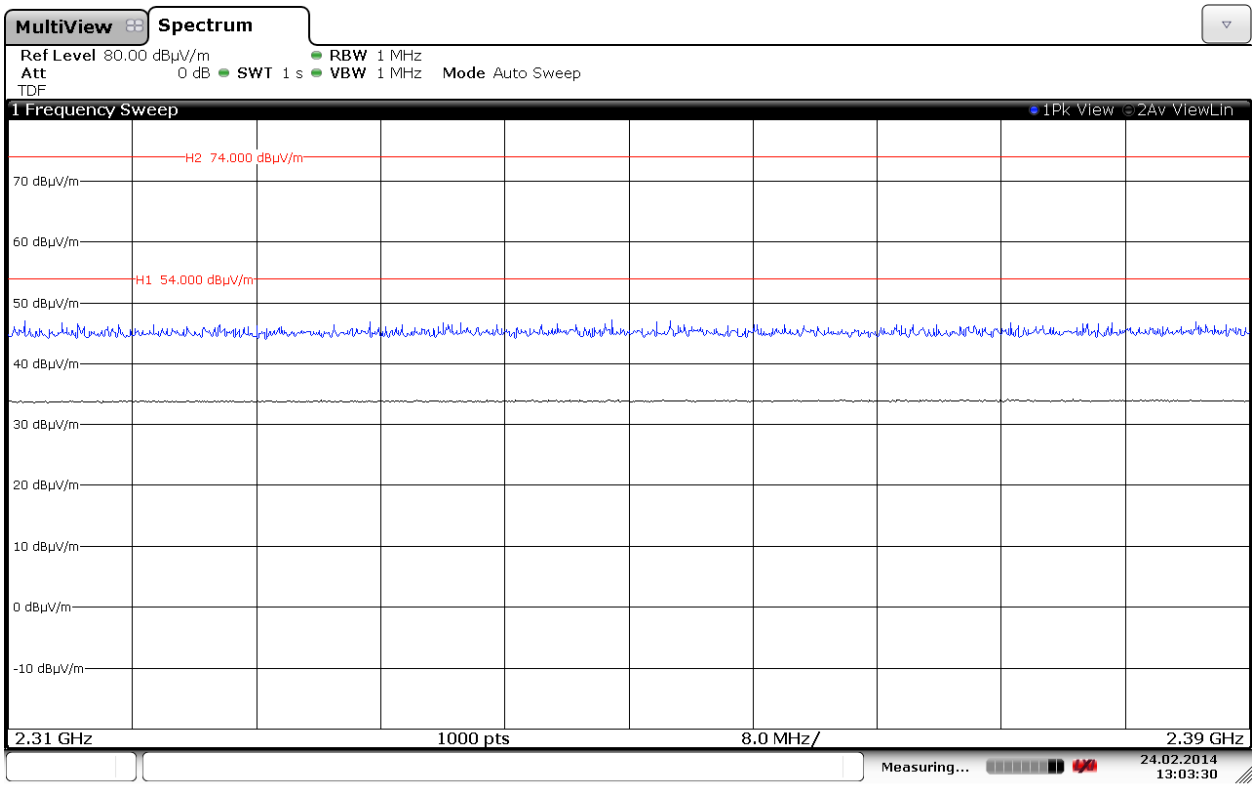


CHANNEL 12 (2467 MHz).



Note: This plot is valid for Chain A, Chain B and Chain A+B.

CHANNEL 13 (2472 MHz).



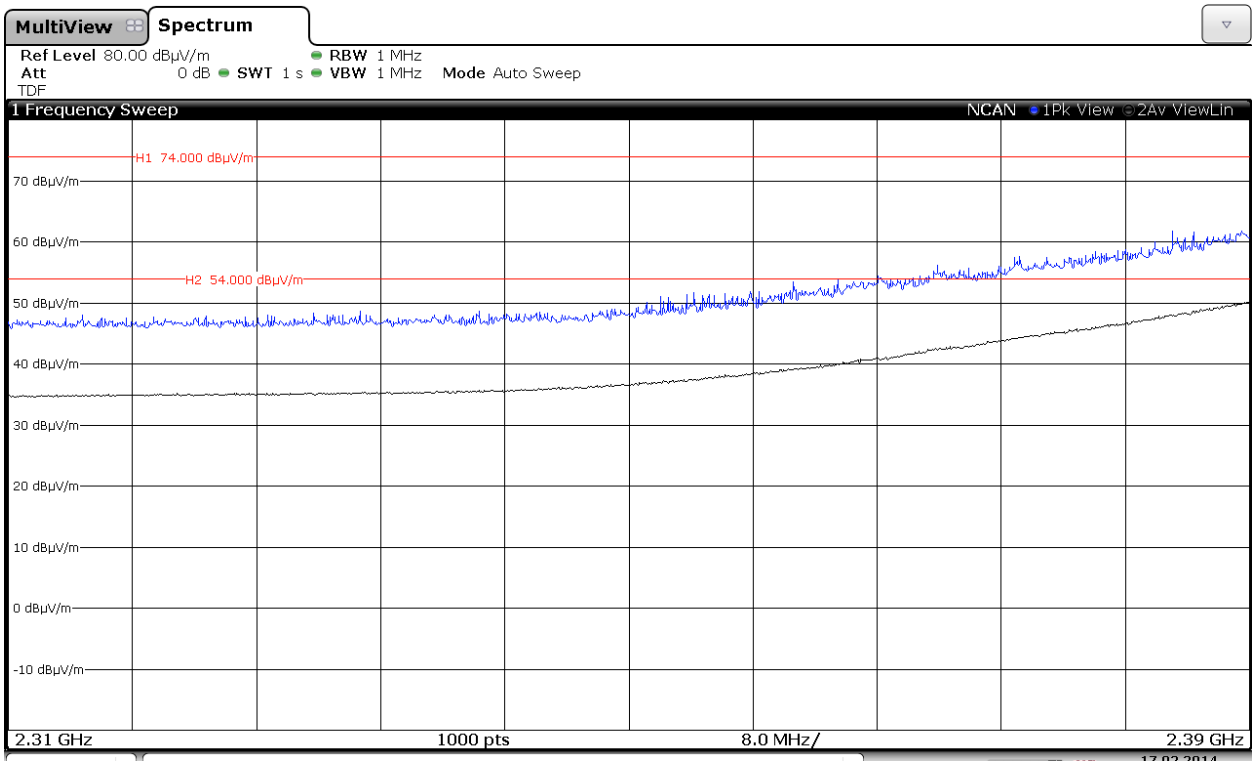
Date: 24.FEB.2014 13:03:30

Note: This plot is valid for Chain A, Chain B and Chain A+B.

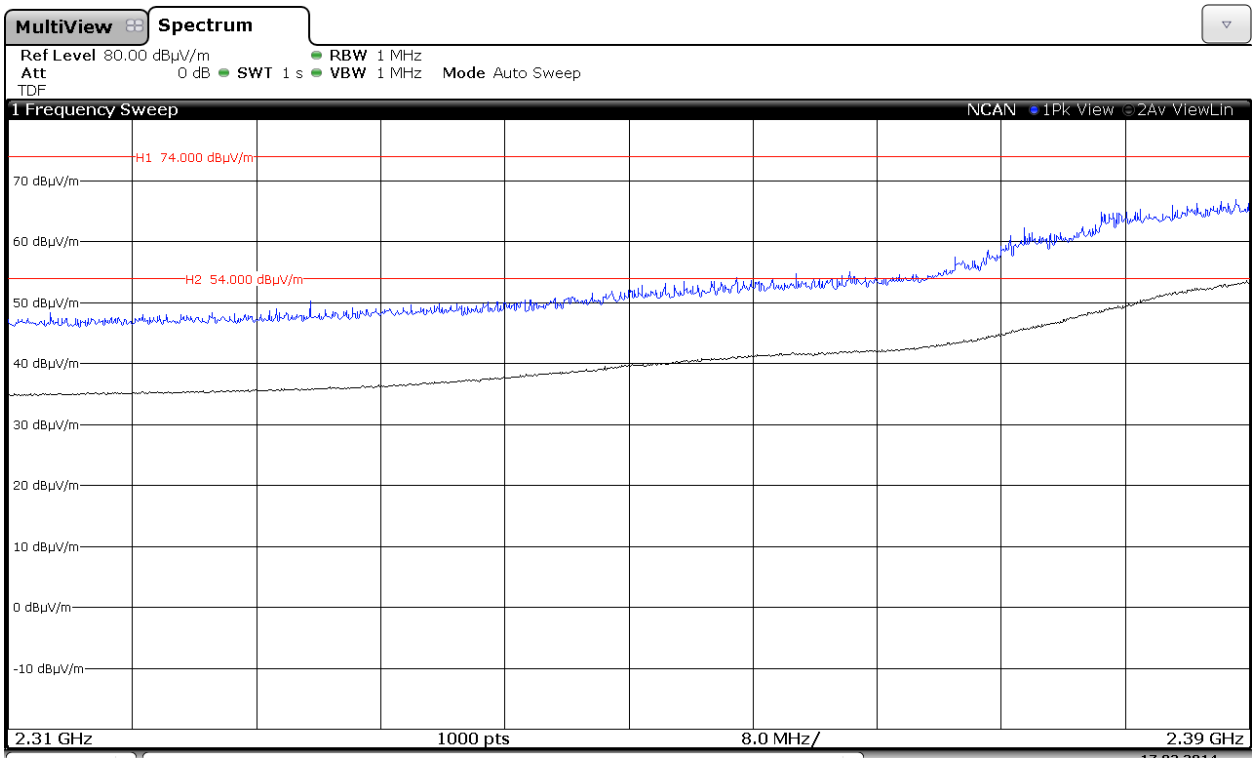
4. WiFi 2.4GHz 802.11 n40 mode

CHANNEL 3 (2422 MHz).

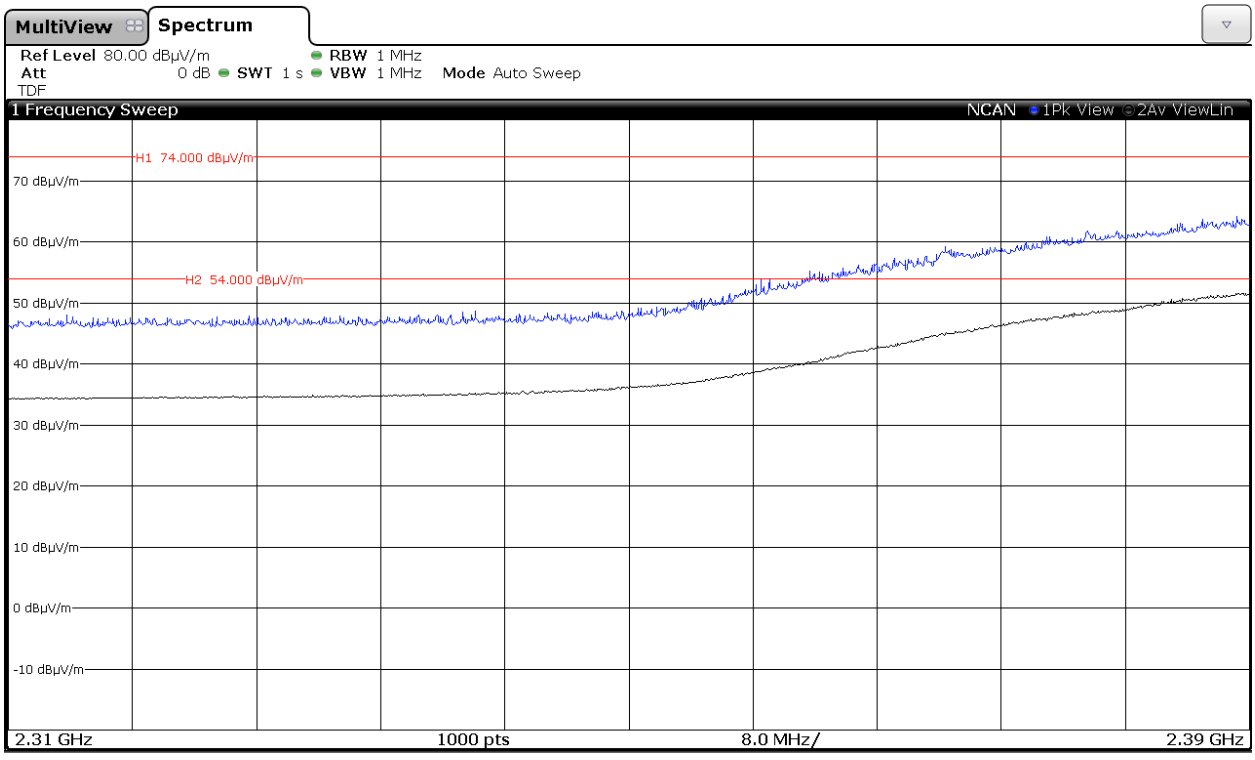
Chain A



Chain B

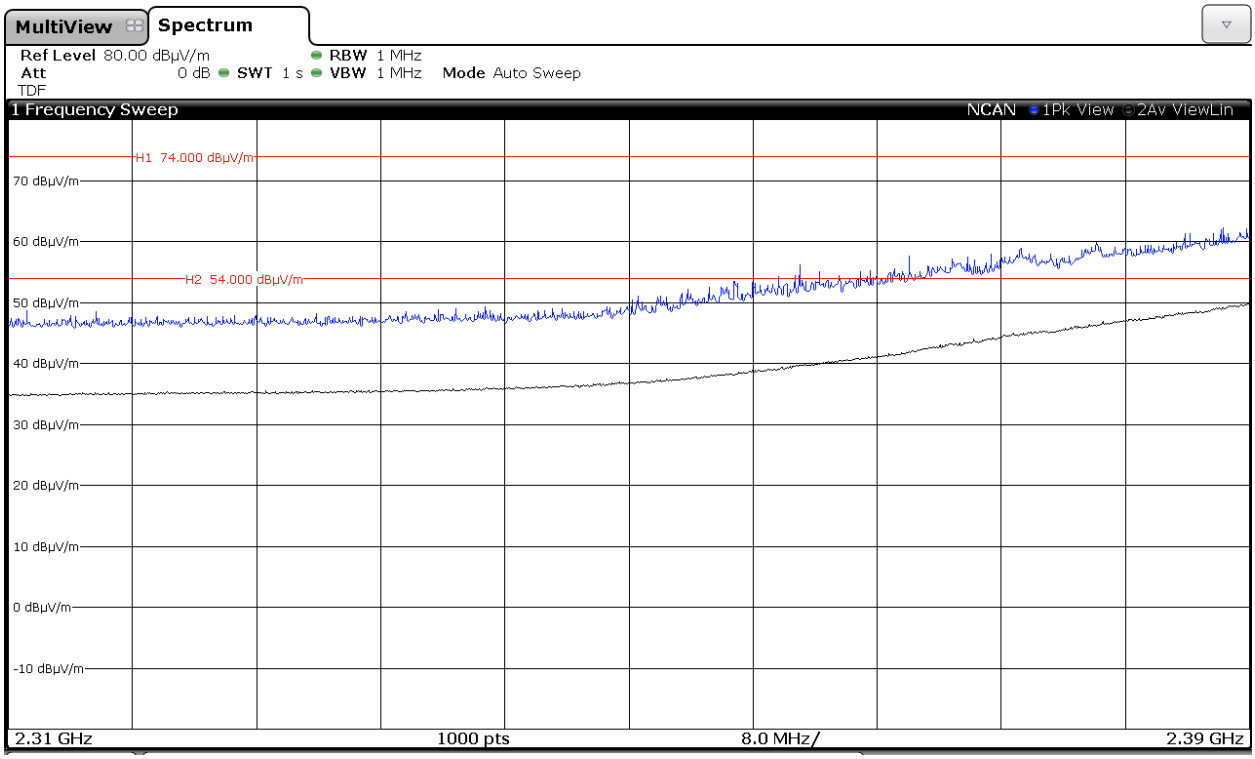


Chain A+B

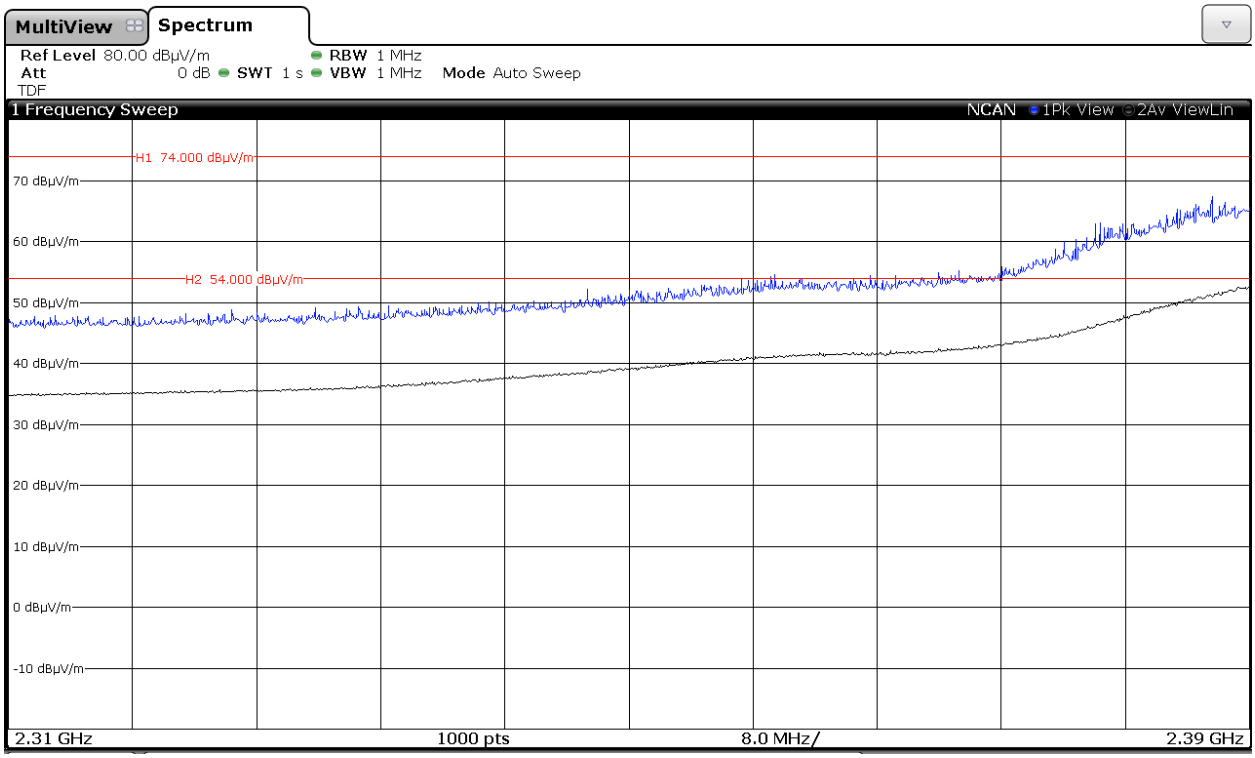


CHANNEL 4 (2427 MHz).

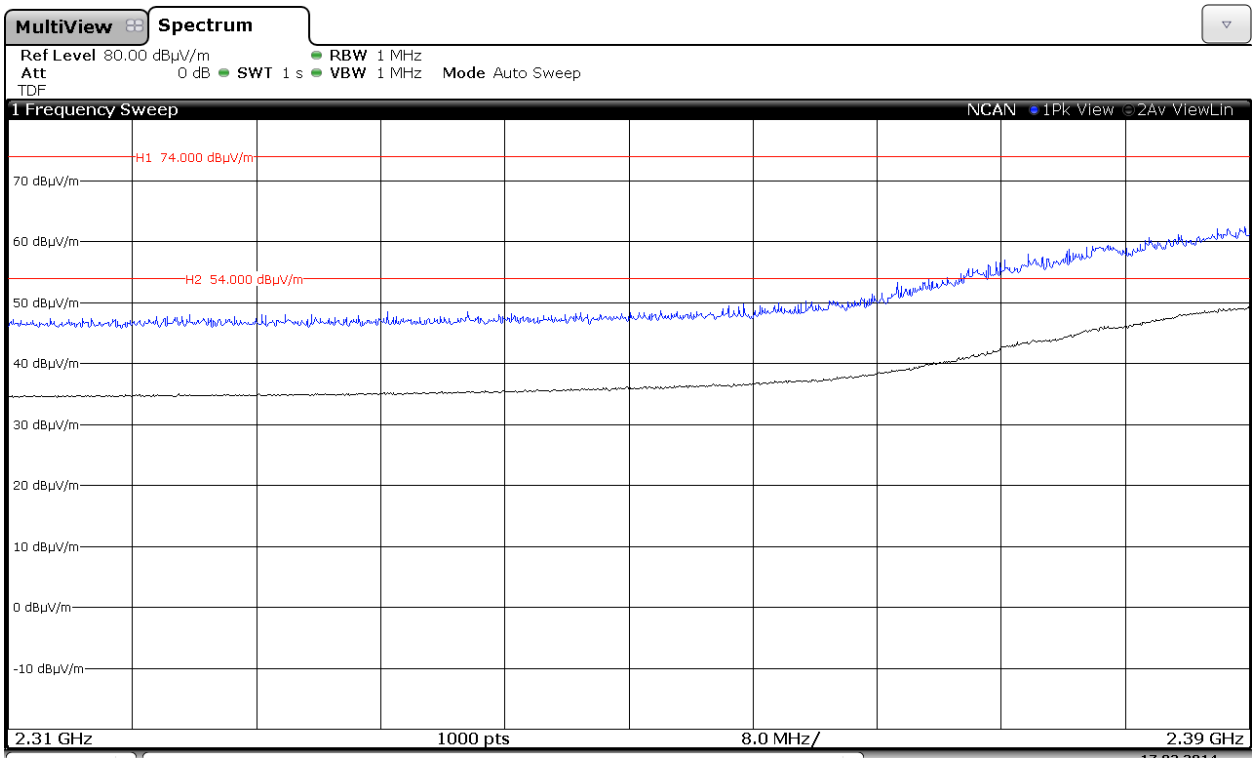
Chain A



Chain B

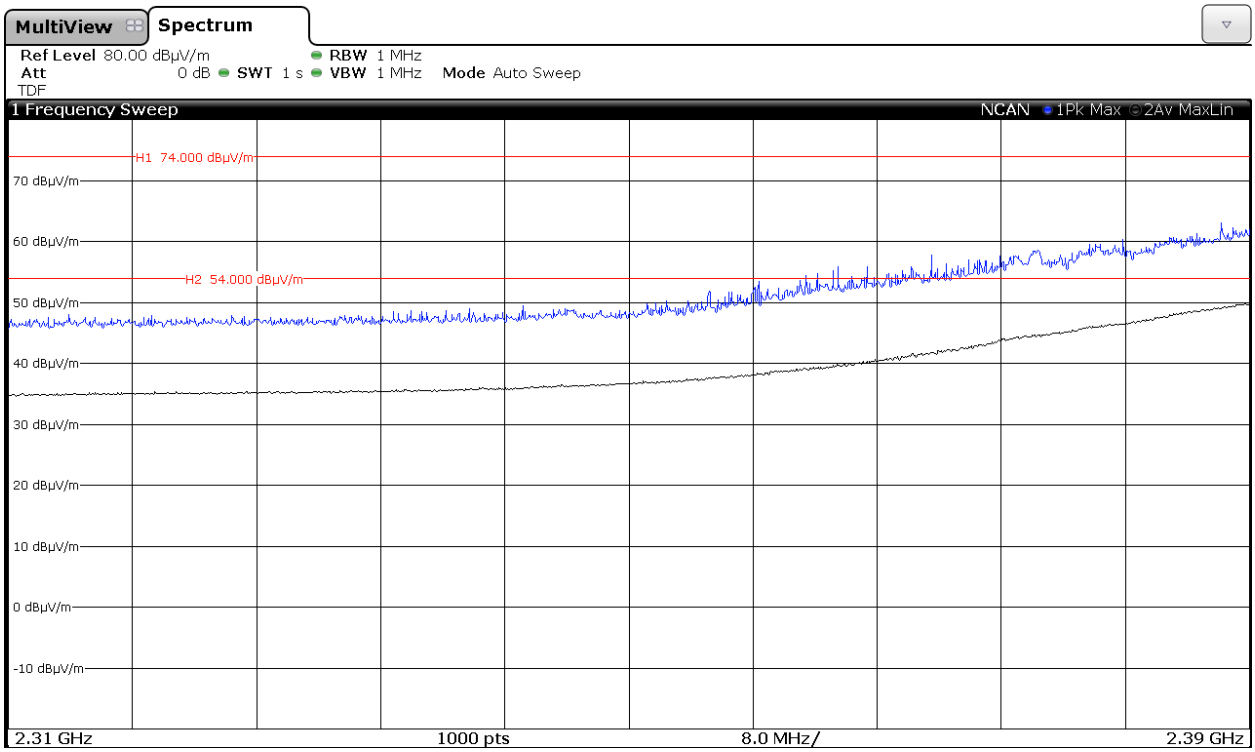


Chain A+B

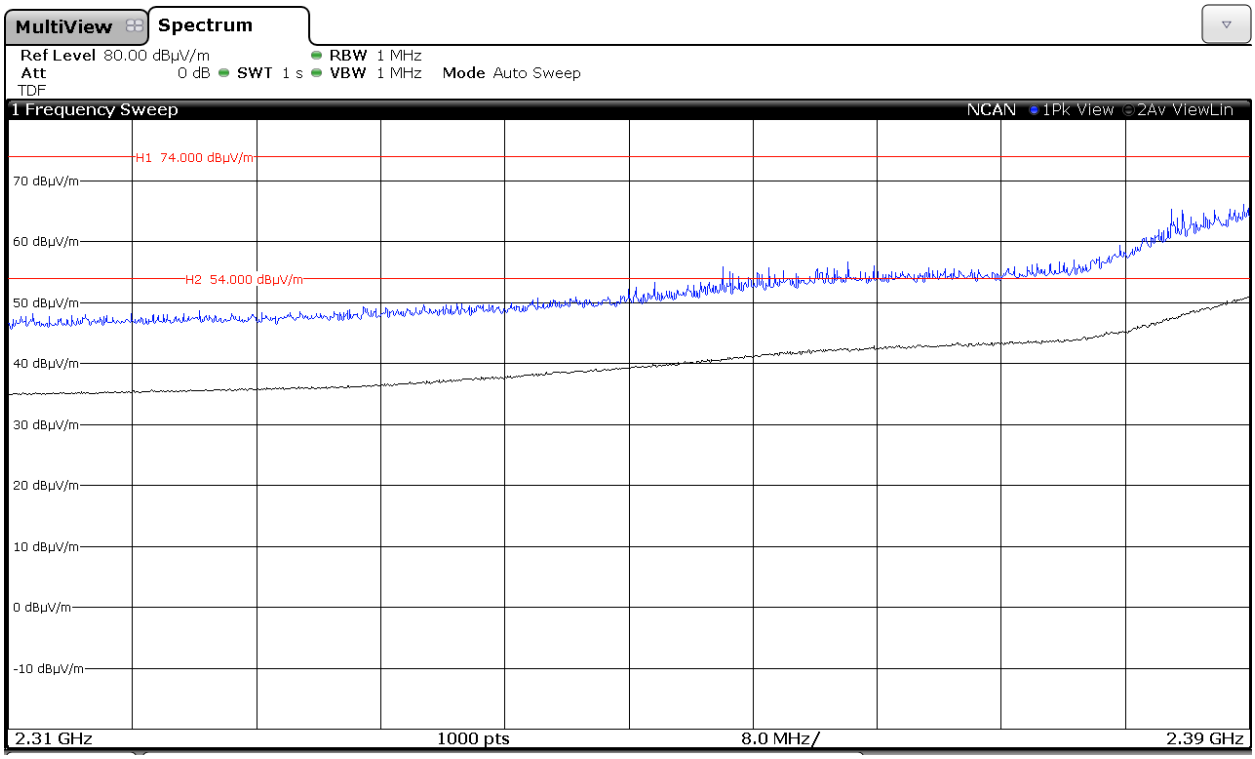


CHANNEL 5 (2432 MHz).

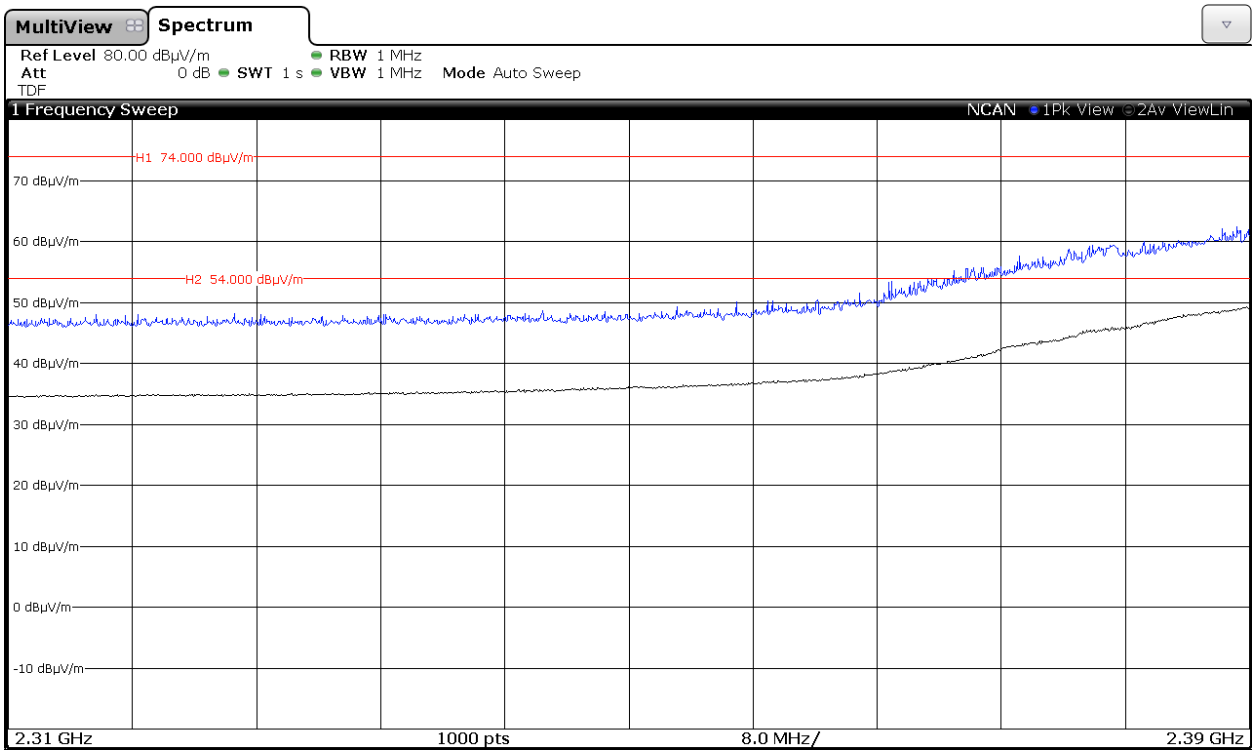
Chain A



Chain B

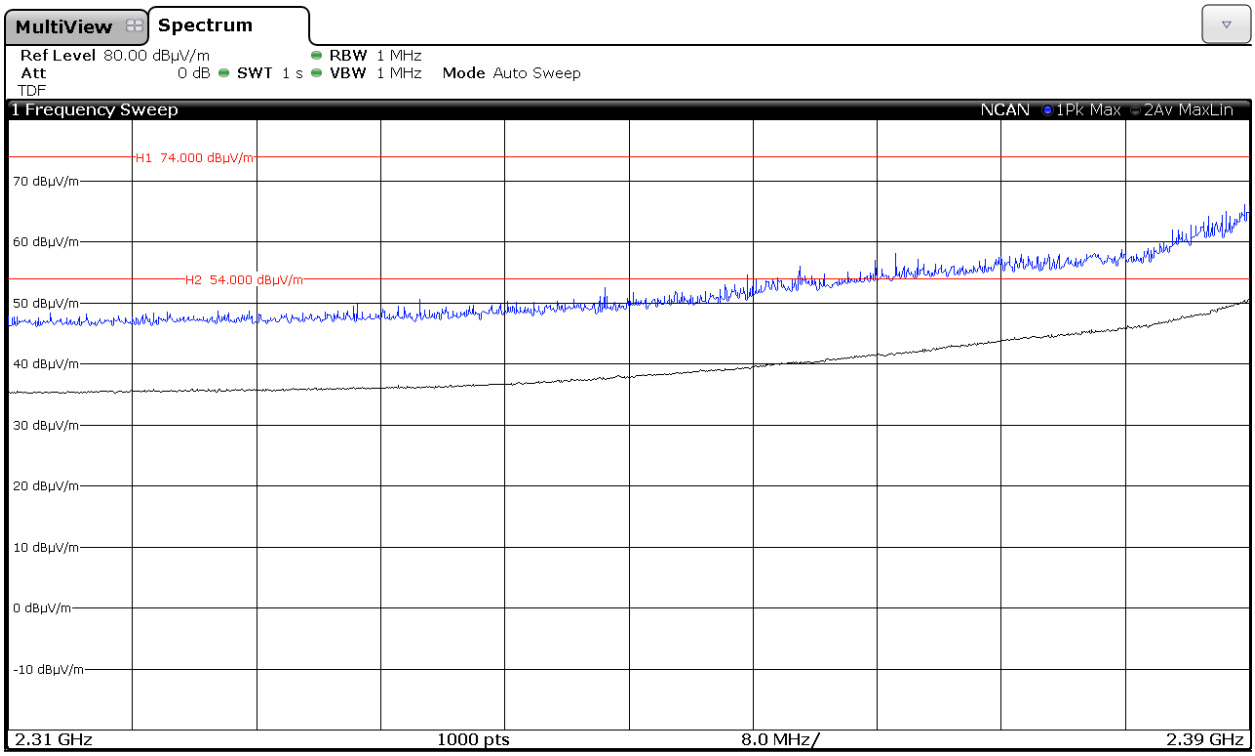


Chain A+B

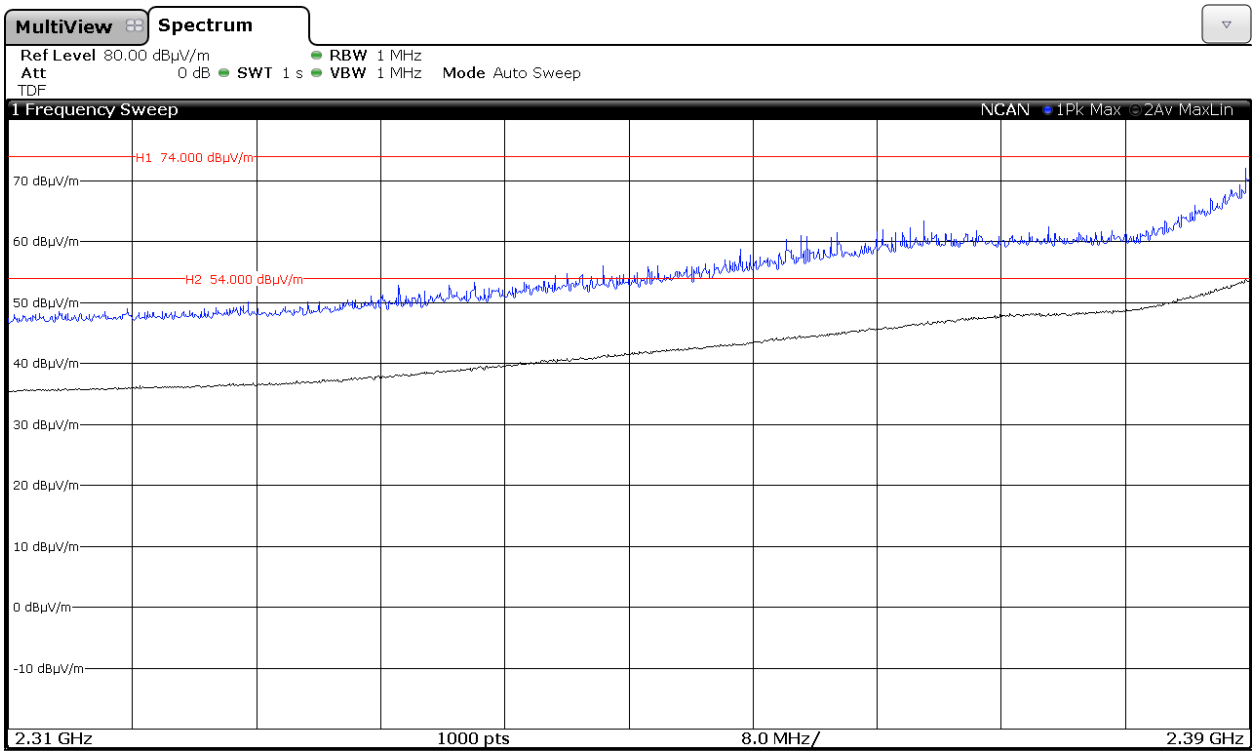


CHANNEL 6 (2437 MHz).

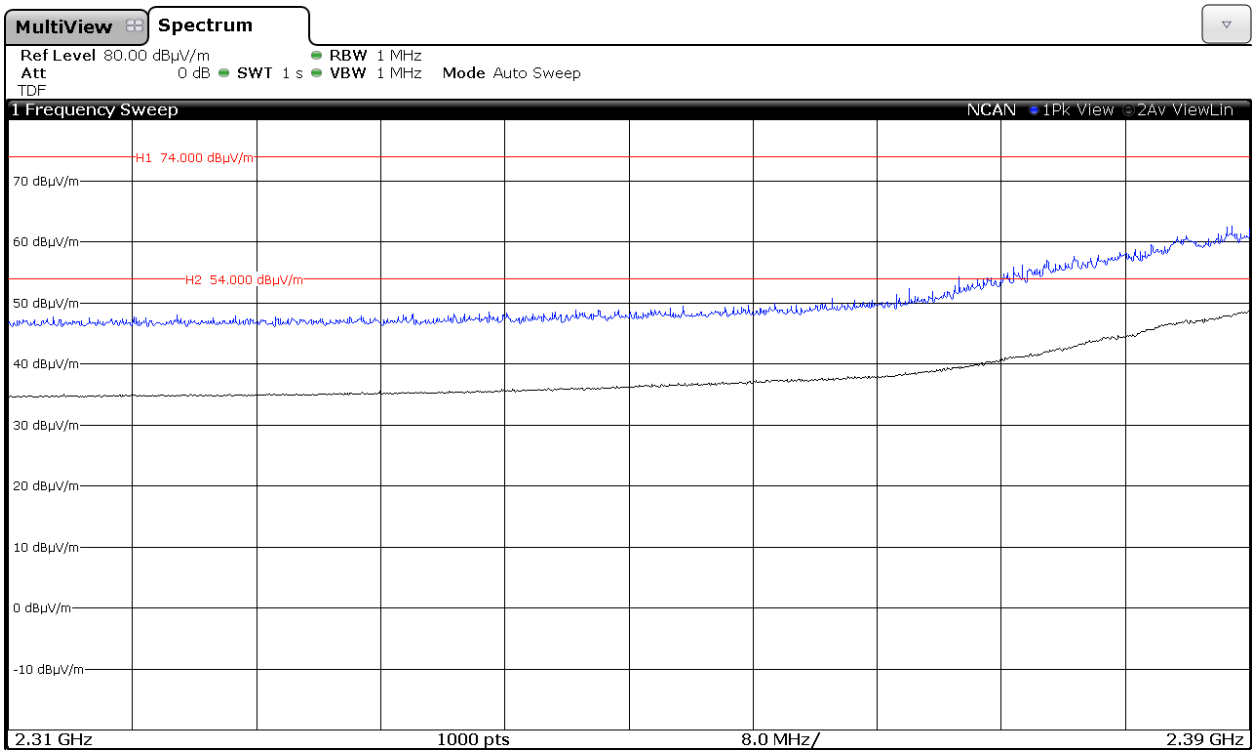
Chain A



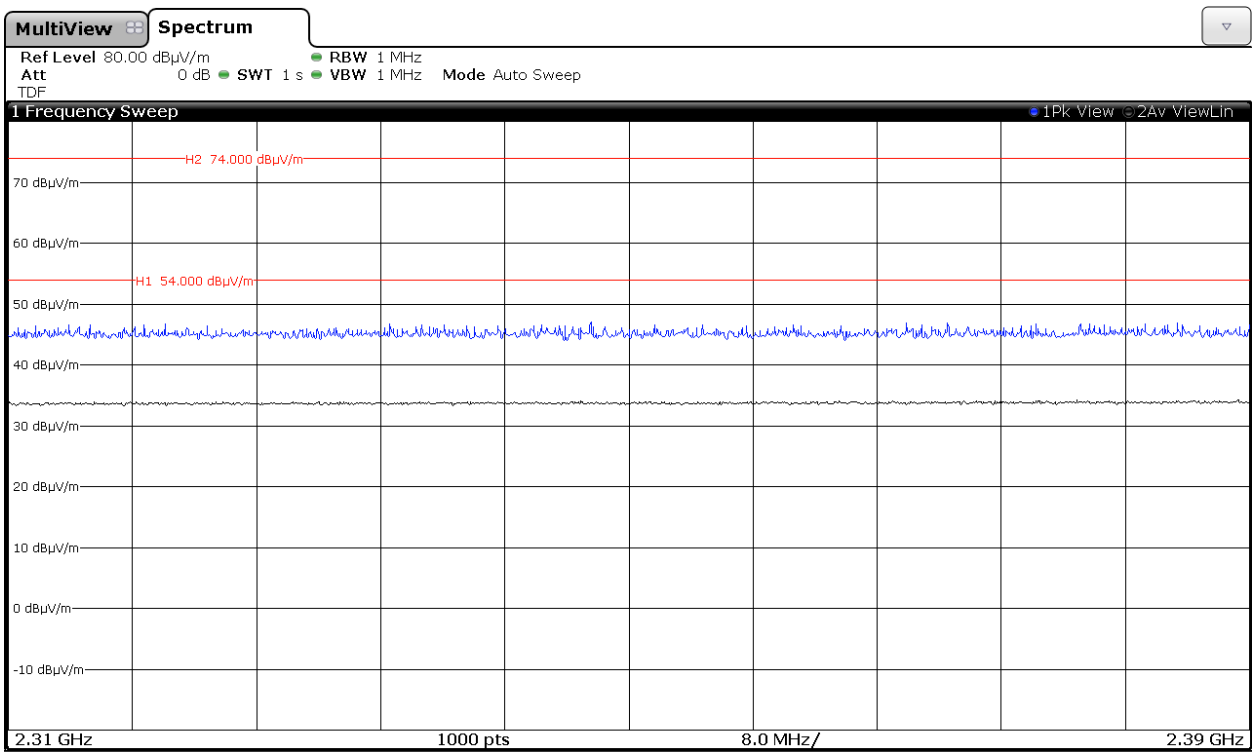
Chain B



Chain A+B

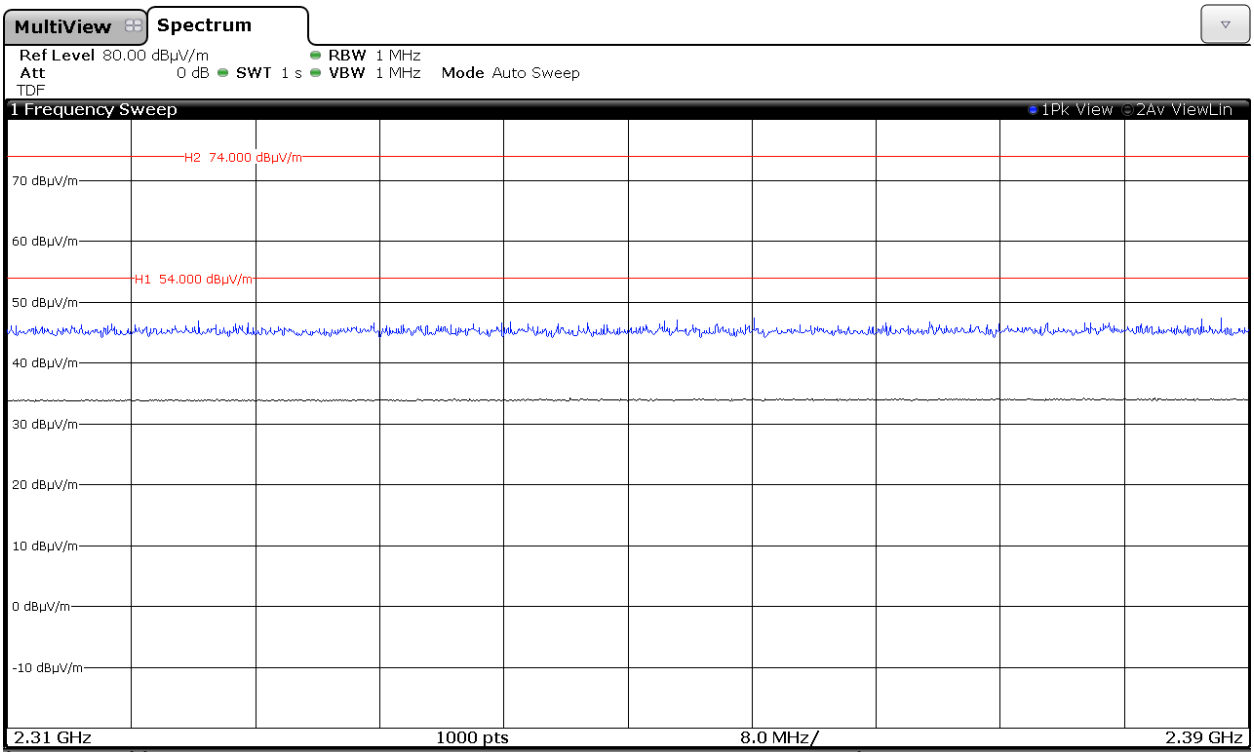


CHANNEL 10F (2457 MHz).



Note: This plot is valid for Chain A, Chain B and Chain A+B.

CHANNEL 11F (2462 MHz).



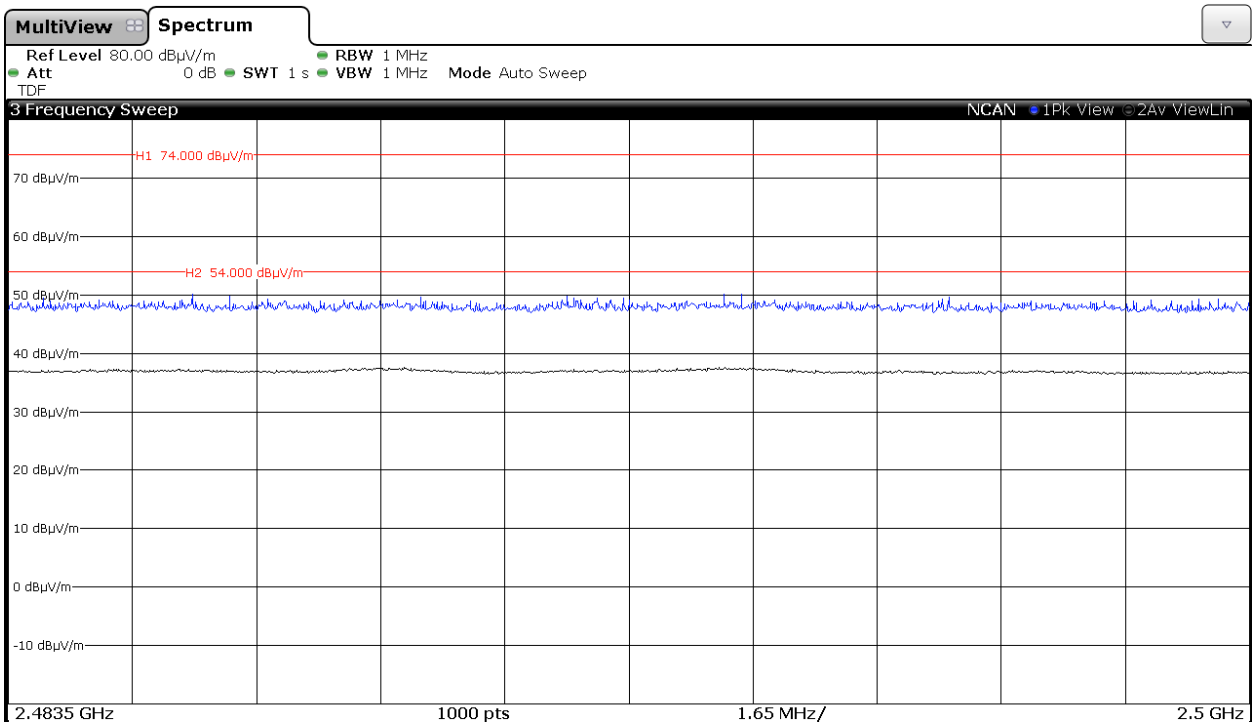
Note: This plot is valid for Chain A, Chain B and Chain A+B.

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

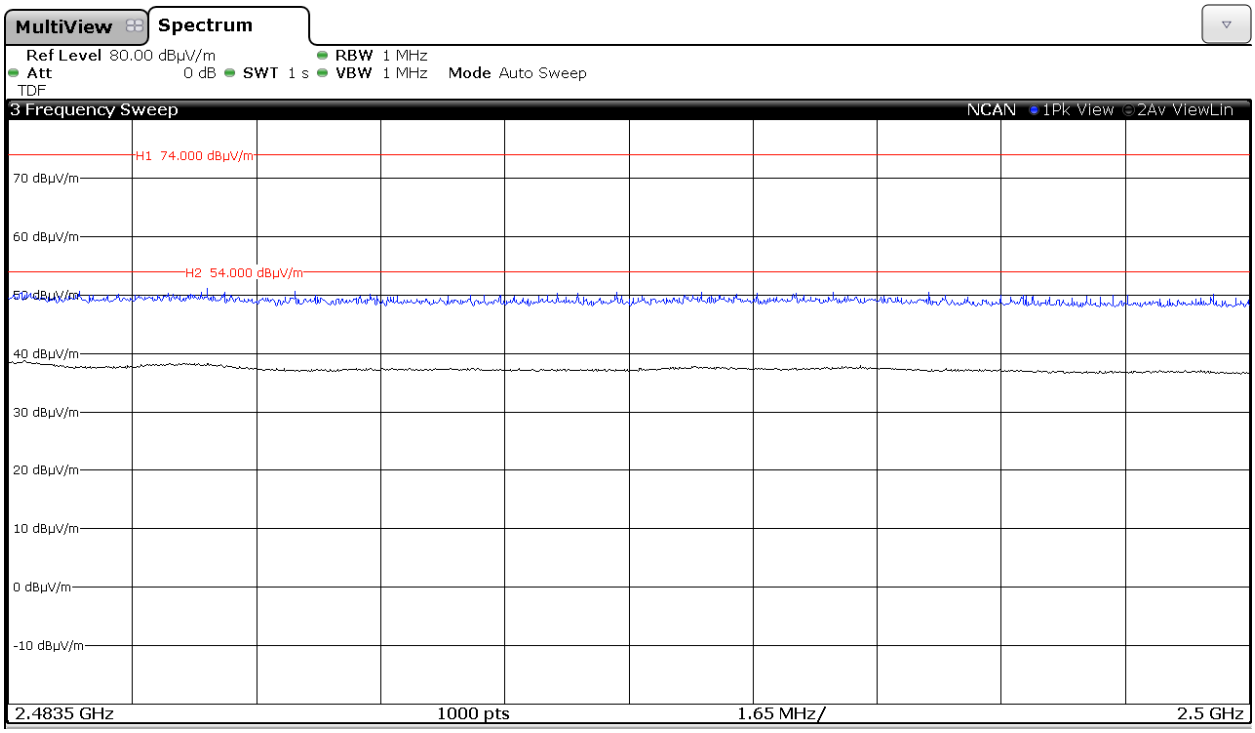
1. WiFi 2.4GHz 802.11 b mode

CHANNEL 1 (2412 MHz).

Chain A

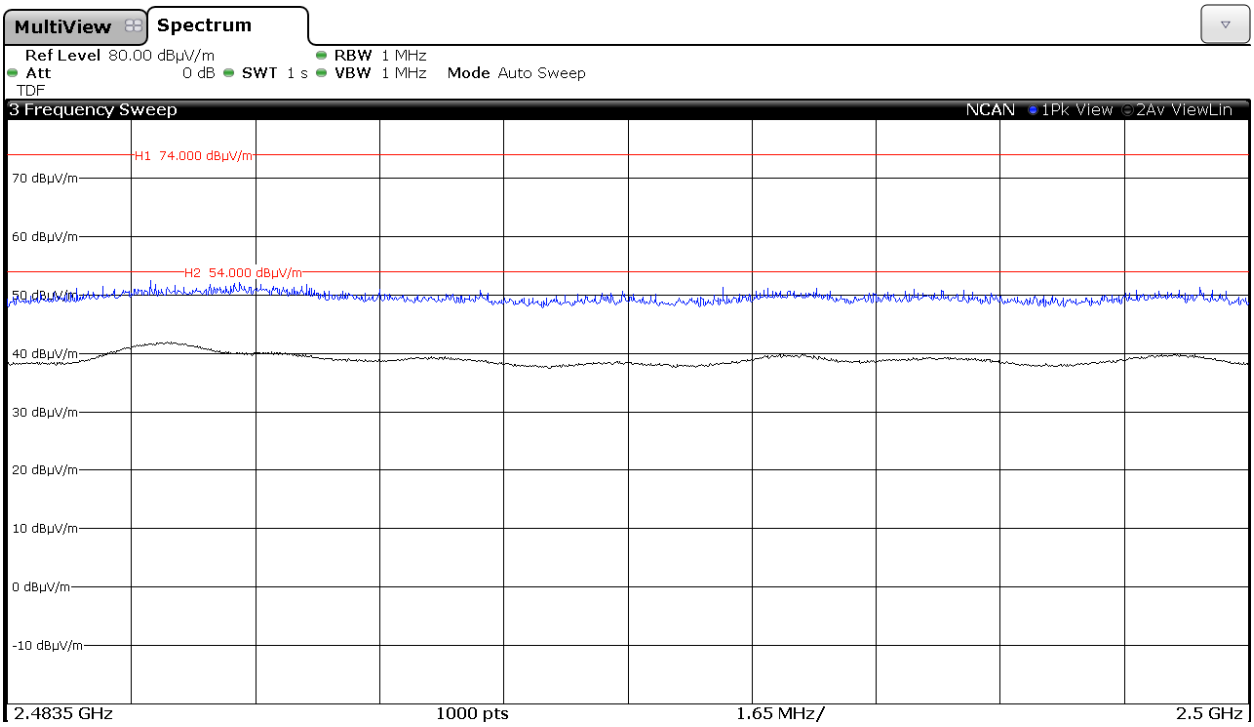


Chain B

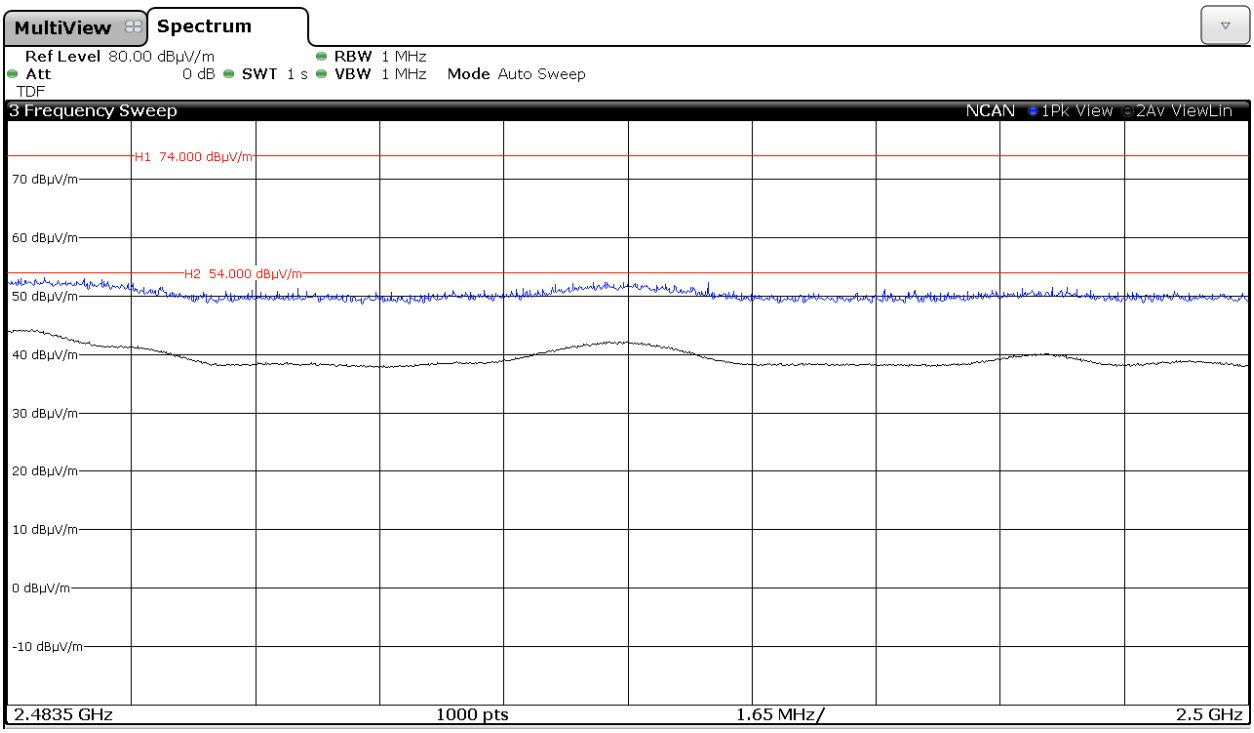


CHANNEL 6 (2437 MHz).

Chain A

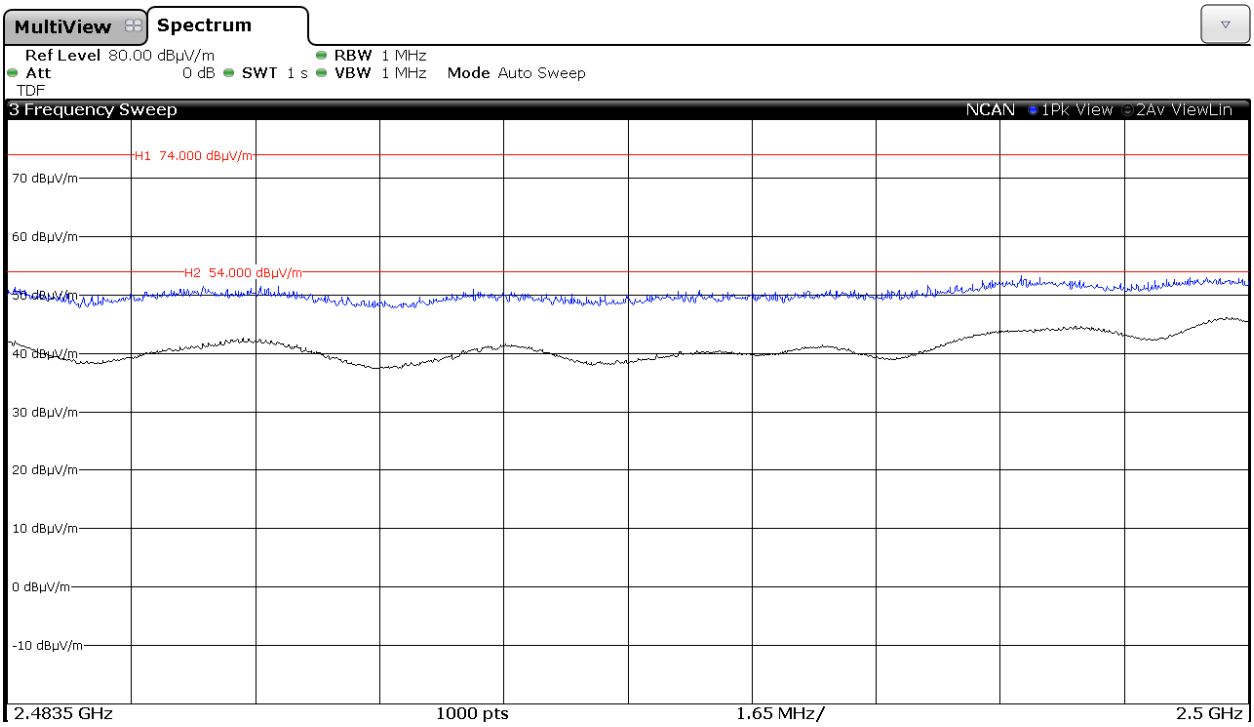


Chain B

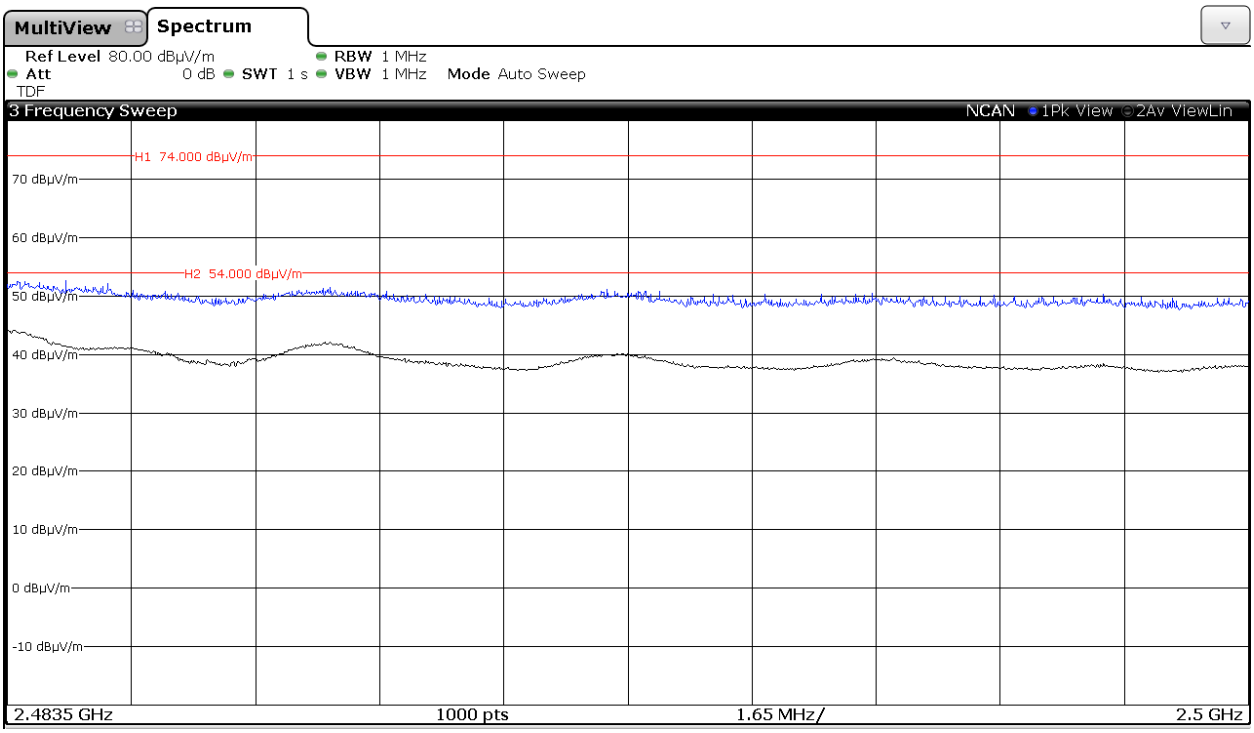


CHANNEL 11 (2462 MHz).

Chain A

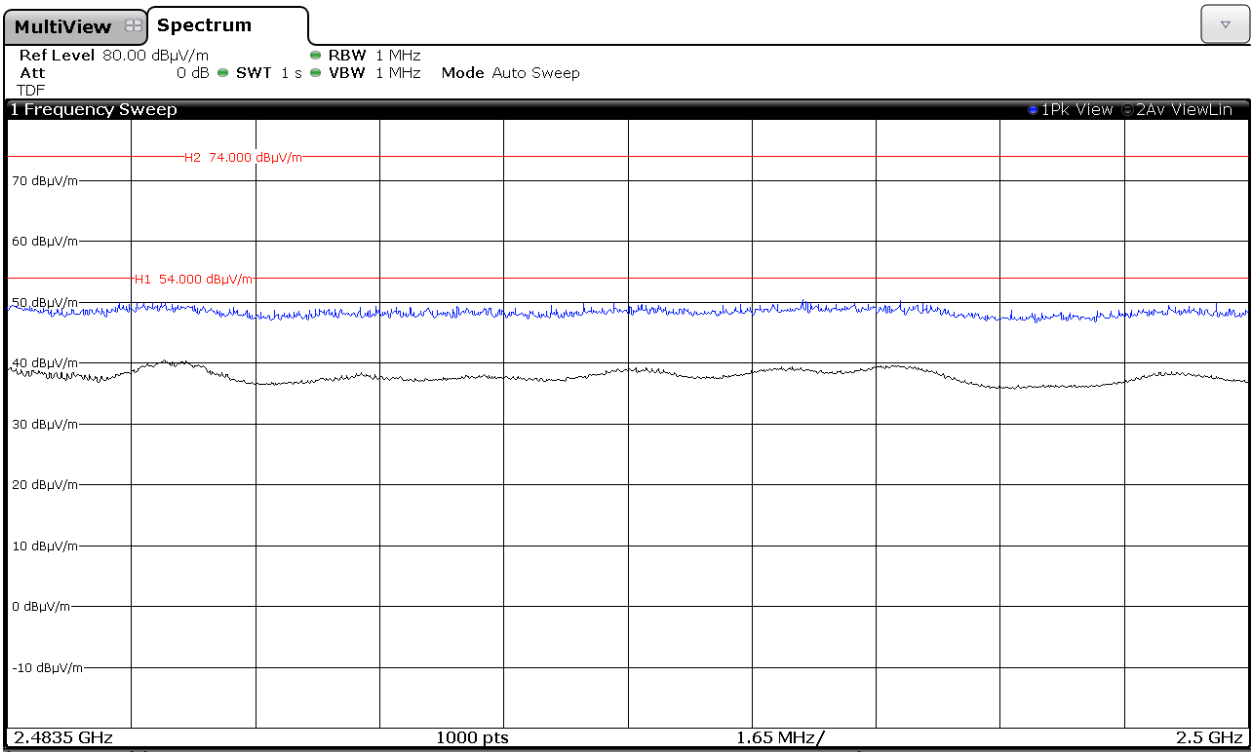


Chain B

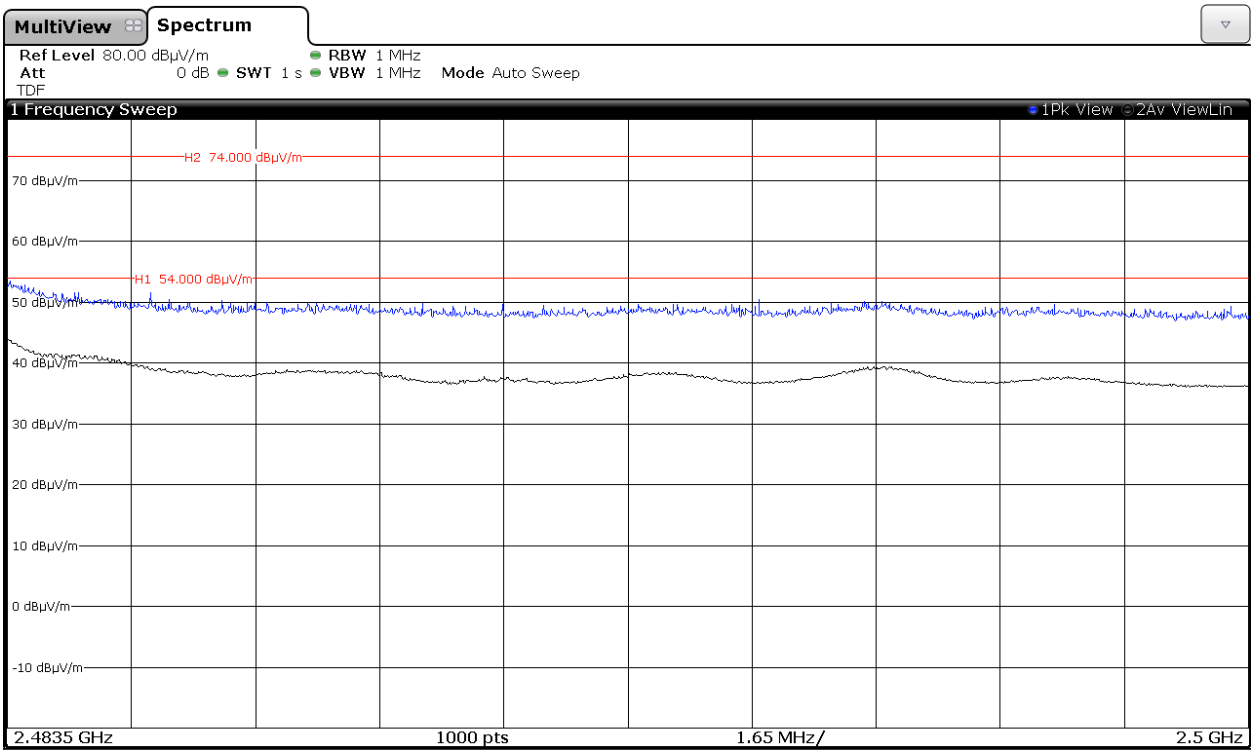


CHANNEL 12 (2467 MHz).

Chain A

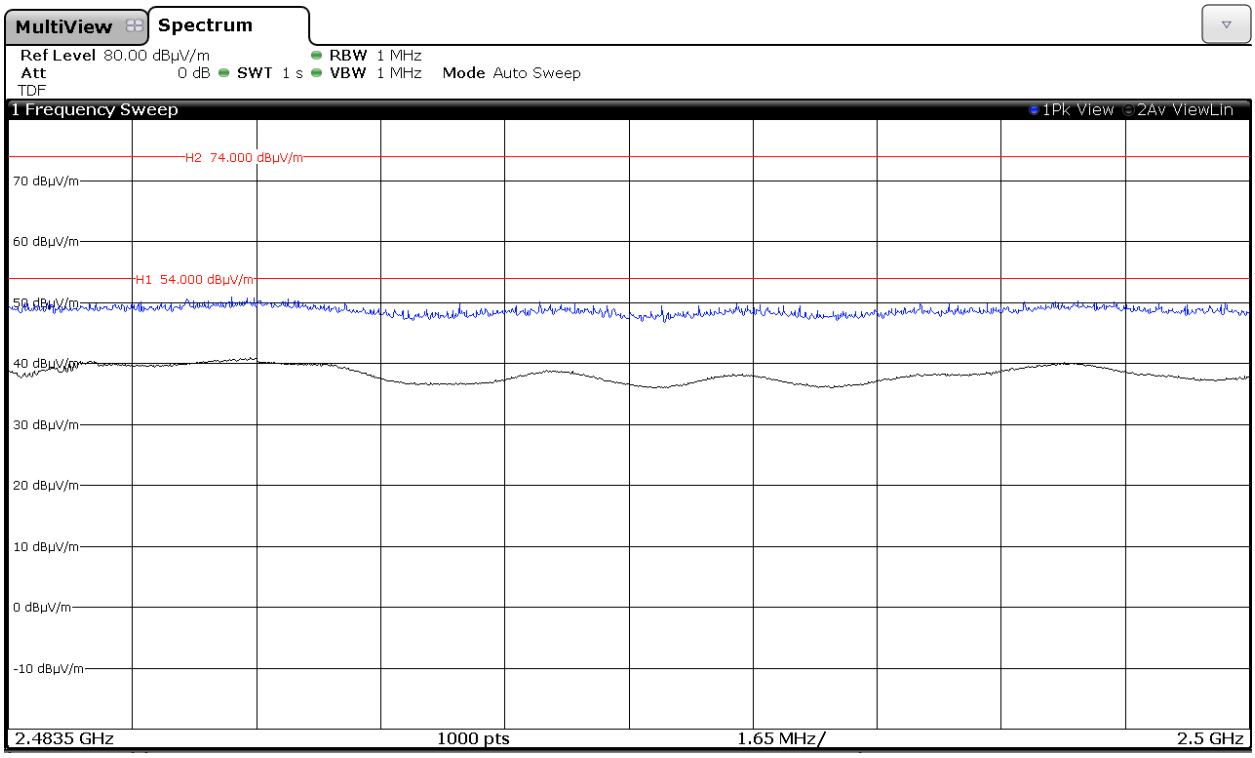


Chain B

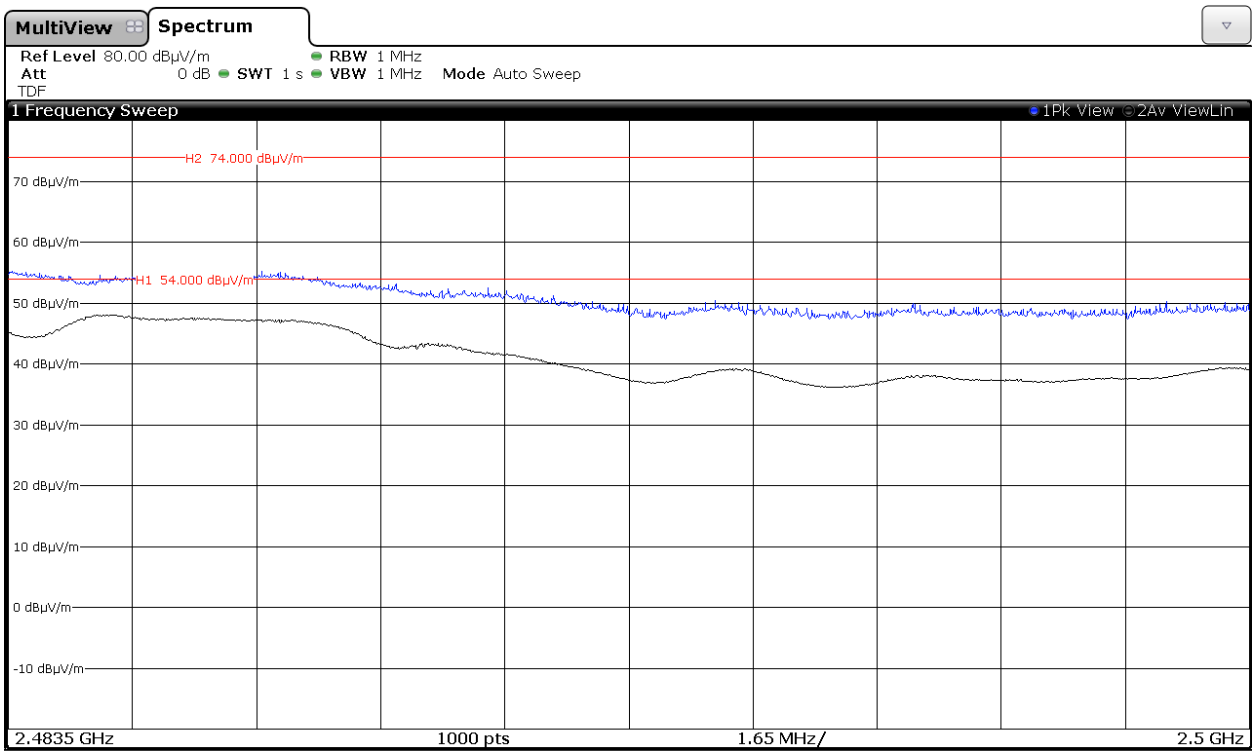


CHANNEL 13 (2472 MHz).

Chain A



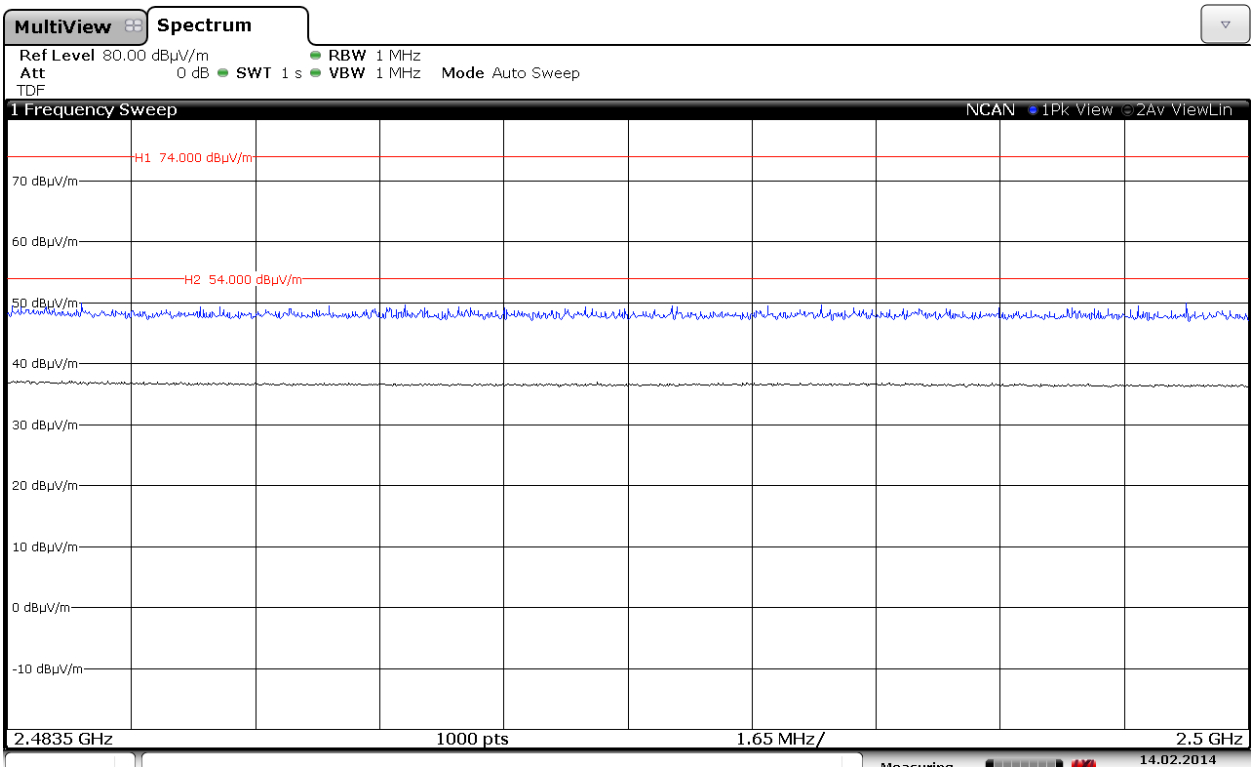
Chain B



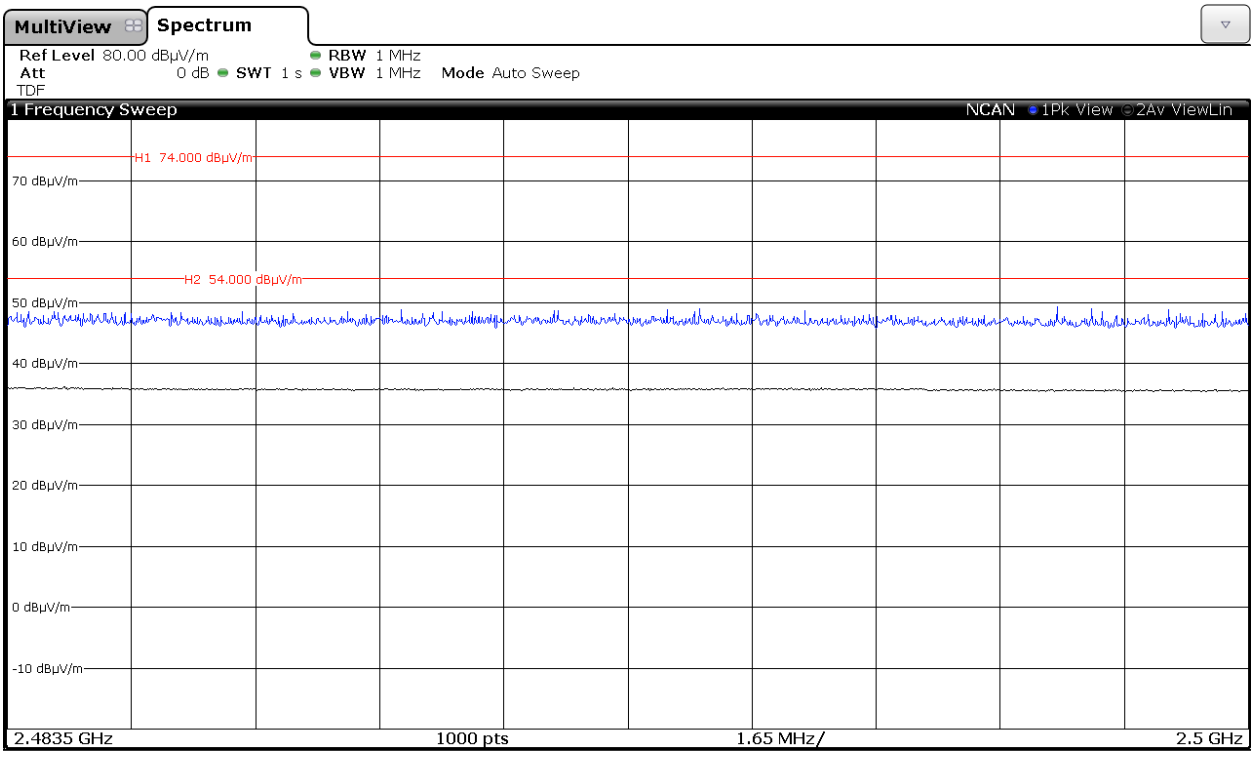
2. WiFi 2.4GHz 802.11 g mode

CHANNEL 1 (2412 MHz).

Chain A

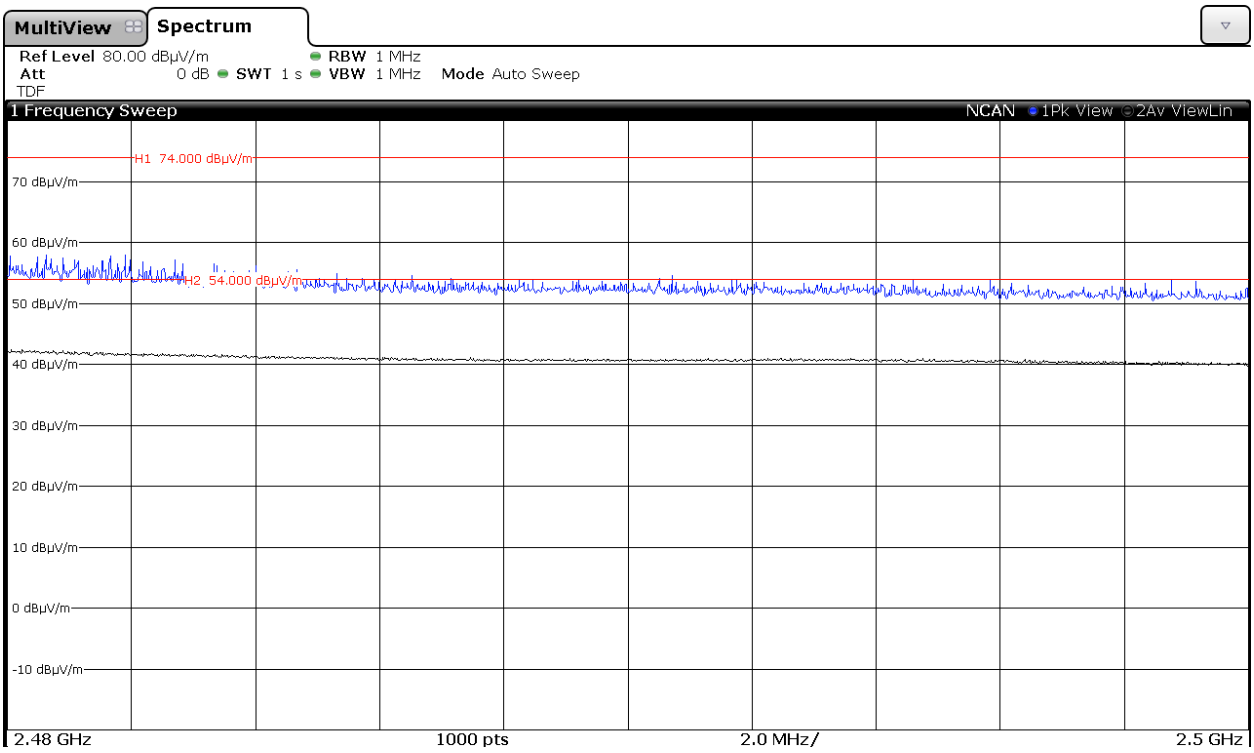


Chain B

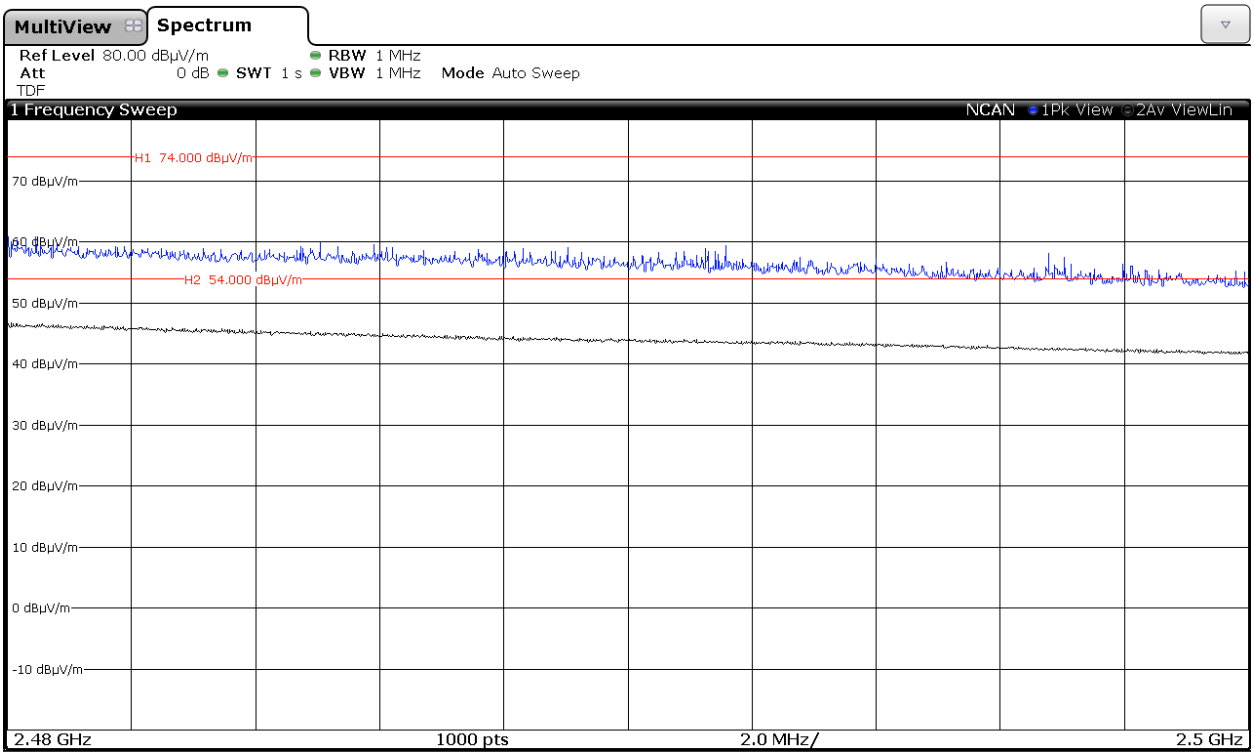


CHANNEL 6 (2437 MHz).

Chain A

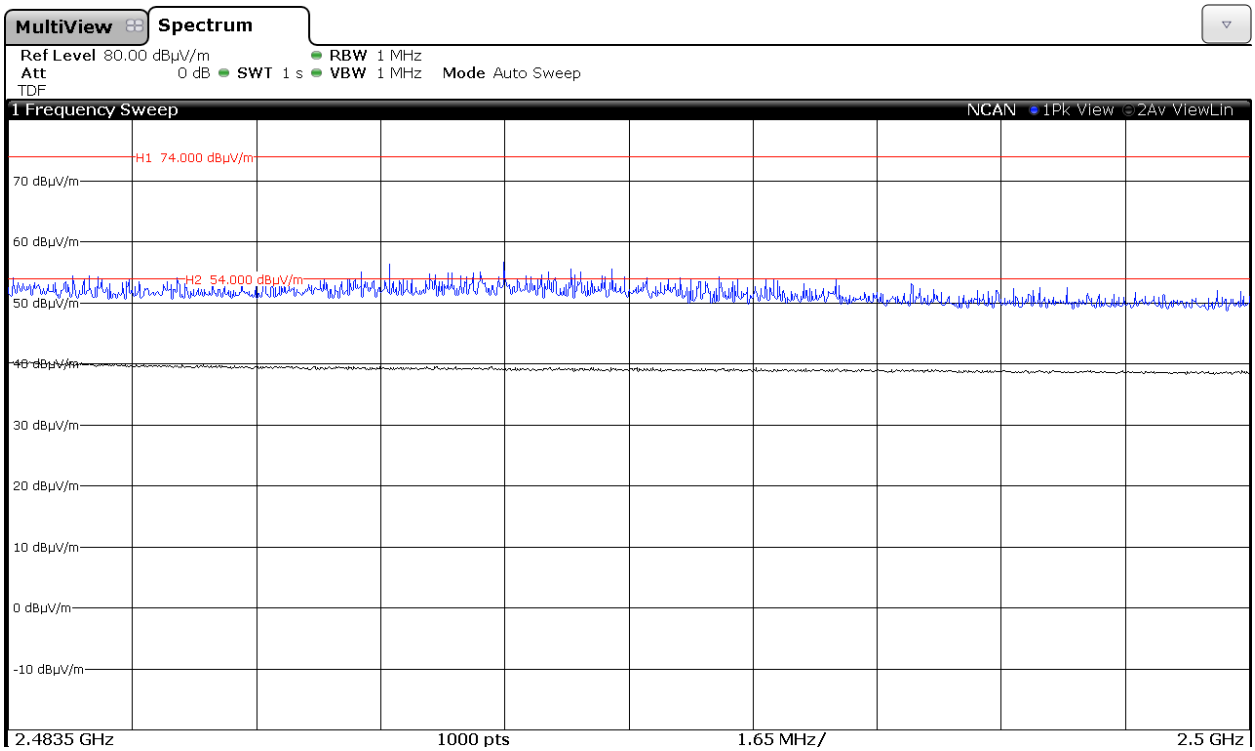


Chain B

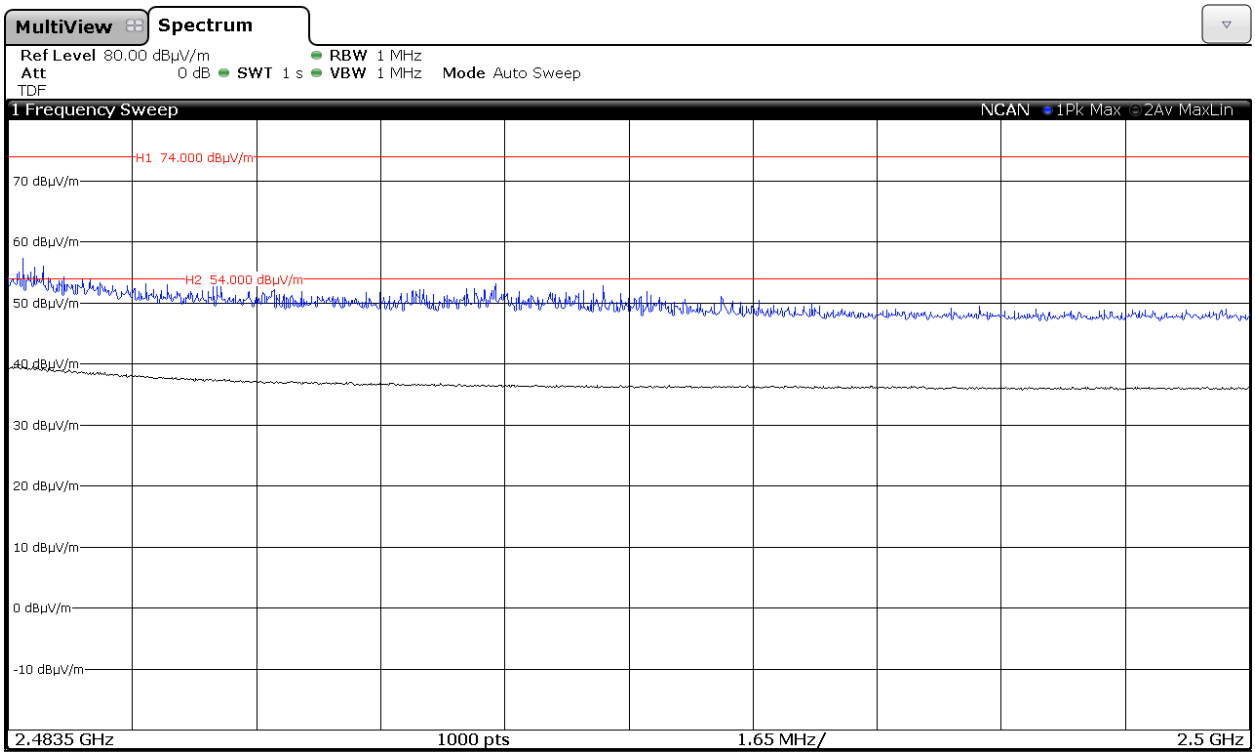


CHANNEL 11 (2462 MHz).

Chain A

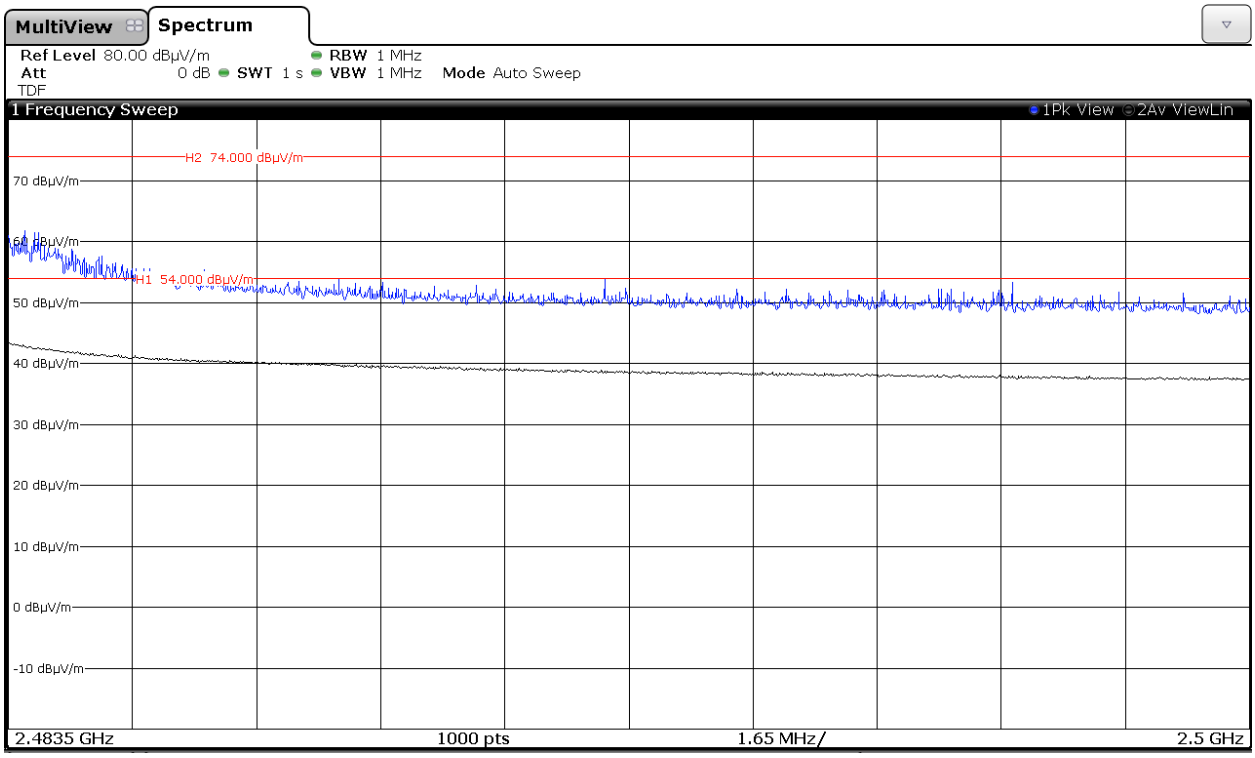


Chain B

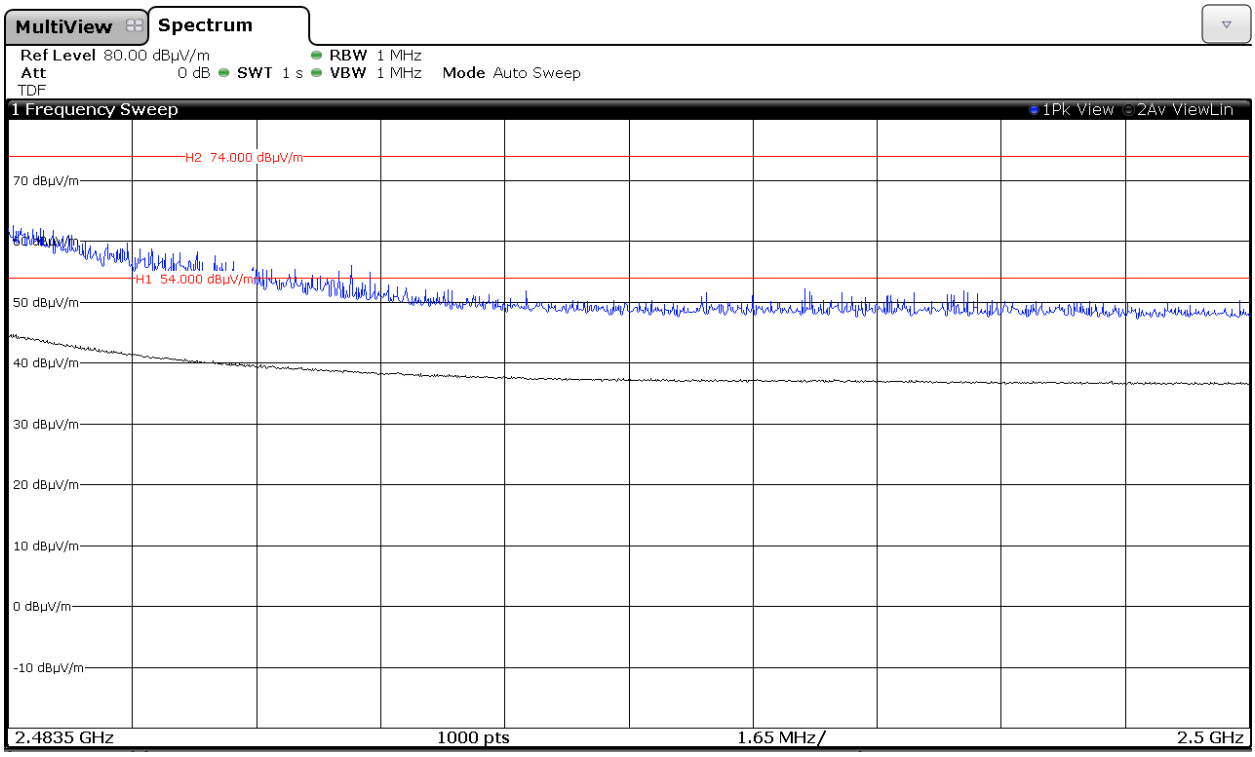


CHANNEL 12 (2467 MHz).

Chain A

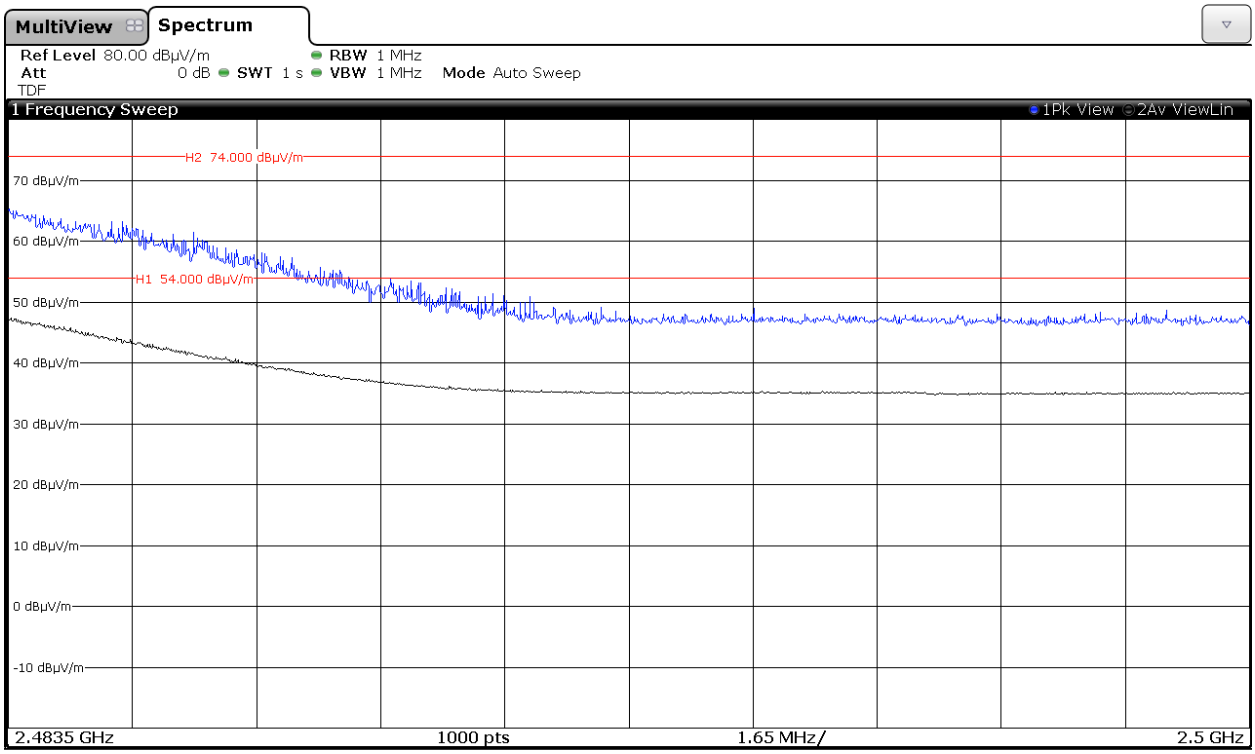


Chain B

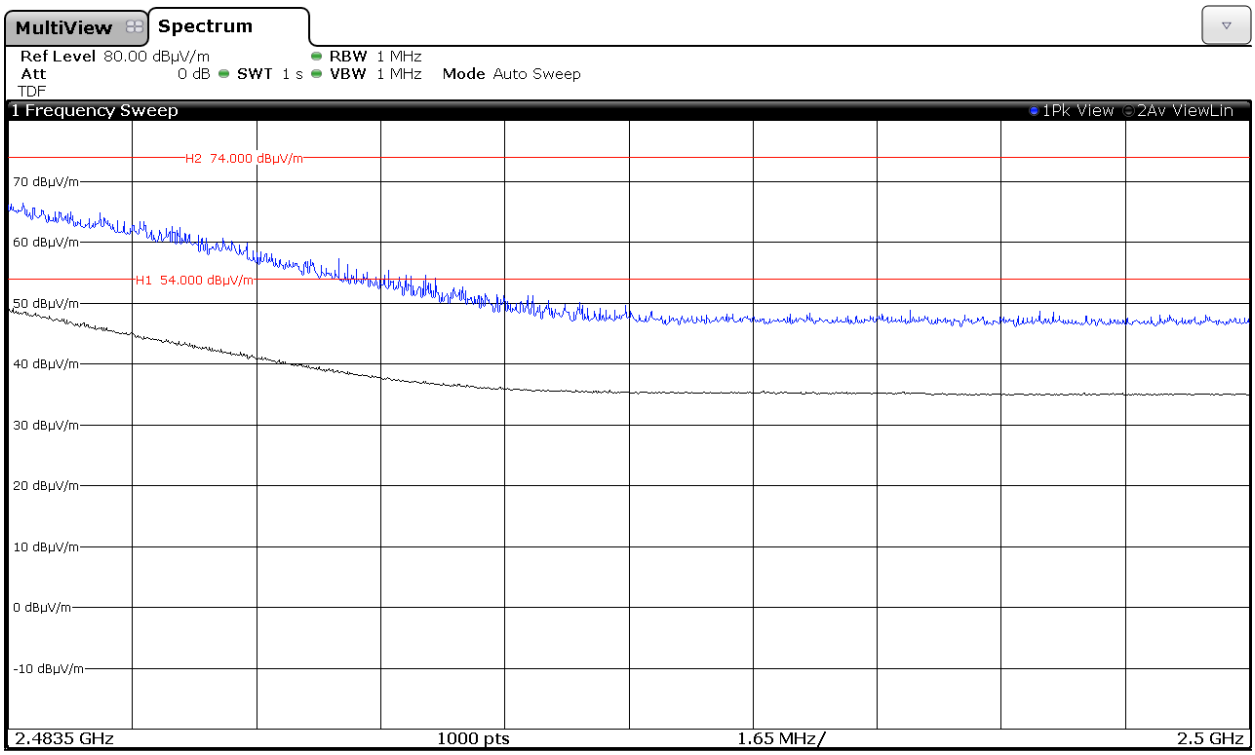


CHANNEL 13 (2472 MHz).

Chain A



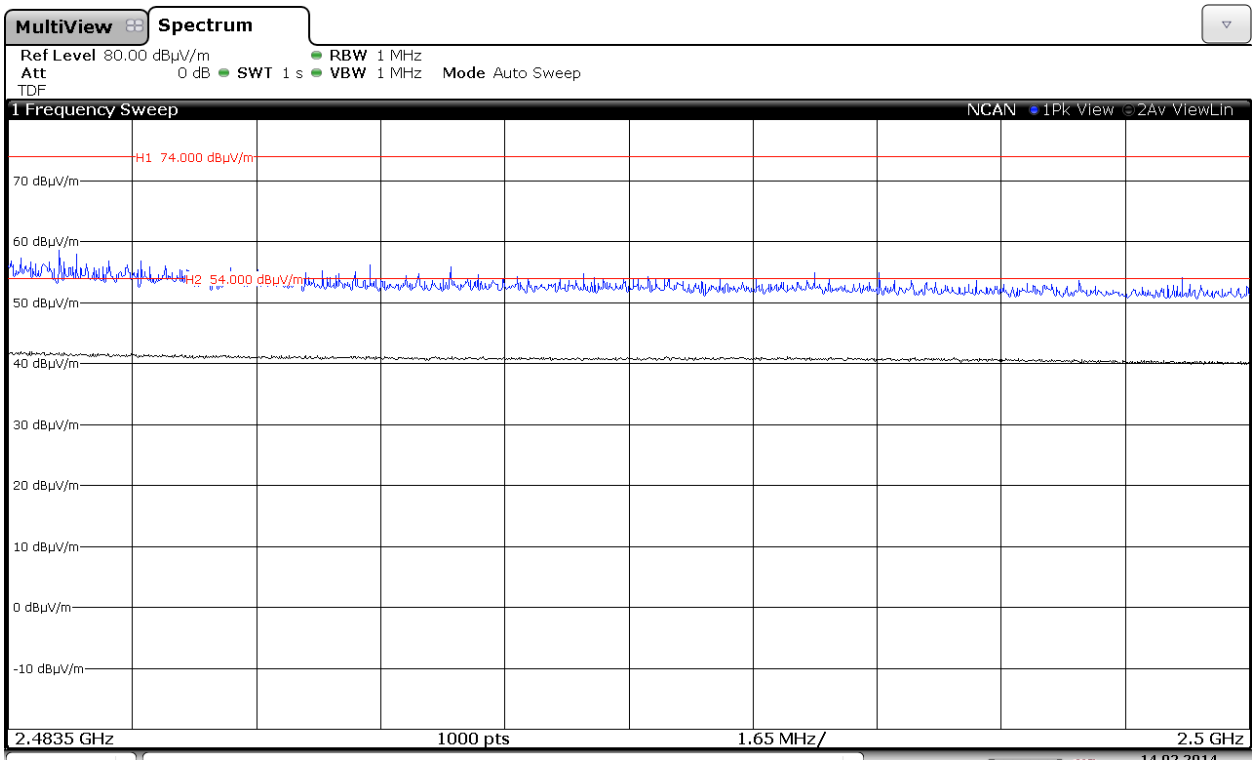
Chain B



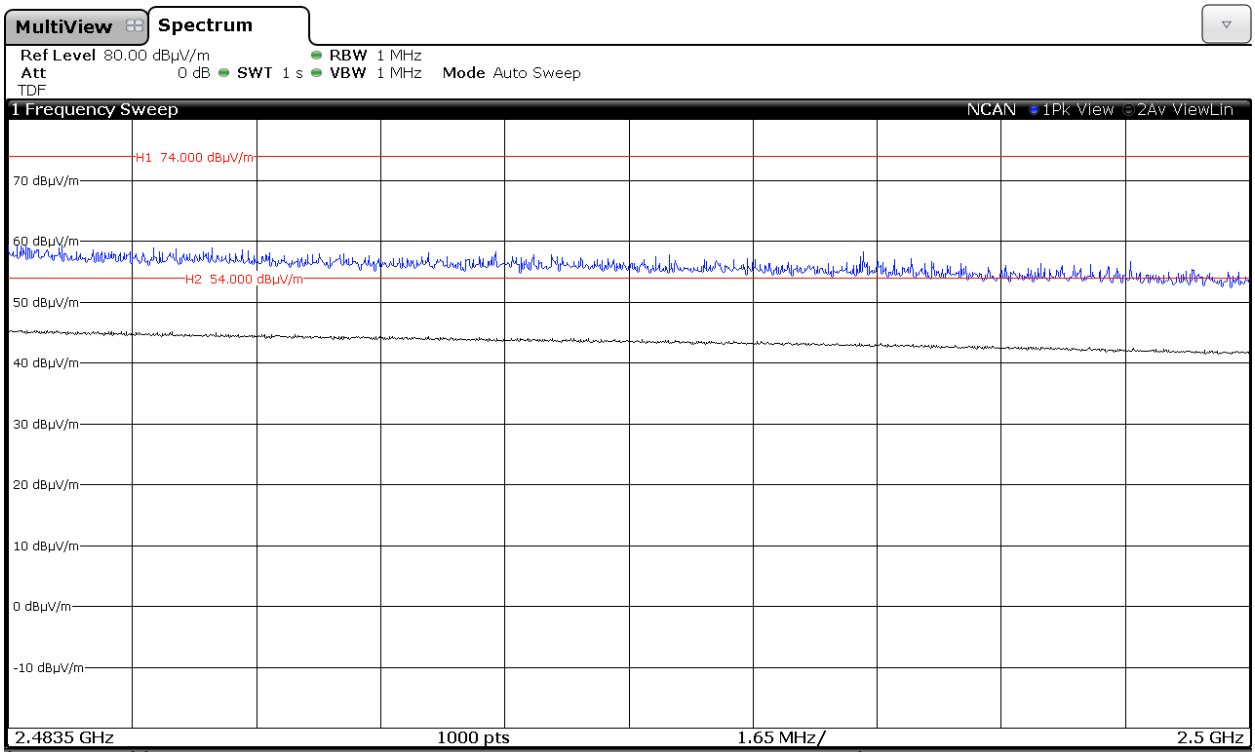
3. WiFi 2.4GHz 802.11 n20 mode

CHANNEL 6 (2437 MHz).

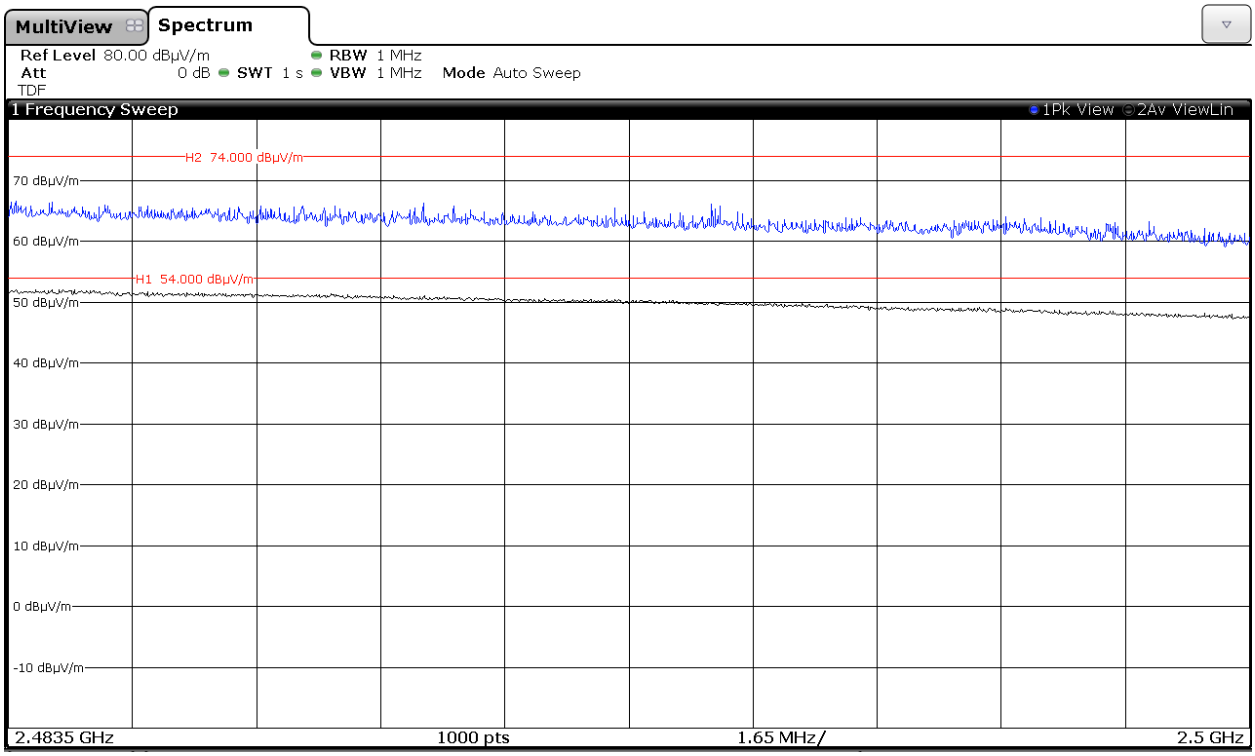
Chain A



Chain B

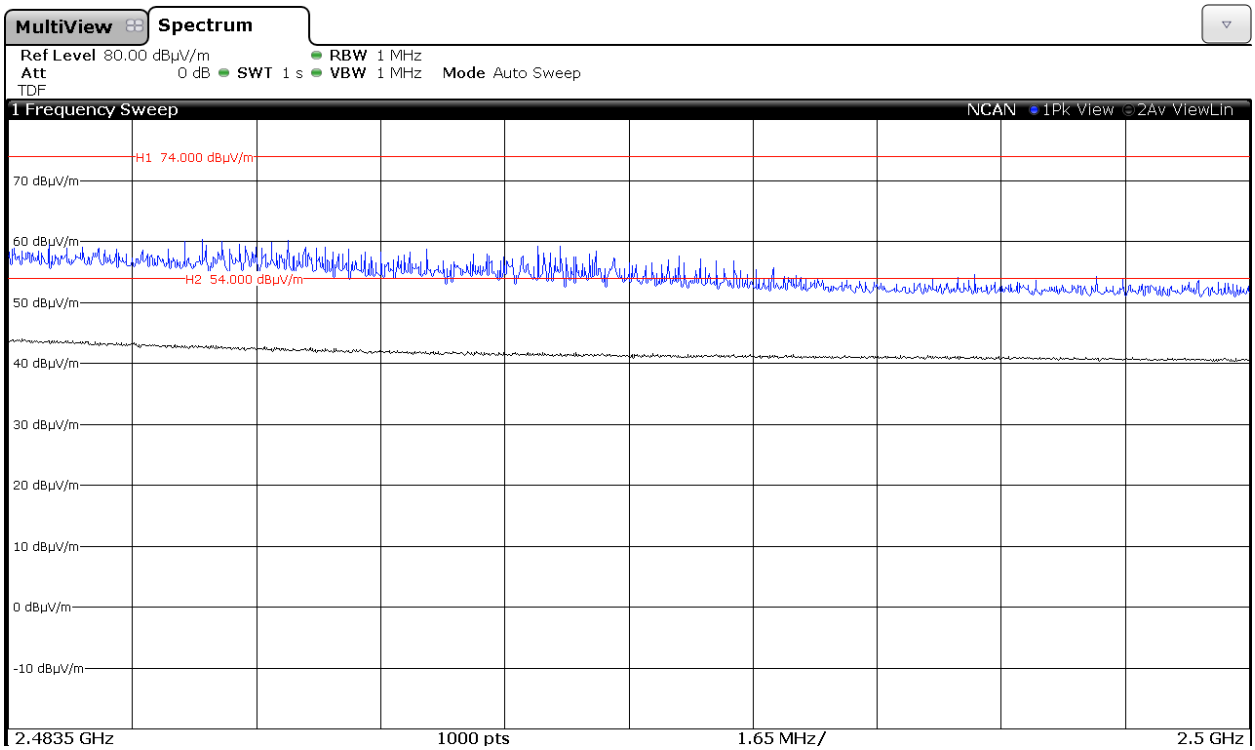


Chain A+B

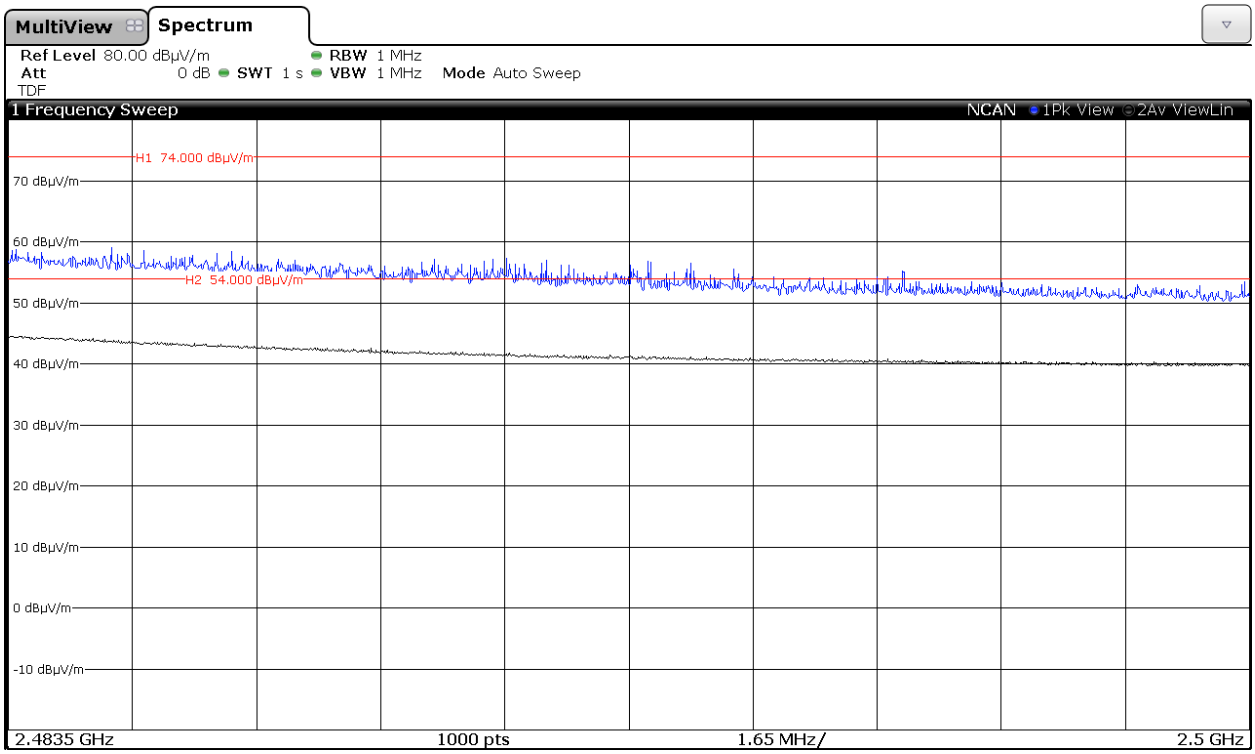


CHANNEL 10 (2457 MHz).

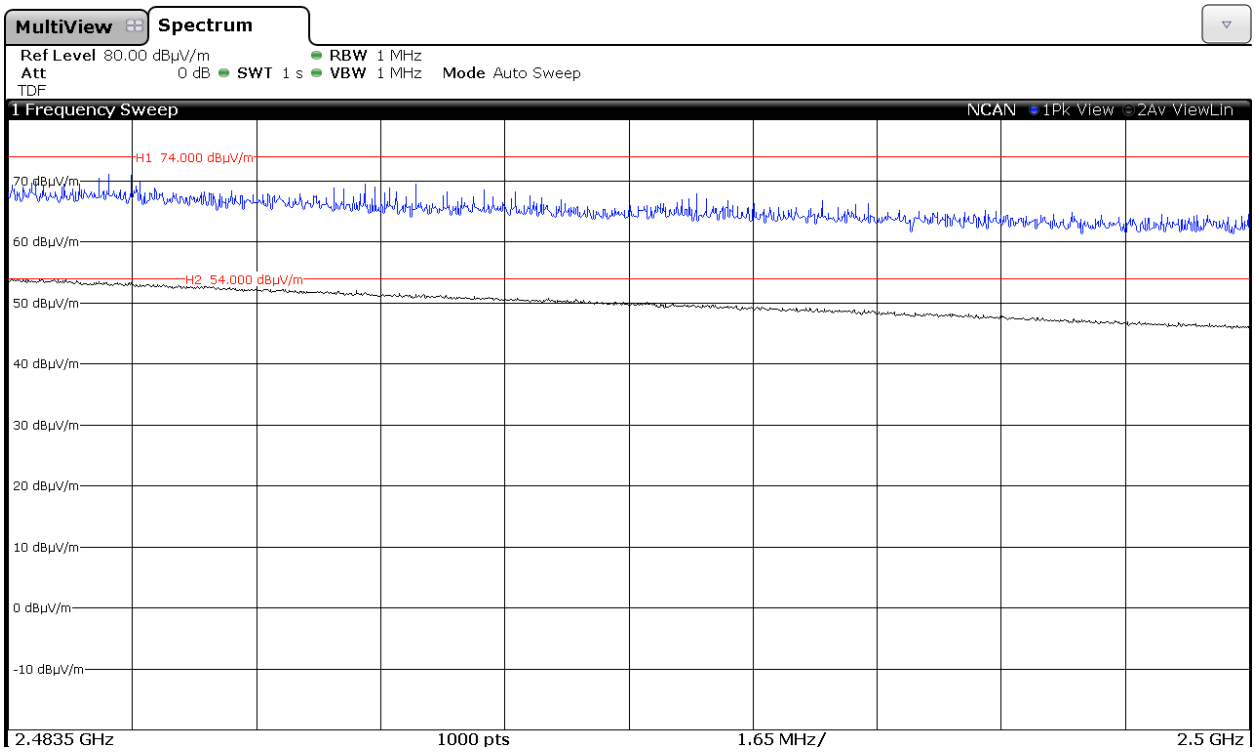
Chain A



Chain B

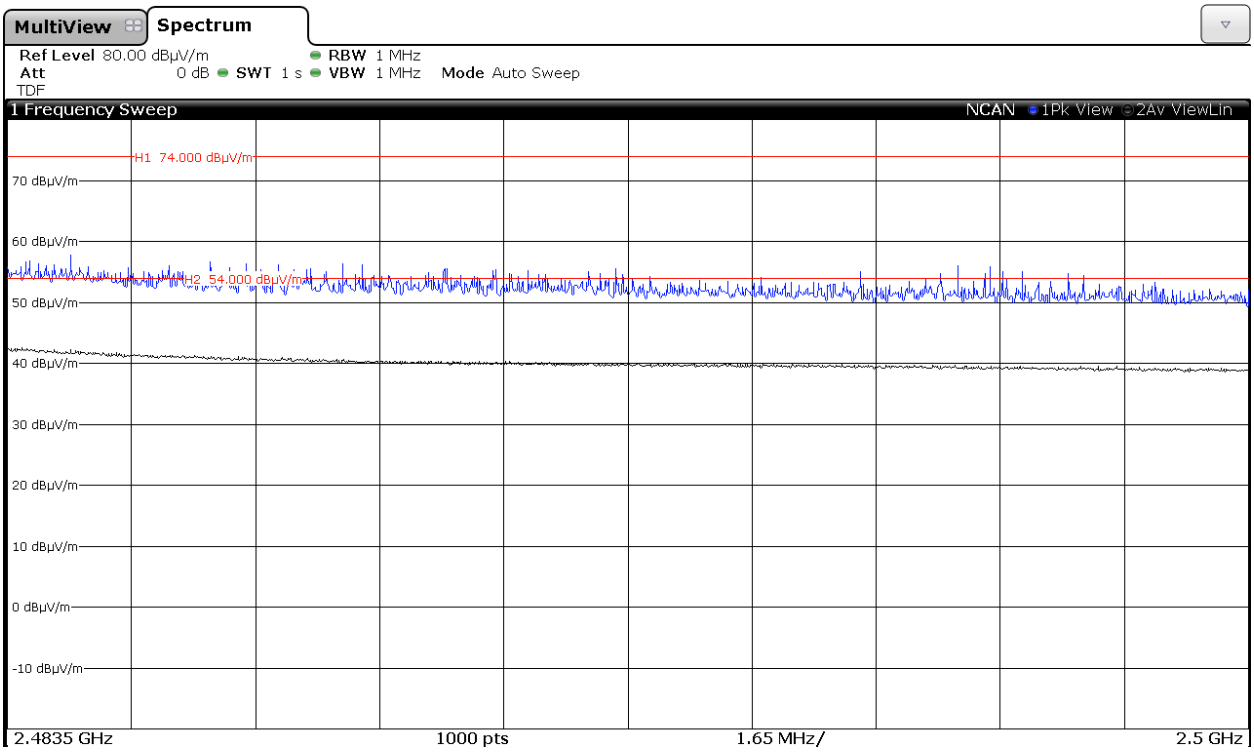


CHAIN A+B

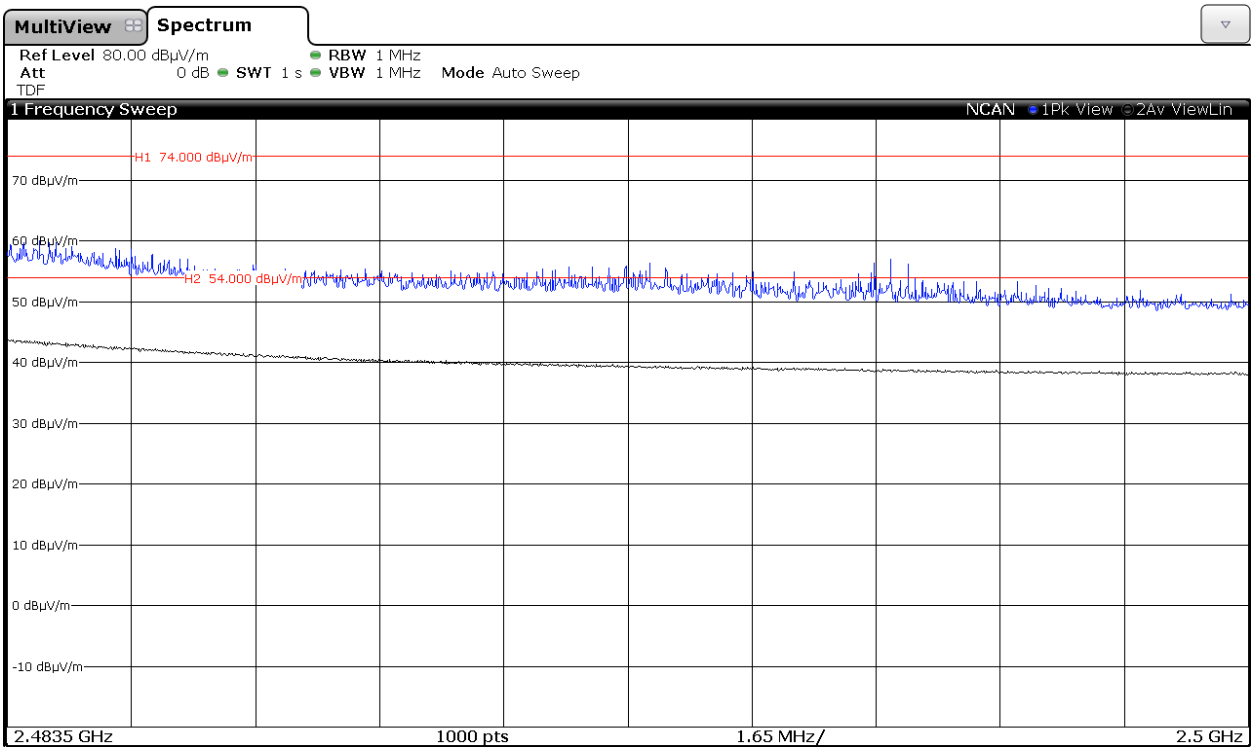


CHANNEL 11 (2462 MHz).

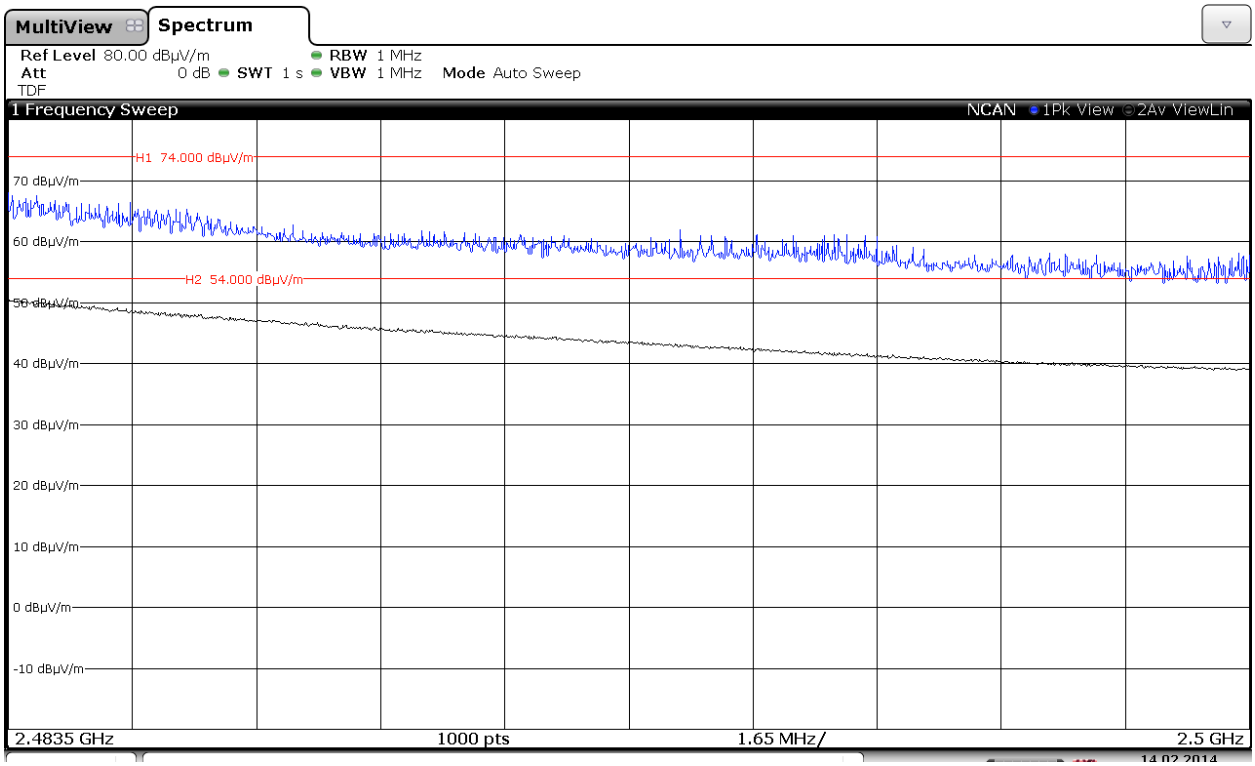
Chain A



Chain B

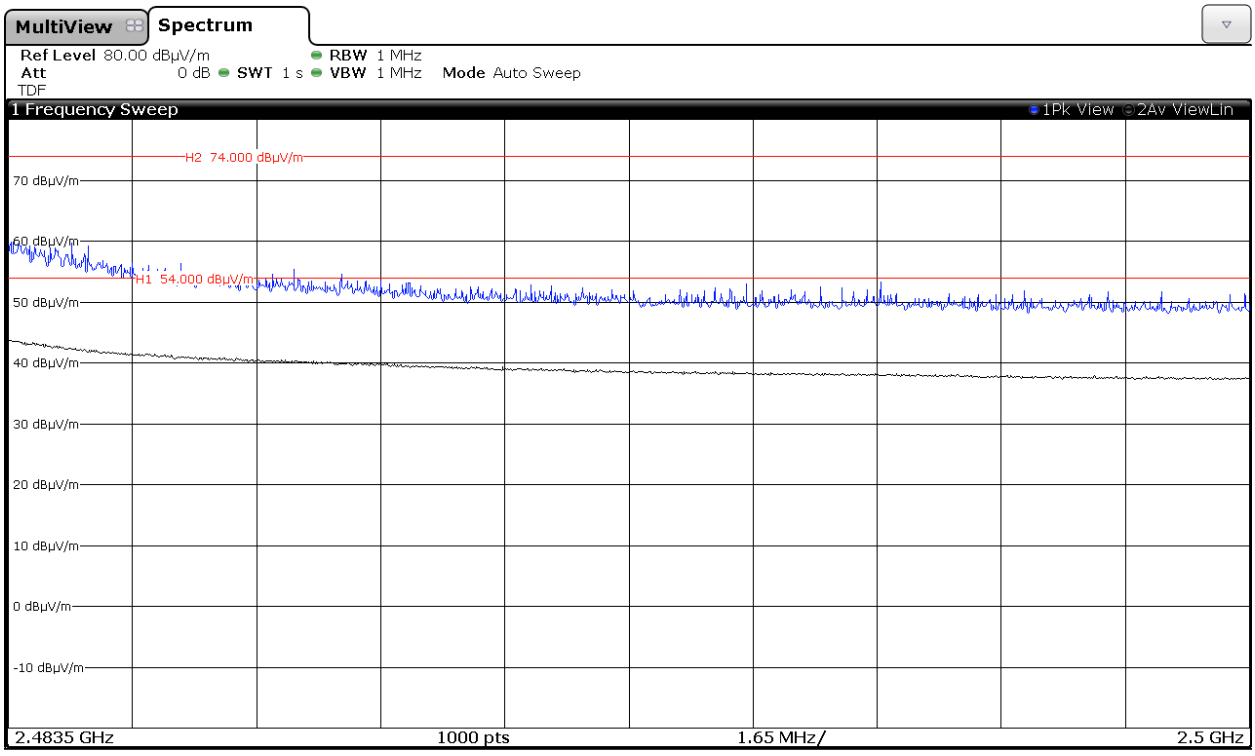


Chain A+B

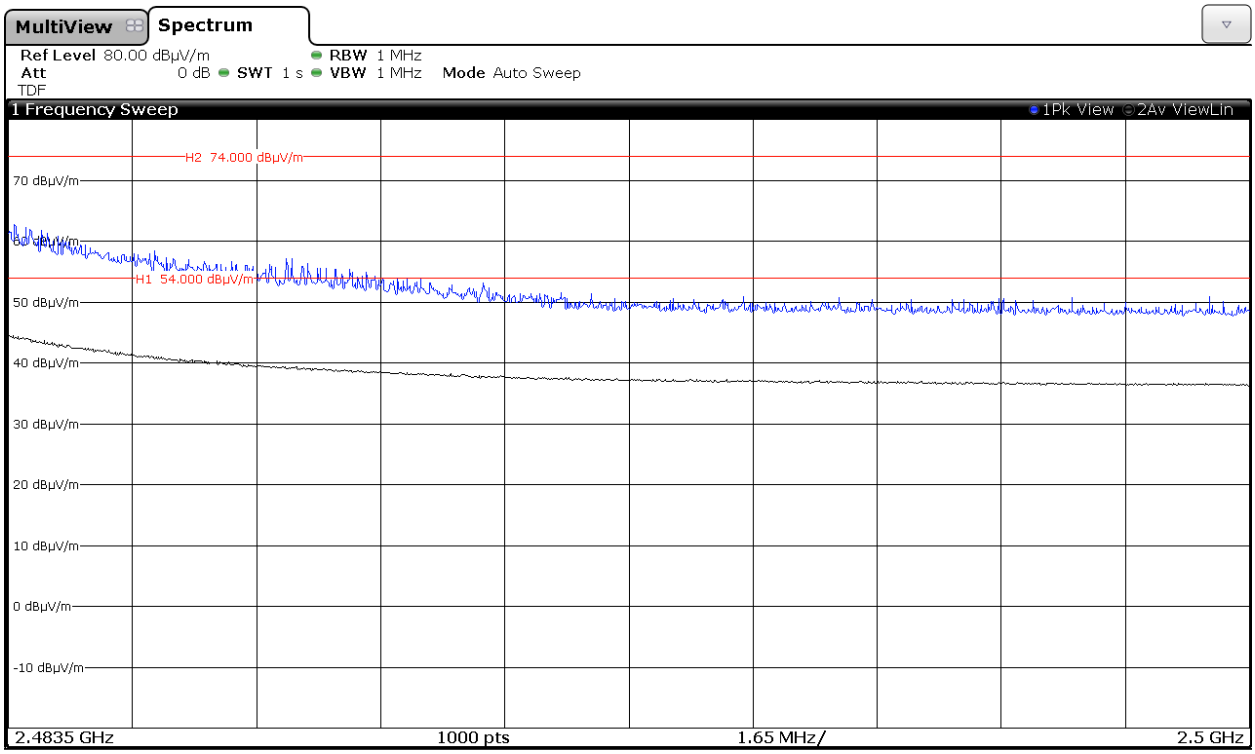


CHANNEL 12 (2467 MHz).

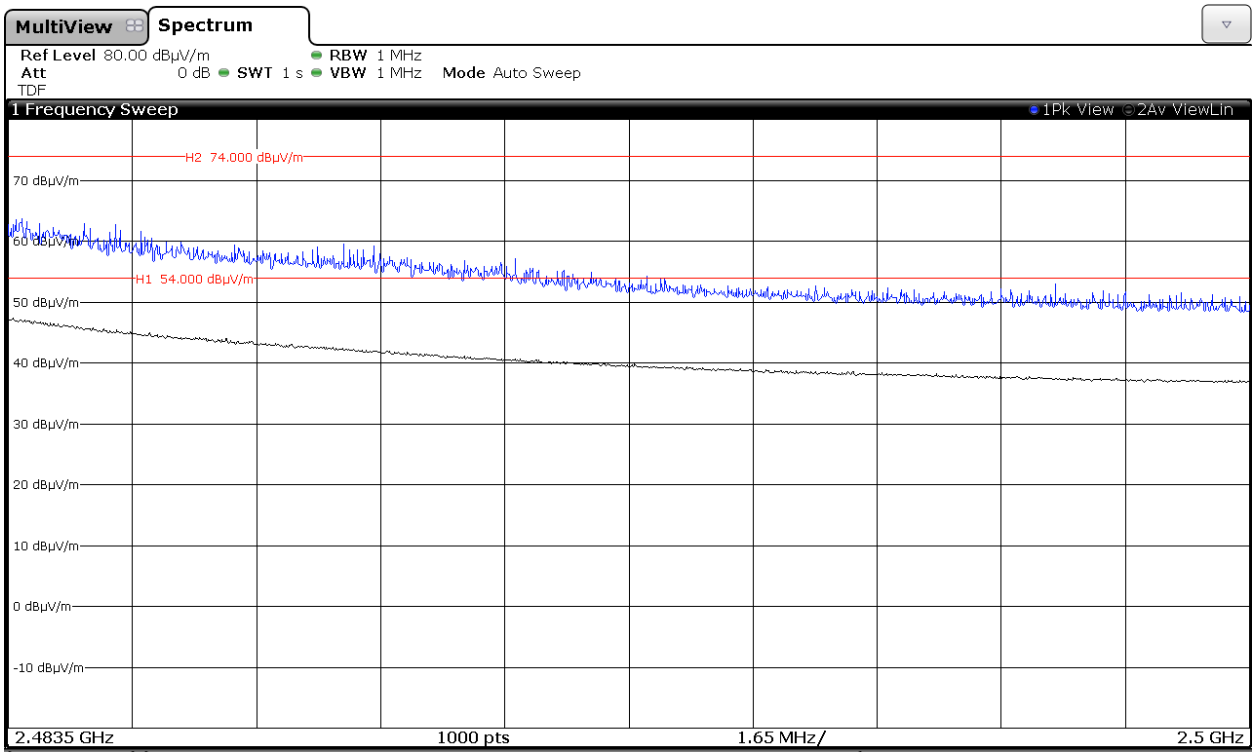
Chain A



Chain B

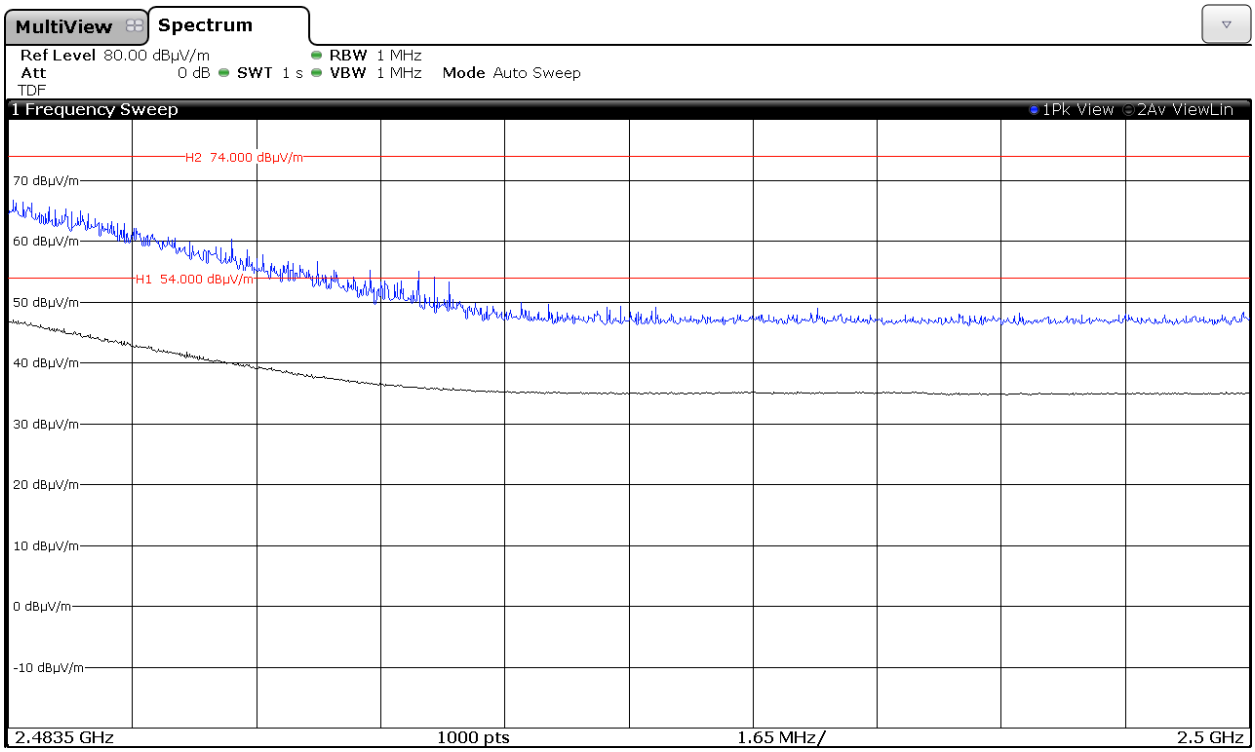


Chain A+B

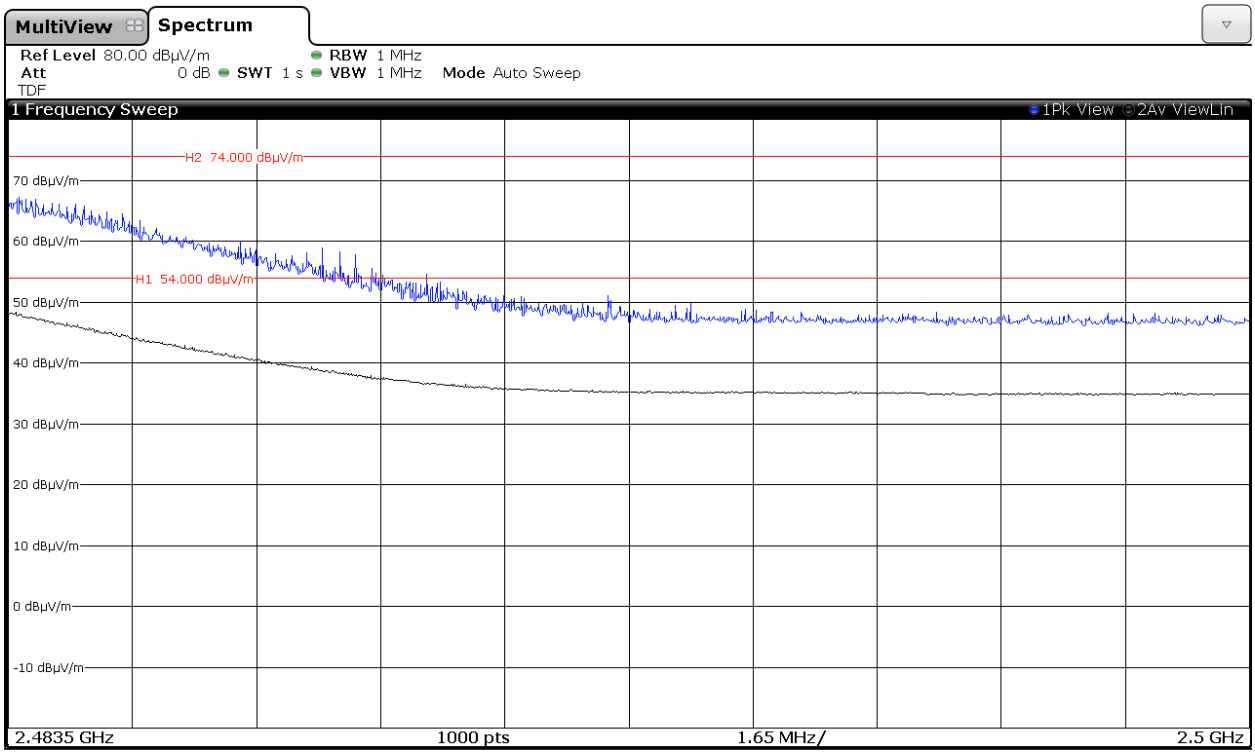


CHANNEL 13 (2472 MHz).

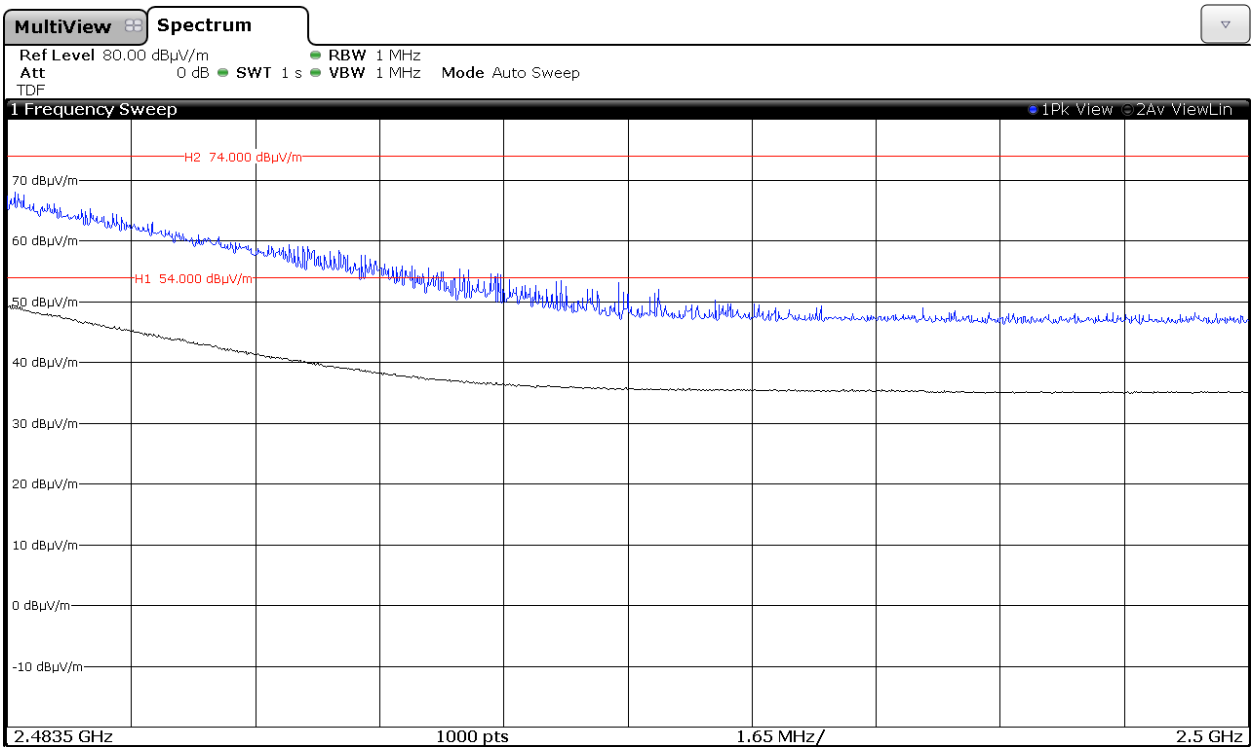
Chain A



Chain B



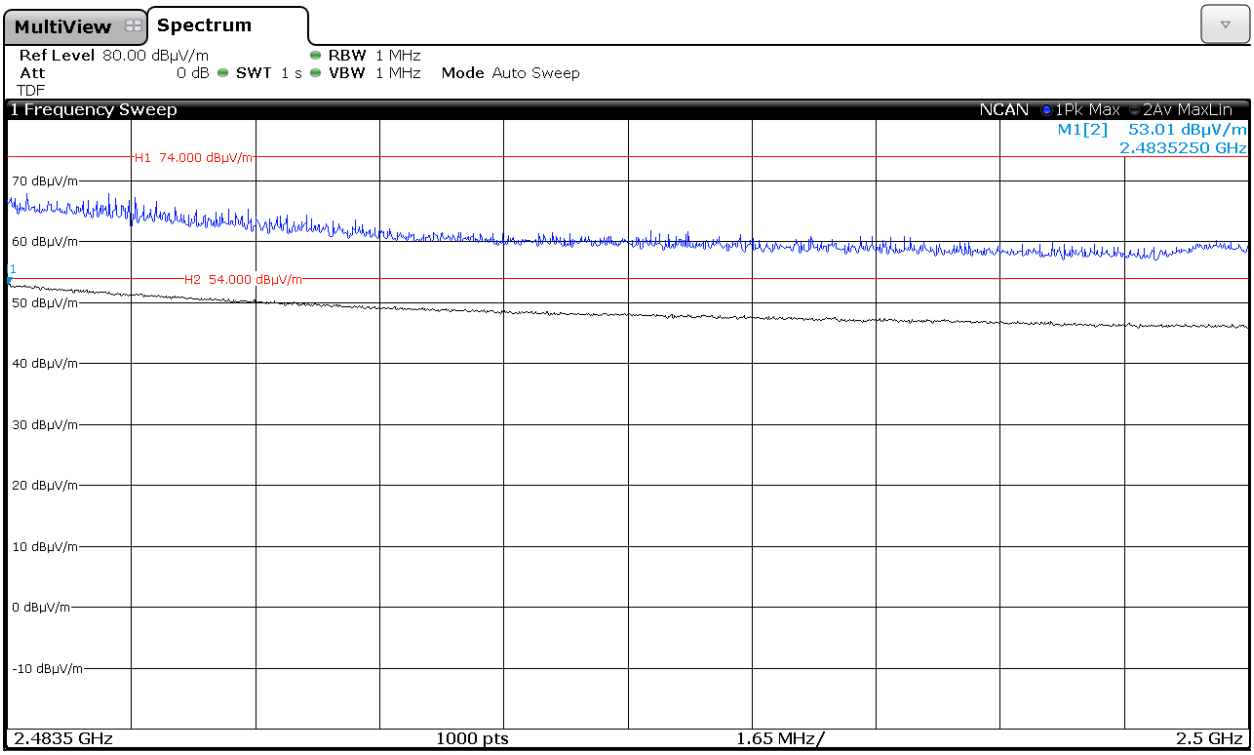
Chain A+B



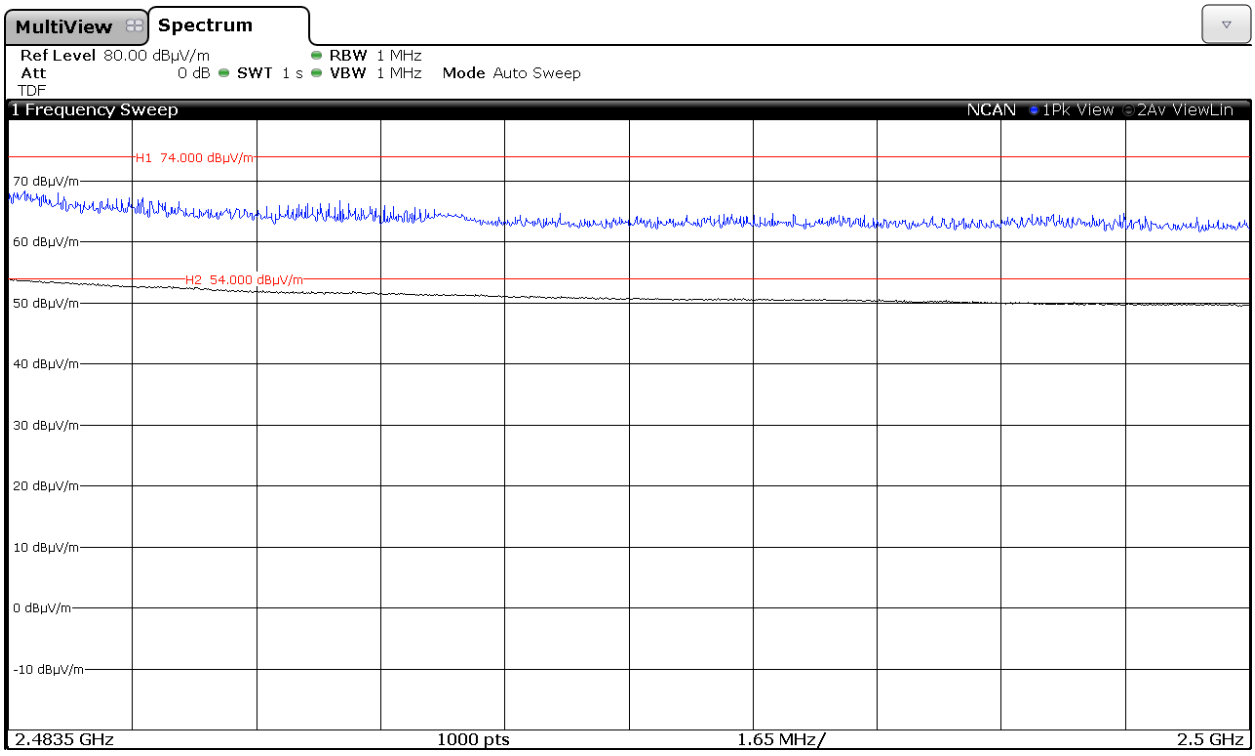
4. WiFi 2.4GHz 802.11 n40 mode

CHANNEL 6 (2437 MHz).

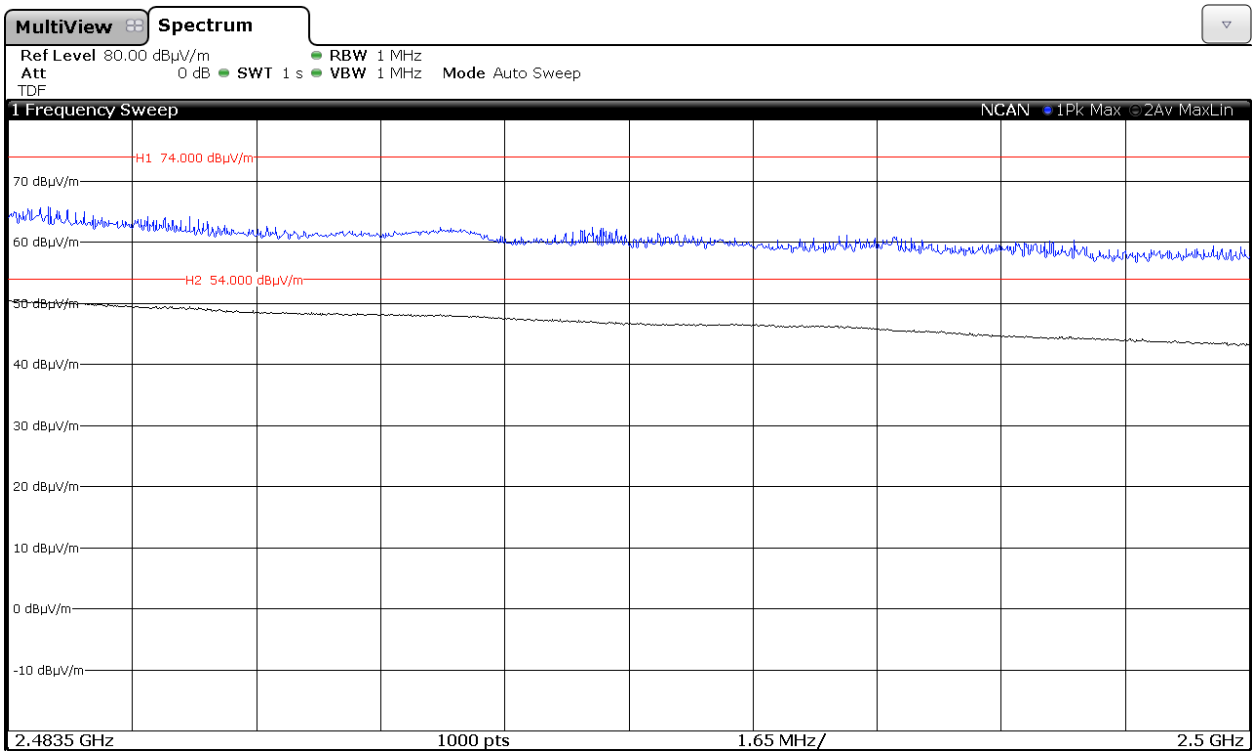
Chain A



Chain B

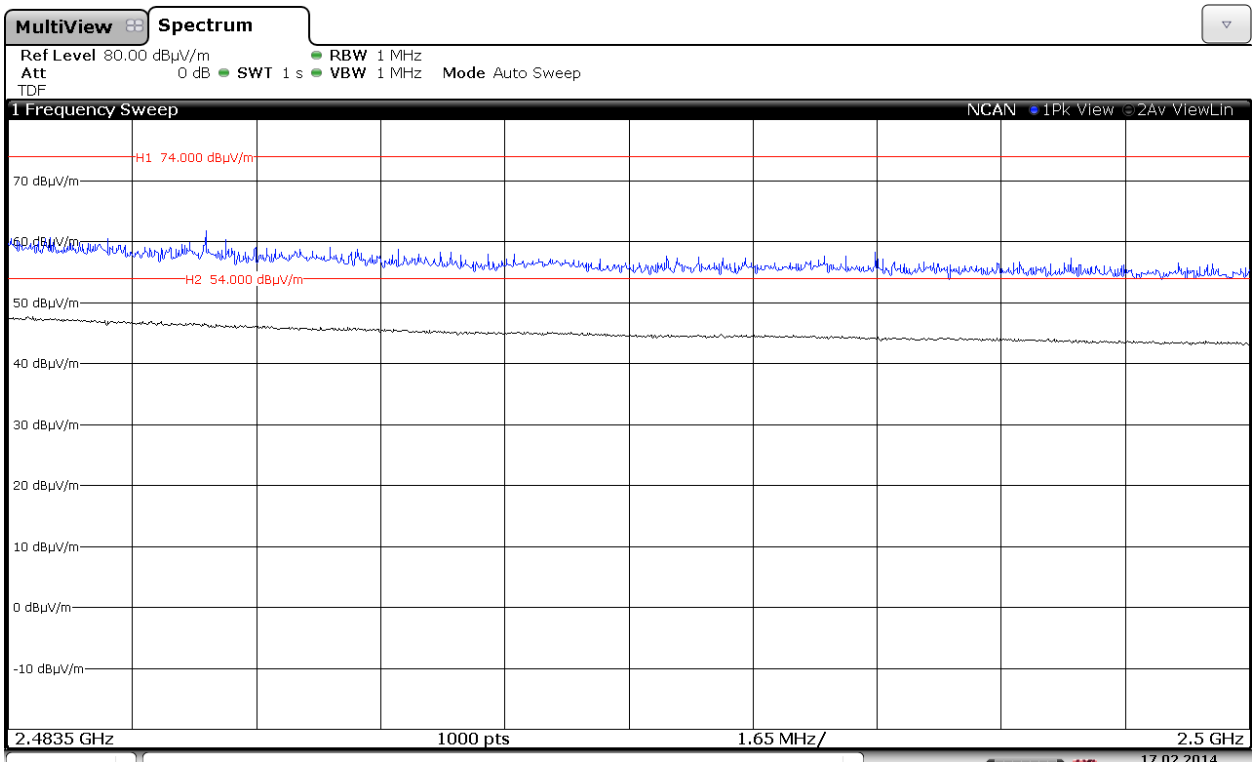


Chain A+B

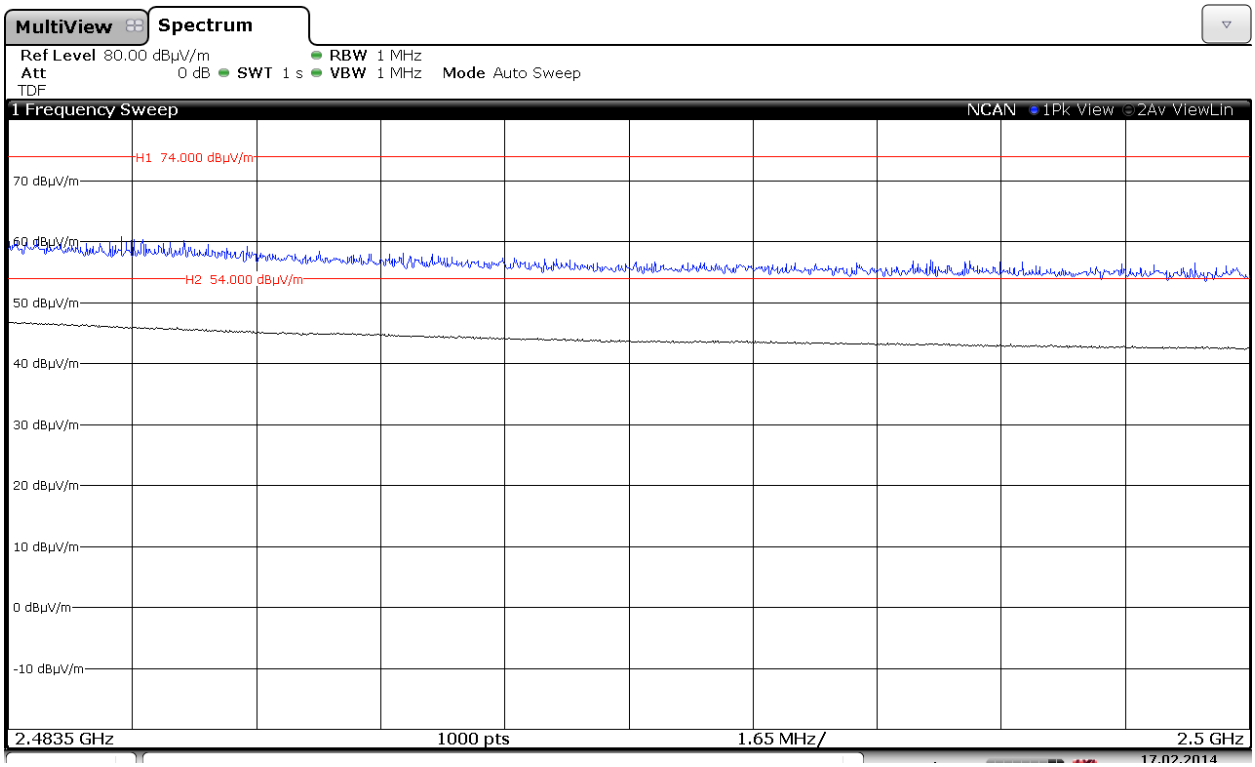


CHANNEL 7 (2442 MHz).

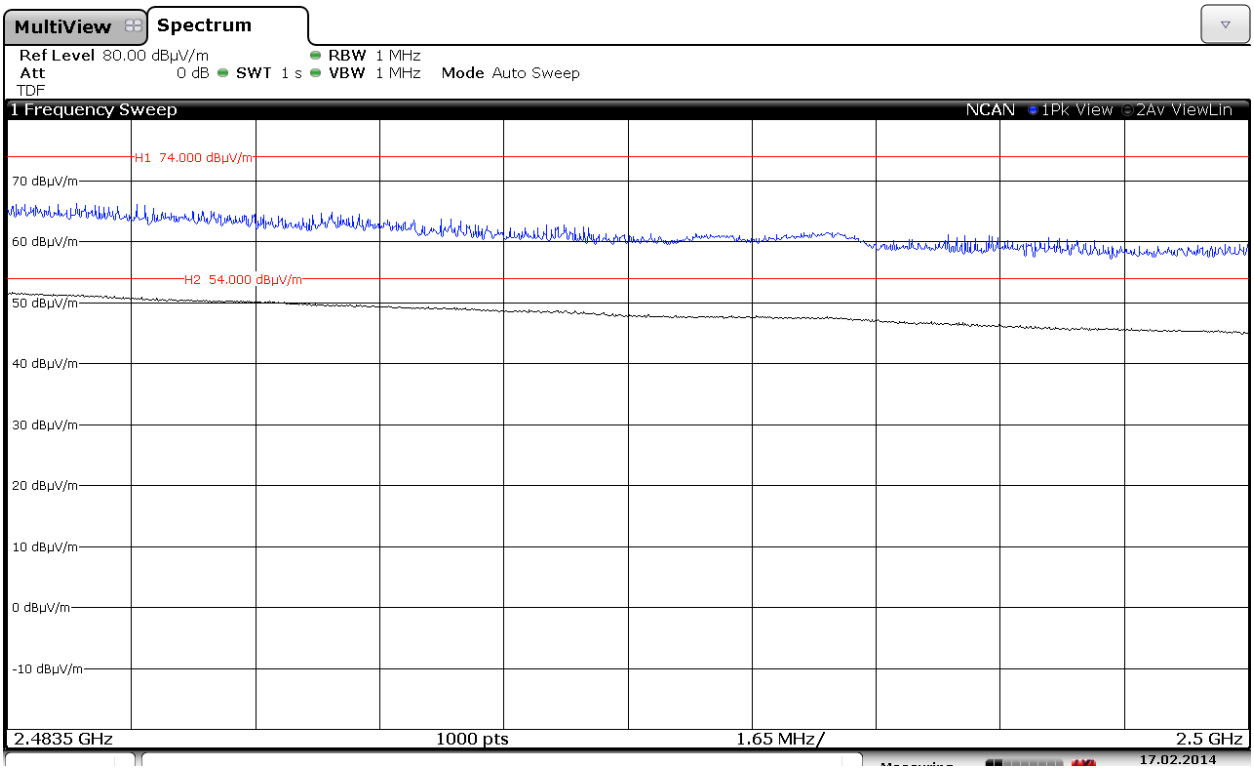
Chain A



Chain B

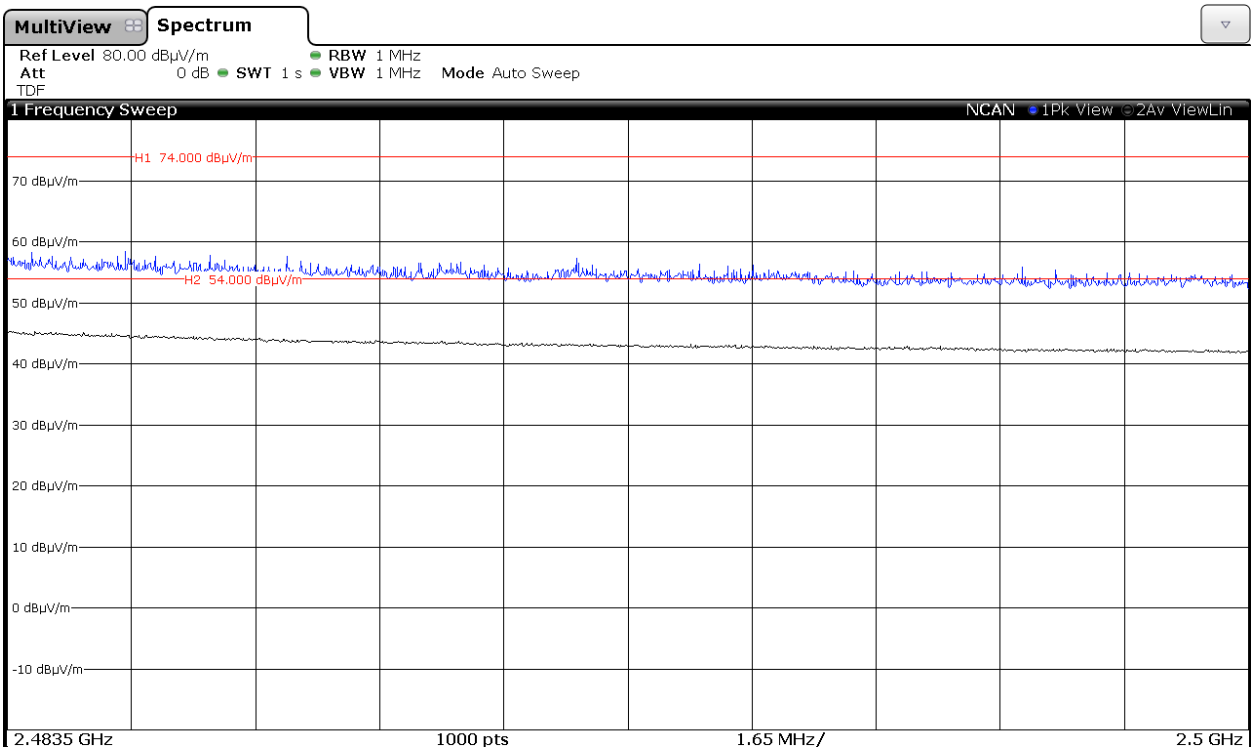


Chain A+B

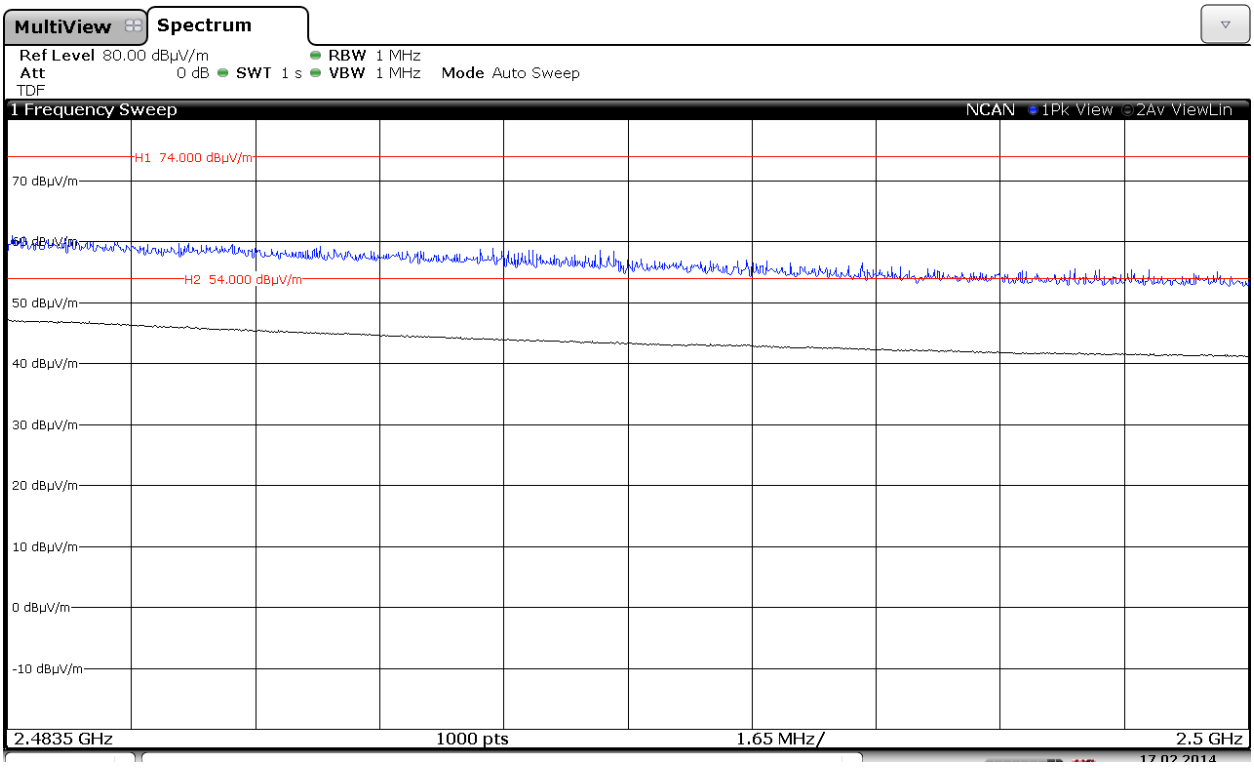


CHANNEL 8 (2447 MHz).

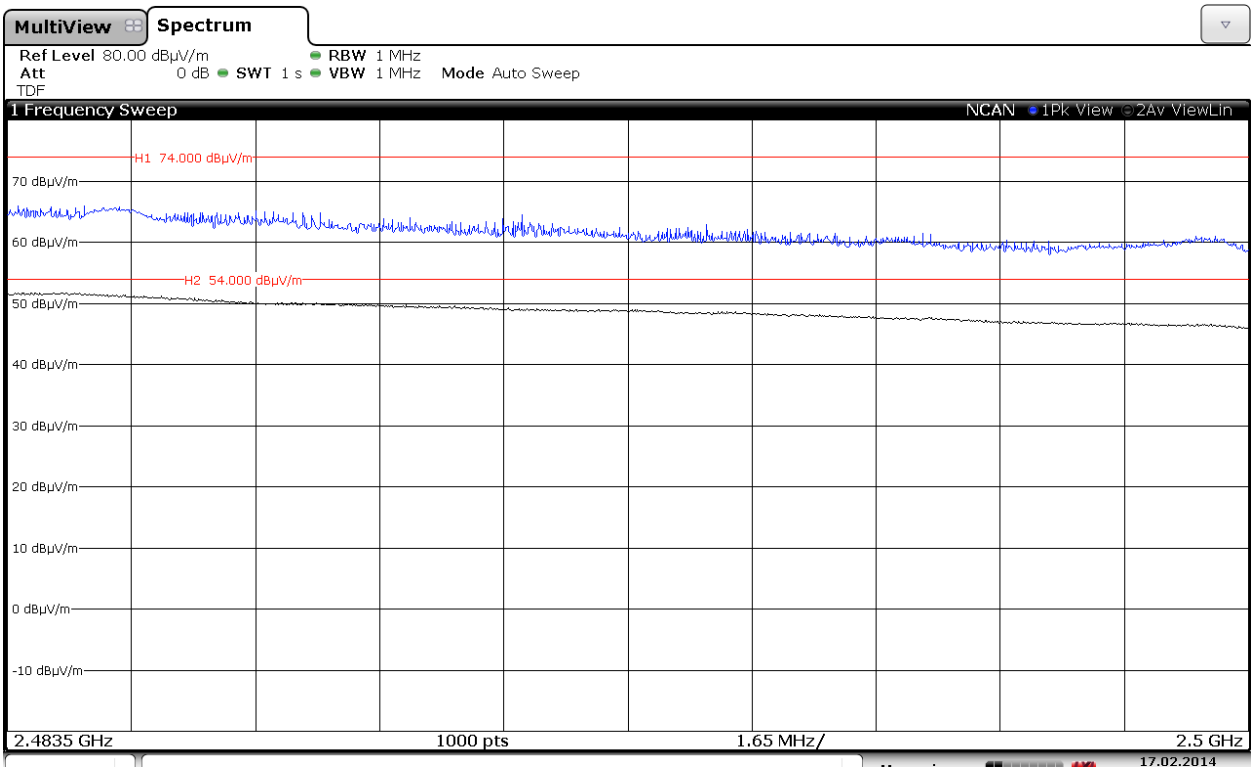
Chain A



Chain B

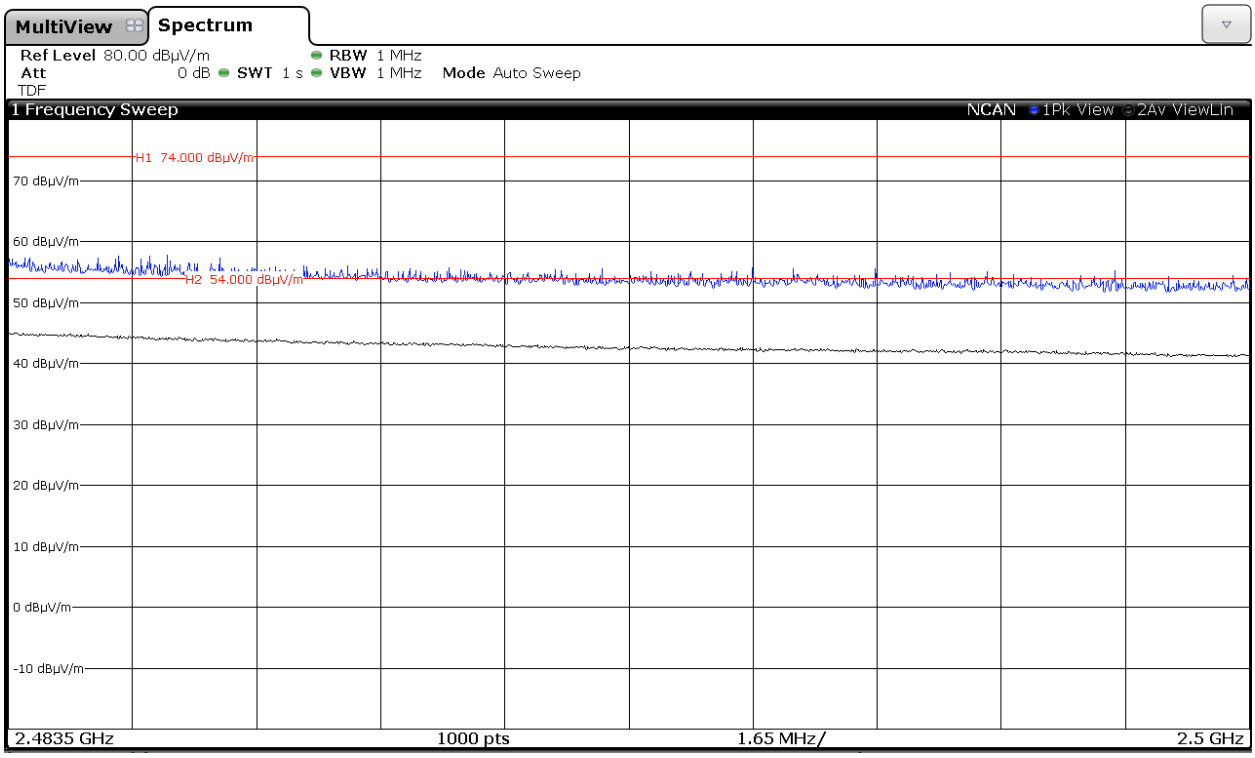


Chain A+B

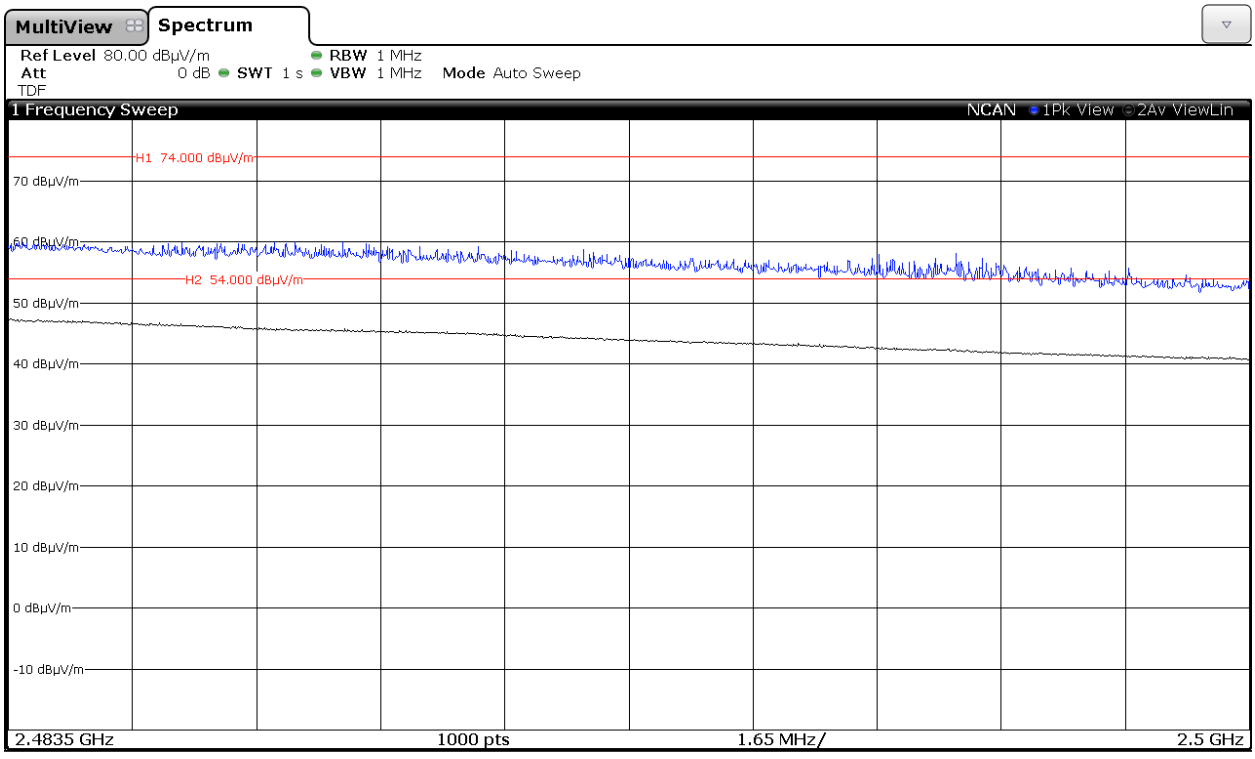


CHANNEL 9 (2452 MHz).

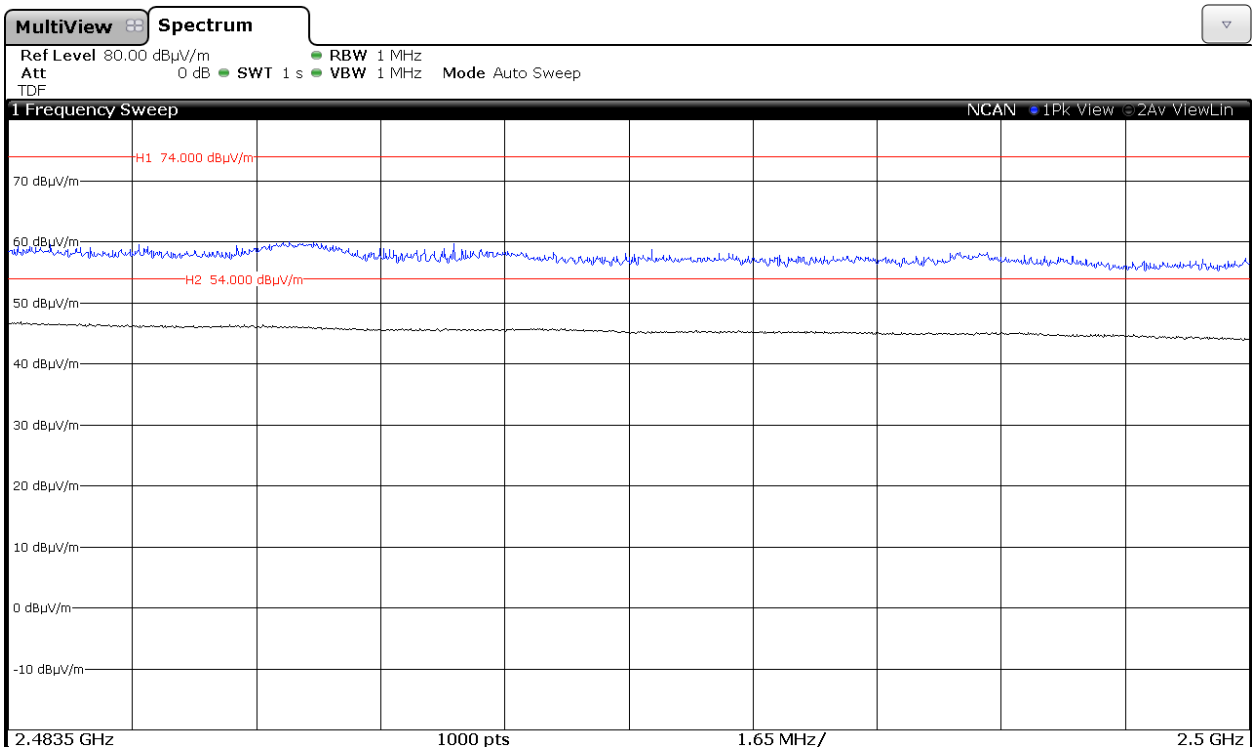
Chain A



Chain B

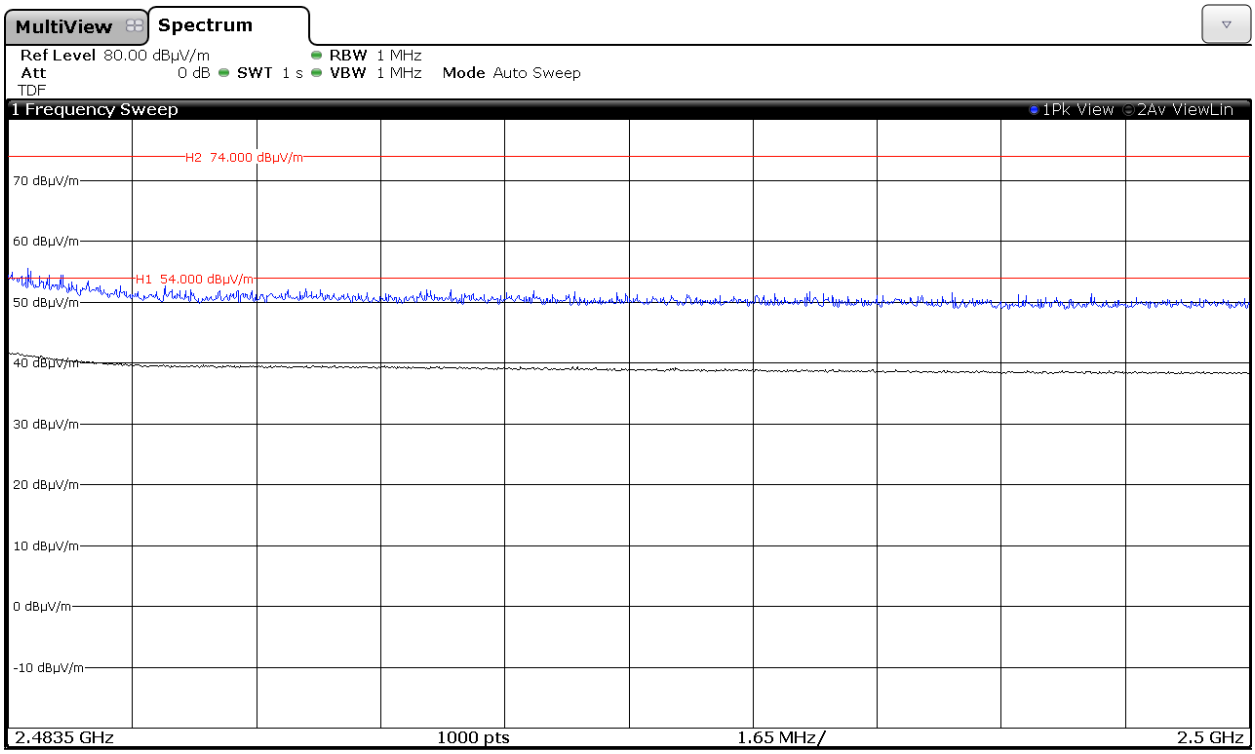


Chain A+B

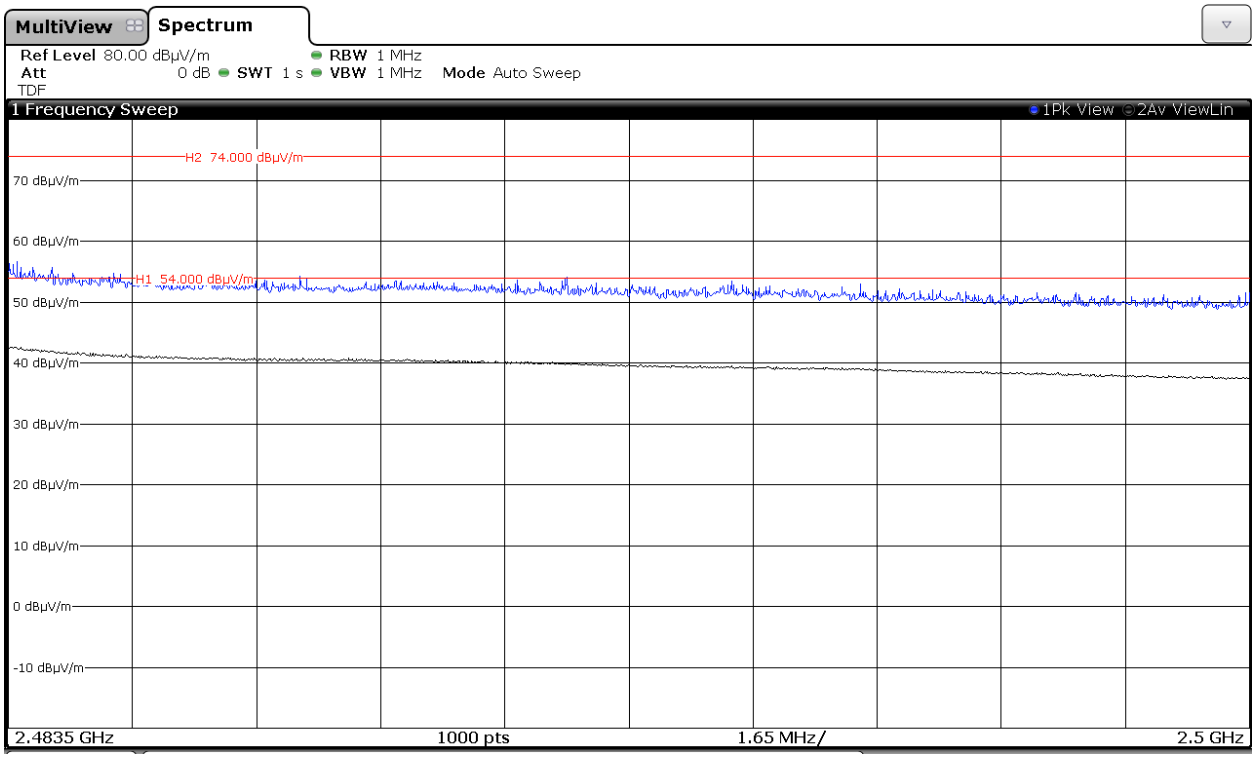


CHANNEL 10F (2457 MHz).

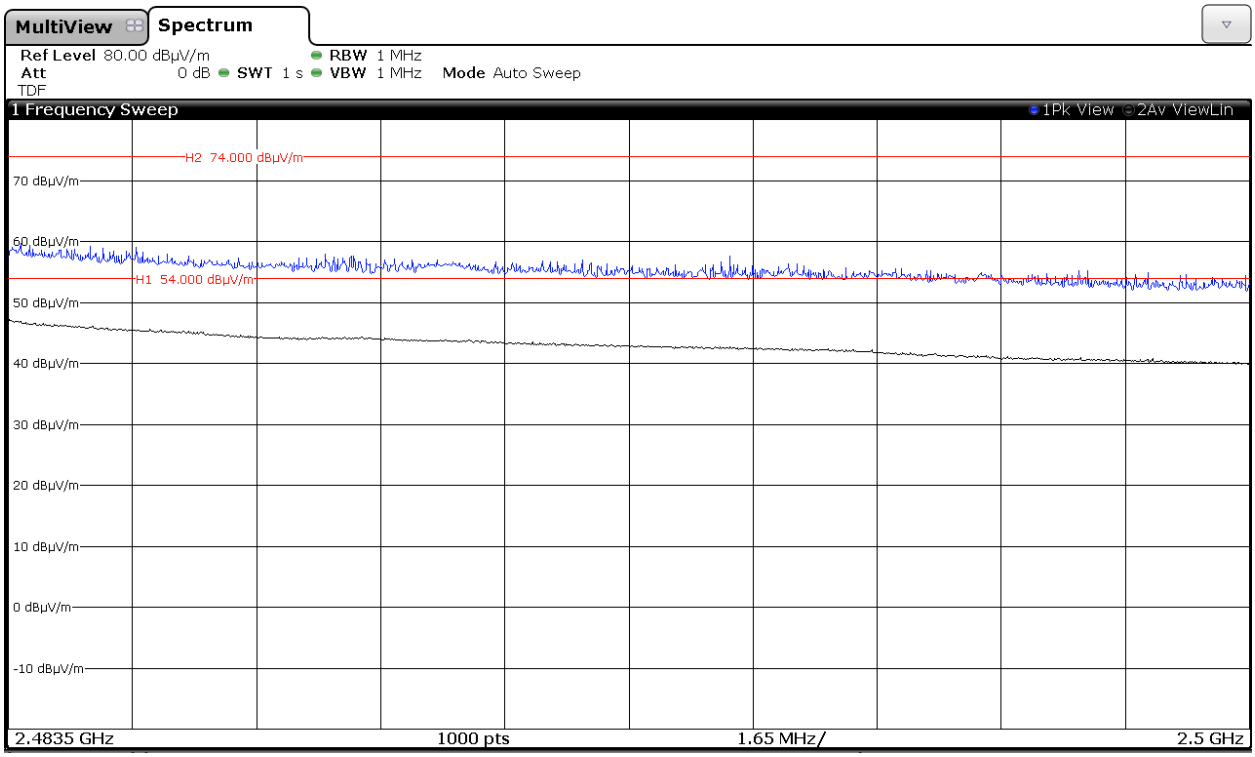
Chain A



Chain B

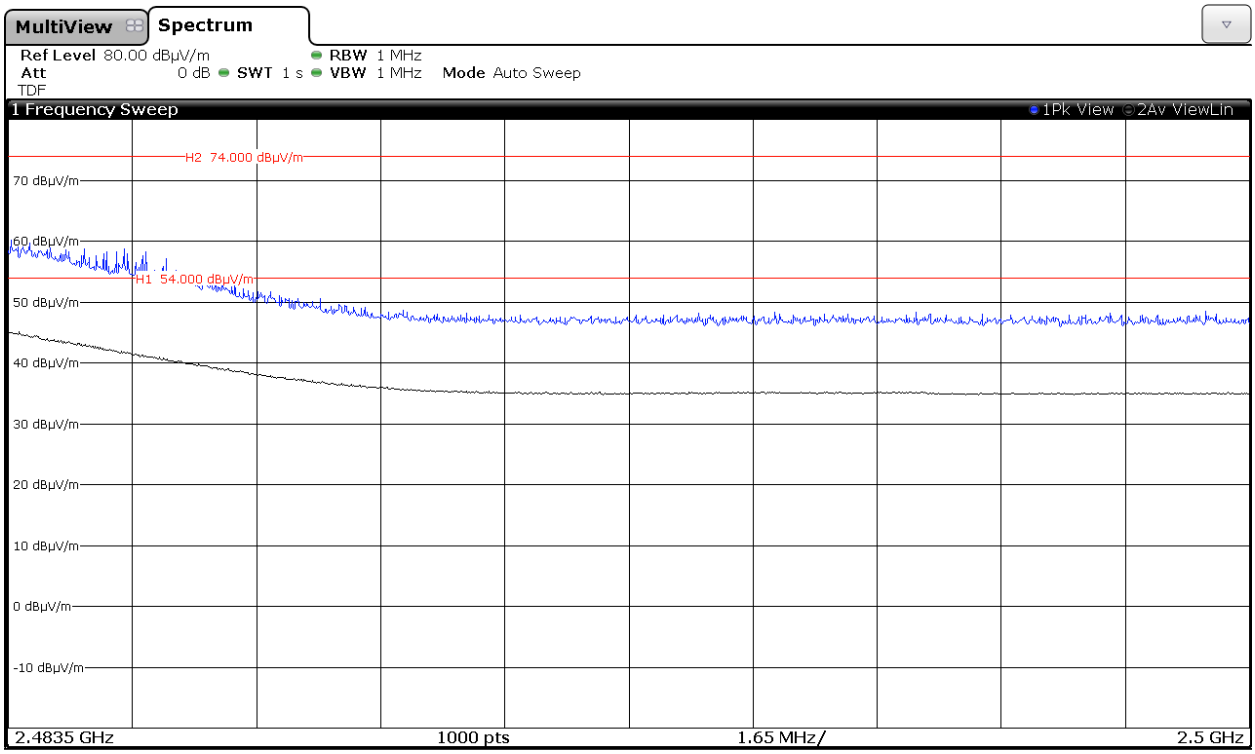


Chain A+B

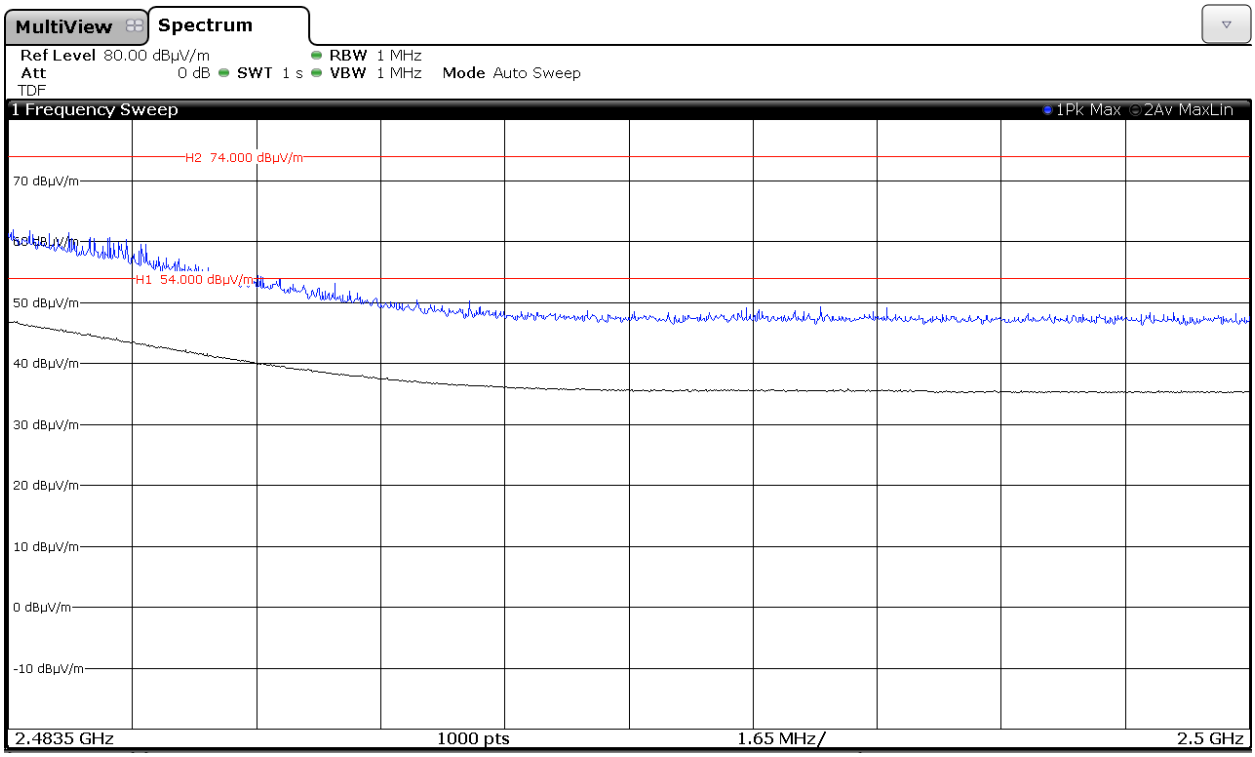


CHANNEL 11F (2462 MHz).

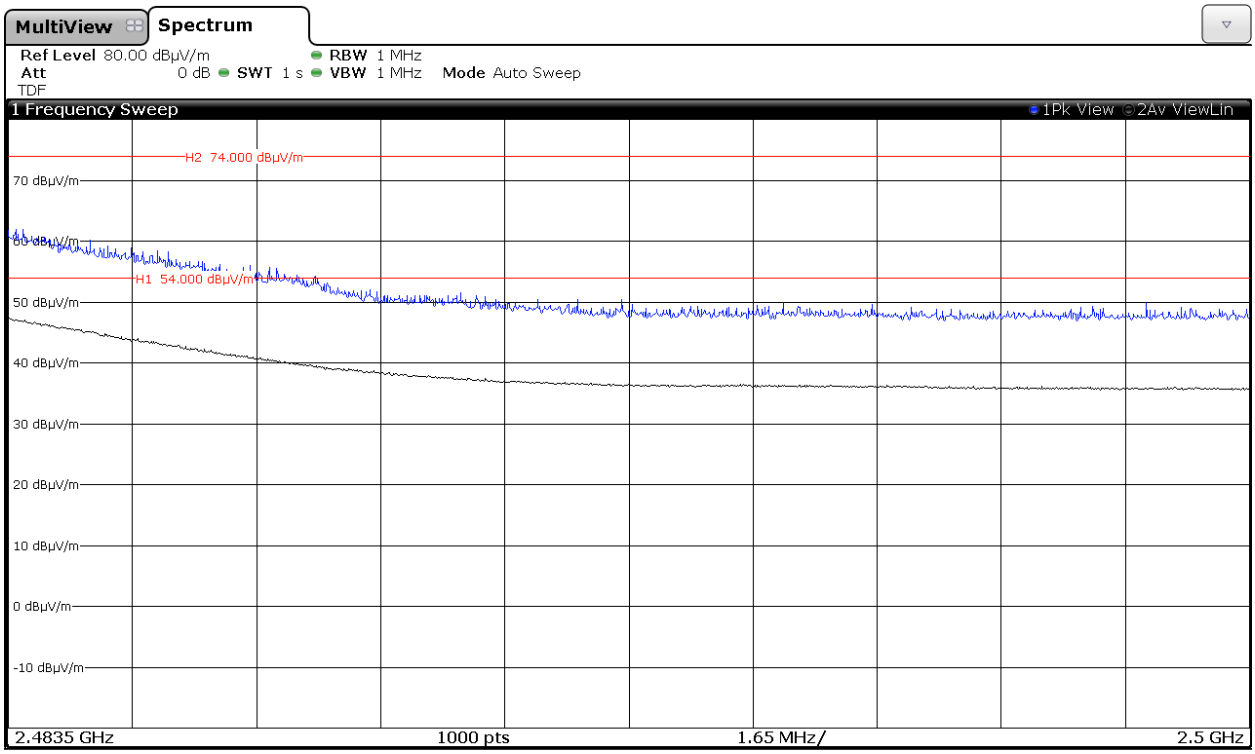
Chain A



Chain B



Chain A+B


MultiView
Spectrum
Ref Level 80.00 dBµV/m
RBW 1 MHz
Att 0 dB SWT 1 s VBW 1 MHz Mode Auto Sweep
TDF
1 Frequency Sweep
1Pk View 2Av ViewLin
H2 74.000 dBµV/m
H1 54.000 dBµV/m
70 dBµV/m
60 dBµV/m
50 dBµV/m
40 dBµV/m
30 dBµV/m
20 dBµV/m
10 dBµV/m
0 dBµV/m
-10 dBµV/m
2.4835 GHz
1000 pts
1.65 MHz/
2.5 GHz