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SAMMI 삼미정보시스템(주) INFORMATION SYSTEMS CO.,LTD.

Dates of Tests : Oct 4~24,2011
Test Report S/N: LR500111110H
Test Site : LTA CO., LTD

CERTIFICATION OF COMPLIANCE

FCC ID. **RQKTITANT8**

APPLICANT **Sammi Information Systems Co., Ltd.**

Equipment Class	:	**Digital Transmission System (DTS)**
Manufacturing Description	:	**Industrial PC**
Manufacturer	:	**Sammi Information Systems Co.,Ltd.**
Model name	:	**TiTAN T8**
Test Device Serial No.	:	**Identical prototype**
Rule Part(s)	:	**FCC Part 15.247 Subpart C; ANSI C-63.4-2003**
Frequency Range	:	**2412MHz ~ 2462MHz for 802.11b/g/n**
	:	**5745MHz ~ 5825MHz for 802.11a/an**
Max. Output Power	:	**Max 15.32dBm - Conducted (802.11b)**
	:	**Max 14.19dBm - Conducted (802.11g)**
	:	**Max 19.11dBm - Conducted (802.11n_20MHz)**
	:	**Max 18.35dBm - Conducted (802.11n_40MHz)**
	:	**Max 15.51dBm - Conducted (802.11a)**
	:	**Max 15.98dBm - Conducted (802.11an_20MHz)**
	:	**Max 15.97dBm - Conducted (802.11an_40MHz)**
Data of issue	:	**October 25, 2011**

This test report is issued under the authority of:

Hyun-Chae You, Manager

The test was supervised by:

Ki-Hun Cho, Test Engineer

This test result only responds to the tested sample. It is not allowed to copy this report even partly without the allowance of the test laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

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NVLAP LAB Code.: 200723-0

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1. General information's

1-1 Test Performed

Company name	:	LTA Co., Ltd.
Address	:	243, Jubug-ri,Yangji-Myeon,Youngin-Si, Kyunggi-Do, Korea. 449-822
Web site	:	http://www.ltalab.com
E-mail	:	chahn@ltalab.com
Telephone	:	+82-31-323-6008
Facsimile		+82-31-323-6010

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the "General requirements for the competents of calibration and testing laboratory".

1-2 Accredited agencies

LTA Co., Ltd. is approved to perform EMC testing by the following agencies:

Agency	Country	Accreditation No.	Validity	Reference
NVLAP	U.S.A	200723-0	2012-09-30	ECT accredited Lab.
RRL	KOREA	KR0049	2013-04-24	EMC accredited Lab.
FCC	U.S.A	610755	2014-04-27	FCC filing
FCC	U.S.A	649054	2013-04-13	FCC CAB
VCCI	JAPAN	R2133(10m), C2307	2014-06-21	VCCI registration
VCCI	JAPAN	T-2009	2013-12-23	VCCI registration
IC	CANADA	IC5799	2012-05-14	IC filing

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2. Information's about test item

2-1 Client & Manufacturer

Company name	:	Sammi Information Systems Co., Ltd.
Address	:	11F Kolon Aston Bldg, 505-14, Gasan-dong,Guemcheon-Gu, Seoul,153-803 KOREA
Tel / Fax	:	+82 2 790-5505/ +82 2 797-9206

2-2 Equipment Under Test (EUT)

Trade name	:	Industrial PC
FCC ID	:	RQKTITANT8
Model name	:	TiTAN T8
Serial number	:	Identical prototype
Date of receipt	:	September 19, 2011
EUT condition	:	Pre-production, not damaged
Antenna type	:	Internal PiFA antenna Max gain -3dBi gain
Frequency Range	:	2412MHz ~ 2462MHz for 802.11b/g/n
	:	5745MHz ~ 5825MHz for 802.11a/an
RF output power	:	Max 15.40dBm - Conducted (802.11b)
	:	Max 14.19dBm - Conducted (802.11g)
	:	Max 19.11dBm - Conducted (802.11n_20MHz)
	:	Max 18.35dBm - Conducted (802.11n_40MHz)
	:	Max 15.51dBm - Conducted (802.11a)
	:	Max 15.98dBm - Conducted (802.11an_20MHz)
	:	Max 15.97dBm - Conducted (802.11an_40MHz)
Number of channels	:	13 for 802.11b & 802.11g & 802.11n_20MHz
	:	11 for 802.11n_40MHz
	:	5 for 802.11a & 802.11an_20MHz
	:	2 for 802.11an_40MHz
Type of Modulation	:	CCK, DQPSK, DBPSK for DSSS
		64QAM, 16QAM, QPSK, BPSK for OFDM
Transfer Rate	:	11/5.5/2/1Mbps for 802.11b
	:	54/48/36/24/18/12/9/6Mbps for 802.11g &802.11a
	:	Up to 300.0Mbps
Power Source	:	7.4 Vdc by Battery (Li-Polymer Battery)
Power for Adaptor.	:	Input: 100-240VAC, 1.5A Output: 12.0VDC, 5A
Firmware Version	:	V1.0

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2-3 Tested frequency

	LOW	MID	HIGH
Frequency (MHz) for 802.11b/g/n20	2412	2437	2462
Frequency (MHz) for 802.11n40	2422	2437	2452
Frequency (MHz) for 802.11a/an20	5745	5785	5825
Frequency (MHz) for 802.11an40	5755	-	5795

2-4 Description of Test modes

For 2.4GHz:

11 channels are provided for 802.11b, 802.11g and 802.11n_20MHz

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

7 channels are provided for 802.11n_40MHz

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

For 5.0GHz:

5 channels are provided for 802.11a and 802.11an_20MHz

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

2 channels are provided for 802.11an_40MHz

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

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3. Test Report

3.1 Summary of tests

FCC Part Section(s)	Parameter	Limit	Test Condition	Status (note 1)
15.247(a)	6 dB Bandwidth	> 500kHz	Conducted	C
15.247(b)	Transmitter Peak Output Power	< 1Watt		C
15.247(d)	Transmitter Power Spectral Density	< 8dBm @ 3kHz		C
15.247(d)	Band Edge & Spurious	> 20 dBc		C
15.209	Field Strength of Harmonics	Emission	Radiated	C
15.207	AC Conducted Emissions	Emissions	Conducted	C
15.203	Antenna requirement	-	-	C

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

Note 2: The data in this test report are traceable to the national or international standards.

Note 3: This device is only operated by DC

→ Antenna Requirement
The Sammi Information Systems Co., Ltd. FCC ID: RQKTiTANT8 unit complies with the requirement of §15.203.
The Antenna type is the Internal PiFA antenna
The sample was tested according to the following specification:
FCC Parts 15.247; ANSI C-63.4-2003

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3.2 Technical Characteristics Test

3.2.1 6 dB Bandwidth

Procedure:

The bandwidth at 6dB below the highest in-band spectral density was measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate frequencies.

After the trace being stable, Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 6dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 100 kHz

VBW = 300 kHz (VBW ≥ RBW)

Trace = max hold

Span = 30 MHz

Sweep = auto

Detector function = peak

Measurement Data: 2.4GHz Band

Mode	Frequency (MHz)	Channel No.	Test Results	
			Measured Bandwidth (MHz)	Result
802.11b	2412	1	10.51	Complies
	2437	6	11.25	Complies
	2462	11	11.20	Complies
802.11g	2412	1	16.54	Complies
	2437	6	16.59	Complies
	2462	11	16.59	Complies
802.11n _20MHz	2412	1	17.76	Complies
	2437	6	17.71	Complies
	2462	11	17.76	Complies
802.11n _40MHz	2422	3	36.30	Complies
	2437	6	36.30	Complies
	2452	9	36.21	Complies

- See next pages for actual measured spectrum plots.

Minimum Standard:

6 dB Bandwidth > 500kHz

Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

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Measurement Data: 5.0GHz Band

Mode	Frequency (MHz)	Channel No.	Test Results	
			Measured Bandwidth (MHz)	Result
802.11a	5745	149	16.67	Complies
	5785	157	16.67	Complies
	5825	165	16.59	Complies
802.11an _20MHz	5745	149	17.76	Complies
	5785	157	17.76	Complies
	5825	165	17.71	Complies
802.11an _40MHz	5755	151	36.47	Complies
	5795	159	36.56	Complies

- See next pages for actual measured spectrum plots.

Minimum Standard:

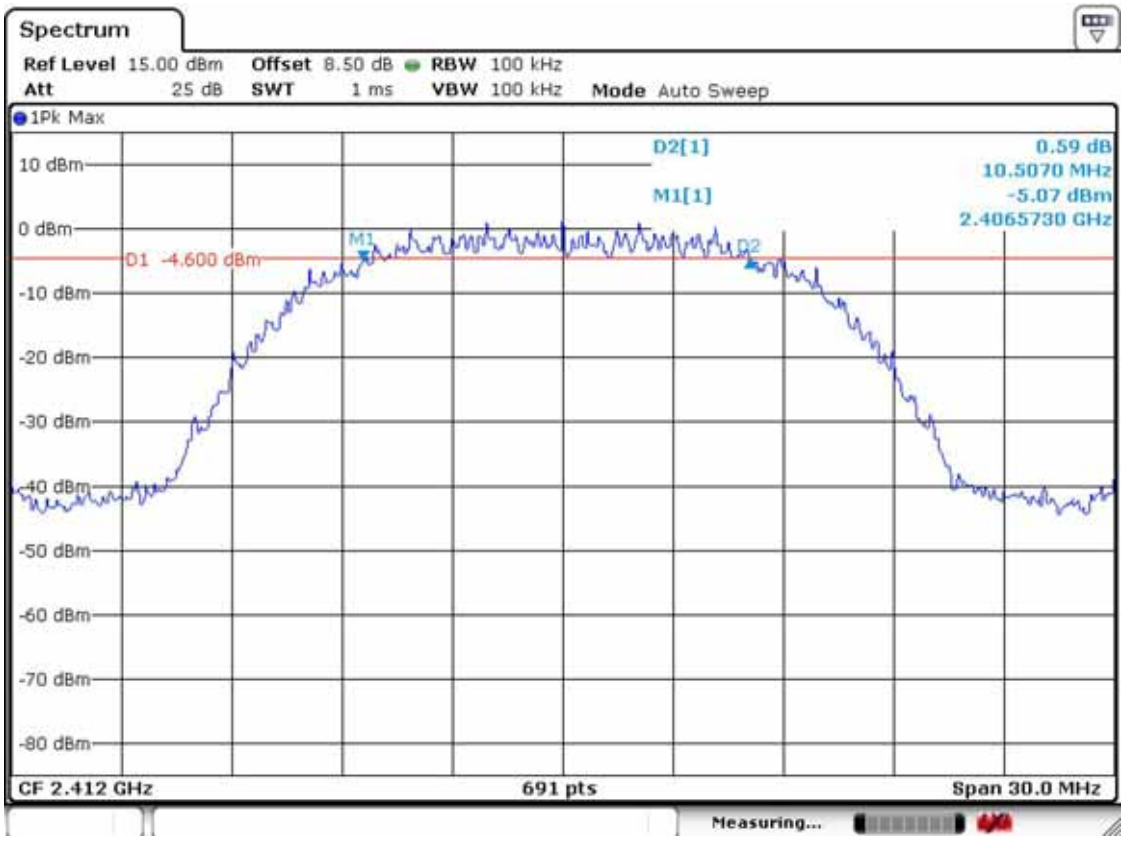
6 dB Bandwidth > 500kHz

Measurement Setup

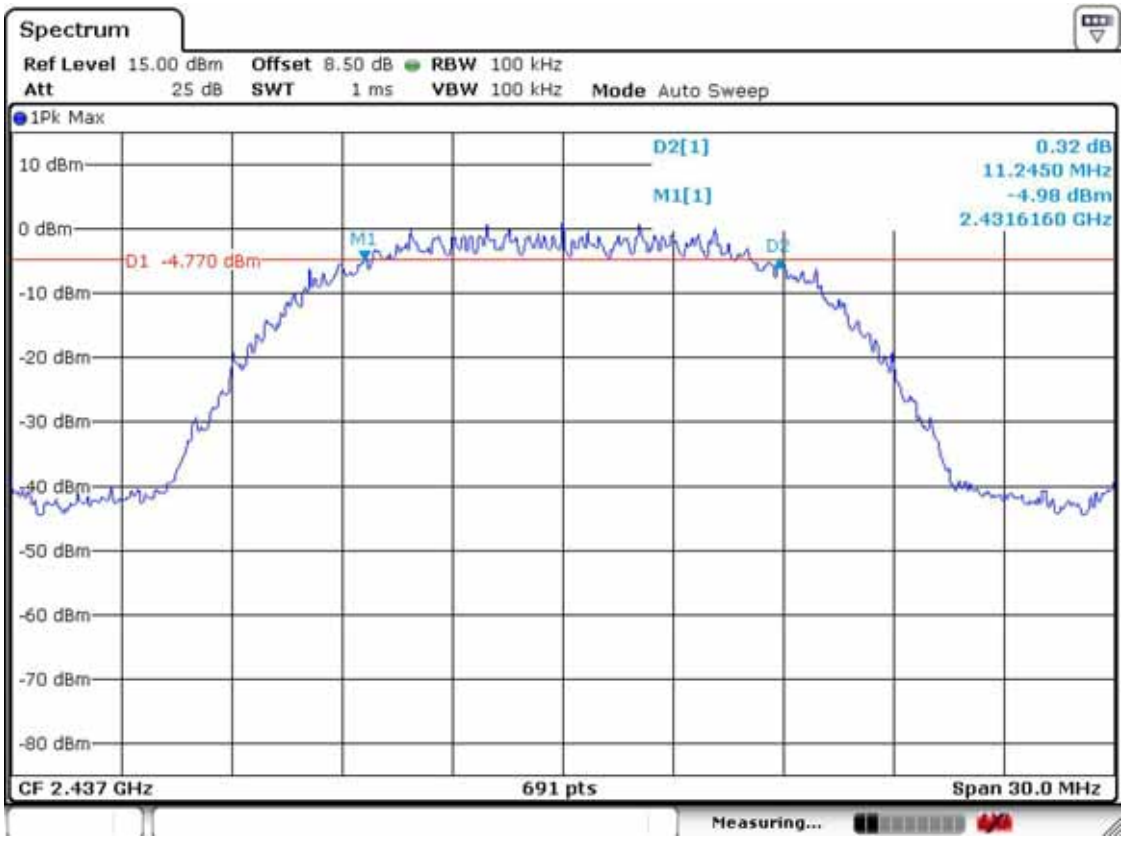
Same as the Chapter 3.2.1 (Figure 1)

802.11b

CH 1



CH 6



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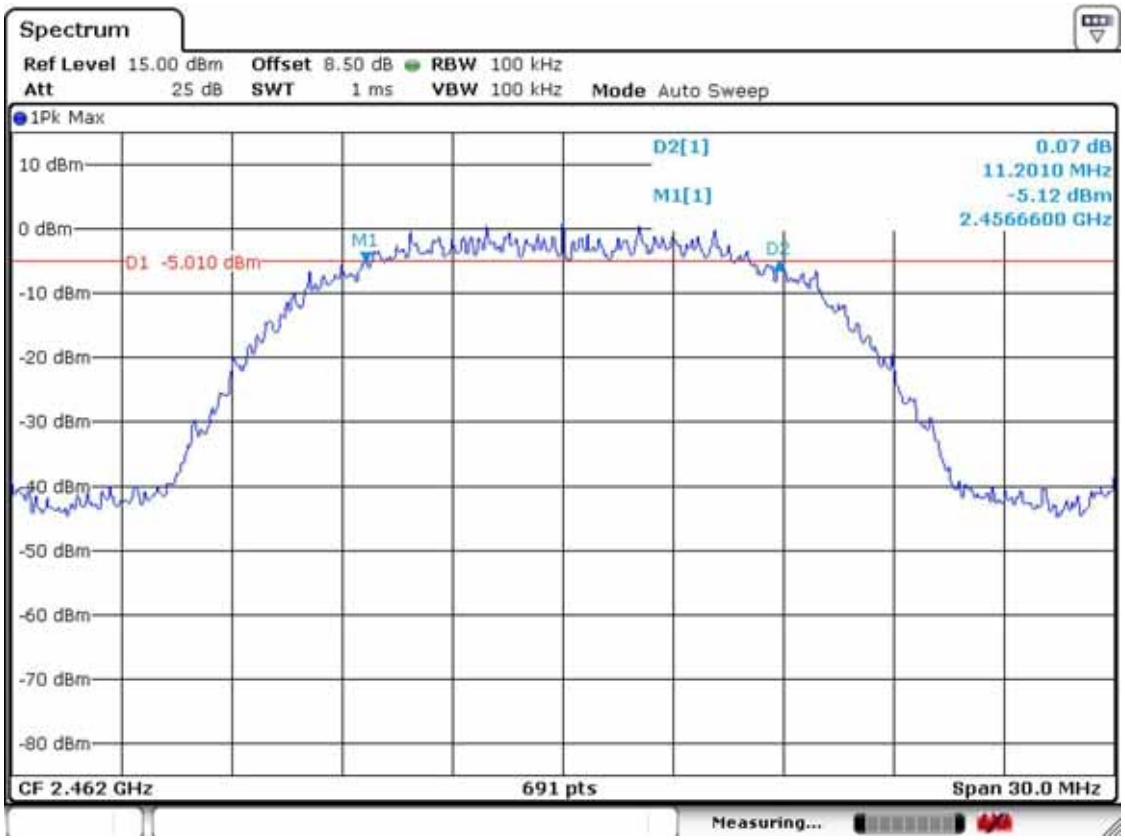
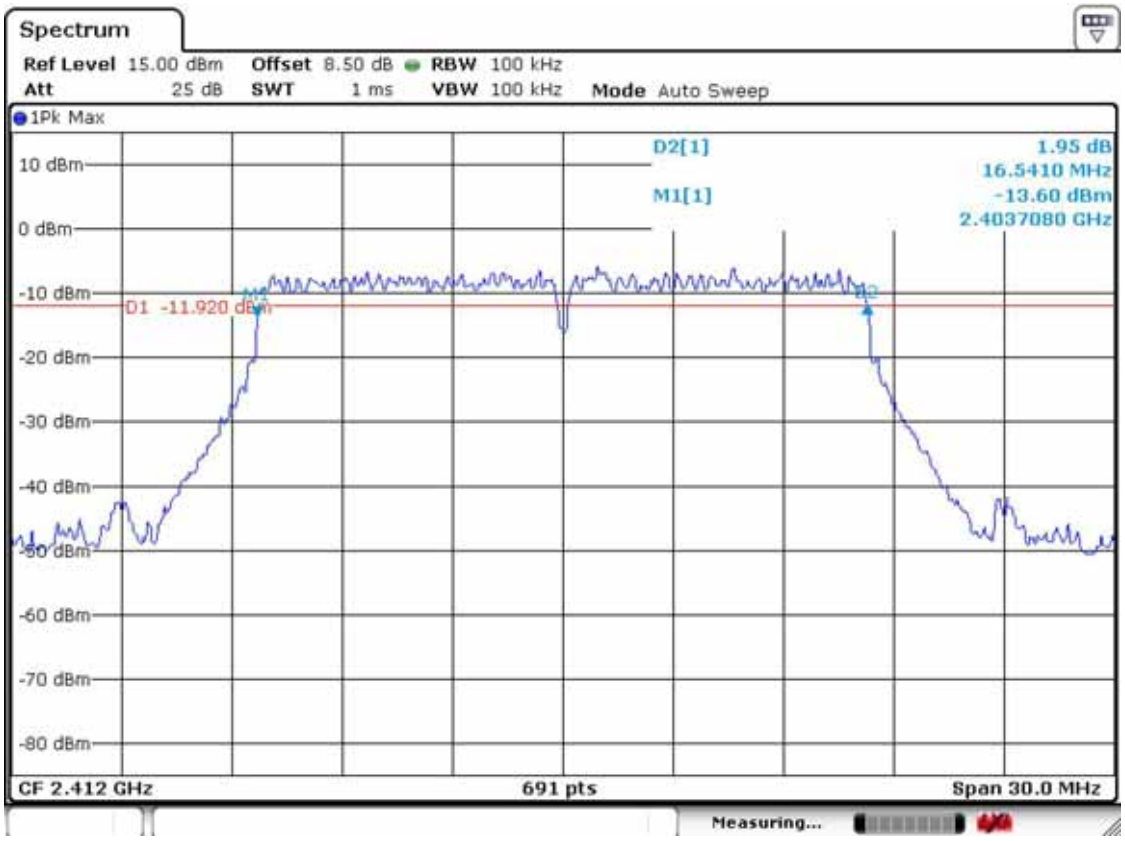
CH 11


Spectrum
Ref Level 15.00 dBm Offset 8.50 dB RBW 100 kHz
Att 25 dB SWT 1 ms VBW 100 kHz Mode Auto Sweep
1Pk Max
D2[1] 0.07 dB
11.2010 MHz
M1[1] -5.12 dBm
2.4566600 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
D1 -5.010 dBm
M1
D2
CF 2.462 GHz
691 pts
Span 30.0 MHz
Measuring...

802.11g

CH 1



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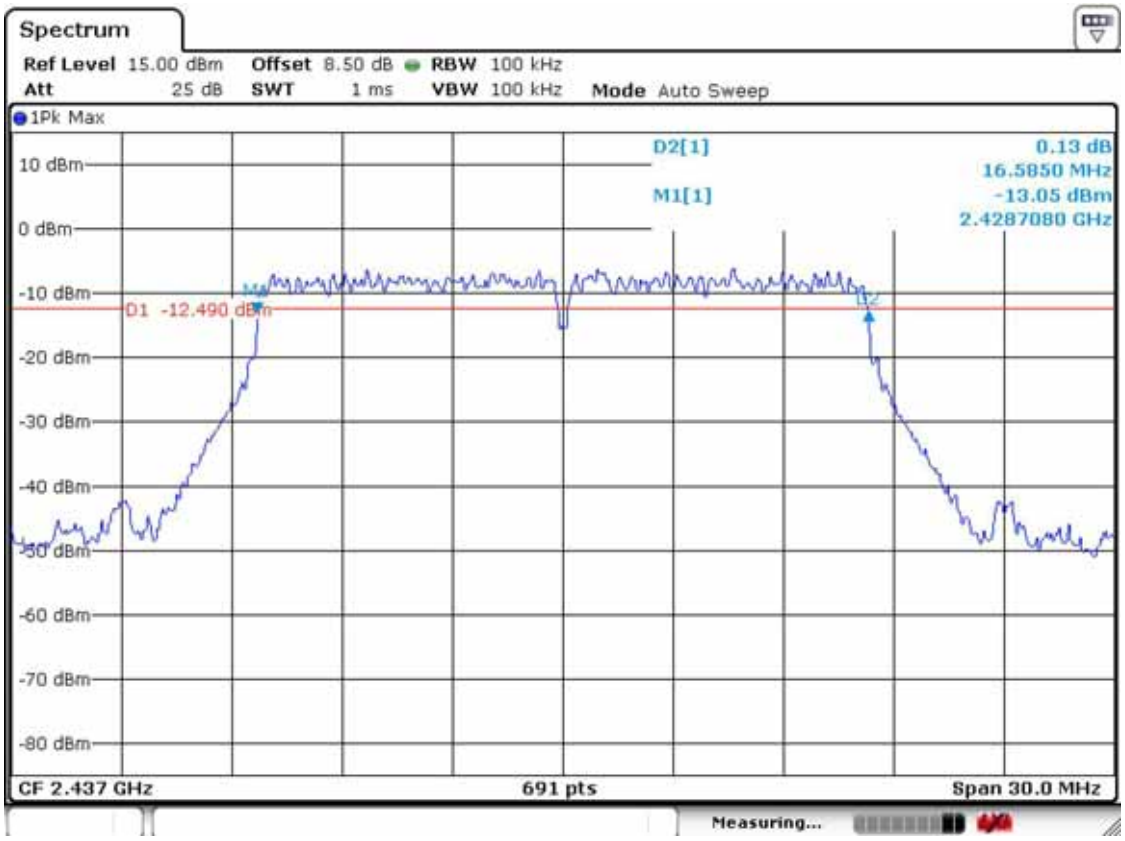

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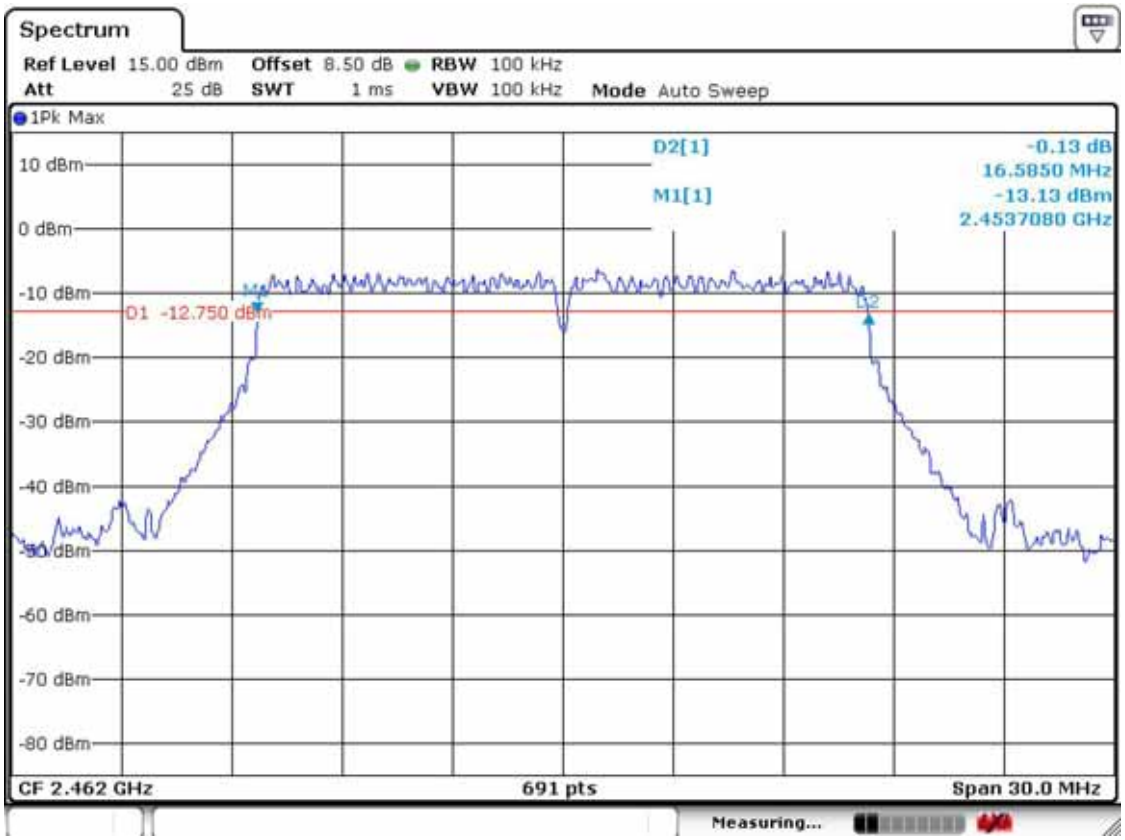
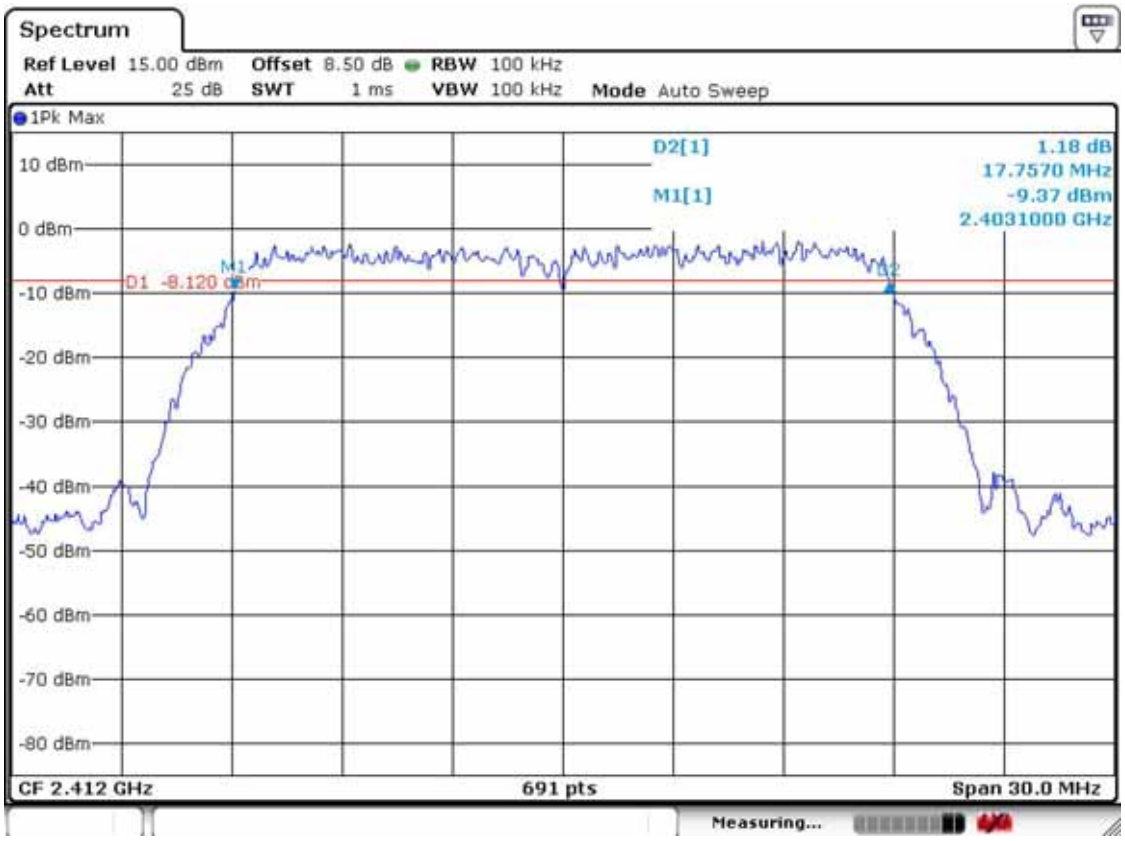
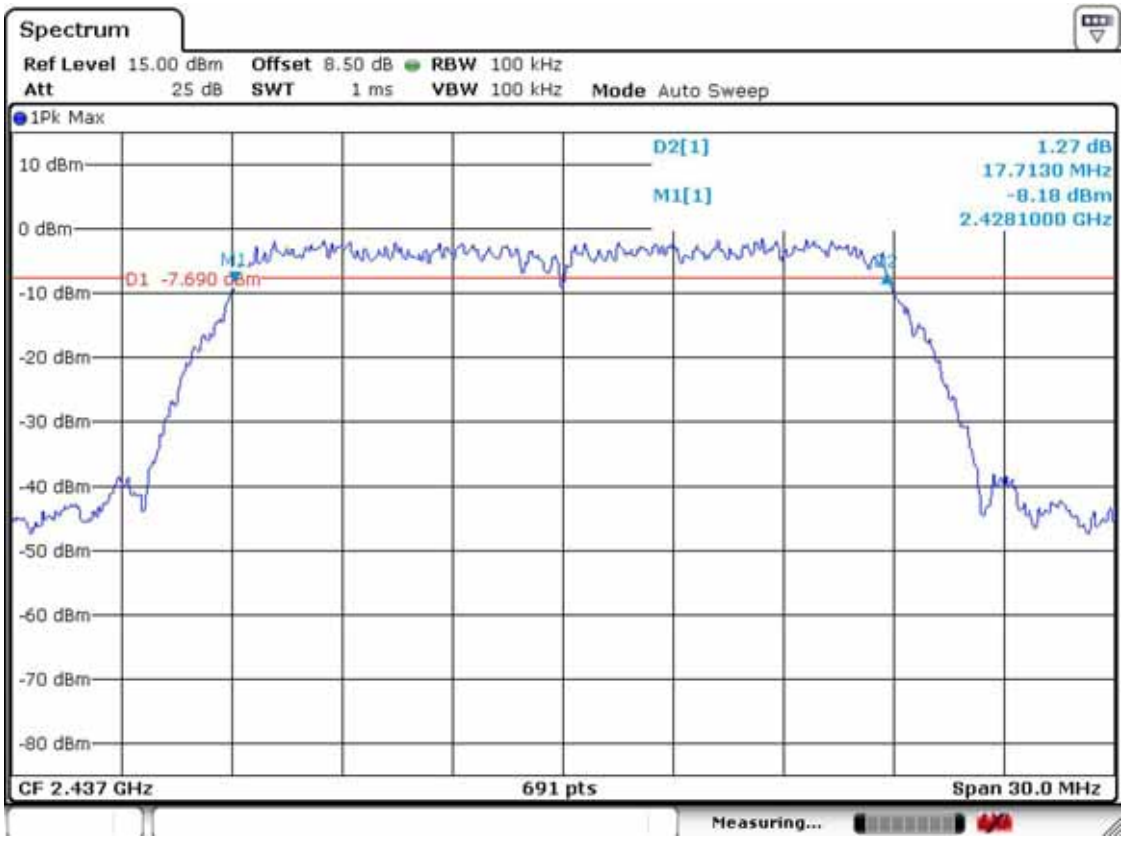
CH 11


Spectrum
Ref Level 15.00 dBm Offset 8.50 dB RBW 100 kHz
Att 25 dB SWT 1 ms VBW 100 kHz Mode Auto Sweep
1Pk Max
D2[1] -0.13 dB
16.5850 MHz
M1[1] -13.13 dBm
2.4537080 GHz
10 dBm
0 dBm
-10 dBm
D1 -12.750 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.462 GHz
691 pts
Span 30.0 MHz
Measuring...

802.11n_20MHz
CH 1



CH 6



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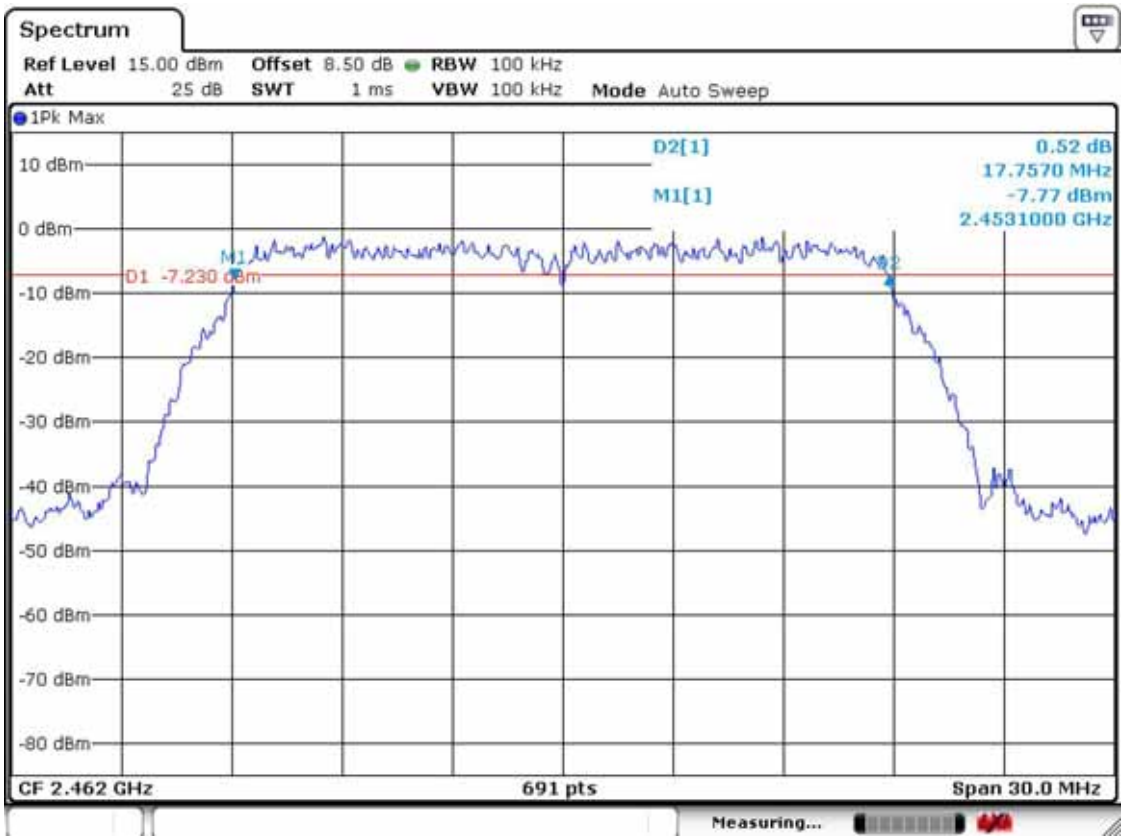
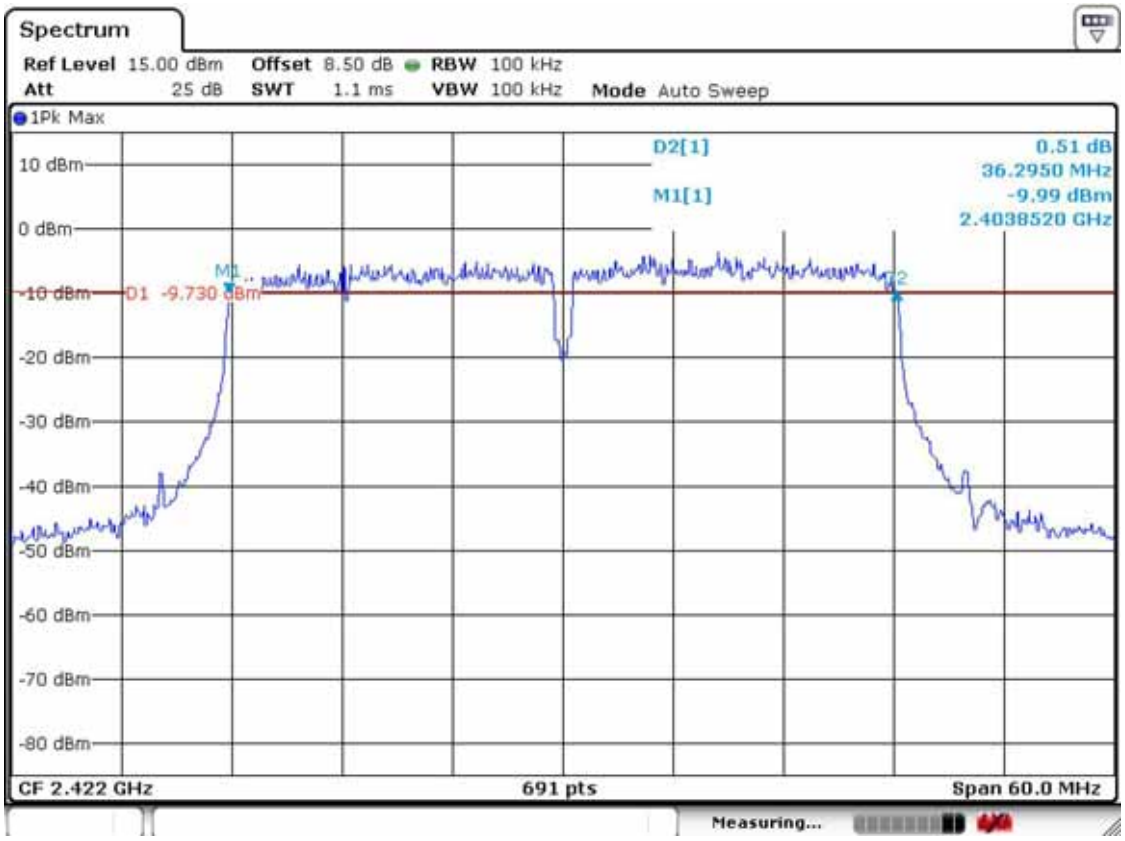
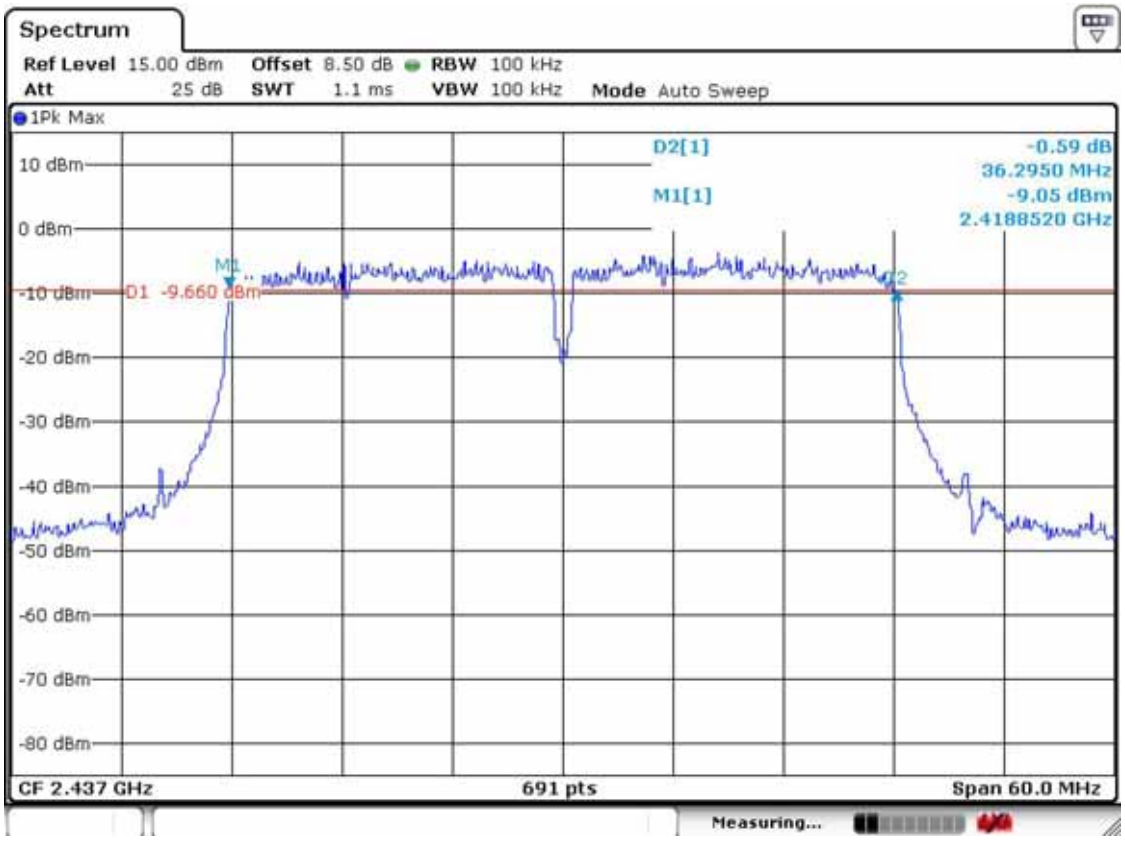
CH 11


Spectrum
Ref Level 15.00 dBm Offset 8.50 dB RBW 100 kHz
Att 25 dB SWT 1 ms VBW 100 kHz Mode Auto Sweep
1Pk Max
D2[1] 0.52 dB
17.7570 MHz
M1[1] -7.77 dBm
2.4531000 GHz
D1 -7.230 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.462 GHz
691 pts
Span 30.0 MHz
Measuring...

802.11n_40MHz
CH 3



CH 6



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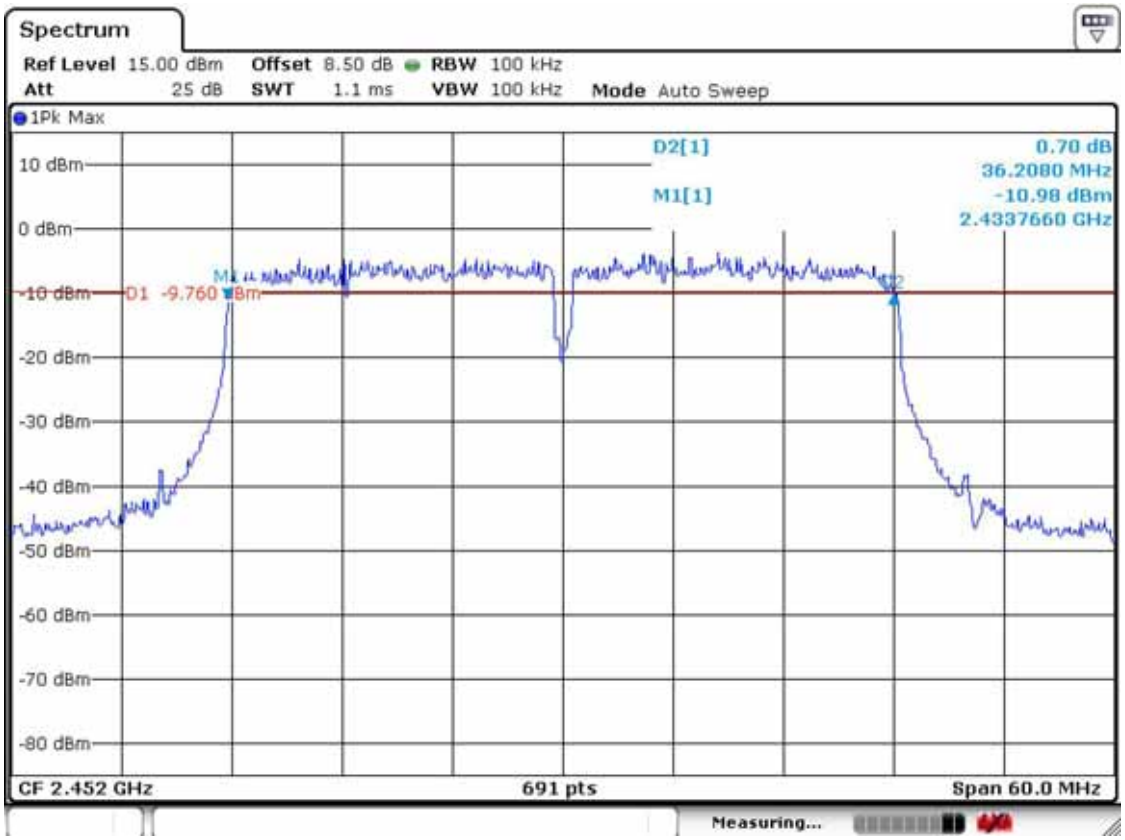
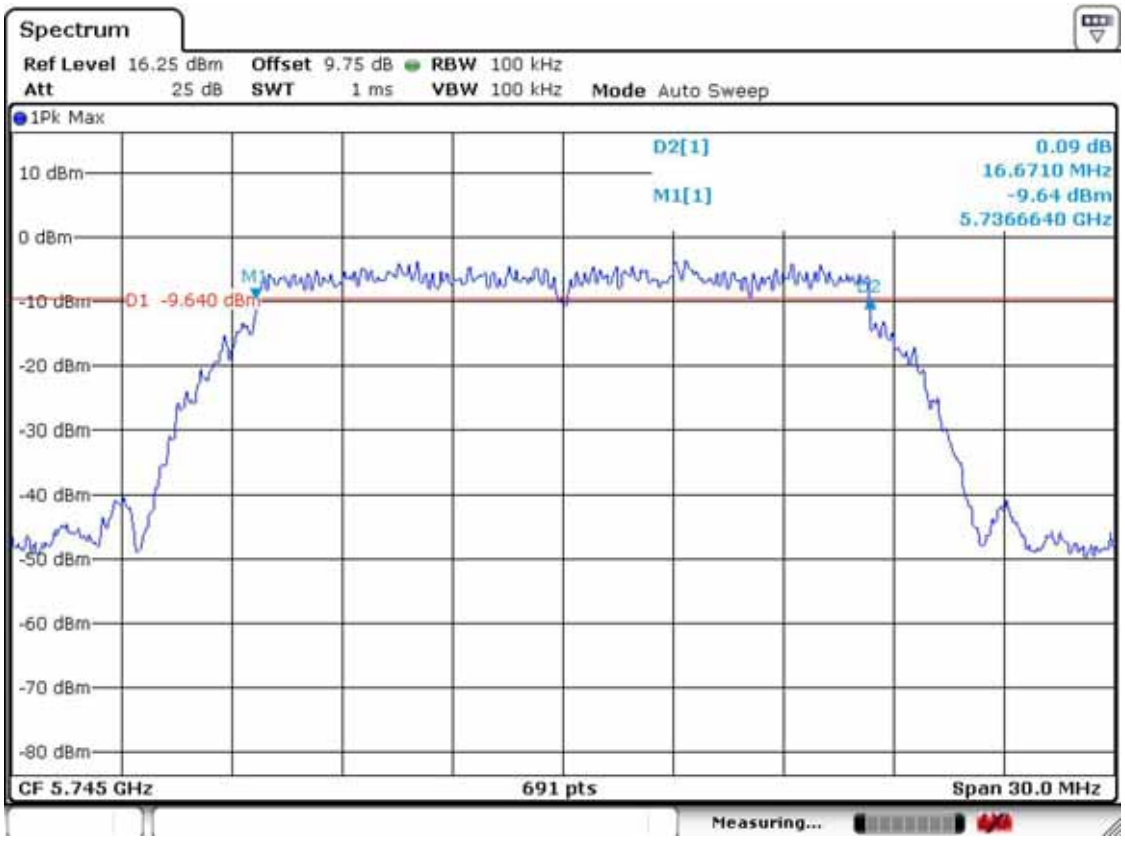
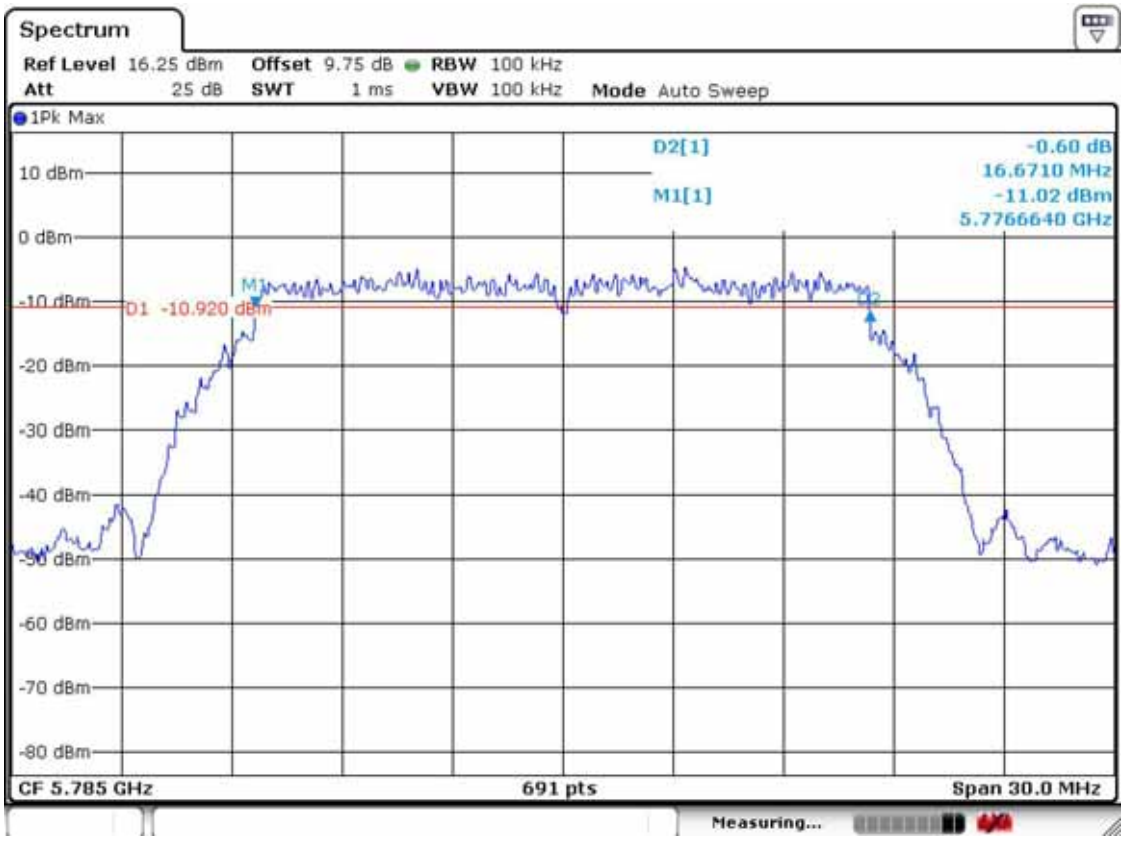
CH 9


Spectrum
Ref Level 15.00 dBm Offset 8.50 dB RBW 100 kHz
Att 25 dB SWT 1.1 ms VBW 100 kHz Mode Auto Sweep
1Pk Max
D2[1] 0.70 dB
36.2080 MHz
M1[1] -10.98 dBm
2.4337660 GHz
10 dBm
0 dBm
-10 dBm
D1 -9.760 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.452 GHz
691 pts
Span 60.0 MHz
Measuring...

802.11a
CH 149



CH 157



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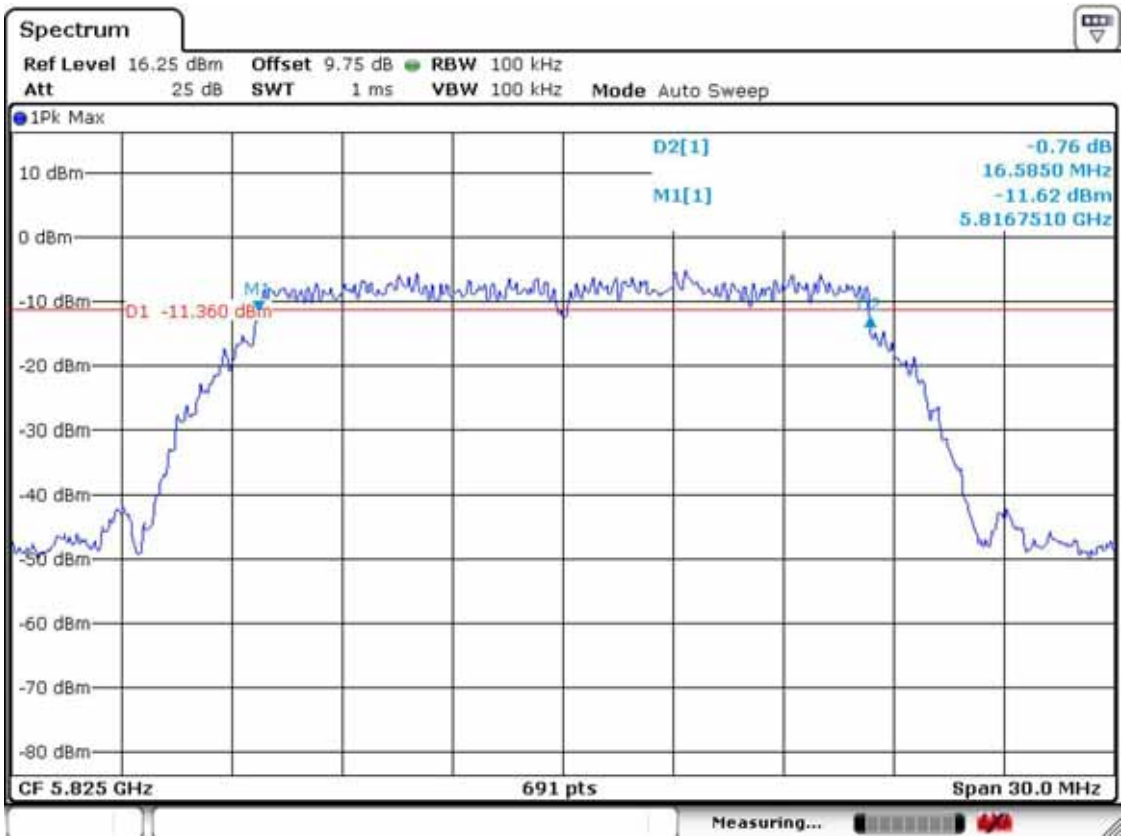
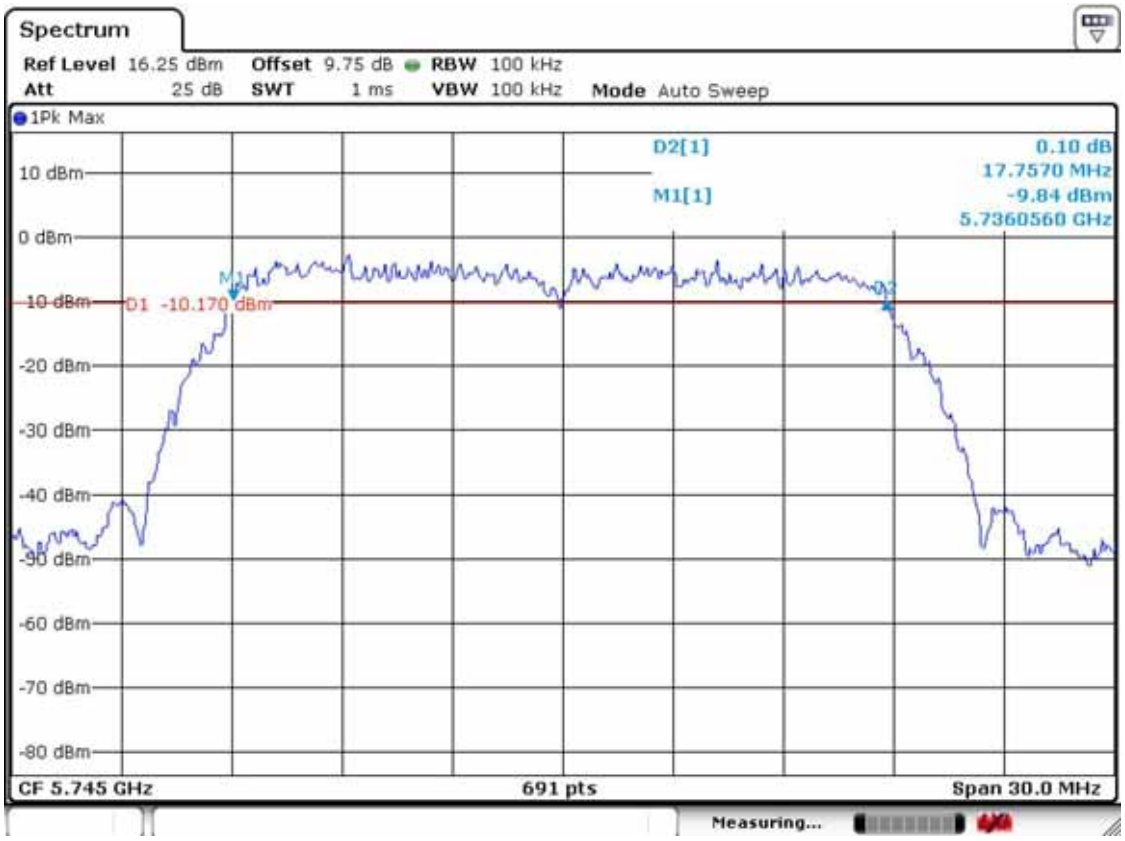
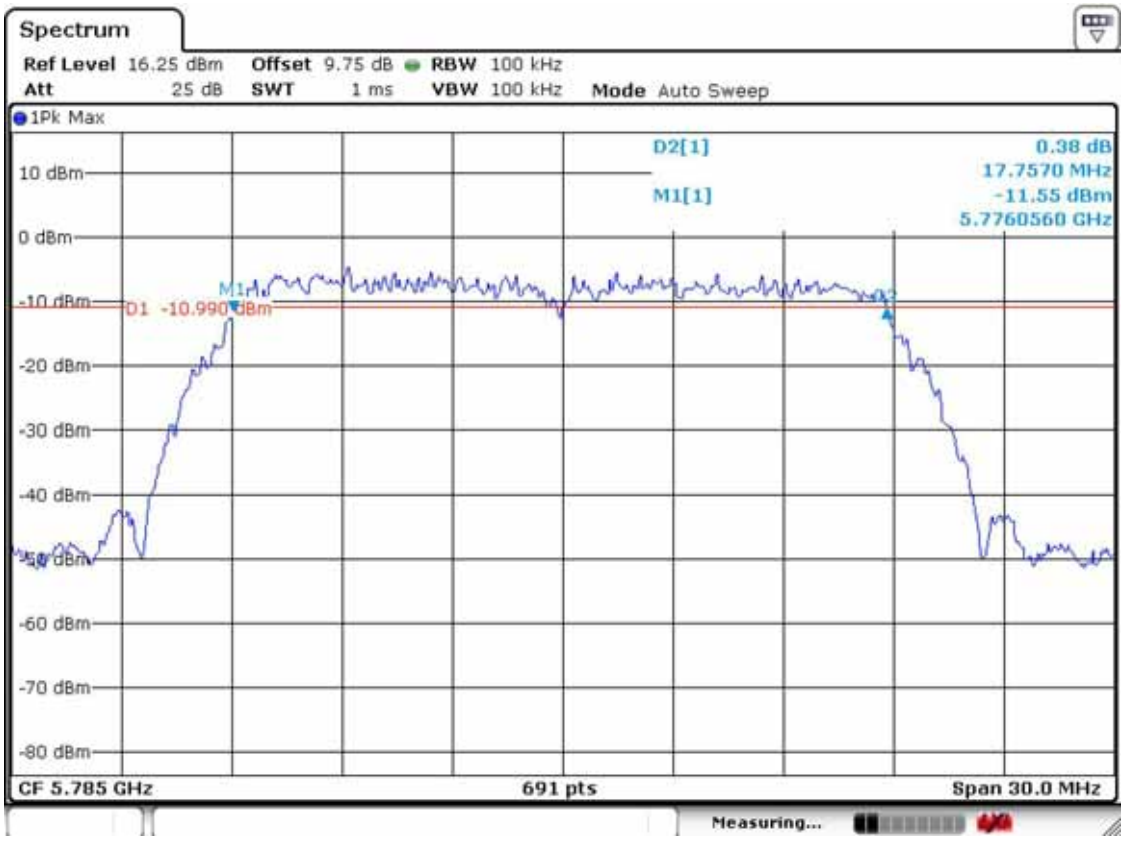
CH 165


Spectrum
Ref Level 16.25 dBm Offset 9.75 dB RBW 100 kHz
Att 25 dB SWT 1 ms VBW 100 kHz Mode Auto Sweep
1Pk Max
D2[1] -0.76 dB
16.5850 MHz
M1[1] -11.62 dBm
5.8167510 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
D1 -11.360 dBm
CF 5.825 GHz
691 pts
Span 30.0 MHz
Measuring...

802.11an_20MHz
CH 149



CH 157



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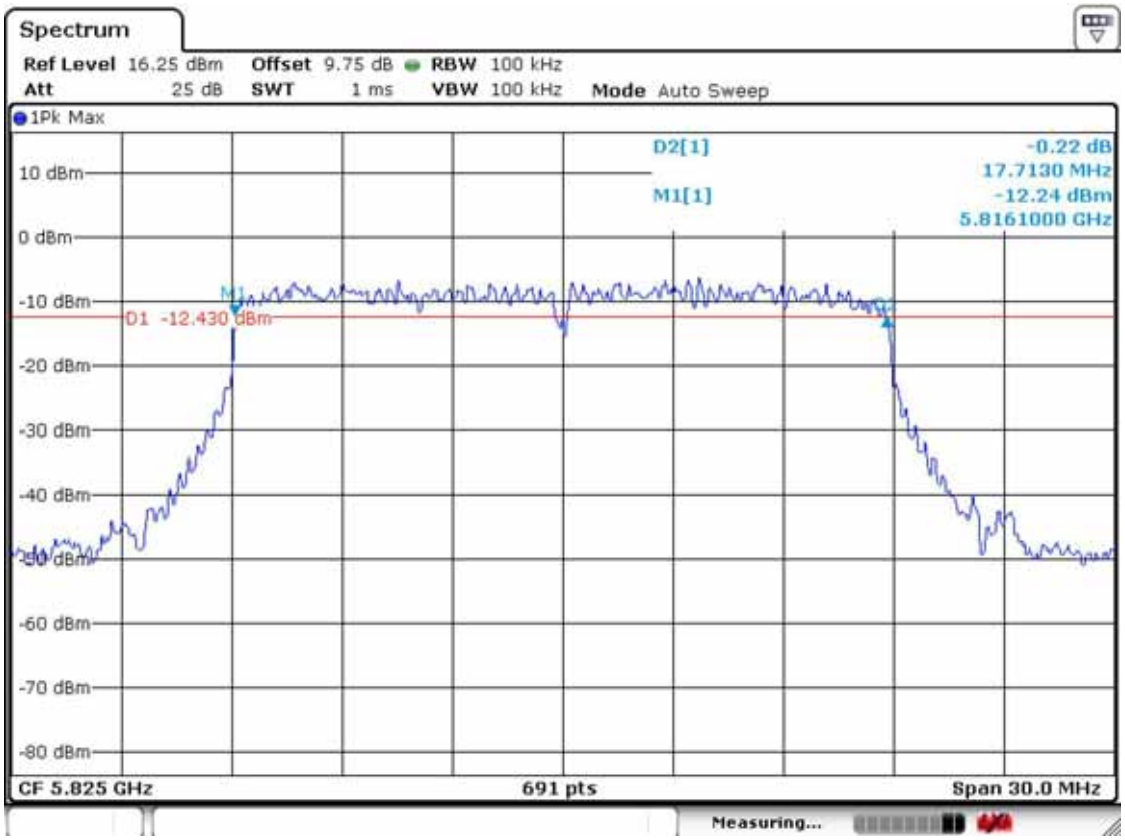
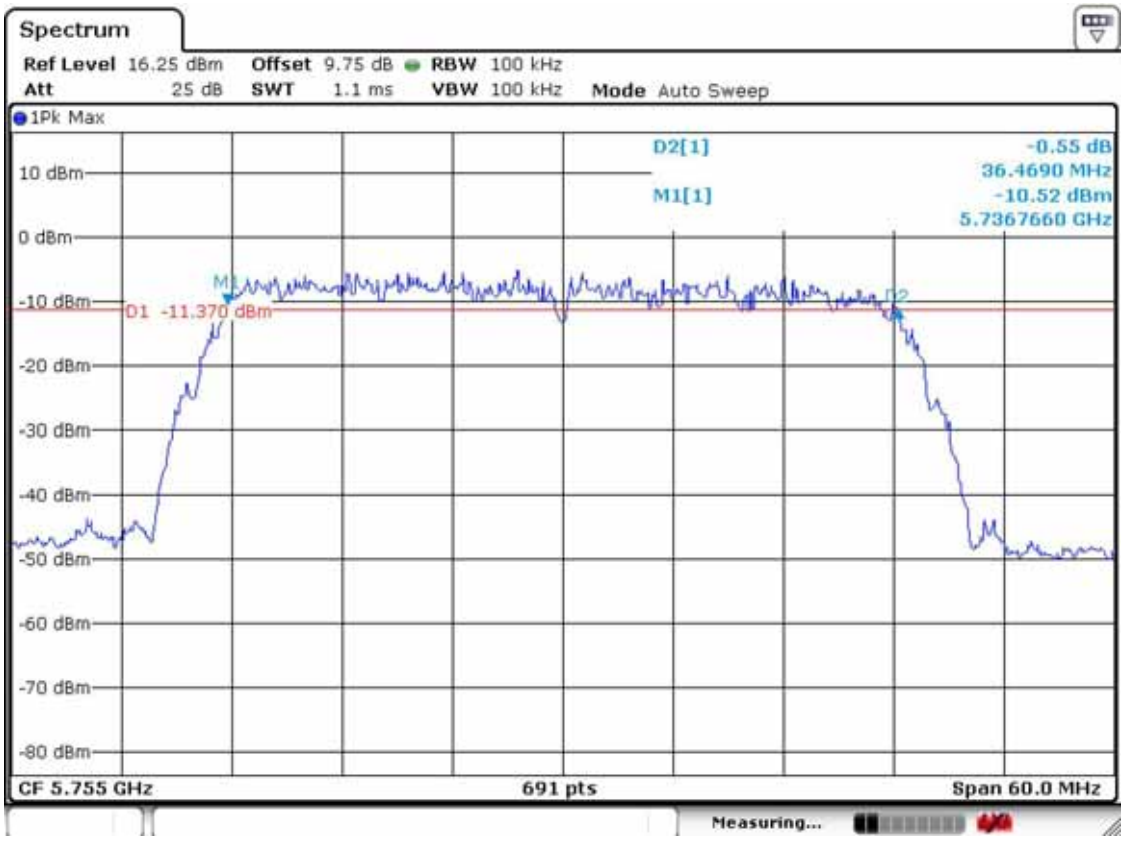
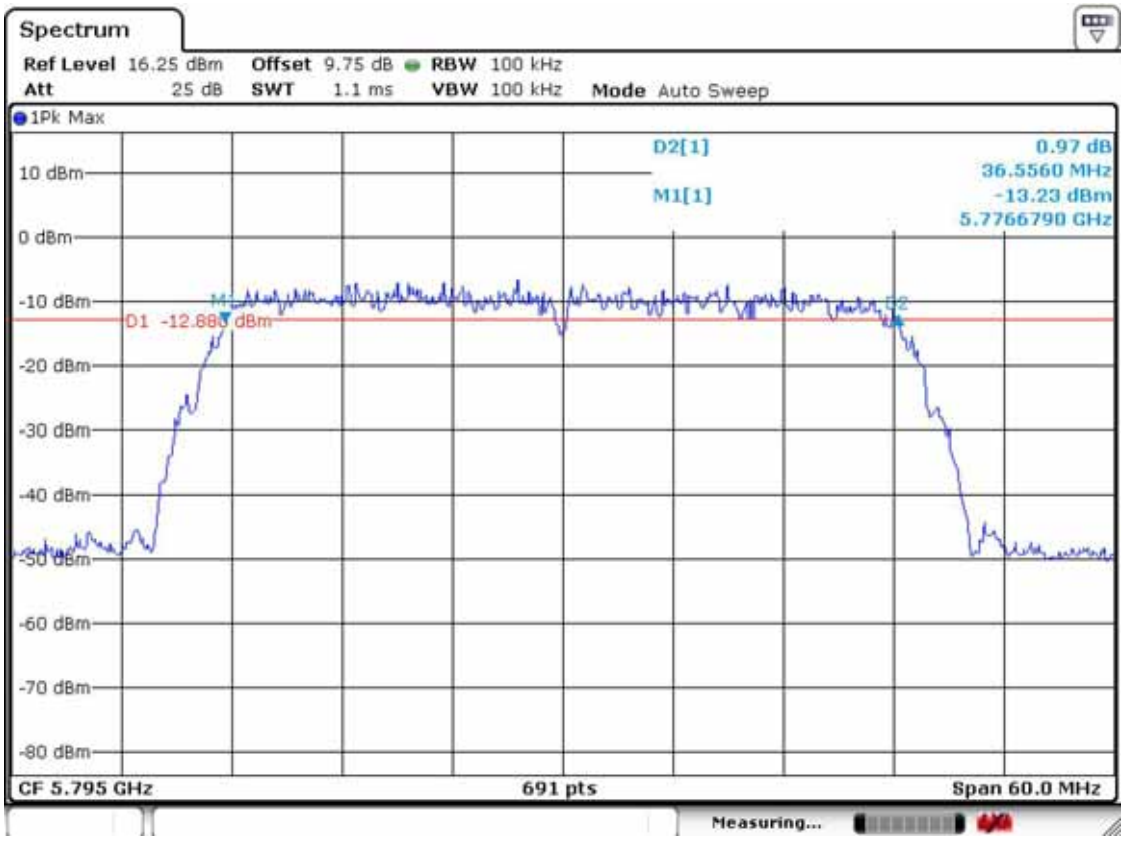
CH 165


Spectrum
Ref Level 16.25 dBm Offset 9.75 dB RBW 100 kHz
Att 25 dB SWT 1 ms VBW 100 kHz Mode Auto Sweep
1Pk Max
D2[1] -0.22 dB
17.7130 MHz
M1[1] -12.24 dBm
5.8161000 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
D1 -12.430 dBm
CF 5.825 GHz
691 pts
Span 30.0 MHz
Measuring...

802.11an_40MHz
CH 151



CH 159



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3.2.2 Peak Output Power Measurement

Procedure:

The maximum peak output power was measured with the spectrum analyzer connected to the antenna output of the EUT. The spectrum analyzer's internal channel power integration function is used to integrate the power over a bandwidth greater than or equal to the 99% bandwidth. The EUT was operating in transmit mode at the appropriate center frequency.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 1MHz Span = auto

VBW = 3MHz (VBW ≥ RBW) Sweep = auto

Detector function = peak

Measurement Data: 2.4GHz Band

Mode	Frequency (MHz)	Channel No.	Test Results	
			Measured Bandwidth (MHz)	Result
802.11b	2412	1	15.31	Complies
	2437	6	15.40	Complies
	2462	11	15.32	Complies
802.11g	2412	1	14.01	Complies
	2437	6	13.91	Complies
	2462	11	14.19	Complies
802.11n _20MHz	2412	1	17.95	Complies
	2437	6	18.83	Complies
	2462	11	19.11	Complies
802.11n _40MHz	2422	3	17.59	Complies
	2437	6	18.09	Complies
	2452	9	18.35	Complies

Measurement Data: 5.0GHz Band

Mode	Frequency (MHz)	Channel No.	Test Results	
			Measured Bandwidth (MHz)	Result
802.11a	5745	149	15.51	Complies
	5785	157	14.44	Complies
	5825	165	13.87	Complies
802.11an _20MHz	5745	149	15.98	Complies
	5785	157	14.37	Complies
	5825	165	13.68	Complies
802.11an _40MHz	5755	151	15.97	Complies
	5795	159	14.62	Complies

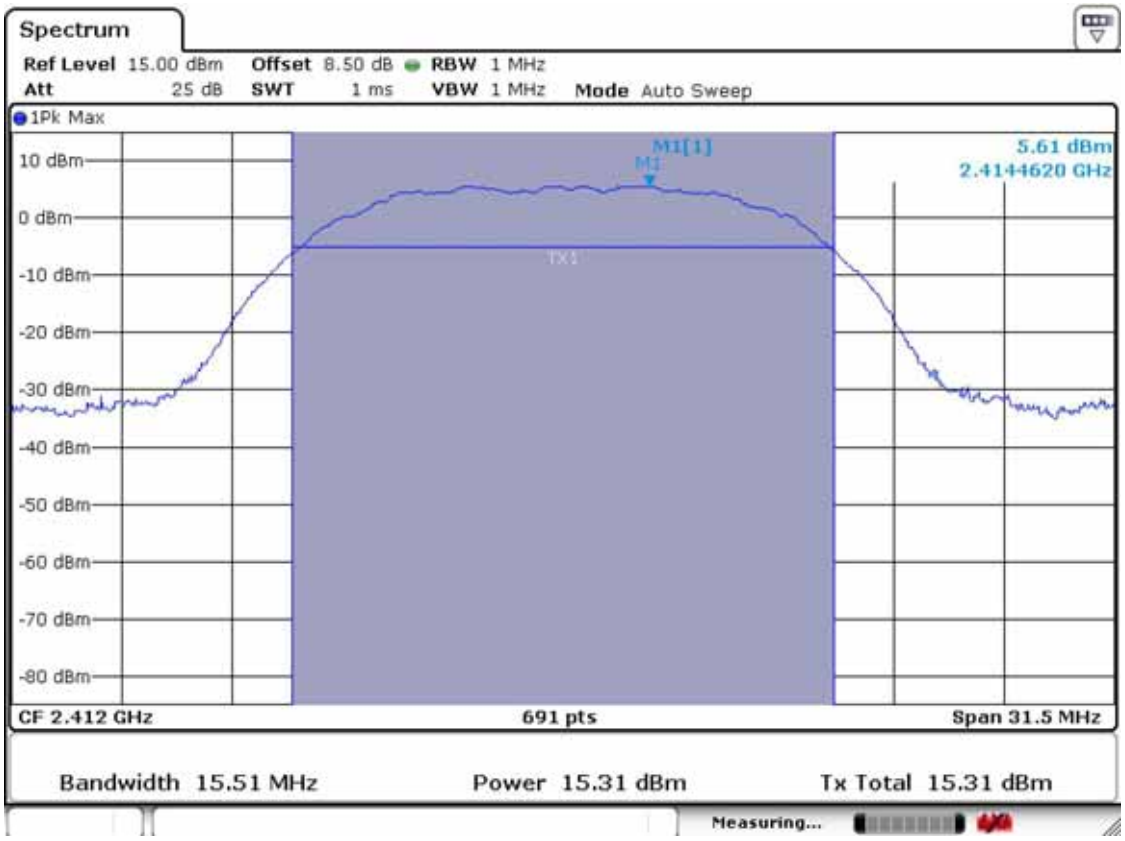
- See next pages for actual measured spectrum plots.

Minimum Standard:

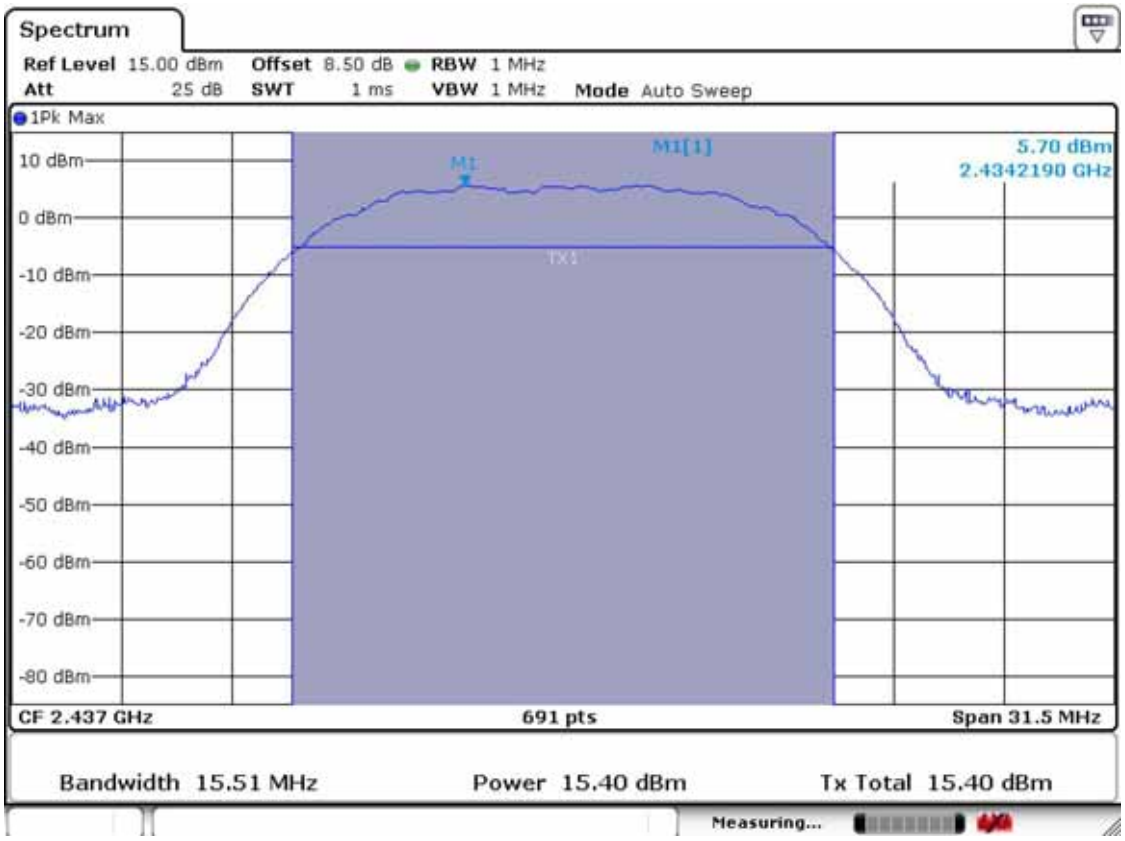
Peak output power	< 1W

802.11b

CH 1



CH 6



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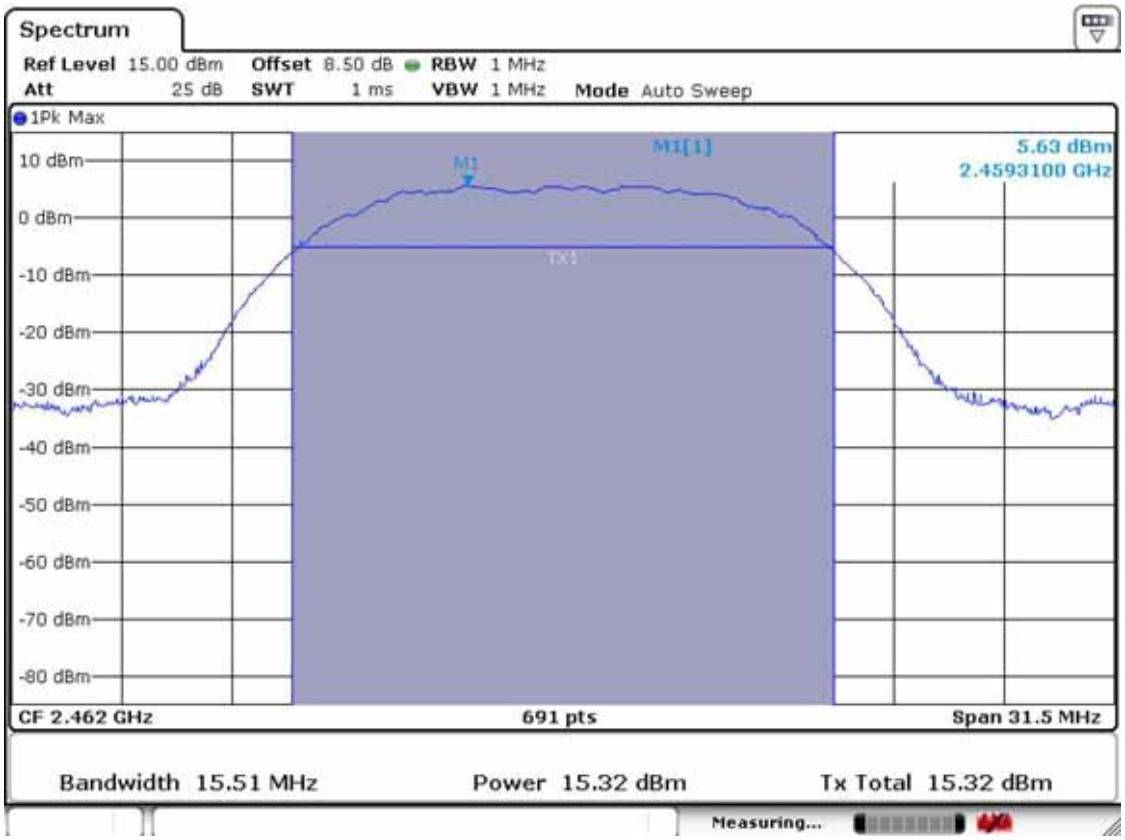
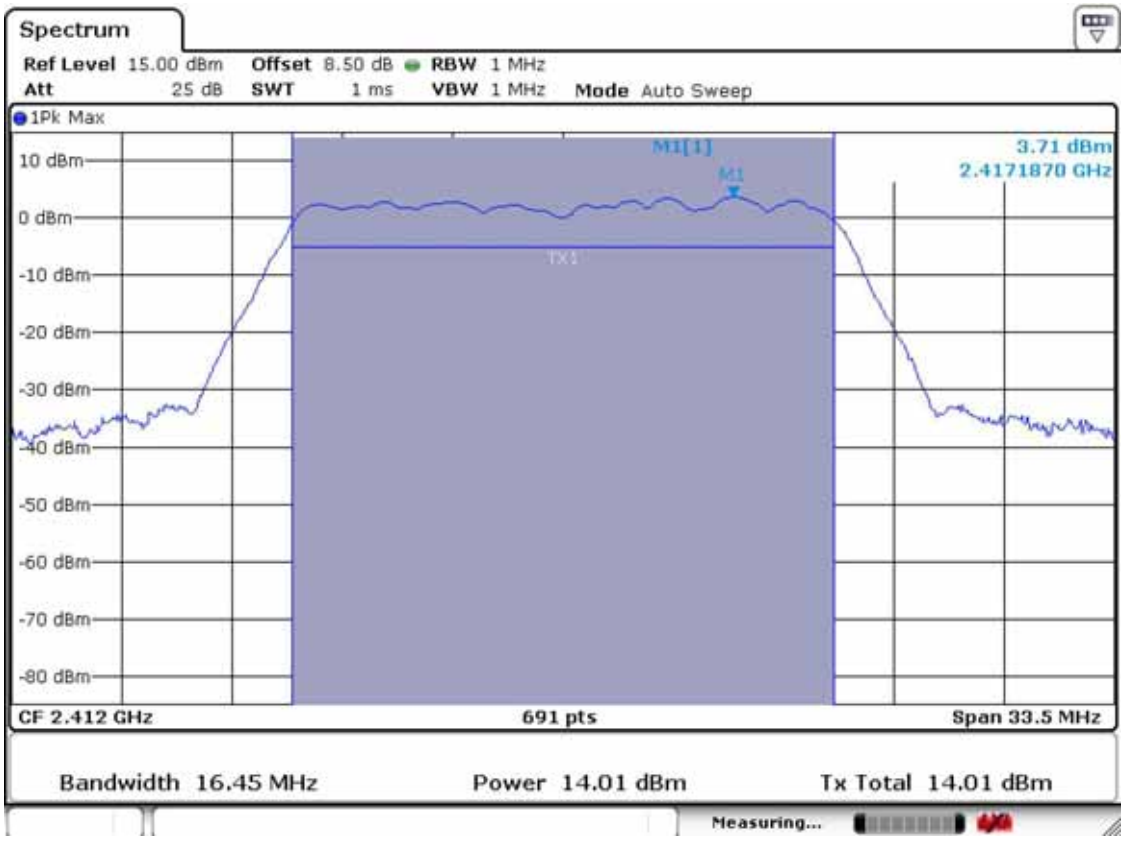
CH 11

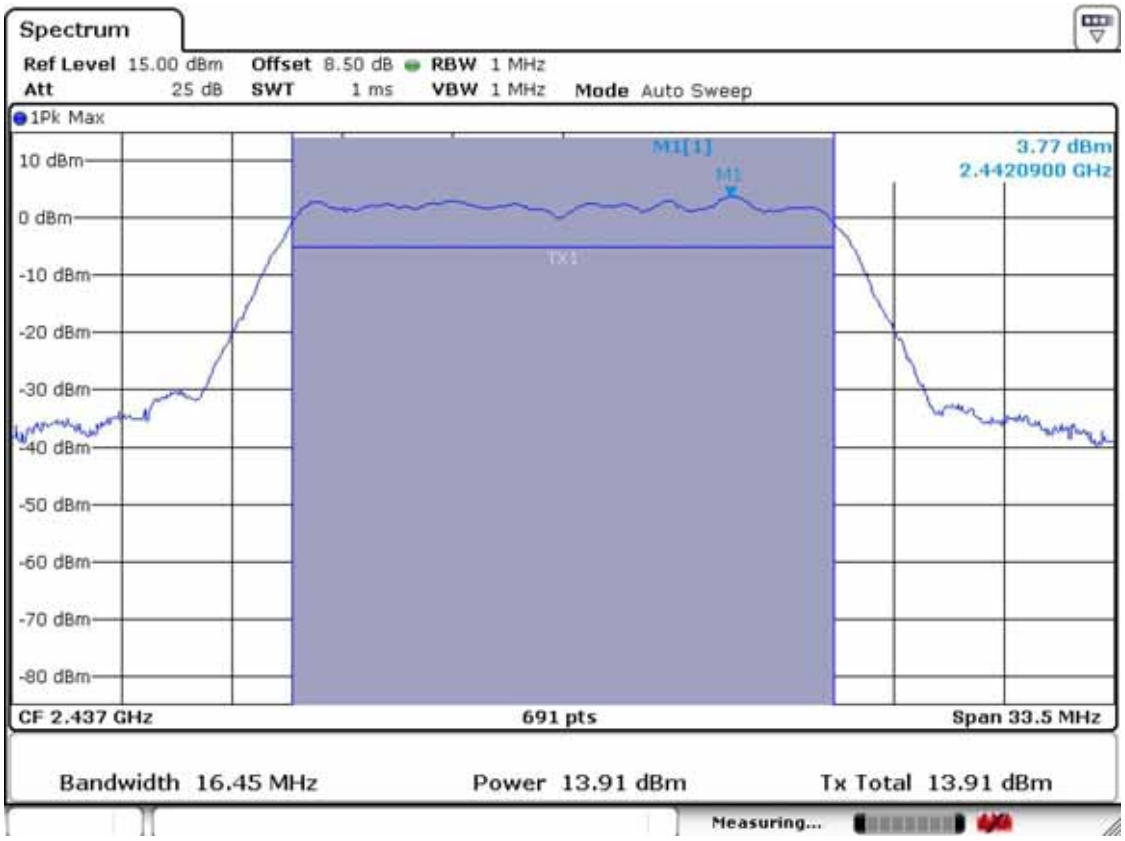

Spectrum
Ref Level 15.00 dBm Offset 8.50 dB RBW 1 MHz
Att 25 dB SWT 1 ms VBW 1 MHz Mode Auto Sweep
1Pk Max
M1[1]
M1
5.63 dBm
2.4593100 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.462 GHz
691 pts
Span 31.5 MHz
Bandwidth 15.51 MHz
Power 15.32 dBm
Tx Total 15.32 dBm
Measuring...

802.11g

CH 1



CH 6



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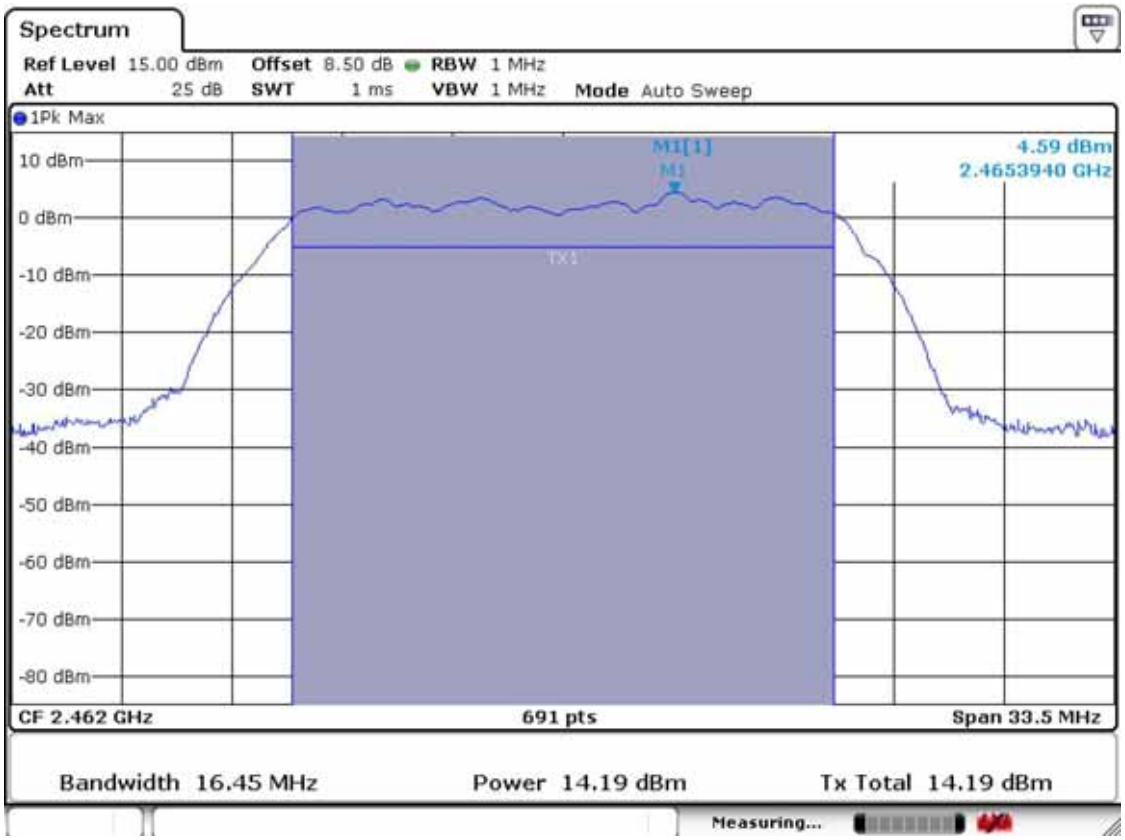
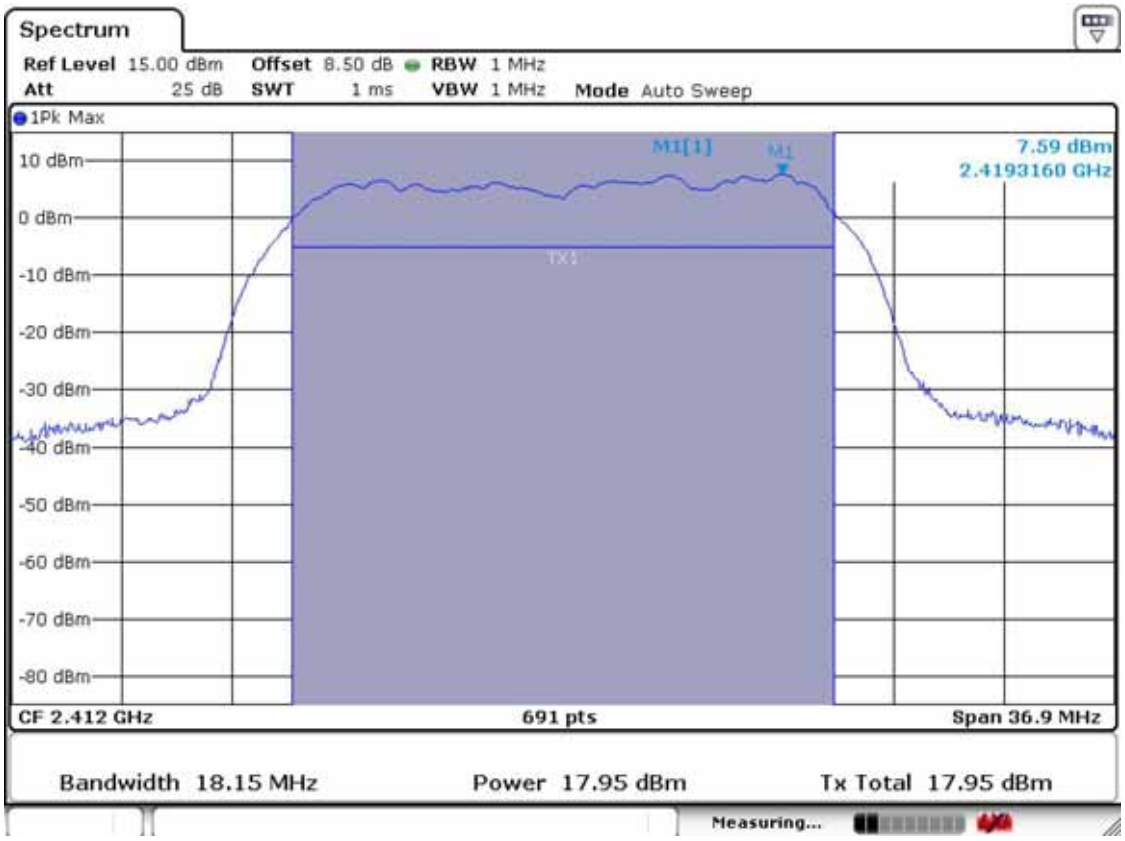
CH 11

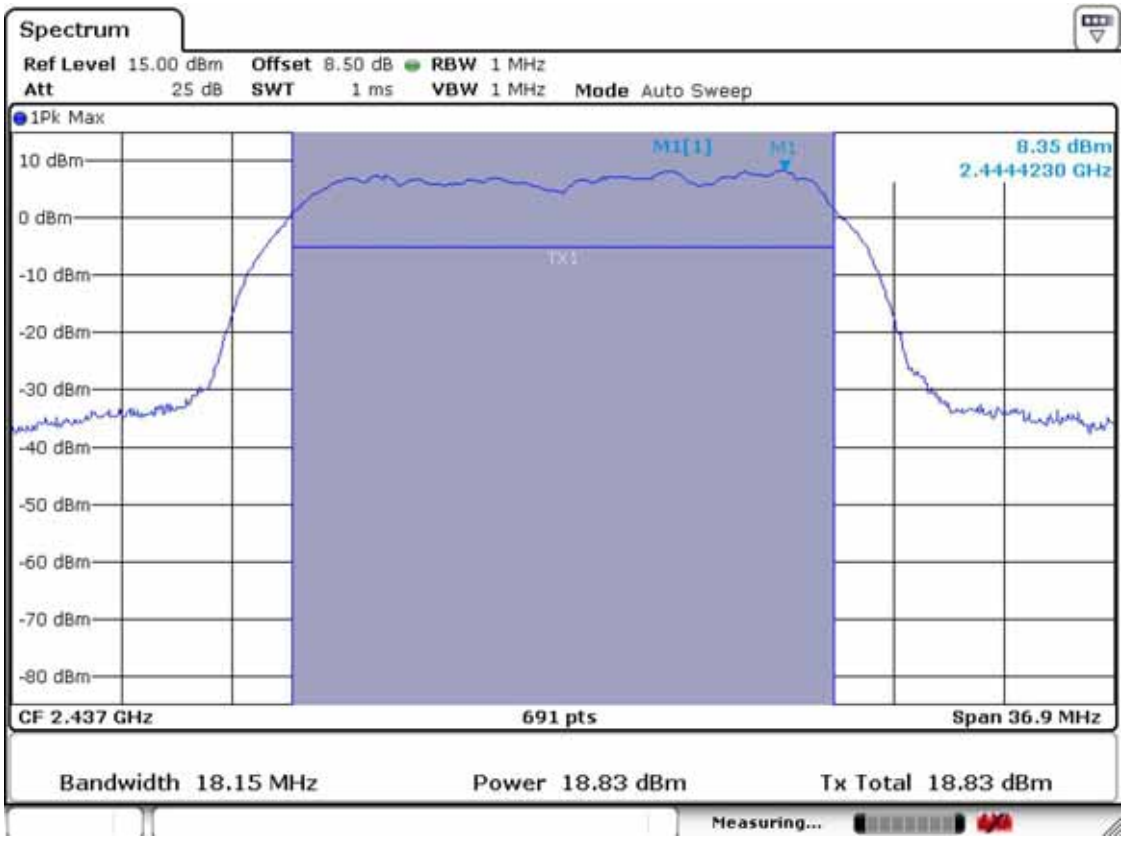

Spectrum
Ref Level 15.00 dBm Offset 8.50 dB RBW 1 MHz
Att 25 dB SWT 1 ms VBW 1 MHz Mode Auto Sweep
1Pk Max
M1[1]
4.59 dBm
2.4653940 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.462 GHz
691 pts
Span 33.5 MHz
Bandwidth 16.45 MHz
Power 14.19 dBm
Tx Total 14.19 dBm
Measuring...

802.11n_20MHz

CH 1



CH 6



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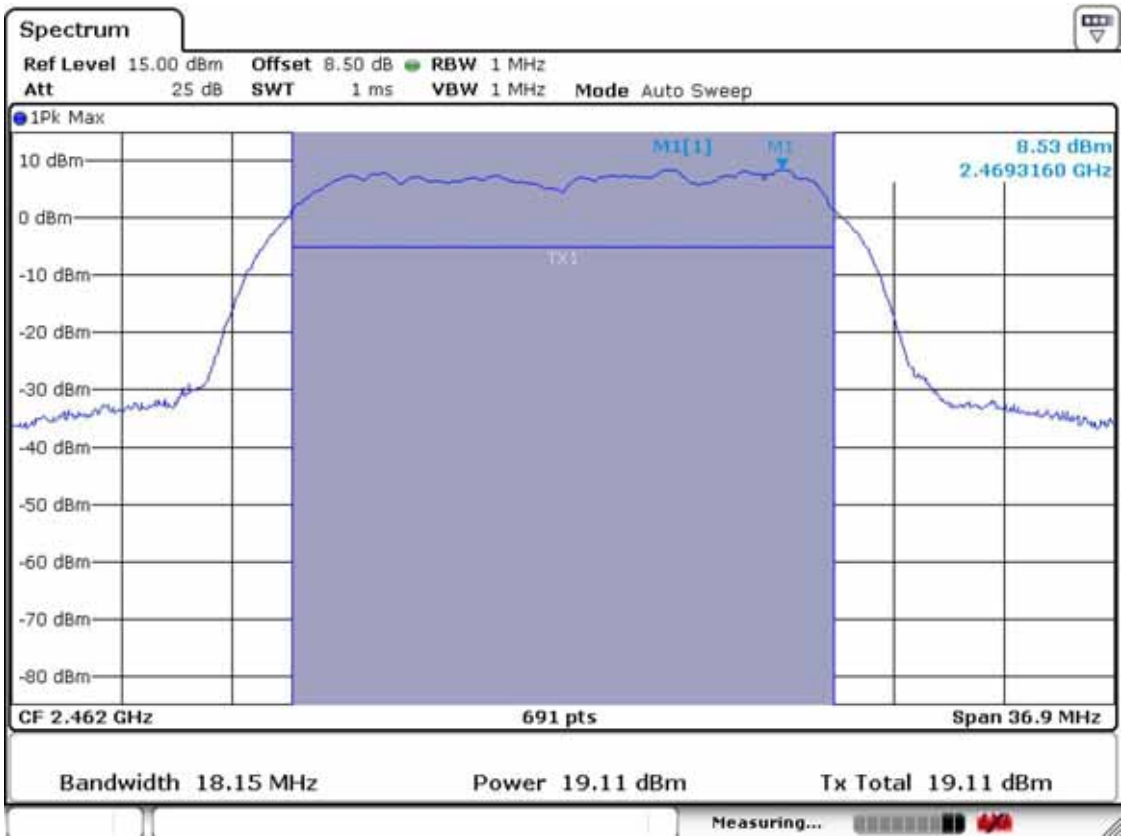
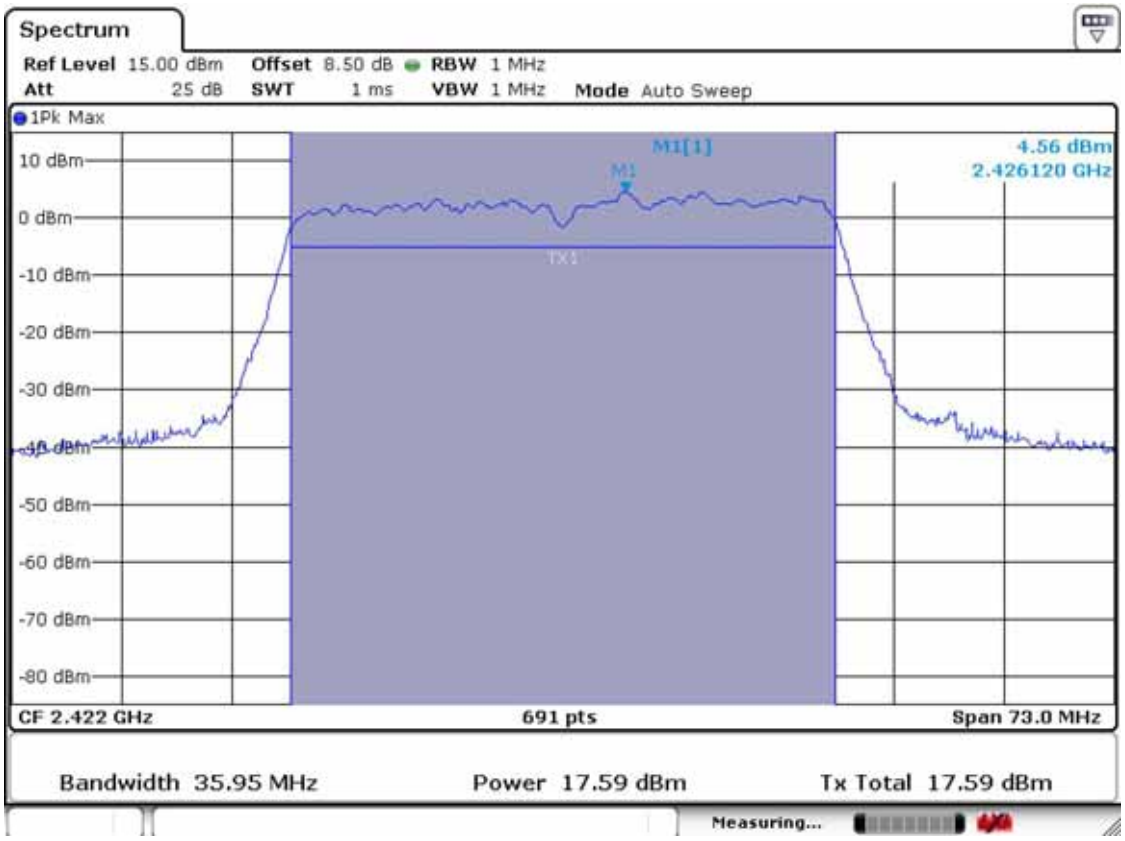
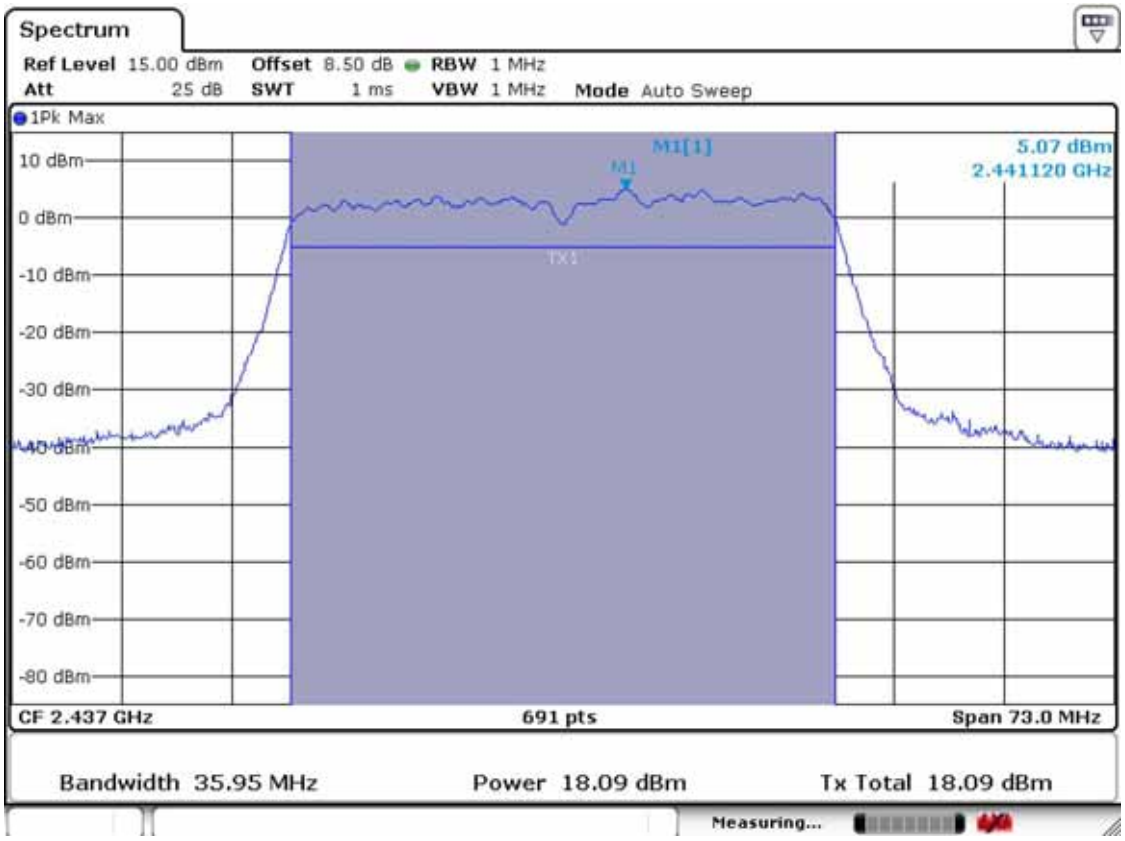
CH 11


Spectrum
Ref Level 15.00 dBm Offset 8.50 dB RBW 1 MHz
Att 25 dB SWT 1 ms VBW 1 MHz Mode Auto Sweep
1Pk Max
M1[1] M1
8.53 dBm
2.4693160 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.462 GHz
691 pts
Span 36.9 MHz
Bandwidth 18.15 MHz
Power 19.11 dBm
Tx Total 19.11 dBm
Measuring...

802.11n_40MHz
CH 3



CH 6



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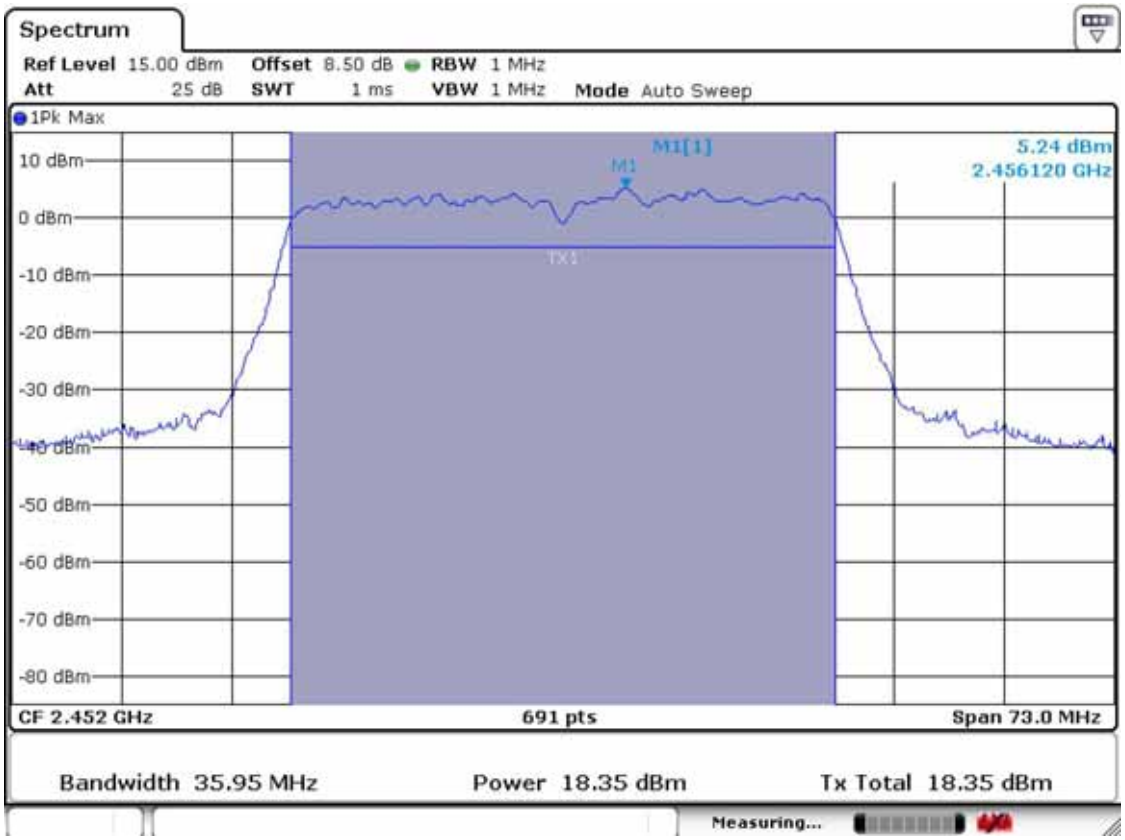
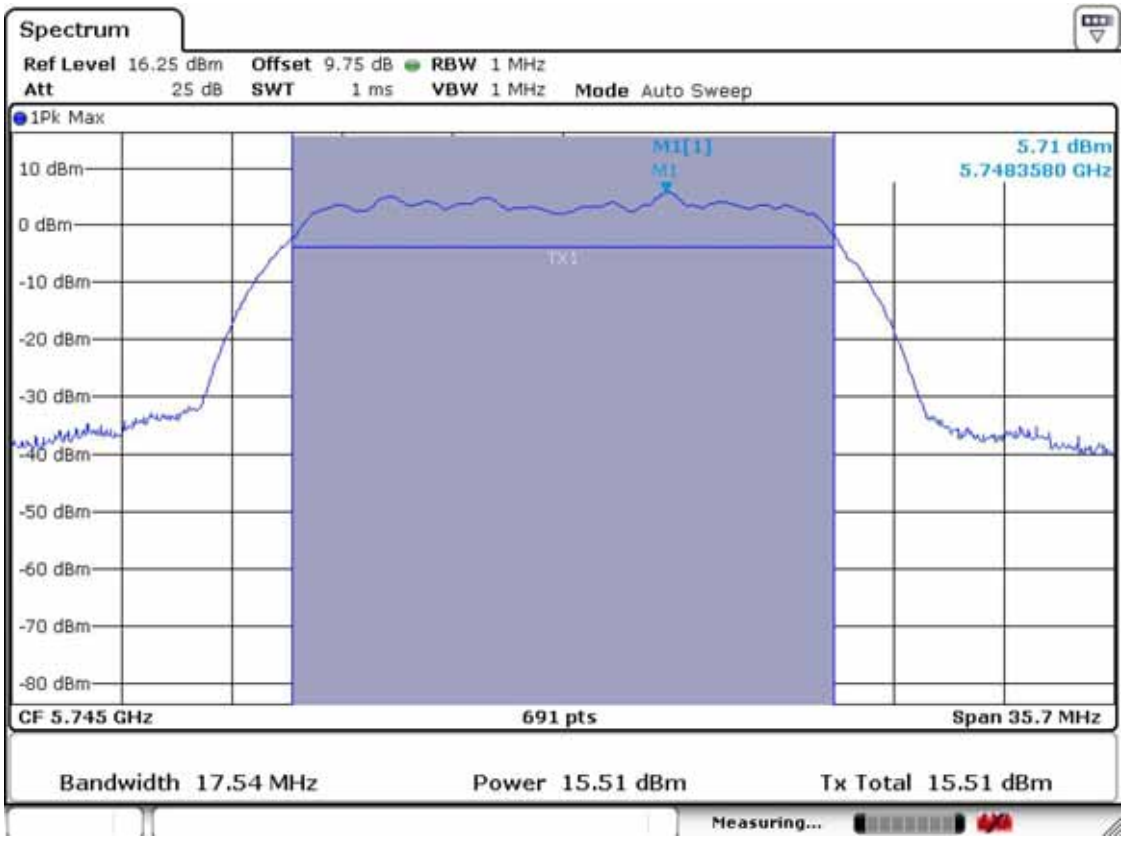
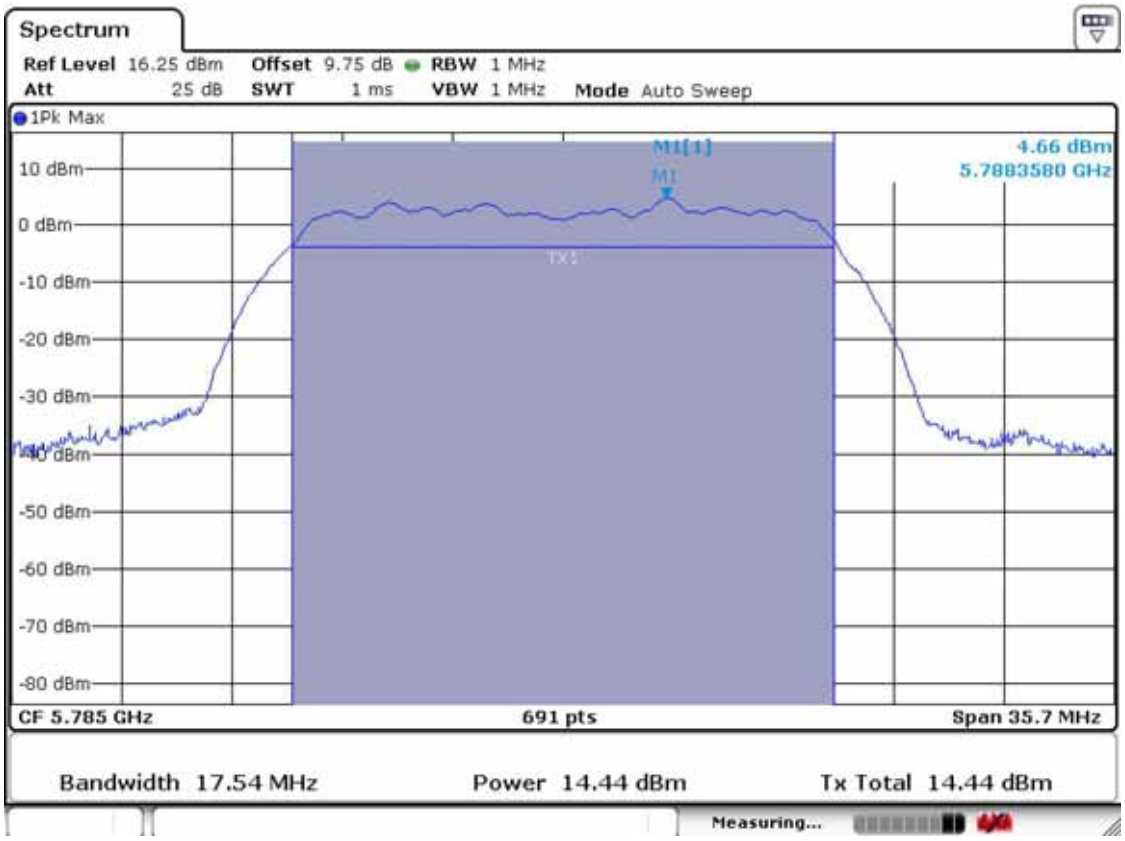
CH 9


Spectrum
Ref Level 15.00 dBm Offset 8.50 dB RBW 1 MHz
Att 25 dB SWT 1 ms VBW 1 MHz Mode Auto Sweep
1Pk Max
M1[1]
M1
5.24 dBm
2.456120 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.452 GHz
691 pts
Span 73.0 MHz
Bandwidth 35.95 MHz
Power 18.35 dBm
Tx Total 18.35 dBm
Measuring...

802.11a
CH 149



CH 157



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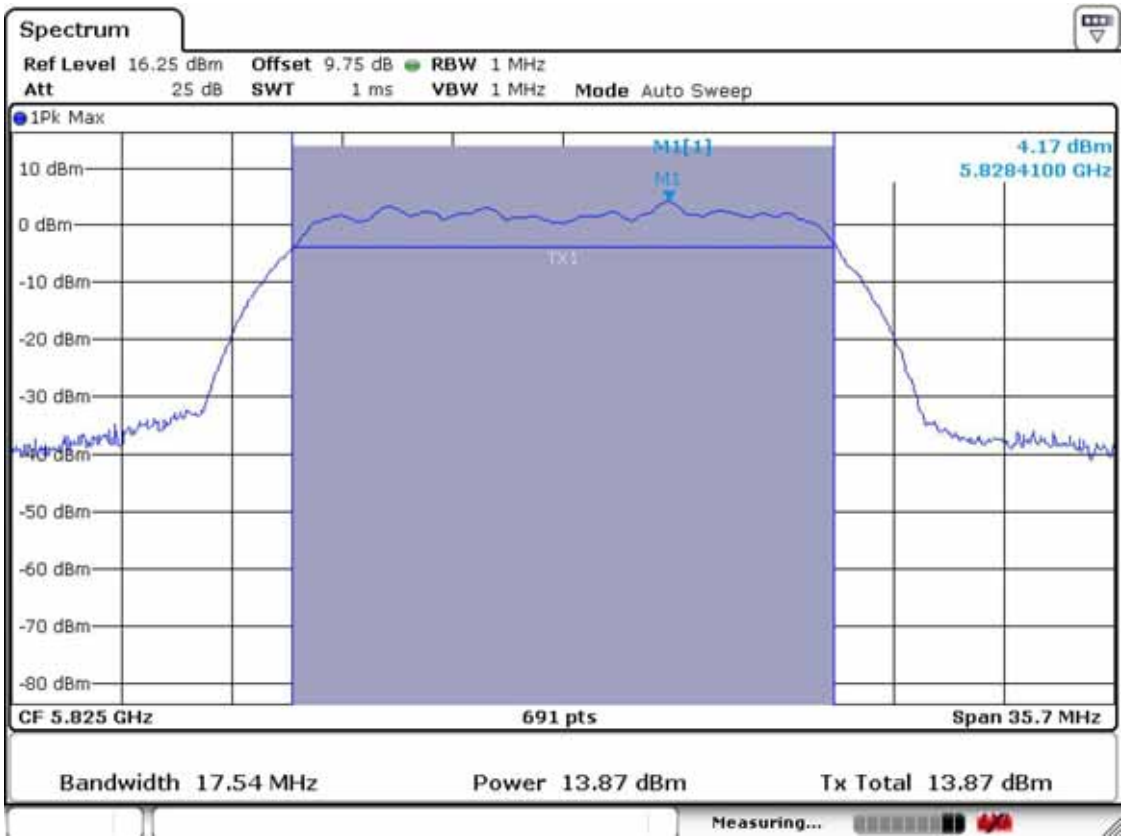
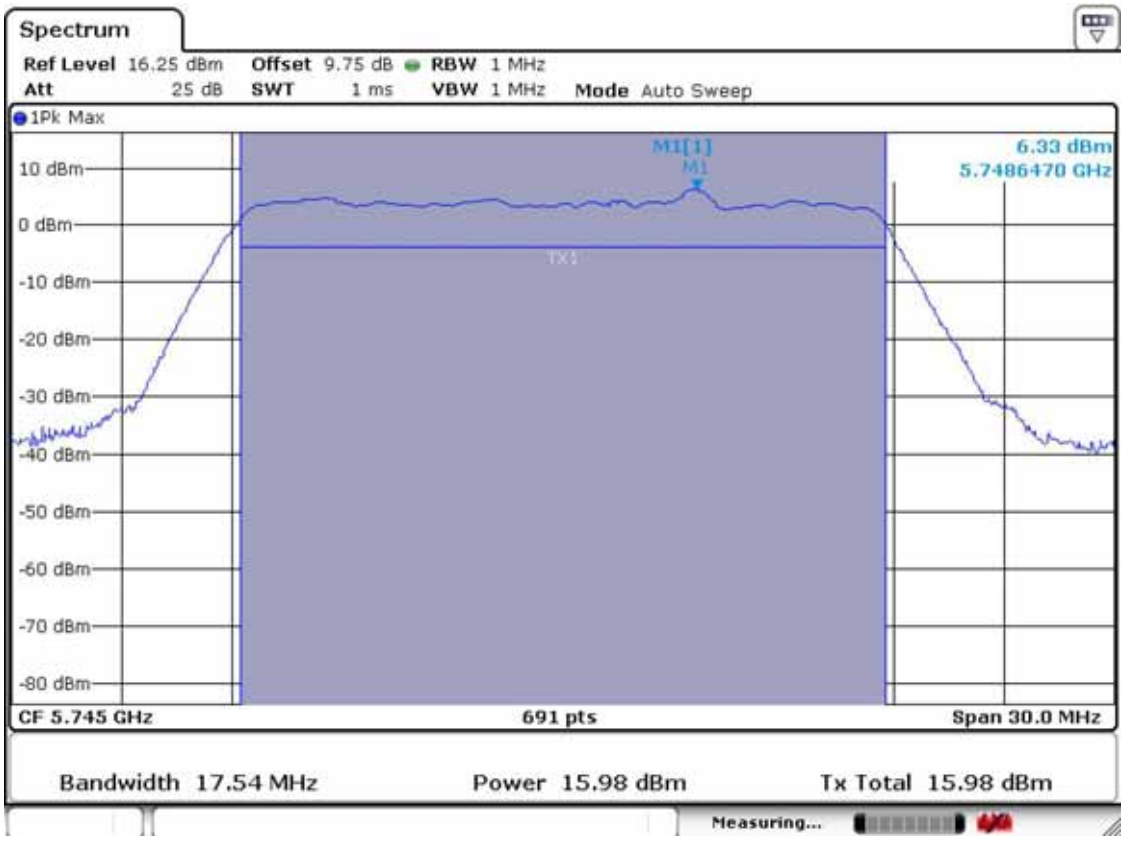
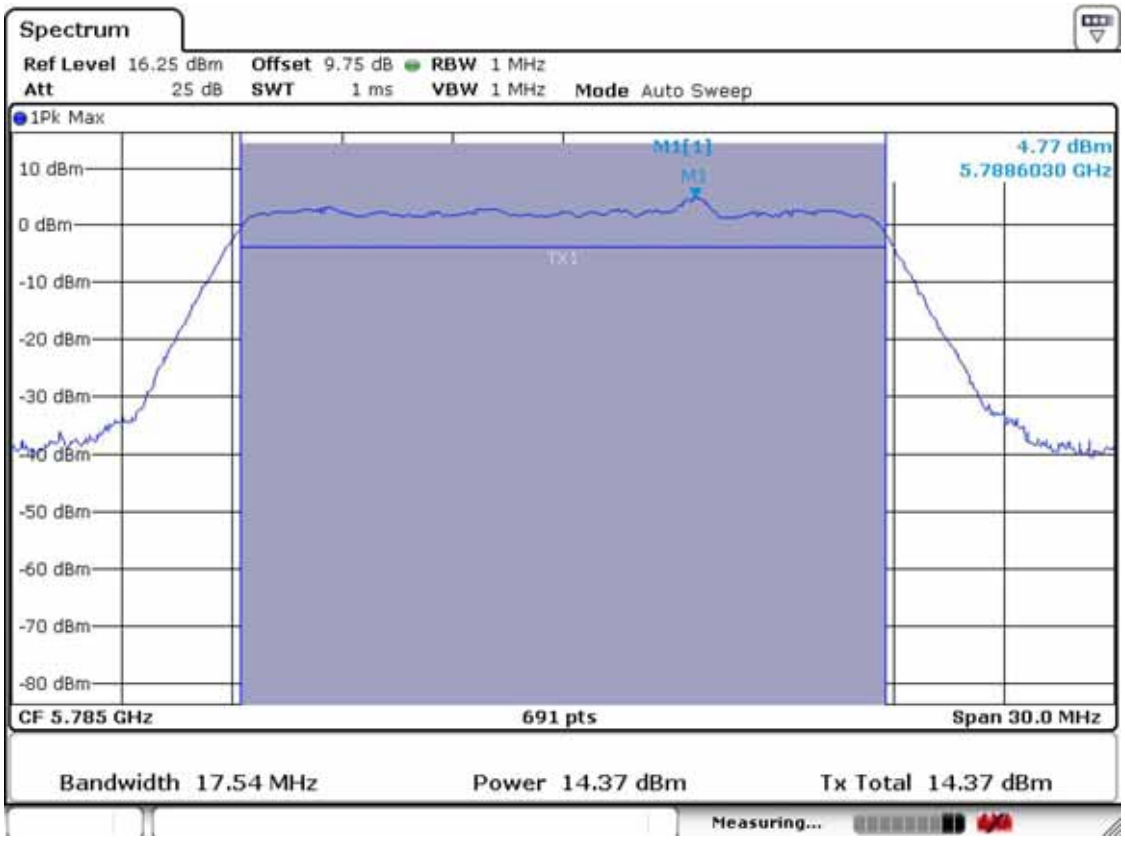
CH 165


Spectrum
Ref Level 16.25 dBm Offset 9.75 dB RBW 1 MHz
Att 25 dB SWT 1 ms VBW 1 MHz Mode Auto Sweep
1Pk Max
M1[1]
M1
4.17 dBm
5.8284100 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 5.825 GHz
691 pts
Span 35.7 MHz
Bandwidth 17.54 MHz
Power 13.87 dBm
Tx Total 13.87 dBm
Measuring...

802.11an_20MHz
CH 149



CH 157



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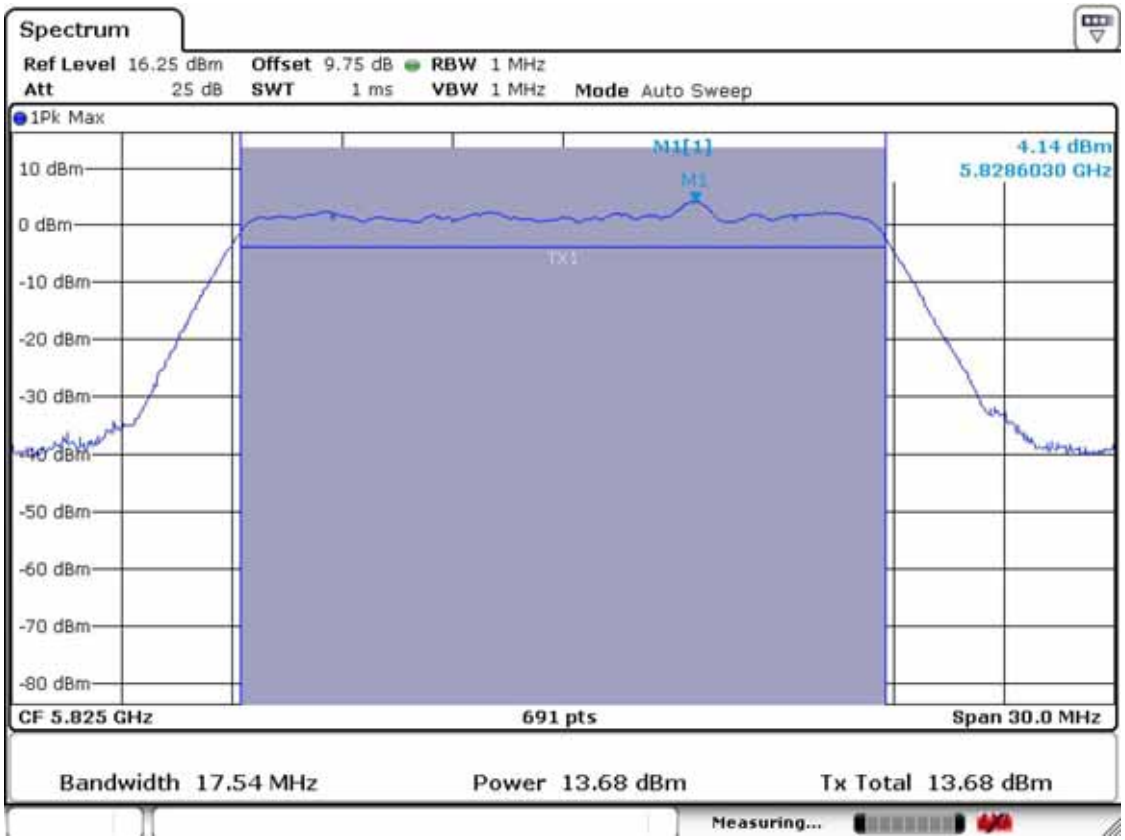
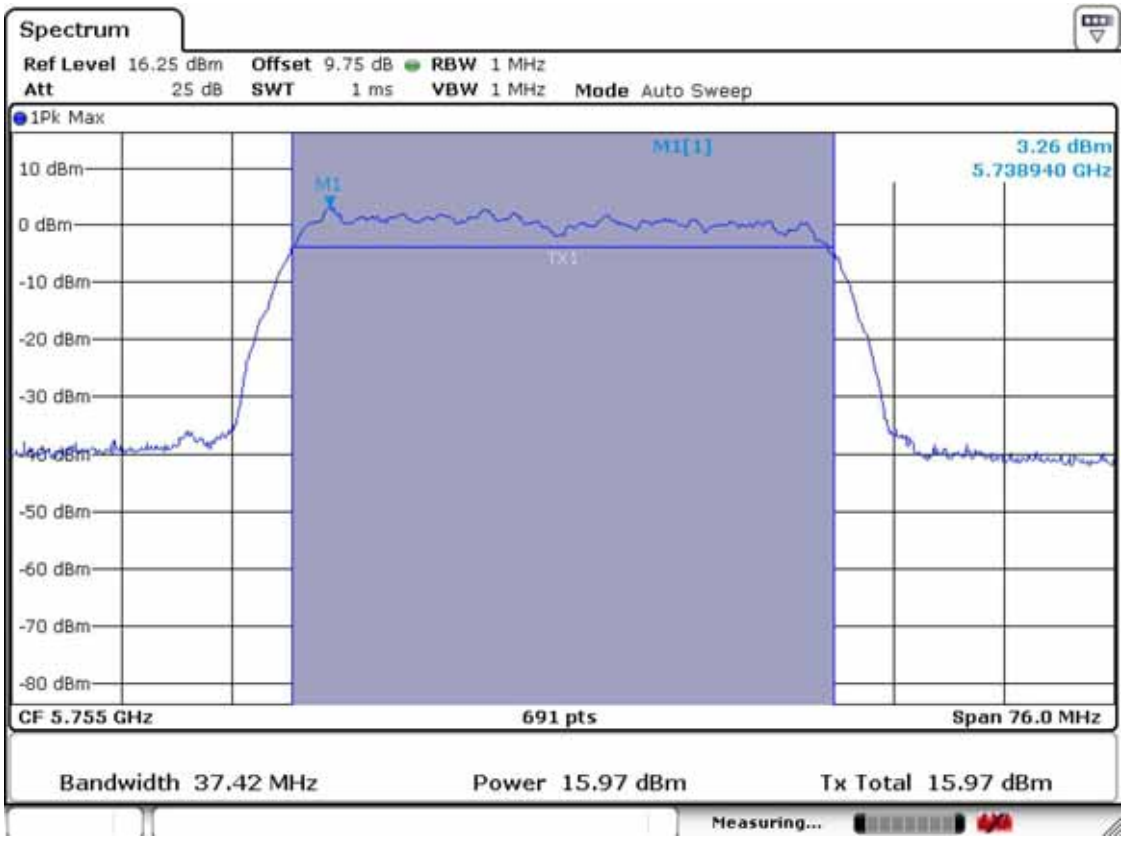
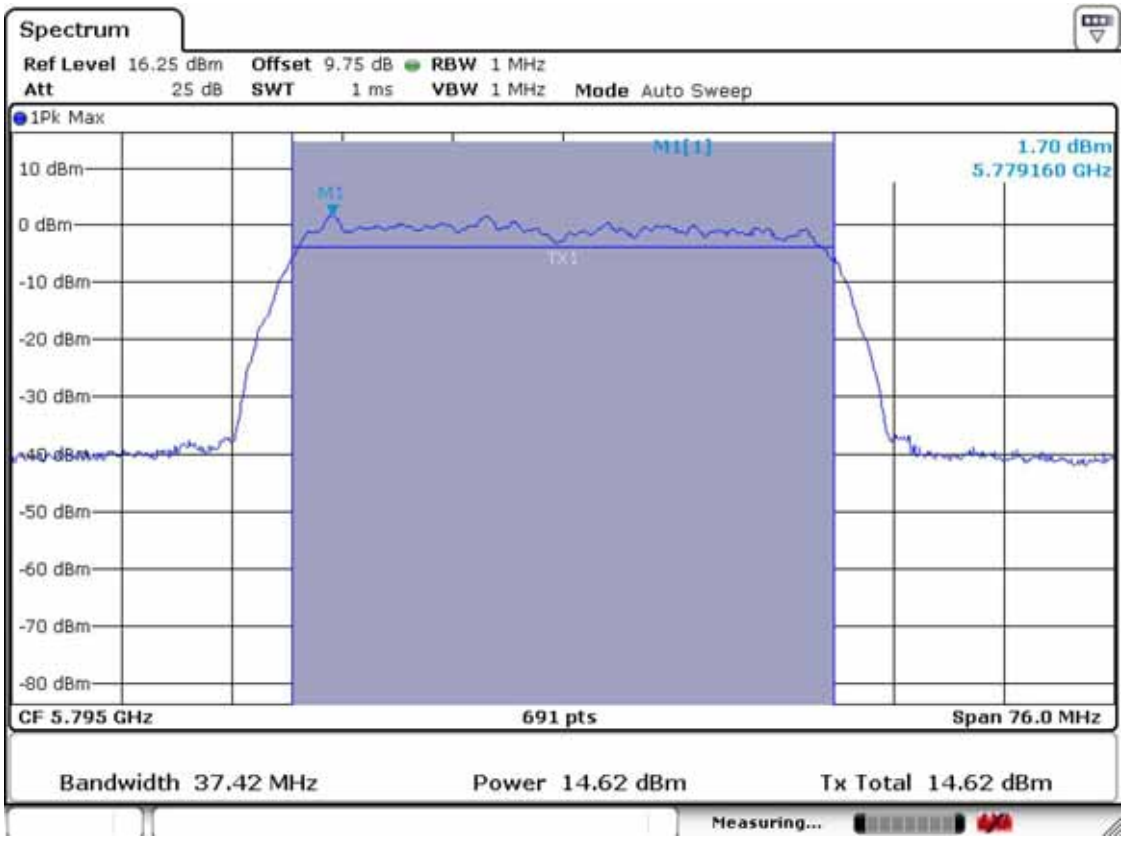
CH 165


Spectrum
Ref Level 16.25 dBm Offset 9.75 dB RBW 1 MHz
Att 25 dB SWT 1 ms VBW 1 MHz Mode Auto Sweep
1Pk Max
M1[1]
4.14 dBm
5.8286030 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 5.825 GHz
691 pts
Span 30.0 MHz
Bandwidth 17.54 MHz
Power 13.68 dBm
Tx Total 13.68 dBm
Measuring...

802.11an_40MHz
CH 151



CH 159



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3.2.3 Power Spectral Density

Procedure:

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

The spectrum analyzer is set to:

RBW = 3 kHz Span = 300 kHz

VBW = 3 kHz Sweep = 100 sec

Detector function = peak Trace = max hold

Measurement Data: 2.4GHz Band

Mode	Frequency (MHz)	Channel No.	Test Results	
			Measured Bandwidth (MHz)	Result
802.11b	2412	1	-16.47	Complies
	2437	6	-16.45	Complies
	2462	11	-16.61	Complies
802.11g	2412	1	-21.84	Complies
	2437	6	-21.87	Complies
	2462	11	-21.87	Complies
802.11n _20MHz	2412	1	-16.57	Complies
	2437	6	-15.83	Complies
	2462	11	-15.71	Complies
802.11n _40MHz	2422	3	-19.15	Complies
	2437	6	-18.78	Complies
	2452	9	-18.60	Complies

Measurement Data: 5.0GHz Band

Mode	Frequency (MHz)	Channel No.	Test Results	
			Measured Bandwidth (MHz)	Result
802.11a	5745	149	-18.49	Complies
	5785	157	-19.55	Complies
	5825	165	-21.85	Complies
802.11an _20MHz	5745	149	-19.06	Complies
	5785	157	-20.99	Complies
	5825	165	-21.90	Complies
802.11an _40MHz	5755	151	-20.80	Complies
	5795	159	-22.45	Complies

- See next pages for actual measured spectrum plots.

Minimum Standard:

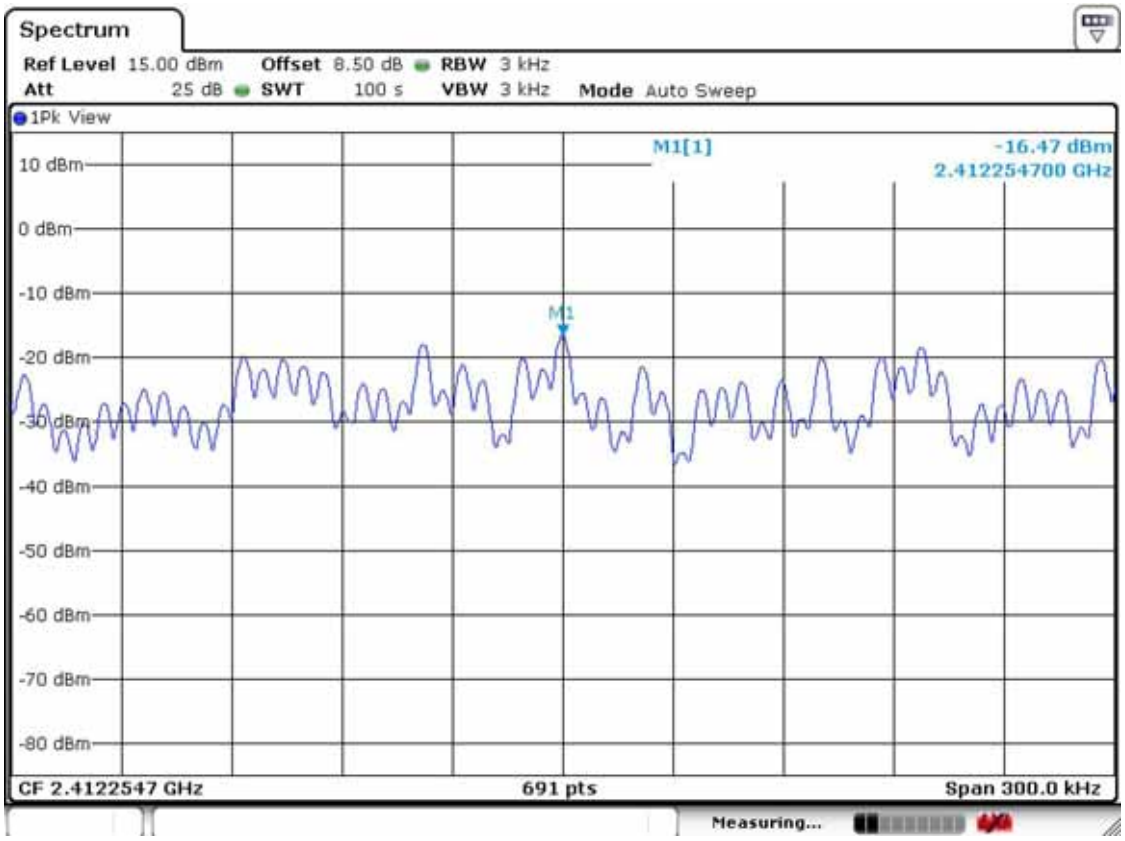
Power Spectral Density	< 8dBm @ 3kHz BW

Measurement Setup

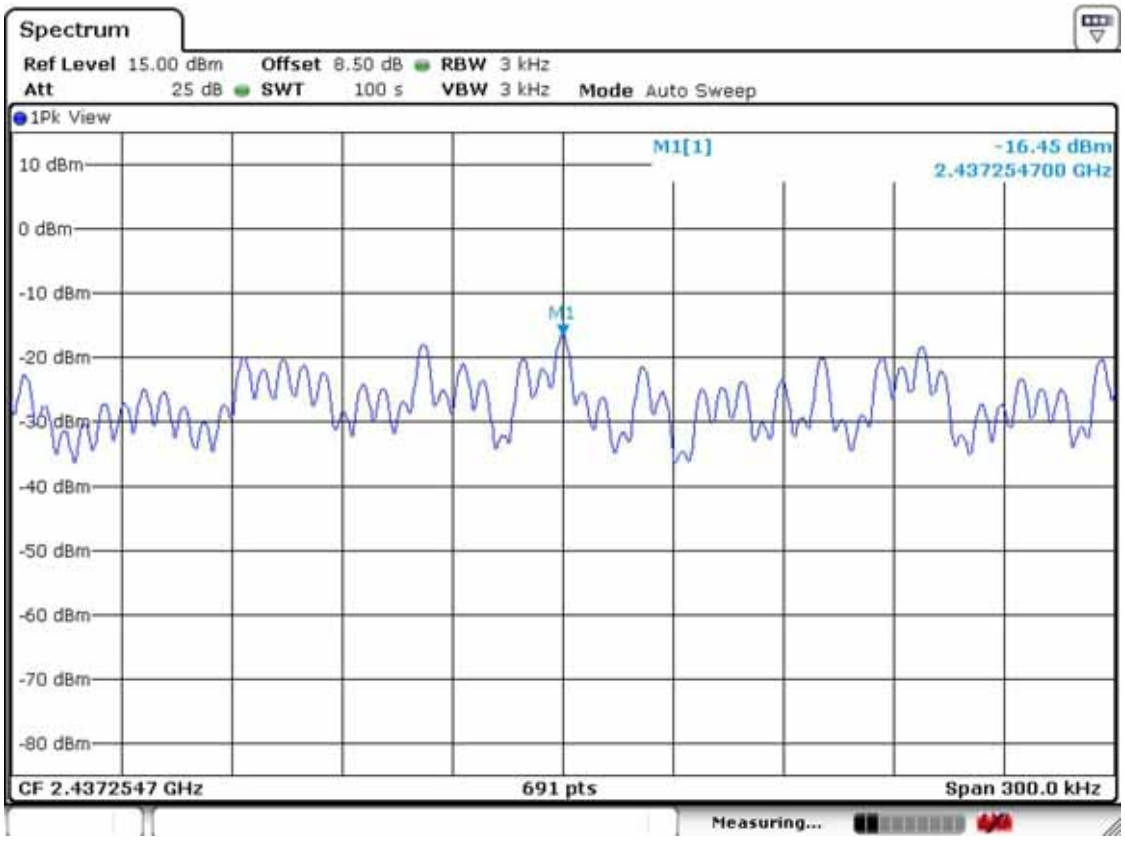
Same as the Chapter 3.2.1 (Figure 1)

802.11b Power Density Measurement

CH 1



CH 6



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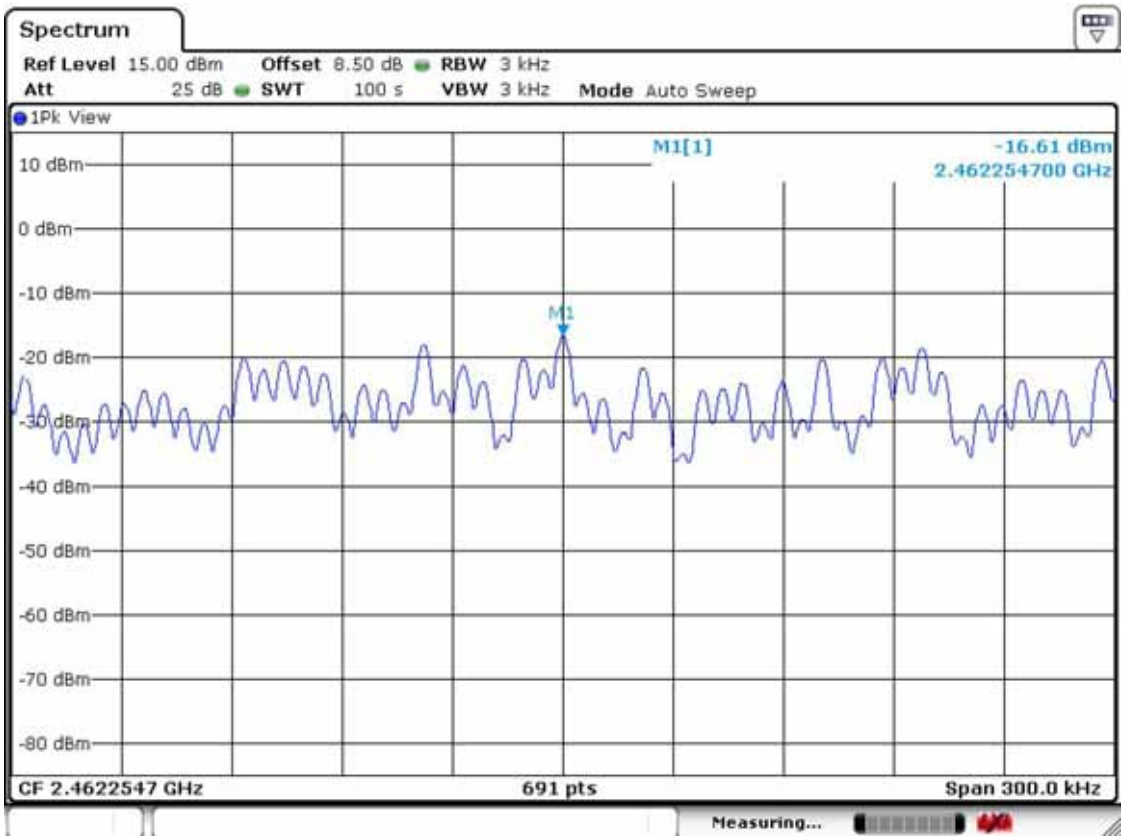
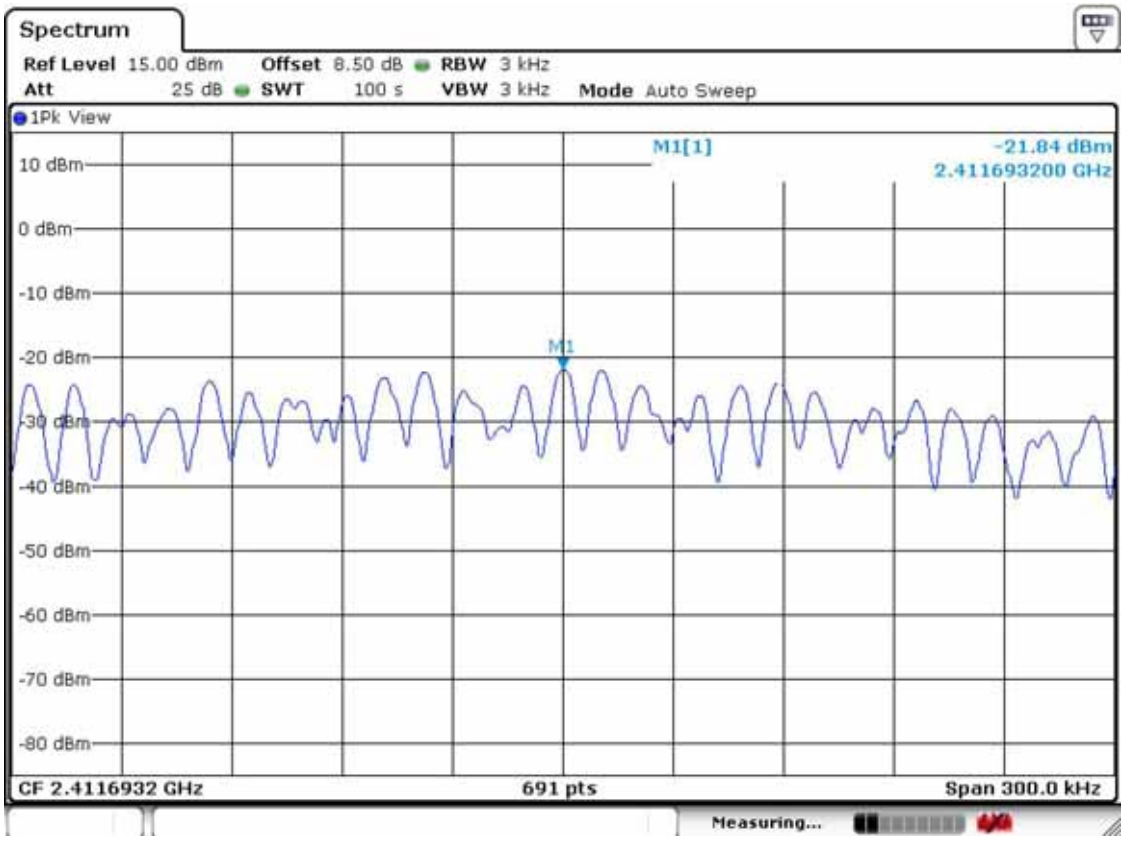
CH 11

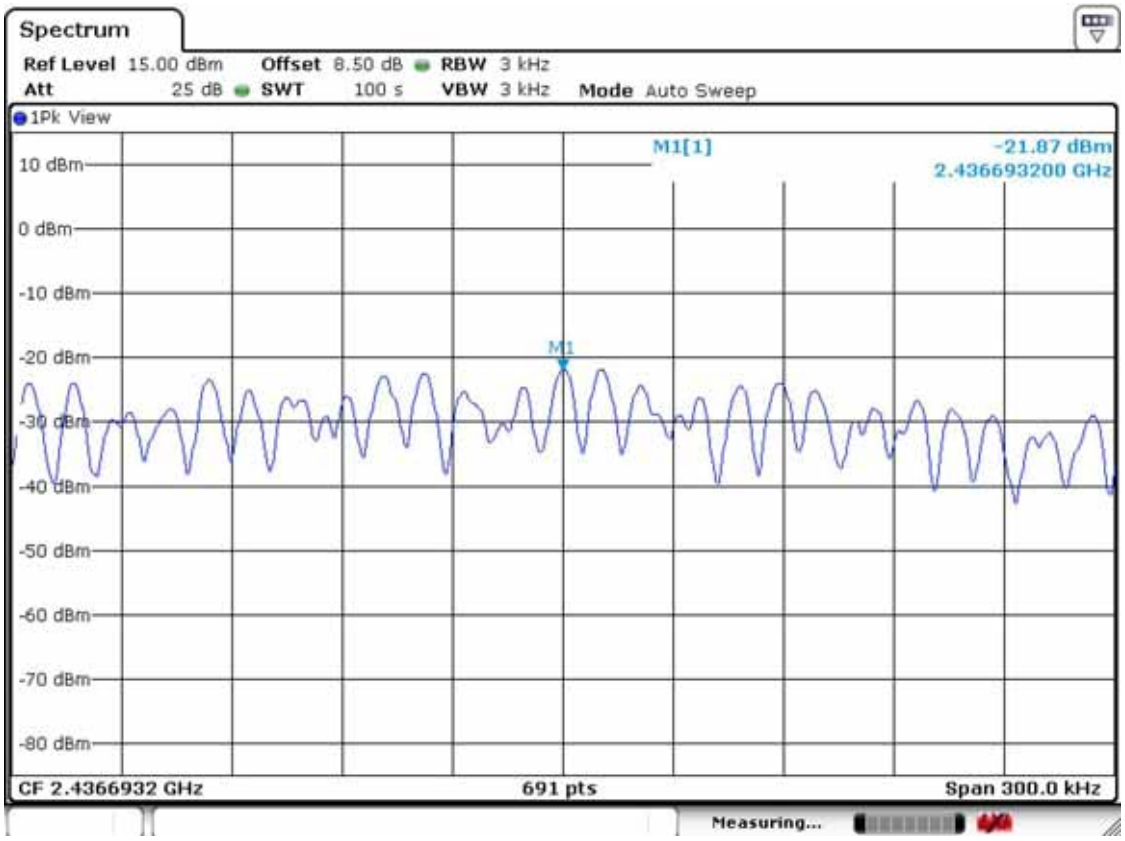

Spectrum
Ref Level 15.00 dBm Offset 8.50 dB RBW 3 kHz
Att 25 dB SWT 100 s VBW 3 kHz Mode Auto Sweep
1Pk View
M1[1] -16.61 dBm
2.462254700 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
M1
CF 2.4622547 GHz
691 pts
Span 300.0 kHz
Measuring...

802.11g Power Density Measurement

CH 1



CH 6



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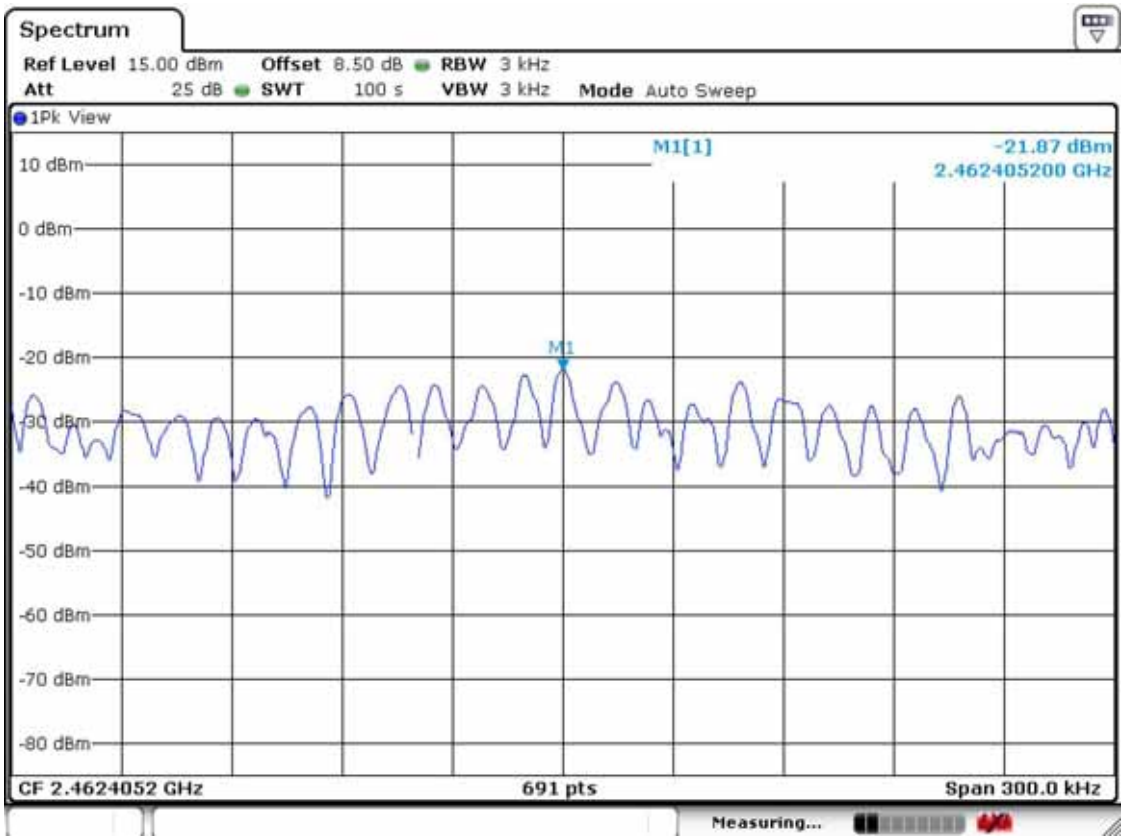
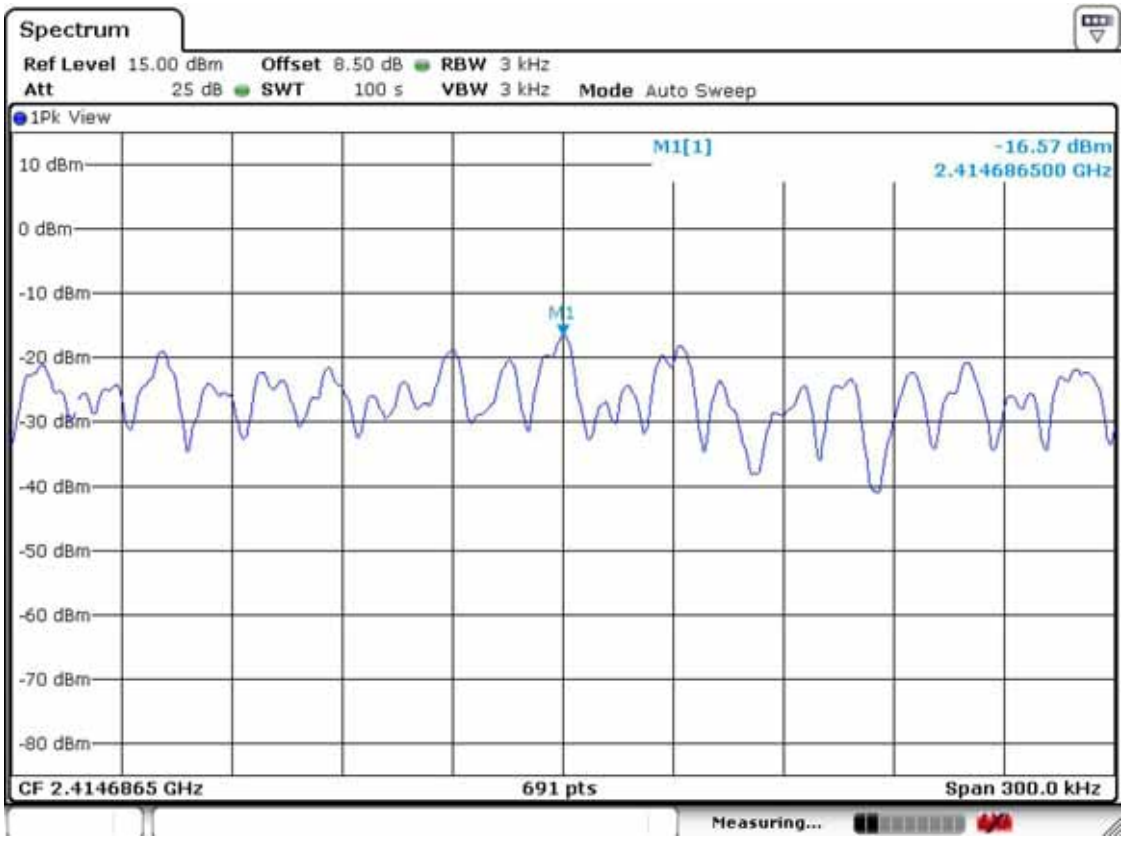
CH 11

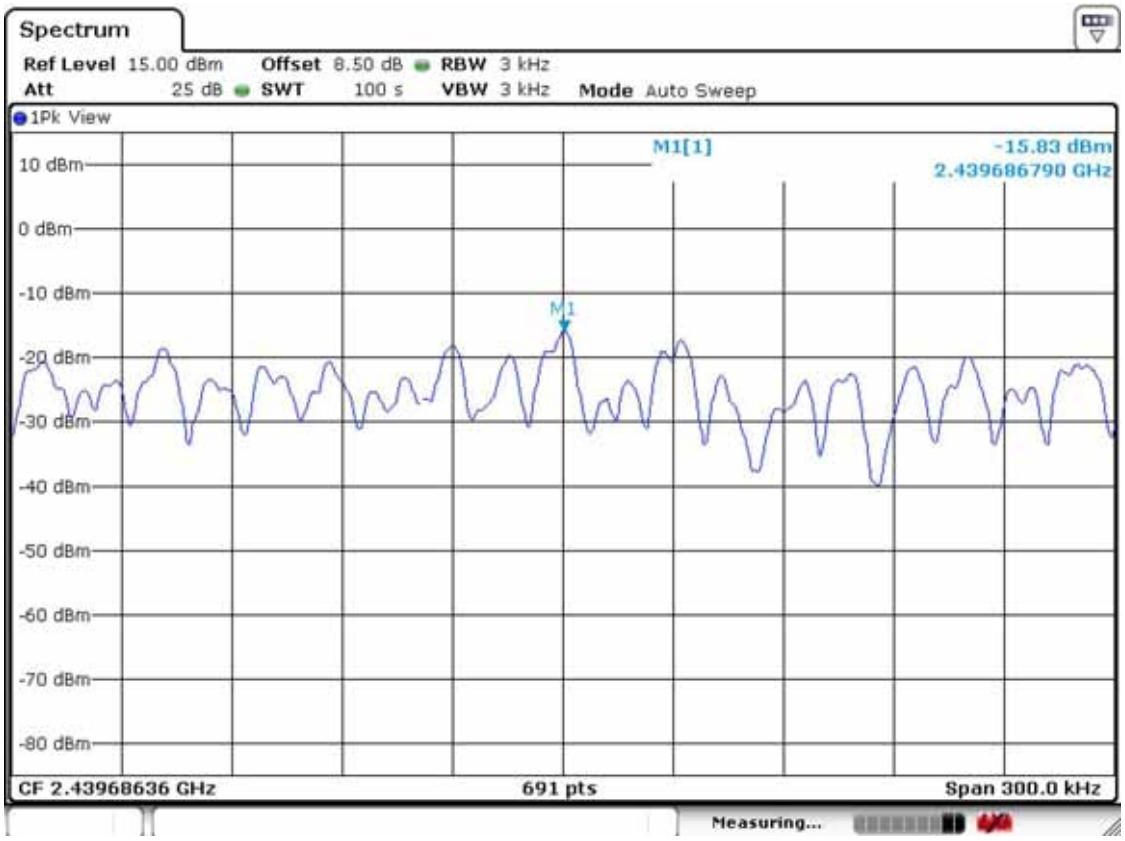

Spectrum
Ref Level 15.00 dBm Offset 8.50 dB RBW 3 kHz
Att 25 dB SWT 100 s VBW 3 kHz Mode Auto Sweep
1Pk View
M1[1] -21.87 dBm
2.462405200 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
M1
CF 2.4624052 GHz
691 pts
Span 300.0 kHz
Measuring...

802.11n_20MHz Power Density Measurement

CH 1



CH 6



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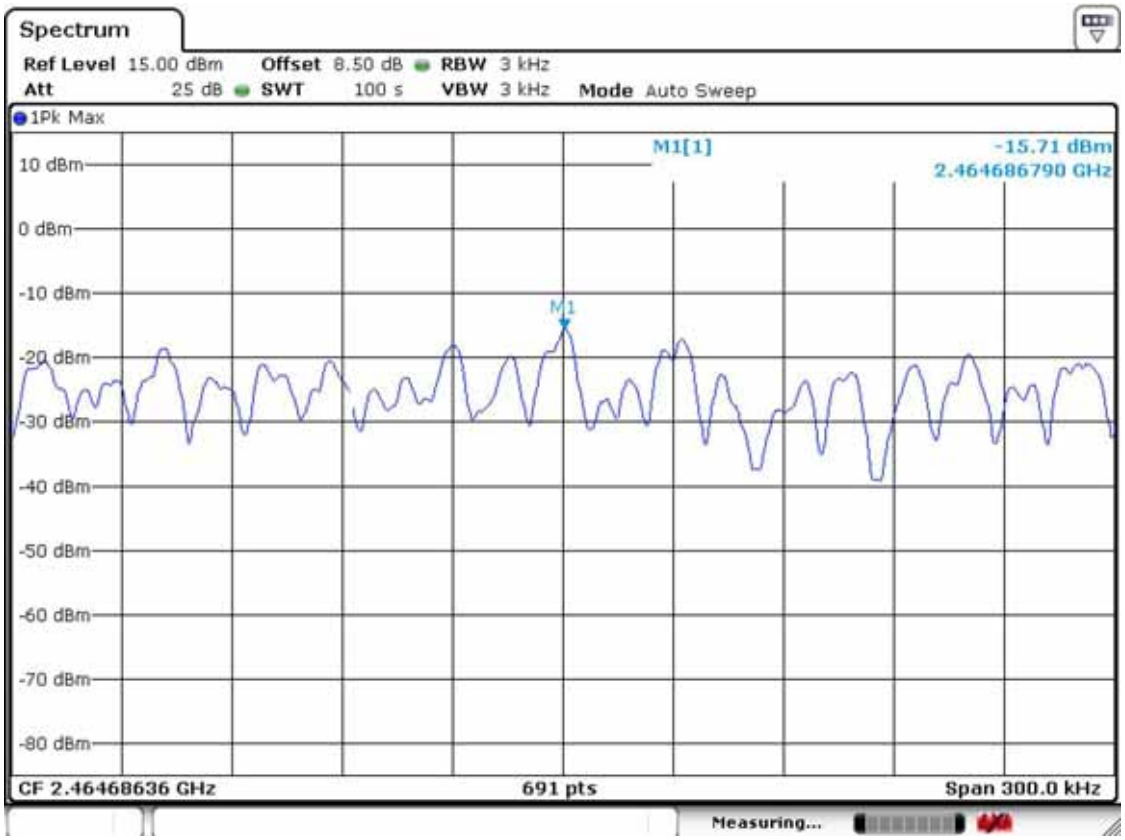
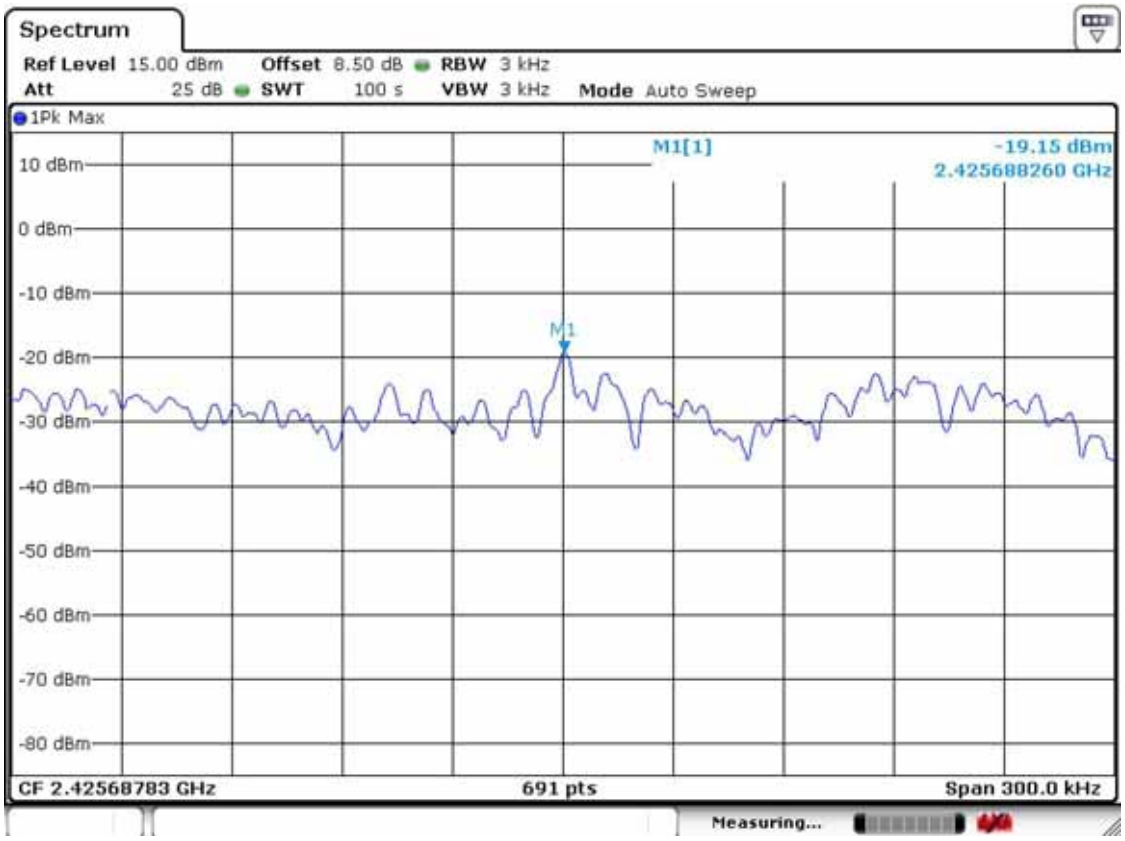
CH 11

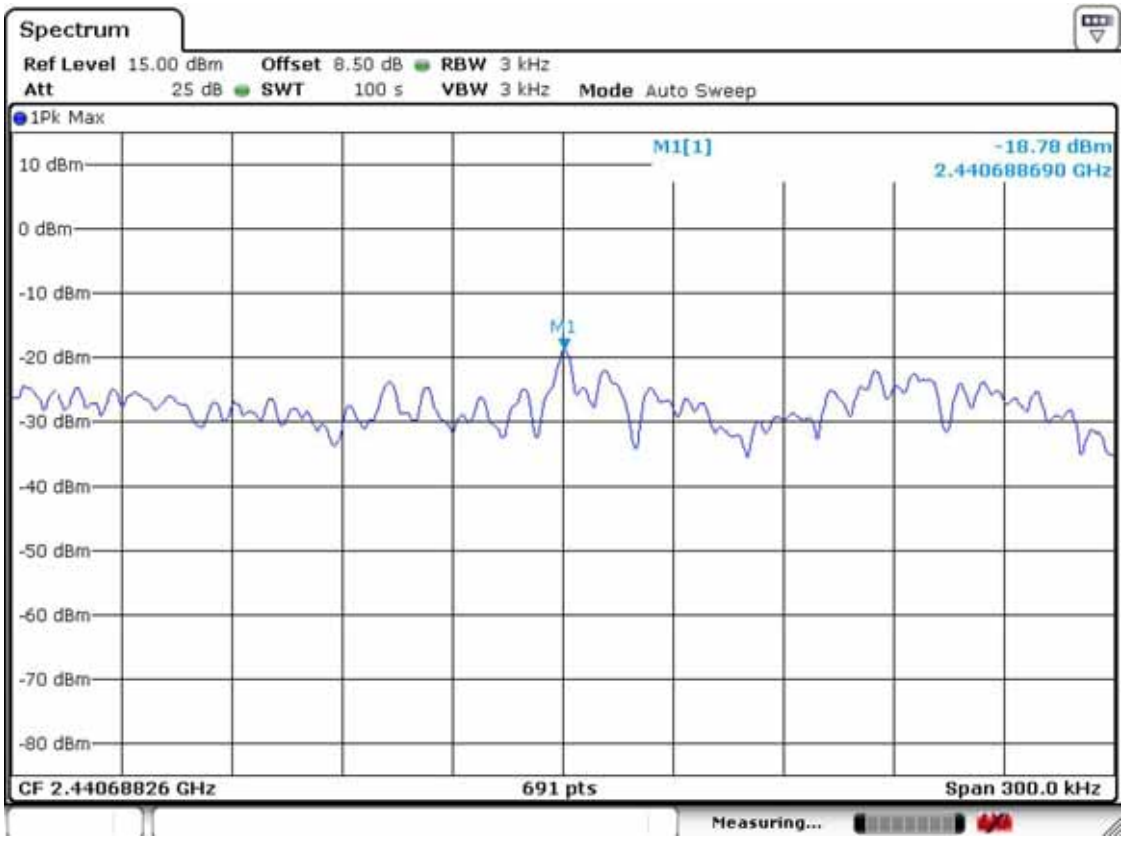

Spectrum
Ref Level 15.00 dBm Offset 8.50 dB RBW 3 kHz
Att 25 dB SWT 100 s VBW 3 kHz Mode Auto Sweep
1Pk Max
M1[1] -15.71 dBm
2.464686790 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.46468636 GHz
691 pts
Span 300.0 kHz
Measuring...

802.11n_40MHz Power Density Measurement

CH 3



CH 6



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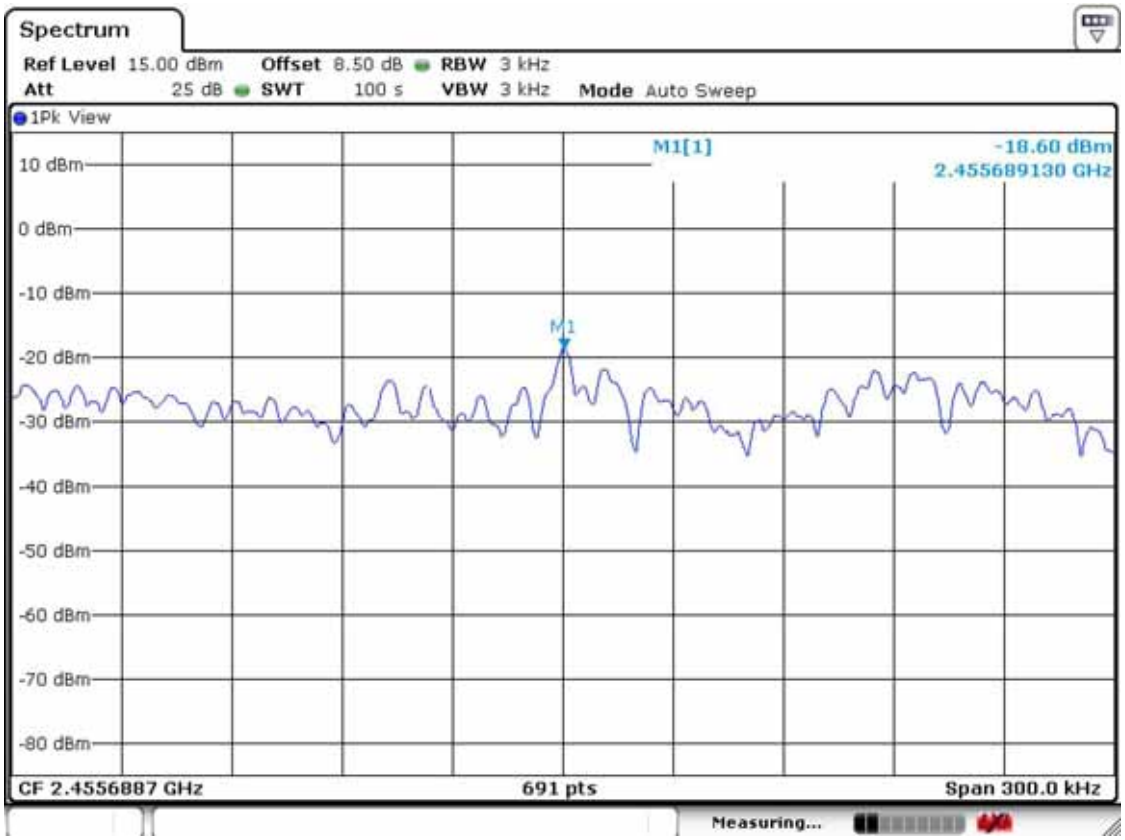
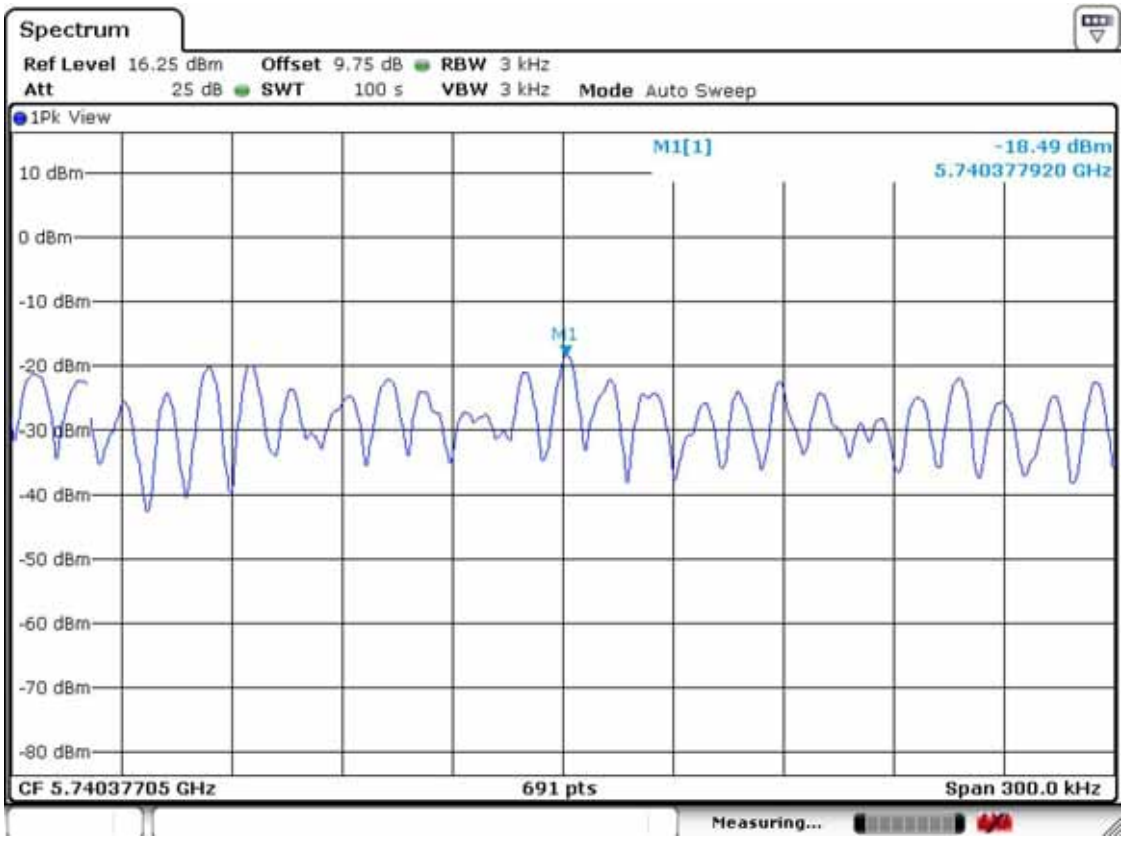
CH 9

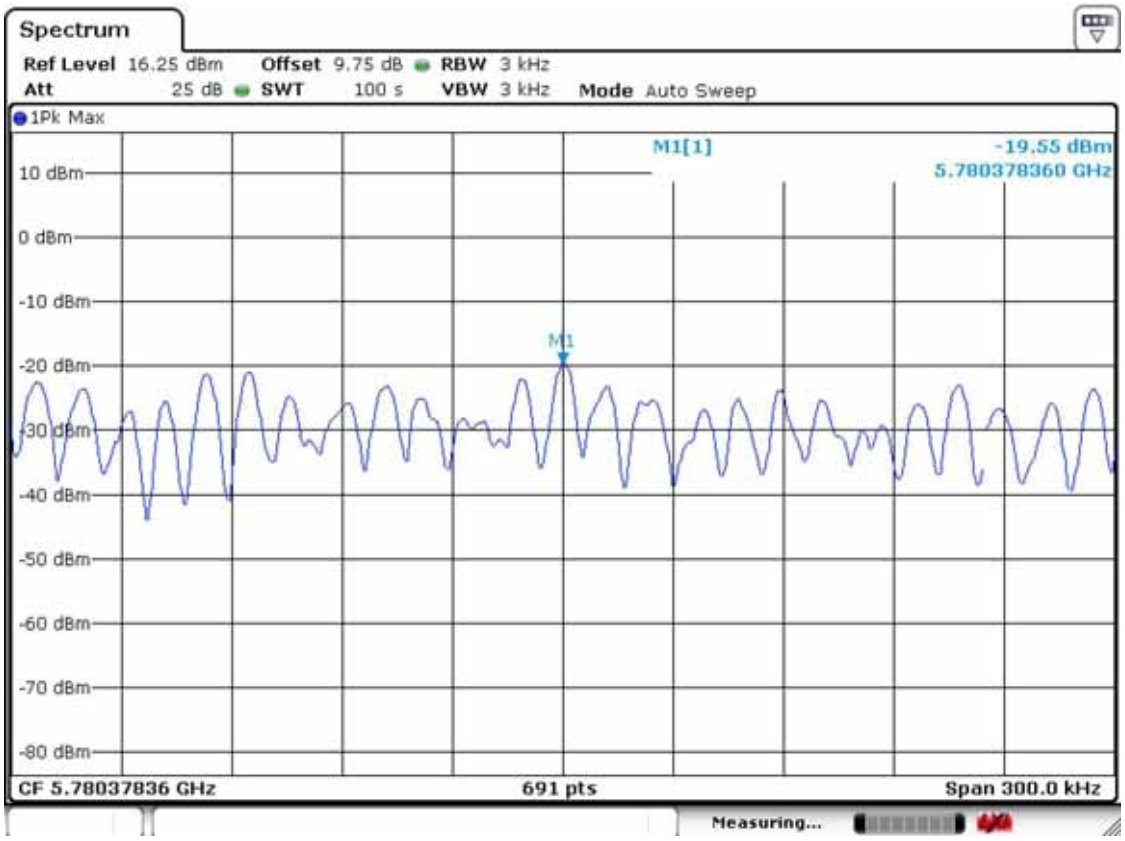

Spectrum
Ref Level 15.00 dBm Offset 8.50 dB RBW 3 kHz
Att 25 dB SWT 100 s VBW 3 kHz Mode Auto Sweep
1Pk View
M1[1] -18.60 dBm
2.455689130 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
M1
CF 2.4556887 GHz
691 pts
Span 300.0 kHz
Measuring...

802.11a Power Density Measurement

CH 149



CH 157



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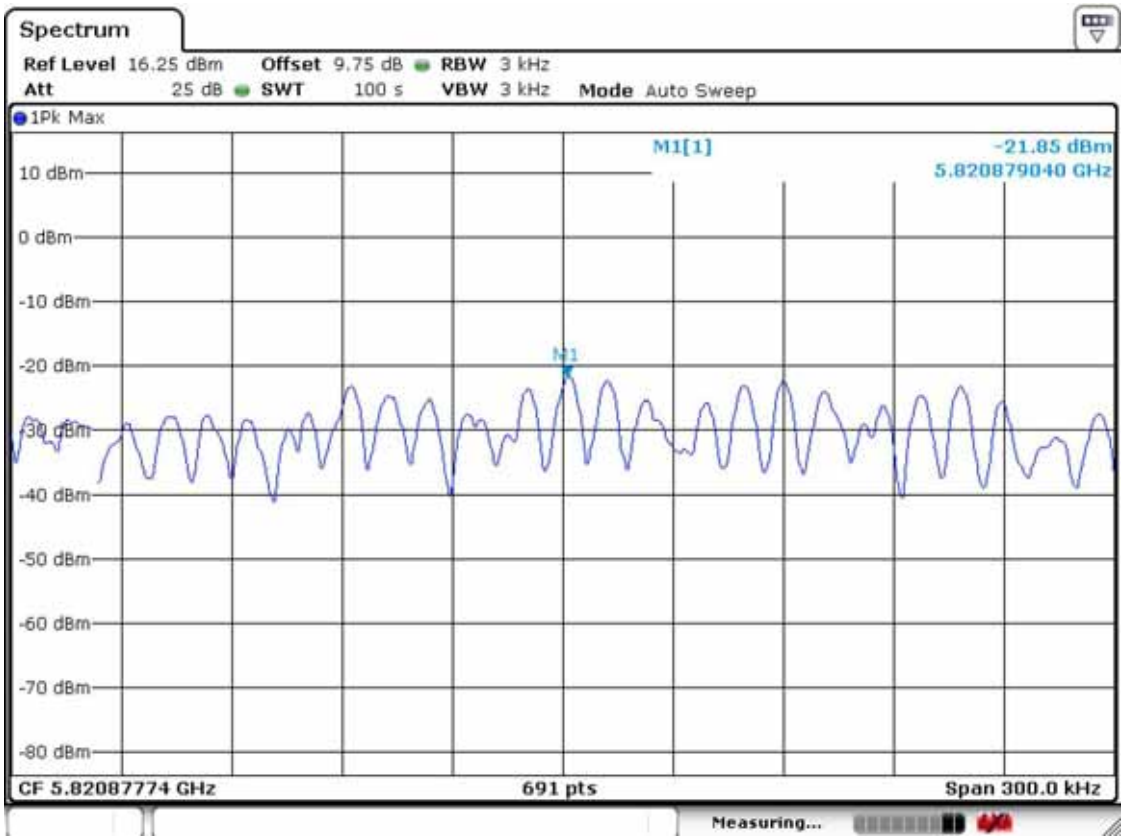
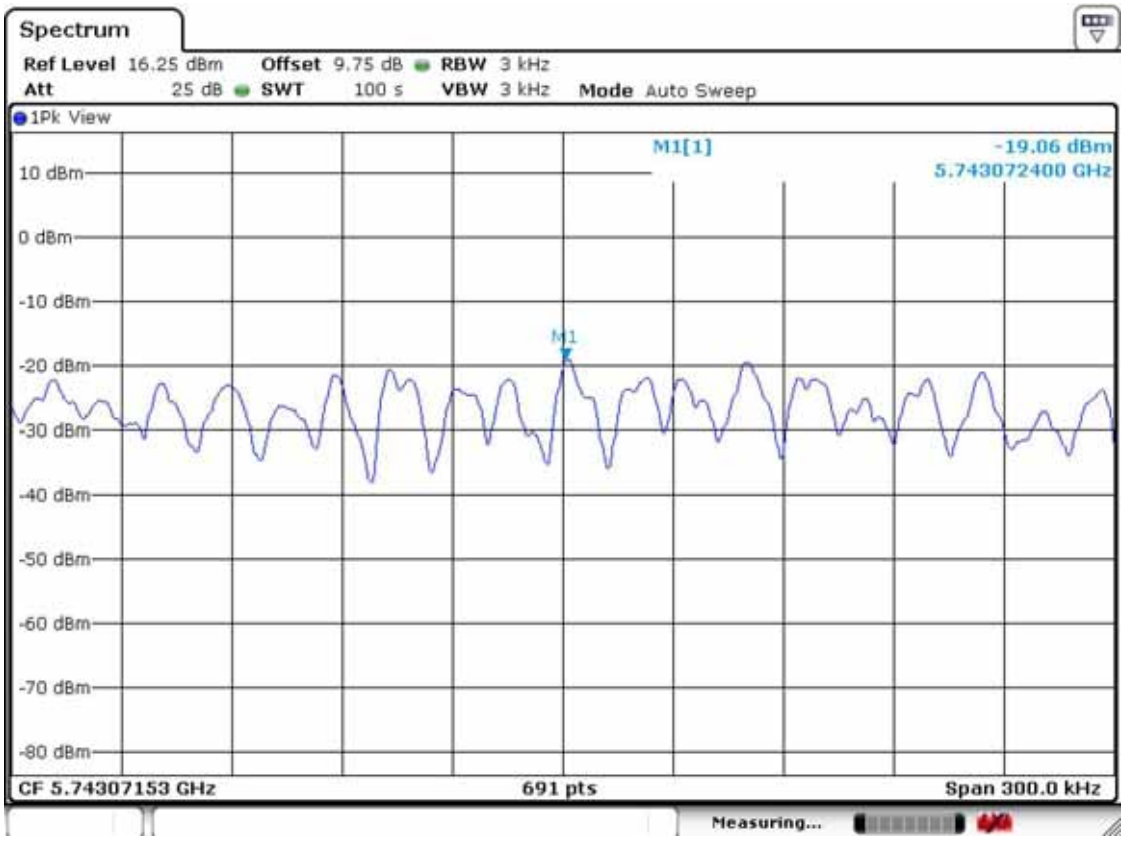
CH 165

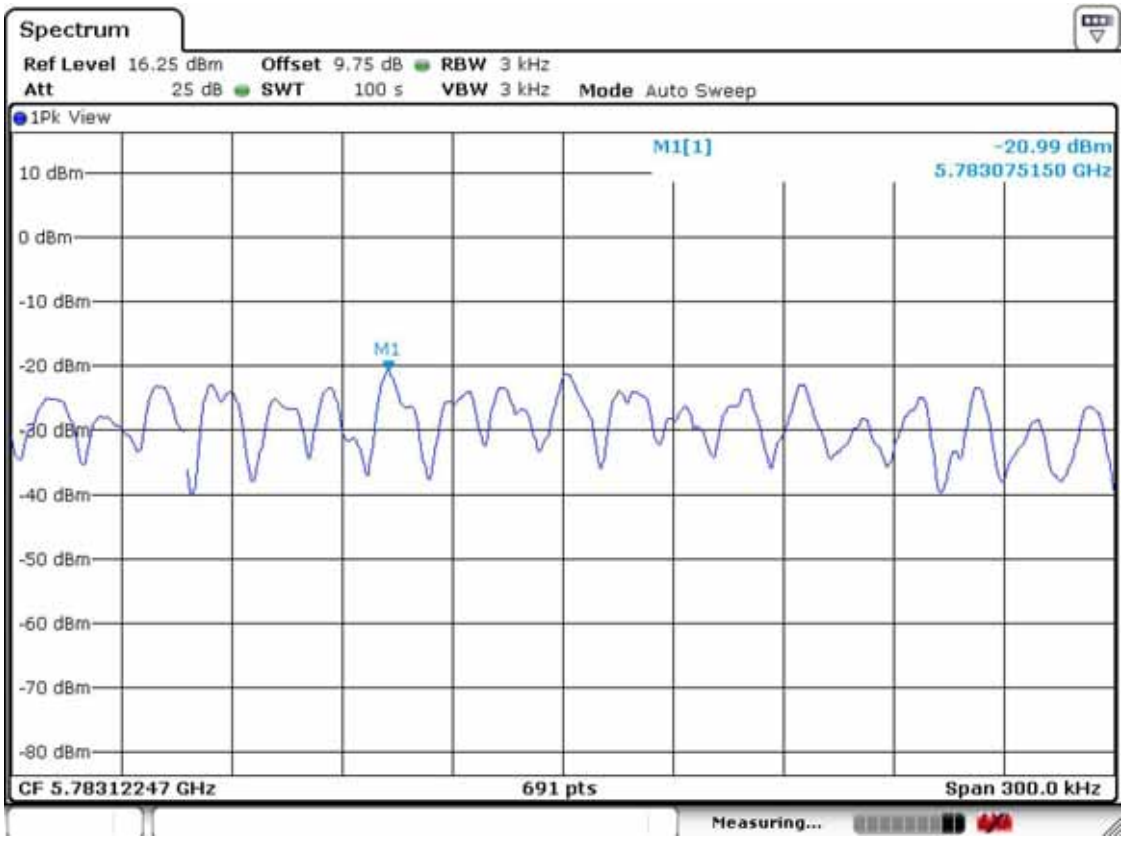

Spectrum
Ref Level 16.25 dBm Offset 9.75 dB RBW 3 kHz
Att 25 dB SWT 100 s VBW 3 kHz Mode Auto Sweep
1Pk Max
M1[1] -21.85 dBm
5.820879040 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
M1
CF 5.82087774 GHz
691 pts
Span 300.0 kHz
Measuring...

802.11an_20MHz Power Density Measurement

CH 149



CH 157



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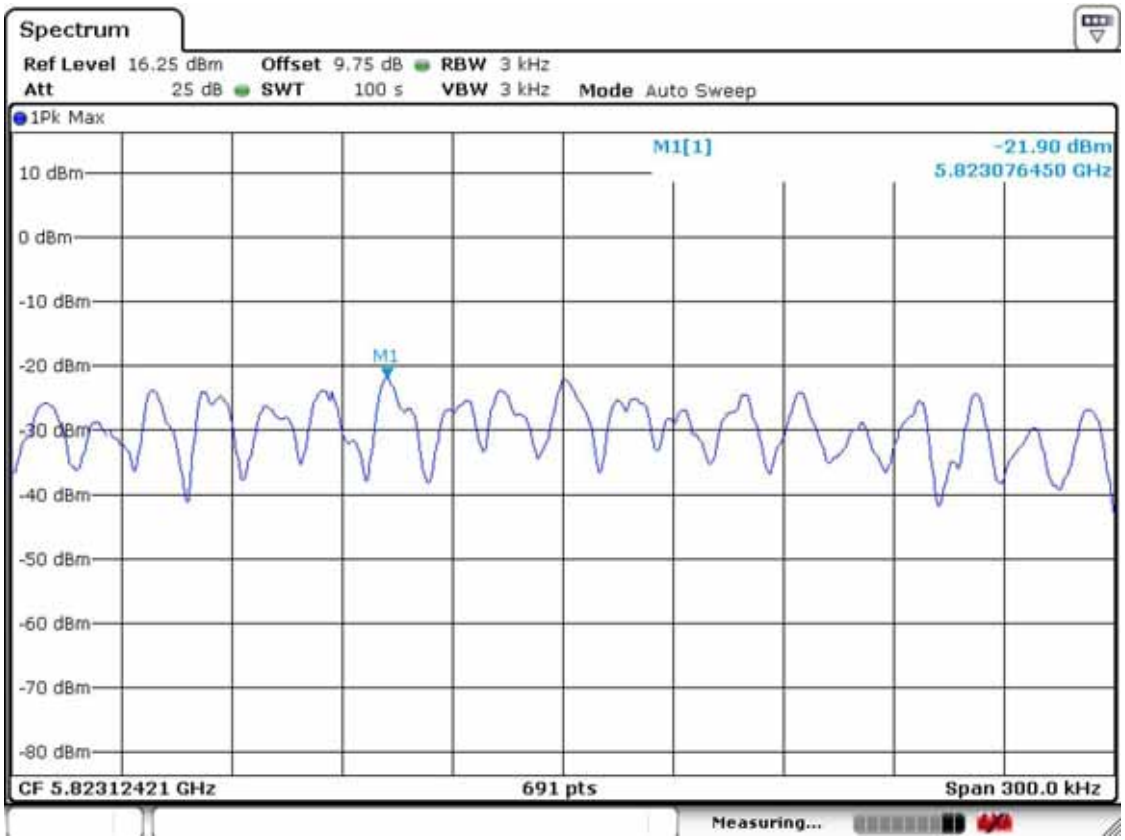
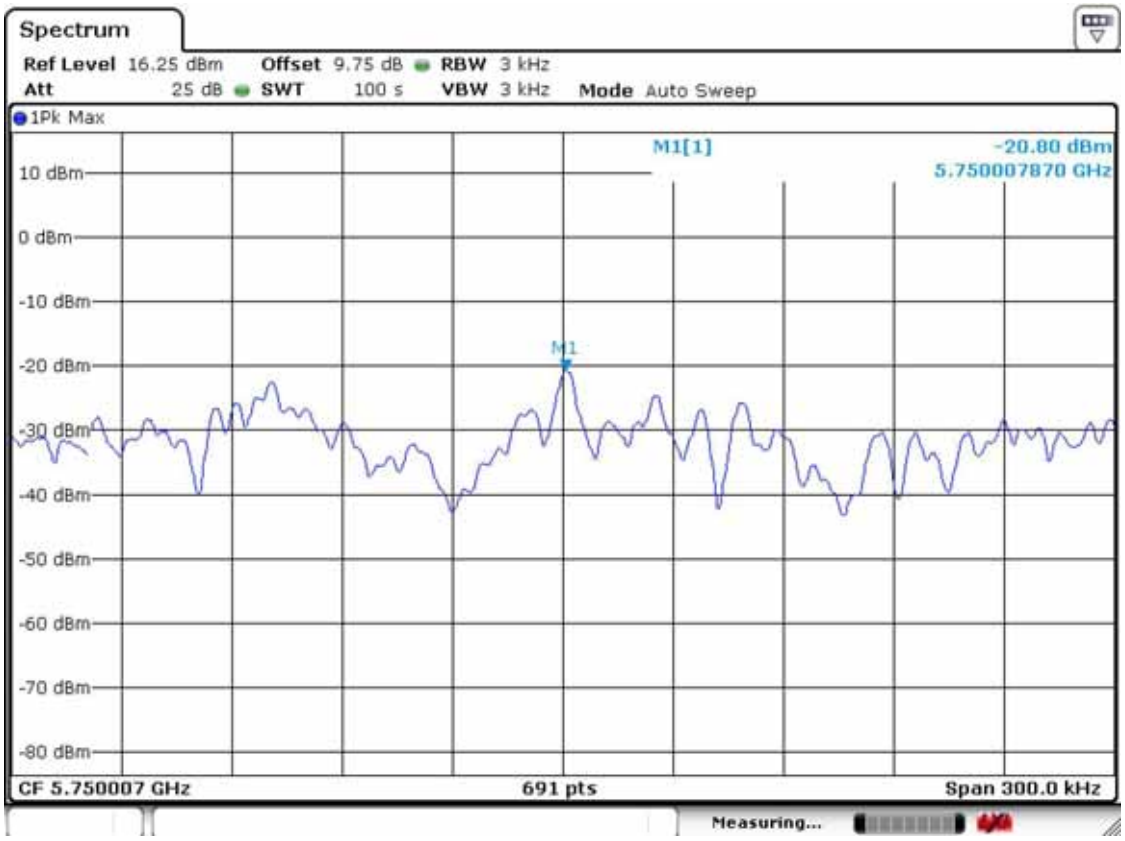
CH 165

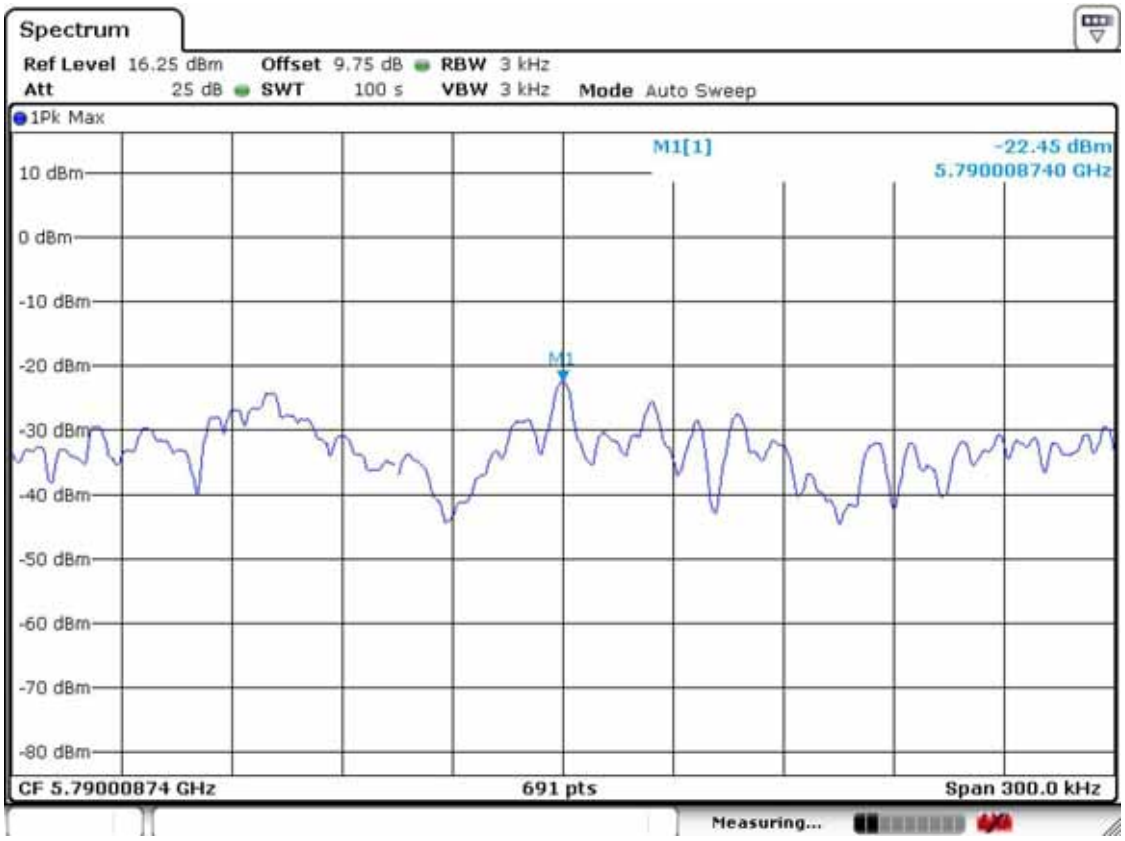

Spectrum
Ref Level 16.25 dBm Offset 9.75 dB RBW 3 kHz
Att 25 dB SWT 100 s VBW 3 kHz Mode Auto Sweep
1Pk Max
M1[1] -21.90 dBm
5.823076450 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
M1
CF 5.82312421 GHz
691 pts
Span 300.0 kHz
Measuring...

802.11an_40MHz Power Density Measurement

CH 151



CH 159



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3.2.4 Band - edge

Procedure:

The bandwidth at 20dB down from the highest inband spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate frequencies.

After the trace being stable, Use the marker-to-peak function to measure 20 dB down both sides of the intentional emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 100 kHz	VBW = 100 kHz
Span = 40 MHz	Detector function = peak
Trace = max hold	Sweep = auto

Measurement Data: Complies

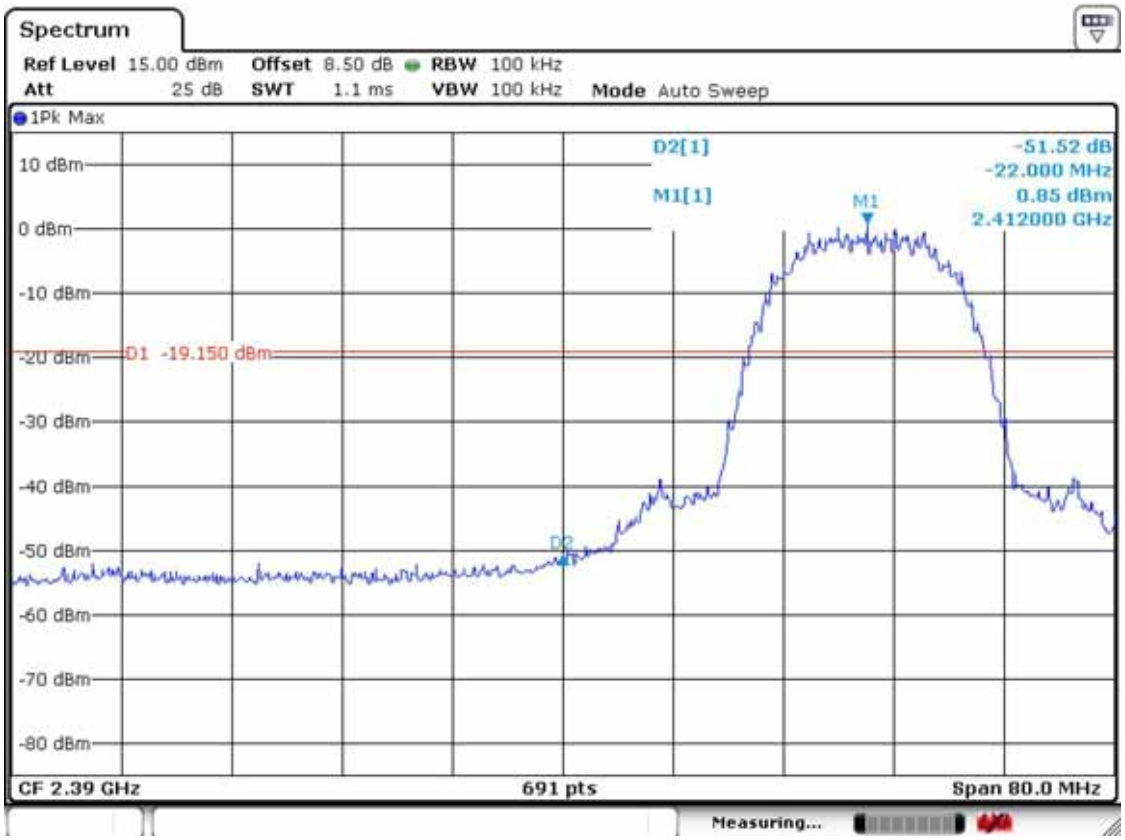
- All conducted emission in any 100kHz bandwidth outside of the spread spectrum band was at least 20dB lower than the highest inband spectral density. Therefore the applying equipment meets the requirement.
- See next pages for actual measured spectrum plots.

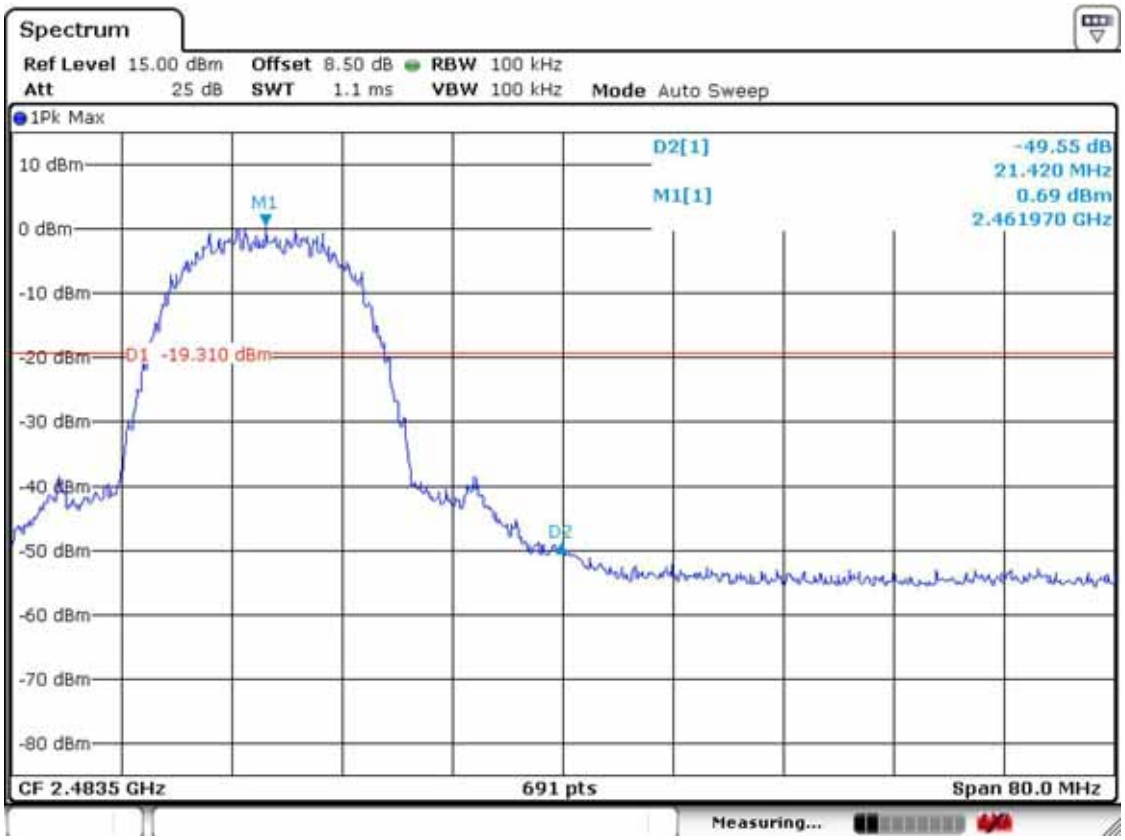
Minimum Standard:	> 20 dBc

Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

802.11b Band–edge : Conducted Measurements





Band-edges in the restricted band 2310-2390 MHz measurement

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
2390.0	40.1	52.2	V	25.4	37.1	4.0	54.0	74.0	32.3	44.4	21.7	29.6

Band-edges in the restricted band 2483.5-2500 MHz measurement

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
2483.8	45.3	58.5	V	25.4	37.1	4.0	54.0	74.0	37.6	50.7	16.4	23.3

Note : This EUT was tested in 3 orthogonal positions and the worst-case data was presented

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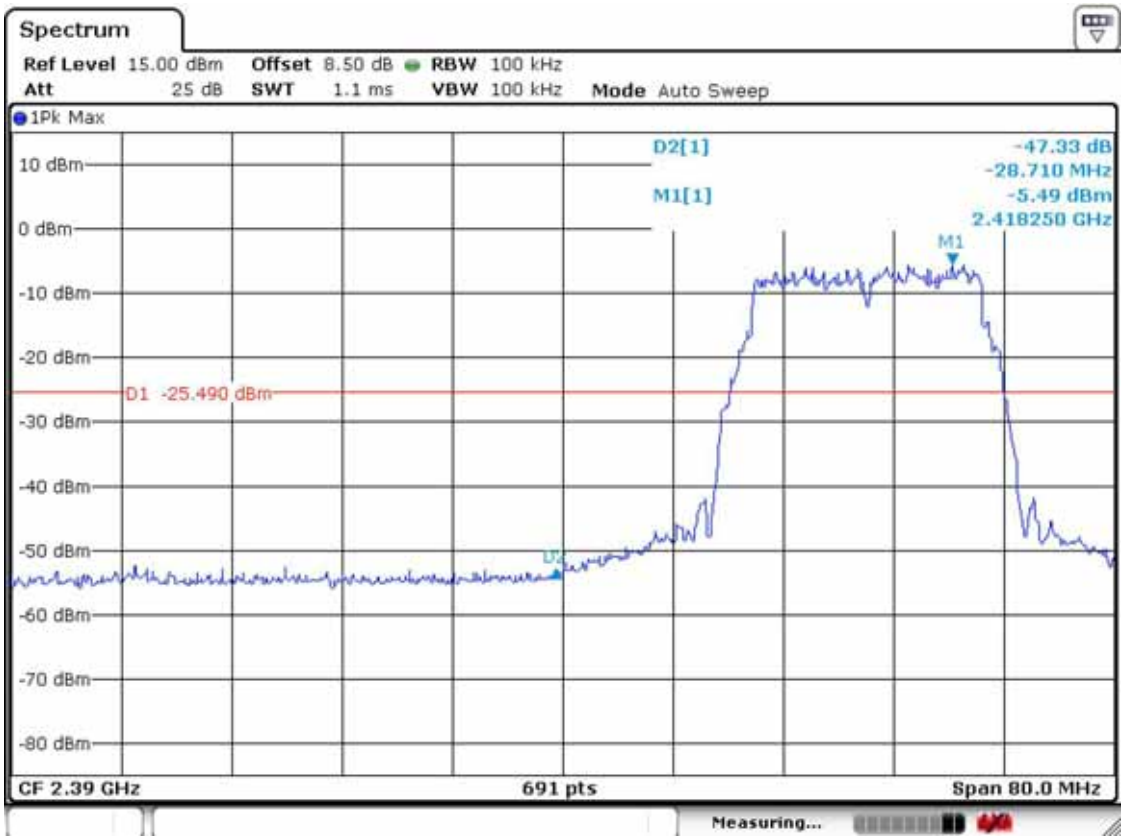
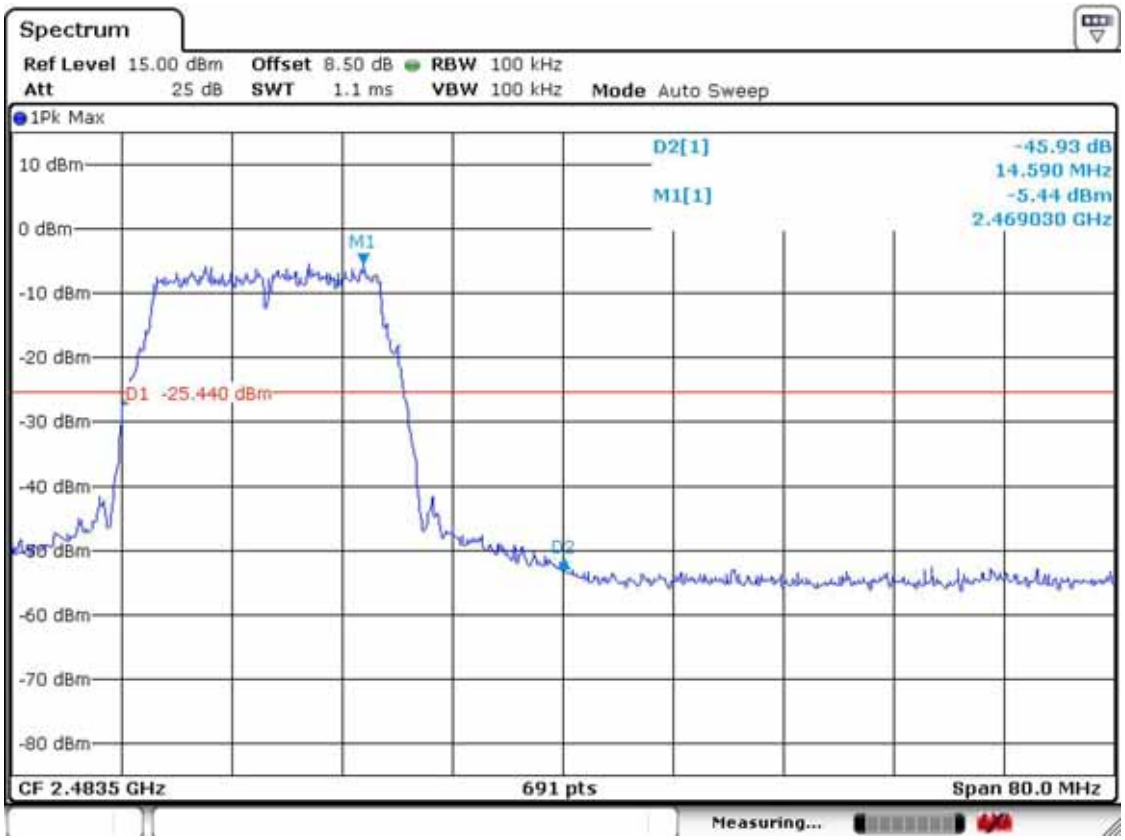
802.11g Band–edge : Conducted Measurements





Band-edges in the restricted band 2310-2390 MHz measurement

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
2389.4	41.1	55.0	V	25.4	37.1	4.0	54.0	74.0	33.3	47.3	20.7	26.8

Band-edges in the restricted band 2483.5-2500 MHz measurement

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
2484.0	46.8	58.6	V	25.4	37.1	4.0	54.0	74.0	39.0	50.9	15.0	23.1

Note : This EUT was tested in 3 orthogonal positions and the worst-case data was presented

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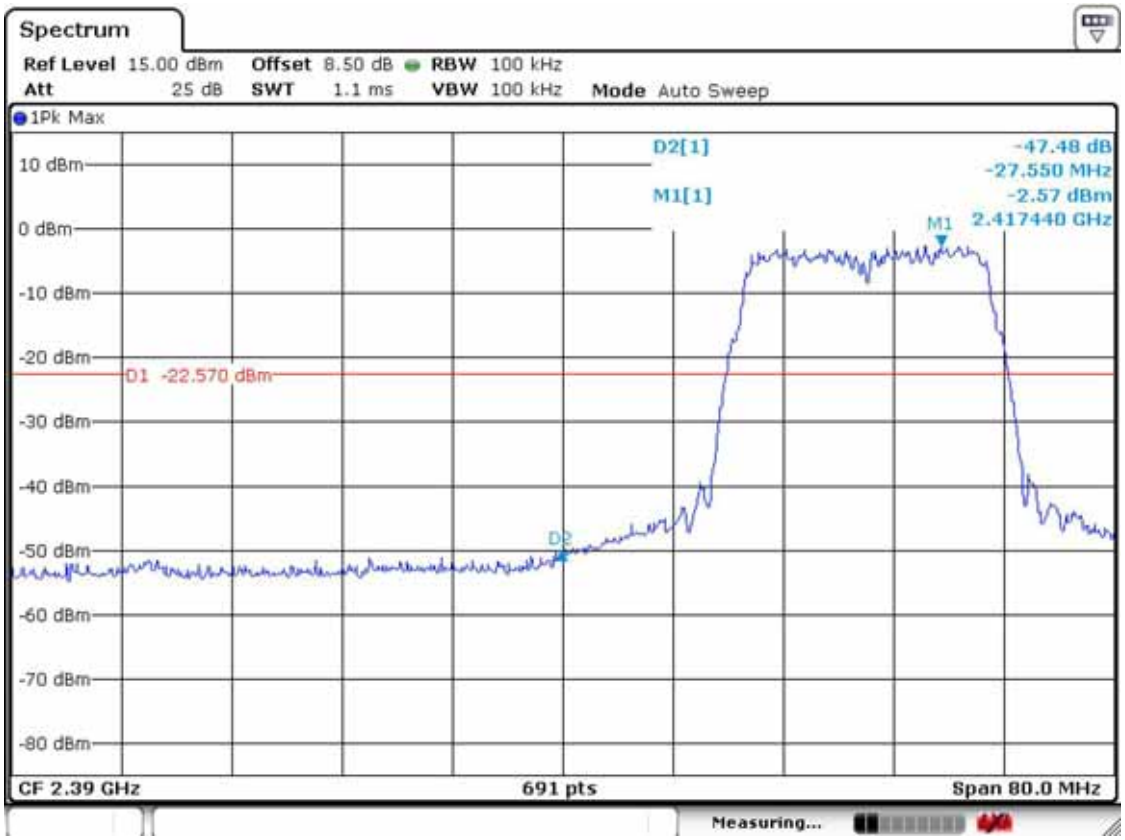
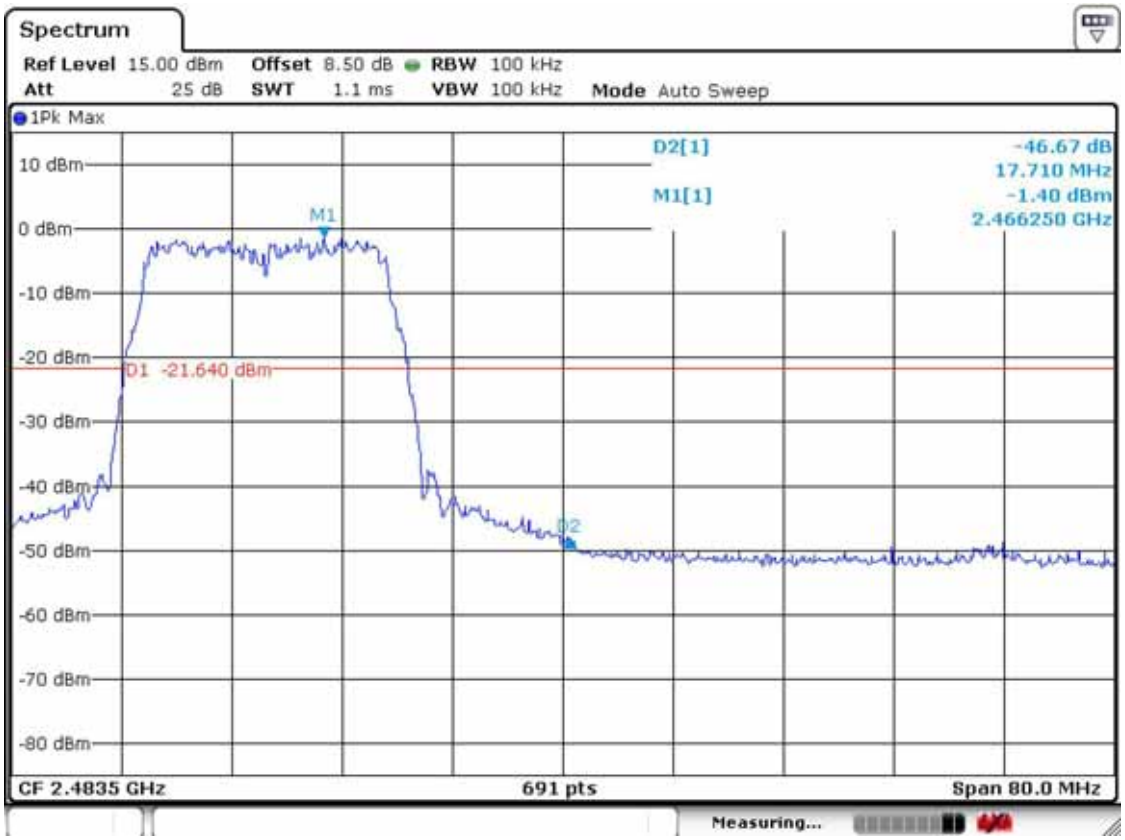
802.11n_20MHz Band–edge : Conducted Measurements





Band-edges in the restricted band 2310-2390 MHz measurement

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
2389.4	45.9	59.4	V	25.4	37.1	4.0	54.0	74.0	38.1	51.7	15.9	22.3

Band-edges in the restricted band 2483.5-2500 MHz measurement

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
2484.0	45.4	57.8	H	25.4	37.1	4.0	54.0	74.0	37.6	50.1	16.4	23.9

Note : This EUT was tested in 3 orthogonal positions and the worst-case data was presented

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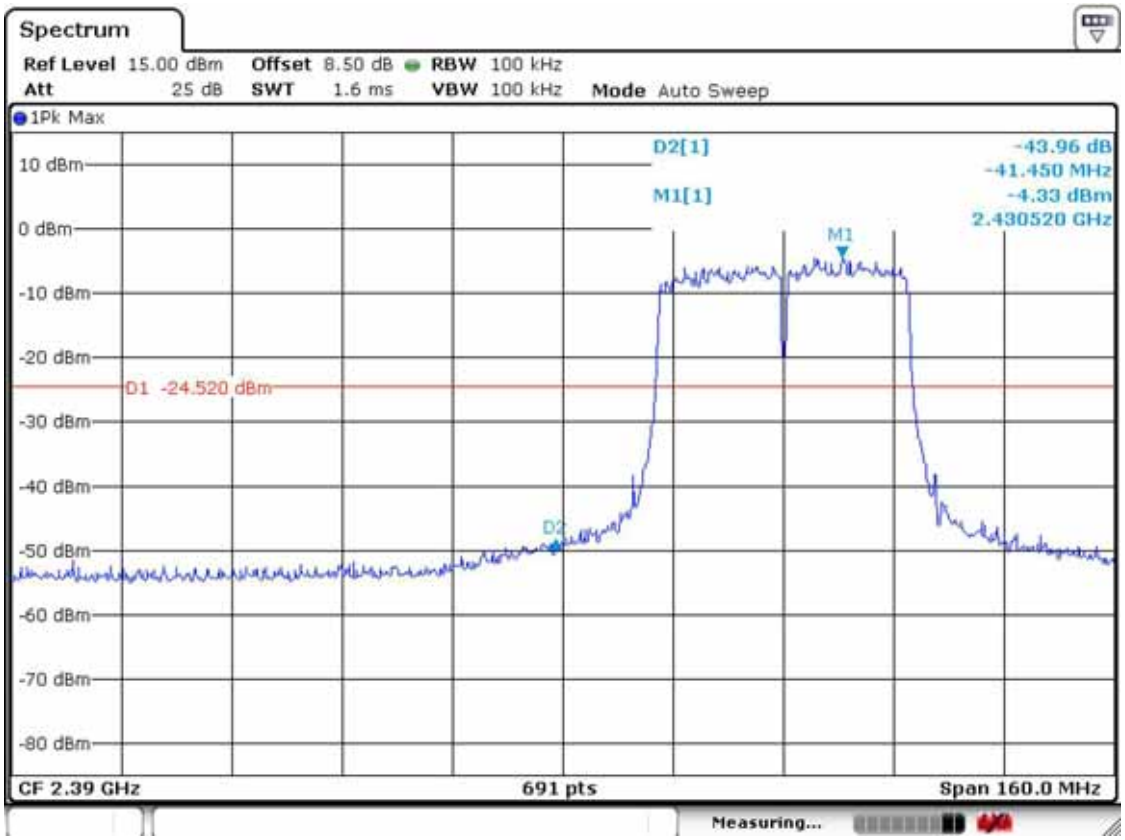
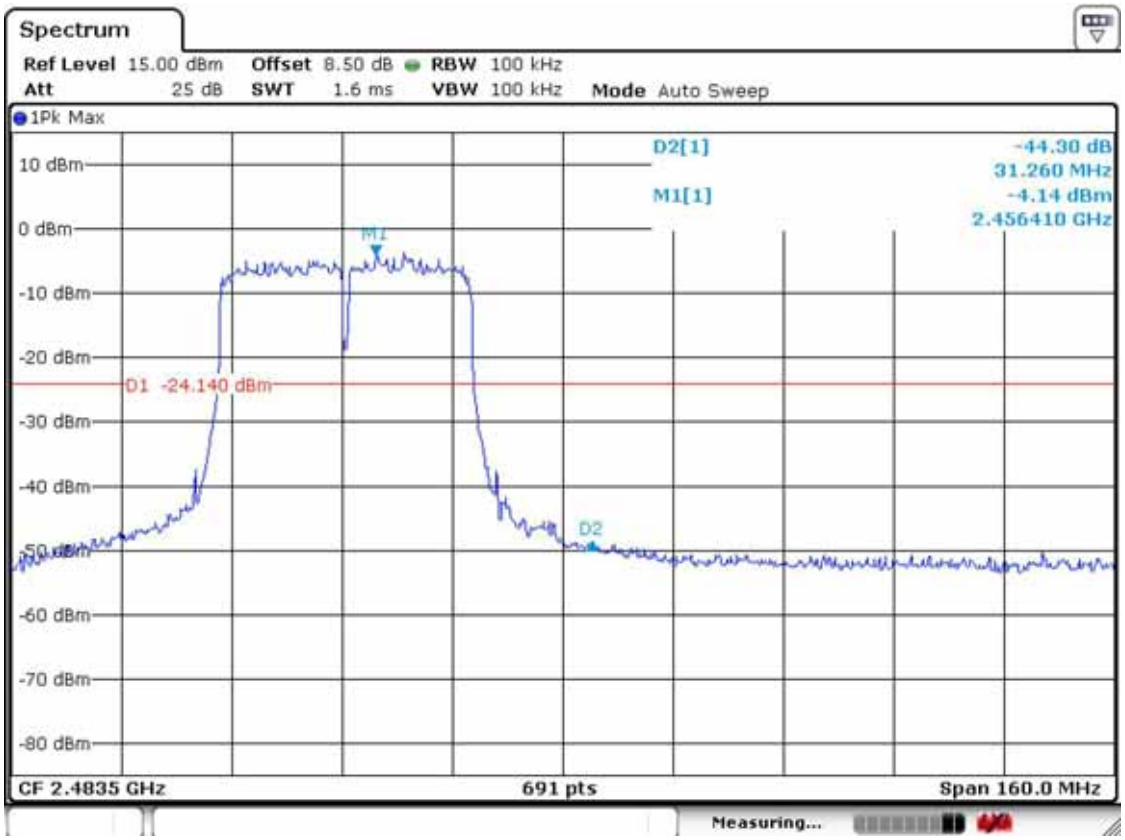
802.11n_40MHz Band–edge : Conducted Measurements





Band-edges in the restricted band 2310-2390 MHz measurement

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
2389.9	38.5	50.8	V	25.4	37.1	4.0	54.0	74.0	30.8	43.0	23.2	31.0

Band-edges in the restricted band 2483.5-2500 MHz measurement

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
2483.7	32.8	43.7	H	25.4	37.1	4.0	54.0	74.0	25.1	36.0	28.9	38.1

Note : This EUT was tested in 3 orthogonal positions and the worst-case data was presented

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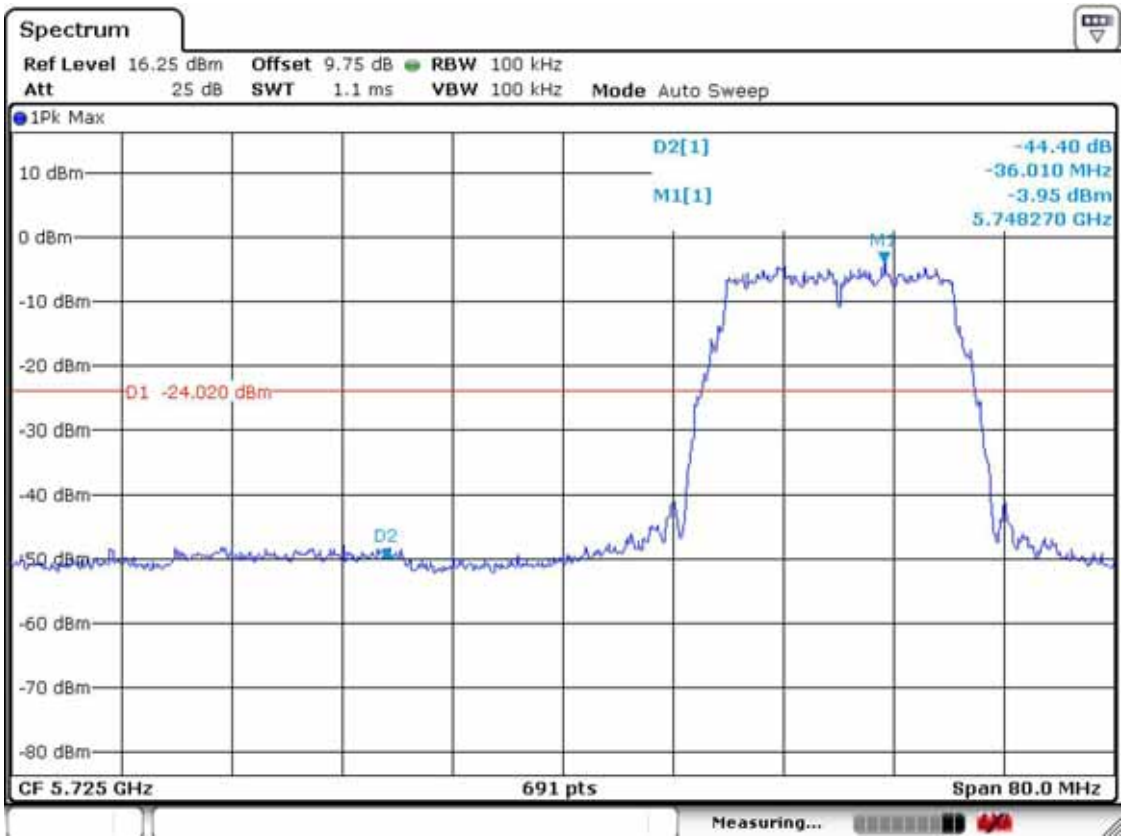
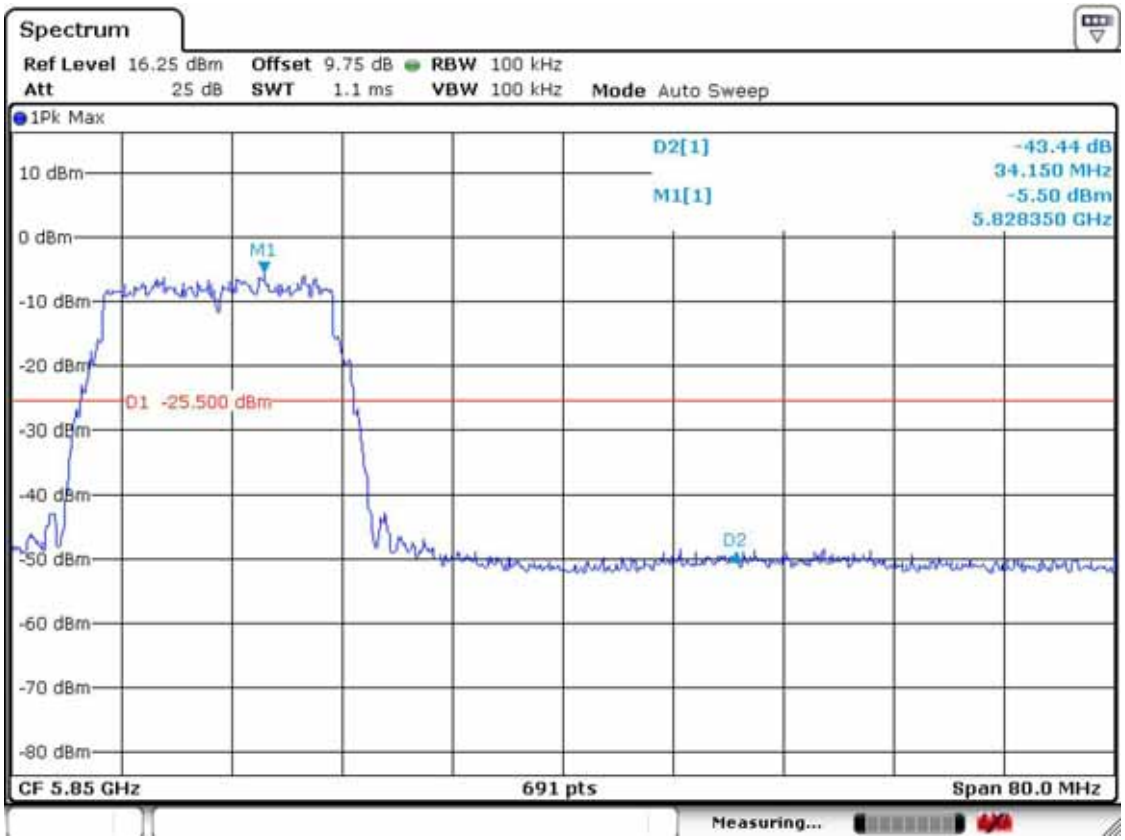
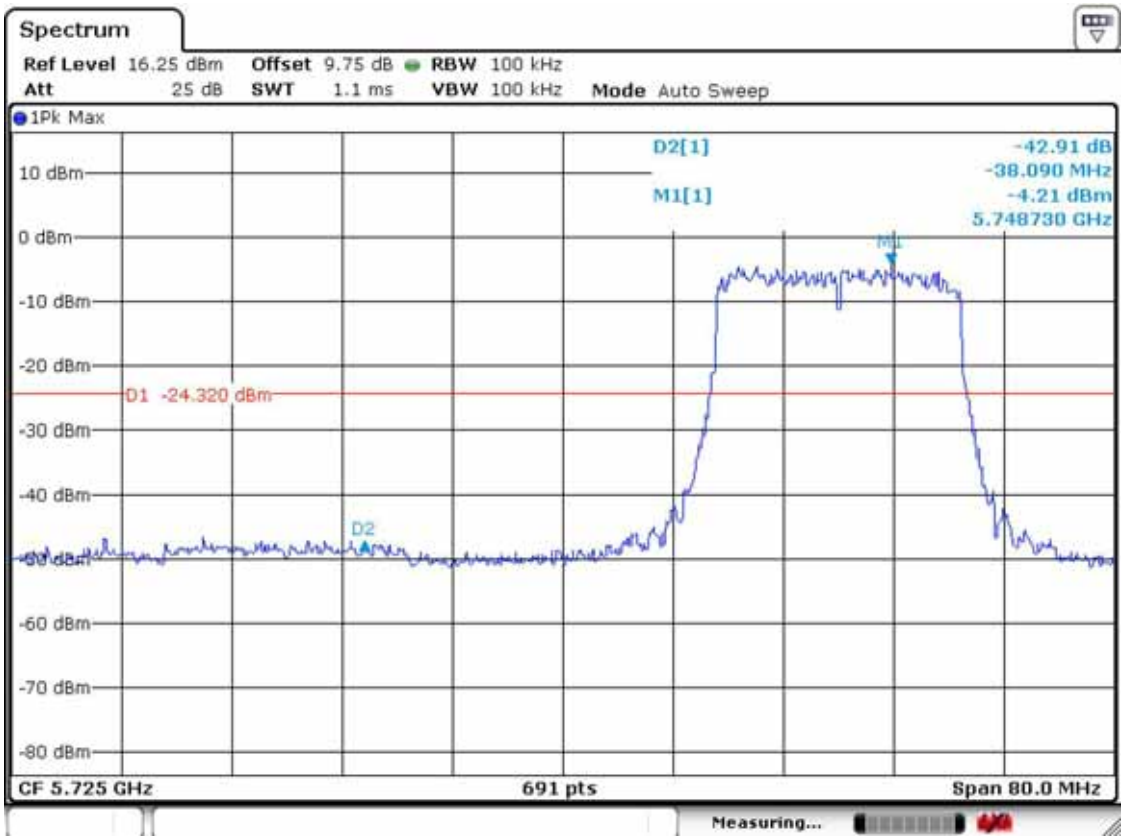
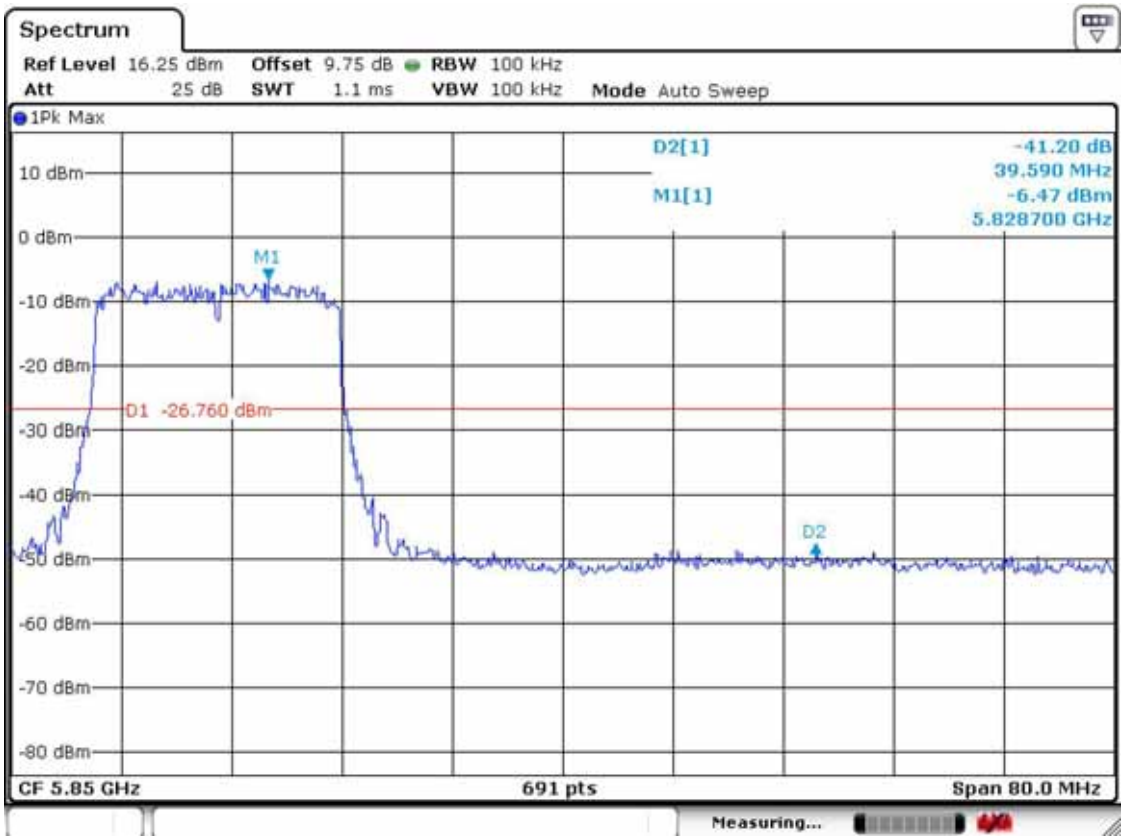
802.11a Band–edge : Conducted Measurements



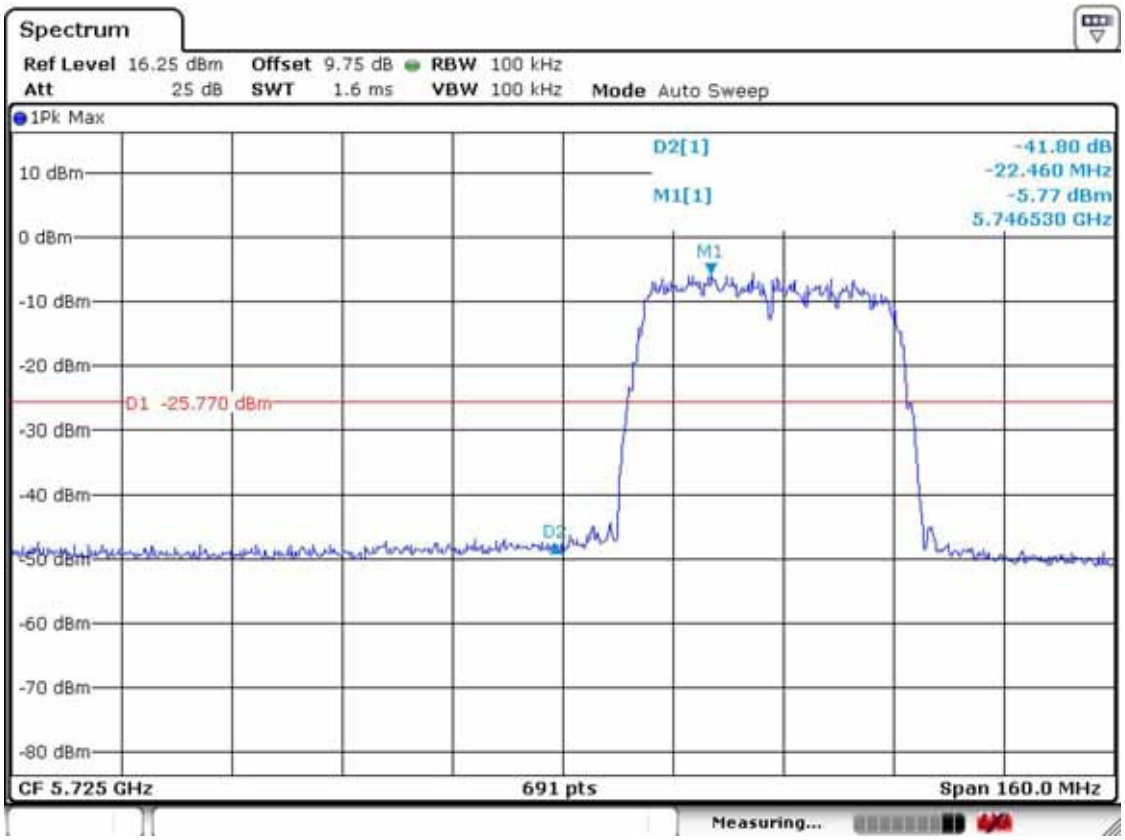


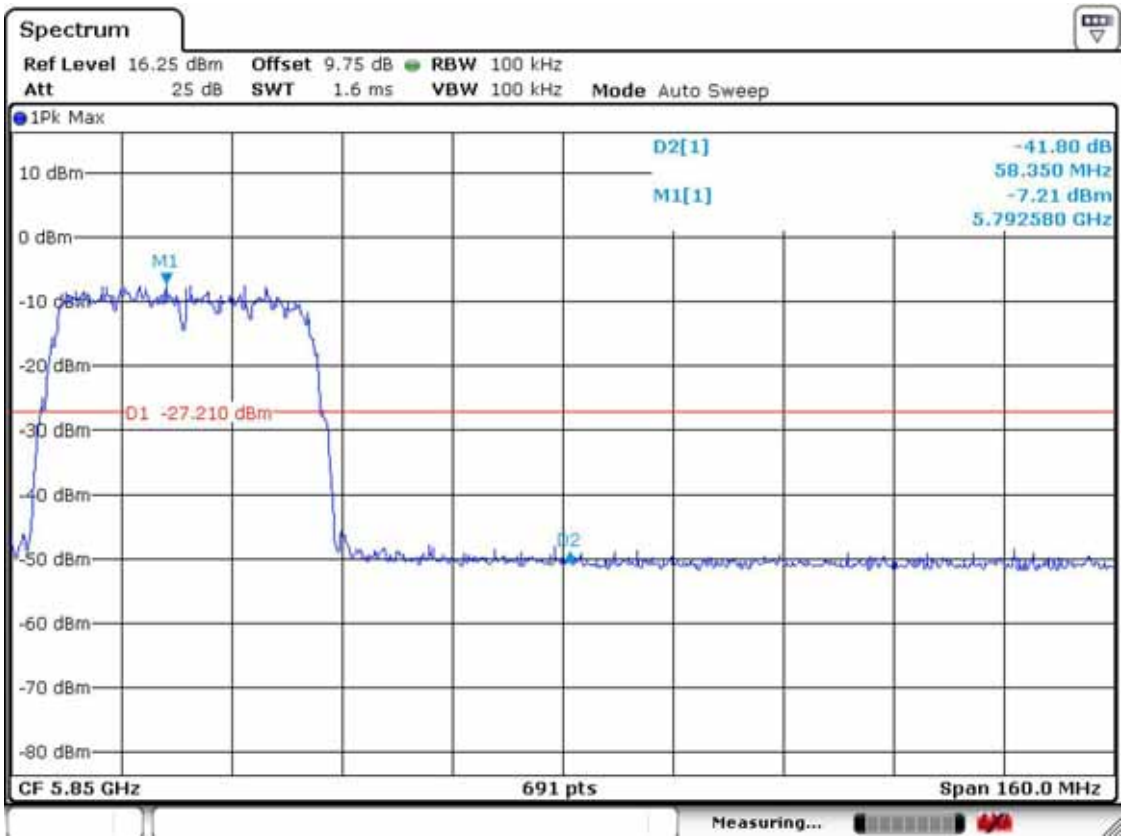
802.11an_20MHz Band–edge : Conducted Measurements





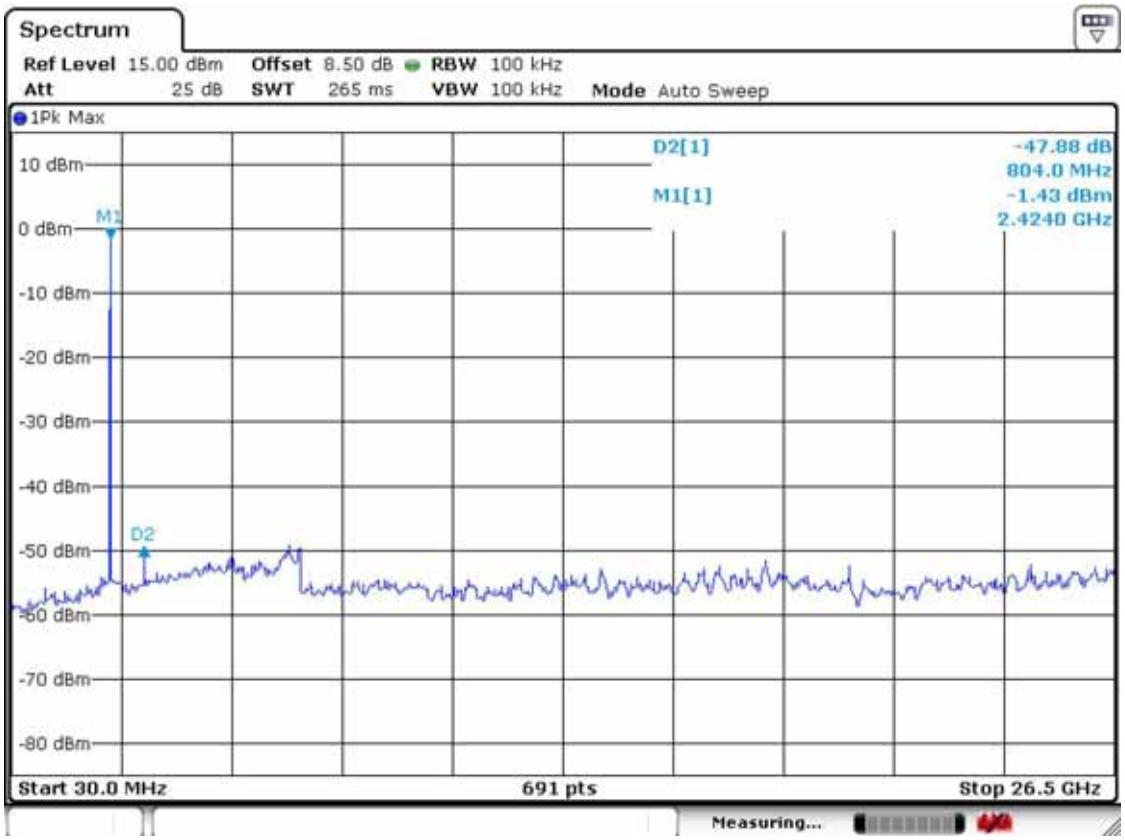
802.11an_40MHz Band–edge : Conducted Measurements





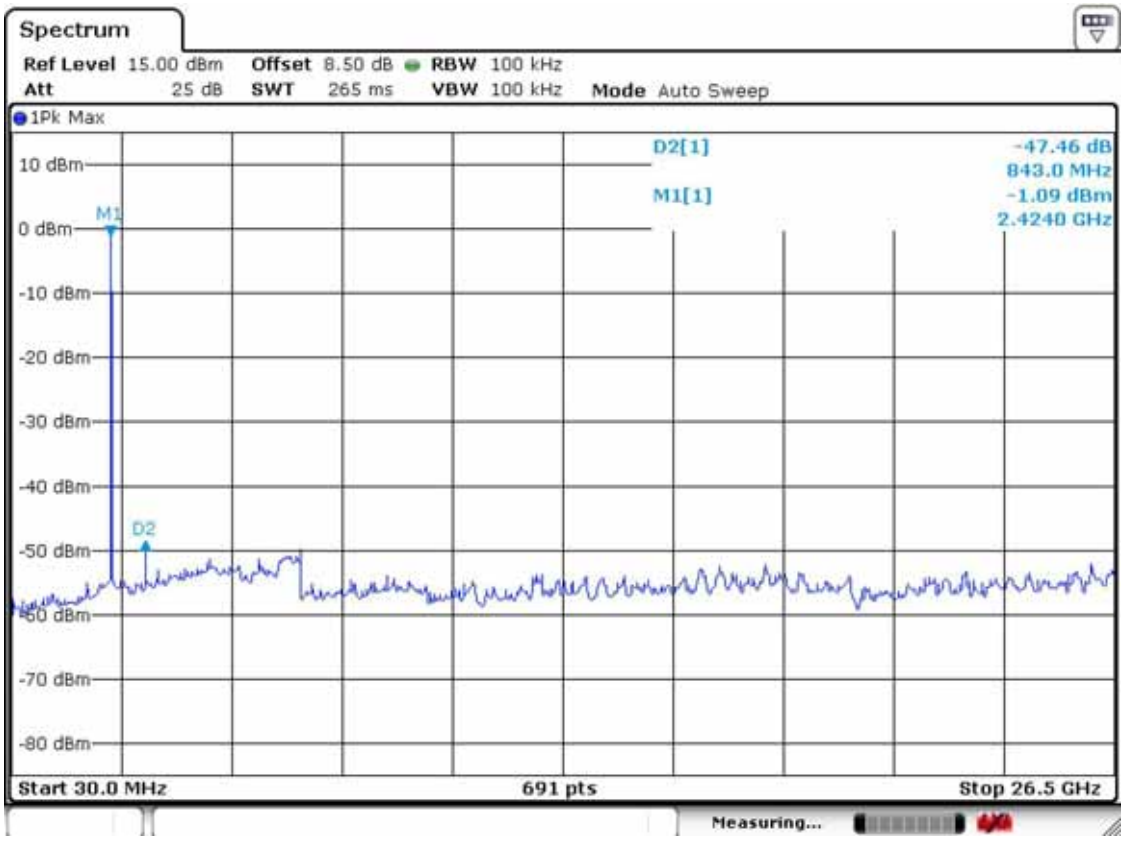
802.11b – channel 1

Frequency Range = 30 MHz ~ 10th harmonic.



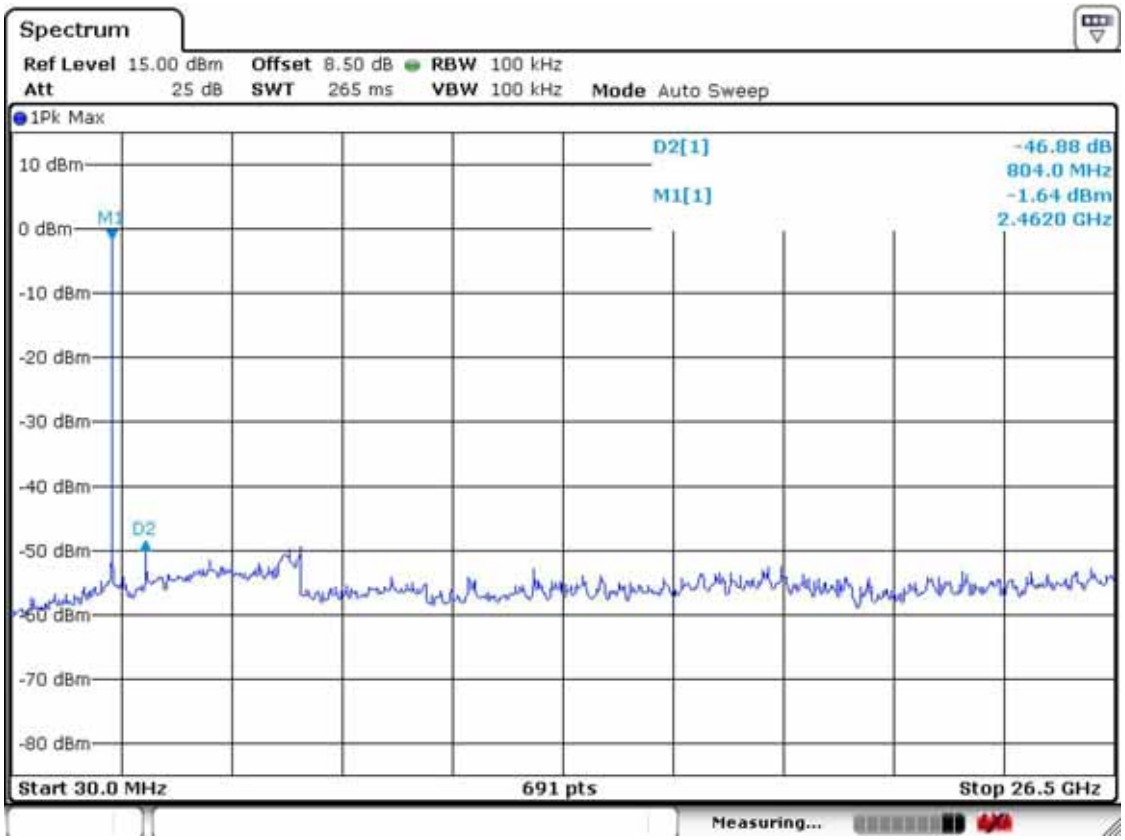
802.11b – channel 6

Frequency Range = 30 MHz ~ 10th harmonic.



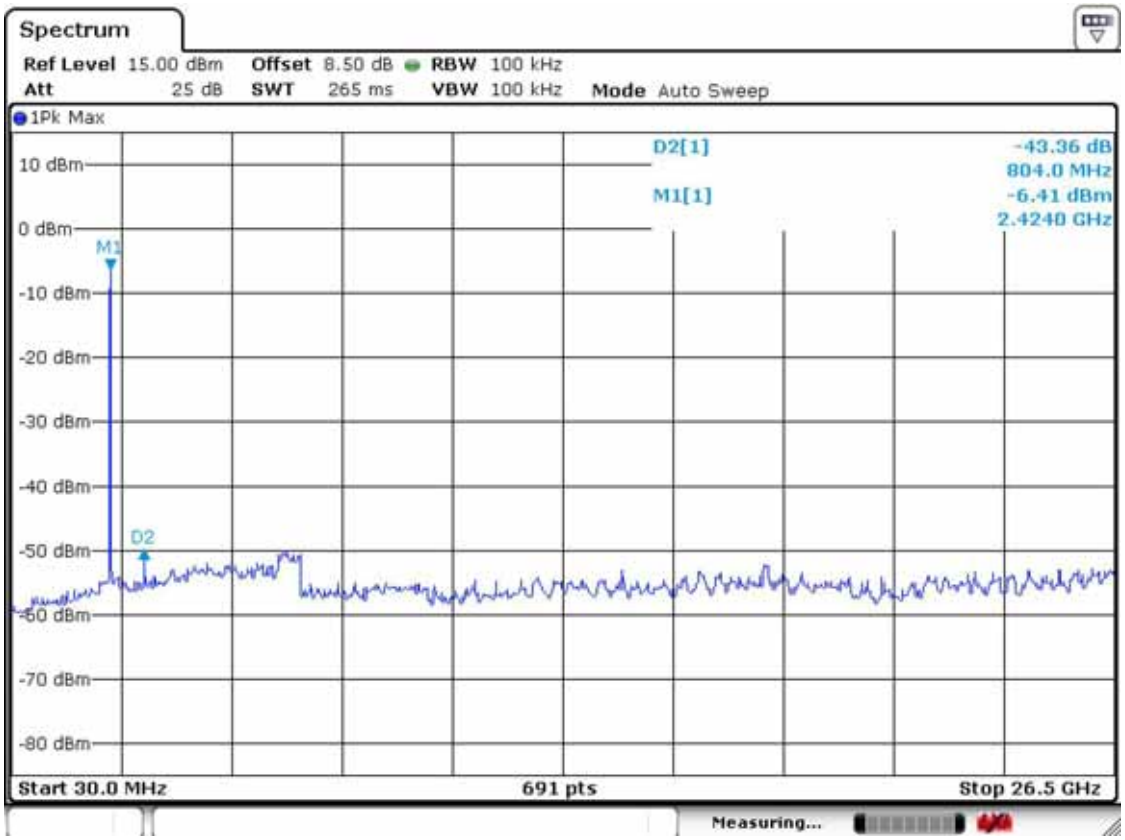
802.11b –channel 11

Frequency Range = 30 MHz ~ 10th harmonic.



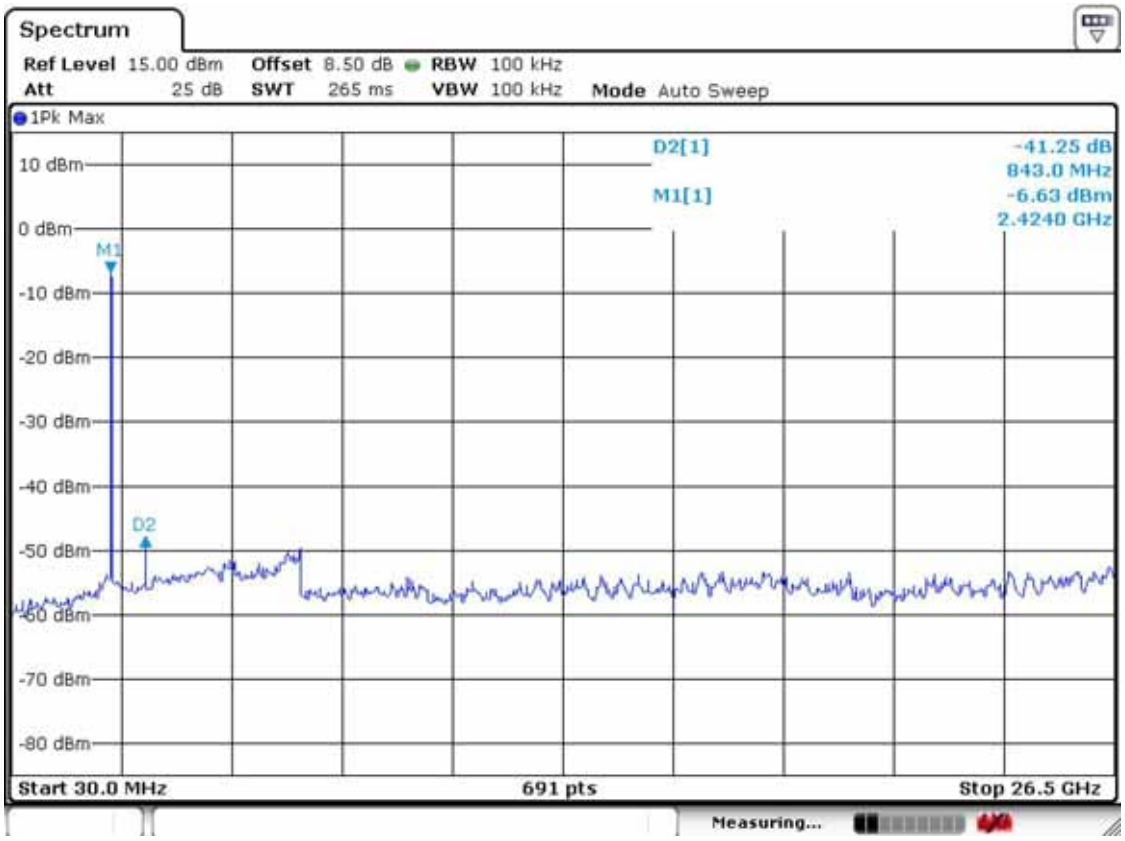
802.11g – channel 1

Frequency Range = 30 MHz ~ 10th harmonic.



802.11g – channel 6

Frequency Range = 30 MHz ~ 10th harmonic.



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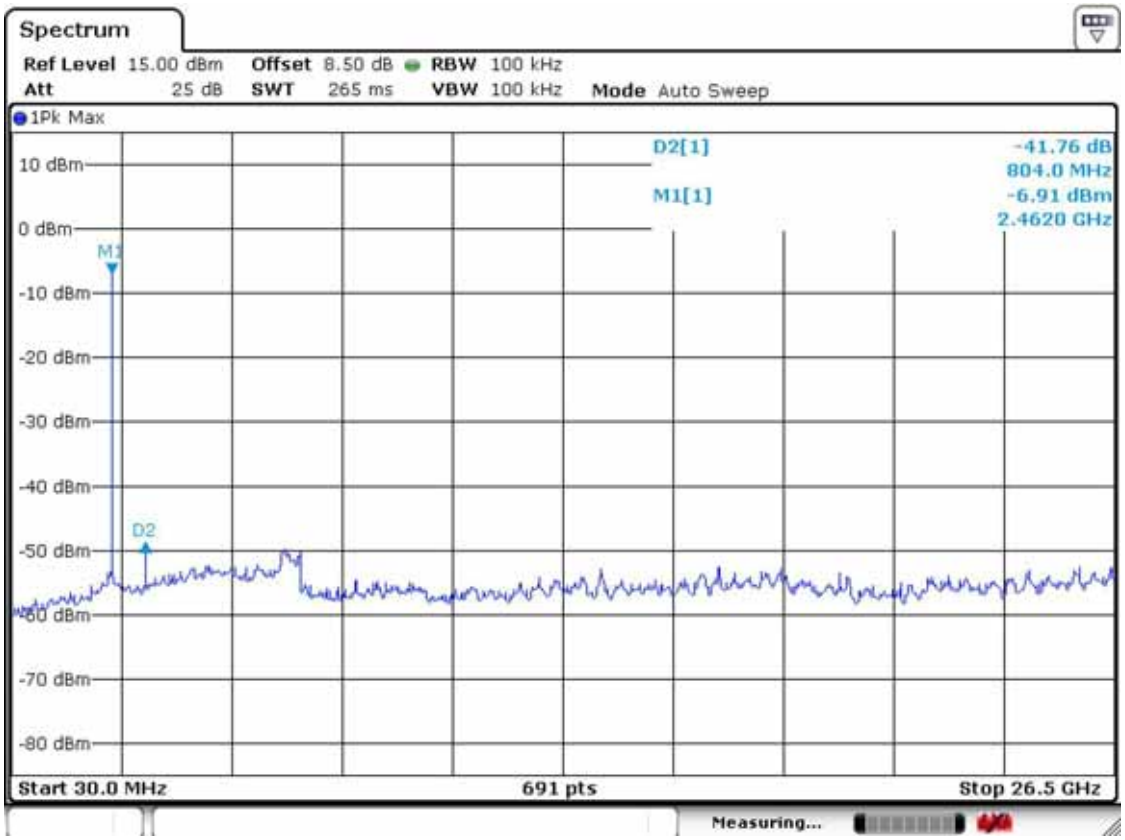
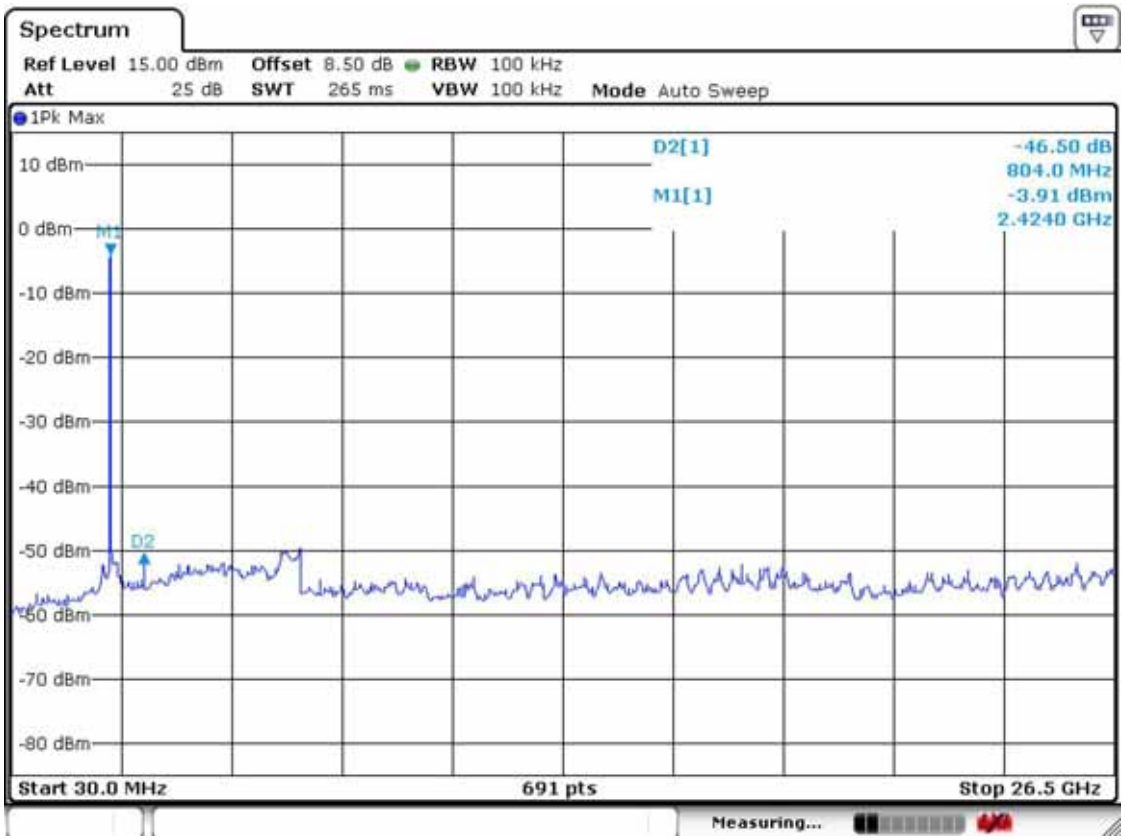
802.11g –channel 11

Frequency Range = 30 MHz ~ 10th harmonic.



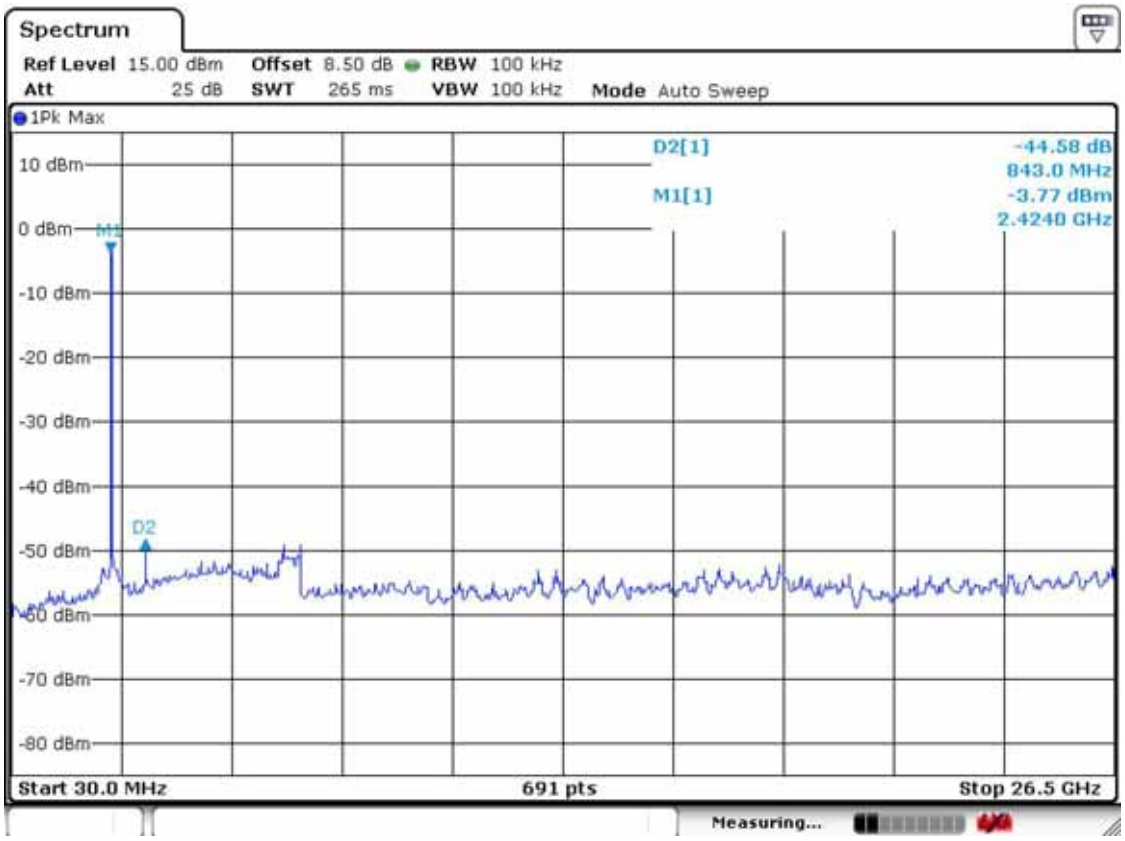
802.11n_20MHz – channel 1

Frequency Range = 30 MHz ~ 10th harmonic.



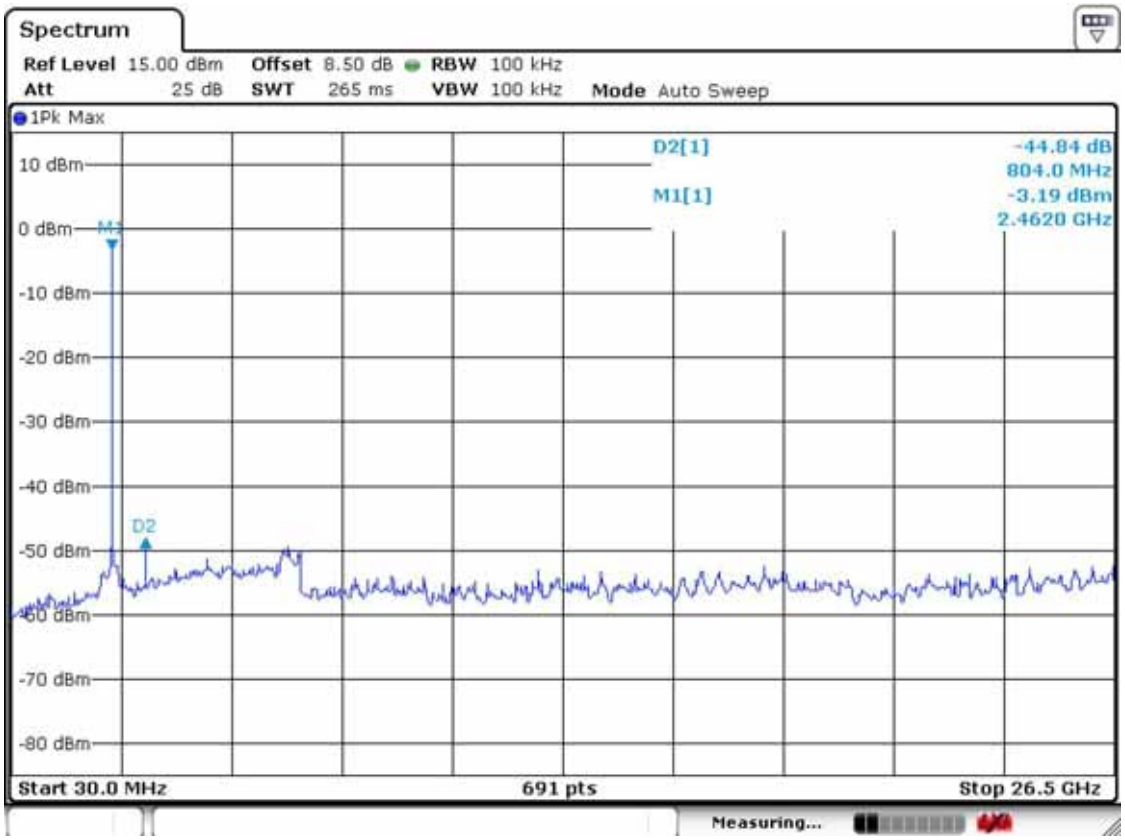
802.11n_20MHz – channel 6

Frequency Range = 30 MHz ~ 10th harmonic.



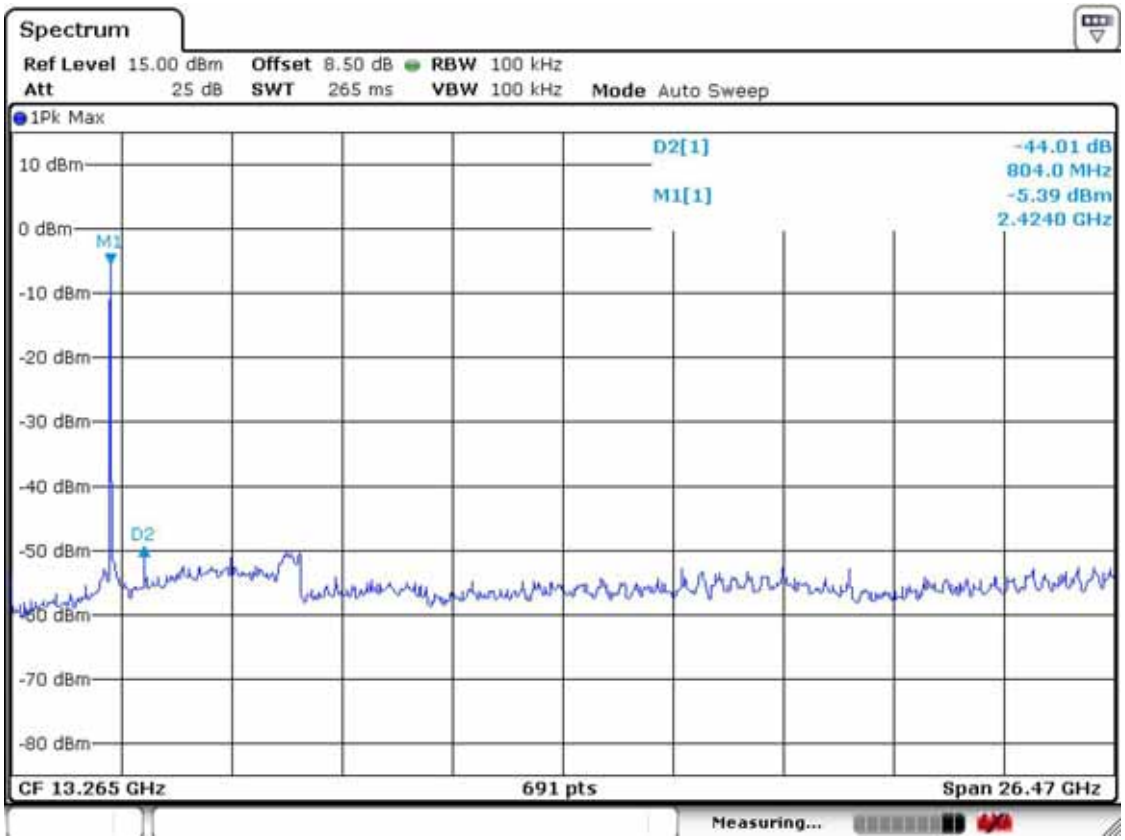
802.11n_20MHz –channel 11

Frequency Range = 30 MHz ~ 10th harmonic.



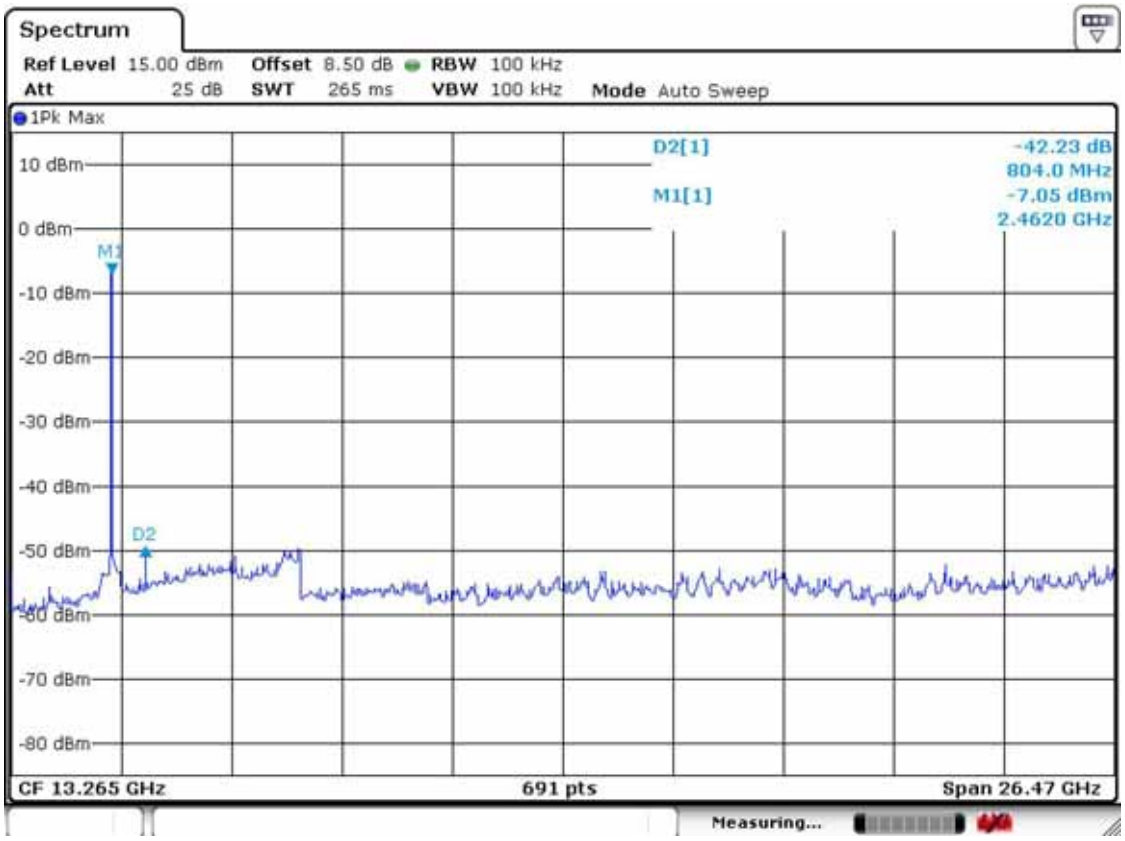
802.11n_40MHz – channel 3

Frequency Range = 30 MHz ~ 10th harmonic.



802.11n_40MHz – channel 6

Frequency Range = 30 MHz ~ 10th harmonic.



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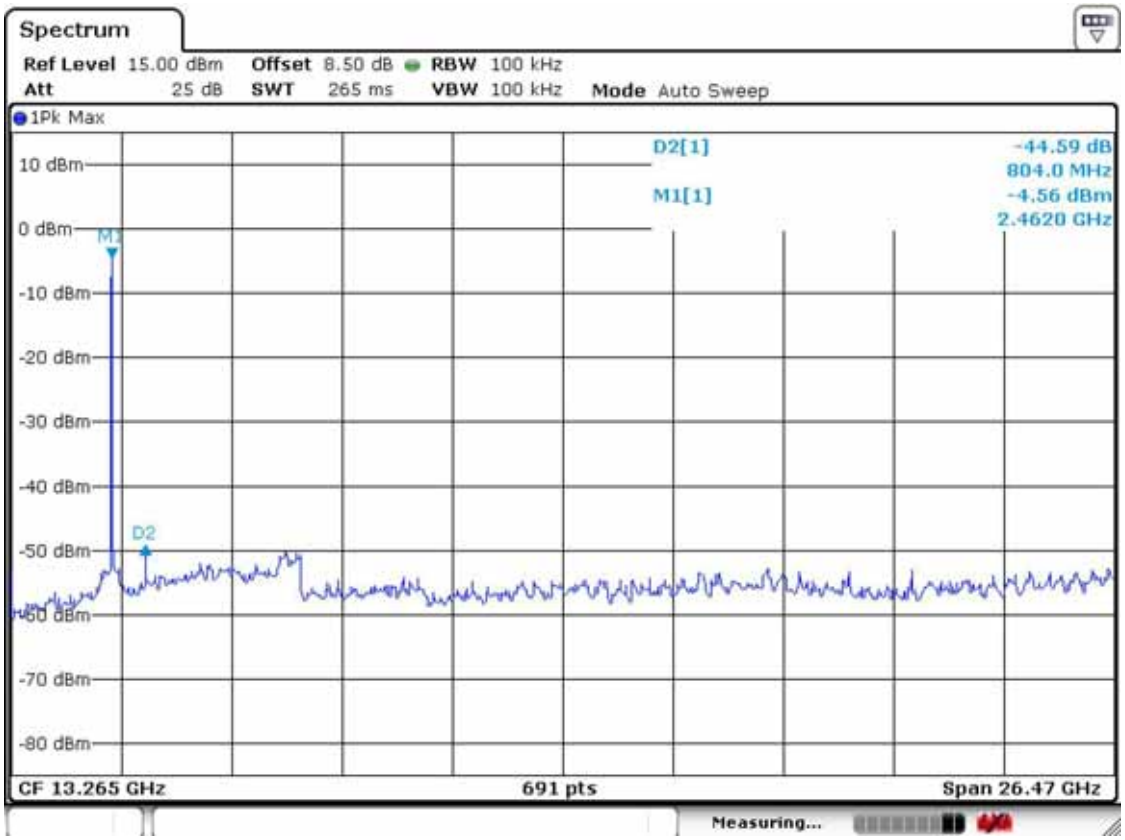
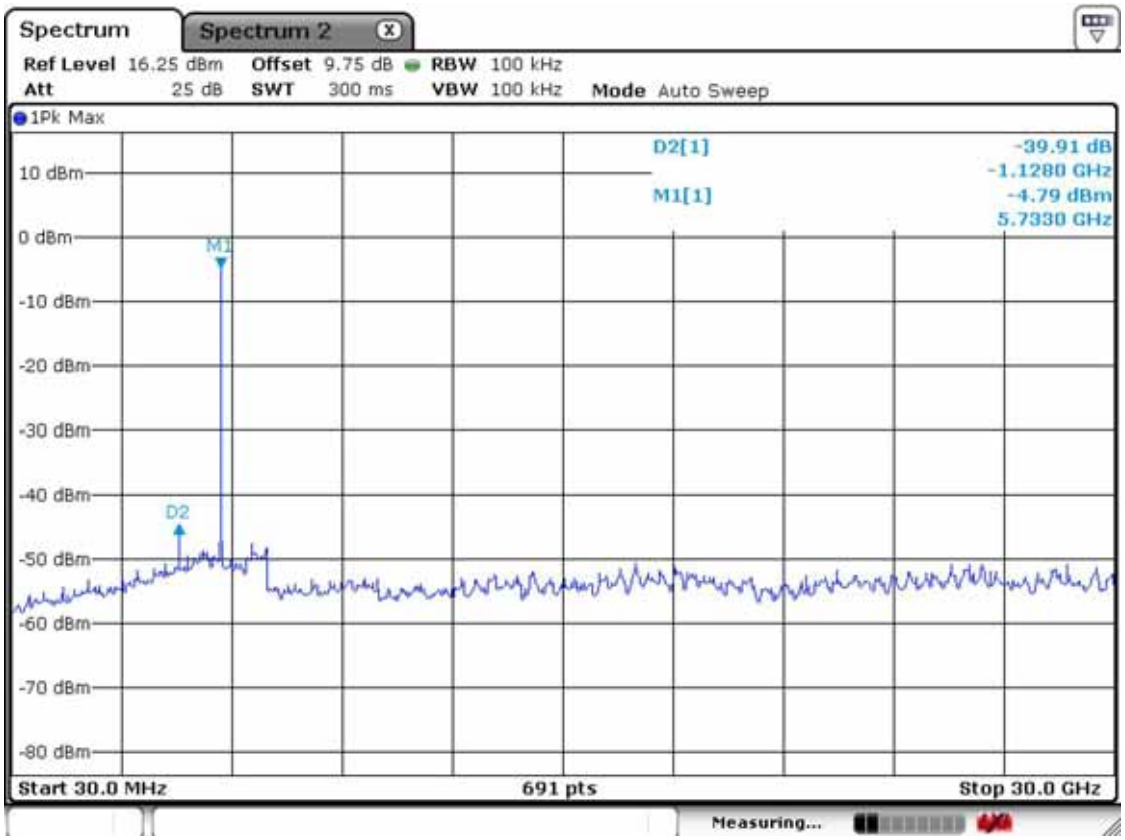
802.11n_40MHz –channel 9

Frequency Range = 30 MHz ~ 10th harmonic.



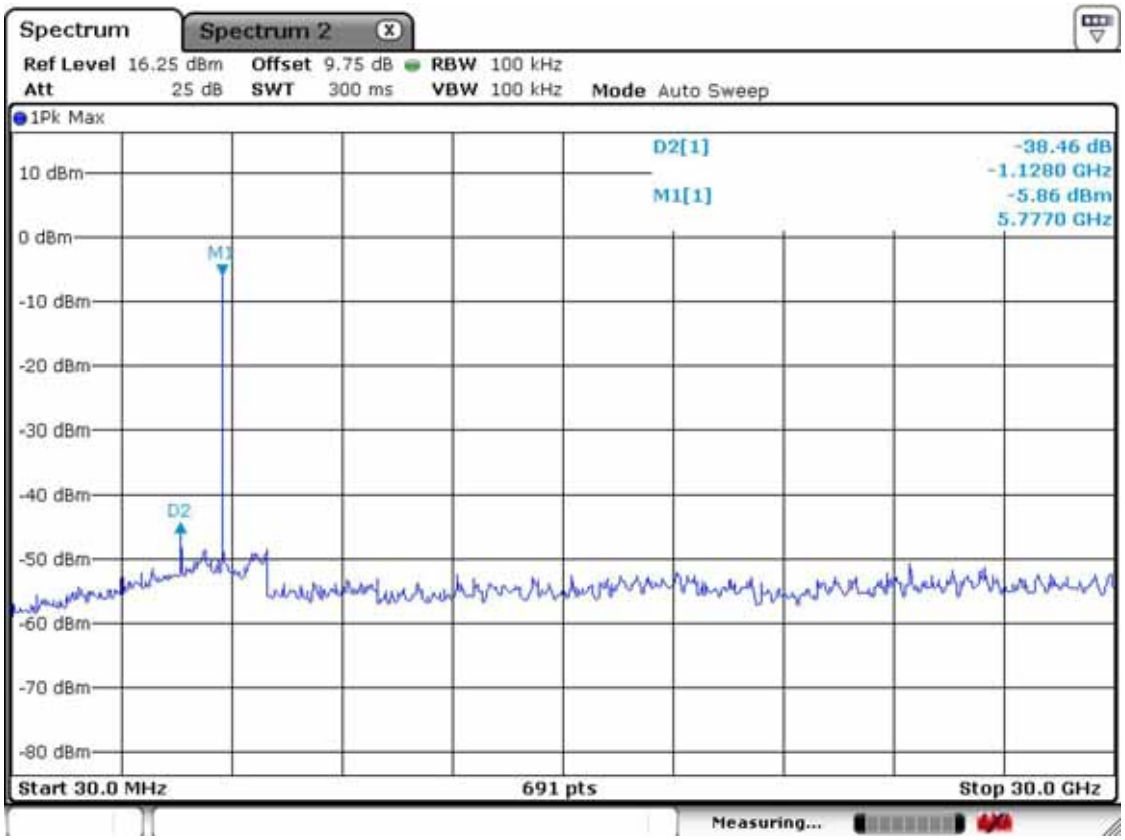
802.11a – channel 149

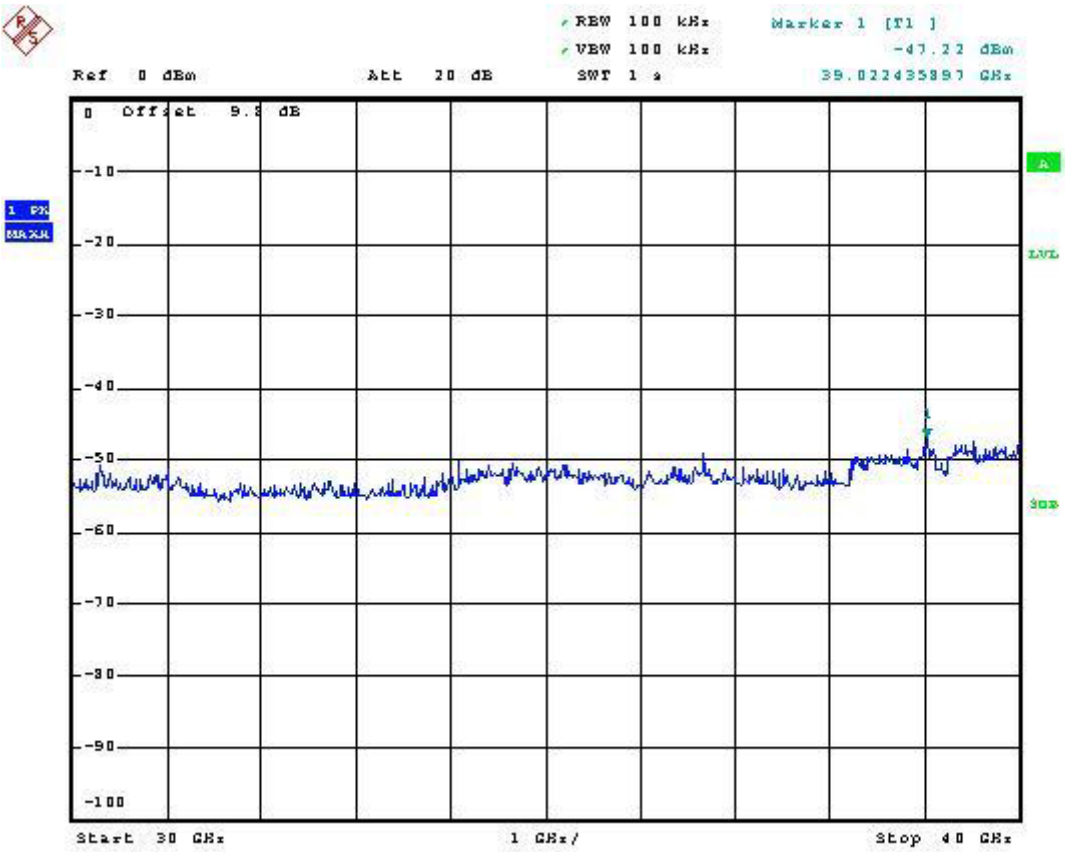
Frequency Range = 30 MHz ~ 40 GHz



802.11a – channel 157

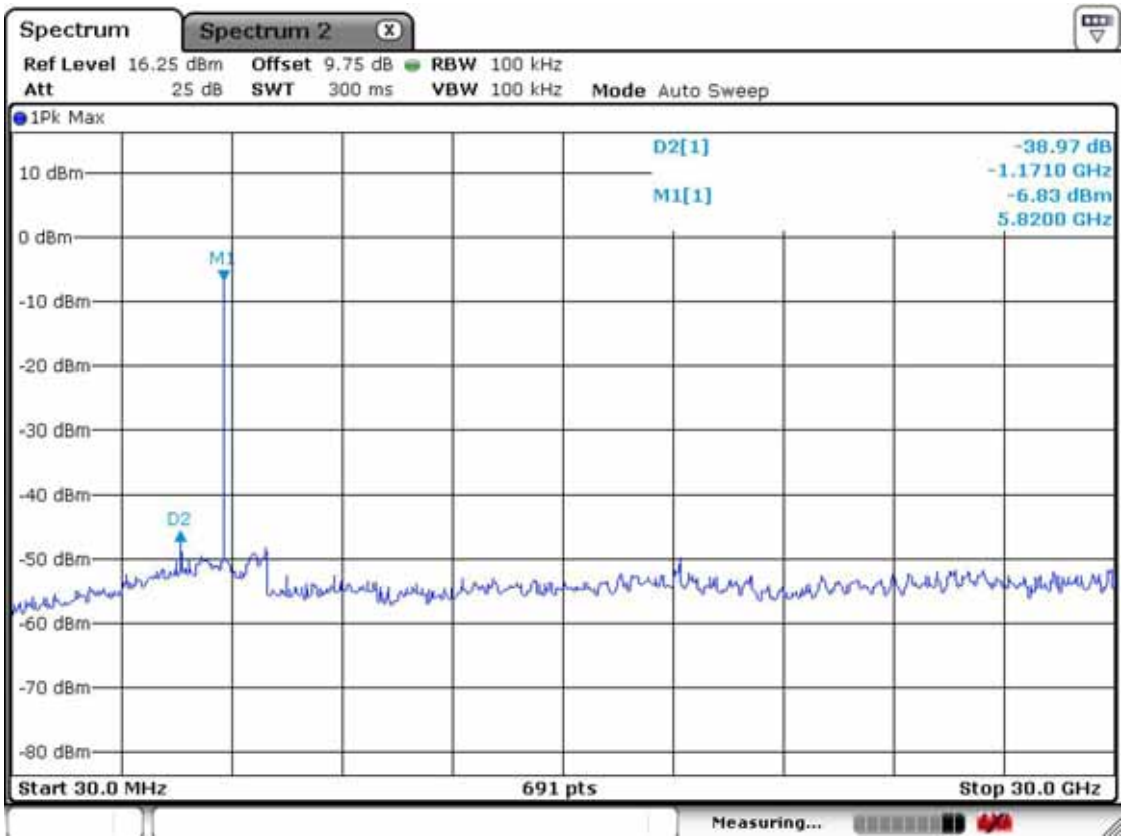
Frequency Range = 30 MHz ~ 40 GHz

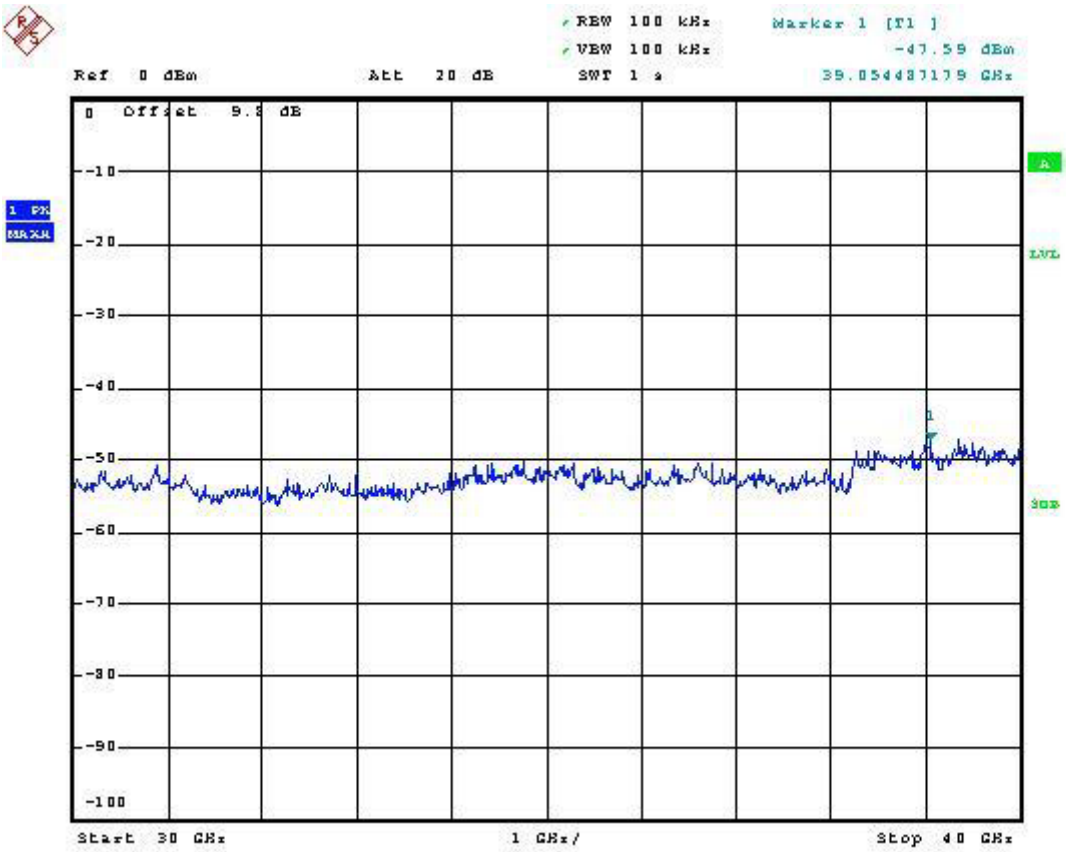




802.11a –channel 165

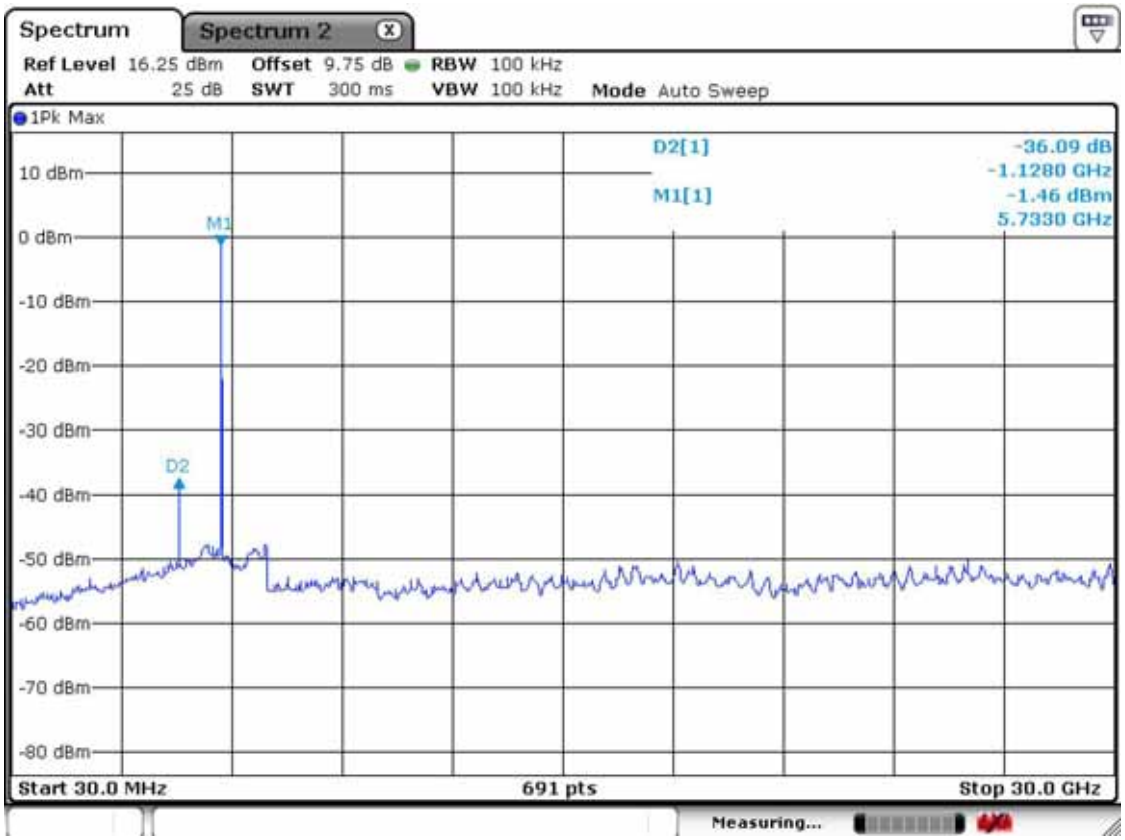
Frequency Range = 30 MHz ~ 40 GHz





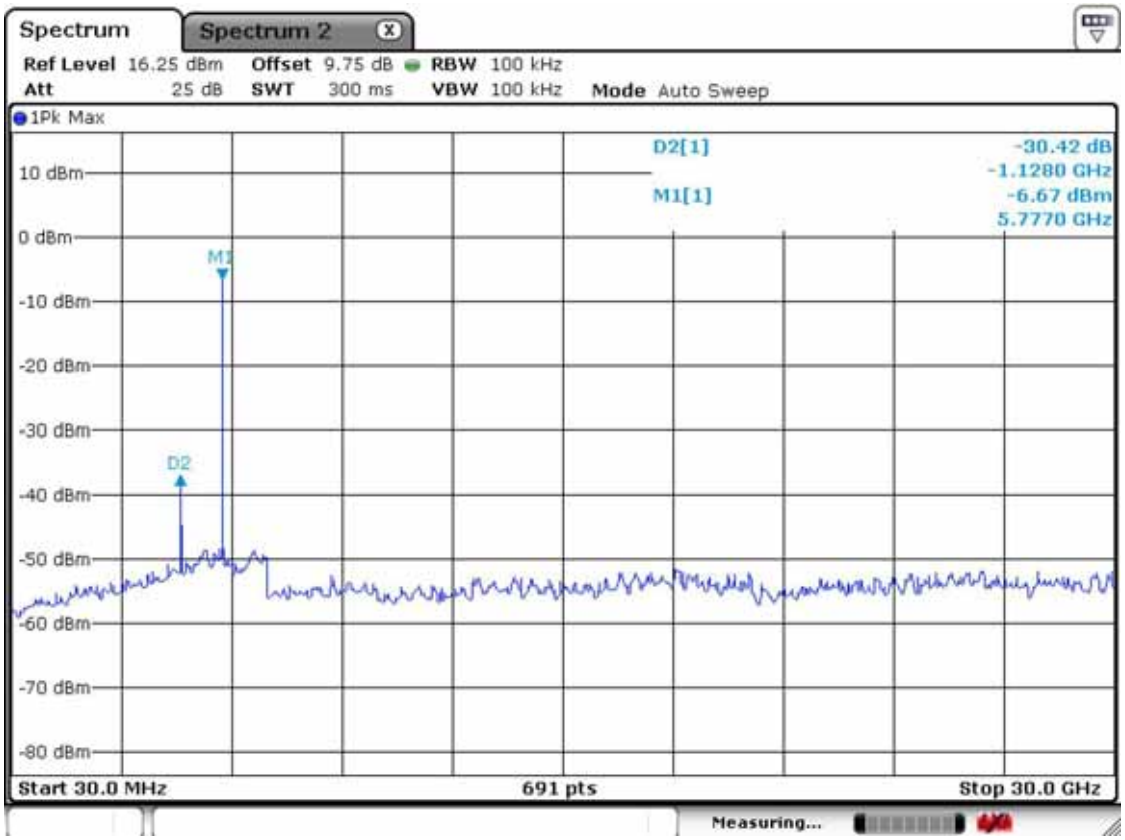
802.11an_20MHz – channel 149

Frequency Range = 30 MHz ~ 40 GHz



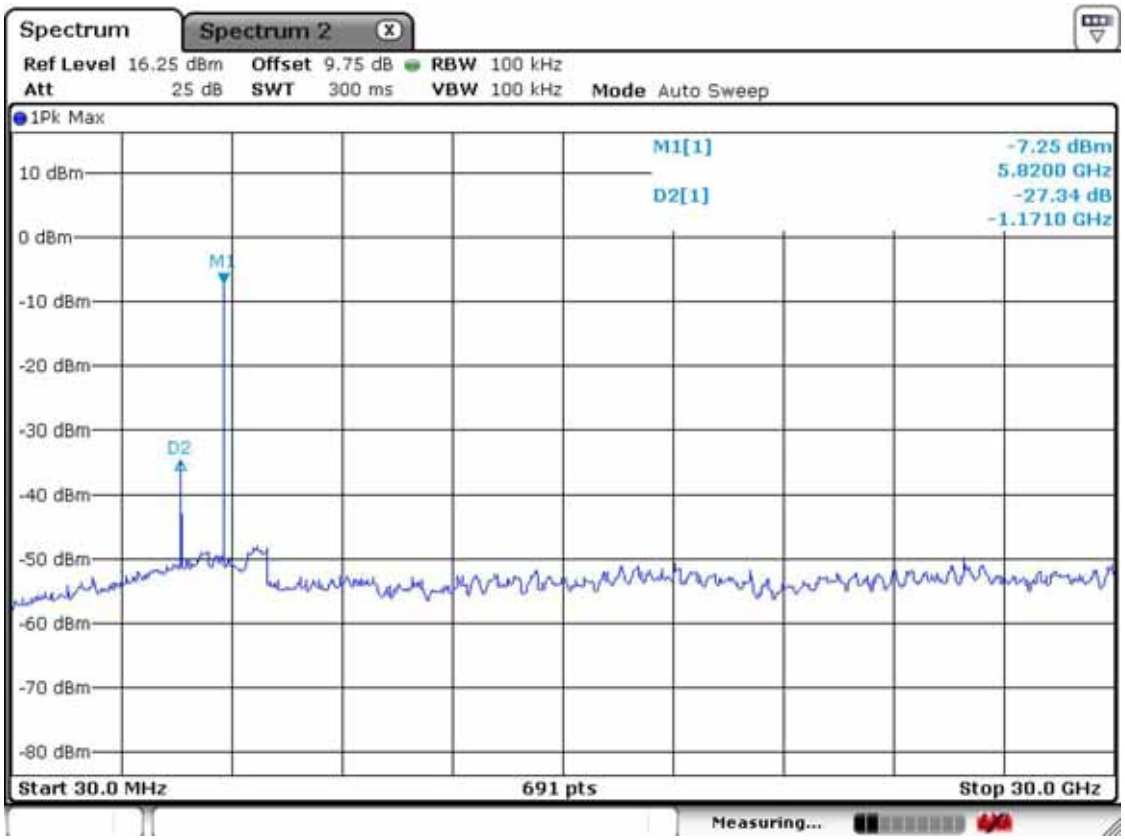
802.11an_20MHz – channel 157

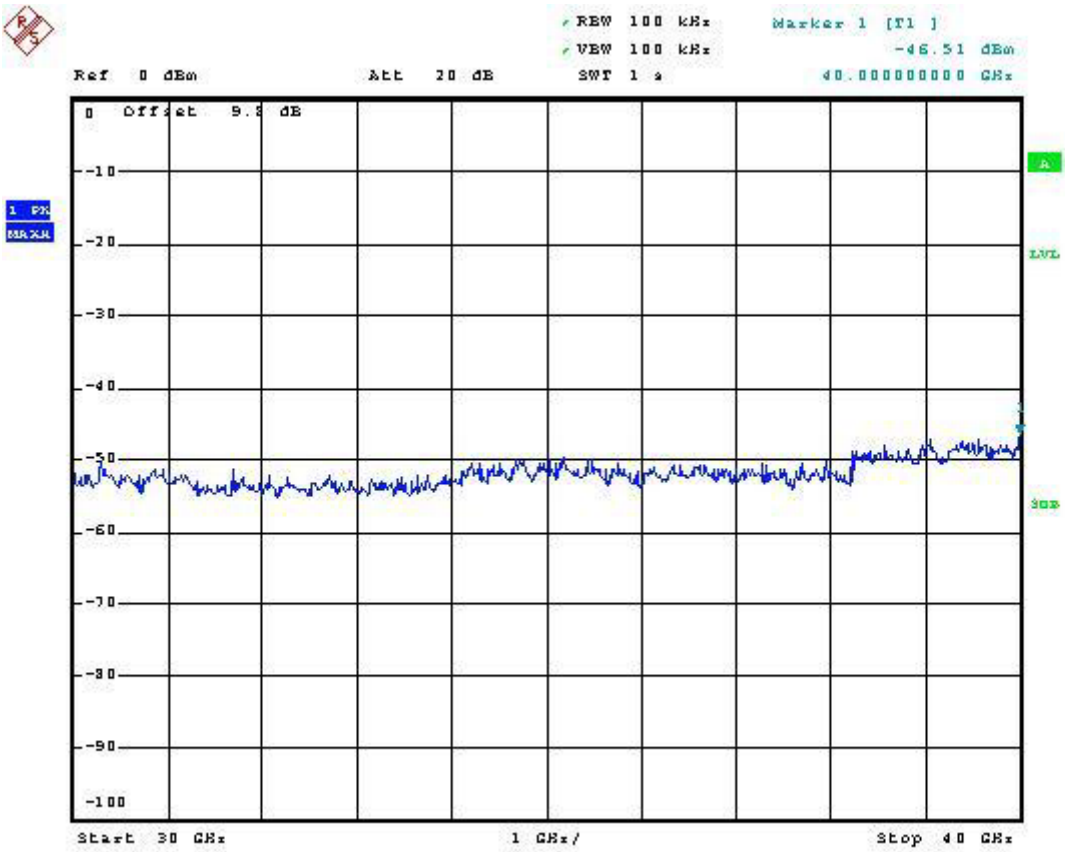
Frequency Range = 30 MHz ~ 40 GHz



802.11an_20MHz –channel 165

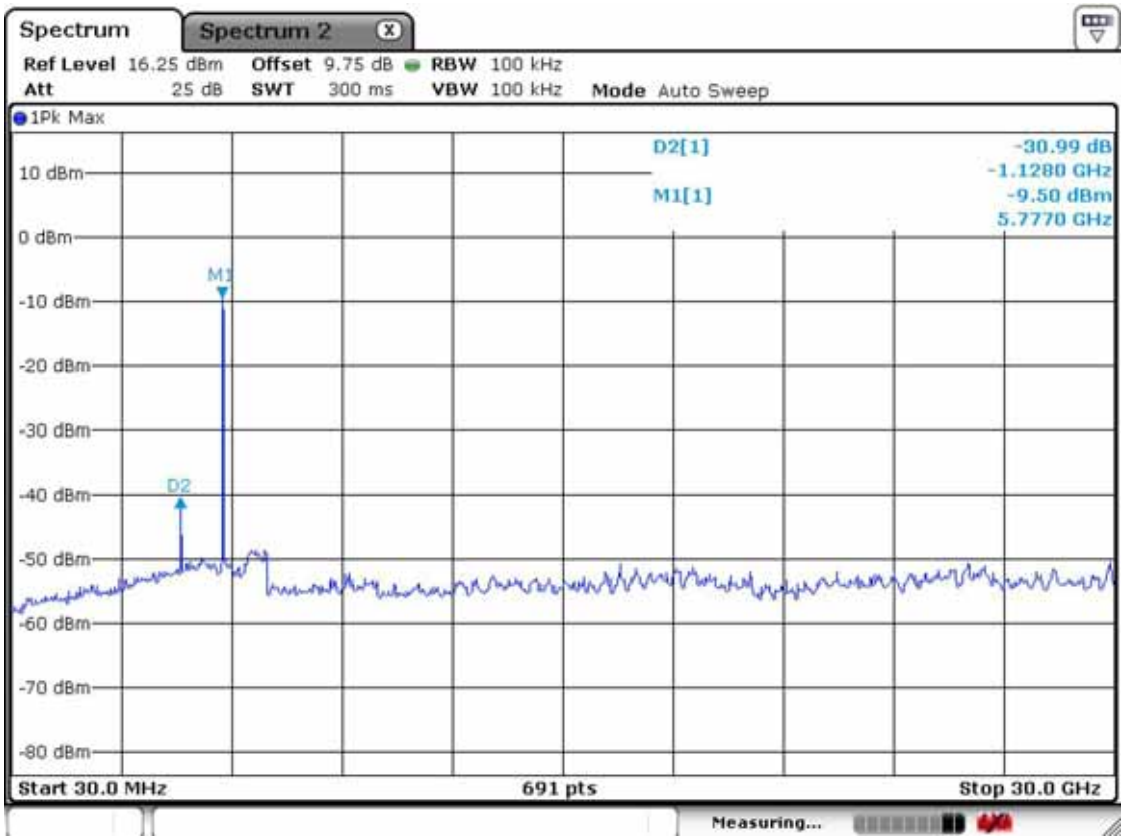
Frequency Range = 30 MHz ~ 40 GHz

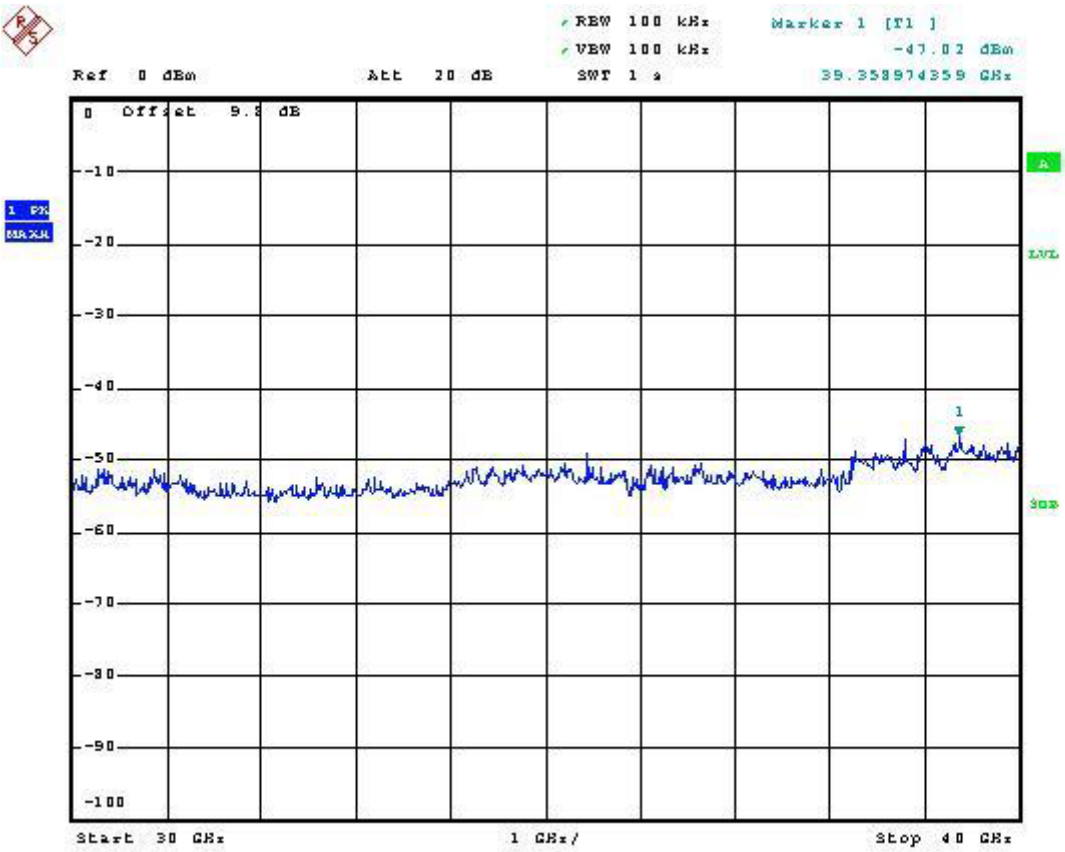




802.11an_40MHz – channel 151

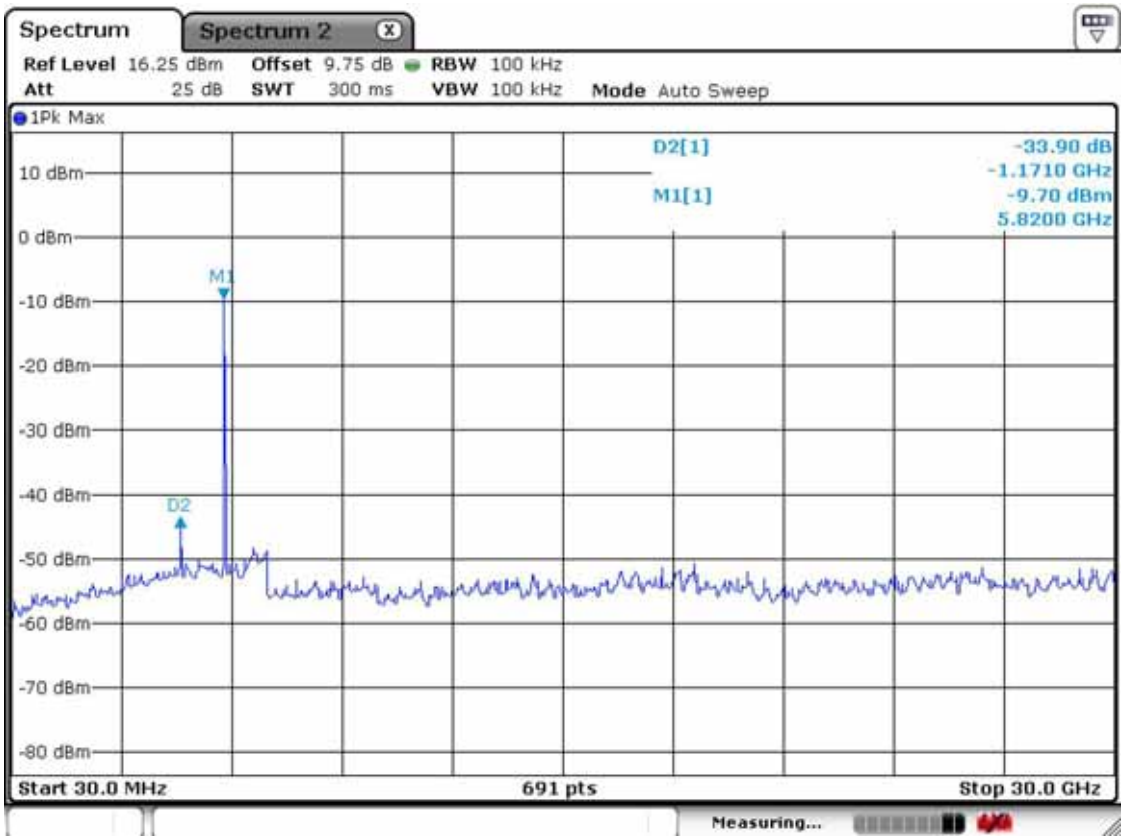
Frequency Range = 30 MHz ~ 40 GHz

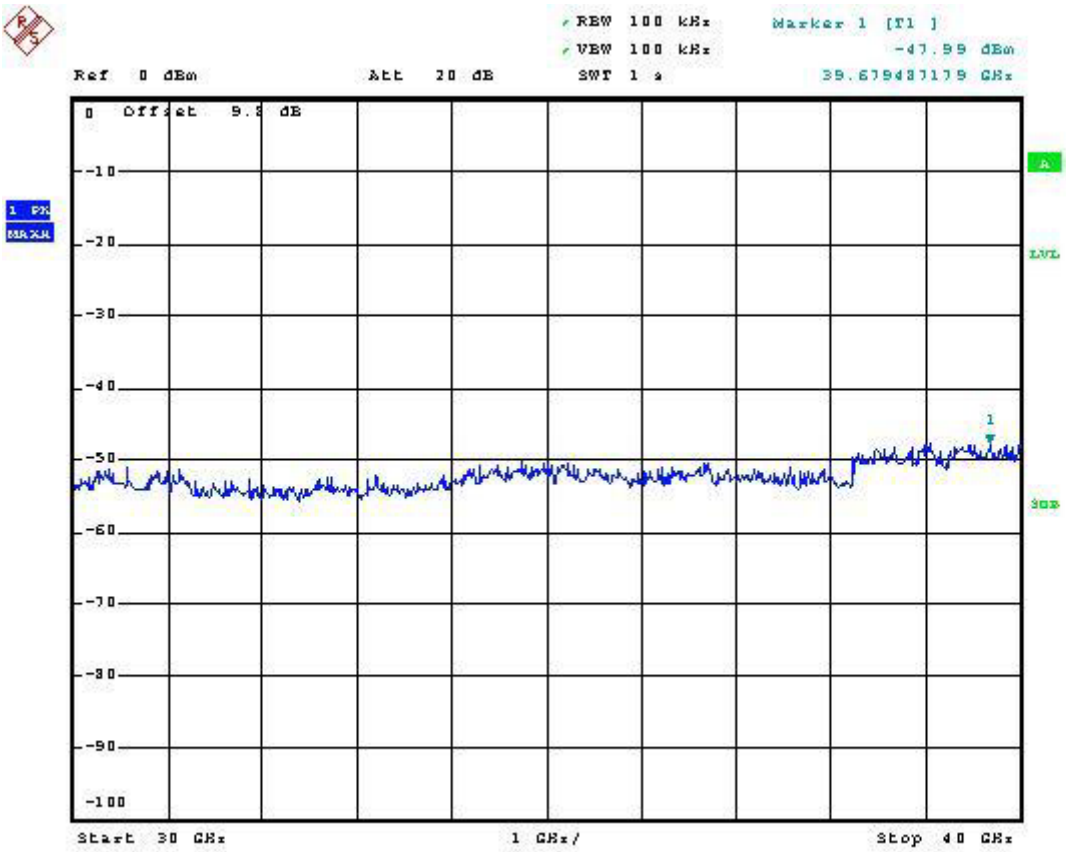




802.11an_40MHz – channel 159

Frequency Range = 30 MHz ~ 40 GHz





3.2.5 Field Strength of Harmonics

Procedure:

The EUT was placed on a 0.8m high wooden table inside a shielded enclosure. An antenna was placed near the EUT and measurements of frequencies and amplitudes of field strengths were recorded for reference during final measurements. For final radiated testing, measurements were performed in OATS. Measurements were performed with the EUT oriented in 3 orthogonal axis and rotated 360 degrees to determine worst-case orientation for maximum emissions.

The spectrum analyzer is set to:

Center frequency = the worst channel

Frequency Range = 30 MHz ~ 10th harmonic.

RBW = 100 kHz (30MHz ~ 1 GHz) VBW ≥ RBW

= 1 MHz (1 GHz ~ 10th harmonic)

Span = 100 MHz Detector function = peak

Trace = max hold Sweep = auto

Measurement Data: Complies

- See next pages for actual measured data.

Minimum Standard: FCC Part 15.109

Frequency (MHz)	Limit (uV/m) @ 10m
30 ~ 88	90
88 ~ 216	150
216 ~ 960	210
Above 960	300

** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88MHz, 174-216MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

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802.11b Measurement Data:

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4824.0	43.5	54.0	V	31.4	36.5	5.7	54.0	74.0	44.1	54.7	9.9	19.4
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4883.0	38.7	51.5	V	31.4	36.5	5.7	54.0	74.0	39.4	52.2	14.7	21.8
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4924.0	40.3	53.4	V	31.4	36.5	5.7	54.0	74.0	41.0	54.1	13.0	19.9
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

No emissions were detected at a level greater than 20dB below limit.

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802.11g Measurement Data:

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4824.0	37.8	50.6	V	31.4	36.5	5.7	54.0	74.0	38.4	51.2	15.6	22.8
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

No emissions were detected at a level greater than 20dB below limit.

802.11n_20MHz Measurement Data:

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

No emissions were detected at a level greater than 20dB below limit.

802.11n_40MHz Measurement Data:

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

No emissions were detected at a level greater than 20dB below limit.

802.11a Measurement Data:

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4595.0	49.8	51.8	V	31.4	36.5	5.7	54.0	74.0	50.5	52.5	3.5	21.5
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4627.0	49.9	52.4	V	31.4	36.5	5.7	54.0	74.0	50.6	53.1	3.4	20.9
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4659.9	48.7	51.6	V	31.4	36.5	5.7	54.0	74.0	49.4	52.3	4.6	21.7
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

No emissions were detected at a level greater than 20dB below limit.

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802.11an_20MHz Measurement Data:

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4596.0	43.5	55.4	V	31.4	36.5	5.7	54.0	74.0	44.2	56.1	9.8	17.9
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4627.9	49.6	52.3	H	31.4	36.5	5.7	54.0	74.0	50.2	53.0	3.8	21.0
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4659.8	49.4	51.6	V	31.4	36.5	5.7	54.0	74.0	50.1	52.3	3.9	21.7
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

No emissions were detected at a level greater than 20dB below limit.

802.11an_40MHz Measurement Data:

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4604.0	50.2	52.9	V	31.4	36.5	5.7	54.0	74.0	50.9	53.6	3.1	20.4
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Correction Factor Antenna	Correction Factor Amp. Gain	Correction Factor Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4659.8	48.4	50.6	V	31.4	36.5	5.7	54.0	74.0	49.0	51.3	5.0	22.7
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

No emissions were detected at a level greater than 20dB below limit.

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Radiated Emissions – Below 1GHz WORST-CASE DATA : 802.11n(20MHz) CH 6+ File+"H"+Cam+H/T+Web Mode

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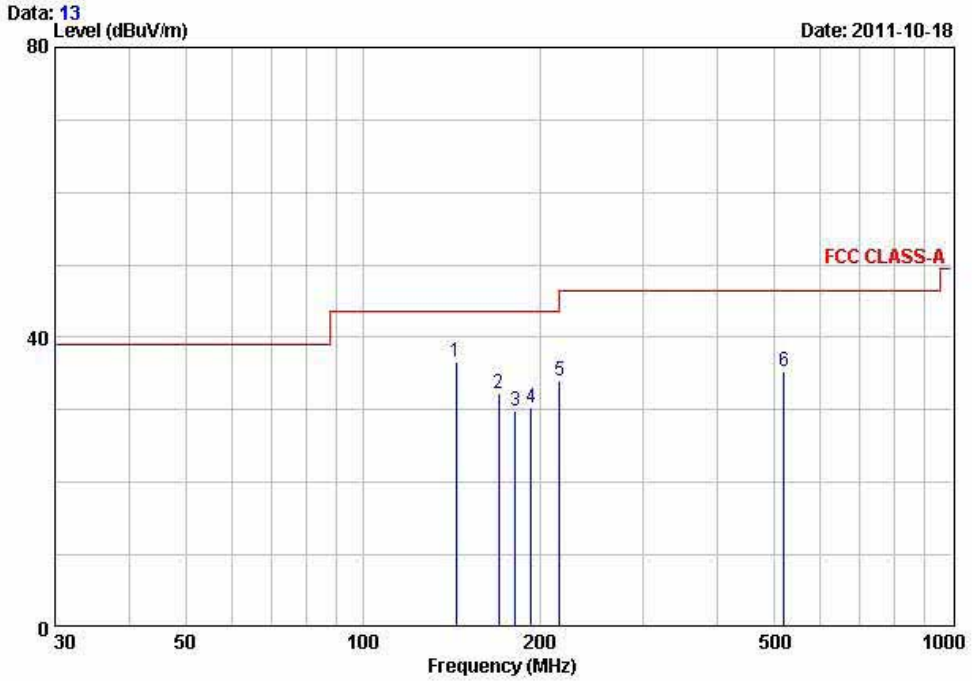
EUT/Model No.: TiTAN T8 TEST MODE: n(20MHz)_CH6+File+"H"+Cam+MP3+H/T+Web

Temp Humi : 16 / 30 Tested by: PARK.H.W



	Freq MHz	Reading dBuV/m	C.F dB/m	Result dBuV/m	Limit QP dBuV/m	Margin dB	Height cm	Angle deg	Polarity
1	144.04	49.88	-13.20	36.68	43.50	6.82	400	30	HORIZONTAL
2	170.25	45.51	-13.35	32.16	43.50	11.34	216	161	HORIZONTAL
3	181.56	43.81	-14.03	29.78	43.50	13.72	100	212	VERTICAL
4	193.31	45.33	-14.98	30.35	43.50	13.15	100	209	VERTICAL
5	216.00	48.48	-14.55	33.93	43.50	9.57	400	230	HORIZONTAL
6	520.68	40.92	-5.66	35.26	46.40	11.14	342	160	HORIZONTAL

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

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Radiated Emissions – Below 1GHz WORST-CASE DATA : 802.11an(40MHz) CH 149+ File+"H"+Cam+H/T+Web Mode

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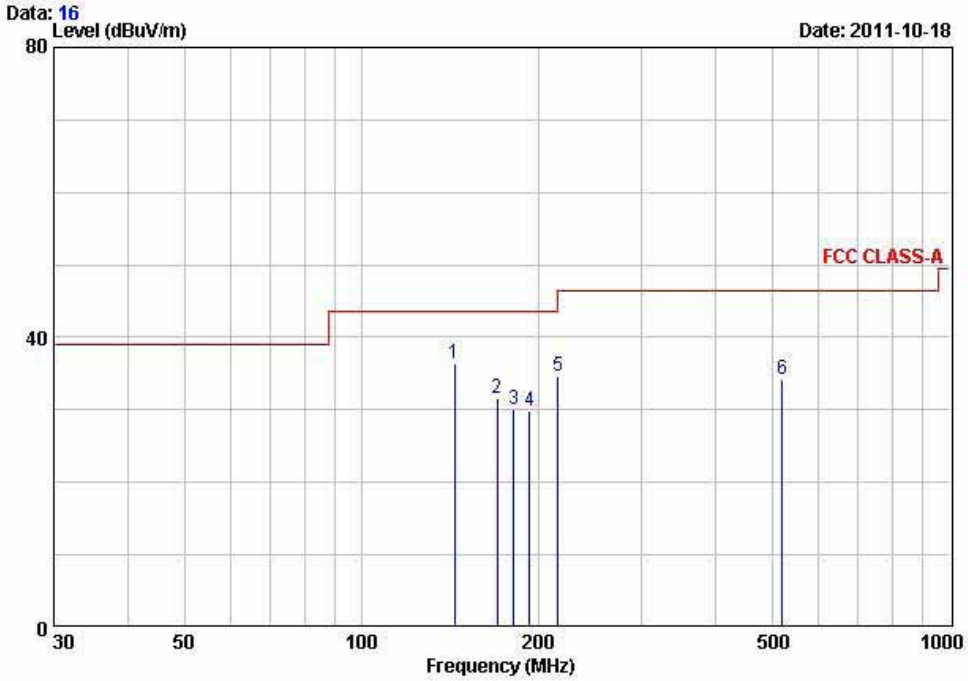
Fax:+82-31-3236010

EUT/Model No.: TiTAN T8 TEST MODE: an(40MHz)_CH149+File+"H"+Cam+MP3+H/T+Web

Temp Humi : 16 / 30 Tested by: PARK.H.W



	Freq MHz	Reading dBuV/m	C.F dB/m	Result dBuV/m	Limit QP dBuV/m	Margin dB	Height cm	Angle deg	Polarity
1	144.04	49.65	-13.20	36.45	43.50	7.05	400	35	HORIZONTAL
2	170.25	45.02	-13.35	31.67	43.50	11.83	211	165	HORIZONTAL
3	181.56	44.09	-14.03	30.06	43.50	13.44	100	205	VERTICAL
4	193.31	44.89	-14.98	29.91	43.50	13.59	100	216	VERTICAL
5	216.00	49.14	-14.55	34.59	43.50	8.91	400	227	HORIZONTAL
6	520.68	39.88	-5.66	34.22	46.40	12.18	342	166	HORIZONTAL

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

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3.2.8 AC Conducted Emissions

Procedure:

The conducted emissions are measured in the shielded room with a spectrum analyzer in peak hold. While the measurement, EUT had its hopping function disabled at the middle channels in line with Section 15.31(m). Emissions closest to the limit are measured in the quasi-peak mode (QP) with the tuned receiver using a bandwidth of 9 kHz. The emissions are maximized further by cable manipulation and Exerciser operation. The highest emissions relative to the limit are listed.

Measurement Data: Complies

- Refer to the next page.
- No other emissions were detected at a level greater than 20dB below limit
- It gave the worse case emissions

Minimum Standard: FCC Part 15.107

Frequency Range (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 ~ 0.5	79 dBuV	66 dBuV
0.5 ~ 30	73 dBuV	60 dBuV

* Decreases with the logarithm of the frequency

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Conducted Emissions – WLAN+File+"H"+Cam+H/T+Web mode LINE

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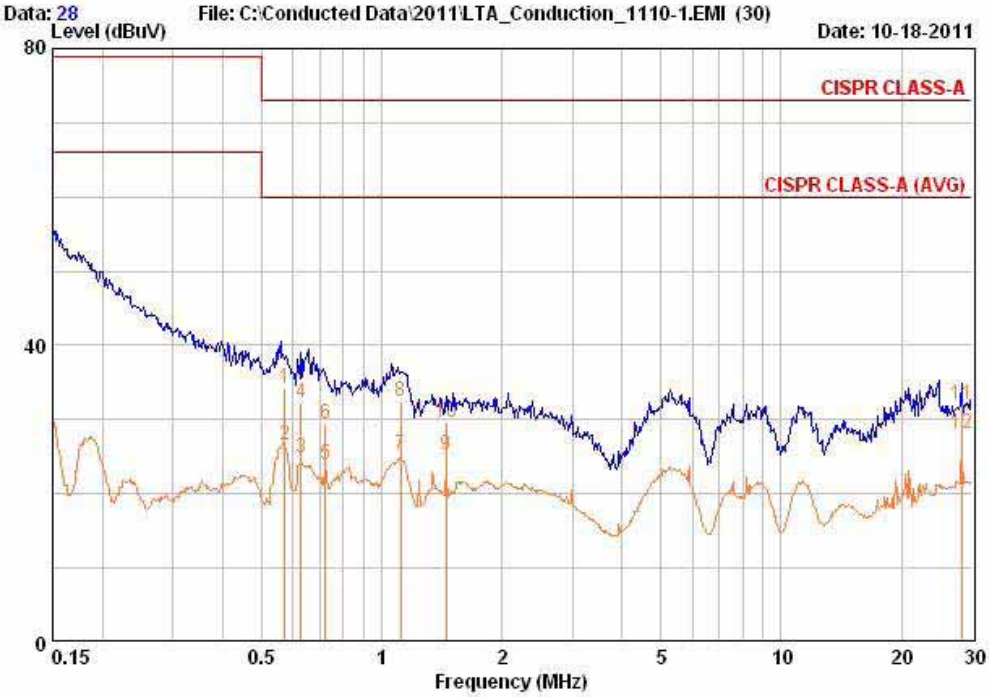
EUT / Model No.	: TiTAN T8	Phase	: LINE
Test Mode	: WLAN+File+"H"+Cam+MP3+H/T+Web modest	Power	: 120 / 60
Temp./Humi.	: 20 / 47	Test Engineer	: PARK.H.W



Freq MHz	RD QP dBuV	RD AV dBuV	C.F dB	Result QP dBuV	Result AV dBuV	Limit QP dBuV	Limit AV dBuV	Margin QP dB	Margin AV dB
0.572	24.52	17.02	9.65	34.17	26.67	73.00	60.00	38.83	33.33
0.628	22.62	15.22	9.68	32.30	24.90	73.00	60.00	40.70	35.10
0.721	19.72	14.32	9.71	29.43	24.03	73.00	60.00	43.57	35.97
1.118	22.83	15.63	9.75	32.59	25.39	73.00	60.00	40.41	34.61
1.450	19.84	15.64	9.74	29.58	25.38	73.00	60.00	43.42	34.62
28.325	21.90	17.90	10.17	32.06	28.06	73.00	60.00	40.94	31.94

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

- 1 -

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Conducted Emissions – WLAN+File+"H"+Cam+H/T+Web mode NEUTRAL

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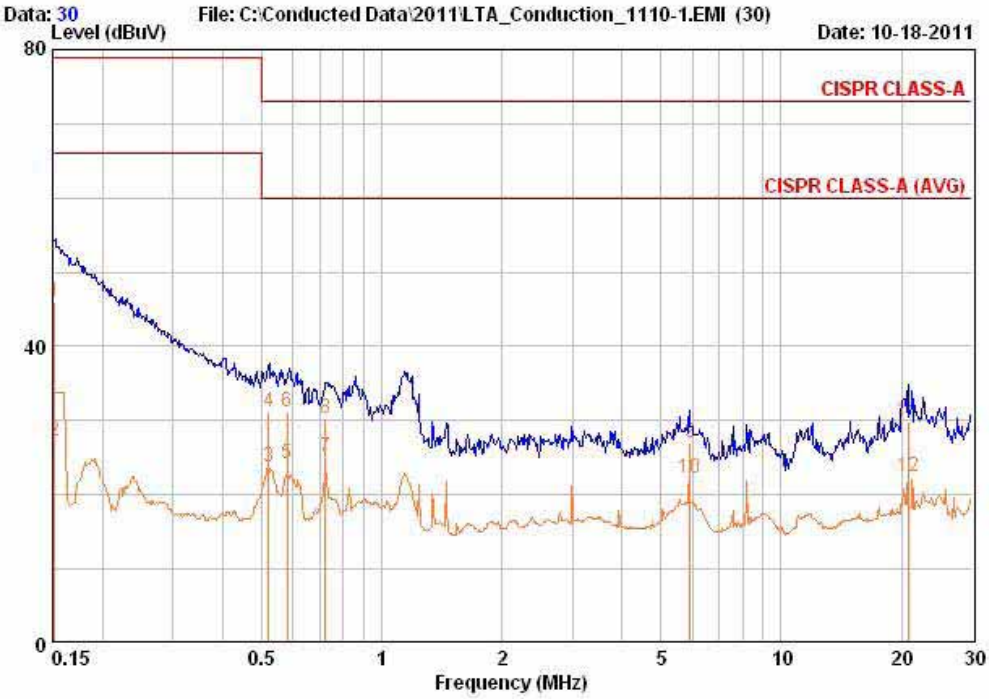
Fax:+82-31-3236010

EUT / Model No.	: TiTAN T8	Phase	: NEUTRAL
Test Mode	: WLAN+File+"H"+Cam+MP3+H/T+Web modest	Power	: 120 / 60
Temp./Humi.	: 20 / 47	Test Engineer	: PARK.H.W



Freq MHz	RD QP dBuV	RD AV dBuV	C.F dB	Result QP dBuV	Result AV dBuV	Limit QP dBuV	Limit AV dBuV	Margin QP dB	Margin AV dB
0.152	36.34	17.64	9.65	45.99	27.29	79.00	66.00	33.01	38.71
0.521	21.42	14.02	9.69	31.11	23.71	73.00	60.00	41.89	36.29
0.579	21.42	14.62	9.67	31.09	24.29	73.00	60.00	41.91	35.71
0.724	20.72	15.42	9.64	30.36	25.06	73.00	60.00	42.64	34.94
5.907	17.22	12.42	9.81	27.03	22.23	73.00	60.00	45.97	37.77
20.819	19.87	12.47	10.02	29.89	22.49	73.00	60.00	43.11	37.51

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

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APPENDIX

TEST EQUIPMENT USED FOR TESTS

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	Description	Model No.	Serial No.	Manufacturer	Interval	Last Cal. Date
1	Spectrum Analyzer (~30GHz)	FSV-30	100757	R&S	1 year	2011-01-24
2	Signal Generator (~3.2GHz)	8648C	3623A02597	HP	1 year	2011-03-30
3	Signal Generator (1~20GHz)	83711B	US34490456	HP	1 year	2011-03-30
4	Attenuator (3dB)	8491A	37822	HP	2 year	2010-10-08
5	Attenuator (10dB)	8491A	63196	HP	2 year	2010-10-08
6	Attenuator (30dB)	8498A	3318A10929	HP	2 year	2011-01-05
7	Test Receiver (~30MHz)	ESHS10	828404/009	R&S	1 year	2011-03-30
8	EMI Test Receiver (~1GHz)	ESCI7	100722	R&S	1 year	2011-10-07
9	RF Amplifier (~1.3GHz)	8447D	2439A09058	HP	2 year	2010-10-08
10	RF Amplifier (1~18GHz)	8449B	3008A02126	HP	2 year	2010-03-29
11	Horn Antenna (1~18GHz)	BBHA 9120D	9120D122	SCHWARZBECK	2 year	2010-12-24
12	Horn Antenna (18 ~ 40GHz)	SAS-574	154	Schwarzbeck	2 year	2010-11-25
13	Horn Antenna (18 ~ 40GHz)	SAS-574	155	Schwarzbeck	2 year	2010-11-25
14	TRILOG Antenna	VULB 9160	9160-3172	SCHWARZBECK	2 year	2010-10-07
15	Dipole Antenna	VHA9103	2116	SCHWARZBECK	2 year	2010-11-25
16	Dipole Antenna	VHA9103	2117	SCHWARZBECK	2 year	2010-11-25
17	Dipole Antenna	VHA9105	2261	SCHWARZBECK	2 year	2010-11-25
18	Dipole Antenna	VHA9105	2262	SCHWARZBECK	2 year	2010-11-25
19	Hygro-Thermograph	THB-36	0041557-01	ISUZU	2 year	2010-04-12
20	Splitter (SMA)	ZFSC-2-2500	SF617800326	Mini-Circuits	-	-
21	Power Divider	11636A	6243	HP	2 year	2010-10-08
22	DC Power Supply	6622A	3448A03079	HP	-	-
23	Frequency Counter	5342A	2826A12411	HP	1 year	2011-03-30
24	Power Meter	EPM-441A	GB32481702	HP	1 year	2011-03-30
25	Power Sensor	8481A	US41030291	HP	1 year	2011-10-07
26	Audio Analyzer	8903B	3729A18901	HP	1 year	2011-10-07
27	Modulation Analyzer	8901B	3749A05878	HP	1 year	2011-10-07
28	TEMP & HUMIDITY Chamber	YJ-500	LTAS06041	JinYoung Tech	1 year	2011-10-07
29	Stop Watch	HS-3	601Q09R	CASIO	2 year	2010-03-31
30	LISN	ENV216	100408	R&S	1 year	2011-10-07
31	UNIVERSAL RADIO COMMUNICATION TESTER	CMU200	106243	R&S	2 year	2010-05-13
32	Highpass Filter	WHKX1.5/15G-10SS	74	Wainwright Instruments	-	-
33	Highpass Filter	WHKX3.0/18G-10SS	118	Wainwright Instruments	-	-
34	Spectrum Analyzer (~40GHz)	FSQ40	200035	R&S	1 year	2011-02-10

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