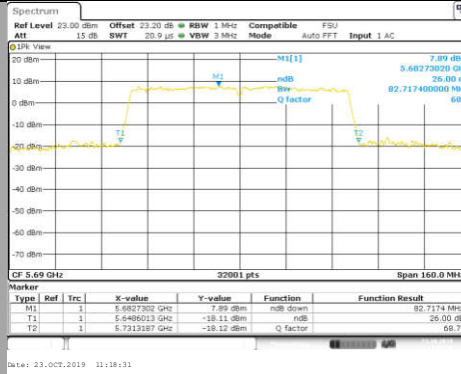




L C I E

802.11ac VHT80
C28



Channel	26dB Emission Bandwidth (MHz)
C24	82.62
C25	82.18
C26	83.27
C27	82.79
C28	82.72

5.6. CONCLUSION

26dB Emission Bandwidth measurement performed on the sample of the product **SAGEMCOM Mini Sound Box MSBDV00**, SN: **253837310**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.407 & RSS 247 ISSUE 2** limits.

6. 6dB EMISSION BANDWIDTH

6.1. TEST CONDITIONS

Test performed by : Julien Palard
Date of test : October 23, 2019
Ambient temperature : 24 °C
Relative humidity : 48 %

6.2. TEST SETUP

- The Equipment Under Test is installed:

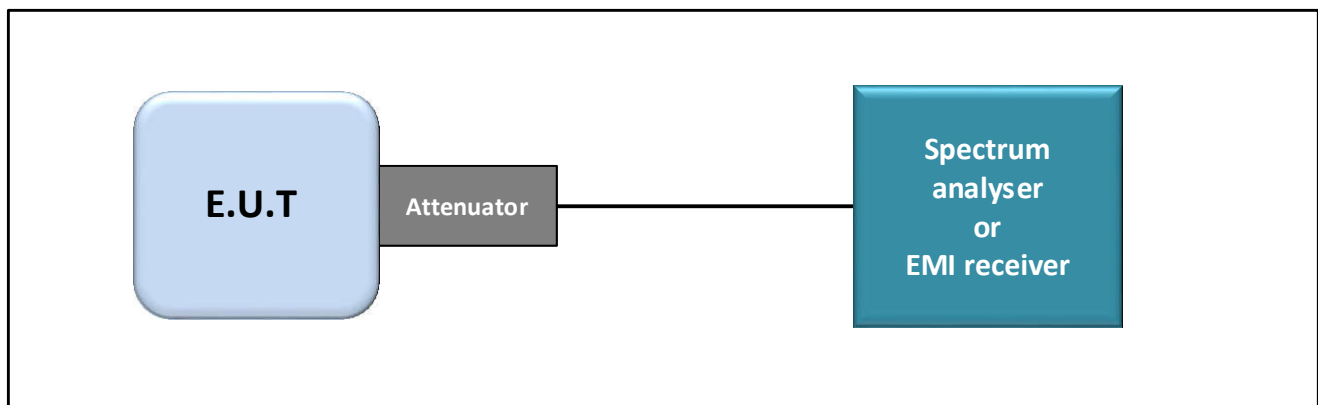
- On a table
- In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:

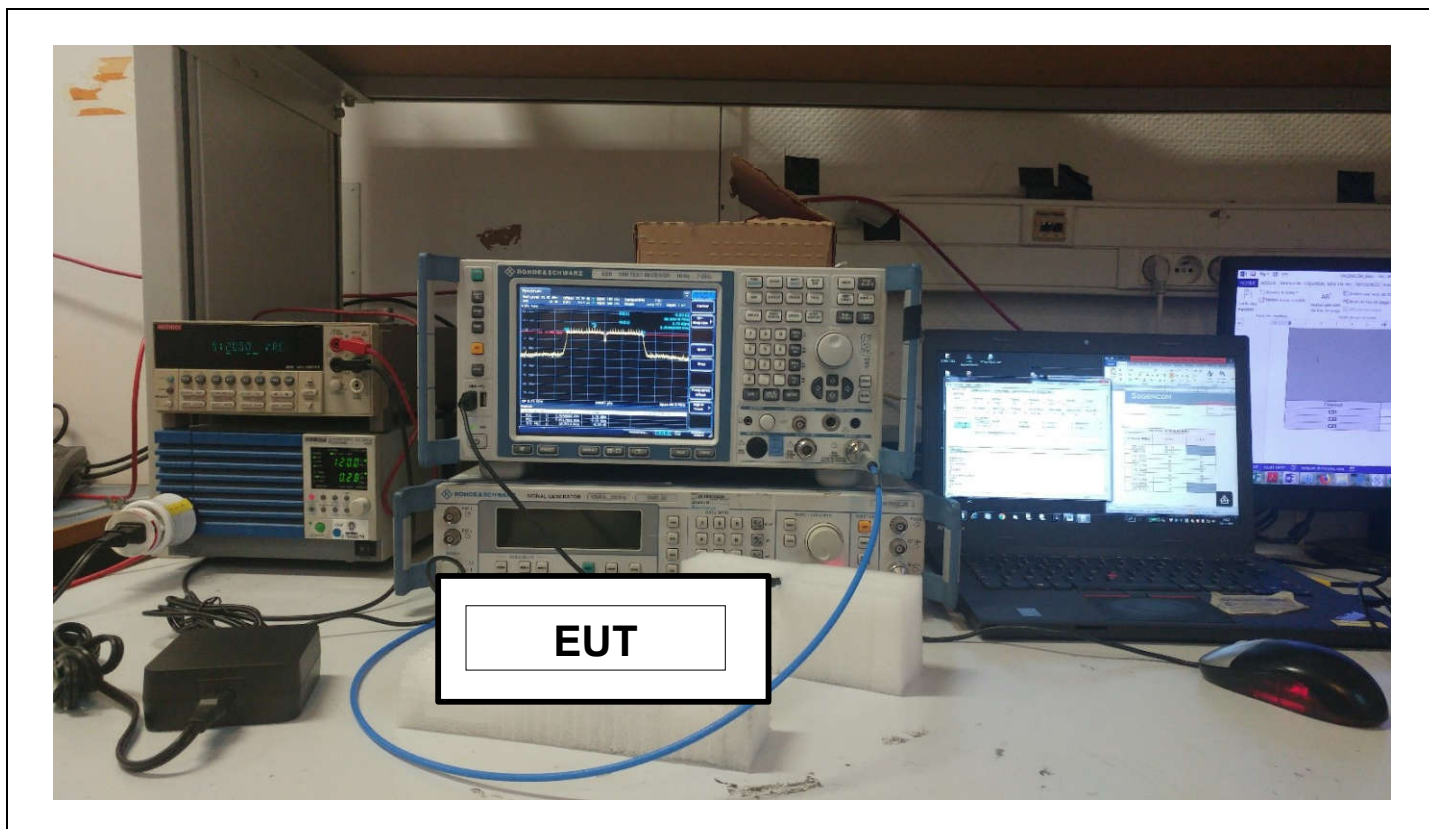
- Conducted Method
- Radiated Method

- Test Procedure:

- KDB 789033 D02 General UNII Test Procedures New Rules v02r01 § C2



Test set up of 6dB Emission Bandwidth



Photograph for 6dB emission bandwidth

6.3. LIMIT

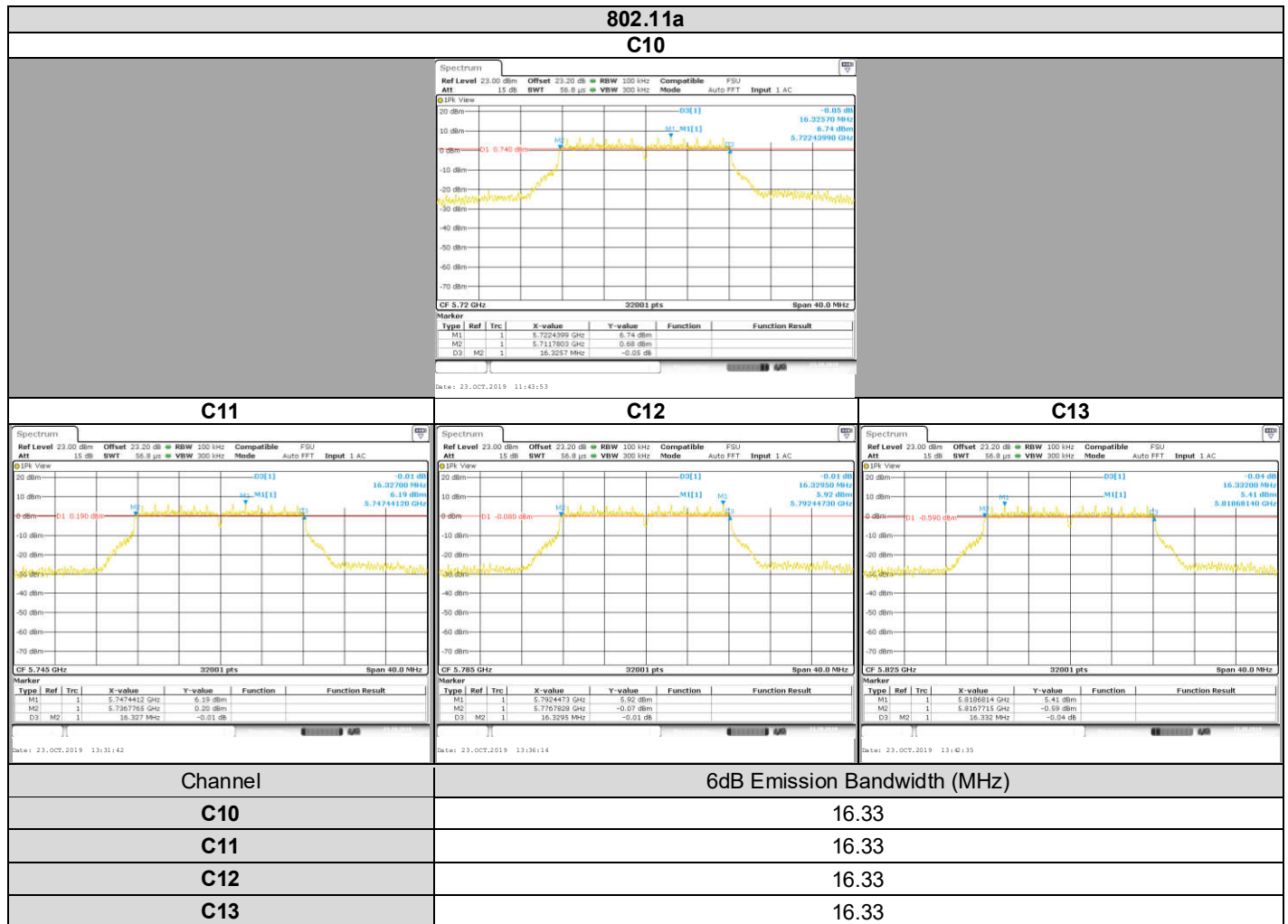
The 6dB bandwidth shall be at least 500kHz

6.4. TEST EQUIPMENT LIST

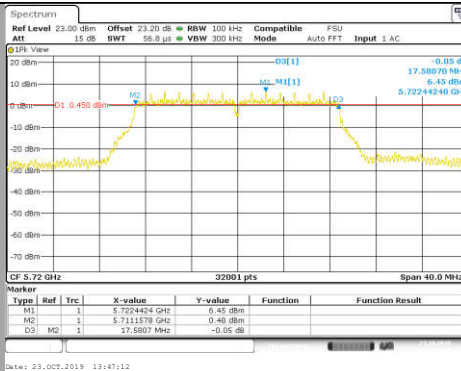
Apparatus	Trade Mark	Type	Registration number	Cal_Date	Cal_Due
Power supply	KIKUSUI	PCR500M	A7040079	Calibrated with multimeter	Calibrated with multimeter
Multimeter	Keithley	2000	A1241084	2018/12	2020/12
Cable + Attenuateur 20dB	PASTERNAK	PE350-150CM	A5329868	2018/12	2019/12
EMI receiver	ROHDE & SCHWARZ	ESR7	A2642023	2019/01	2021/01

Note: In our quality system, the test equipment calibration due is more & less 2 months

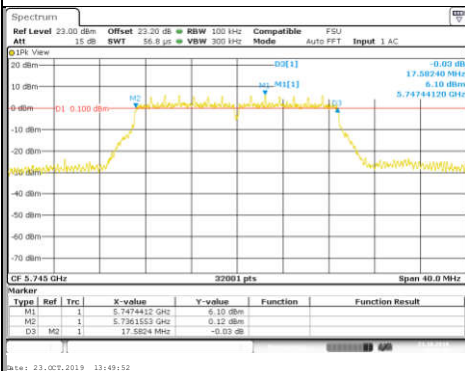
6.5. RESULTS



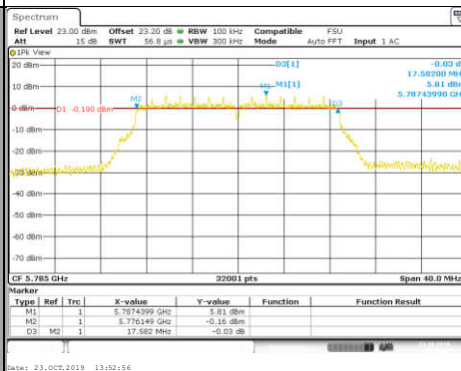
802.11n HT20/ac VHT20 C10



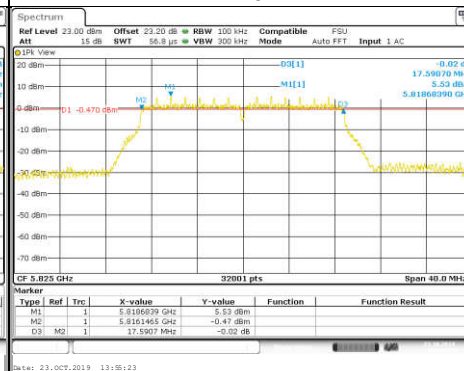
C11



C12



C13



Channel

6dB Emission Bandwidth (MHz)

C10

17.58

C11

17.58

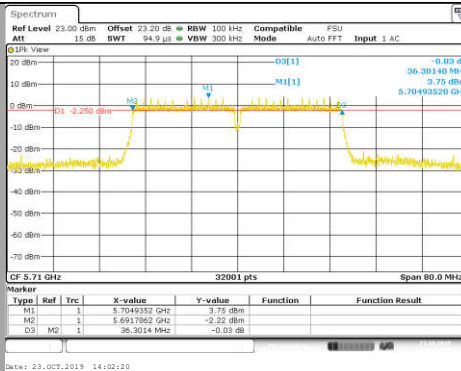
C12

17.58

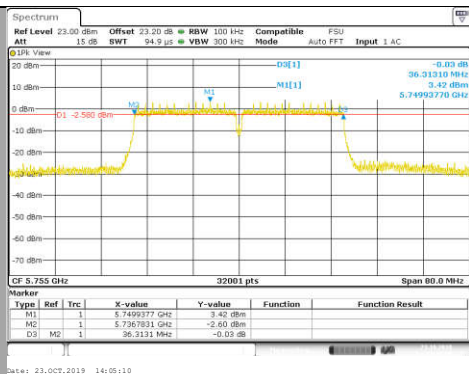
C13

17.59

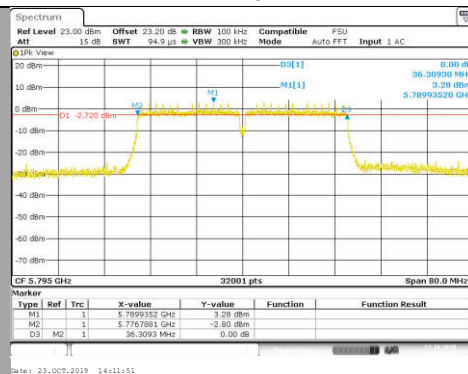
**802.11n HT40/ac VHT40
C21**



C22



C23

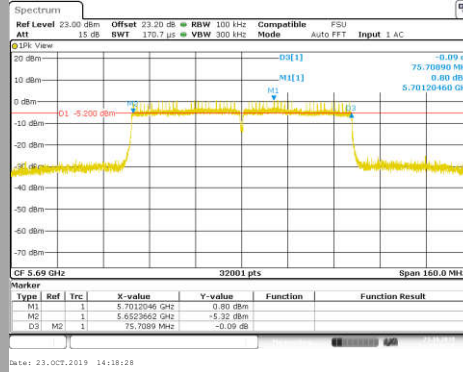


Channel	6dB Emission Bandwidth (MHz)
C21	36.30
C22	36.31
C23	36.31

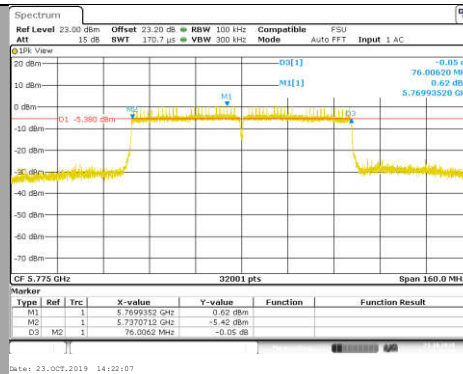


L C I E

802.11ac VHT80
C28



C29



Channel	6dB Emission Bandwidth (MHz)
C28	75.71
C29	76.01

6.6. CONCLUSION

6dB Emission Bandwidth measurement performed on the sample of the product **SAGEMCOM Mini Sound Box MSBDV00**, SN: **253837310**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.407 & RSS 247 ISSUE 2** limits.

7. DUTY CYCLE

7.1. TEST CONDITIONS

Test performed by : Julien Palard
Date of test : October 23, 2019
Ambient temperature : 24 °C
Relative humidity : 48 %

7.2. TEST SETUP

- The Equipment Under Test is installed:

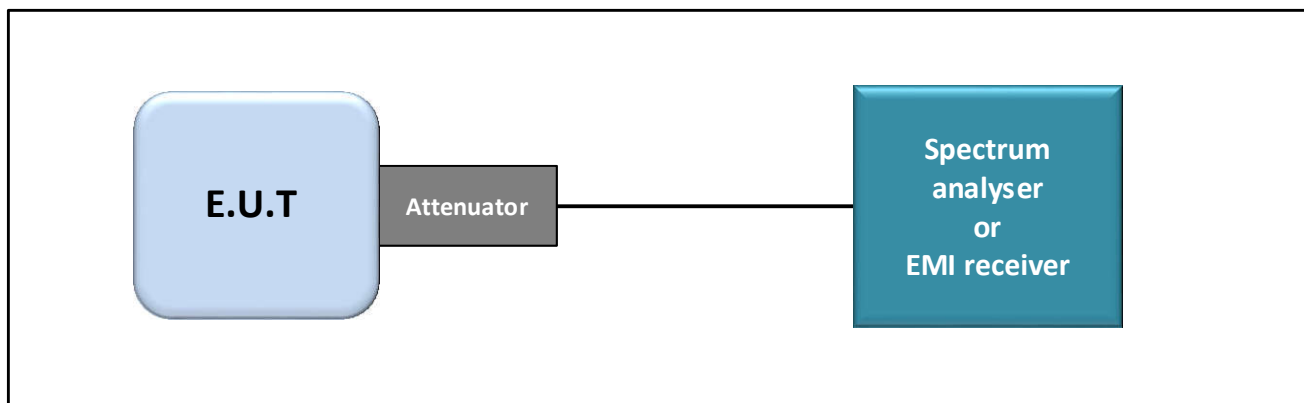
- On a table
- In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:

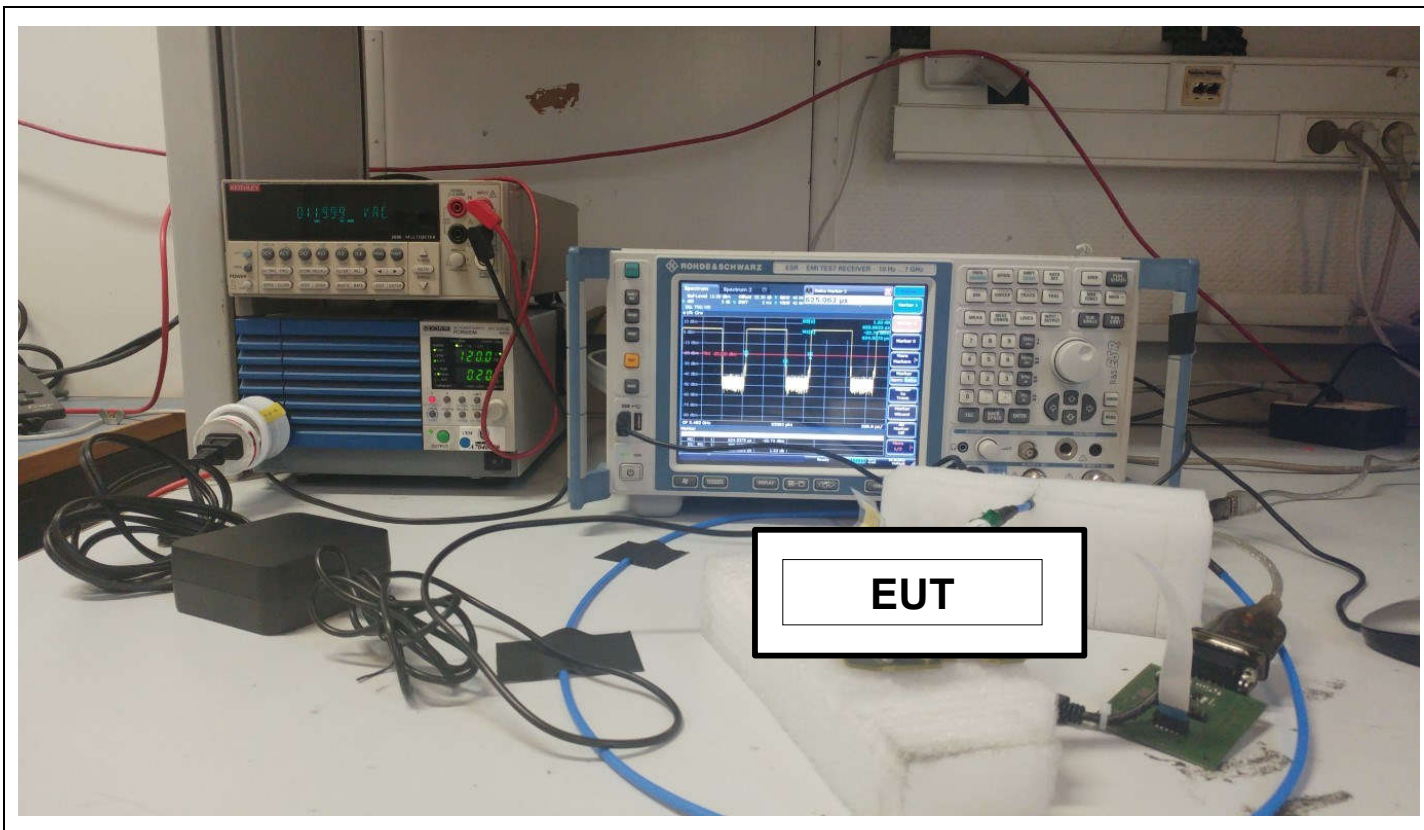
- Conducted Method
- Radiated Method

- Test Procedure:

- KDB 789033 D02 General UNII Test Procedures New Rules v02r01 § B2 b)



Test set up of Duty Cycle



Photograph for Duty Cycle

7.3. LIMIT

None

7.4. TEST EQUIPMENT LIST

Apparatus	Trade Mark	Type	Registration number	Cal_Date	Cal_Due
Power supply	KIKUSUI	PCR500M	A7040079	Calibrated with multimeter	Calibrated with multimeter
Multimeter	Keithley	2000	A1241084	2018/12	2020/12
Cable + Attenuateur 20dB	PASTERNAK	PE350-150CM	A5329868	2018/12	2019/12
EMI receiver	ROHDE & SCHWARZ	ESR7	A2642023	2019/01	2021/01

Note: In our quality system, the test equipment calibration due is more & less 2 months

7.5. RESULTS

802.11a C1	802.11n HT20/ac VHT20 Channel																																																								
 <p>802.11a C1</p> <p>Ref Level 33.00 dBm Offset 23.20 dB RBW 20 MHz Compatible FSU Input 1 AC ATT 25 dB SWT 5 ms VBW 20 MHz SQL TRG: IFF 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm CF 5.18 GHz 32001 pts 500.0 μs/ Marker <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>2.084219 ms</td> <td>-15.76 dBm</td> <td></td> <td></td> </tr> <tr> <td>D1</td> <td>M1</td> <td>1</td> <td>2.055312 ms</td> <td>9.95 dB</td> <td></td> <td></td> </tr> <tr> <td>D2</td> <td>M1</td> <td>1</td> <td>2.085 ms</td> <td>-1.96 dB</td> <td></td> <td></td> </tr> </tbody> </table> </p>	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.084219 ms	-15.76 dBm			D1	M1	1	2.055312 ms	9.95 dB			D2	M1	1	2.085 ms	-1.96 dB			 <p>802.11n HT20/ac VHT20 Channel</p> <p>Ref Level 33.00 dBm Offset 23.20 dB RBW 20 MHz Compatible FSU Input 1 AC ATT 25 dB SWT 2.3 ms VBW 20 MHz SQL TRG: IFF 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm CF 5.18 GHz 32001 pts 230.0 μs/ Marker <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>1.0035563 ms</td> <td>-17.41 dBm</td> <td></td> <td></td> </tr> <tr> <td>D1</td> <td>M1</td> <td>1</td> <td>996.5927 μs</td> <td>2.62 dB</td> <td></td> <td></td> </tr> <tr> <td>D2</td> <td>M1</td> <td>1</td> <td>1.0067187 ms</td> <td>1.72 dB</td> <td></td> <td></td> </tr> </tbody> </table> </p>	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		1.0035563 ms	-17.41 dBm			D1	M1	1	996.5927 μs	2.62 dB			D2	M1	1	1.0067187 ms	1.72 dB		
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802.11n HT40/ac VHT40 C14	802.11ac VHT80 C24																																																								
 <p>802.11n HT40/ac VHT40 C14</p> <p>Ref Level 33.00 dBm Offset 23.20 dB RBW 20 MHz Compatible FSU Input 1 AC ATT 25 dB SWT 1.6 ms VBW 20 MHz SQL TRG: IFF 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm CF 5.19 GHz 32001 pts 160.0 μs/ Marker <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>516.3563 μs</td> <td>-13.19 dBm</td> <td></td> <td></td> </tr> <tr> <td>D1</td> <td>M1</td> <td>1</td> <td>496.1957 μs</td> <td>-2.45 dB</td> <td></td> <td></td> </tr> <tr> <td>D2</td> <td>M1</td> <td>1</td> <td>516.4937 μs</td> <td>-5.08 dB</td> <td></td> <td></td> </tr> </tbody> </table> </p>	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		516.3563 μs	-13.19 dBm			D1	M1	1	496.1957 μs	-2.45 dB			D2	M1	1	516.4937 μs	-5.08 dB			 <p>802.11ac VHT80 C24</p> <p>Ref Level 33.00 dBm Offset 23.20 dB RBW 20 MHz Compatible FSU Input 1 AC ATT 25 dB SWT 860 μs VBW 20 MHz SQL TRG: IFF 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm CF 5.21 GHz 32001 pts 86.0 μs/ Marker <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td>275.6638 μs</td> <td>-17.86 dBm</td> <td></td> <td></td> </tr> <tr> <td>D1</td> <td>M1</td> <td>1</td> <td>257.805 μs</td> <td>1.46 dB</td> <td></td> <td></td> </tr> <tr> <td>D2</td> <td>M1</td> <td>1</td> <td>276.4831 μs</td> <td>0.91 dB</td> <td></td> <td></td> </tr> </tbody> </table> </p>	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		275.6638 μs	-17.86 dBm			D1	M1	1	257.805 μs	1.46 dB			D2	M1	1	276.4831 μs	0.91 dB		
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Mode	Duty Cycle (%)	Duty Cycle Correction (dB)																																																							
802.11a	99.05	$20\log\left(\frac{1}{duty\ cycle}\right) = 0.08$																																																							
802.11n HT20/ac VHT20	98.04	$20\log\left(\frac{1}{duty\ cycle}\right) = 0.17$																																																							
802.11n HT40/ac VHT40	96.07	$20\log\left(\frac{1}{duty\ cycle}\right) = 0.35$																																																							
802.11ac VHT80	93.24	$20\log\left(\frac{1}{duty\ cycle}\right) = 0.61$																																																							

7.6. CONCLUSION

Duty Cycle measurement performed on the sample of the product **SAGEMCOM Mini Sound Box MSBDV00**, SN: **253837310**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.407 & RSS 247 ISSUE 2** limits.

8. MAXIMUM CONDUCTED OUTPUT POWER, MAXIMUM POWER SPECTRAL DENSITY, MAXIMUM EIRP, MAXIMUM EIRP SPECTRAL DENSITY

8.1. TEST CONDITIONS

Test performed by : Julien Palard
Date of test : October 24, 2019
Ambient temperature : 24 °C
Relative humidity : 48 %

8.2. TEST SETUP

- The Equipment Under Test is installed:

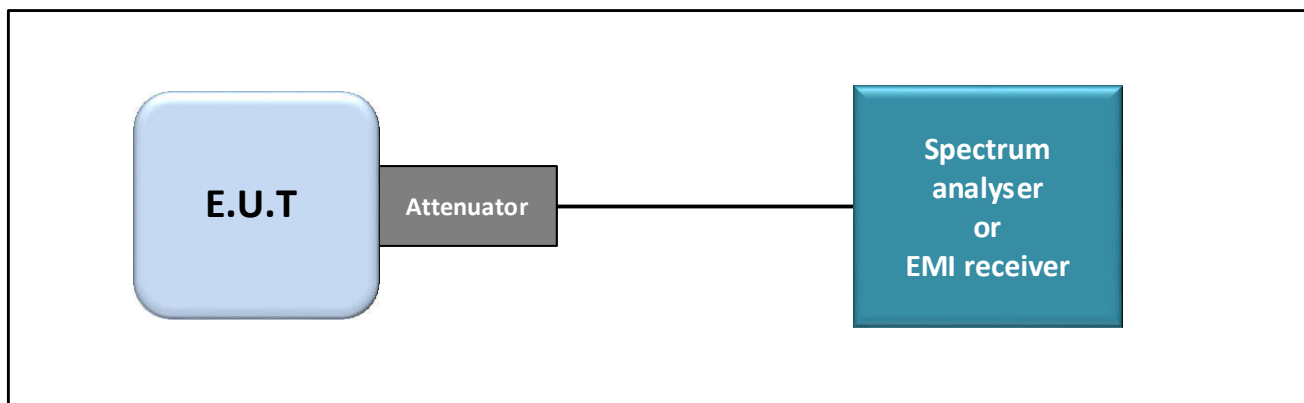
- On a table
- In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:

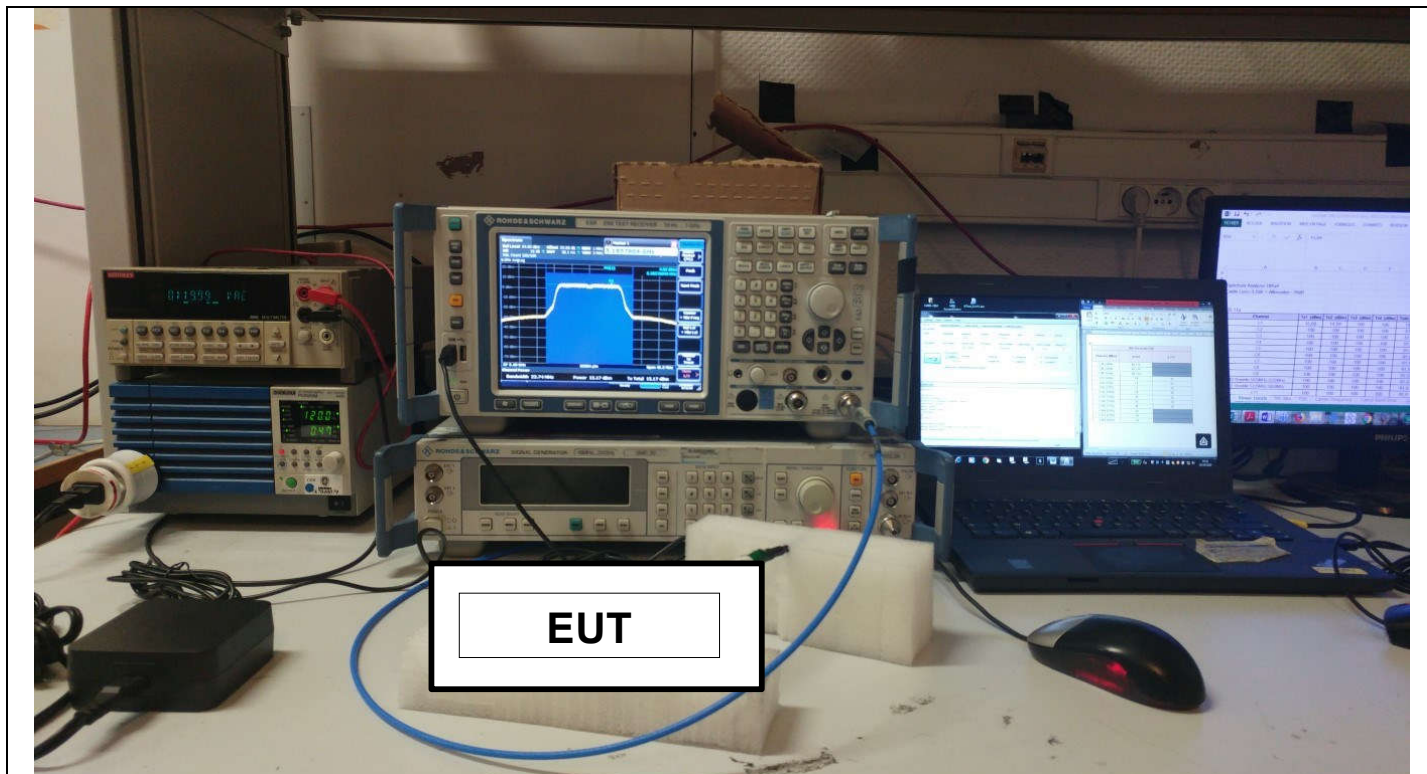
- Conducted Method
- Radiated Method

- Test Procedure:

- KDB 789033 D02 General UNII Test Procedures New Rules v02r01 § E2 b) (Method SA-1) & F
- KDB 789033 D02 General UNII Test Procedures New Rules v02r01 § E2 c) (Method SA-2) & F
- KDB 662911 D01 Multiple Transmitter Output v02r01



Test set up of Maximum Conducted Output Power



Photograph for Maximum Conducted Output Power



8.3. LIMIT

FCC Part 15.407

Maximum Conducted Output power:

5150MHz-5250MHz: Shall not exceed 30dBm for Indoor Access Point devices & 24dBm for Client devices

5250MHz-5350MHz: Shall not exceed 24dBm or 11dBm +10*log (-26dB Bandwidth (MHz))

5470MHz-5725MHz: Shall not exceed 24dBm or 11dBm +10*log (-26dB Bandwidth (MHz))

5725MHz-5850MHz: Shall not exceed 30dBm

Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

Maximum Power Spectral Density:

5150MHz-5250MHz: Shall not exceed 17dBm/MHz for Indoor Access Point & 11dBm/MHz for Client devices

5250MHz-5350MHz: Shall not exceed 11dBm/MHz

5470MHz-5725MHz: Shall not exceed 11dBm/MHz

5725MHz-5850MHz: Shall not exceed 30dBm/500kHz

Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

RSS-247

Maximum Conducted Output power:

5250MHz-5350MHz: Shall not exceed 24dBm or 11dBm +10*log (-26dB Bandwidth (MHz))

5470MHz-5725MHz: Shall not exceed 24dBm or 11dBm +10*log (-26dB Bandwidth (MHz))

5725MHz-5850MHz: Shall not exceed 30dBm

Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

Maximum Power Spectral Density:

5250MHz-5350MHz: Shall not exceed 11dBm/MHz

5470MHz-5725MHz: Shall not exceed 11dBm/MHz

5725MHz-5850MHz: Shall not exceed 30dBm/500kHz

Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

Maximum EIRP:

5150MHz-5250MHz: Shall not exceed 23dBm or 10dBm +10*log (-26dB Bandwidth (MHz))

5250MHz-5350MHz: Shall not exceed 30dBm or 17dBm +10*log (-26dB Bandwidth (MHz)) (Above 23dBm Antenna pattern)

5470MHz-5725MHz : Shall not exceed 30dBm or 17dBm +10*log (-26dB Bandwidth (MHz))

Maximum EIRP Power Spectral Density:

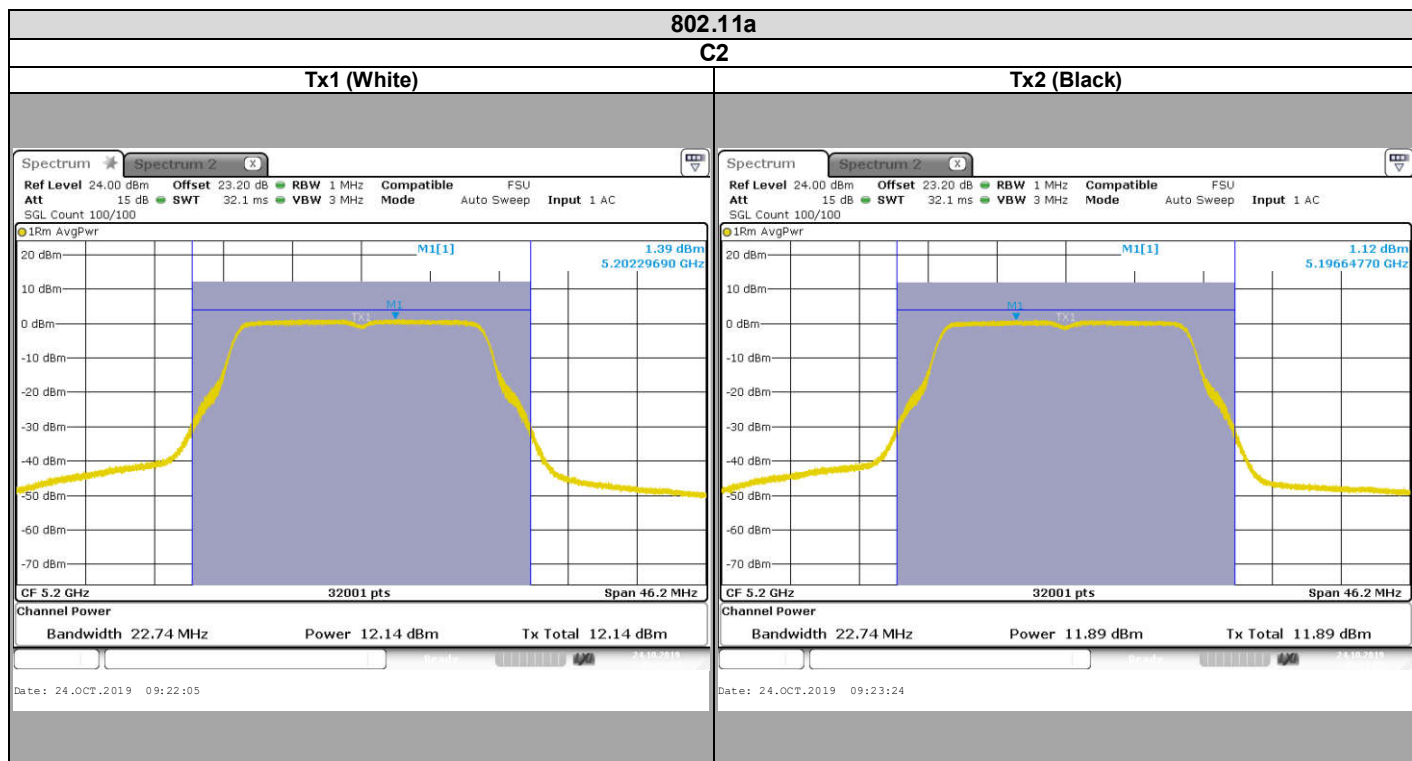
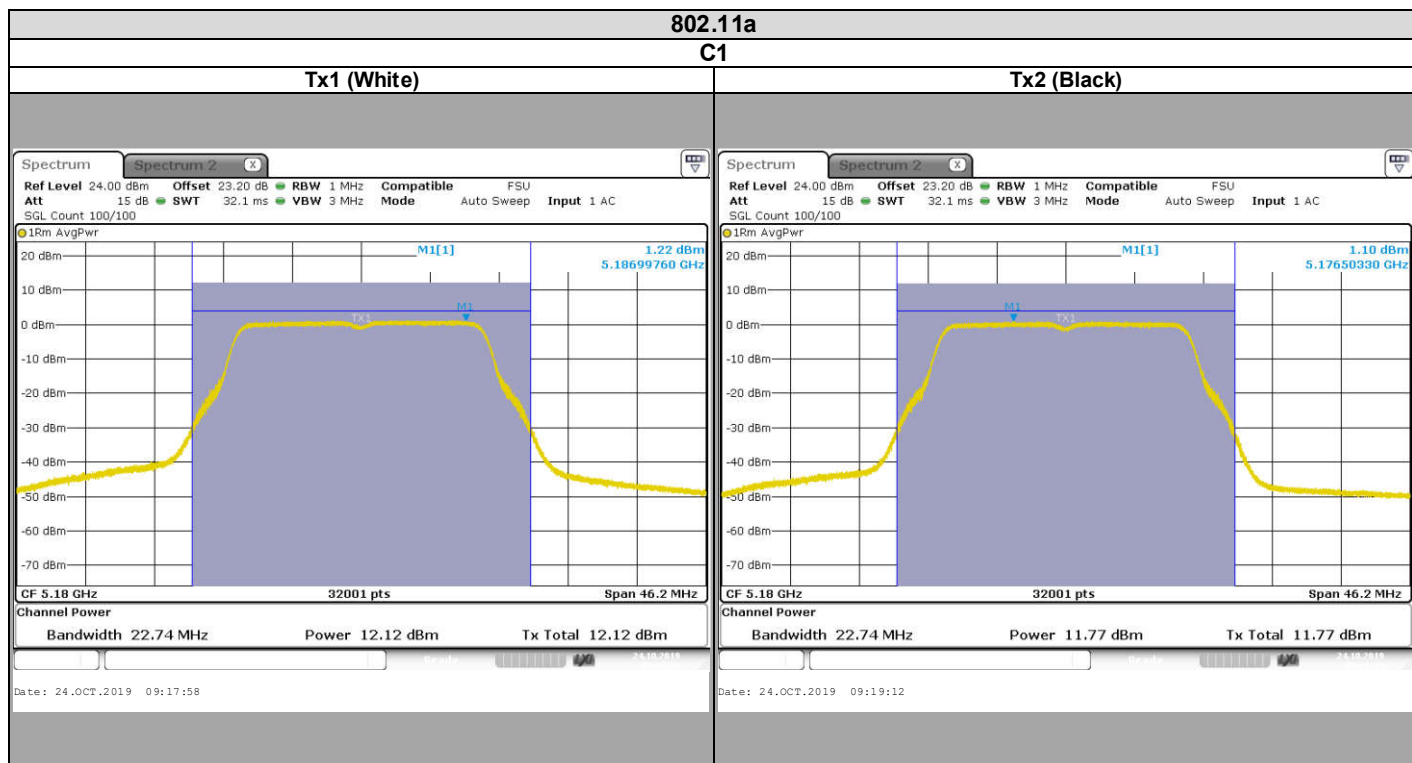
5150MHz-5250MHz: Shall not exceed 10dBm/MHz

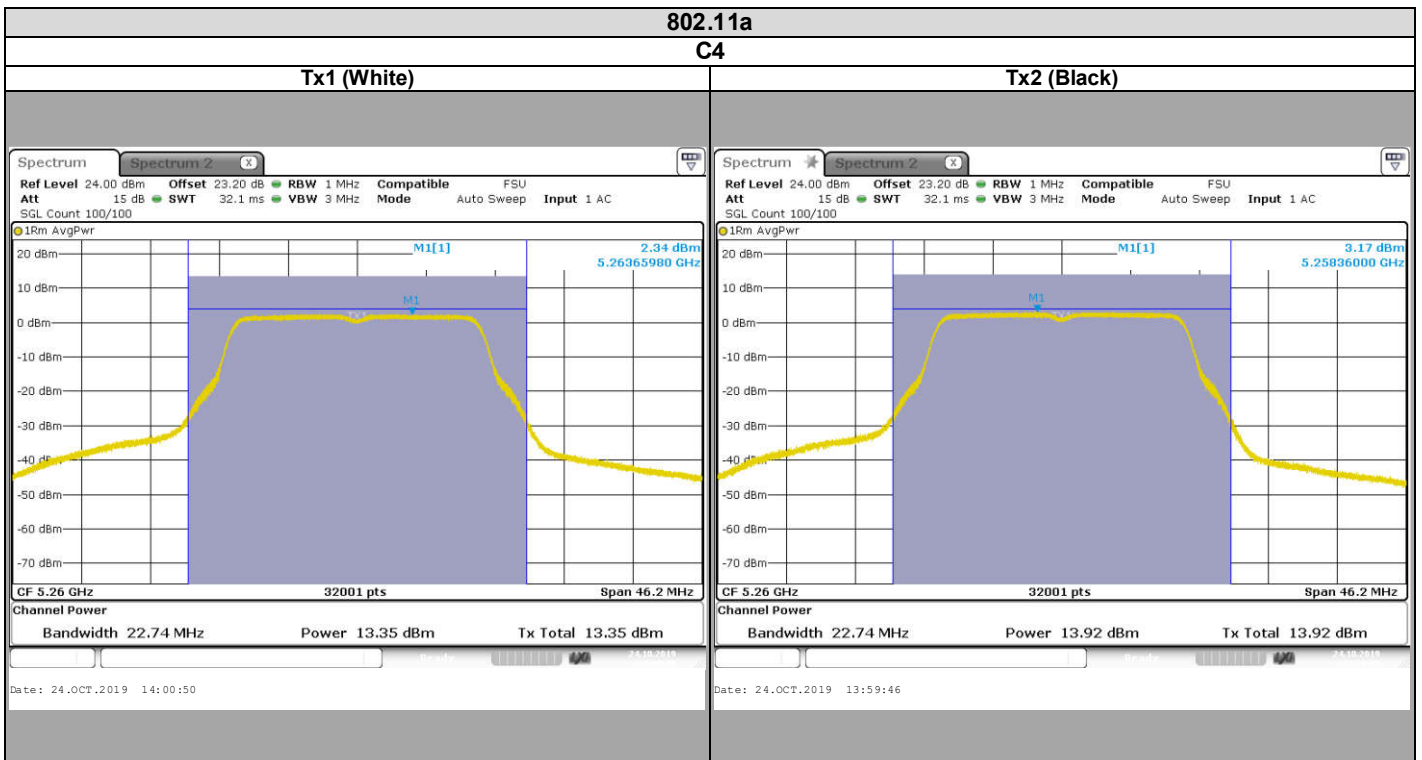
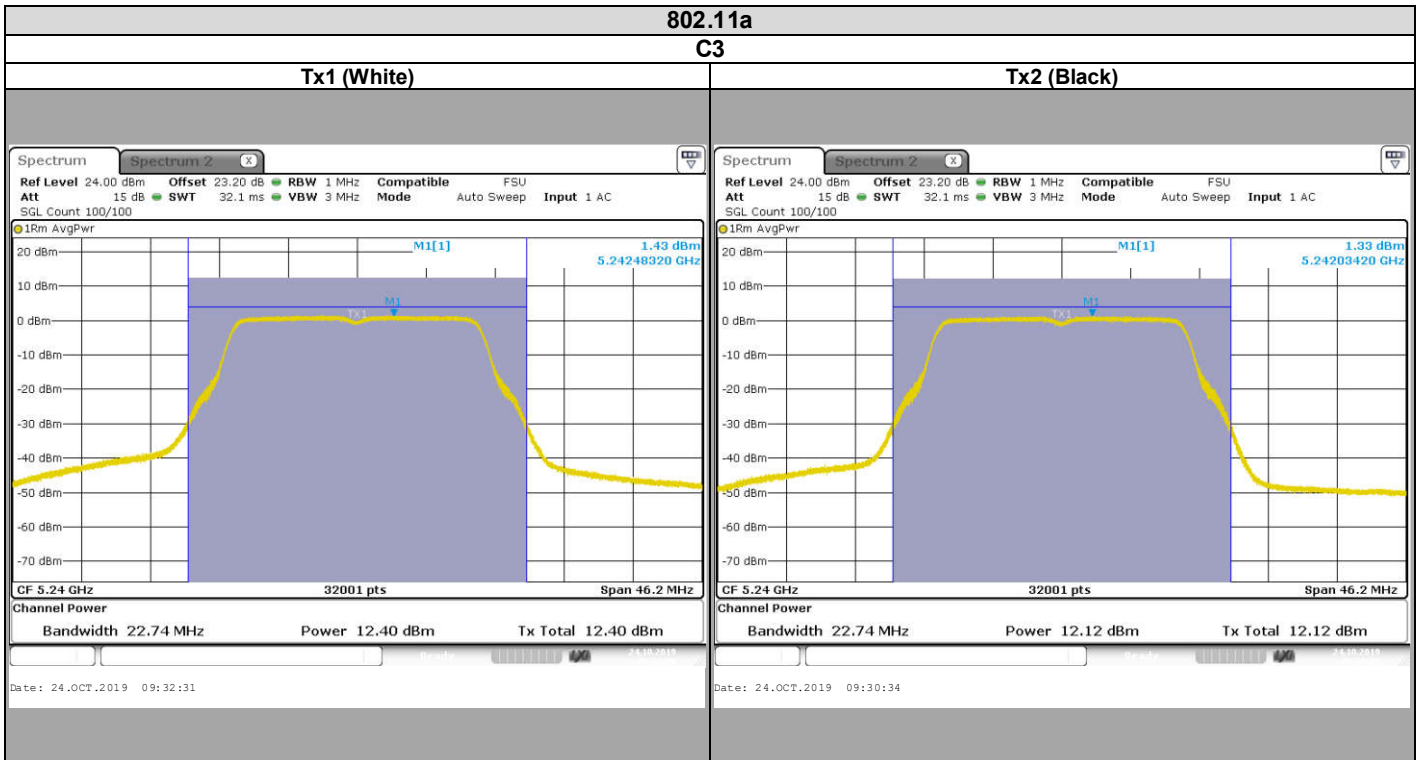
8.4. TEST EQUIPMENT LIST

Apparatus	Trade Mark	Type	Registration number	Cal_Date	Cal_Due
Power supply	KIKUSUI	PCR500M	A7040079	Calibrated with multimeter	Calibrated with multimeter
Multimeter	Keithley	2000	A1241084	2018/12	2020/12
Cable + Attenuateur 20dB	PASTERNAK	PE350-150CM	A5329868	2018/12	2019/12
EMI receiver	ROHDE & SCHWARZ	ESR7	A2642023	2019/01	2021/01

Note: In our quality system, the test equipment calibration due is more & less 2 months

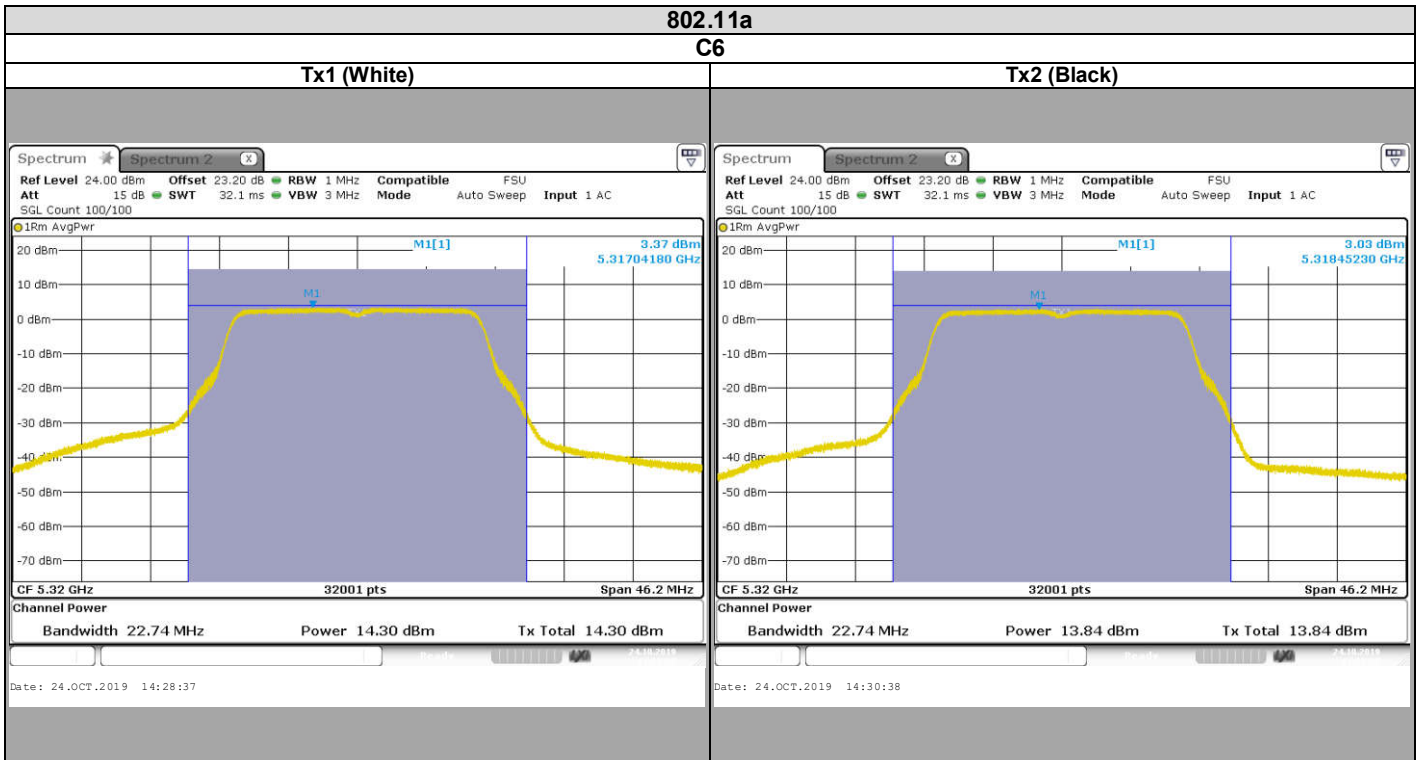
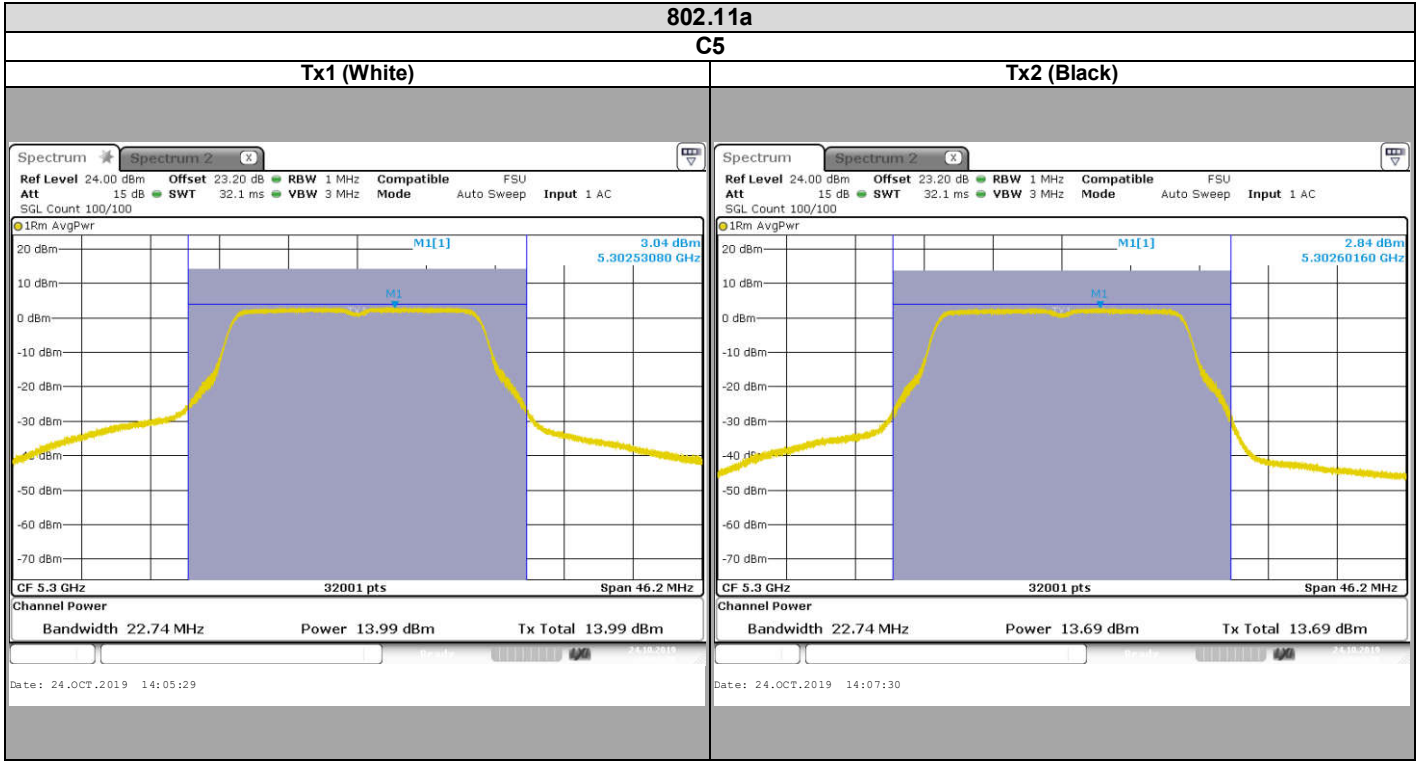
8.5. RESULTS





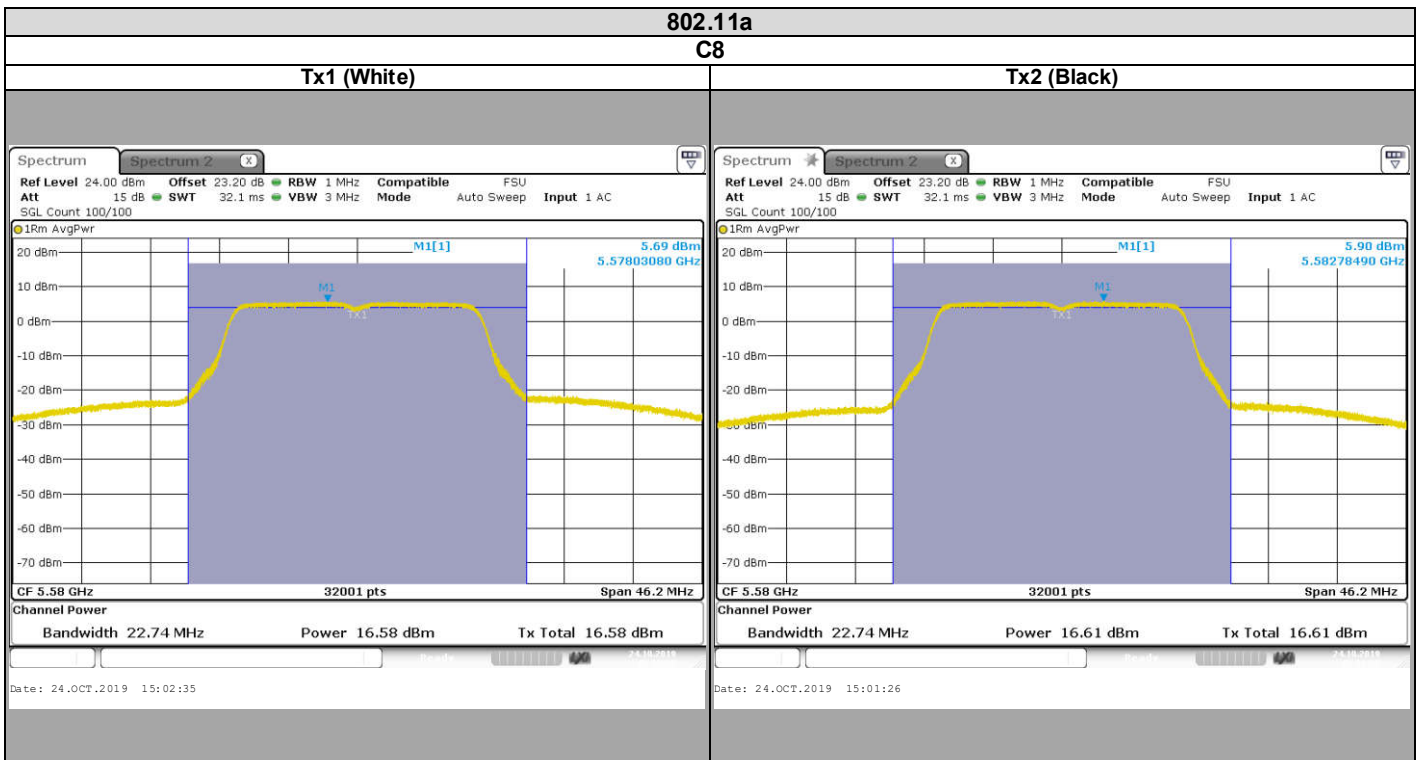
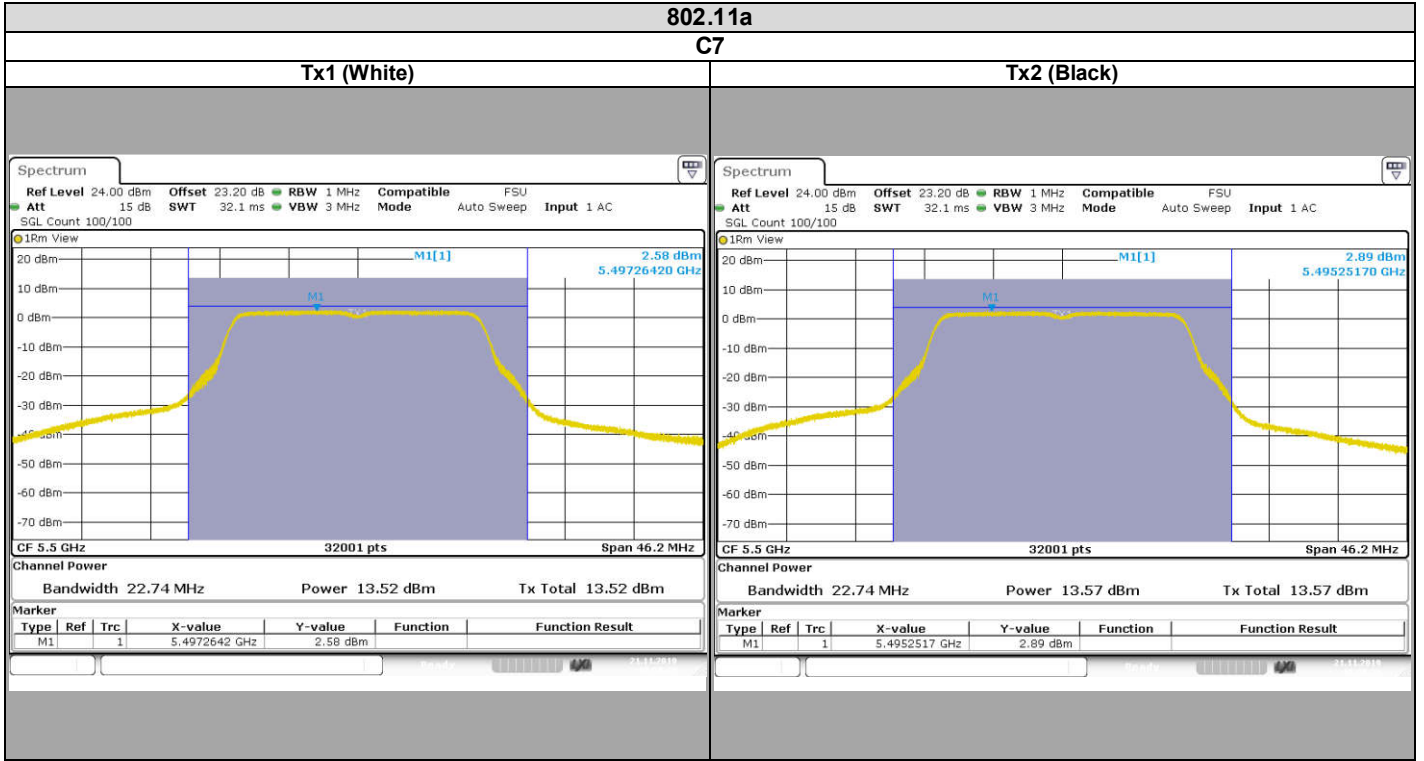


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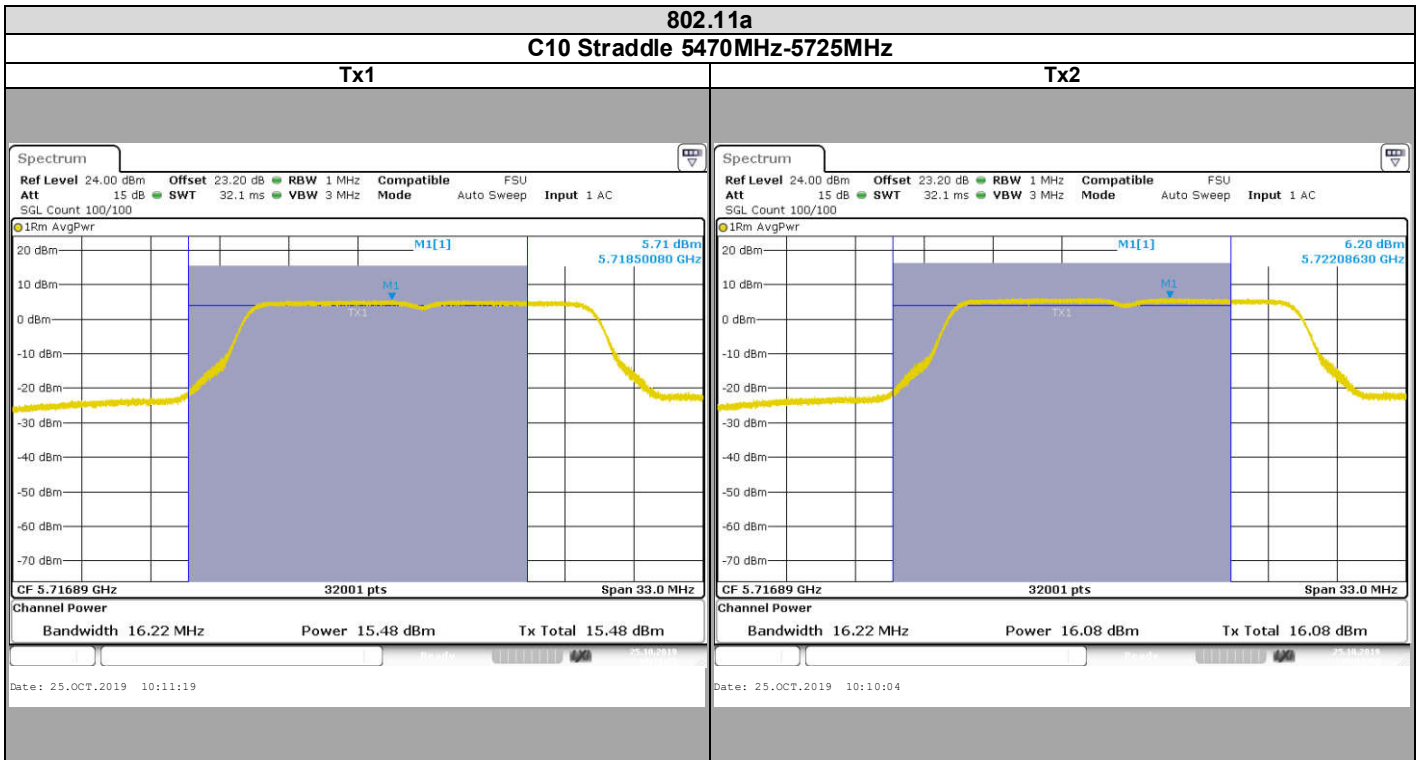
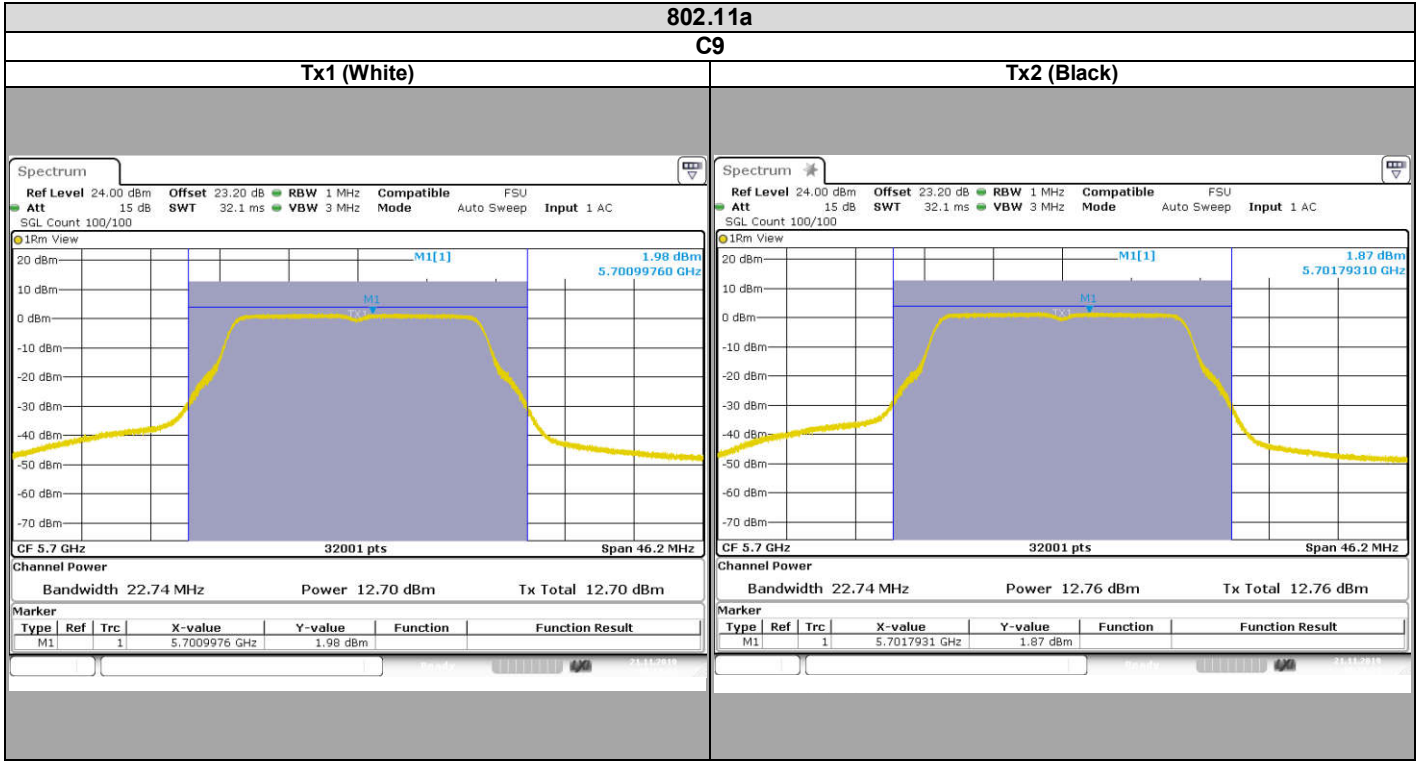


L C I E



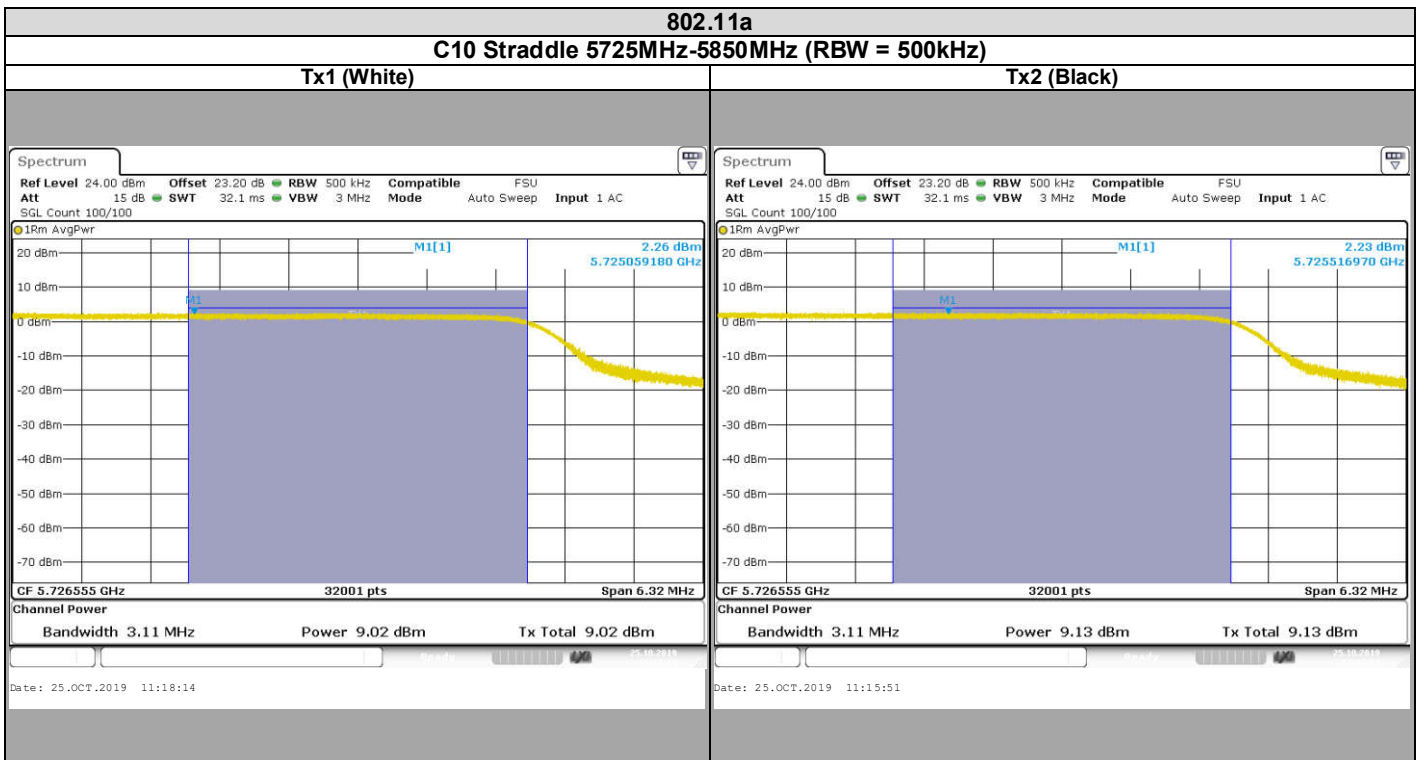
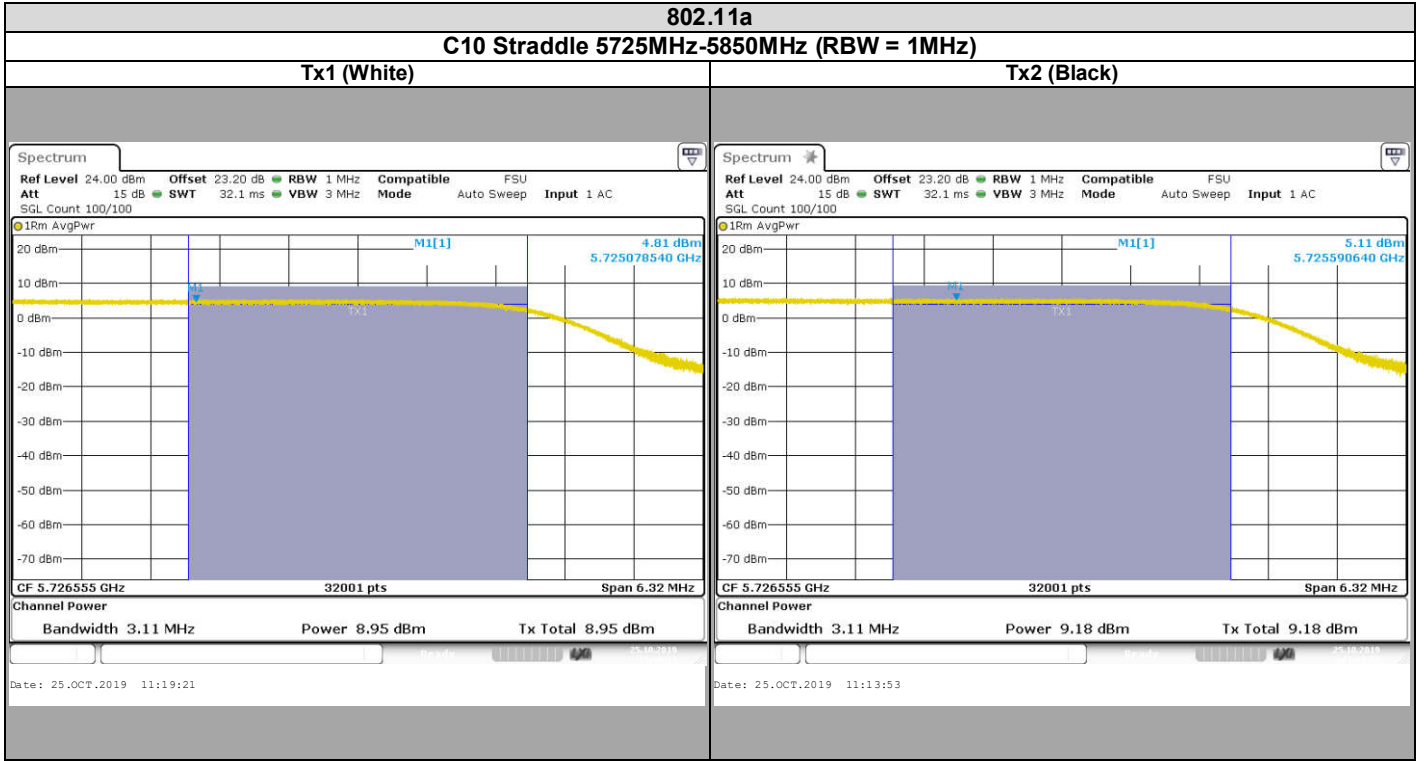


L C I E



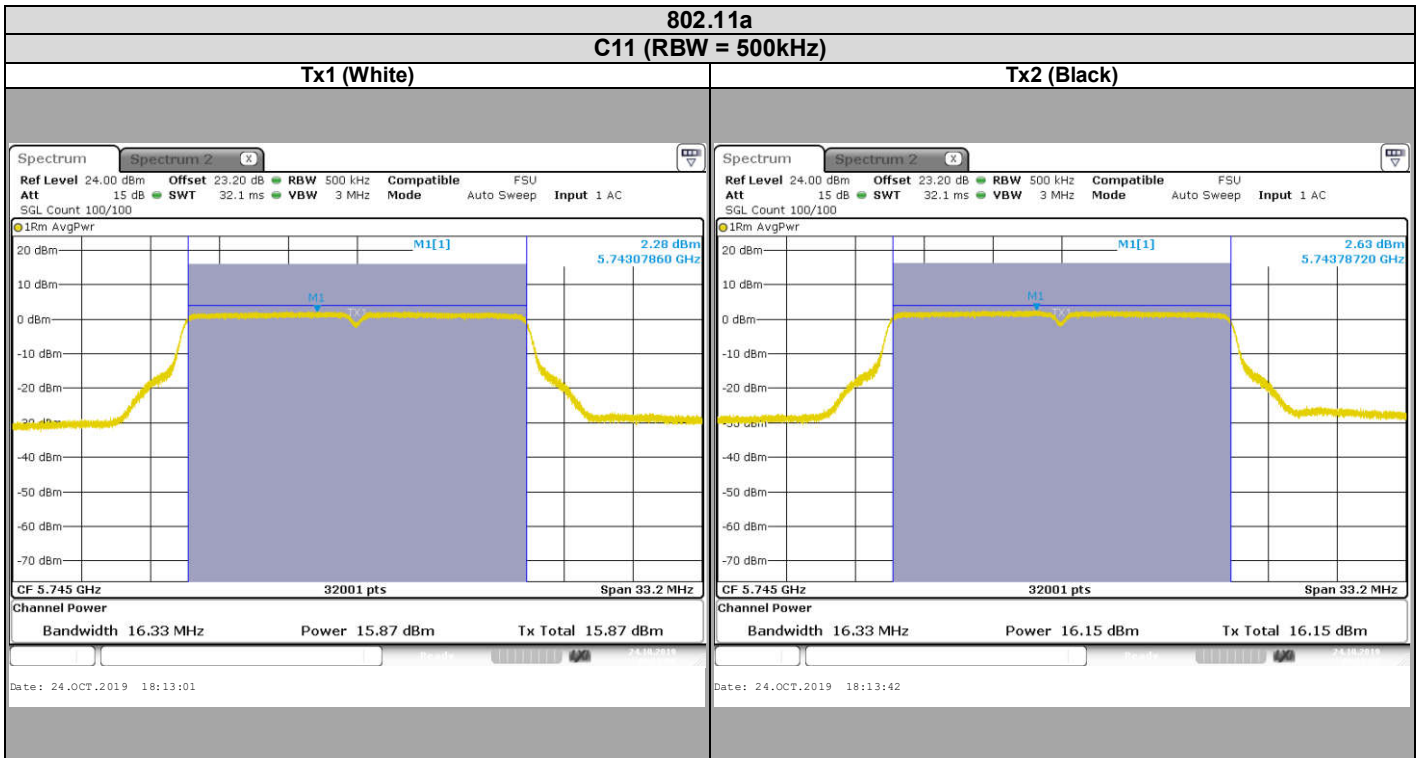
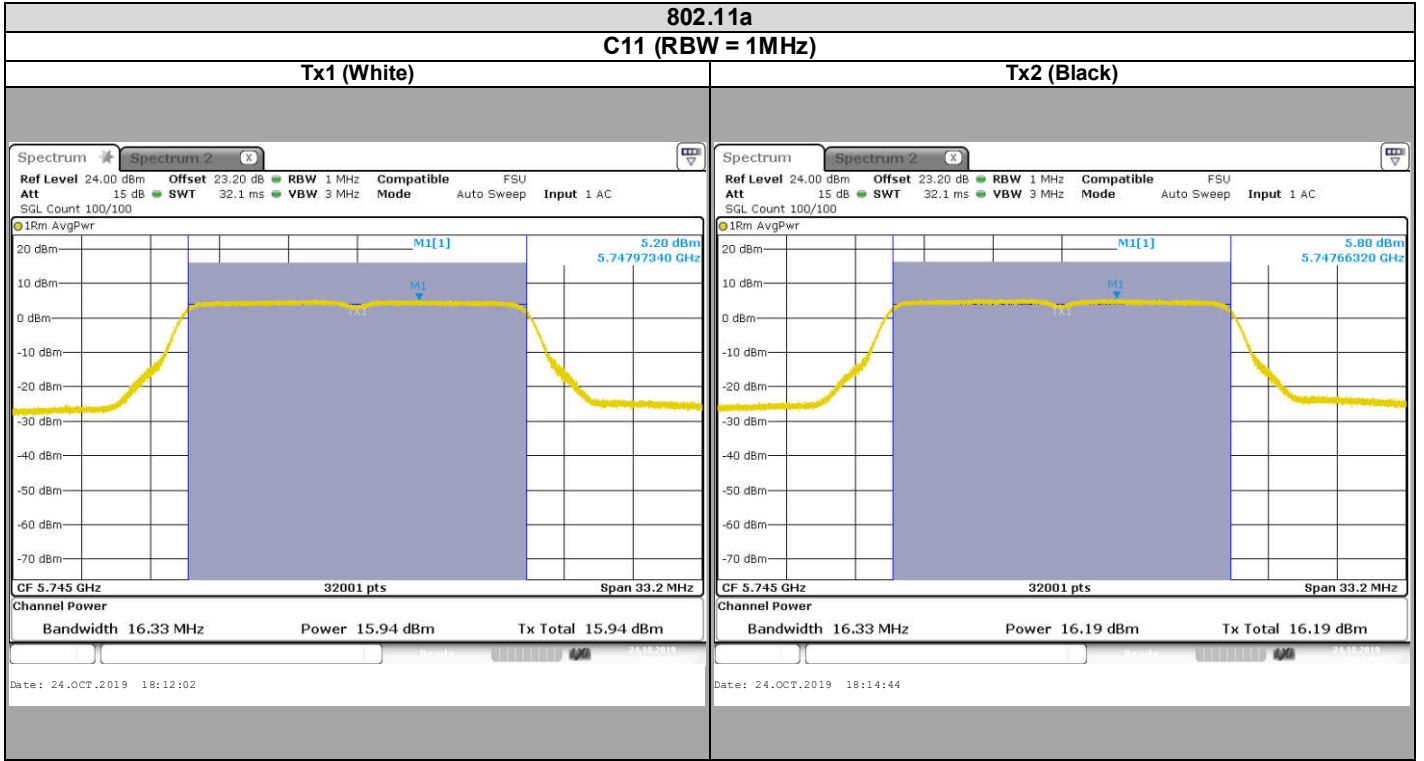


L C I E



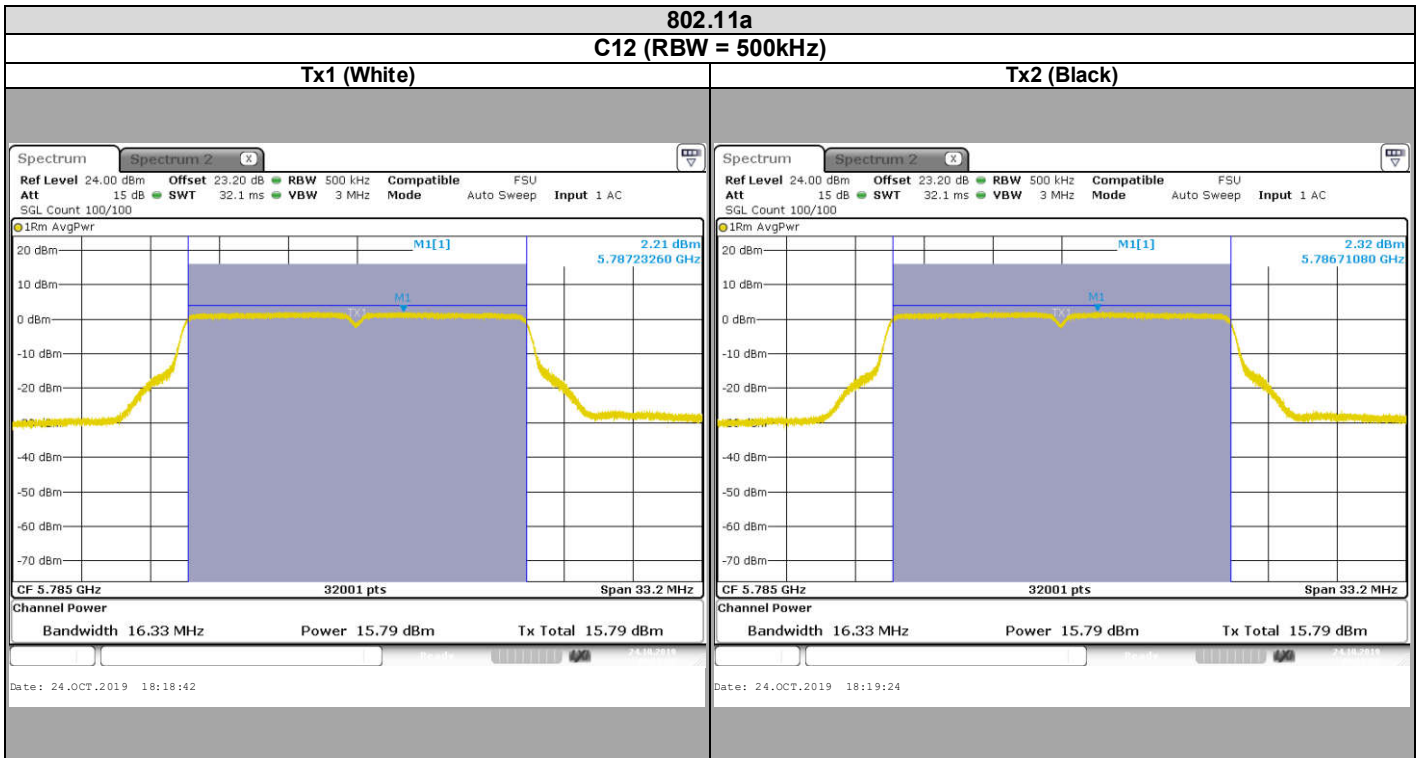
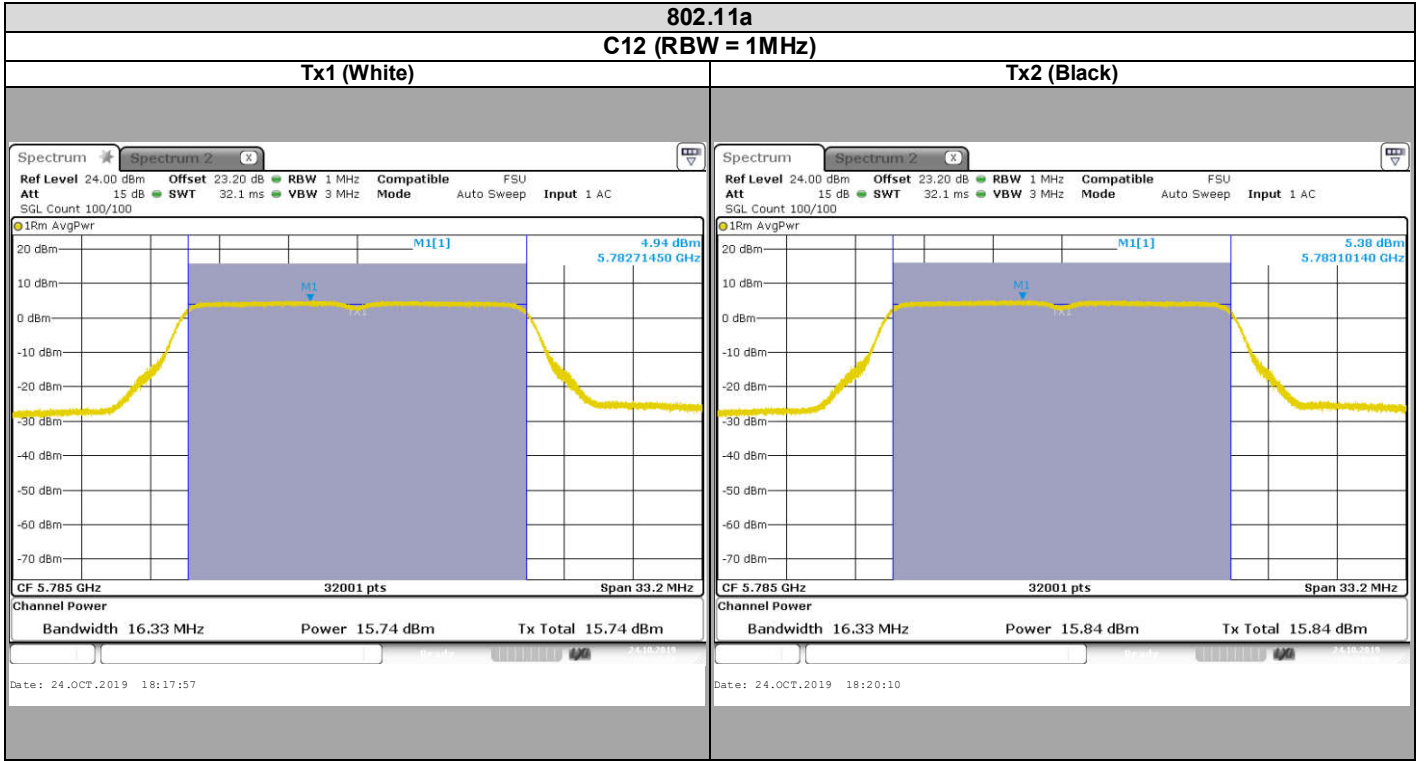


L C I E



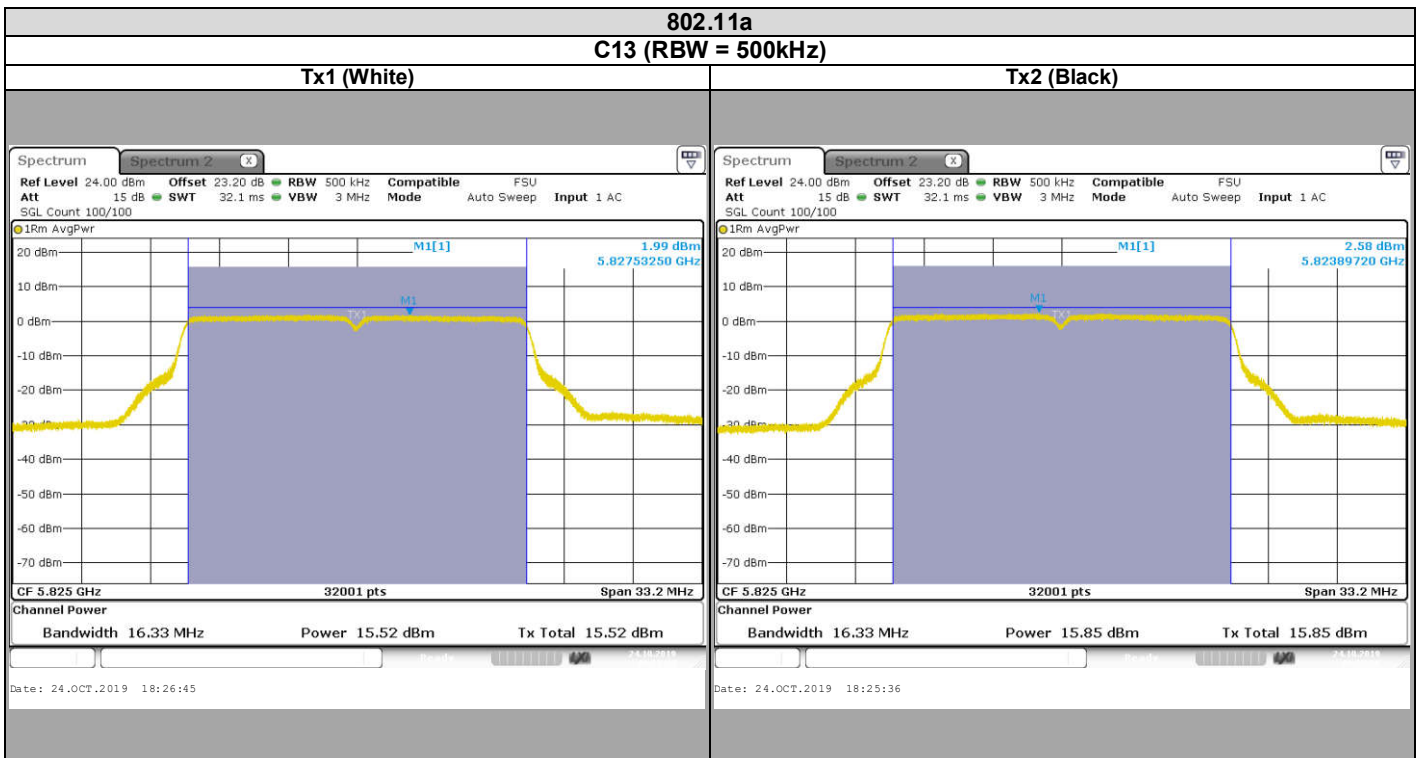
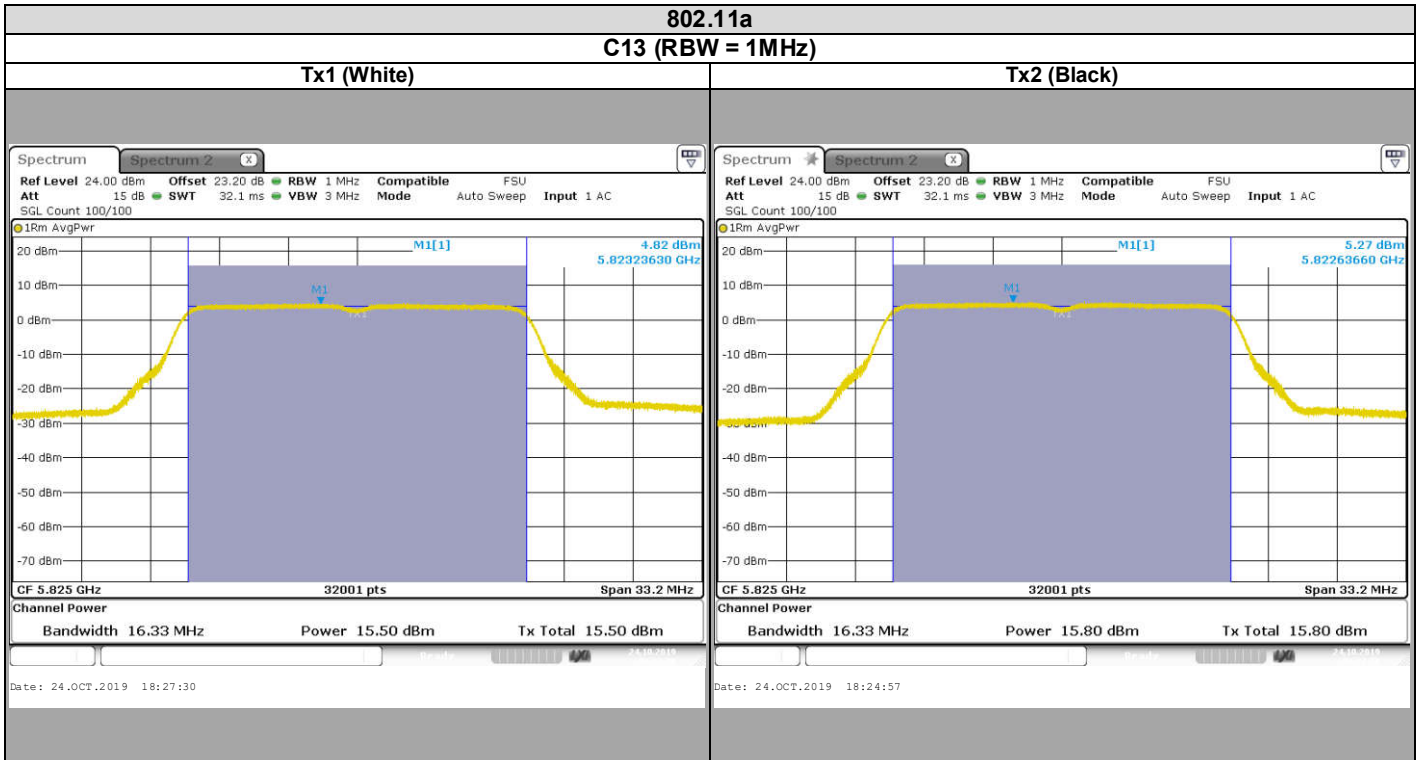


L C I E



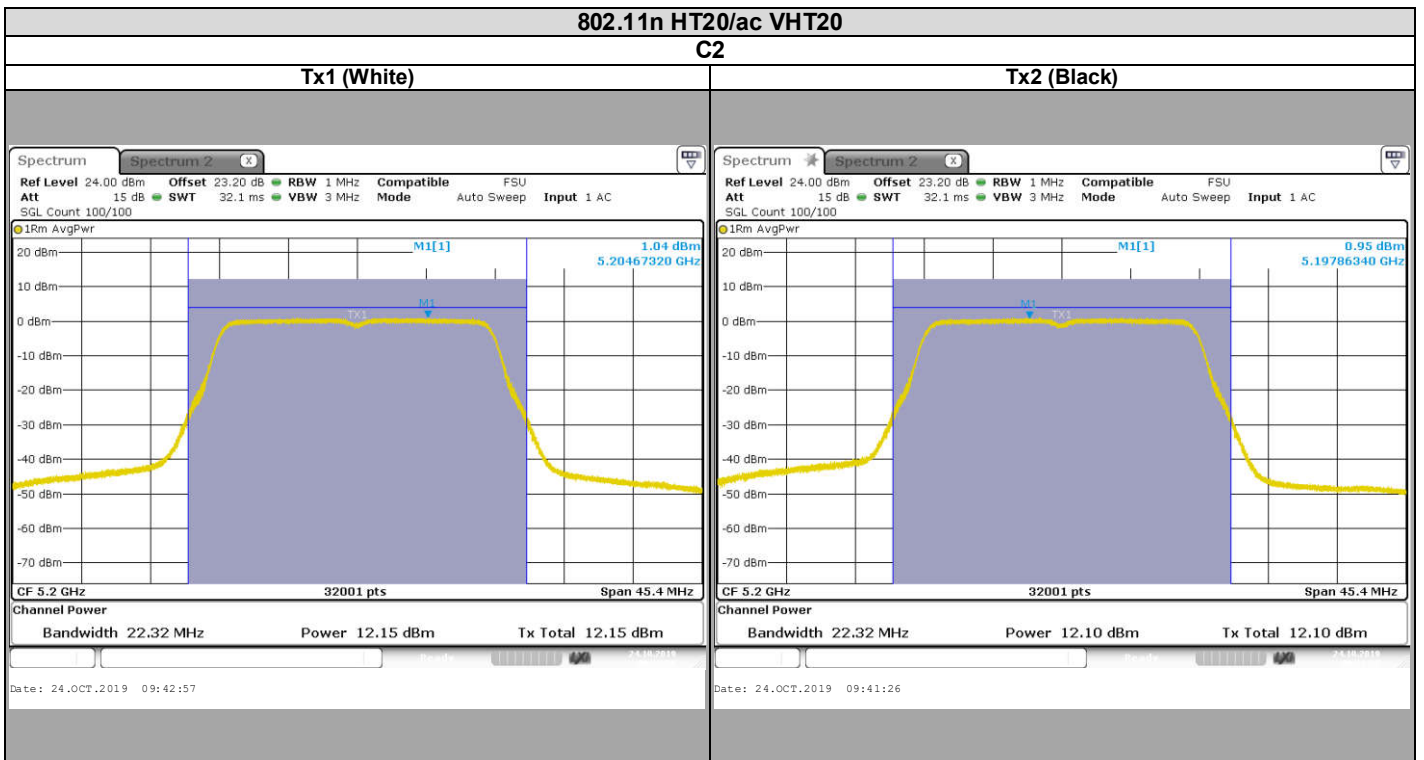
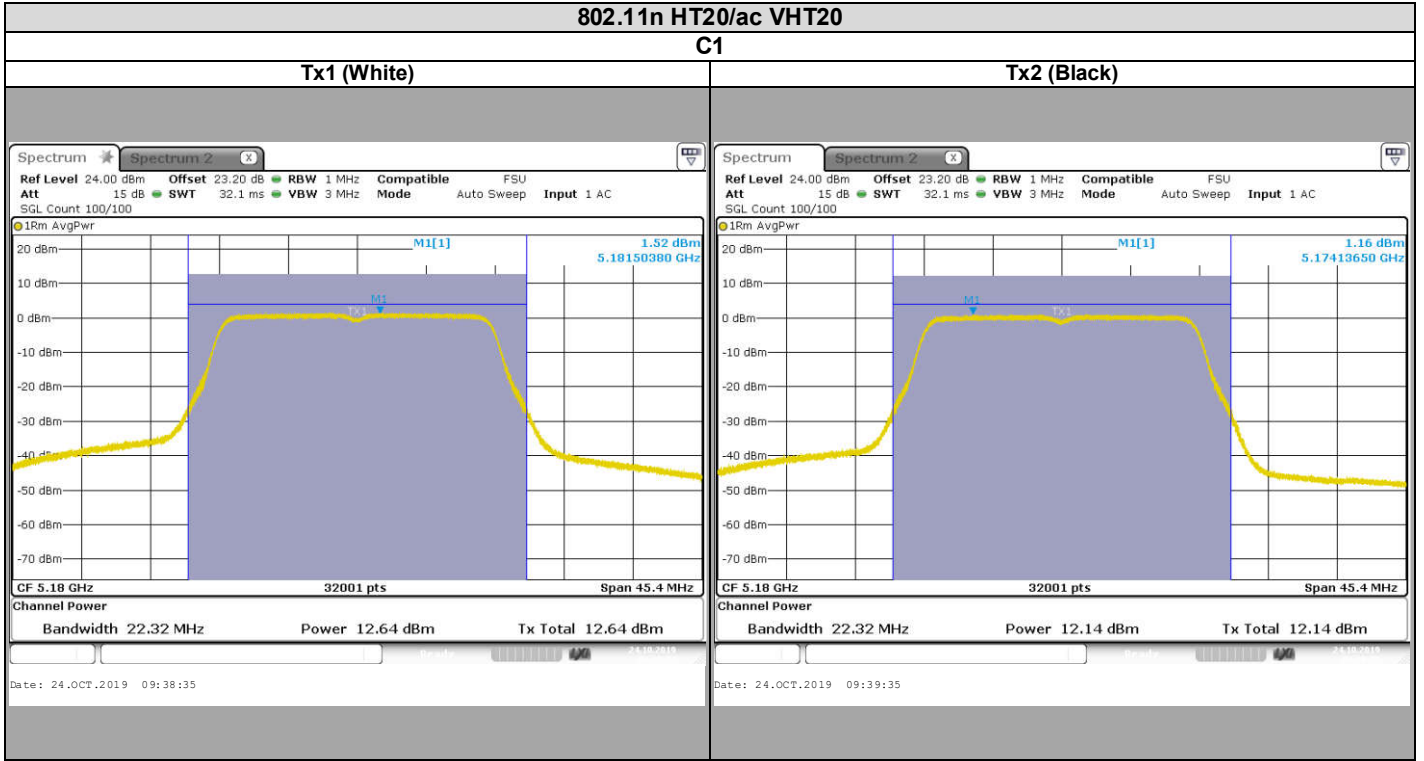


L C I E



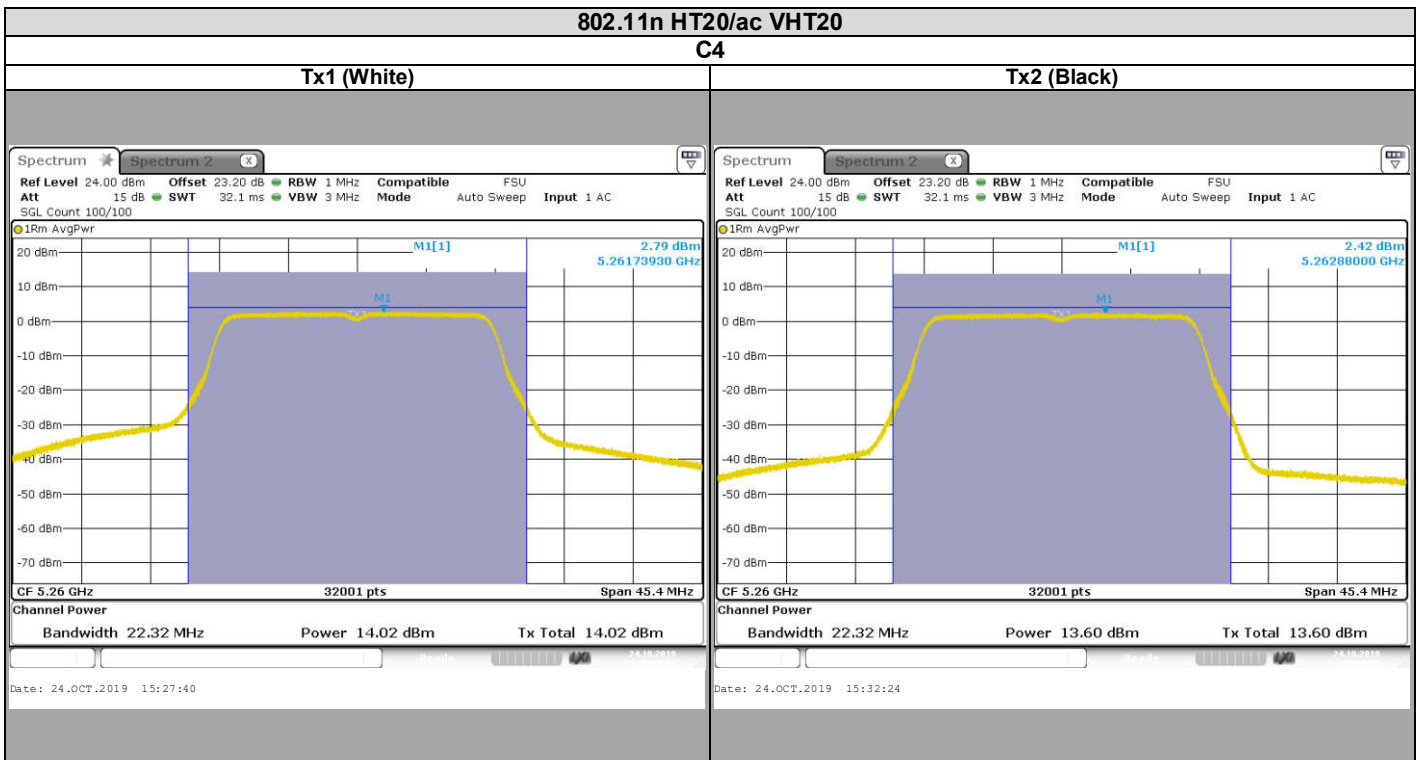
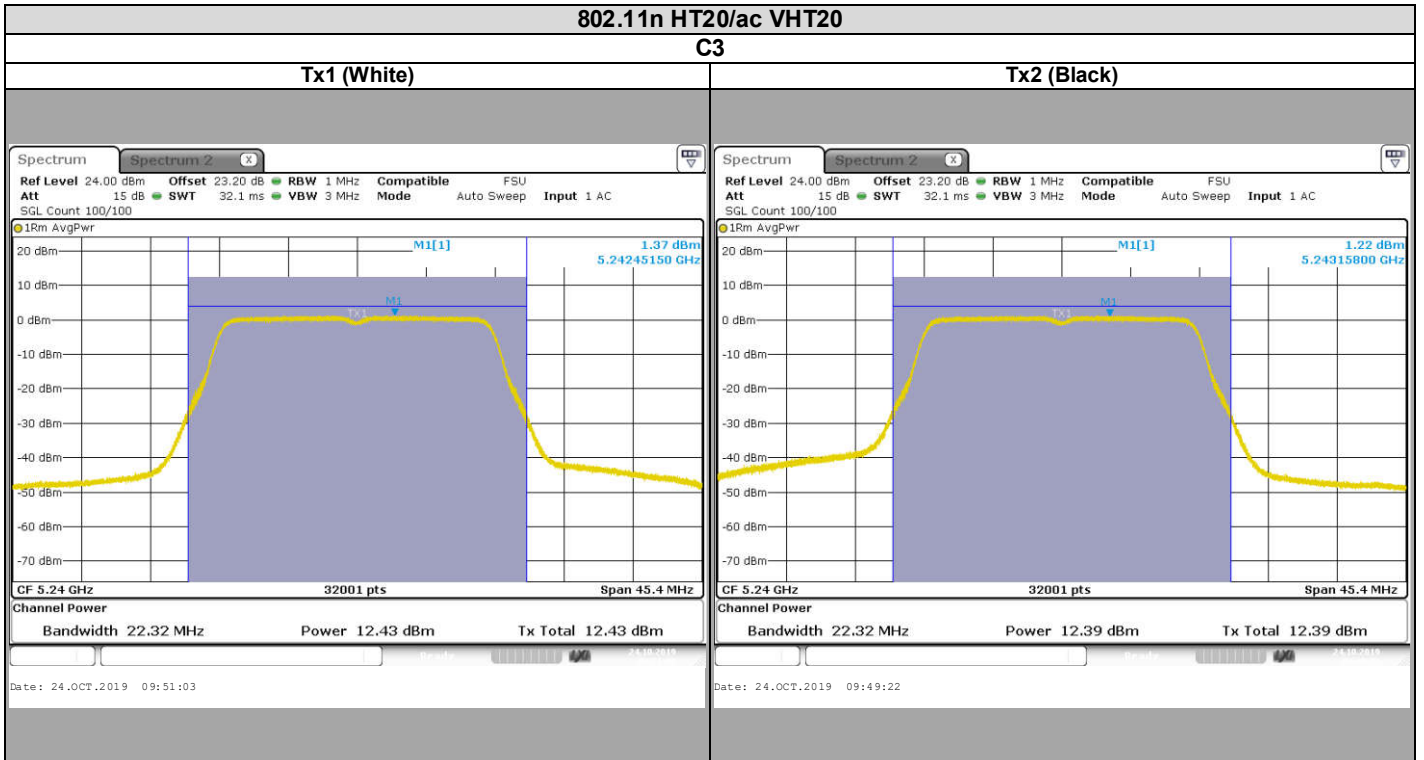


L C I E



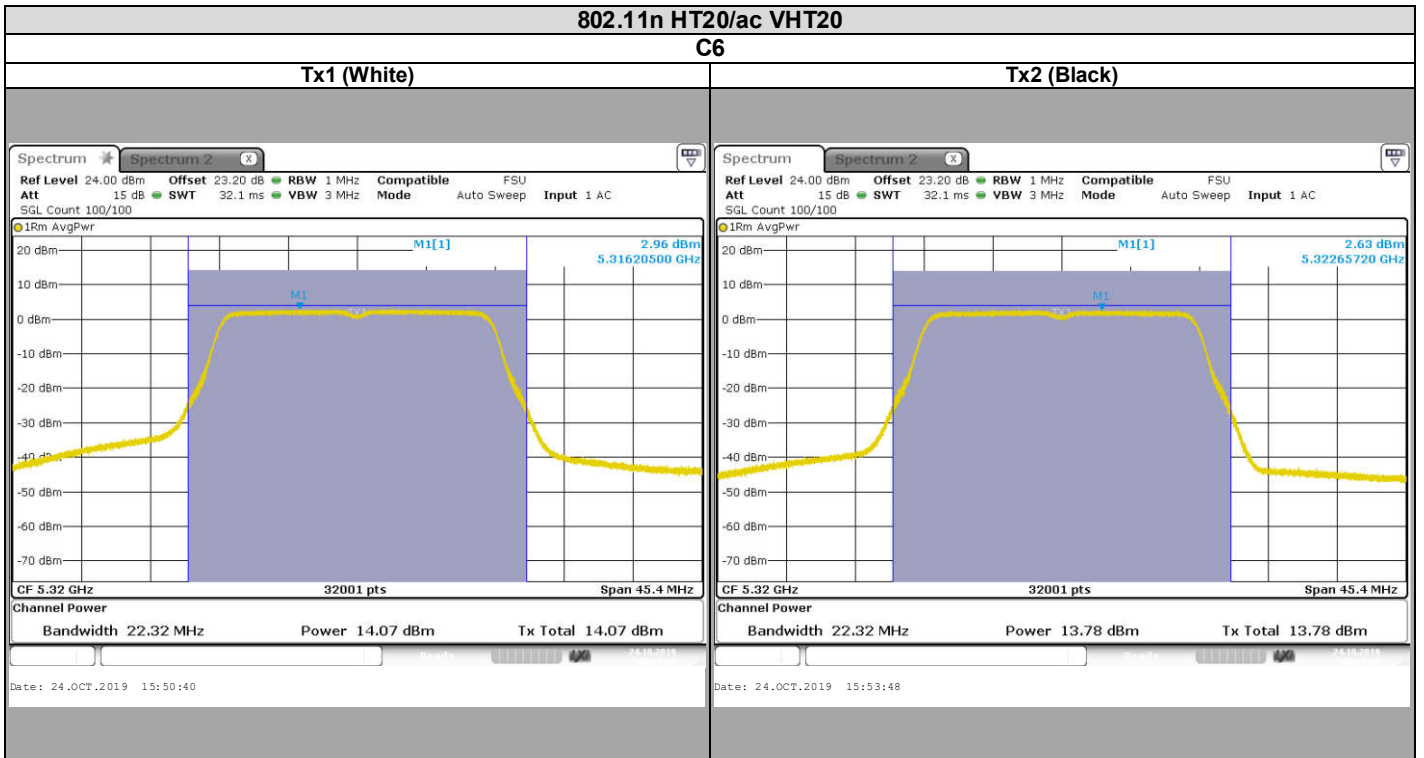
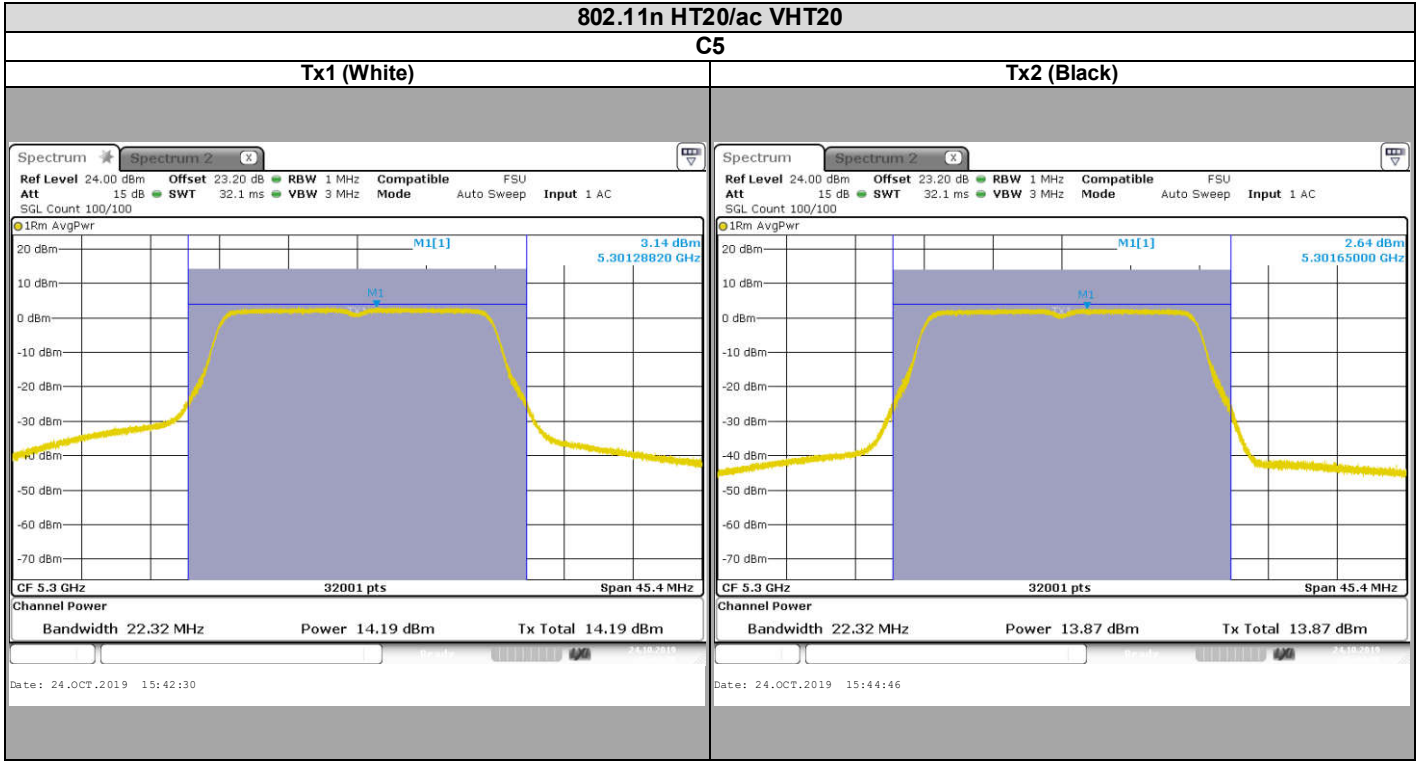


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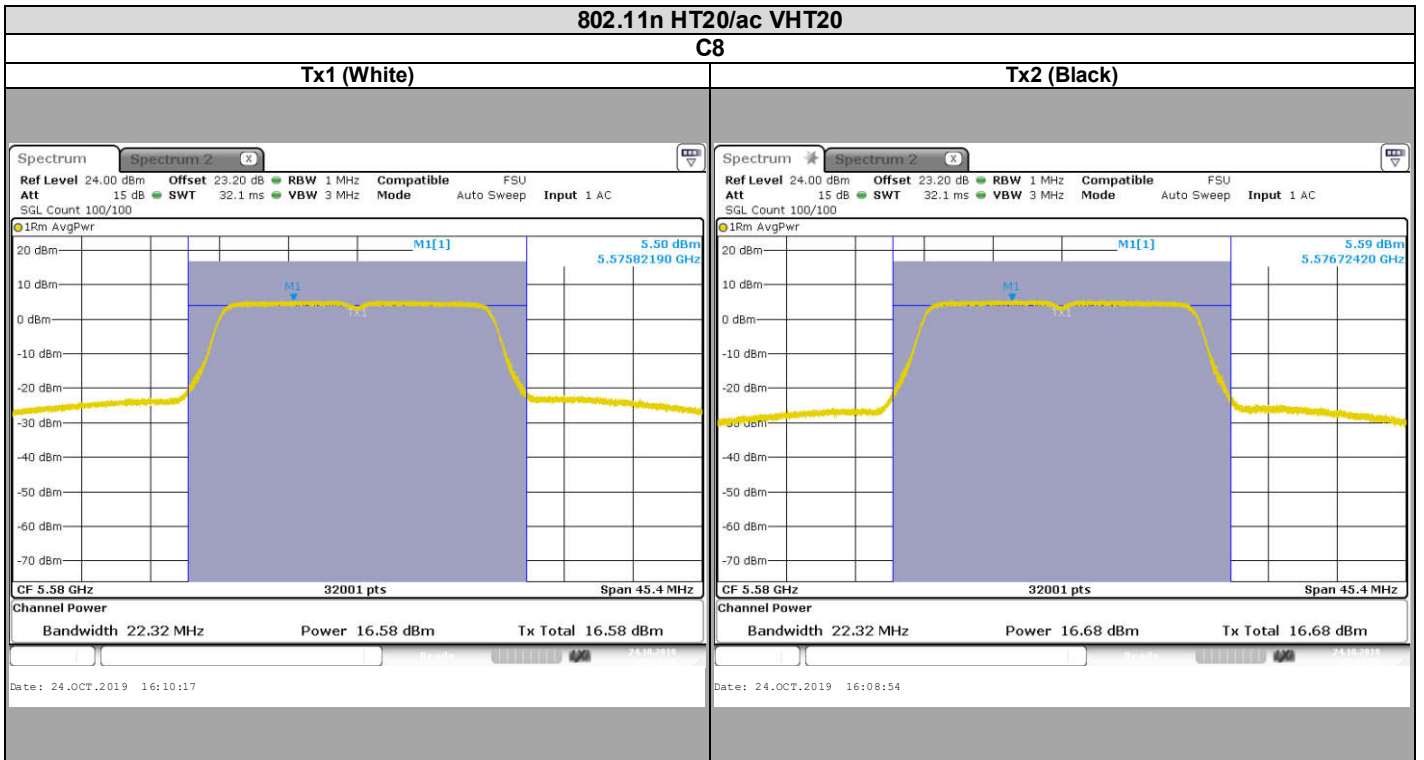
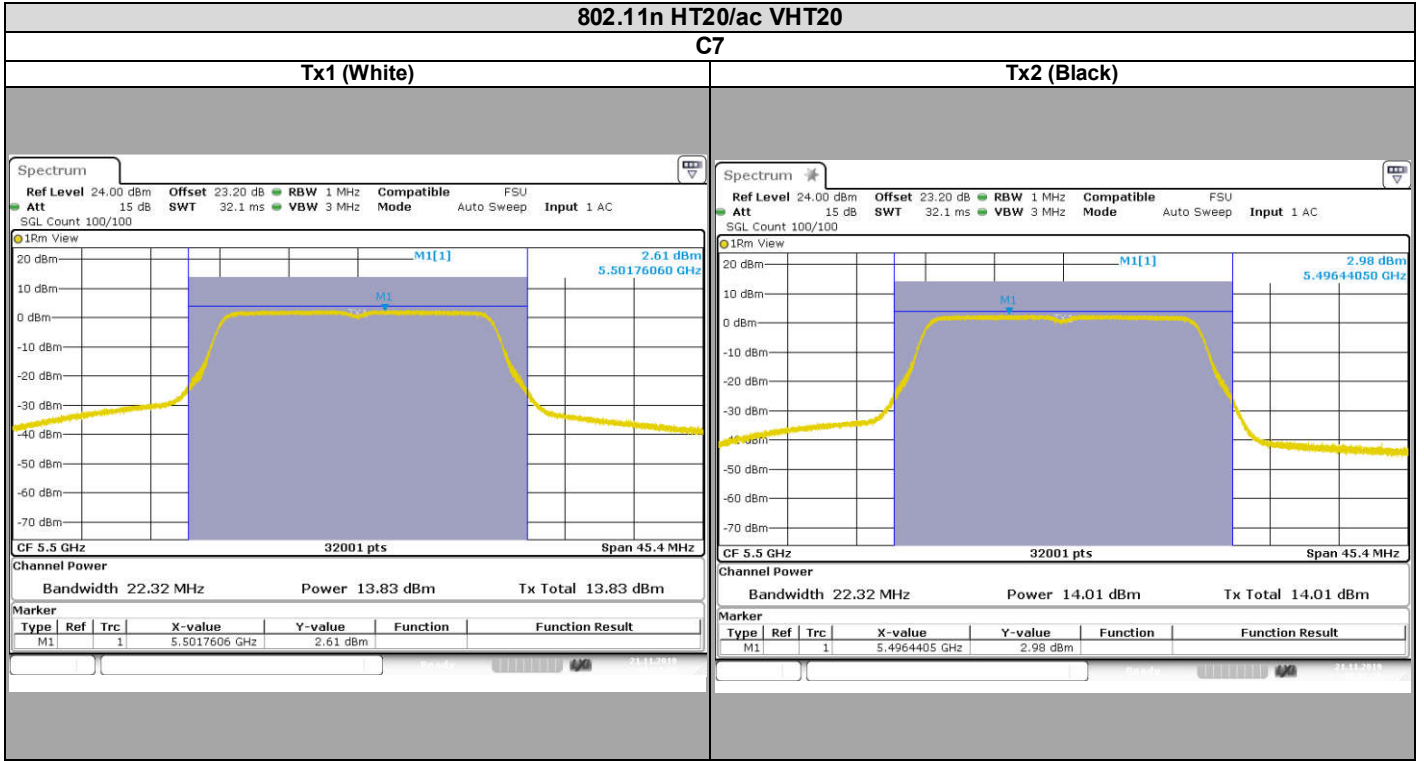


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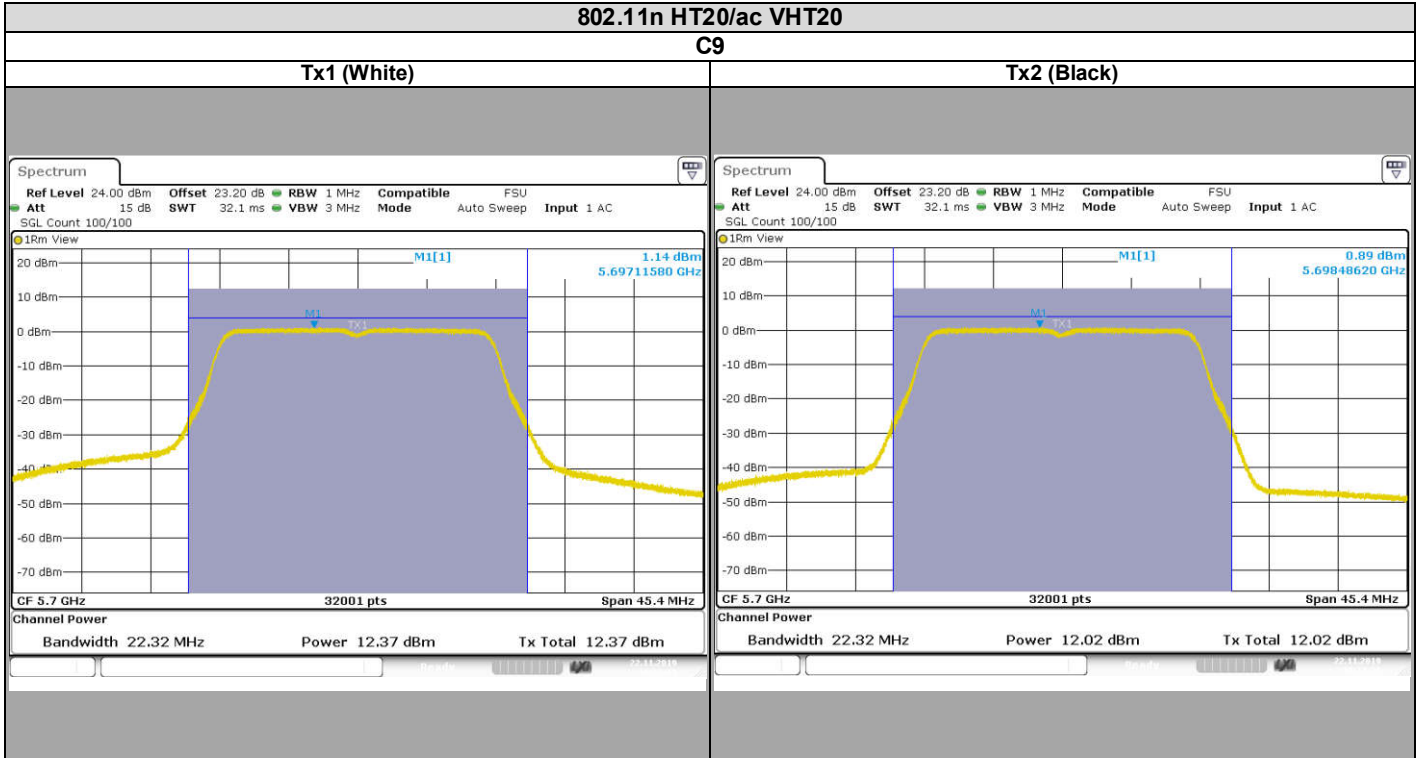


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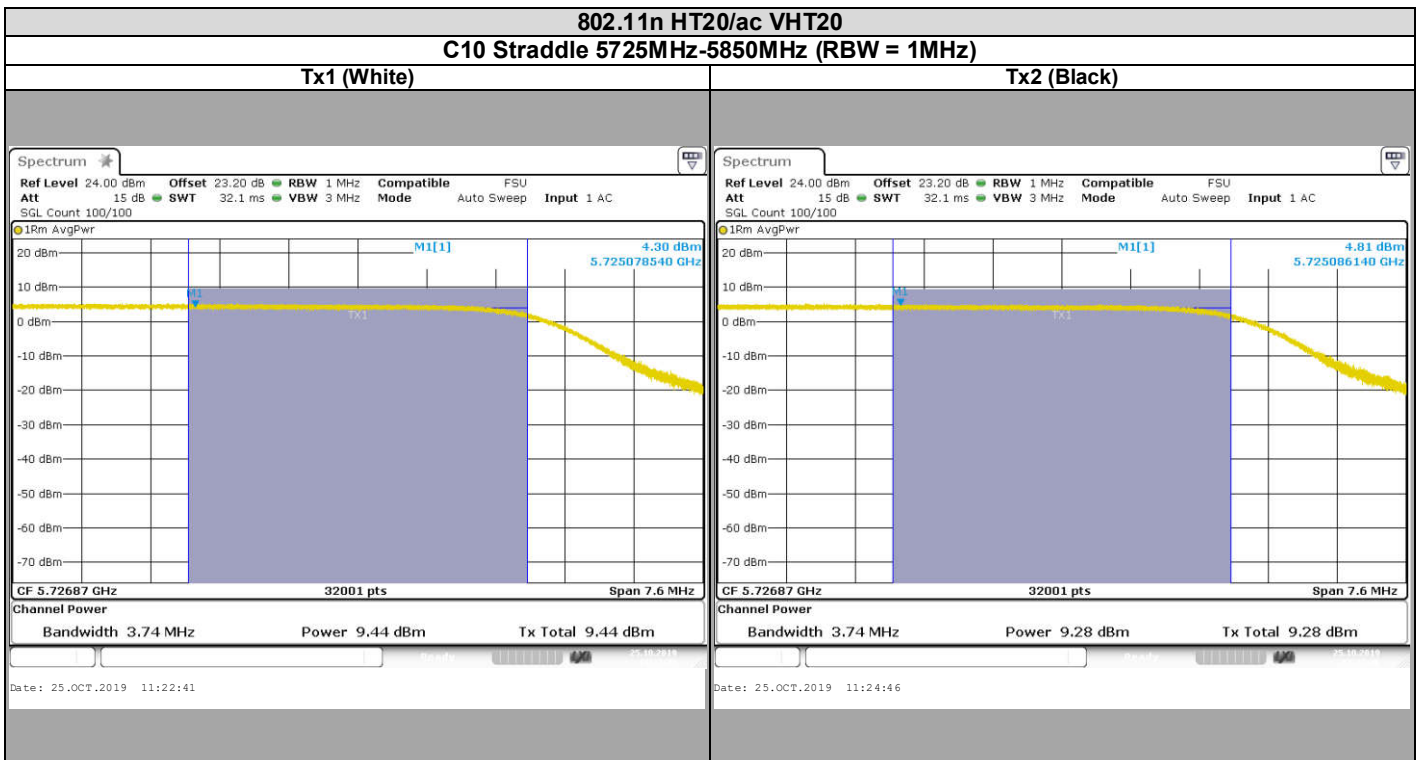
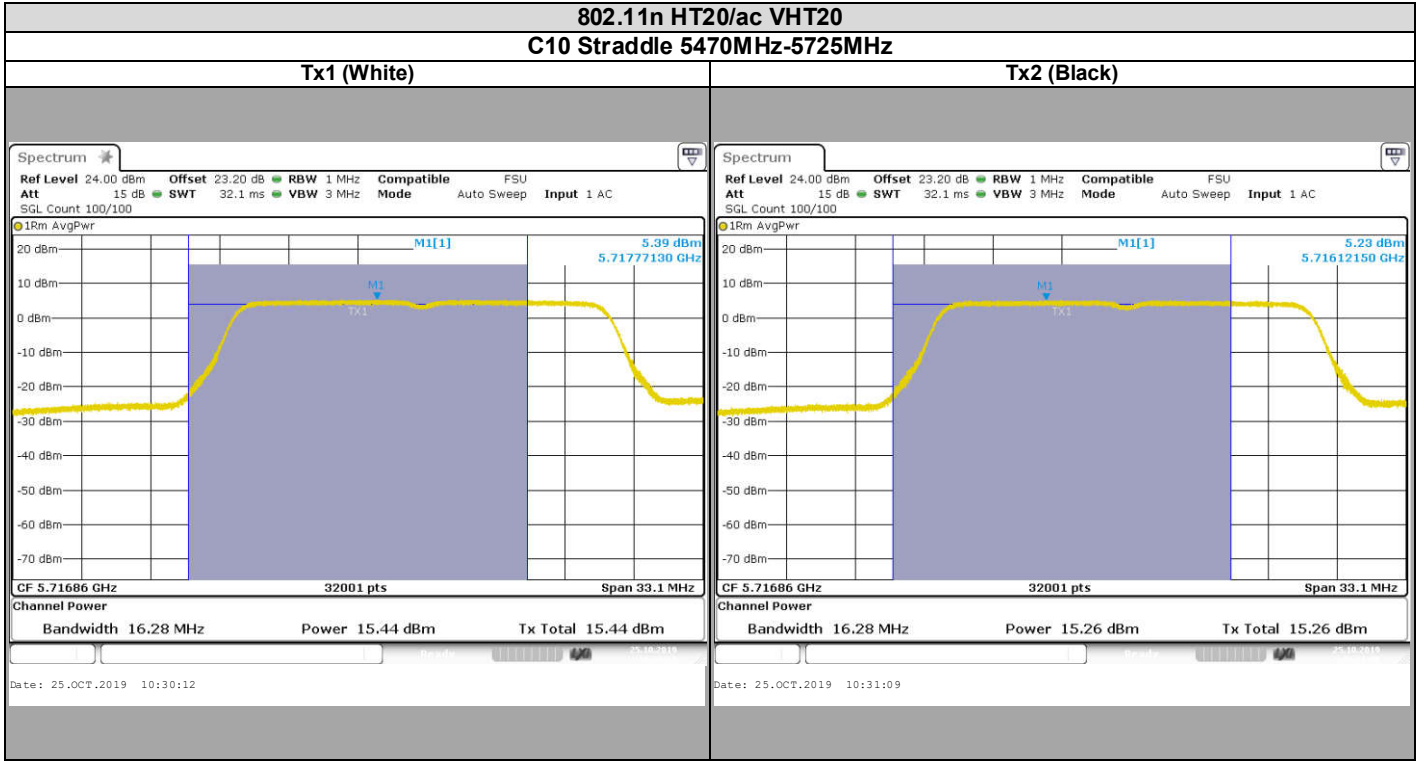


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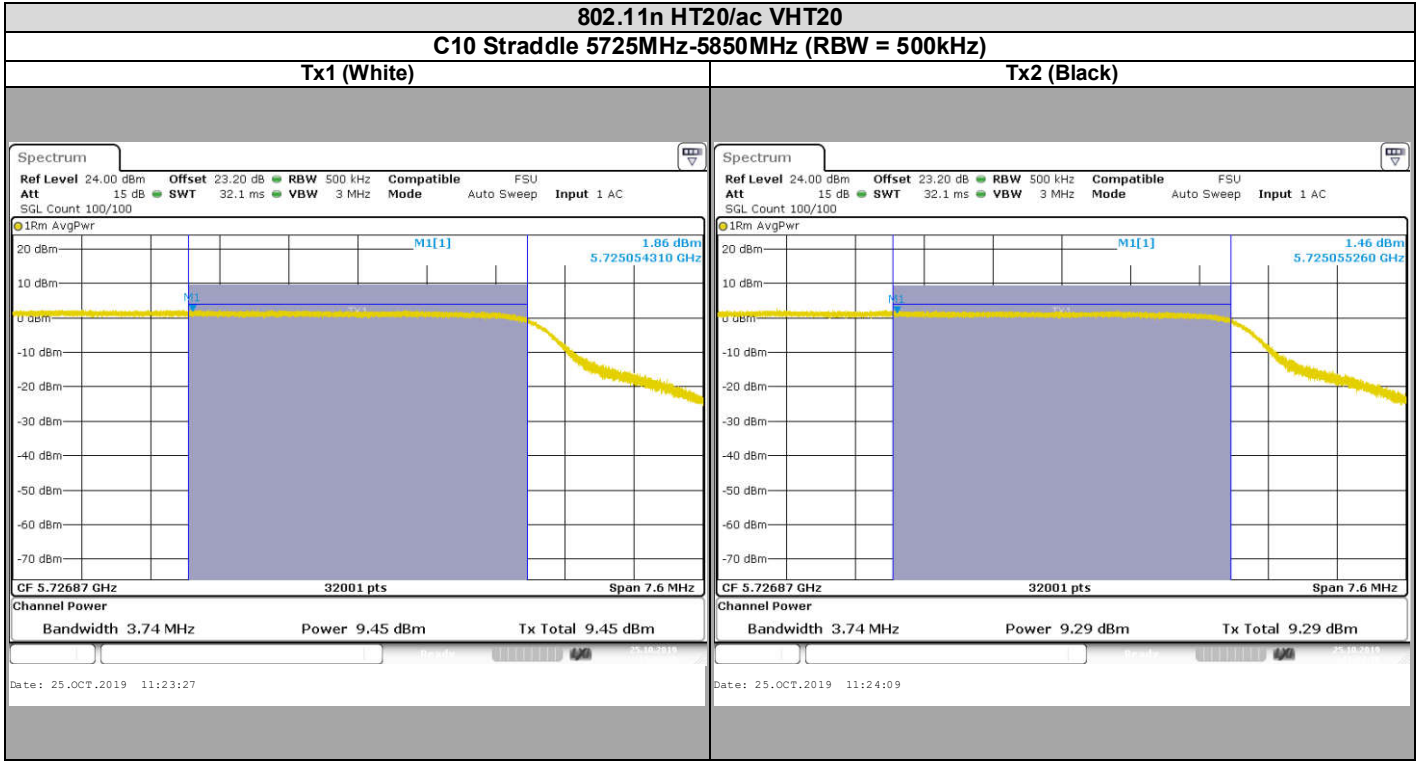


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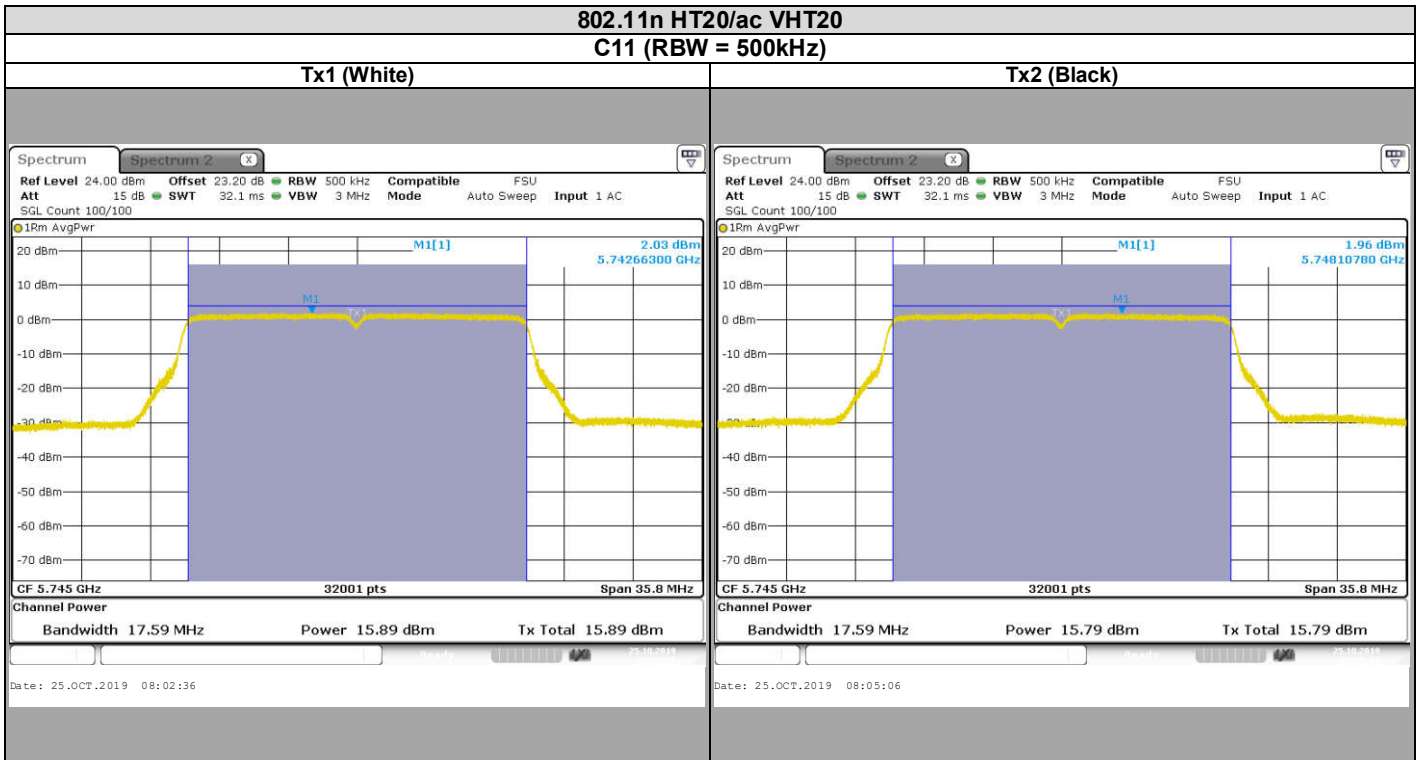
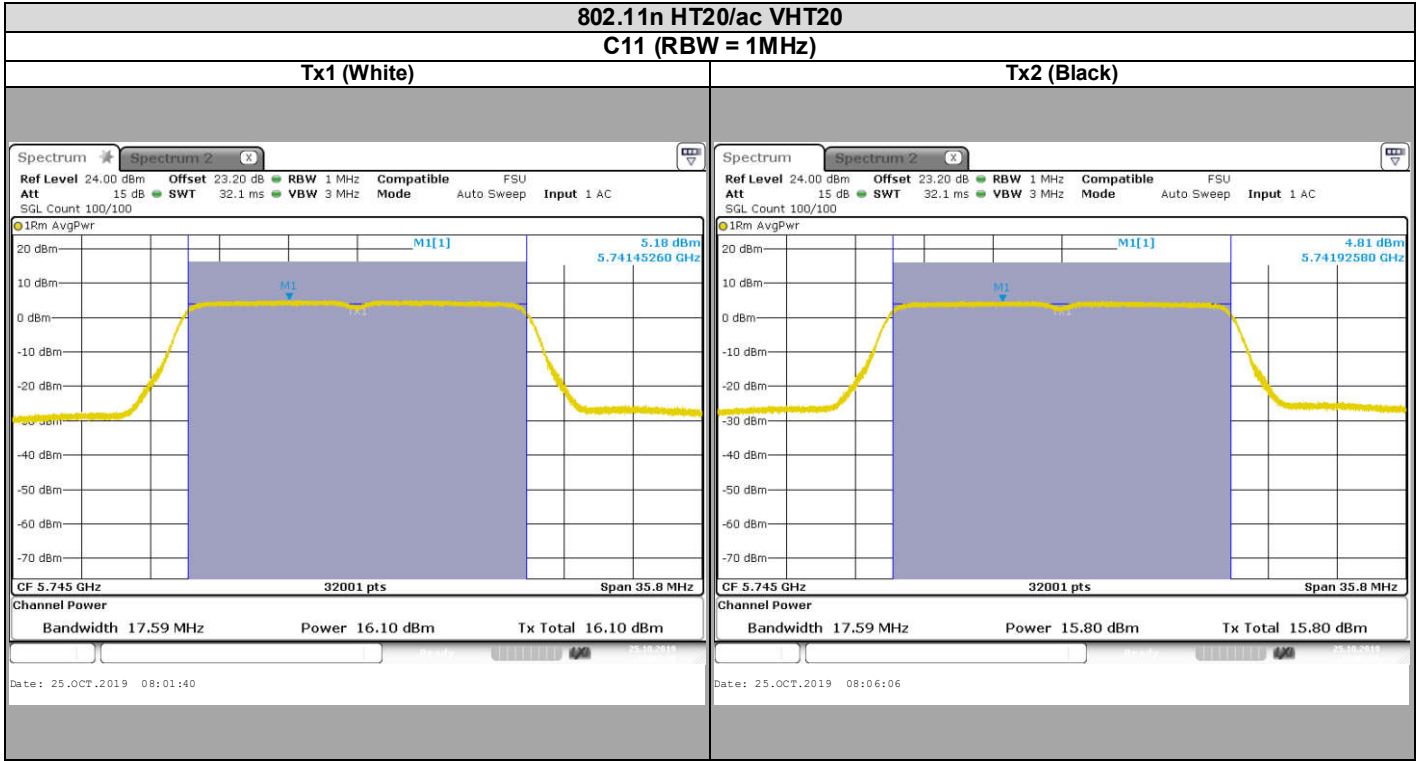


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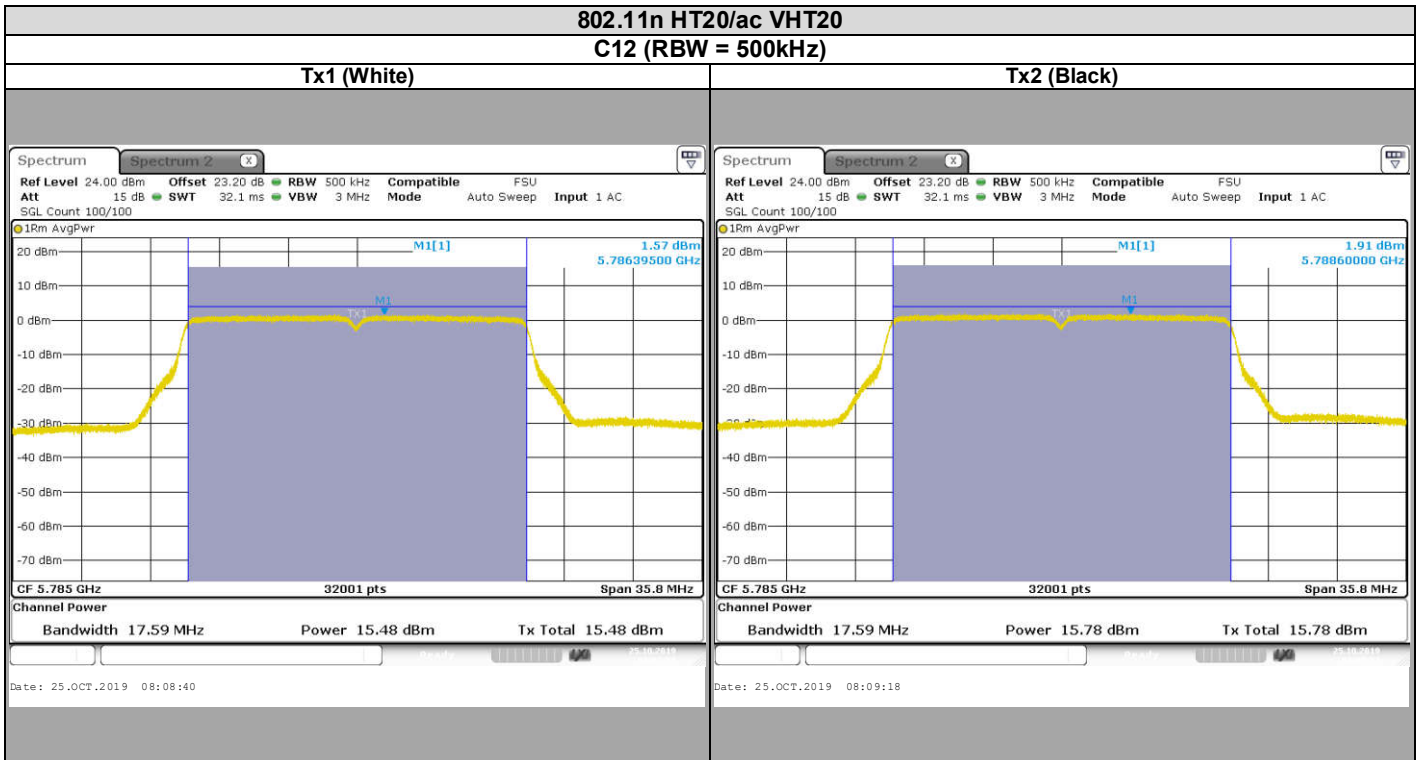
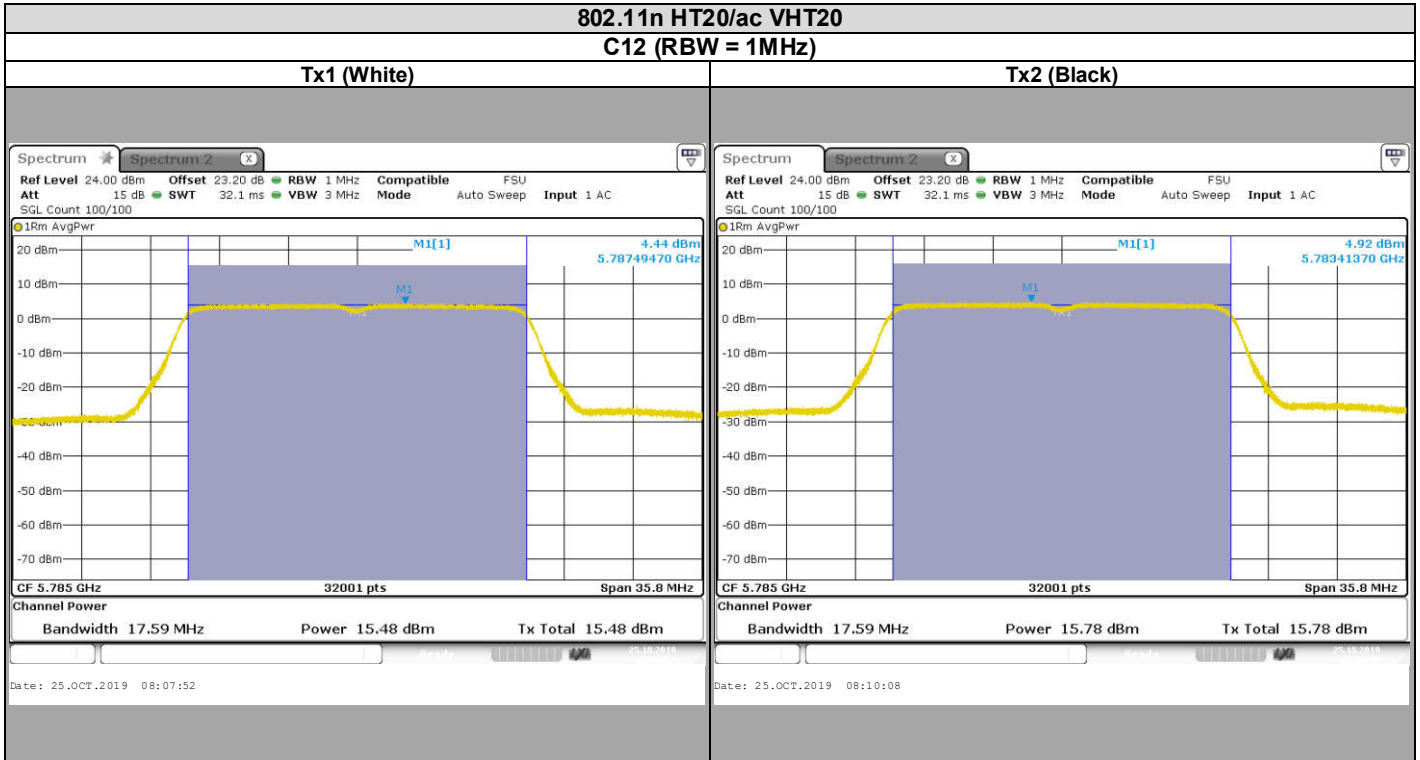


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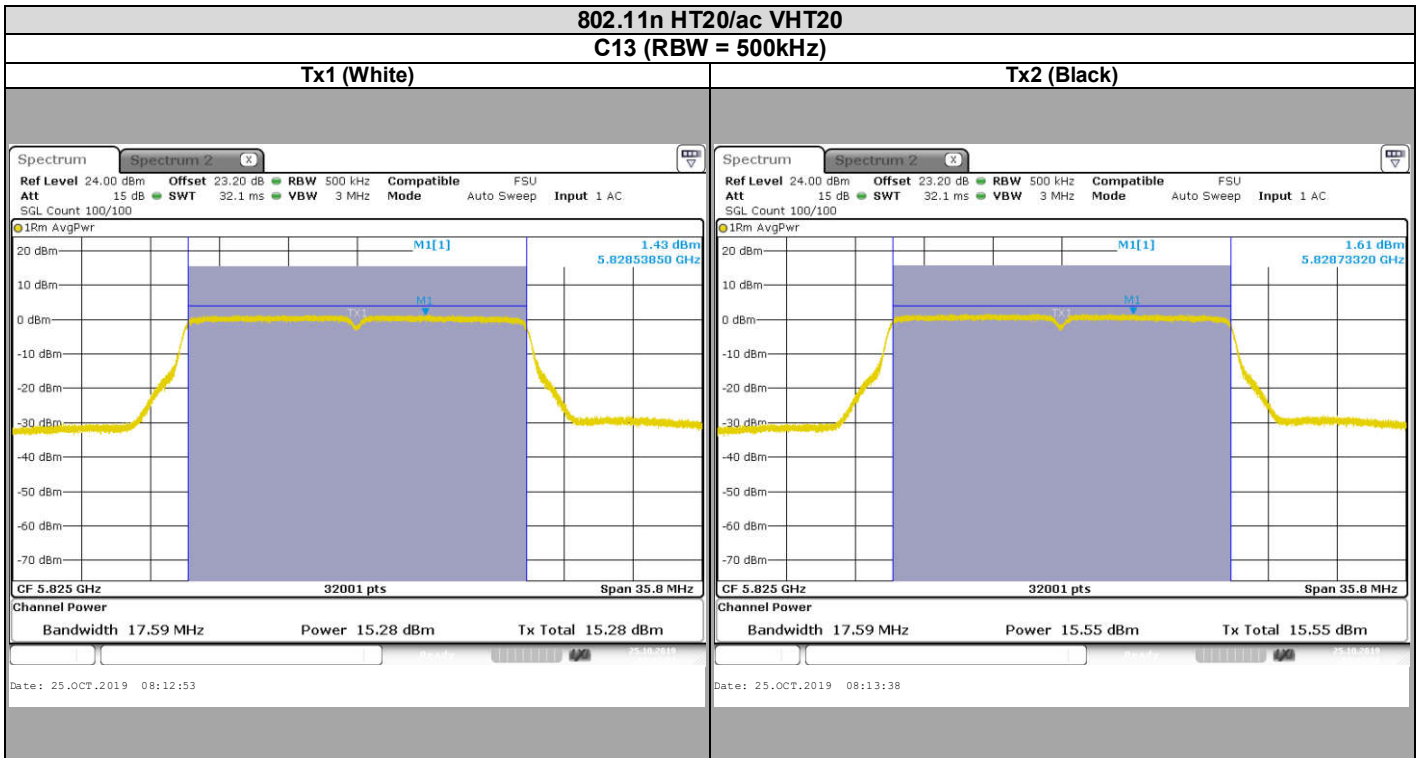
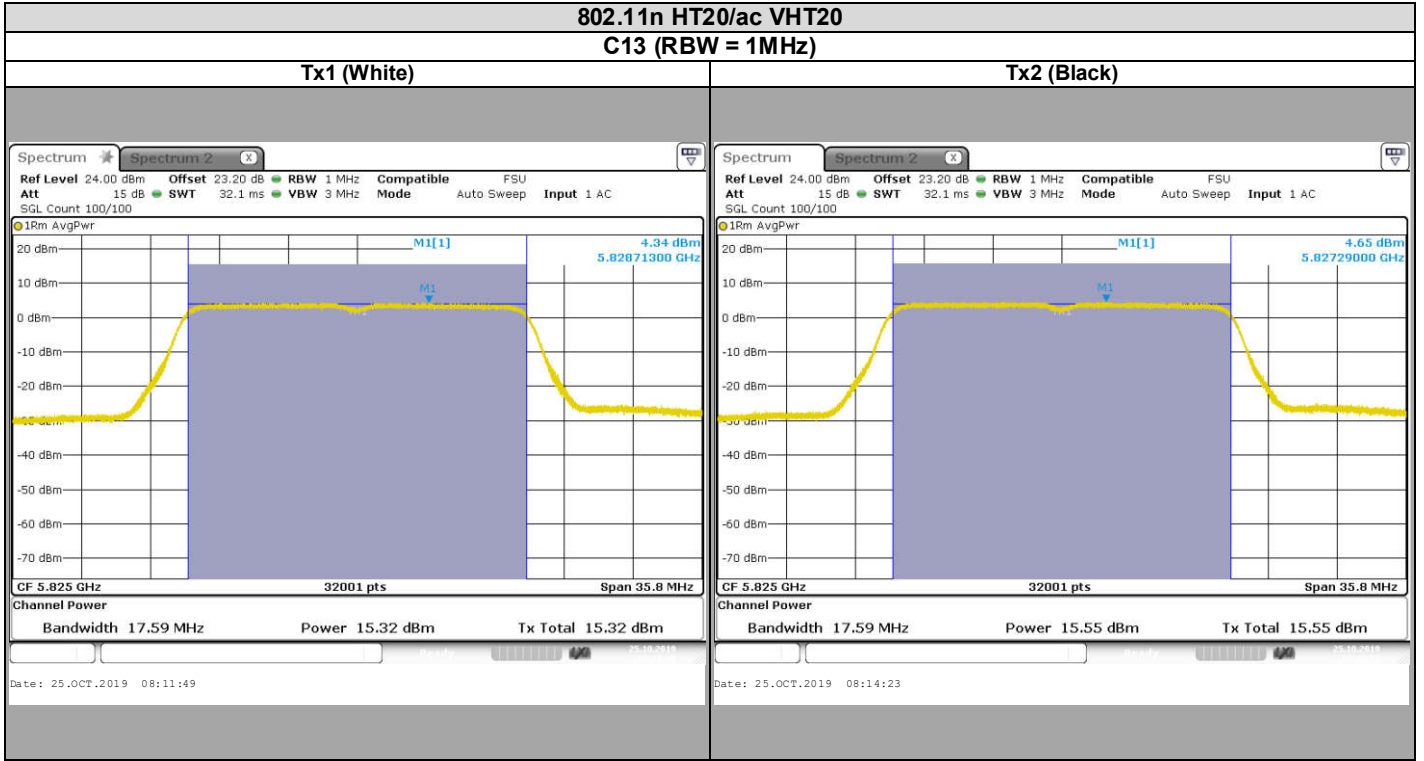


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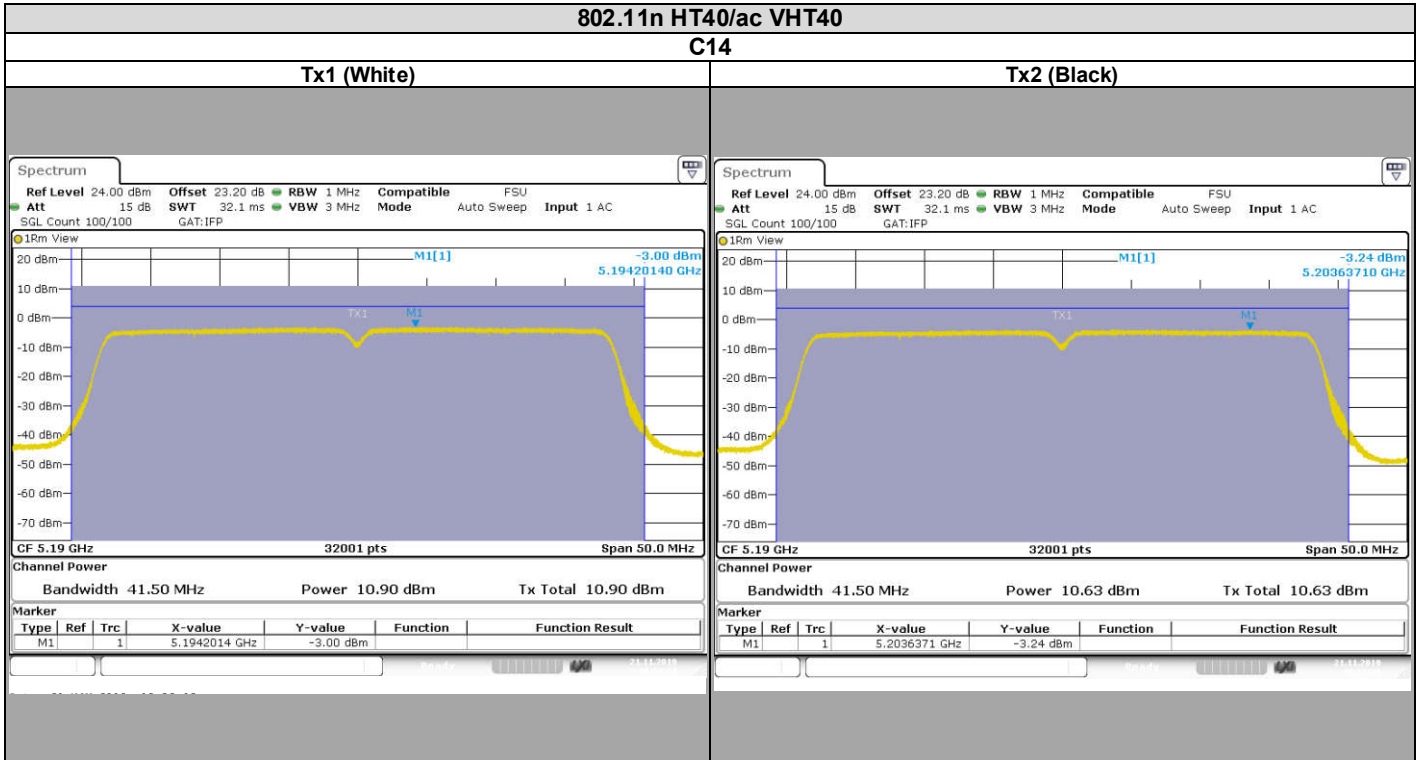


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L C I E





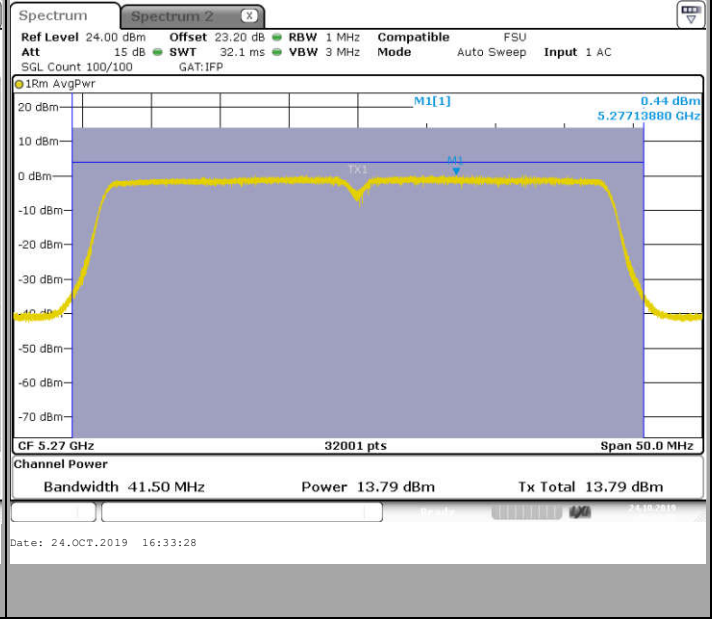
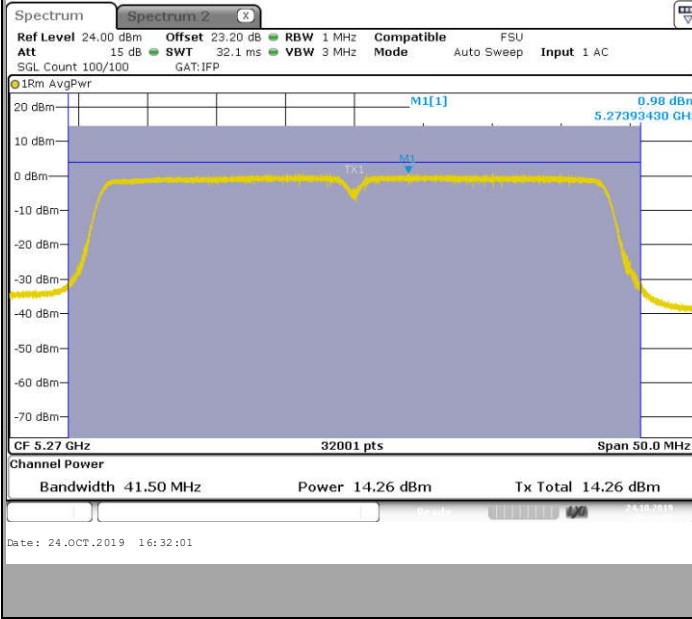
L C I E

802.11n HT40/ac VHT40

C16

Tx1 (White)

Tx2 (Black)

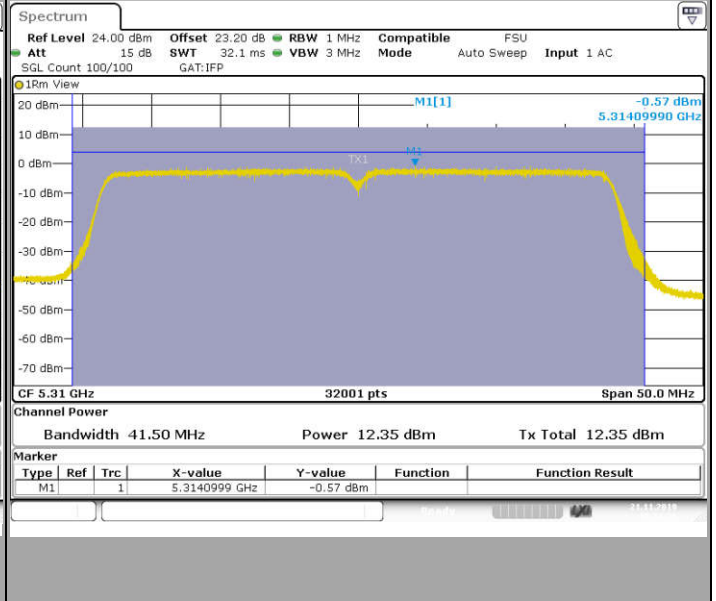
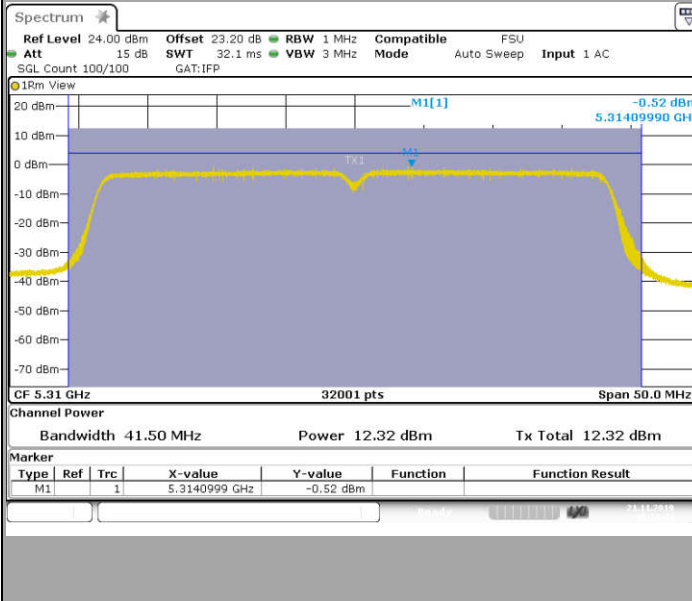


802.11n HT40/ac VHT40

C17

Tx1 (White)

Tx2 (Black)





L C I E

