FCC PART 15C
TESTREPORT
No. I15Z40451-SRD01

for

ZTE Corporation

WCDMA/GSM（GPRS） Dual-Mode Digital Mobile Phone

MODEL NAME: ZTE Kis II Max/Kis II Max /ZTE KIS II Max /KIS II Max/ZTE Kis II Max plus/ZTE Kis II Max Plus

with

FCC ID: SRQ-ZTEV815W

Hardware Version: TMBI

Software Version: ZTE-CN-FQB25S-P172R10V1.0.0

Issued Date: 2015-04-14

TESTING
CNAS L0570

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

Test Laboratory:

CTTL, Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I15Z40451-SRD01	Rev.0	1st edition	2015-04-14

CONTENTS

1. Test Laboratory

1.1. Testing Location

Location 1:CTTL(Huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China100191

Location 2:CTTL(Shouxiang)

Address: No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China100191

1.2. Testing Environment

Normal Temperature: 15-35℃

Extreme Temperature: -20/+55℃

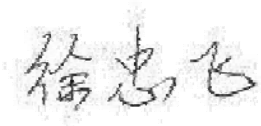
Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2015-02-09

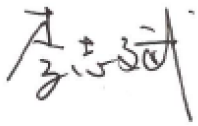
Testing End Date: 2015-03-27

1.4. Signature



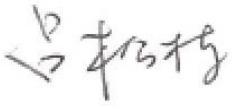
Xu Zhongfei

(Prepared this test report)



Li Zhibin

(Reviewed this test report)



Lv Songdong

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	ZTE Corporation
Address:	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R. China
City:	Shenzhen
Postal Code:	518057
Country:	China
Telephone:	+86-21-68897541
Fax:	+86-21-50801070

2.2. Manufacturer Information

Company Name:	ZTE Corporation
Address:	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R. China
City:	Shenzhen
Postal Code:	518057
Country:	China
Telephone:	+86-21-68897541
Fax:	+86-21-50801070

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	WCDMA/GSM（GPRS） Dual-Mode Digital Mobile Phone
Model name	ZTE Kis II Max/Kis II Max /ZTE KIS II Max /KIS II Max/ZTE Kis II Max plus/ZTE Kis II Max Plus
FCC ID	SRQ-ZTEV815W
IC ID	/
With WLAN Function	Yes
Frequency Range	ISM 2400MHz~2483.5MHz
Type of Modulation	DSSS/CCK/OFDM
Number of Channels	11
Antenna	Integral Antenna
Power Supply	3.7V DC by Battery

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version
UT01a	/	TMBI	ZTE-CN-FQB25S-P172R10V1.0.0
UT02a	/	TMBI	ZTE-CN-FQB25S-P172R10V1.0.0

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE

AE ID*	Description	SN
AE1	Battery	---
AE2	Charger	---

*AE ID: is used to identify the test sample in the lab internally.

3.4. General Description

The Equipment under Test (EUT) is a model of WCDMA/GSM（GPRS） Dual-Mode Digital Mobile Phone with integrated antenna and inbuilt battery.
It has Bluetooth (EDR) function.
It consists of normal options: travel charger, USB cable and Phone.
Manual and specifications of the EUT were provided to fulfil the test.
Samples undergoing test were selected by the client.

3.5. Interpretation of the Test Environment

For the test methods, the test environment uncertainty figures correspond to an expansion factor k=2.

Measurement Uncertainty

Parameter	Uncertainty
temperature	0.48°C
humidity	2 %
DC voltages	0.003V

4. Reference Documents

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part15	FCC CFR 47, Part 15, Subpart C: 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.247 Operation within the bands 902-928MHz, 2400-2483.5 MHz, and 5725-5850 MHz.	2014
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2009

5. Test Results

5.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15C	Sub-clause of IC	Verdict
Maximum Peak Output Power	15.247 (b)	/	P
Peak Power Spectral Density	15.247 (e)	/	P
Occupied 6dB Bandwidth	15.247 (a)	/	P
Band Edges Compliance	15.247 (d)	/	P
Transmitter Spurious Emission - Conducted	15.247 (d)	/	P
Transmitter Spurious Emission - Radiated	15.247, 15.205, 15.209	/	P
AC Powerline Conducted Emission	15.107, 15.207	/	P

Please refer to **ANNEX A** for detail.

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NP	Not Perform, The test was not performed by CTTL
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard
F	Fail, The EUT does not comply with the essential requirements in the standard

5.2. Statements

The test cases as listed in section 5.1 of this report for the EUT specified in section 3 was performed by CTTL and according to the standards or reference documents listed in section 4.2

The EUT met all requirements of the standards or reference documents, and only the WLAN function was tested in this report.

5.3. Test Conditions

T nom	Normal Temperature
T min	Low Temperature
T max	High Temperature
V nom	Normal Voltage

For this report, if the test cases listed above are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

Temperature	T nom	26℃
Voltage	V nom	3.8V(By battery)
Humidity	H nom	44%

6. Test Facilities Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	2014-07-08	2015-07-07
2	Test Receiver	ESS	847151/015	Rohde & Schwarz	2014-11-29	2015-11-28
3	LISN	ESH2-Z5	829991/012	Rohde & Schwarz	2014-4-15	2015-4-14
4	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Calibration Due date
1	Test Receiver	ESU26	100376	Rohde & Schwarz	2014-11-6	2015-11-5
2	BiLog Antenna	VULB9163	9163-514	Schwarzbeck	2012-11-11	2015-11-10
3	Dual-Ridge Waveguide Horn Antenna	3117	00119024	ETS-Lindgren	2014-4-20	2017-04-19
4	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2014-7-1	2017-06-30
5	Loop antenna	HFH2-Z2	829324/007	Rohde & Schwarz	2012-12-21	2015-12-20
6	Semi-anechoic chamber	/	CT000332-1074	Frankonia German	/	/

ANNEX A: Detailed Test Results

A.1. Measurement Method

A.1.1. Conducted Measurements

Connect the EUT to the test system as Fig.A.1.1.1 shows.
Set the EUT to the required work mode.
Set the EUT to the required channel.
Set the Vector Signal Analyzer and start measurement.
Record the values. Vector Signal Analyzer

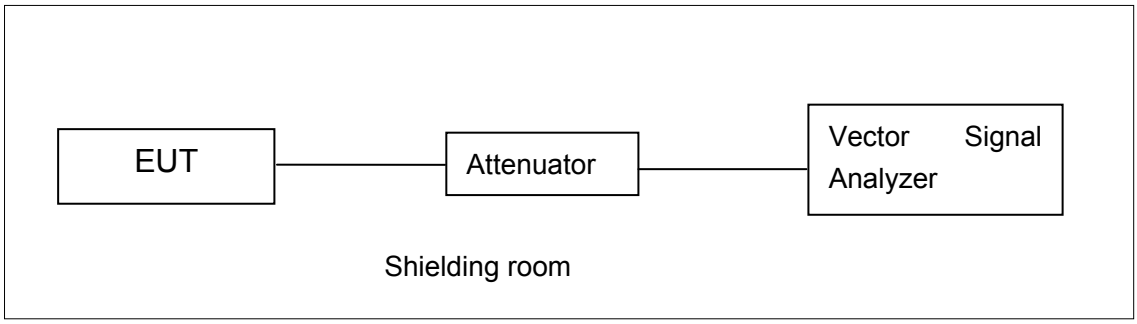


Fig.A.1.1.1: Test Setup Diagram for Conducted Measurements

A.1.2. Radiated Emission Measurements

In the case of radiated emission, the used settings are as follows,
Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;
Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 10Hz;

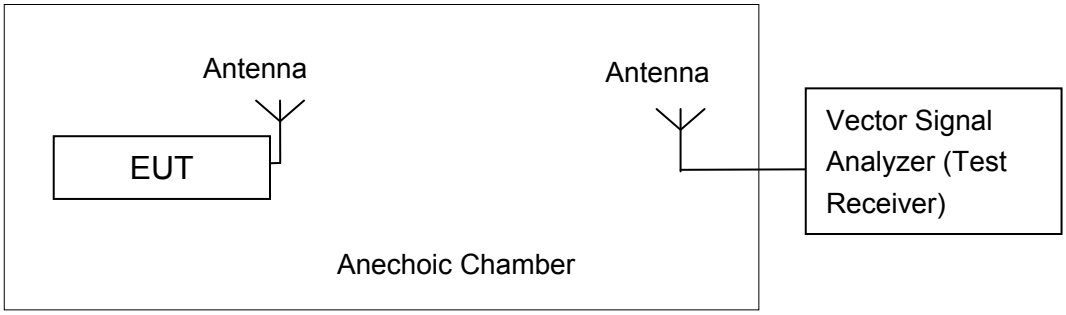


Fig.A.1.2.1: Test Setup Diagram for Radiated Measurements

A.2. Maximum Output Power

Method of Measurement: See ANSI C63.10-2009-clause 6.10

a) Set span to encompass the entire EBW of the signal.

b) Set RBW = 1 MHz

c) Set VBW =3 MHz

d) Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise, use peak detector mode

e) Use a video trigger with the trigger level set to enable triggering only on full power pulses. Unlicensed wireless device must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to "free run." Power-gated sweeping may be used to ensure the analyzer sweeps only while the device is transmitting.

f) Trace average across 100 traces in power averaging mode.

g) Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer band-power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

Measurement Limit:

Standard	Limit (dBm)
FCC CRF Part 15.247(b)	< 30

EUT ID: EUT2

A.2.1. Maximum Average Output Power

Measurement Results:

802.11b/g mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11b	1	10.11	10.38	10.29
	2	9.91	10.37	10.33
	5.5	9.23	9.98	10.08
	11	8.46	9.68	9.61
802.11g	6	10.60	10.33	10.18
	9	9.67	10.14	10.05
	12	9.48	9.94	9.67
	18	9.18	9.65	9.32
	24	8.86	9.28	8.99
	36	8.36	8.34	8.48
	48	9.66	7.84	8.01
	54	7.42	7.67	7.87

802.11n-HT20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11n (20MHz)	MCS0	9.88	10.31	10.27
	MCS1	9.50	9.94	9.68
	MCS2	9.17	9.58	9.33
	MCS3	8.79	8.85	9.02
	MCS4	8.36	8.34	8.53
	MCS5	7.66	7.91	8.11
	MCS6	7.52	7.73	7.94
	MCS7	7.30	7.53	7.78

802.11n-HT40 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11n (40MHz)	MCS0	9.78	9.49	9.77
	MCS1	8.70	8.82	8.91
	MCS2	8.30	8.29	8.38
	MCS3	7.79	7.91	7.94
	MCS4	7.17	7.04	7.28
	MCS5	6.45	6.58	6.82
	MCS6	6.23	6.36	6.60
	MCS7	6.16	6.28	6.48

Conclusion: Pass

A.3. Peak Power Spectral Density

Method of Measurement: See ANSI C63.10-2009-clause 6.11.2.4

The measurement procedure shall be as follows:

Connect the antenna port to be measured through the 20 dB pad to the spectrum analyzer input. Configure the spectrum analyzer as described below (all losses between the unlicensed wireless device output and the spectrum analyzer, such as attenuator value, cable losses and other offsets shall be recorded). Locate and zoom in on emission peak(s) within the passband.

a) Set RBW = 3 kHz

b) Set VBW ≤ 9 kHz

c) Set Sweep time to Automatic

d) Use a peak detector. A sample detector mode can be used only if the following conditions can be achieved with automatic sweep time and adjusting the bin width.

1) Bin width (i.e., span/number of points in spectrum display) < 0.5 RBW.

2) The transmission pulse or sequence of pulses remains at maximum transmit power throughout each of the 100 sweeps of averaging and that the interval between pulses is not included in any of the sweeps.

e) Use a video trigger (or RF gating) with the trigger level set to enable the sweep only during full power pulses. Transmitter shall operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to "free run."

f) Trace average 100 traces in power averaging mode. Do not use video averaging mode.

NOTE—Some analyzers will automatically select sample mode when trace averaging is selected. If a peak detector is used, then peak detector must be manually selected when trace averaging is enabled.

Measurement Limit:

Standard	Limit
FCC CRF Part 15.247(e)	< 8 dBm/3 kHz

Measurement Results:

802.11b/g mode

Mode	Channel	Power Spectral Density (dBm/3 kHz)		Conclusion
802.11b	1	Fig.A.3.1	-11.33	**P**
	6	Fig.A.3.2	-12.04	**P**
	11	Fig.A.3.3	-12.26	**P**
802.11g	1	Fig.A.3.4	-14.33	**P**
	6	Fig.A.3.5	-13.72	**P**
	11	Fig.A.3.6	-14.28	**P**

802.11n-HT20 mode

Mode	Channel	Power Spectral Density (dBm/3 kHz)		Conclusion
802.11n (HT20)	1	Fig.A.3.7	-14.13	**P**
	6	Fig.A.3.8	-14.91	**P**
	11	Fig.A.3.9	-14.92	**P**

802.11n-HT40 mode

Mode	Channel	Power Spectral Density (dBm/3 kHz)		Conclusion
802.11n (HT40)	3	Fig.A.3.10	-18.02	**P**
	6	Fig.A.3.11	-14.58	**P**
	9	Fig.A.3.12	-18.26	**P**

Conclusion: Pass

Test graphs as below:

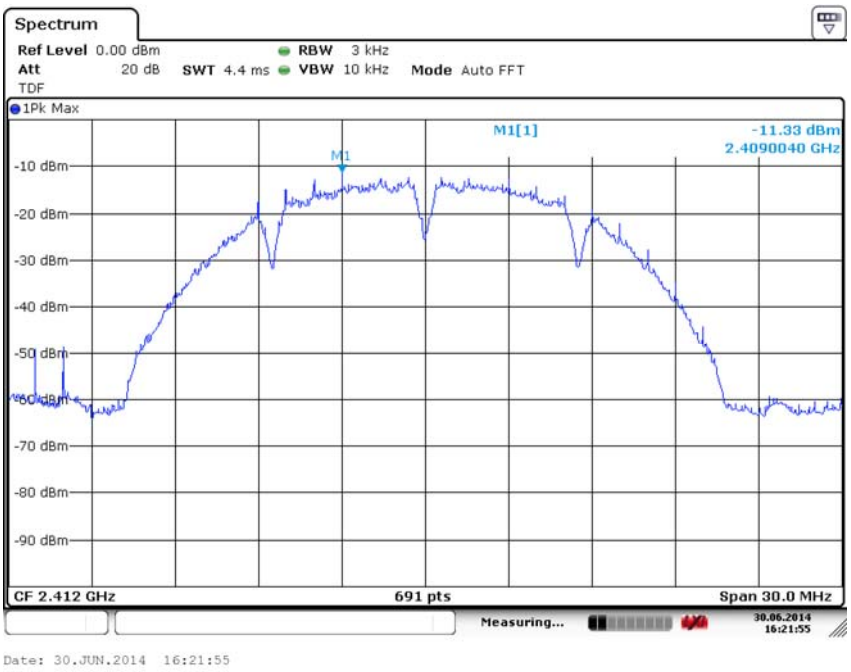


Fig. 3.1 Power Spectral Density (802.11b, Ch 1)

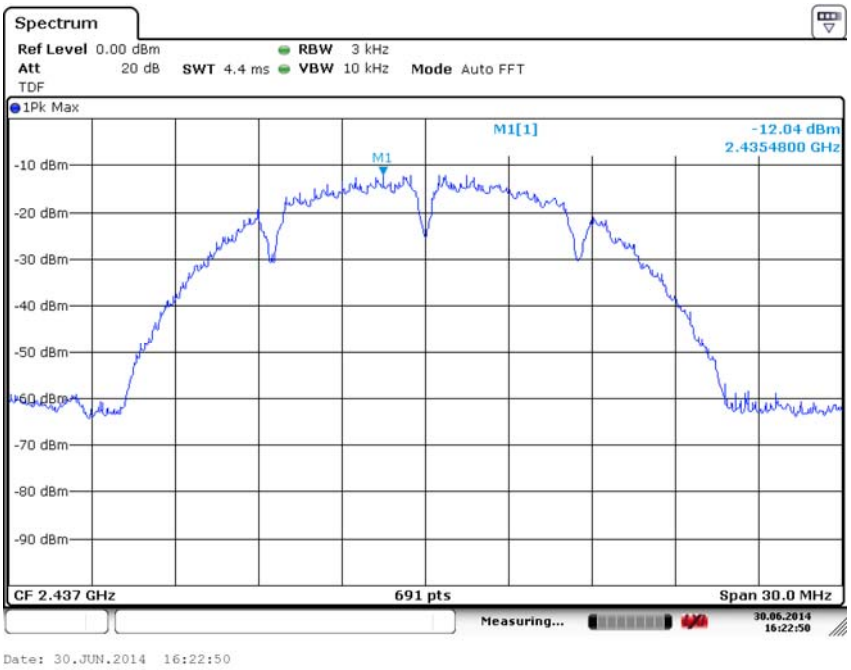


Fig. 3.2 Power Spectral Density (802.11b, Ch 6)

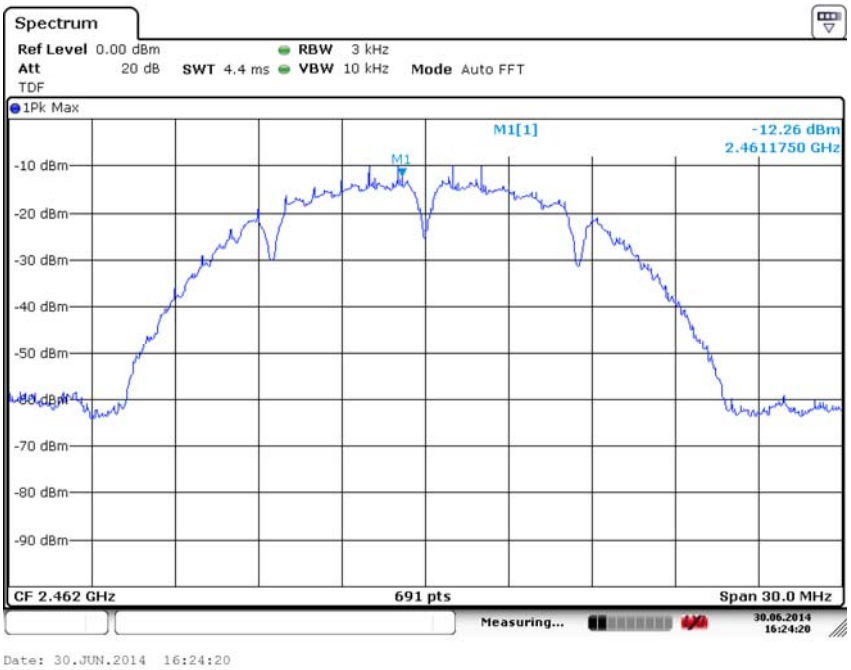


Fig. 3.3 Power Spectral Density (802.11b, Ch 11)

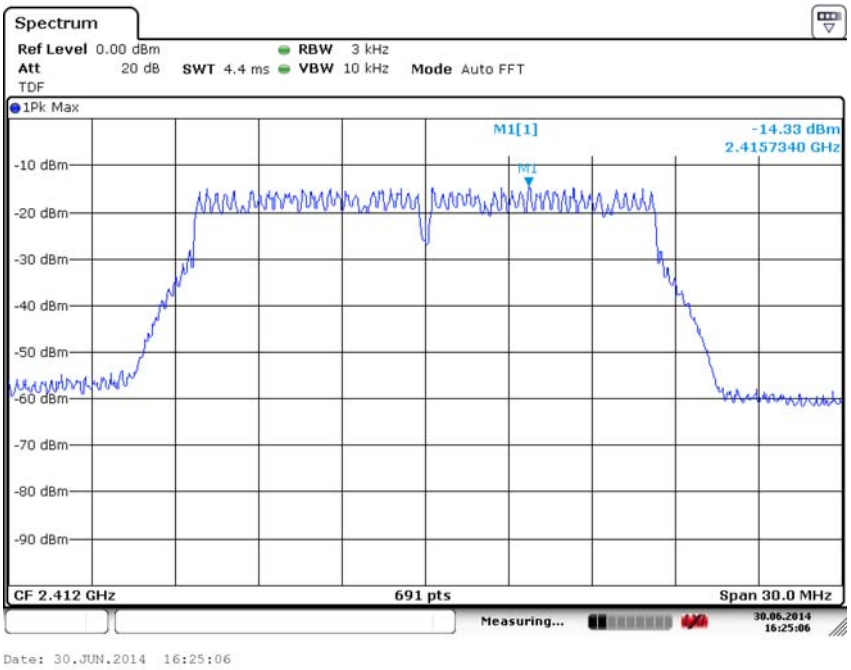


Fig. 3.4 Power Spectral Density (802.11g, Ch 1)

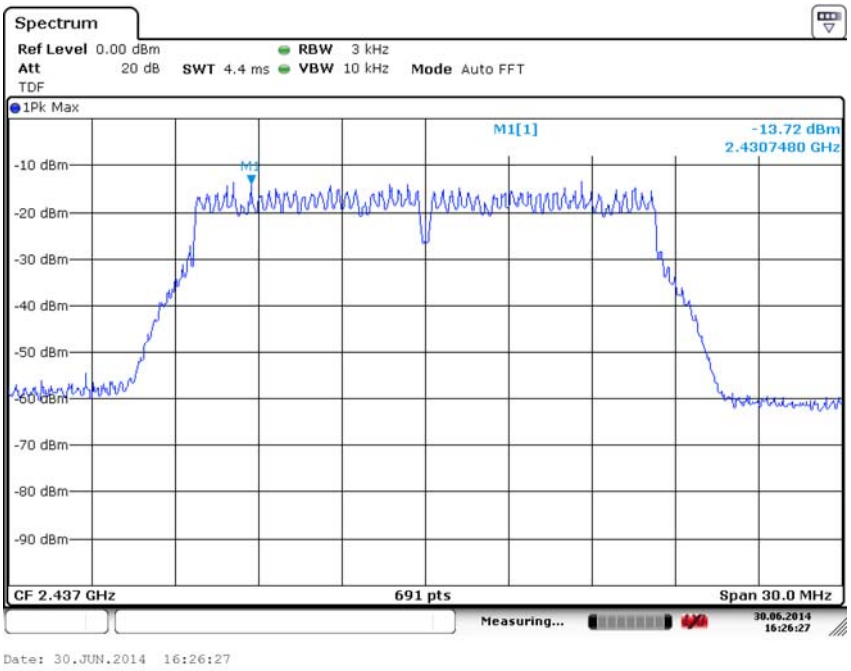


Fig. 3.5 Power Spectral Density (802.11g, Ch 6)

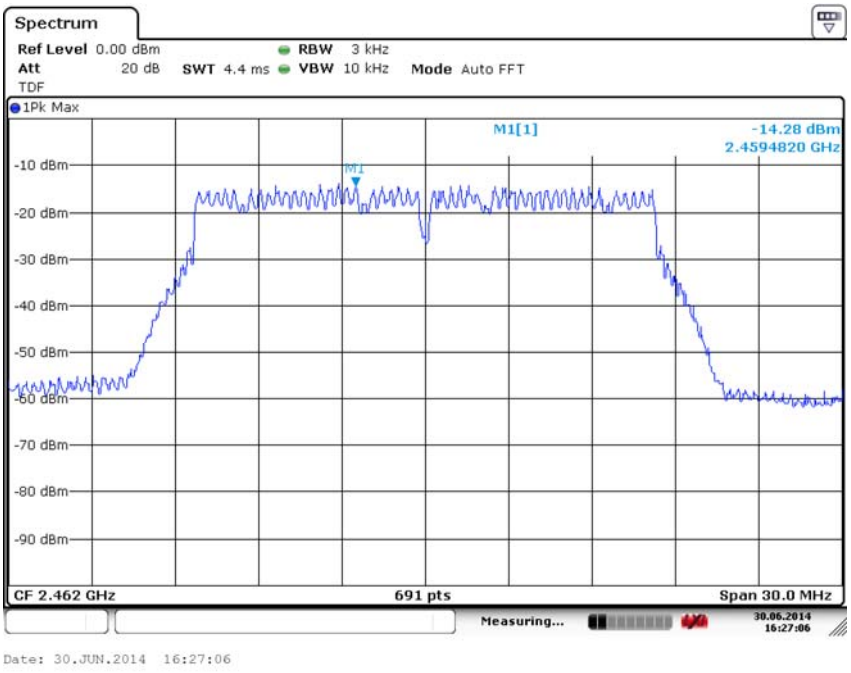


Fig. 3.6 Power Spectral Density (802.11g, Ch 11)

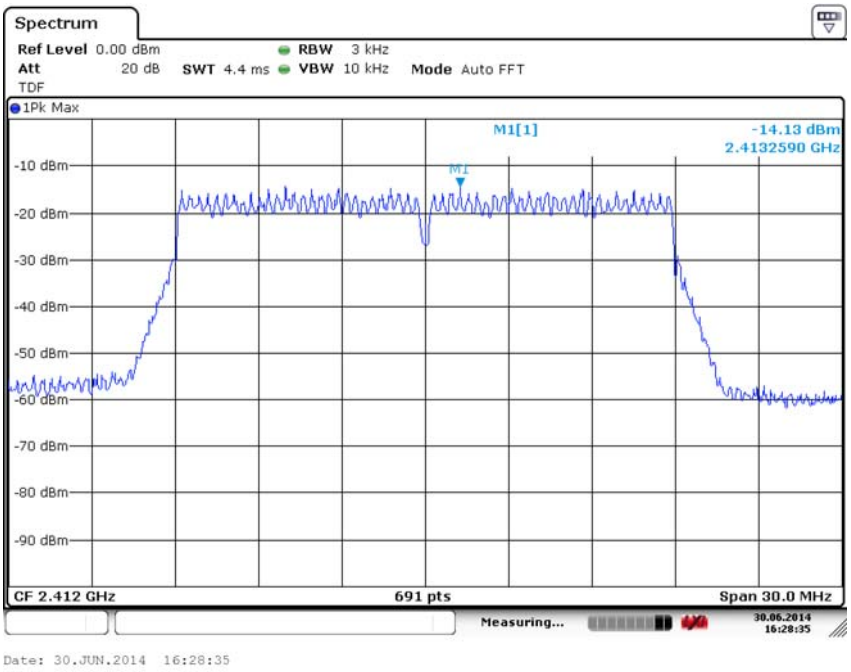


Fig. 3.7 Power Spectral Density (802.11n-20MHz, Ch 1)

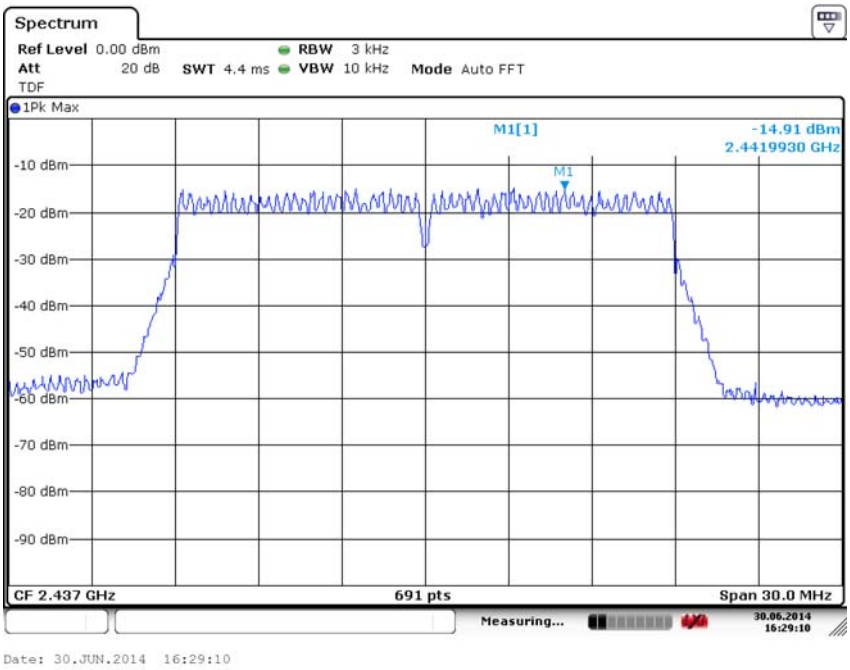


Fig. 3.8 Power Spectral Density (802.11n-20MHz, Ch 6)

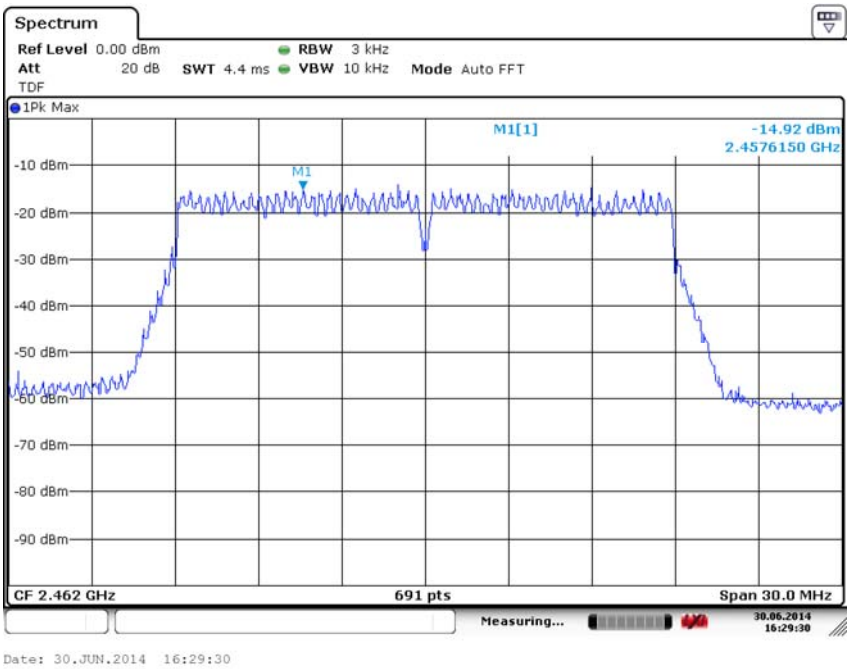


Fig. 3.9 Power Spectral Density (802.11n-20MHz, Ch 11)

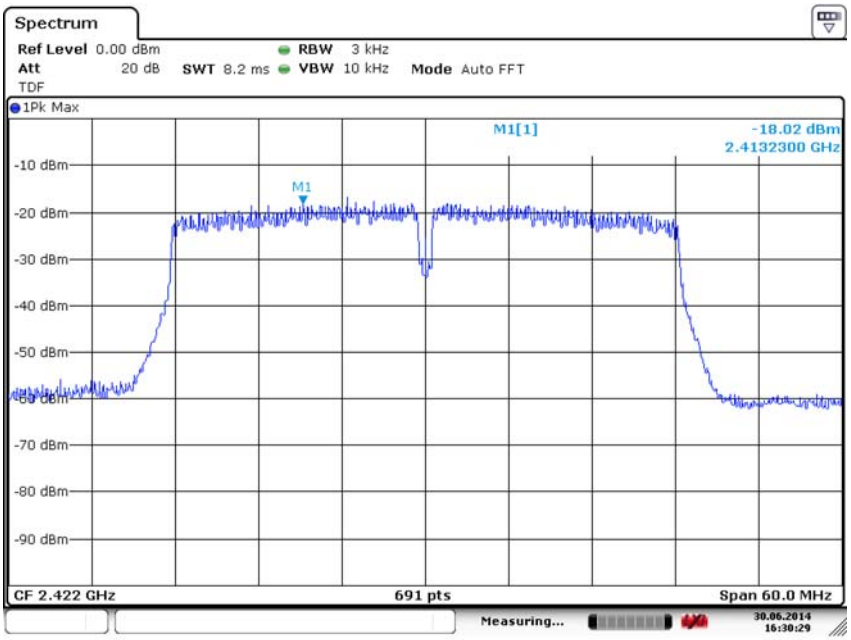


Fig. 3.10 Power Spectral Density (802.11n-40MHz, Ch 3)

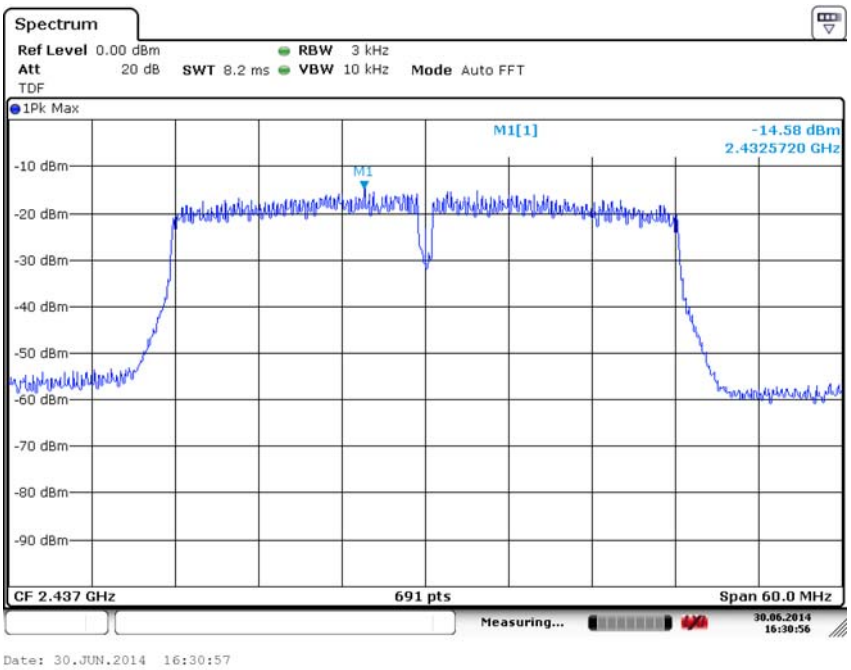


Fig. 3.11 Power Spectral Density (802.11n-40MHz, Ch 6)

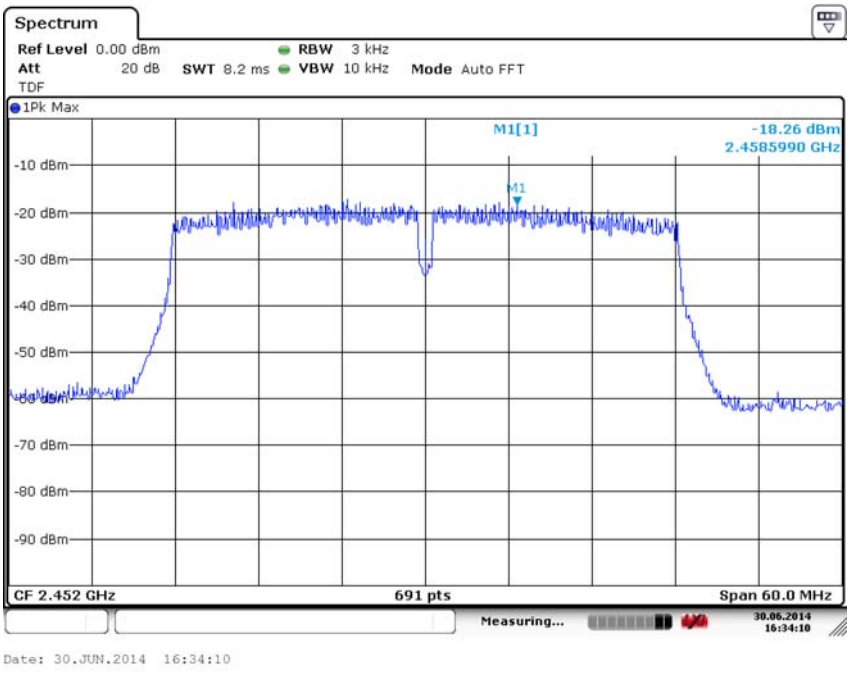


Fig. 3.12 Power Spectral Density (802.11n-40MHz, Ch 9)

A.4. DTS 6-dB Signal Bandwidth

Method of Measurement: See KDB558074 section 8.1 (Option 1).

a) Set RBW = 100 kHz.

b) Set the video bandwidth (VBW) = 300 kHz.

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.

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.247 (a)	≥ 500

EUT ID: EUT2

Measurement Result:

802.11b/g mode

Mode	Channel	Occupied 6dB Bandwidth (kHz)		conclusion
802.11b	1	Fig.A.4.1	7988	P
	6	Fig.A.4.2	7988	P
	11	Fig.A.4.3	7988	P
802.11g	1	Fig.A.4.4	16498	P
	6	Fig.A.4.5	16411	P
	11	Fig.A.4.6	16324	P

802.11n-HT20 mode

Mode	Channel	Occupied 6dB Bandwidth (kHz)		conclusion
802.11n (HT20)	1	Fig.A.4.7	17496	P
	6	Fig.A.4.8	17496	P
	11	Fig.A.4.9	17627	P

802.11n-HT40 mode

Mode	Channel	Occupied 6dB Bandwidth (kHz)		conclusion
802.11n (HT40)	3	Fig.A.4.10	35080	P
	6	Fig.A.4.11	34038	P
	9	Fig.A.4.12	34993	P

Conclusion: Pass

Test graphs as below:

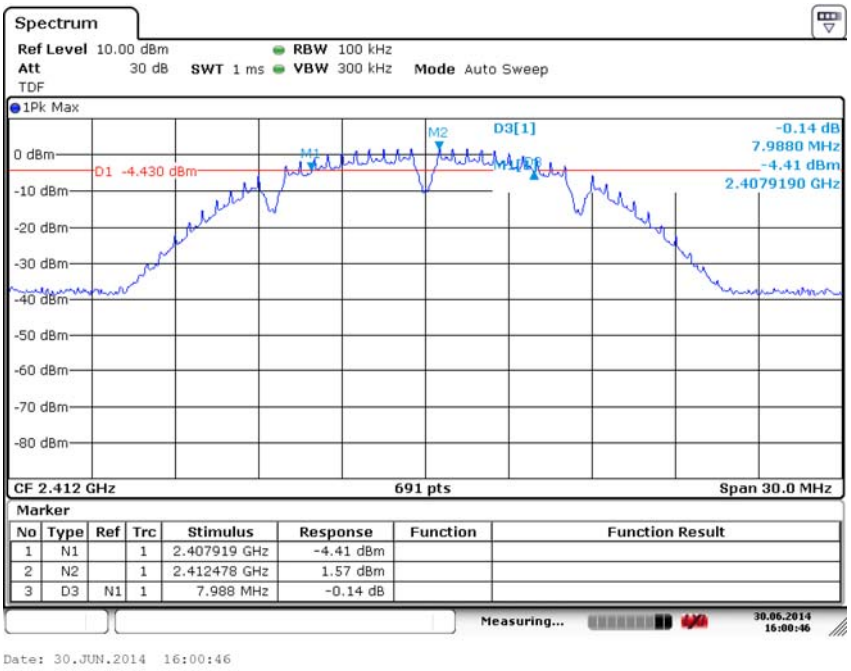


Fig. 4.1 Occupied 6dB Bandwidth (802.11b, Ch 1)

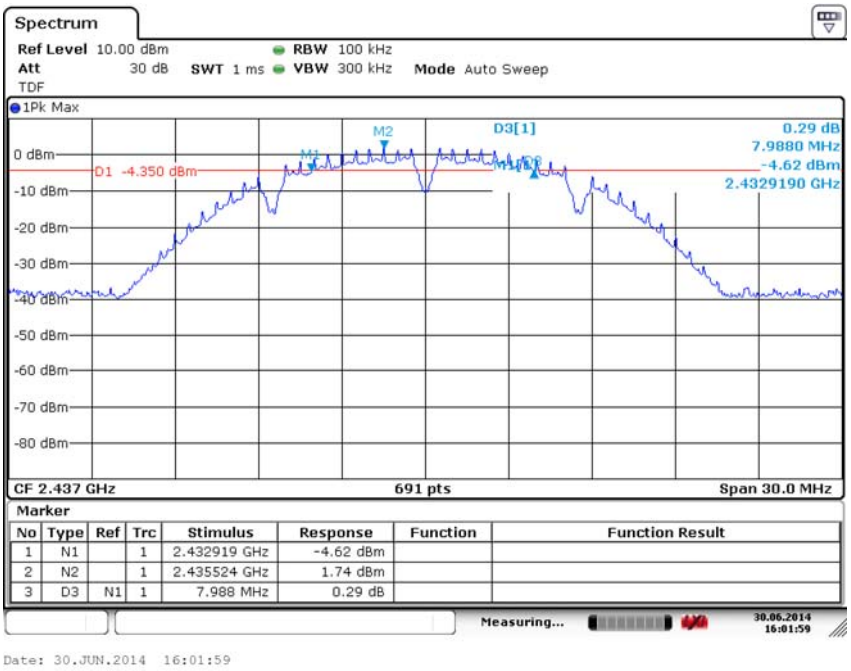


Fig. 4.2 Occupied 6dB Bandwidth (802.11b, Ch 6)

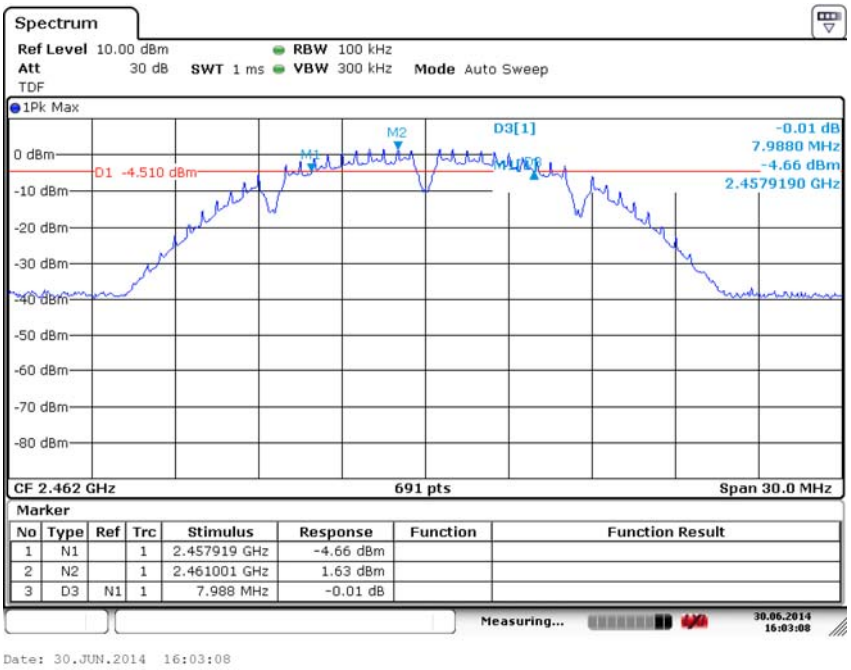


Fig. 4.3 Occupied 6dB Bandwidth (802.11b, Ch 11)

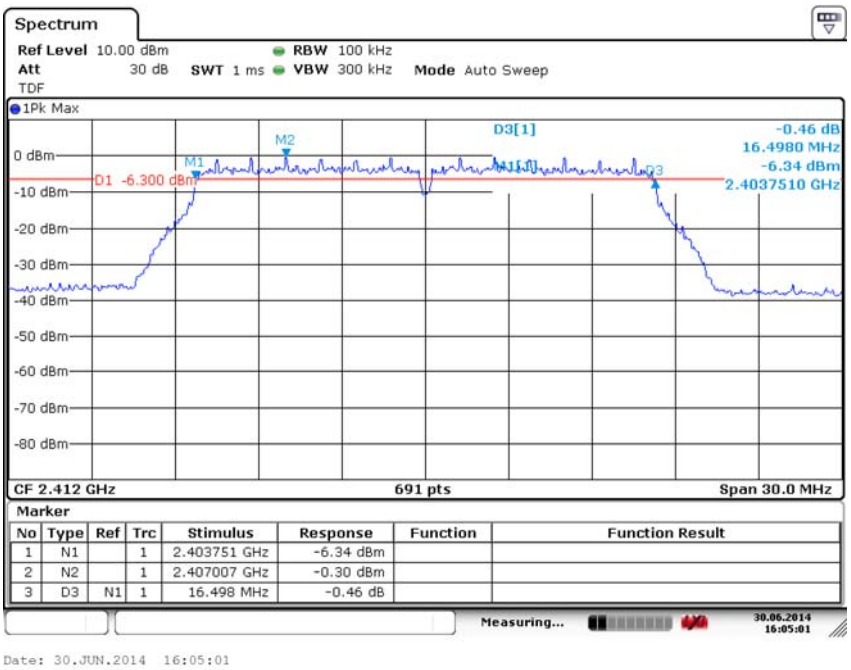


Fig. 4.4 Occupied 6dB Bandwidth (802.11g, Ch 1)

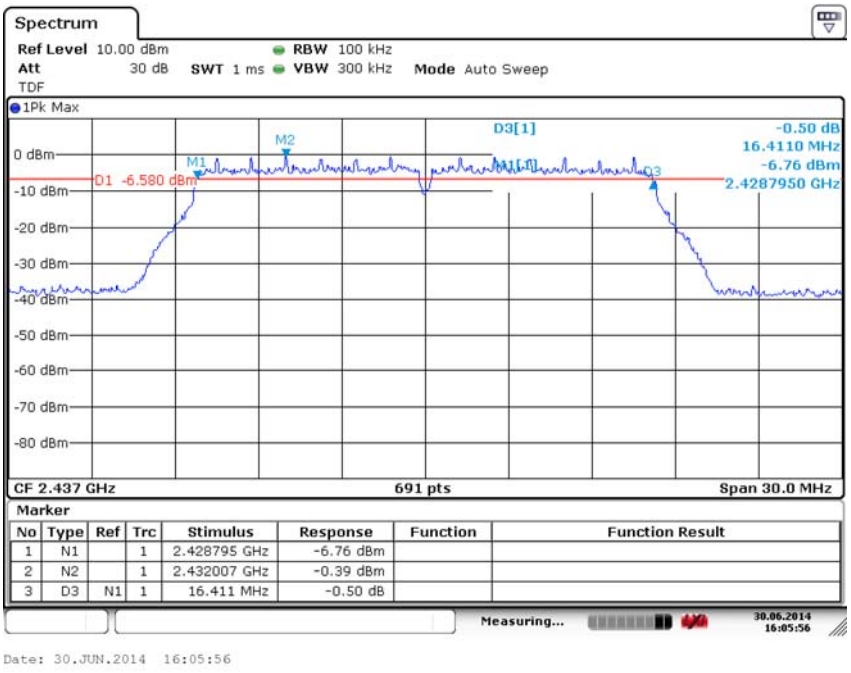


Fig. 4.5 Occupied 6dB Bandwidth (802.11g, Ch 6)

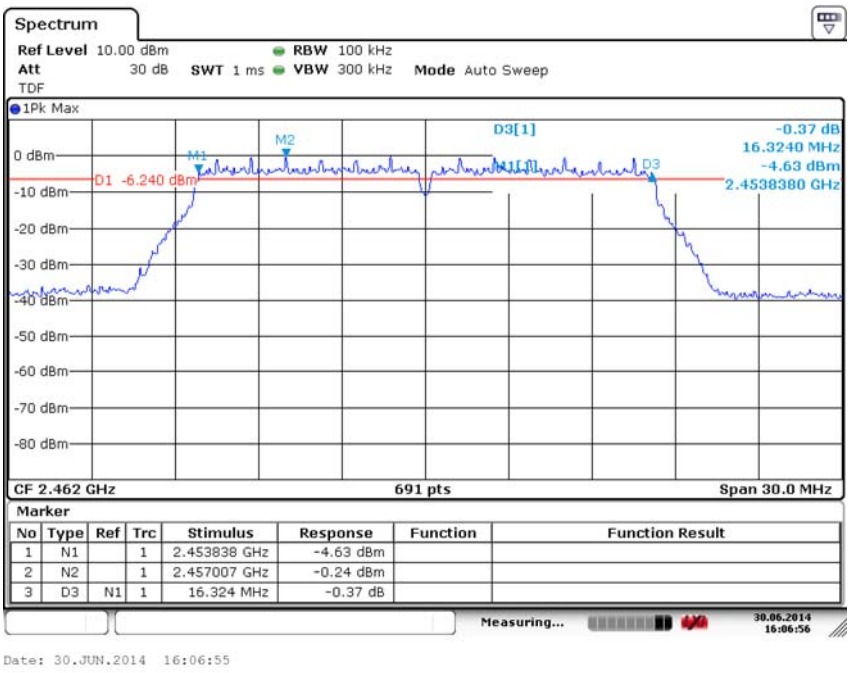


Fig. 4.6 Occupied 6dB Bandwidth (802.11g, Ch 11)

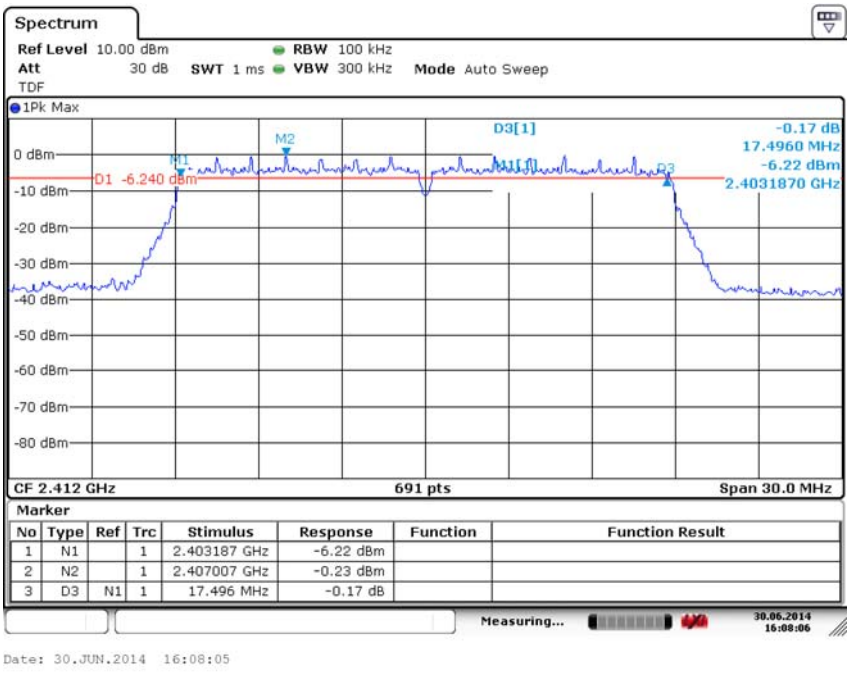


Fig. 4.7 Occupied 6dB Bandwidth (802.11 n-20MHz, Ch 1)

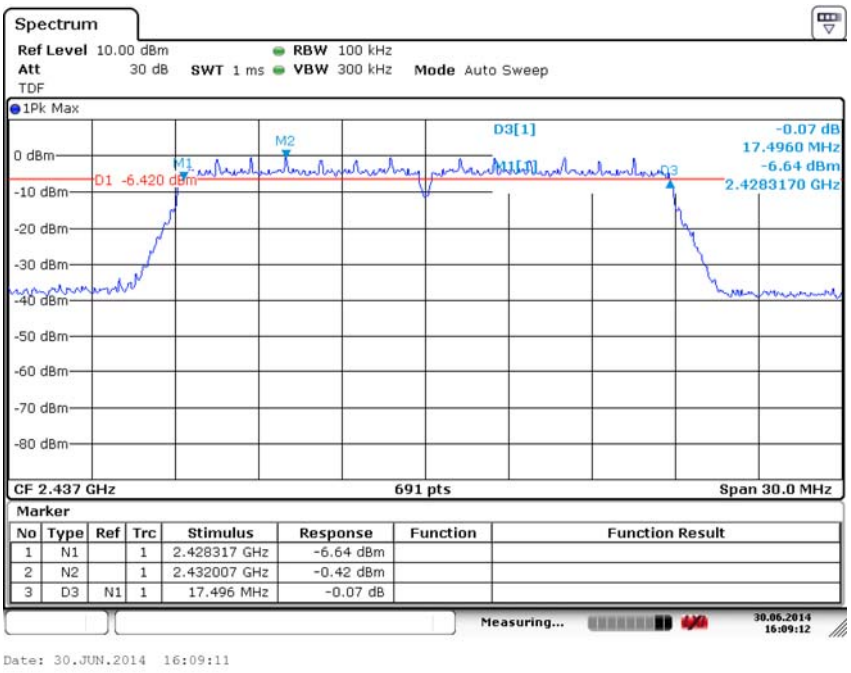


Fig. 4.8 Occupied 6dB Bandwidth (802.11 n-20MHz, Ch 6)

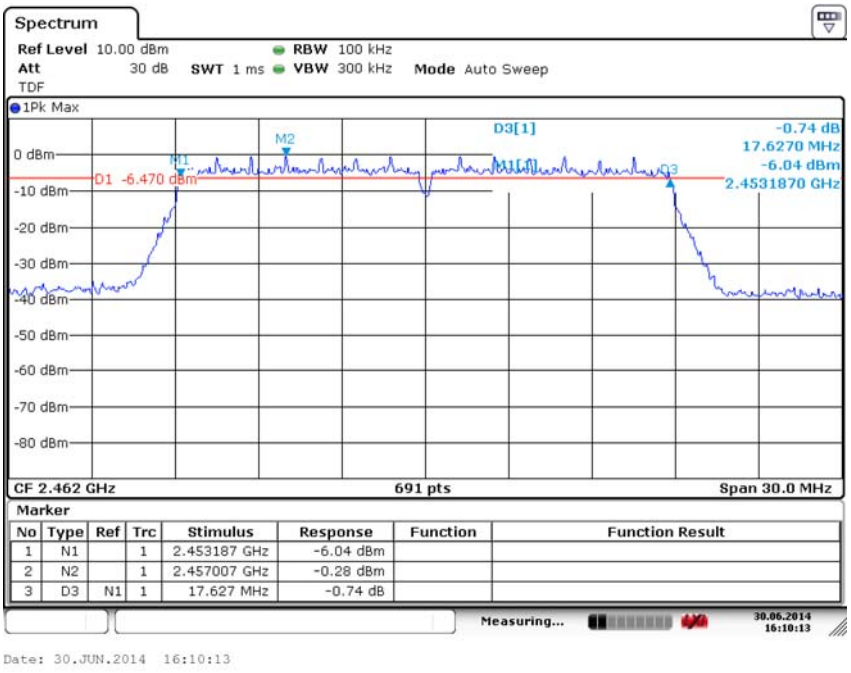


Fig. 4.9 Occupied 6dB Bandwidth (802.11n-20MHz, Ch 11)

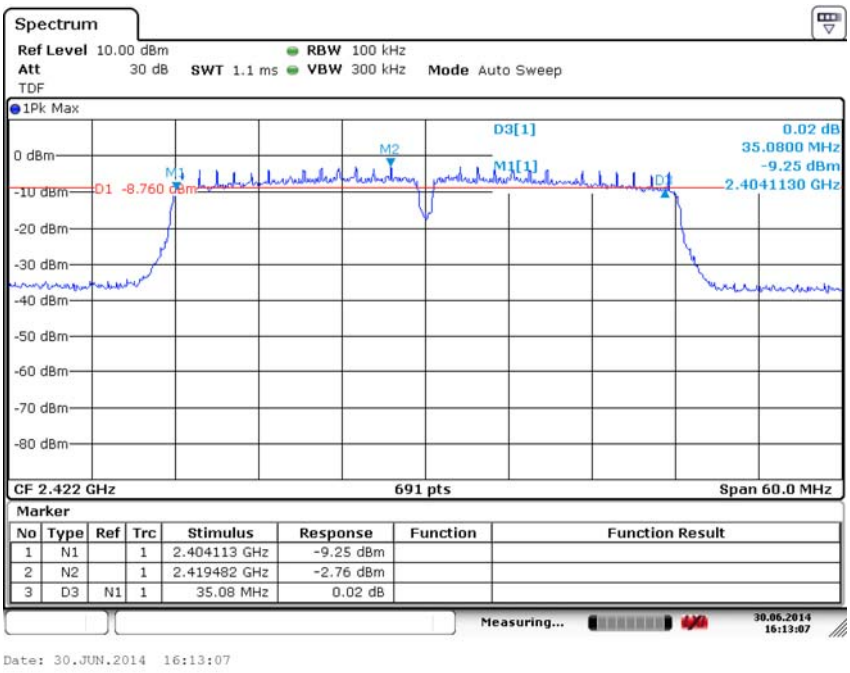


Fig. 4.10 Occupied 6dB Bandwidth (802.11n-40MHz, Ch 3)

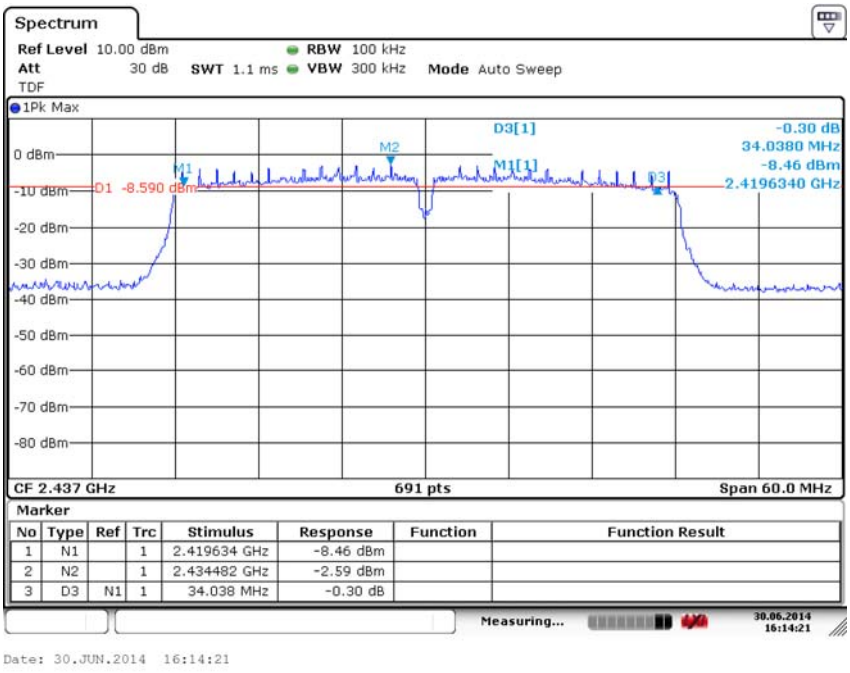


Fig. 4.11 Occupied 6dB Bandwidth (802.11n-40MHz, Ch 6)

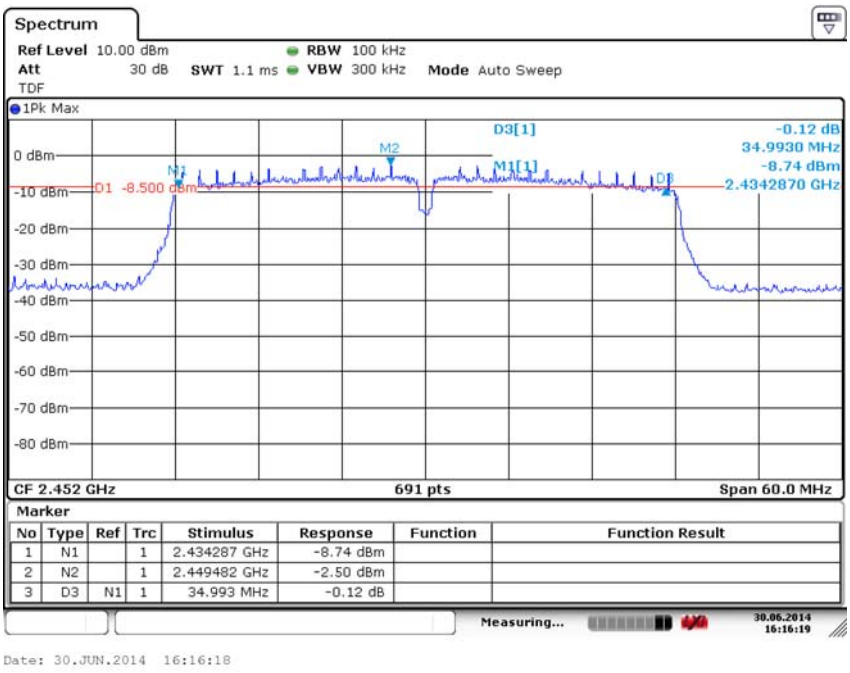


Fig. 4.12 Occupied 6dB Bandwidth (802.11n-40MHz, Ch 9)

A.5. Band Edges Compliance

Method of Measurement: See ANSI C63.10-2009-clause 6.9.2

Connect the spectrum analyzer to the EUT using an appropriate RF cable connected to the EUT output. Configure the spectrum analyzer settings as described below (be sure to enter all losses between the unlicensed wireless device output and the spectrum analyzer).

—Span: Set Span for minimum 50 MHz
—Reference Level: 110 dBμV (corrected for gains and losses of test antenna factor, preamp gain and cable loss)
—Attenuation: 10 dB
—Sweep Time: Coupled
—Resolution Bandwidth: Up to and including 1 GHz = ≥ 100 kHz
—Resolution Bandwidth: Above 1 GHz = 1 MHz
—Video Bandwidth: Below 1 GHz = 300 kHz
—Video Bandwidth: Up to and including 1 GHz = ≥ 3 MHz for peak and10 Hz for average
—Detector: Peak

Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel.

Measurement Limit:

Standard	Limit (dBc)
FCC 47 CFR Part 15.247 (d)	> 20

EUT ID: EUT2

Measurement Result:

802.11b/g mode

Mode	Channel	Test Results	Conclusion
802.11b	1	Fig.A.5.1	P
	11	Fig.A.5.2	P
802.11g	1	Fig.A.5.3	P
	11	Fig.A.5.4	P

802.11n-HT20 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT20)	1	Fig.A.5.5	P
	11	Fig.A.5.6	P

802.11n-HT40 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT40)	3	Fig.A.5.7	P
	9	Fig.A.5.8	P

Conclusion: Pass

Test graphs as below:

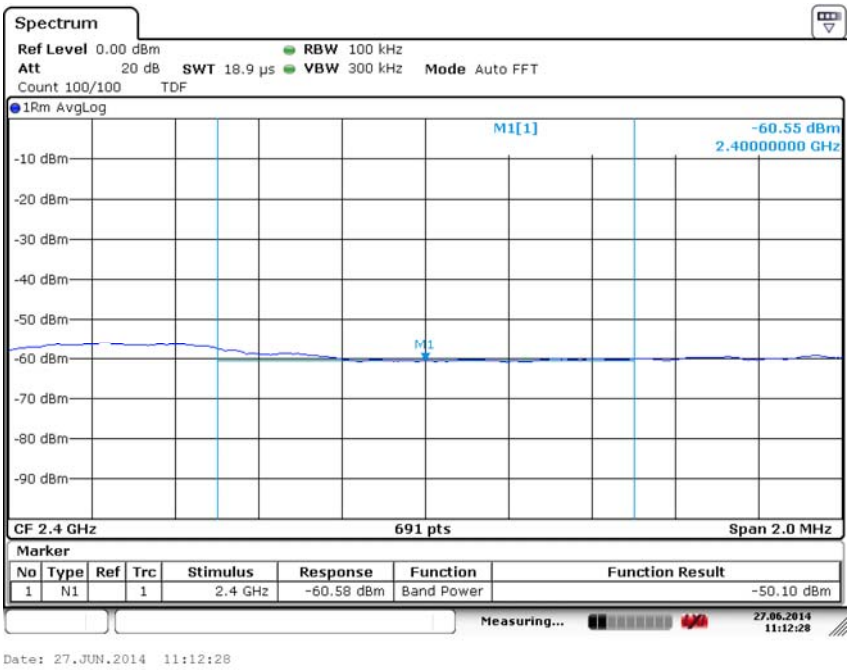


Fig. 5.1 Band Edges (802.11b, Ch 1)

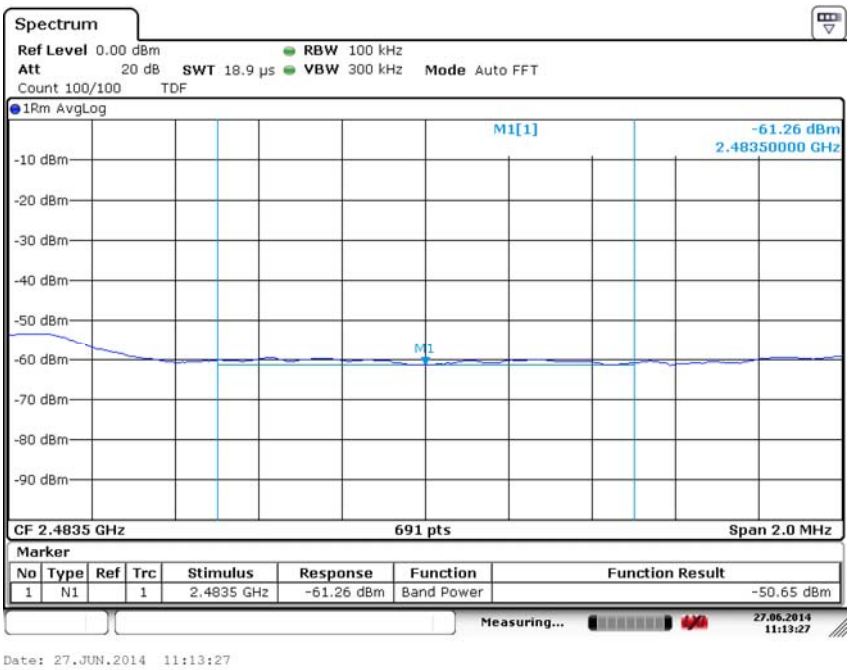


Fig. 5.2 Band Edges (802.11b, Ch 11)

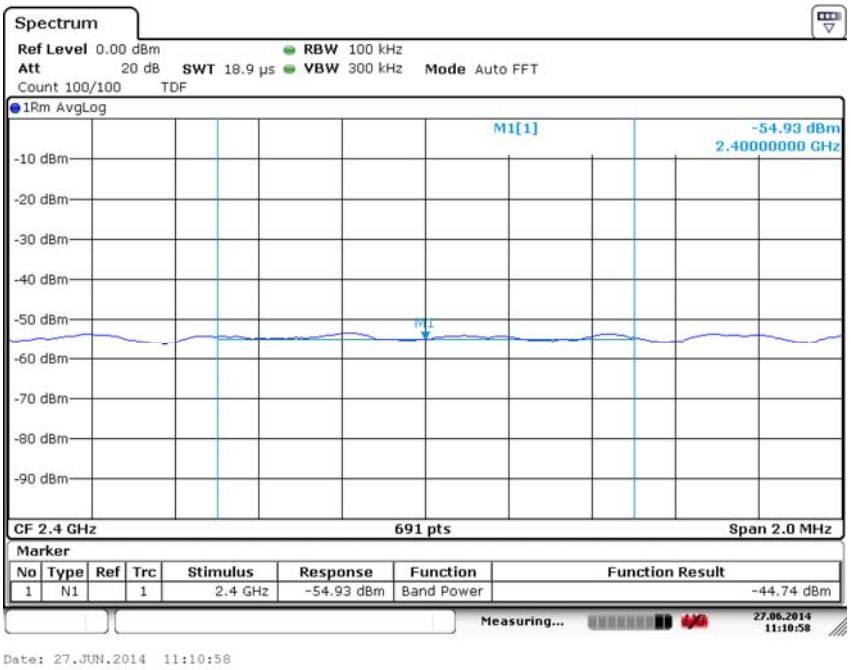


Fig. 5.3 Band Edges (802.11g, Ch 1)

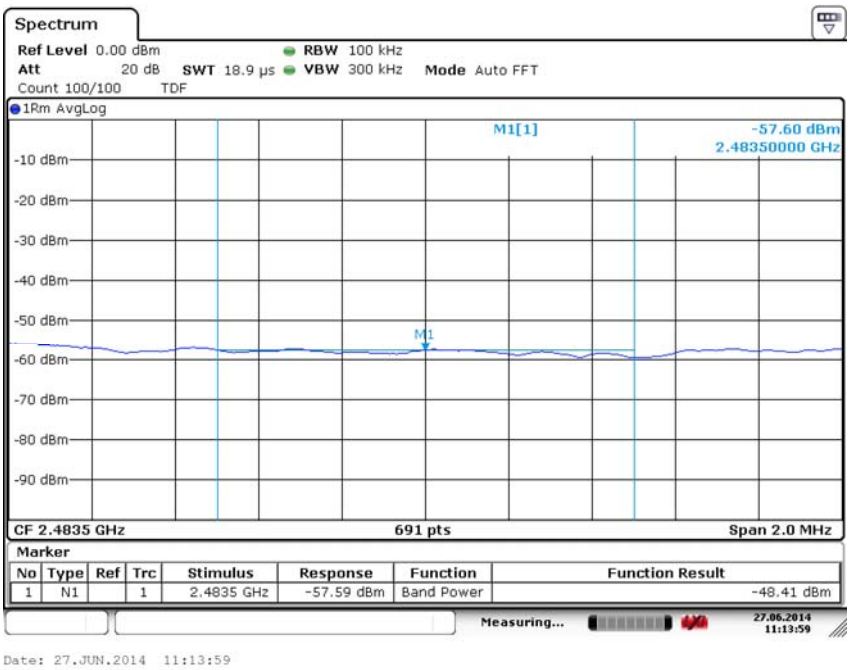


Fig. 5.4 Band Edges (802.11g, Ch 11)

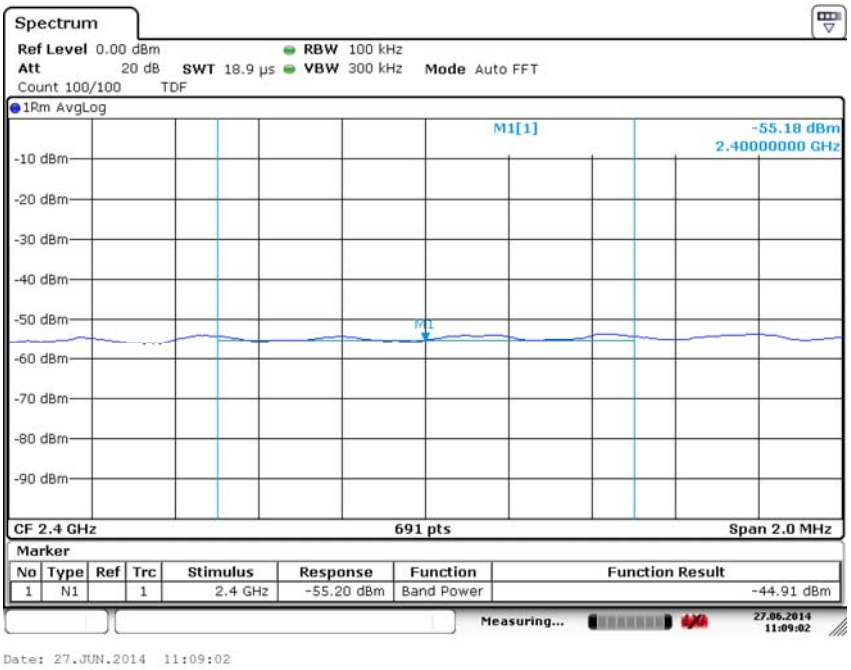


Fig. 5.5 Band Edges (802.11 n-20MHz, Ch 1)

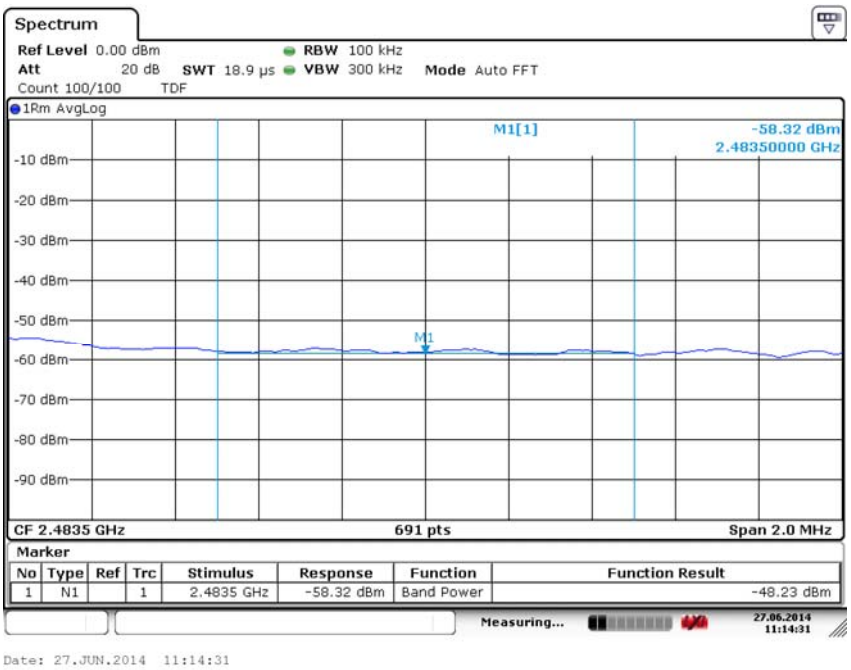


Fig. 5.6 Band Edges (802.11 n-20MHz, Ch 11)

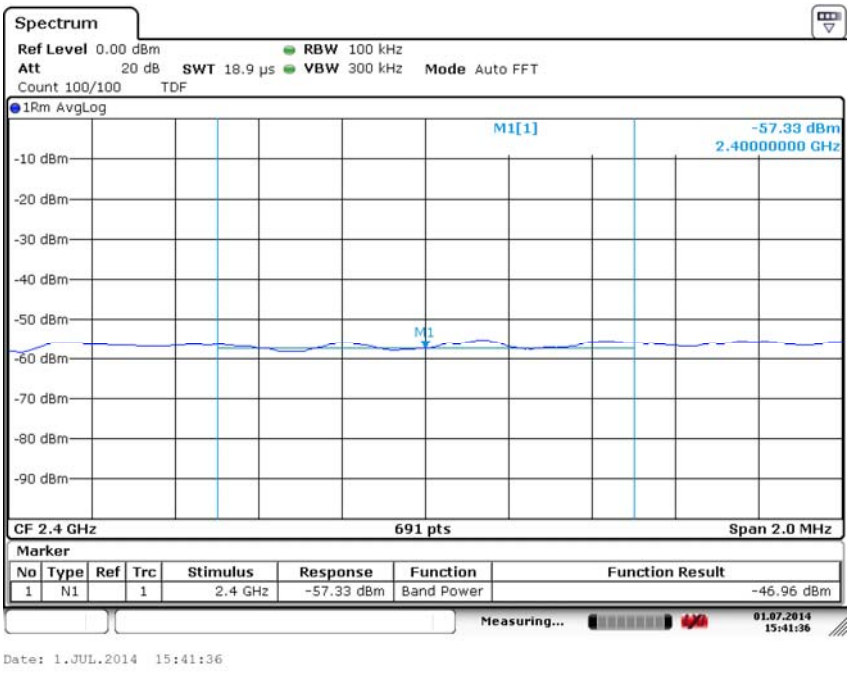


Fig. 5.7 Band Edges (802.11 n-40MHz, Ch 3)

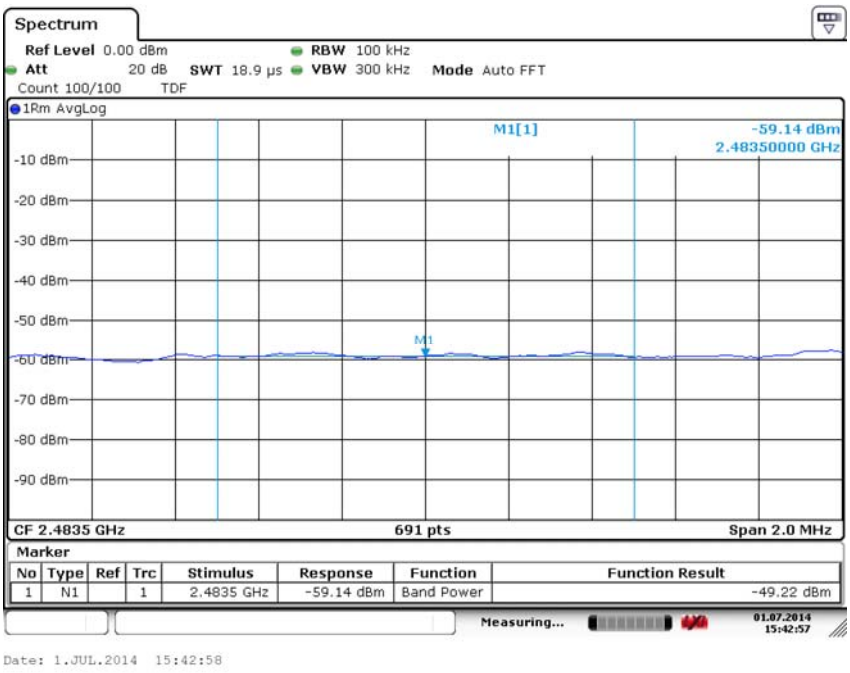


Fig. 5.8 Band Edges (802.11 n-40MHz, Ch 9)

A.6. Transmitter Spurious Emission

A.6.1 Transmitter Spurious Emission – Conducted

Method of Measurement: See ANSI C63.10-2009-clause 6.10.4

The following procedure shall be used for measuring peak excursion:

a) Connect the cable from the spectrum analyzer to the EUT antenna port using an appropriate RF attenuator.

b) Verify the antenna port selected is the active one if the system has more then one antenna.

c) Verify the unlicensed wireless device is set to operate at 100 % duty cycle at the maximum allowed power for operation.

d) Testing shall be done on the center frequency of each U-NII band.

e) Set the spectrum analyzer span to view the entire emission bandwidth. The largest difference between the following two traces must be ≥ 13 dB for all frequencies across the emission bandwidth.

1) First trace: set RBW = 1 MHz, VBW≥ 3 MHz with peak detector and max hold settings.

2) Second trace:

create the second trace using the settings described in A.1.

f) Submit a plot of the data with the test report.

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247 (d)	20dB below peak output power in 100 kHz bandwidth

EUT ID: EUT2

Measurement Results:

802.11b/g mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11b	1	2.412 GHz	Fig.A.6.1.1	P
		30 MHz-3 GHz	Fig.A.6.1.2	P
		3GHz-18GHz	Fig.A.6.1.3	P
	6	2.437 GHz	Fig.A.6.1.4	P
		30 MHz-3 GHz	Fig.A.6.1.5	P
		3GHz-18GHz	Fig.A.6.1.6	P
	11	2.462 GHz	Fig.A.6.1.7	P
		30 MHz-3 GHz	Fig.A.6.1.8	P
		3GHz-18GHz	Fig.A.6.1.9	P
802.11g	1	2.412 GHz	Fig.A.6.1.10	P
		30 MHz-3 GHz	Fig.A.6.1.11	P
		3GHz-18GHz	Fig.A.6.1.12	P
	6	2.437 GHz	Fig.A.6.1.13	P
		30 MHz-3 GHz	Fig.A.6.1.14	P
		3GHz-18GHz	Fig.A.6.1.15	P
	11	2.462 GHz	Fig.A.6.1.16	P
		30 MHz-3 GHz	Fig.A.6.1.17	P
		3GHz-18GHz	Fig.A.6.1.18	P

802.11n mode

802.11n (20MHz)	1	2.412 GHz	Fig.A.6.1.19	P
		30 MHz-3 GHz	Fig.A.6.1.20	P
		3GHz-18GHz	Fig.A.6.1.21	P
	6	2.437 GHz	Fig.A.6.1.22	P
		30 MHz-3 GHz	Fig.A.6.1.23	P
		3GHz-18GHz	Fig.A.6.1.24	P
	11	2.462 GHz	Fig.A.6.1.25	P
		30 MHz-3 GHz	Fig.A.6.1.26	P
		3GHz-18GHz	Fig.A.6.1.27	P
802.11n (40MHz)	3	2.422 GHz	Fig.A.6.1.28	P
		30 MHz-3 GHz	Fig.A.6.1.29	P
		3GHz-18GHz	Fig.A.6.1.30	P
	6	2.437 GHz	Fig.A.6.1.31	P
		30 MHz-3 GHz	Fig.A.6.1.32	P
		3GHz-18GHz	Fig.A.6.1.33	P
	9	2.452 GHz	Fig.A.6.1.34	P
		30 MHz-3 GHz	Fig.A.6.1.35	P
		3GHz-18GHz	Fig.A.6.1.36	P
/	All channels	18GHz-26GHz	Fig.A.6.1.37	P

Conclusion: Pass

Test graphs as below:

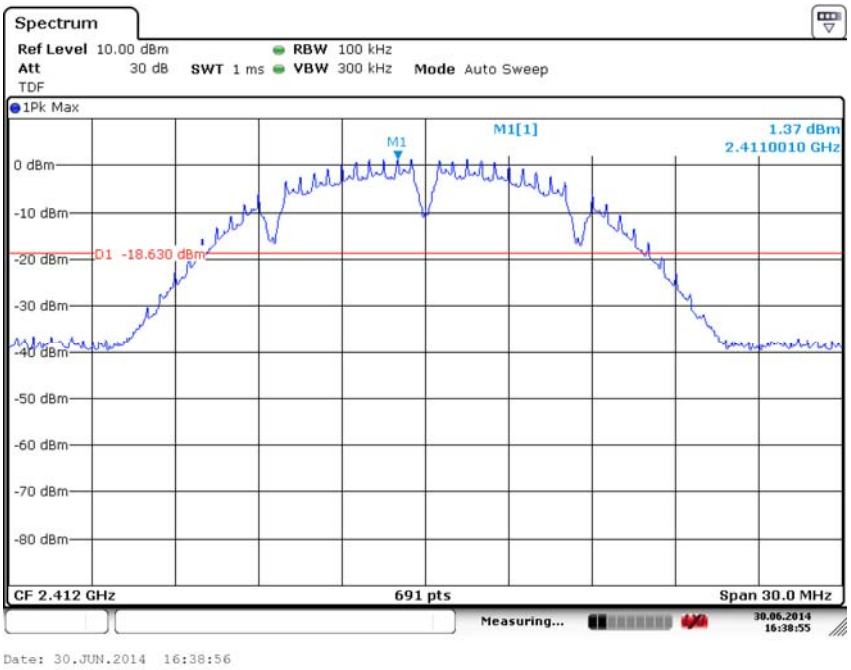


Fig. 6.1.1 Conducted Spurious Emission (802.11b, Ch1, Center Frequency)

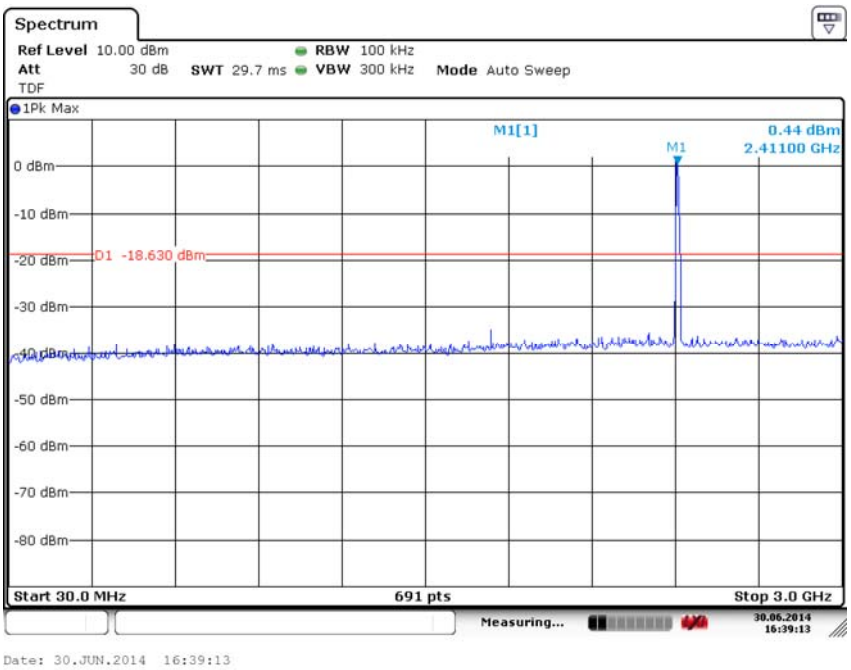


Fig. 6.1.2 Conducted Spurious Emission (802.11b, Ch1, 30 MHz-3 GHz)

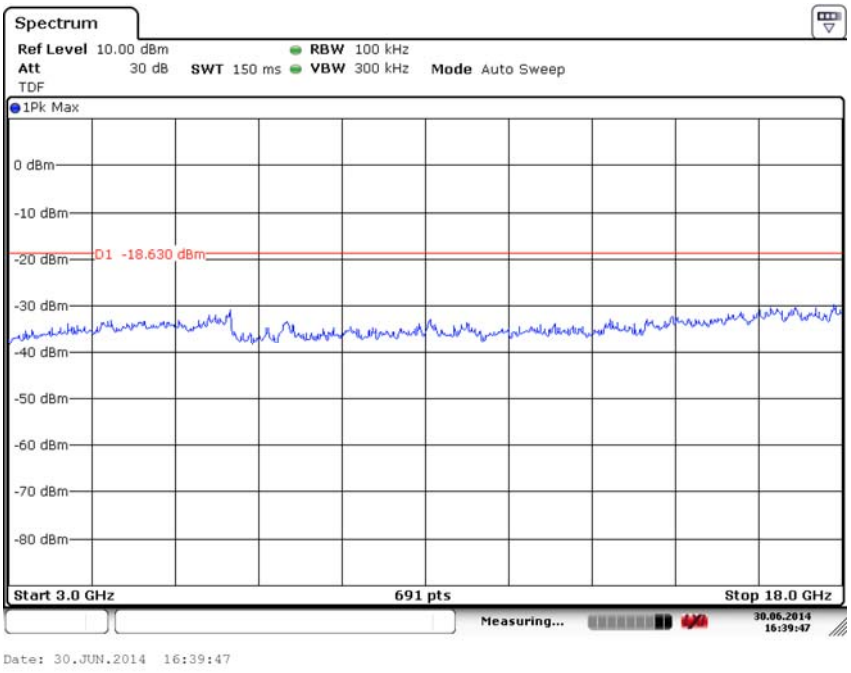


Fig. 6.1.3 Conducted Spurious Emission (802.11b, Ch1, 3 GHz-18 GHz)

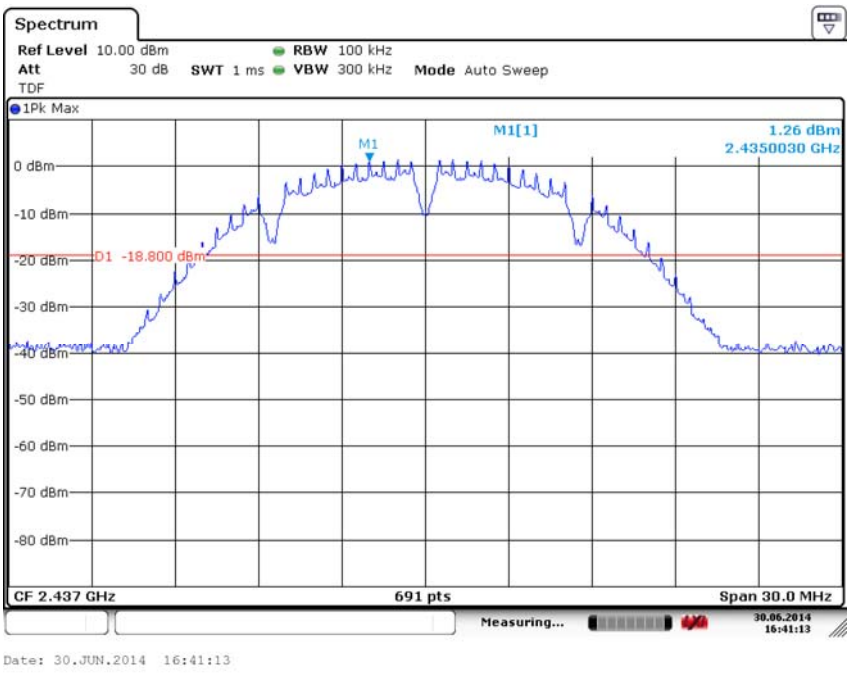


Fig. 6.1.4 Conducted Spurious Emission (802.11b, Ch6, Center Frequency)

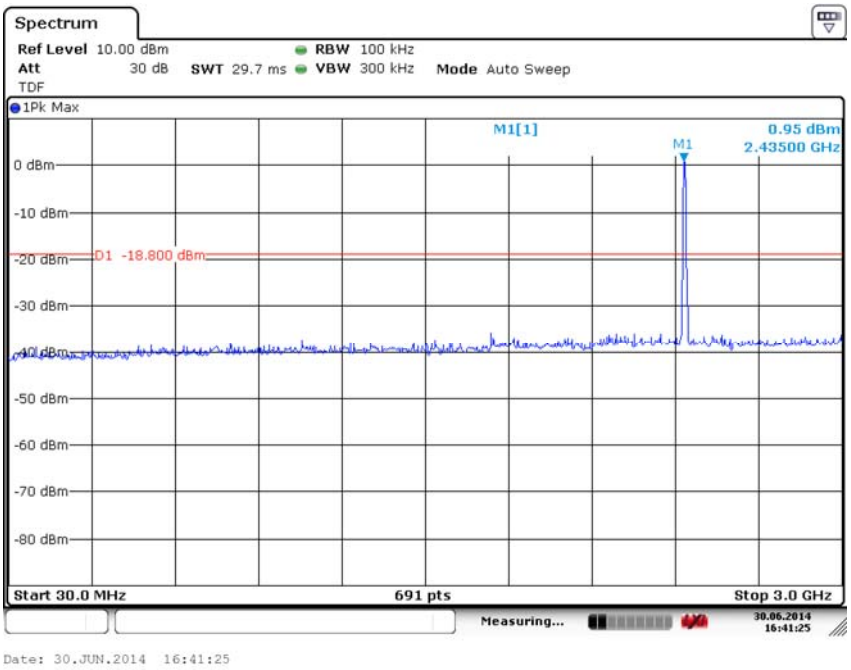


Fig. 6.1.5 Conducted Spurious Emission (802.11b, Ch6, 30 MHz-3 GHz)

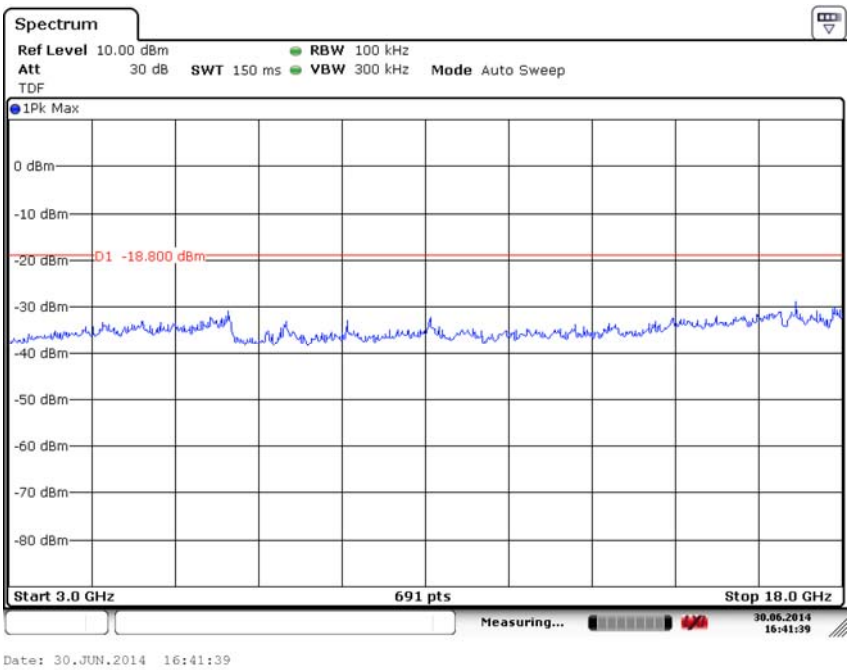


Fig. 6.1.6 Conducted Spurious Emission (802.11b, Ch6, 3 GHz-18 GHz)

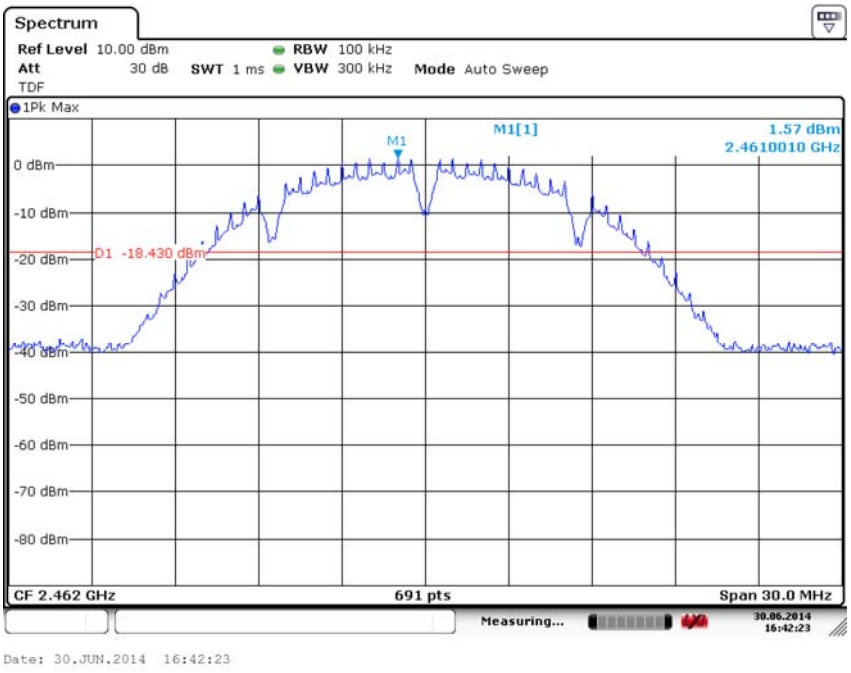


Fig. 6.1.7 Conducted Spurious Emission (802.11b, Ch11, Center Frequency)

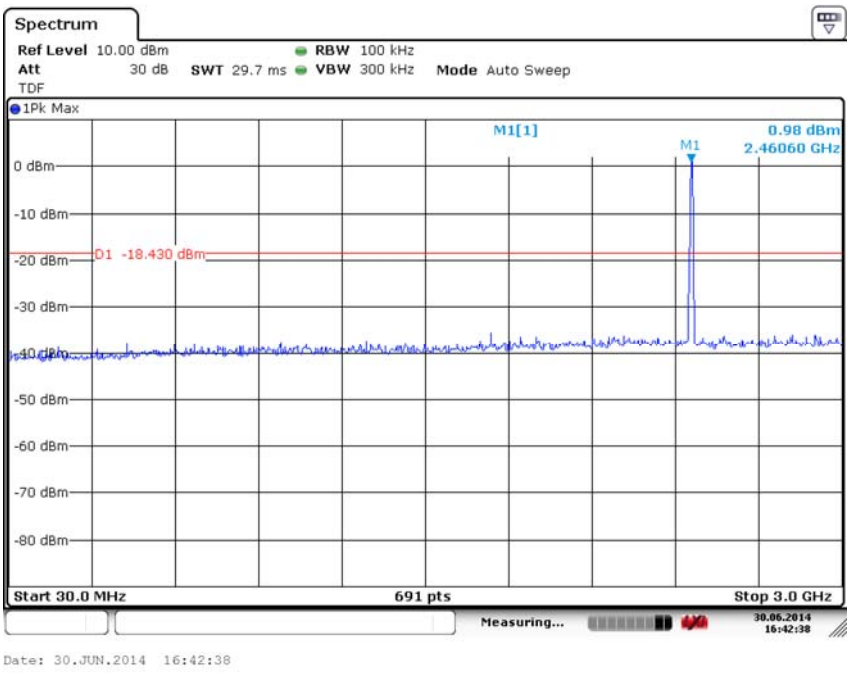


Fig. 6.1.8 Conducted Spurious Emission (802.11b, Ch11, 30 MHz-3 GHz)

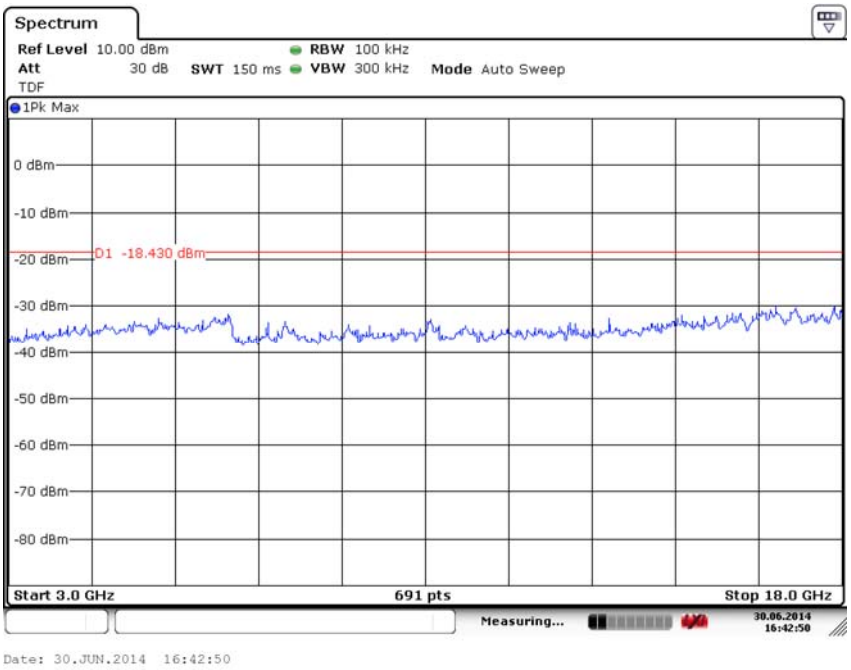


Fig. 6.1.9 Conducted Spurious Emission (802.11b, Ch11, 3 GHz-18 GHz)

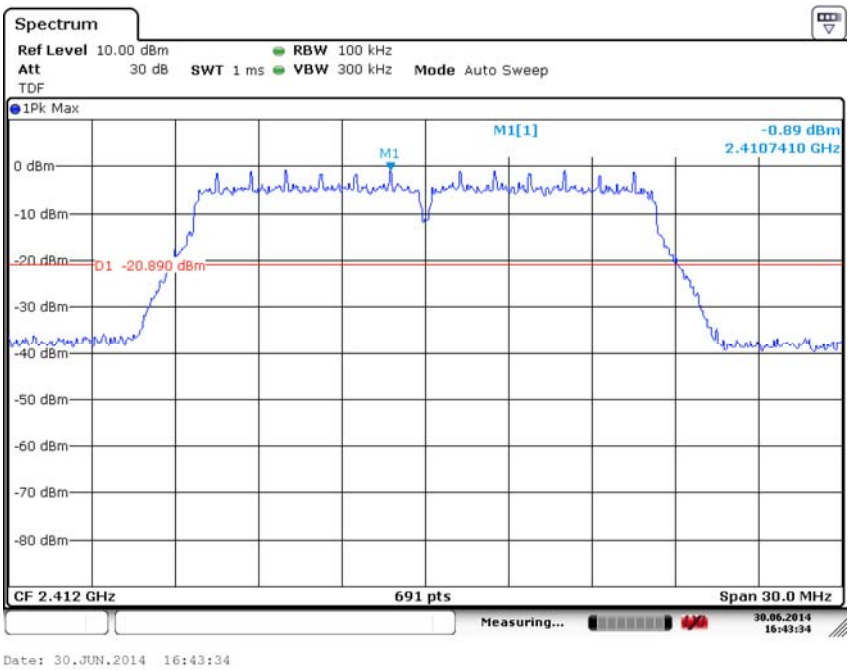


Fig. 6.1.10 Conducted Spurious Emission (802.11g, Ch1, Center Frequency)

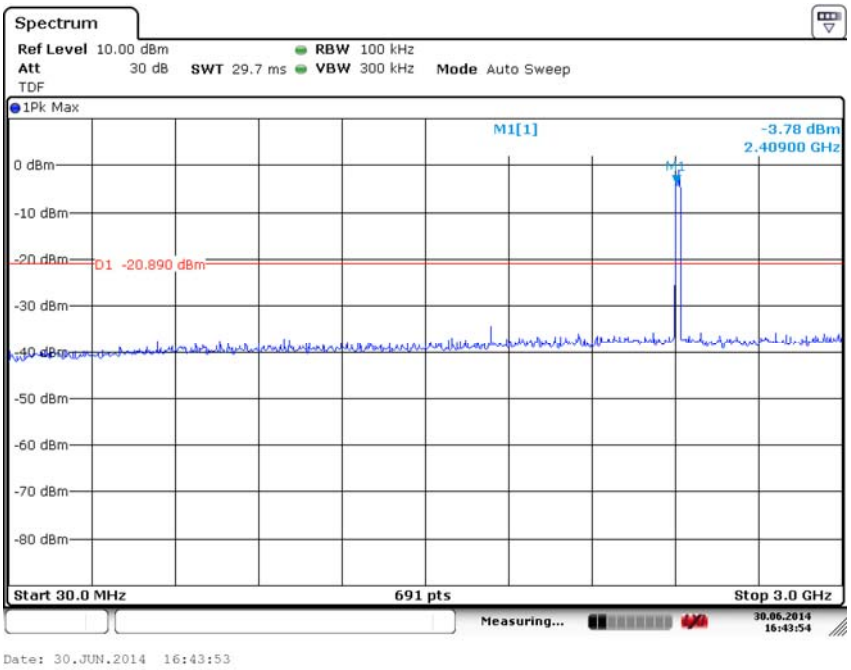


Fig. 6.1.11 Conducted Spurious Emission (802.11g, Ch1, 30 MHz-3 GHz)

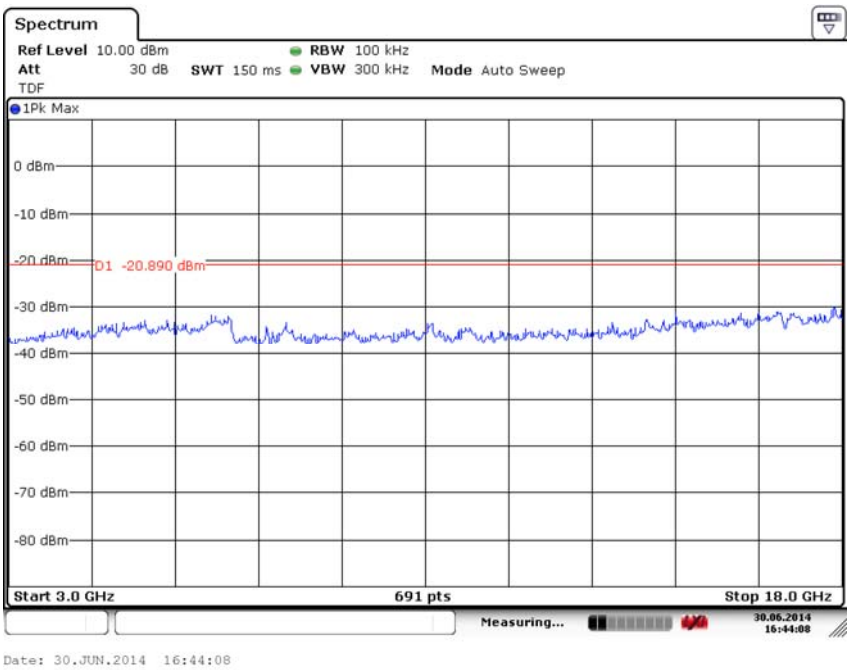


Fig. 6.1.12 Conducted Spurious Emission (802.11g, Ch1, 3 GHz-18 GHz)

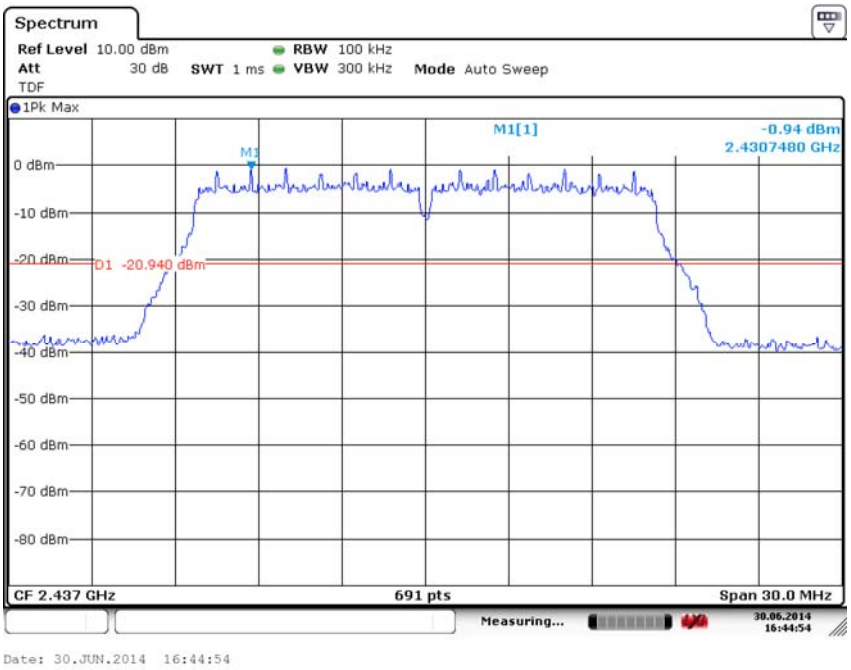


Fig. 6.1.13 Conducted Spurious Emission (802.11g, Ch6, Center Frequency)

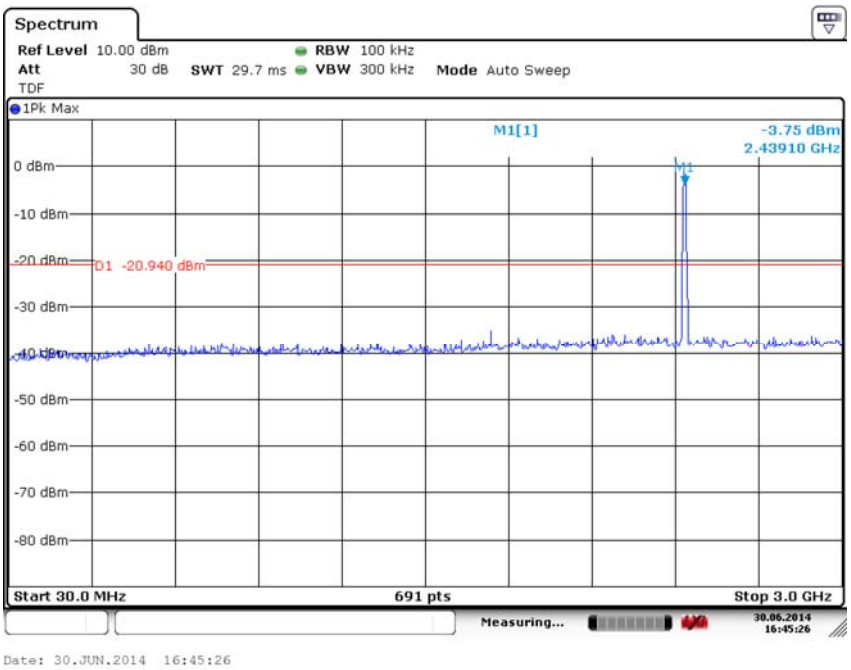


Fig. 6.1.14 Conducted Spurious Emission (802.11g, Ch6, 30 MHz-3 GHz)

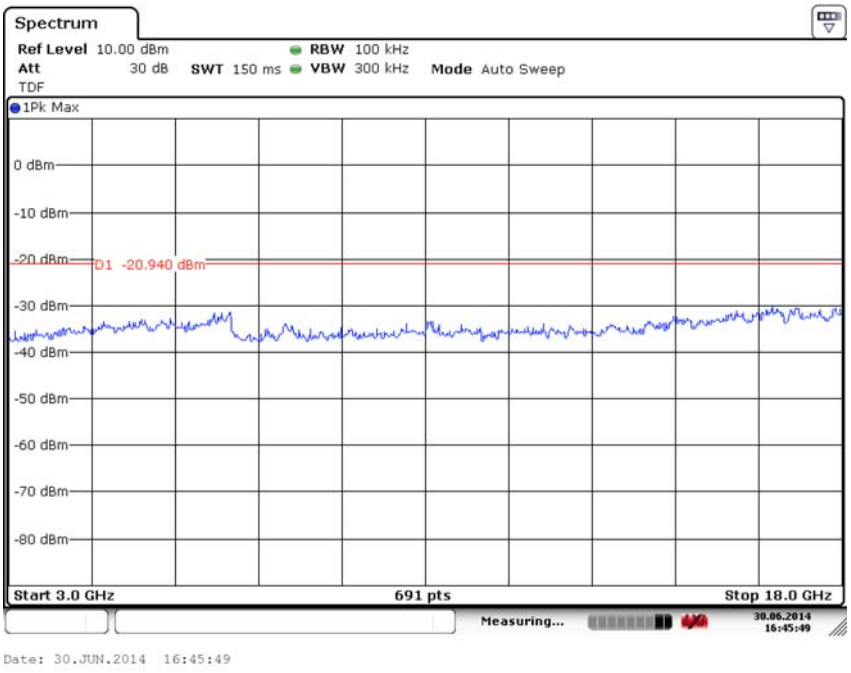


Fig. 6.1.15 Conducted Spurious Emission (802.11g, Ch6, 3 GHz-18 GHz)

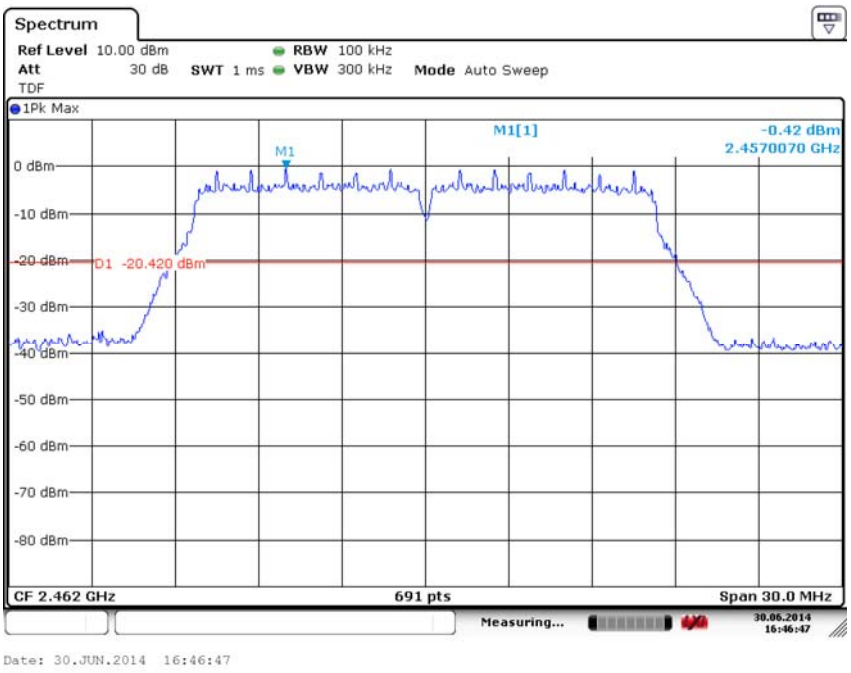


Fig. 6.1.16 Conducted Spurious Emission (802.11g, Ch11, Center Frequency)

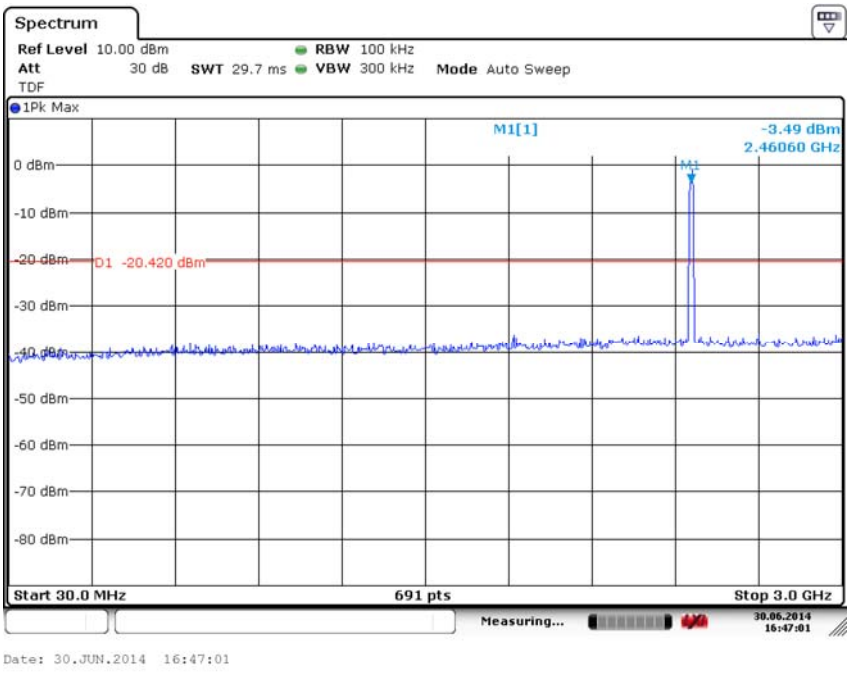


Fig. 6.1.17 Conducted Spurious Emission (802.11g, Ch11, 30 MHz-3 GHz)

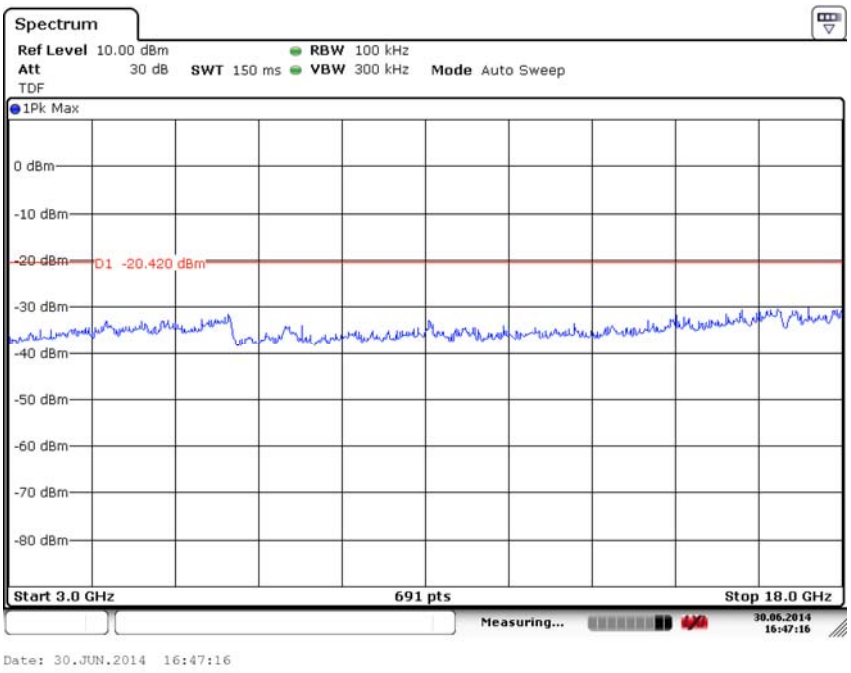


Fig. 6.1.18 Conducted Spurious Emission (802.11g, Ch11, 3 GHz-18 GHz)

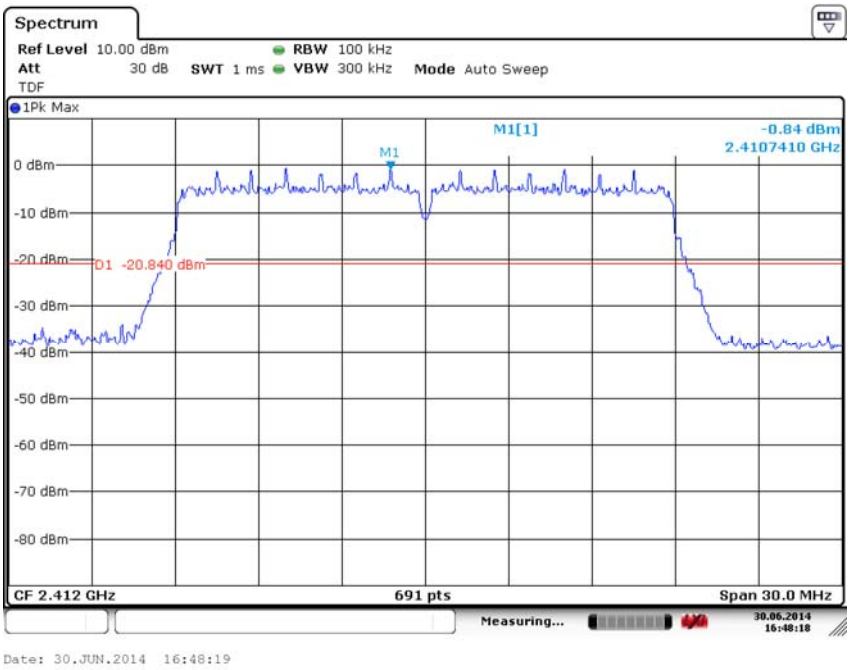


Fig. 6.1.19 Conducted Spurious Emission (802.11n-20M, Ch1, Center Frequency)

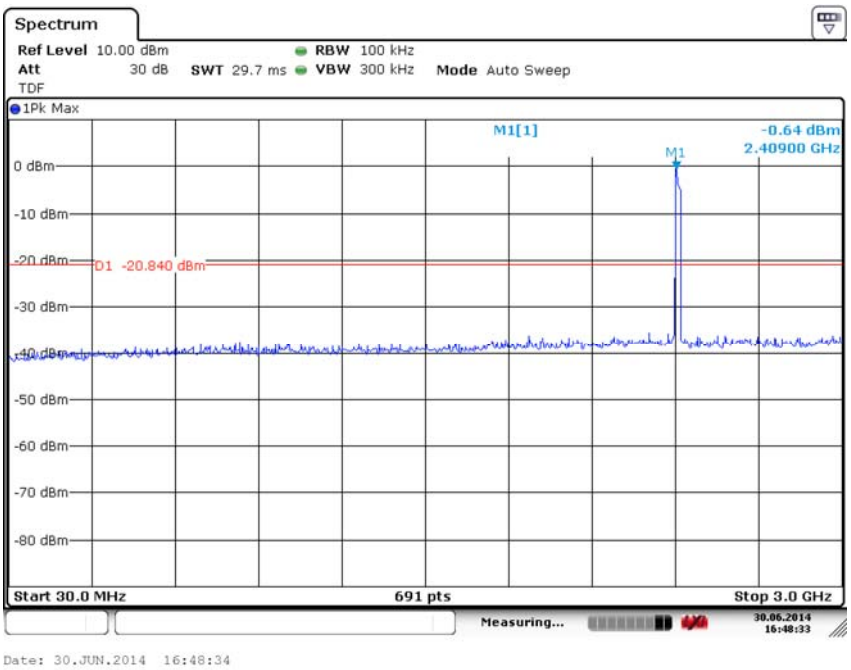


Fig. 6.1.20 Conducted Spurious Emission (802.11n-20M, Ch1, 30 MHz-3 GHz)

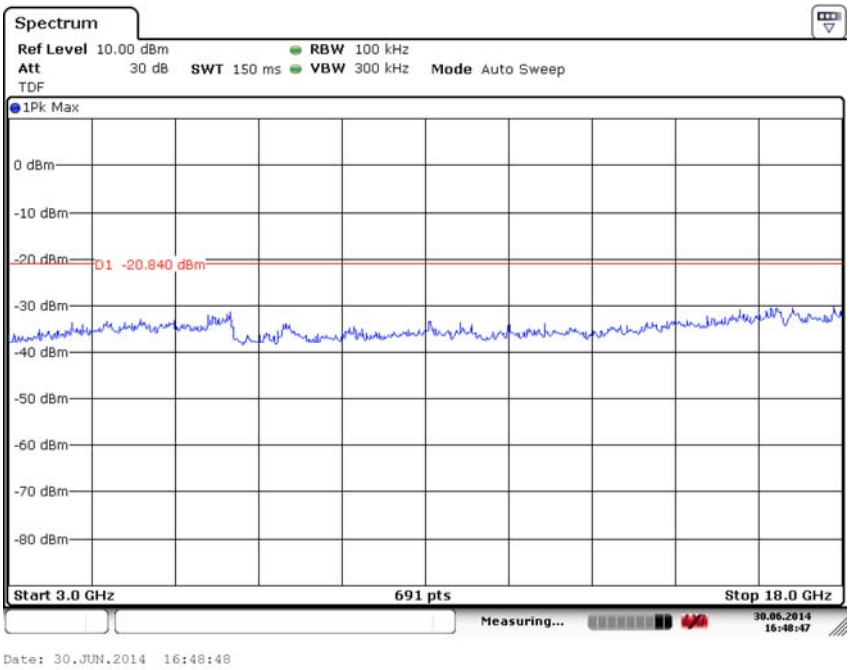


Fig. 6.1.21 Conducted Spurious Emission (802.11n-20M, Ch1, 3 GHz-18 GHz)

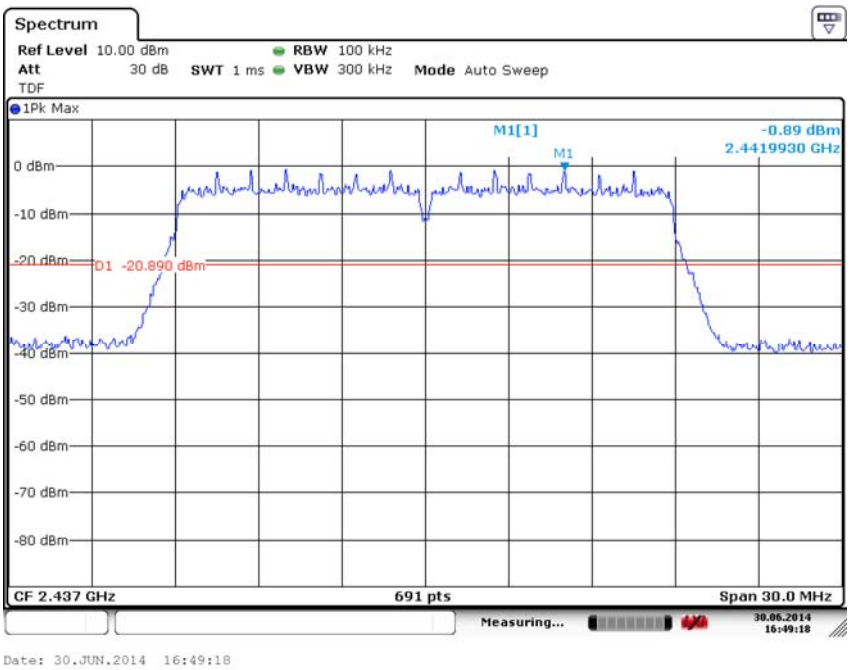


Fig. 6.1.22 Conducted Spurious Emission (802.11n-20M, Ch6, Center Frequency)

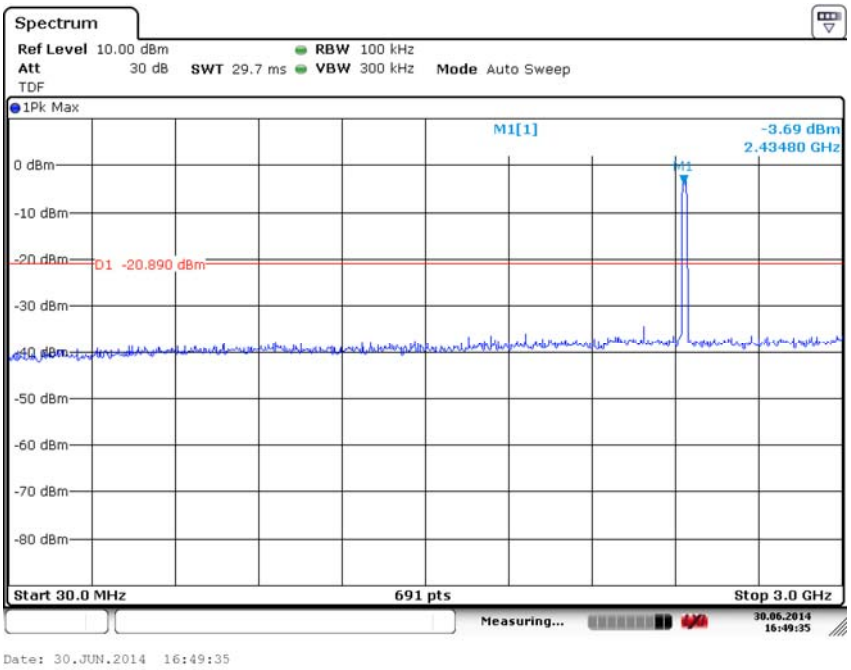


Fig. 6.1.23 Conducted Spurious Emission (802.11n-20M, Ch6, 30 MHz-3 GHz)

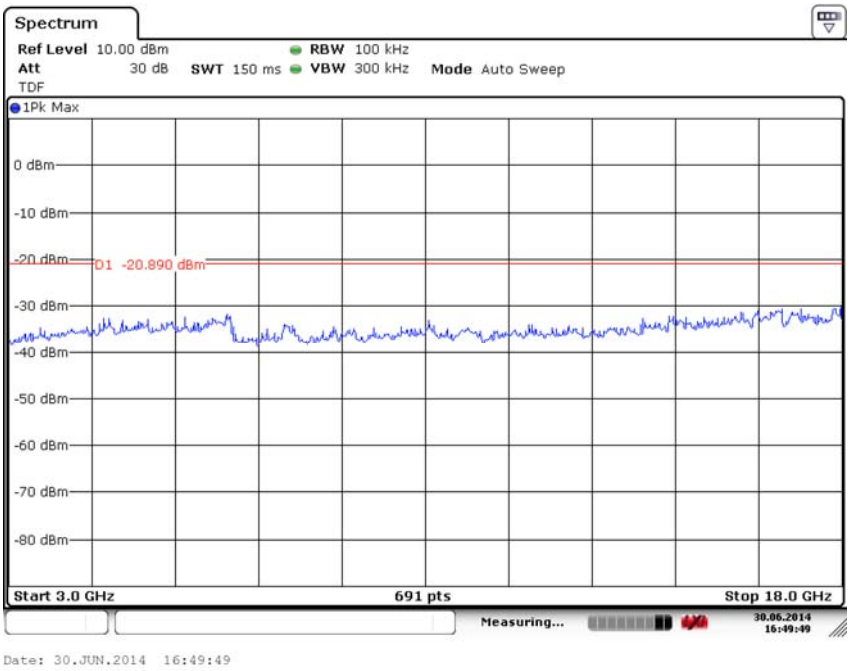


Fig. 6.1.24 Conducted Spurious Emission (802.11n-20M, Ch6, 3 GHz-18 GHz)

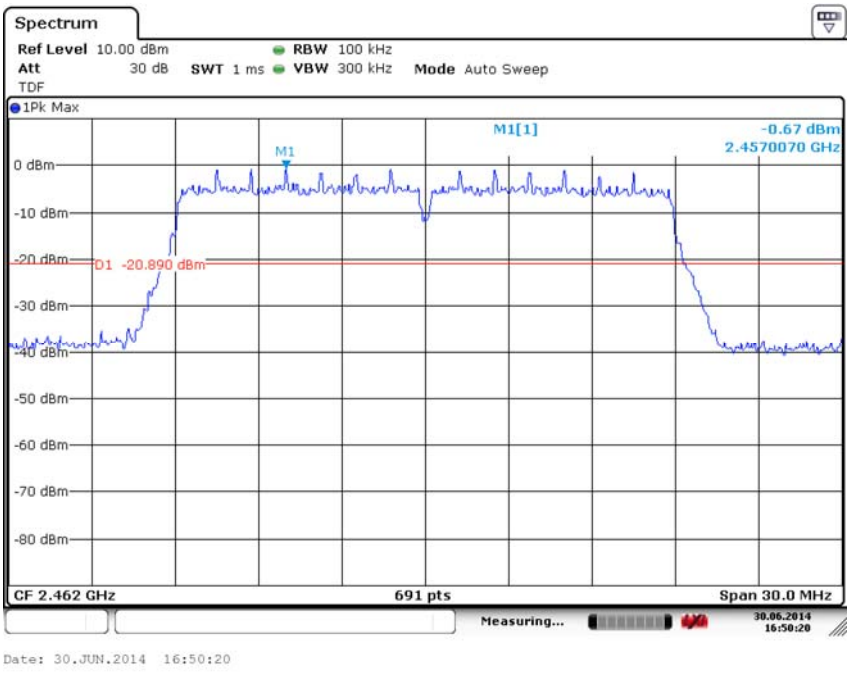


Fig. 6.1.25 Conducted Spurious Emission (802.11n-20M, Ch11, Center Frequency)

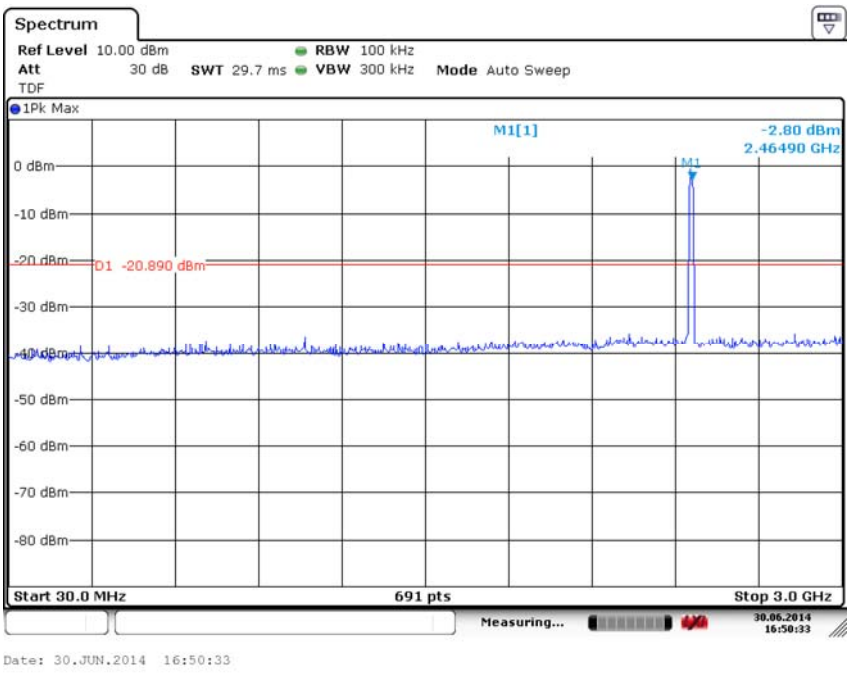


Fig. 6.1.26 Conducted Spurious Emission (802.11n-20M, Ch11, 30 MHz-3 GHz)

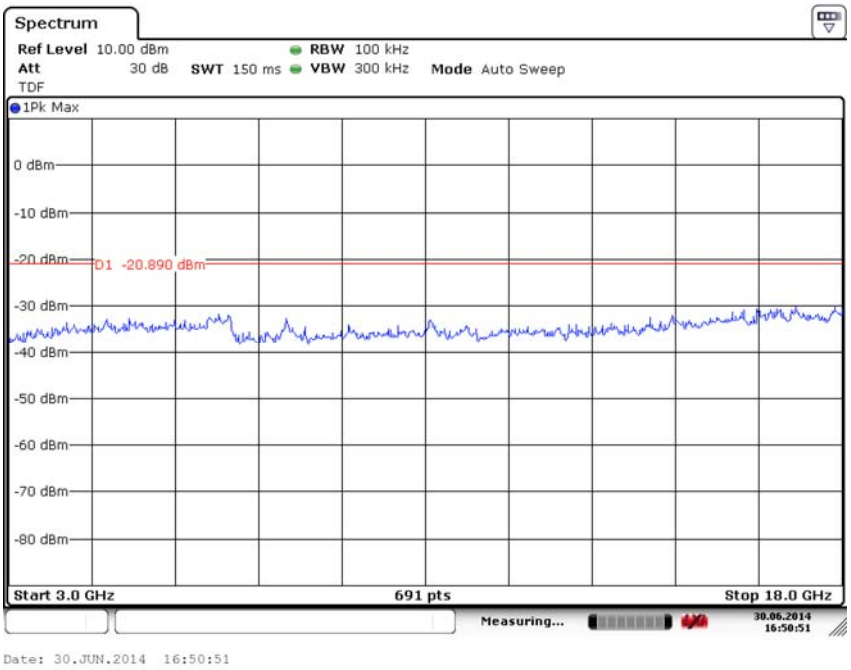


Fig. 6.1.27 Conducted Spurious Emission (802.11n-20M, Ch11, 3 GHz-18 GHz)

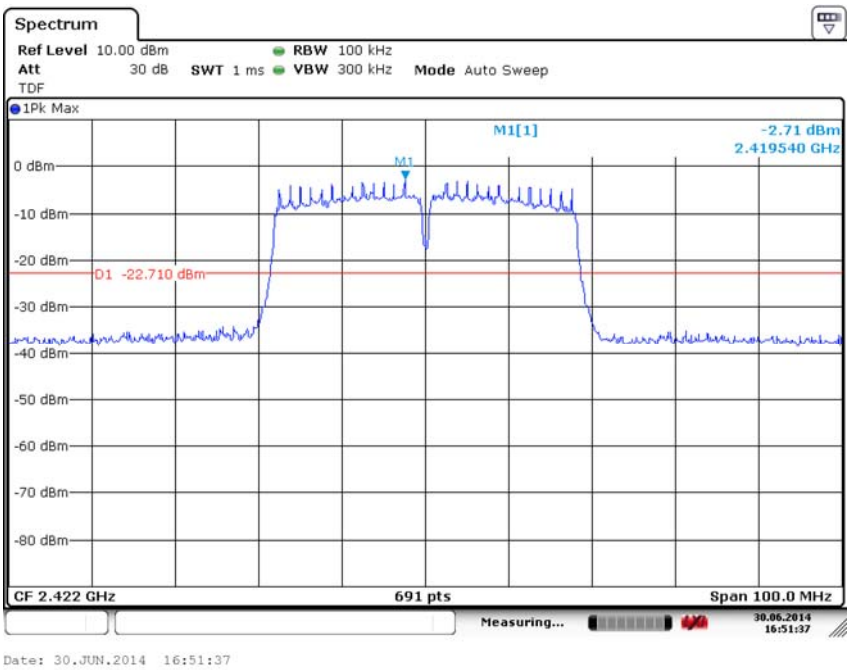


Fig. 6.1.28 Conducted Spurious Emission (802.11n-40M, Ch3, Center Frequency)

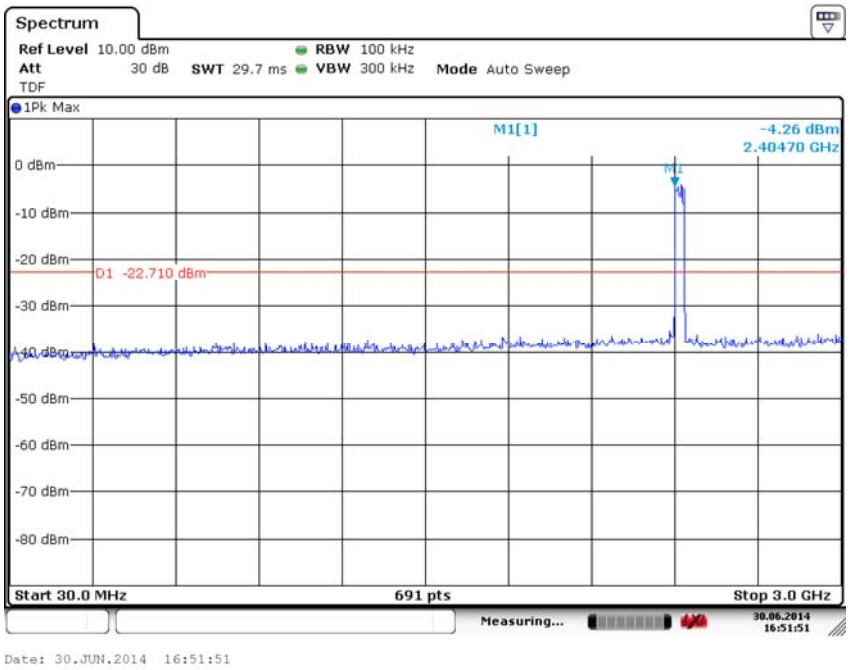


Fig. 6.1.29 Conducted Spurious Emission (802.11n-40M, Ch3, 30 MHz-3 GHz)

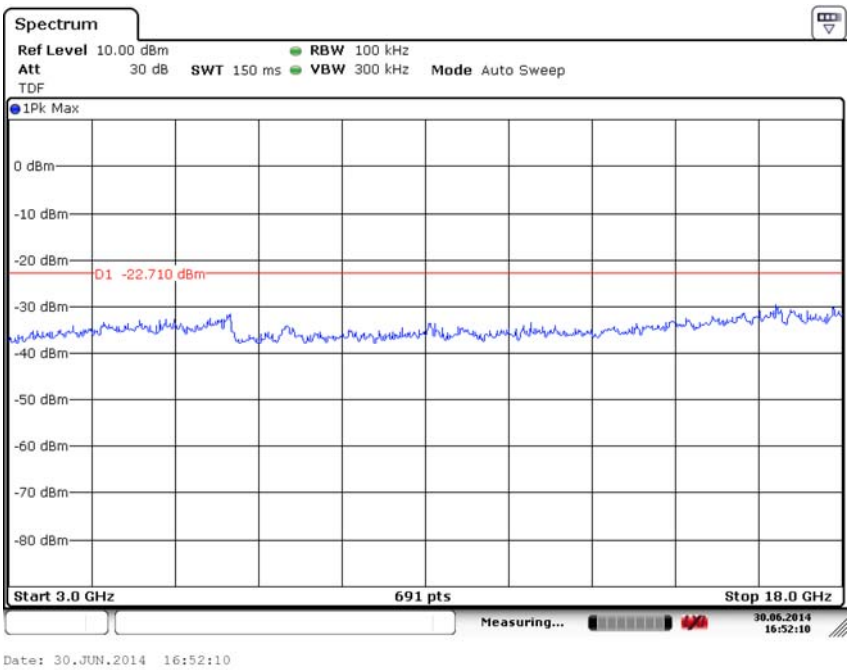


Fig. 6.1.30 Conducted Spurious Emission (802.11n-40M, Ch3, 3 GHz-18 GHz)

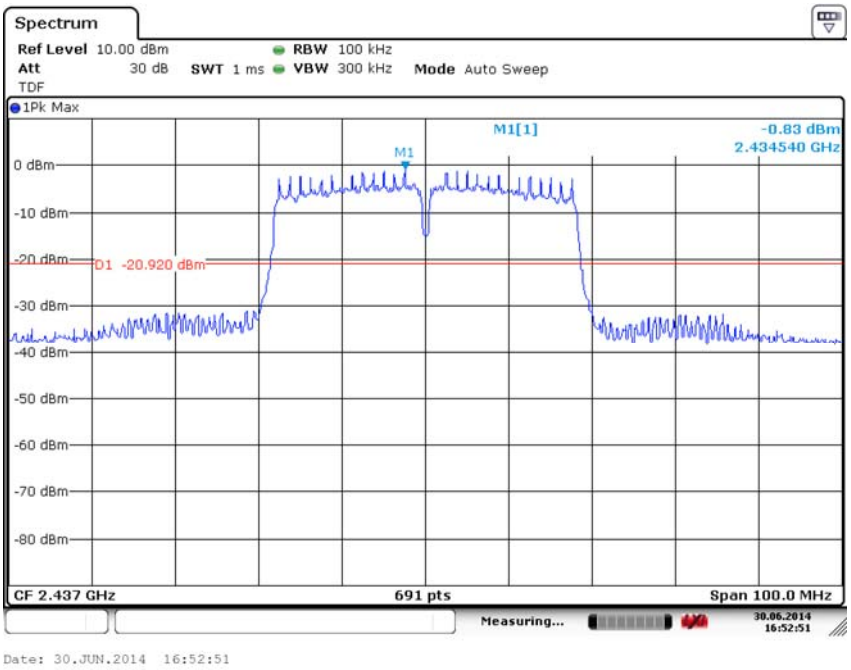


Fig. 6.1.31 Conducted Spurious Emission (802.11n-40M, Ch6, Center Frequency)

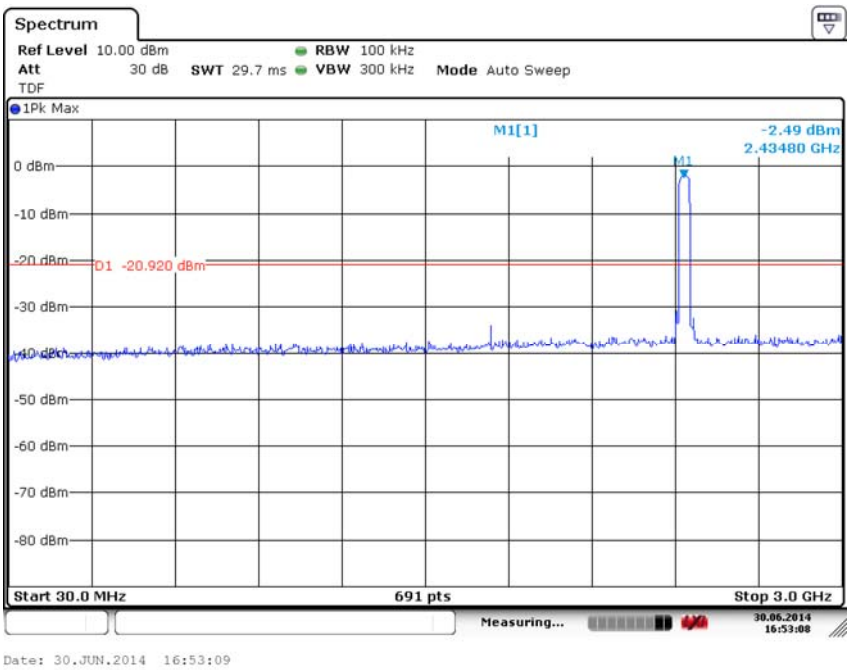


Fig. 6.1.32 Conducted Spurious Emission (802.11n-40M, Ch6, 30 MHz-3 GHz)

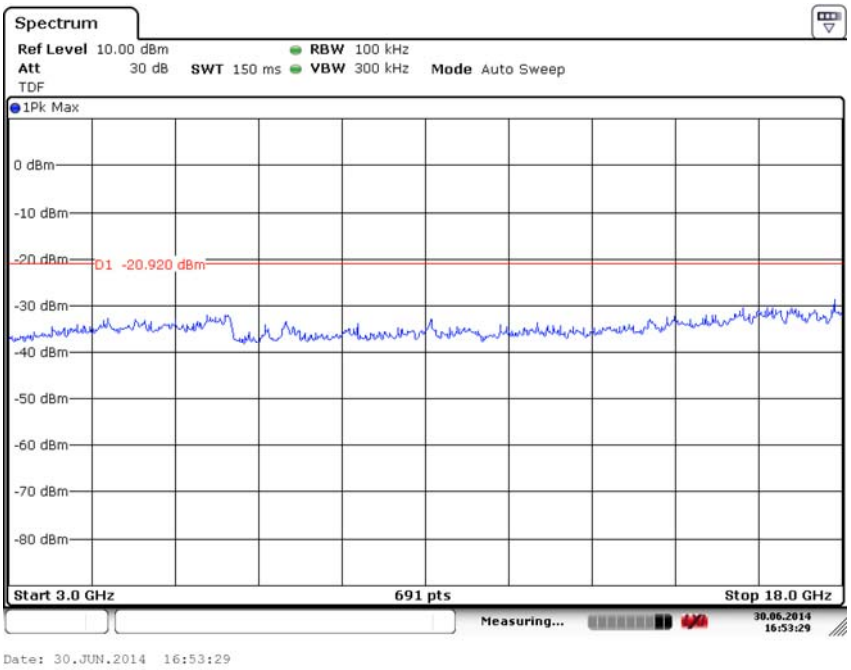


Fig. 6.1.33 Conducted Spurious Emission (802.11n-40M, Ch6, 3 GHz-18 GHz)

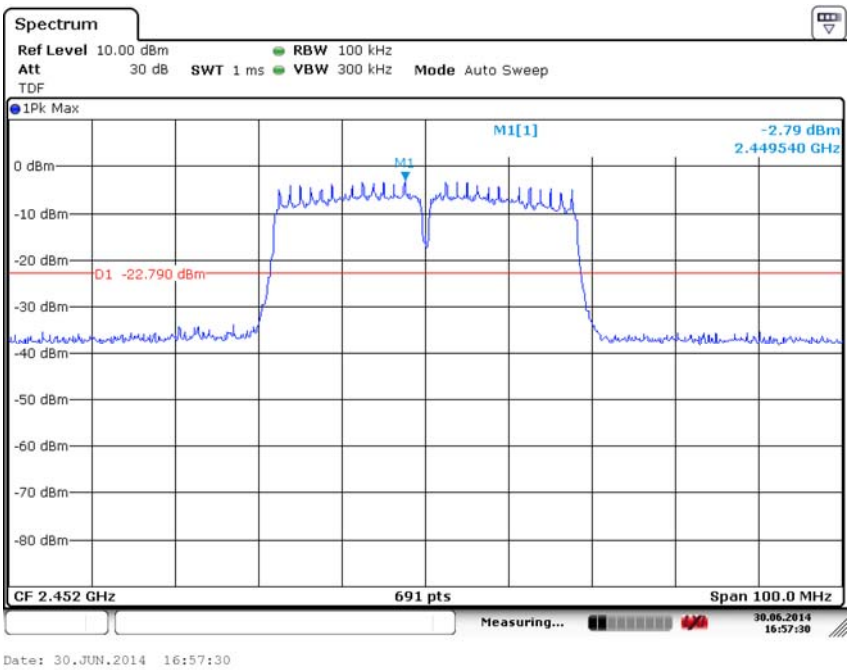


Fig. 6.1.34 Conducted Spurious Emission (802.11n-40M, Ch9, Center Frequency)

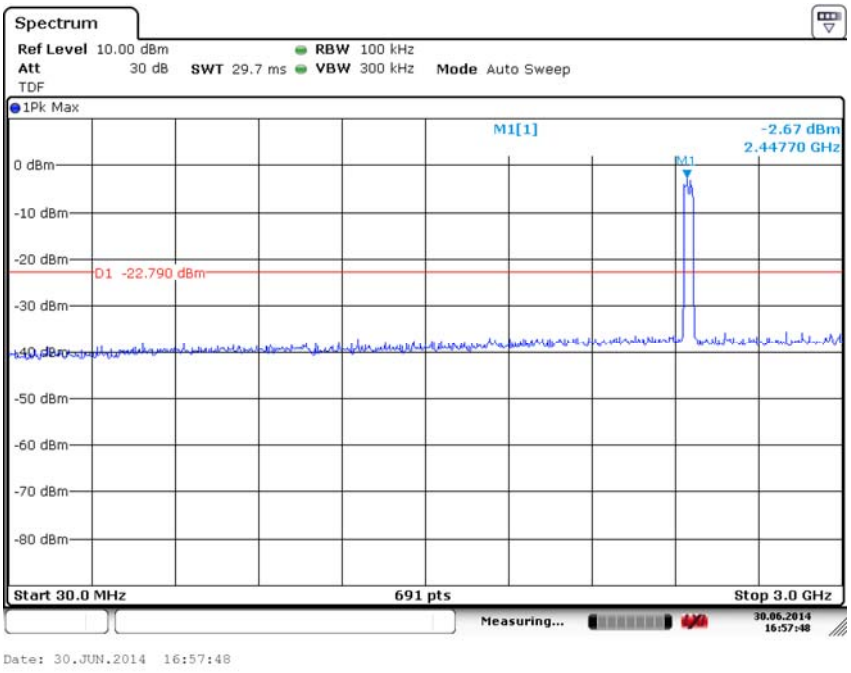


Fig. 6.1.35 Conducted Spurious Emission (802.11n-40M, Ch9, 30 MHz-3 GHz)

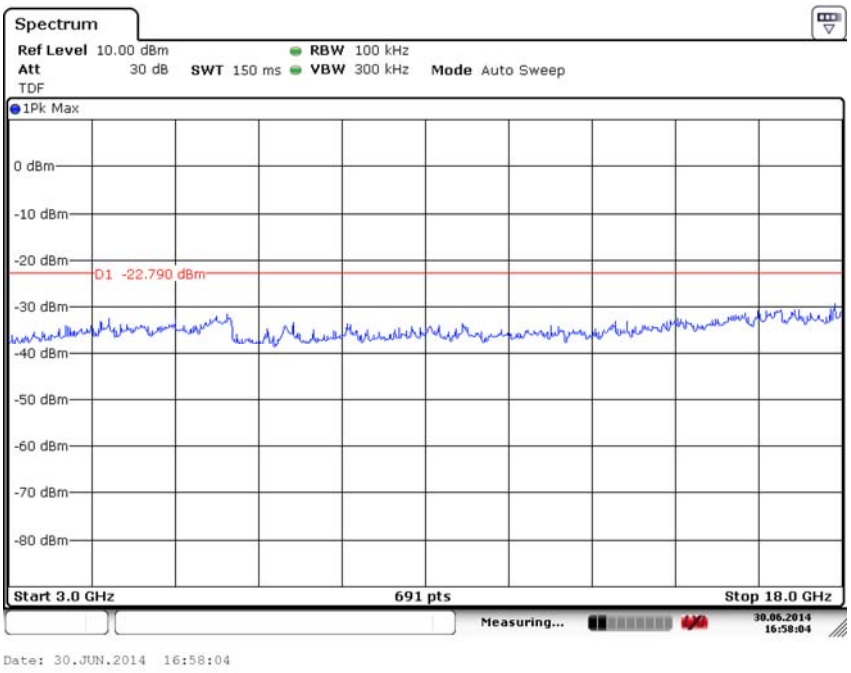


Fig. 6.1.36 Conducted Spurious Emission (802.11n-40M, Ch9, 3 GHz-18 GHz)

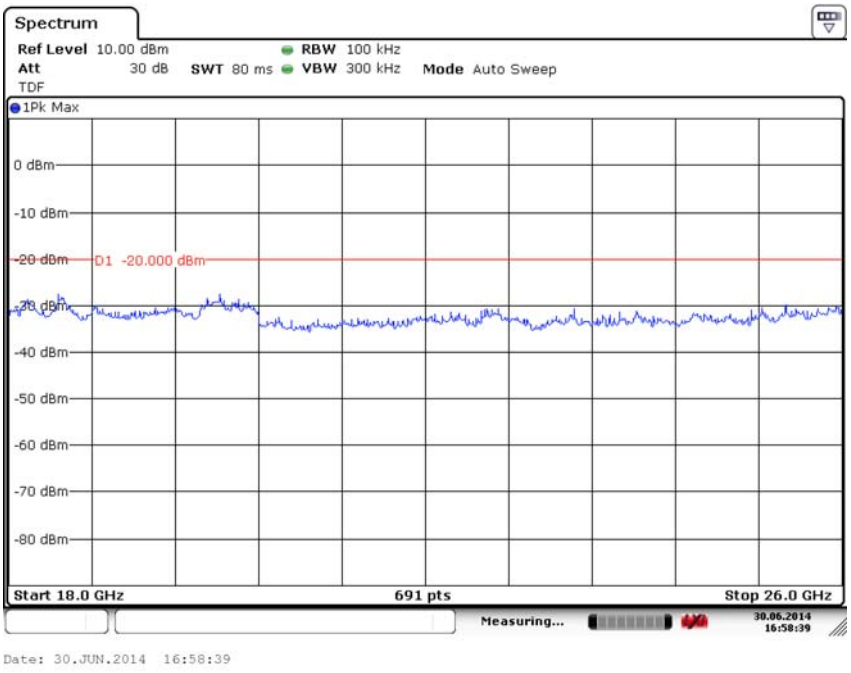


Fig. 6.1.37 Conducted Spurious Emission (All channels, 18 GHz-26 GHz)

A.6.2 Transmitter Spurious Emission - Radiated

Method of Measurement: See ANSI C63.10-2009-clause 6.5 & 6.6

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output power

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

Limit in restricted band:

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Frequency (MHz)	Field strength(μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

Test Condition

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/1MHz	15
4000-18000	1MHz/1MHz	40
18000-26500	1MHz/1MHz	20

EUT ID: EUT1

Measurement Results:

802.11b mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power	2.38GHz ~2.45GHz	Fig.A.6.2.1	**P**
	1	1 GHz ~ 3 GHz	Fig.A.6.2.2	**P**
		3 GHz ~ 18 GHz	Fig.A.6.2.3	**P**
	6	9 kHz ~30 MHz	Fig.A.6.2.4	**P**
		30 MHz ~1 GHz	Fig.A.6.2.5	**P**
		1 GHz ~ 3 GHz	Fig.A.6.2.6	**P**
		3 GHz ~ 18 GHz	Fig.A.6.2.7	**P**
		18 GHz~ 26.5 GHz	Fig.A.6.2.8	**P**
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.9	**P**
	11	1 GHz ~ 3 GHz	Fig.A.6.2.10	**P**
		3 GHz ~ 18 GHz	Fig.A.6.2.11	**P**

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power	2.38GHz ~2.43GHz	Fig.A.6.2.12	**P**
	1	1 GHz ~ 3 GHz	Fig.A.6.2.13	**P**
		3 GHz ~ 18 GHz	Fig.A.6.2.14	**P**
	6	30 MHz ~1 GHz	Fig.A.6.2.15	**P**
		1 GHz ~ 3 GHz	Fig.A.6.2.16	**P**
		3 GHz ~ 18 GHz	Fig.A.6.2.17	**P**
		18 GHz~ 26.5 GHz	Fig.A.6.2.18	**P**
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.19	**P**
	11	1 GHz ~ 3 GHz	Fig.A.6.2.20	**P**
		3 GHz ~ 18 GHz	Fig.A.6.2.21	**P**

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.22	**P**
	1	1 GHz ~ 3 GHz	Fig.A.6.2.23	**P**
		3 GHz ~ 18 GHz	Fig.A.6.2.24	**P**
	6	30 MHz ~1 GHz	Fig.A.6.2.25	**P**
		1 GHz ~ 3 GHz	Fig.A.6.2.26	**P**
		3 GHz ~ 18 GHz	Fig.A.6.2.27	**P**
		18 GHz~ 26.5 GHz	Fig.A.6.2.28	**P**
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.29	**P**
	11	1 GHz ~ 3 GHz	Fig.A.6.2.30	**P**
		3 GHz ~ 18 GHz	Fig.A.6.2.31	**P**

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.32	**P**
	3	1 GHz ~ 3 GHz	Fig.A.6.2.33	**P**
		3 GHz ~ 18 GHz	Fig.A.6.2.34	**P**
	6	30 MHz ~1 GHz	Fig.A.6.2.35	**P**
		1 GHz ~ 3 GHz	Fig.A.6.2.36	**P**
		3 GHz ~ 18 GHz	Fig.A.6.2.37	**P**
		18 GHz~ 26.5 GHz	Fig.A.6.2.38	**P**
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.39	**P**
	9	1 GHz ~ 3 GHz	Fig.A.6.2.40	**P**
		3 GHz ~ 18 GHz	Fig.A.6.2.41	**P**

Conclusion: Pass

Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of “reference path loss”, and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

Result=P_{Mea}+$A_{Rpl=}$ P_{Mea}+Cable Loss+Antenna Factor

802.11b

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2386.850	31.4	-38.8	27.7	42.500	H
17872.500	46.5	-18.5	45.6	19.400	V
17893.125	46.3	-18.5	45.6	19.200	H
17900.625	46.2	-18.5	45.6	19.100	H
17890.313	46.2	-18.5	45.6	19.100	V
17875.313	46.1	-18.5	45.6	19.000	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17902.500	46.3	-18.5	45.6	19.200	H
17874.375	46.2	-18.5	45.6	19.100	V
17880.000	46.2	-18.5	45.6	19.100	V
17913.750	46.1	-18.5	45.6	19.000	V
17879.063	46.1	-18.5	45.6	19.000	H
17883.750	46.1	-18.5	45.6	19.000	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2486.156	31.5	-38.9	27.7	42.700	H
17902.500	46.3	-18.5	45.6	19.200	V
17871.563	46.2	-18.5	45.6	19.100	V
17887.500	46.2	-18.5	45.6	19.100	V
17893.125	46.2	-18.5	45.6	19.100	H
17879.063	46.2	-18.5	45.6	19.100	V

802.11g

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2389.975	34.9	-38.8	27.7	46.000	V
17895.938	46.2	-18.5	45.6	19.100	V
17879.063	46.2	-18.5	45.6	19.100	V
17891.250	46.2	-18.5	45.6	19.100	H
17907.188	46.2	-18.5	45.6	19.100	V
17883.750	46.1	-18.5	45.6	19.000	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17890.313	46.5	-18.5	45.6	19.400	V
17889.375	46.2	-18.5	45.6	19.100	H
17878.125	46.2	-18.5	45.6	19.100	H
17893.125	46.2	-18.5	45.6	19.100	V
17898.750	46.2	-18.5	45.6	19.100	V
17894.063	46.1	-18.5	45.6	19.000	H

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2483.550	33.2	-38.9	27.7	44.400	V
17880.000	46.5	-18.5	45.6	19.400	V
17886.563	46.2	-18.5	45.6	19.100	H
17875.313	46.2	-18.5	45.6	19.100	V
17863.125	46.2	-18.5	45.6	19.100	V
17892.188	46.2	-18.5	45.6	19.100	H

802.11n-HT20

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2389.844	36.2	-38.8	27.7	47.300	V
17881.875	46.1	-18.5	45.6	19.000	V
17884.688	46.1	-18.5	45.6	19.000	V
17867.813	46.1	-18.5	45.6	19.000	H
17869.688	46.1	-18.5	45.6	19.000	V
17894.063	46.1	-18.5	45.6	19.000	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17866.875	46.4	-18.5	45.6	19.300	H
17876.250	46.3	-18.5	45.6	19.200	V
17882.813	46.2	-18.5	45.6	19.100	V
17880.938	46.2	-18.5	45.6	19.100	V
17865.938	46.2	-18.5	45.6	19.100	H
17903.438	46.2	-18.5	45.6	19.100	H

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2483.656	33.5	-38.9	27.7	44.700	V
17886.563	46.3	-18.5	45.6	19.200	V
17882.813	46.2	-18.5	45.6	19.100	H
17892.188	46.1	-18.5	45.6	19.000	V
17890.313	46.1	-18.5	45.6	19.000	V
17921.250	46.1	-17.7	45.6	18.200	H

802.11n-HT40

Ch3

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2389.500	36.5	-38.8	27.7	47.600	H
17885.625	46.3	-18.5	45.6	19.200	H
17894.531	46.3	-18.5	45.6	19.200	V
17893.594	46.3	-18.5	45.6	19.200	V
17882.344	46.2	-18.5	45.6	19.100	V
17900.625	46.2	-18.5	45.6	19.100	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17901.094	46.5	-18.5	45.6	19.400	V
17889.844	46.5	-18.5	45.6	19.400	V
17897.813	46.4	-18.5	45.6	19.300	V
17871.094	46.4	-18.5	45.6	19.300	V
17890.781	46.4	-18.5	45.6	19.300	H
17892.188	46.4	-18.5	45.6	19.300	H

Ch9

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2484.350	33.1	-38.9	27.7	44.300	H
17894.063	46.3	-18.5	45.6	19.200	V
17886.094	46.3	-18.5	45.6	19.200	V
17878.125	46.2	-18.5	45.6	19.100	H
17880.469	46.2	-18.5	45.6	19.100	V
17869.688	46.2	-18.5	45.6	19.100	H

Test graphs as below:

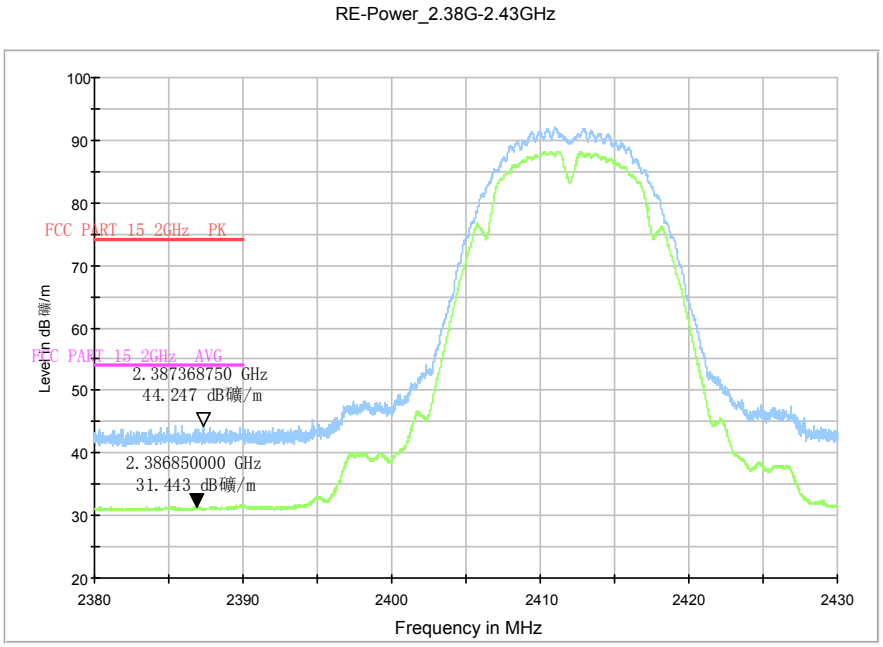


Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz – 2.45GHz

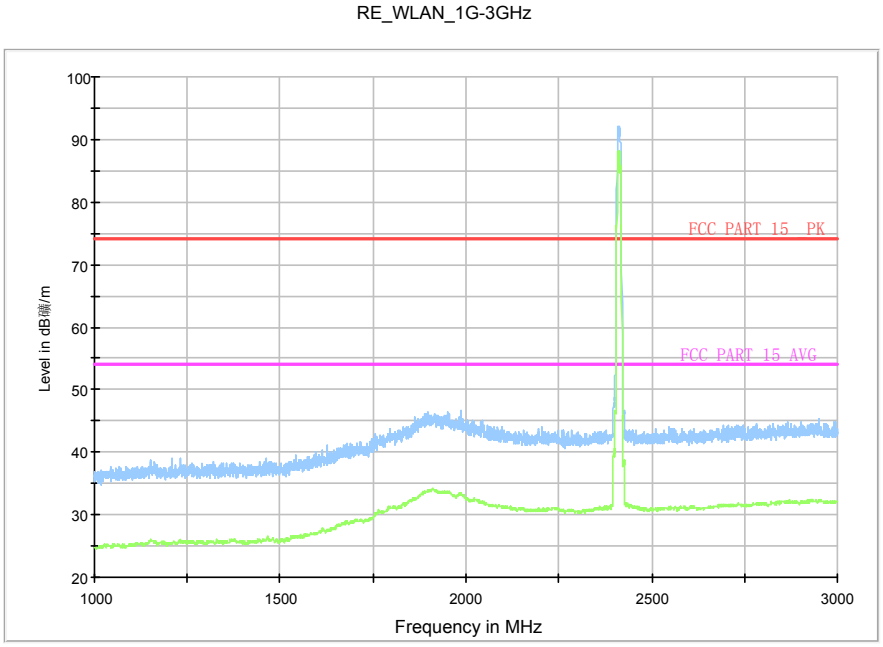


Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (802.11b, Ch1, 1 GHz-3 GHz)

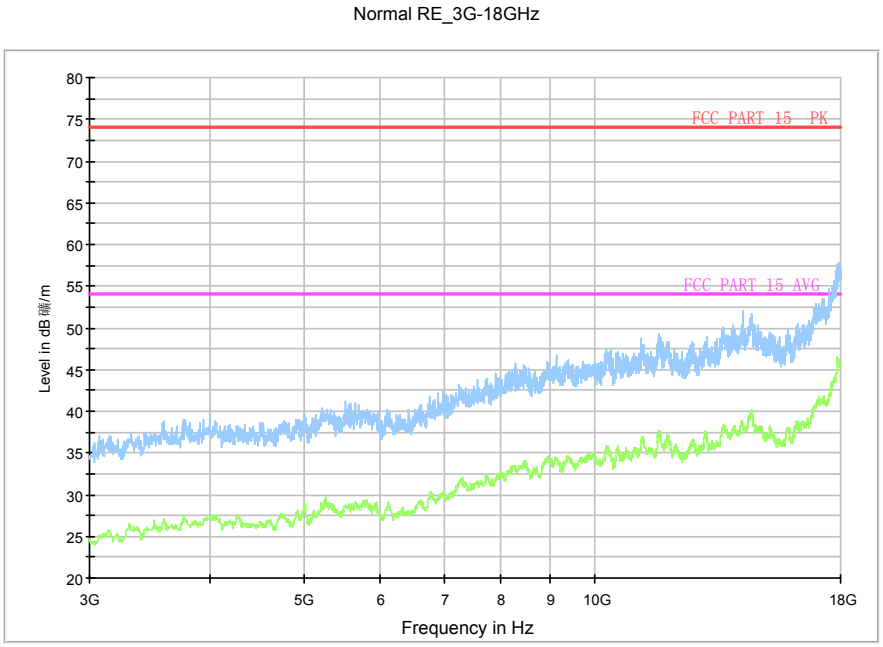


Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (802.11b, Ch1, 3 GHz-18 GHz)

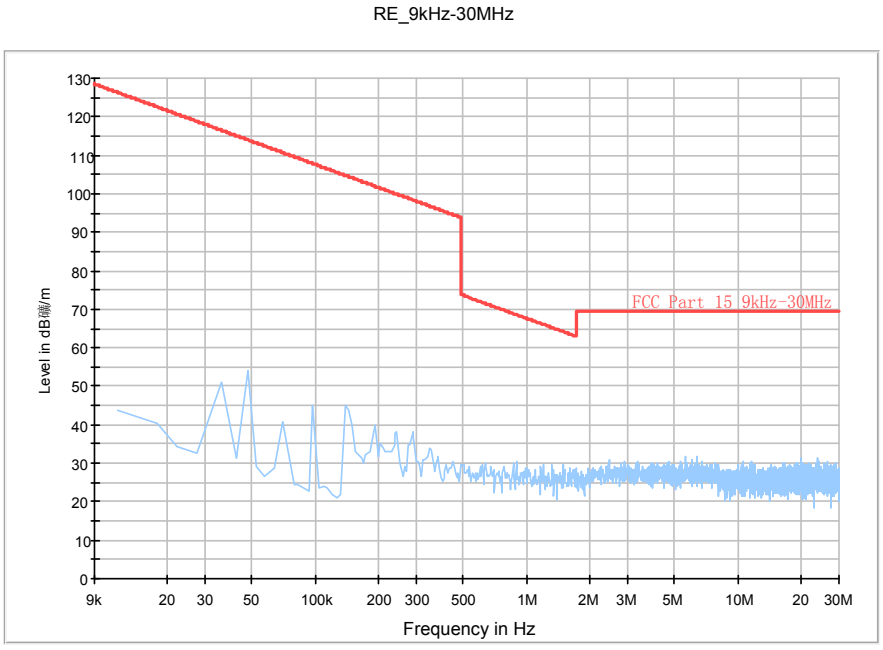


Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 9kHz-30 MHz)

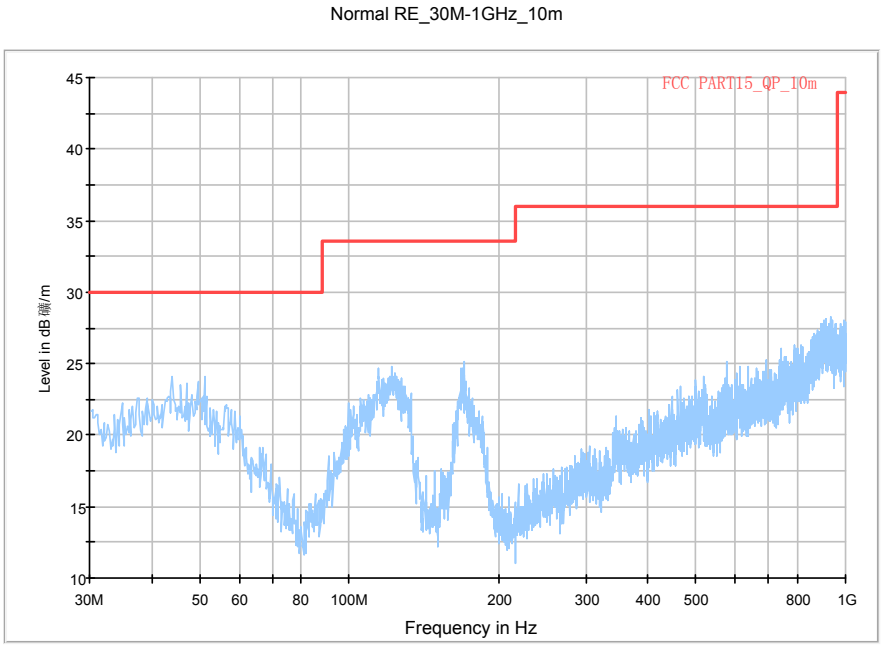


Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 30 MHz-1 GHz)

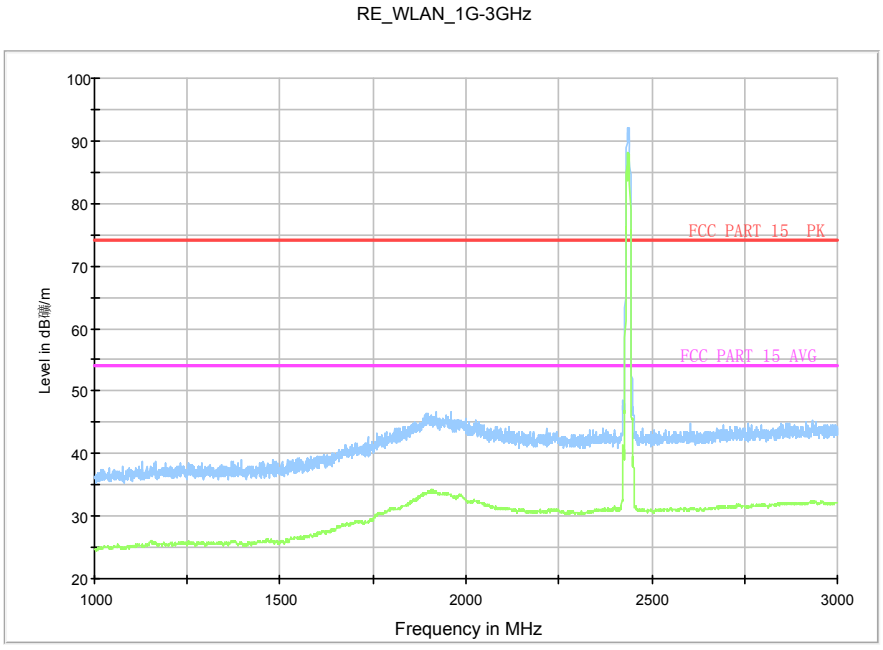


Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 1 GHz-3 GHz)

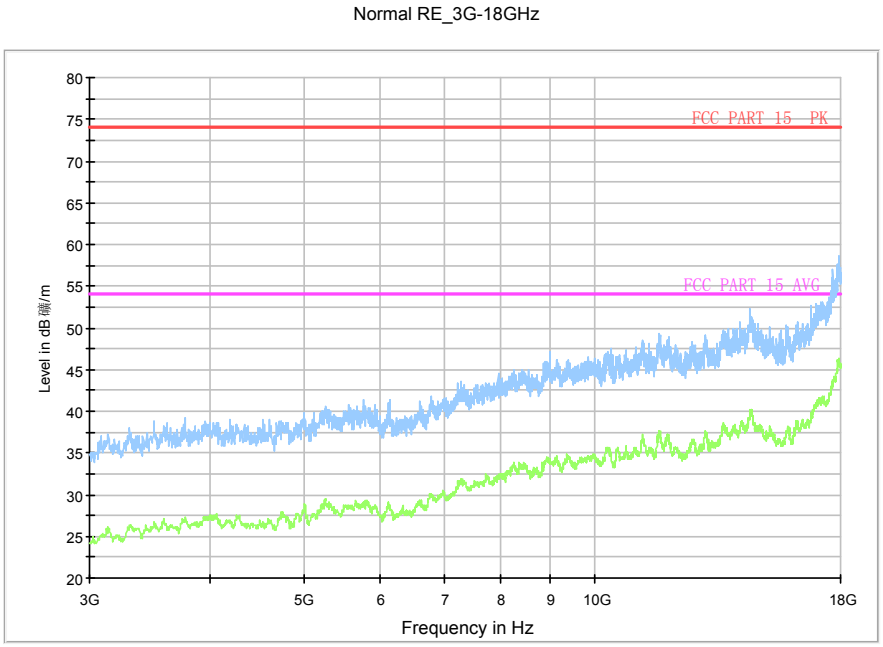


Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 3 GHz-18 GHz)

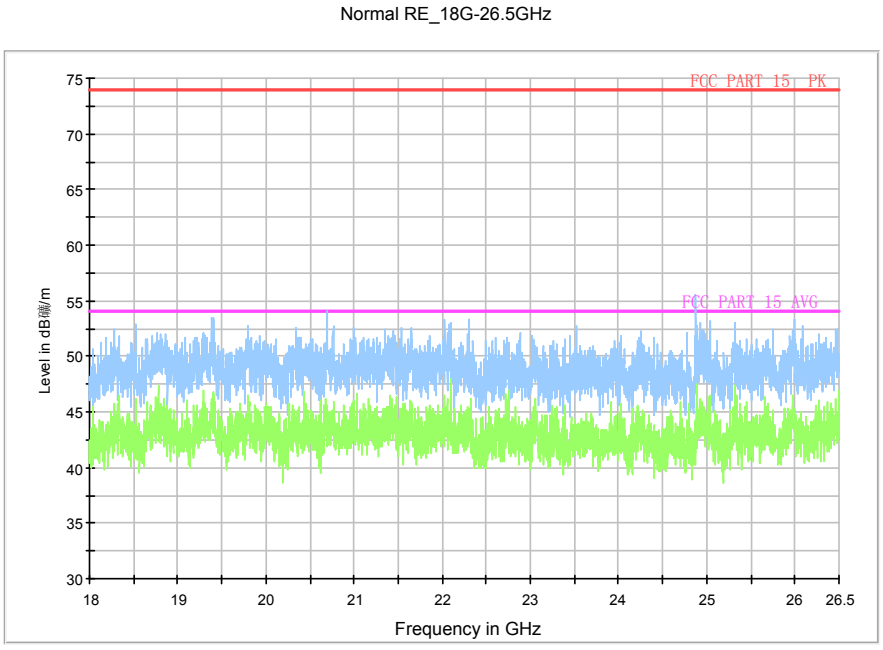


Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 18GHz – 26.5GHz)

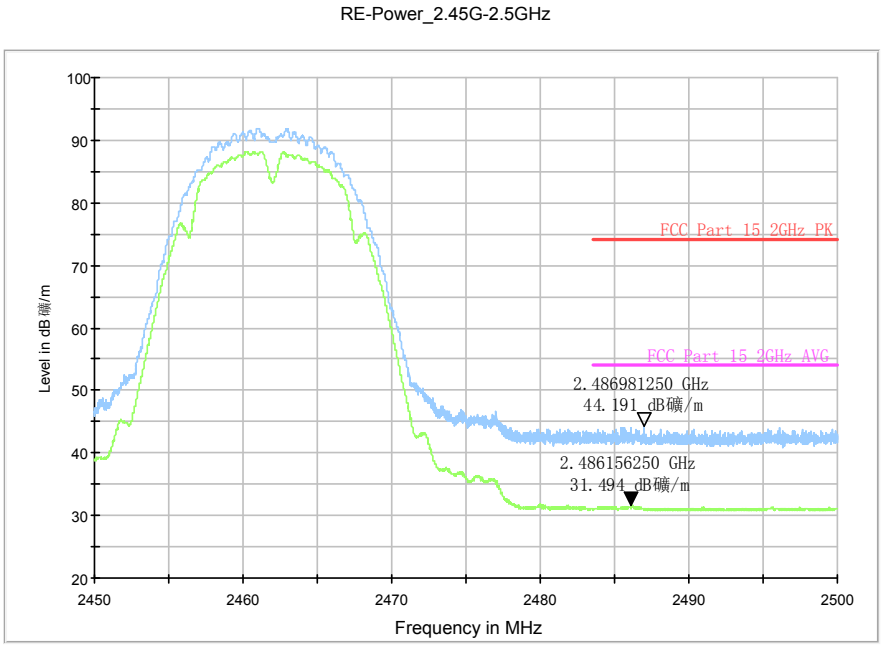


Fig.A.6.2.9 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

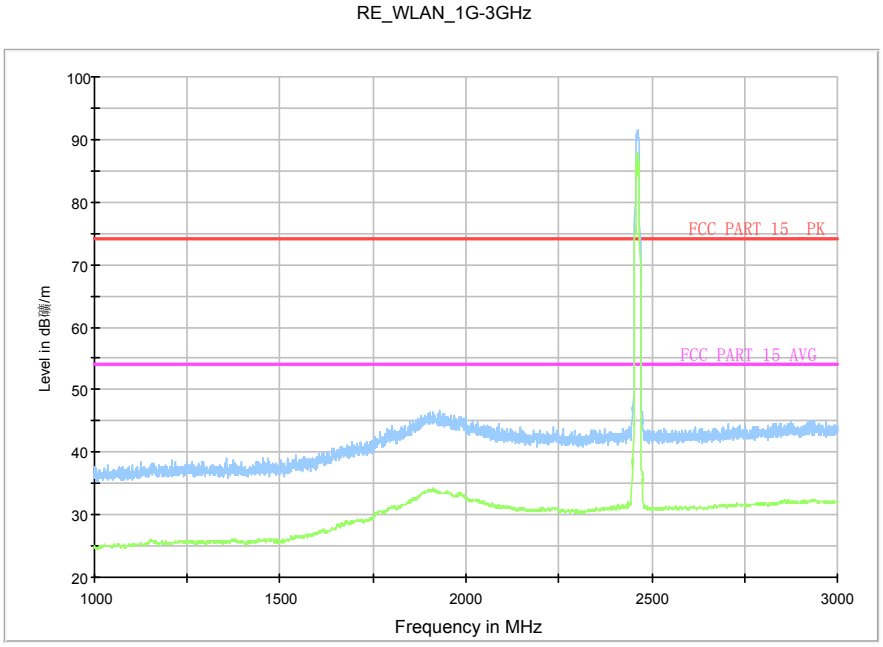


Fig.A.6.2.10 Transmitter Spurious Emission - Radiated (802.11b, Ch11, 1 GHz-3 GHz)

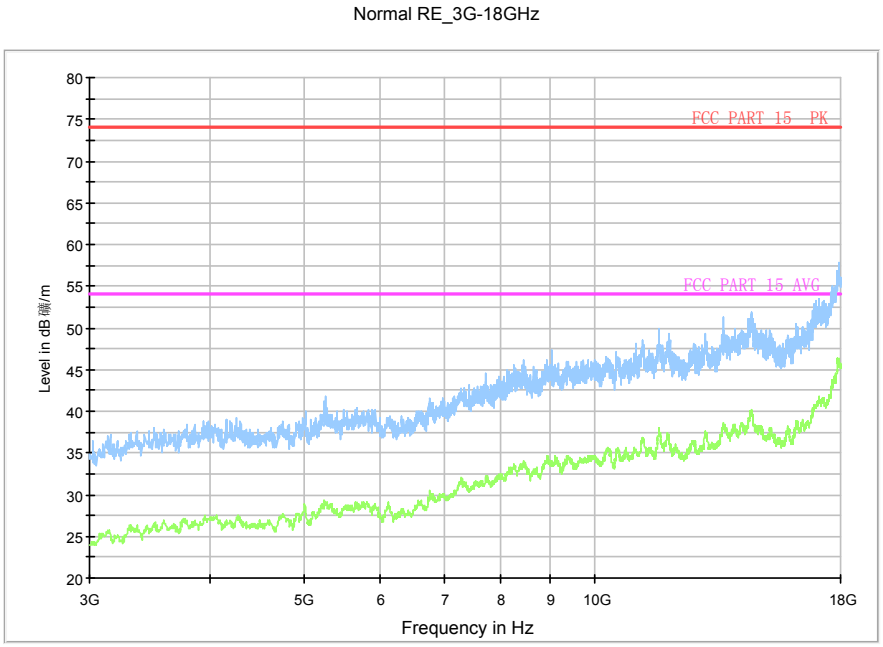


Fig.A.6.2.11 Transmitter Spurious Emission - Radiated (802.11b, Ch11, 3 GHz-18 GHz)

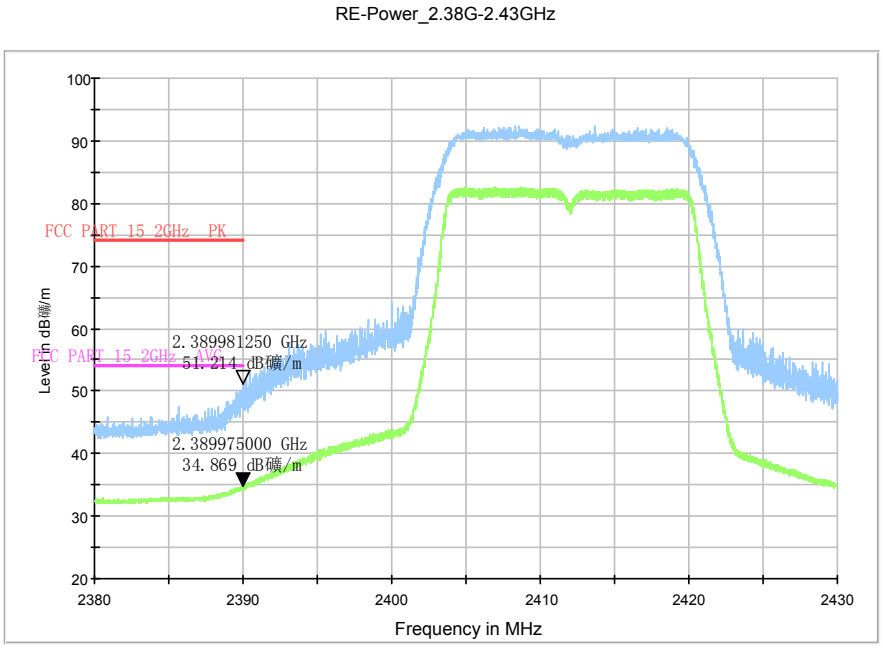


Fig.A.6.2.12 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz

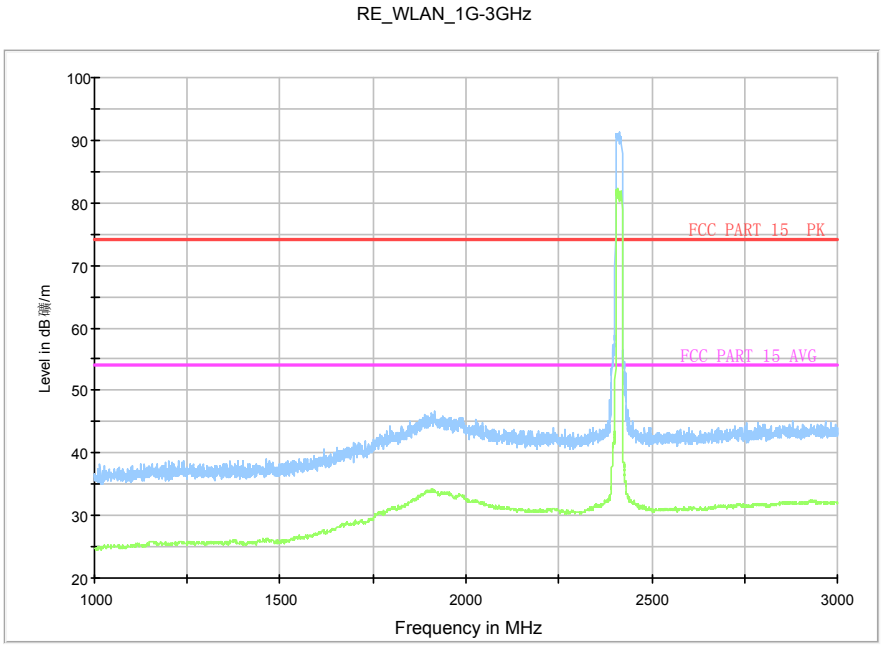


Fig.A.6.2.13 Transmitter Spurious Emission - Radiated (802.11g, Ch1, 1 GHz-3 GHz)

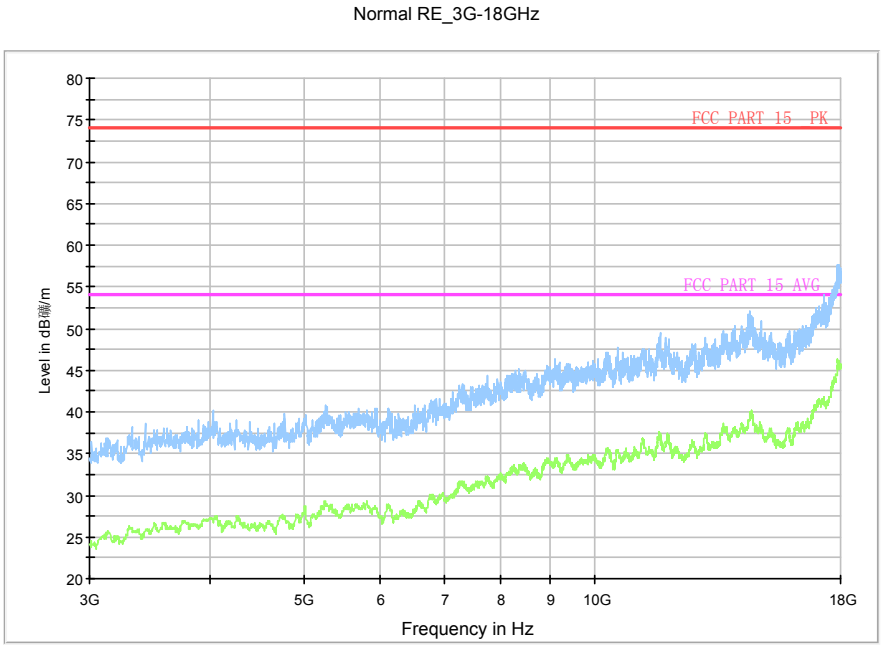


Fig.A.6.2.14 Transmitter Spurious Emission - Radiated (802.11g, Ch1, 3 GHz-18 GHz)

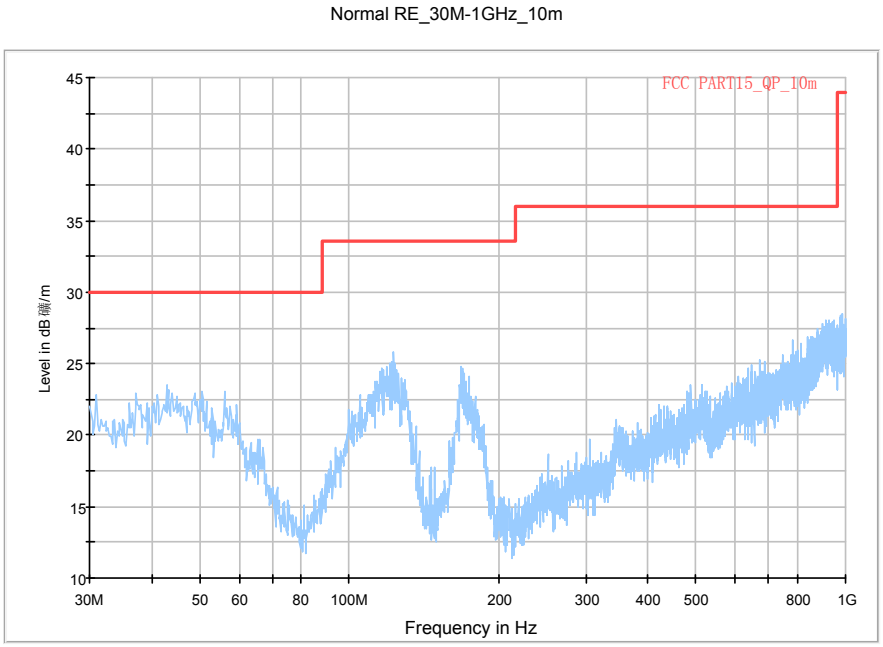


Fig.A.6.2.15 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 30 MHz-1 GHz)

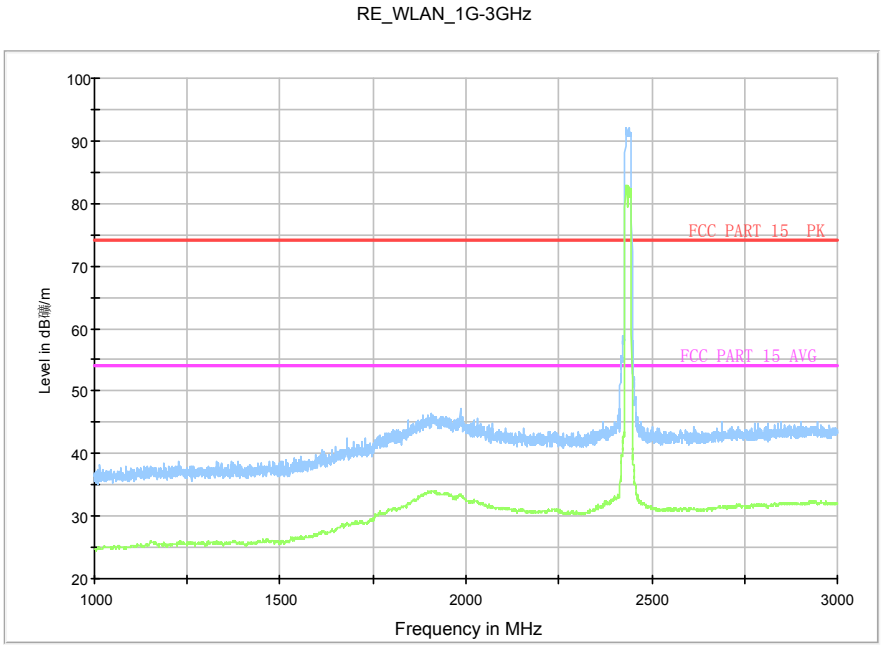


Fig.A.6.2.16 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 1 GHz-3 GHz)

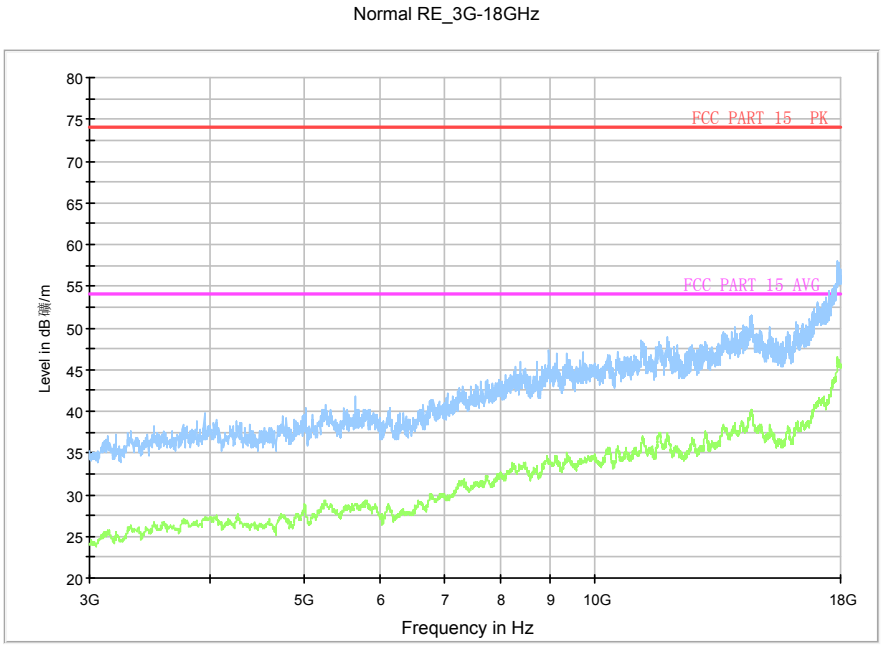


Fig.A.6.2.17 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 3 GHz-18 GHz)

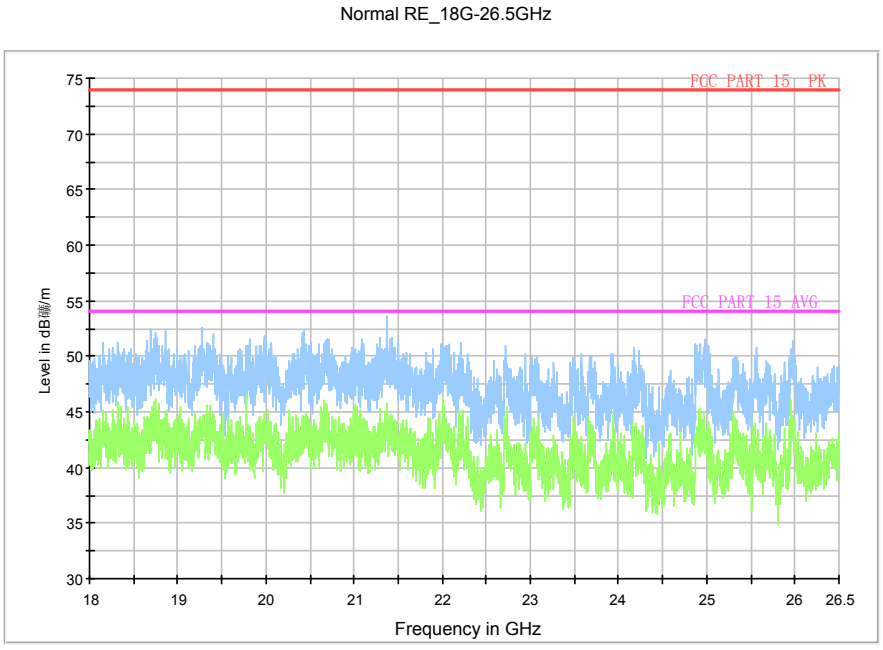


Fig.A.6.2.18 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 18GHz – 26.5GHz)

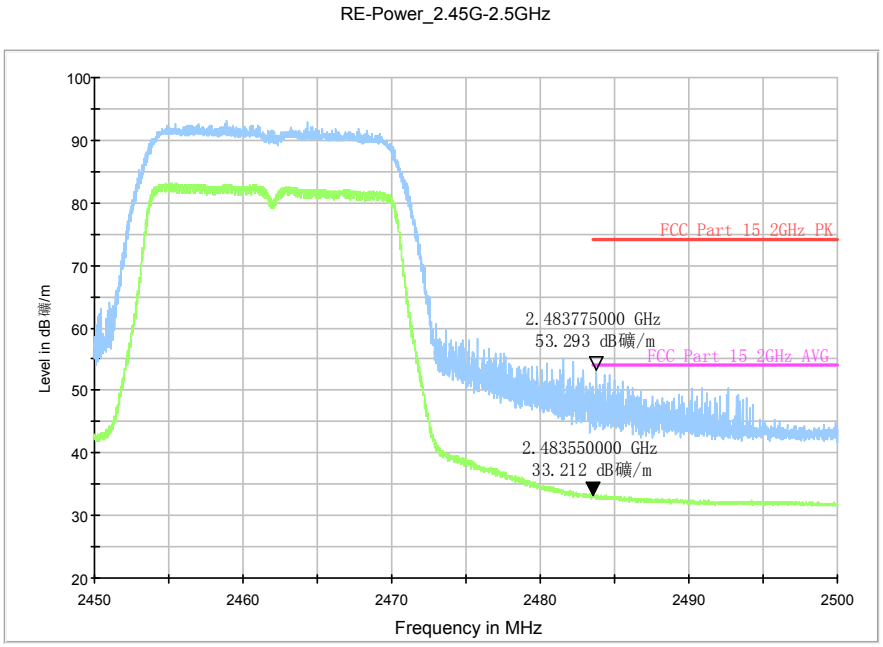


Fig.A.6.2.19 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

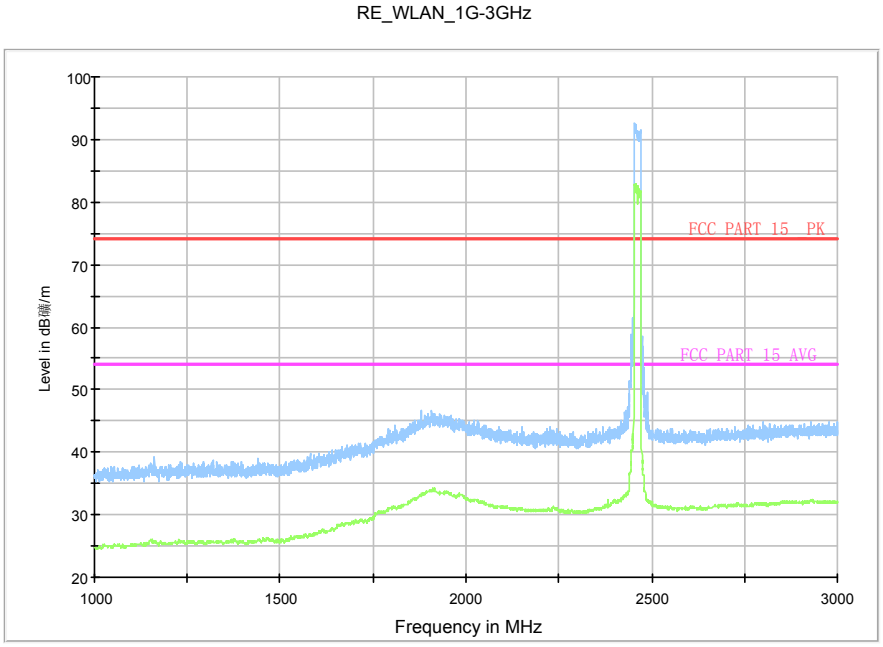


Fig.A.6.2.20 Transmitter Spurious Emission - Radiated (802.11g, Ch11, 1 GHz-3 GHz)

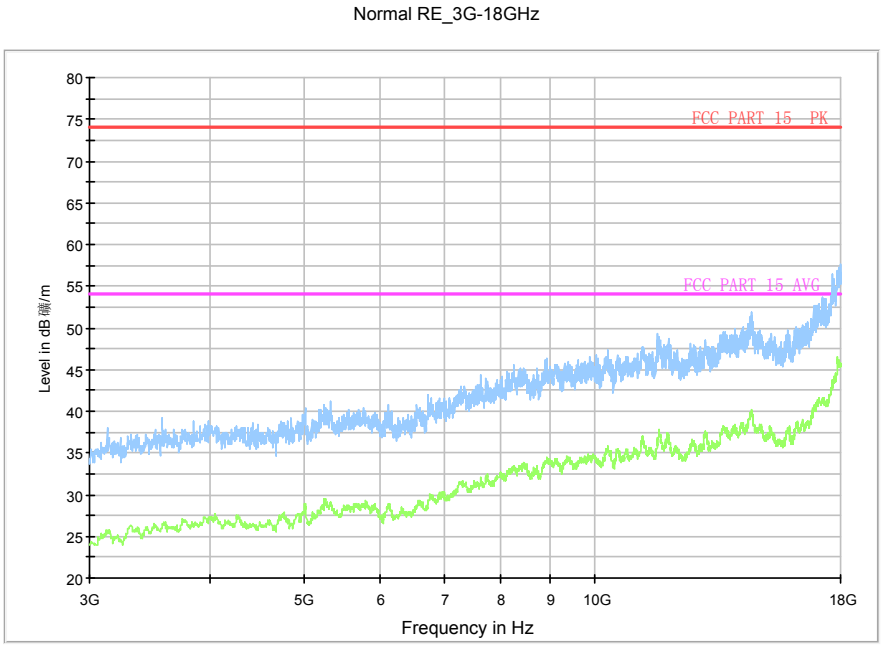


Fig.A.6.2.21 Transmitter Spurious Emission - Radiated (802.11g, Ch11, 3 GHz-18 GHz)

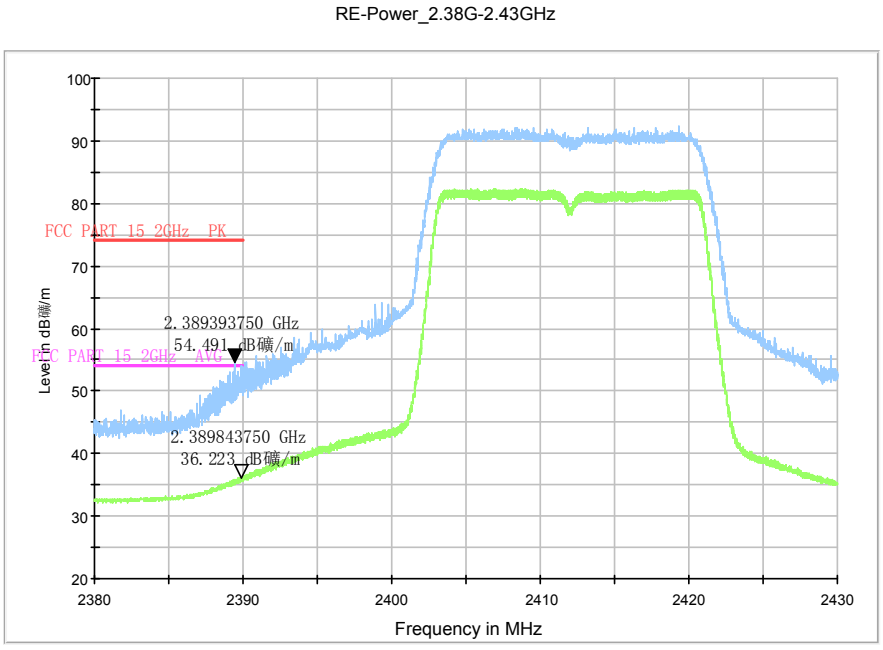


Fig.A.6.2.22 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz

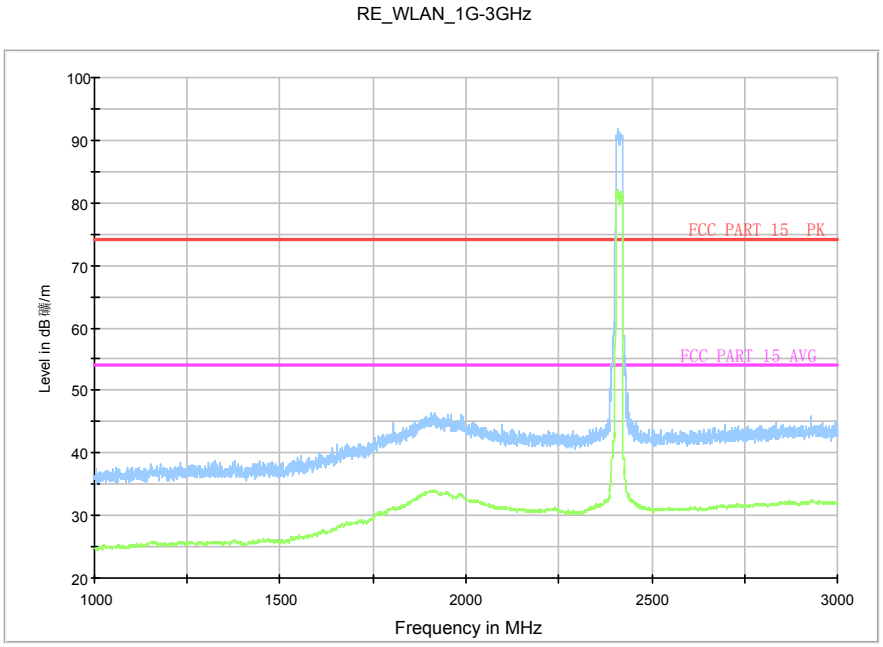


Fig.A.6.2.23 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch1, 1 GHz-3 GHz)

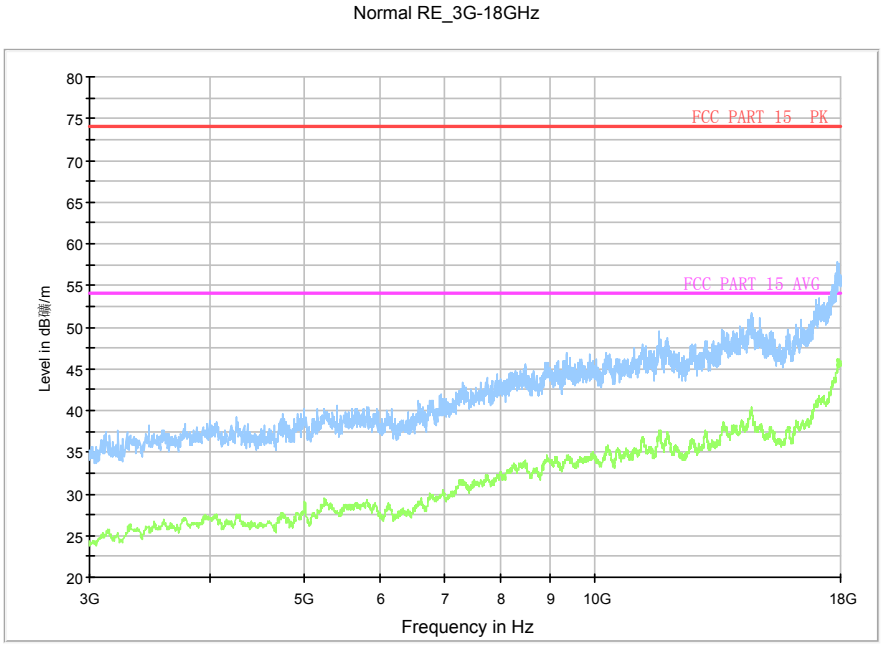


Fig.A.6.2.24 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch1, 3 GHz-18 GHz)

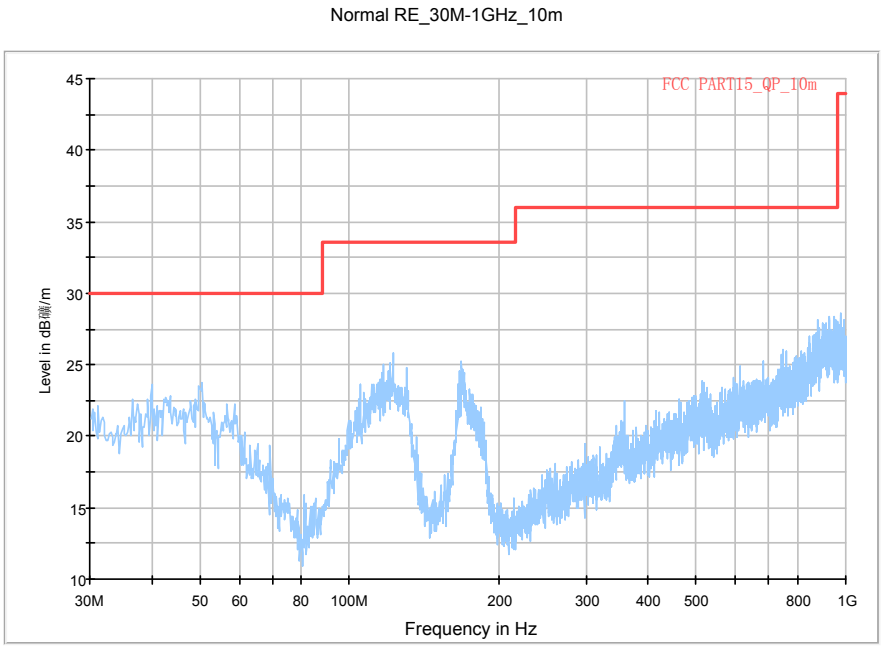


Fig.A.6.2.25 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 30 MHz-1 GHz)

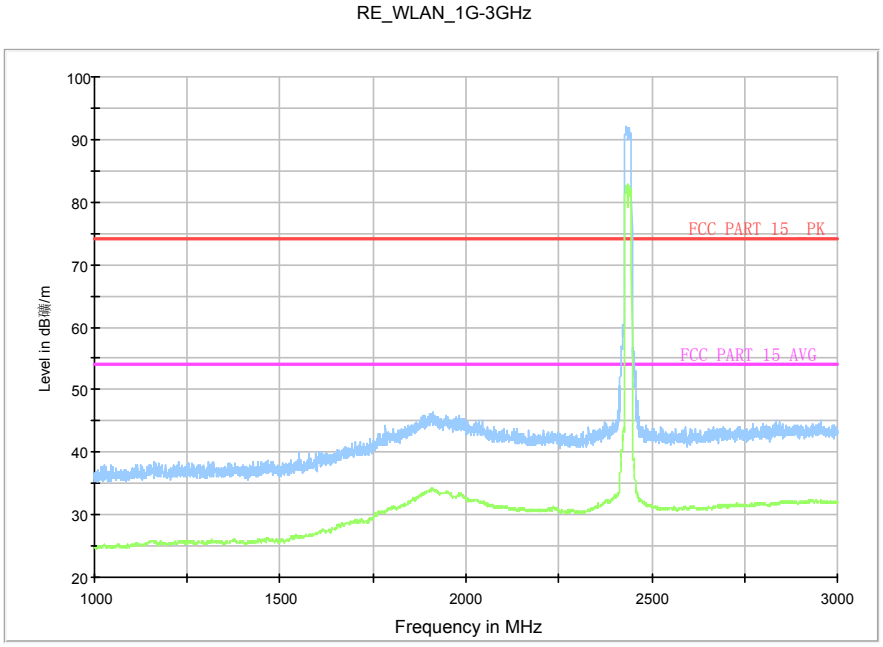


Fig.A.6.2.26 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 1 GHz-3 GHz)

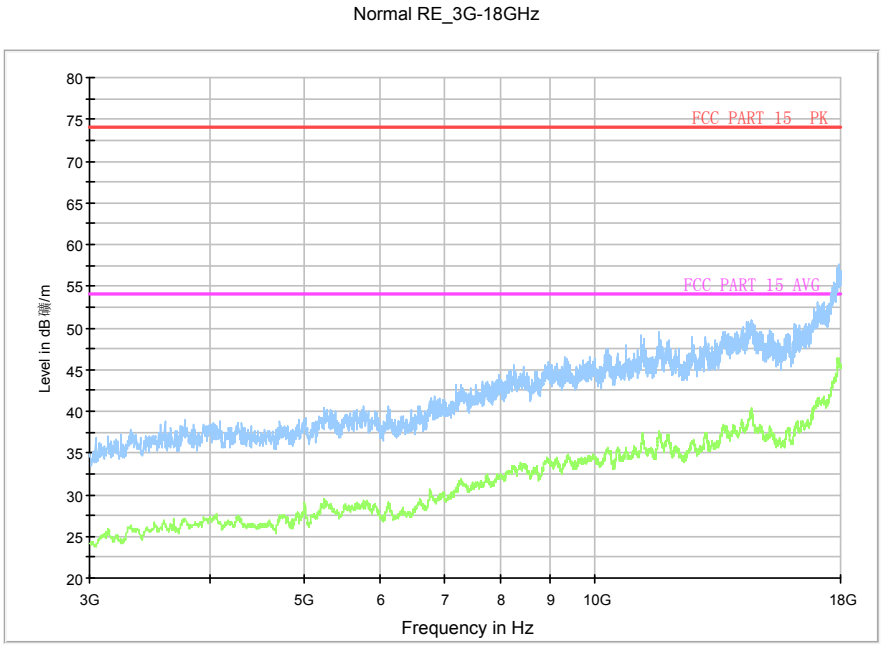


Fig.A.6.2.27 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 3 GHz-18 GHz)

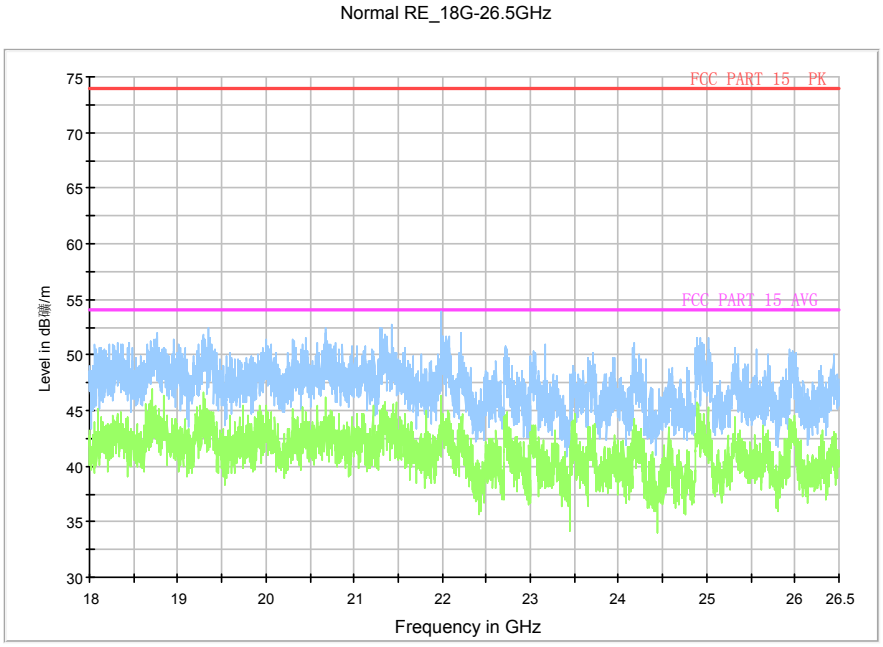


Fig.A.6.2.28 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 18GHz – 26.5GHz)

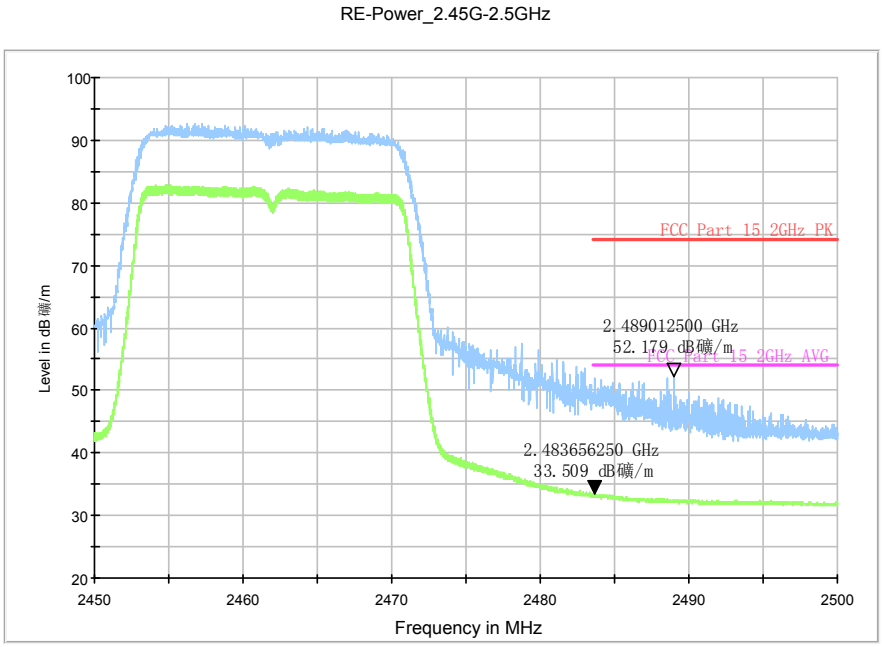


Fig.A.6.2.29 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

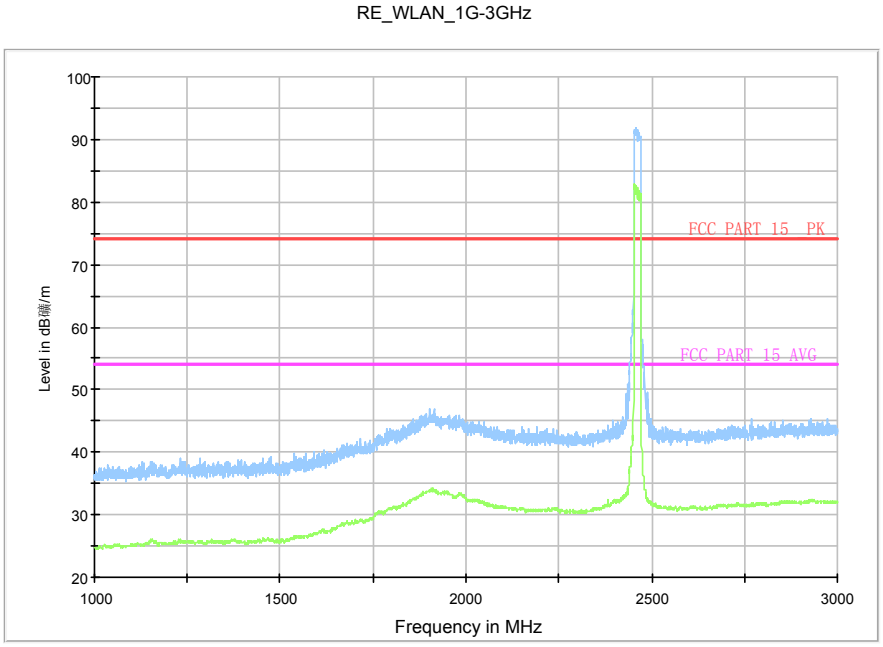


Fig.A.6.2.30 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch11, 1 GHz-3 GHz)

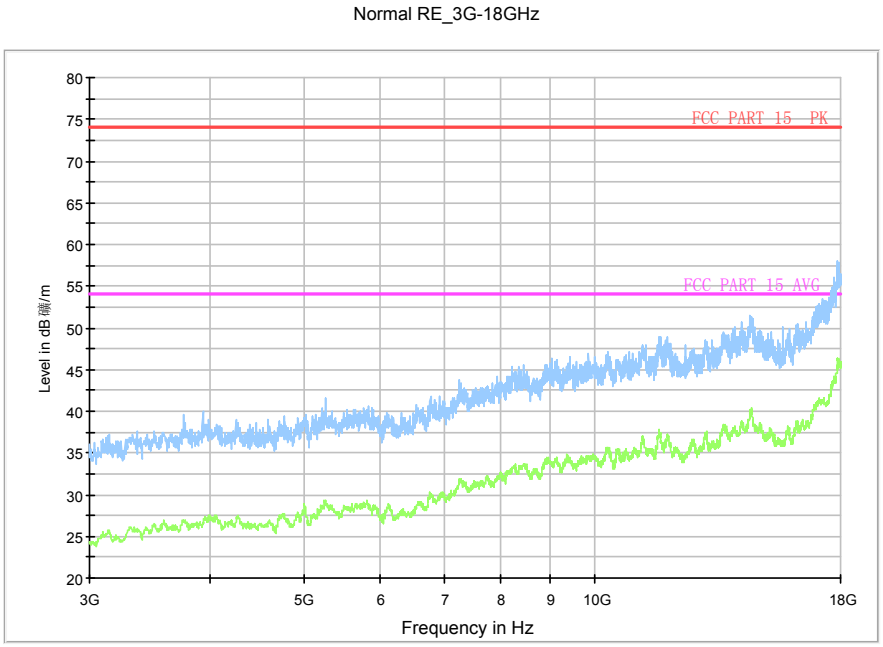


Fig.A.6.2.31 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch11, 3 GHz-18 GHz)

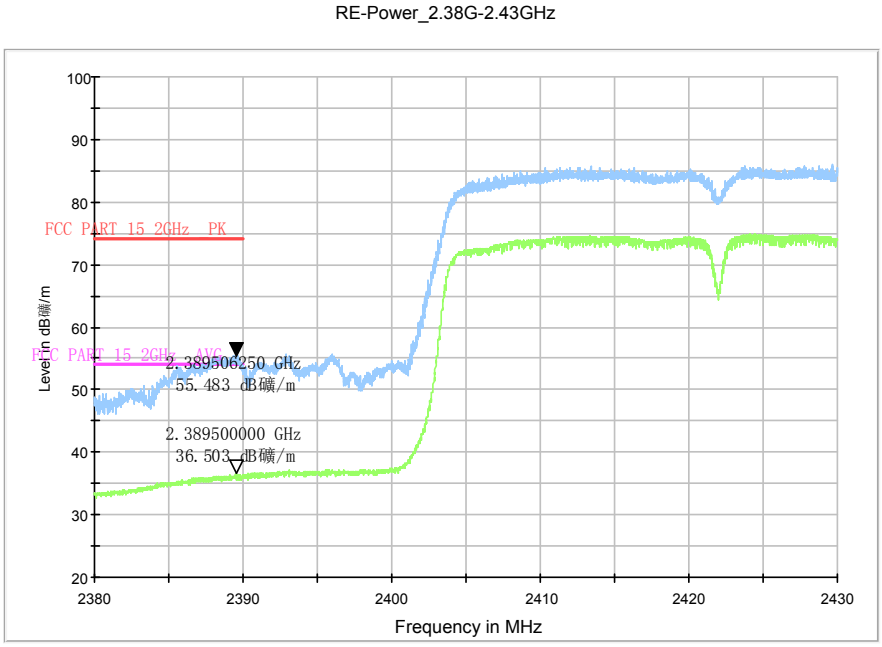


Fig.A.6.2.32 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.38 GHz - 2.45GHz

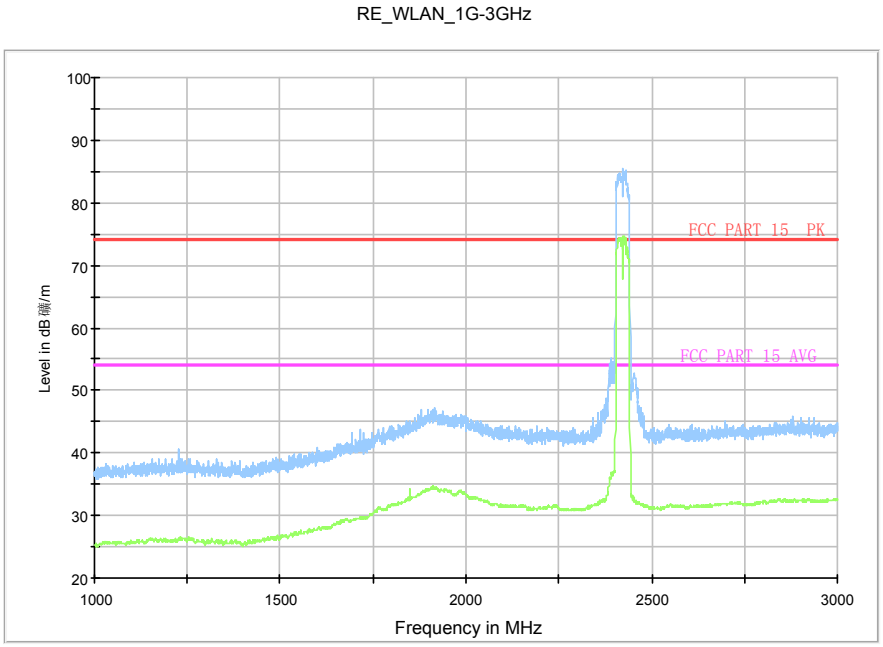


Fig.A.6.2.33 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch3, 1 GHz-3 GHz)

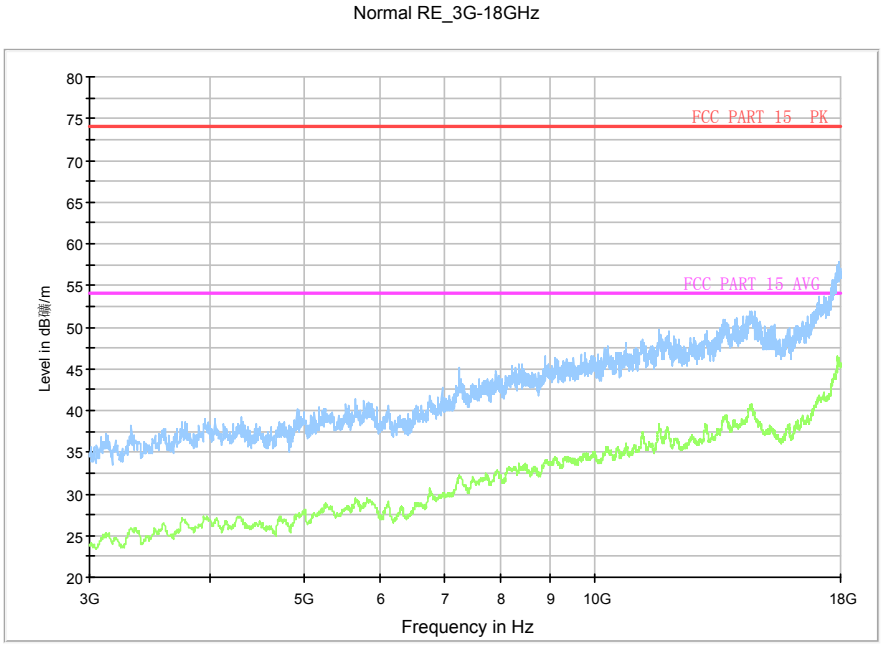


Fig.A.6.2.34 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch3, 3 GHz-18 GHz)

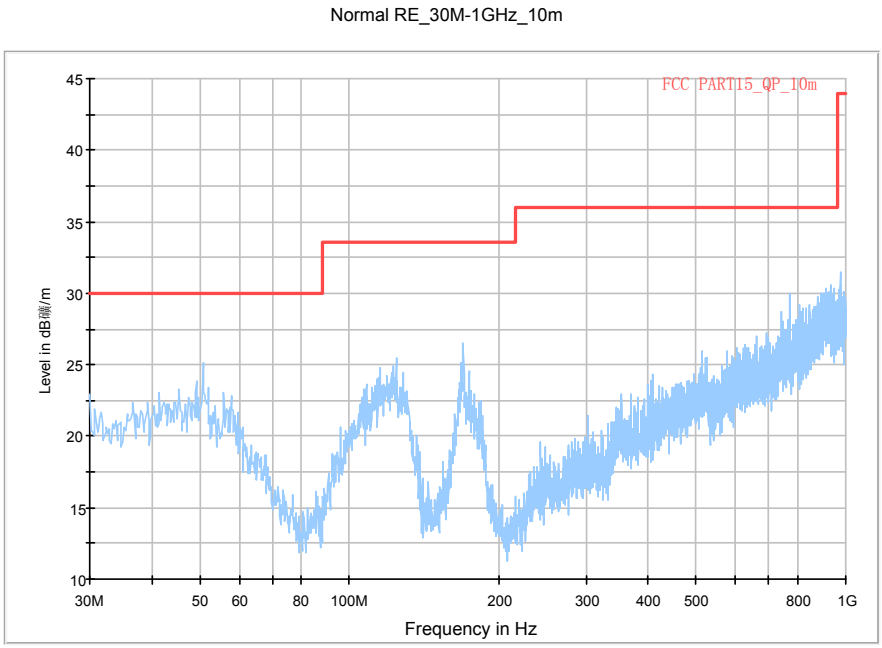


Fig.A.6.2.35 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 30 MHz-1 GHz)

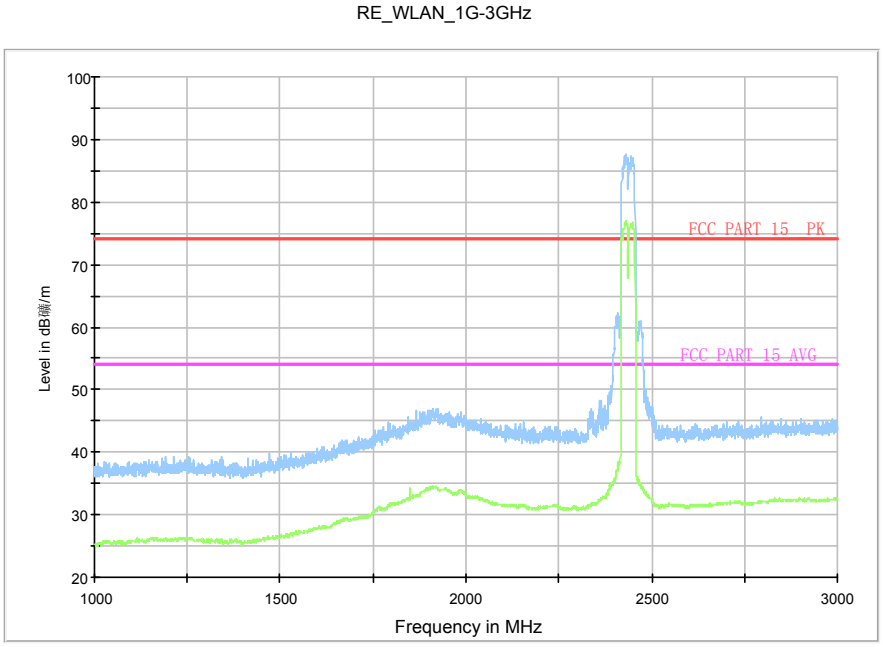


Fig.A.6.2.36 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 1 GHz-3 GHz)

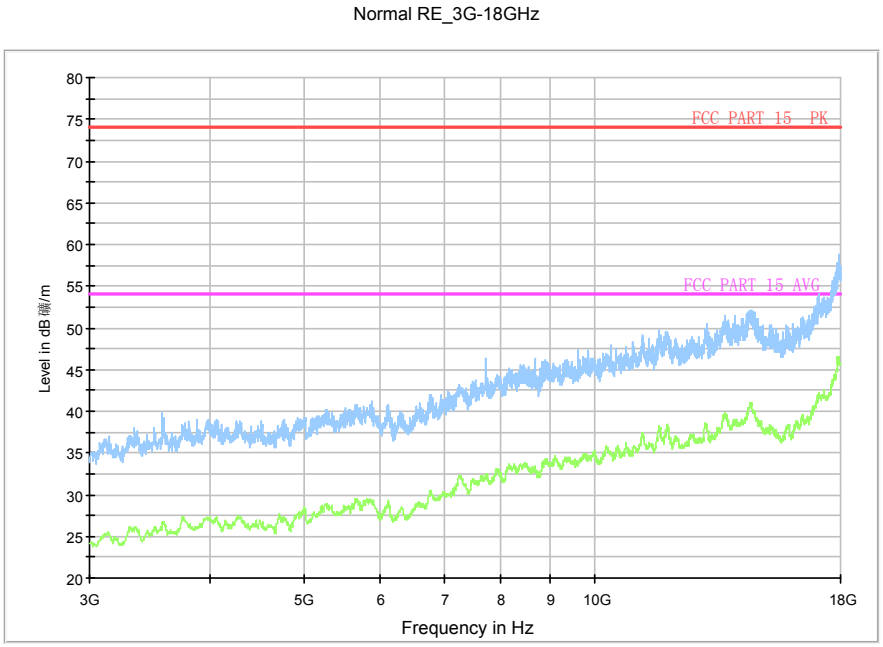


Fig.A.6.2.37 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 3 GHz-18 GHz)

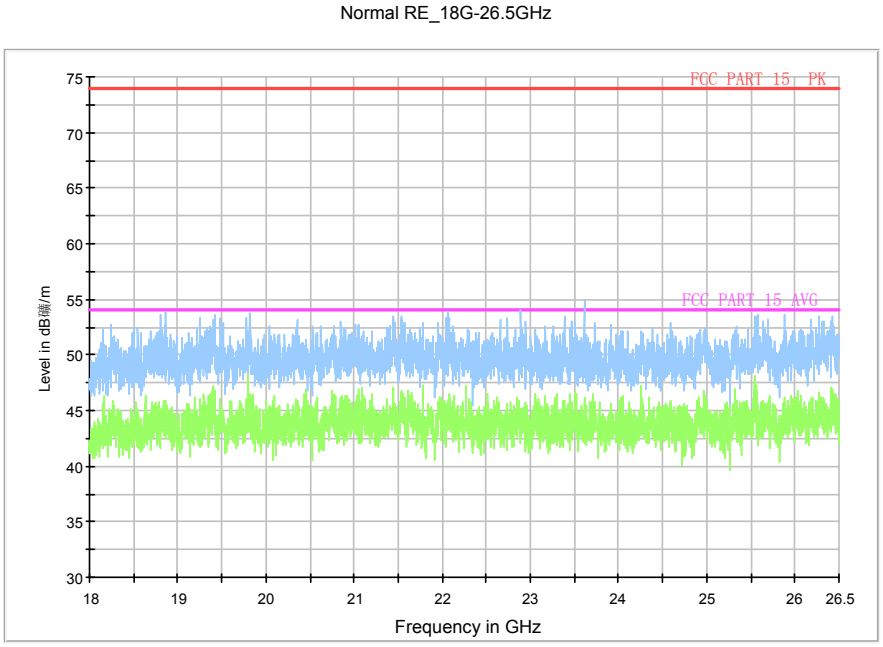


Fig.A.6.2.38 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 18GHz – 26.5GHz)

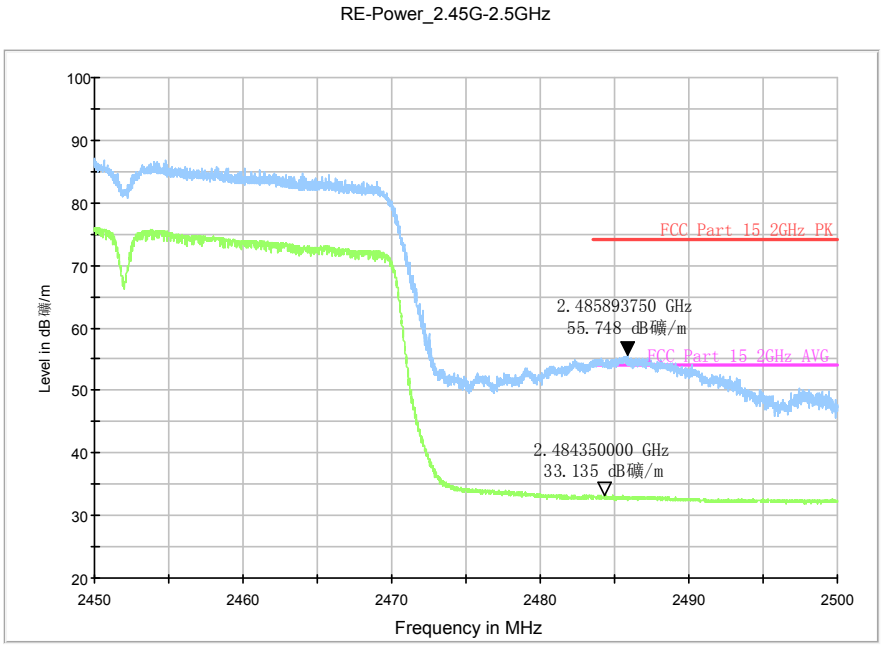


Fig.A.6.2.39 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

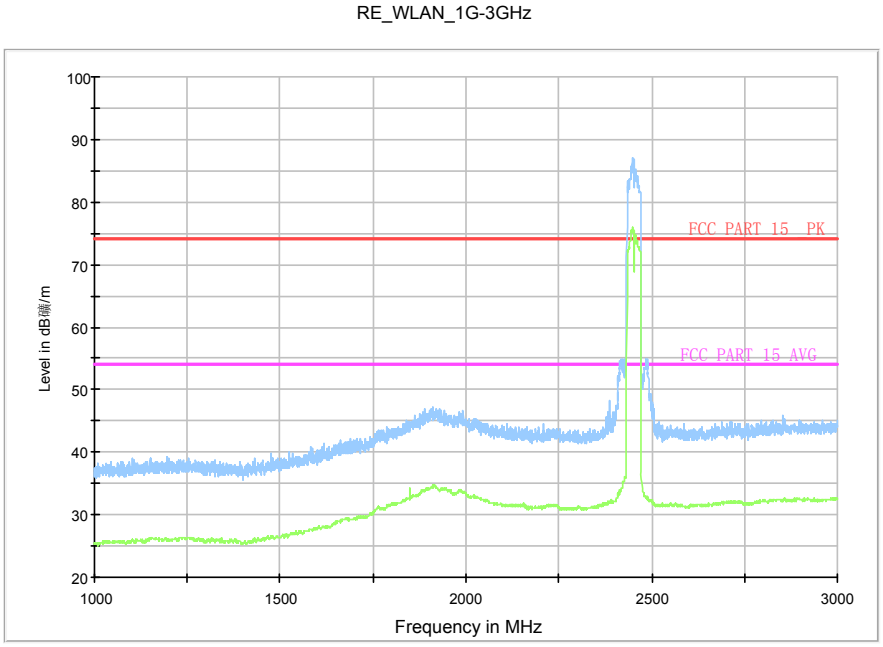


Fig.A.6.2.40 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch9, 1 GHz-3 GHz)

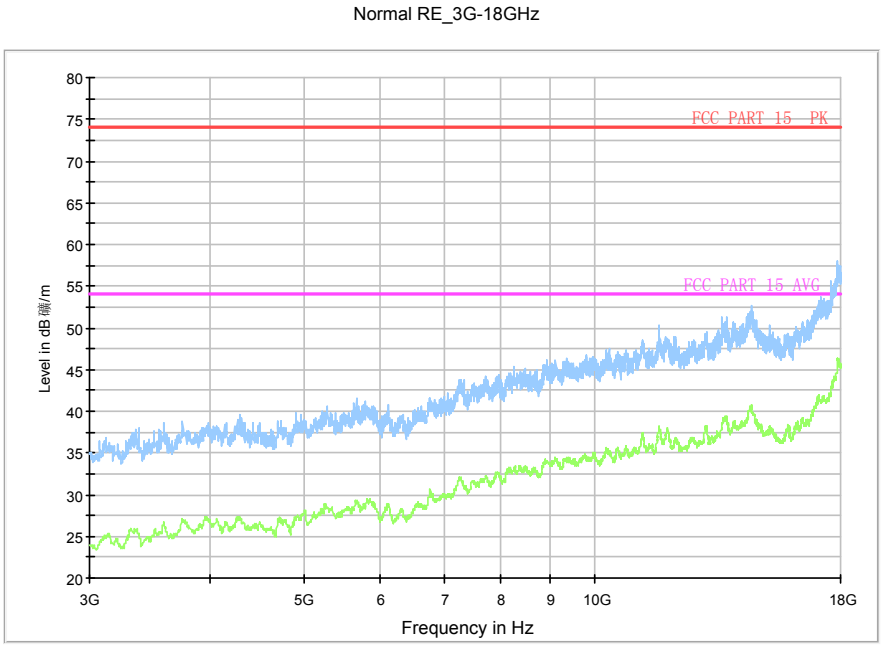


Fig.A.6.2.41 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch9, 3 GHz-18 GHz)

A.7. AC Power-line Conducted Emission

Method of Measurement: See ANSI C63.10-2009-clause 6.2

1 The one EUT cable configuration and arrangement and mode of operation that produced the emission with the highest amplitude relative to the limit is selected for the final measurement, while applying the appropriate modulating signal to the EUT.

2 If the EUT is relocated from an exploratory test site to a final test site, the highest emissions shall be remaximized at the final test location before final ac power-line conducted emission measurements are performed.

3 The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment in the system) is then performed for the full frequency range for which the EUT is being tested for compliance without further variation of the EUT arrangement, cable positions, or EUT mode of operation.

4 If the EUT is comprised of equipment units that have their own separate ac power connections, e.g., floor-standing equipment with independent power cords for each shelf that are able to connect directly to the ac power network, each current-carrying conductor of one unit is measured while the other units are connected to a second (or more) LISN(s). All units shall be separately measured. If a power strip is provided by the manufacturer, to supply all of the units making up the EUT, only the conductors in the power cord of the power strip shall be measured.

5 If the EUT uses a detachable antenna, these measurements shall be made with a suitable dummy load connected to the antenna output terminals; otherwise, the tests shall be made with the antenna connected and, if adjustable, fully extended. When measuring the ac conducted emissions from a device that operates between 150 kHz and 30 MHz a non-detachable antenna may be replaced with a dummy load for the measurements within the fundamental emission band of the transmitter, but only for those measurements.36 Record the six highest EUT emissions relative to the limit of each of the current-carrying conductors of the power cords of the equipment that comprises the EUT over the frequency range specified by the procuring or regulatory agency. Diagram or photograph the test setup that was used. See Clause 8 for full reporting requirements.

Test Condition:

Voltage（V）	Frequency（Hz）
120	60

Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		802.11b	Idle	
0.15 to 0.5	66 to 56	Fig.A.7.1	Fig.A.7.2	P
0.5 to 5	56			
5 to 30	60			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		802.11b	Idle	
0.15 to 0.5	56 to 46	Fig.A.7.1	Fig.A.7.2	P
0.5 to 5	46			
5 to 30	50			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

Conclusion: Pass

Test graphs as below:

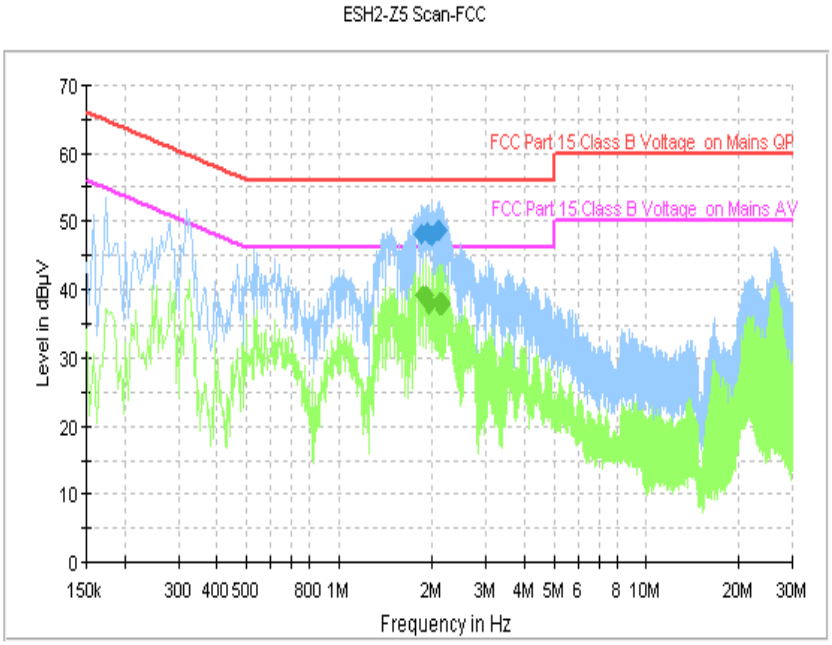


Fig.A.7.1 AC Powerline Conducted Emission (Traffic, AE2)

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.838000	48.1	FLO	L1	10.1	7.9	56.0	1.83800	48.1
1.926000	48.3	FLO	L1	10.1	7.7	56.0	1.92600	48.3
1.958000	48.1	FLO	L1	10.1	7.9	56.0	1.95800	48.1
1.990000	47.8	FLO	L1	10.1	8.2	56.0	1.99000	47.8
2.094000	48.6	FLO	L1	10.1	7.4	56.0	2.09400	48.6
2.110000	48.7	FLO	L1	10.1	7.3	56.0	2.11000	48.7

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.870000	39.2	FLO	L1	10.1	6.8	46.0	1.87000	39.2
1.914000	39.1	FLO	L1	10.1	6.9	46.0	1.91400	39.1
1.958000	38.0	FLO	L1	10.1	8.0	46.0	1.95800	38.0
2.110000	37.8	FLO	L1	10.1	8.2	46.0	2.11000	37.8
2.138000	38.0	FLO	L1	10.1	8.0	46.0	2.13800	38.0
2.166000	38.0	FLO	L1	10.1	8.0	46.0	2.16600	38.0

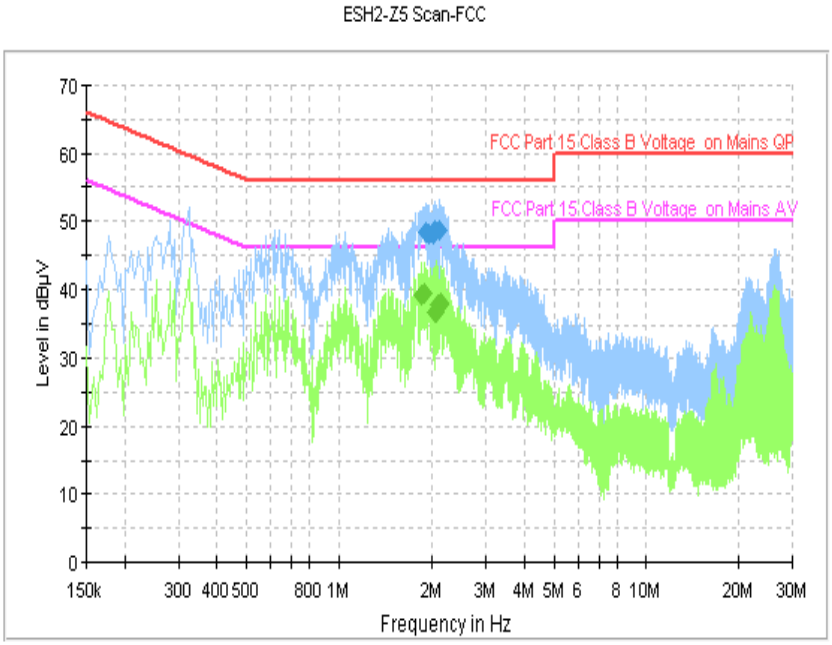


Fig.A.7.2 AC Powerline Conducted Emission-Idle

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.906000	48.3	FLO	L1	10.1	7.7	56.0	1.90600	48.3
1.950000	48.0	FLO	L1	10.1	8.0	56.0	1.95000	48.0
2.010000	48.1	FLO	L1	10.1	7.9	56.0	2.01000	48.1
2.038000	48.4	FLO	L1	10.1	7.6	56.0	2.03800	48.4
2.050000	48.6	FLO	L1	10.1	7.4	56.0	2.05000	48.6
2.106000	48.6	FLO	L1	10.1	7.4	56.0	2.10600	48.6

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.846000	39.1	FLO	L1	10.1	6.9	46.0	1.84600	39.1
1.890000	39.3	FLO	L1	10.1	6.7	46.0	1.89000	39.3
2.038000	36.7	FLO	L1	10.1	9.3	46.0	2.03800	36.7
2.066000	36.9	FLO	L1	10.1	9.1	46.0	2.06600	36.9
2.094000	37.5	FLO	L1	10.1	8.5	46.0	2.09400	37.5
2.122000	37.9	FLO	L1	10.1	8.1	46.0	2.12200	37.9

ANNEX B: Accreditation Certificate

China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(No. CNAS L0570)

Telecommunication Technology Labs,

Academy of Telecommunication Research, MIIT

No.52, Huayuan North Road, Haidian District, Beijing, China

No.51, Xueyuan Road, Haidian District, Beijing, China

to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing and calibration.

The scope of accreditation is detailed in the attached schedule bearing the same accreditation number as above. The schedule forms an integral part of this certificate.

Date of Issue: 2014-10-29

Date of Expiry: 2017-06-19

Date of Initial Accreditation: 1998-07-03

Signed on behalf of China National Accreditation Service for Conformity Assessment

China National Accreditation Service for Conformity Assessment (CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is the signatory to International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (ILAC MRA) and Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).

No.CNAS AL 2

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*****END OF REPORT*****