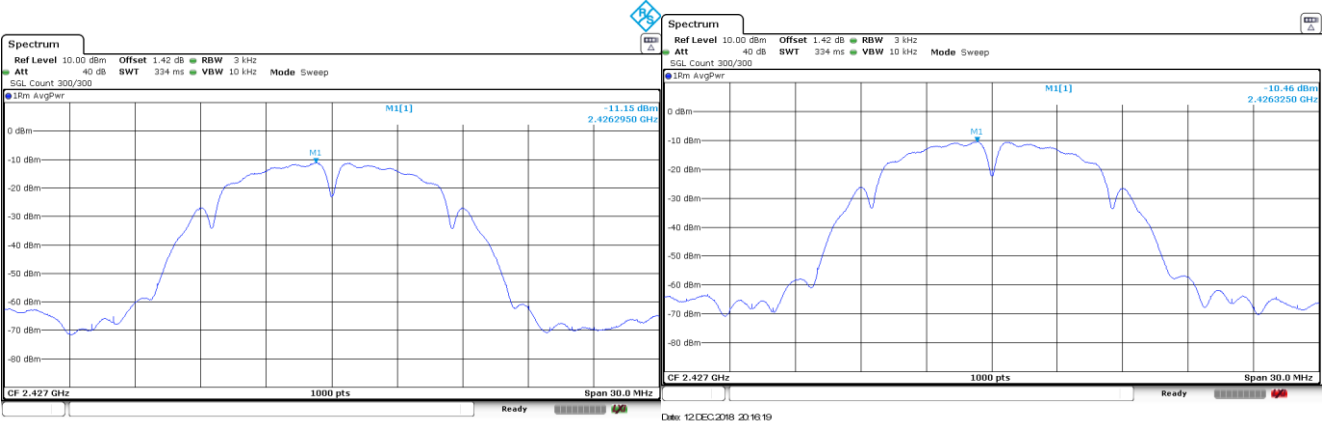
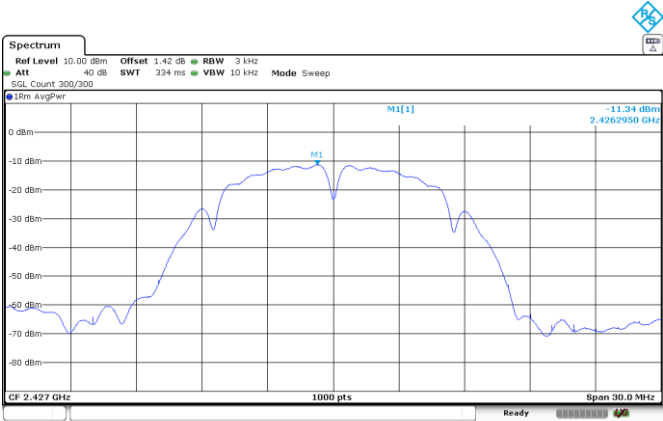


Channel 4



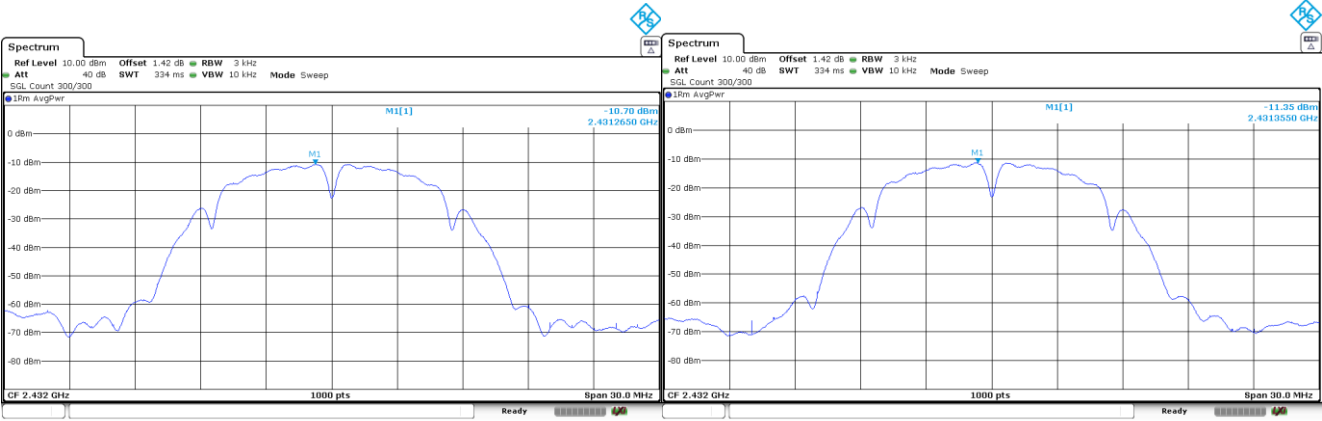
CORE 0

CORE 1



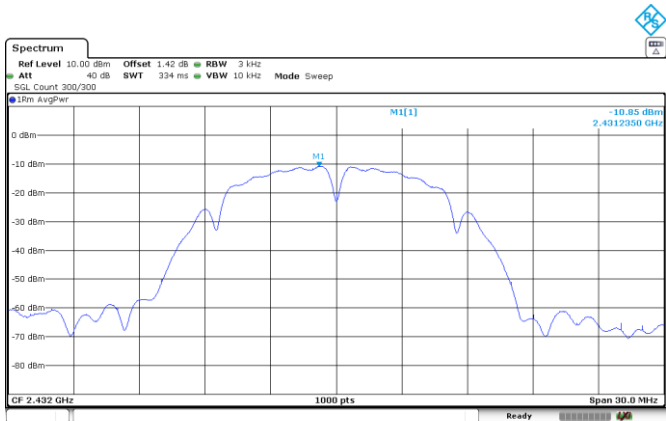
CORE 2

Channel 5



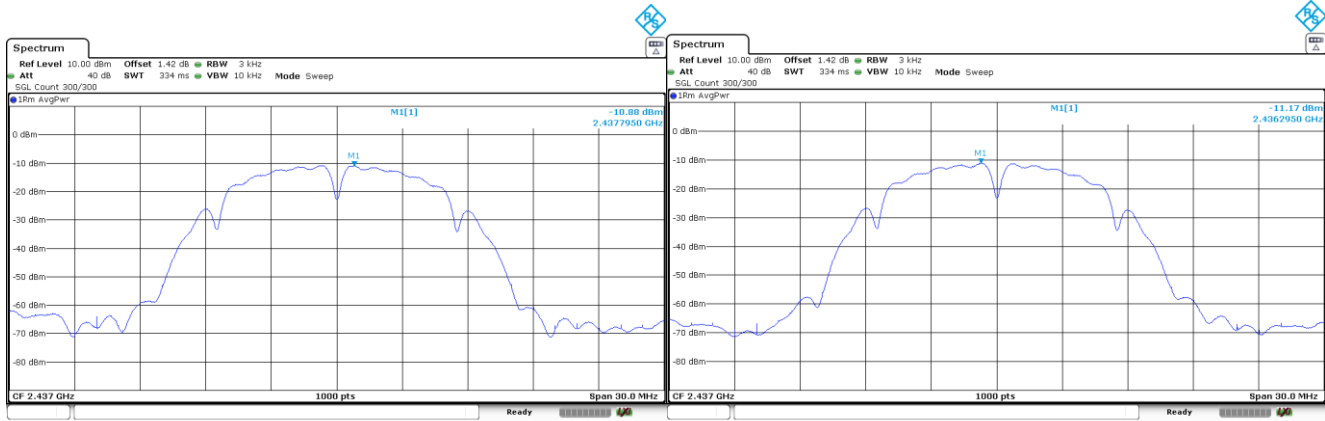
CORE 0

CORE 1



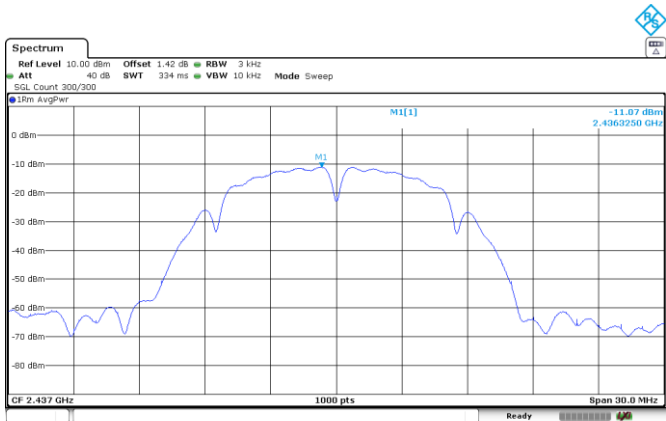
CORE 2

Channel 6



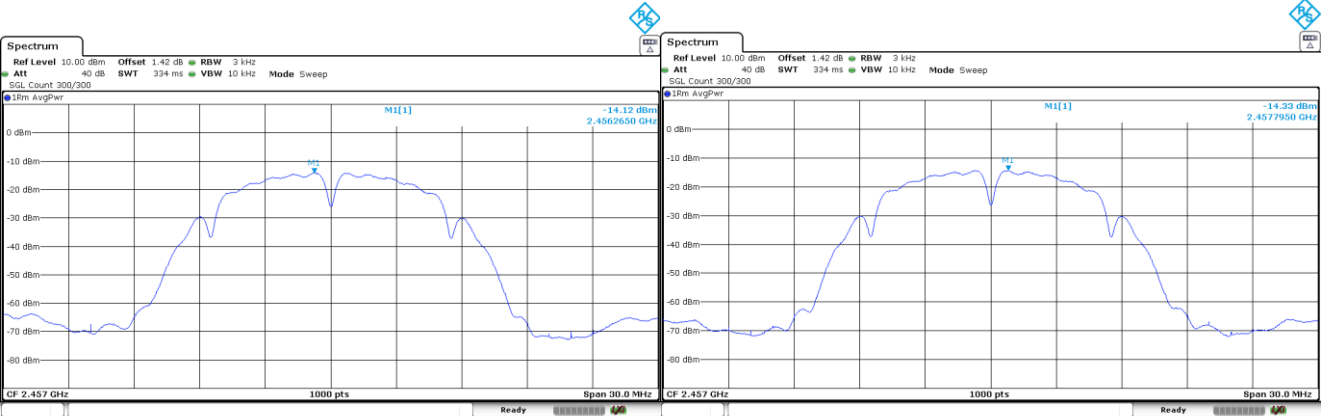
CORE 0

CORE 1



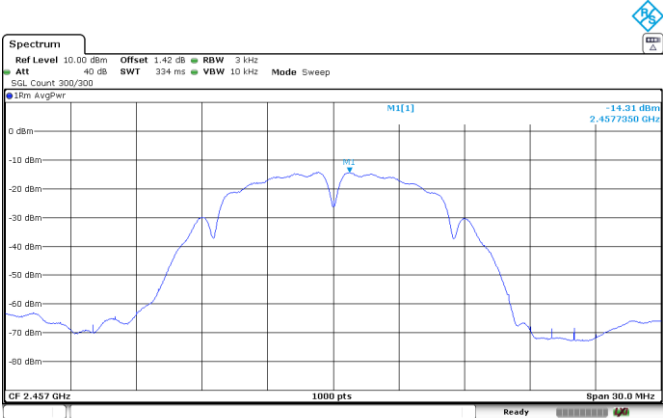
CORE 2

Channel 10



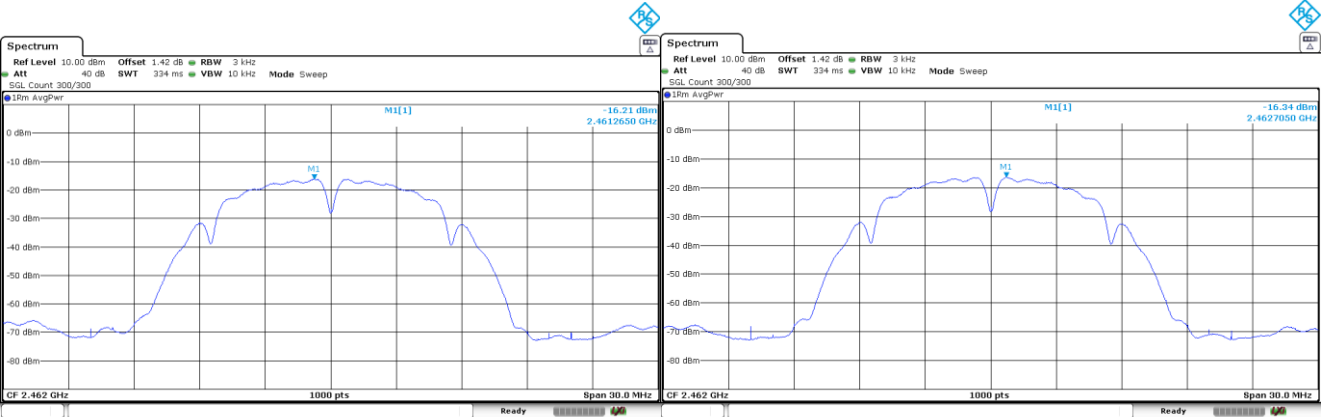
CORE 0

CORE 1



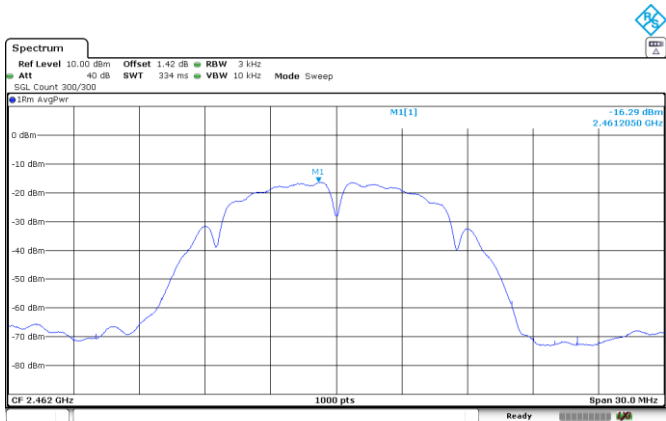
CORE 2

Channel 11



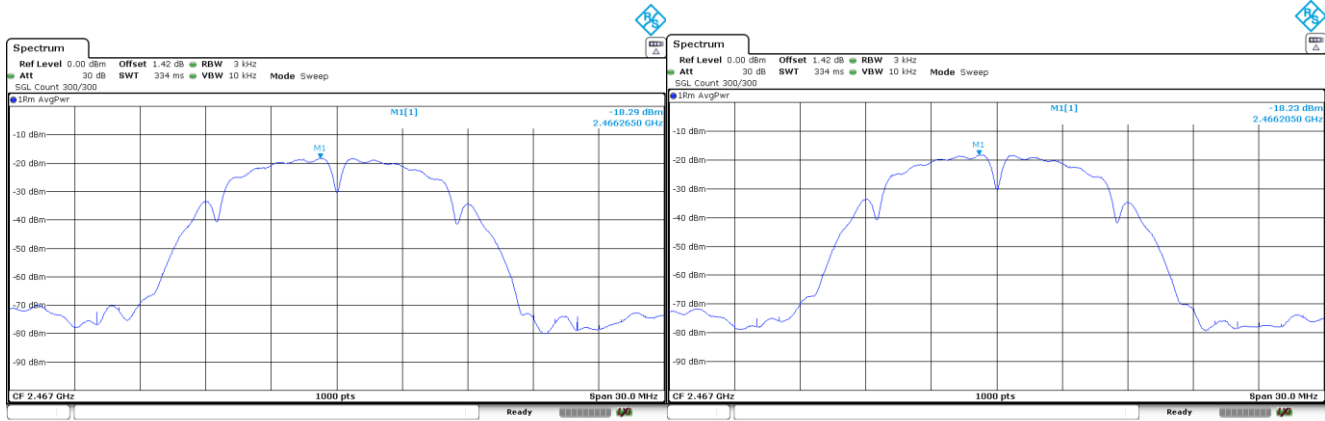
CORE 0

CORE 1



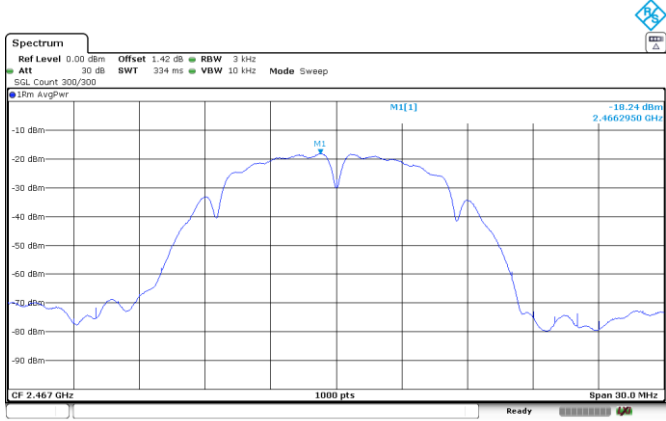
CORE 2

Channel 12



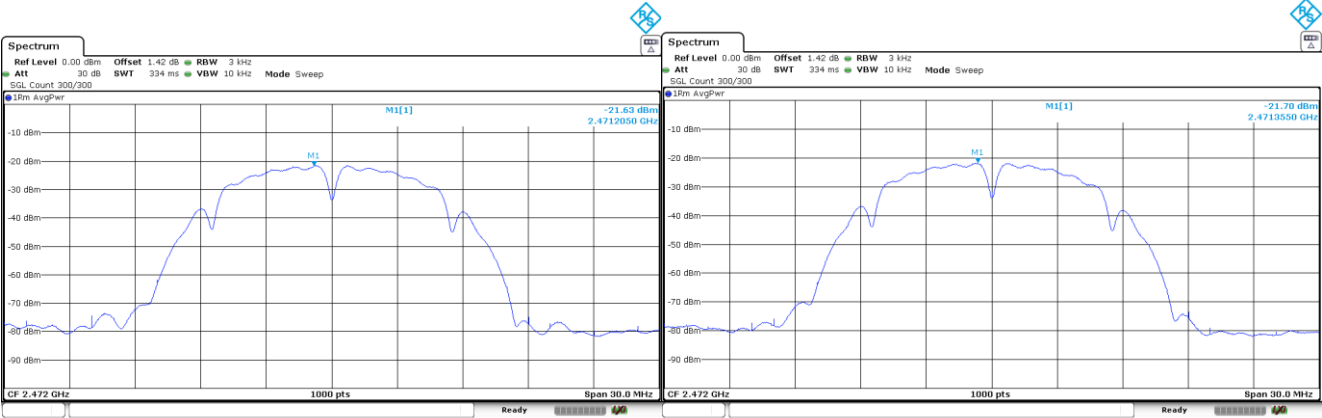
CORE 0

CORE 1



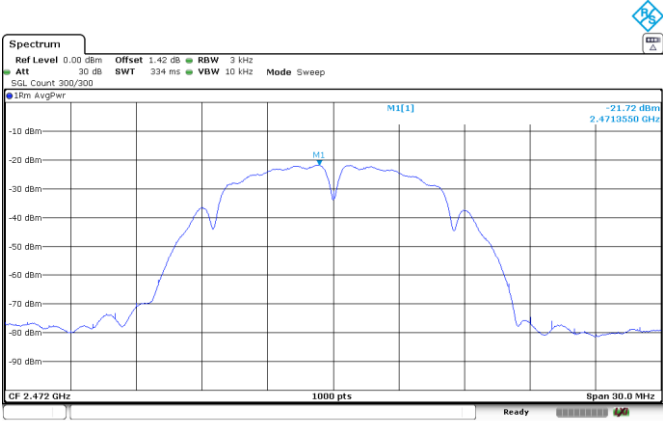
CORE 2

Channel 13



CORE 0

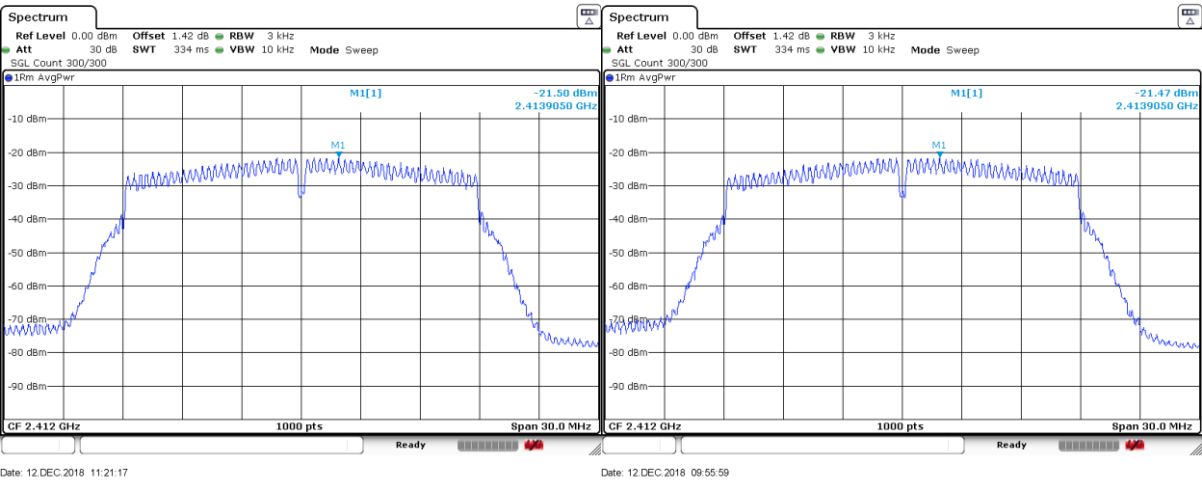
CORE 1



CORE 2

Mode: 802.11n HT20 – CDD – 20MHz – MIMO – CORE 0 & CORE 1

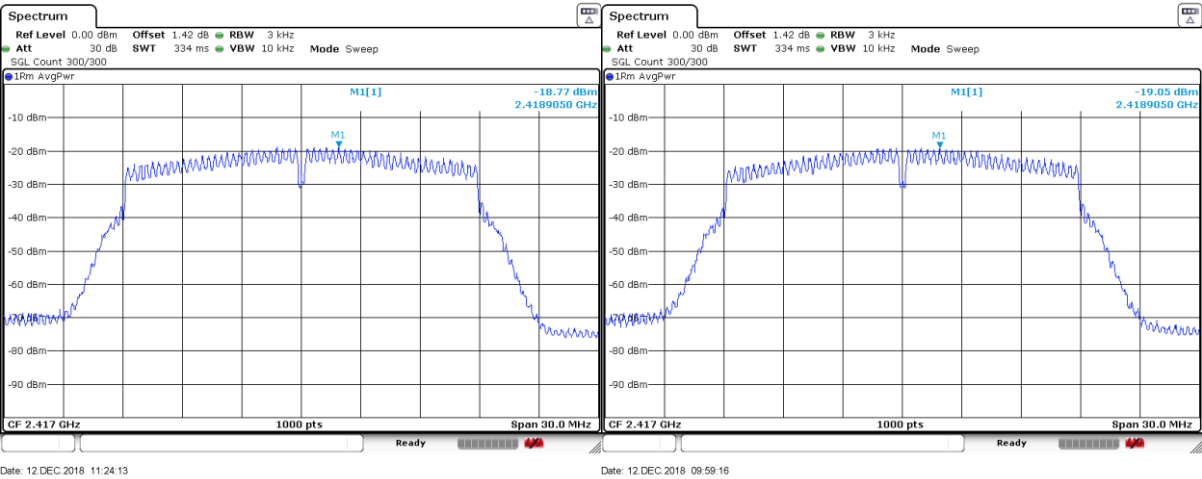
Channel 1



CORE 0

CORE 1

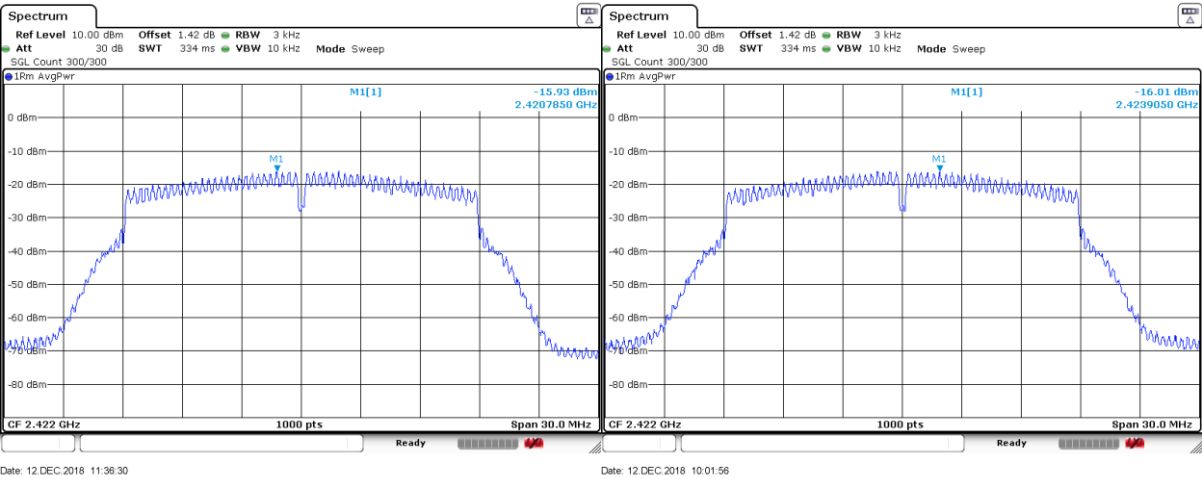
Channel 2



CORE 0

CORE 1

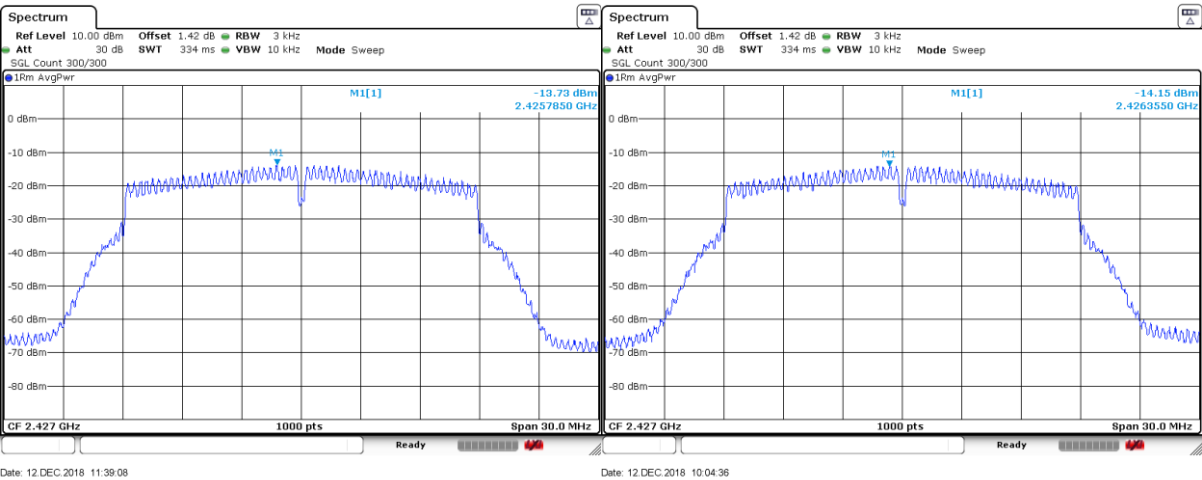
Channel 3



CORE 0

CORE 1

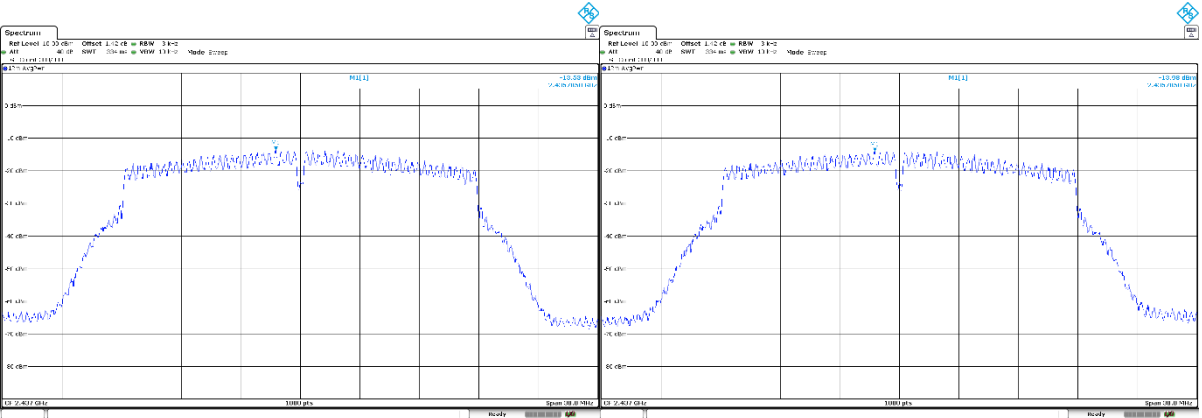
Channel 4



CORE 0

CORE 1

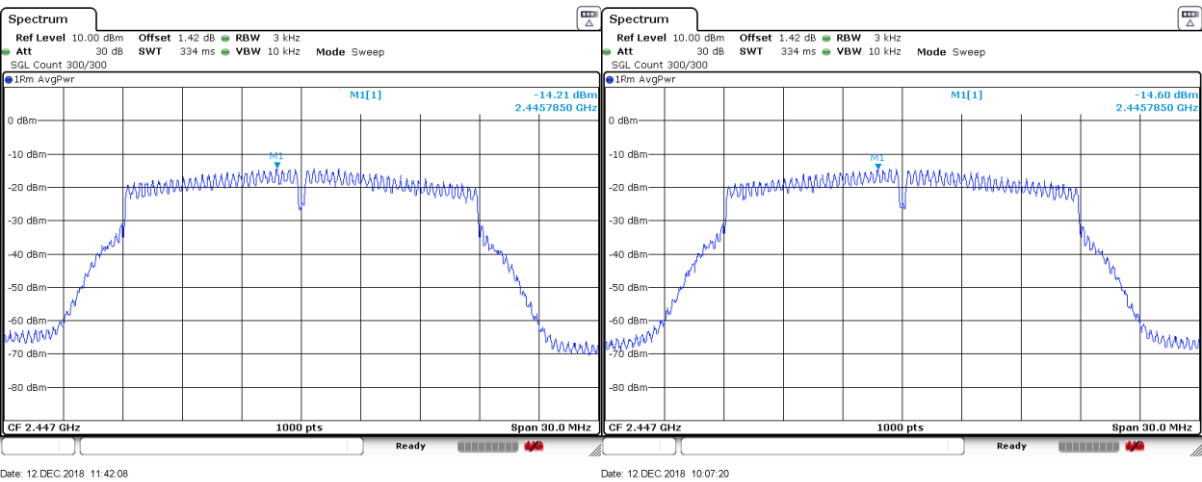
Channel 6



CORE 0

CORE 1

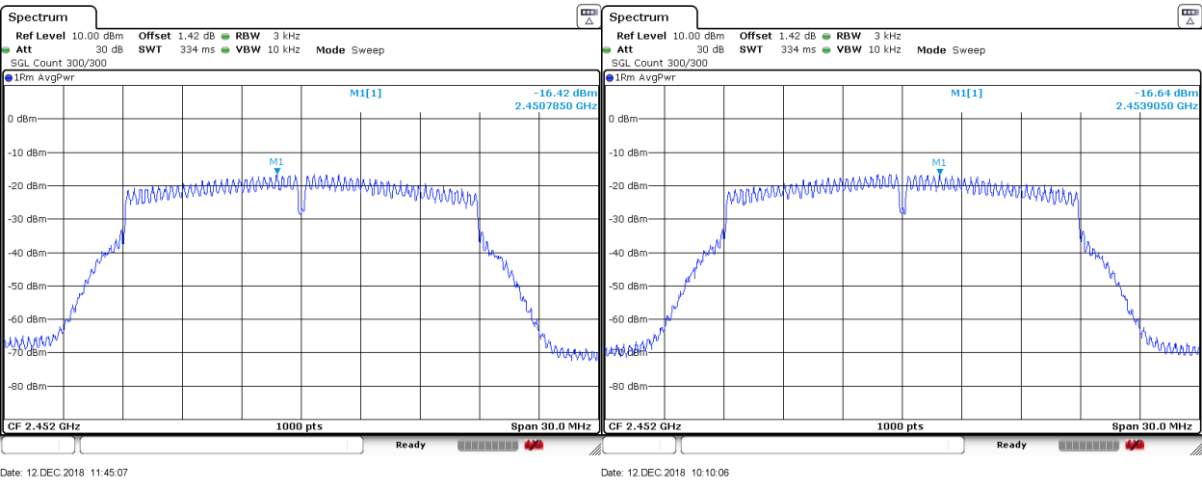
Channel 8



CORE 0

CORE 1

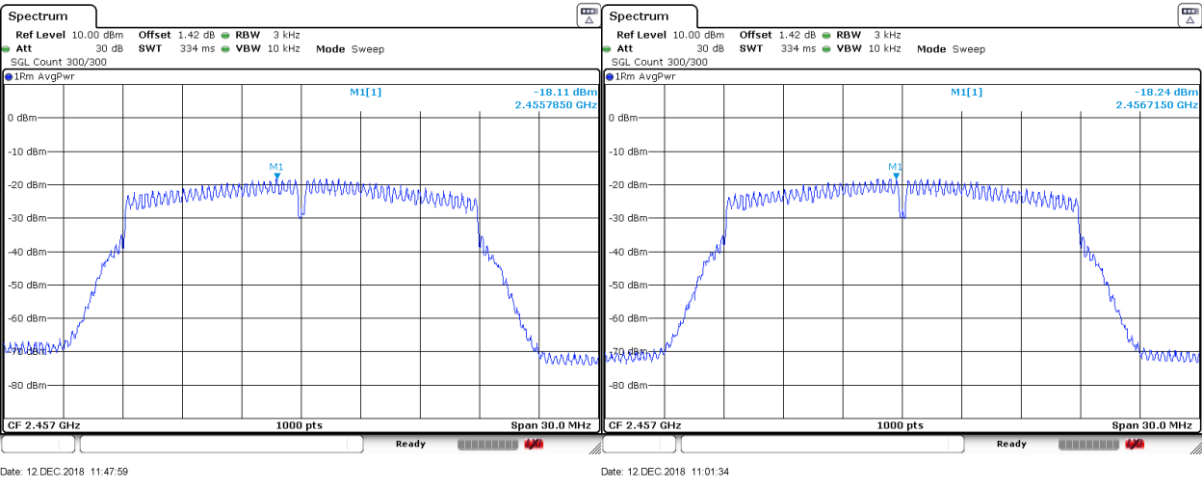
Channel 9



CORE 0

CORE 1

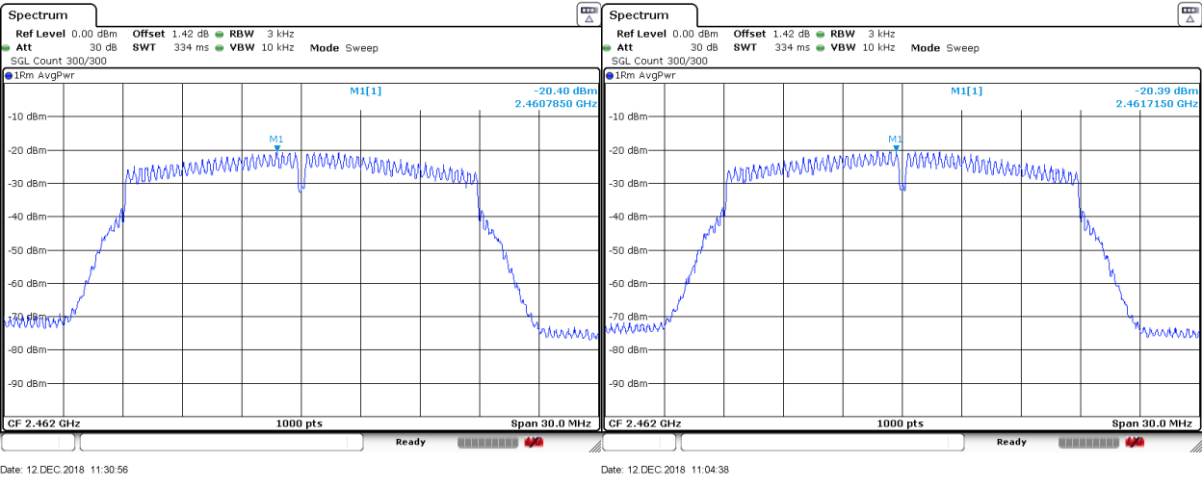
Channel 10



CORE 0

CORE 1

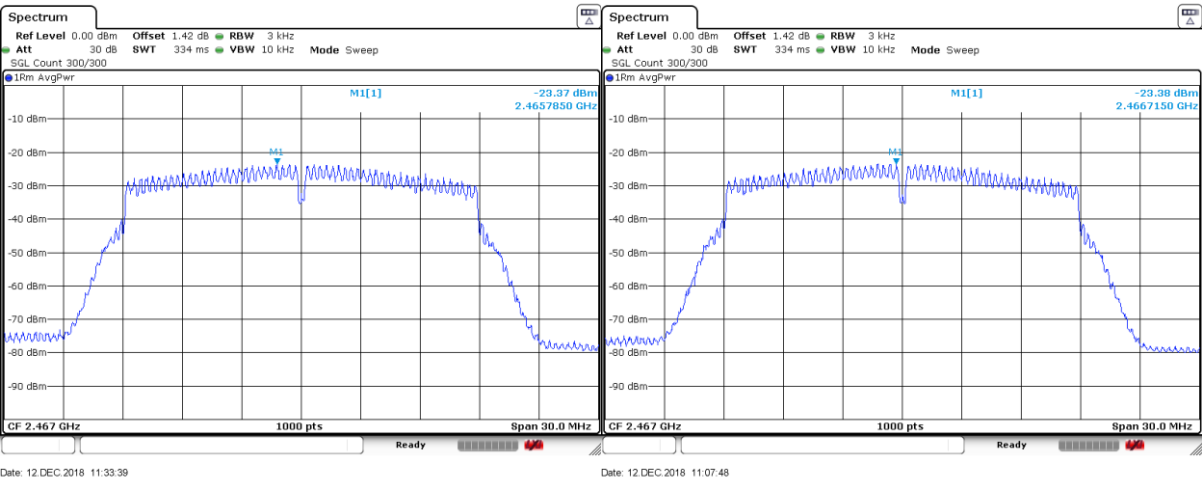
Channel 11



CORE 0

CORE 1

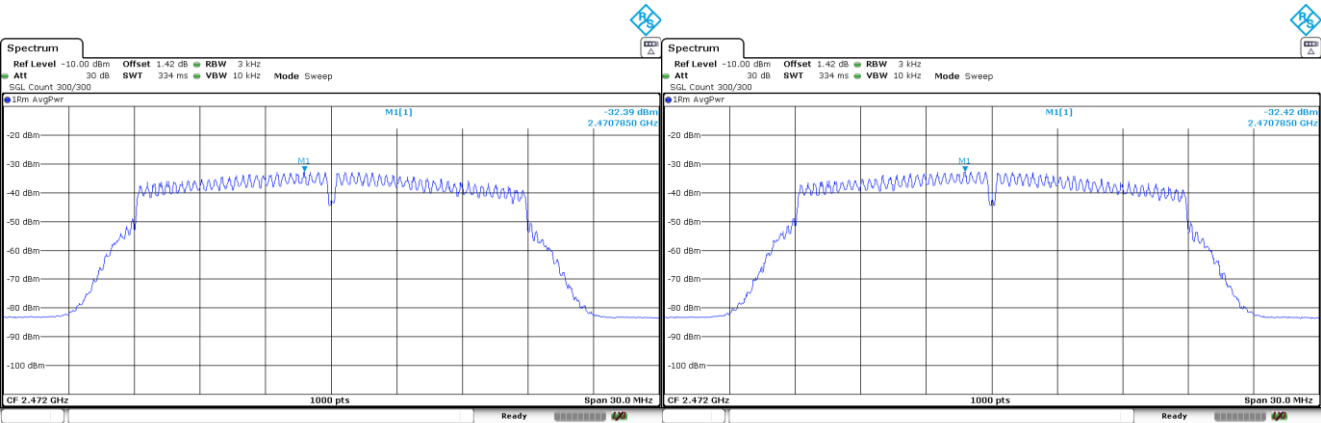
Channel 12



CORE 0

CORE 1

Channel 13

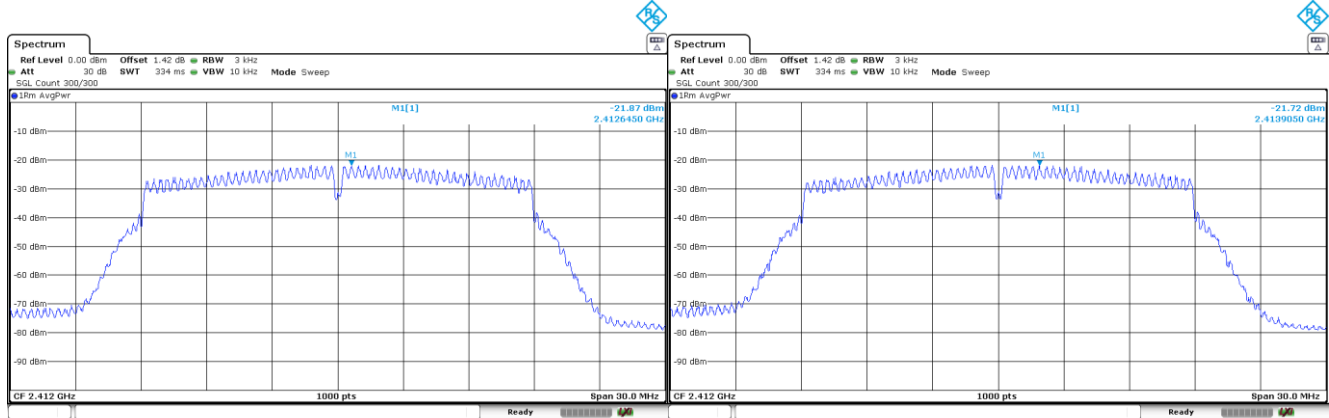


CORE 0

CORE 1

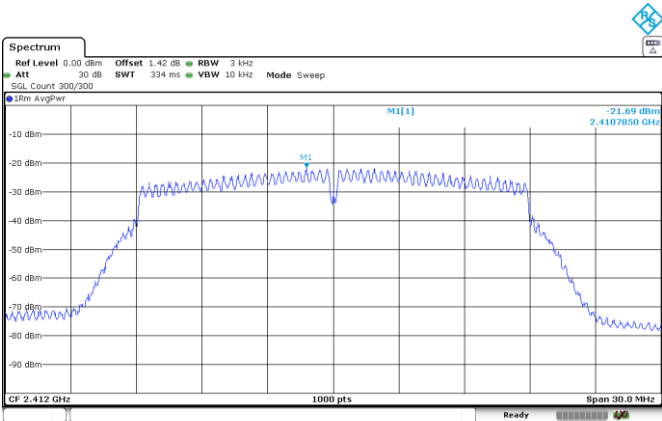
Mode: 802.11n HT20 – CDD – 20MHz – MIMO – CORE 0 & CORE 1 & CORE 2

Channel 1



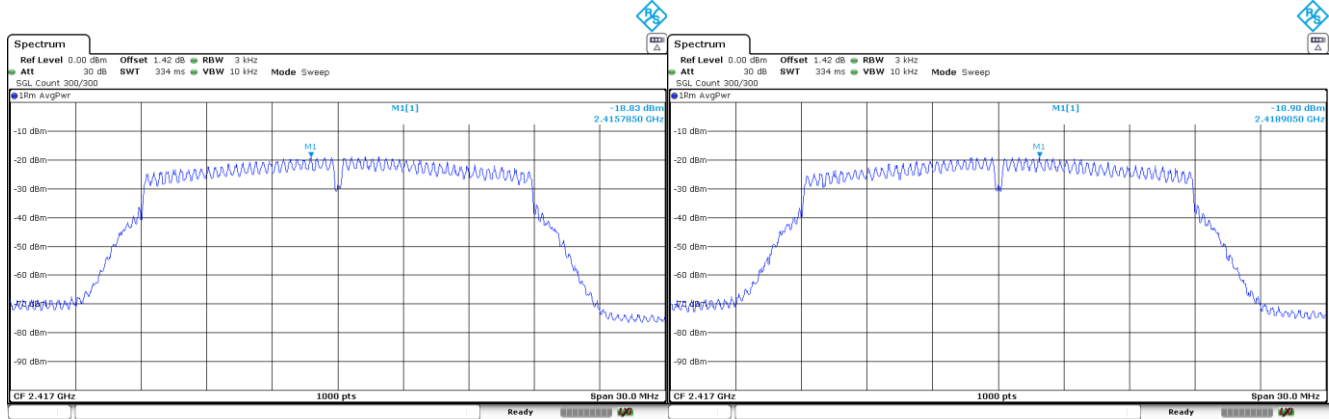
CORE 0

CORE 1



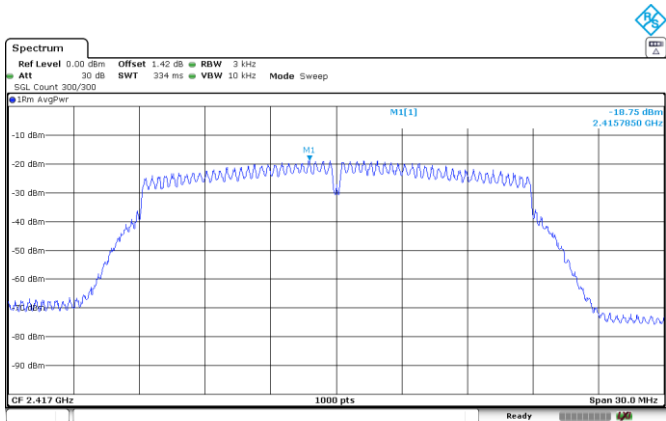
CORE 2

Channel 2



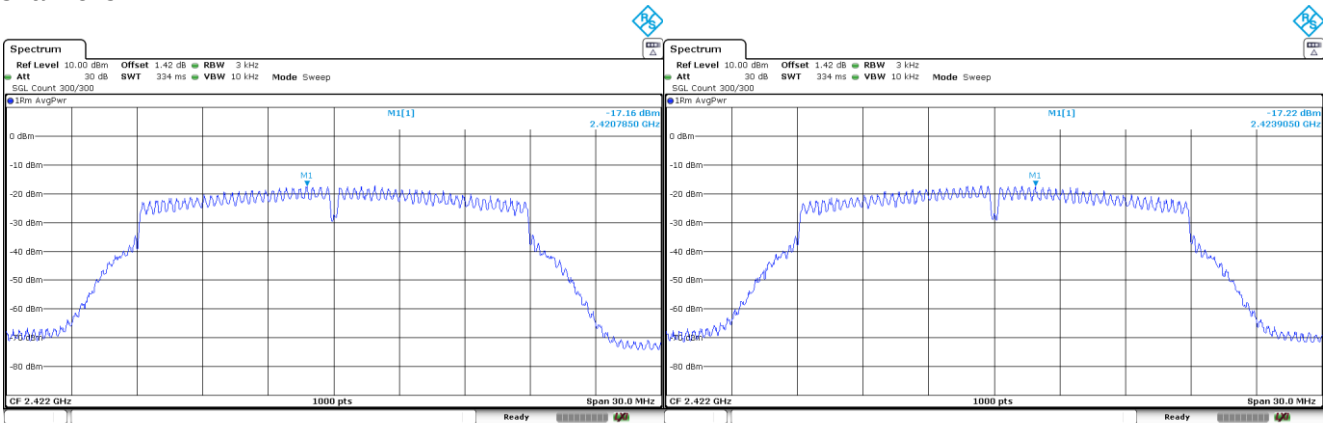
CORE 0

CORE 1



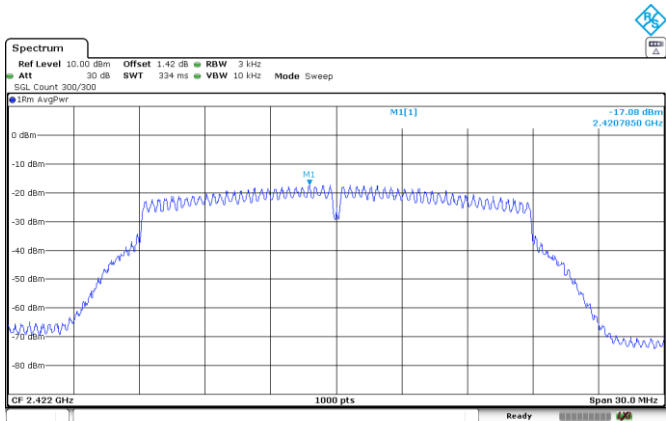
CORE 2

Channel 3



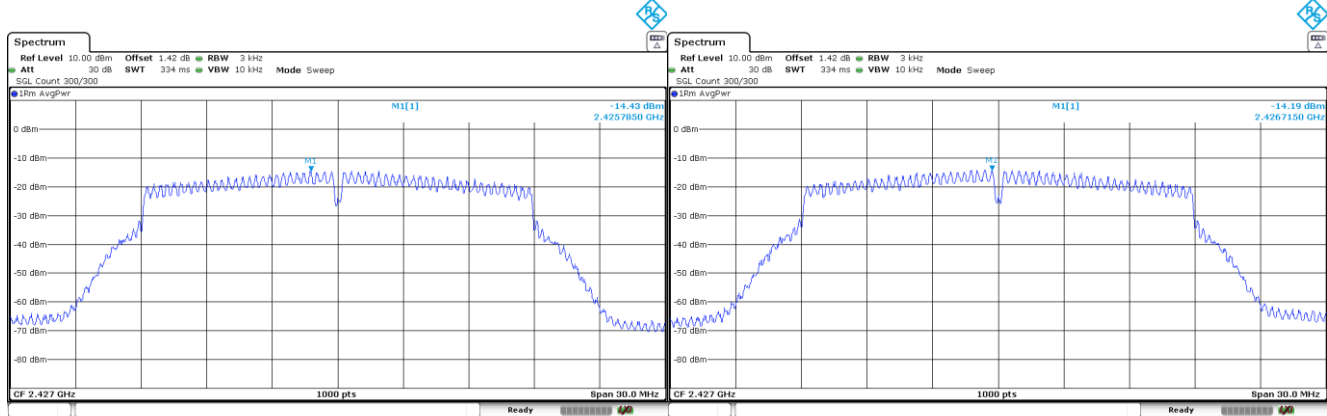
CORE 0

CORE 1



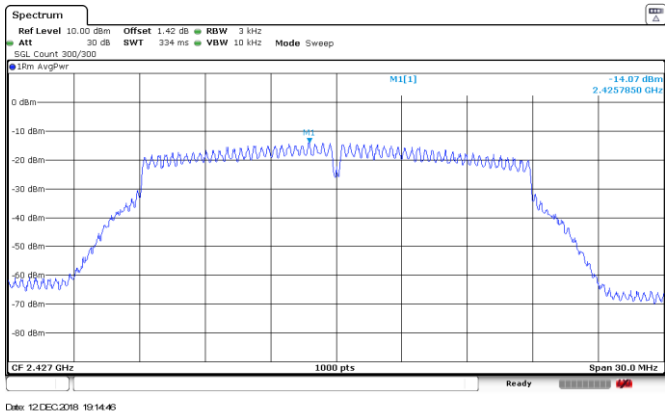
CORE 2

Channel 4



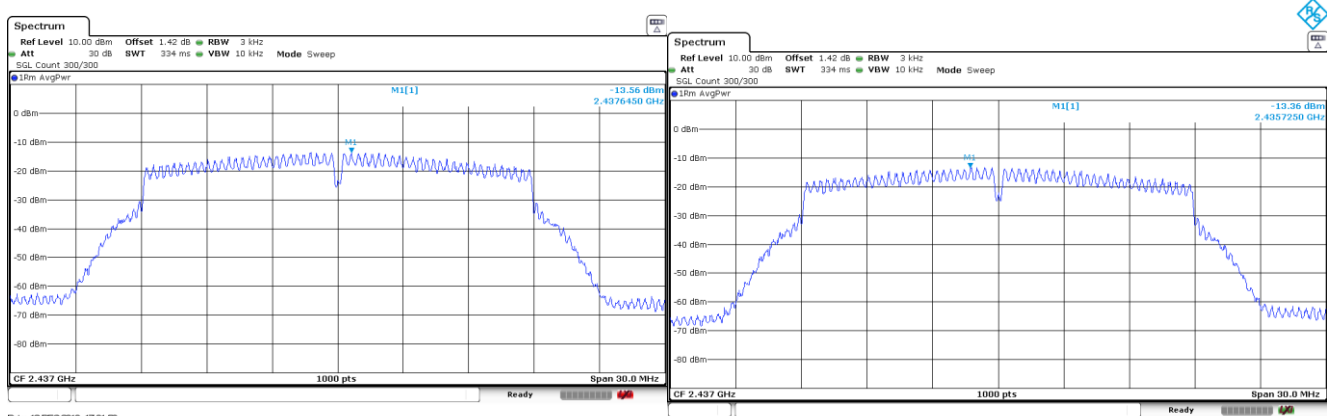
CORE 0

CORE 1



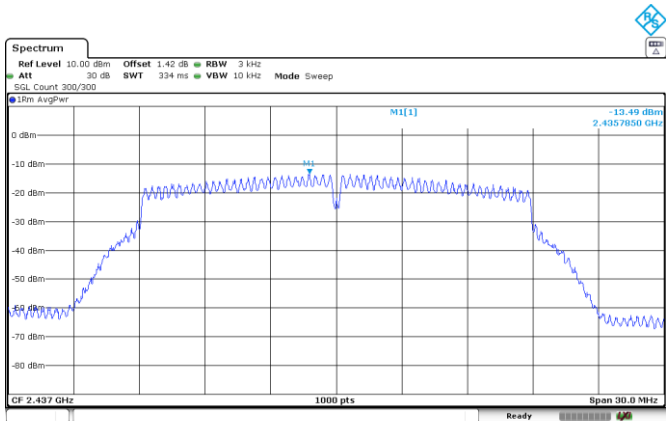
CORE 2

Channel 6



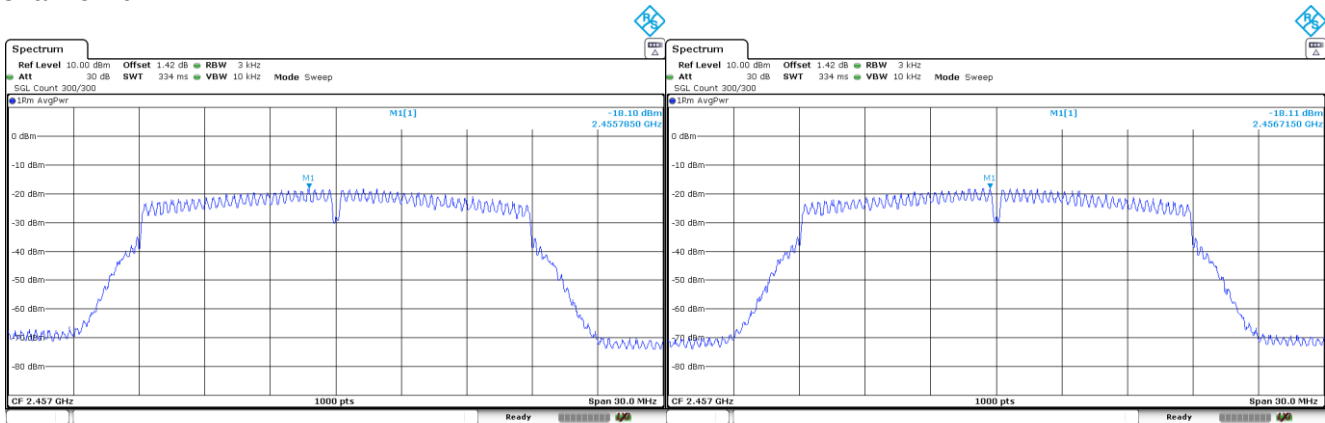
CORE 0

CORE 1



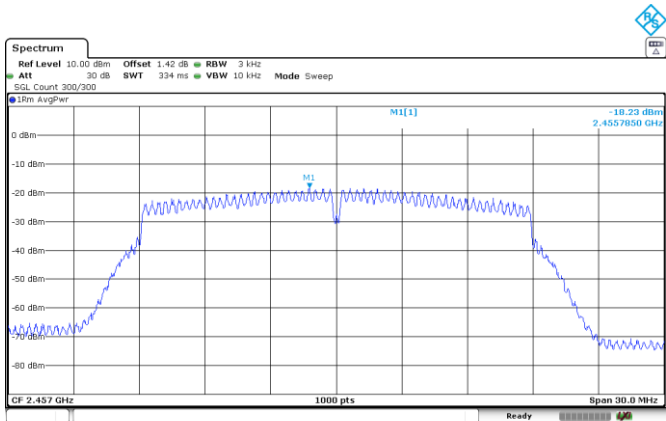
CORE 2

Channel 10



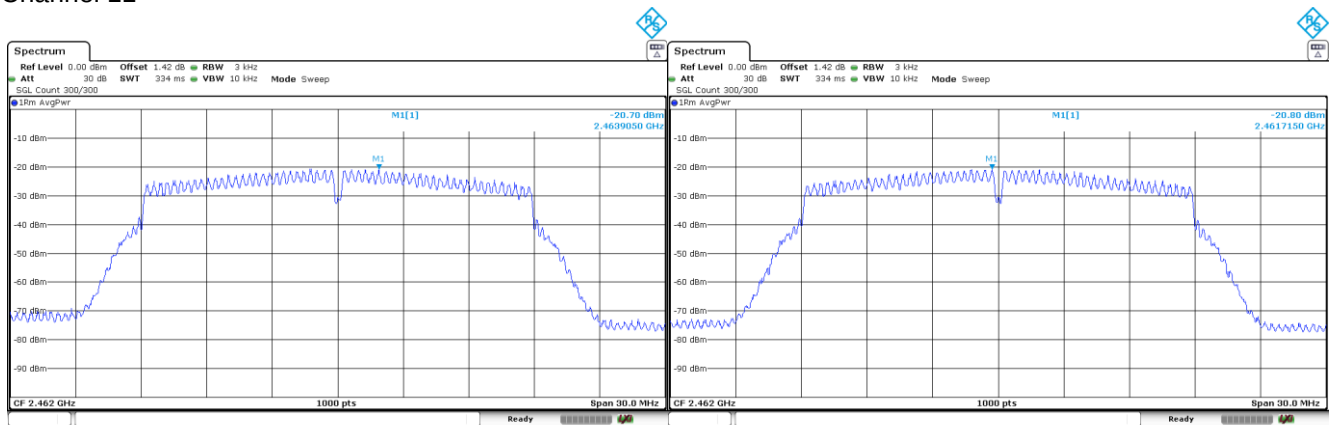
CORE 0

CORE 1



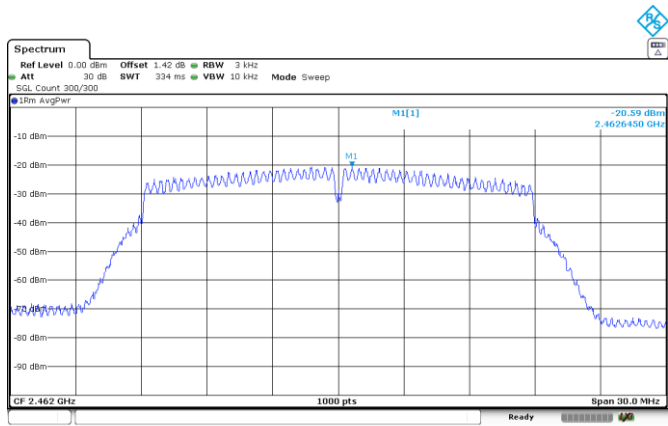
CORE 2

Channel 11



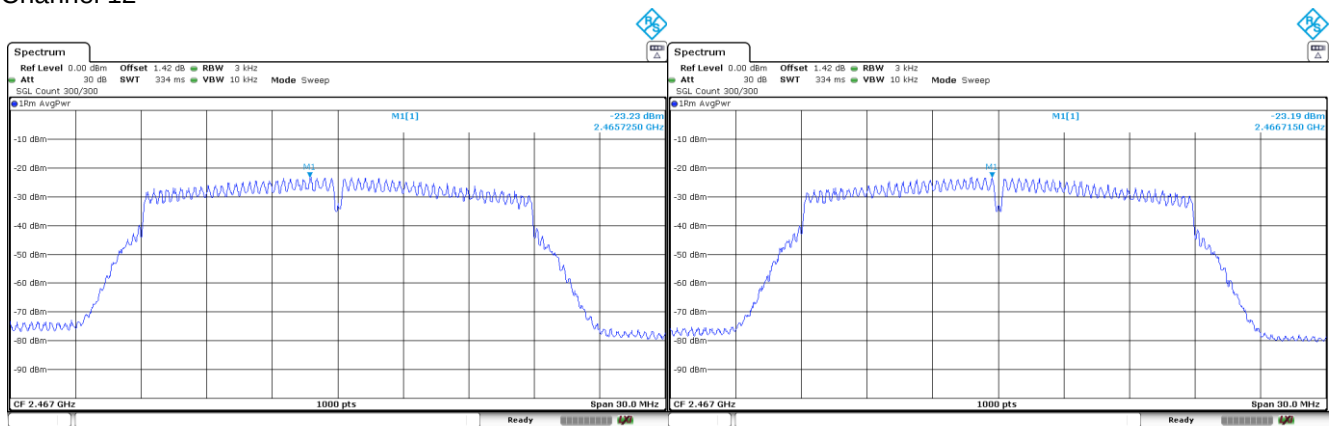
CORE 0

CORE 1



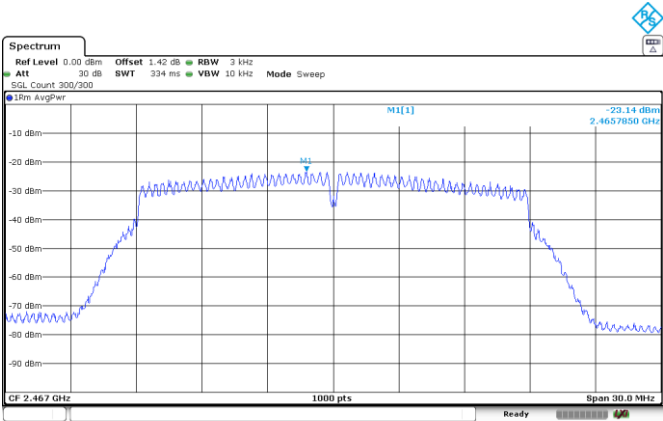
CORE 2

Channel 12



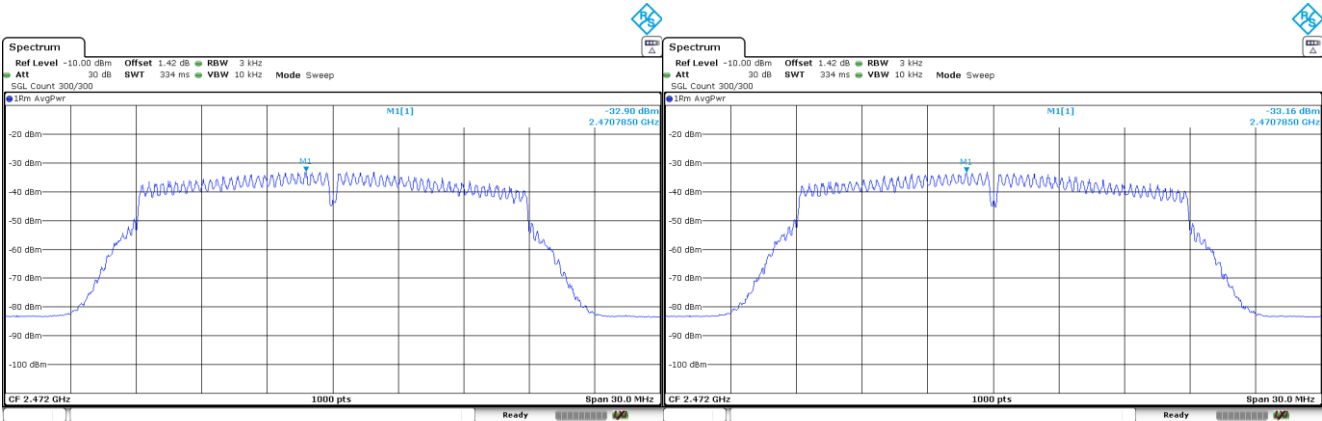
CORE 0

CORE 1



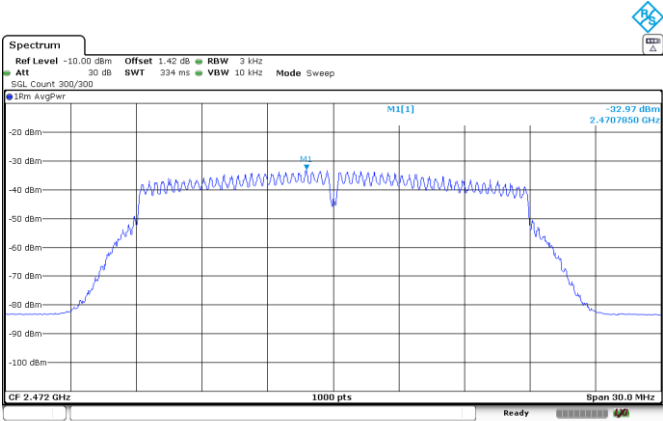
CORE 2

Channel 13



CORE 0

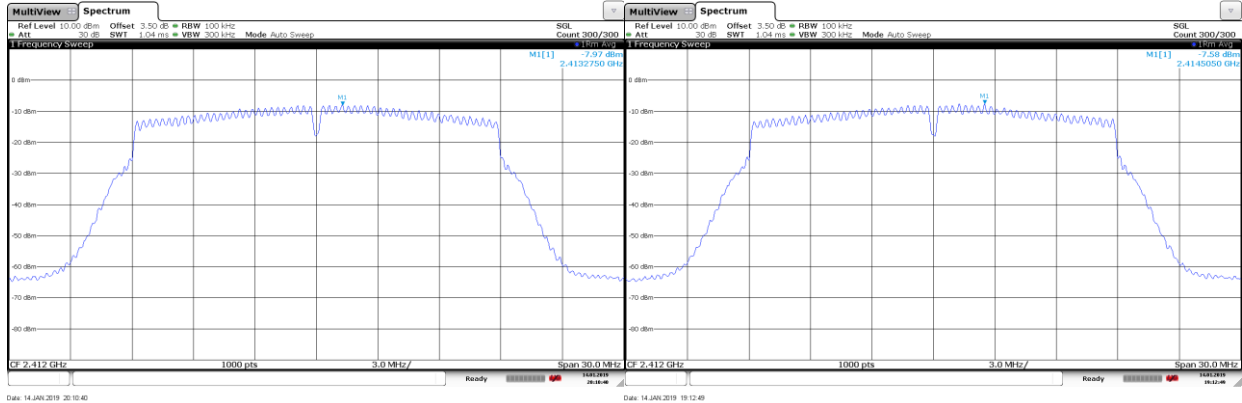
CORE 1



CORE 2

Mode: 802.11n HT20 – TxBF – 20MHz – MIMO – CORE 0 & CORE 1

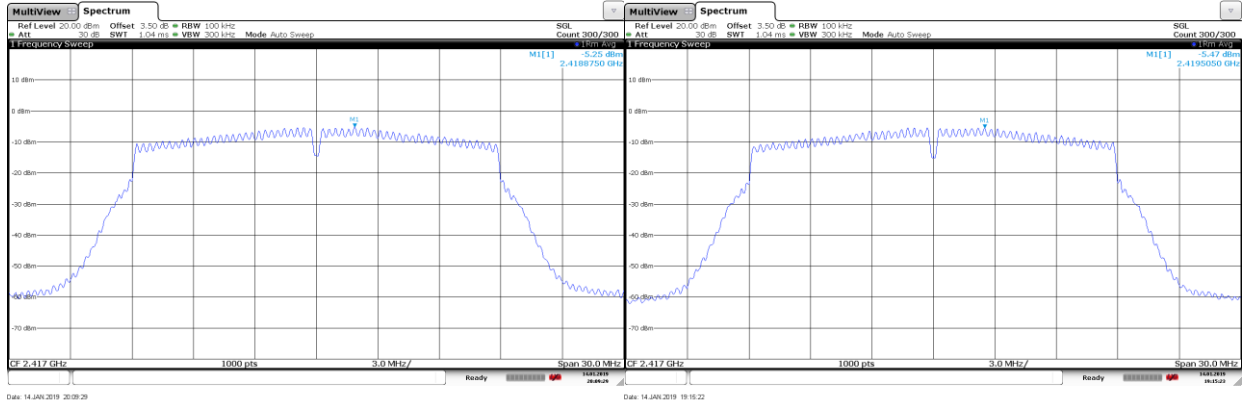
Channel 1



CORE 0

CORE 1

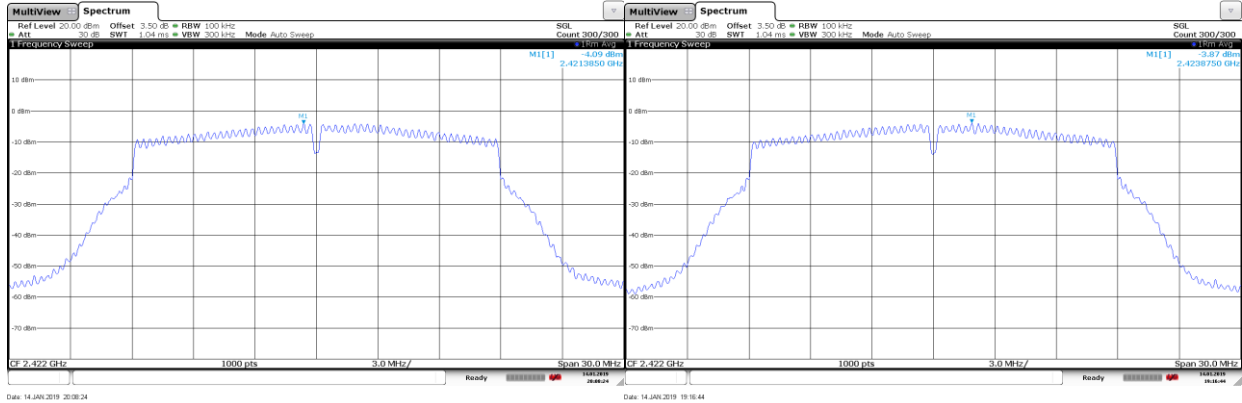
Channel 2



CORE 0

CORE 1

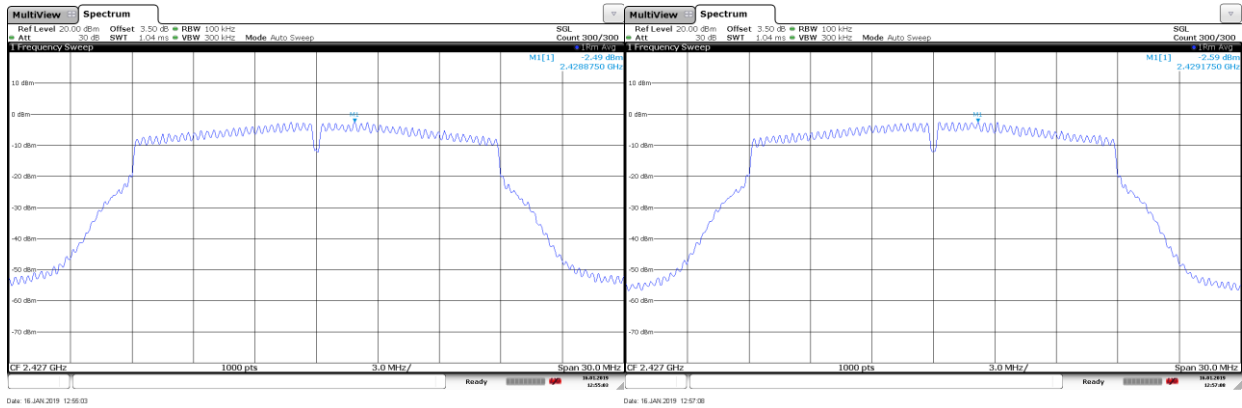
Channel 3



CORE 0

CORE 1

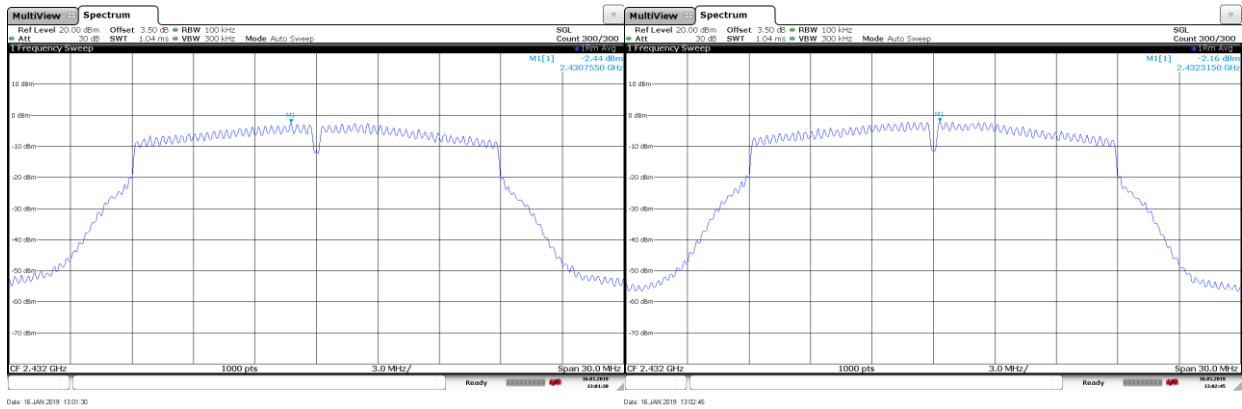
Channel 4



CORE 0

CORE 1

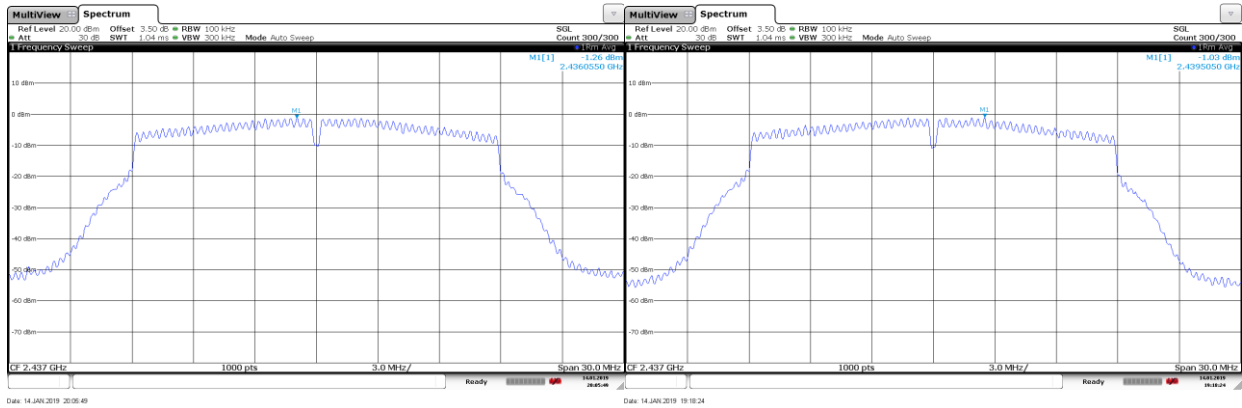
Channel 5



CORE 0

CORE 1

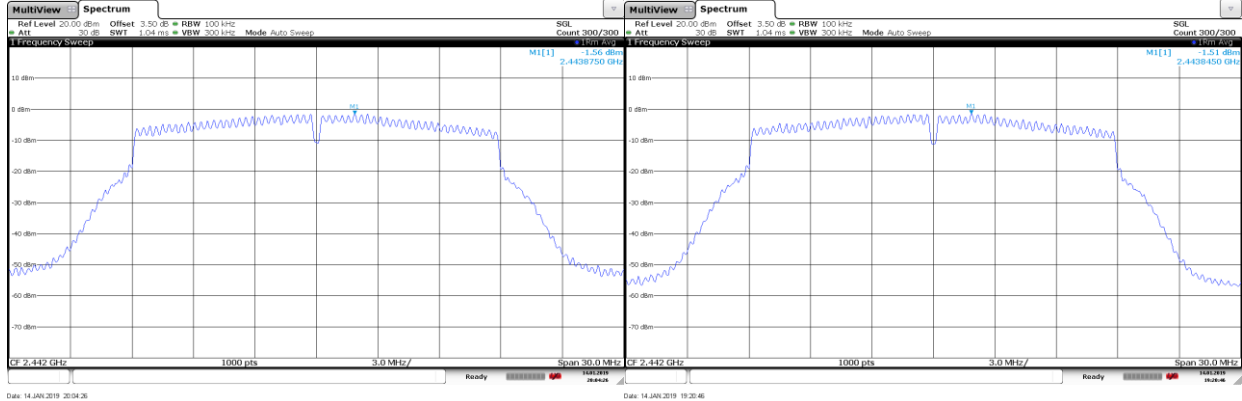
Channel 6



CORE 0

CORE 1

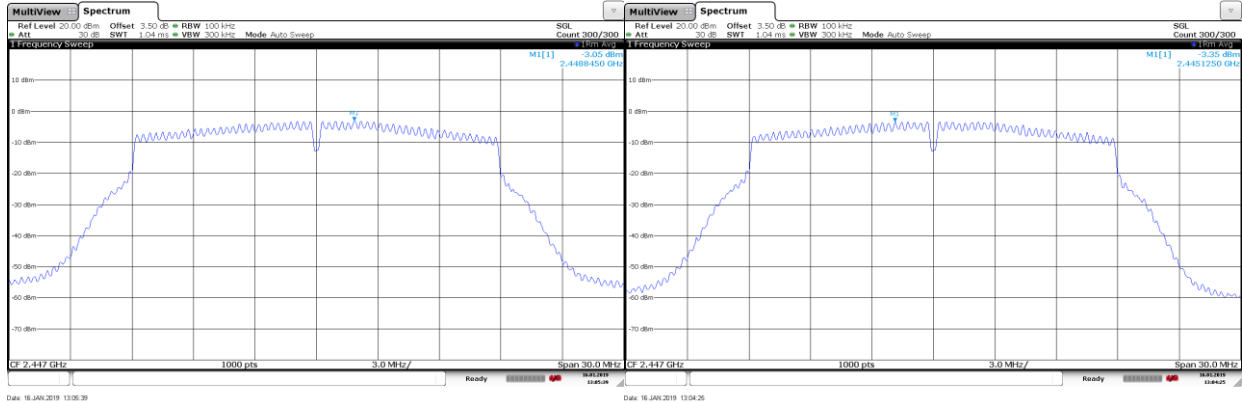
Channel 7



CORE 0

CORE 1

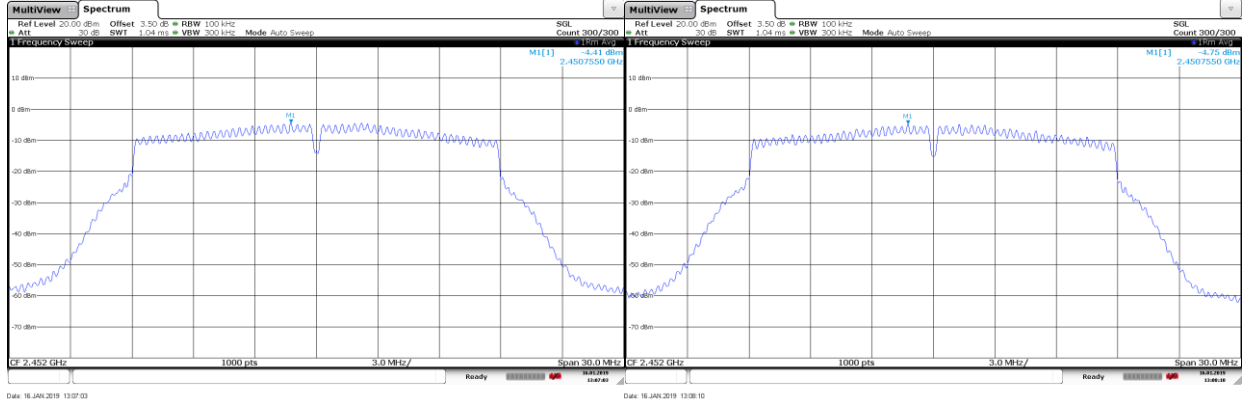
Channel 8



CORE 0

CORE 1

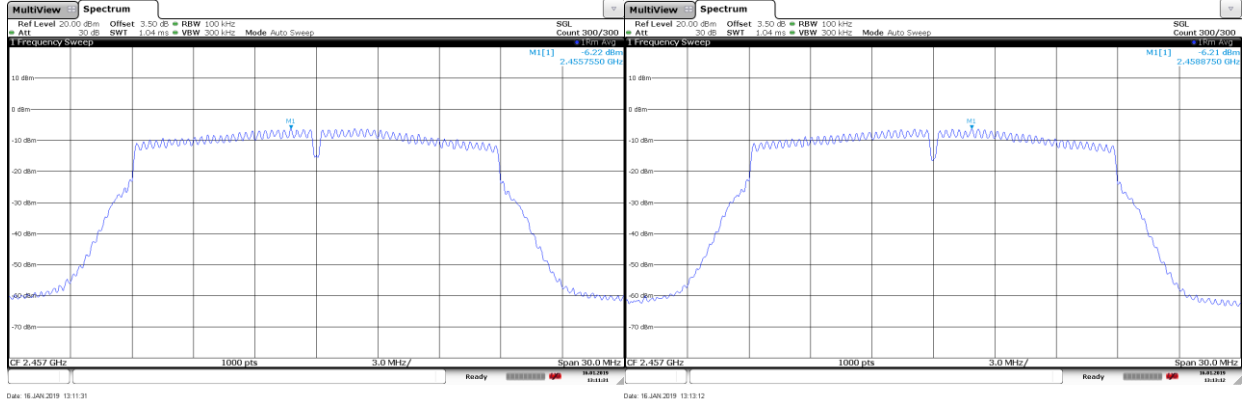
Channel 9



CORE 0

CORE 1

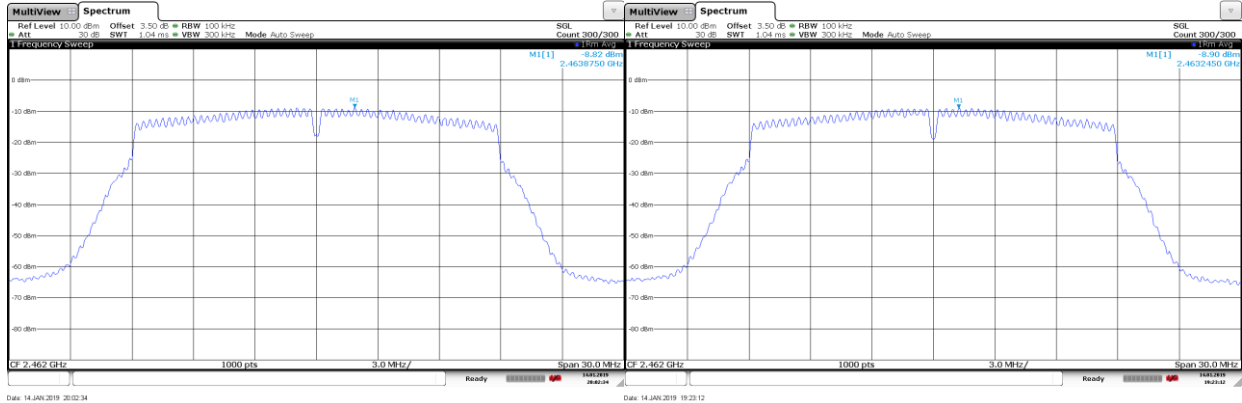
Channel 10



CORE 0

CORE 1

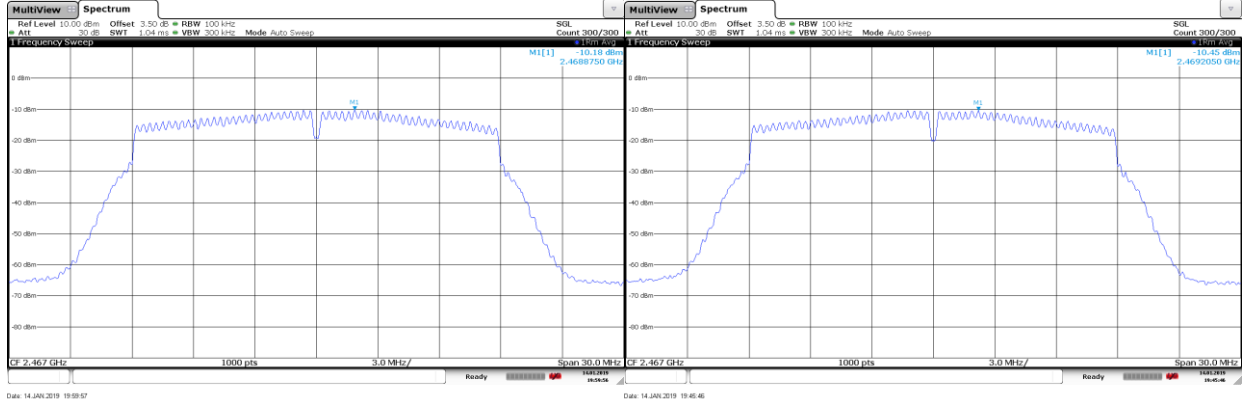
Channel 11



CORE 0

CORE 1

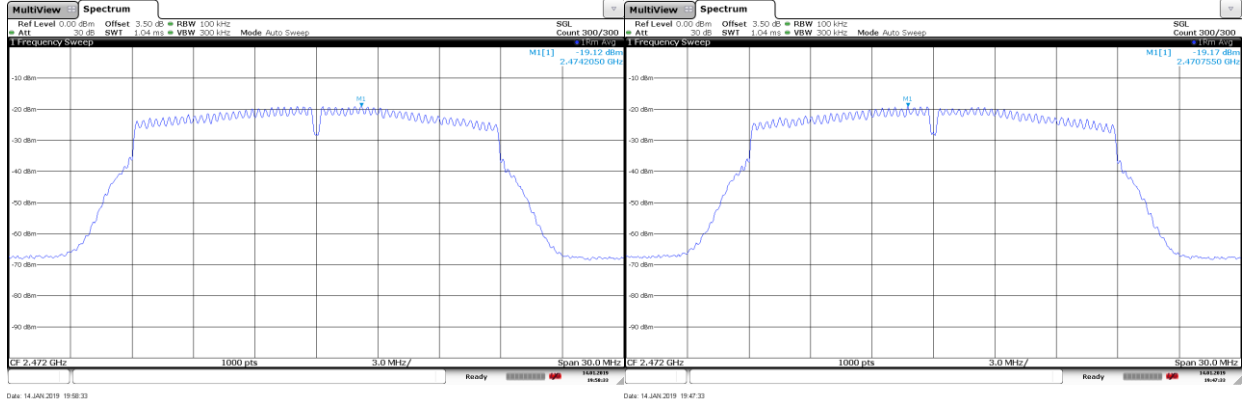
Channel 12



CORE 0

CORE 1

Channel 13

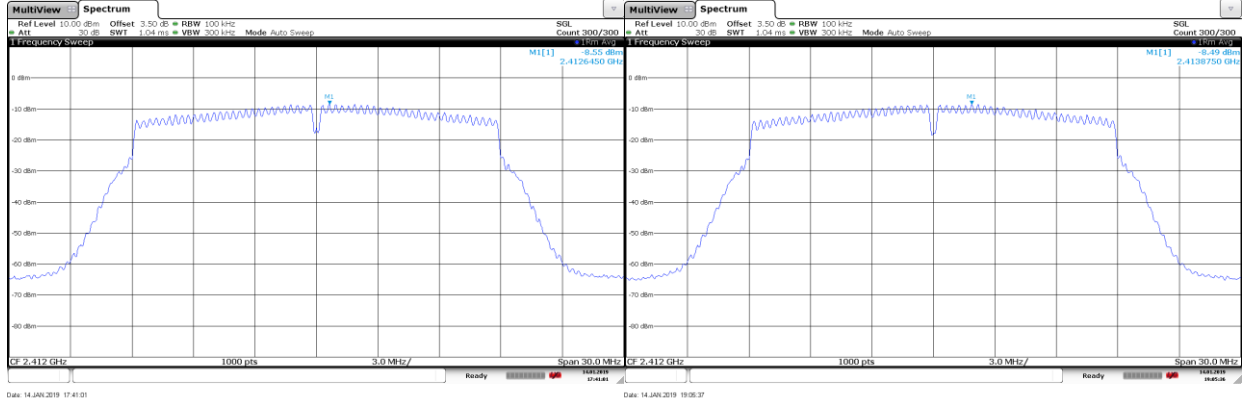


CORE 0

CORE 1

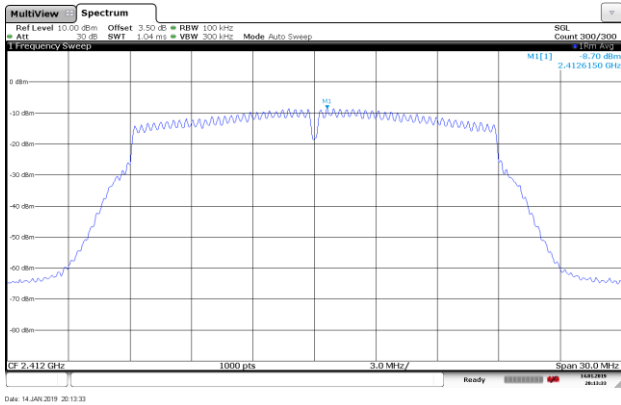
Mode: 802.11n HT20 – TxBF – 20MHz – MIMO – CORE 0 & CORE 1 & CORE 2

Channel 1



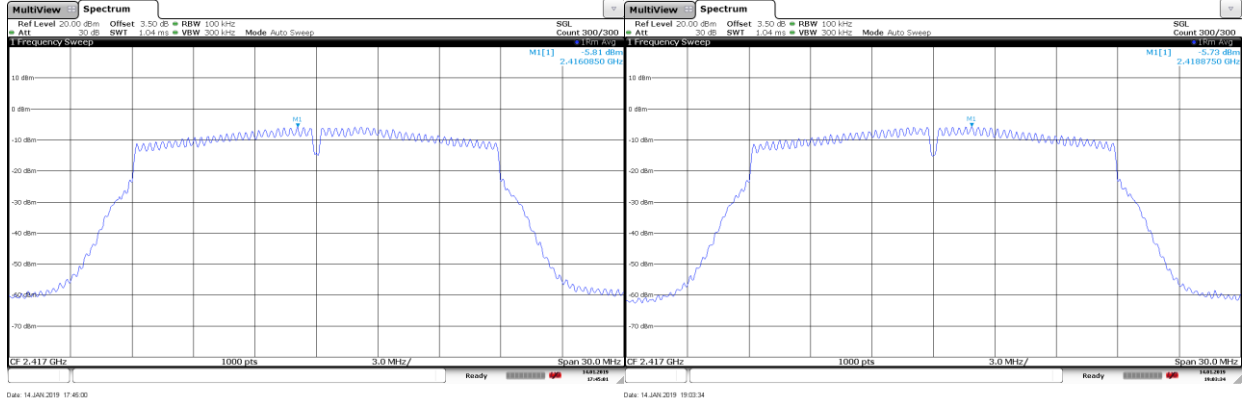
CORE 0

CORE 1



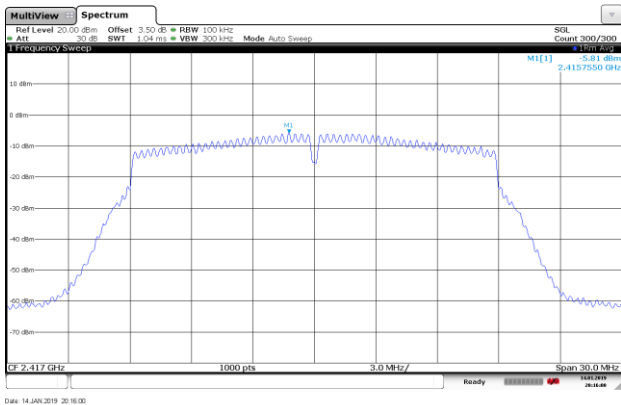
CORE 2

Channel 2



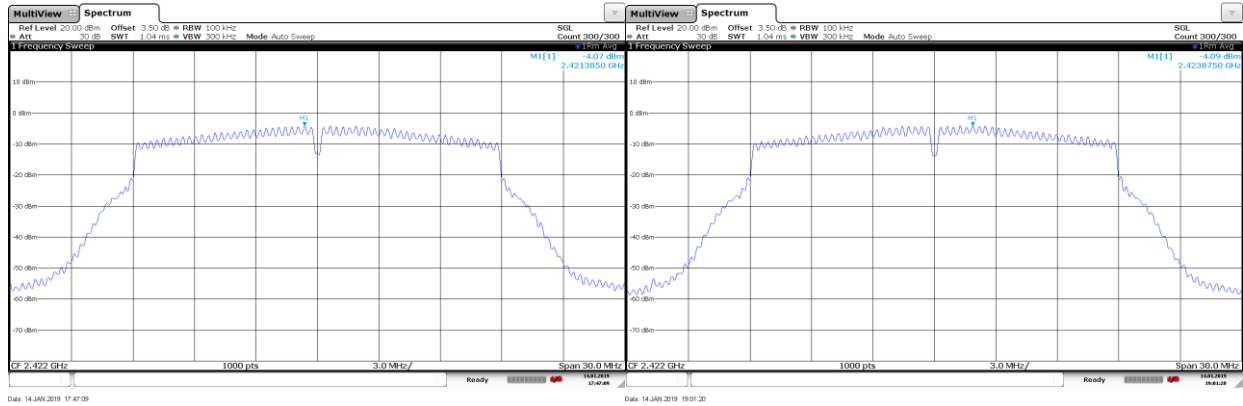
CORE 0

CORE 1



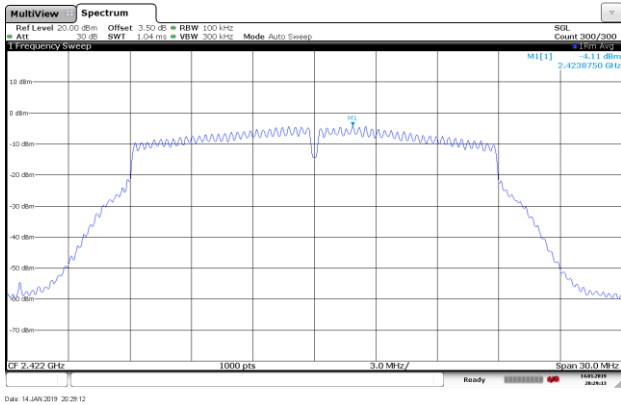
CORE 2

Channel 3



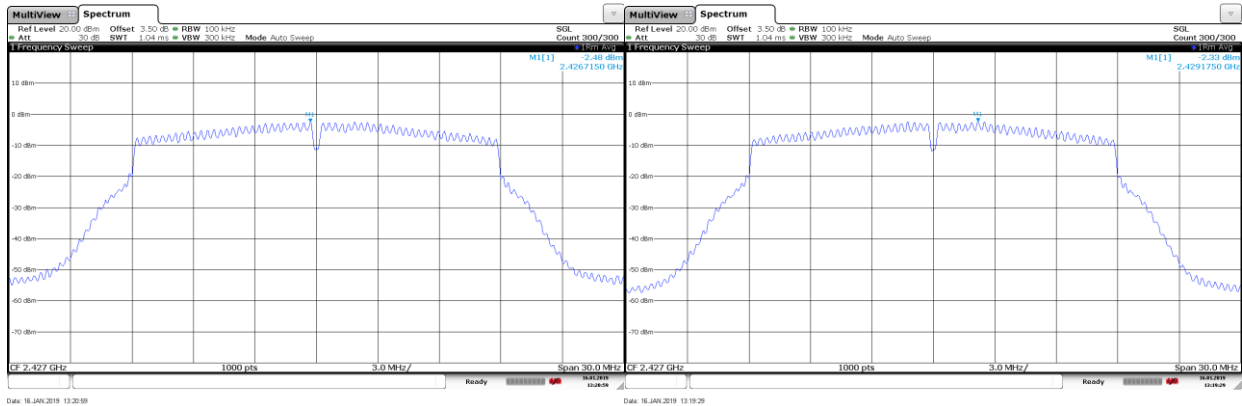
CORE 0

CORE 1



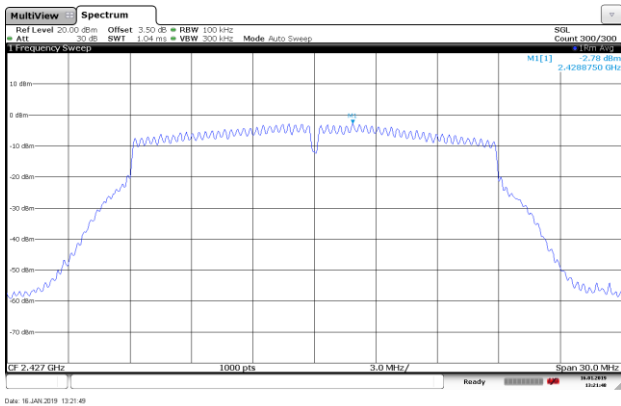
CORE 2

Channel 4



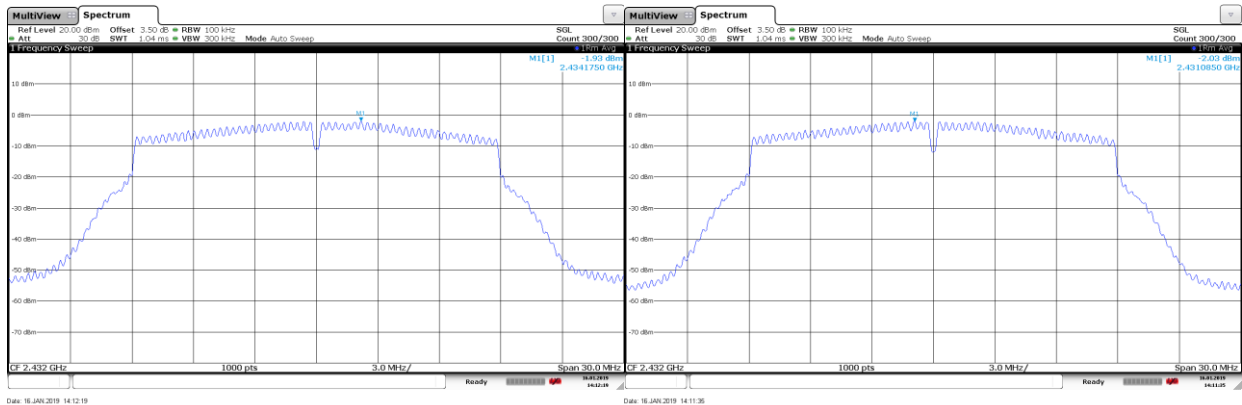
CORE 0

CORE 1



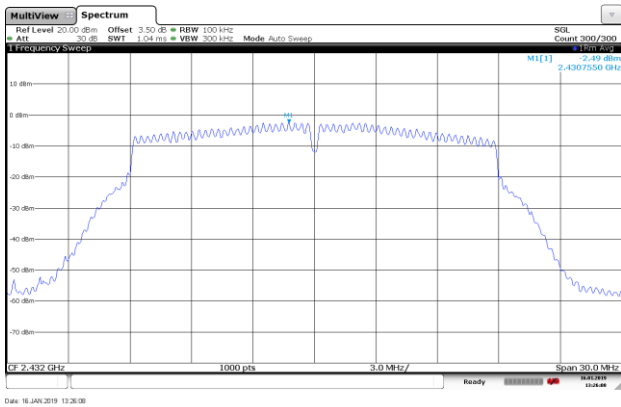
CORE 2

Channel 5



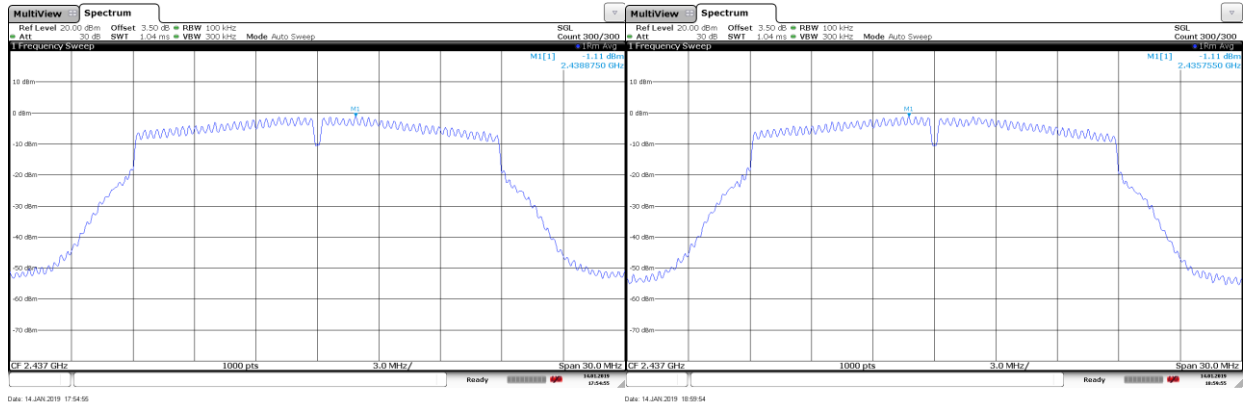
CORE 0

CORE 1



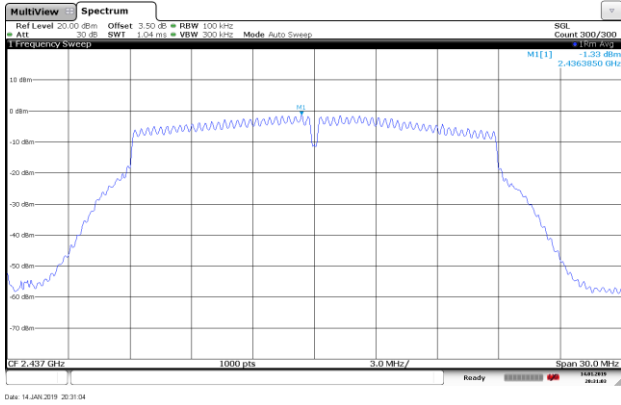
CORE 2

Channel 6



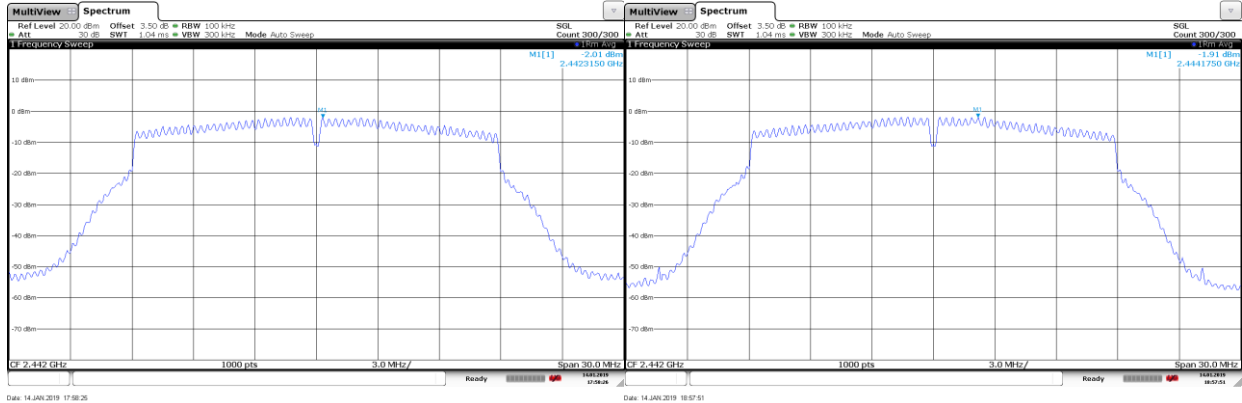
CORE 0

CORE 1



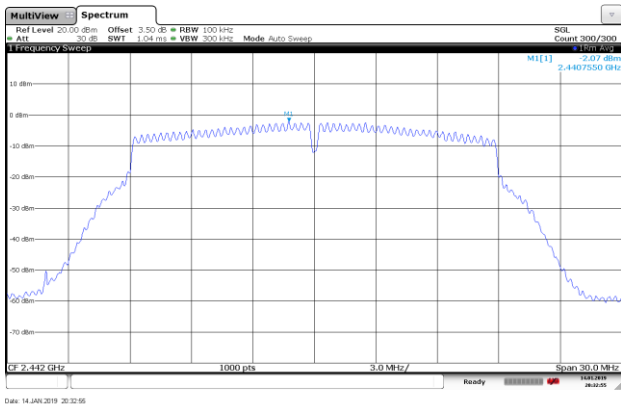
CORE 2

Channel 7



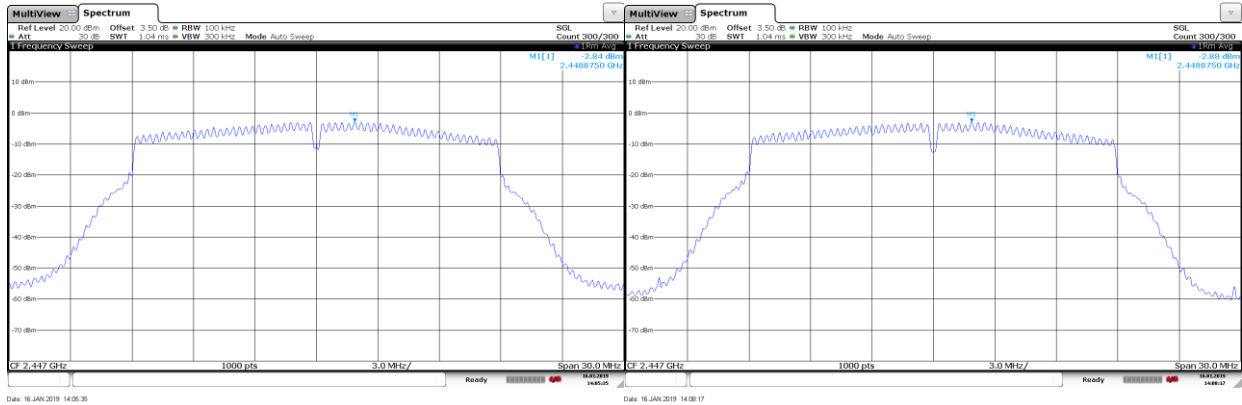
CORE 0

CORE 1



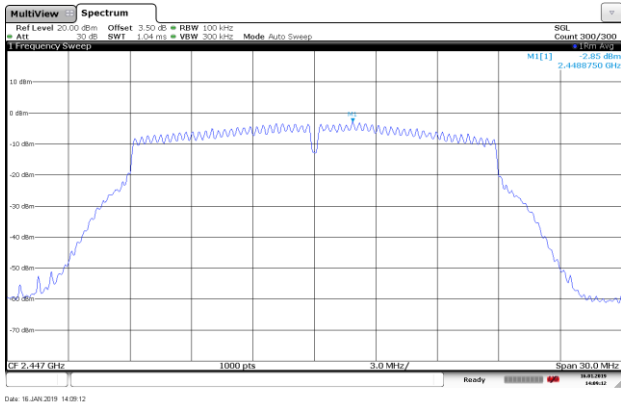
CORE 2

Channel 8



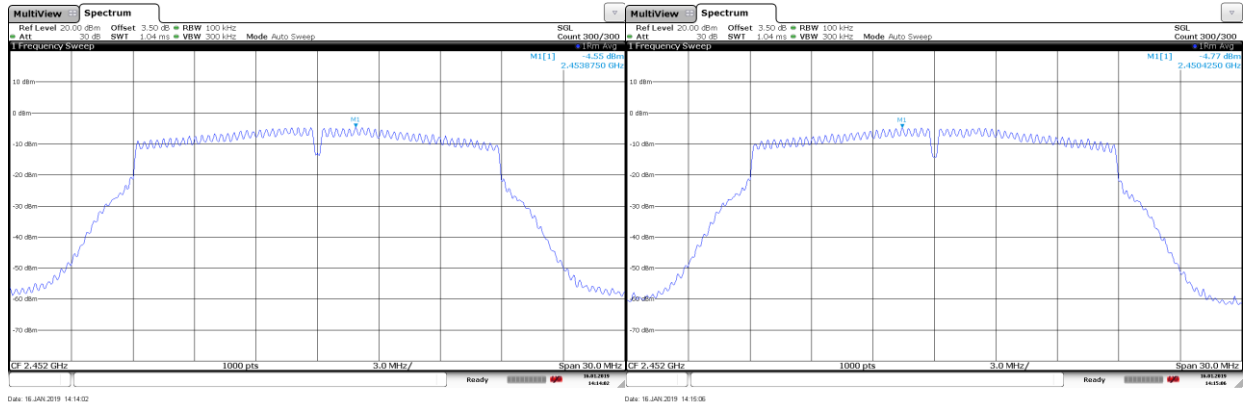
CORE 0

CORE 1



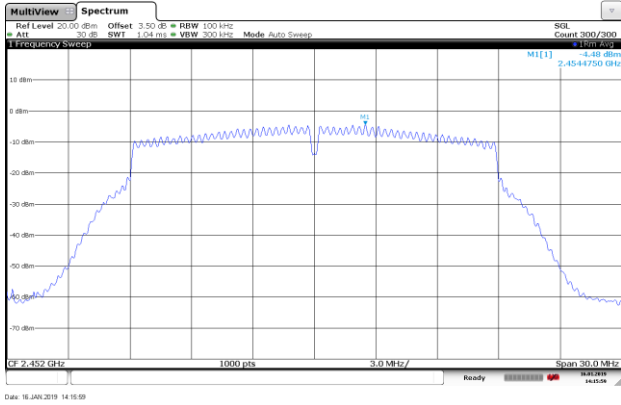
CORE 2

Channel 9



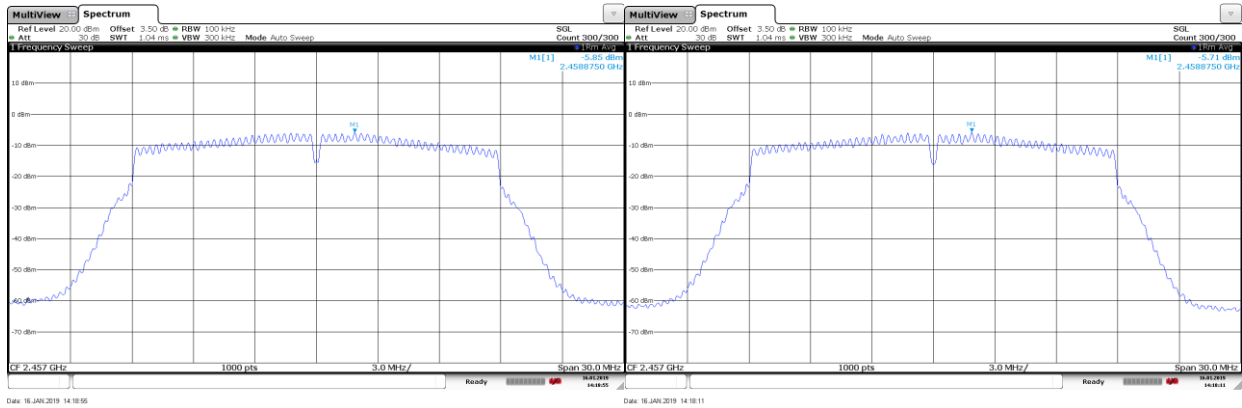
CORE 0

CORE 1



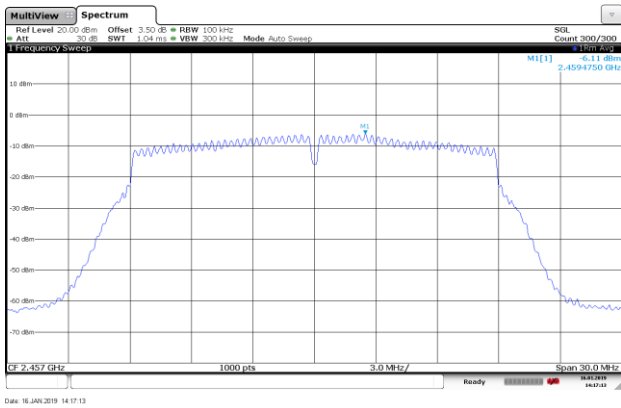
CORE 2

Channel 10



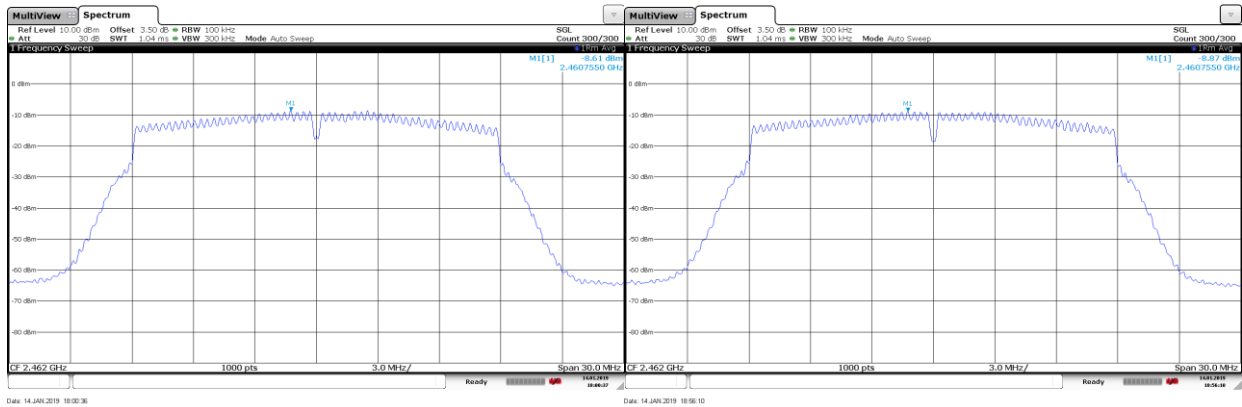
CORE 0

CORE 1



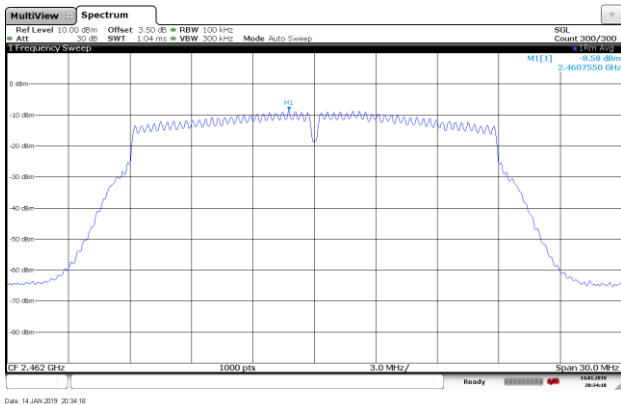
CORE 2

Channel 11



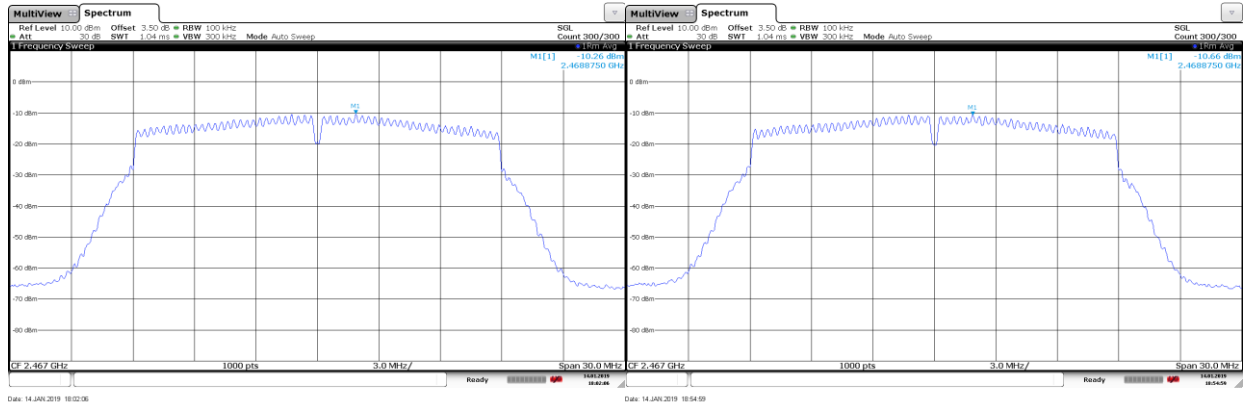
CORE 0

CORE 1



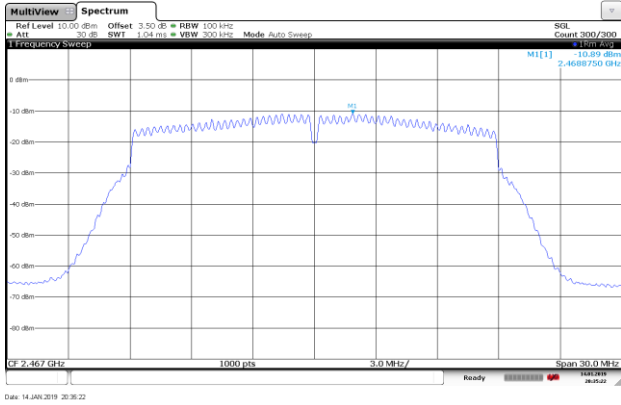
CORE 2

Channel 12



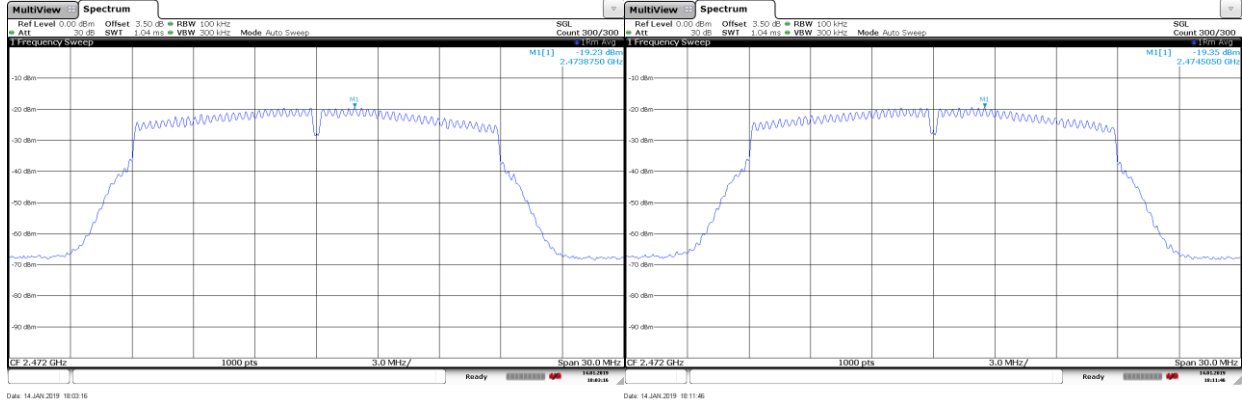
CORE 0

CORE 1



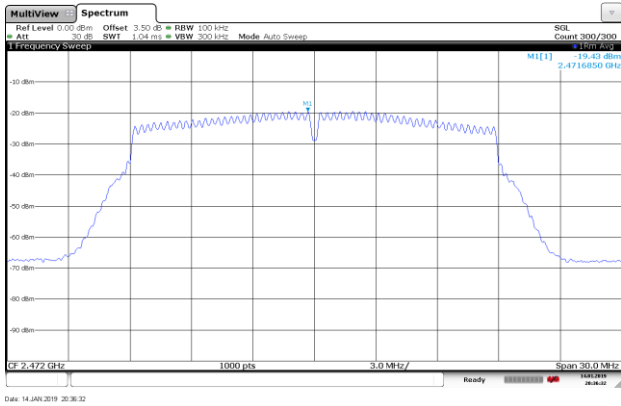
CORE 2

Channel 13



CORE 0

CORE 1



CORE 2

FCC Section 15.247 Subclause (d) / RSS-247 5.5. Emission limitations radiated (Transmitter)

SPECIFICATION

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

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.

RSS-247. Attenuation below the general field strength limits specified in RSS-Gen is not required.

RESULTS:

The situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° 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-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.

Test performed on the following worst cases in all relevant tests channels:

- 802.11b / MIMO (3Tx CDD) on Core 0 & Core 1 & Core 2
- 802.11n HT20: MCS0 / MIMO (3Tx CDD) on Core 0 & Core 1 & Core 2

Frequency range 30 MHz-1000 MHz.

Note: The spurious emissions below 1 GHz do not depend on either the operating channel or the modulation mode selected in the EUT.

Spurious levels operating (radiated) closest to limit.

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Measurement Uncertainty (dB)
32.183	Vertical	Quasi-Peak	28.60	40	11.40	± 3.88
60.604	Vertical	Quasi-Peak	29.40	40	10.60	± 3.88
120.744	Vertical	Quasi-Peak	29.30	43.5	7.7	± 3.88
168.985	Horizontal	Quasi-Peak	39.80	43.5	3.7	± 3.88
192.556	Horizontal	Quasi-Peak	35.20	43.5	8.3	± 3.88

Frequency range 1 GHz-25 GHz

The results in the next tables show the maximum measured levels in the 1-25 GHz frequency range.

Mode : 802.11b – CDD – 20MHz – MIMO – CORE 0 & CORE 1 & CORE 2

Lowest Channel (2412 MHz)

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Measurement Uncertainty (dB)
4823.91	Horizontal	Peak	48.78	74	25.2	± 3.05
4824.37		Average	46.98	54	7.0	± 3.05
5382.02	Vertical	Peak	44.85	74	29.2	± 3.05
5382.49		Average	41.20	54	12.8	± 3.05

Middle Channel (2442 MHz)

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Measurement Uncertainty (dB)
4884.1	Horizontal	Peak	47.21	74	26.8	± 3.05
		Average	45.83	54	8.2	± 3.05
5382.95	Vertical	Peak	45.98	74	28	± 3.05
5382.49		Average	41.97	54	12	± 3.05
7327.96	Horizontal	Peak	50.23	74	23.8	± 3.05
7325.16		Average	46.67	54	7.3	± 3.05

Highest Channel (2472 MHz)

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Measurement Uncertainty (dB)
4994.3	Horizontal	Peak	47.18	74	26.8	± 3.05
		Average	44.74	54	9.3	± 3.05
5382.02	Vertical	Peak	45.54	74	28.5	± 3.05
5380.15		Average	40.92	54	13.1	± 3.05

Mode : 802.11n HT20 – CDD – 20MHz – MIMO – CORE 0 & CORE 1 & CORE 2

Lowest Channel (2412 MHz)

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Measurement Uncertainty (dB)
4823.91	Horizontal	Peak	46.99	74	27	± 3.05
		Average	43.95	54	10.1	± 3.05
5382.474	Vertical	Peak	43.67	74	30.3	± 3.05
5397.855		Average	40.02	54	14	± 3.05
7415.22	Vertical	Peak	47.79	74	26.2	± 3.05
7418.02		Average	44.56	54	9.4	± 3.05

Middle Channel (2442 MHz):

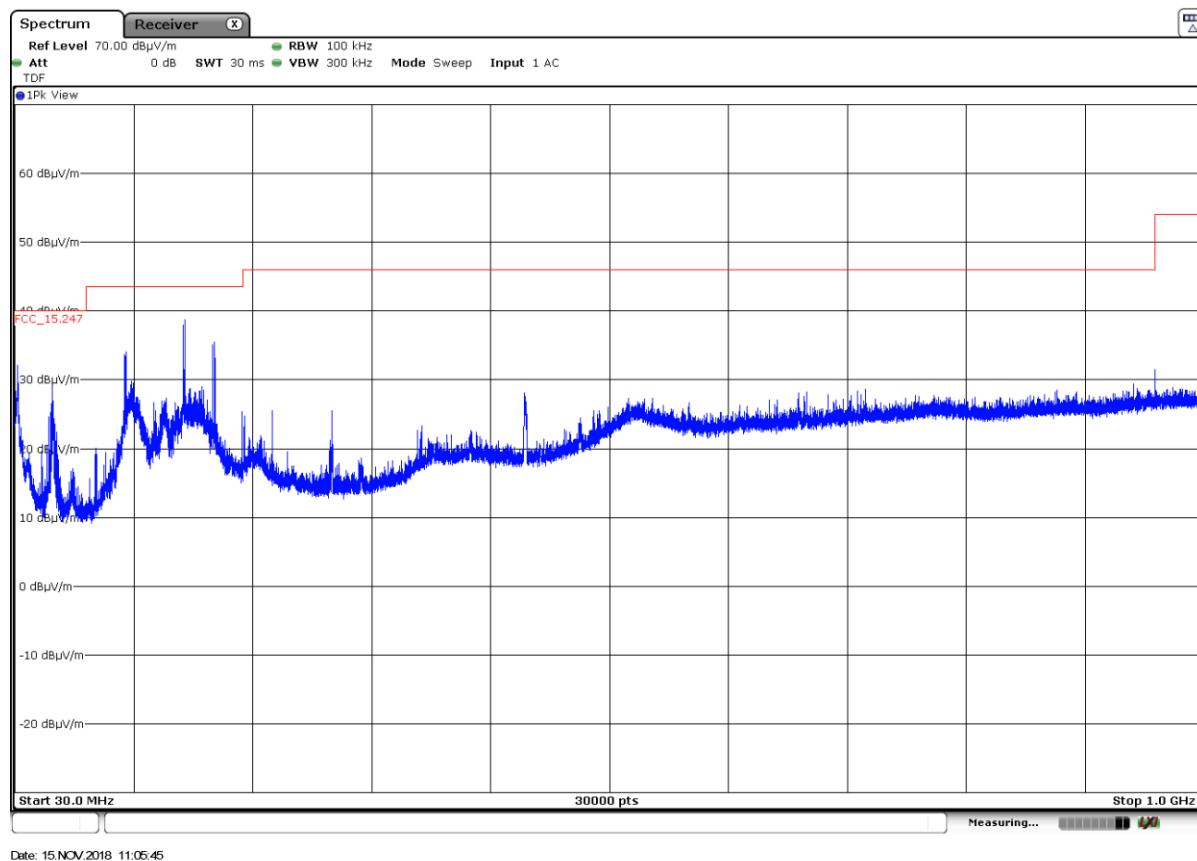
Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Measurement Uncertainty (dB)
4882.70	Horizontal	Peak	43.92	74	30.1	± 3.05
		Average	40.69	54	13.3	± 3.05
5382.02	Vertical	Peak	44.64	74	29.4	± 3.05
		Average	40.95	54	13.1	± 3.05
7321.89	Horizontal	Peak	54.07	74	19.9	± 3.05
		Average	50.03	54	4.0	± 3.05
7330.76	Horizontal	Peak	47.28	74	26.7	± 3.05
7328.89		Average	43.01	54	11	± 3.05

Highest Channel (2472 MHz):

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Measurement Uncertainty (dB)
5382.49	Vertical	Peak	45.68	74	28.3	± 3.05
		Average	42.20	54	11.8	± 3.05
7411.95	Horizontal	Peak	49.77	74	24.2	± 3.05
		Average	46.39	54	7.6	± 3.05

Verdict: PASS

FREQUENCY RANGE 30 MHz-1000 MHz.

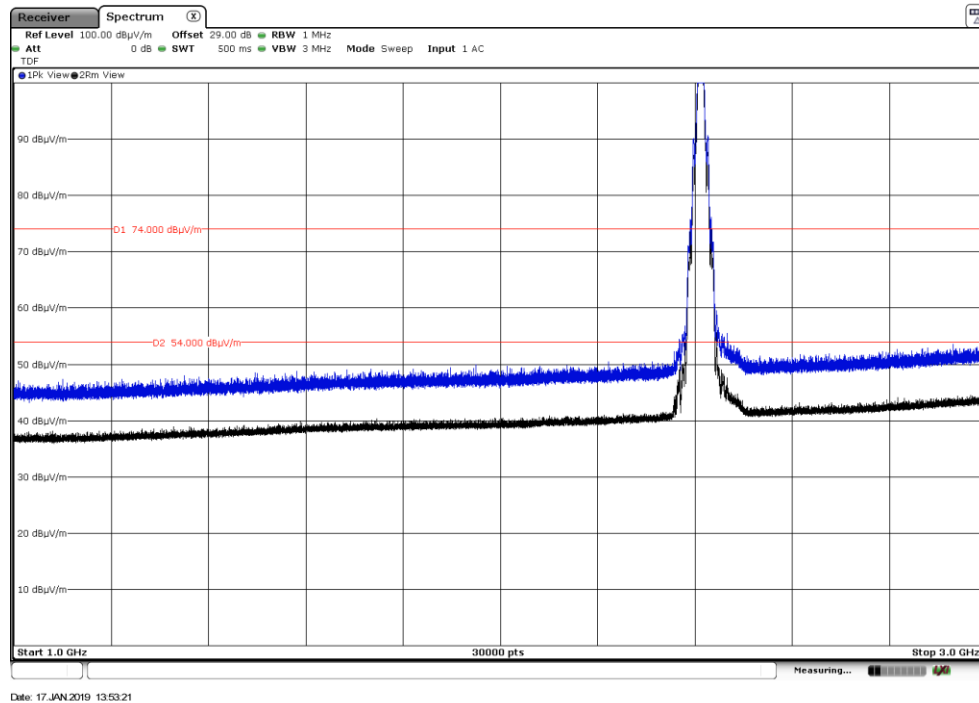


(This plot is valid for all three channels and all modulation modes).

FREQUENCY RANGE 1 GHz to 3 GHz.

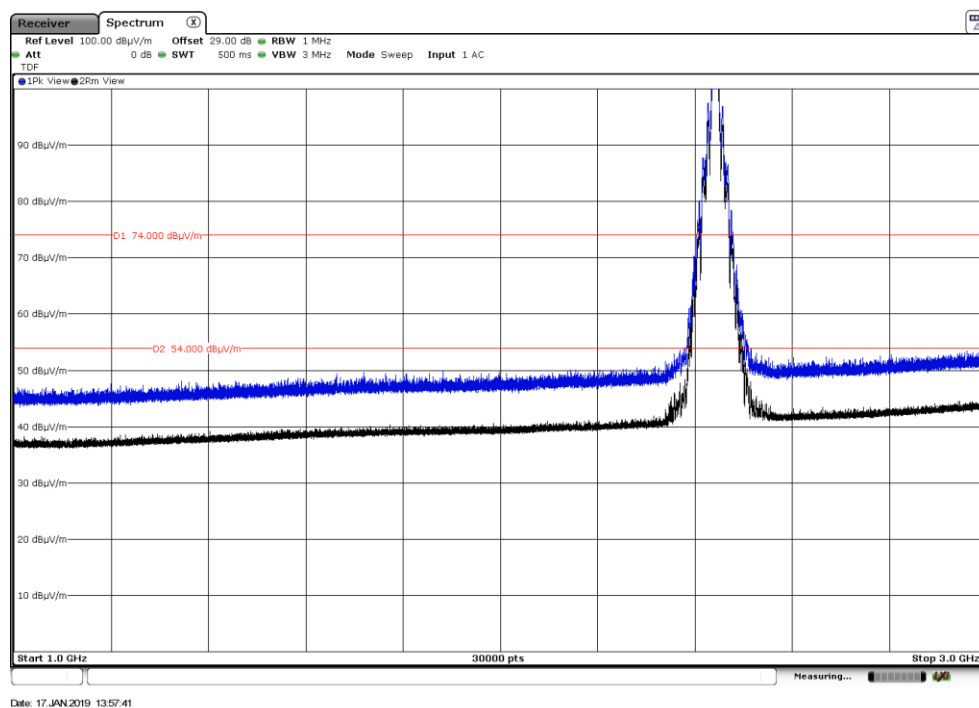
Mode : 802.11b – CDD – 20MHz – MIMO – CORE 0 & CORE 1 & CORE 2

CHANNEL: Lowest (2412 MHz).



Note: The peak shown in the plot above the limit is the carrier frequency.

CHANNEL: Middle (2442 MHz).



Note: The peak shown in the plot above the limit is the carrier frequency.