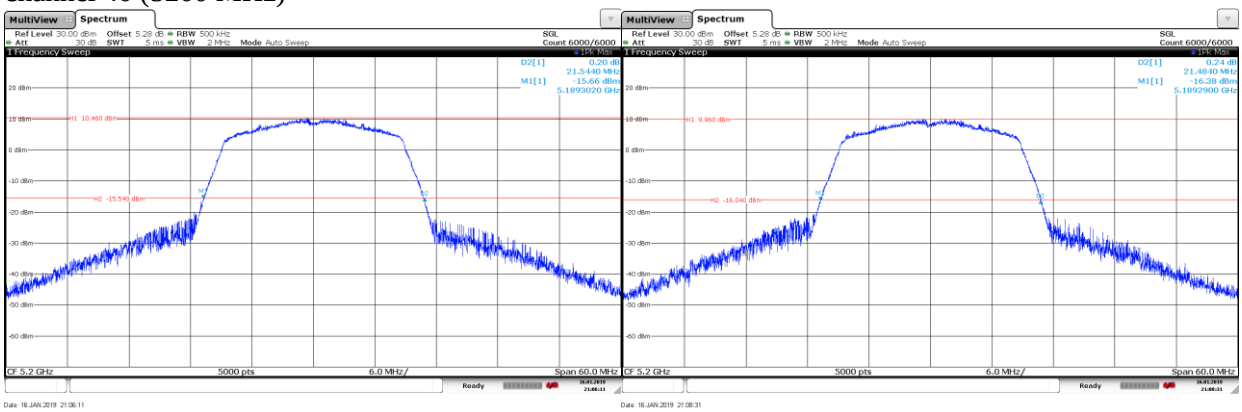
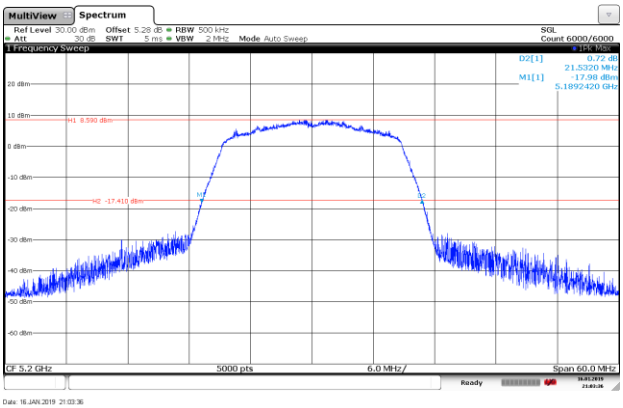
channel 40 (5200 MHz)

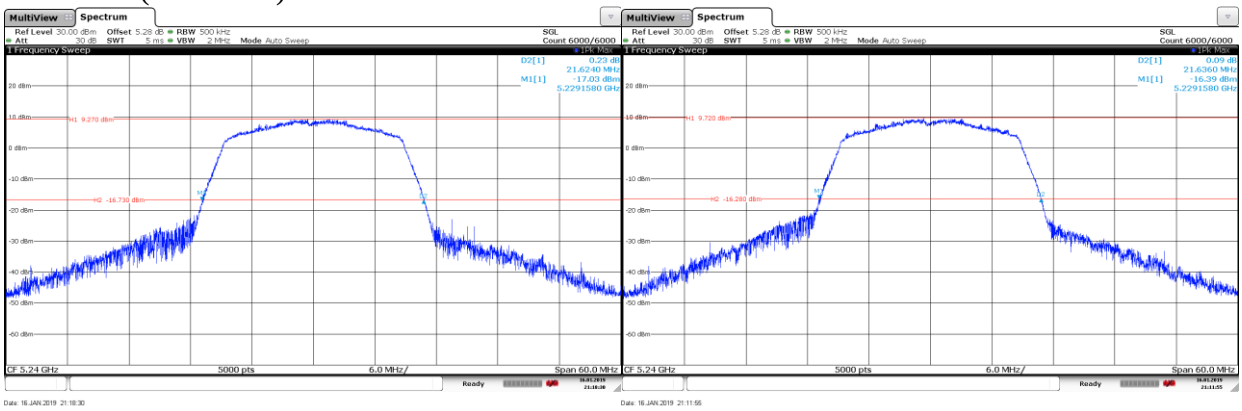


CORE 0 CORE 1

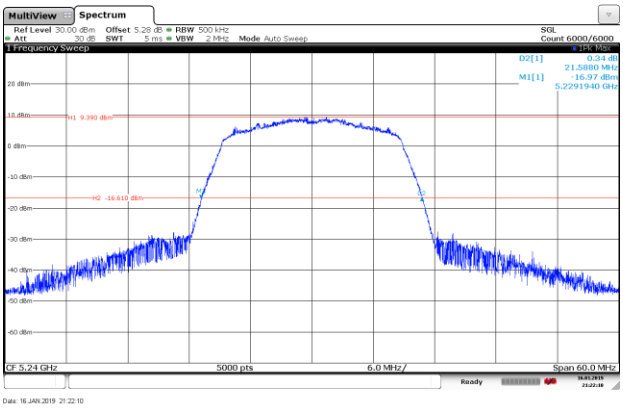


CORE 2

channel 48 (5240 MHz)

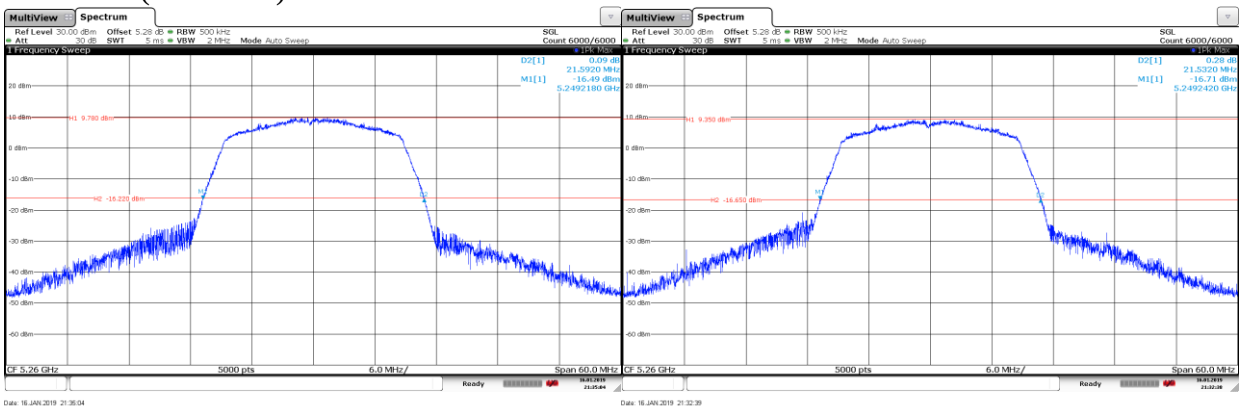


CORE 0 CORE 1

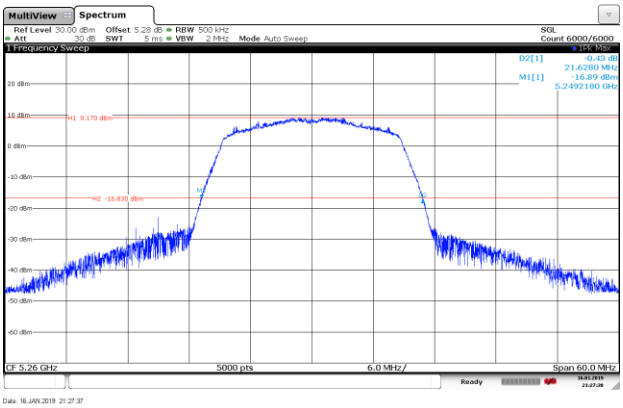


CORE 2

channel 52 (5260 MHz)

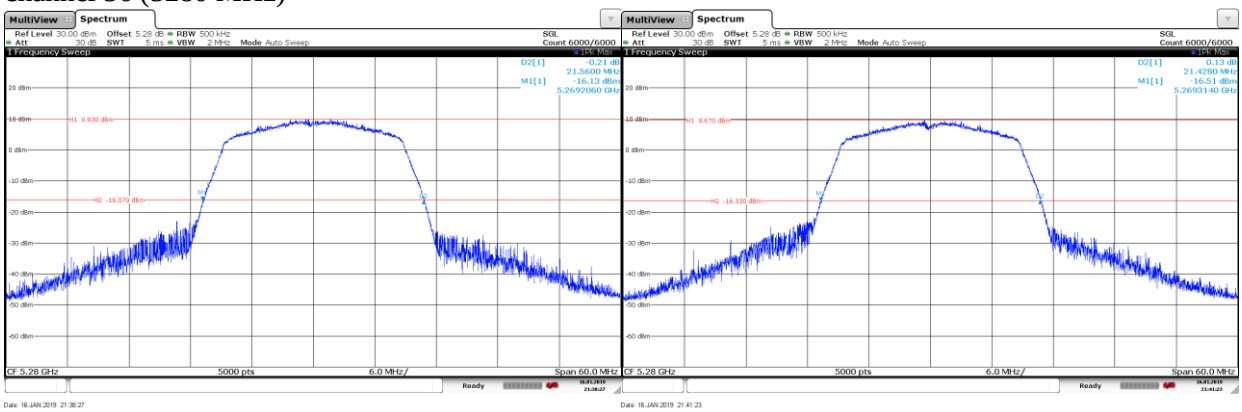


CORE 0 CORE 1

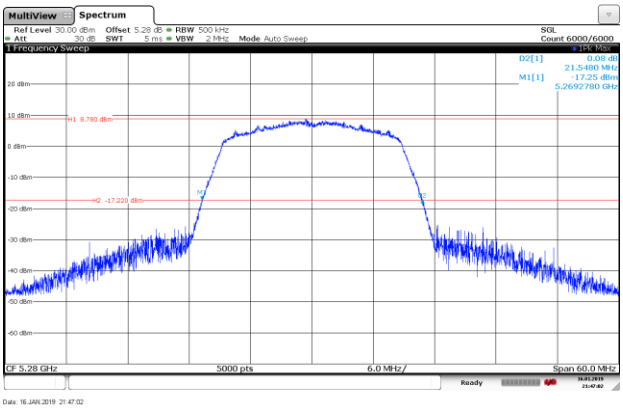


CORE 2

channel 56 (5280 MHz)

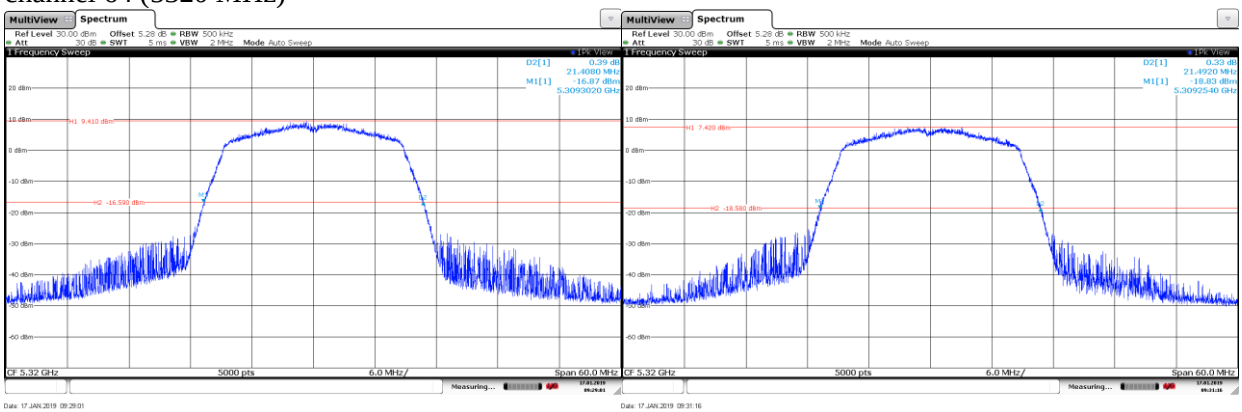


CORE 0 CORE 1

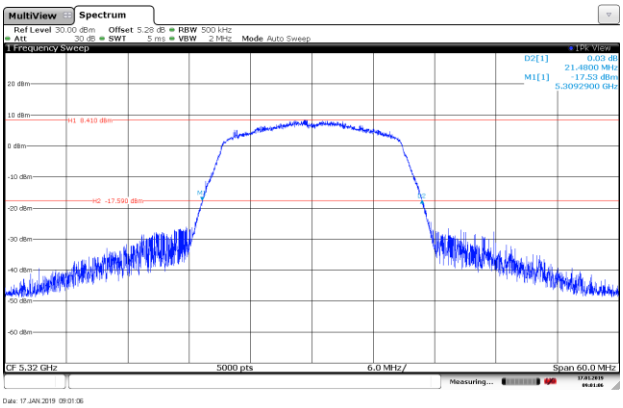


CORE 2

channel 64 (5320 MHz)

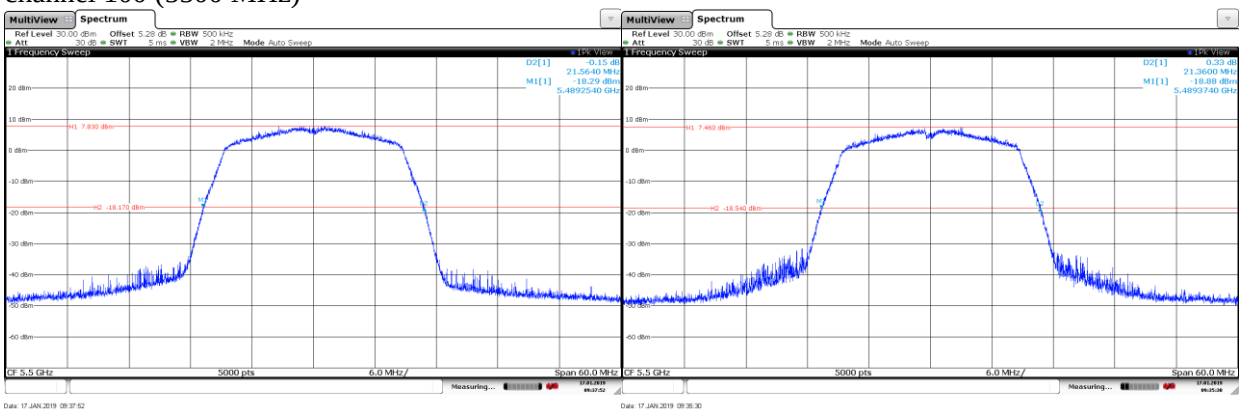


CORE 0 CORE 1

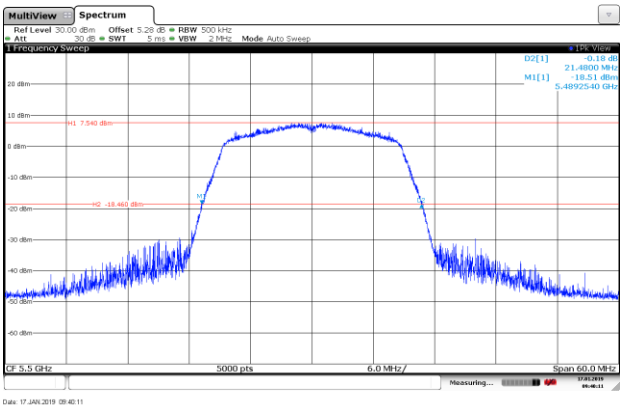


CORE 2

channel 100 (5500 MHz)

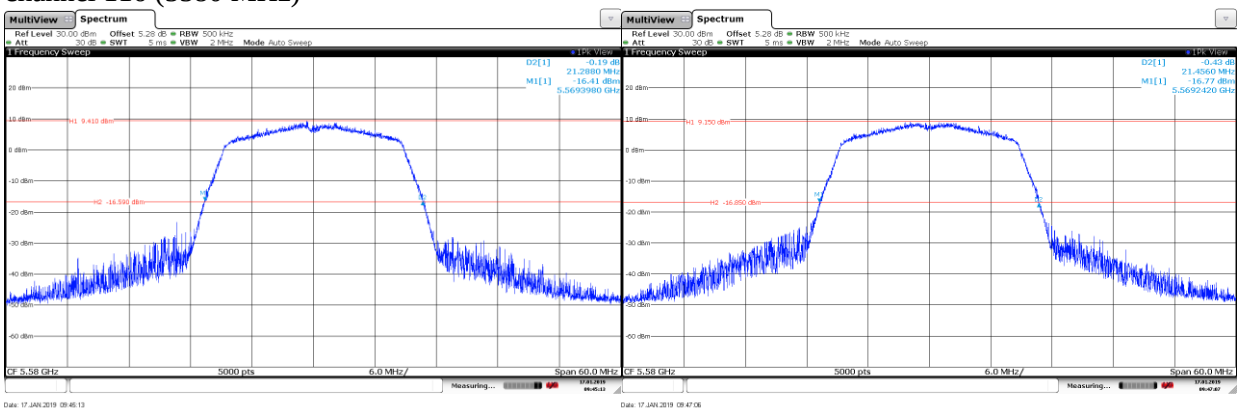


CORE 0 CORE 1

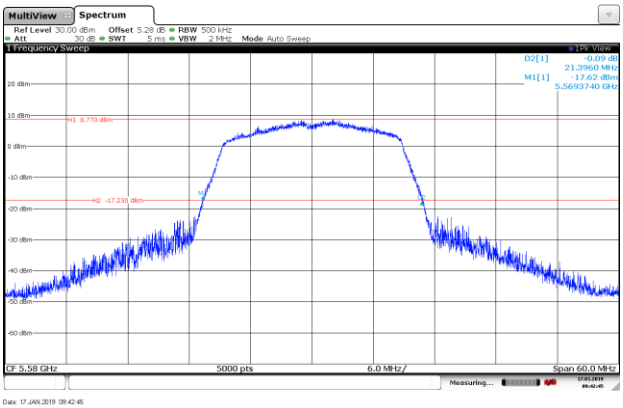


CORE 2

channel 116 (5580 MHz)

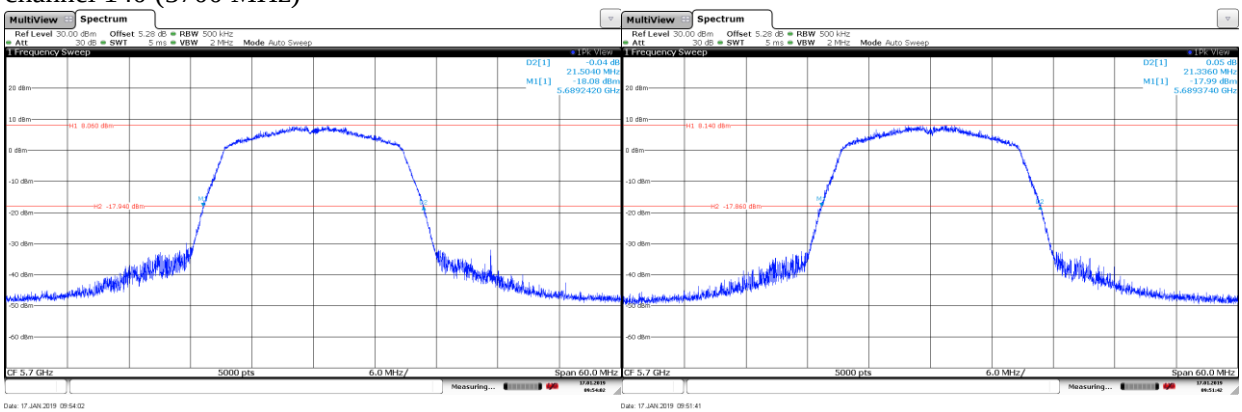


CORE 0 CORE 1

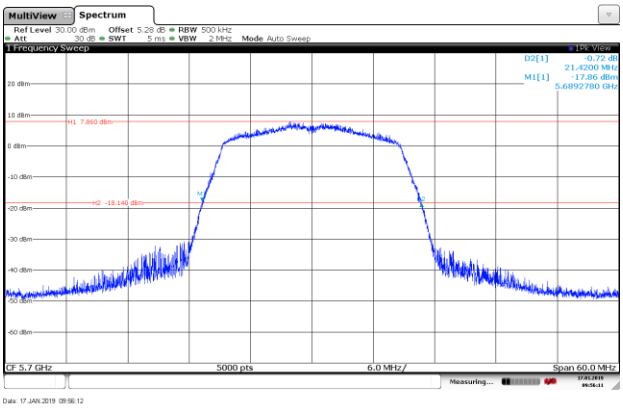


CORE 2

channel 140 (5700 MHz)

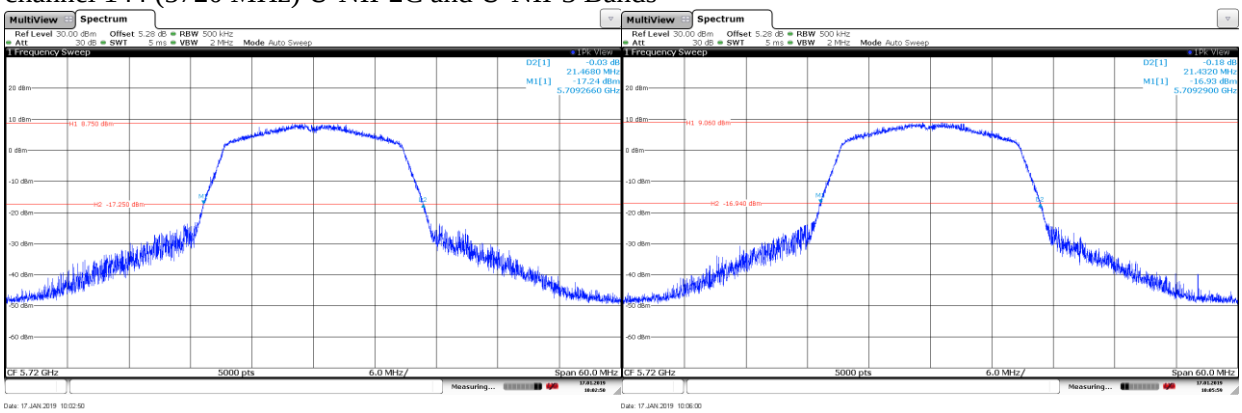


CORE 0 CORE 1

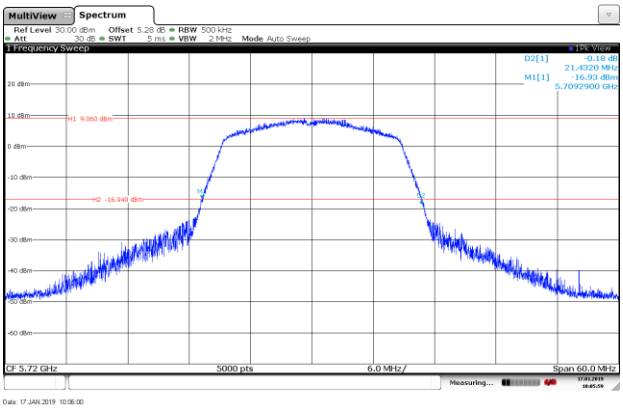


CORE 2

channel 144 (5720 MHz) U-NII-2C and U-NII-3 Bands

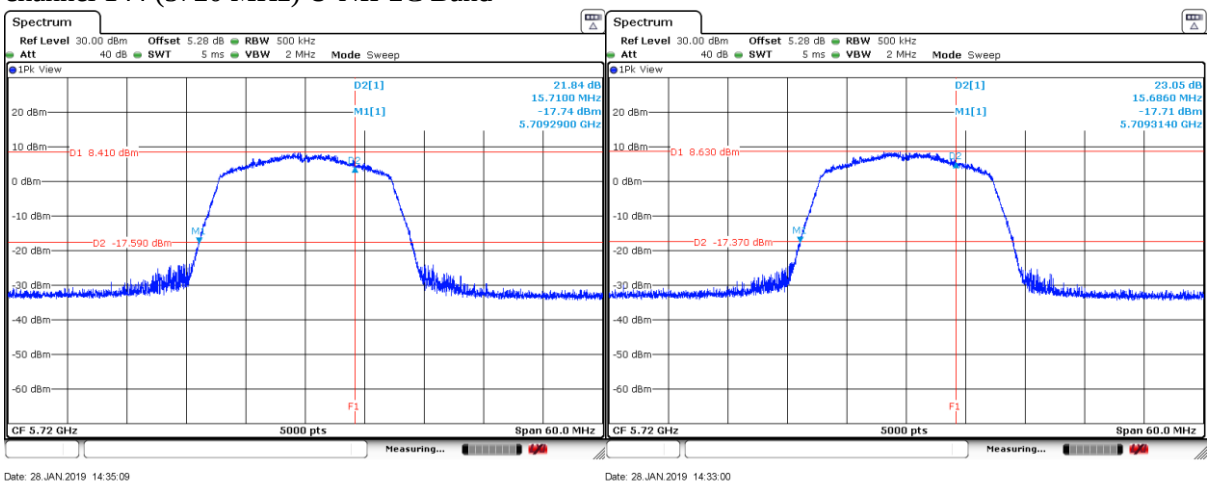


CORE 0 CORE 1

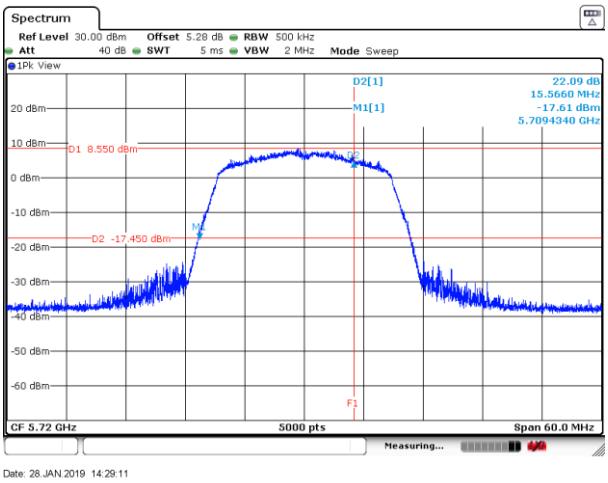


CORE 2

channel 144 (5720 MHz) U-NII-2C Band

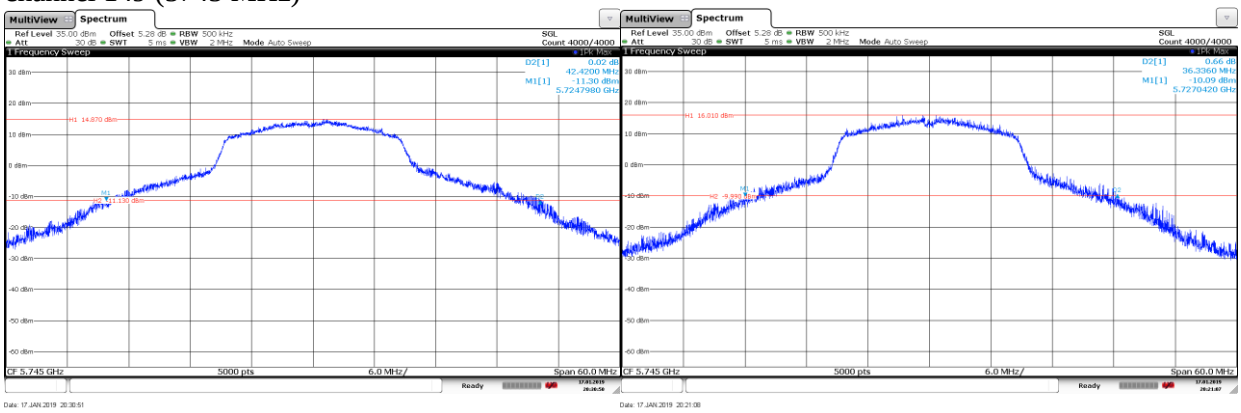


CORE 0 CORE 1

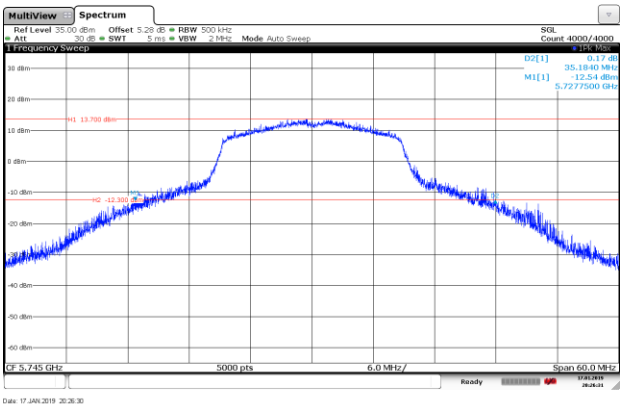


CORE 2

channel 149 (5745 MHz)

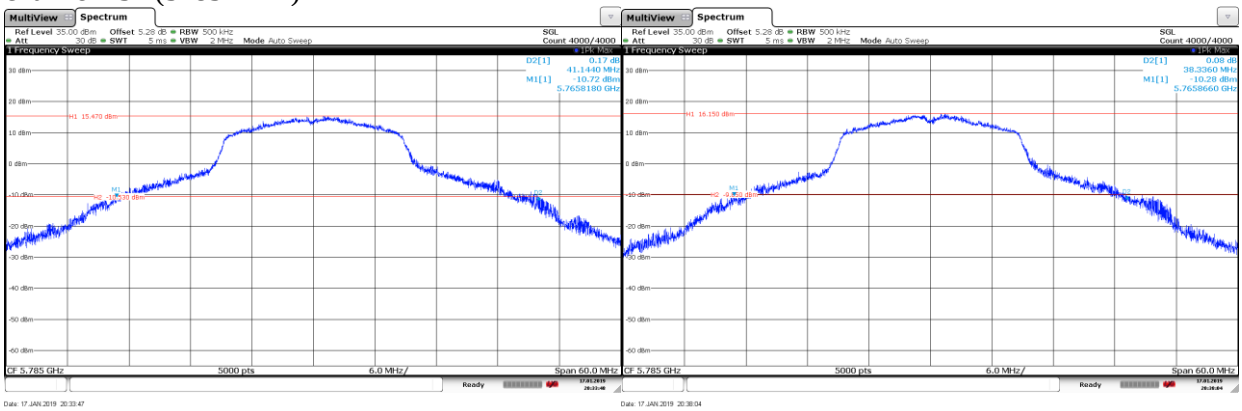


CORE 0 CORE 1

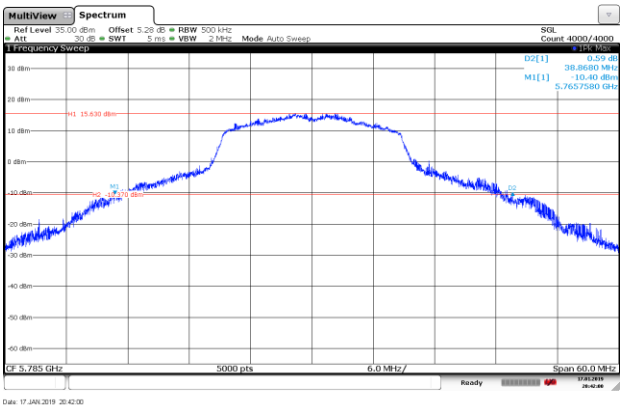


CORE 2

channel 157 (5785 MHz)

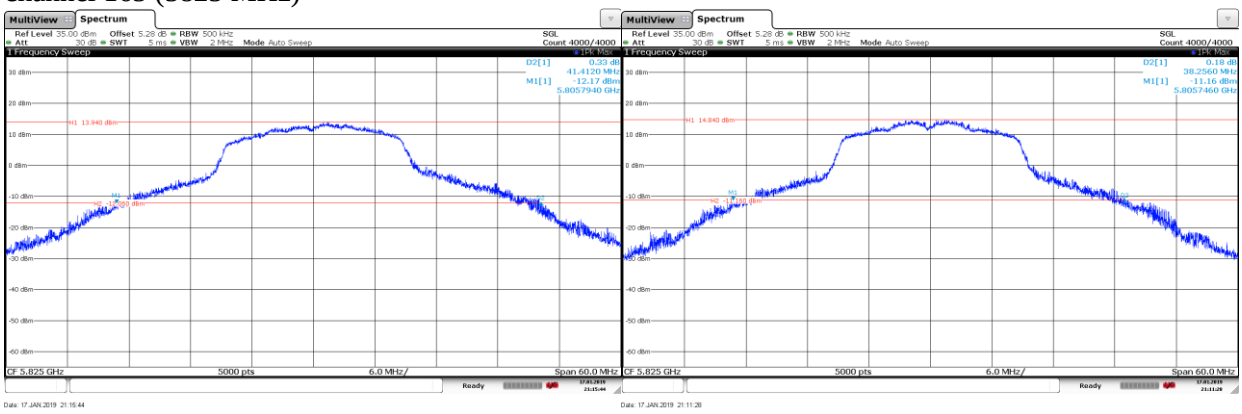


CORE 0 CORE 1

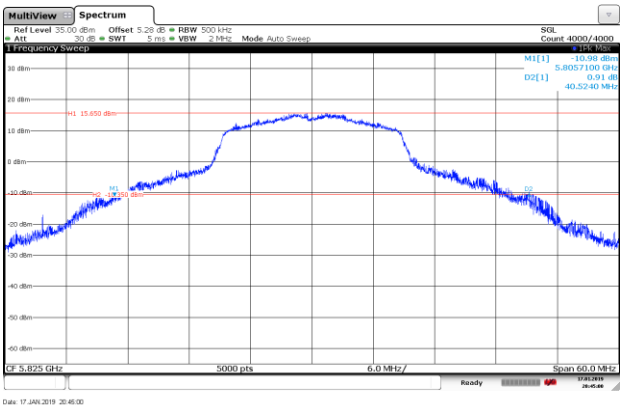


CORE 2

channel 165 (5825 MHz)



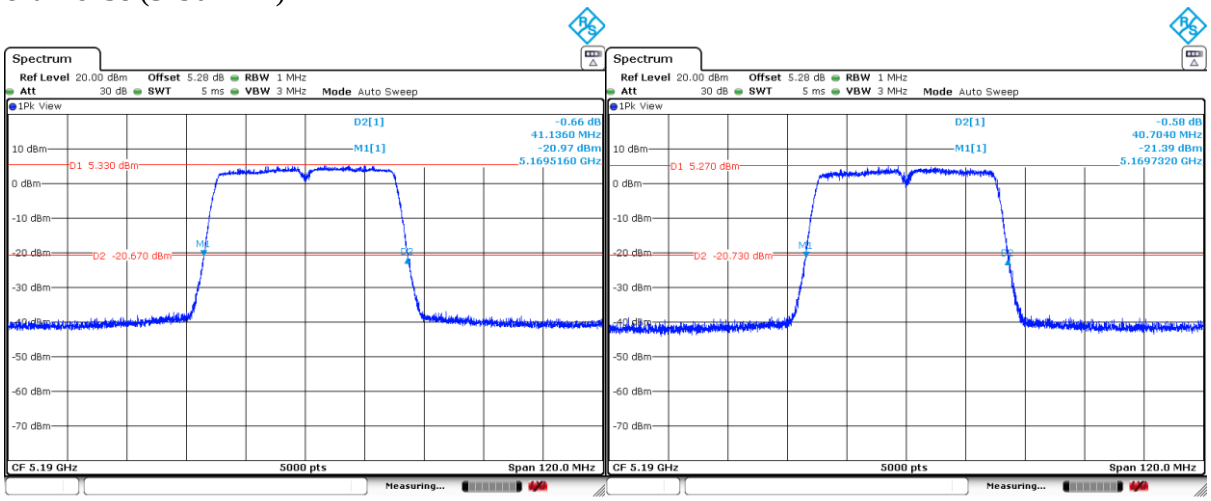
CORE 0 CORE 1



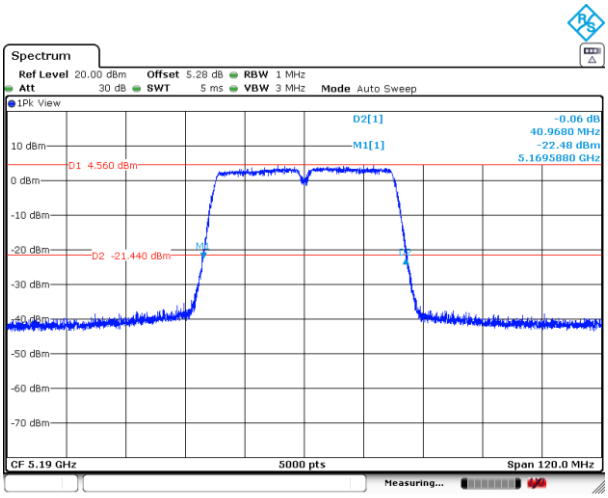
CORE 2

Mode : 802.11n HT40 – TxBF – 40MHz – MIMO 3x3

channel 38 (5190 MHz)

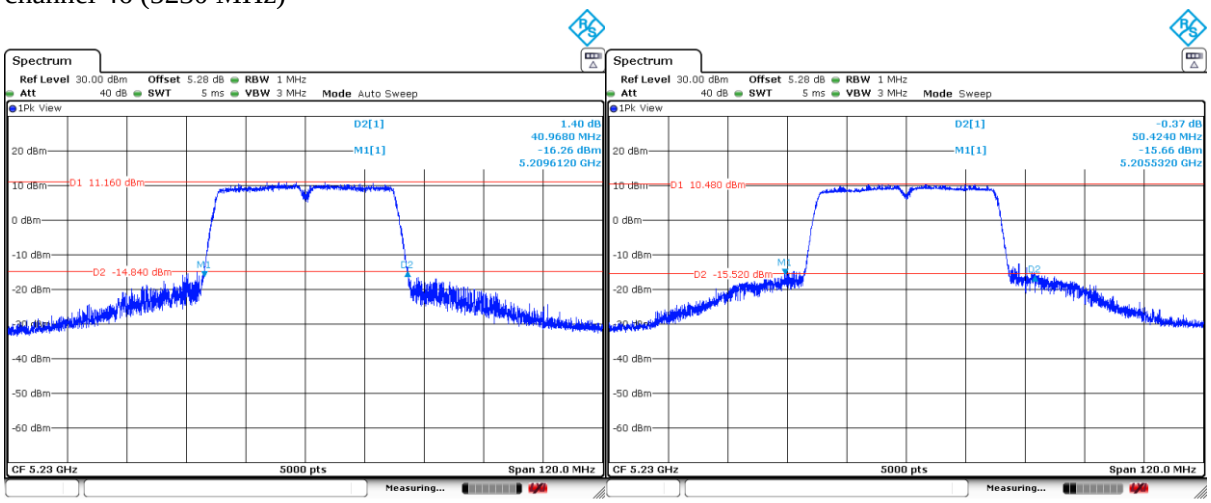


CORE 0 CORE 1

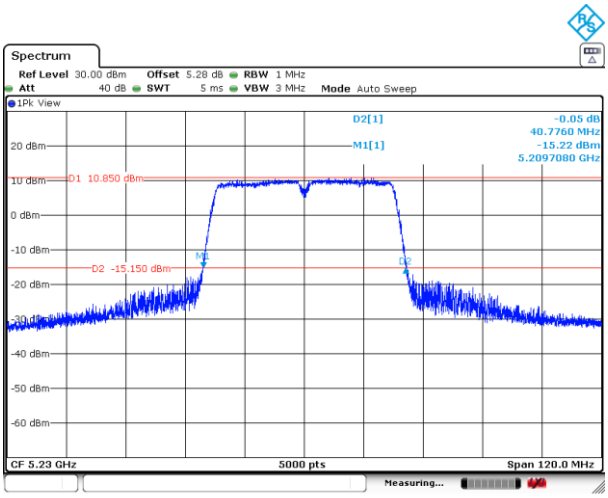


CORE 2

channel 46 (5230 MHz)

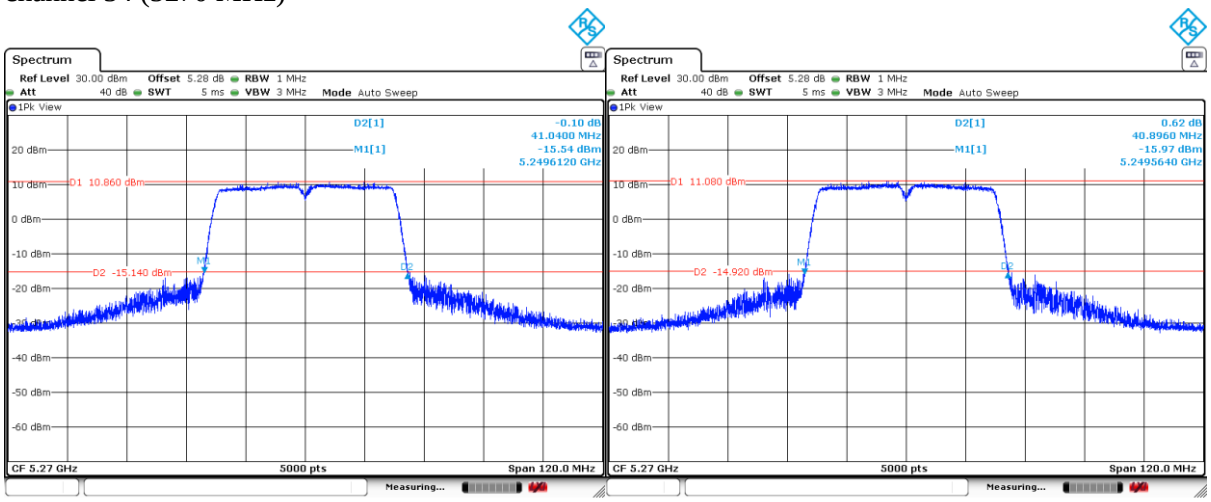


CORE 0 CORE 1

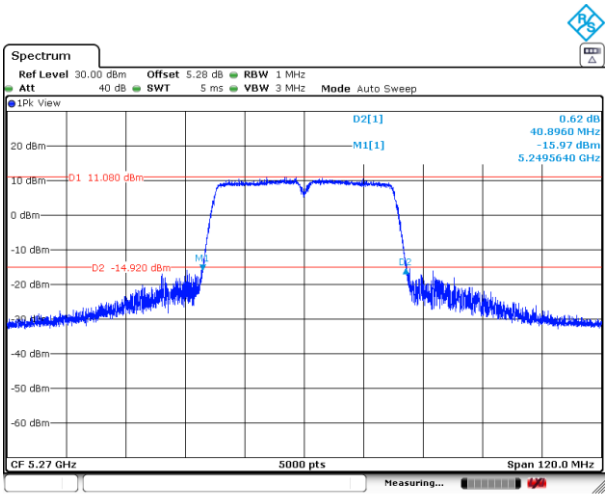


CORE 2

channel 54 (5270 MHz)

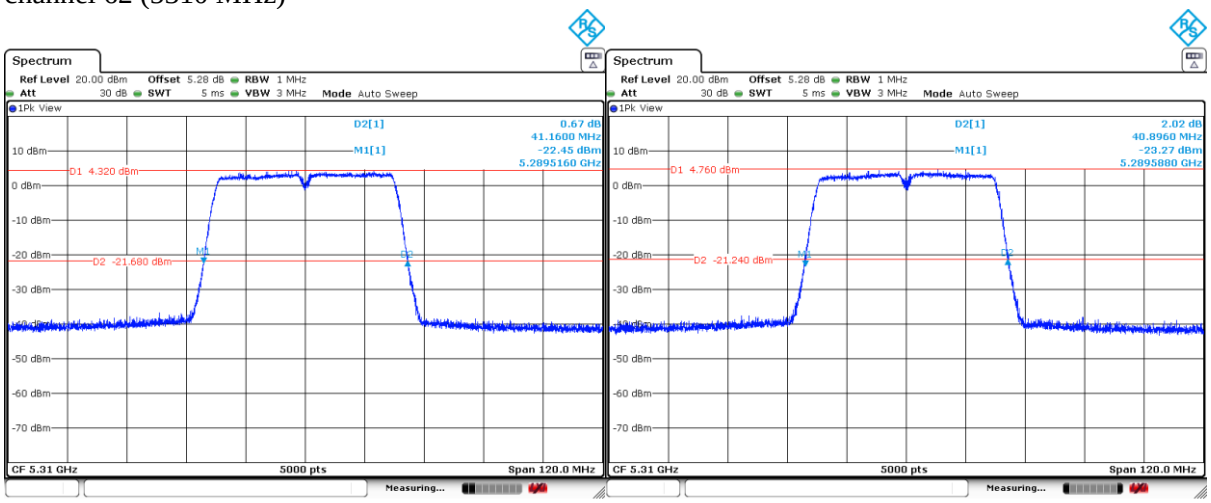


CORE 0 CORE 1

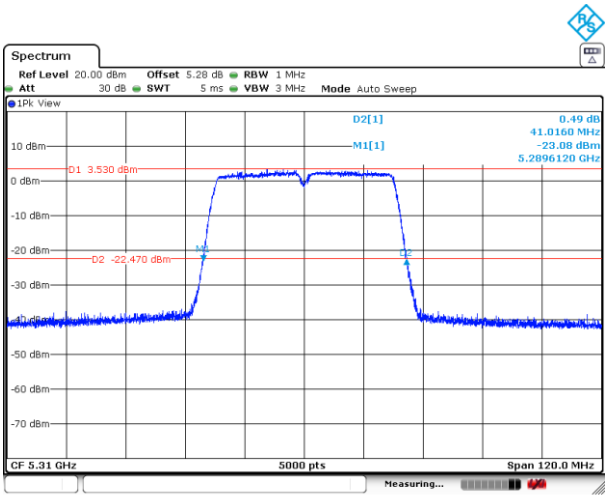


CORE 2

channel 62 (5310 MHz)

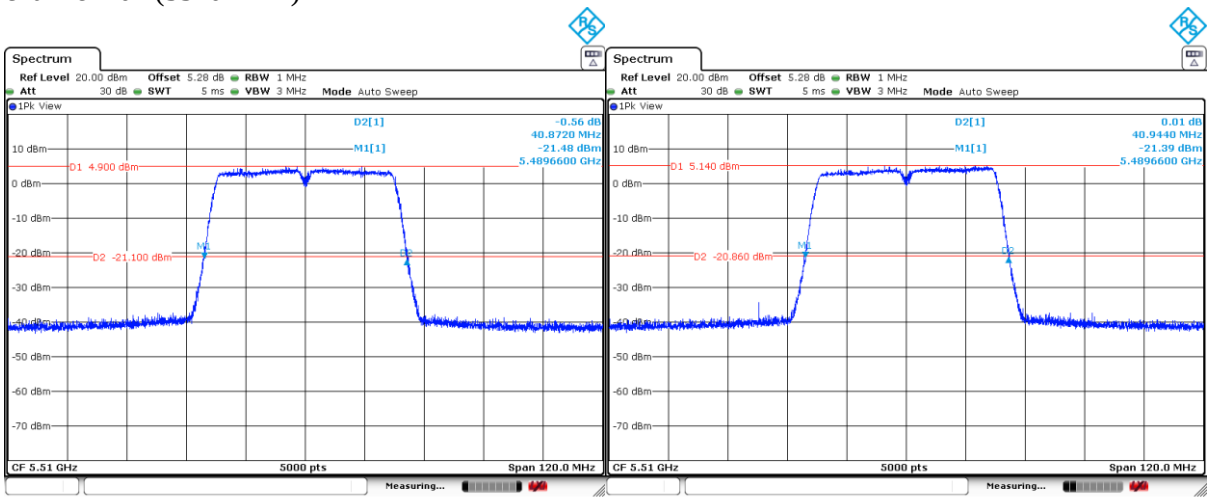


CORE 0 CORE 1

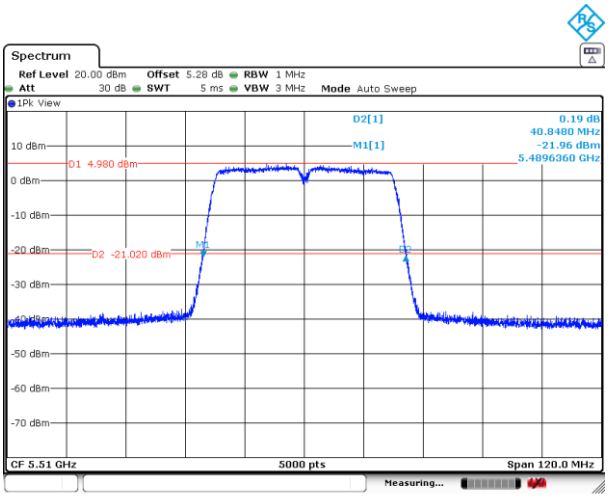


CORE 2

channel 102 (5510 MHz)

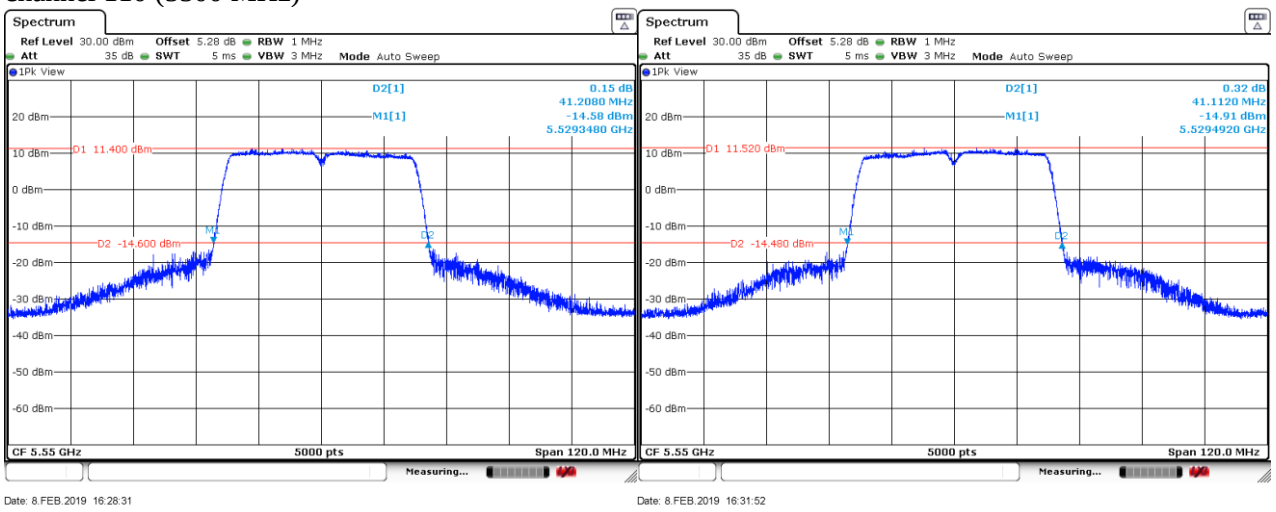


CORE 0 CORE 1

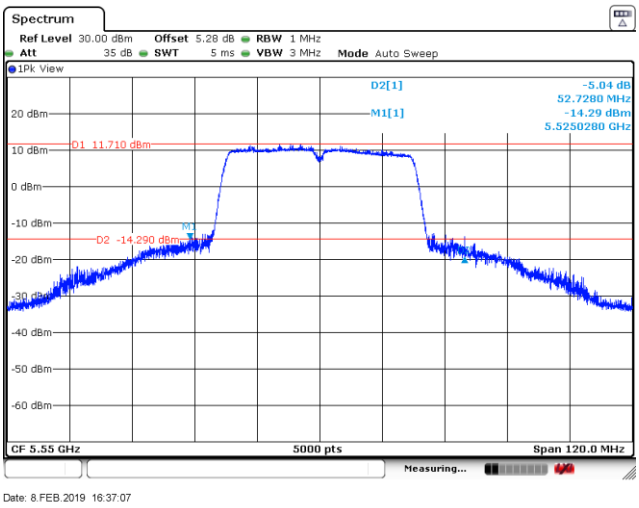


CORE 2

channel 110 (5500 MHz)

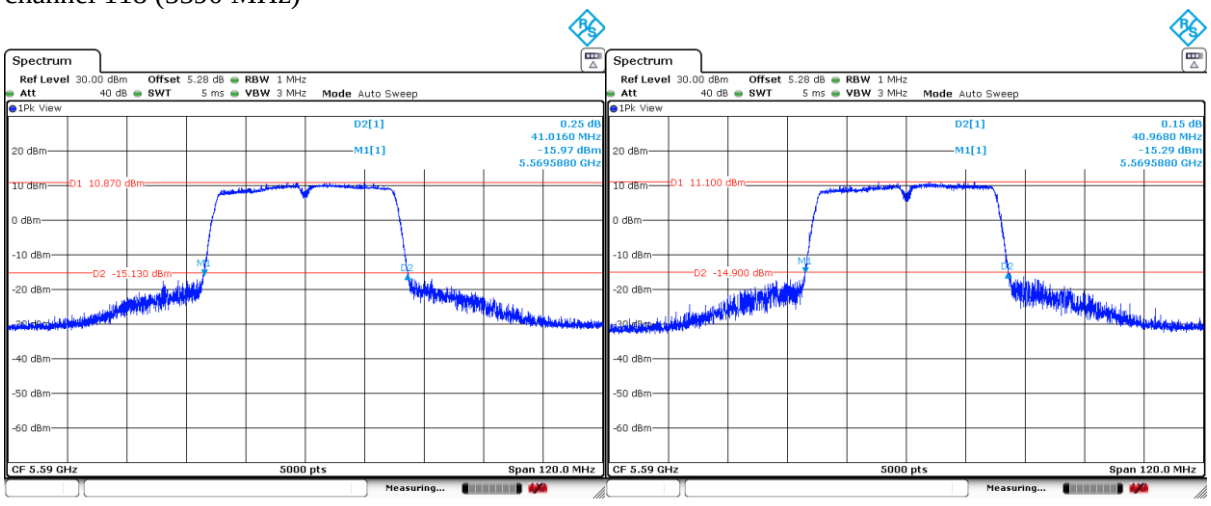


CORE 0 CORE 1

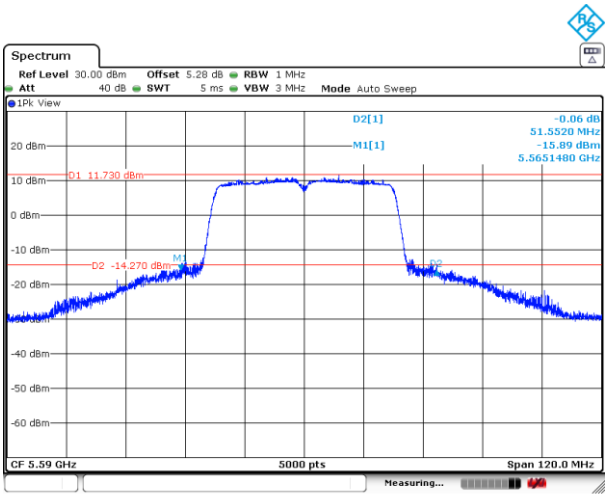


CORE 2

channel 118 (5590 MHz)

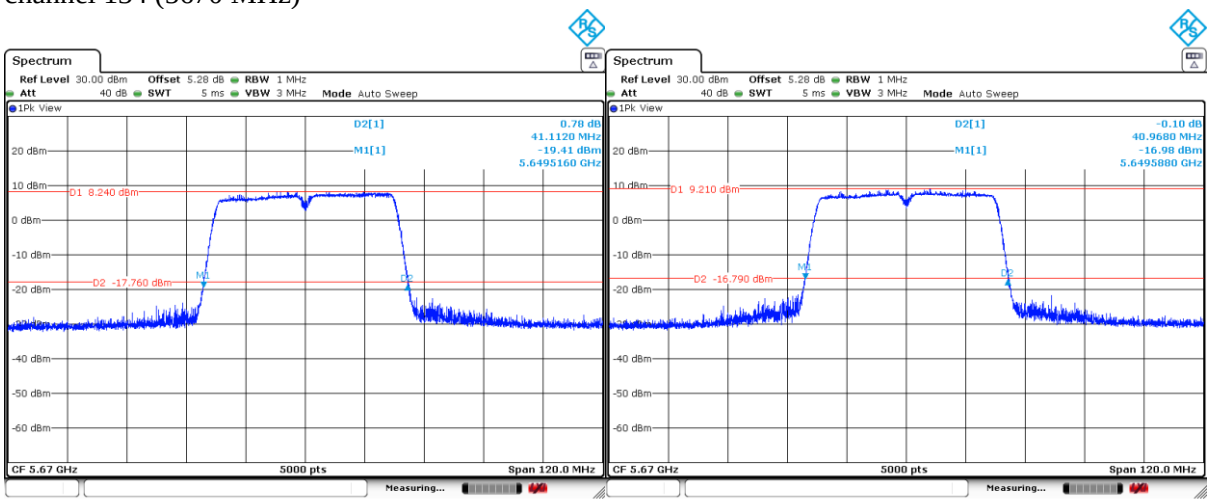


CORE 0 CORE 1

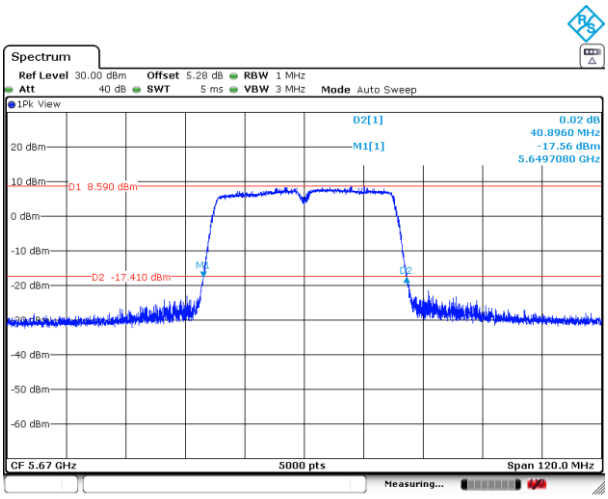


CORE 2

channel 134 (5670 MHz)

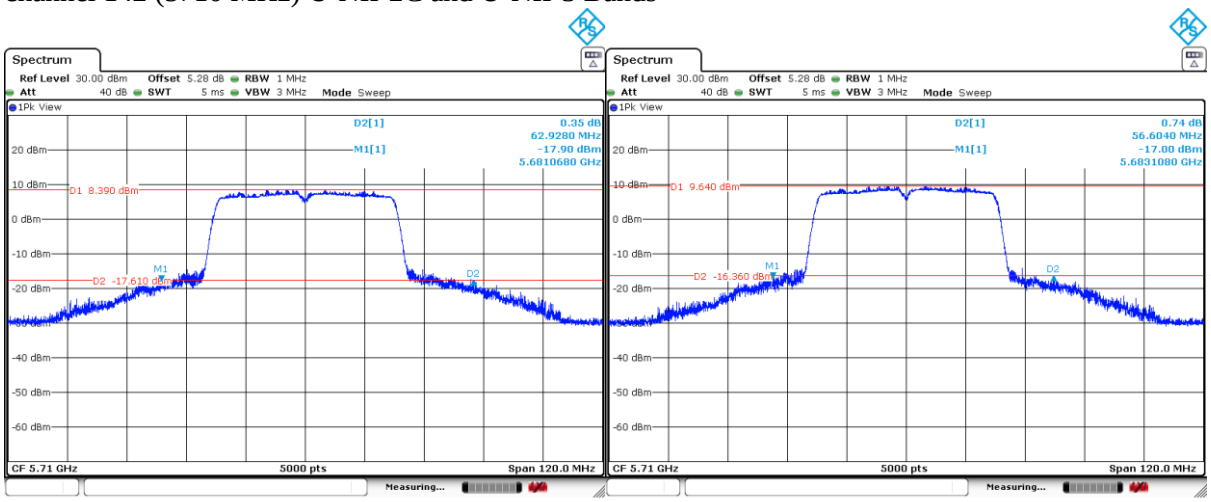


CORE 0 CORE 1

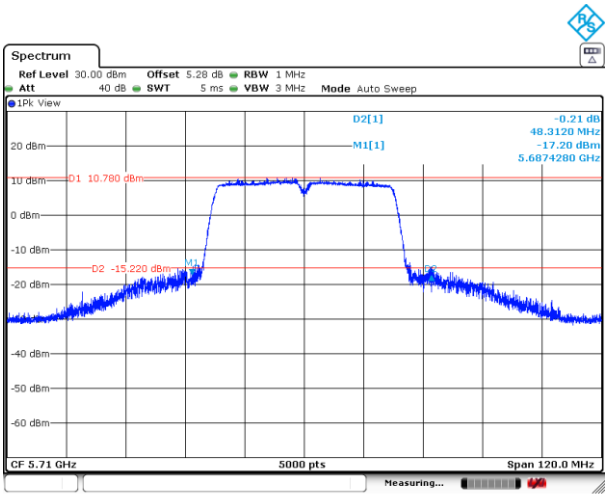


CORE 2

channel 142 (5710 MHz) U-NII-2C and U-NII-3 Bands

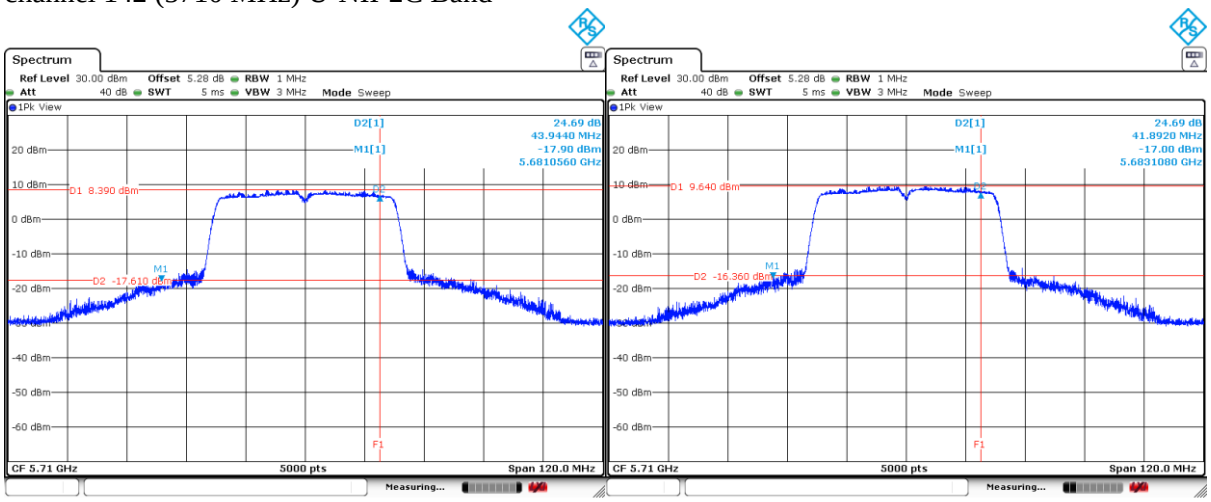


CORE 0 CORE 1

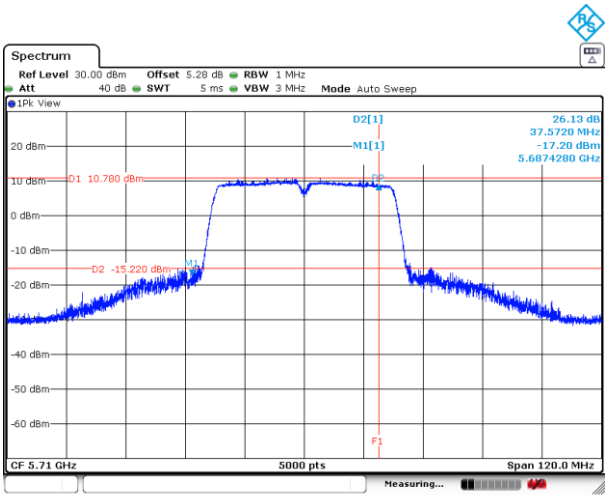


CORE 2

channel 142 (5710 MHz) U-NII-2C Band

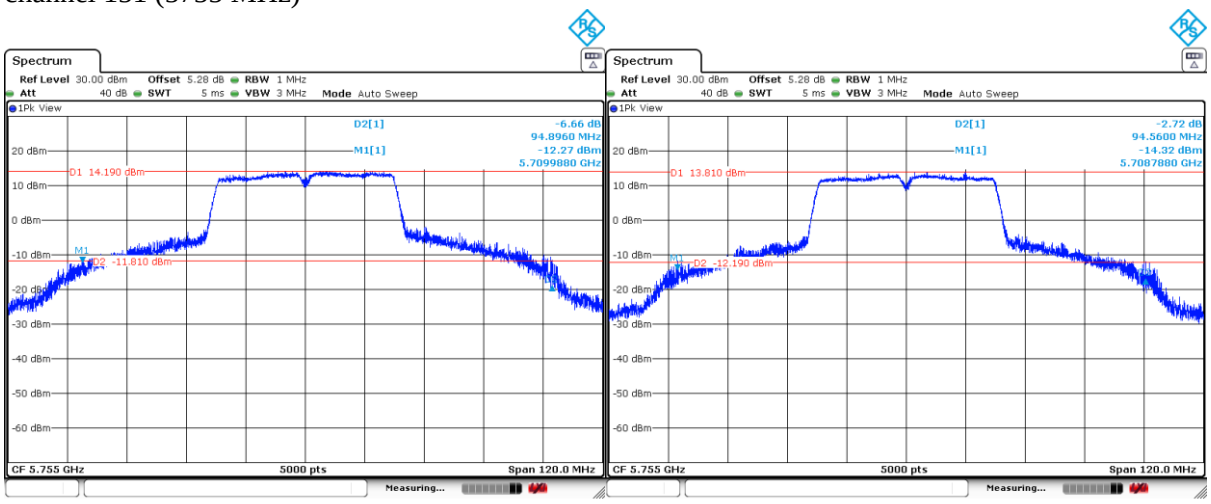


CORE 0 CORE 1

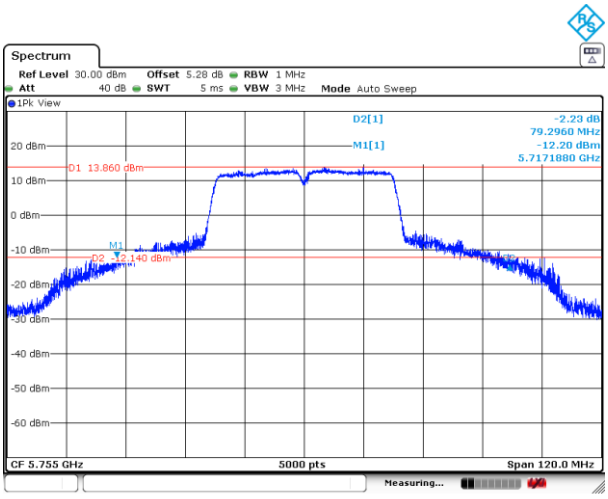


CORE 2

channel 151 (5755 MHz)

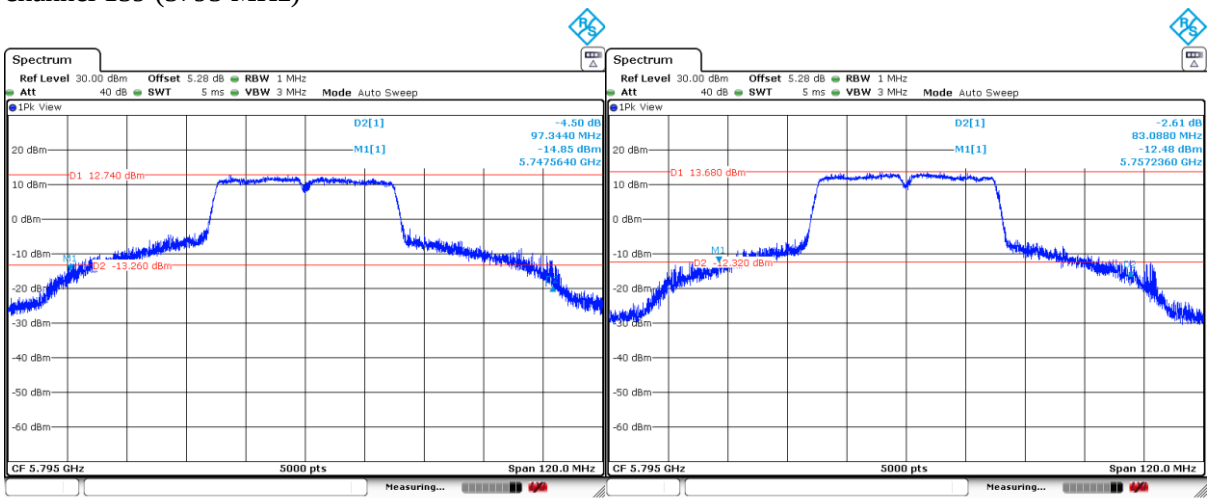


CORE 0 CORE 1

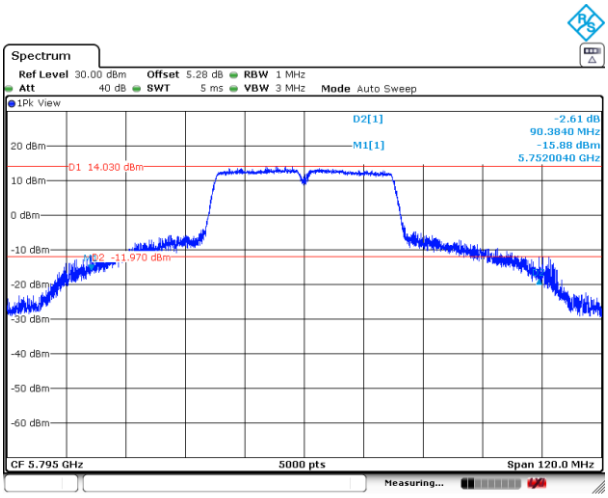


CORE 2

channel 159 (5795 MHz)



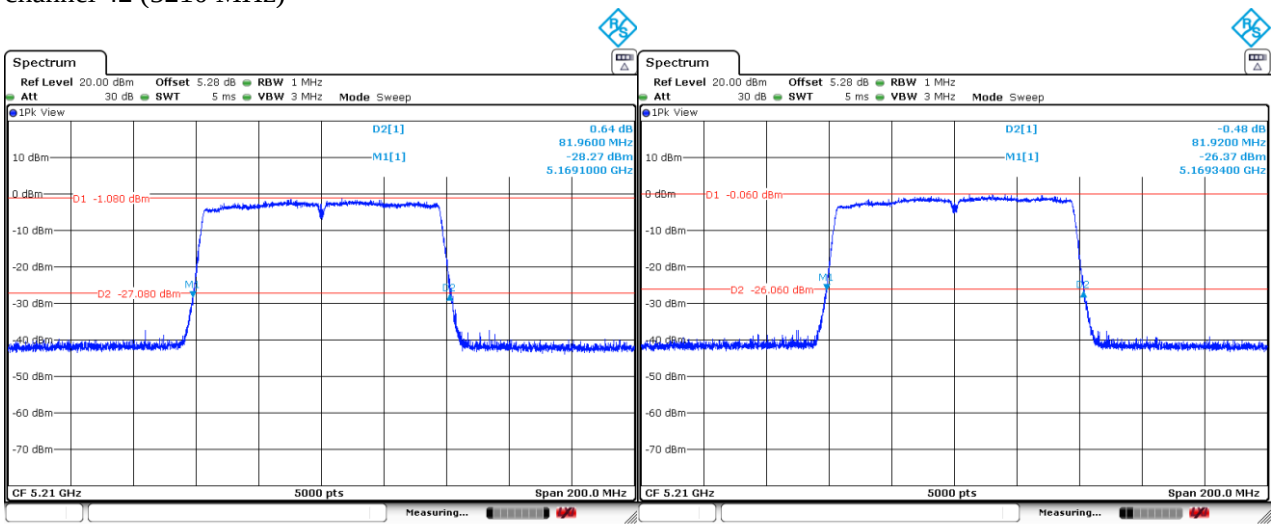
CORE 0 CORE 1



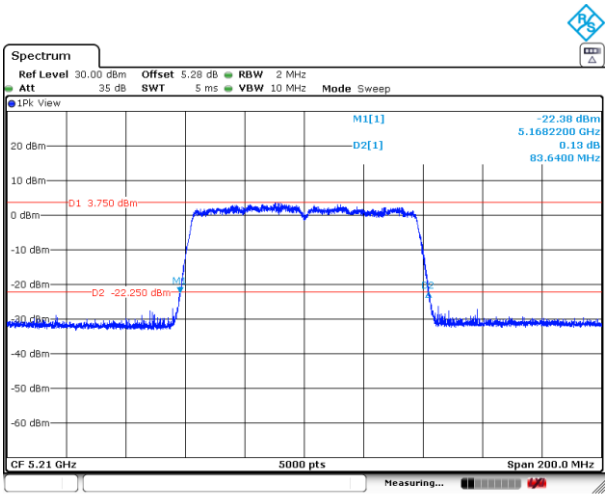
CORE 2

Mode : 802.11ac VHT80 – TxBF – 80MHz – MIMO 3x3

channel 42 (5210 MHz)

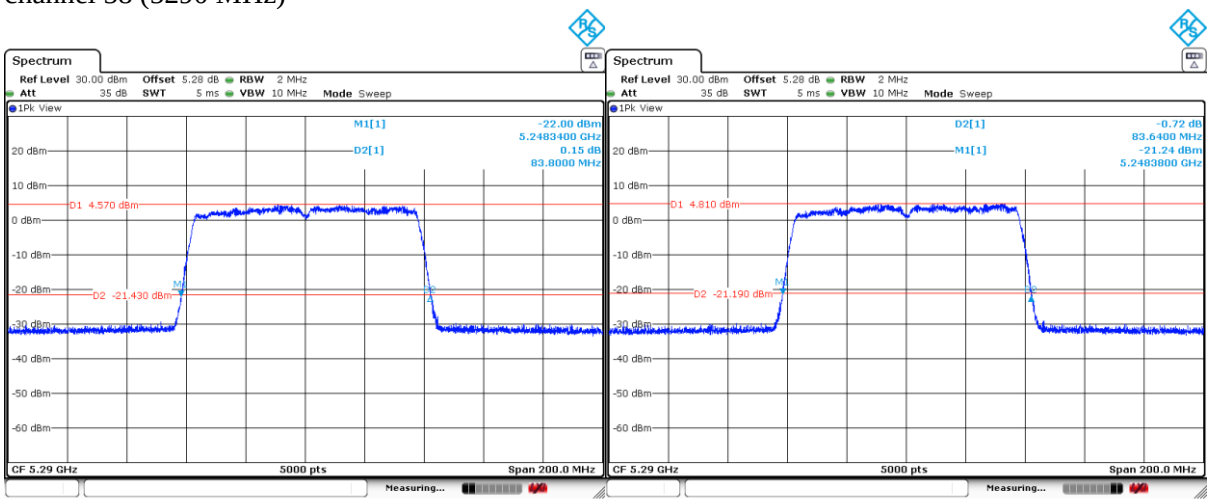


CORE 0 CORE 1

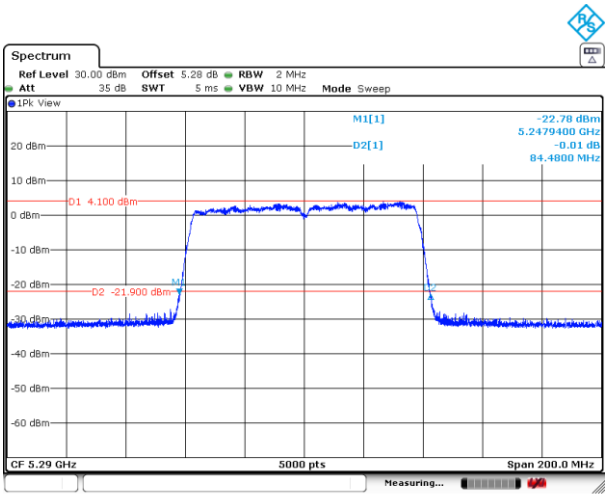


CORE 2

channel 58 (5290 MHz)

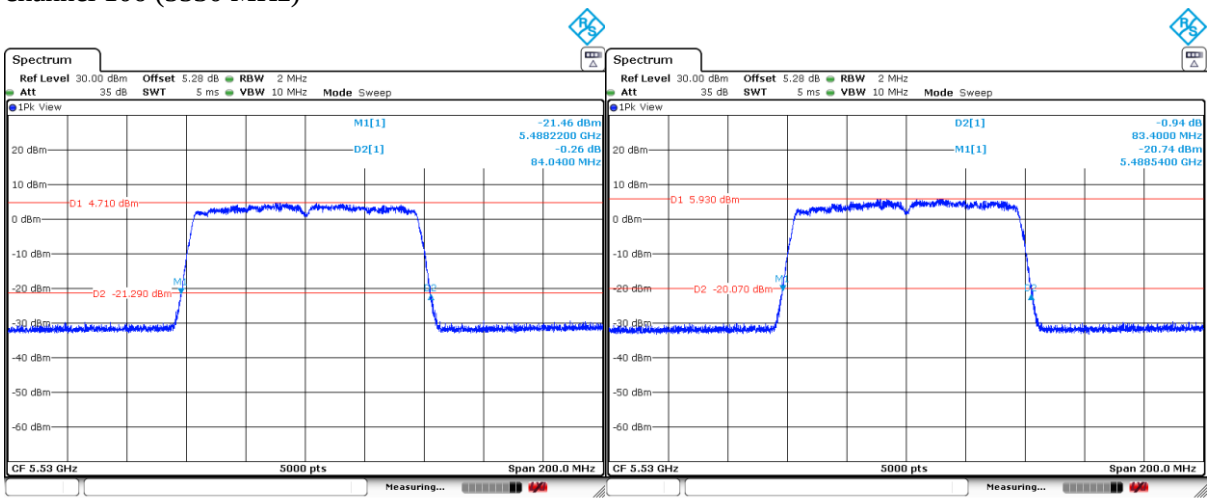


CORE 0 CORE 1

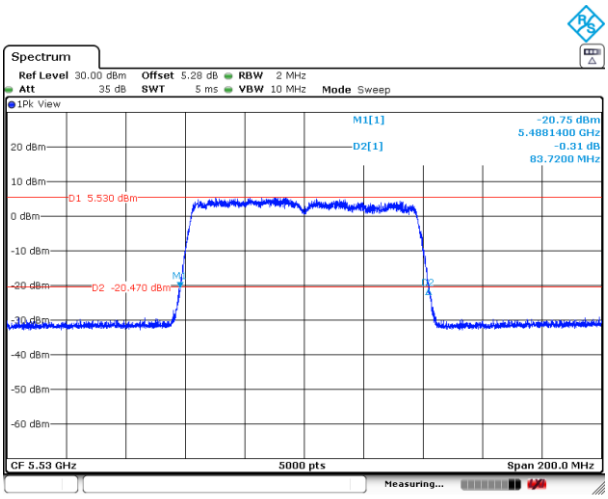


CORE 2

channel 106 (5530 MHz)

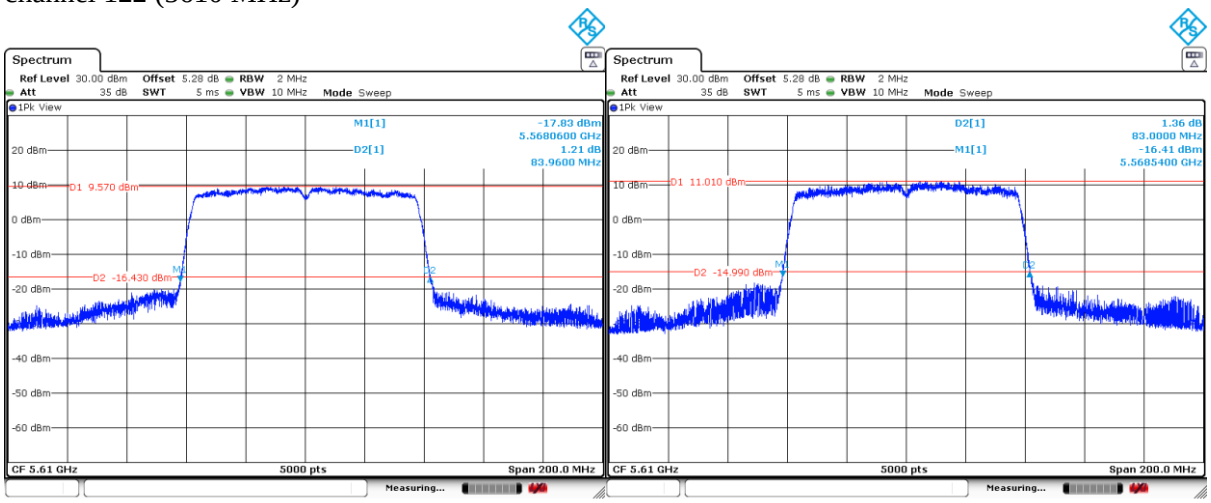


CORE 0 CORE 1

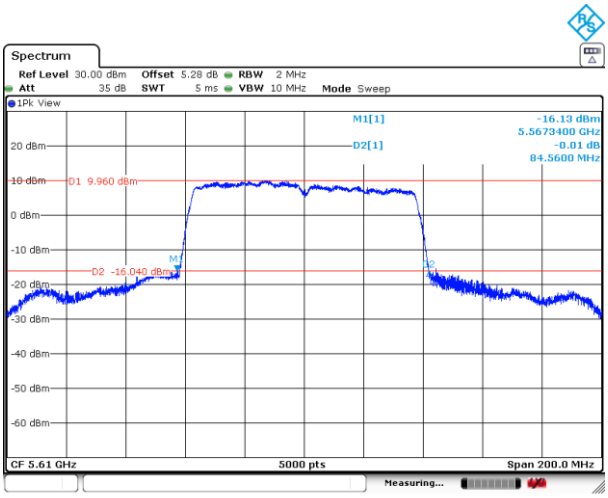


CORE 2

channel 122 (5610 MHz)

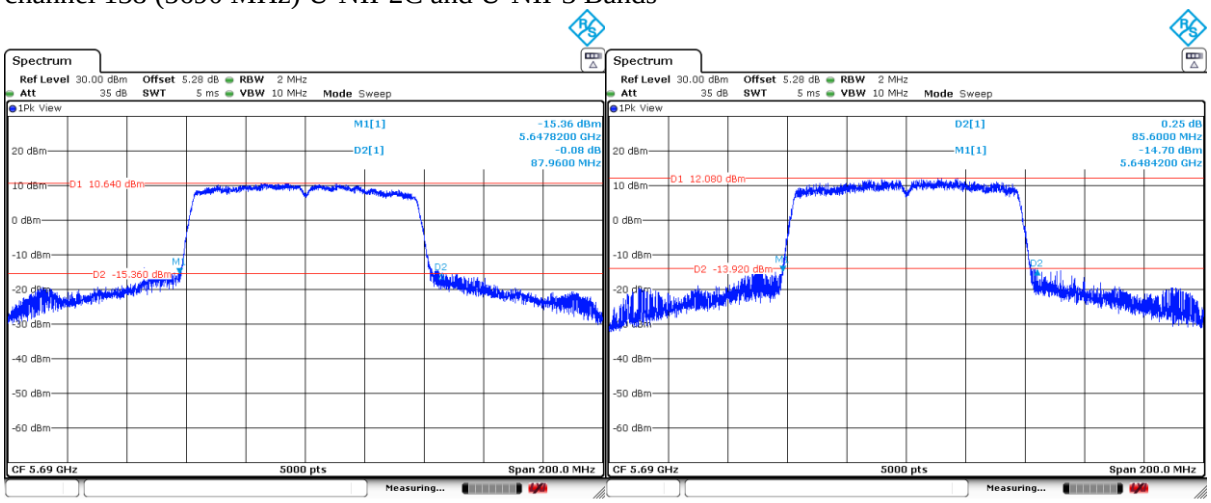


CORE 0 CORE 1

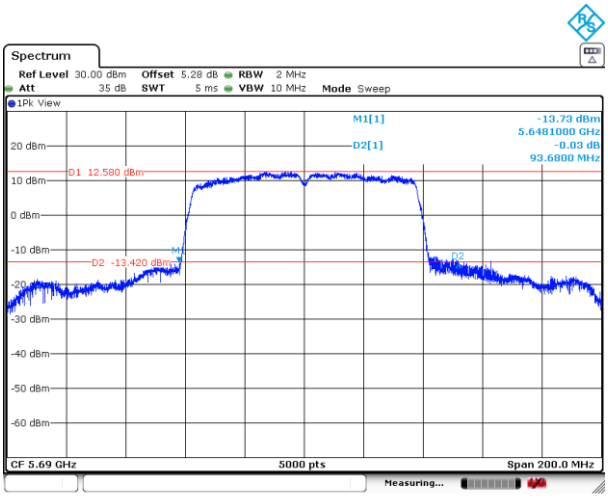


CORE 2

channel 138 (5690 MHz) U-NII-2C and U-NII-3 Bands

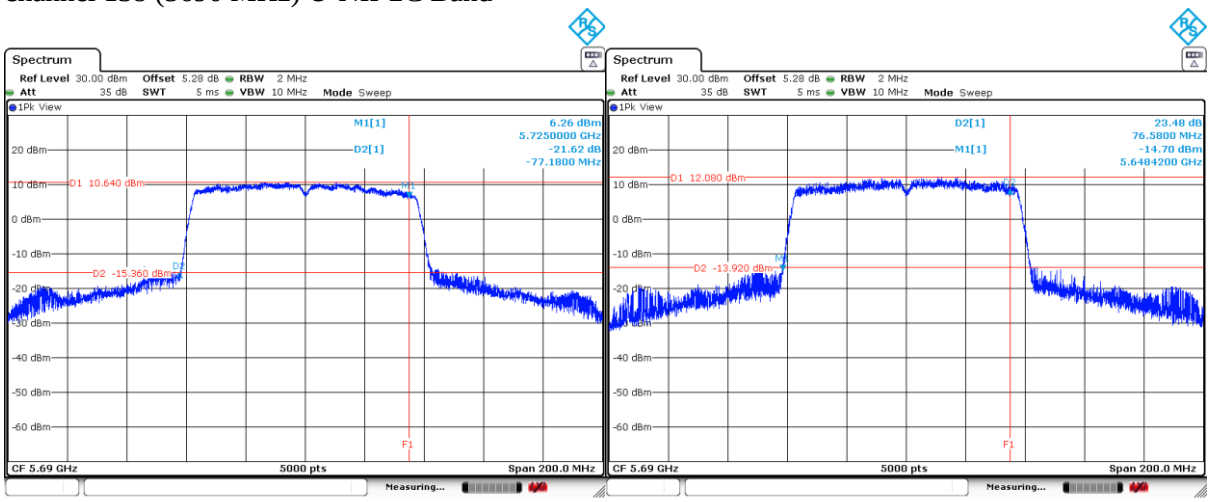


CORE 0 CORE 1

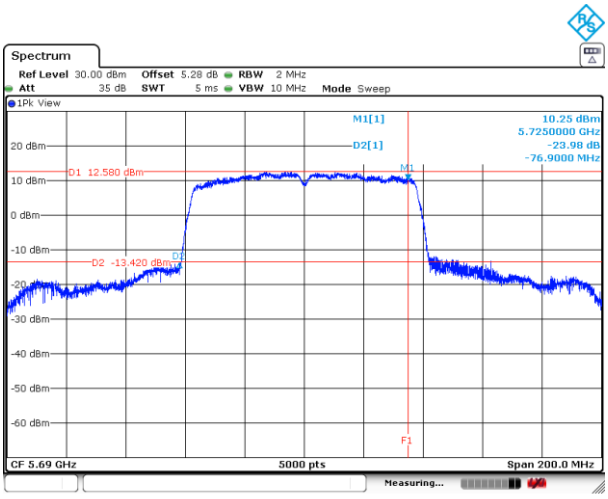


CORE 2

channel 138 (5690 MHz) U-NII-2C Band

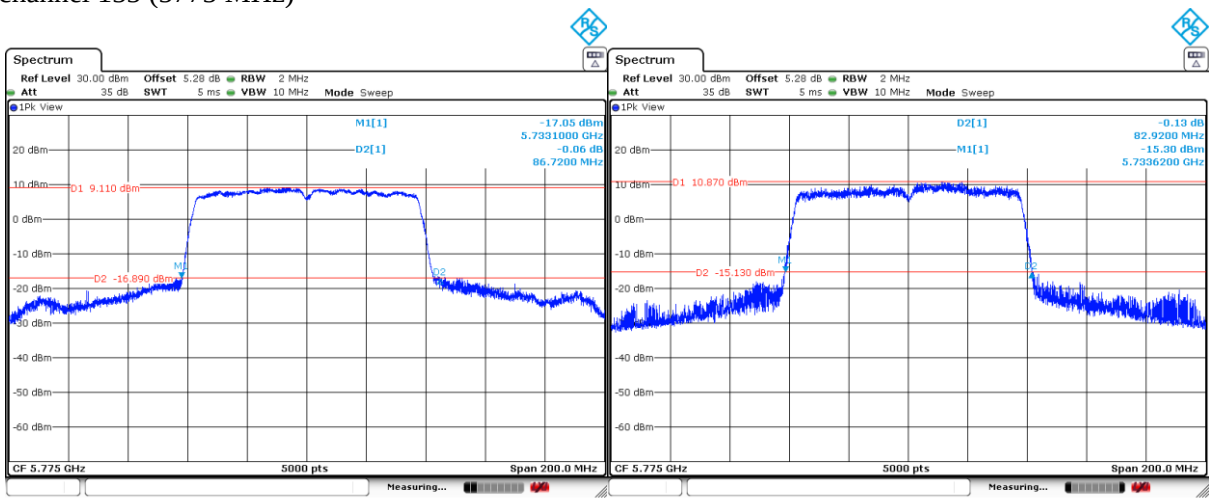


CORE 0 CORE 1

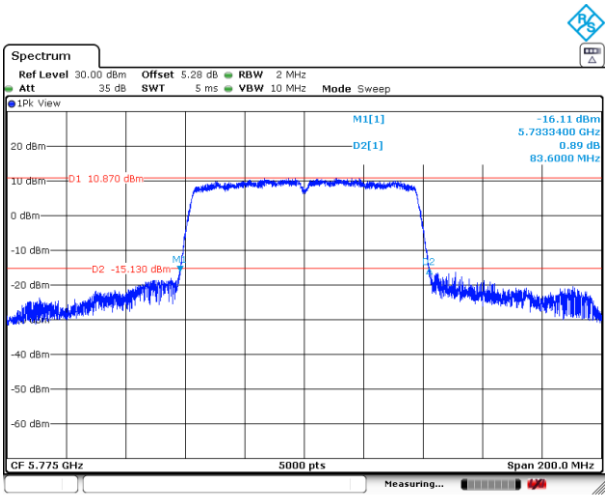


CORE 2

channel 155 (5775 MHz)



CORE 0 CORE 1


Spectrum
Ref Level 30.00 dBm Offset 5.28 dB RBW 2 MHz
Att 35 dB SWT 5 ms VBW 10 MHz Mode Sweep
1Pk View
M1[1] -16.11 dBm
5.7333400 GHz
D2[1] 0.89 dB
83.6000 MHz
D1 10.870 dBm
D2 -15.130 dBm
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-40 dBm
-50 dBm
-60 dBm
CF 5.775 GHz
5000 pts
Span 200.0 MHz
Measuring...

CORE 2

Appendix B: Test result for 5.15GHz – 5.25GHz.

INDEX

TEST CONDITIONS

Power supply (V):

Vnominal = 120 Vac

Type of power supply = AC voltage main supply.

Type of antenna = Internal antenna.

Declared Gain for antenna (maximum) at each port/core:

G_{CORE0} = 3.08 dBi

G_{CORE1} = 3.19 dBi

G_{CORE2} = 4.15 dBi

Directional Antenna Gain Calculations for 2Tx CDD MIMO / Output Power Measurements:

- For 2Tx CDD MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii), directional gain was calculated as:

  N_{ANT} = 2, G_{ANT} was set equal to the gain of the antenna having the highest gain.

  Directional gain = G_{ANT} + Array Gain= 4.15 dBi + 0 dB = 4.15 dBi.

Directional Antenna Gain Calculations for 3Tx CDD MIMO / Output Power Measurements:

- For 3Tx CDD MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii), directional gain was calculated as:

  N_{ANT} = 3, G_{ANT} was set equal to the gain of the antenna having the highest gain.

  Directional gain = G_{ANT} + Array Gain= 4.15 dBi + 0 dB = 4.15 dBi.

Directional Antenna Gain Calculations for 2Tx CDD MIMO / PSD Measurements:

- For 2Tx CDD MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii), directional gain was calculated as:

  Nss= 1, N_{ANT} = 2, G_{CORE1} = 3.19 dBi, G_{CORE2} = 4.15 dBi

$$\text{Directional Gain} = 10\log\left[\frac{\sum_{j=1}^{N_{SS}}\left(\sum_{k=1}^{N_{ANT}} g_{j,k}\right)^2}{N_{ANT}}\right] = 10\log\left[\frac{\sum_{j=1}^{1}\left(\sum_{k=1}^{3} g_{j,k}\right)^2}{2}\right]$$

$$= 10\log\left[\frac{\left(g_{1,1}+g_{1,2}\right)^2}{2}\right] = 10\log\left[\frac{\left(10^{\frac{G_1}{20}}+10^{\frac{G_2}{20}}\right)^2}{2}\right] = 10\log\left[\frac{\left(10^{\frac{3.19}{20}}+10^{\frac{4.15}{20}}\right)^2}{2}\right] = \mathbf{6.69}\ \text{dBi}$$

Directional Antenna Gain Calculations for 3Tx CDD MIMO / PSD Measurements:

- For 3Tx CDD MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii), directional gain was calculated as:

  Nss= 1, N_{ANT} = 3, G_{CORE0} = 3.08 dBi, G_{CORE1} = 3.19 dBi, G_{CORE2} = 4.15 dBi

$$\text{Directional Gain} = 10\log\left[\frac{\sum_{j=1}^{N_{SS}}\left(\sum_{k=1}^{N_{ANT}} g_{j,k}\right)^2}{N_{ANT}}\right] = 10\log\left[\frac{\sum_{j=1}^{1}\left(\sum_{k=1}^{3} g_{j,k}\right)^2}{3}\right]$$

$$= 10\log\left[\frac{\left(g_{1,1}+g_{1,2}+g_{1,3}\right)^2}{3}\right] = 10\log\left[\frac{\left(10^{\frac{G_1}{20}}+10^{\frac{G_2}{20}}+10^{\frac{G_3}{20}}\right)^2}{3}\right] = 10\log\left[\frac{\left(10^{\frac{3.08}{20}}+10^{\frac{3.19}{20}}+10^{\frac{4.15}{20}}\right)^2}{3}\right] = 8.26 \text{ dBi}$$

Directional Antenna Gain Calculations for 2Tx SDM MIMO Measurements:

- For 2Tx SDM MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(ii), directional gain was calculated as:
  Nss= 1, N_{ANT} = 2, G_{CORE1} = 3.19 dBi, G_{CORE2} = 4.15 dBi

$$\text{Directional Gain} = 10\log\left[\frac{10^{\frac{G_1}{10}}+10^{\frac{G_2}{10}}+\cdots+10^{\frac{G_N}{10}}}{N_{ANT}}\right] = 10\log\left[\frac{10^{\frac{G_1}{10}}+10^{\frac{G_2}{10}}}{N_{ANT}}\right] = 10\log\left[\frac{10^{\frac{3.19}{10}}+10^{\frac{4.15}{10}}}{2}\right] = 3.70 \text{ dBi}$$

Directional Antenna Gain Calculations for 3Tx SDM MIMO Measurements:

- For 3Tx SDM MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(ii), directional gain was calculated as:

  Nss= 1, N_{ANT} = 3, G_{CORE0} = 3.08 dBi, G_{CORE1} = 3.19 dBi, G_{CORE2} = 4.15 dBi

$$\text{Directional Gain} = 10\log\left[\frac{10^{\frac{G_1}{10}}+10^{\frac{G_2}{10}}+\cdots+10^{\frac{G_N}{10}}}{N_{ANT}}\right] = 10\log\left[\frac{10^{\frac{G_1}{10}}+10^{\frac{G_2}{10}}+10^{\frac{G_3}{10}}}{N_{ANT}}\right]$$

$$= 10\log\left[\frac{10^{\frac{3.08}{10}}+10^{\frac{3.19}{10}}+10^{\frac{4.15}{10}}}{3}\right] = 3.50 \text{ dBi}$$

Directional Antenna Gain Calculations for TxBF MIMO Measurements:

- For 2Tx TxBF MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(i), directional gain was calculated as:

  N_{ANT} = 2, G_{CORE1} = 3.19 dBi, G_{CORE2} = 4.15 dBi

$$\text{Directional Gain} = 10\log\left[\frac{\sum_{j=1}^{N_{SS}}\left(\sum_{k=1}^{N_{ANT}} g_{j,k}\right)^2}{N_{ANT}}\right] = 10\log\left[\frac{\sum_{j=1}^{1}\left(\sum_{k=1}^{3} g_{j,k}\right)^2}{2}\right]$$

$$= 10\log\left[\frac{\left(g_{1,1}+g_{1,2}\right)^2}{2}\right] = 10\log\left[\frac{\left(10^{\frac{G_1}{20}}+10^{\frac{G_2}{20}}\right)^2}{2}\right] = 10\log\left[\frac{\left(10^{\frac{3.19}{20}}+10^{\frac{4.15}{20}}\right)^2}{2}\right] = \mathbf{6.69}\ \text{dBi}$$

- For 3Tx TxBF MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(i), directional gain was calculated as:

  N_{ANT} = 3, G_{CORE0} = 3.08 dBi, G_{CORE1} = 3.19 dBi, G_{CORE2} = 4.15 dBi

$$\text{Directional Gain} = 10\log\left[\frac{\sum_{j=1}^{N_{SS}}\left(\sum_{k=1}^{N_{ANT}} g_{j,k}\right)^2}{N_{ANT}}\right] = 10\log\left[\frac{\sum_{j=1}^{1}\left(\sum_{k=1}^{3} g_{j,k}\right)^2}{3}\right]$$

$$= 10\log\left[\frac{\left(g_{1,1}+g_{1,2}+g_{1,3}\right)^2}{3}\right] = 10\log\left[\frac{\left(10^{\frac{G_1}{20}}+10^{\frac{G_2}{20}}+10^{\frac{G_2}{20}}\right)^2}{3}\right] = 10\log\left[\frac{\left(10^{\frac{3.08}{20}}+10^{\frac{3.19}{20}}+10^{\frac{4.15}{20}}\right)^2}{3}\right] = 8.26\ \text{dBi}$$

Technology Tested:	WLAN (IEEE 802.11 a,n,ac) / U-NII	
Modes:	802.11a: 6, 9, 12, 18, 24, 36, 48 & 54 Mbps (SISO, or MIMO with CDD)	
	802.11n HT20: MCS0 to MCS23 (1,2 or 3 spatial stream with either SISO or 2/3 chain MIMO CDD/SDM)	
	802.11n HT40: MCS0 to MCS23 (1,2 or 3 spatial stream with either SISO or 2/3 chain MIMO CDD/SDM)	
	802.11ac VHT20: MCS0 to MCS9 (1,2 or 3 spatial stream) (SISO, or MIMO with CDD/SDM with or without TxBF)	
	802.11ac VHT40: MCS0 to MCS9 (1,2 or 3 spatial stream) (SISO, or MIMO with CDD/SDM with or without TxBF)	
	802.11ac VHT80: MCS0 to MCS9 (1,2 or 3 spatial stream) (SISO, or MIMO with CDD/SDM with or without TxBF)	
Setting of cores / ports:	0,1,2, 0+1, 0+2, 1+2, 0+1+2	
Beamforming:	Yes	
Frequency Range:	5150 MHz to 5250 MHz	
Channel Spacing:	20 MHz	
Transmit Channels	Channel	Channel Frequency (MHz)
	Lowest: 36	5180
	Middle: 40	5200
	Highest: 48	5240
Channel Spacing:	40 MHz	
Transmit Channels	Channel	Channel Frequency (MHz)
	Lowest: 38	5190
	Highest: 46	5230
Channel Spacing:	80 MHz	
Transmit Channels	Middle: 42	5210

The test set-up was made in accordance to the general provisions of FCC Unlicensed National Information Infrastructure (U-NII) Devices 789033 D02 General U-NII Test Procedures New Rules v02r01 dated Dec 14, 2017.

The EUT was tested in the following operating mode(s):

- Non-TxBF modes: Continuously transmitting with a modulated carrier at maximum power in all required channels using the supported data rates/modulations types.
- TxBF modes: Transmitting a modulated carrier with maximum possible duty cycle at maximum power in all required channels using the supported data rates/modulations types.

The field strength at the band edges was evaluated for each mode for the channel under test.

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

For non-TxBF modes, the EUT was configured in test mode using a software application. The application was used to enable a continuous transmission and to select the test channels as required. The client supplied scripts to configure the EUT. The customer supplied a document containing the setup instructions.

For TxBF modes, the EUT was communicating via a RF link (radiated or conducted) with an equivalent device. The EUT ran iPerf bandwidth testing application in client mode to produce maximum throughput. The client supplied scripts to configure the EUT. The customer supplied a document containing the setup instructions.

The following modes and data rates were selected based on preliminary testing that identified those corresponding to the worst cases:

- 802.11a: 6 Mbit/s / SISO on Core 2
- 802.11n HT20: MCS0 / SISO on Core 2
- 802.11n HT40: MCS0 / SISO on Core 2
- 802.11ac VHT80: MCS0x1 / SISO on Core 2
- 802.11n HT20: MCS0 / MIMO / 2Tx CDD on Core 1 & Core 2
- 802.11n HT40: MCS0 / MIMO / 2Tx CDD on Core 1 & Core 2
- 802.11ac VHT80: MCS0x1 / MIMO / 2Tx CDD on Core 1 & Core 2
- 802.11n HT20: MCS8 / MIMO / 2Tx SDM on Core 1 & Core 2
- 802.11n HT40: MCS8 / MIMO / 2Tx SDM on Core 1 & Core 2
- 802.11ac VHT80: MCS0x2 / MIMO / 2Tx SDM on Core 1 & Core 2
- 802.11ac VHT20: MCS0x1 / MIMO / 2Tx TxBF on Core 1 & Core 2
- 802.11ac VHT40: MCS0x1 / MIMO / 2Tx TxBF on Core 1 & Core 2
- 802.11ac VHT80: MCS0x1 / MIMO / 2Tx TxBF on Core 1 & Core 2

- 802.11n HT20: MCS0 / MIMO / 3Tx CDD on Core 0 & Core 1 & Core 2
- 802.11n HT40: MCS0 / MIMO / 3Tx CDD on Core 0 & Core 1 & Core 2
- 802.11ac VHT80: MCS0x1 / MIMO / 3Tx CDD on Core 0 & Core 1 & Core 2

- 802.11n HT20: MCS16 / MIMO / 3Tx SDM on Core 0 &Core 1 & Core 2
- 802.11n HT40: MCS16 / MIMO / 3Tx SDM on Core 0 & Core 1 & Core 2
- 802.11ac VHT80: MCS0x3 / MIMO / 3Tx SDM on Core 0 & Core 1 & Core 2
- 802.11ac VHT20: MCS0x1 / MIMO / 3Tx TxBF on Core 0 & Core 1 & Core 2
- 802.11ac VHT40: MCS0x1 / MIMO / 3Tx TxBF on Core 0 & Core 1 & Core 2
- 802.11ac VHT80: MCS0x1 / MIMO / 3Tx TxBF on Core 0 & Core 1 & Core 2

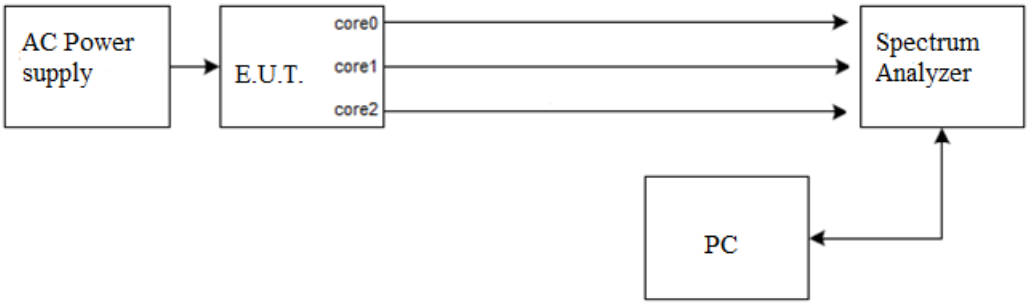
The EUT has three separate antennas which correspond to three separate antenna ports. Core 0 and Core 1 and Core 2 correspond to antenna 0, antenna 1 and antenna 2 respectively.

The client supplied U.FL RF cables with the EUT in order to perform conducted measurements. The measured additional path loss was included in any path loss calculations.

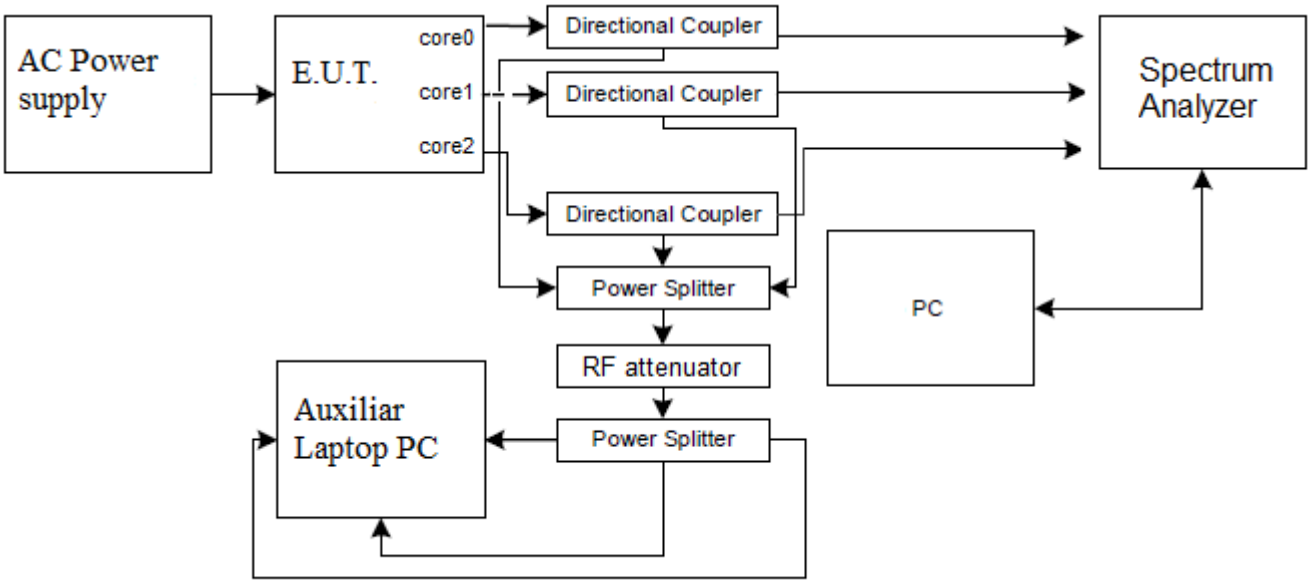
CONDUCTED MEASUREMENTS

The equipment under test was set up in a shielded room and connected to the spectrum analyzer using a low loss RF cable. The reading in the spectrum analyzer is corrected taking into account the internal and external RF cable loss.

For non-TxBF modes:



For TxBF modes:



The AC supply voltage is applied using an external power supply.

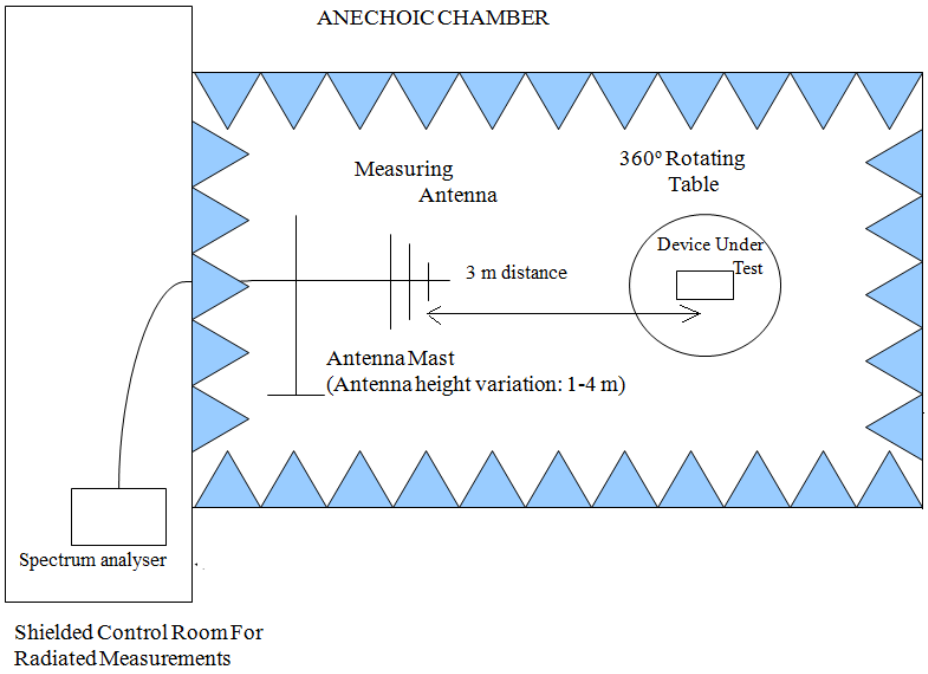
RADIATED MEASUREMENTS

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at a distance of 3 m. The EUT was placed at a height of 80 cm above the reference ground plane in the center of the chamber turntable to perform the measurements below 1GHz and The EUT was placed at a height of 1.5 meters above the test chamber floor in the center of the chamber turntable to perform the measurements above 1GHz. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

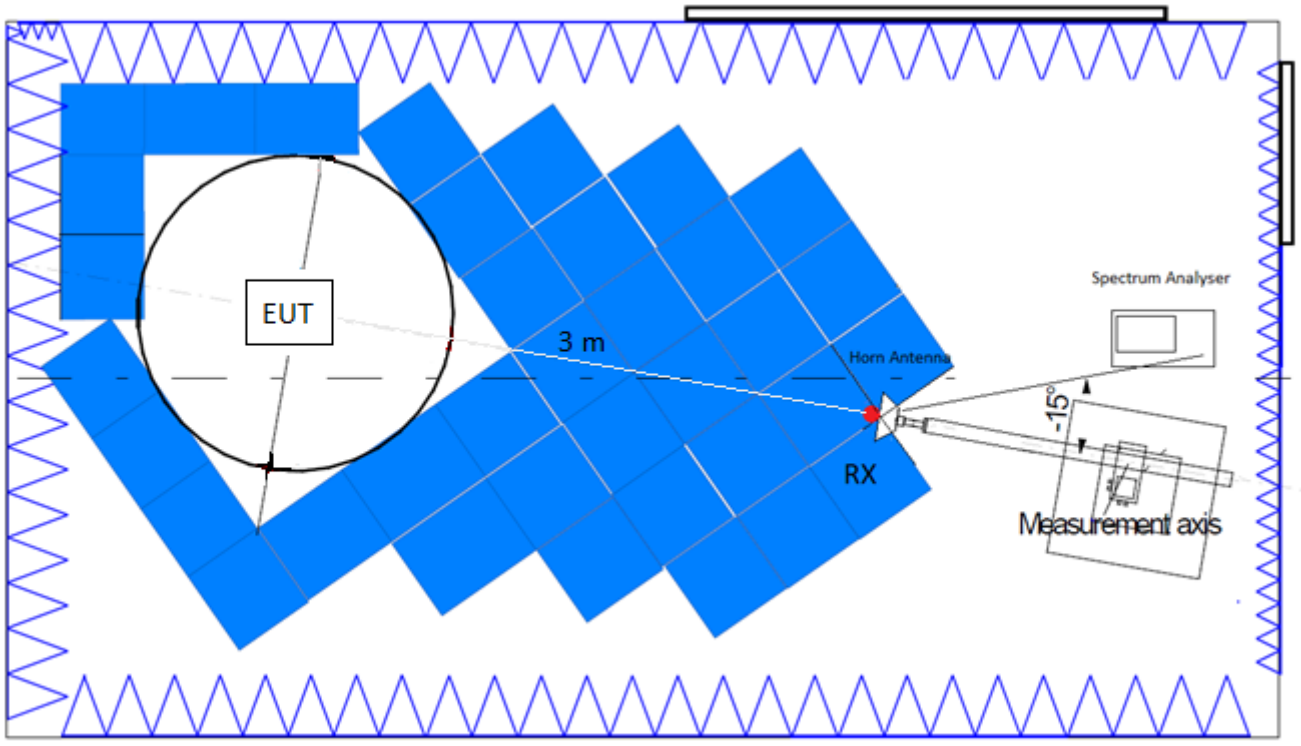
Measurements were made in both horizontal and vertical planes of polarization.

The final measured value, for the given emission, in the tables below incorporates the calibrated antenna factor and cable loss.

Radiated measurements setup f < 1 GHz



Radiated measurements setup f > 1 GHz



FCC Section 15.407 Subclause (a)(1)(iv). Transmitter Maximum Conducted Output Power / RSS-247 Clause 6.2.1.1. Transmitter Maximum Equivalent Isotropically Radiated Power

SPECIFICATION

FCC 15.407: For client devices in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24 dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

RSS-247: The maximum e.i.r.p. shall not exceed 200 mW (23 dBm) or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.

RESULTS:

The maximum conducted output power was measured using the channel power integration method according to point E) 2) b) (Method SA-1) of 789033 D02 General UNII Test Procedures New Rules v02r01 when the duty cycle is >98% and the channel power integration method according to point E) 2) d) (Method SA-2) of 789033 D02 General UNII Test Procedures New Rules v02r01 when the duty cycle is <98%.

For data rates where the EUT was transmitting at <98% duty cycle, the duty calculated in Appendix A was added to the measured power in order to calculate the total average power during the actual transmission time.

For all SISO and MIMO CDD/SDM modes of operation, the antenna gain is lower than 6dBi.

For 2TX TxBF modes of operation presented in this section of the test report, the directional antenna gain of 6.69 dBi. In accordance with Part 15.407(a)(1)(iv), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 24dBm has been reduced by 0.69 to 23.31 dBm.

For 3TX TxBF modes of operation presented in this section of the test report, the directional antenna gain of 8.26 dBi. In accordance with Part 15.407(a)(1)(iv), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 24dBm has been reduced by 2.26 to 21.74 dBm.

In the measure-and-sum approach for MIMO mode, the conducted emission level (*e.g.*, transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in linear power units (mW—not dBm).

The e.i.r.p. levels are calculated by adding the corresponding antenna gain (dBi).

FCC power setting

Mode : 802.11a - 20MHz – SISO – CORE 2

	channel 36 5180 MHz	channel 40 5200 MHz	channel 48 5240 MHz
Max. conducted power (dBm)	16.01	20.2	20.21
Conducted Power Limit (dBm)	24		
Margin (dB)	7.99	3.80	3.79
Measurement uncertainty (dB)	<±1.20		

Mode : 802.11n HT20 - 20MHz – SISO – CORE 2

	channel 36 5180 MHz	channel 40 5200 MHz	channel 48 5240 MHz
Max. conducted power (dBm)	15.99	20.27	19.73
Conducted Power Limit (dBm)	24		
Margin (dB)	8.01	3.73	4.27
Measurement uncertainty (dB)	<±1.20		

Mode : 802.11n HT40 - 40MHz – SISO – CORE 2

	channel 38 5190 MHz	channel 46 5230 MHz
Max. conducted power (dBm)	11.49	19.33
Duty Cycle Correction Factor (dB)	0.10	0.10
Max. conducted power corrected (dBm)	11.59	19.43
Conducted Power Limit (dBm)	24	
Margin (dB)	12.41	4.57
Measurement uncertainty (dB)	<±1.20	

Mode : 802.11ac VHT80 - 80MHz – SISO – CORE 2

	channel 42 5210 MHz
Max. conducted power (dBm)	10.46
Duty Cycle Correction Factor (dB)	0.15
Max. conducted power corrected (dBm)	10.61
Conducted Power Limit (dBm)	24
Margin (dB)	13.39
Measurement uncertainty (dB)	<±1.20

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

	channel 36 5180 MHz		channel 40 5200 MHz		channel 48 5240 MHz	
	CORE 1	CORE 2	CORE 1	CORE 2	CORE 1	CORE 2
Max. conducted power (dBm)	14.88	14.97	16.50	16.70	16.71	16.76
Combined Conducted Power (dBm)	17.94		19.61		19.75	
Conducted Power Limit (dBm)	24					
Margin (dB)	6.06		4.39		4.25	
Measurement uncertainty (dB)	<±1.20					

Mode : 802.11n HT40 – CDD – 40MHz – MIMO – CORE 1 & CORE 2

	channel 38 5190 MHz		channel 46 5230 MHz	
	CORE 1	CORE 2	CORE 1	CORE 2
Max. conducted power (dBm)	10.82	11	17.97	17.95
Duty Cycle Correction Factor (dB)	0.09	0.09	0.09	0.09
Max. conducted power corrected (dBm)	10.82	11	17.97	17.95
Combined Conducted Power (dBm)	14.01		21.06	
Conducted Power Limit (dBm)	24			
Margin (dB)	9.99		2.94	
Measurement uncertainty (dB)	<±1.20			

Mode : 802.11ac VHT80 – CDD – 80MHz – MIMO – CORE 1 & CORE 2

	channel 42 5210 MHz	
	CORE 1	CORE 2
Max. conducted power (dBm)	9.21	9.37
Duty Cycle Correction Factor (dB)	0.16	0.16
Max. conducted power corrected (dBm)	9.37	9.53
Combined Conducted Power (dBm)	12.46	
Conducted Power Limit (dBm)	24	
Margin (dB)	11.54	
Measurement uncertainty (dB)	<±1.20	

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

	channel 36 5180 MHz		channel 40 5200 MHz		channel 48 5240 MHz	
	CORE 1	CORE 2	CORE 1	CORE 2	CORE 1	CORE 2
Max. conducted power (dBm)	14.57	14.99	17.96	17.90	16.74	16.81
Combined Conducted Power (dBm)	17.80		20.94		19.79	
Conducted Power Limit (dBm)	24					
Margin (dB)	6.20		3.06		4.21	
Measurement uncertainty (dB)	<±1.20					

Mode : 802.11n HT40 – SDM – 40MHz – MIMO – CORE 1 & CORE 2

	channel 38 5190 MHz		channel 46 5230 MHz	
	CORE 1	CORE 2	CORE 1	CORE 2
Max. conducted power (dBm)	10.66	10.94	17.80	17.60
Duty Cycle Correction Factor (dB)	0.14	0.14	0.22	0.22
Max. conducted power corrected (dBm)	10.80	11.08	18.02	17.82
Combined Conducted Power (dBm)	13.96		20.93	
Conducted Peak Power Limit (dBm)	24			
Margin (dB)	10.04		3.07	
Measurement uncertainty (dB)	<±1.20			

Mode : 802.11ac VHT80 – SDM – 80MHz – MIMO – CORE 1 & CORE 2

	channel 42 5210 MHz	
	CORE 1	CORE 2
Max. conducted power (dBm)	9.03	9.30
Duty Cycle Correction Factor (dB)	0.29	0.29
Max. conducted power corrected (dBm)	9.32	9.59
Combined Conducted Power (dBm)	12.47	
Conducted Power Limit (dBm)	24	
Margin (dB)	16.17	
Measurement uncertainty (dB)	<±1.20	

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

	channel 36 5180 MHz		channel 40 5200 MHz		channel 48 5240 MHz	
	CORE 1	CORE 2	CORE 1	CORE 2	CORE 1	CORE 2
Max. conducted power (dBm)	14.99	14.43	16.94	16.48	16.91	16.50
Duty Cycle Correction Factor (dB)	0.11	0.11	0.11	0.11	0.11	0.11
Max. conducted power corrected (dBm)	15.10	14.54	17.05	16.59	17.02	16.61
Combined Conducted Power (dBm)	17.84		19.84		19.83	
Conducted Power Limit (dBm)	23.31					
Margin (dB)	5.47		3.47		3.48	
Measurement uncertainty (dB)	<±1.20					

Mode : 802.11n HT40 – TxBF – 40MHz – MIMO – CORE 1 & CORE 2

	channel 38 5190 MHz		channel 46 5230 MHz	
	CORE 1	CORE 2	CORE 1	CORE 2
Max. conducted power (dBm)	10.22	10.36	17.65	17.82
Duty Cycle Correction Factor (dB)	0.13	0.13	0.13	0.13
Max. conducted power corrected (dBm)	10.35	10.49	17.78	17.95
Combined Conducted Power (dBm)	13.43		20.87	
Conducted Power Limit (dBm)	23.31			
Margin (dB)	9.88		2.43	
Measurement uncertainty (dB)	<±1.20			

Mode : 802.11ac VHT80 – TxBF – 80MHz – MIMO – CORE 1 & CORE 2

	channel 42 5210 MHz	
	CORE 1	CORE 2
Max. conducted power (dBm)	7.69	7.67
Duty Cycle Correction Factor (dB)	0.11	0.11
Max. conducted power corrected (dBm)	7.80	7.78
Combined Conducted Power (dBm)	10.80	
Conducted Power Limit (dBm)	23.31	
Margin (dB)	12.51	
Measurement uncertainty (dB)	<±1.20	

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

	channel 36 5180 MHz			channel 40 5200 MHz		
	CORE 0	CORE 1	CORE 2	CORE 0	CORE 1	CORE 2
Max. conducted power (dBm)	13.23	13.41	13.43	13.63	13.91	13.93
Combined Conducted Power (dBm)	18.13			18.60		
Conducted Power Limit (dBm)	24					
Margin (dB)	5.87			5.40		
Measurement uncertainty (dB)	<±1.20					

	channel 48 5240 MHz		
	CORE 0	CORE 1	CORE 2
Max. conducted power (dBm)	13.86	13.91	13.92
Combined Conducted Power (dBm)	18.67		
Conducted Power Limit (dBm)	24		
Margin (dB)	5.33		
Measurement uncertainty (dB)	<±1.20		

Mode : 802.11n HT40 – CDD – 40MHz – MIMO – CORE 0 & CORE 1 & CORE 2

	channel 38 5190 MHz			channel 46 5230 MHz		
	CORE 0	CORE 1	CORE 2	CORE 0	CORE 1	CORE 2
Max. conducted power (dBm)	10.83	10.99	10.89	15.99	15.71	15.71
Combined Conducted Power (dBm)	15.68			20.58		
Conducted Power Limit (dBm)	24					
Margin (dB)	8.32			3.42		
Measurement uncertainty (dB)	<±1.20					

Mode : 802.11ac VHT80 – CDD – 80MHz – MIMO – CORE 0 & CORE 1 & CORE 2

	channel 38 5190 MHz		
	CORE 0	CORE 1	CORE 2
Max. conducted power (dBm)	8.72	8.57	8.90
Duty Cycle Correction Factor (dB)	0.18	0.18	0.18
Max. conducted power corrected (dBm)	8.90	8.75	9.08
Combined Conducted Power (dBm)	13.68		
Conducted Power Limit (dBm)	24		
Margin (dB)	10.32		
Measurement uncertainty (dB)	<±1.20		

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

	channel 36 5180 MHz			channel 40 5200 MHz		
	CORE 0	CORE 1	CORE 2	CORE 0	CORE 1	CORE 2
Max. conducted power (dBm)	14.19	14.09	14.27	15.90	15.77	15.91
Duty Cycle Correction Factor (dB)	0.11	0.11	0.11	0.11	0.11	0.11
Max. conducted power corrected (dBm)	14.30	14.20	14.38	16.01	15.88	16.02
Combined Conducted Power (dBm)	19.07			20.74		
Conducted Power Limit (dBm)	24					
Margin (dB)	4.93			3.26		
Measurement uncertainty (dB)	<±1.20					

	channel 48 5240 MHz		
	CORE 0	CORE 1	CORE 2
Max. conducted power (dBm)	15.70	15.71	15.76
Duty Cycle Correction Factor (dB)	0.11	0.11	0.11
Max. conducted power corrected (dBm)	15.81	15.82	15.87
Combined Conducted Power (dBm)	20.61		
Conducted Power Limit (dBm)	24		
Margin (dB)	3.39		
Measurement uncertainty (dB)	<±1.20		

Mode : 802.11n HT40 – SDM – 40MHz – MIMO – CORE 0 & CORE 1 & CORE 2

	channel 38 5190 MHz			channel 46 5230 MHz		
	CORE 0	CORE 1	CORE 2	CORE 0	CORE 1	CORE 2
Max. conducted power (dBm)	10.52	10.59	10.77	16.83	16.72	16.52
Duty Cycle Correction Factor (dB)	0.22	0.22	0.22	0.22	0.22	0.22
Max. conducted power corrected (dBm)	10.74	10.81	10.99	17.05	16.94	16.74
Combined Conducted Power (dBm)	15.62			21.68		
Conducted Power Limit (dBm)	24					
Margin (dB)	8.38			2.32		
Measurement uncertainty (dB)	<±1.20					

Mode : 802.11ac VHT80 – SDM – 80MHz – MIMO – CORE 0 & CORE 1 & CORE 2

	channel 42 5210 MHz		
	CORE 0	CORE 1	CORE 2
Max. conducted power (dBm)	8.57	8.64	8.68
Duty Cycle Correction Factor (dB)	0.37	0.37	0.37
Max. conducted power corrected (dBm)	8.94	9.01	9.05
Combined Conducted Power (dBm)	13.77		
Conducted Peak Power Limit (dBm)	24		
Margin (dB)	10.23		
Measurement uncertainty (dB)	<±1.20		

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

	channel 36 5180 MHz			channel 40 5200 MHz		
	CORE 0	CORE 1	CORE 2	CORE 0	CORE 1	CORE 2
Max. conducted power (dBm)	13.33	13.33	13.21	13.74	13.75	13.65
Duty Cycle Correction Factor (dB)	0.14	0.14	0.14	0.14	0.14	0.14
Max. conducted power corrected (dBm)	13.47	13.47	13.35	13.88	13.89	13.79
Combined Conducted Power (dBm)	18.20			18.62		
Conducted Power Limit (dBm)	21.74					
Margin (dB)	3.55			3.12		
Measurement uncertainty (dB)	<±1.20					

	channel 48 5240 MHz		
	CORE 0	CORE 1	CORE 2
Max. conducted power (dBm)	13.60	13.74	13.82
Duty Cycle Correction Factor (dB)	0.14	0.14	0.14
Max. conducted power corrected (dBm)	13.74	13.88	13.96
Combined Conducted Power (dBm)	18.63		
Conducted Power Limit (dBm)	21.74		
Margin (dB)	3.11		
Measurement uncertainty (dB)	<±1.20		

Mode : 802.11n HT40 – TxBF – 40MHz – MIMO – CORE 0 & CORE 1 & CORE 2

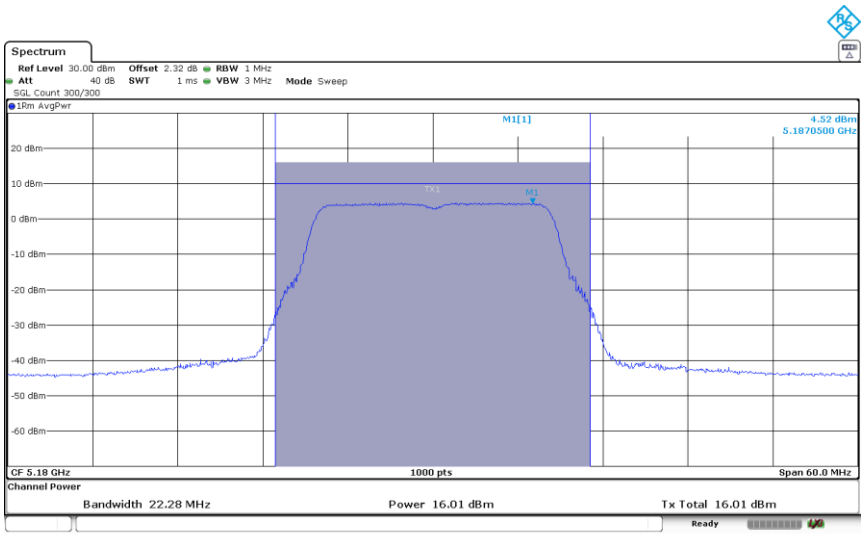
	channel 38 5190 MHz			channel 46 5230 MHz		
	CORE 0	CORE 1	CORE 2	CORE 0	CORE 1	CORE 2
Max. conducted power (dBm)	9.80	9.75	9.84	15.80	15.63	15.78
Duty Cycle Correction Factor (dB)	0.13	0.13	0.13	0.13	0.13	0.13
Max. conducted power corrected (dBm)	9.93	9.88	9.97	15.93	15.76	15.91
Combined Conducted Power (dBm)	14.70			20.64		
Conducted Power Limit (dBm)	21.74					
Margin (dB)	7.04			1.10		
Measurement uncertainty (dB)	<±1.20					

Mode : 802.11ac VHT80 – TxBF – 80MHz – MIMO – CORE 0 & CORE 1 & CORE 2

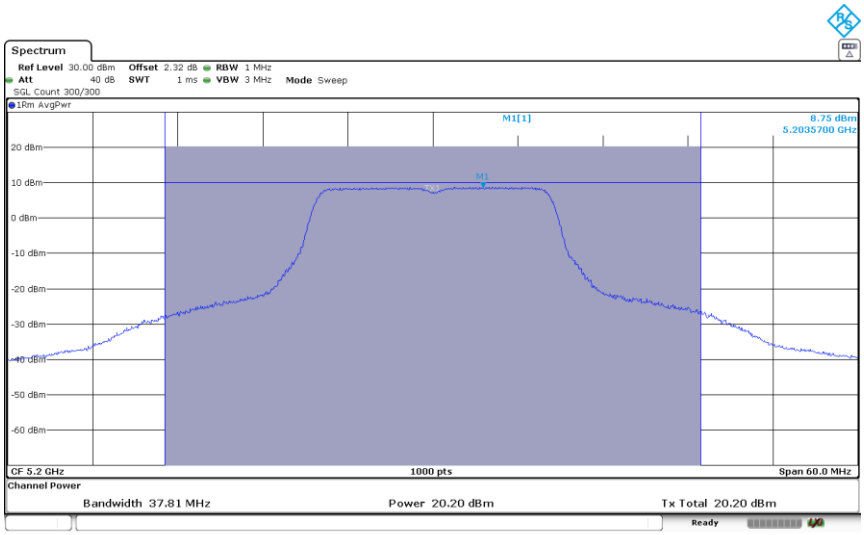
	channel 42 5210 MHz		
	CORE 0	CORE 1	CORE 2
Max. conducted power (dBm)	7.74	7.82	7.58
Duty Cycle Correction Factor (dB)	0.12	0.12	0.12
Max. conducted power corrected (dBm)	7.86	7.94	7.70
Combined Conducted Power (dBm)	12.61		
Conducted Power Limit (dBm)	21.74		
Margin (dB)	9.13		
Measurement uncertainty (dB)	<±1.20		

Mode : 802.11a - 20MHz – SISO – CORE 2

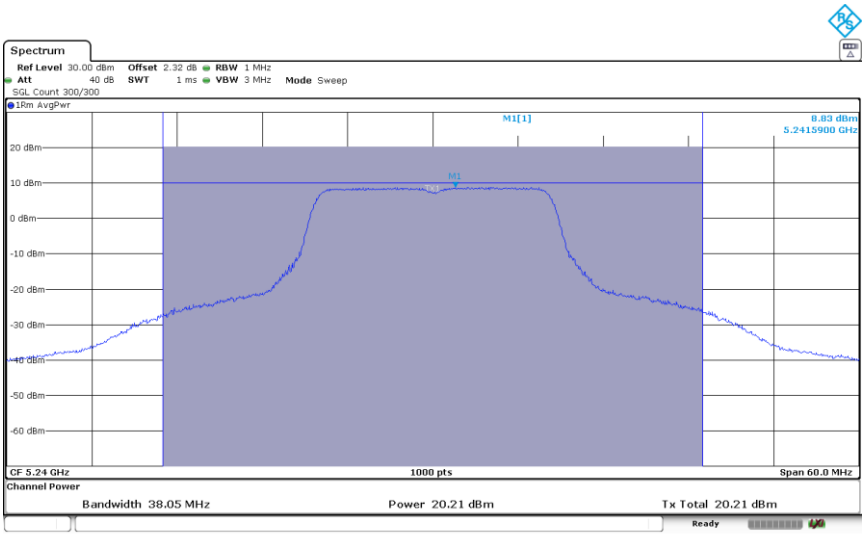
Channel 36



Channel 40

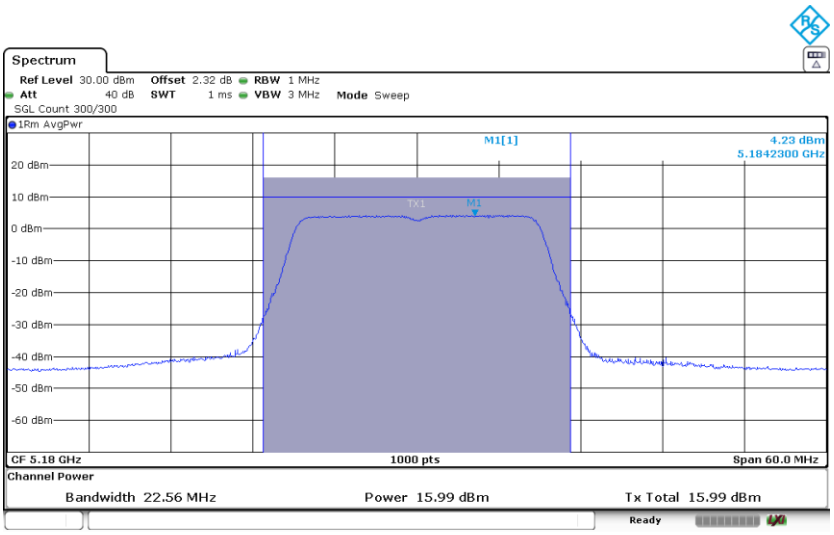


Channel 48

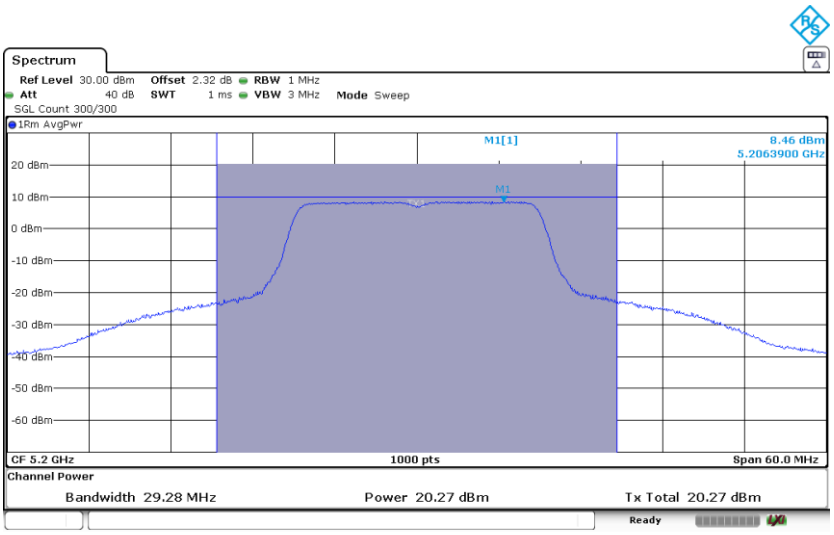


Mode : 802.11n HT20 - 20MHz – SISO – CORE 2

Channel 36



Channel 40



Channel 48