



**FCC PART 15C
TEST REPORT
No. 2013WLN0702**

for

TCT Mobile Limited

HSDPA/HSUPA/UMTS Tri bands / GSM quad bands/LTE Quin bands

Mobile Phone

Model name: VIPER LTE

Marketing Name: ONE TOUCH 7030Y

With

FCC ID: RAD357

Hardware Version: PIO

Software Version: VA33

Issued Date: 2013-07-23



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 TMC Beijing.

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1. TEST LABORATORY

1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT
Address: No. 52, Huayuan Bei Road, Haidian District, Beijing, P. R. China
Postal Code: 100191
Telephone: 008610623046332046
Fax: 008610623046332063

1.2. Project Data

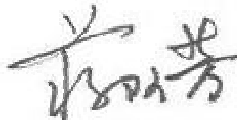
Testing Start Date: 2013-06-20
Testing End Date: 2013-07-04

1.3. Signature



Xu Zhongfei

(Prepared this test report)



Jiang Afang

(Reviewed this test report)



Xiao Li

Deputy Director of the laboratory

(Approved this test report)

2. CLIENT INFORMATION

2.1. Applicant Information

Company Name: TCT Mobile Limited
Address /Post: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,
Pudong Area Shanghai, P.R. China. 201203
Contact: Gong Zhizhou
Email: zhizhou.gong@jrdcom.com
Telephone: 0086-21-61460890
Fax: 0086-21-61460602

2.2. Manufacturer Information

Company Name: TCT Mobile Limited
Address /Post: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,
Pudong Area Shanghai, P.R. China. 201203
Contact: Gong Zhizhou
Email: zhizhou.gong@jrdcom.com
Telephone: 0086-21-61460890
Fax: 0086-21-61460602

3. EQUIPMENT UNDER TEST(EUT) AND ANCILLARY

EQUIPMENT(AE)

3.1. About EUT

| | |
|---------------------|--|
| Description | HSDPA/HSUPA/UMTS Tri bands / GSM quad bands/LTE Quin bands Mobile Phone |
| Model name | VIPER LTE |
| Marketing name | ONE TOUCH 7030Y |
| FCC ID | RAD357 |
| 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 |
| MAX Conducted Power | 22.85dBm(CCK) |
| GPRS Class | Class 10 |
| GPRS operation mode | Class B |
| Power Supply | 3.9V DC by Battery |

3.2. Internal Identification of EUT Used During the Test

| EUT ID* | IMEI | HW Version | SW Version |
|----------------|-----------------|-------------------|-------------------|
| EUT1 | 013580000100491 | PIO | VA33 |
| EUT2 | 013580000100400 | PIO | VA33 |

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

3.3. Internal Identification of AE Used During the Test

| AE ID* | Description | Type | SN |
|---------------|--------------------|--------------|-----------|
| AE1 | Battery | TLi022A1 | / |
| AE2 | Charger | CBA3000AG0C2 | / |

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

3.4. General Description

Equipment Under Test (EUT) is a model of HSDPA/HSUPA/UMTS Tri bands / GSM quad bands/LTE Quin bands Mobile Phone with integrated antenna. It consists of normal options: Battery and Charger.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the Client.

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. | Oct, 2012 |
| ANSI C63.4 | Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz | 2009 |
| KDB558074 | Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 | 2012 |

5. LABORATORY ENVIRONMENT

Conducted RF performance testing is performed in shielding room.

EMC performance testing is performed in Fully-anechoic chamber.

6. SUMMARY OF TEST RESULTS

6.1. Summary of Test Results

| SUMMARY OF MEASUREMENT RESULTS | Sub-clause of Part15C | Sub-clause of IC | Verdict |
|---|------------------------|------------------|---------|
| Maximum Peak Output Power | 15.247 (a) | / | P |
| Peak Power Spectral Density | 15.247 (d) | / | P |
| Occupied 6dB Bandwidth | 15.247 (d) | / | P |
| Band Edges Compliance | 15.247 (b) | / | P |
| Transmitter Spurious Emission - Conducted | 15.247 | / | 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 TMC |
| NA | Not Applicable, The test was not applicable |
| F | Fail, The EUT does not comply with the essential requirements in the standard |

6.2. Statements

TMC has evaluated the test cases requested by the client/manufacturer as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.1.

This report only deals with the WLAN function among the features described in section 3.

6.3. Test Conditions

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

| | |
|-------------|-------------------|
| Temperature | 26°C |
| Voltage | 3.9V (By battery) |
| Humidity | 44% |

7. TEST EQUIPMENTS UTILIZED

Conducted test system

| No. | Equipment | Model | Serial Number | Manufacturer | Calibration Due date |
|-----|------------------------|---------|---------------|-----------------|----------------------|
| 1 | Vector Signal Analyzer | FSQ40 | 200089 | Rohde & Schwarz | 2014-07-08 |
| 2 | Test Receiver | ESS | 847151/015 | Rohde & Schwarz | 2013-10-30 |
| 3 | LISN | ESH2-Z5 | 829991/012 | Rohde & Schwarz | 2014-08-12 |
| 4 | Shielding Room | S81 | / | ETS•LingGern | / |

Radiated emission test system

| No. | Equipment | Model | Serial Number | Manufacturer | Calibration Due date |
|-----|-----------------------------------|-------|---------------|------------------|----------------------|
| 1 | Test Receiver | ESI40 | 831564/002 | Rohde & Schwarz | 2014-08-11 |
| 2 | BiLog Antenna | 3142B | 9908-1403 | EMCO | 2014-03-15 |
| 3 | Dual-Ridge Waveguide Horn Antenna | 3115 | 9906-5827 | EMCO | 2014-12-25 |
| 4 | Dual-Ridge Waveguide Horn Antenna | 3116 | 2661 | EMCO | 2014-06-30 |
| 5 | Semi-anechoic chamber | / | CT000332-1074 | Frankonia German | / |

ANNEX A: MEASUREMENT 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

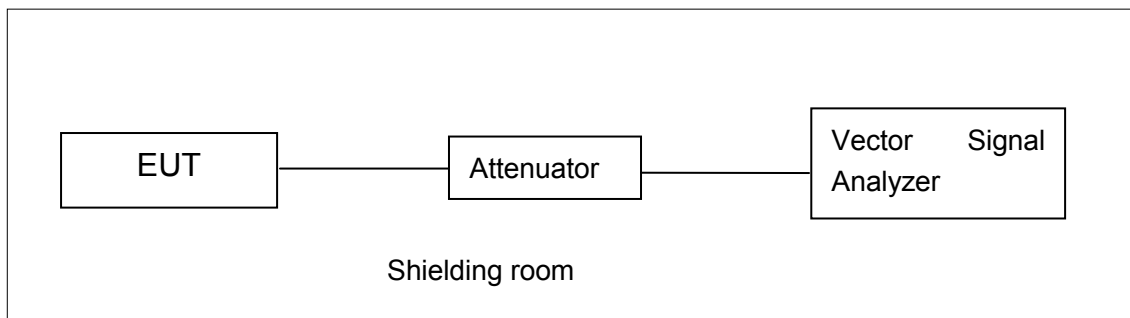


Fig.A.1.1.1: Test Setup Diagram for Conducted Measurements

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;

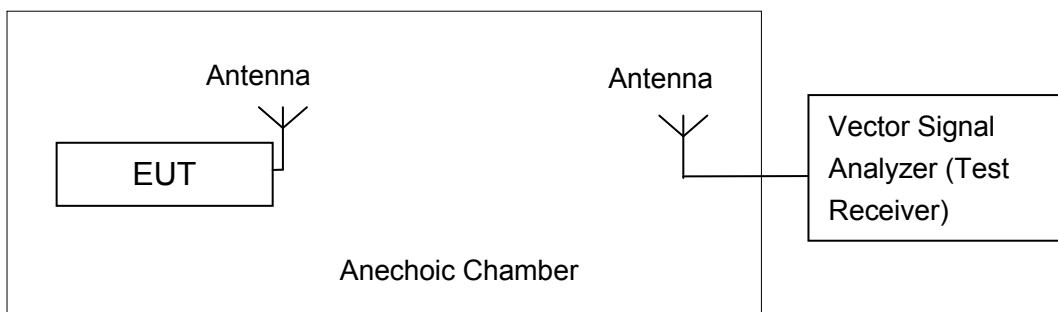


Fig.A.1.2.1: Test Setup Diagram for Radiated Measurements

A.2. Maximum Output Power

Measurement Limit and Method:

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

The measurement is made according to KDB558074.

EUT ID: EUT2

A.2.1. Maximum Peak Output Power-conducted

Measurement Results:

802.11b/g mode

| Mode | Data Rate (Mbps) | Test Result (dBm) | | |
|---------|------------------|-------------------|---------------|-----------------|
| | | 2412MHz (Ch1) | 2437MHz (Ch6) | 2462 MHz (Ch11) |
| 802.11b | 1 | 18.54 | / | / |
| | 2 | 18.74 | / | / |
| | 5.5 | 20.40 | / | / |
| | 11 | 21.83 | 21.73 | 22.85 |
| 802.11g | 6 | 20.01 | / | / |
| | 9 | 20.04 | / | / |
| | 12 | 19.87 | / | / |
| | 18 | 19.91 | / | / |
| | 24 | 20.37 | / | / |
| | 36 | 20.33 | / | / |
| | 48 | 20.44 | 20.52 | 21.54 |
| | 54 | 20.40 | / | / |

The data rate 11Mbps and 48Mbps are selected as worse condition, and the following cases are performed with this condition.

802.11n-HT20 mode

| Mode | Data Rate (Index) | Test Result (dBm) | | |
|-----------------|-------------------|-------------------|---------------|-----------------|
| | | 2412MHz (Ch1) | 2437MHz (Ch6) | 2462 MHz (Ch11) |
| 802.11n (20MHz) | MCS0 | 18.57 | / | / |
| | MCS1 | 18.45 | / | / |
| | MCS2 | 18.42 | / | / |
| | MCS3 | 18.91 | / | / |
| | MCS4 | 18.88 | / | / |
| | MCS5 | 18.95 | / | / |
| | MCS6 | 18.98 | 18.73 | 19.73 |
| | MCS7 | 18.95 | / | / |

The data rate MCS6 is selected as worse condition, and the following cases are performed with this condition.

Conclusion: Pass

A.2.2. Maximum Average Output Power-conducted

802.11b/g mode

| Mode | Test Result (dBm) | | |
|---------|-------------------|------------------|--------------------|
| | 2412MHz (Ch1) | 2437MHz (Ch6) | 2462 MHz (Ch11) |
| 802.11b | 16.87 | 16.84 | 17.31 |
| 802.11g | 13.74 | 13.42 | 13.44 |

802.11n-HT20 mode

| Mode | Test Result (dBm) | | |
|--------------------|-------------------|------------------|--------------------|
| | 2412MHz (Ch1) | 2437MHz (Ch6) | 2462 MHz (Ch11) |
| 802.11n (20MHz) | 10.39 | 9.98 | 10.46 |

Conclusion: Pass

Measurement Uncertainty:

| | |
|-------------------------|--------|
| Measurement Uncertainty | 0.75dB |
|-------------------------|--------|

A.3. Peak Power Spectral Density

Measurement Limit:

| Standard | Limit |
|------------------------|---------------|
| FCC CRF Part 15.247(d) | < 8 dBm/3 kHz |

The measurement is made according to KDB558074.

Modulation type and data rate tested:

| | | |
|-------------|--------------|--------------|
| 802.11b | 802.11g | 802.11n-HT20 |
| 11Mbps(CCK) | 48Mbps(OFDM) | MCS6(OFDM) |

Measurement Results:

802.11b/g mode

| Mode | Channel | Power Spectral Density (dBm/3 kHz) | | Conclusion |
|---------|---------|---|--------|------------|
| | | Fig.A.3.1 | -7.03 | |
| 802.11b | 1 | Fig.A.3.1 | -7.03 | P |
| | 6 | Fig.A.3.2 | -7.76 | P |
| | 11 | Fig.A.3.3 | -7.35 | P |
| 802.11g | 1 | Fig.A.3.4 | -13.58 | P |
| | 6 | Fig.A.3.5 | -13.99 | P |
| | 11 | Fig.A.3.6 | -12.94 | P |

802.11n-HT20 mode

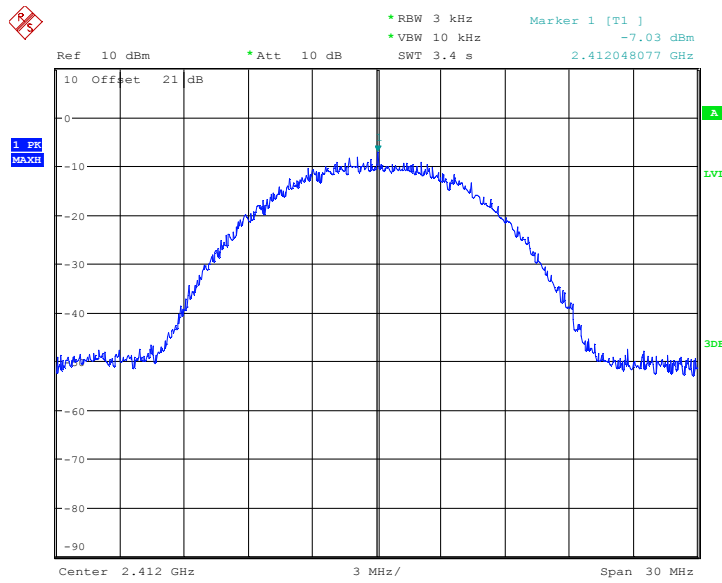
| Mode | Channel | Power Spectral Density (dBm/3 kHz) | | Conclusion |
|-------------------|---------|---|--------|------------|
| | | Fig.A.3.7 | -15.78 | |
| 802.11n (HT20) | 1 | Fig.A.3.7 | -15.78 | P |
| | 6 | Fig.A.3.8 | -15.61 | P |
| | 11 | Fig.A.3.9 | -14.52 | P |

Conclusion: Pass

Measurement Uncertainty:

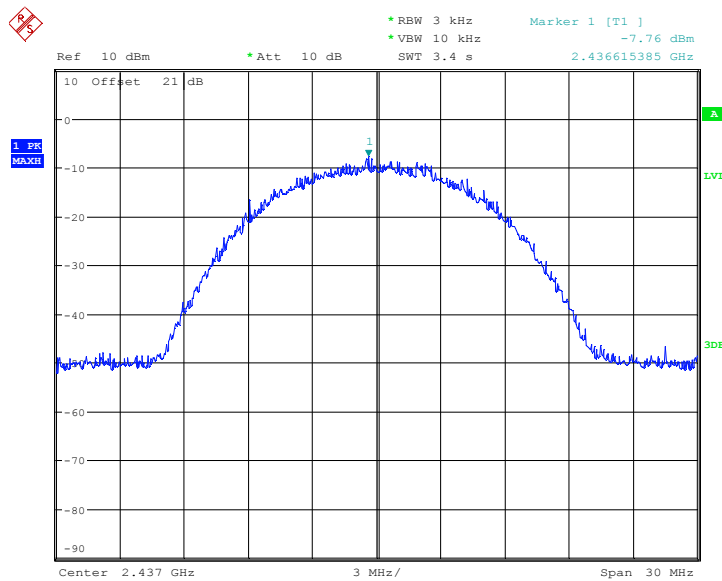
| | |
|-------------------------|--------|
| Measurement Uncertainty | 0.75dB |
|-------------------------|--------|

Test graphs as below:



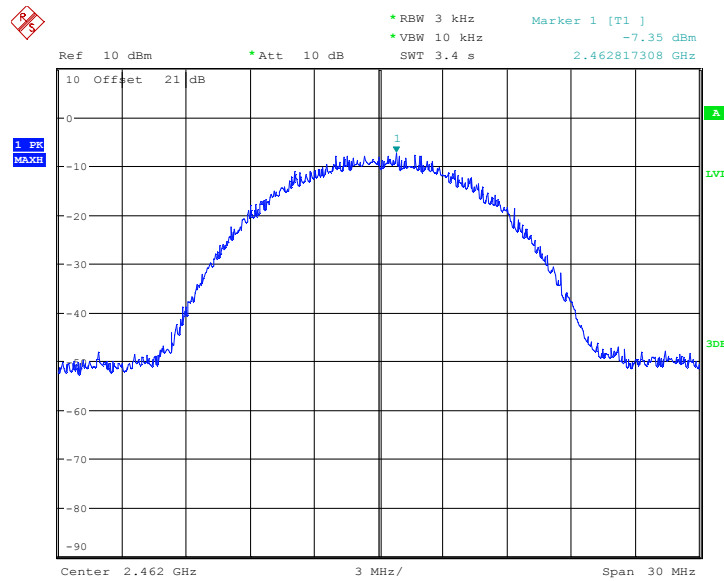
Date: 3.JUL.2013 14:48:37

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



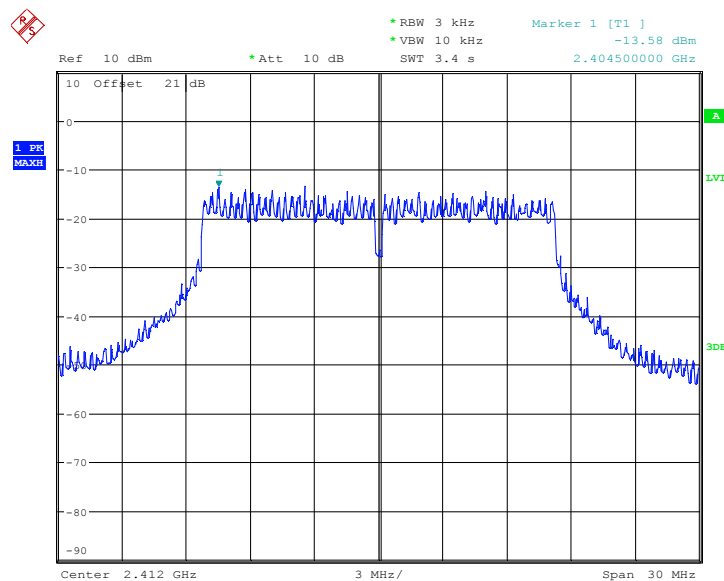
Date: 3.JUL.2013 14:47:15

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



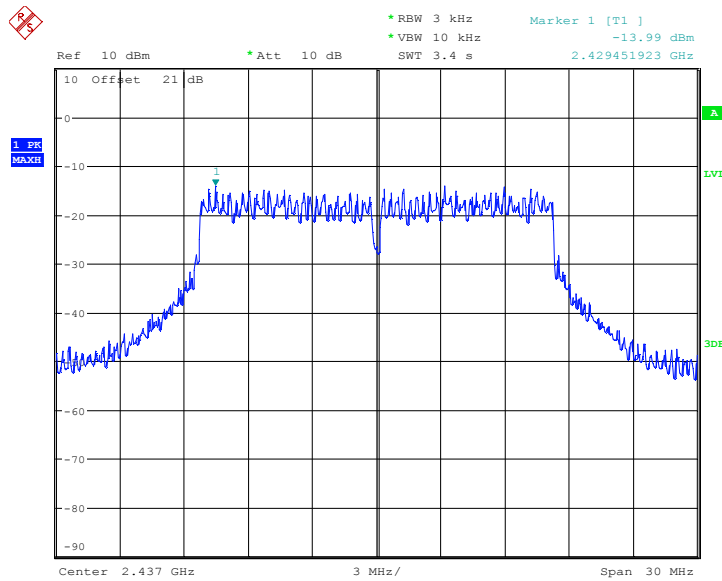
Date: 3.JUL.2013 14:50:03

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



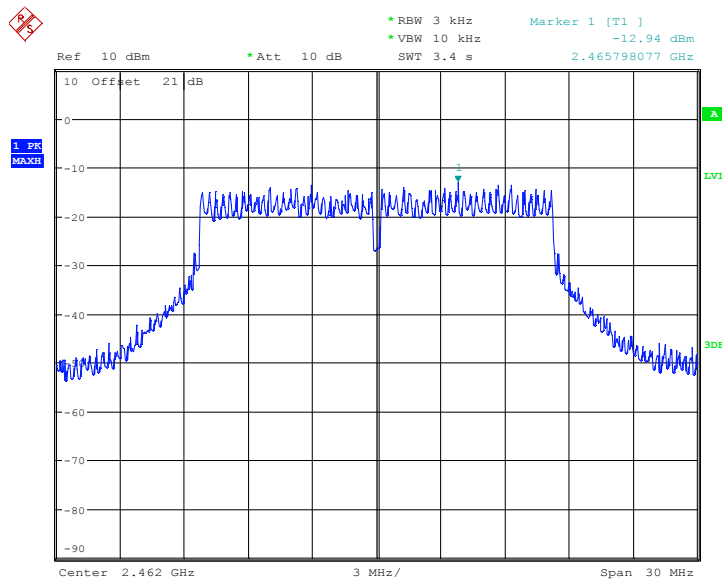
Date: 3.JUL.2013 14:51:06

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



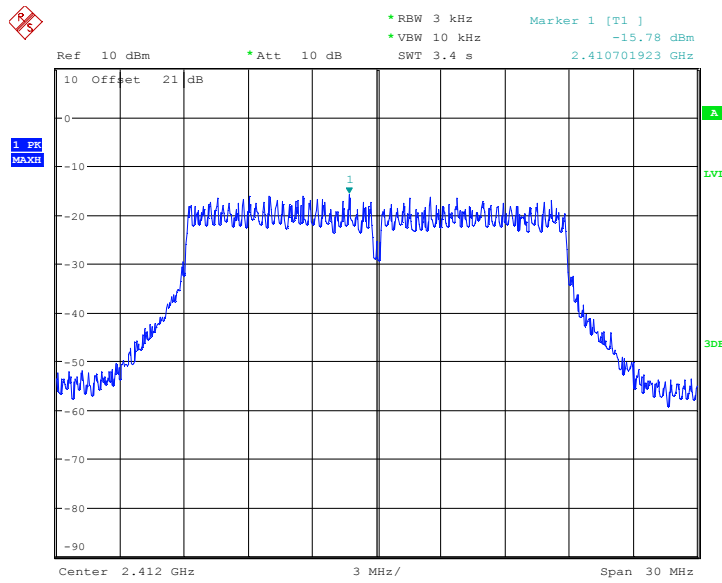
Date: 3.JUL.2013 14:51:48

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



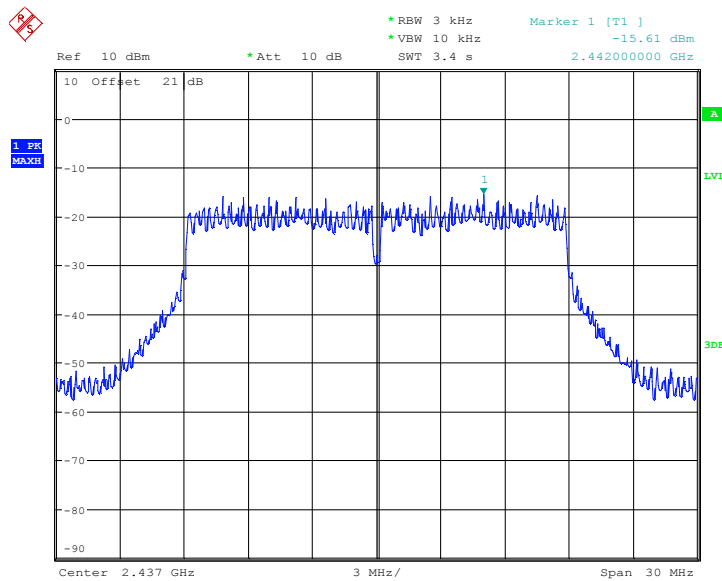
Date: 3.JUL.2013 14:52:24

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



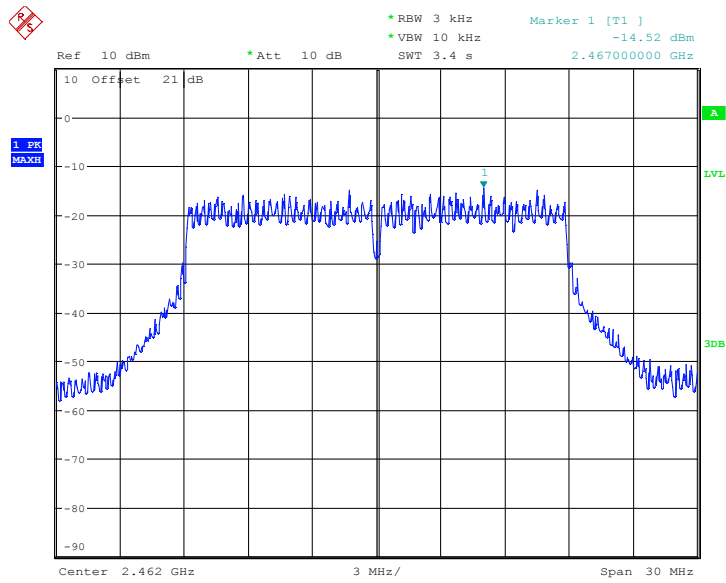
Date: 3.JUL.2013 14:53:51

Fig.A.3.7 Power Spectral Density (802.11n-HT20, Ch 1)



Date: 3.JUL.2013 14:54:36

Fig.A.3.8 Power Spectral Density (802.11n-HT20, Ch 6)



Date: 3.JUL.2013 14:55:41

Fig.A.3.9 Power Spectral Density (802.11n-HT20, Ch 11)

A.4. Occupied 6dB Bandwidth

Measurement Limit:

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

The measurement is made according to KDB558074.

EUT ID: EUT2

Modulation type and data rate tested:

| | | |
|-------------|--------------|--------------|
| 802.11b | 802.11g | 802.11n-HT20 |
| 11Mbps(CCK) | 48Mbps(OFDM) | MCS6(OFDM) |

Measurement Result:

802.11b/g mode

| Mode | Channel | Occupied 6dB Bandwidth (kHz) | | conclusion |
|---------|---------|-------------------------------|----------|------------|
| 802.11b | 1 | Fig.A.4.1 | 9358.97 | P |
| | 6 | Fig.A.4.2 | 9166.67 | P |
| | 11 | Fig.A.4.3 | 9358.97 | P |
| 802.11g | 1 | Fig.A.4.4 | 16538.46 | P |
| | 6 | Fig.A.4.5 | 16602.56 | P |
| | 11 | Fig.A.4.6 | 16602.56 | P |

802.11n-HT20 mode

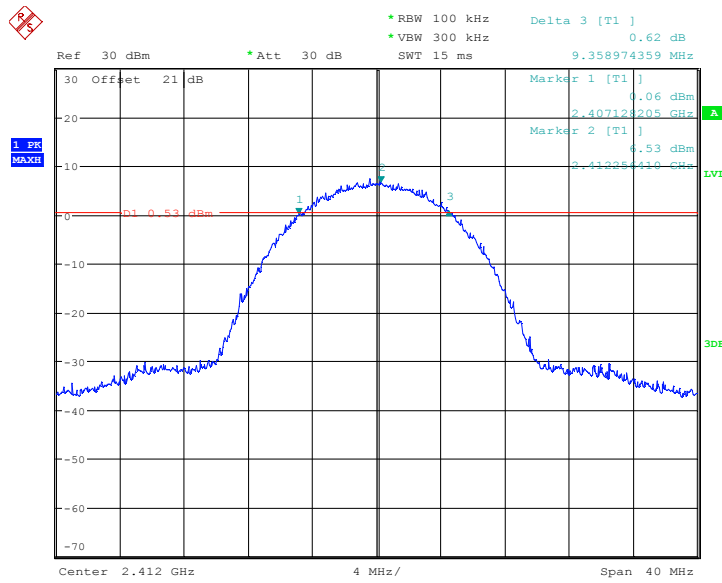
| Mode | Channel | Occupied 6dB Bandwidth (kHz) | | conclusion |
|-------------------|---------|-------------------------------|----------|------------|
| 802.11n (HT20) | 1 | Fig.A.4.7 | 17820.51 | P |
| | 6 | Fig.A.4.8 | 17820.51 | P |
| | 11 | Fig.A.4.9 | 17756.41 | P |

Conclusion: Pass

Measurement Uncertainty:

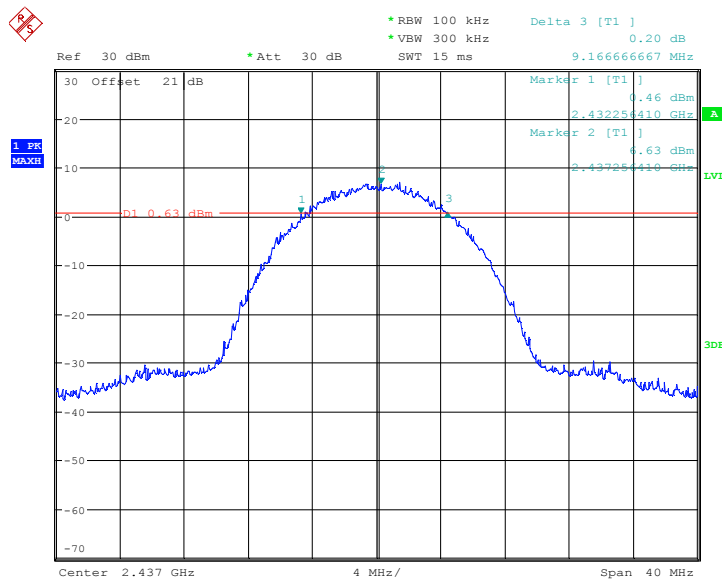
| | |
|-------------------------|---------|
| Measurement Uncertainty | 60.80Hz |
|-------------------------|---------|

Test graphs as below:



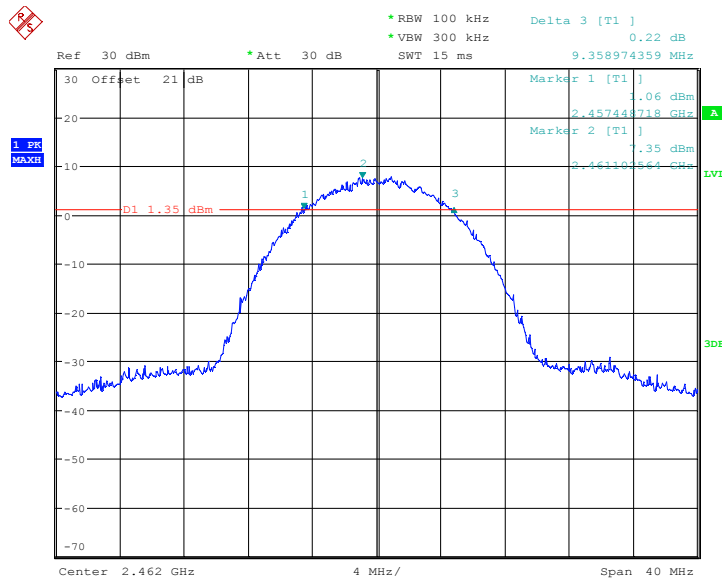
Date: 3.JUL.2013 15:01:43

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



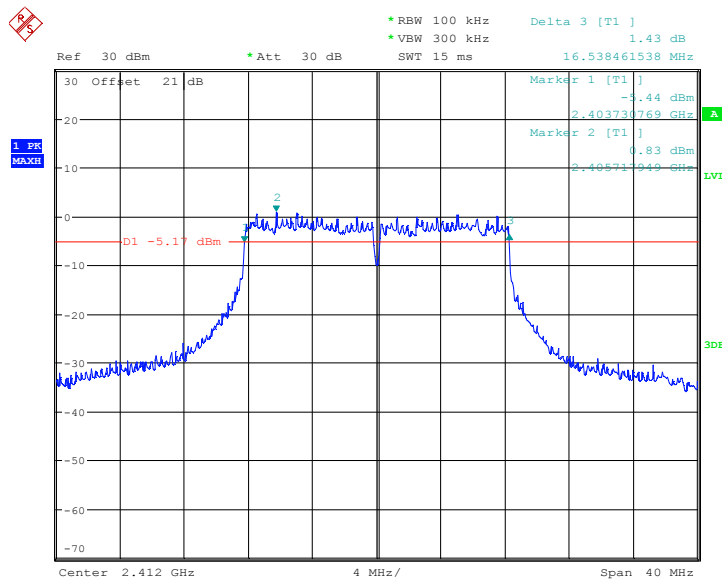
Date: 3.JUL.2013 15:05:11

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



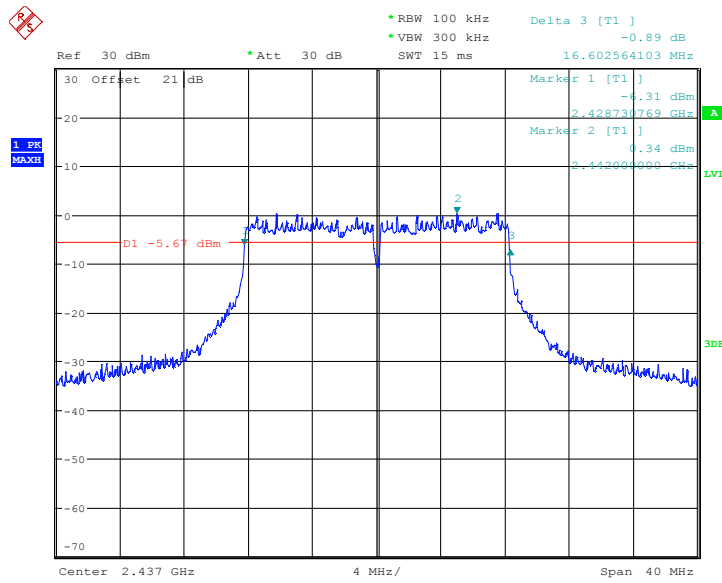
Date: 3.JUL.2013 15:08:14

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



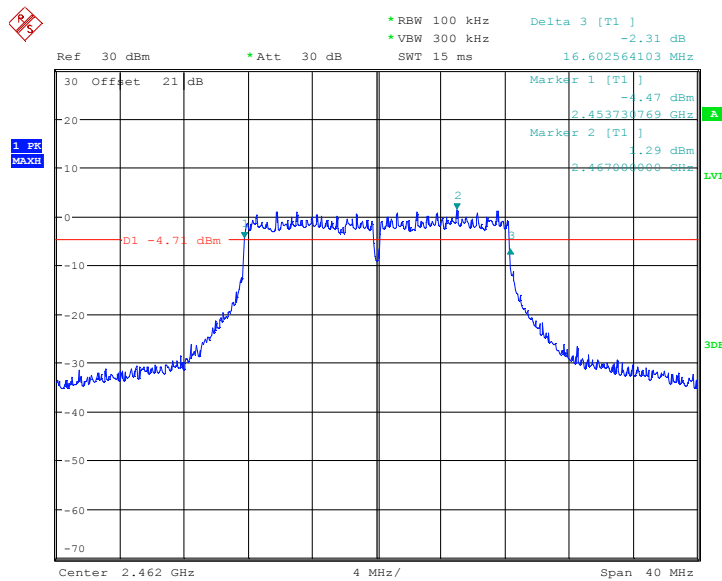
Date: 3.JUL.2013 15:10:19

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



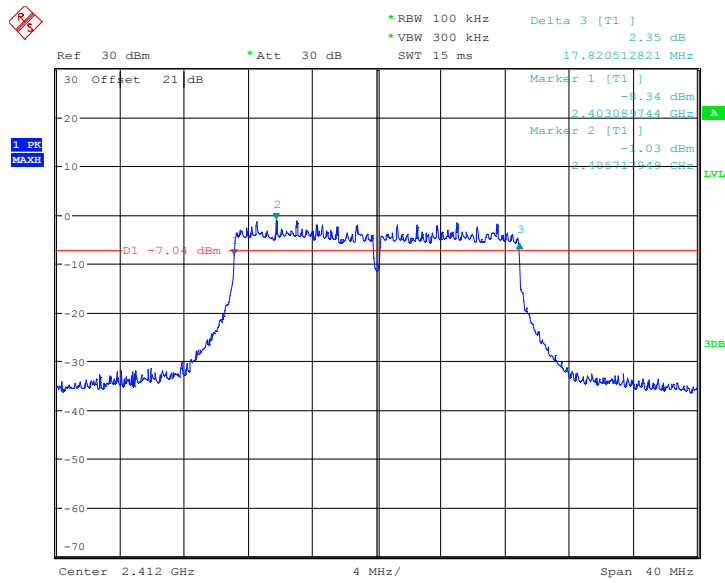
Date: 3.JUL.2013 15:11:41

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



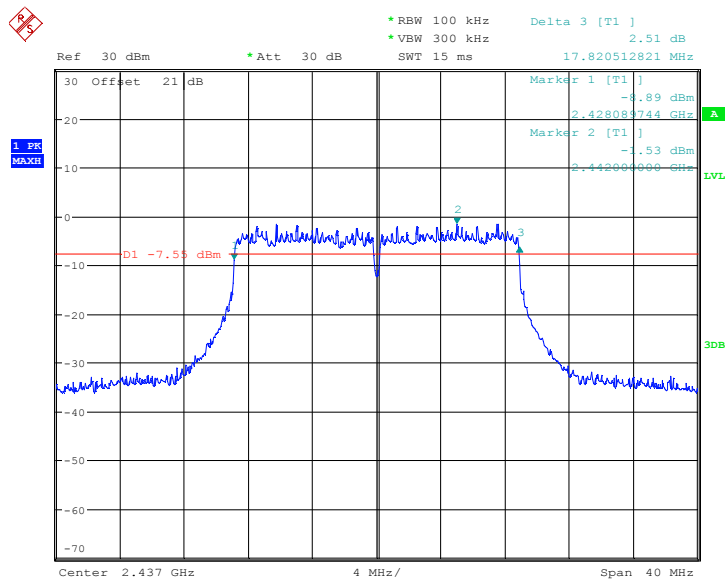
Date: 3.JUL.2013 15:13:23

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



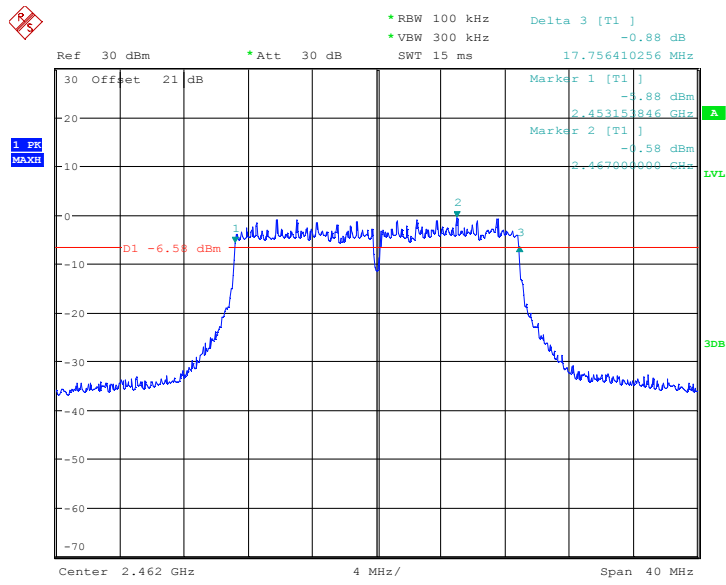
Date: 3.JUL.2013 15:15:30

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



Date: 3.JUL.2013 15:17:17

Fig.A.4.8 Occupied 6dB Bandwidth (802.11n-HT20, Ch 6)



Date: 3.JUL.2013 15:22:01

Fig.A.4.9 Occupied 6dB Bandwidth (802.11n-HT20, Ch 11)

A.5. Band Edges Compliance

Measurement Limit:

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

The measurement is made according to KDB558074.

EUT ID: EUT2

Modulation type and data rate tested:

| | | |
|-------------|--------------|--------------|
| 802.11b | 802.11g | 802.11n-HT20 |
| 11Mbps(CCK) | 48Mbps(OFDM) | MCS6(OFDM) |

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

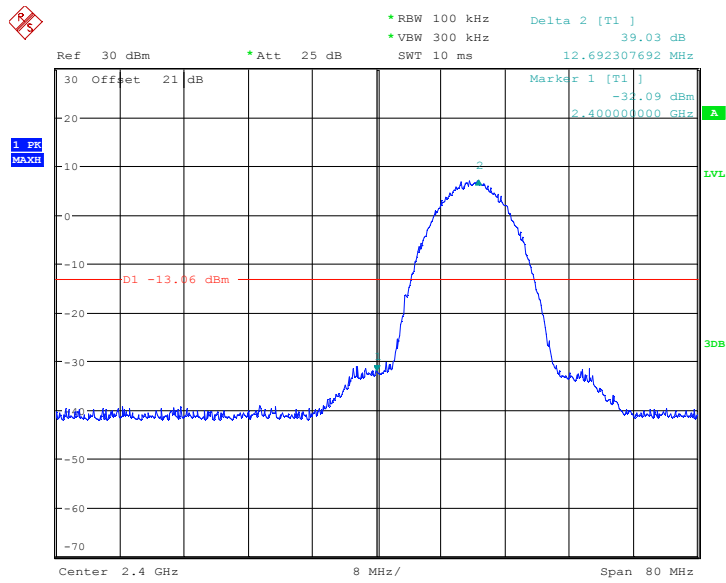
| Mode | Channel | Test Results | Conclusion |
|-------------------|---------|--------------|------------|
| 802.11n (HT20) | 1 | Fig.A.5.5 | P |
| | 11 | Fig.A.5.6 | P |

Conclusion: Pass

Measurement Uncertainty:

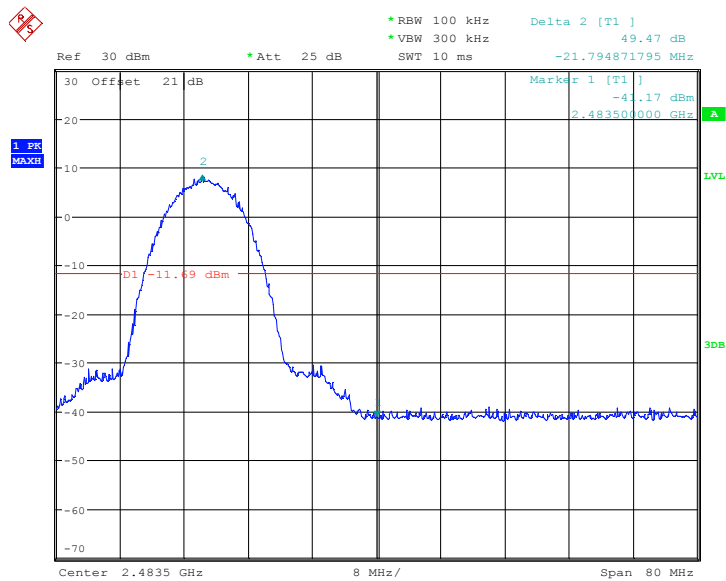
| | |
|-------------------------|--------|
| Measurement Uncertainty | 0.75dB |
|-------------------------|--------|

Test graphs as below:



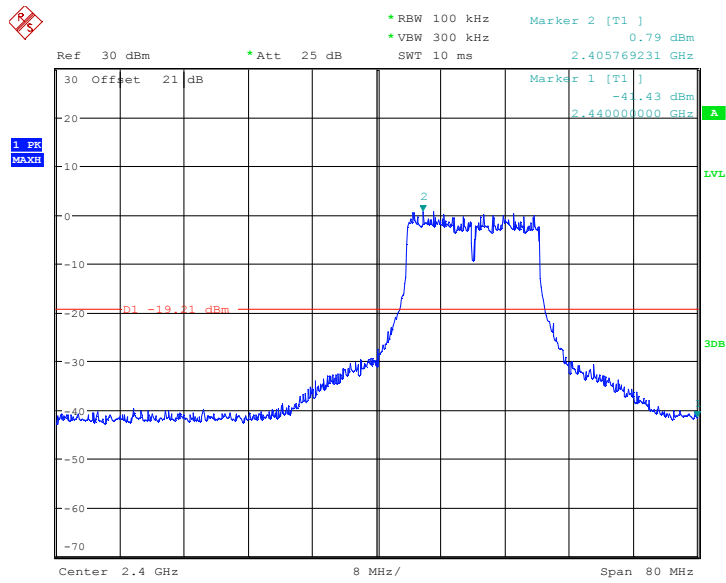
Date: 3.JUL.2013 15:27:08

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



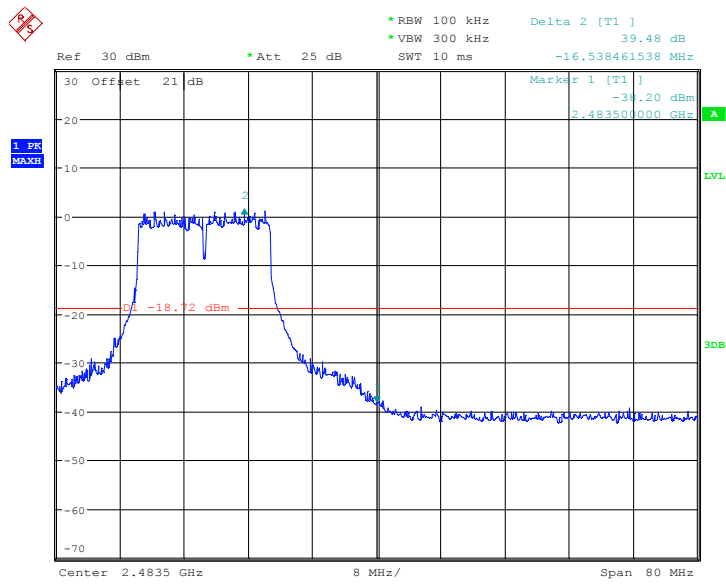
Date: 3.JUL.2013 15:28:42

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



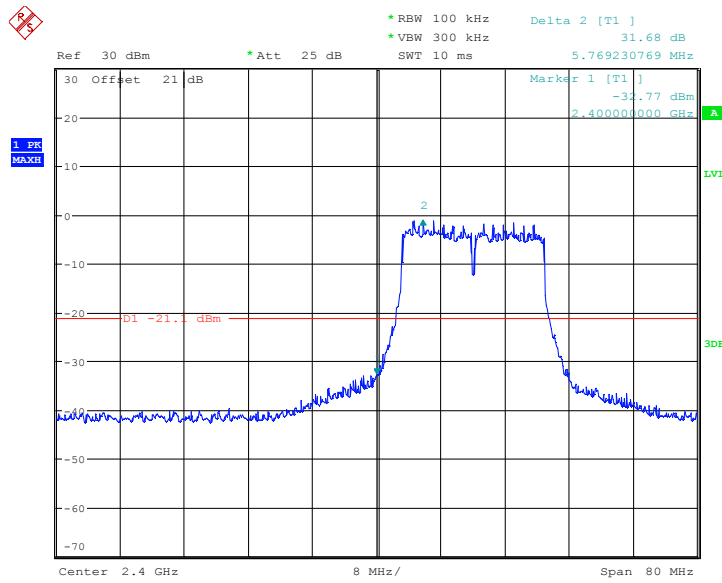
Date: 3.JUL.2013 15:29:38

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



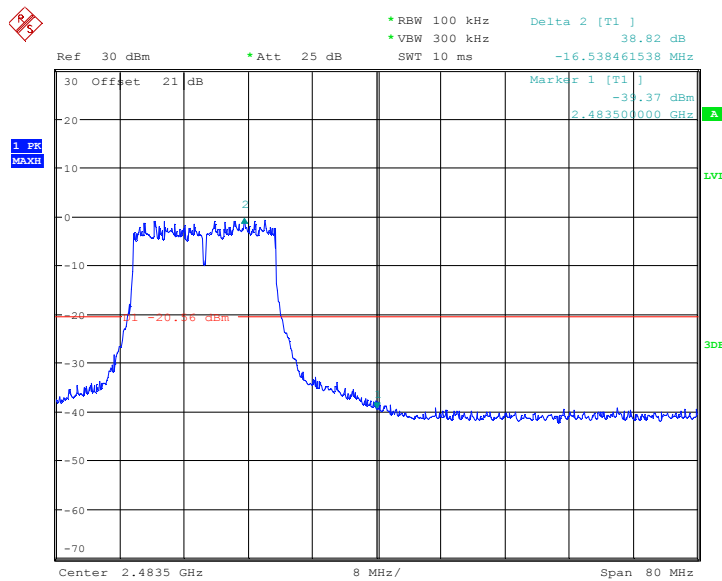
Date: 3.JUL.2013 15:31:05

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



Date: 3.JUL.2013 15:32:04

Fig.A.5.5 Band Edges (802.11n-HT20, Ch 1)



Date: 3.JUL.2013 15:33:21

Fig.A.5.6 Band Edges (802.11n-HT20, Ch 11)

A.6. Transmitter Spurious Emission

A.6.1 Transmitter Spurious Emission - Conducted

Measurement Limit:

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

The measurement is made according to KDB558074.

EUT ID: EUT2

Modulation type and data rate tested:

| | | |
|-------------|--------------|--------------|
| 802.11b | 802.11g | 802.11n-HT20 |
| 11Mbps(CCK) | 48Mbps(OFDM) | MCS6(OFDM) |

Measurement Results:

802.11b mode

| MODE | Channel | Frequency Range | Test Results | Conclusion |
|---------|---------|-------------------|--------------|------------|
| 802.11b | 1 | 2.412 GHz | Fig.A.6.1.1 | P |
| | | 30 MHz ~ 1 GHz | Fig.A.6.1.2 | P |
| | | 1 GHz ~ 2.5 GHz | Fig.A.6.1.3 | P |
| | | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.4 | P |
| | | 7.5 GHz ~ 10 GHz | Fig.A.6.1.5 | P |
| | | 10 GHz ~ 15 GHz | Fig.A.6.1.6 | P |
| | | 15 GHz ~ 20 GHz | Fig.A.6.1.7 | P |
| | | 20 GHz ~ 26 GHz | Fig.A.6.1.8 | P |
| | 6 | 2.437 GHz | Fig.A.6.1.9 | P |
| | | 30 MHz ~ 1 GHz | Fig.A.6.1.10 | P |
| | | 1 GHz ~ 2.5 GHz | Fig.A.6.1.11 | P |
| | | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.12 | P |
| | | 7.5 GHz ~ 10 GHz | Fig.A.6.1.13 | P |
| | | 10 GHz ~ 15 GHz | Fig.A.6.1.14 | P |
| | | 15 GHz ~ 20 GHz | Fig.A.6.1.15 | P |
| | | 20 GHz ~ 26 GHz | Fig.A.6.1.16 | P |
| | 11 | 2.462 GHz | Fig.A.6.1.17 | P |
| | | 30 MHz ~ 1 GHz | Fig.A.6.1.18 | P |
| | | 1 GHz ~ 2.5 GHz | Fig.A.6.1.19 | P |
| | | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.20 | P |
| | | 7.5 GHz ~ 10 GHz | Fig.A.6.1.21 | P |
| | | 10 GHz ~ 15 GHz | Fig.A.6.1.22 | P |
| | | 15 GHz ~ 20 GHz | Fig.A.6.1.23 | P |
| | | 20 GHz ~ 26 GHz | Fig.A.6.1.24 | P |

802.11g mode

| MODE | Channel | Frequency Range | Test Results | Conclusion |
|-------------|----------------|------------------------|---------------------|-------------------|
| 802.11g | 1 | 2.412 GHz | Fig.A.6.1.25 | P |
| | | 30 MHz ~ 1 GHz | Fig.A.6.1.26 | P |
| | | 1 GHz ~ 2.5 GHz | Fig.A.6.1.27 | P |
| | | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.28 | P |
| | | 7.5 GHz ~ 10 GHz | Fig.A.6.1.29 | P |
| | | 10 GHz ~ 15 GHz | Fig.A.6.1.30 | P |
| | | 15 GHz ~ 20 GHz | Fig.A.6.1.31 | P |
| | | 20 GHz ~ 26 GHz | Fig.A.6.1.32 | P |
| | 6 | 2.437 GHz | Fig.A.6.1.33 | P |
| | | 30 MHz ~ 1 GHz | Fig.A.6.1.34 | P |
| | | 1 GHz ~ 2.5 GHz | Fig.A.6.1.35 | P |
| | | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.36 | P |
| | | 7.5 GHz ~ 10 GHz | Fig.A.6.1.37 | P |
| | | 10 GHz ~ 15 GHz | Fig.A.6.1.38 | P |
| | | 15 GHz ~ 20 GHz | Fig.A.6.1.39 | P |
| | | 20 GHz ~ 26 GHz | Fig.A.6.1.40 | P |
| | 11 | 2.462 GHz | Fig.A.6.1.41 | P |
| | | 30 MHz ~ 1 GHz | Fig.A.6.1.42 | P |
| | | 1 GHz ~ 2.5 GHz | Fig.A.6.1.43 | P |
| | | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.44 | P |
| | | 7.5 GHz ~ 10 GHz | Fig.A.6.1.45 | P |
| | | 10 GHz ~ 15 GHz | Fig.A.6.1.46 | P |
| | | 15 GHz ~ 20 GHz | Fig.A.6.1.47 | P |
| | | 20 GHz ~ 26 GHz | Fig.A.6.1.48 | P |

802.11n-HT20 mode

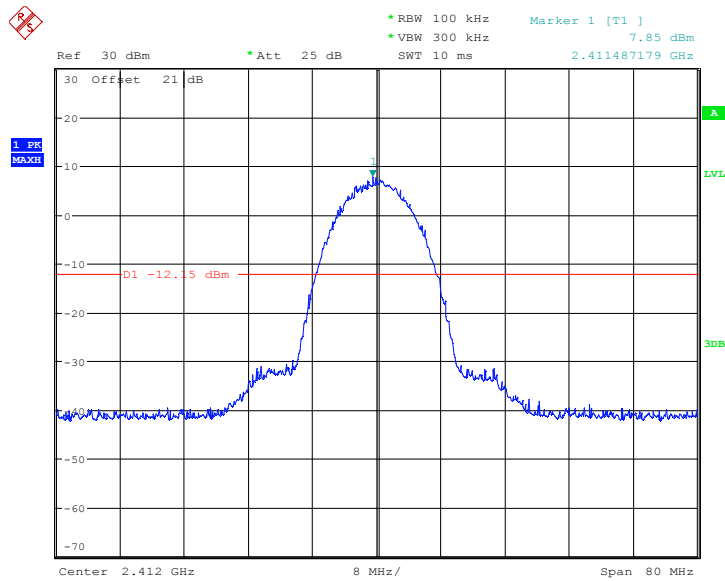
| MODE | Channel | Frequency Range | Test Results | Conclusion |
|-------------------|---------|-------------------|--------------|------------|
| 802.11n (HT20) | 1 | 2.412 GHz | Fig.A.6.1.49 | P |
| | | 30 MHz ~ 1 GHz | Fig.A.6.1.50 | P |
| | | 1 GHz ~ 2.5 GHz | Fig.A.6.1.51 | P |
| | | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.52 | P |
| | | 7.5 GHz ~ 10 GHz | Fig.A.6.1.53 | P |
| | | 10 GHz ~ 15 GHz | Fig.A.6.1.54 | P |
| | | 15 GHz ~ 20 GHz | Fig.A.6.1.55 | P |
| | | 20 GHz ~ 26 GHz | Fig.A.6.1.56 | P |
| | 6 | 2.437 GHz | Fig.A.6.1.57 | P |
| | | 30 MHz ~ 1 GHz | Fig.A.6.1.58 | P |
| | | 1 GHz ~ 2.5 GHz | Fig.A.6.1.59 | P |
| | | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.60 | P |
| | | 7.5 GHz ~ 10 GHz | Fig.A.6.1.61 | P |
| | | 10 GHz ~ 15 GHz | Fig.A.6.1.62 | P |
| | | 15 GHz ~ 20 GHz | Fig.A.6.1.63 | P |
| | | 20 GHz ~ 26 GHz | Fig.A.6.1.64 | P |
| | 11 | 2.462 GHz | Fig.A.6.1.65 | P |
| | | 30 MHz ~ 1 GHz | Fig.A.6.1.66 | P |
| | | 1 GHz ~ 2.5 GHz | Fig.A.6.1.67 | P |
| | | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.68 | P |
| | | 7.5 GHz ~ 10 GHz | Fig.A.6.1.69 | P |
| | | 10 GHz ~ 15 GHz | Fig.A.6.1.70 | P |
| | | 15 GHz ~ 20 GHz | Fig.A.6.1.71 | P |
| | | 20 GHz ~ 26 GHz | Fig.A.6.1.72 | P |

Conclusion: Pass

Measurement Uncertainty:

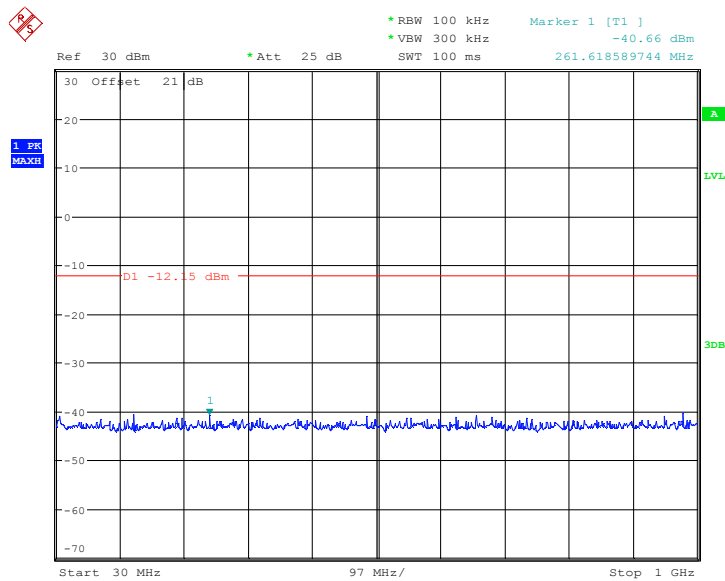
| Frequency Range | Uncertainty(dB) |
|------------------|-----------------|
| 30MHz ≤ f ≤ 2GHz | 0.63 |
| 2GHz ≤ f ≤3.6GHz | 0.82 |
| 3.6GHz ≤ f ≤8GHz | 1.55 |
| 8GHz ≤ f ≤20GHz | 1.86 |
| 20GHz ≤ f ≤22GHz | 1.90 |
| 22GHz ≤ f ≤26GHz | 2.20 |

Test graphs as below:



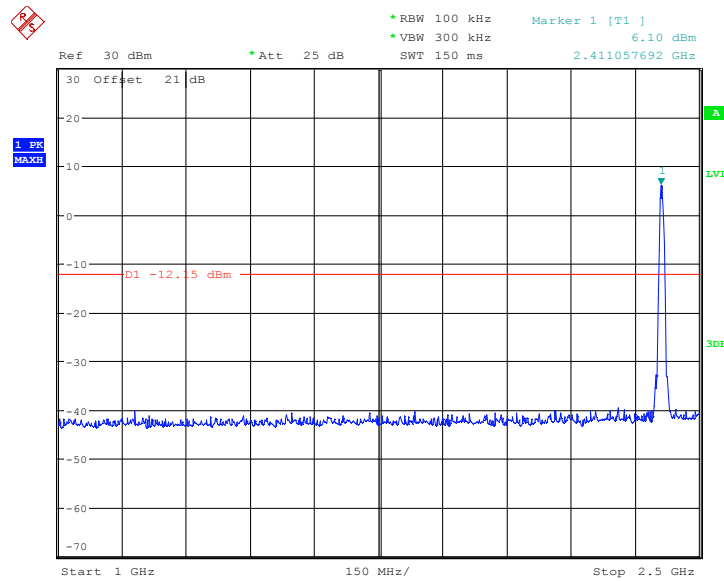
Date: 3.JUL.2013 15:36:41

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



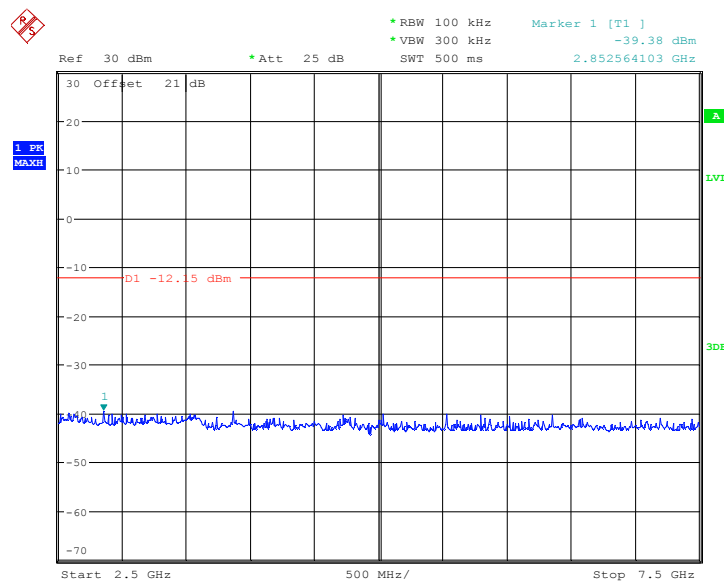
Date: 3.JUL.2013 15:36:59

Fig.A.6.1.2 Conducted Spurious Emission (802.11b, Ch1, 30 MHz-1 GHz)



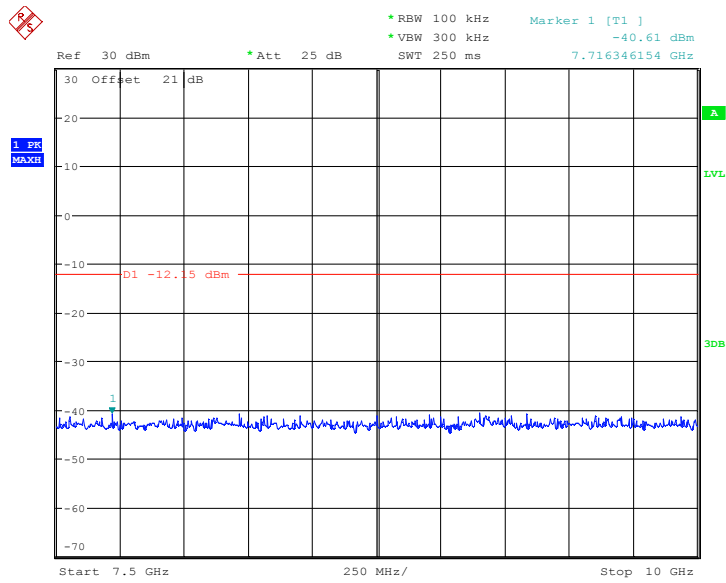
Date: 3.JUL.2013 15:42:26

Fig.A.6.1.3 Conducted Spurious Emission (802.11b, Ch1, 1 GHz-2.5 GHz)



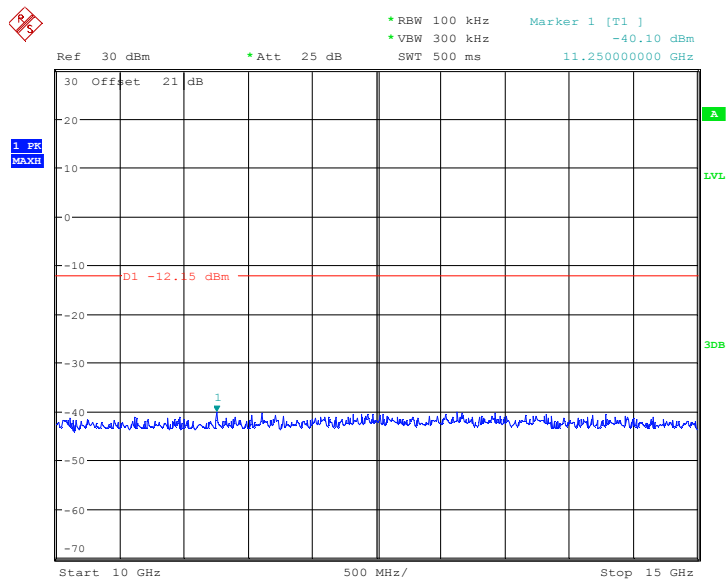
Date: 3.JUL.2013 15:42:53

Fig.A.6.1.4 Conducted Spurious Emission (802.11b, Ch1, 2.5 GHz-7.5 GHz)



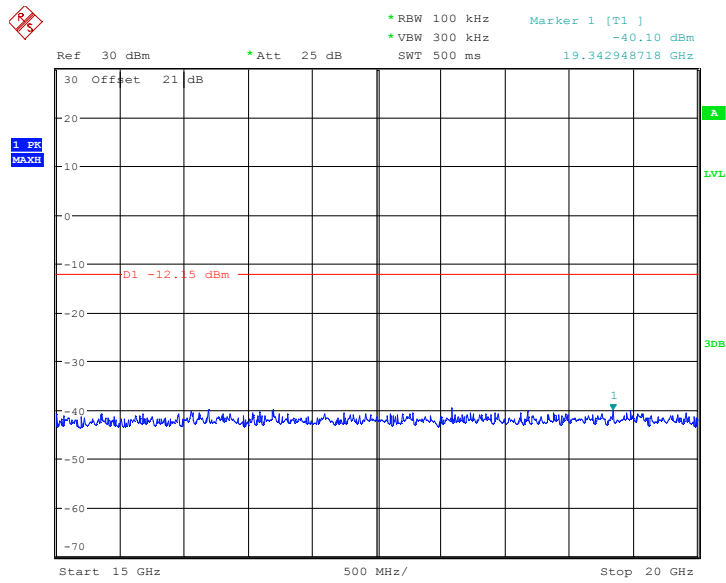
Date: 3.JUL.2013 15:43:13

Fig.A.6.1.5 Conducted Spurious Emission (802.11b, Ch1, 7.5 GHz-10 GHz)



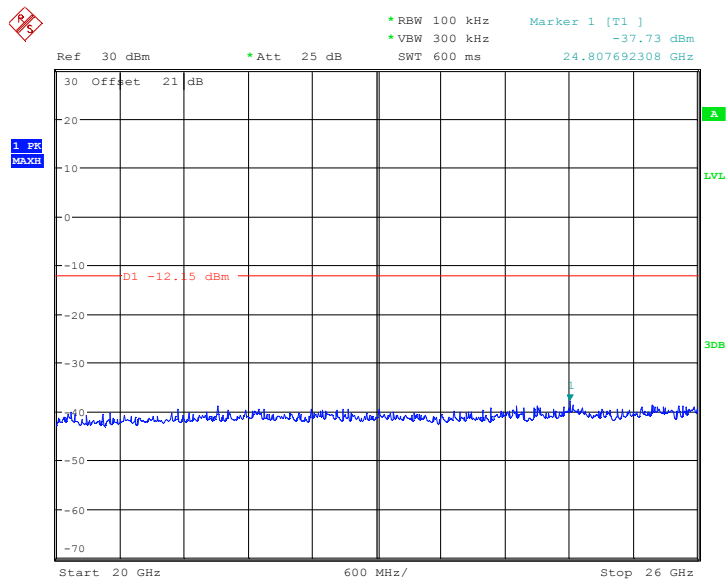
Date: 3.JUL.2013 15:43:32

Fig.A.6.1.6 Conducted Spurious Emission (802.11b, Ch1, 10 GHz-15 GHz)



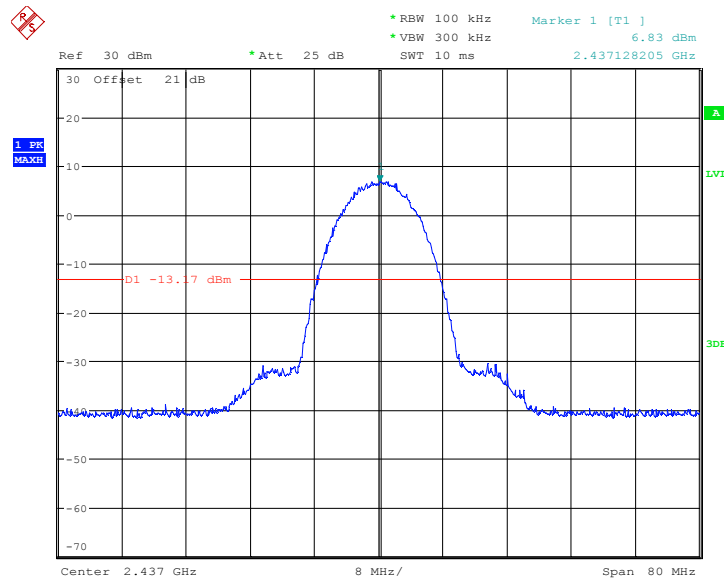
Date: 3.JUL.2013 15:43:49

Fig.A.6.1.7 Conducted Spurious Emission (802.11b, Ch1, 15 GHz-20 GHz)



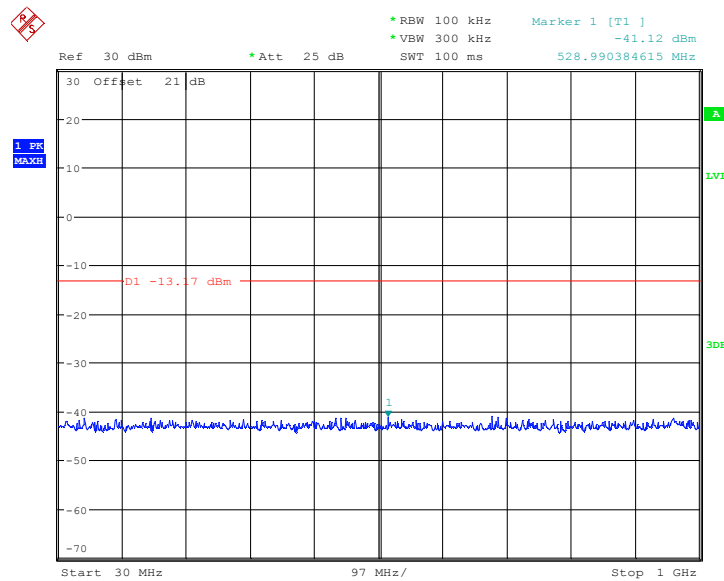
Date: 3.JUL.2013 15:44:12

Fig.A.6.1.8 Conducted Spurious Emission (802.11b, Ch1, 20 GHz-26 GHz)



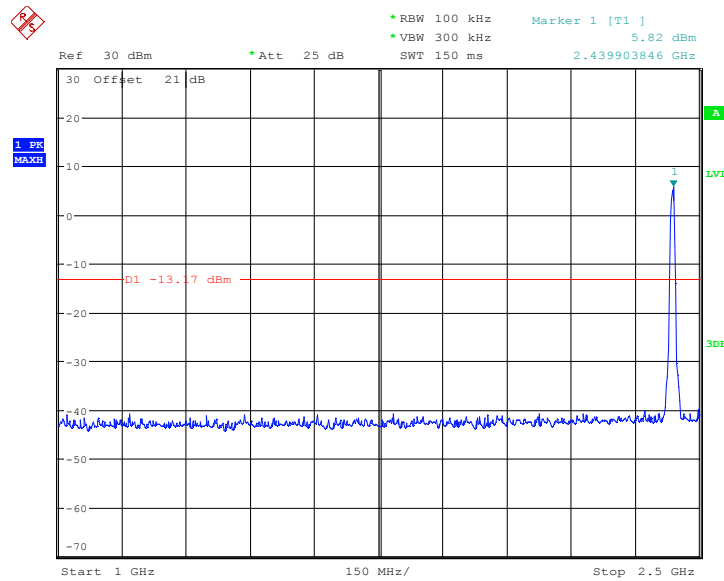
Date: 3.JUL.2013 15:54:53

Fig.A.6.1.9 Conducted Spurious Emission (802.11b, Ch6, Center Frequency)



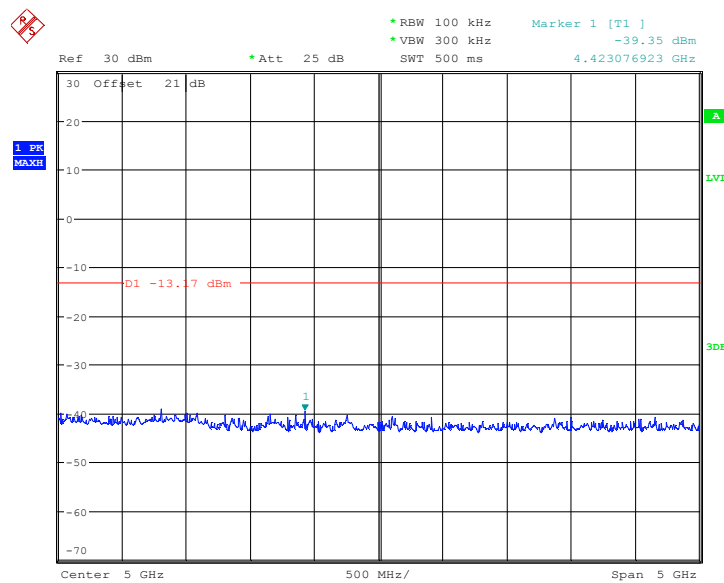
Date: 3.JUL.2013 15:55:18

Fig.A.6.1.10 Conducted Spurious Emission (802.11b, Ch6, 30 MHz-1 GHz)



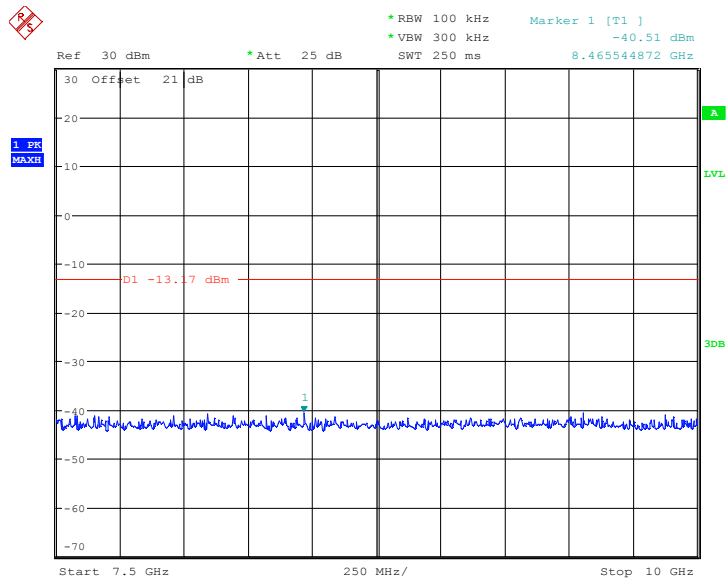
Date: 3.JUL.2013 15:55:33

Fig.A.6.1.11 Conducted Spurious Emission (802.11b, Ch6, 1 GHz-2.5 GHz)



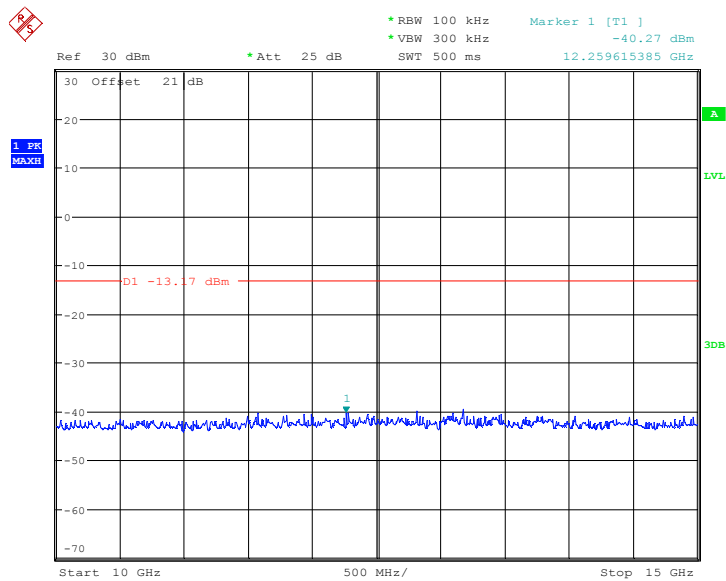
Date: 3.JUL.2013 15:55:59

Fig.A.6.1.12 Conducted Spurious Emission (802.11b, Ch6, 2.5 GHz-7.5 GHz)



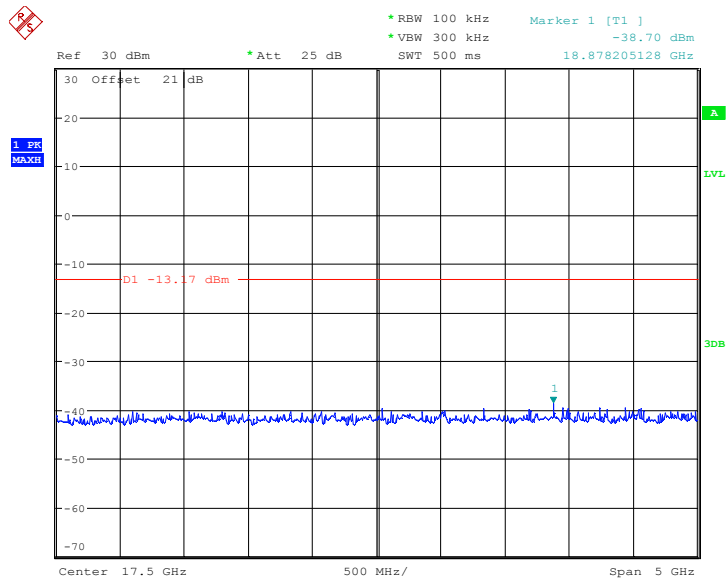
Date: 3.JUL.2013 15:56:21

Fig.A.6.1.13 Conducted Spurious Emission (802.11b, Ch6, 7.5 GHz-10 GHz)



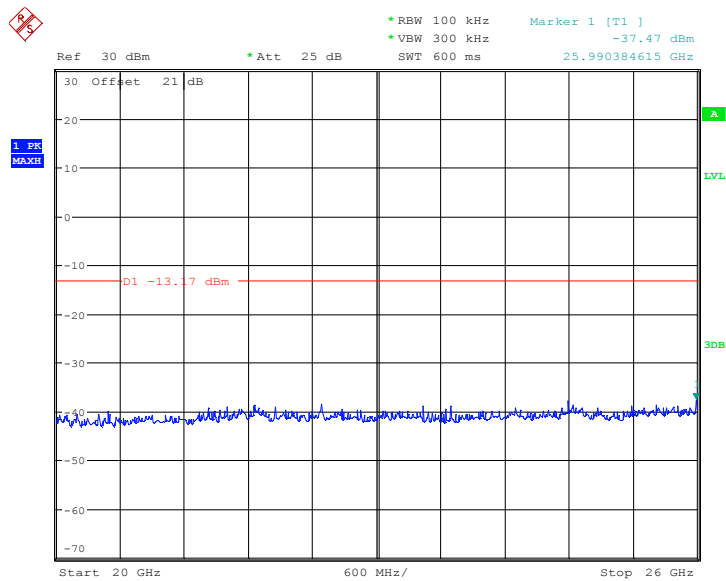
Date: 3.JUL.2013 15:56:37

Fig.A.6.1.14 Conducted Spurious Emission (802.11b, Ch6, 10 GHz-15 GHz)



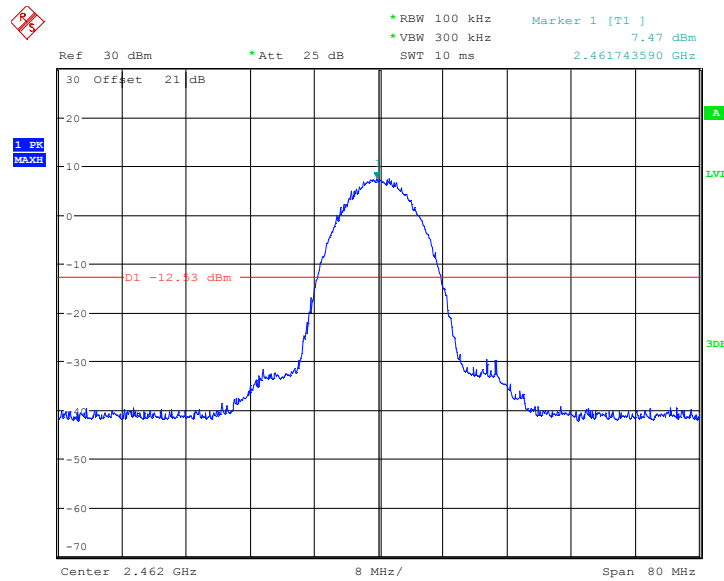
Date: 3.JUL.2013 15:57:03

Fig.A.6.1.15 Conducted Spurious Emission (802.11b, Ch6, 15 GHz-20 GHz)



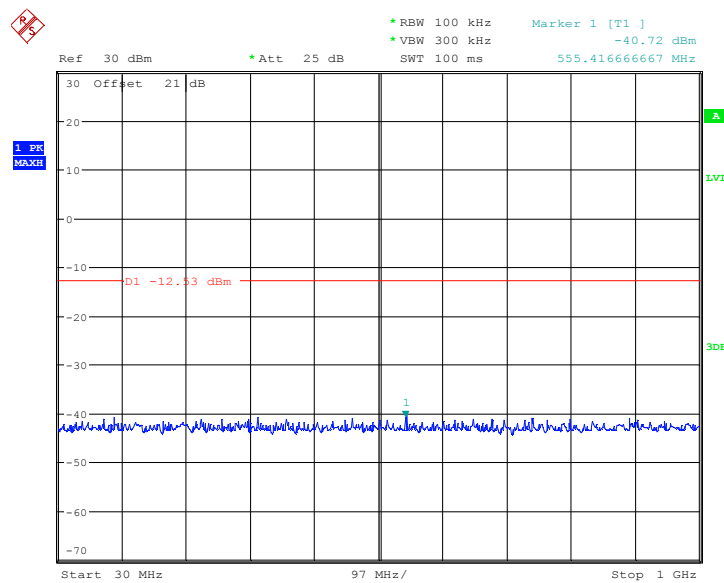
Date: 3.JUL.2013 15:57:22

Fig.A.6.1.16 Conducted Spurious Emission (802.11b, Ch6, 20 GHz-26 GHz)



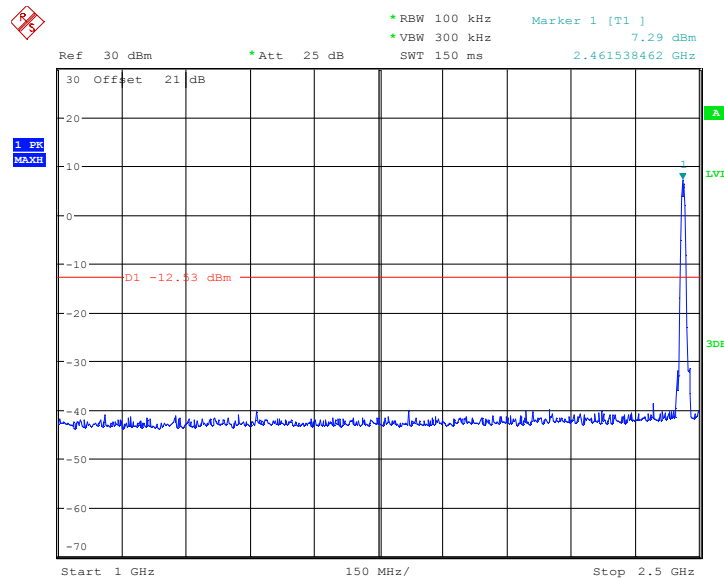
Date: 3.JUL.2013 15:58:26

Fig.A.6.1.17 Conducted Spurious Emission (802.11b, Ch11, Center Frequency)



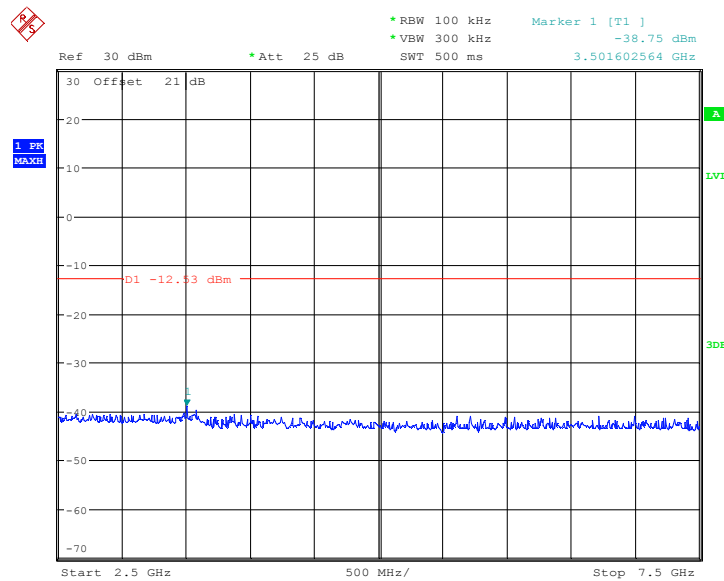
Date: 3.JUL.2013 15:58:45

Fig.A.6.1.18 Conducted Spurious Emission (802.11b, Ch11, 30 MHz-1 GHz)



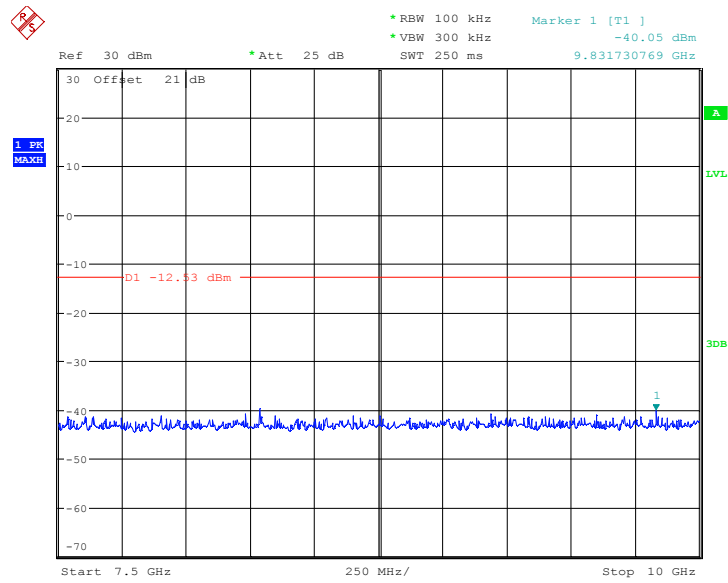
Date: 3.JUL.2013 15:59:08

Fig.A.6.1.19 Conducted Spurious Emission (802.11b, Ch11, 1 GHz-2.5 GHz)



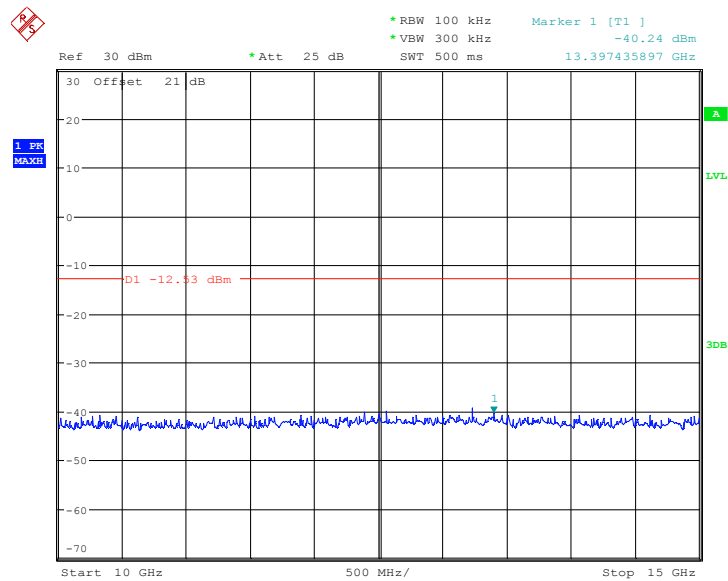
Date: 3.JUL.2013 15:59:30

Fig.A.6.1.20 Conducted Spurious Emission (802.11b, Ch11, 2.5 GHz-7.5 GHz)



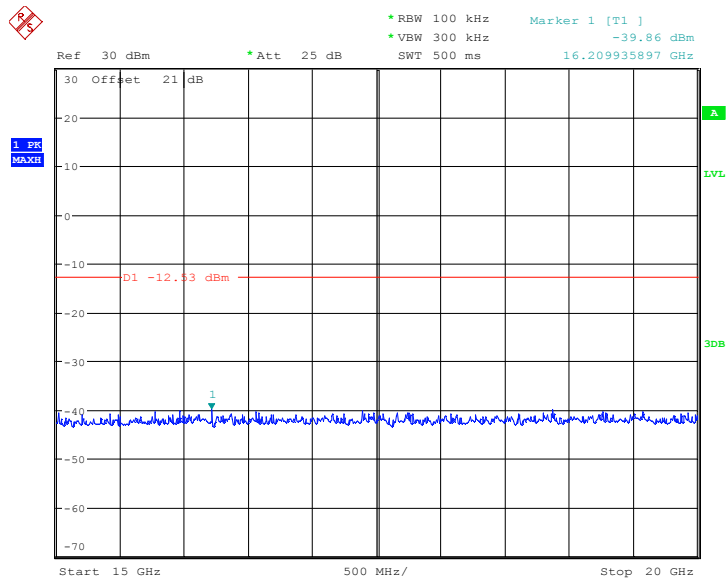
Date: 3.JUL.2013 15:59:47

Fig.A.6.1.21 Conducted Spurious Emission (802.11b, Ch11, 7.5 GHz-10 GHz)



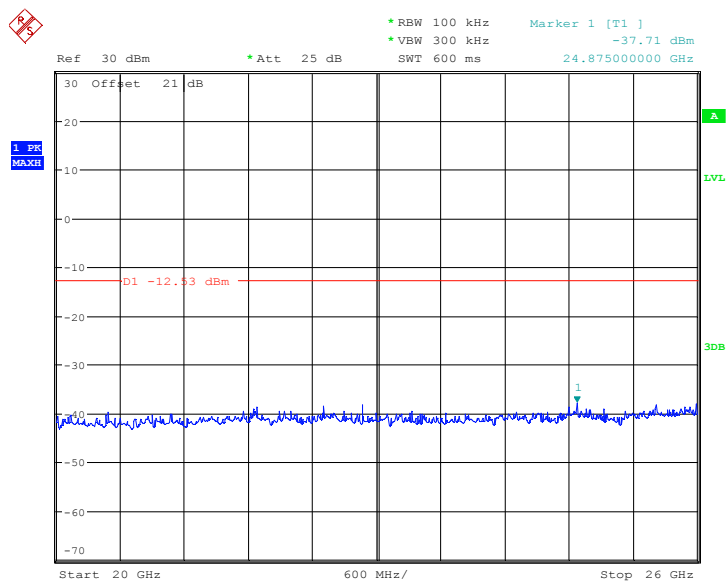
Date: 3.JUL.2013 16:00:09

Fig.A.6.1.22 Conducted Spurious Emission (802.11b, Ch11, 10 GHz-15 GHz)



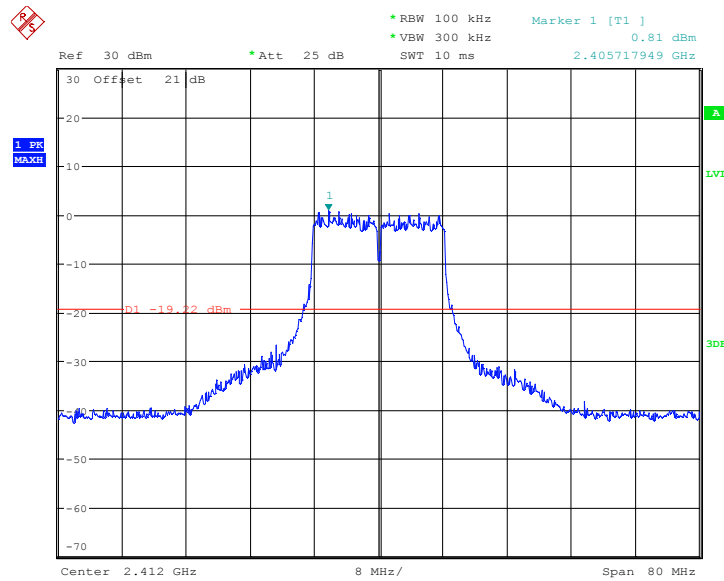
Date: 3.JUL.2013 16:00:27

Fig.A.6.1.23 Conducted Spurious Emission (802.11b, Ch11, 15 GHz-20 GHz)



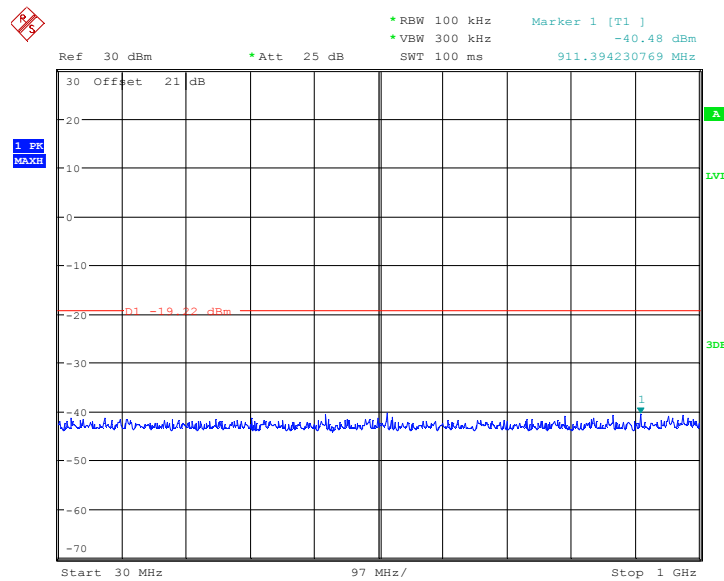
Date: 3.JUL.2013 16:00:45

Fig.A.6.1.24 Conducted Spurious Emission (802.11b, Ch11, 20 GHz-26 GHz)



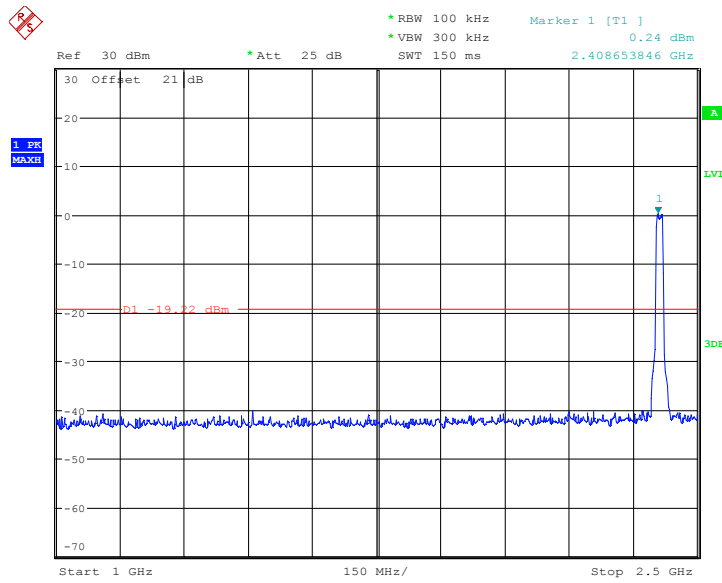
Date: 3.JUL.2013 16:02:40

Fig.A.6.1.25 Conducted Spurious Emission (802.11g, Ch1, Center Frequency)



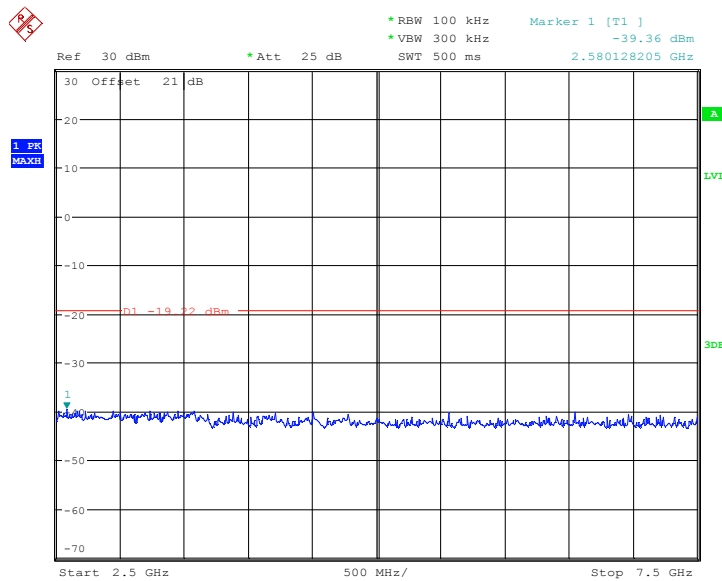
Date: 3.JUL.2013 16:02:59

Fig.A.6.1.26 Conducted Spurious Emission (802.11g, Ch1, 30 MHz-1 GHz)



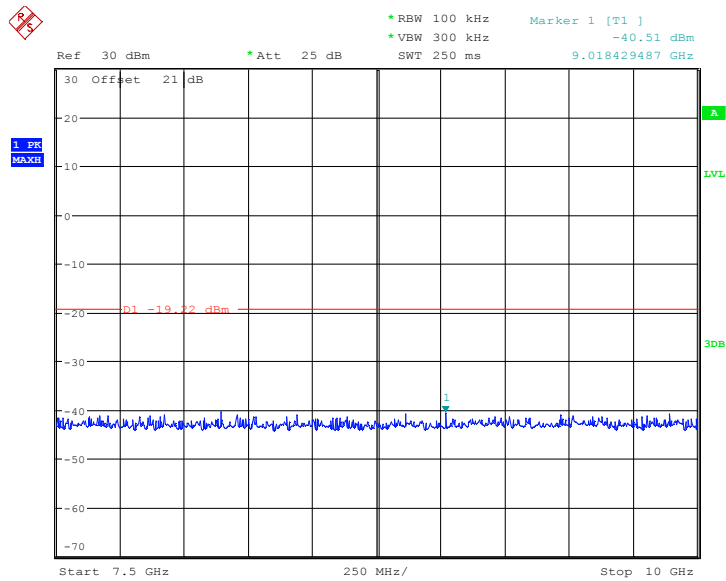
Date: 3.JUL.2013 16:03:18

Fig.A.6.1.27 Conducted Spurious Emission (802.11g, Ch1, 1 GHz-2.5 GHz)



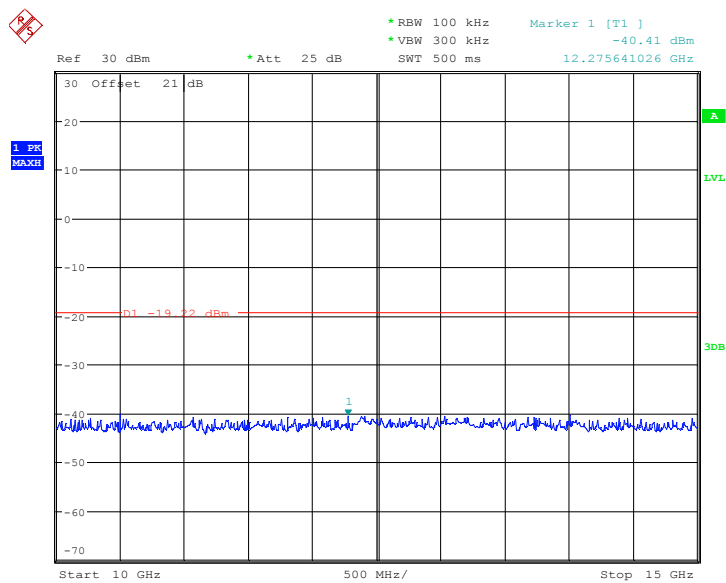
Date: 3.JUL.2013 16:04:04

Fig.A.6.1.28 Conducted Spurious Emission (802.11g, Ch1, 2.5 GHz-7.5 GHz)



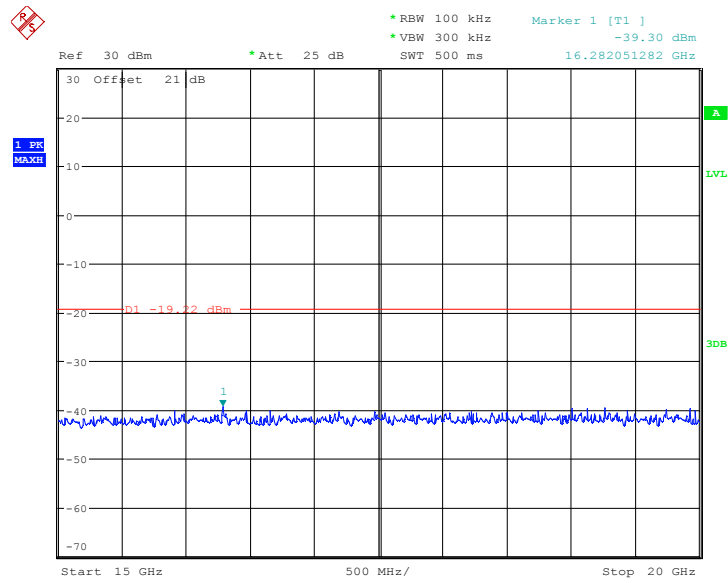
Date: 3.JUL.2013 16:04:32

Fig.A.6.1.29 Conducted Spurious Emission (802.11g, Ch1, 7.5 GHz-10 GHz)



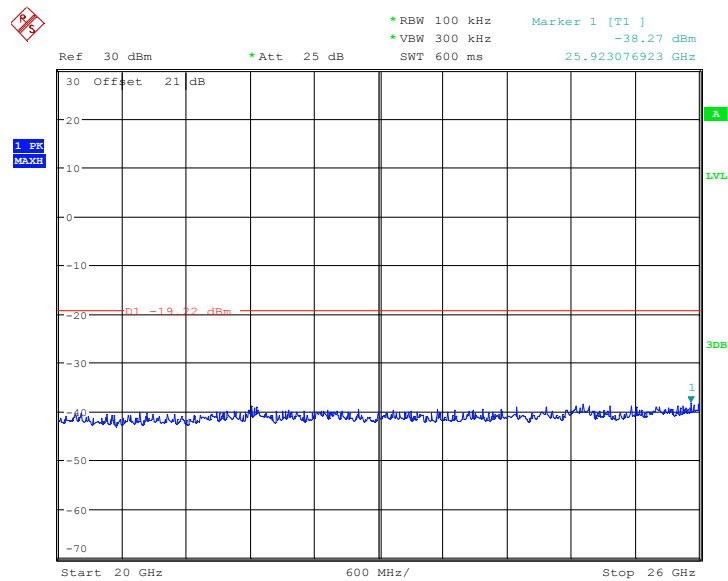
Date: 3.JUL.2013 16:04:49

Fig.A.6.1.30 Conducted Spurious Emission (802.11g, Ch1, 10 GHz-15 GHz)



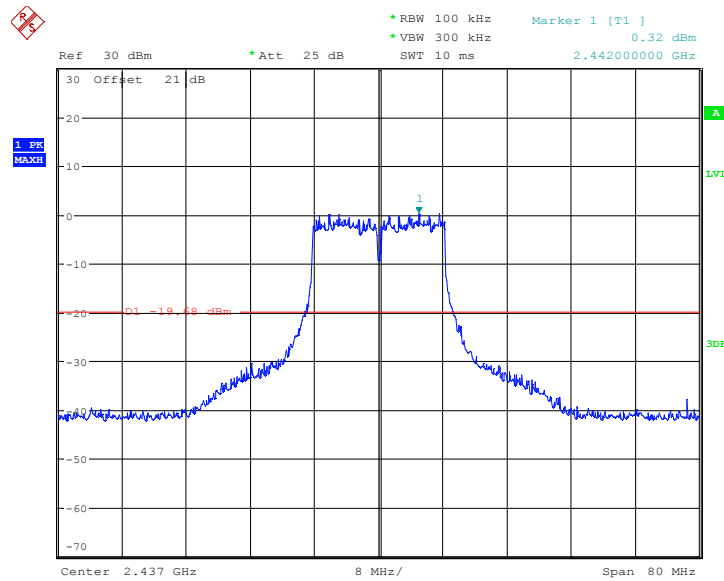
Date: 3.JUL.2013 16:05:09

Fig.A.6.1.31 Conducted Spurious Emission (802.11g, Ch1, 15 GHz-20 GHz)



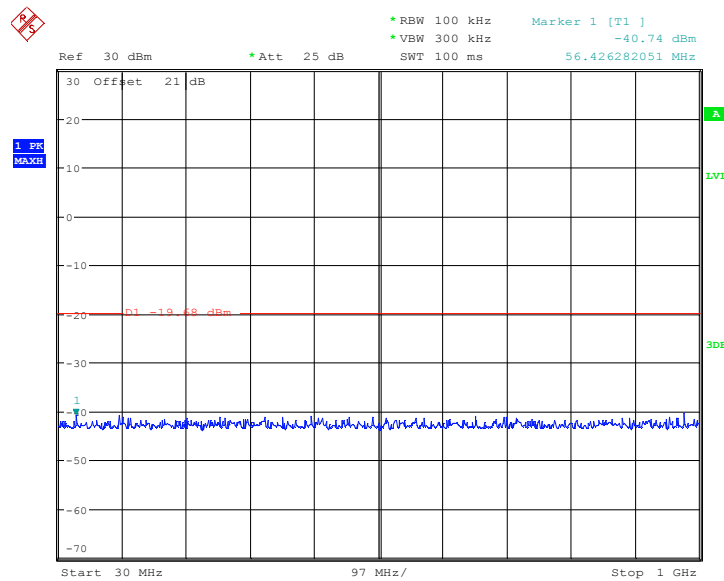
Date: 3.JUL.2013 16:05:28

Fig.A.6.1.32 Conducted Spurious Emission (802.11g, Ch1, 20 GHz-26 GHz)



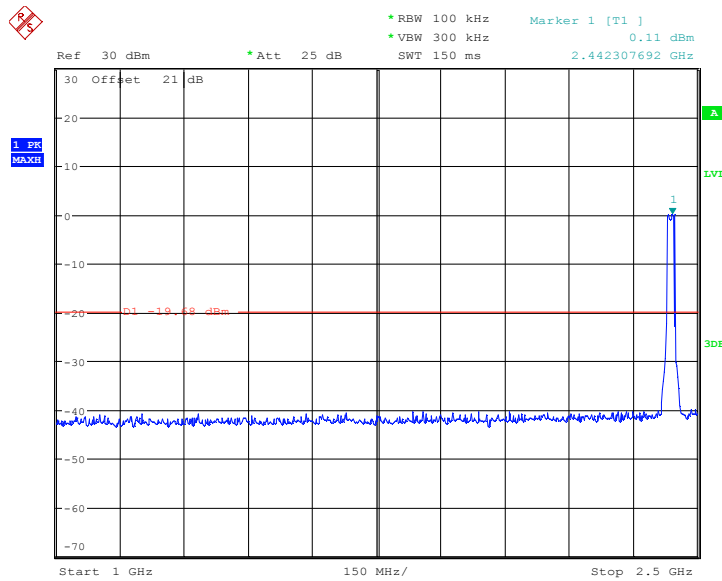
Date: 3.JUL.2013 16:10:52

Fig.A.6.1.33 Conducted Spurious Emission (802.11g, Ch6, Center Frequency)



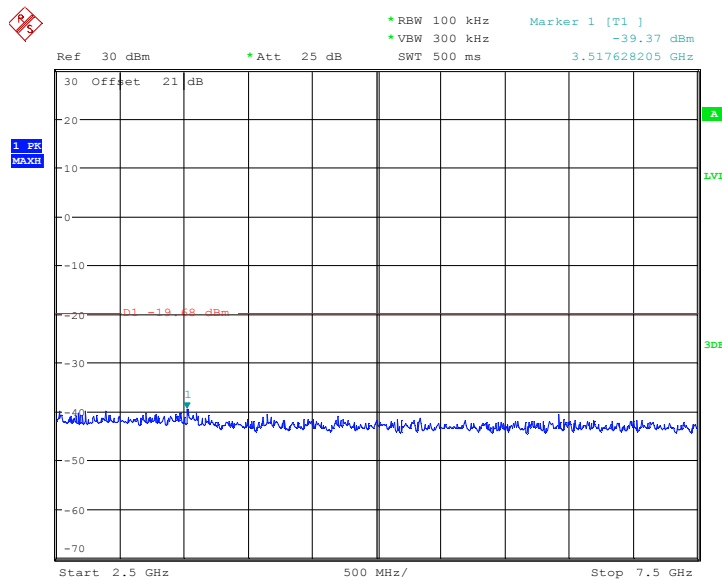
Date: 3.JUL.2013 16:11:17

Fig.A.6.1.34 Conducted Spurious Emission (802.11g, Ch6, 30 MHz-1 GHz)



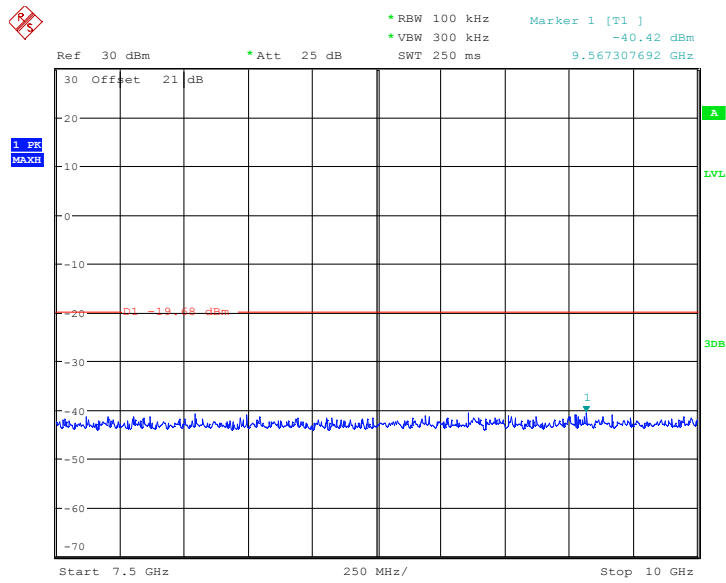
Date: 3.JUL.2013 16:11:57

Fig.A.6.1.35 Conducted Spurious Emission (802.11g, Ch6, 1 GHz-2.5 GHz)



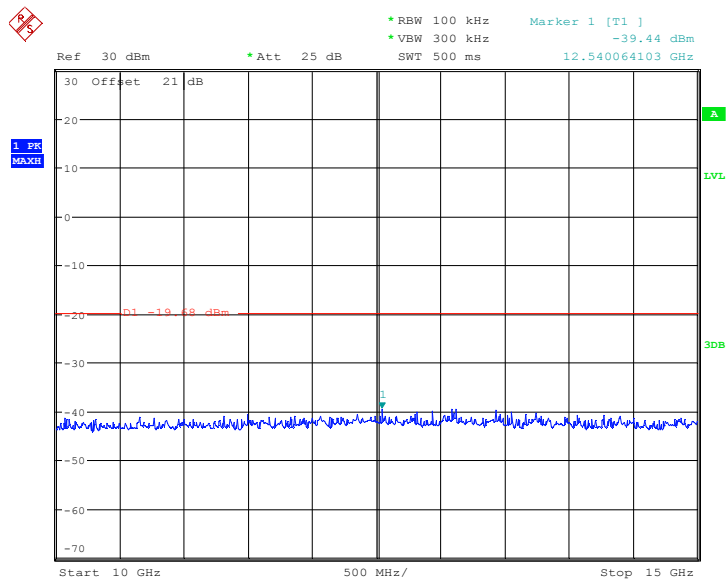
Date: 3.JUL.2013 16:12:15

Fig.A.6.1.36 Conducted Spurious Emission (802.11g, Ch6, 2.5 GHz-7.5 GHz)



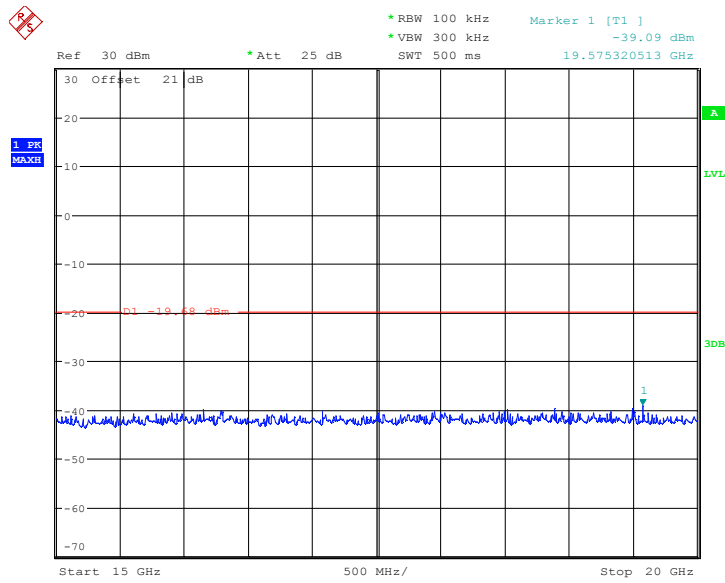
Date: 3.JUL.2013 16:12:35

Fig.A.6.1.37 Conducted Spurious Emission (802.11g, Ch6, 7.5 GHz-10 GHz)



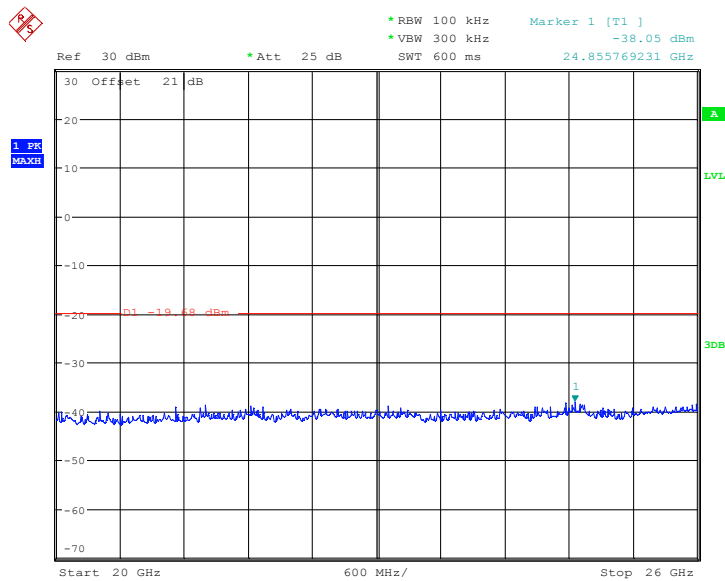
Date: 3.JUL.2013 16:12:53

Fig.A.6.1.38 Conducted Spurious Emission (802.11g, Ch6, 10 GHz-15 GHz)



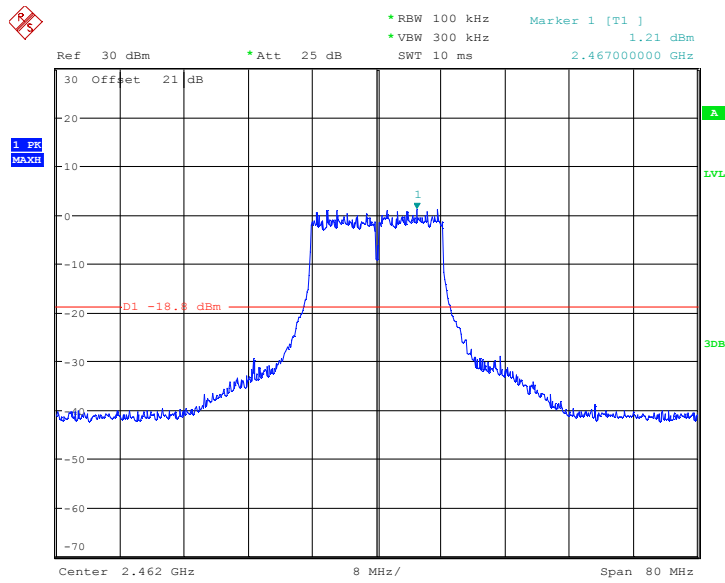
Date: 3.JUL.2013 16:13:10

Fig.A.6.1.39 Conducted Spurious Emission (802.11g, Ch6, 15 GHz-20 GHz)



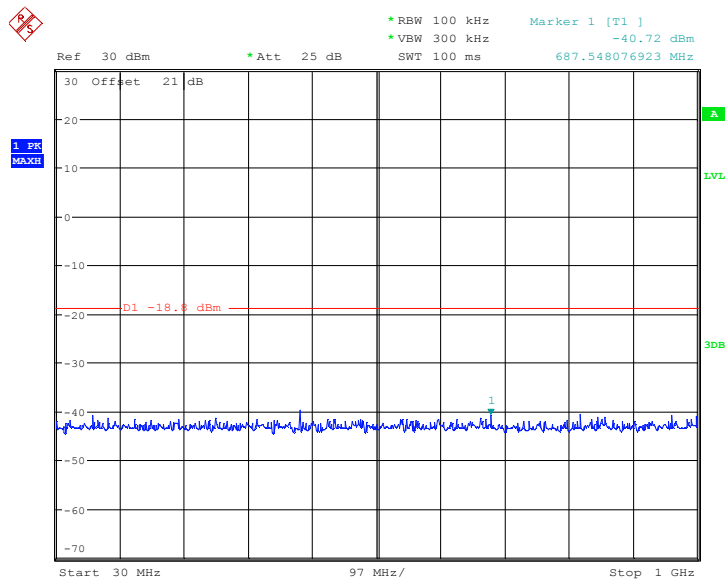
Date: 3.JUL.2013 16:13:37

Fig.A.6.1.40 Conducted Spurious Emission (802.11g, Ch6, 20 GHz-26 GHz)



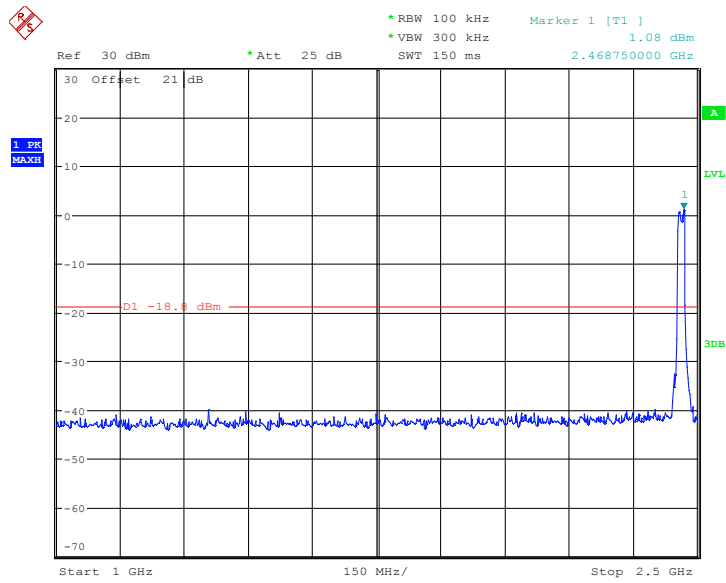
Date: 3.JUL.2013 16:14:28

Fig.A.6.1.41 Conducted Spurious Emission (802.11g, Ch11, Center Frequency)



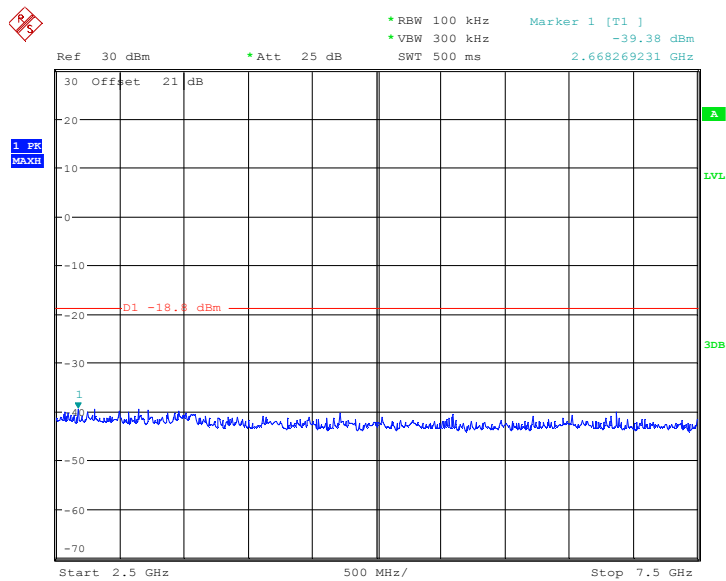
Date: 3.JUL.2013 16:14:44

Fig.A.6.1.42 Conducted Spurious Emission (802.11g, Ch11, 30 MHz-1 GHz)



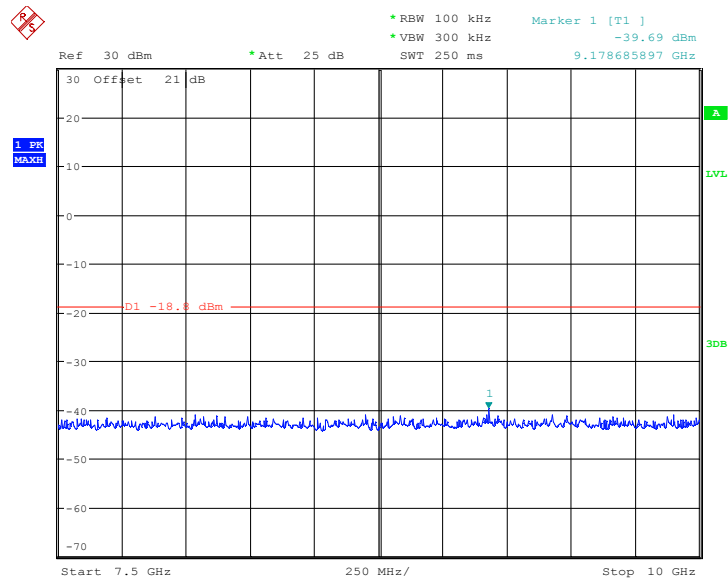
Date: 3.JUL.2013 16:15:01

Fig.A.6.1.43 Conducted Spurious Emission (802.11g, Ch11, 1 GHz-2.5 GHz)



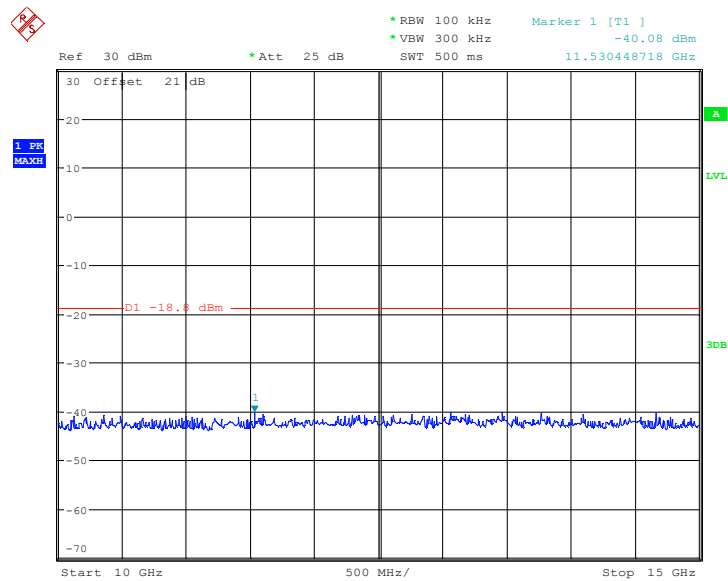
Date: 3.JUL.2013 16:15:24

Fig.A.6.1.44 Conducted Spurious Emission (802.11g, Ch11, 2.5 GHz-7.5 GHz)



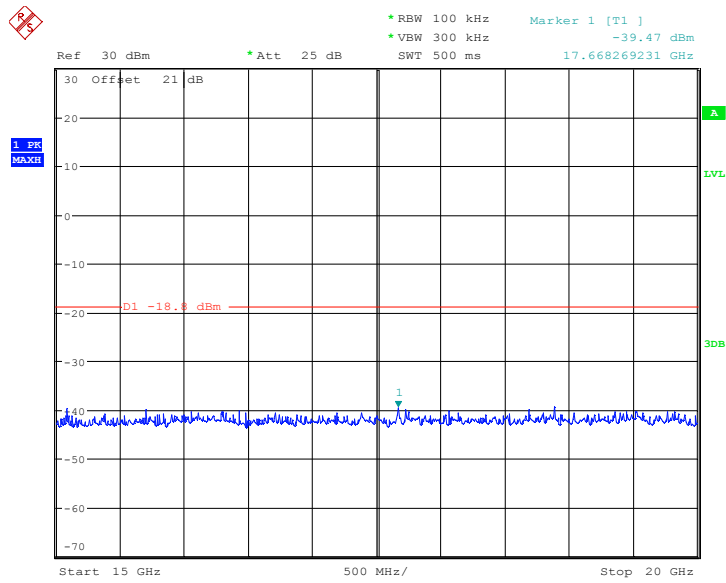
Date: 3.JUL.2013 16:15:44

Fig.A.6.1.45 Conducted Spurious Emission (802.11g, Ch11, 7.5 GHz-10 GHz)



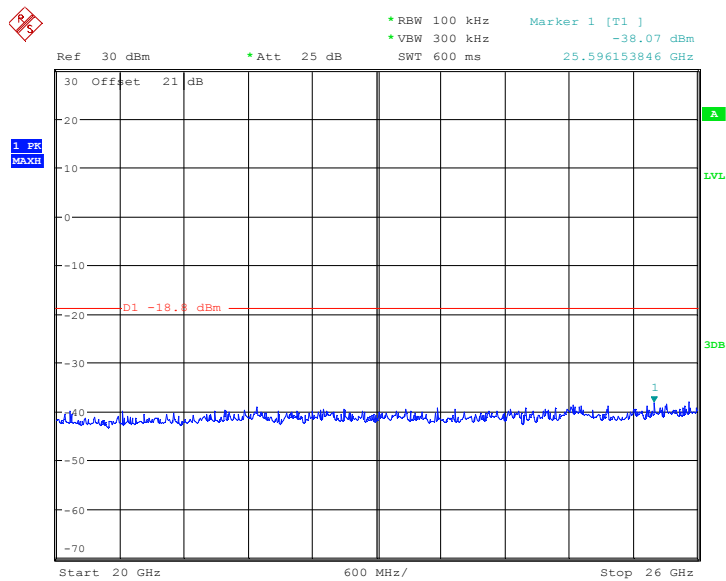
Date: 3.JUL.2013 16:16:01

Fig.A.6.1.46 Conducted Spurious Emission (802.11g, Ch11, 10 GHz-15 GHz)



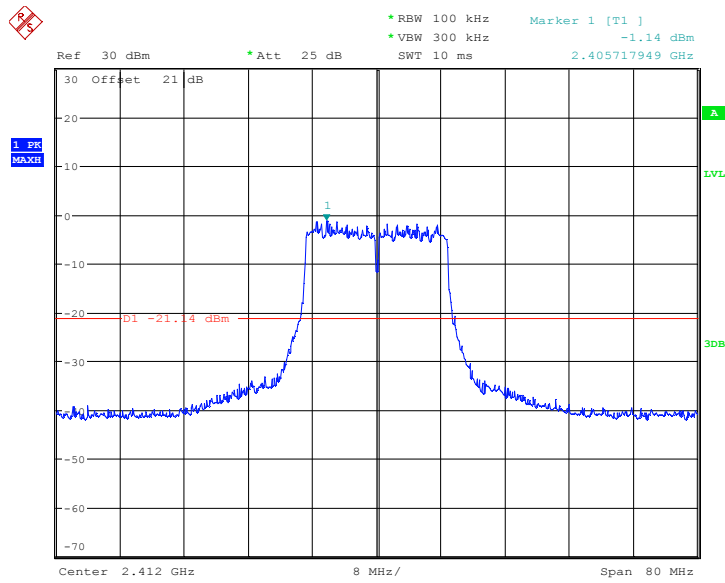
Date: 3.JUL.2013 16:16:18

Fig.A.6.1.47 Conducted Spurious Emission (802.11g, Ch11, 15 GHz-20 GHz)



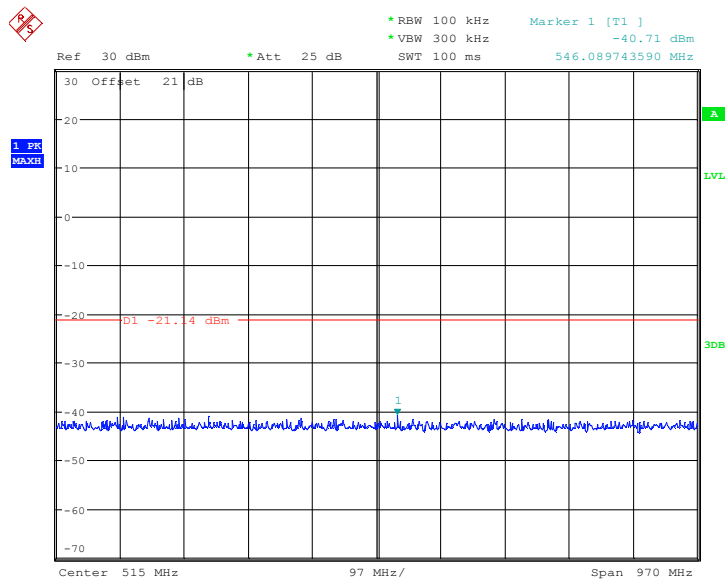
Date: 3.JUL.2013 16:16:35

Fig.A.6.1.48 Conducted Spurious Emission (802.11g, Ch11, 20 GHz-26 GHz)



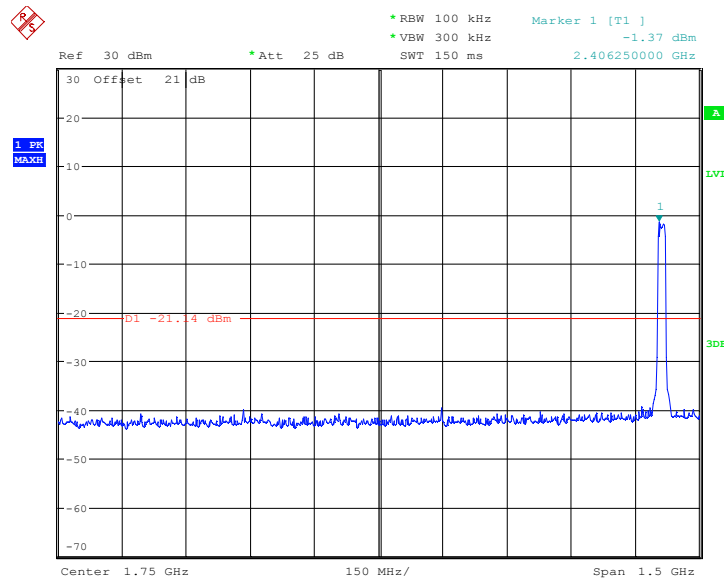
Date: 3.JUL.2013 16:18:29

Fig.A.6.1.49 Conducted Spurious Emission (802.11n-HT20, Ch1, Center Frequency)



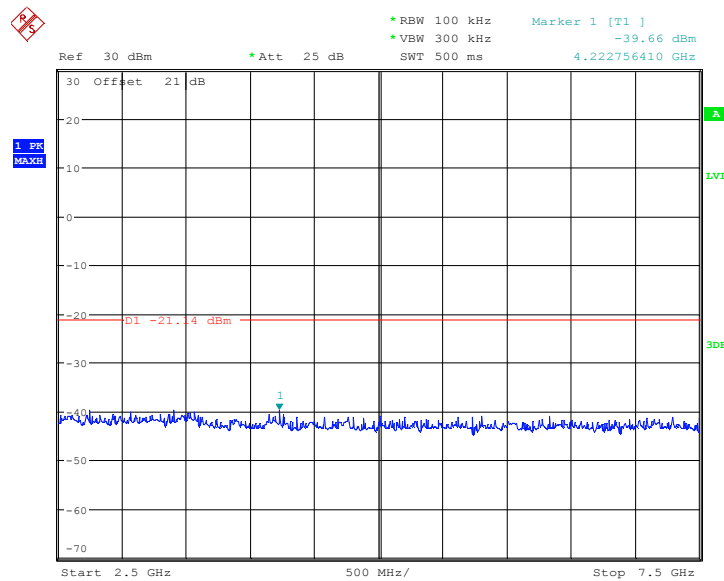
Date: 3.JUL.2013 16:18:44

Fig.A.6.1.50 Conducted Spurious Emission (802.11n-HT20, Ch1, 30 MHz-1 GHz)



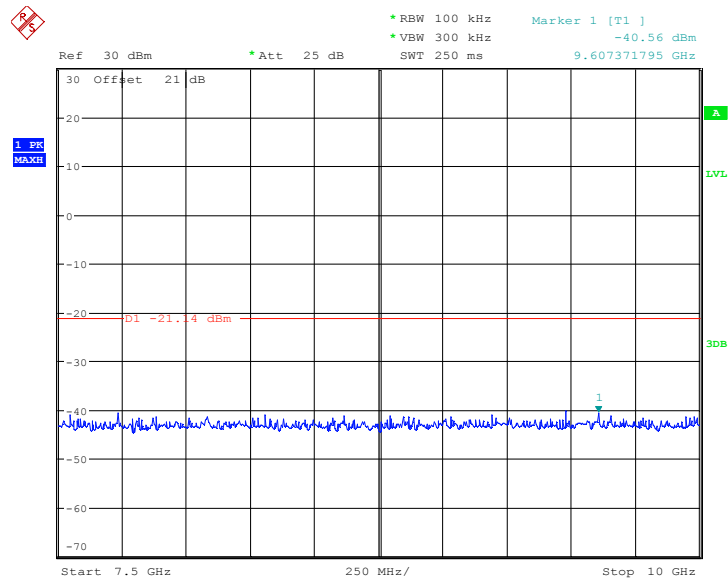
Date: 3.JUL.2013 16:19:08

Fig.A.6.1.51 Conducted Spurious Emission (802.11n-HT20, Ch1, 1 GHz-2.5 GHz)



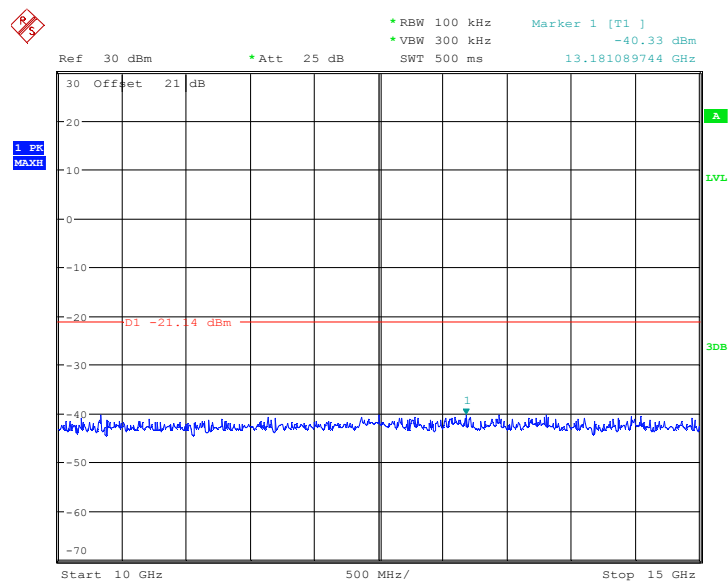
Date: 3.JUL.2013 16:19:26

Fig.A.6.1.52 Conducted Spurious Emission (802.11n-HT20, Ch1, 2.5 GHz-7.5 GHz)



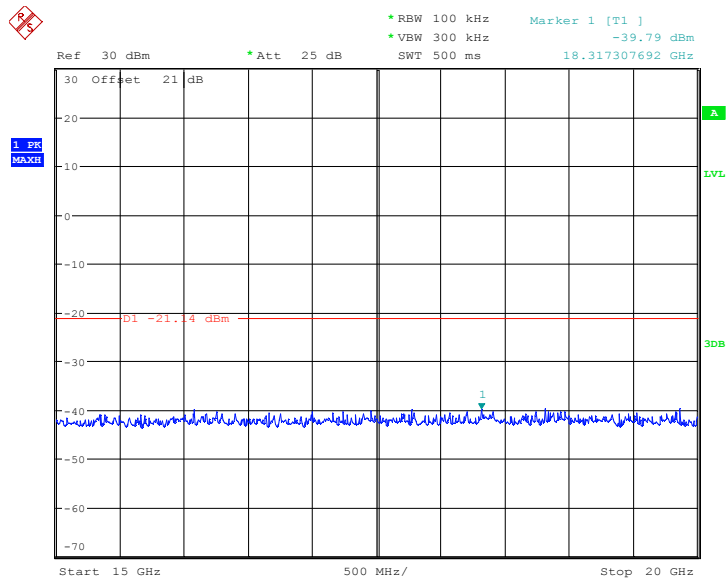
Date: 3.JUL.2013 16:19:41

Fig.A.6.1.53 Conducted Spurious Emission (802.11n-HT20, Ch1, 7.5 GHz-10 GHz)



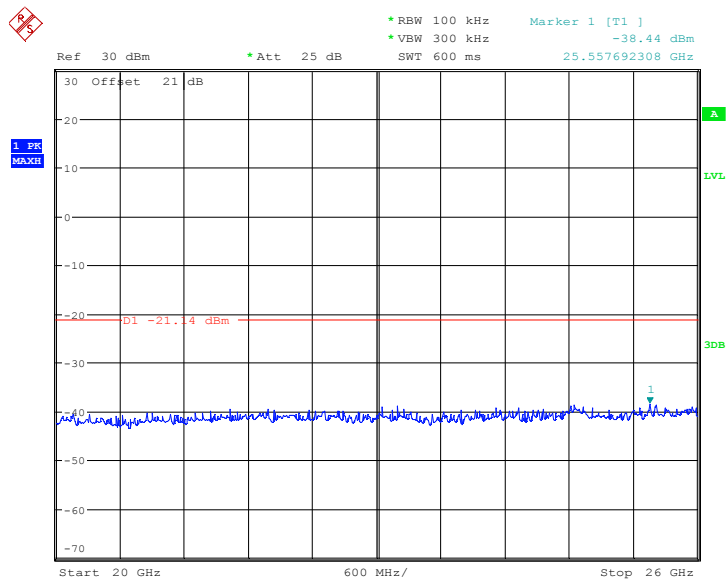
Date: 3.JUL.2013 16:19:57

Fig.A.6.1.54 Conducted Spurious Emission (802.11n-HT20, Ch1, 10 GHz-15 GHz)



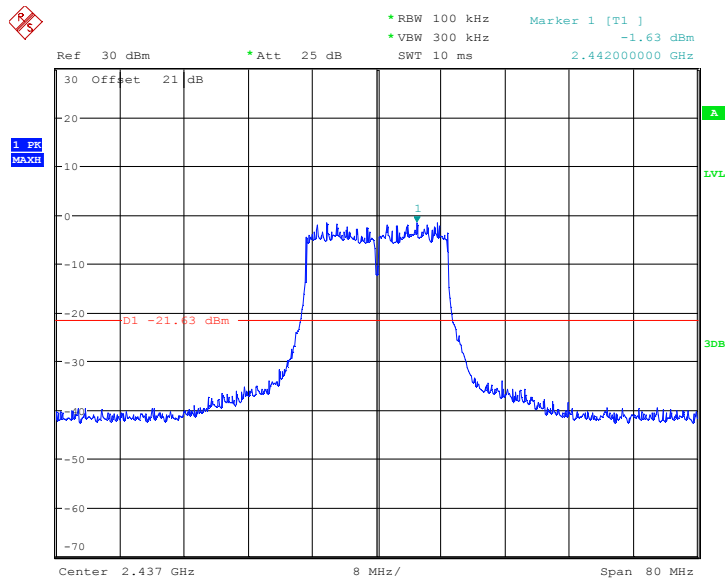
Date: 3.JUL.2013 16:20:11

Fig.A.6.1.55 Conducted Spurious Emission (802.11n-HT20, Ch1, 15 GHz-20 GHz)



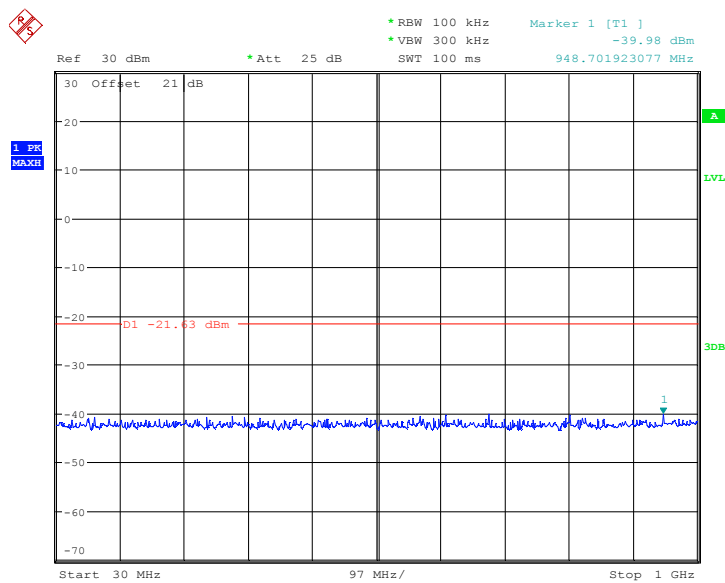
Date: 3.JUL.2013 16:20:28

Fig.A.6.1.56 Conducted Spurious Emission (802.11n-HT20, Ch1, 20 GHz-26 GHz)



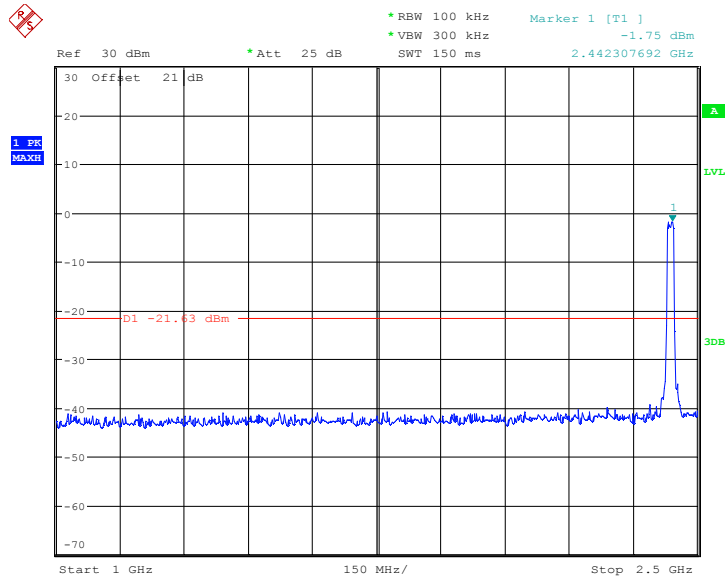
Date: 3.JUL.2013 16:35:15

Fig.A.6.1.57 Conducted Spurious Emission (802.11n-HT20, Ch6, Center Frequency)



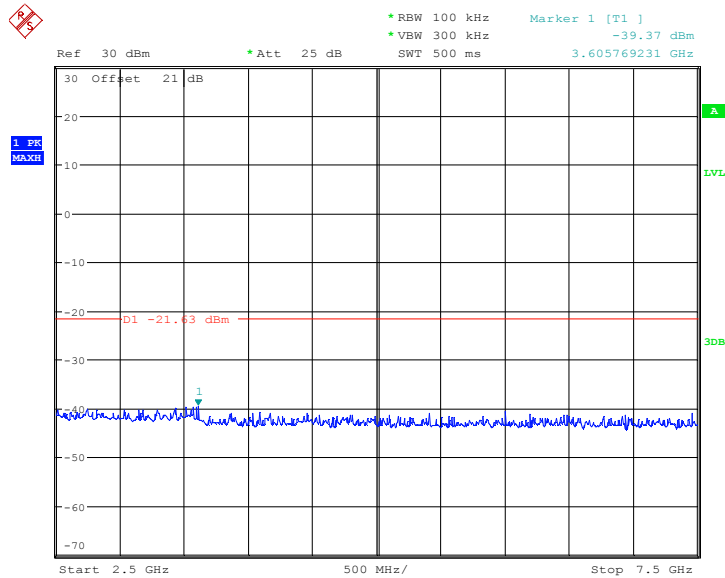
Date: 3.JUL.2013 16:36:06

Fig.A.6.1.58 Conducted Spurious Emission (802.11n-HT20, Ch6, 30 MHz-1 GHz)



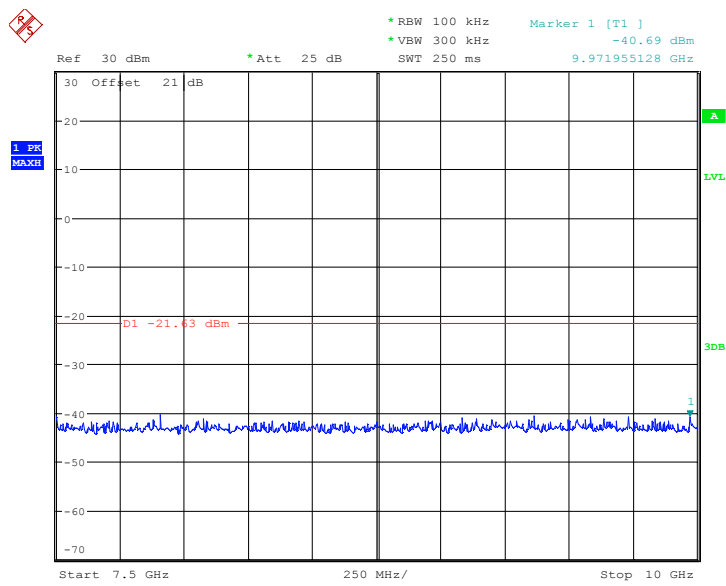
Date: 3.JUL.2013 16:36:23

Fig.A.6.1.59 Conducted Spurious Emission (802.11n-HT20, Ch6, 1 GHz-2.5 GHz)



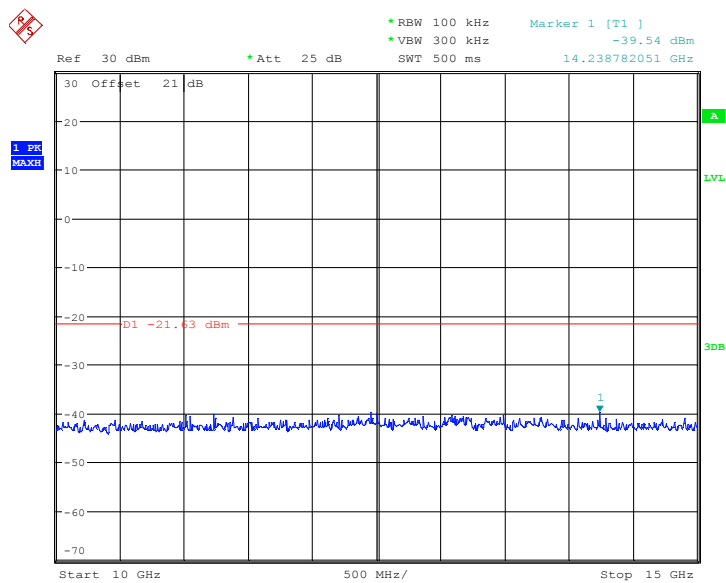
Date: 3.JUL.2013 16:36:41

Fig.A.6.1.60 Conducted Spurious Emission (802.11n-HT20, Ch6, 2.5 GHz-7.5 GHz)



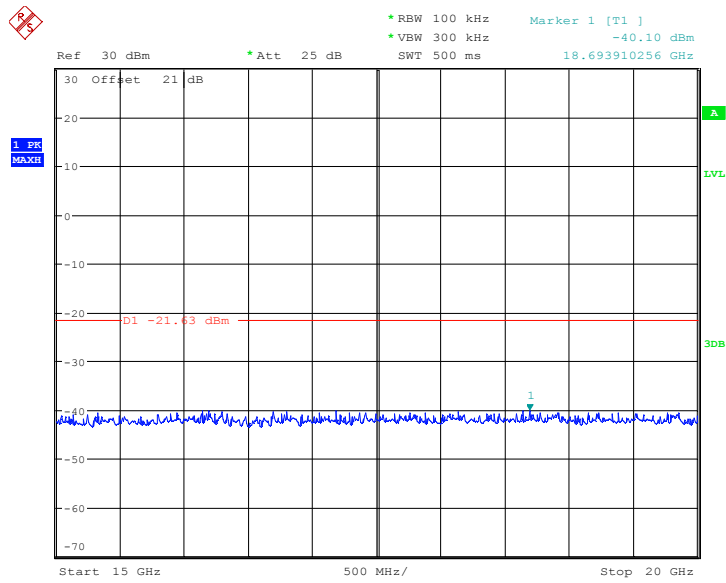
Date: 3.JUL.2013 16:37:00

Fig.A.6.1.61 Conducted Spurious Emission (802.11n-HT20, Ch6, 7.5 GHz-10 GHz)



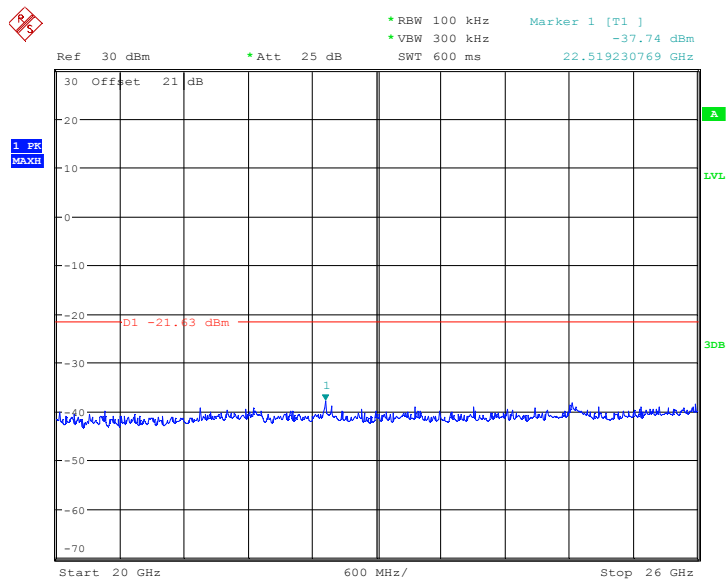
Date: 3.JUL.2013 16:37:16

Fig.A.6.1.62 Conducted Spurious Emission (802.11n-HT20, Ch6, 10 GHz-15 GHz)



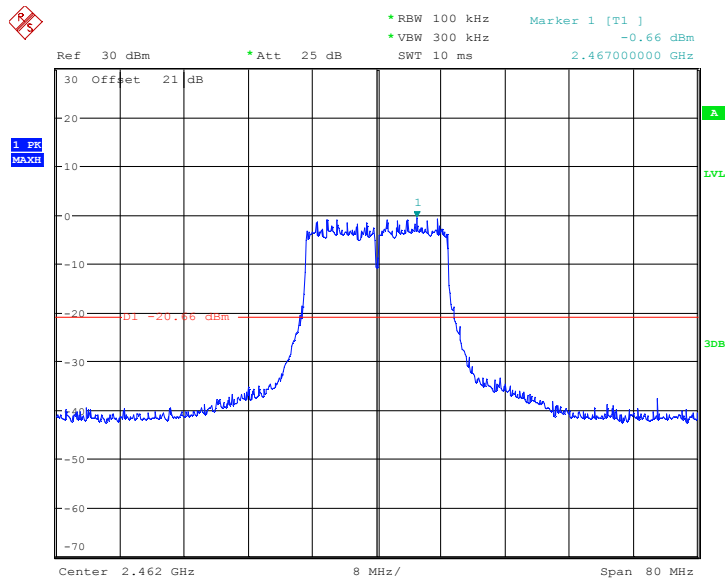
Date: 3.JUL.2013 16:37:34

Fig.A.6.1.63 Conducted Spurious Emission (802.11n-HT20, Ch6, 15 GHz-20 GHz)



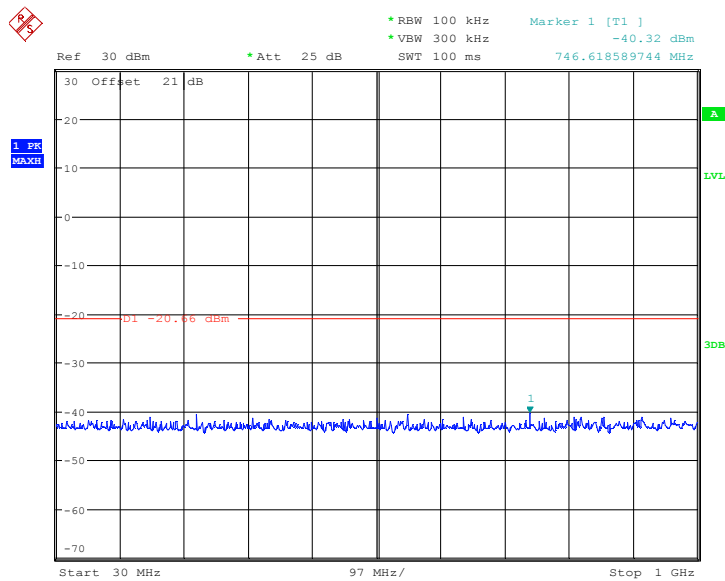
Date: 3.JUL.2013 16:37:51

Fig.A.6.1.64 Conducted Spurious Emission (802.11n-HT20, Ch6, 20 GHz-26 GHz)



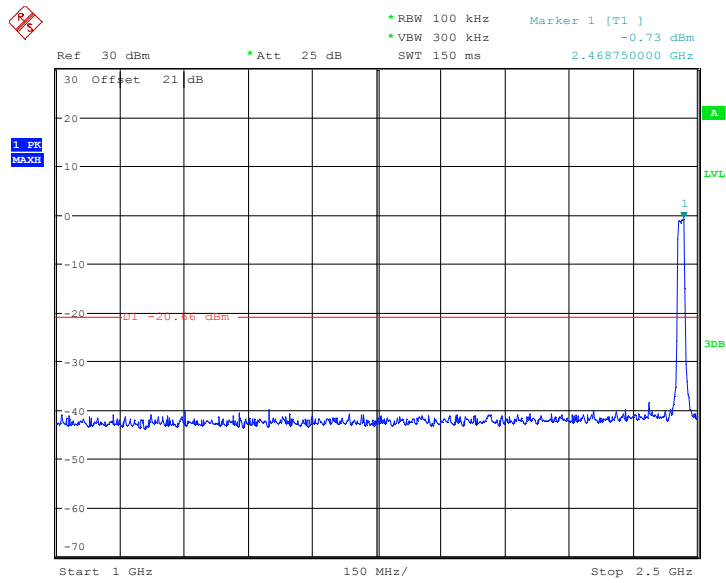
Date: 3.JUL.2013 16:38:47

Fig.A.6.1.65 Conducted Spurious Emission (802.11n-HT20, Ch11, Center Frequency)



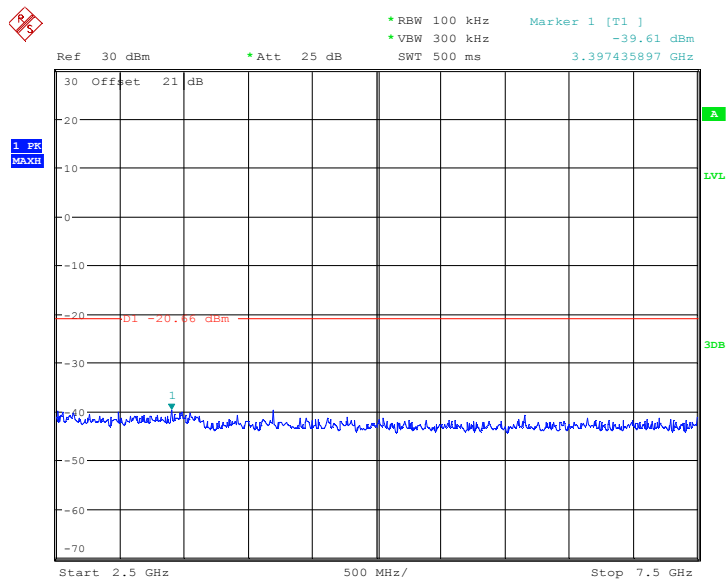
Date: 3.JUL.2013 16:39:01

Fig.A.6.1.66 Conducted Spurious Emission (802.11n-HT20, Ch11, 30 MHz-1 GHz)



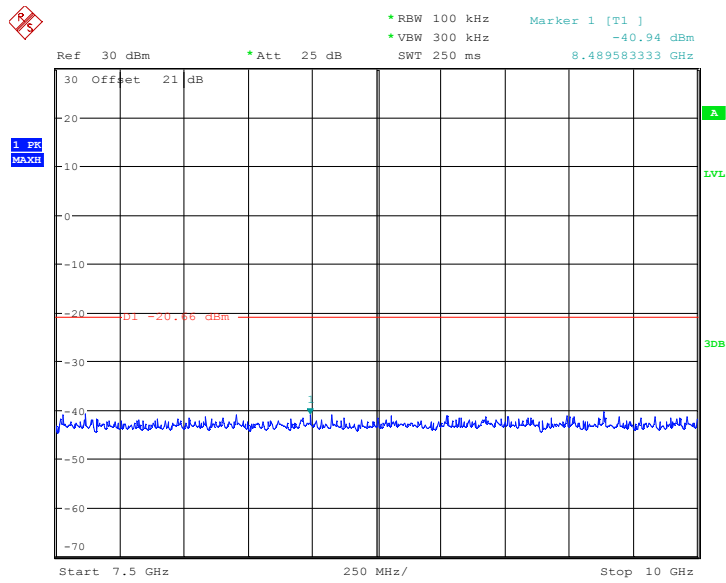
Date: 3.JUL.2013 16:39:24

Fig.A.6.1.67 Conducted Spurious Emission (802.11n-HT20, Ch11, 1 GHz-2.5 GHz)



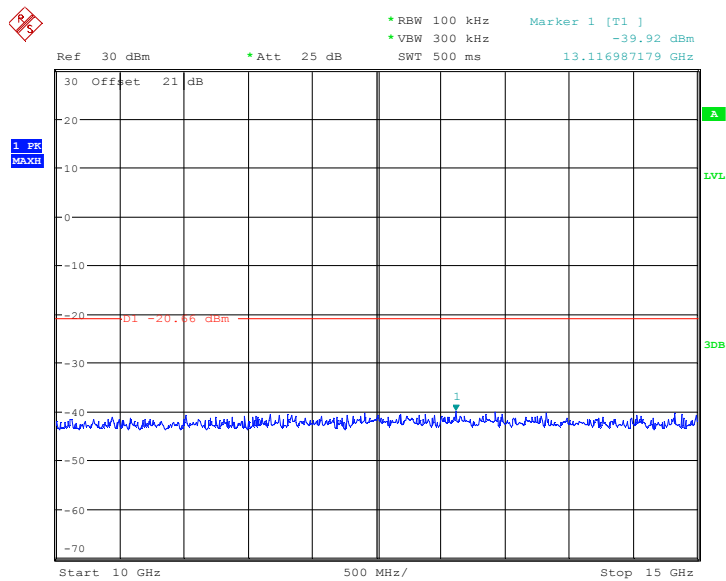
Date: 3.JUL.2013 16:39:44

Fig.A.6.1.68 Conducted Spurious Emission (802.11n-HT20, Ch11, 2.5 GHz-7.5 GHz)



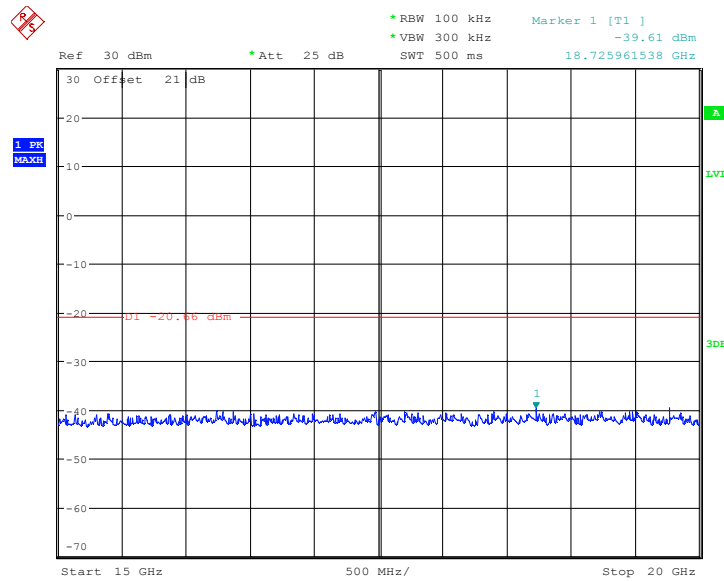
Date: 3.JUL.2013 16:40:02

Fig.A.6.1.69 Conducted Spurious Emission (802.11n-HT20, Ch11, 7.5 GHz-10 GHz)



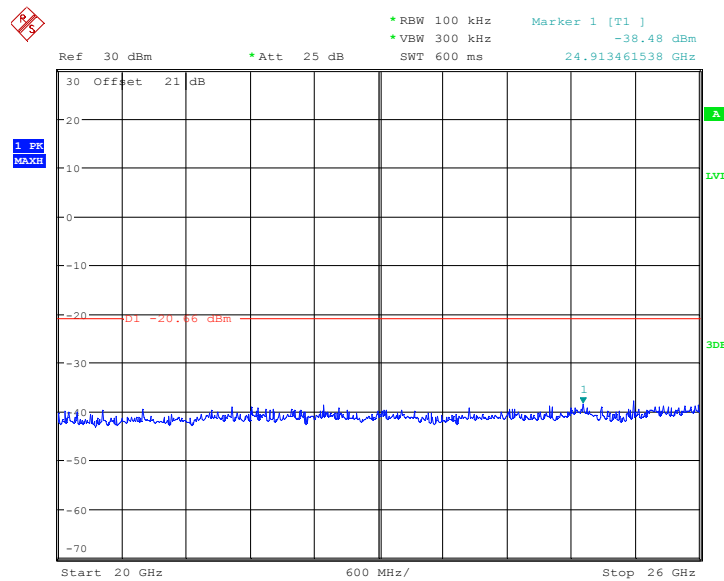
Date: 3.JUL.2013 16:40:21

Fig.A.6.1.70 Conducted Spurious Emission (802.11n-HT20, Ch11, 10 GHz-15 GHz)



Date: 3.JUL.2013 16:40:39

Fig.A.6.1.71 Conducted Spurious Emission (802.11n-HT20, Ch11, 15 GHz-20 GHz)



Date: 3.JUL.2013 16:40:56

Fig.A.6.1.72 Conducted Spurious Emission (802.11n-HT20, Ch11, 20 GHz-26 GHz)

A.6.2 Transmitter Spurious Emission - Radiated

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)). The measurement is made according to KDB558074.

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 |

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

Modulation type and data rate tested:

| | | |
|-------------|--------------|--------------|
| 802.11b | 802.11g | 802.11n-HT20 |
| 11Mbps(CCK) | 48Mbps(OFDM) | MCS6(OFDM) |

Measurement Results:

802.11b/g mode

| Mode | Channel | Frequency Range | Test Results | Conclusion |
|---------|---------|------------------|------------------|--------------|
| 802.11b | Power | 2.38GHz ~2.45GHz | Fig.A.6.2.1 | P |
| | 1 | 30 MHz ~1 GHz | Fig.A.6.2.2 | P |
| | | 1 GHz ~ 3 GHz | Fig.A.6.2.3 | P |
| | | 3 GHz ~ 18 GHz | Fig.A.6.2.4 | P |
| | 6 | 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 |
| | Power | 2.45GHz ~2.5GHz | Fig.A.6.2.8 | P |
| | 11 | 30 MHz ~1 GHz | Fig.A.6.2.9 | P |
| | | 1 GHz ~ 3 GHz | Fig.A.6.2.10 | P |
| | | 3 GHz ~ 18 GHz | Fig.A.6.2.11 | P |
| | 802.11g | Power | 2.38GHz ~2.43GHz | Fig.A.6.2.12 |
| 1 | | 30 MHz ~1 GHz | Fig.A.6.2.13 | P |
| | | 1 GHz ~ 3 GHz | Fig.A.6.2.14 | P |
| | | 3 GHz ~ 18 GHz | Fig.A.6.2.15 | P |
| 6 | | 30 MHz ~1 GHz | Fig.A.6.2.16 | P |
| | | 1 GHz ~ 3 GHz | Fig.A.6.2.17 | P |
| | | 3 GHz ~ 18 GHz | Fig.A.6.2.18 | P |
| Power | | 2.45GHz ~2.5GHz | Fig.A.6.2.19 | P |
| 11 | | 30 MHz ~1 GHz | Fig.A.6.2.20 | P |
| | | 1 GHz ~ 3 GHz | Fig.A.6.2.21 | P |
| | | 3 GHz ~ 18 GHz | Fig.A.6.2.22 | P |

802.11n mode

| Mode | Channel | Frequency Range | Test Results | Conclusion |
|-------------------|---------|------------------|------------------|--------------|
| 802.11n (HT20) | Power | 2.38GHz ~2.45GHz | Fig.A.6.2.23 | P |
| | 1 | 30 MHz ~1 GHz | Fig.A.6.2.24 | P |
| | | 1 GHz ~ 3 GHz | Fig.A.6.2.25 | P |
| | | 3 GHz ~ 18 GHz | Fig.A.6.2.26 | P |
| | 6 | 30 MHz ~1 GHz | Fig.A.6.2.27 | P |
| | | 1 GHz ~ 3 GHz | Fig.A.6.2.28 | P |
| | | 3 GHz ~ 18 GHz | Fig.A.6.2.29 | P |
| | Power | 2.45GHz ~2.5GHz | Fig.A.6.2.30 | P |
| | 11 | 30 MHz ~1 GHz | Fig.A.6.2.31 | P |
| | | 1 GHz ~ 3 GHz | Fig.A.6.2.32 | P |
| | | 3 GHz ~ 18 GHz | Fig.A.6.2.33 | P |
| | / | All channels | 18 GHz~ 26.5 GHz | Fig.A.6.2.34 |

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:

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

802.11b

Ch1

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P_{Mea} (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|--------------------|--------------|
| 17579.250 | 54.6 | -22.8 | 42.7 | 34.675 | VERTICAL |
| 17219.250 | 54.3 | -23.7 | 43.0 | 34.943 | HORIZONTAL |
| 17670.750 | 54.2 | -22.8 | 42.7 | 34.371 | HORIZONTAL |
| 17740.500 | 54.1 | -22.8 | 42.1 | 34.861 | VERTICAL |
| 17436.000 | 54.1 | -23.7 | 42.7 | 35.083 | VERTICAL |
| 17685.750 | 53.9 | -22.8 | 42.3 | 34.401 | HORIZONTAL |

Ch6

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P_{Mea} (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|--------------------|--------------|
| 17450.250 | 54.4 | -23.7 | 42.6 | 35.523 | VERTICAL |
| 17220.750 | 54.3 | -23.7 | 43.0 | 34.943 | HORIZONTAL |
| 17436.000 | 54.1 | -23.7 | 42.7 | 35.083 | HORIZONTAL |
| 17621.250 | 53.9 | -22.8 | 42.8 | 33.925 | HORIZONTAL |
| 17447.250 | 53.9 | -23.7 | 42.7 | 34.883 | VERTICAL |
| 17695.500 | 53.9 | -22.8 | 42.3 | 34.401 | HORIZONTAL |

Ch11

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P_{Mea} (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|--------------------|--------------|
| 17760.000 | 54.2 | -22.8 | 42.2 | 34.871 | HORIZONTAL |
| 17716.500 | 54.1 | -22.8 | 42.8 | 34.111 | HORIZONTAL |
| 17025.000 | 54.0 | -23.9 | 43.6 | 34.230 | HORIZONTAL |
| 17569.500 | 54.0 | -22.8 | 42.3 | 34.525 | HORIZONTAL |
| 17898.000 | 53.9 | -22.9 | 42.5 | 34.293 | VERTICAL |
| 17484.750 | 53.8 | -22.8 | 43.0 | 33.545 | VERTICAL |

802.11g

Ch1

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P _{Mea} (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17747.250 | 55.2 | -22.8 | 42.1 | 35.961 | VERTICAL |
| 17518.500 | 54.3 | -22.8 | 42.8 | 34.315 | VERTICAL |
| 17655.750 | 54.1 | -22.8 | 42.7 | 34.271 | VERTICAL |
| 17113.500 | 54.0 | -23.9 | 42.6 | 35.280 | HORIZONTAL |
| 17194.500 | 53.9 | -23.7 | 43.1 | 34.463 | VERTICAL |
| 17865.000 | 53.8 | -22.9 | 42.7 | 33.953 | HORIZONTAL |

Ch6

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P _{Mea} (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17671.500 | 54.9 | -22.8 | 42.7 | 35.071 | HORIZONTAL |
| 17502.000 | 54.3 | -22.8 | 42.8 | 34.315 | HORIZONTAL |
| 17960.250 | 54.1 | -22.9 | 42.7 | 34.283 | HORIZONTAL |
| 17736.000 | 54.0 | -22.8 | 42.1 | 34.761 | HORIZONTAL |
| 17487.750 | 53.9 | -22.8 | 43.0 | 33.645 | VERTICAL |
| 17957.250 | 53.9 | -22.9 | 42.7 | 34.083 | VERTICAL |

Ch11

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P _{Mea} (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17885.250 | 54.4 | -22.9 | 42.5 | 34.793 | VERTICAL |
| 17545.500 | 54.3 | -22.8 | 42.9 | 34.155 | VERTICAL |
| 17763.000 | 54.2 | -22.8 | 42.2 | 34.871 | HORIZONTAL |
| 17403.000 | 54.0 | -23.7 | 42.7 | 35.013 | VERTICAL |
| 17421.750 | 54.0 | -23.7 | 42.7 | 35.013 | HORIZONTAL |
| 17745.750 | 53.7 | -22.8 | 42.1 | 34.461 | VERTICAL |

802.11n-HT20

Ch1

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P _{Mea} (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17963.250 | 54.4 | -22.9 | 42.7 | 34.583 | VERTICAL |
| 17386.500 | 54.3 | -23.7 | 42.8 | 35.223 | VERTICAL |
| 17619.750 | 54.3 | -22.8 | 42.8 | 34.325 | VERTICAL |
| 17460.000 | 54.1 | -22.8 | 42.6 | 34.285 | VERTICAL |
| 17016.000 | 54.1 | -23.9 | 43.2 | 34.800 | VERTICAL |
| 17553.000 | 53.8 | -22.8 | 42.3 | 34.325 | HORIZONTAL |

Ch6

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P _{Mea} (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17457.750 | 54.9 | -23.7 | 42.6 | 36.023 | VERTICAL |
| 17442.750 | 54.6 | -23.7 | 42.7 | 35.583 | VERTICAL |
| 17698.500 | 54.4 | -22.8 | 42.3 | 34.901 | HORIZONTAL |
| 17769.750 | 54.4 | -22.8 | 42.2 | 35.071 | VERTICAL |
| 17427.000 | 54.3 | -23.7 | 42.7 | 35.283 | HORIZONTAL |
| 17664.750 | 54.0 | -22.8 | 42.7 | 34.171 | VERTICAL |

Ch11

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P _{Mea} (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17614.500 | 54.2 | -22.8 | 42.8 | 34.225 | VERTICAL |
| 17517.750 | 53.9 | -22.8 | 42.8 | 33.915 | HORIZONTAL |
| 17472.750 | 53.9 | -22.8 | 42.6 | 34.085 | HORIZONTAL |
| 17434.500 | 53.9 | -23.7 | 42.7 | 34.883 | HORIZONTAL |
| 17745.000 | 53.8 | -22.8 | 42.1 | 34.561 | VERTICAL |
| 17501.250 | 53.8 | -22.8 | 42.8 | 33.815 | VERTICAL |

Test graphs as below:

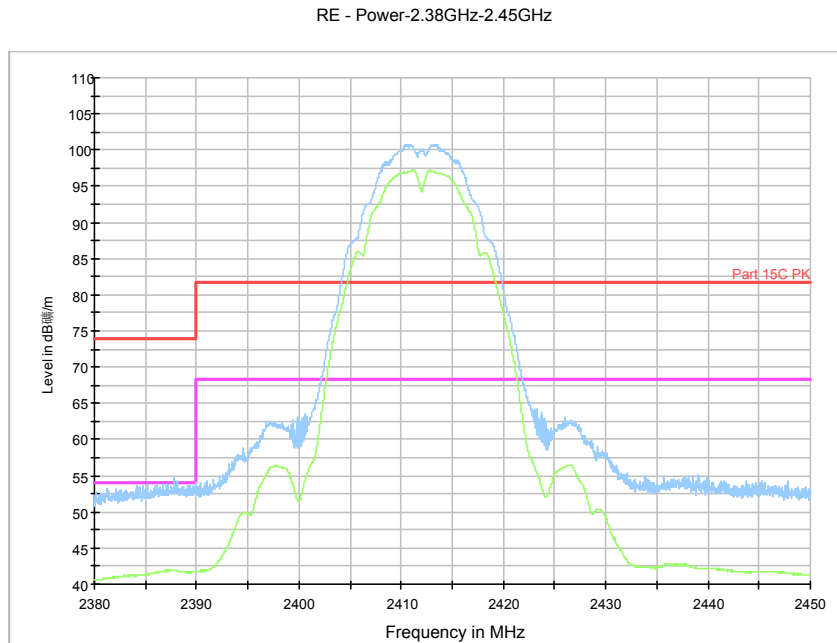


Fig.A.6.2.1 Radiated Spurious Emission (Power): 802.11b, ch1, 2.38 GHz - 245GHz

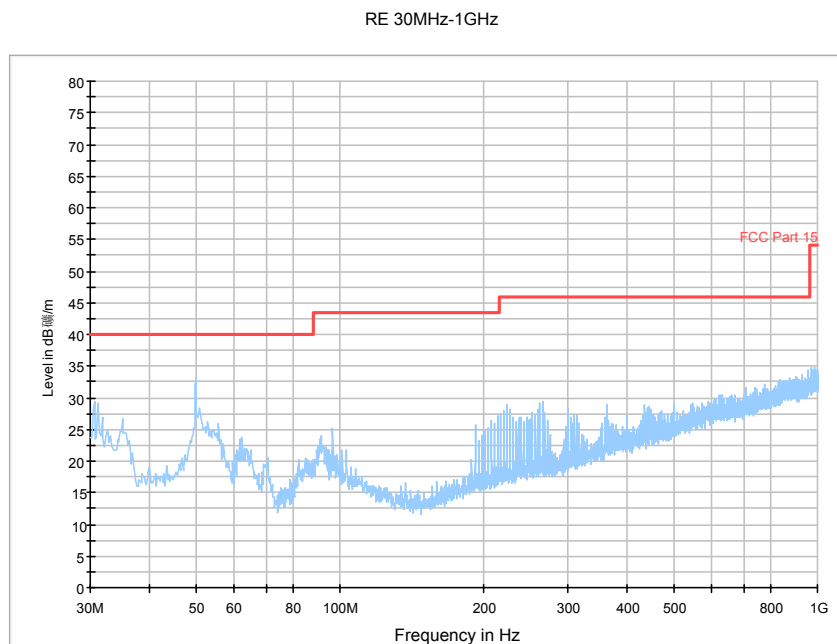


Fig.A.6.2.2 Radiated Spurious Emission (802.11b, Ch1, 30 MHz-1 GHz)

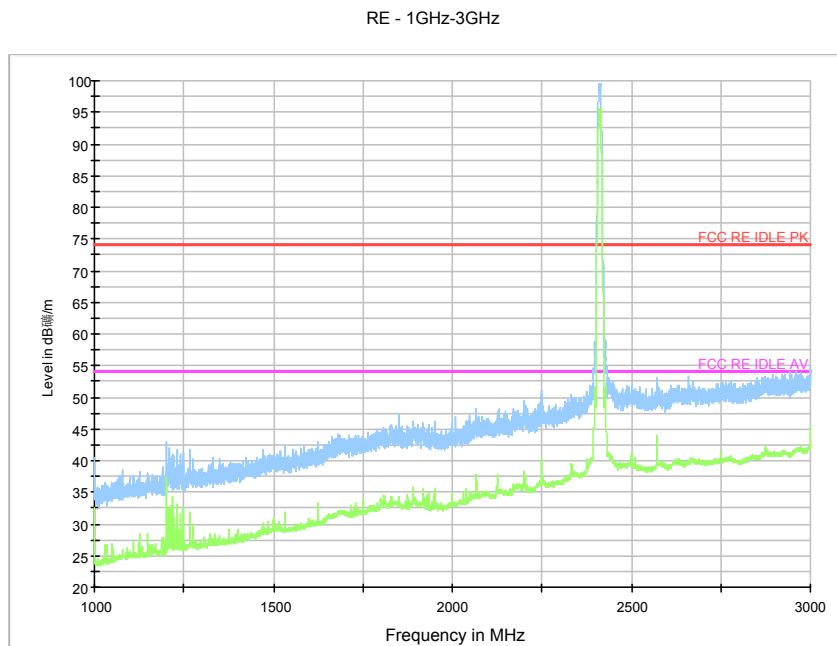


Fig.A.6.2.3 Radiated Spurious Emission (802.11b, Ch1, 1 GHz-3 GHz)

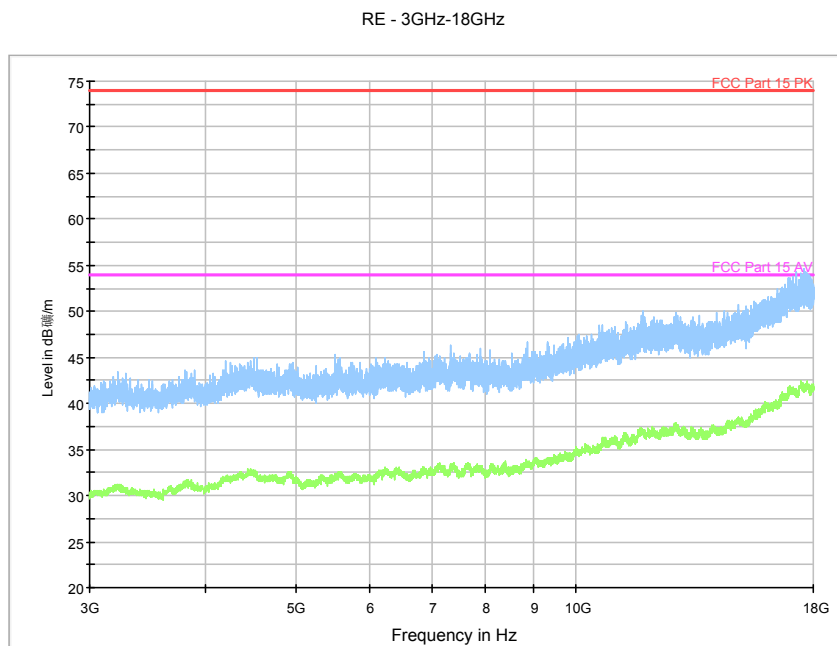


Fig.A.6.2.4 Radiated Spurious Emission (802.11b, Ch1, 3 GHz-18 GHz)

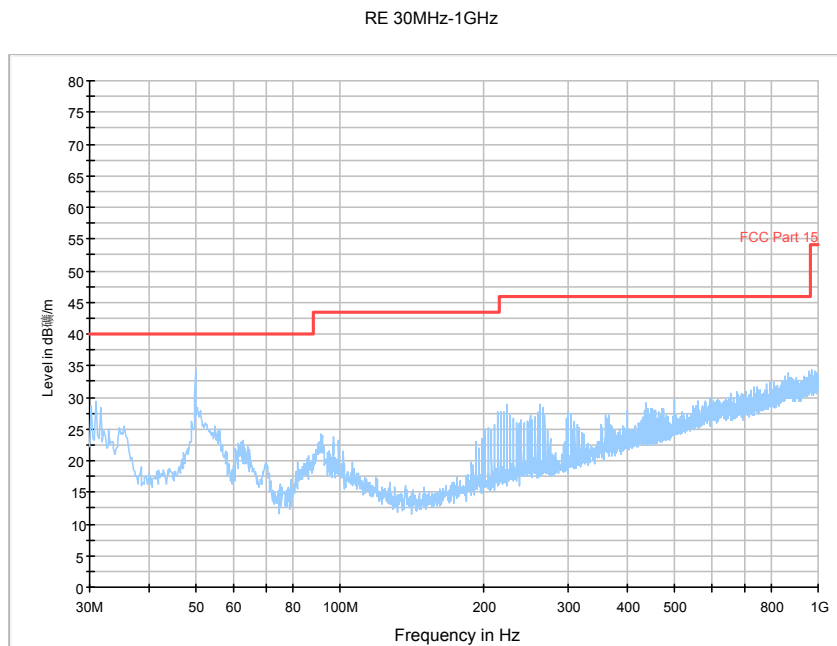


Fig.A.6.2.5 Radiated Spurious Emission (802.11b, Ch6, 30 MHz-1 GHz)

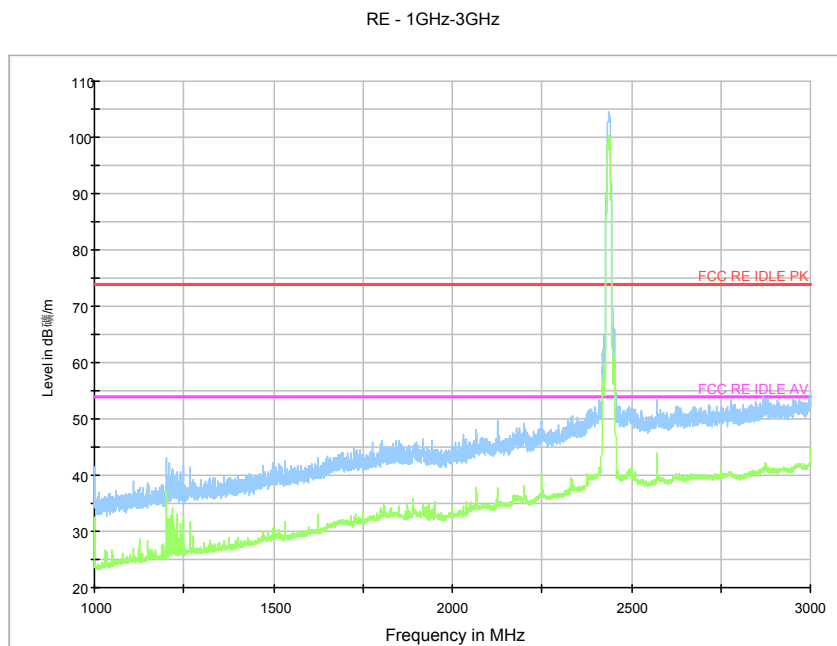


Fig.A.6.2.6 Radiated Spurious Emission (802.11b, Ch6, 1 GHz-3 GHz)

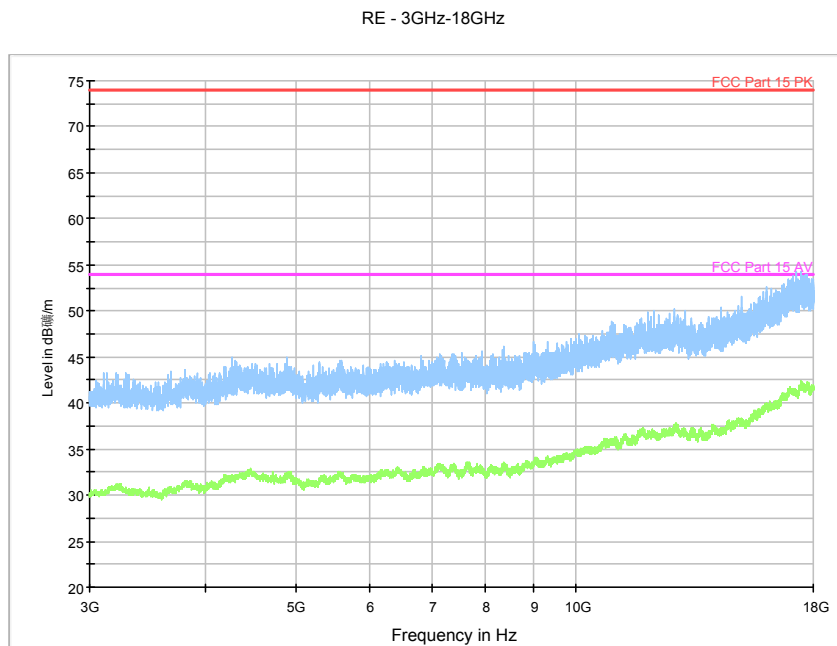


Fig.A.6.2.7 Radiated Spurious Emission (802.11b, Ch6, 3 GHz-18 GHz)

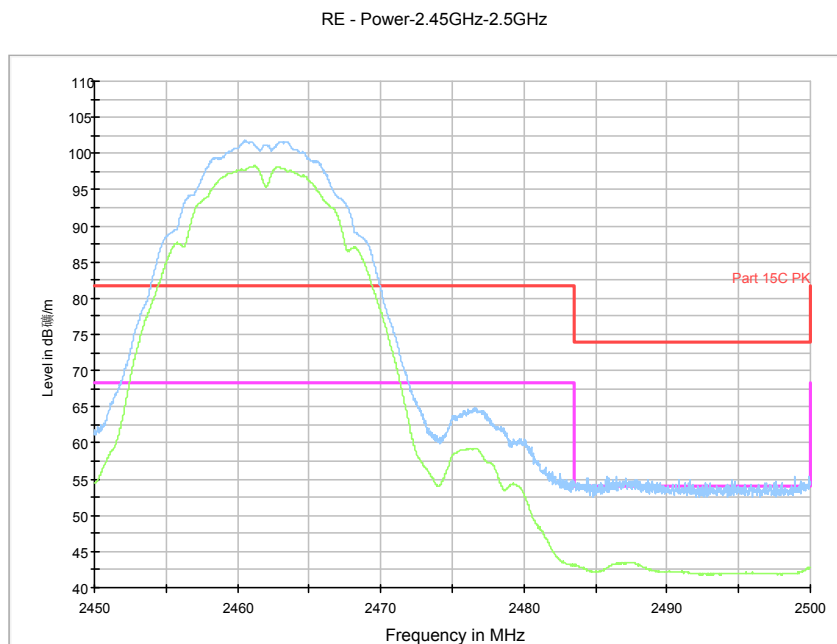


Fig.A.6.2.8 Radiated Spurious Emission (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

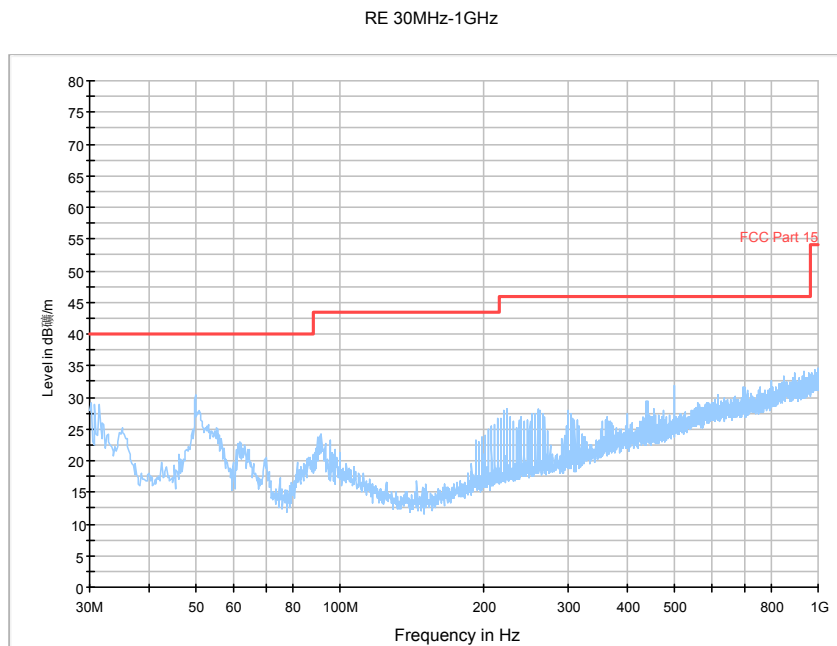


Fig.A.6.2.9 Radiated Spurious Emission (802.11b, Ch11, 30 MHz-1 GHz)

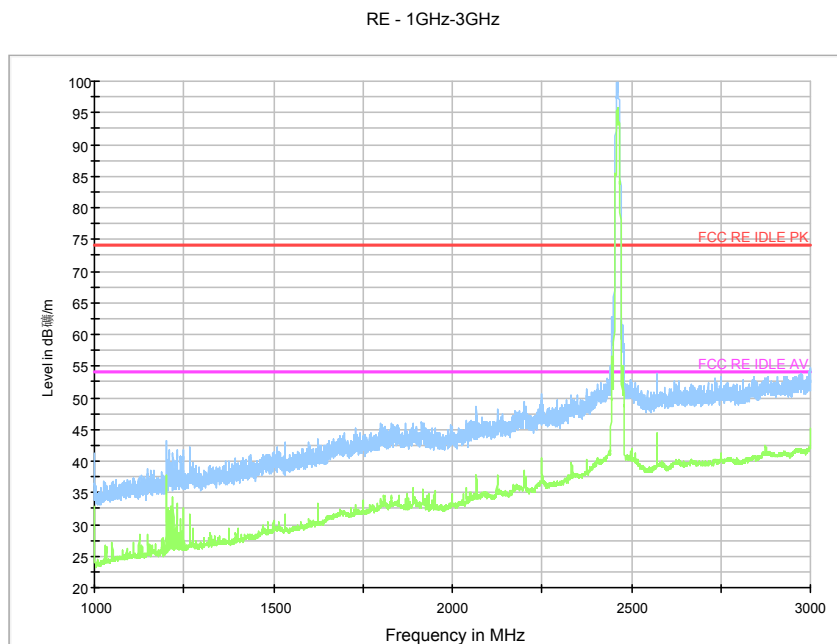


Fig.A.6.2.10 Radiated Spurious Emission (802.11b, Ch11, 1 GHz-3 GHz)

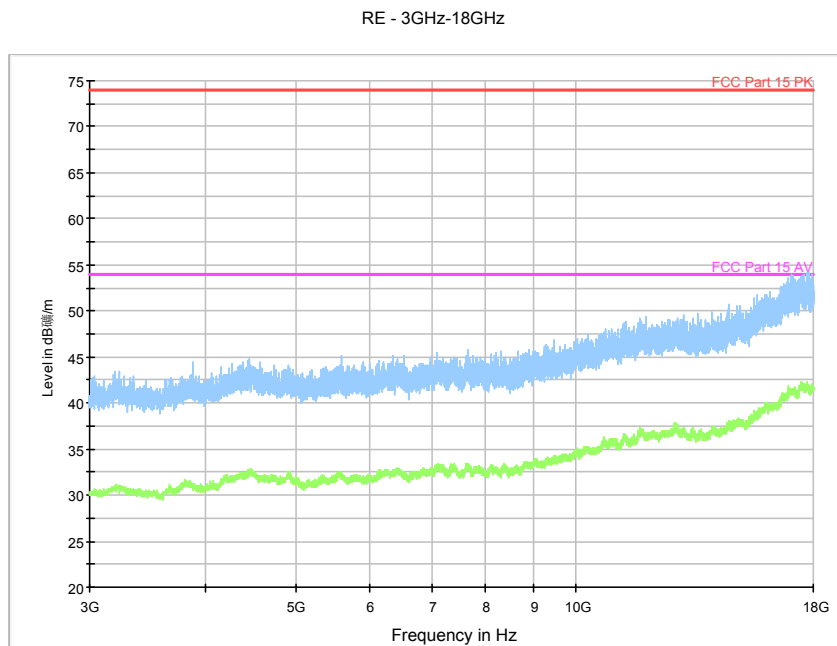


Fig.A.6.2.11 Radiated Spurious Emission (802.11b, Ch11, 3 GHz-18 GHz)

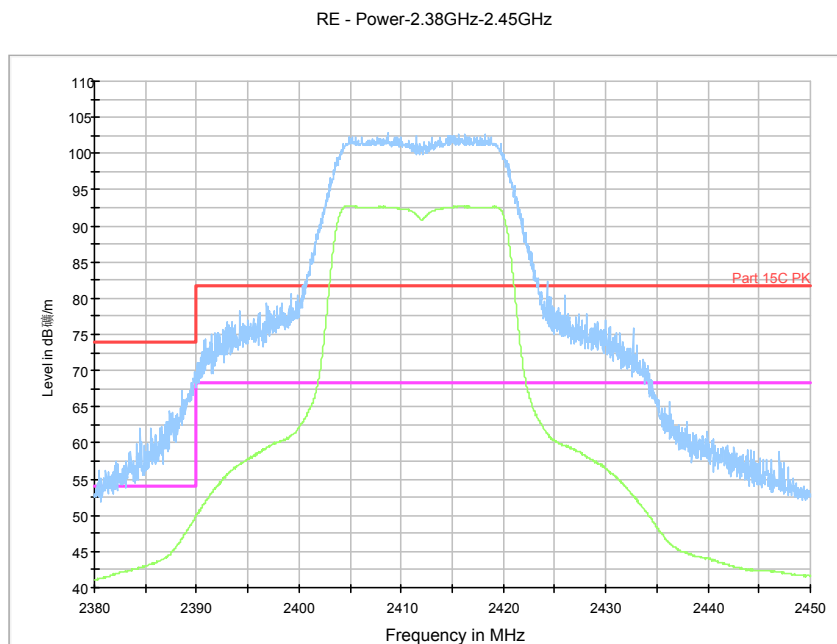


Fig.A.6.2.12 Radiated Spurious Emission (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz

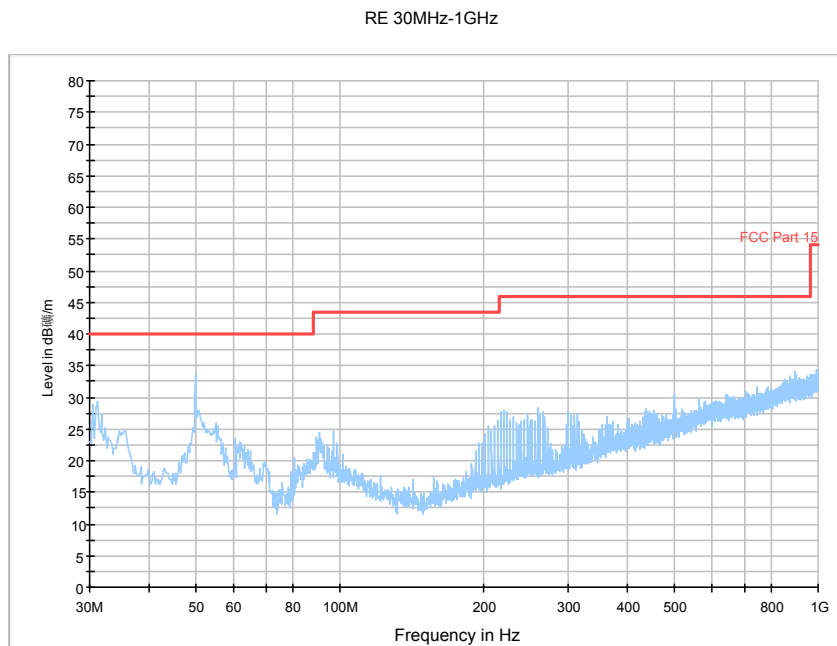


Fig.A.6.2.13 Radiated Spurious Emission (802.11g, Ch1, 30 MHz-1 GHz)

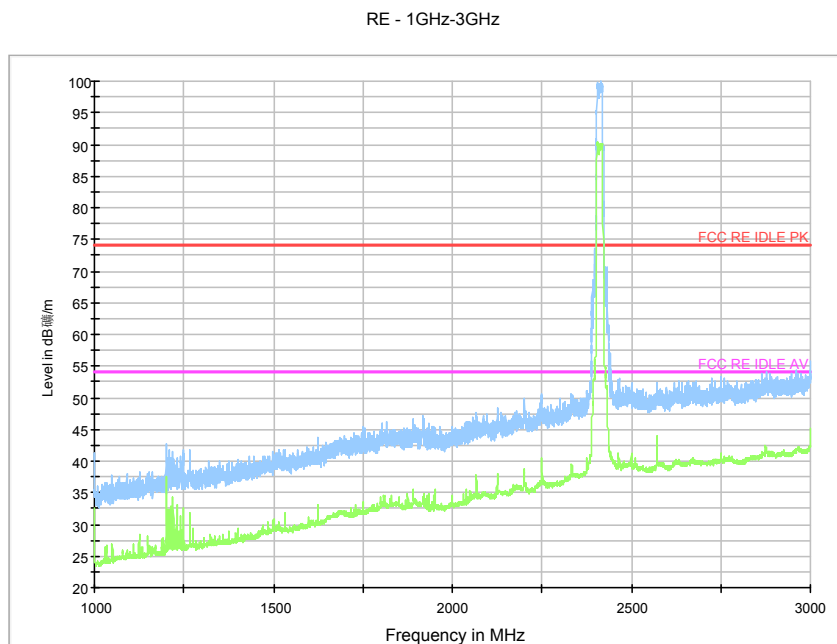


Fig.A.6.2.14 Radiated Spurious Emission (802.11g, Ch1, 1 GHz-3 GHz)

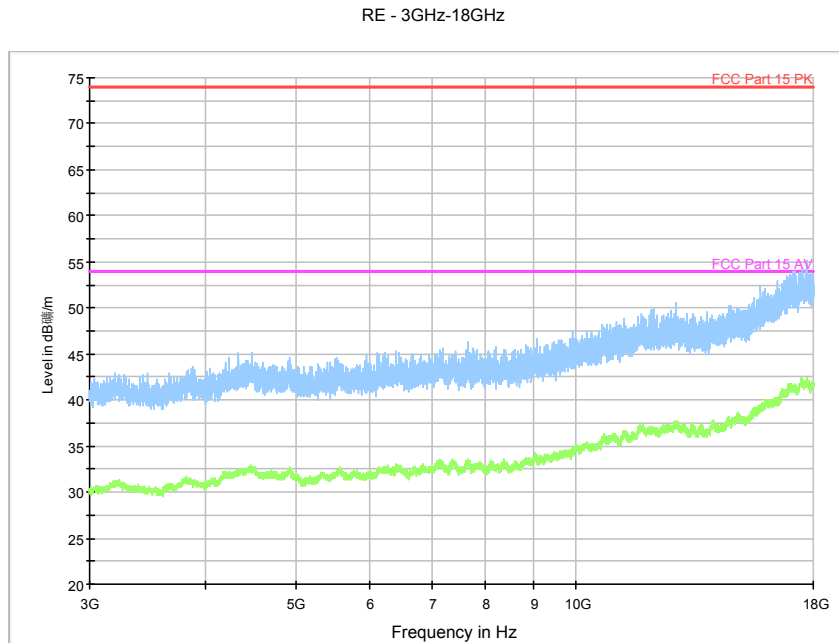


Fig.A.6.2.15 Radiated Spurious Emission (802.11g, Ch1, 3 GHz-18 GHz)

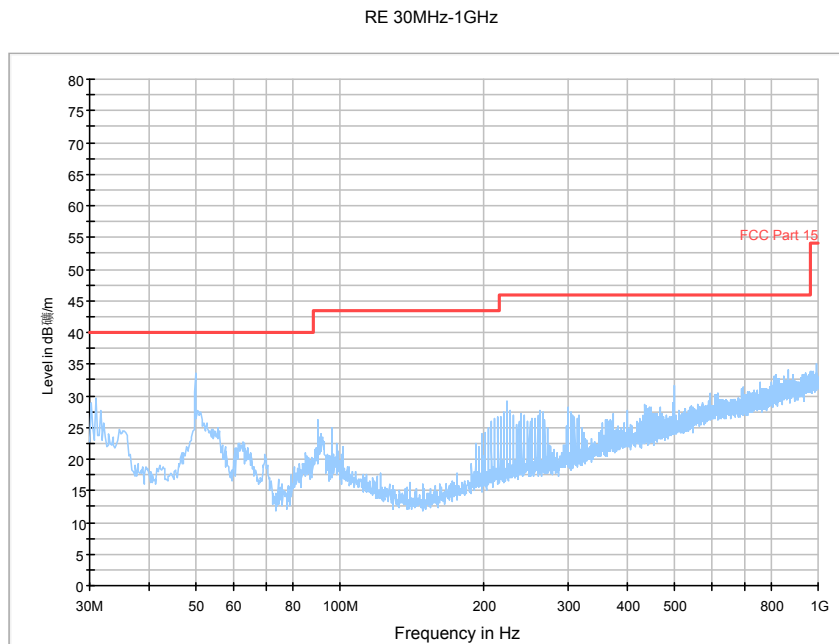


Fig.A.6.2.16 Radiated Spurious Emission (802.11g, Ch6, 30 MHz-1 GHz)

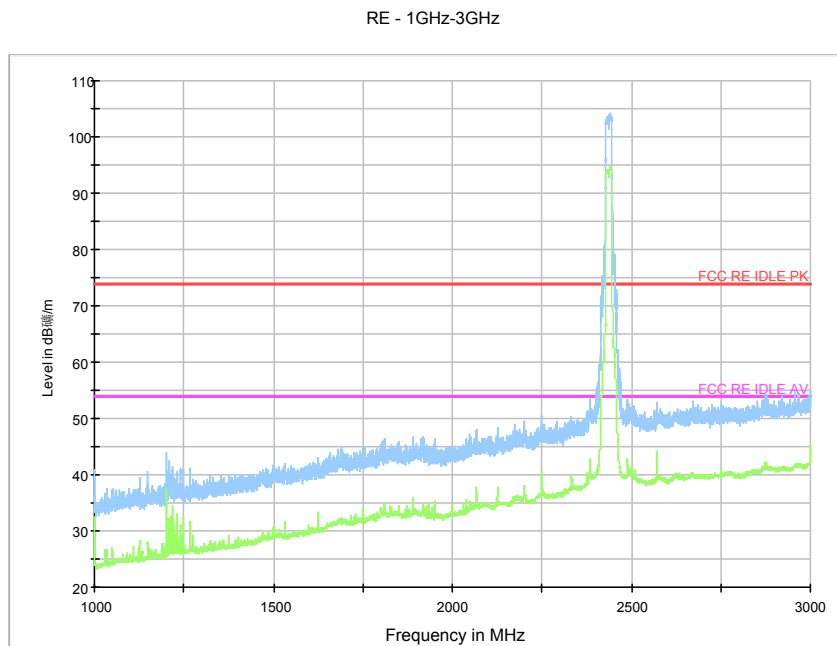


Fig.A.6.2.17 Radiated Spurious Emission (802.11g, Ch6, 1 GHz-3 GHz)

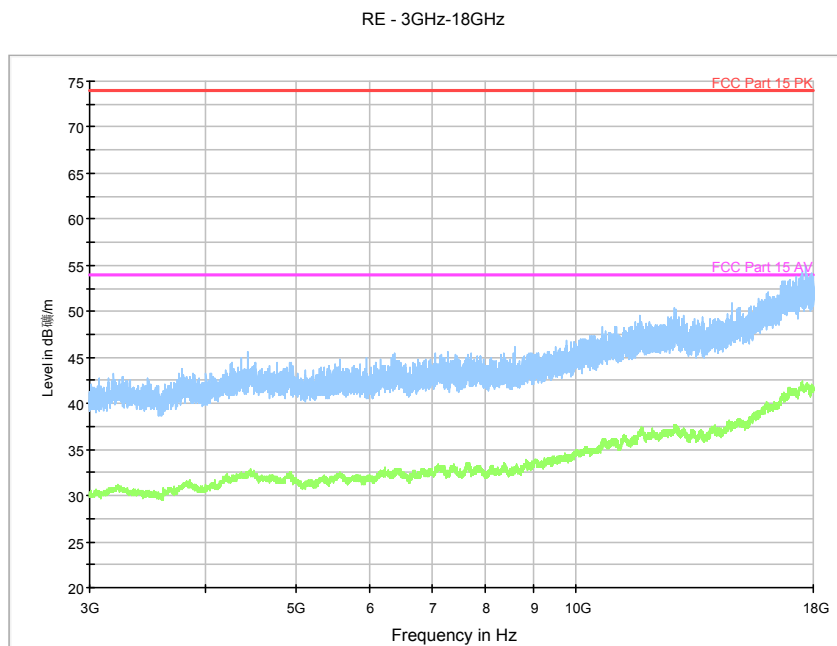


Fig.A.6.2.18 Radiated Spurious Emission (802.11g, Ch6, 3 GHz-18 GHz)

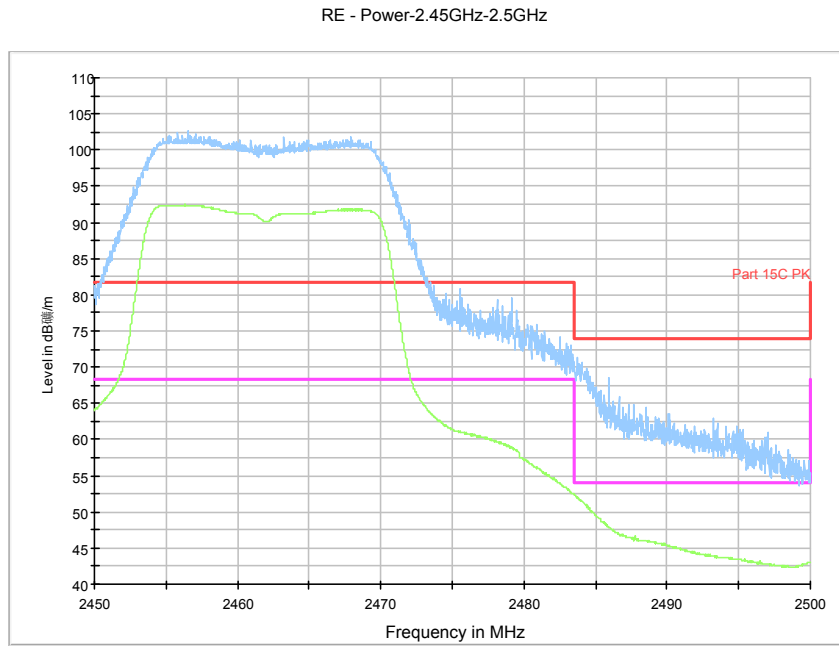


Fig.A.6.2.19 Radiated Spurious Emission (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

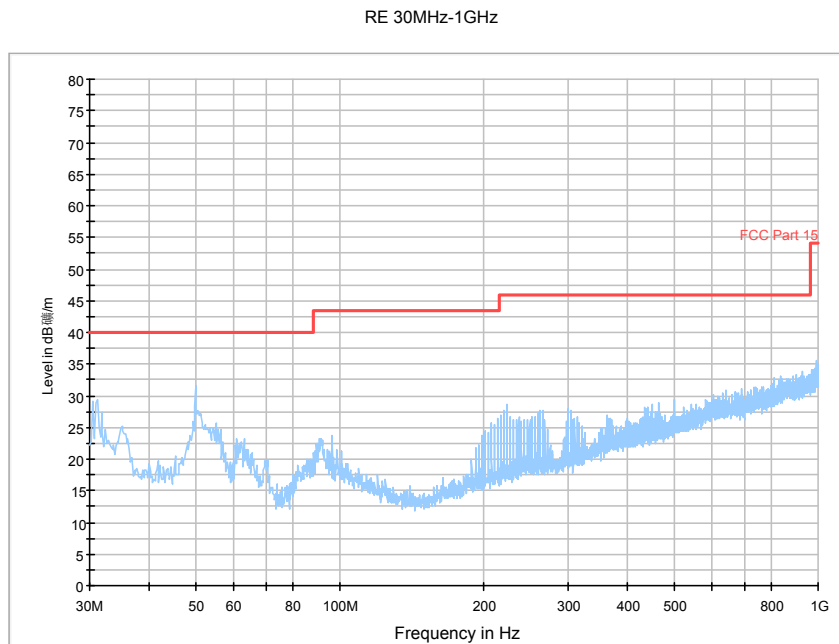


Fig.A.6.2.20 Radiated Spurious Emission (802.11g, Ch11, 30 MHz-1 GHz)

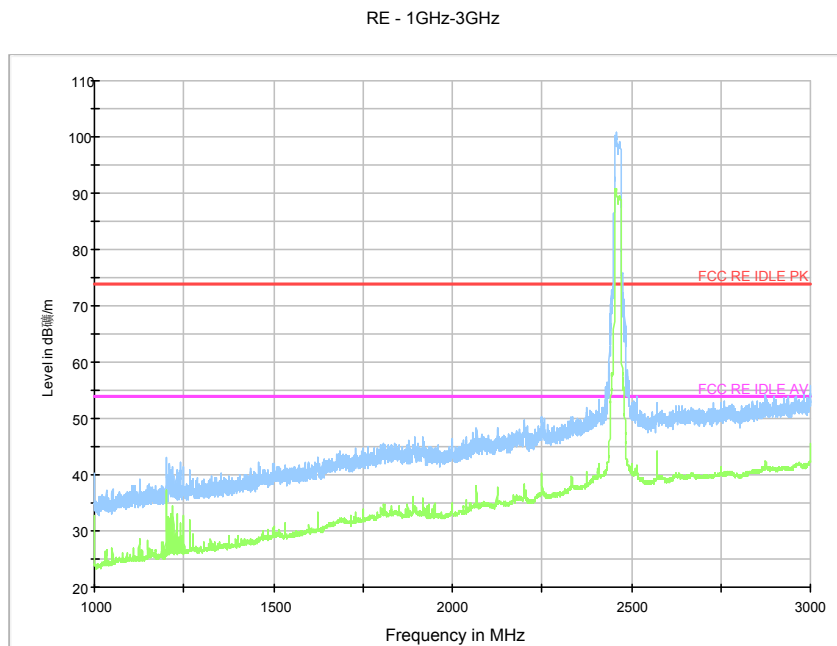


Fig.A.6.2.21 Radiated Spurious Emission (802.11g, Ch11, 1 GHz-3 GHz)

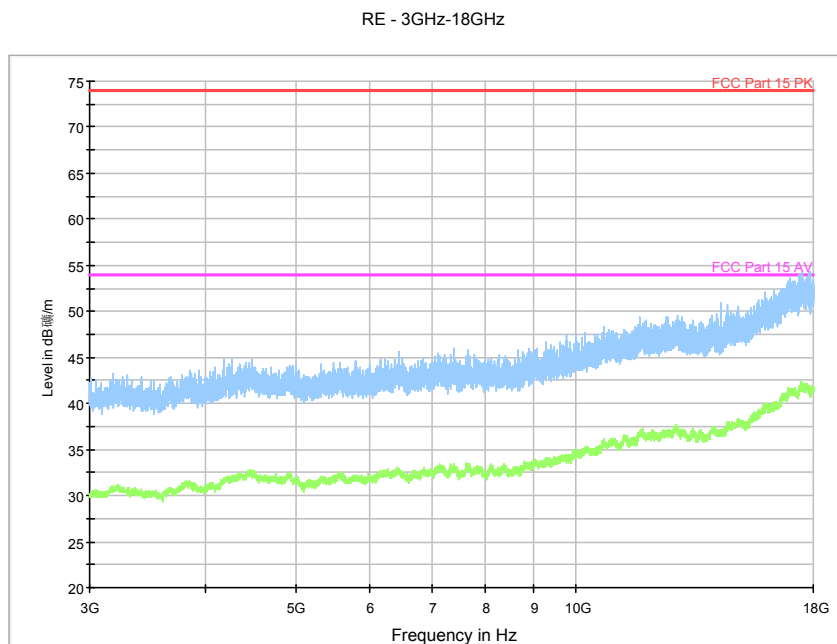


Fig.A.6.2.22 Radiated Spurious Emission (802.11g, Ch11, 3 GHz-18 GHz)

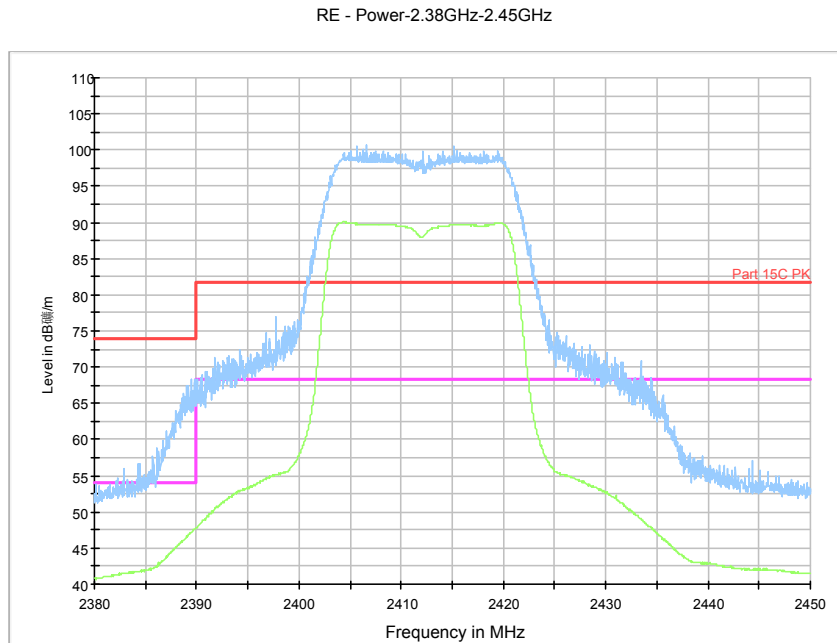


Fig.A.6.2.23 Radiated Spurious Emission (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz

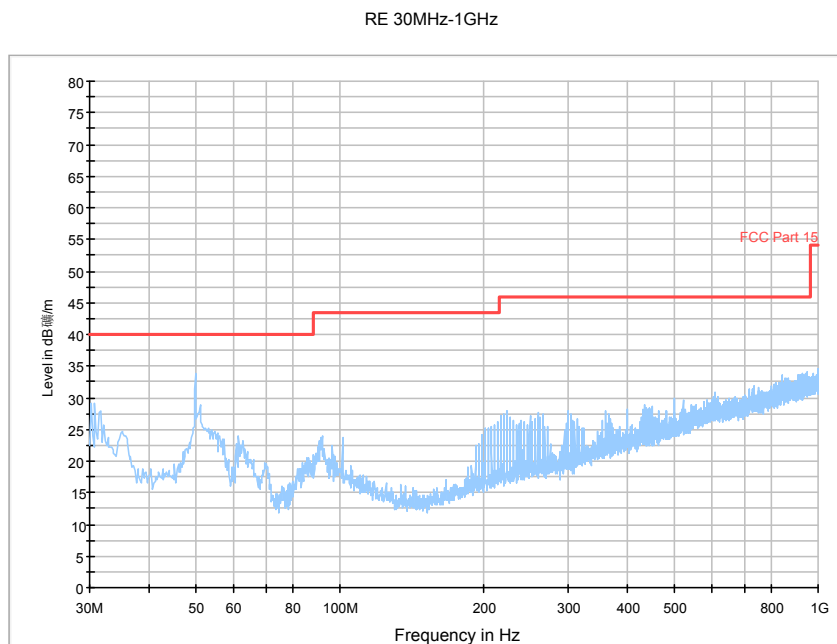


Fig.A.6.2.24 Radiated Spurious Emission (802.11n-HT20, Ch1, 30 MHz-1 GHz)

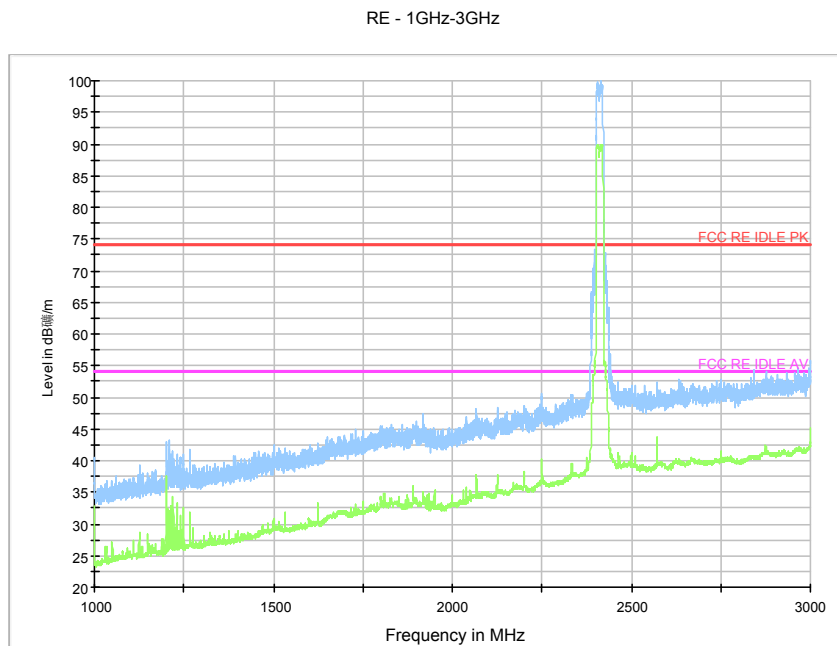


Fig.A.6.2.25 Radiated Spurious Emission (802.11n-HT20, Ch1, 1 GHz-3 GHz)

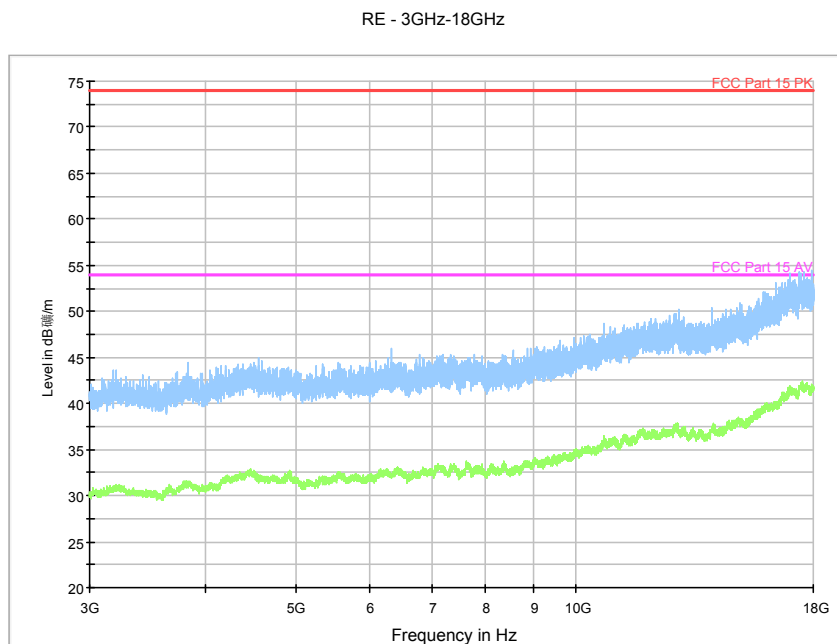


Fig.A.6.2.26 Radiated Spurious Emission (802.11n-HT20, Ch1, 3 GHz-18 GHz)

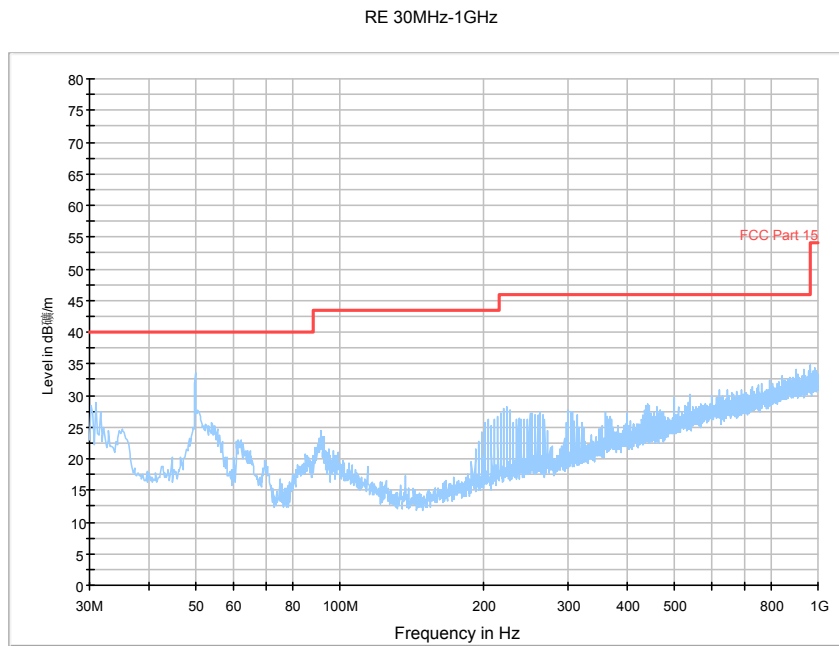


Fig.A.6.2.27 Radiated Spurious Emission (802.11n-HT20, Ch6, 30 MHz-1 GHz)

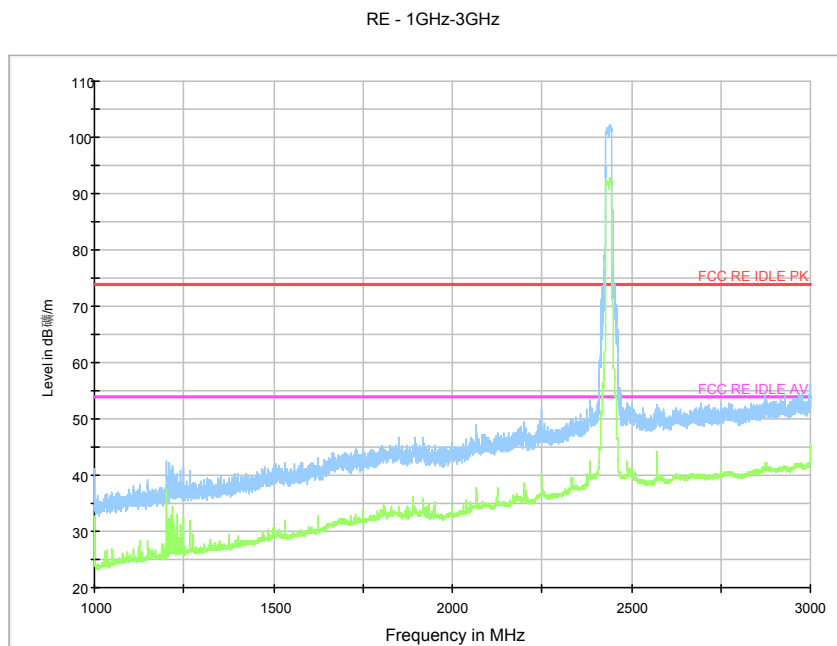


Fig.A.6.2.28 Radiated Spurious Emission (802.11n-HT20, Ch6, 1 GHz-3 GHz)

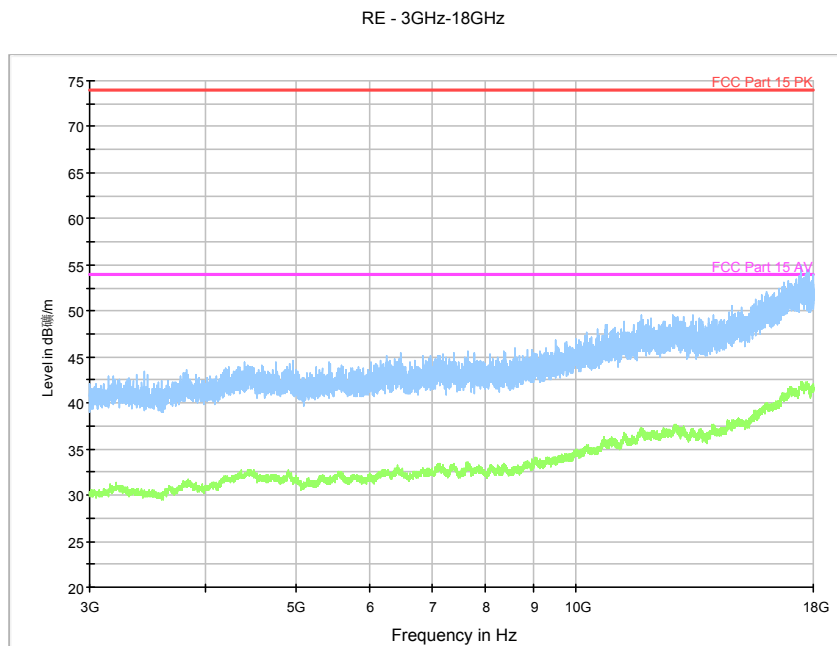


Fig.A.6.2.29 Radiated Spurious Emission (802.11n-HT20, Ch6, 3 GHz-18 GHz)

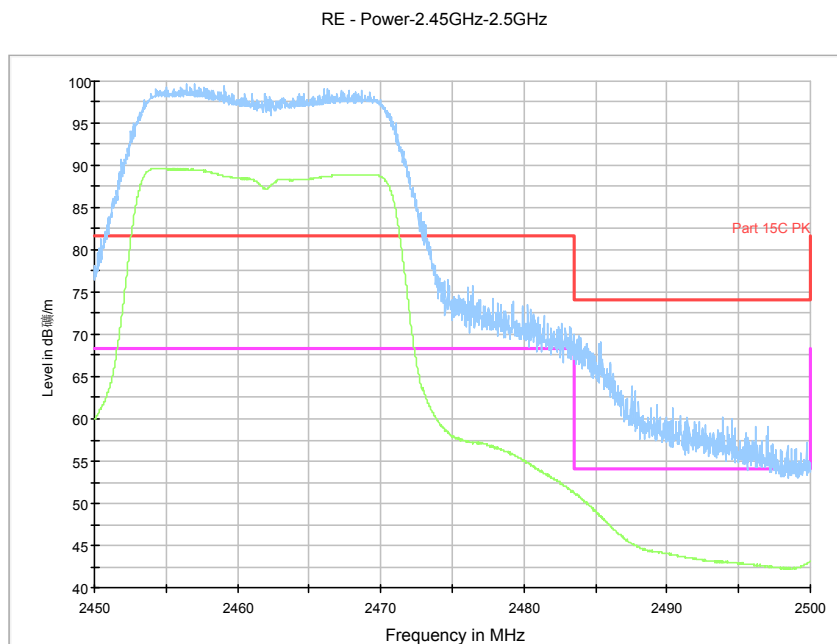


Fig.A.6.2.30 Radiated Spurious Emission (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

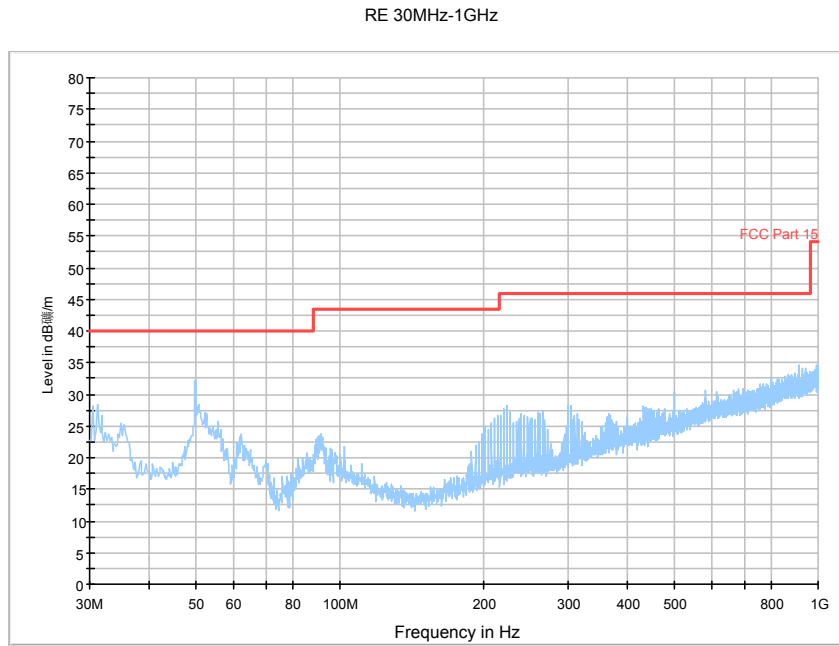


Fig.A.6.2.31 Radiated Spurious Emission (802.11n-HT20, Ch11, 30 MHz-1 GHz)

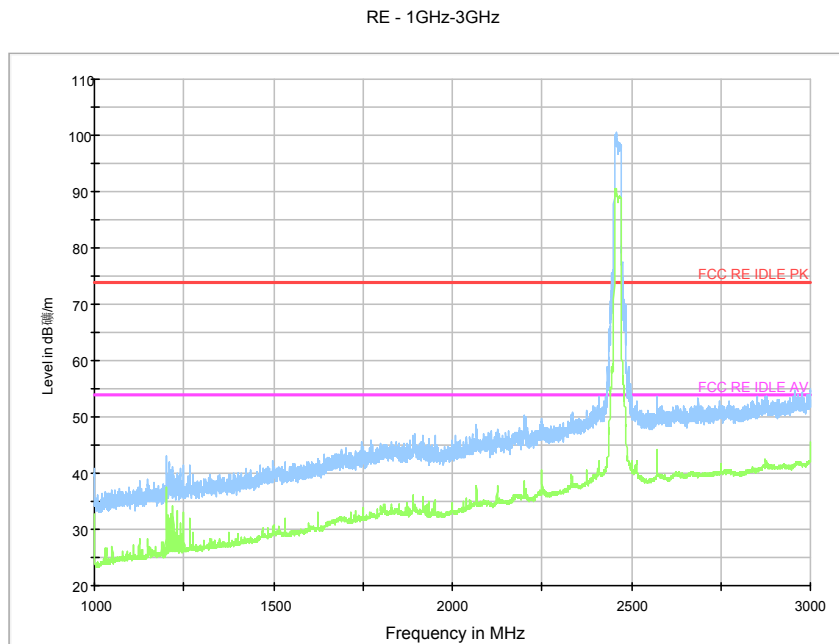


Fig.A.6.2.32 Radiated Spurious Emission (802.11n-HT20, Ch11, 1 GHz-3 GHz)

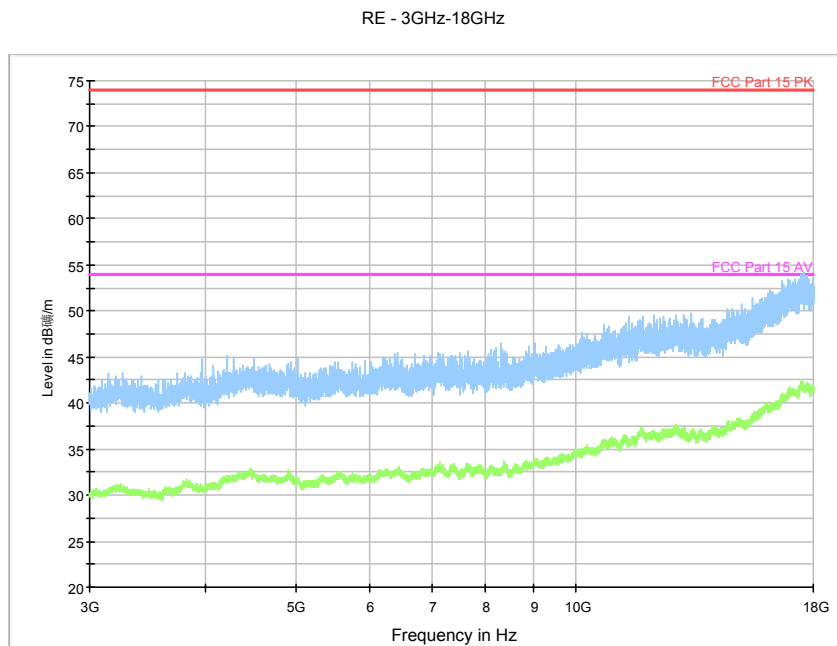


Fig.A.6.2.33 Radiated Spurious Emission (802.11n-HT20, Ch11, 3 GHz-18 GHz)

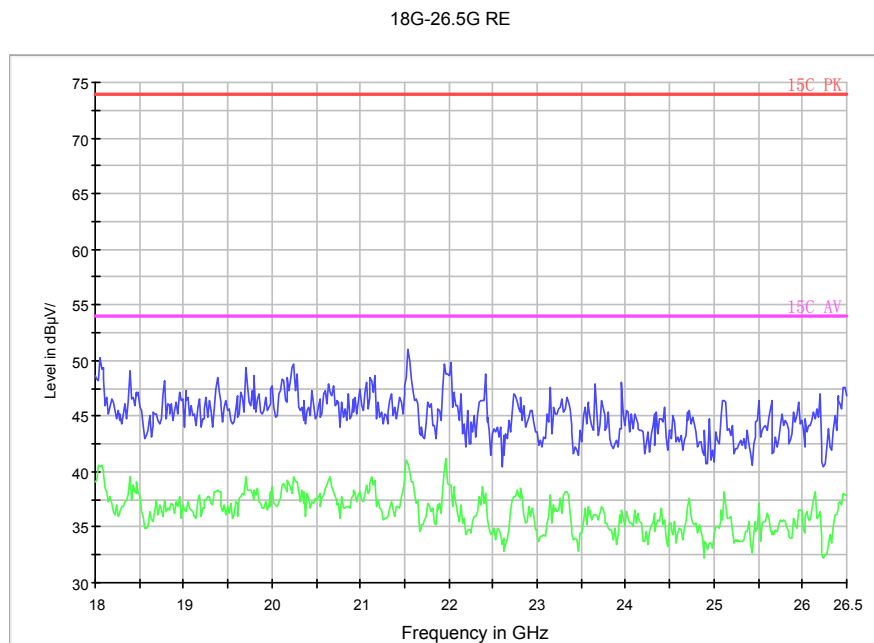


Fig.A.6.2.34 Radiated Spurious Emission (All channels): 18GHz – 26.5GHz

A.7. AC Powerline Conducted Emission

Test Condition:

| Voltage (V) | Frequency (Hz) |
|-------------|----------------|
| 120 | 60 |

Measurement Result and limit:

WLAN (Quasi-peak Limit)

| Frequency range (MHz) | Quasi-peak Limit (dB μ V) | Result (dB μ V) | | Conclusion |
|-----------------------|-------------------------------|---------------------|--------------|------------|
| | | With charger | | |
| | | 802.11b Traffic | 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 (dB μ V) | Result (dB μ V) | | Conclusion |
|-----------------------|----------------------------|---------------------|--------------|------------|
| | | With charger | | |
| | | 802.11b Traffic | 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.

The measurement is made according to KDB558074.

Conclusion: Pass

Measurement uncertainty:

Expanded measurement uncertainty for this test item is U =3.2dB, k=2.

Test graphs as below:

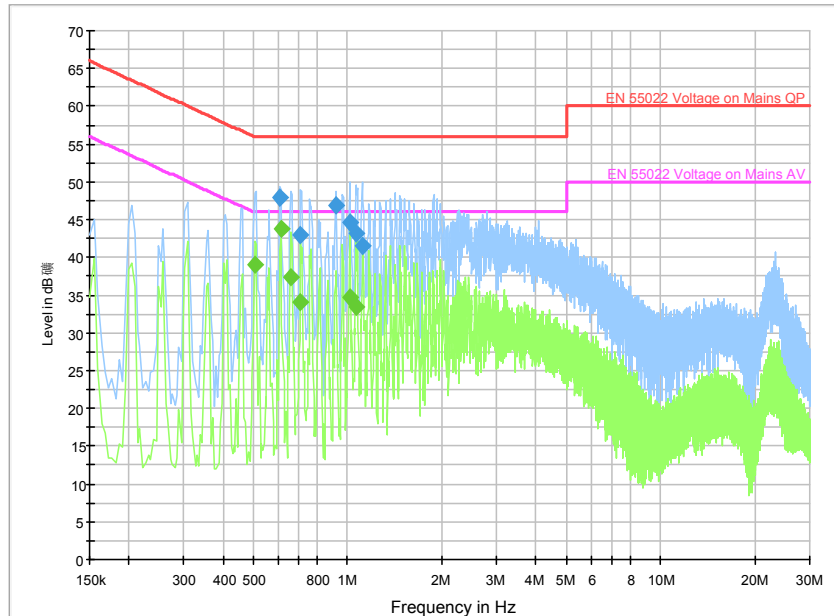


Fig.A.7.1 AC Powerline Conducted Emission-802.11b-Traffic

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) | PE | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.609001 | 48.0 | GND | N | 9.9 | 8.0 | 56.0 |
| 0.708001 | 42.9 | GND | N | 9.9 | 13.1 | 56.0 |
| 0.915001 | 47.0 | GND | N | 9.9 | 9.0 | 56.0 |
| 1.014001 | 44.6 | GND | N | 9.9 | 11.4 | 56.0 |
| 1.063501 | 43.1 | GND | N | 9.9 | 12.9 | 56.0 |
| 1.113001 | 41.4 | GND | N | 9.9 | 14.6 | 56.0 |

Final Result 2

| Frequency (MHz) | CAverage (dBµV) | PE | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|-----------------|-----|------|------------|-------------|--------------|
| 0.505501 | 39.0 | GND | N | 9.9 | 7.0 | 46.0 |
| 0.613501 | 43.8 | GND | N | 9.9 | 2.2 | 46.0 |
| 0.658501 | 37.5 | GND | N | 9.9 | 8.5 | 46.0 |
| 0.708001 | 34.1 | GND | N | 9.9 | 11.9 | 46.0 |
| 1.014001 | 34.8 | GND | N | 9.9 | 11.2 | 46.0 |
| 1.063501 | 33.4 | GND | N | 9.9 | 12.6 | 46.0 |

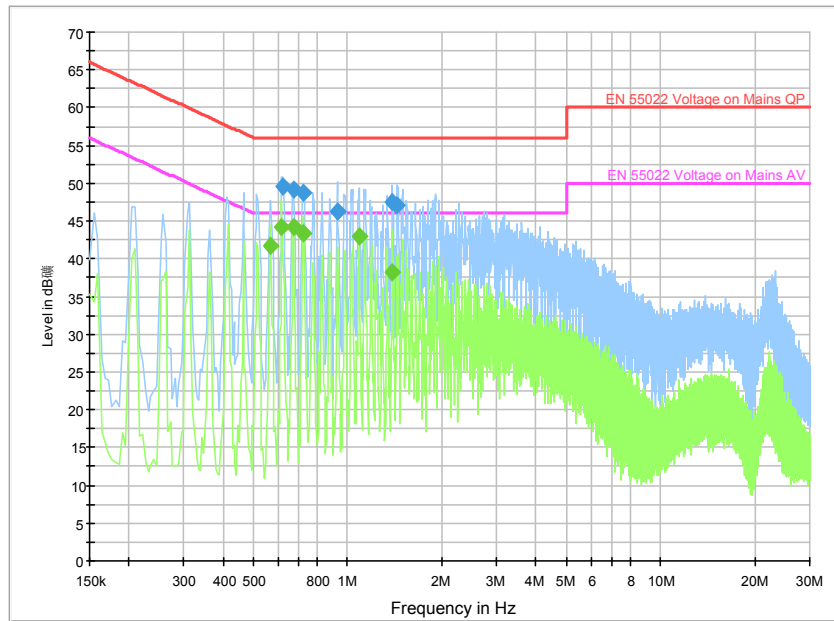


Fig.A.7.2 AC Powerline Conducted Emission-802.11b-Idle

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) | PE | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.622501 | 49.5 | GND | N | 9.9 | 6.5 | 56.0 |
| 0.672001 | 49.1 | GND | N | 9.9 | 6.9 | 56.0 |
| 0.721501 | 48.8 | GND | N | 9.9 | 7.2 | 56.0 |
| 0.924001 | 46.3 | GND | N | 9.9 | 9.7 | 56.0 |
| 1.392001 | 47.5 | GND | N | 9.9 | 8.5 | 56.0 |
| 1.441501 | 47.0 | GND | N | 9.9 | 9.0 | 56.0 |

Final Result 2

| Frequency (MHz) | CAverage (dBμV) | PE | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|-----------------|-----|------|------------|-------------|--------------|
| 0.568501 | 41.7 | GND | N | 9.9 | 4.3 | 46.0 |
| 0.618001 | 44.2 | GND | N | 9.9 | 1.8 | 46.0 |
| 0.672001 | 44.2 | GND | N | 9.9 | 1.8 | 46.0 |
| 0.721501 | 43.3 | GND | N | 9.9 | 2.7 | 46.0 |
| 1.086001 | 42.9 | GND | N | 9.9 | 3.1 | 46.0 |
| 1.392001 | 38.1 | GND | N | 9.9 | 7.9 | 46.0 |

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