RADIO TEST REPORT
FCC 47 CFR PART 15 SUBPART E

Test Standard	**FCC Part 15.407**
FCC ID	**M82-UTC520FPIKA0E**
Product name	**Computer**
Brand Name	**ADVANTECH**
Model No.	**UTC-520F, UTC-520FXXXXXXXXXXXXXXXX (where "X" may be any alphanumeric character , "-" or blank)**
Test Result	**Pass**

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.
The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc.(Wugu Laboratory)

Approved by:

Sam Chuang
Manager

Reviewed by:

Jerry Chuang
Engineer

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	January 31, 2018	Initial Issue	ALL	Allison Chen
01	March 28, 2018	1. Removed AC function information. 2. Added KDB 662911 V02r01. 3. Removed the EIRP limit in section 4.3.1. 4. Added test procedure for 99% OBW in section 4.2.2 and test plot for 99% OBW in section 4.2.4. 5. Revised test plot of channel move time.	P.5, P.8, P.10, P.16, P42-62, P.63, P.229	Allison Chen

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1. GENERAL INFORMATION

1.1 EUT INFORMATION

<table>
<tr><td>Applicant</td><td>Advantech Co.Ltd.
No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 114, Taiwan, R.O.C.</td></tr>
<tr><td>Manufacturer</td><td>Advantech Co.Ltd.
No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 114, Taiwan, R.O.C.</td></tr>
<tr><td>Equipment</td><td>Computer</td></tr>
<tr><td>Model No.</td><td>UTC-520F, UTC-520FXXXXXXXXXXXXXXXX (where "X" may be any alphanumeric character , “-” or blank)</td></tr>
<tr><td>Model Discrepancy</td><td>All the above models are identical except for the designation of model numbers. The suffix of (X= a-z / 0-9 or blank) on model number is just for marketing purpose only.</td></tr>
<tr><td>Received Date</td><td>December 08, 2017</td></tr>
<tr><td>Date of Test</td><td>January 18 ~ January 26, 2018</td></tr>
<tr><td>Power Operation</td><td>Powered from AC adapter.
Brand / Model: FSP / FSP084-DIBAN2
Input: 100-240Vac, 1.3A, 50-60Hz
Output: 12Vdc, 7A</td></tr>
<tr><td>Output Power(W)</td><td>
<table>
<tr><th>Band</th><th>Mode</th><th>Frequency Range (MHz)</th><th>Output Power (W)</th></tr>
<tr><td rowspan="3">U-NII-1</td><td>IEEE 802.11a</td><td>5180 ~ 5240</td><td>0.0692</td></tr>
<tr><td>IEEE 802.11n 20 MHz</td><td>5180 ~ 5240</td><td>0.1475</td></tr>
<tr><td>IEEE 802.11n 40 MHz</td><td>5190 ~ 5230</td><td>0.0522</td></tr>
<tr><td rowspan="3">U-NII-2a</td><td>IEEE 802.11a</td><td>5260 ~ 5320</td><td>0.0695</td></tr>
<tr><td>IEEE 802.11n 20 MHz</td><td>5260 ~ 5320</td><td>0.0646</td></tr>
<tr><td>IEEE 802.11n 40 MHz</td><td>5270 ~ 5310</td><td>0.0460</td></tr>
<tr><td rowspan="3">U-NII-2c</td><td>IEEE 802.11a</td><td>5500 ~ 5700</td><td>0.0508</td></tr>
<tr><td>IEEE 802.11n 20 MHz</td><td>5500 ~ 5700</td><td>0.0508</td></tr>
<tr><td>IEEE 802.11n 40 MHz</td><td>5510 ~ 5670</td><td>0.0478</td></tr>
<tr><td rowspan="3">U-NII-3</td><td>IEEE 802.11a</td><td>5745 ~ 5825</td><td>0.0341</td></tr>
<tr><td>IEEE 802.11n 20 MHz</td><td>5745 ~ 5825</td><td>0.0391</td></tr>
<tr><td>IEEE 802.11n 40 MHz</td><td>5755 ~ 5795</td><td>0.0348</td></tr>
</table>
</td></tr>
</table>

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1.2 EUT CHANNEL INFORMATION

<table>
<tr><td>Frequency Range</td><td>
<table>
<tr><td colspan="2">UNII-1</td></tr>
<tr><td>IEEE 802.11a</td><td>5180 ~ 5240 MHz</td></tr>
<tr><td>IEEE 802.11n 20 MHz</td><td>5180 ~ 5240 MHz</td></tr>
<tr><td>IEEE 802.11n 40 MHz</td><td>5190 ~ 5230 MHz</td></tr>
<tr><td colspan="2">UNII-2a</td></tr>
<tr><td>IEEE 802.11a</td><td>5260 ~ 5320 MHz</td></tr>
<tr><td>IEEE 802.11n 20 MHz</td><td>5260 ~ 5320 MHz</td></tr>
<tr><td>IEEE 802.11n 40 MHz</td><td>5270 ~ 5310 MHz</td></tr>
<tr><td colspan="2">UNII-2c</td></tr>
<tr><td>IEEE 802.11a</td><td>5500 ~ 5700 MHz</td></tr>
<tr><td>IEEE 802.11n 20 MHz</td><td>5500 ~ 5700 MHz</td></tr>
<tr><td>IEEE 802.11n 40 MHz</td><td>5510 ~ 5670 MHz</td></tr>
<tr><td colspan="2">UNII-3</td></tr>
<tr><td>IEEE 802.11a</td><td>5745 ~ 5825 MHz</td></tr>
<tr><td>IEEE 802.11n 20 MHz</td><td>5745 ~ 5825 MHz</td></tr>
<tr><td>IEEE 802.11n 40 MHz</td><td>5755 ~ 5795 MHz</td></tr>
</table>
</td></tr>
<tr><td>Modulation Type</td><td>1. IEEE 802.11a mode: OFDM
2. IEEE 802.11n 20 MHz mode: OFDM
3. IEEE 802.11n 40 MHz mode: OFDM</td></tr>
</table>

Remark:
Refer as ANSI 63.10:2013 clause 5.6.1 Table 4 for test channels

Number of frequencies to be tested		
Frequency range in which device operates	**Number of frequencies**	**Location in frequency range of operation**
☐ 1 MHz or less	1	Middle
☐ 1 MHz to 10 MHz	2	1 near top and 1 near bottom
☒ More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

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1.3 ANTENNA INFORMATION

Antenna Type	☒ PIFA ☐ PCB ☐ Dipole ☐ Coils
Antenna Gain	

	Description	Type	Peak Gain
Ant 1	WIFI black	PIFA	6.42dBi
Ant 2	WIFI white	PIFA	5.50dBi
Power Directional Gain		5.98dBi	

Notes:
1. Power Directional Gain: 10LOG(((10^(Ant1/10)+10^(Ant2/10))/2))

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 30 to 1000 MHz	+/- 3.97
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 1 to 18GHz	+/- 3.58
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 18 to 26 GHz	+/- 3.59
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 26 to 40 GHz	+/- 3.81
Conducted Emission (Mains Terminals), 9kHz to 30MHz	+/- 2.48

***Remark**:*
1.This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2
2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

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1.5 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)

Test site	Test Engineer	Remark
AC Conduction Room	Eric Lee	-
Radiation	Jerry Chuang	-
RF Conducted	Jerry Chuang	-

Remark: *The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.*

1.6 INSTRUMENT CALIBRATION

3M 966 Chamber Test Site					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Bilog Antenna	Sunol Sciences	JB3	A030105	06/20/2017	06/19/2018
Horn Antenna	EMCO	3117	55165	02/20/2017	02/19/2018
Pre-Amplifier	EMEC	EM330	60609	06/07/2017	06/06/2018
Spectrum Analyzer	Agilent	E4446A	US42510252	11/27/2017	11/26/2018
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Pre-Amplifier	HP	8449B	3008A00965	06/27/2017	06/26/2018
Filter	N/A	2400-2500	N/A	N/A	N/A
Filter	N/A	0-6000	N/A	N/A	N/A
Cable	HUBER SUHNER	SUCOFLEX 104PEA	25157	07/31/2017	07/30/2018
Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	07/31/2017	07/30/2018

RF Conducted Test Site					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Power Meter	Anritsu	ML2495A	1033009	04/11/2017	04/10/2018
Power Sensor	Anritsu	MA2411B	917072	07/03/2017	07/02/2018
Spectrum Analyzer	R&S	FSV 40	101073	10/02/2017	10/01/2018
Directional Coupler	Agilent	87301D	MY44350252	07/25/2017	07/24/2018
SUCOFLEX Cable	HUBER SUHNER	SUCOFLEX 104PEA	25157	07/31/2017	07/30/2018
Divider	Solvang Technology	2-18GHz 4Way	STI08-0015	07/26/2017	07/25/2018

Remark: *Each piece of equipment is scheduled for calibration once a year.*

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AC line Conduction Test Room					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
Bilog Antenna	Sunol Sciences	JB3	A030105	06/20/2017	06/19/2018
Horn Antenna	EMCO	3117	55165	02/20/2017	02/19/2018
Pre-Amplifier	EMEC	EM330	60609	06/07/2017	06/06/2018

Remark: *Each piece of equipment is scheduled for calibration once a year.*

1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

EUT Accessories Equipment					
No.	**Equipment**	**Brand**	**Model**	**Series No.**	**FCC ID**
	N/A				

Support Equipment					
No.	**Equipment**	**Brand**	**Model**	**Series No.**	**FCC ID**
	N/A				

1.8 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.407, KDB 789033 D02 v02r01, KDB 905462 D02 v02, KDB 662911D01 V02r01.

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2. TEST SUMMERY

FCC Standard Sec.	Chapter	Test Item	Result
15.203	1.2	Antenna Requirement	Pass
15.207	4.1	AC Conducted Emission	Pass
15.403(i)	4.2	26dB Bandwidth	Pass
15.407(e)	4.2	6dB Bandwidth	Pass
15.403(i)	4.2	Occupied Bandwidth (99%)	Pass
15.407(a)	4.3	Output Power Measurement	Pass
15.407(a)	4.4	Power Spectral Density	Pass
15.407(b)	4.5	Radiation Band Edge	Pass
15.407(b)	4.5	Radiation Spurious Emission	Pass
15.407(g)	4.6	Frequency Stability	Pass
15.407(h)	4.7	Dynamic Frequency Selection	Pass

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3. DESCRIPTION OF TEST MODES

3.1 THE WORST MODE OF OPERATING CONDITION

<table>
<tr><td>Operation mode</td><td>1. IEEE 802.11a mode: 6Mbps
2. IEEE 802.11n 20 MHz mode: MCS8
3. IEEE 802.11n 40 MHz mode: MCS8</td></tr>
<tr><td>Operating Frequency Range &
Number of Channels</td><td>
<table>
<tr><th></th><th>Mode</th><th>Frequency Range (MHz)</th><th>Number of Channels</th></tr>
<tr><td rowspan="3">U-NII-1</td><td>IEEE 802.11a</td><td>5180 ~ 5240</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11n 20 MHz</td><td>5180 ~ 5240</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11n 40 MHz</td><td>5190 ~ 5230</td><td>2 Channels</td></tr>
<tr><td rowspan="3">U-NII-2a</td><td>IEEE 802.11a</td><td>5260 ~ 5320</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11n 20 MHz</td><td>5260 ~ 5320</td><td>4 Channels</td></tr>
<tr><td>IEEE 802.11n 40 MHz</td><td>5270 ~ 5310</td><td>2 Channels</td></tr>
<tr><td rowspan="3">U-NII-2c</td><td>IEEE 802.11a</td><td>5500 ~ 5700</td><td>11 Channels</td></tr>
<tr><td>IEEE 802.11n 20 MHz</td><td>5500 ~ 5700</td><td>11 Channels</td></tr>
<tr><td>IEEE 802.11n 40 MHz</td><td>5510 ~ 5670</td><td>5 Channels</td></tr>
<tr><td rowspan="3">U-NII-3</td><td>IEEE 802.11a</td><td>5745 ~ 5825</td><td>5 Channels</td></tr>
<tr><td>IEEE 802.11n 20 MHz</td><td>5745 ~ 5825</td><td>5 Channels</td></tr>
<tr><td>IEEE 802.11n 40 MHz</td><td>5755 ~ 5795</td><td>2 Channels</td></tr>
</table>
</td></tr>
</table>

Remark:
1. EUT pre-scanned data rate of output power for each mode, the worst data rate were recorded in this report.
2. Covered modes are test reduction modes. The output powers on the covered modes are equal to or less than the mode referenced and use the same module
3.The mode IEEE 802.11ac VHT20 and VHT40 are only different in control messages with IEEE 802.11n 20 MHz and HT40, and have same power setting. Therefore, the highest power(IEEE 802.11n 20 MHz and HT40) were test conducted and radiated measurement and recorded in this report.

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3.2 THE WORST MODE OF MEASUREMENT

AC Power Line Conducted Emission	
Test Condition	AC Power line conducted emission for line and neutral
Voltage/Hz	120V/60Hz
Test Mode	Mode 1:EUT power by AC adapter via power cable.
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

Radiated Emission Measurement Above 1G	
Test Condition	Band edge, Emission for Unwanted and Fundamental
Voltage/Hz	120V/60Hz
Test Mode	Mode 1:EUT power by AC adapter via power cable.
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4
Worst Position	☐ Placed in fixed position. ☐ Placed in fixed position at X-Plane (E2-Plane) ☐ Placed in fixed position at Y-Plane (E1-Plane) ☒ Placed in fixed position at Z-Plane (H-Plane)
Worst Polarity	☒ Horizontal ☐ Vertical

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Voltage/Hz	120V/60Hz
Test Mode	Mode 1:EUT power by AC adapter via power cable.
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

Remark:
1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, Horizontal and Vertical for radiated measurement. The worst case(Z-Plane and Horizontal) were recorded in this report
3. For below 1G, AC power line conducted emission and radiation emission were performed the EUT transmit at the highest output power channel as worse case.

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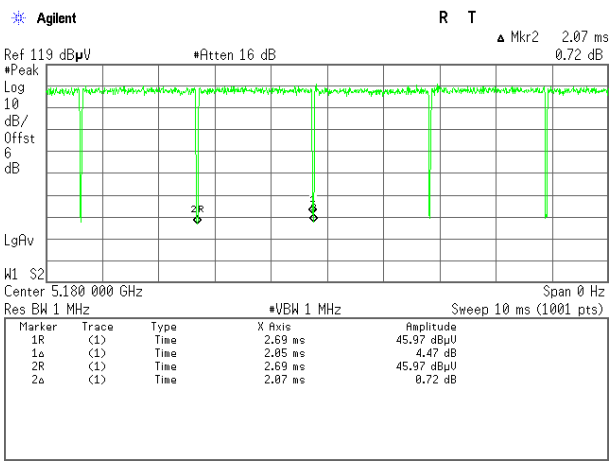
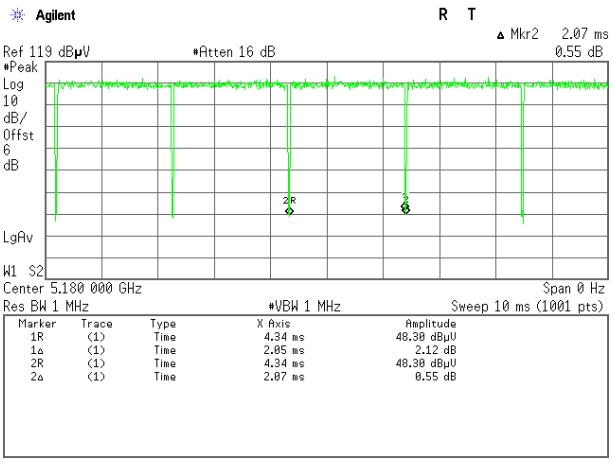
3.3 EUT DUTY CYCLE

Duty Cycle				
Configuration	TX ON (ms)	TX ALL (ms)	Duty Cycle (%)	Duty Factor(dB)
802.11a	2.0500	2.0700	99.03%	0.04
802.11n 20	2.0500	2.0700	99.03%	0.04
802.11n 40	0.9600	0.9700	98.97%	0.05

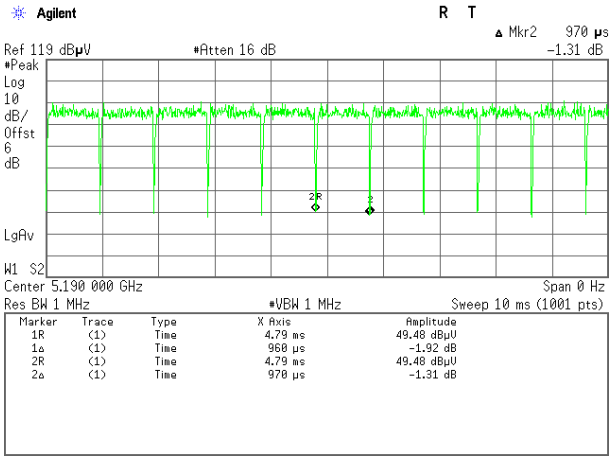
802.11a



802.11n 20 MHz



802.11n 40 MHz



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4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

According to §15.207(a) and RSS-GEN section 8.8,

Frequency Range (MHz)	Limits(dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

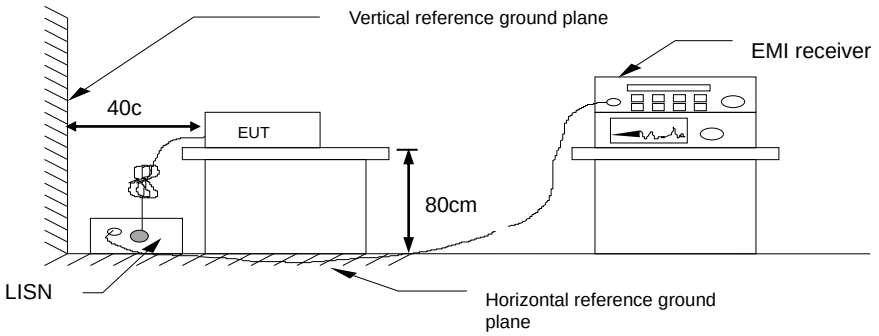
* Decreases with the logarithm of the frequency.

4.1.2 Test Procedure

Test method Refer as ANSI 63.10:2013 clause 6.2,

1. The EUT was placed on a non-conducted table, which is 0.8m above horizontal ground plane and 0.4m above vertical ground plane.
2. EUT connected to the line impedance stabilization network (LISN)
3. Receiver set RBW of 9kHz and Detector Peak, and note as quasi-peak and average.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. Recorded Line for Neutral and Line.

4.1.3 Test Setup



4.1.4 Test Result

Pass.

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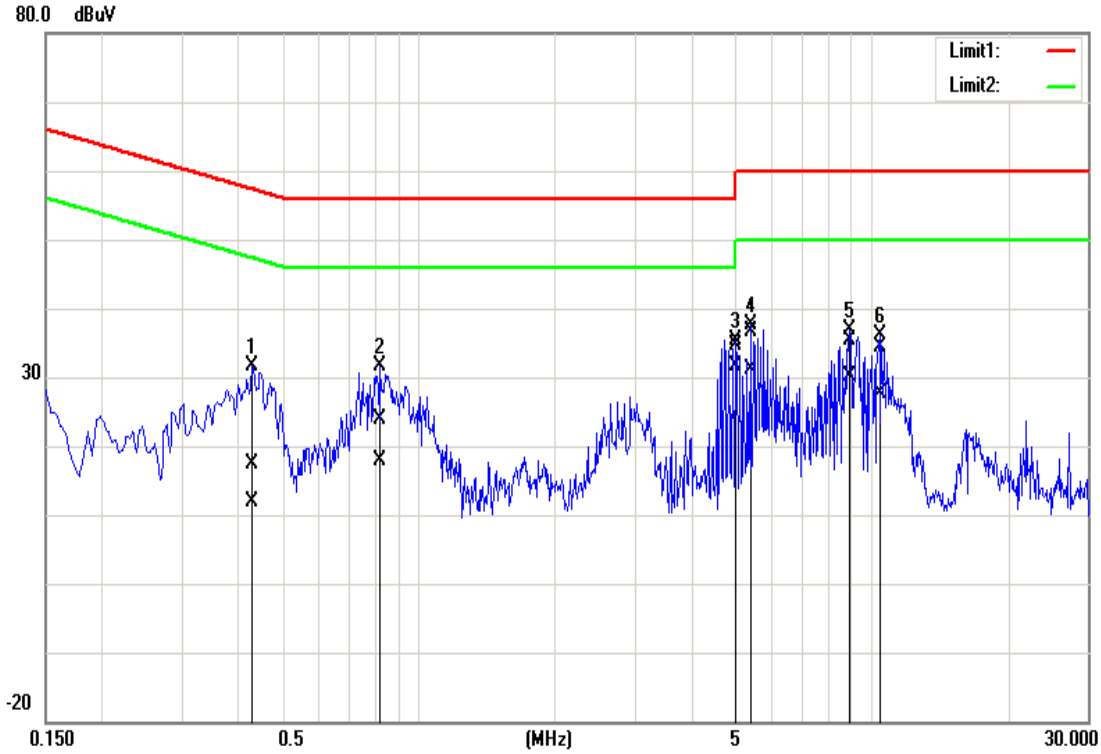
Test Data

Test Mode:	Mode 1	Temp/Hum	24(℃)/ 50%RH
Test Voltage:	120Vac / 60Hz	Test Date	January 26, 2018
Phase:	Line	Test Engineer	Eric Lee



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.4300	17.44	11.76	0.05	17.49	11.81	57.25	47.25	-39.76	-35.44	Pass
0.8260	23.73	17.88	0.06	23.79	17.94	56.00	46.00	-32.21	-28.06	Pass
5.0300	34.52	31.57	0.09	34.61	31.66	60.00	50.00	-25.39	-18.34	Pass
5.4140	36.55	30.99	0.08	36.63	31.07	60.00	50.00	-23.37	-18.93	Pass
8.9220	35.52	30.18	-0.05	35.47	30.13	60.00	50.00	-24.53	-19.87	Pass
10.4380	34.46	27.61	-0.06	34.40	27.55	60.00	50.00	-25.60	-22.45	Pass

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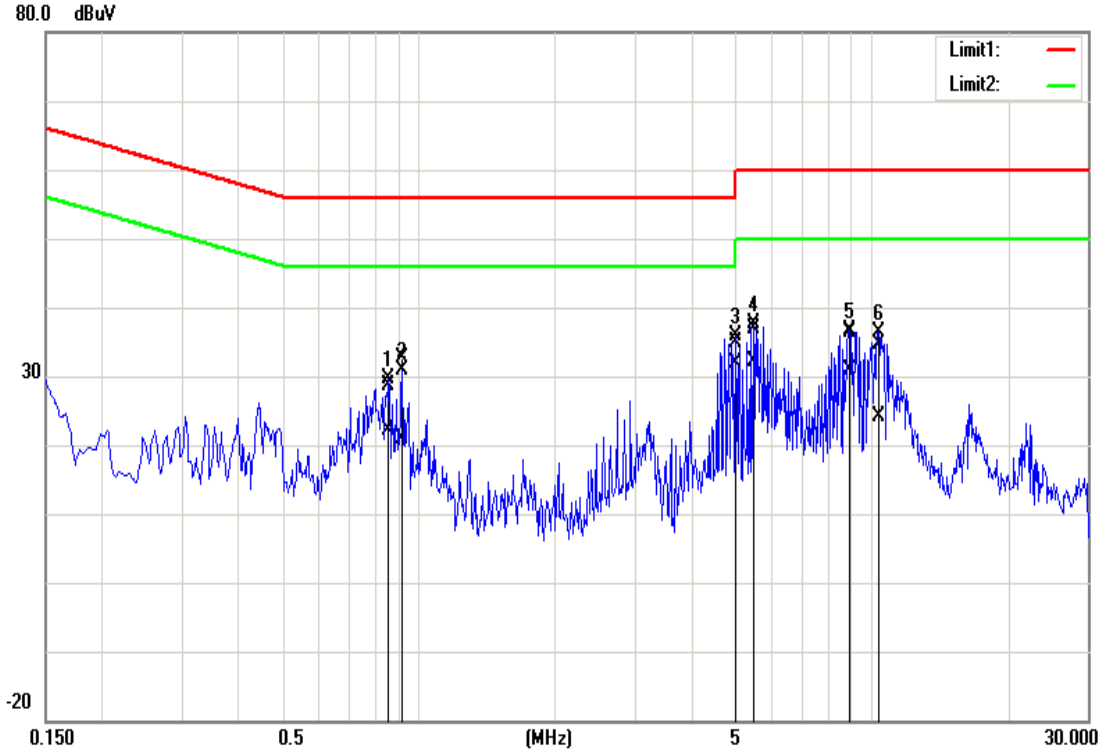
Test Mode:	Mode 1	Temp/Hum	24(℃)/ 50%RH
Test Voltage:	120Vac / 60Hz	Test Date	January 26, 2018
Phase:	Line	Test Engineer	Eric Lee



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.8580	28.52	22.08	0.15	28.67	22.23	56.00	46.00	-27.33	-23.77	Pass
0.9220	32.50	20.74	0.15	32.65	20.89	56.00	46.00	-23.35	-25.11	Pass
5.0260	34.76	31.63	0.23	34.99	31.86	60.00	50.00	-25.01	-18.14	Pass
5.4980	36.54	31.94	0.24	36.78	32.18	60.00	50.00	-23.22	-17.82	Pass
8.9180	36.16	30.58	0.32	36.48	30.90	60.00	50.00	-23.52	-19.10	Pass
10.3460	34.31	23.83	0.35	34.66	24.18	60.00	50.00	-25.34	-25.82	Pass

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4.2 26DB BANDWIDTH, 6DB BANDWIDTH AND OCCUPIED BANDWIDTH(99%)

4.2.1 Test Limit

26 dB Bandwidth ：For reporting purposes only.

6 dB Bandwidth ：Least 500kHz.

Occupied Bandwidth(99%) ： For reporting purposes only.

4.2.2 Test Procedure

Test method Refer as KDB 789033 D02 v02r01 Section C, D, and ANSI 63.10:2013 clause 6.9.2,

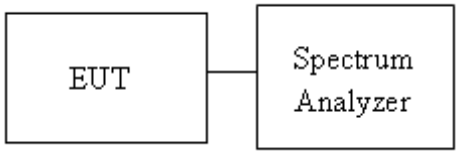
1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. UNII-1, UNII-2a and UNII-2c,

   (1) BW=20MHz : SA set RBW = 300kHz, VBW = 1MHz and Detector = Peak, to measurement 26 dB Bandwidth.

   (2) BW=40MHz : SA set RBW = 1MHz, VBW = 3MHz and Detector = Peak, to measurement 26 dB Bandwidth.

   (3) BW=80MHz : SA set RBW = 1MHz, VBW = 3MHz and Detector = Peak, to measurement 26 dB Bandwidth.
4. UNII-3, SA set RBW = 100kHz, VBW = 300kHz and Detector = Peak, to measurement 26 dB Bandwidth.
5. SA set RBW = 1% ~ 5% OBW, VBW = three times the RBW and Detector = Peak, to measurement 99% Bandwidth.
6. Measure and record the result of 6 dB, 26 dB Bandwidth and 99% Bandwidth. in the test report.

4.2.3 Test Setup



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4.2.4 Test Result

UNII-1 5150-5250 MHz					
Test mode: IEEE 802.11a mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Low	5180	17.0767	16.6425	26.4493	24.3478
Mid	5220	16.7872	16.6425	24.058	24.5652
High	5240	16.7872	16.7872	26.087	24.7826
Test mode: IEEE 802.11n 20 MHz mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Low	5180	17.9450	17.9450	30.4348	28.1884
Mid	5220	17.8002	17.8002	29.5652	25.7971
High	5240	17.9450	17.8002	27.7536	25.2174
Test mode: IEEE 802.11n 40 MHz mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Low	5190	36.5846	36.7004	50.087	50.667
High	5230	36.9319	36.5846	49.623	49.623

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UNII-2a 5250-5350 MHz					
Test mode: IEEE 802.11a mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Low	5260	17.0767	16.7149	28.1884	24.6337
Mid	5280	17.0767	16.7872	29.7826	26.1594
High	5320	17.2937	16.7872	33.4783	25.1449
Test mode: IEEE 802.11n 20 MHz mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Low	5260	17.9450	17.8002	32.2464	24.7826
Mid	5280	18.0173	17.8002	31.8116	24.5652
High	5320	18.2344	17.8726	28.9855	26.5217
Test mode: IEEE 802.11n 40 MHz mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Low	5270	36.7004	36.5846	49.739	49.855
High	5310	36.7004	36.5846	50.435	50.087

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UNII-2c 5475-5725 MHz					
Test mode: IEEE 802.11a mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Low	5500	17.0043	16.7872	30.3623	27.1014
Mid	5580	17.0767	18.0173	29.058	34.1304
High	5700	16.7872	16.9319	23.9855	29.7826
Test mode: IEEE 802.11n 20 MHz mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Low	5500	18.0897	17.8726	32.3188	29.8551
Mid	5580	19.3198	18.5962	34.5652	32.6812
High	5700	17.8002	17.8726	25.2174	27.5362
Test mode: IEEE 802.11n 40 MHz mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 26dB BW (MHz)**	**Chain 1 26dB BW (MHz)**
Low	5510	36.7004	36.7004	49.855	50.319
Mid	5500	36.8162	36.5846	49.971	51.594
High	5670	37.6266	37.3950	50.319	49.971

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UNII-3 5725-5825MHz					
Test mode: IEEE 802.11a mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 6dB BW (MHz)**	**Chain 1 6dB BW (MHz)**
Low	5745	17.1490	16.7872	16.3478	16.0435
Mid	5785	17.0043	17.0767	16.2609	16.3043
High	5825	16.8596	17.0767	15.6957	15.913
Test mode: IEEE 802.11n 20 MHz mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 6dB BW (MHz)**	**Chain 1 6dB BW (MHz)**
Low	5745	18.0897	17.8726	17.1739	16.913
Mid	5785	17.9450	18.2344	16.3043	16.913
High	5825	17.9450	18.4515	16.3043	16.6522
Test mode: IEEE 802.11n 40 MHz mode					
Channel	**Frequency (MHz)**	**Chain 0 OBW(99%) (MHz)**	**Chain 1 OBW(99%) (MHz)**	**Chain 0 6dB BW (MHz)**	**Chain 1 6dB BW (MHz)**
Low	5755	37.2793	36.5846	35.478	35.478
High	5795	37.1635	36.5846	36.058	35.478

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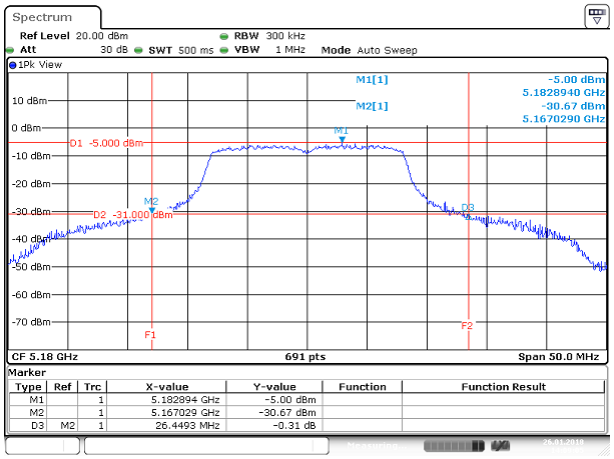
Test Data

26dB

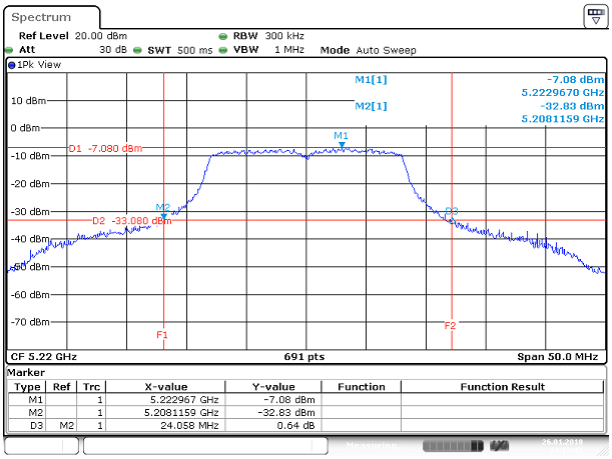
UNII-1 IEEE 802.11a mode- chain 0

Low CH



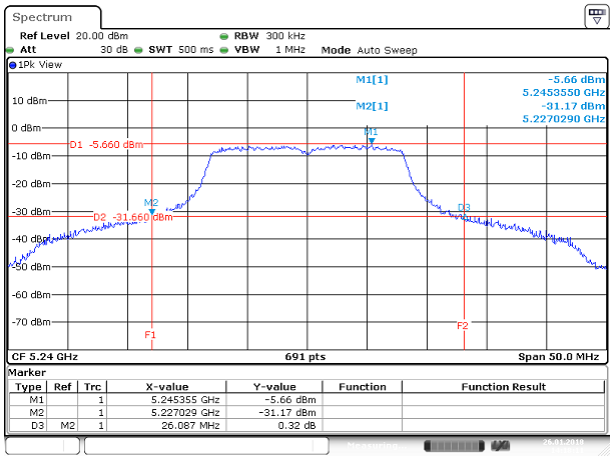
Date: 26.JAN.2018 14:09:05

Mid CH



Date: 26.JAN.2018 14:13:48

High CH



Date: 26.JAN.2018 14:18:11

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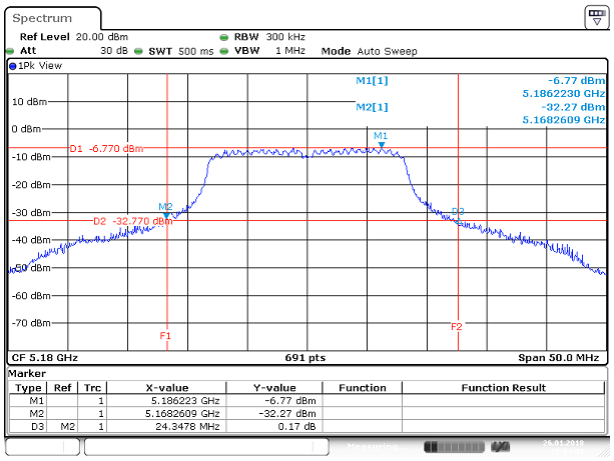
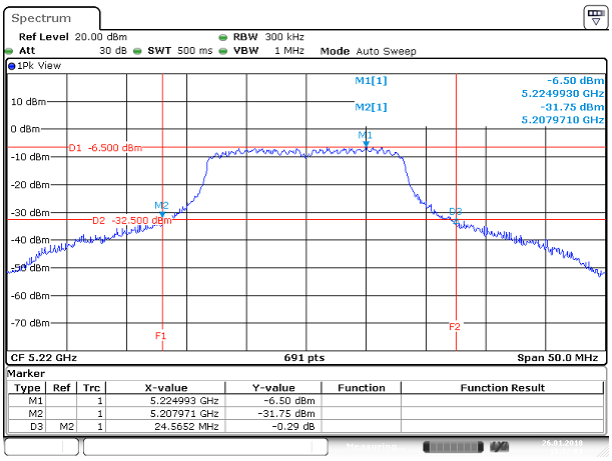
UNII-1 IEEE 802.11a mode- chain 1

Low CH



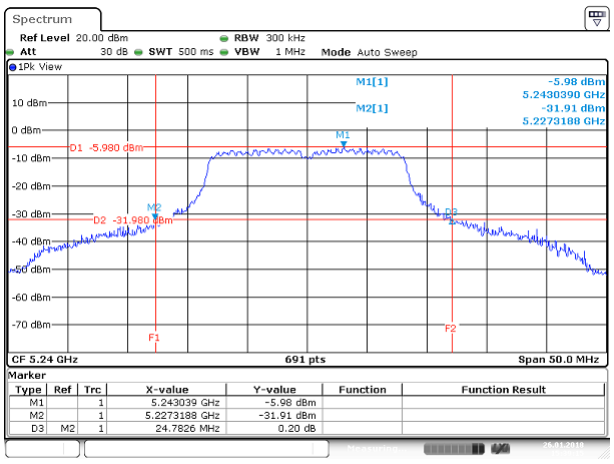
Date: 26.JAN.2018 15:34:43

Mid CH



Date: 26.JAN.2018 15:37:01

High CH



Date: 26.JAN.2018 15:39:15

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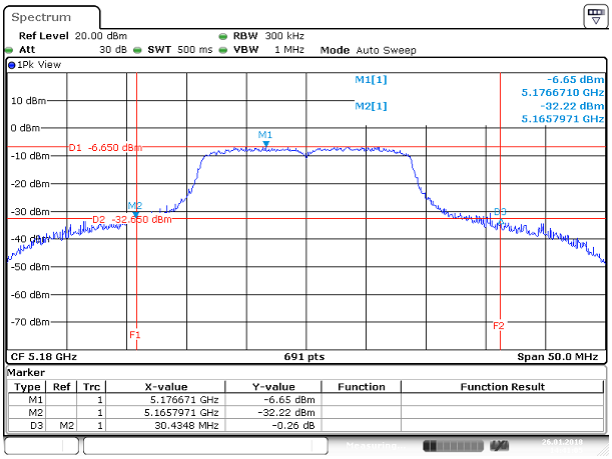
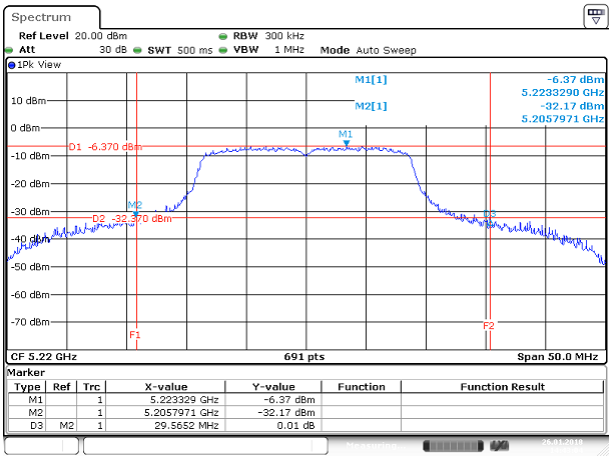
UNII-1 IEEE 802.11n 20 MHz mode- chain 0

Low CH



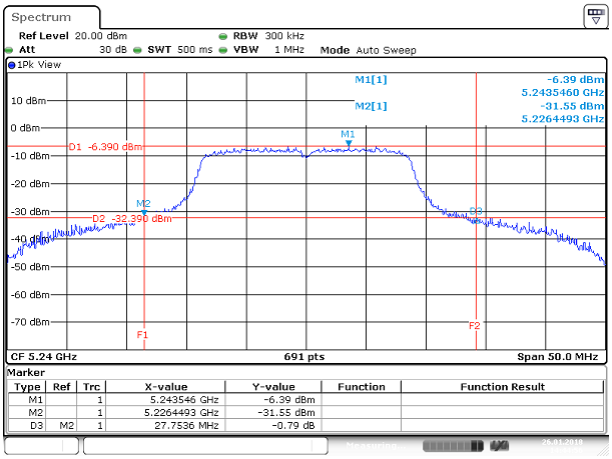
Date: 26.JAN.2018 14:41:05

Mid CH



Date: 26.JAN.2018 14:43:04

High CH



Date: 26.JAN.2018 14:44:56

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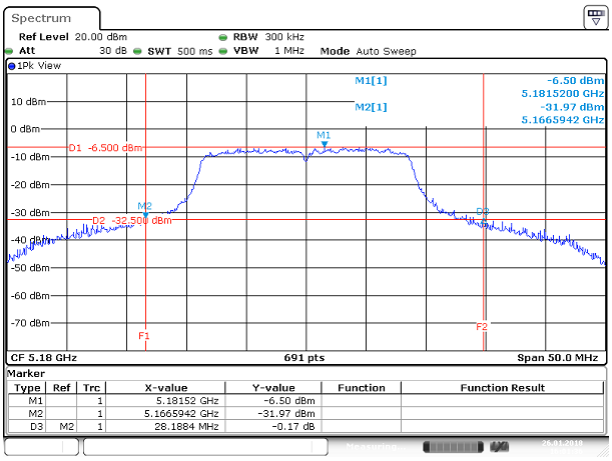
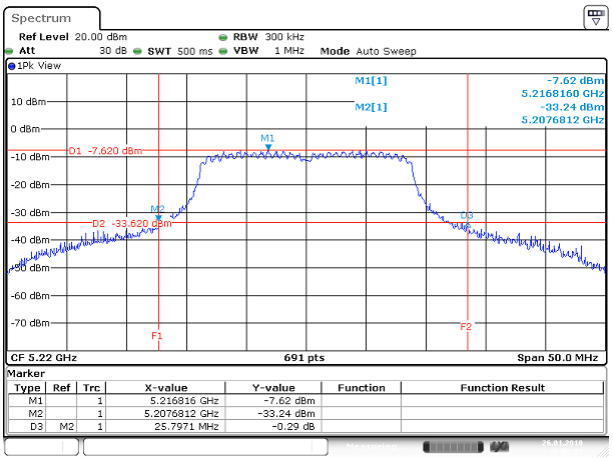
UNII-1 IEEE 802.11n 20 MHz mode- chain 1

Low CH



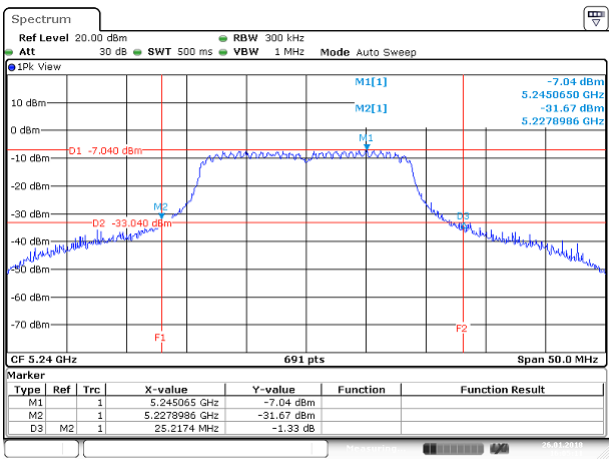
Date: 26.JAN.2018 16:01:36

Mid CH



Date: 26.JAN.2018 16:03:12

High CH



Date: 26.JAN.2018 16:05:11

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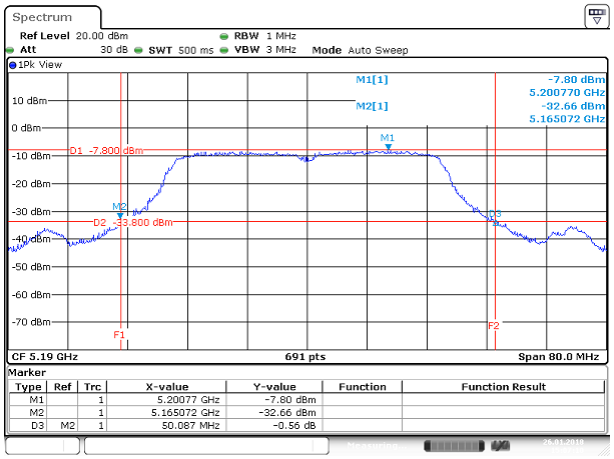
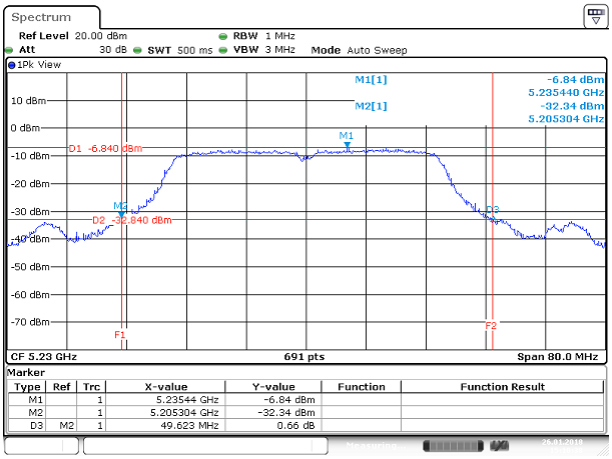
UNII-1 IEEE 802.11n 40 MHz mode- chain 0

Low CH

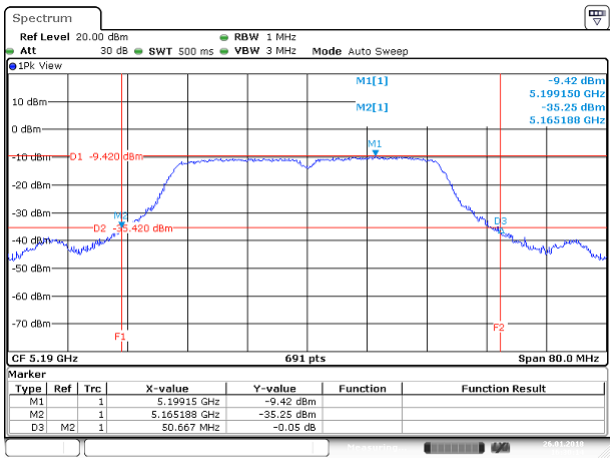


High CH

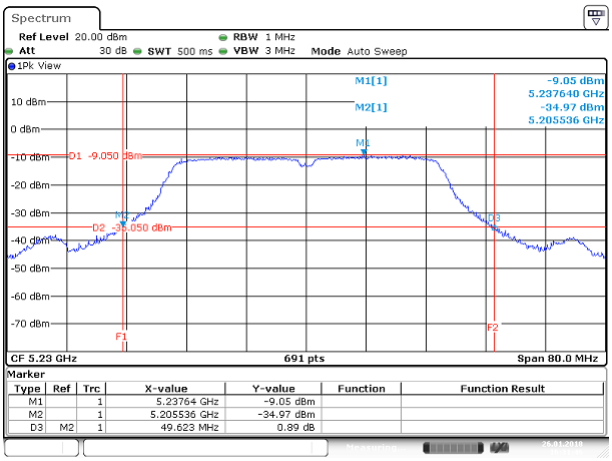


UNII-1 IEEE 802.11n 40 MHz mode- chain 1

Low CH



High CH



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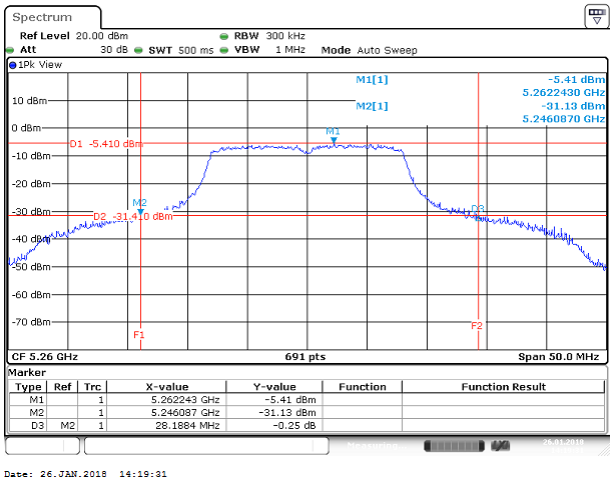
Test Data

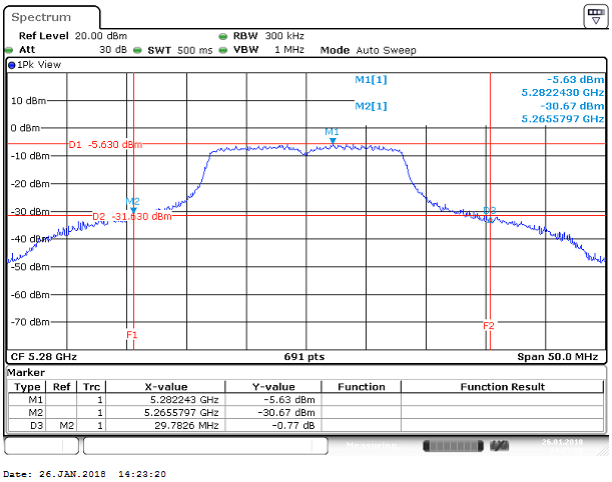
UNII-2a IEEE 802.11a mode- chain 0

Low CH



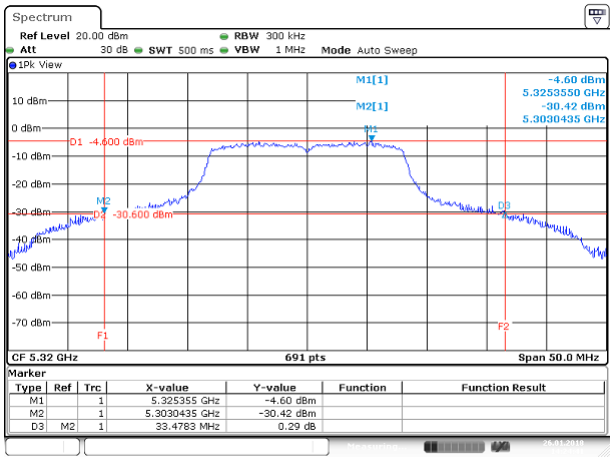
Date: 26.JAN.2018 14:19:31

Mid CH



Date: 26.JAN.2018 14:23:20

High CH



Date: 26.JAN.2018 14:24:41

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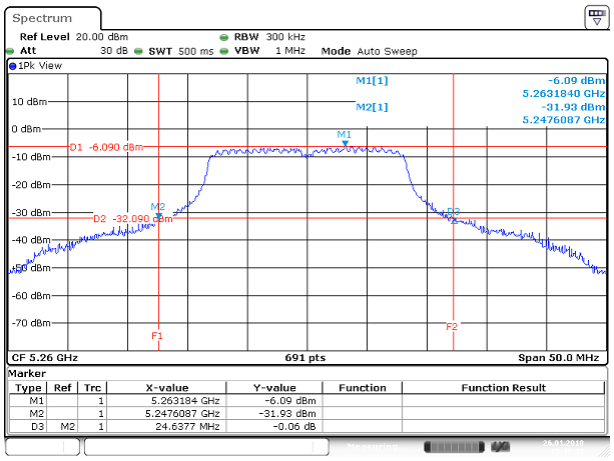
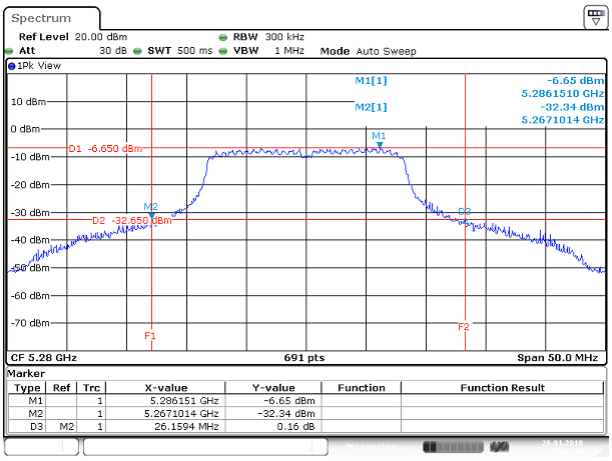
UNII-2a IEEE 802.11a mode- chain 1

Low CH



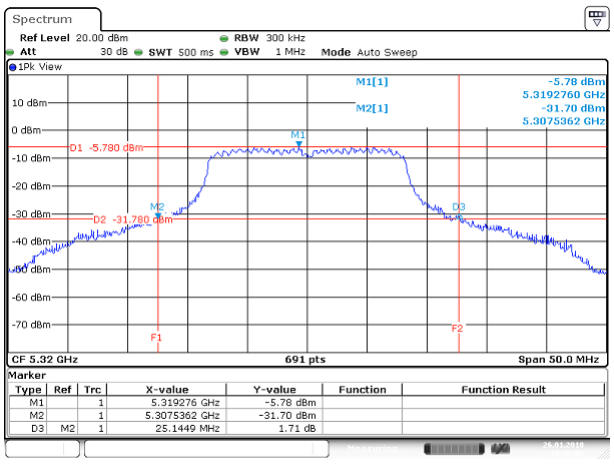
Date: 26.JAN.2018 15:40:49

Mid CH



Date: 26.JAN.2018 15:42:38

High CH



Date: 26.JAN.2018 15:46:07

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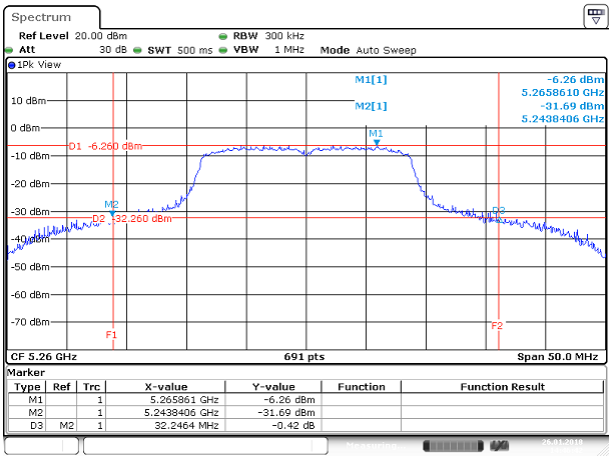
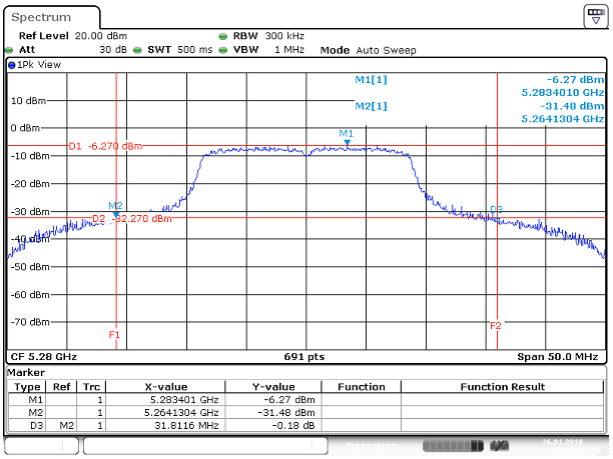
UNII-2a IEEE 802.11n 20 MHz mode- chain 0

Low CH



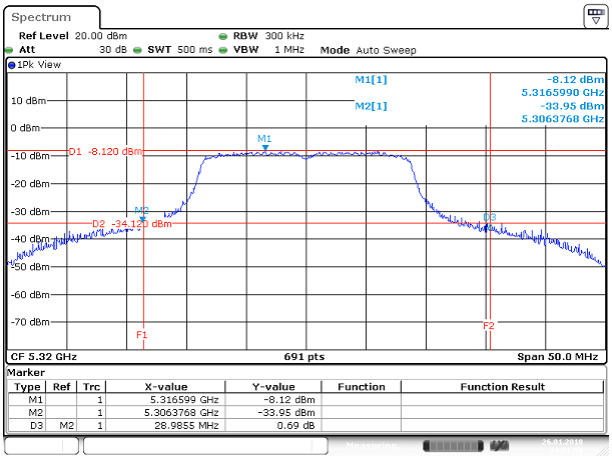
Date: 26.JAN.2018 14:46:43

Mid CH



Date: 26.JAN.2018 14:49:13

High CH



Date: 26.JAN.2018 14:51:56

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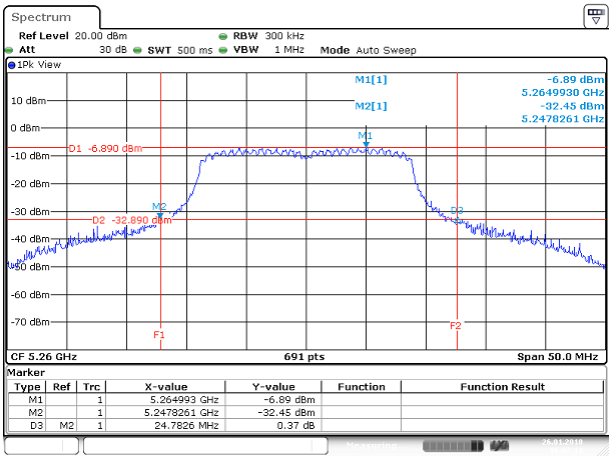
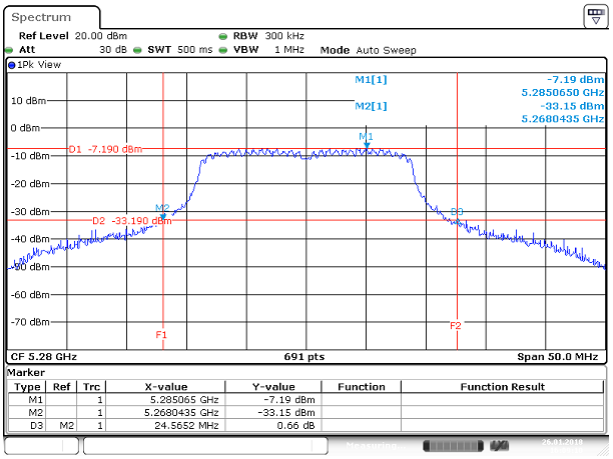
UNII-2a IEEE 802.11n 20 MHz mode- chain 1

Low CH



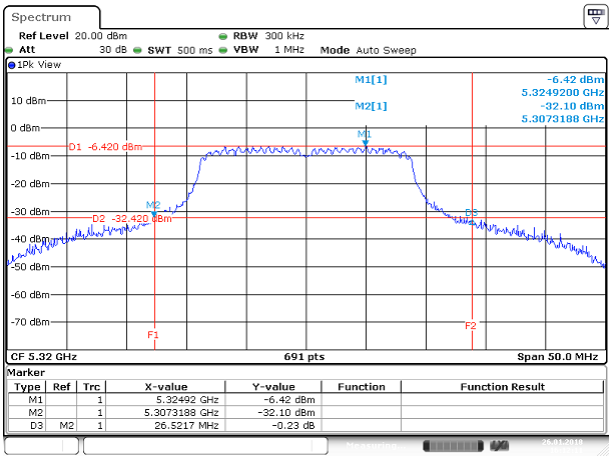
Date: 26.JAN.2018 16:07:11

Mid CH



Date: 26.JAN.2018 16:09:10

High CH



Date: 26.JAN.2018 16:12:11

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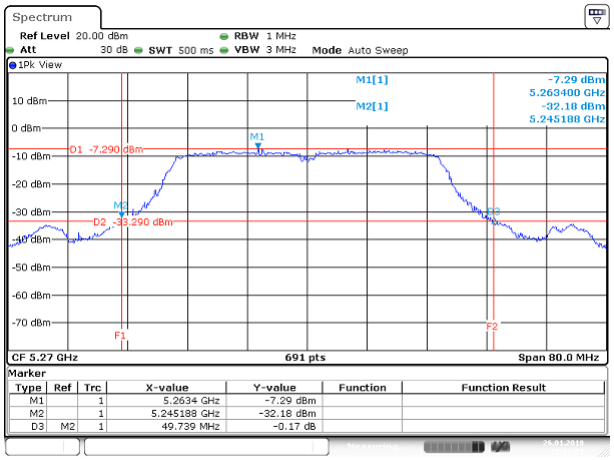
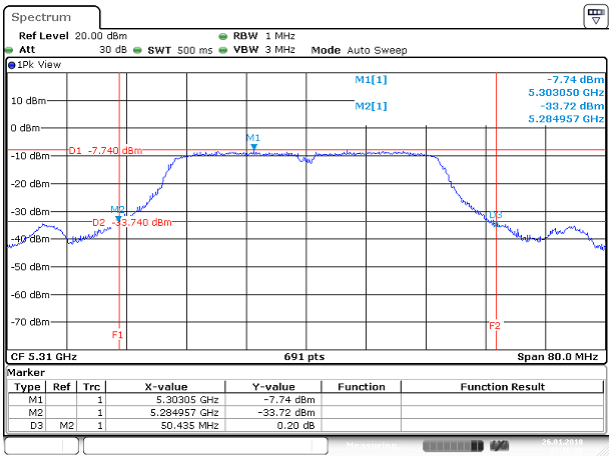
UNII-2a IEEE 802.11n 40 MHz mode- chain 0

Low CH

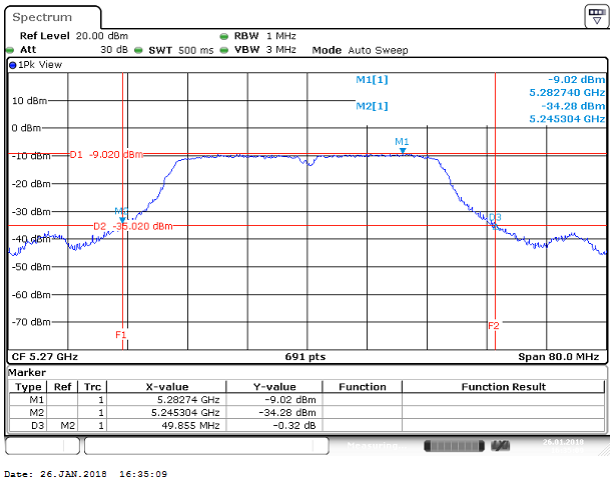


High CH

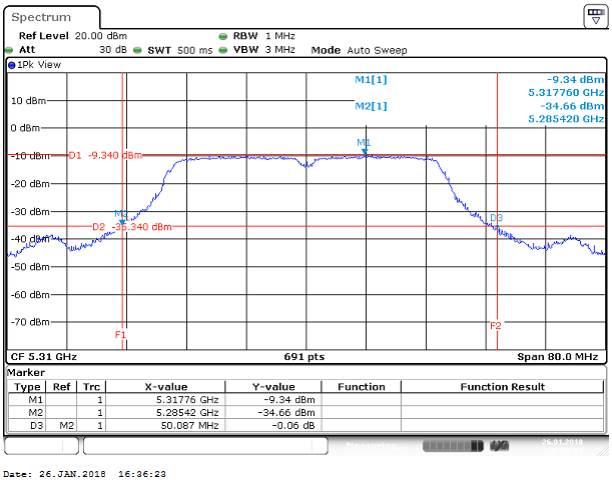


UNII-2a IEEE 802.11n 40 MHz mode- chain 1

Low CH



High CH



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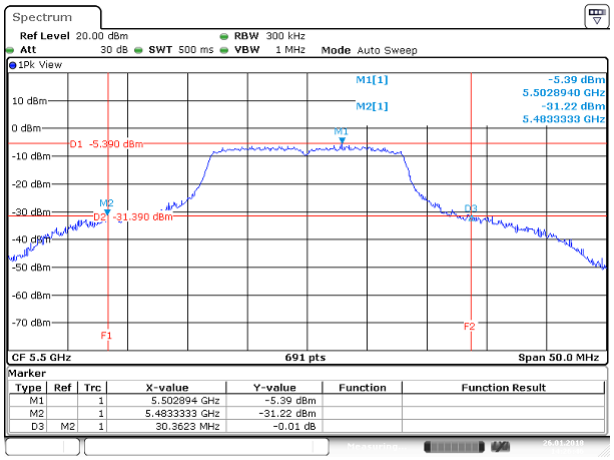
Test Data

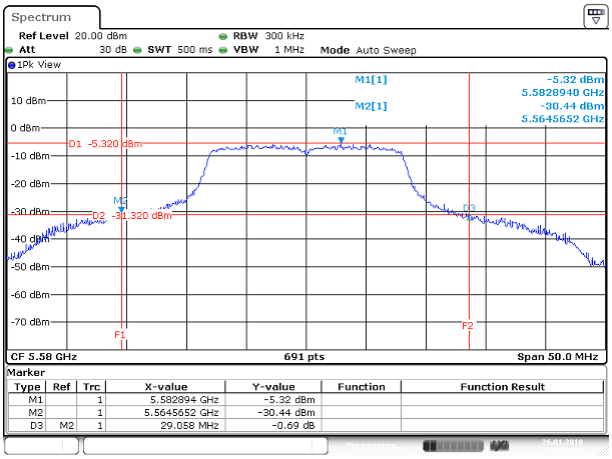
UNII-2c IEEE 802.11a mode- chain 0

Low CH



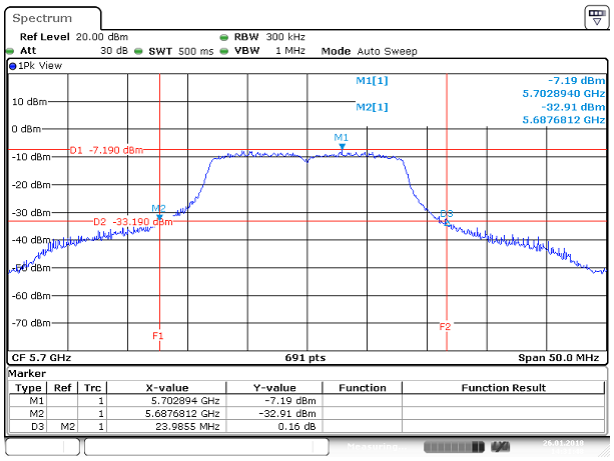
Date: 26.JAN.2018 14:26:46

Mid CH



Date: 26.JAN.2018 14:30:10

High CH



Date: 26.JAN.2018 14:31:48

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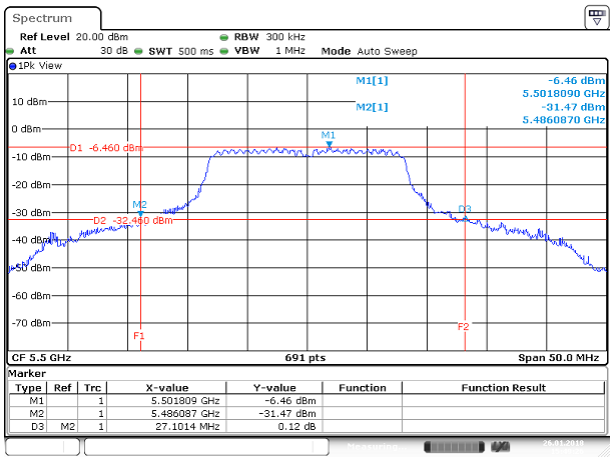
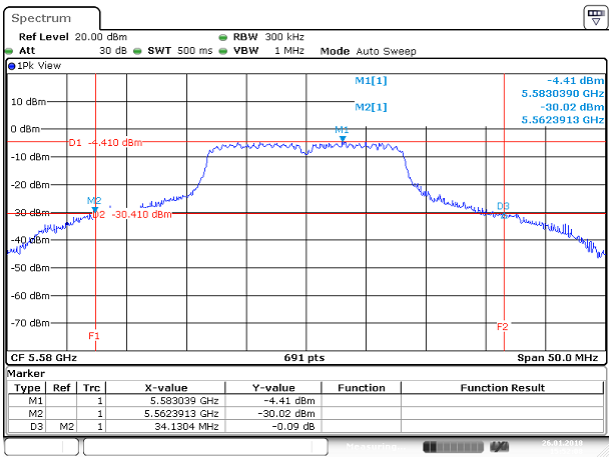
UNII-2c IEEE 802.11a mode- chain 1

Low CH



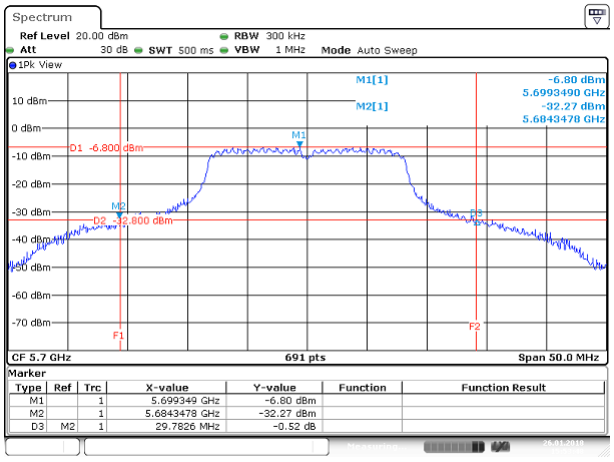
Date: 26.JAN.2018 15:49:26

Mid CH



Date: 26.JAN.2018 15:52:08

High CH



Date: 26.JAN.2018 15:53:48

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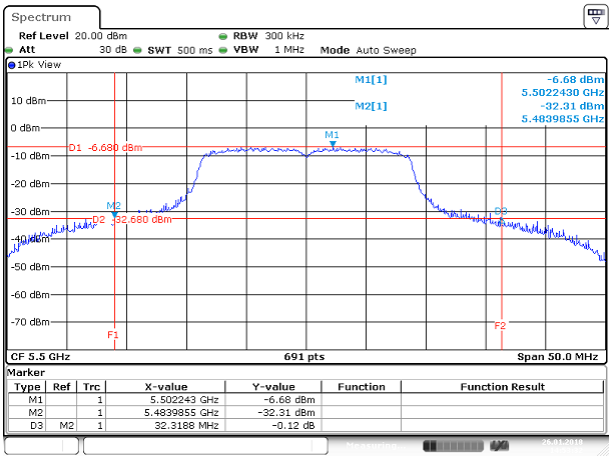
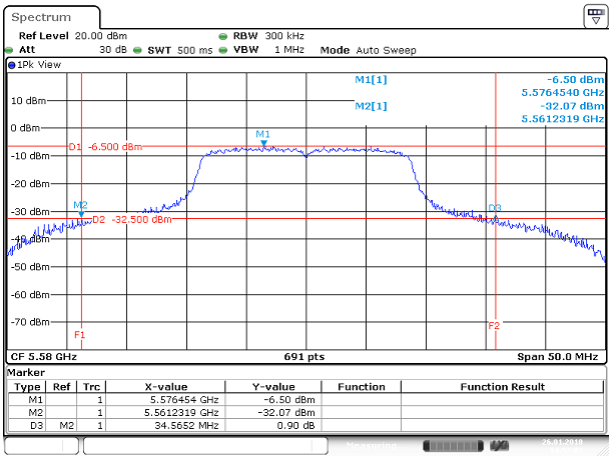
UNII-2c IEEE 802.11n 20 MHz mode- chain 0

Low CH



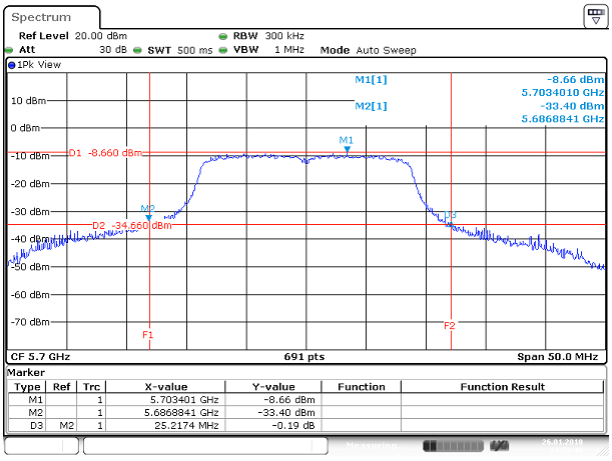
Date: 26.JAN.2018 14:53:32

Mid CH



Date: 26.JAN.2018 14:57:03

High CH



Date: 26.JAN.2018 14:59:40

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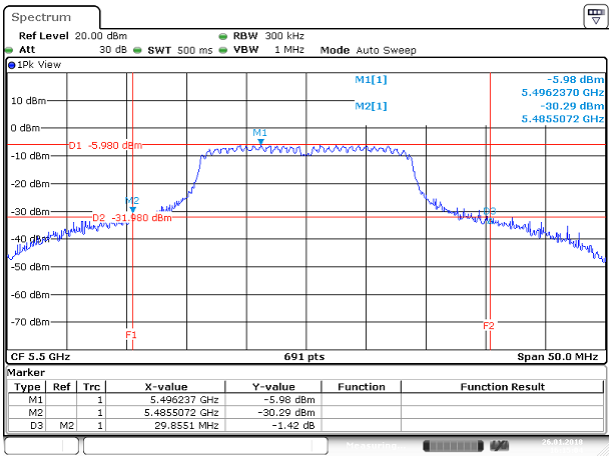
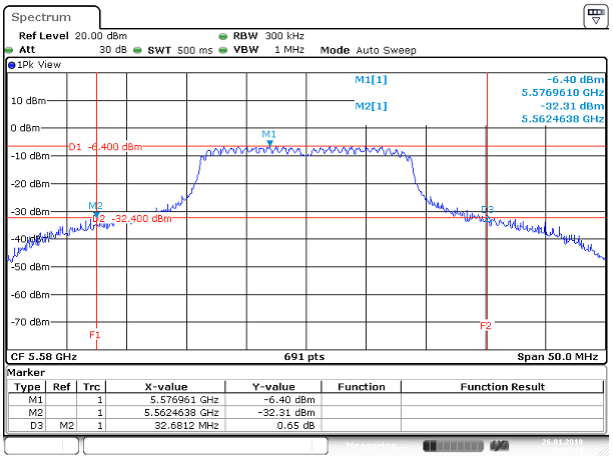
UNII-2c IEEE 802.11n 20 MHz mode- chain 1

Low CH



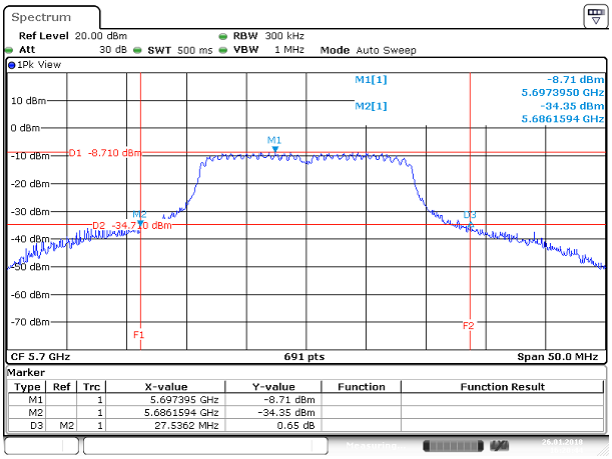
Date: 26.JAN.2018 16:15:04

Mid CH



Date: 26.JAN.2018 16:17:34

High CH



Date: 26.JAN.2018 16:20:44

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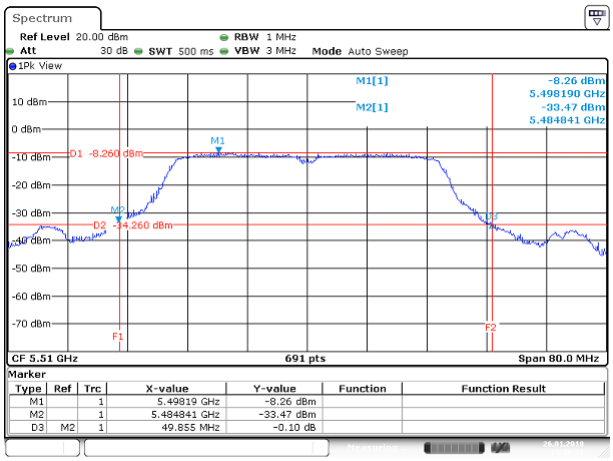
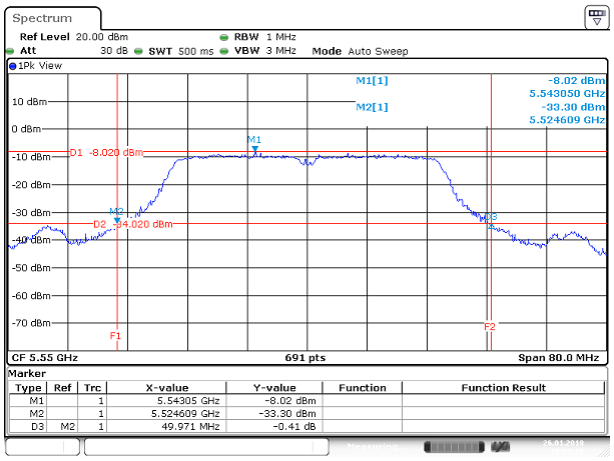
UNII-2c IEEE 802.11n 40 MHz mode- chain 0

Low CH



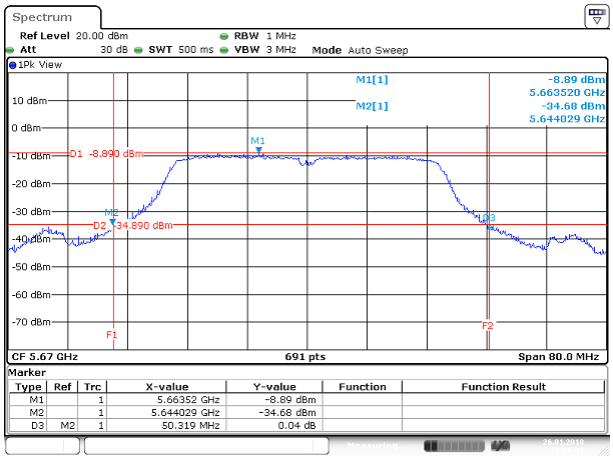
Date: 26.JAN.2018 15:18:37

Mid CH



Date: 26.JAN.2018 15:23:26

High CH



Date: 26.JAN.2018 15:26:48

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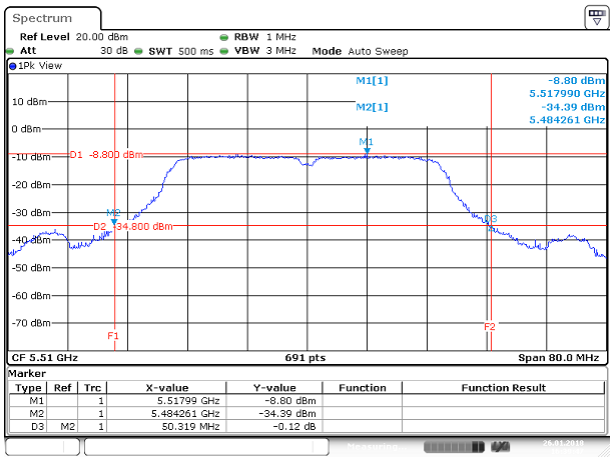
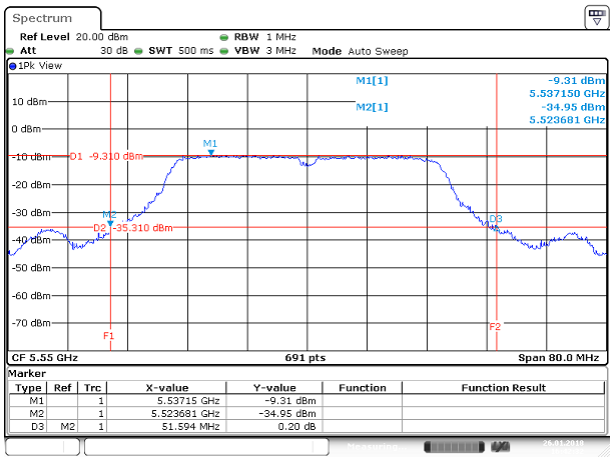
UNII-2c IEEE 802.11n 40 MHz mode- chain 1

Low CH



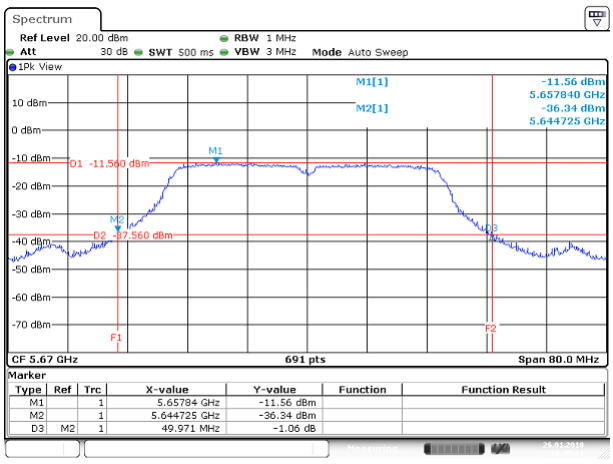
Date: 26.JAN.2018 16:39:47

Mid CH



Date: 26.JAN.2018 16:42:32

High CH



Date: 26.JAN.2018 16:45:11

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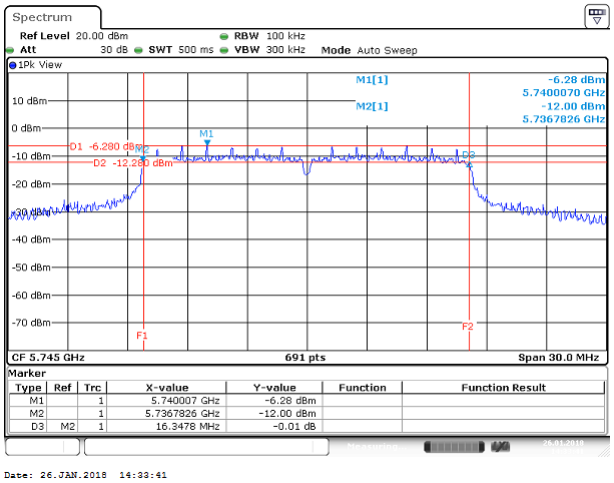
Test Data

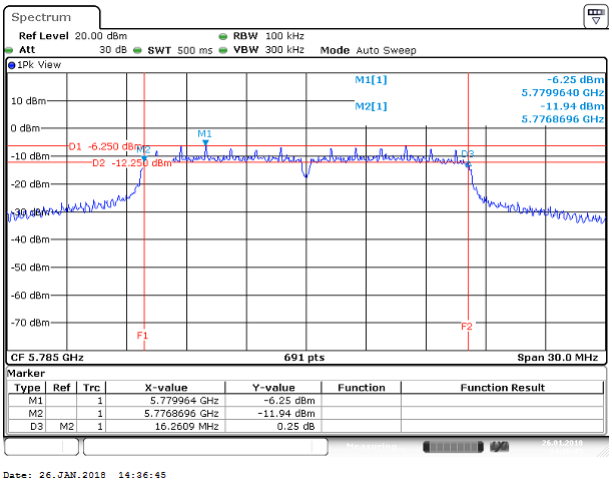
6dB

UNII-3 IEEE 802.11a mode- chain 0

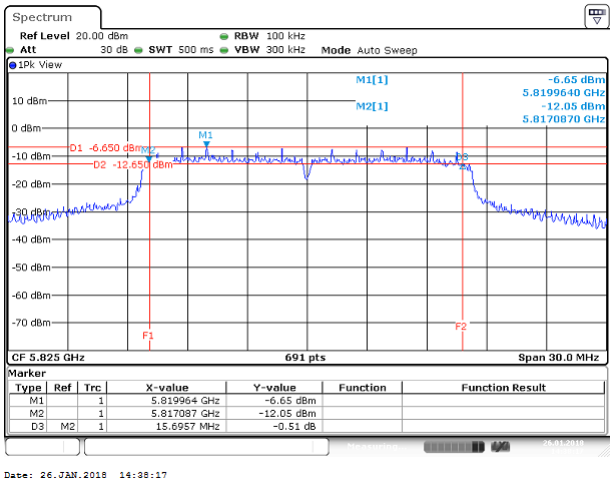
Low CH



Mid CH



High CH



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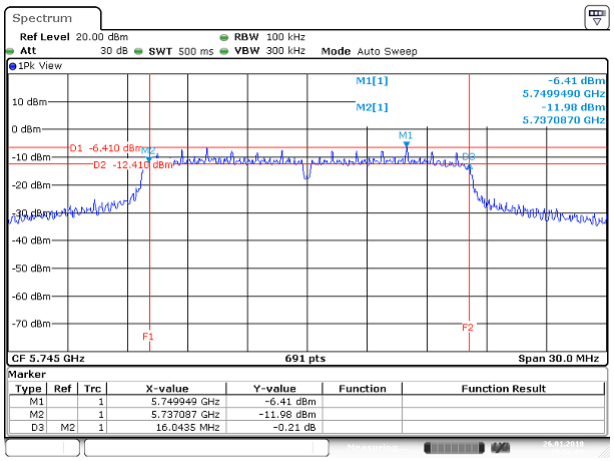
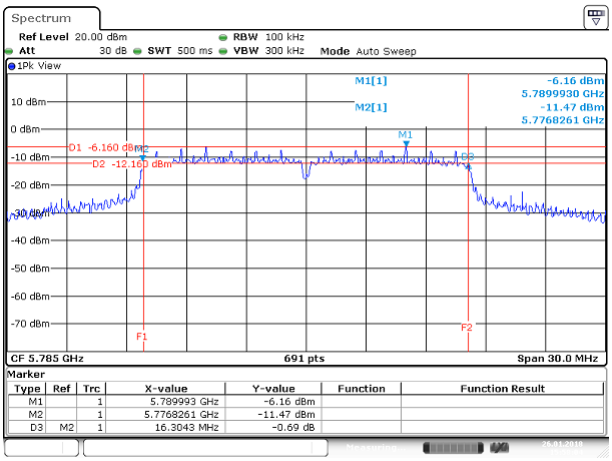
UNII-3 IEEE 802.11a mode- chain 1

Low CH



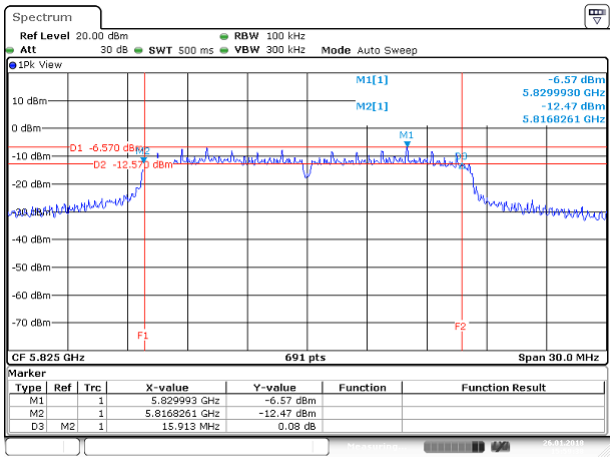
Date: 26.JAN.2018 15:56:10

Mid CH



Date: 26.JAN.2018 15:58:04

High CH



Date: 26.JAN.2018 15:59:38

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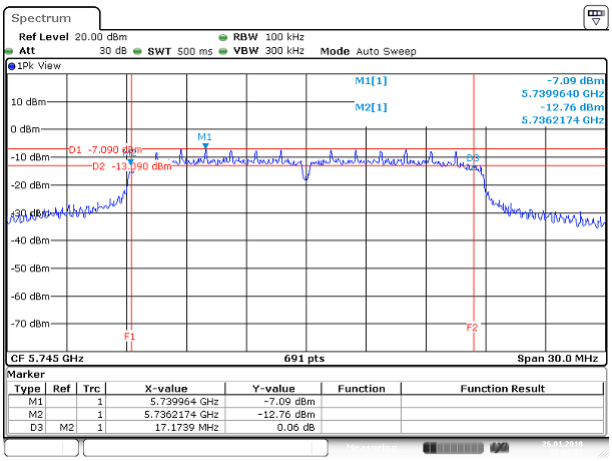
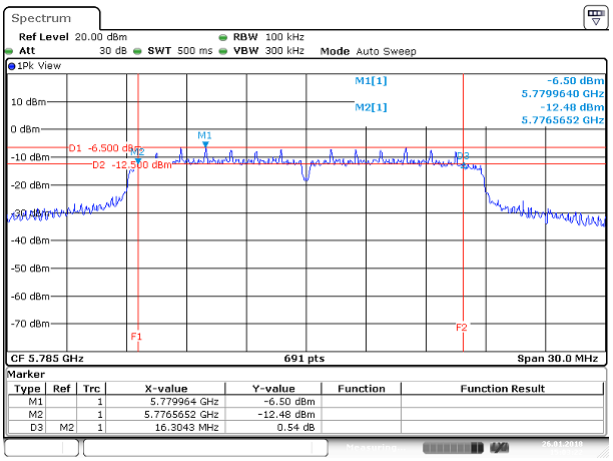
UNII-3 IEEE 802.11n 20 MHz mode- chain 0

Low CH



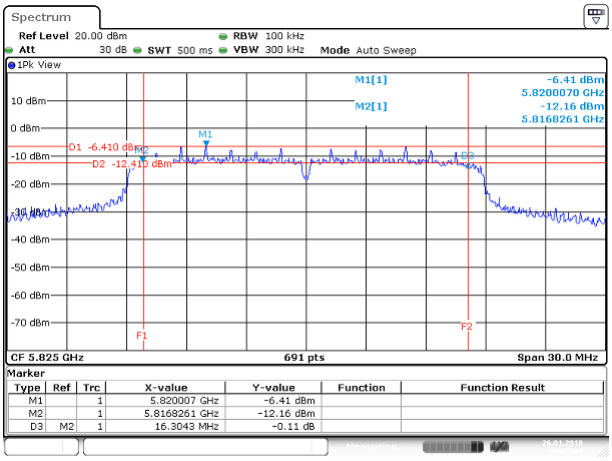
Date: 26.JAN.2018 15:01:53

Mid CH



Date: 26.JAN.2018 15:03:22

High CH



Date: 26.JAN.2018 15:05:07

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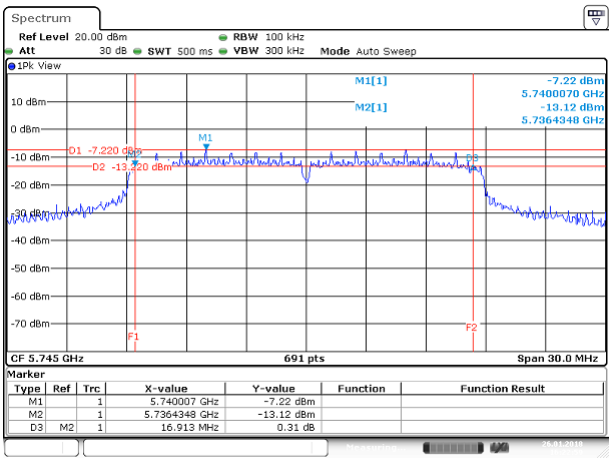
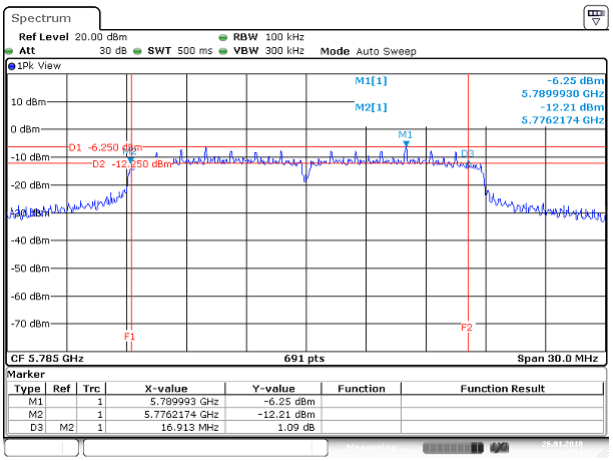
UNII-3 IEEE 802.11n 20 MHz mode- chain 1

Low CH



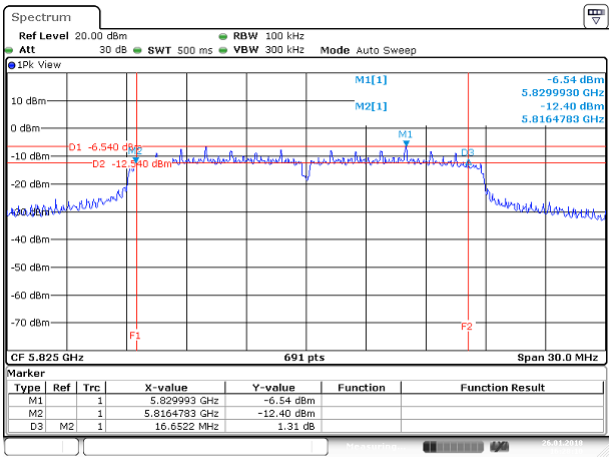
Date: 26.JAN.2018 16:22:59

Mid CH



Date: 26.JAN.2018 16:24:51

High CH



Date: 26.JAN.2018 16:28:10

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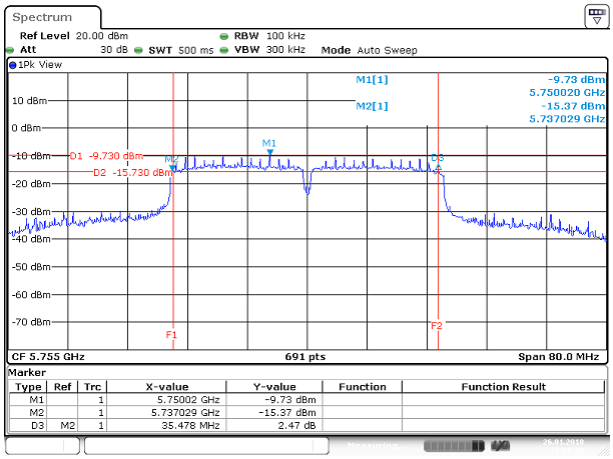
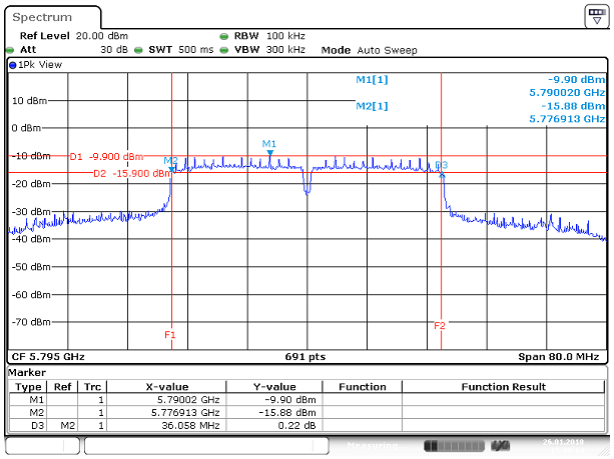
UNII-3 IEEE 802.11n 40 MHz mode- chain 0

Low CH



Date: 26.JAN.2018 15:28:29

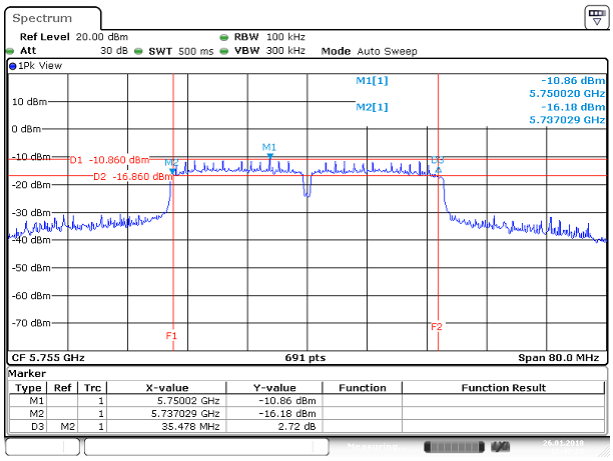
High CH



Date: 26.JAN.2018 15:30:15

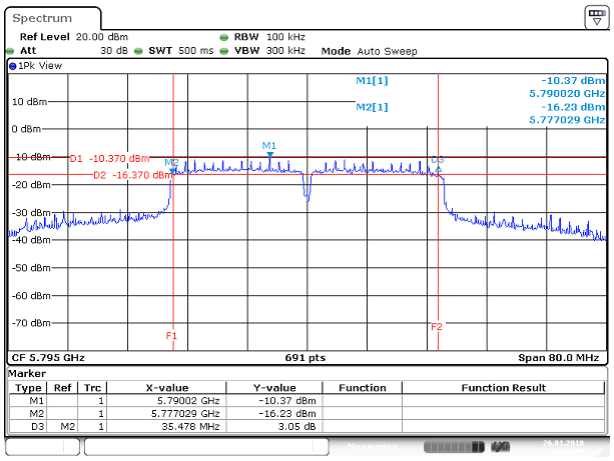
UNII-3 IEEE 802.11n 40 MHz mode- chain 1

Low CH



Date: 26.JAN.2018 16:47:20

High CH



Date: 26.JAN.2018 16:48:50

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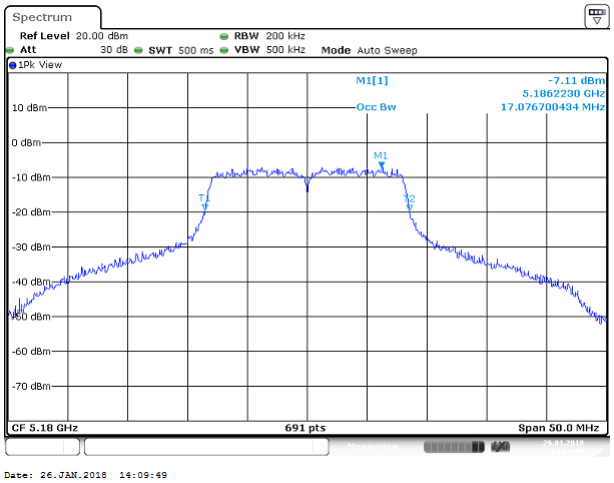
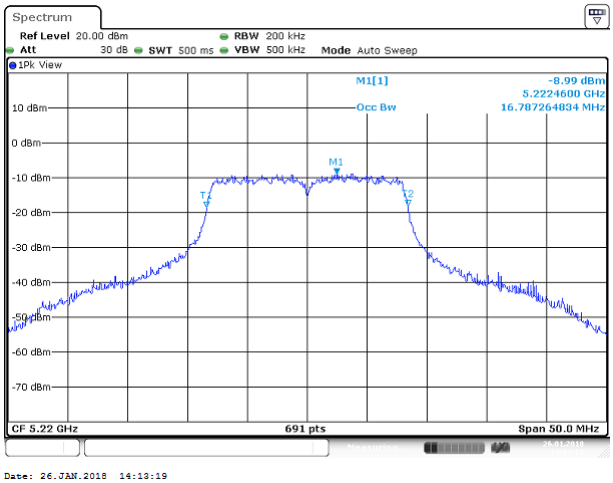
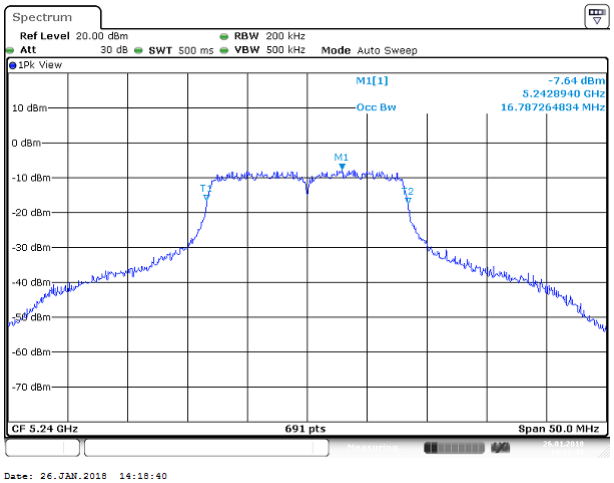
Test Data

99% OBW

UNII-1 IEEE 802.11a mode- chain 0	
Low CH	**Mid CH**
	
High CH	
	

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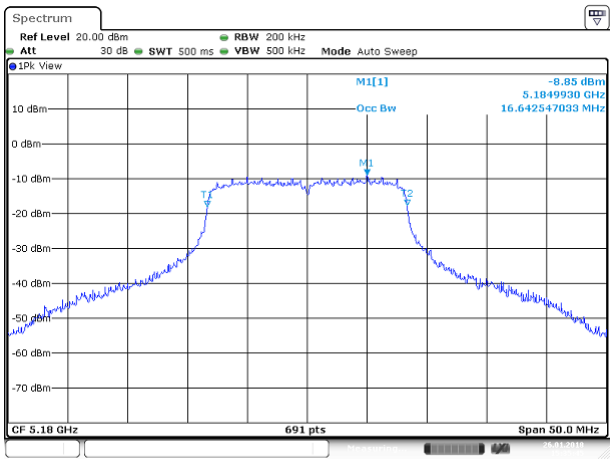
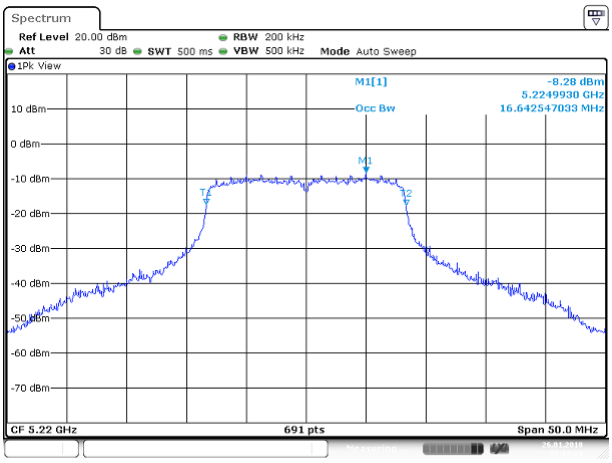
UNII-1 IEEE 802.11a mode- chain 1

Low CH



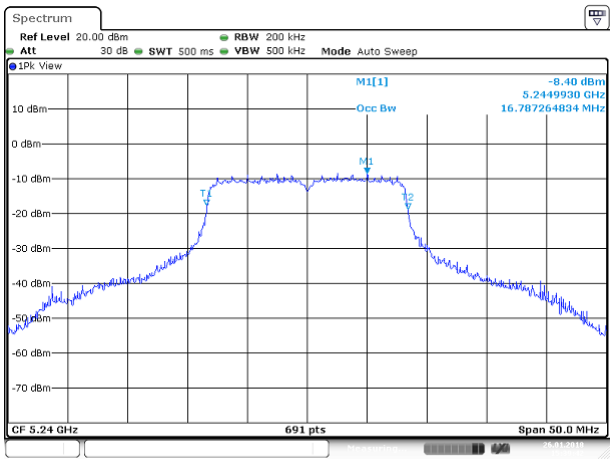
Date: 26.JAN.2018 15:35:45

Mid CH



Date: 26.JAN.2018 15:37:21

High CH



Date: 26.JAN.2018 15:39:42

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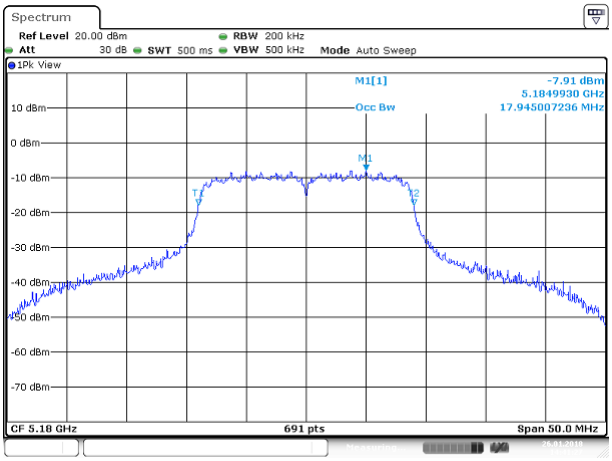
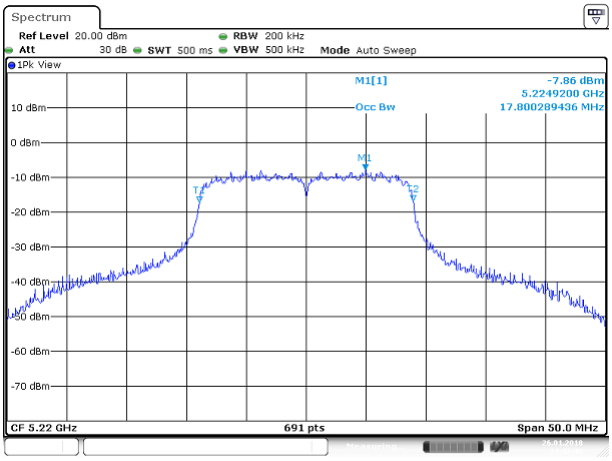
UNII-1 IEEE 802.11n 20 MHz mode- chain 0

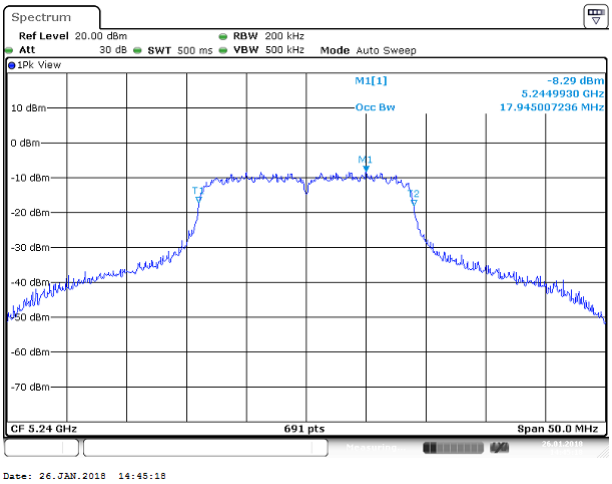
Low CH



Mid CH



High CH



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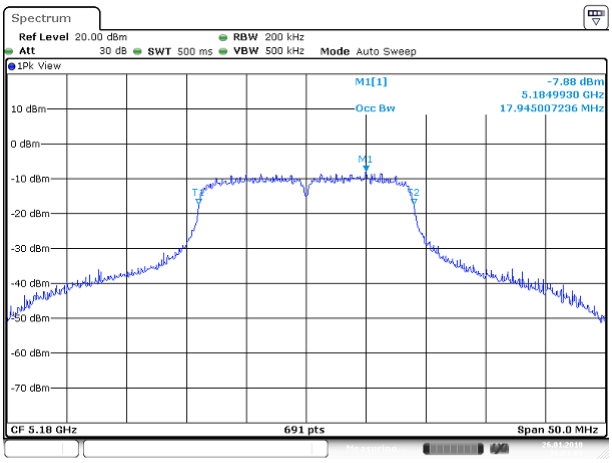
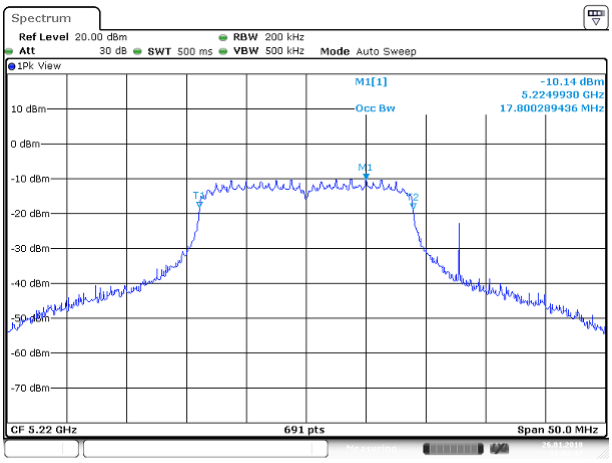
UNII-1 IEEE 802.11n 20 MHz mode- chain 1

Low CH



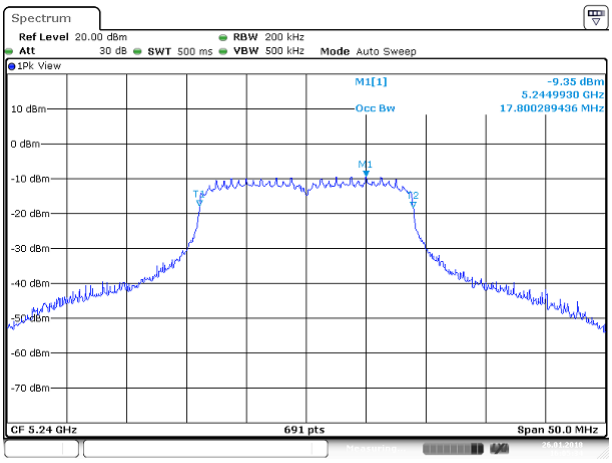
Date: 26.JAN.2018 16:01:09

Mid CH



Date: 26.JAN.2018 16:02:47

High CH



Date: 26.JAN.2018 16:05:34

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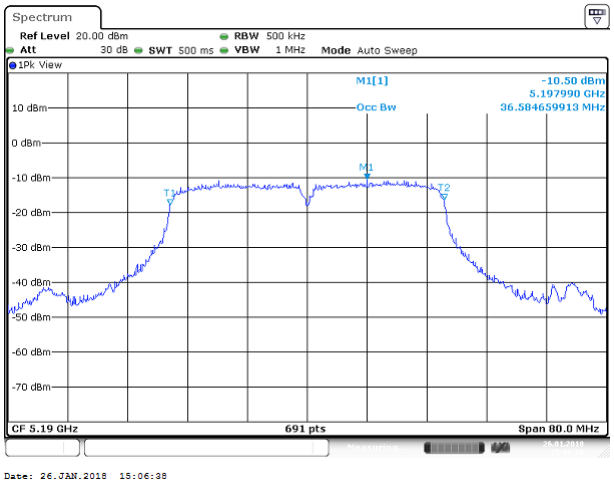
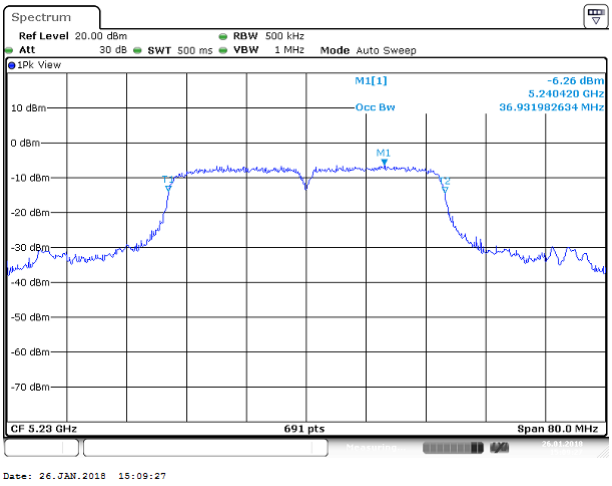
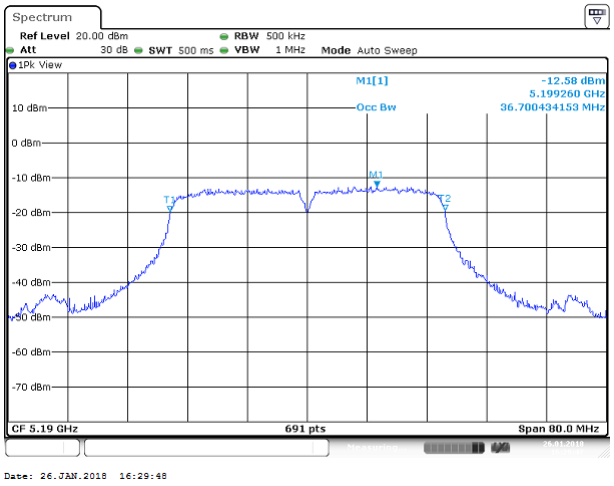
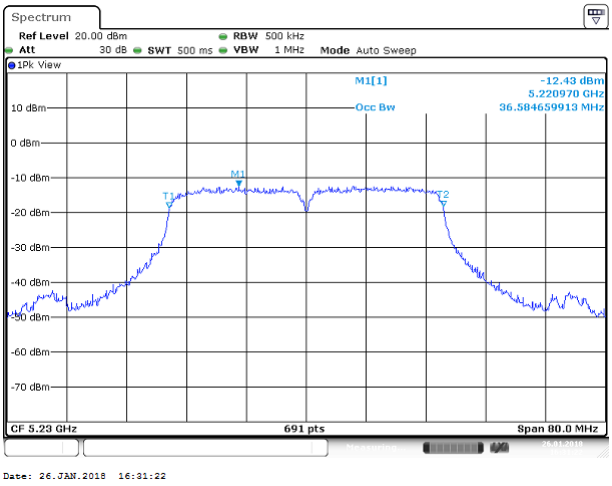
UNII-1 IEEE 802.11n 40 MHz mode- chain 0

Low CH	High CH
	

UNII-1 IEEE 802.11n 40 MHz mode- chain 1

Low CH	High CH
	

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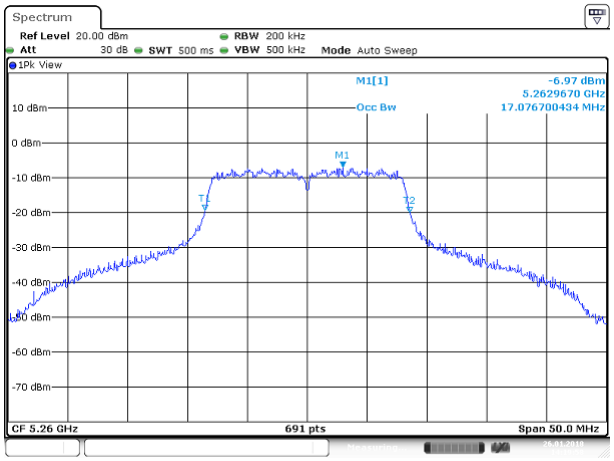
Test Data

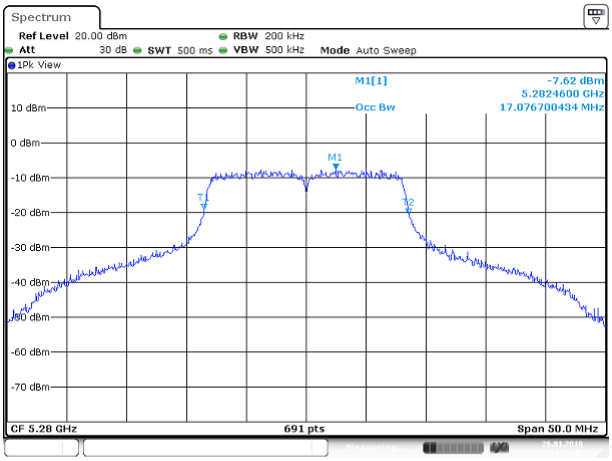
UNII-2a IEEE 802.11a mode- chain 0

Low CH



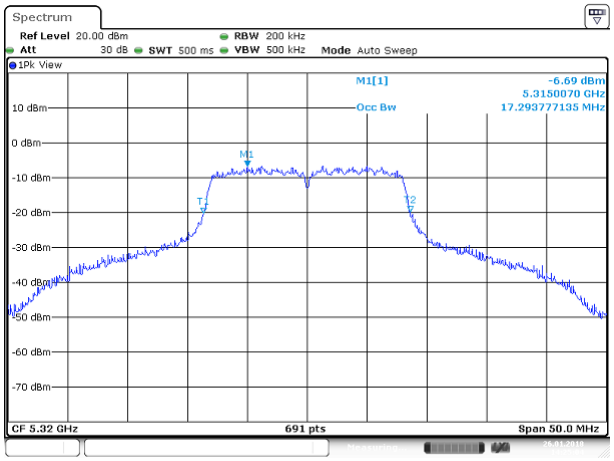
Date: 26.JAN.2018 14:19:58

Mid CH



Date: 26.JAN.2018 14:23:48

High CH



Date: 26.JAN.2018 14:25:04

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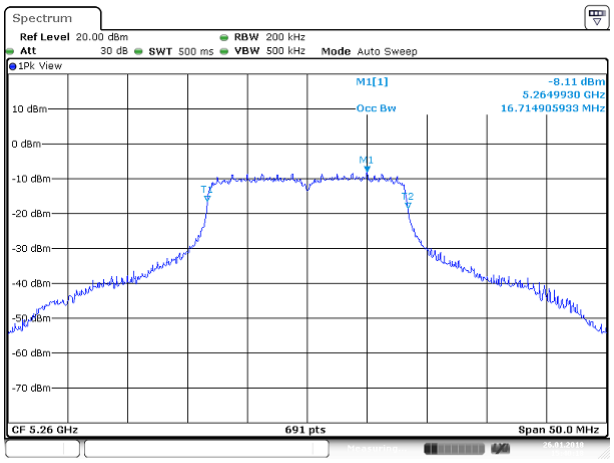
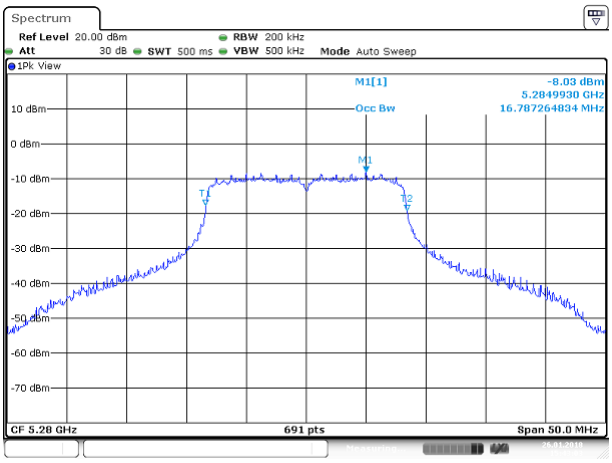
UNII-2a IEEE 802.11a mode- chain 1

Low CH



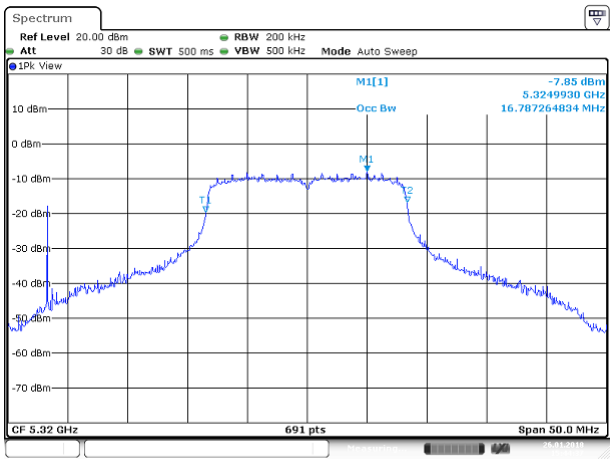
Date: 26.JAN.2018 15:40:18

Mid CH



Date: 26.JAN.2018 15:43:04

High CH



Date: 26.JAN.2018 15:44:37

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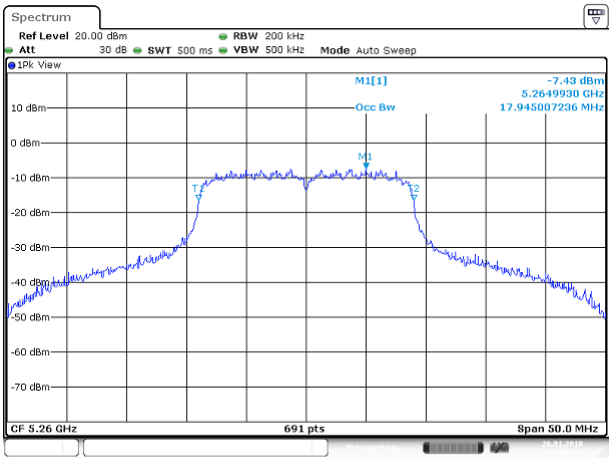
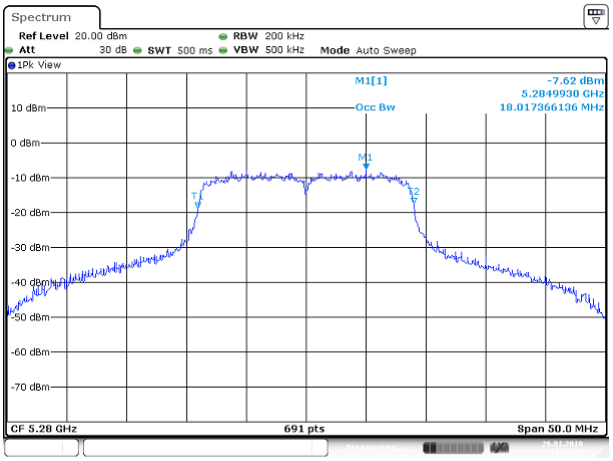
UNII-2a IEEE 802.11n 20 MHz mode- chain 0

Low CH



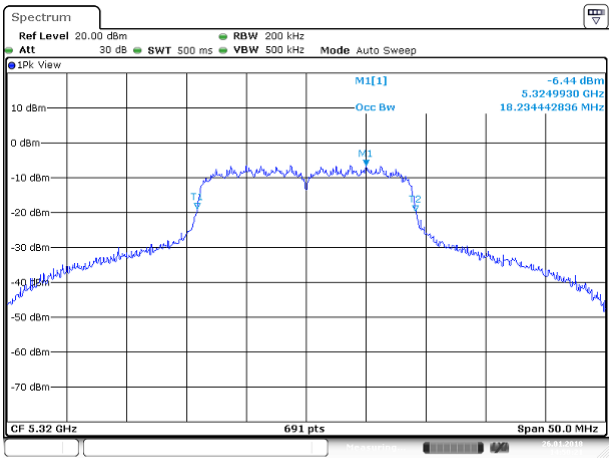
Date: 26.JAN.2018 14:46:07

Mid CH



Date: 26.JAN.2018 14:49:35

High CH



Date: 26.JAN.2018 14:50:21

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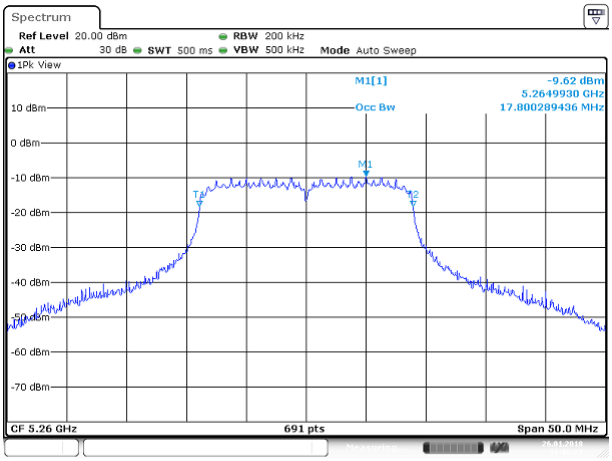
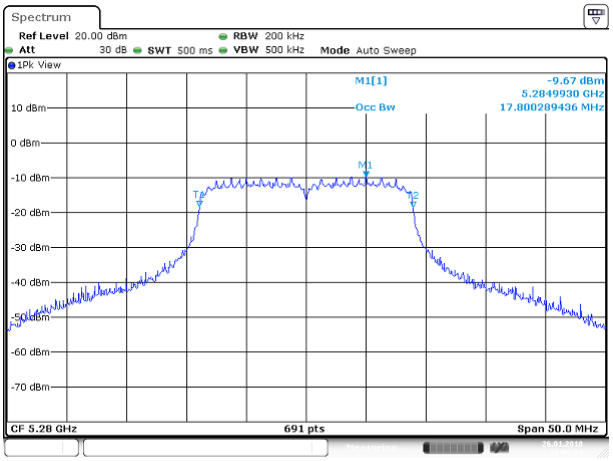
UNII-2a IEEE 802.11n 20 MHz mode- chain 1

Low CH



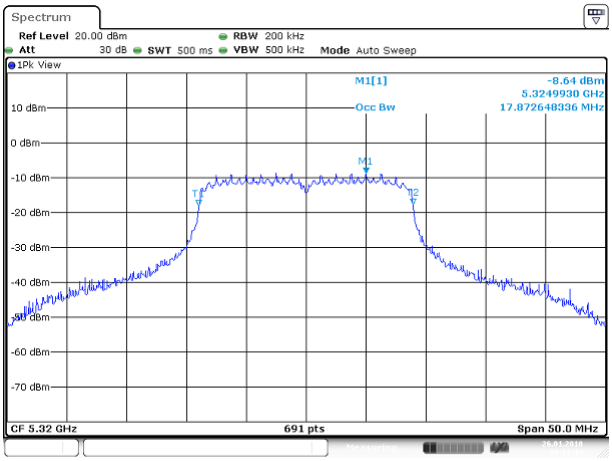
Date: 26.JAN.2018 16:06:22

Mid CH



Date: 26.JAN.2018 16:09:34

High CH



Date: 26.JAN.2018 16:11:45

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