



FCC/IC - TEST REPORT

Report Number : **68.950.18.0037.01** Date of Issue: March 27, 2018

Model : **IFT1018**

Product Type : **TABLET**

Applicant : **Icon Health and Fitness, Inc.**

Address : **1500 South 1000 West, Logan, Utah, United States**

Manufacturer : **Icon Health and Fitness, Inc.**

Address : **1500 South 1000 West, Logan, Utah, United States**

Test Result : **Positive** **Negative**

Total pages including Appendices : **73**

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch is a subcontractor to TÜV SÜD Product Service GmbH according to the principles outlined in ISO 17025.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch reports apply only to the specific samples tested under stated test conditions. Construction of the actual test samples has been documented. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. The manufacturer/importer is responsible to the Competent Authorities in Europe for any modifications made to the production units which result in non-compliance to the relevant regulations. TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval.

1 Table of Contents

1	Table of Contents	2
2	Details about the Test Laboratory	3
3	Description of the Equipment Under Test	4
4	Summary of Test Standards	5
5	Summary of Test Results	6
6	General Remarks	7
7	Test setups	8
8	Systems test configuration	9
9	Technical Requirements	10
9.1	Conducted Emission AC Power Port	10
9.2	Emission bandwidth	13
9.3	Maximum Conducted Output Power	15
9.4	Peak Power Spectral Density	17
9.5	Unwanted Emissions	19
9.6	Band Edge	44
9.7	Duty Cycle	64
9.8	Frequency Stability	66
9.9	Dynamic Frequency Selection (DFS)	68
10	Test Equipment List	72
11	System Measurement Uncertainty	73



2 Details about the Test Laboratory

Details about the Test Laboratory

Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12&13, Zhiheng Wisdomland Business Park,
Nantou Checkpoint Road 2, Nanshan District,
Shenzhen City, 518052,
P. R. China

FCC Registration Number: 514049

IC Registration No: 10320A-1

Telephone: 86 755 8828 6998
Fax: 86 755 8828 5299

3 Description of the Equipment Under Test

Description of the Equipment Under Test

Product:	TABLET
Model no.:	IFT1018
IC:	3673A-IFT1018
FCC ID:	OMCIFT1018
Rating:	3.8VDC, 6000mAh (supplied by an internal rechargeable battery pack) or 5VDC, 2000mA (charging by an external adapter) Model: SAW12-050-2000UB Input: 100 – 240VAC, 50/60Hz, 0.3A Output: 5VDC, 2000mA
RF Transmission Frequency:	5.150GHz~5.250GHz; 5.250GHz~5.350GHz; 5.470GHz~5.725GHz; 5.725GHz~5.850GHz
Modulation:	802.11a: BPSK, QPSK, 16QAM, 64QAM, OFDM 802.11n: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 128QAM, 256QAM
Antenna Type:	Integral Antenna
Antenna Gain:	2.88dBi
Description of the EUT:	The Equipment Under Test (EUT) is a TABLET with WIFI function which operated at 2.4GHz and 5GHz Only 5GWiFi test data include in this report.

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart E, 10-1-2016 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart E - Unlicensed National Information Infrastructure Devices
FCC Part 15 Subpart C 10-1-2016 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators
RSS-Gen Issue 4 November 2014	General Requirements for the Certification of Radio Apparatus.
RSS-247 Issue 2 2017	Digital Transmission Systems (DTS), Frequency Hopping Systems (FHSS) and License-Exempt Local Area Network (LE-LAN) Devices

Test Method:

FCC KDB 558074 D01 DTS Meas Guidance v04

KDB 789033 D02 General UNII Test Procedures New Rules v01r04

KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices

5 Summary of Test Results

Technical Requirements				
FCC Part 15 Subpart E, FCC Part 15 Subpart C				
Test Condition	Pages	Test Result		
		Pass	Fail	N/A
15.207 Conducted Emission AC Power Port	10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.403(a)(5) Emission bandwidth	13	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.407(a)(1) 15.407(a)(3) Maximum Conducted Output Power	15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.407(a)(1) 15.407(a)(3) Peak Power Spectral Density	17	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.407(b)(1) 15.407(b)(4) 15.407(b)(6) 15.407(b)(7) 15.209 Unwanted Emissions	19	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.407(b)(i) 15.407(b)(5) 15.407(b)(7) 15.209 Band edge compliance	44	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Duty Cycle	64	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.407(g) Frequencies Stability	66	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.407(h) Dynamic Frequency Selection (DFS). ^a	68	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NOTE 1^a: This result include in this report is only the DFS Slave Mode part of the product.

6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: OMCIFT1018, IC: 3673A-IFT1018, complies with Section 15.207, 15.209, 15.205, 15.247 of the FCC Part 15, Subpart C and RSS 247 and RSS-Gen rules.

SUMMARY:

All tests according to the regulations cited on page 5 were

- Performed

- **Not** Performed

The Equipment Under Test

- **Fulfills** the general approval requirements.

- **Does not** fulfill the general approval requirements.

Sample Received Date: January 25, 2018

Testing Start Date: January 25, 2018

Testing End Date: February 01, 2018

- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch –

Reviewed by:



Laurent Yuan
EMC Project Manager



Prepared by:

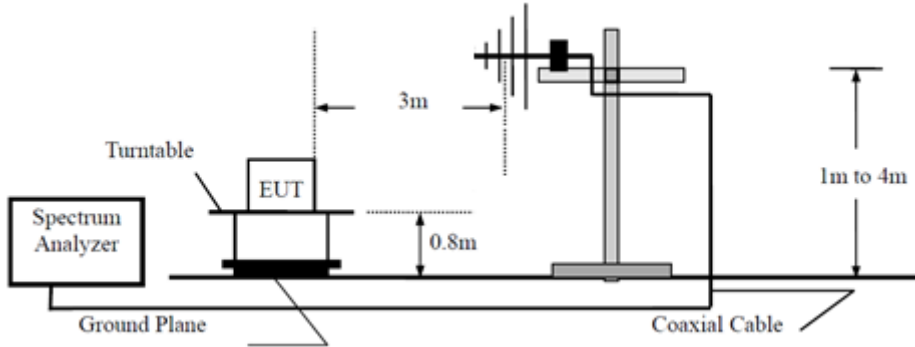


Aaron Lai
EMC Project Engineer

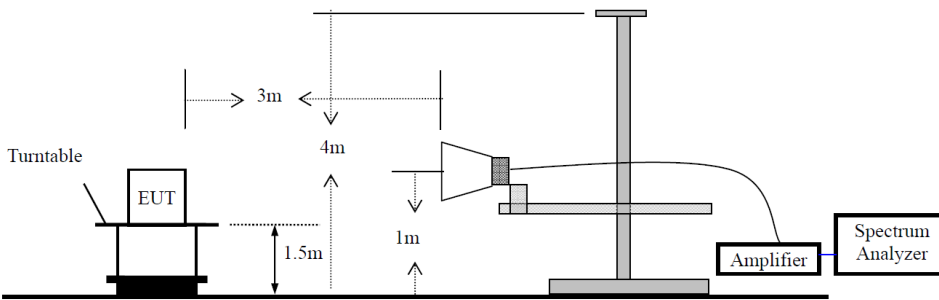
7 Test setups

7.1 Radiated test setups

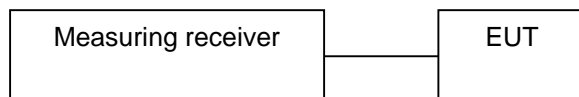
Below 1GHz



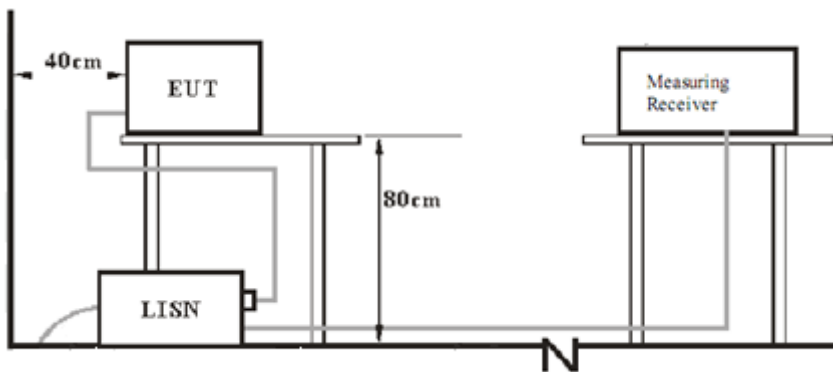
Above 1GHz



7.2 Conducted RF test setups



7.3 AC Power Line Conducted Emission test setups



8. Systems test configuration

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.(SHIELD)	S/N(LENGTH)
---	---	---	---

The system was configured to channel 36(5180MHz), 64(5320MHz), 100 (5500MHz), 140(5700MHz), 149(5745MHz) and 165(5825MHz) for 802.11a & 802.11n-HT20
Channel 38(5190MHz); 62(5310MHz), 102(5510MHz), 134(5670MHz), 151(5755MHz) and 159(5795MHz) for 802.11n-HT40

9 Technical Requirement

9.1 Conducted Emission

Test Method

1. The EUT was placed on a table, which is 0.8m above ground plane
2. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
3. Maximum procedure was performed to ensure EUT compliance
4. A EMI test receiver is used to test the emissions from both sides of AC line

Limit

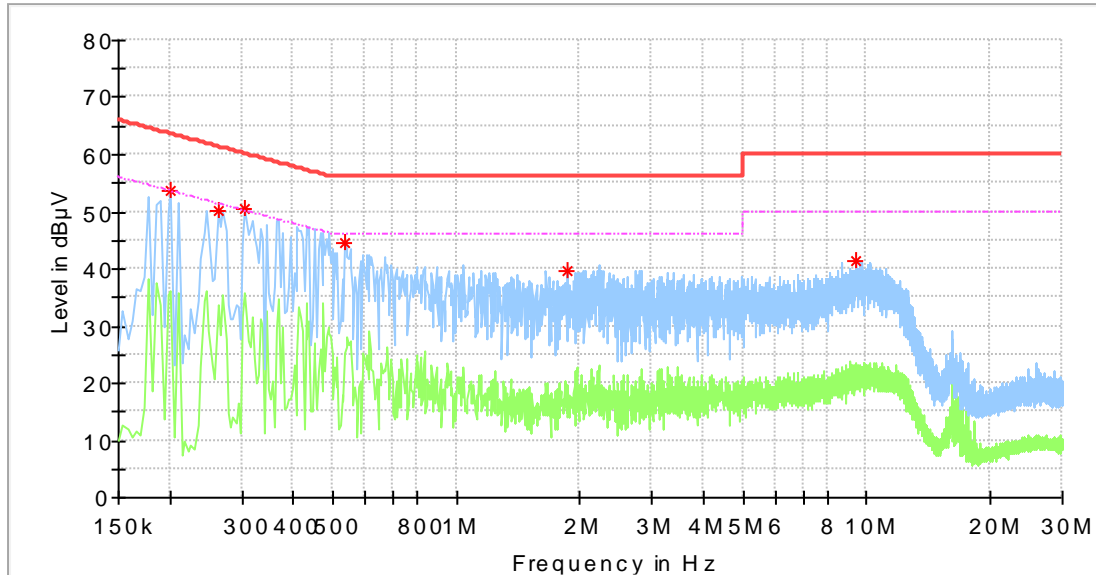
According to §15.207, conducted emissions limit as below:

Frequency MHz	QP Limit dB μ V	AV Limit dB μ V
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Remark: “*” Decreasing linearly with logarithm of the frequency

Conducted Emission

Product Type : TABLET
 M/N : IFT1018
 Operating Condition : TX
 Test Specification : Live
 Comment : AC 120V/60Hz

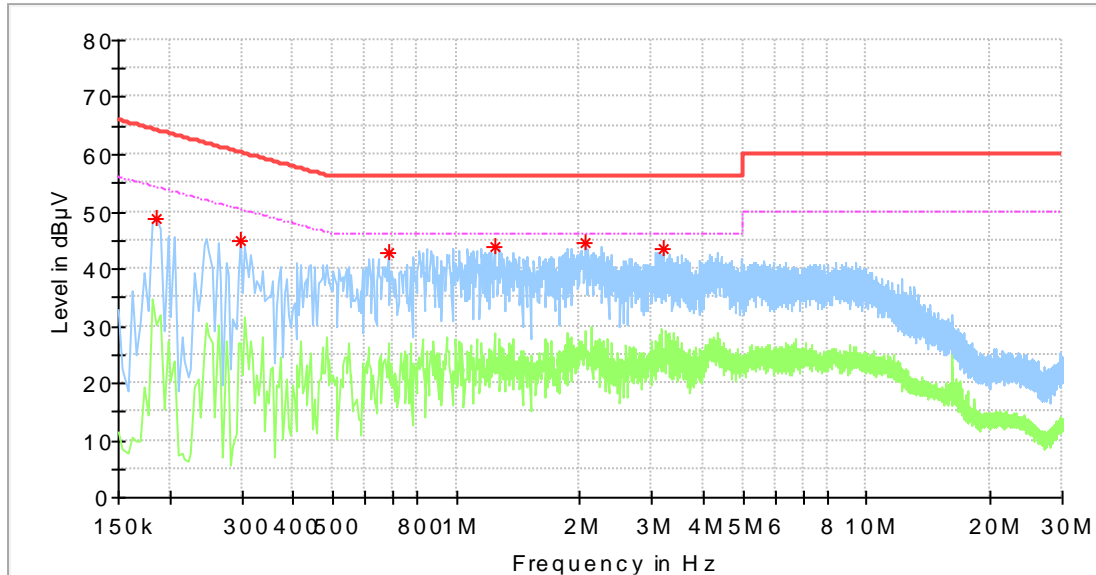


Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.202000	53.69	---	63.53	9.84	L1	10.2
0.262000	50.21	---	61.37	11.16	L1	10.2
0.306000	50.65	---	60.08	9.43	L1	10.2
0.534000	44.40	---	56.00	11.60	L1	10.2
1.858000	39.72	---	56.00	16.28	L1	10.3
9.398000	41.23	---	60.00	18.77	L1	10.6

Remark : “*” Correct factor=cable loss + LISN factor

Conducted Emission

Product Type : TABLET
 M/N : IFT1018
 Operating Condition : TX
 Test Specification : Neutral
 Comment : AC 120V/60Hz



Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.186000	48.61	---	64.21	15.61	N	10.3
0.298000	44.87	---	60.30	15.43	N	10.3
0.682000	42.79	---	56.00	13.21	N	10.4
1.238000	43.90	---	56.00	12.10	N	10.4
2.062000	44.61	---	56.00	11.39	N	10.4
3.210000	43.45	---	56.00	12.55	N	10.5

Remark : “*” Correct factor=cable loss + LISN factor

9.2 Emission bandwidth

1、 Test Method of 26dB Bandwidth

According to KDB789033 D02

- a) Set RBW = approximately 1% of the emission bandwidth.
- b) Set the VBW > RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

Limit: No limit

2、 Test Method of 6dB Bandwidth

According to KDB789033 D02

- a) Set RBW = 100KHz
- b) Set the video bandwidth (VBW) $\geq 3 \times$ RBW
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Limit: ≥ 500 KHz

3、 Test Method of 99% Bandwidth

According to KDB789033 D02

- a) Set center frequency to the nominal EUT channel center frequency
- b) Set span = 1.5 times to 5.0 times the OBW.
- c) Set RBW = 1 % to 5 % of the OBW
- d) Set VBW $\geq 3 \cdot$ RBW
- e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- f) Use the 99 % power bandwidth function of the instrument (if available).
- g) If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

Limit: No limit



Test result as below table:

IEEE 802.11a modulation Test Result

Band	Channel	Channel Frequency (MHz)	Measured 99% Bandwidth (MHz)	Measured 26dB Bandwidth (MHz)	Measured 6dB Bandwidth (MHz)
5.2G Band	Low	5180	17.539	20.405	N/A
	High	5320	17.539	20.579	N/A
5.5G Band	Low	5500	17.713	22.402	N/A
	High	5700	17.800	25.876	N/A
5.8G Band	Low	5745	16.671	N/A	16.454
	High	5825	16.584	N/A	16.411

IEEE 802.11n-HT20 modulation Test Result

Band	Channel	Channel Frequency (MHz)	Measured 99% Bandwidth (MHz)	Measured 26dB Bandwidth (MHz)	Measured 6dB Bandwidth (MHz)
5.2G Band	Low	5180	18.321	20.735	N/A
	High	5320	18.321	20.839	N/A
5.5G Band	Low	5500	18.408	23.444	N/A
	High	5700	18.408	28.394	N/A
5.8G Band	Low	5745	17.713	N/A	17.627
	High	5825	17.713	N/A	17.627

IEEE 802.11n-HT40 modulation Test Result

Band	Channel	Channel Frequency (MHz)	Measured 99% Bandwidth (MHz)	Measured 26dB Bandwidth (MHz)	Measured 6dB Bandwidth (MHz)
5.2G Band	Low	5190	36.729	40.640	N/A
	High	5310	36.599	40.640	N/A
5.5G Band	Low	5510	36.859	40.470	N/A
	High	5670	36.859	40.640	N/A
5.8G Band	Low	5755	36.121	N/A	36.382
	High	5795	36.121	N/A	36.411

9.3 Maximum conducted output power

Test Method

According to KDB789033 D02

Limits: The maximum conducted output power over the frequency band of operation shall not exceed 1W for 5.15-5.25GHz Band, 250mW for 5.25-5.35GHz, 5.47-5.725 GHz Band and 1W for 5.725-5.85GHz Band, provided the maximum antenna gain does not exceed 6dBi.

Test result as below table

IEEE 802.11a modulation Test Result

Duty Cycle CF(dB)	0.1	Included in Calculations of Corr'd Power & PSD
-------------------	-----	--

Band	Channel	Frequency (MHz)	Average Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)
5.2G Band	Low	5180	7.80	7.90	30.00
	High	5320	7.40	7.50	24.00
5.5G Band	Low	5500	6.60	6.70	24.00
	High	5700	5.80	5.90	24.00
5.8G Band	Low	5745	5.10	5.20	30.00
	High	5825	5.70	5.80	30.00

IEEE 802.11n-HT20 modulation Test Result

Duty Cycle CF(dB)	0.1	Included in Calculations of Corr'd Power & PSD
-------------------	-----	--

Band	Channel	Frequency (MHz)	Average Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)
5.2G Band	Low	5180	7.70	7.80	30.00
	High	5320	7.60	7.70	24.00
5.5G Band	Low	5500	6.60	6.70	24.00
	High	5700	5.80	5.90	24.00
5.8G Band	Low	5745	5.20	5.30	30.00
	High	5825	5.60	5.70	30.00



IEEE 802.11n-HT40 modulation Test Result

Duty Cycle CF(dB)	0.2	Included in Calculations of Corr'd Power & PSD
-------------------	-----	--

Band	Channel	Frequency (MHz)	Average Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)
5.2G Band	Low	5190	7.80	8.00	30.00
	High	5310	7.60	7.80	24.00
5.5G Band	Low	5510	6.50	6.70	24.00
	High	5670	6.60	6.80	24.00
5.8G Band	Low	5755	5.50	5.70	30.00
	High	5795	5.70	5.90	30.00

9.4 Maximum power spectral density

Test Method

According to KDB789033 D02

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the

above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth

specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

- a) Set $RBW \geq 1/T$, where T is defined in section II.B.I.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/RBW)$ to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10\log(1\text{MHz}/RBW)$ to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
- e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections 5.c) and 5.d) above, since RBW=100 KHz is available on nearly all spectrum analyzers.

Limit: The maximum power spectral density shall not exceed 11dBm for the 5.15-5.25GHz, 5.25-5.35GHz, 5.47-5.725 GHz Band and 30dBm for the 5.8GHz Band in any 1 megahertz band.

IEEE 802.11a modulation Test Result

Duty Cycle CF(dB)	0.10	Included in Calculations of Corr'd Power & PSD
-------------------	------	--

Band	Channel	Frequency (MHz)	Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)
5.2G Band	Low	5180	-2.66	-2.56	11.00
	High	5320	-5.31	-5.21	11.00
5.5G Band	Low	5500	-3.88	-3.78	11.00
	High	5700	-5.80	-5.70	11.00
5.8G Band	Low	5745	-0.80	-0.70	30.00
	High	5825	-6.94	-6.84	30.00

IEEE 802.11n-HT20 modulation Test Result

Duty Cycle CF(dB)	0.10	Included in Calculations of Corr'd Power & PSD
-------------------	------	--

Band	Channel	Frequency (MHz)	Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)
5.2G Band	Low	5180	-0.78	-0.68	11.00
	High	5320	-4.95	-4.85	11.00
5.5G Band	Low	5500	-4.14	-4.04	11.00
	High	5700	-6.17	-6.07	11.00
5.8G Band	Low	5745	-6.15	-6.05	30.00
	High	5825	-7.25	-7.15	30.00

IEEE 802.11n-HT40 modulation Test Result

Duty Cycle CF(dB)	0.20	Included in Calculations of Corr'd Power & PSD
-------------------	------	--

Band	Channel	Frequency (MHz)	Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)
5.2G Band	Low	5190	-3.76	-3.56	11.00
	High	5310	-3.51	-3.31	11.00
5.5G Band	Low	5510	-7.17	-6.97	11.00
	High	5670	-7.13	-6.93	11.00
5.8G Band	Low	5755	-8.13	-7.93	30.00
	High	5795	-9.17	-8.97	30.00

9.5 Unwanted emissions

Test Method

According to KBD789033 D02

Limits:

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

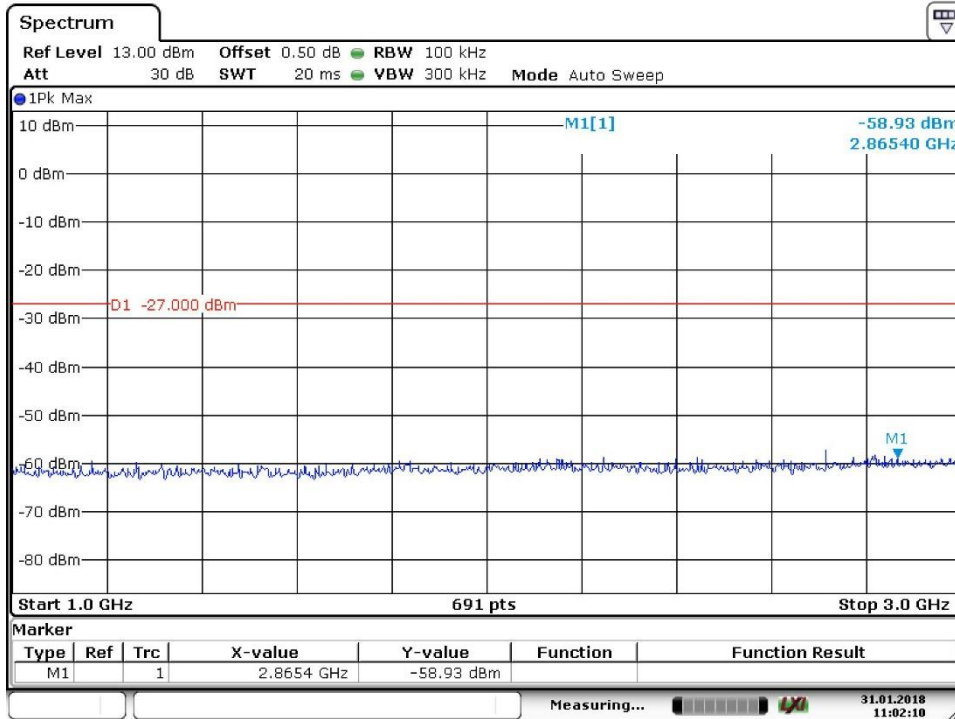
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

The provisions of §15.205 apply to intentional radiators operating under this section.

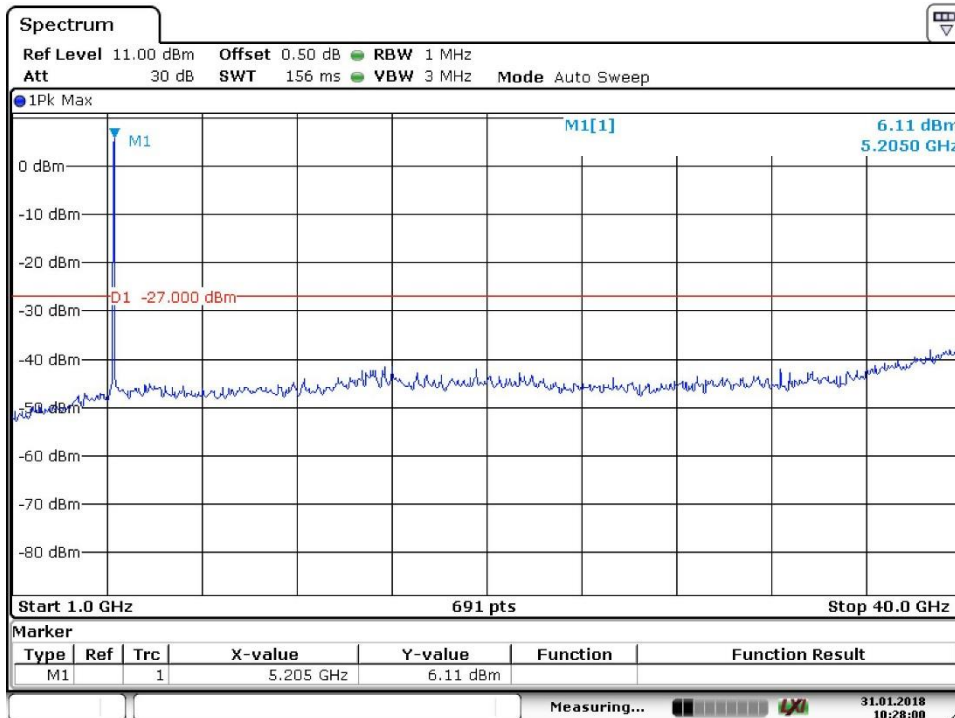
Transmitting spurious emission test result as below (Conducted Mode):

IEEE 802.11a modulation Test Result

5180MHz

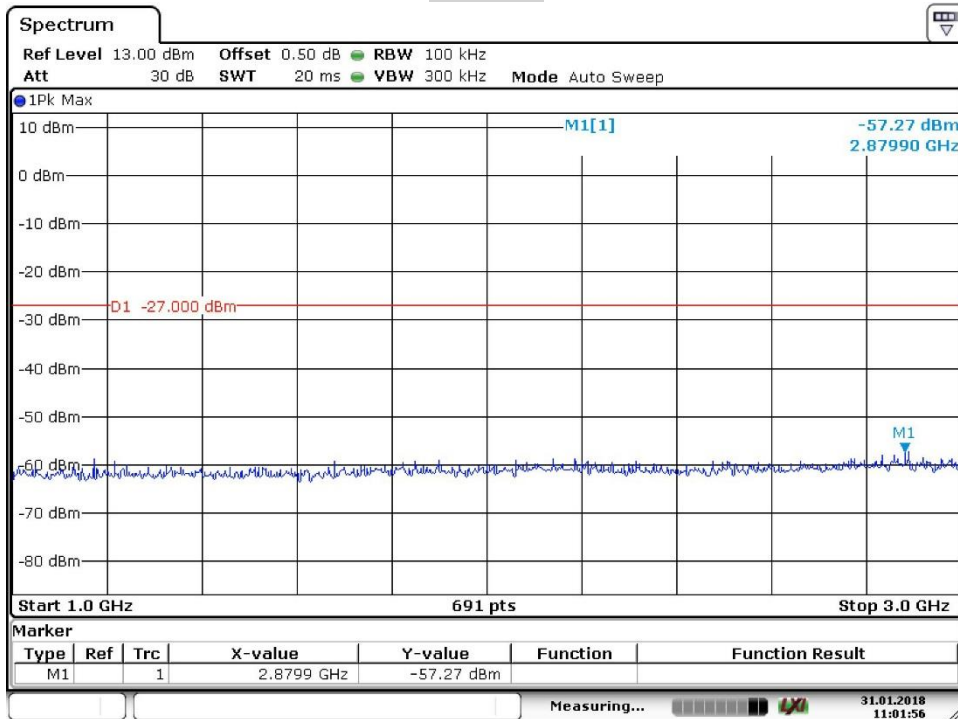


Date: 31.JAN.2018 11:02:10

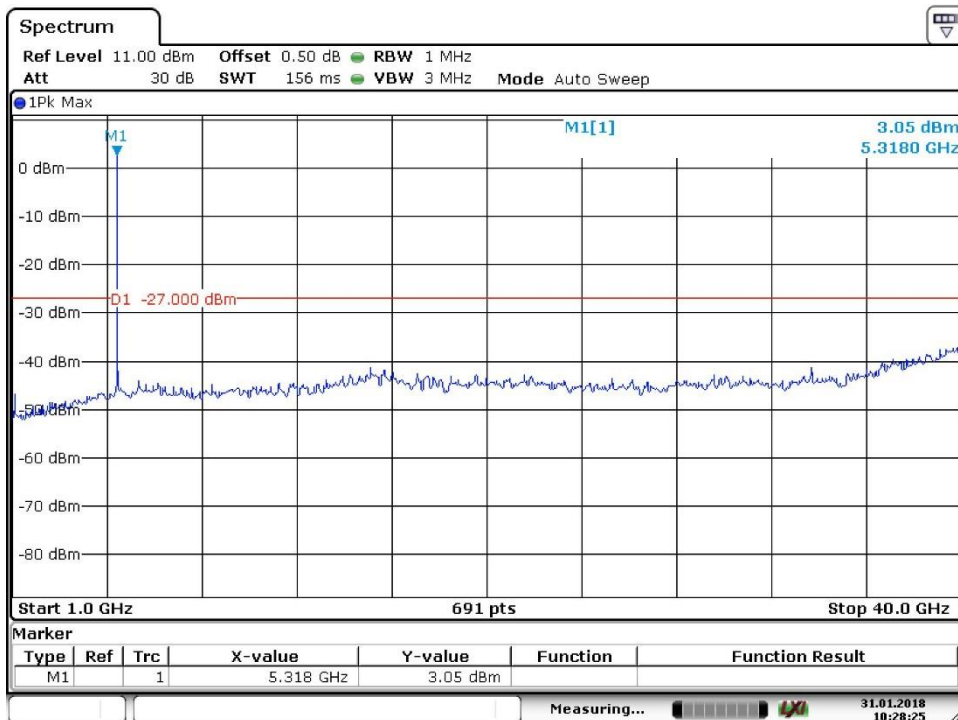


Date: 31.JAN.2018 10:28:00

5320MHz

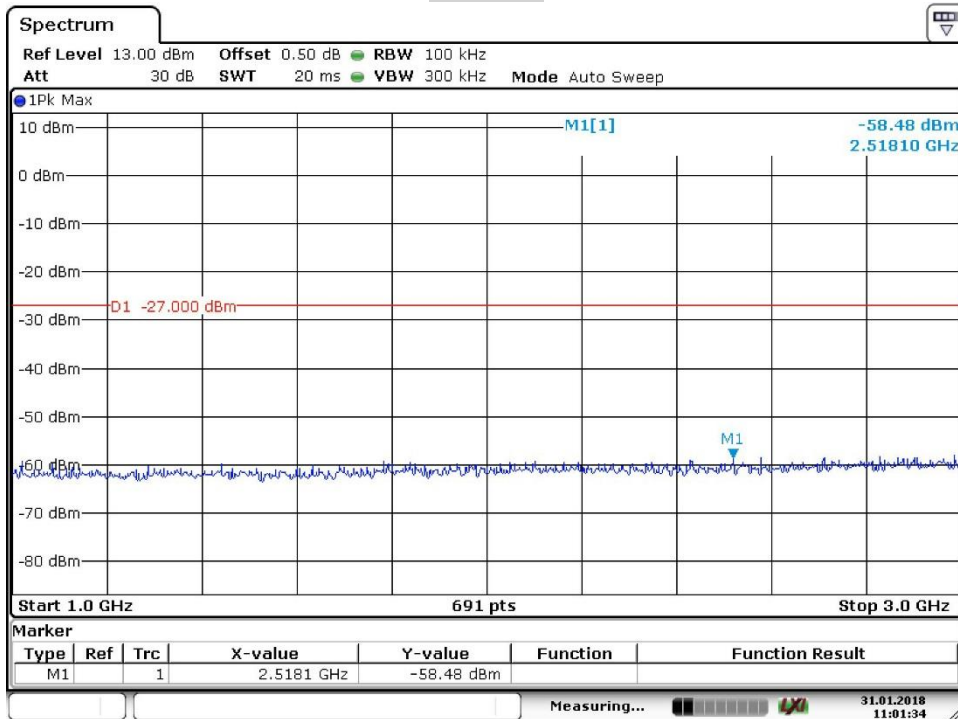


Date: 31.JAN.2018 11:01:56

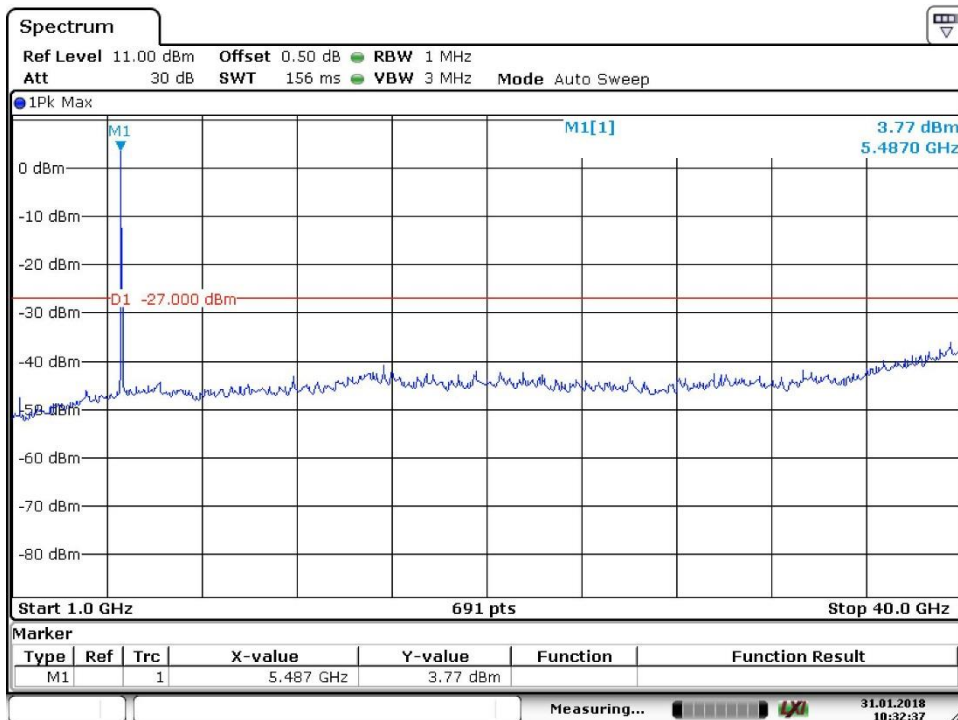


Date: 31.JAN.2018 10:28:26

5500MHz

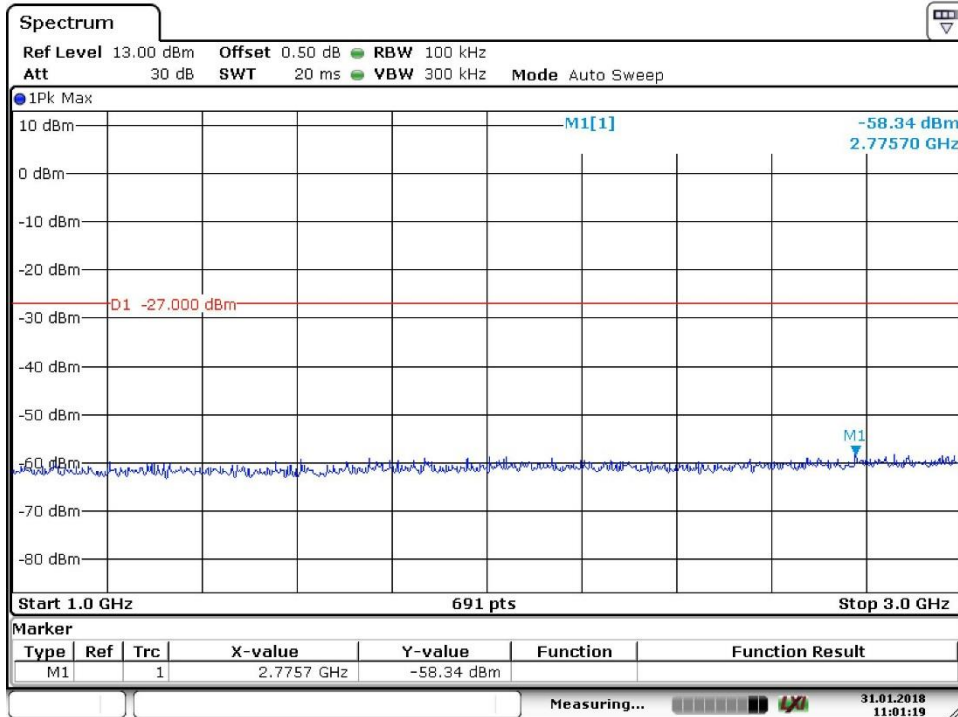


Date: 31.JAN.2018 11:01:34

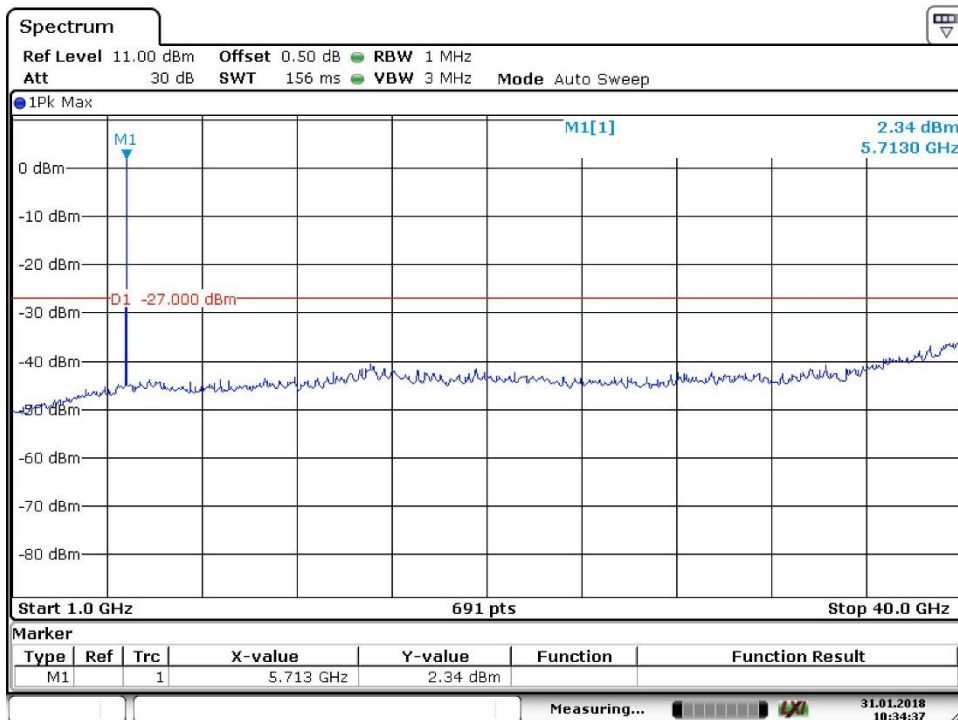


Date: 31.JAN.2018 10:32:37

5700



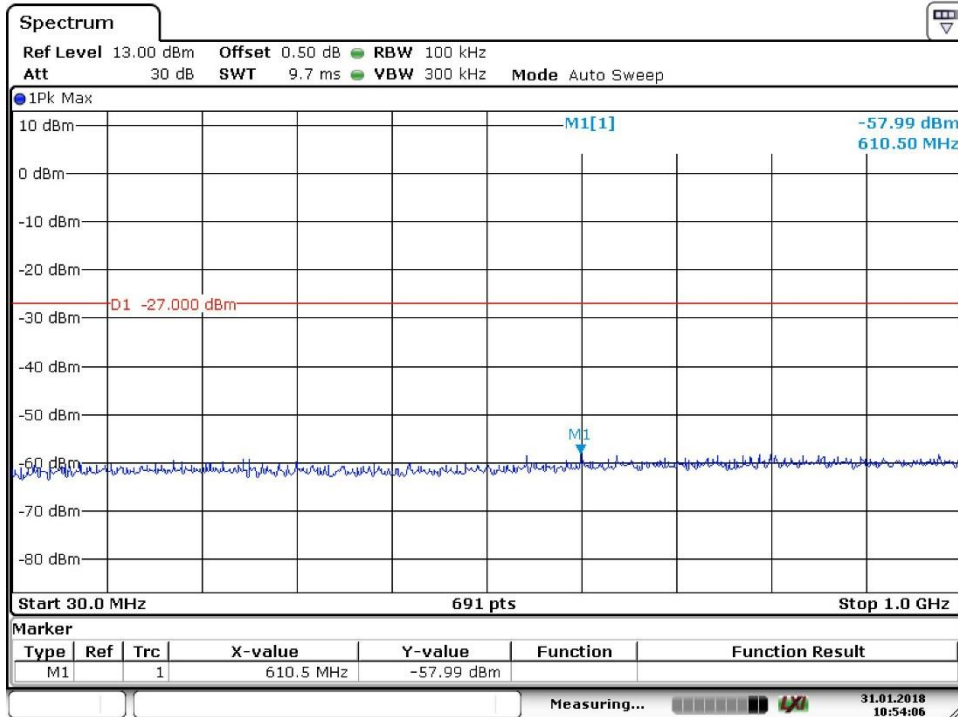
Date: 31.JAN.2018 11:01:18



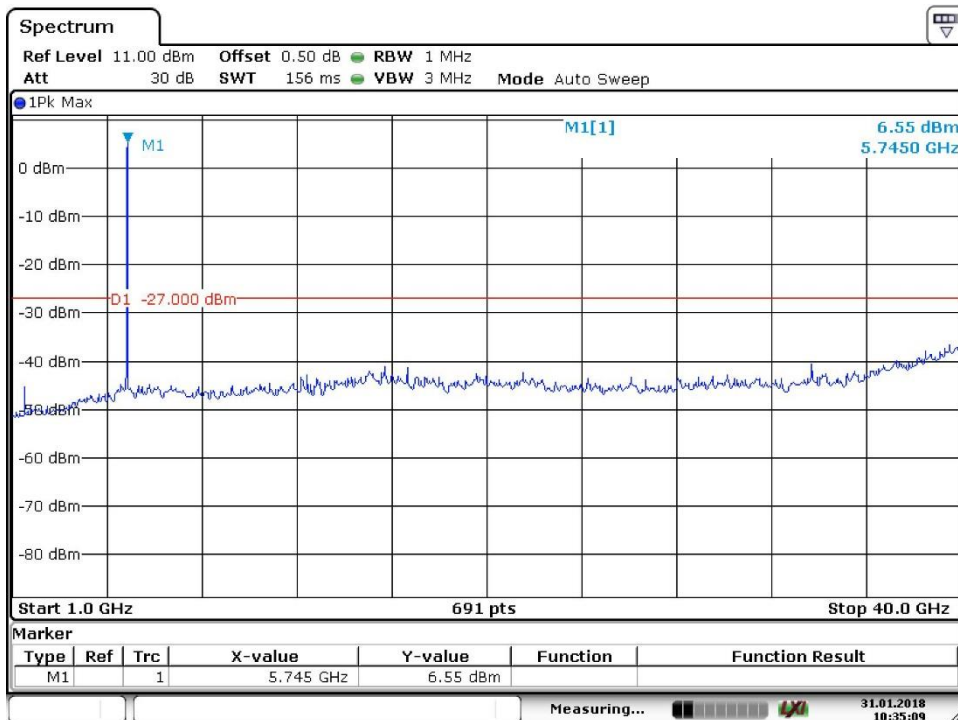
Date: 31.JAN.2018 10:34:37



5745MHz

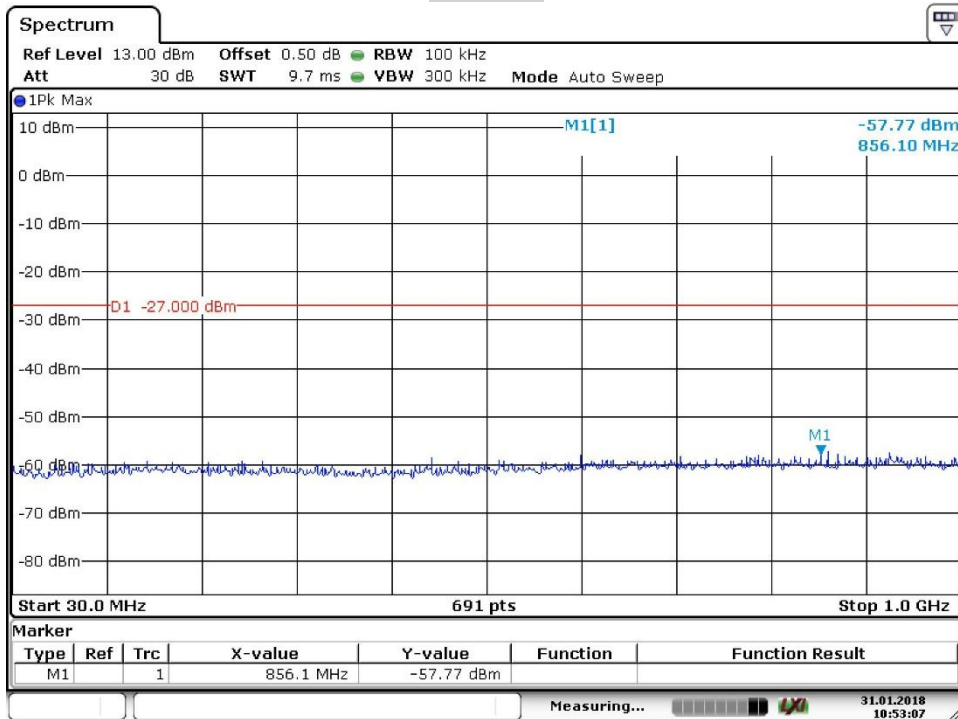


Date: 31.JAN.2018 10:54:06

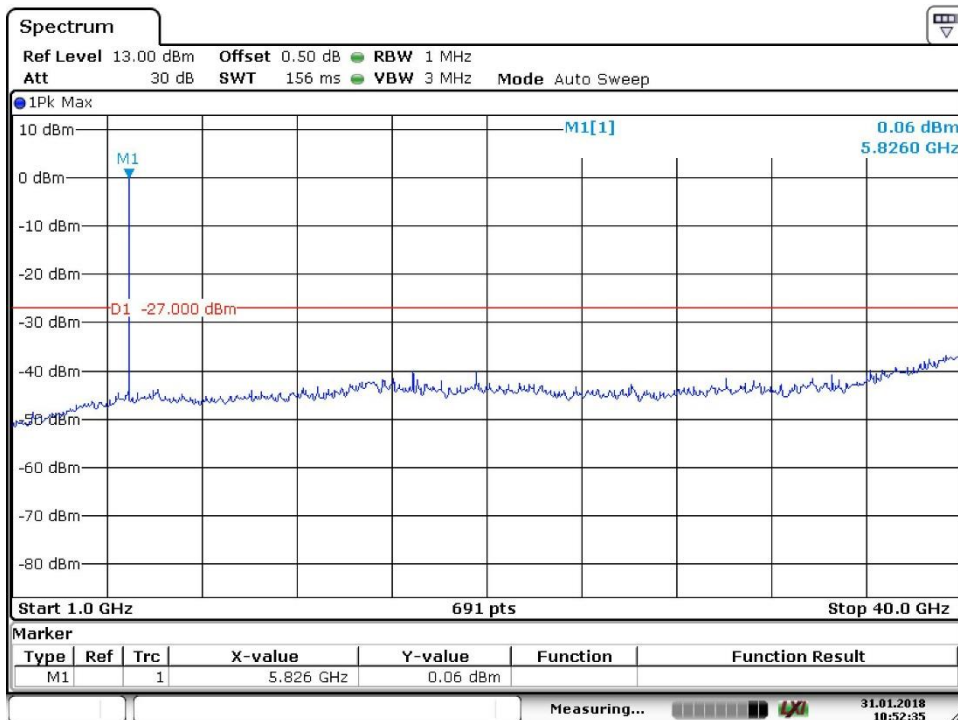


Date: 31.JAN.2018 10:35:08

5825MHz



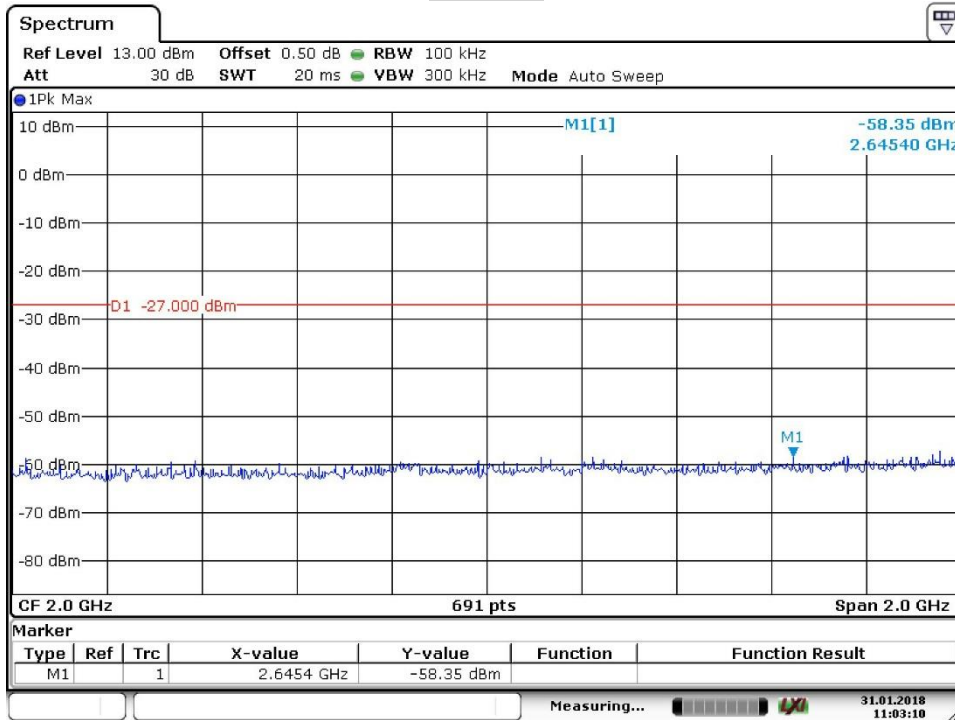
Date: 31.JAN.2018 10:53:06



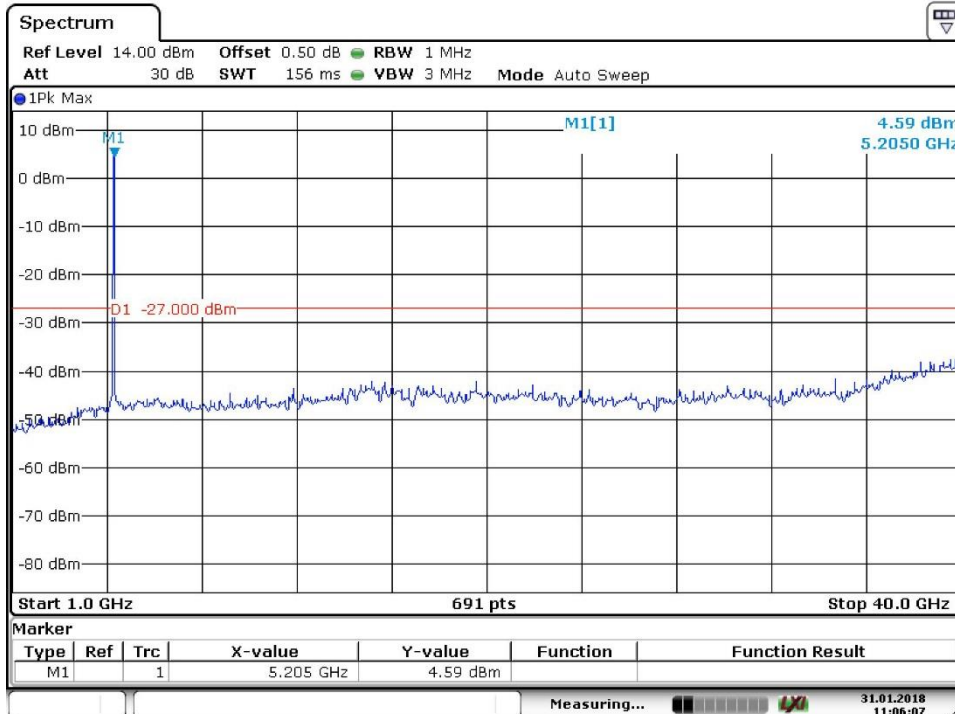
Date: 31.JAN.2018 10:52:36

IEEE 802.11n-HT20 modulation Test Result

5180MHz

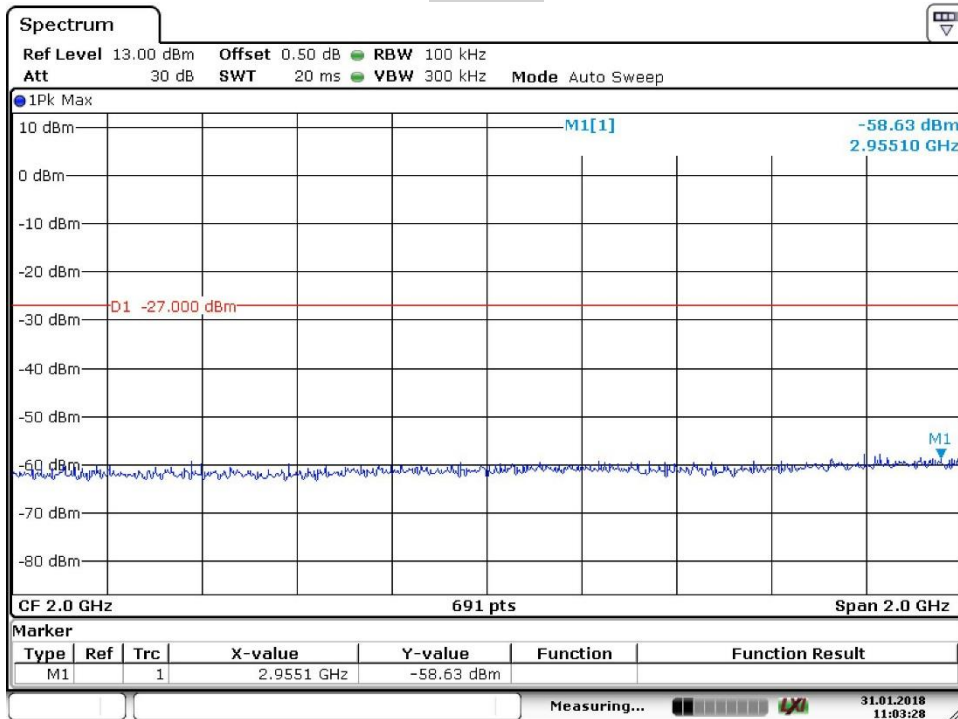


Date: 31.JAN.2018 11:03:10

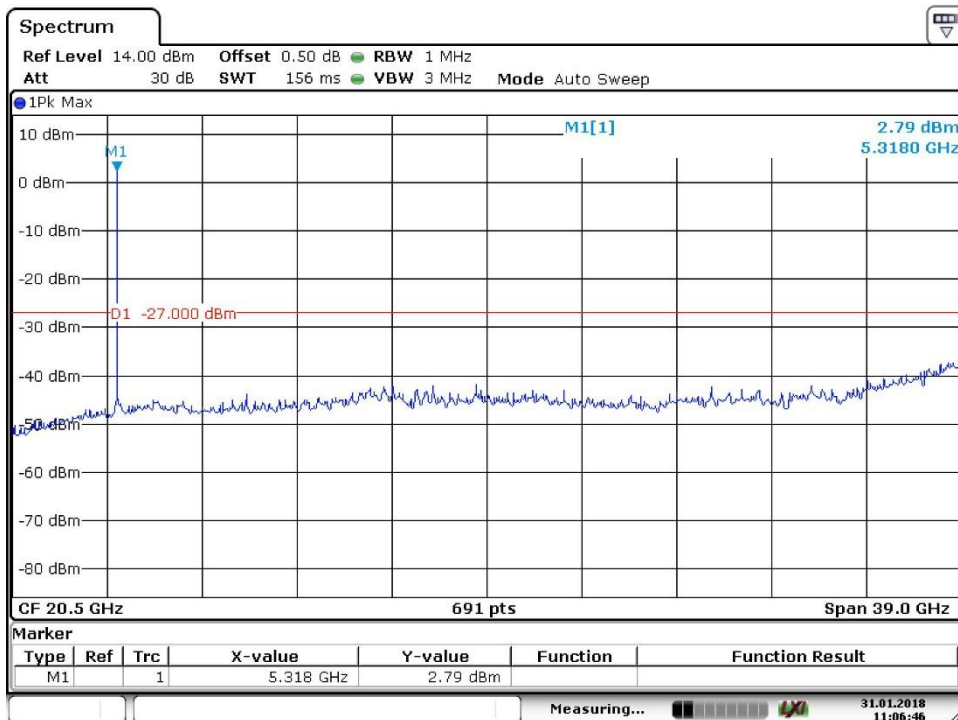


Date: 31.JAN.2018 11:06:06

5320MHz

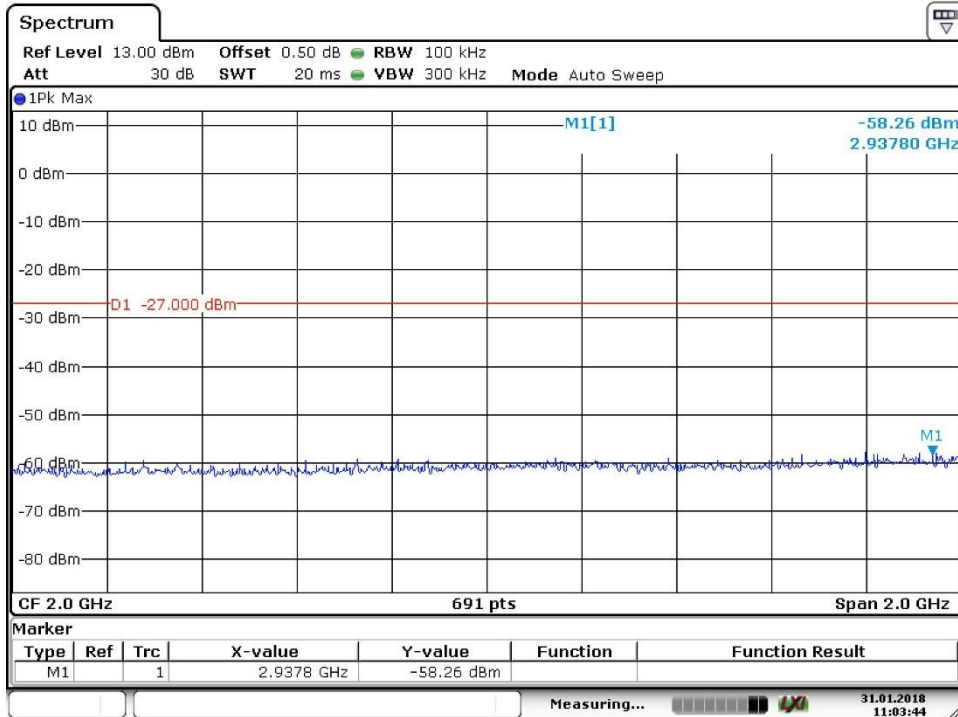


Date: 31.JAN.2018 11:03:28

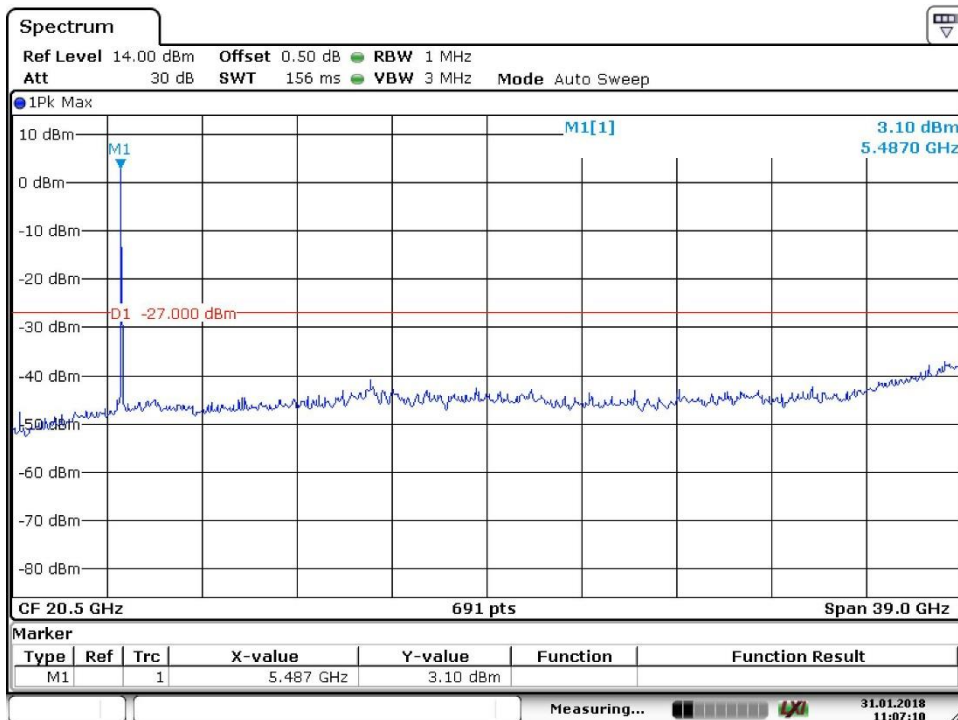


Date: 31.JAN.2018 11:06:46

5500MHz

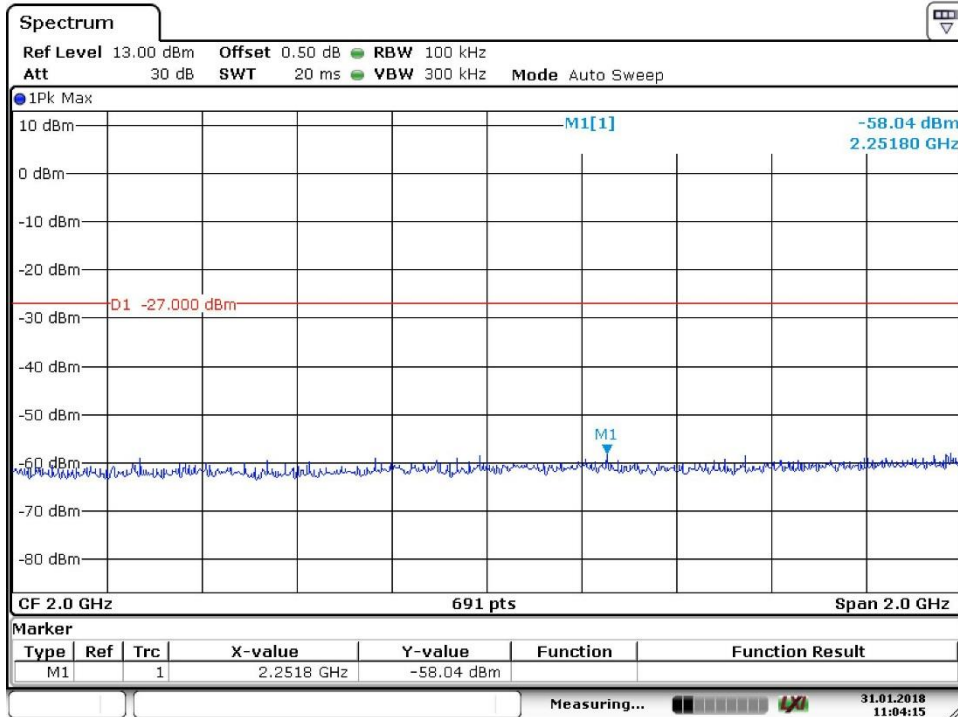


Date: 31.JAN.2018 11:03:44

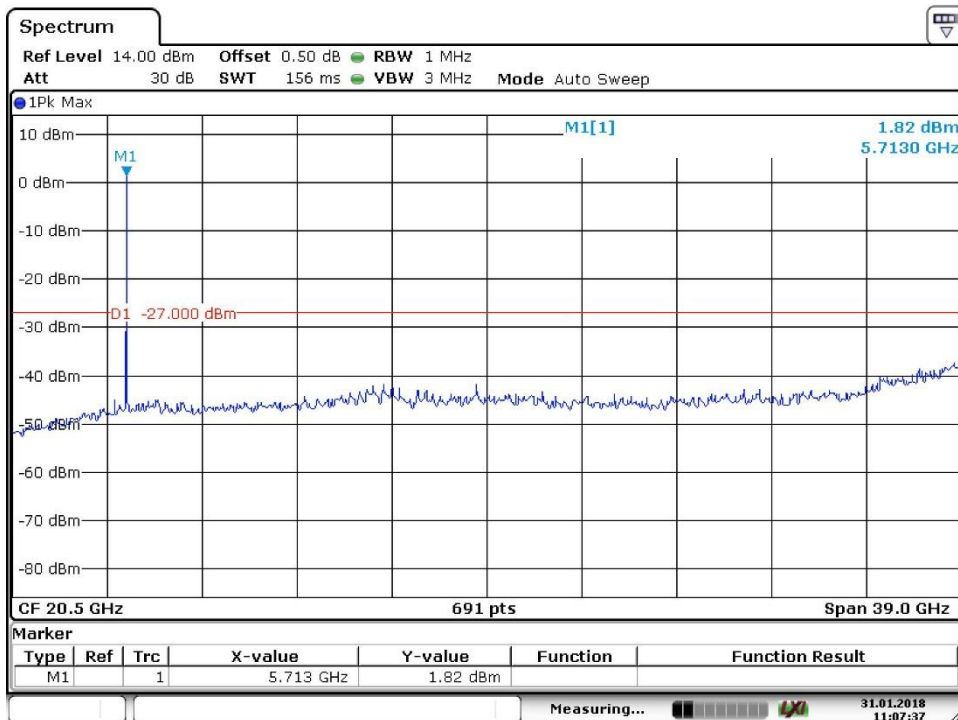


Date: 31.JAN.2018 11:07:10

5700MHz

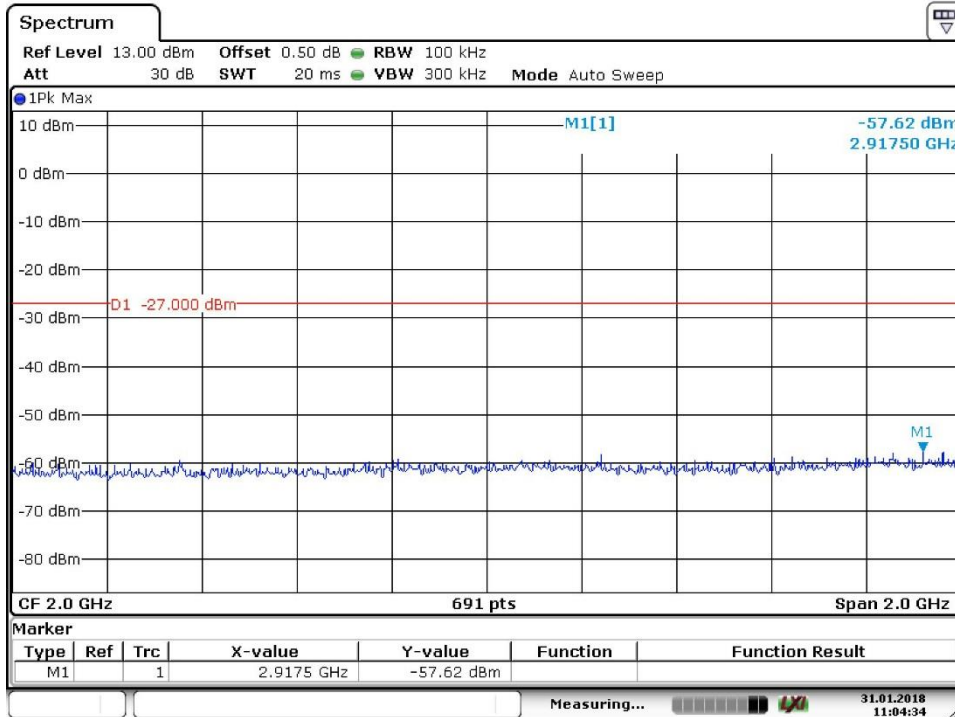


Date: 31.JAN.2018 11:04:15

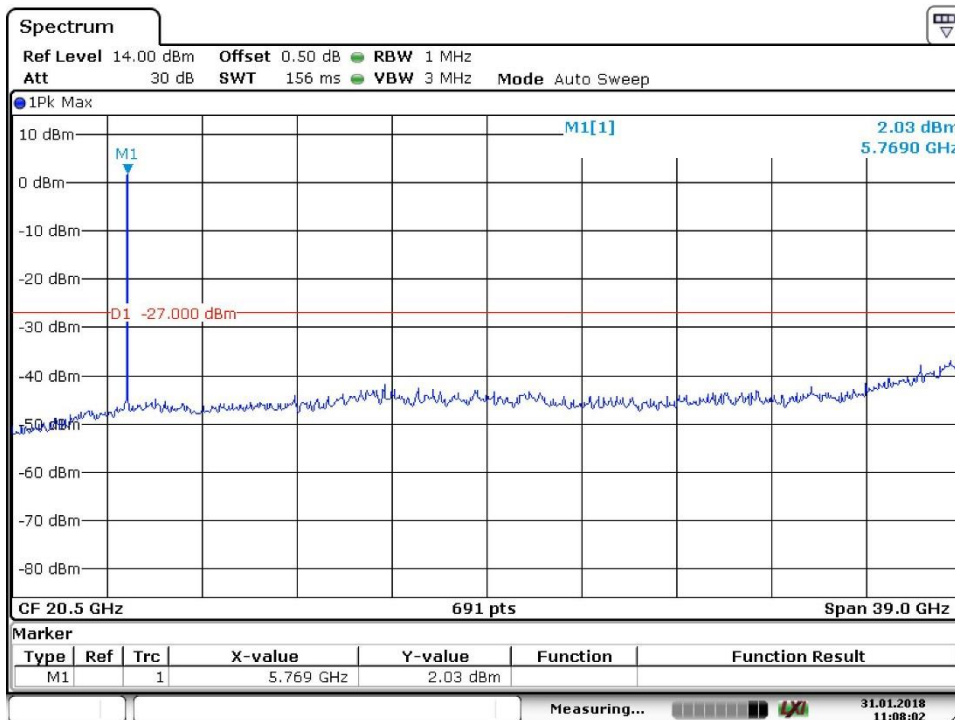


Date: 31.JAN.2018 11:07:37

5745MHz



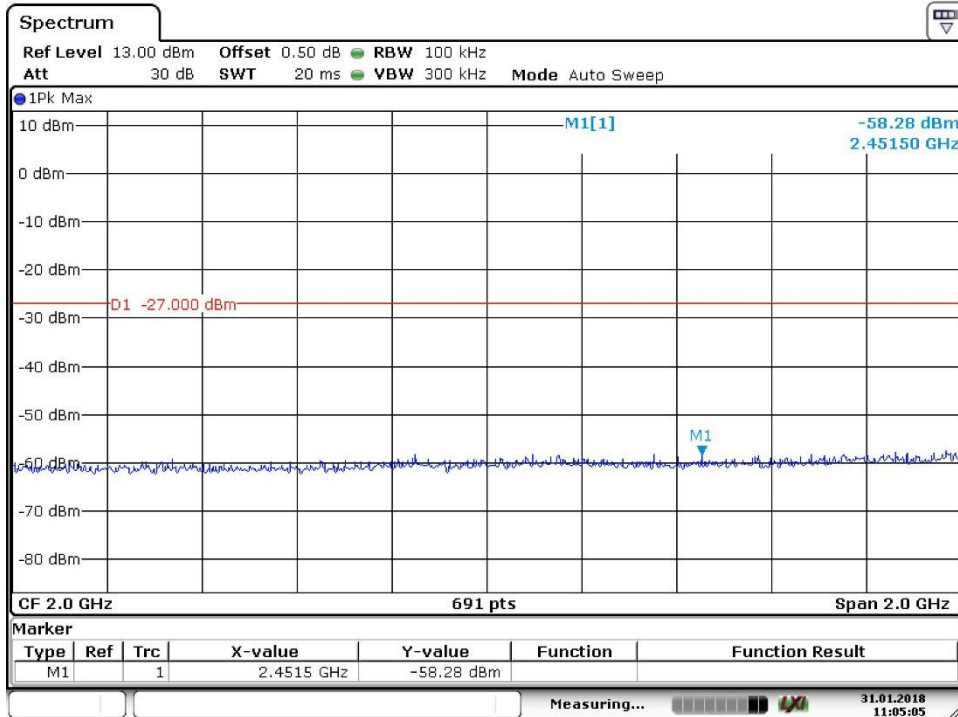
Date: 31.JAN.2018 11:04:34



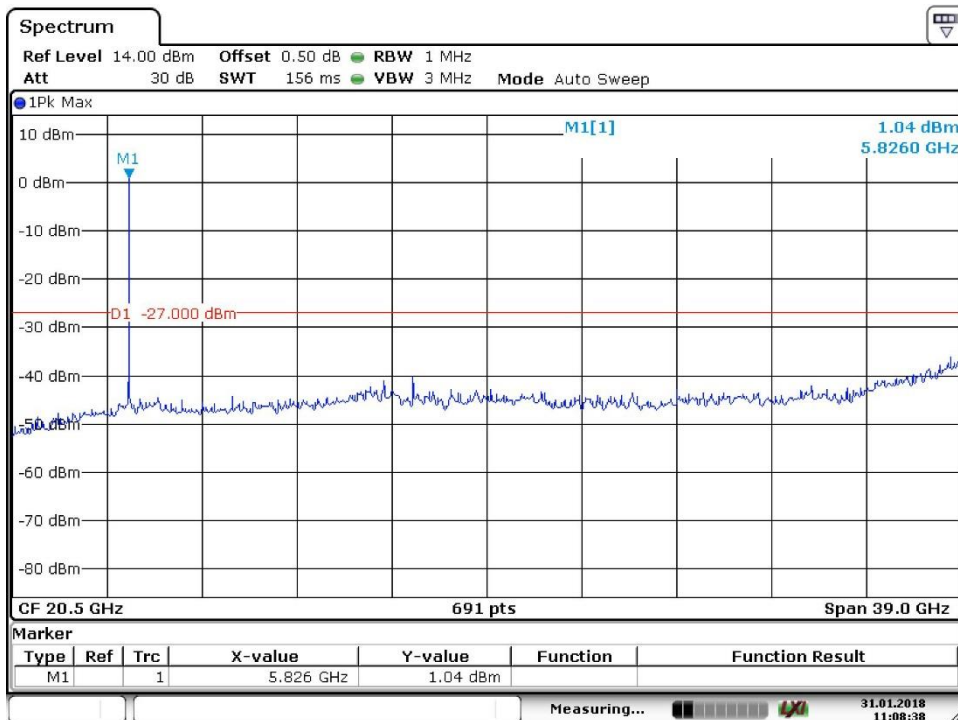
Date: 31.JAN.2018 11:08:03



5825MHz



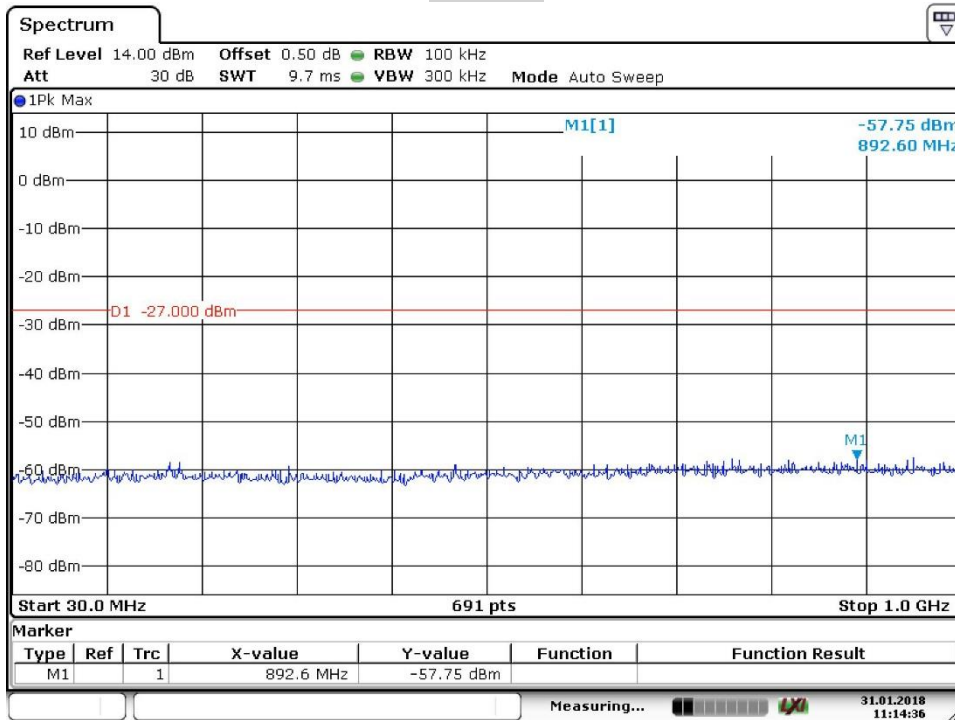
Date: 31.JAN.2018 11:05:05



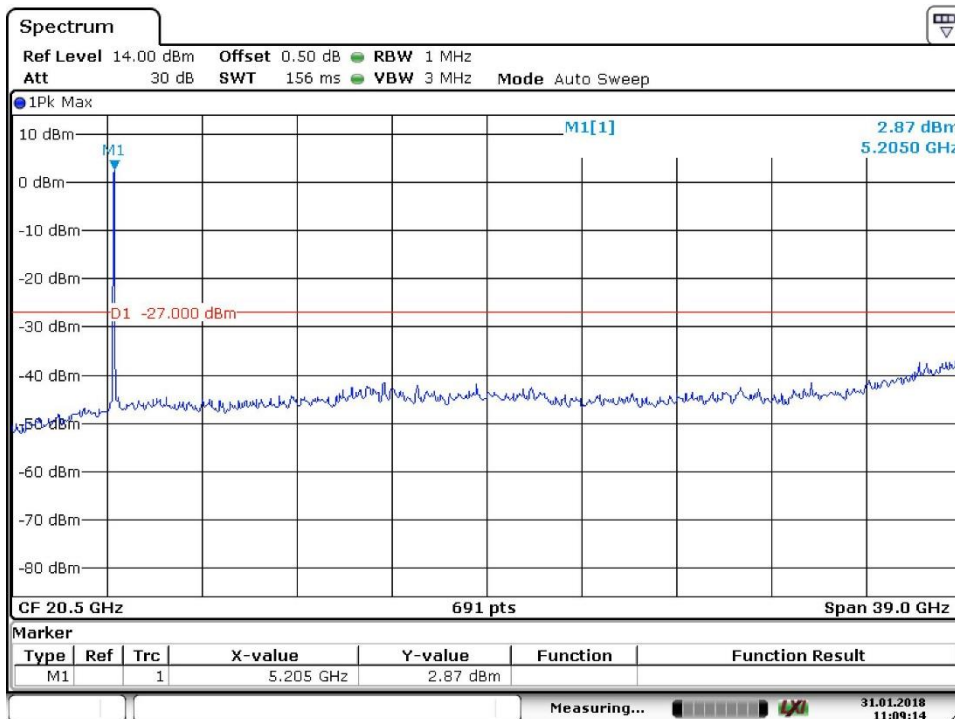
Date: 31.JAN.2018 11:08:38

IEEE 802.11n-HT40 modulation Test Result

5190MHz

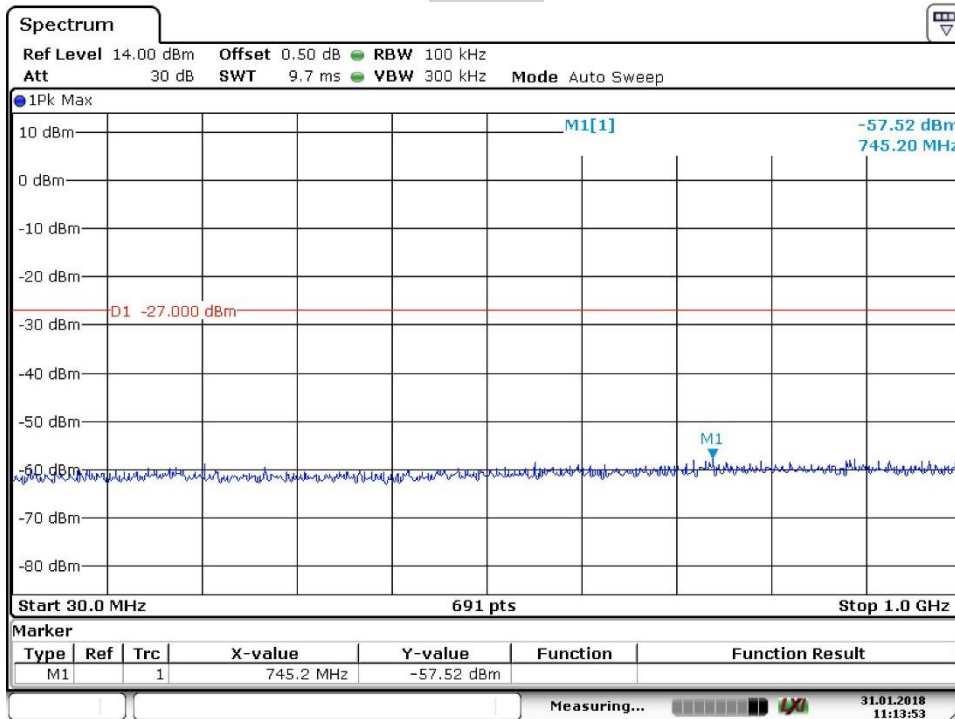


Date: 31.JAN.2018 11:14:35

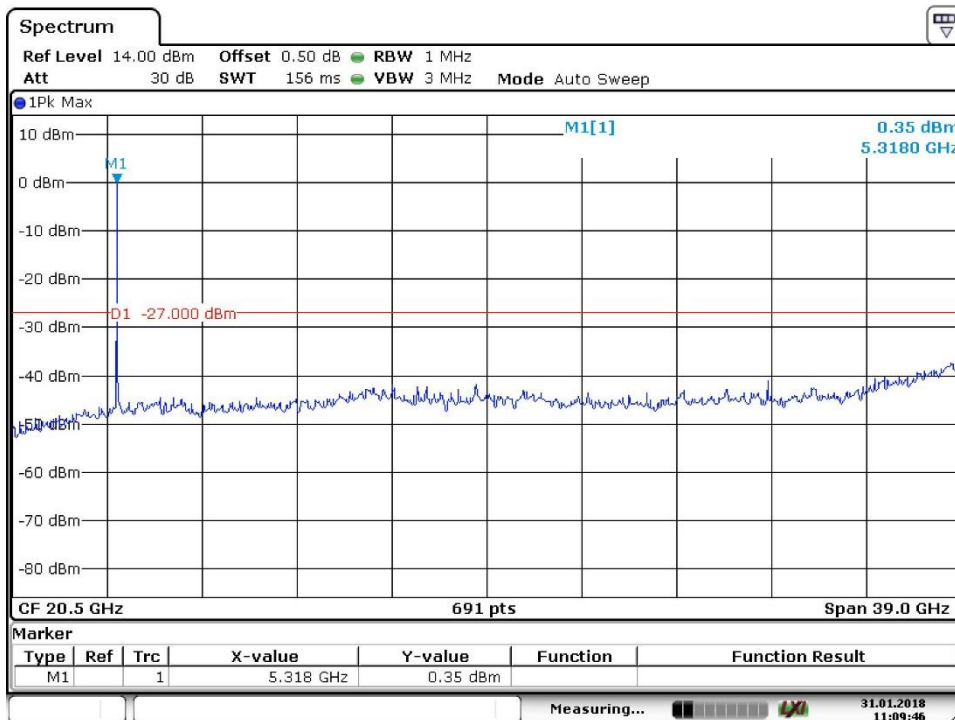


Date: 31.JAN.2018 11:09:14

5310MHz

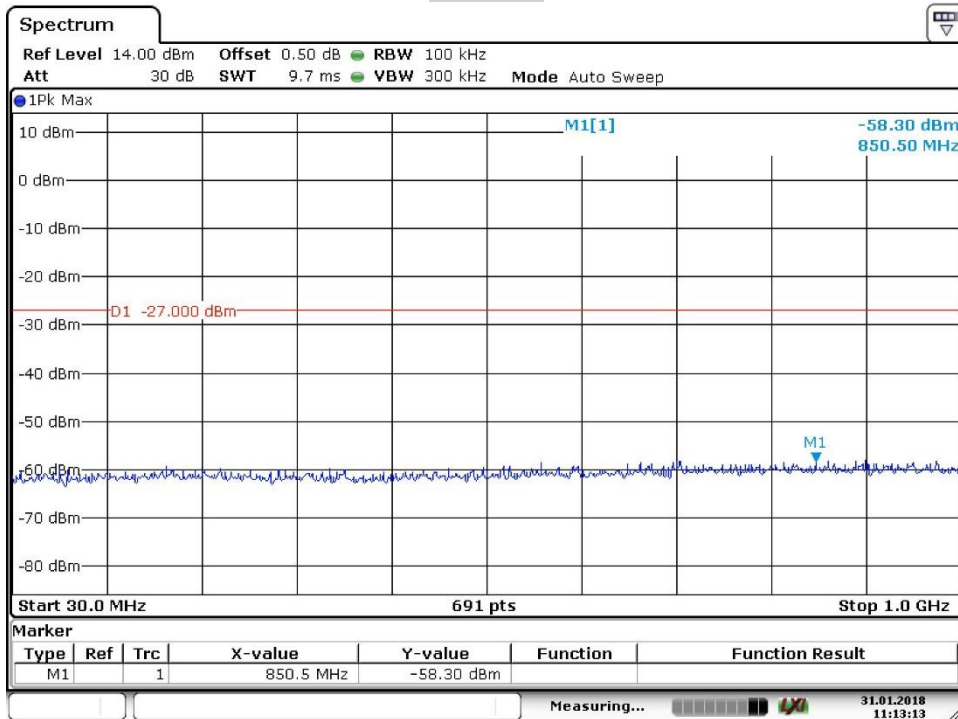


Date: 31.JAN.2018 11:13:53

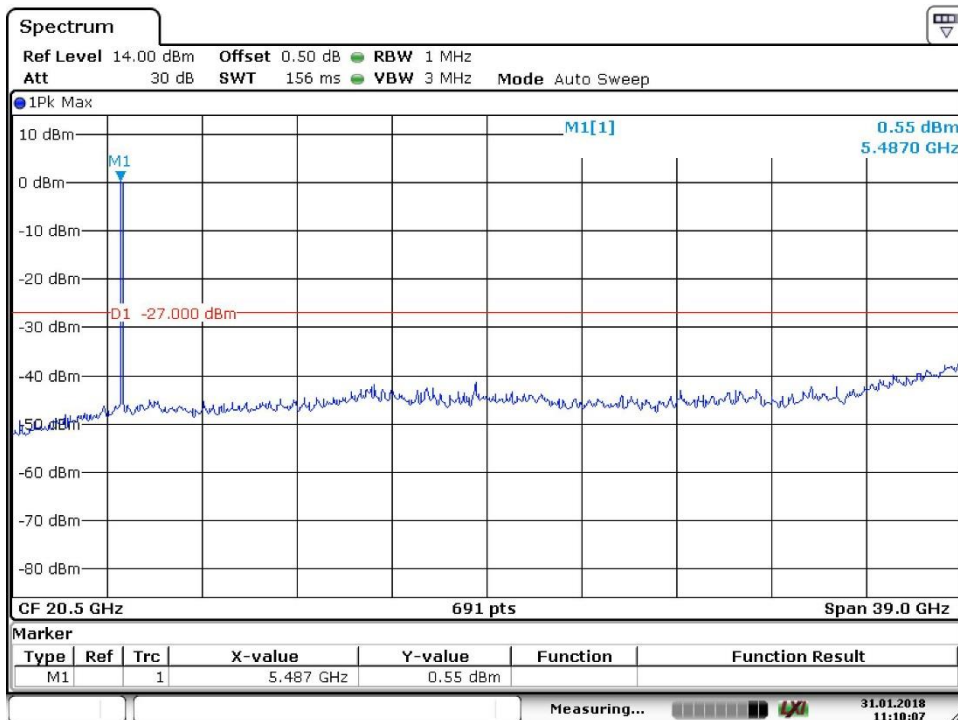


Date: 31.JAN.2018 11:09:45

5510MHz

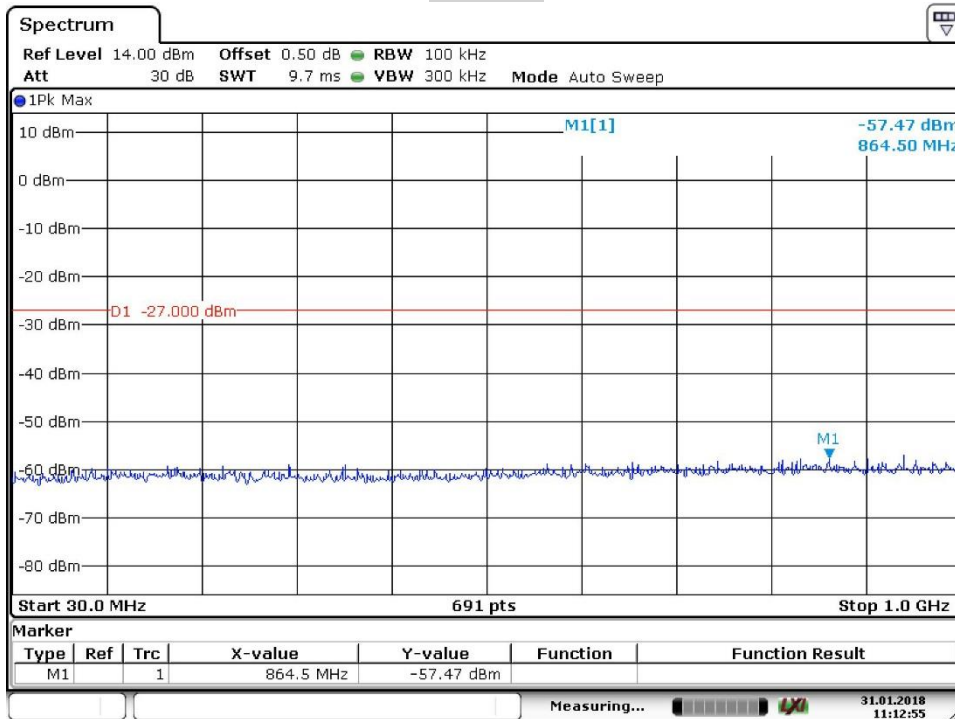


Date: 31.JAN.2018 11:13:13

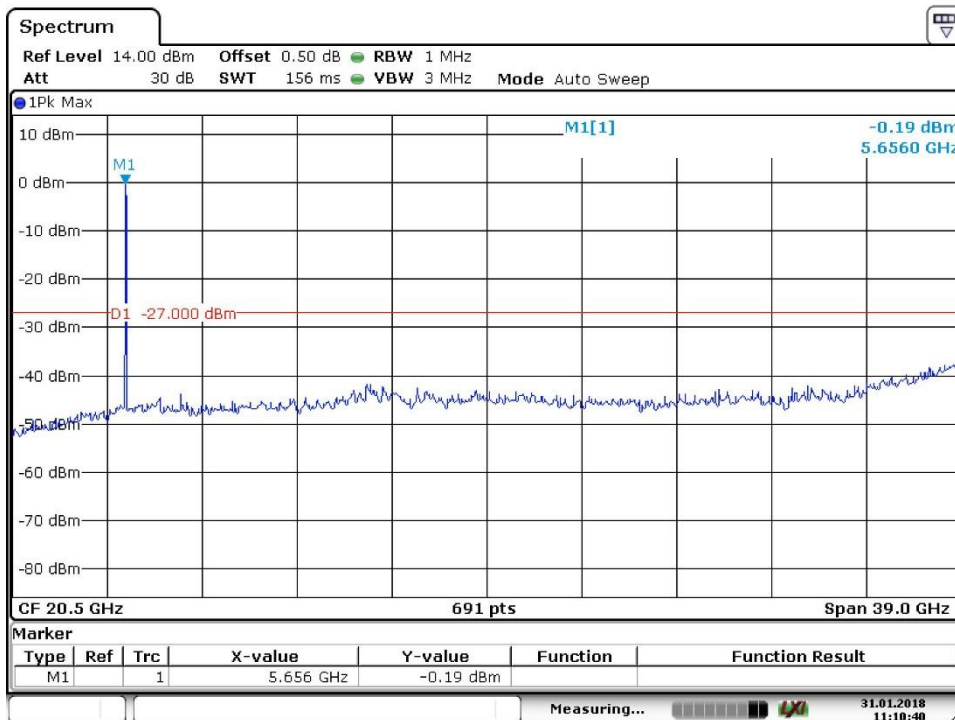


Date: 31.JAN.2018 11:10:07

5670MHz

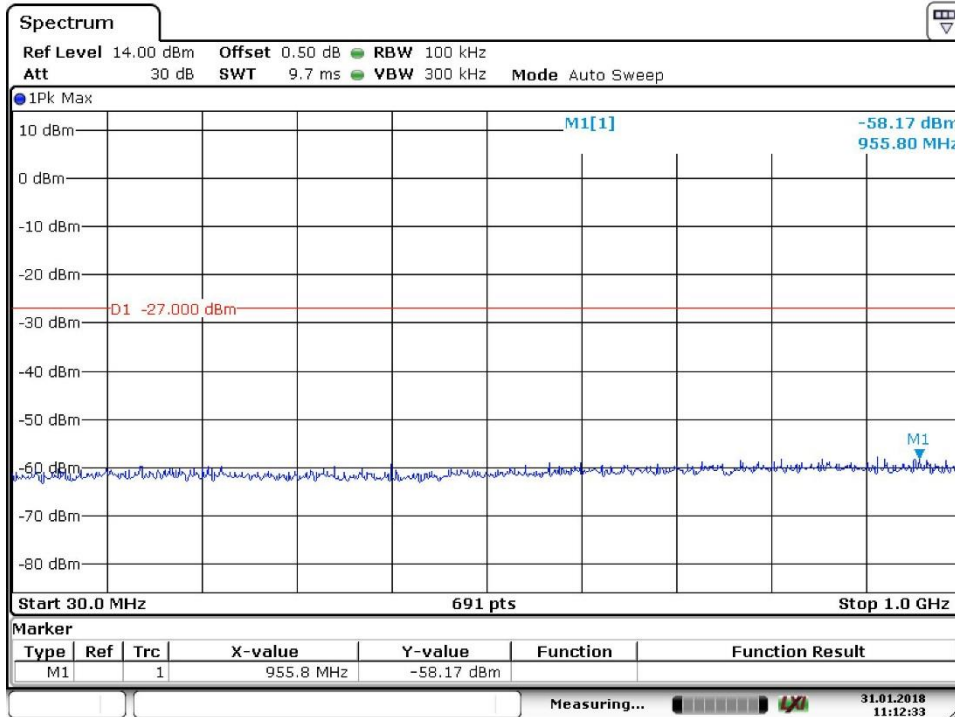


Date: 31.JAN.2018 11:12:55

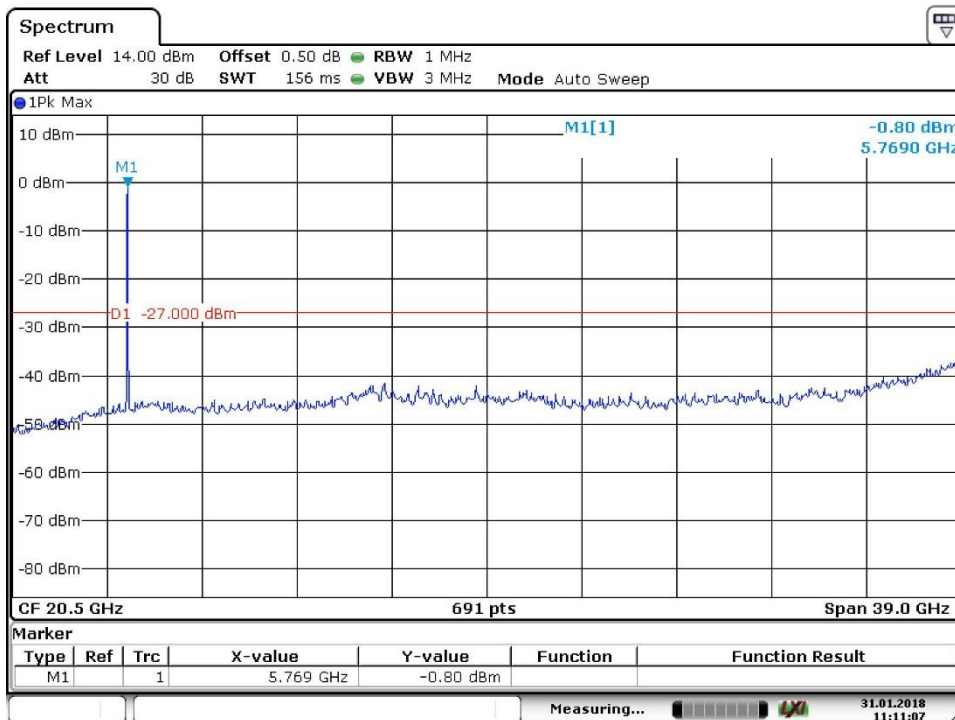


Date: 31.JAN.2018 11:10:41

5755MHz

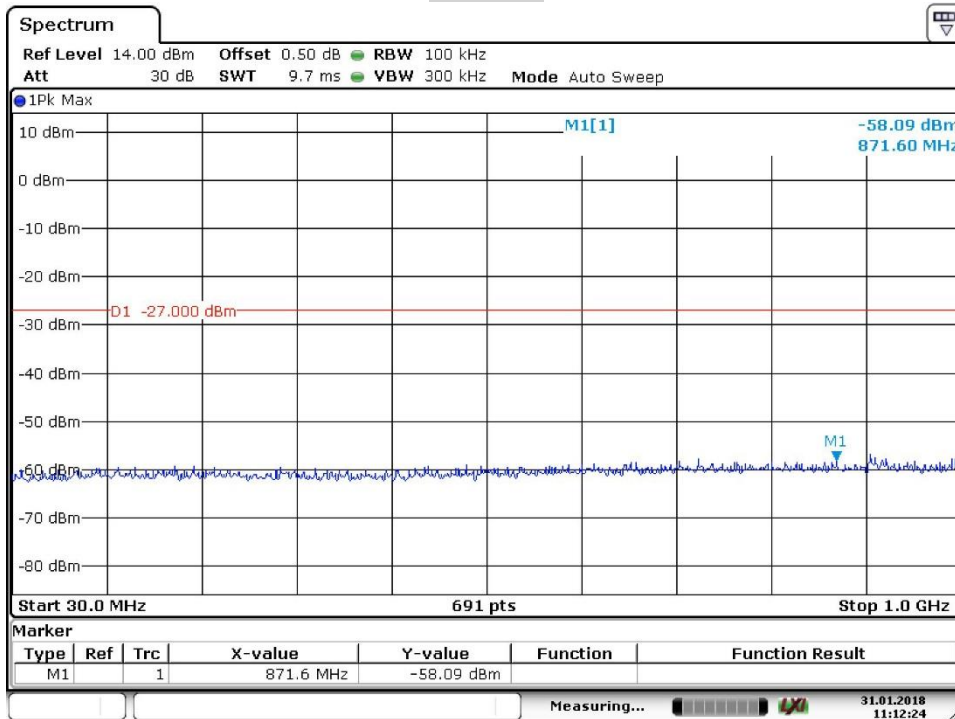


Date: 31.JAN.2018 11:12:33

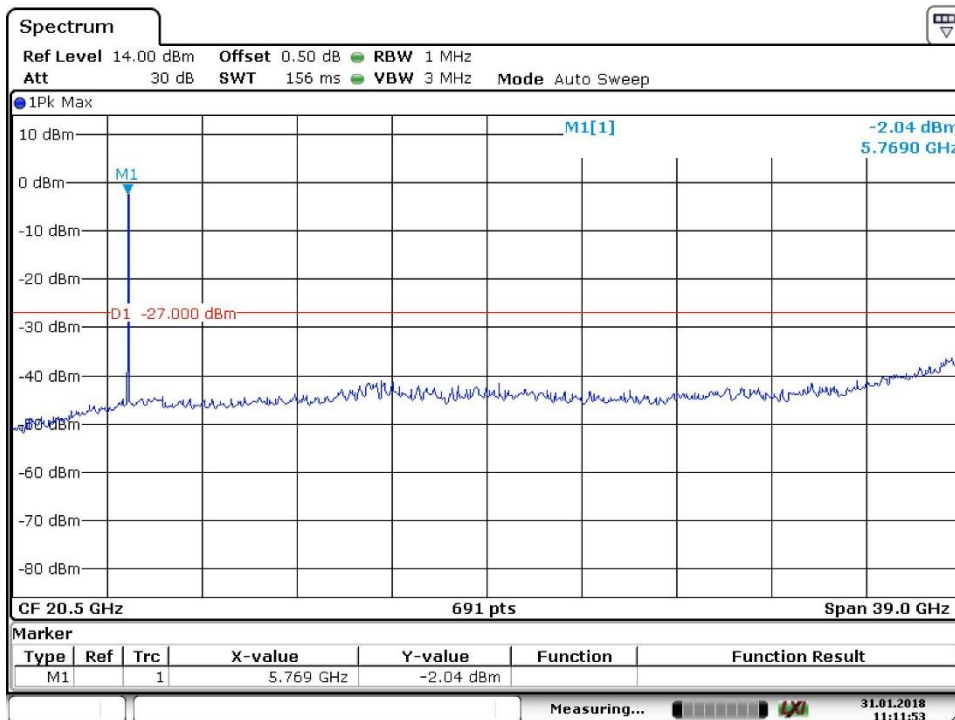


Date: 31.JAN.2018 11:11:07

5795MHz



Date: 31.JAN.2018 11:12:24



Date: 31.JAN.2018 11:11:54

Transmitting spurious emission test result as below (Radiated Mode):

Test Method

1. The EUT was placed on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned
5. Use the following spectrum analyzer settings According to C63.10:
 For Above 1GHz
 Span = wide enough to capture the peak level of the in-band emission and all spurious
 RBW = 1MHz, VBW \geq RBW for peak measurement and VBW = 10Hz for average measurement, Sweep = auto, Detector function = peak, Trace = max hold.
 For Below 1GHz
 Use the following spectrum analyzer settings:
 Span = wide enough to capture the peak level of the in-band emission and all spurious
 RBW = 100 KHz, VBW \geq RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average ((duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (20log(1/duty cycle)).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average ((duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (20log(1/duty cycle)).

bandwidth is 10Hz (duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.

Limit

According to part 15.247(d), the radio emission outside the operating frequency band shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power. Radiated emissions which fall in the restricted bands, as defined in section 15.205, must comply with the radiated emission limits specified in section 15.209.

Frequency MHz	Field Strength uV/m	Field Strength dB μ V/m	Detector
30-88	100	40	QP
88-216	150	43.5	QP
216-960	200	46	QP
960-1000	500	54	QP
Above 1000	500	54	AV
Above 1000	5000	74	PK

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Transmitting spurious emission test result as below:

802.11A Modulation 5180MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
30.32	-26.5	36.12	Horizontal	40.00	3.88	QP	Pass
31.50	-25.5	28.22	Vertical	40.00	11.78	QP	Pass
6282.81	4.4	41.51	Horizontal	74.00	32.49	PK	Pass
6307.00	4.6	38.52	Vertical	74.00	35.48	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11A Modulation 5320MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
1113.43	-13.4	36.36	Horizontal	74	37.64	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6301.00	4.6	40.48	Vertical	74	33.52	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11A Modulation 5500MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
6297.43	4.4	40.37	Horizontal	74	33.63	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6294.43	4.4	39.20	Vertical	74	34.20	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11A Modulation 5700MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
6668.12	4.9	40.46	Horizontal	74	33.54	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6554.50	5.0	39.39	Vertical	74	34.61	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11A Modulation 5745MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
1831.93	-8.3	40.16	Horizontal	74	33.84	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6297.25	4.6	39.55	Vertical	74	34.45	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11A Modulation 5825MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
4660.00	1.7	39.95	Horizontal	74	34.05	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6706.00	5.3	39.61	Vertical	74	34.39	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11N20 Modulation 5180MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
5940.81	3.8	35.80	Horizontal	74	38.20	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6094.00	4.0	36.53	Vertical	74	37.47	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11N20 Modulation 5320MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
1113.43	-13.4	46.68	Horizontal	74	27.32	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6125.12	4.1	37.23	Vertical	74	36.77	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11N20 Modulation 5500MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
1292.87	-12.0	47.95	Horizontal	74	26.05	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6139.93	4.1	39.46	Vertical	74	34.54	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11N20 Modulation 5700MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
6351.81	4.5	39.77	Horizontal	74	34.23	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6535.00	5.0	40.22	Vertical	74	33.78	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11N20 Modulation 5745MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
6662.87	4.9	39.50	Horizontal	74	34.50	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6447.43	4.7	39.47	Vertical	74	34.53	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11N20 Modulation 5825MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
4660.00	1.7	45.46	Horizontal	74	28.54	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
4660.00	1.9	42.26	Vertical	74	31.74	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11N40 Modulation 5190MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
5806.18	3.5	38.49	Horizontal	74	35.51	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6109.75	4.1	38.62	Vertical	74	35.38	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11N40 Modulation 5310MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
6427.75	4.5	40.47	Horizontal	74	33.53	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6271.56	4.5	38.57	Vertical	74	35.43	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11N40 Modulation 5510MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
6479.87	4.7	41.08	Horizontal	74	32.92	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6340.37	4.6	40.00	Vertical	74	34.00	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11N40 Modulation 5670MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dB μ V/m	dB		
6249.43	4.2	38.68	Horizontal	74	35.32	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6359.87	4.6	39.58	Vertical	74	34.42	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11N40 Modulation 5755MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dBμV/m	dB		
6363.06	4.5	38.43	Horizontal	74	35.57	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6841.75	5.2	39.73	Vertical	74	34.27	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

802.11N40 Modulation 5795MHz Test Result

Frequency	Corr. Factor	Emission Level	Polarization	Limit	Margin	Detector	Result
MHz	dB	dBuV/m		dBμV/m	dB		
6324.81	4.5	39.31	Horizontal	74	34.69	PK	Pass
7000-40000	---	---	Horizontal	74	---	PK	Pass
6264.43	4.5	39.47	Vertical	74	34.53	PK	Pass
7000-40000	---	---	Vertical	74	---	PK	Pass

Remark:

- (1) Above 1GHz Corrector factor= Antenna Factor +Cable Loss - Amp. factor
- (2) Below 1GHz Corrector factor= Antenna Factor +Cable Loss
- (3) "*" means the emission(s) appear within the restrict bands shall follow the requirement of section 15.205.
- (4) We test all modes and only the worst case for each bandwidth recorded in the report.
- (5) Testing is carried out with frequency rang 9KHz to 40GHz, which below 30MHz and data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

9.6 Band Edge

Test Method

6. The EUT was placed on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
7. The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
8. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
9. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned
10. Use the following spectrum analyzer settings According to C63.10:
 For Above 1GHz
 Span = wide enough to capture the peak level of the in-band emission and all spurious
 RBW = 1MHz, VBW \geq RBW for peak measurement and VBW = 10Hz for average measurement, Sweep = auto, Detector function = peak, Trace = max hold.
 For Below 1GHz
 Use the following spectrum analyzer settings:
 Span = wide enough to capture the peak level of the in-band emission and all spurious
 RBW = 100 KHz, VBW \geq RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

Note:

5. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Quasi-peak detection (QP) at frequency below 1GHz.
6. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for peak detection (PK) at frequency above 1GHz.
7. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average ((duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (20log(1/duty cycle)).
8. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average ((duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (20log(1/duty cycle)).

bandwidth is 10Hz (duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.

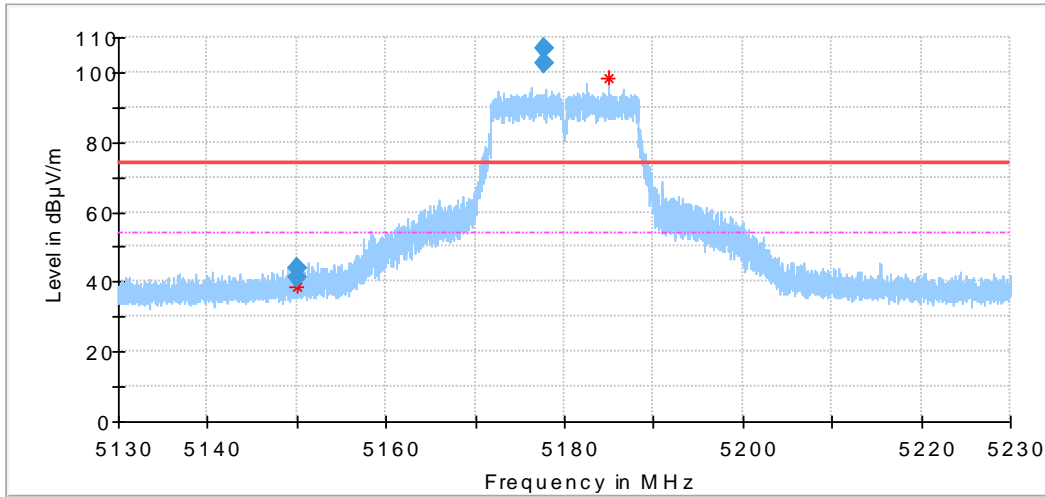
Limit

According to part 15.247(d), the radio emission outside the operating frequency band shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power. Radiated emissions which fall in the restricted bands, as defined in section 15.205, must comply with the radiated emission limits specified in section 15.209.

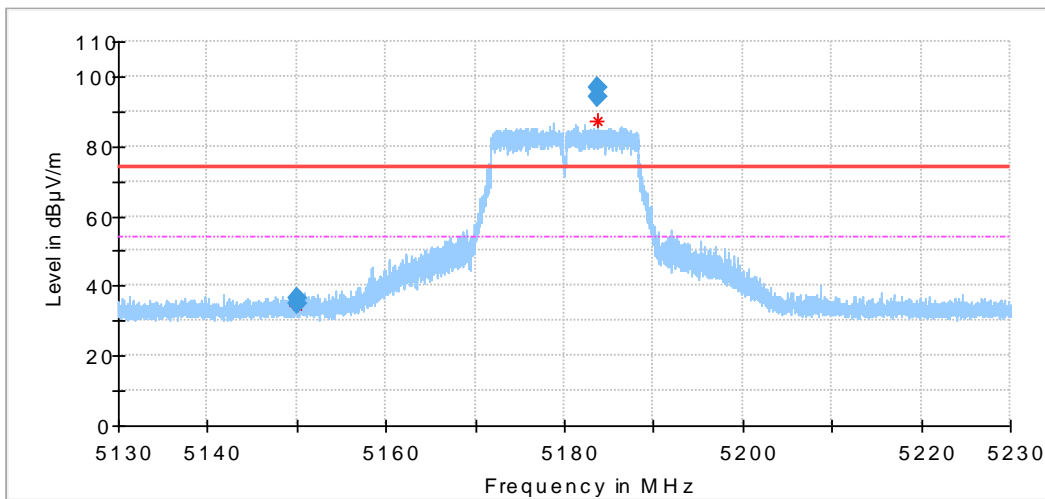
Frequency MHz	Field Strength uV/m	Field Strength dB μ V/m	Detector
Above 1000	500	54	AV
Above 1000	5000	74	PK

Transmitting spurious emission test result as below:

802.11A Modulation 5180MHz Test Result

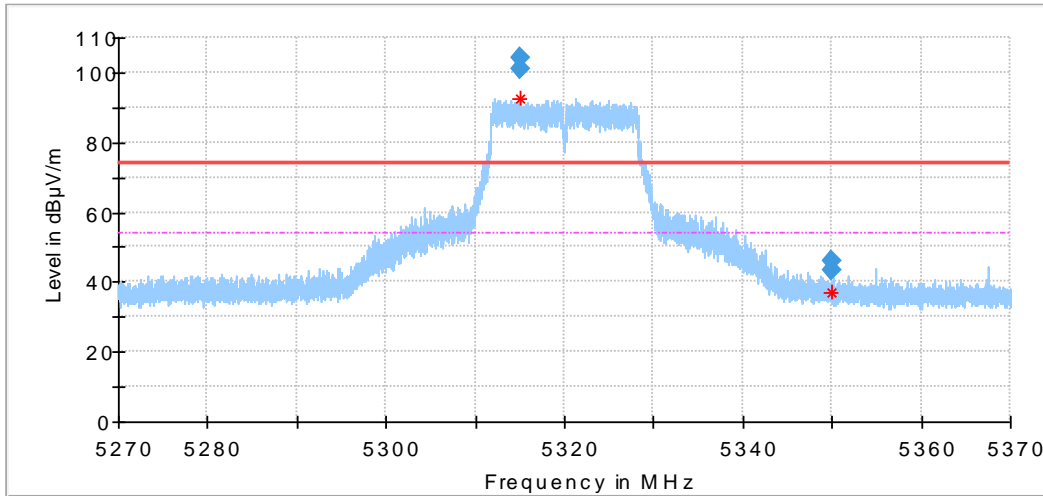


Frequency (MHz)	MaxPeak (dBµV/m)	MaxAV (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
5150.000000	41.35		74.00	12.65	154.0	H	173.0	2.9
5150.000000		43.65	54.00	30.35	---	H	---	2.9
5177.790000	106.80		74.00	-32.80	154.0	H	166.0	3.0
5177.790000		102.51	54.00	-48.51	---	H	---	3.0

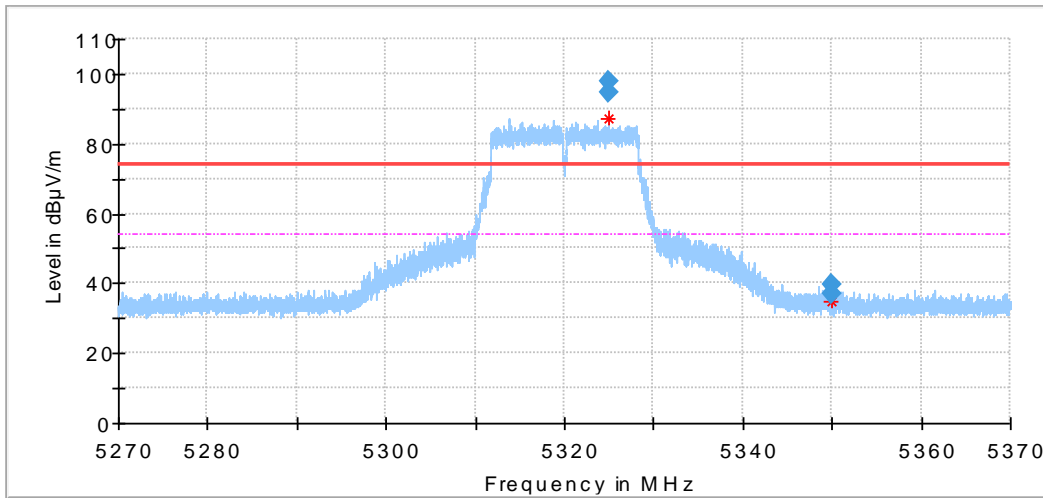


Frequency (MHz)	MaxPeak (dBµV/m)	MaxAV (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
5150.000000		36.68	54.00	37.32	154.0	V	29.0	3.0
5150.000000	34.68		74.00	19.32	154.0	V	29.0	3.0
5183.700000		94.38	54.00	-40.38	154.0	V	314.0	3.0
5183.700000	96.75		74.00	-22.75	154.0	V	314.0	3.0

802.11A Modulation 5320MHz Test Result

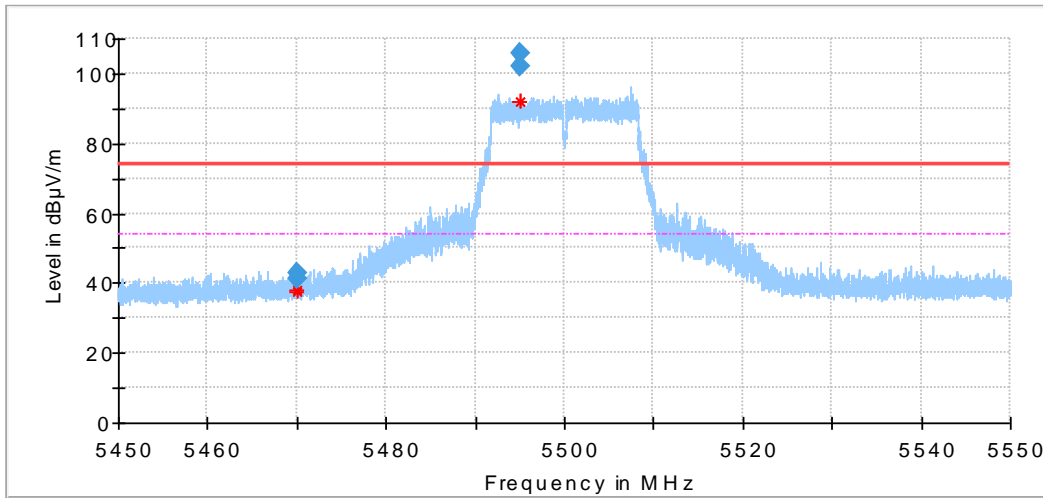


Frequency (MHz)	MaxPeak (dBµV/m)	MaxAV (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
5314.968750	104.36		74.00	-30.36	154.0	H	176.0	2.9
5314.971875		100.85	54.00	-46.85	154.0	H	176.0	2.9
5350.000000	46.21		74.00	27.79	154.0	H	0.0	2.9
5350.009375		43.59	54.00	10.41	154.0	H	0.0	2.9

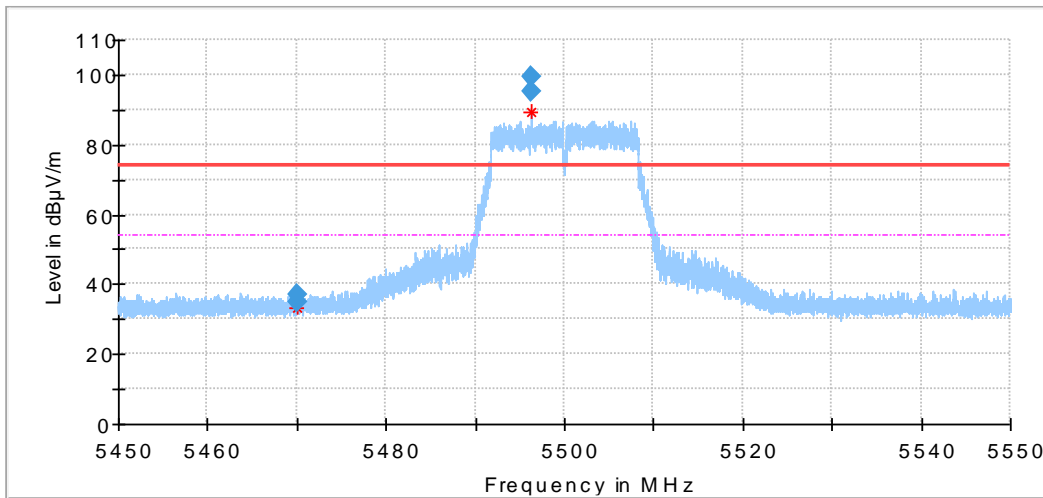


Frequency (MHz)	MaxPeak (dBµV/m)	MaxAV (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
5325.031250	97.72		74.00	-23.72	154.0	V	224.0	3.0
5325.034375		94.48	54.00	-40.48	154.0	V	224.0	3.0
5350.003125	39.89		74.00	34.11	154.0	V	180.0	3.0
5350.012500		37.19	54.00	16.81	154.0	V	180.0	3.0

802.11A Modulation 5500MHz Test Result

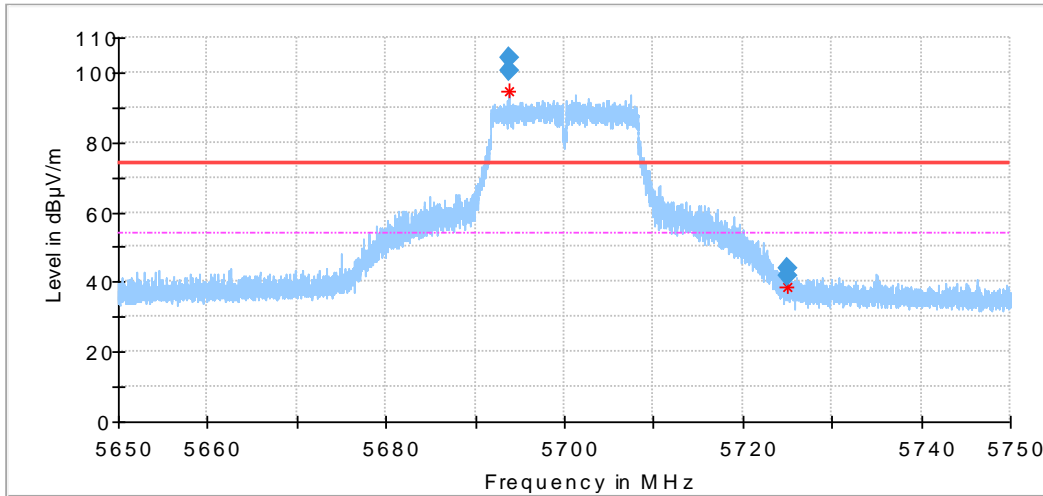


Frequency (MHz)	MaxPeak (dBµV/m)	MaxAV (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
5470.000000		42.81	54.00	31.19	154.0	H	176.0	2.8
5470.000000	41.05		74.00	12.95	154.0	H	176.0	2.8
5495.003125		105.85	74.00	-31.85	154.0	H	164.0	2.8
5495.015625	101.96		54.00	-47.96	154.0	H	164.0	2.8

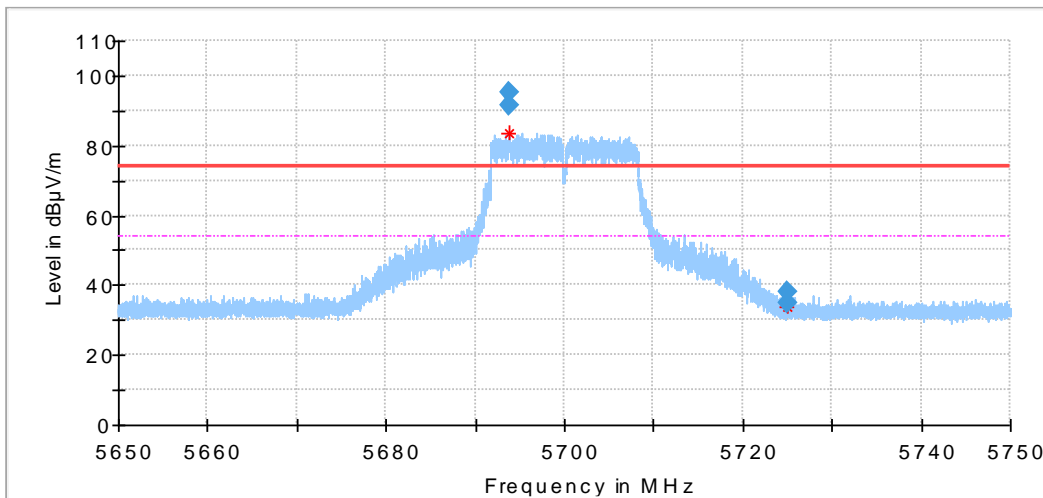


Frequency (MHz)	MaxPeak (dBµV/m)	MaxAV (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
5470.000000		37.05	54.00	36.95	154.0	V	54.0	2.8
5470.000000	35.12		74.00	18.88	154.0	V	54.0	2.8
5496.265625		99.17	74.00	-25.17	154.0	V	225.0	2.8
5496.268750	95.22		54.00	-41.22	154.0	V	225.0	2.8

802.11A Modulation 5700MHz Test Result

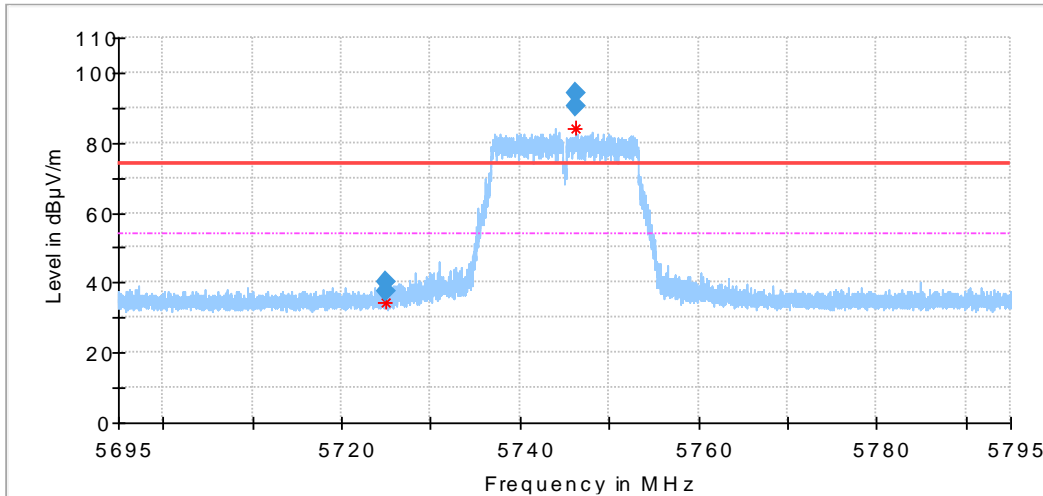


Frequency (MHz)	MaxPeak (dBµV/m)	MaxAV (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
5693.768750		100.65	54.00	-46.65	154.0	H	181.0	3.3
5693.768750	104.20		74.00	-30.20	154.0	H	181.0	3.3
5725.000000		43.89	54.00	30.11	154.0	H	149.0	3.2
5725.000000	42.02		74.00	11.98	154.0	H	149.0	3.2

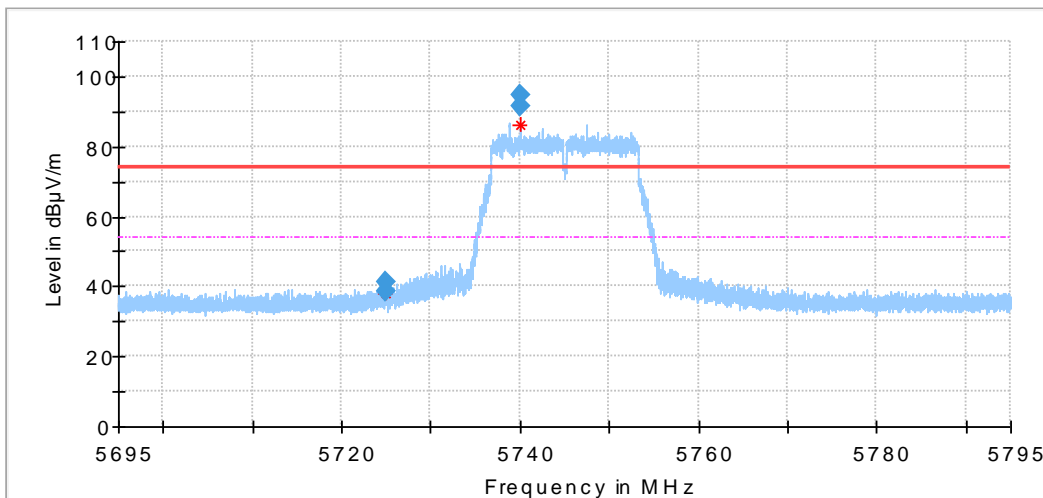


Frequency (MHz)	MaxPeak (dBµV/m)	MaxAV (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
5693.740625		91.25	54.00	-37.25	154.0	V	317.0	3.3
5693.740625	95.02		74.00	-21.02	154.0	V	317.0	3.3
5725.000000		37.98	54.00	36.02	154.0	V	317.0	3.3
5725.000000	35.07		74.00	18.93	154.0	V	317.0	3.3

802.11A Modulation 5745MHz Test Result



Frequency (MHz)	MaxPeak (dBµV/m)	MaxAV (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
5724.993750	40.10		74.00	33.90	154.0	H	204.0	3.2
5725.015625		37.50	54.00	16.50	154.0	H	2.0	3.2
5746.246875	94.00		74.00	-20.00	154.0	H	266.0	3.3
5746.253125		90.30	54.00	-36.30	154.0	H	266.0	3.3



Frequency (MHz)	MaxPeak (dBµV/m)	MaxAV (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
5724.993750	41.40		74.00	32.60	154.0	V	207.0	3.3
5724.996875		38.80	54.00	15.20	154.0	V	207.0	3.3
5739.975000	94.70		74.00	-20.70	154.0	V	221.0	3.3
5739.984375		91.70	54.00	-37.70	154.0	V	221.0	3.3