



# FCC PART 15C TEST REPORT No. 2013WLN0755

for

**TCT Mobile Limited**

**HSUPA/HSDPA/UMTS triband/GSM quadband mobile phone**

**Model Name: Yaris-4.5 US 2SIM DTV**

**Marketing Name: ONE TOUCH 5037E**

**With**

**FCC ID: RAD420**

**Hardware Version: proto**

**Software Version: vG06**

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## 1. TEST LABORATORY

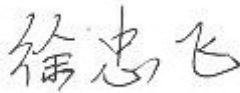
### 1.1. Testing Location

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: 2013-08-26  
Testing End Date: 2013-09-02

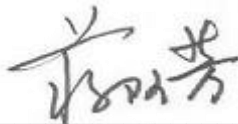
### 1.3. Signature



---

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, C 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, C 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         | HSUPA/HSDPA/UMTS triband/GSM quadband mobile phone |
| Type                | ONE TOUCH 5037E                                    |
| Marketing Name      | Yaris-4.5 US 2SIM DTV                              |
| FCC ID              | RAD420                                             |
| 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 | 23.92dBm(CCK)                                      |
| GPRS Class          | Class 12                                           |
| GPRS operation mode | B                                                  |
| Power Supply        | 3.8V DC by Battery                                 |

#### **3.2. Internal Identification of EUT Used During the Test**

| <b>EUT ID*</b> | <b>IMEI</b> | <b>HW Version</b> | <b>SW Version</b> |
|----------------|-------------|-------------------|-------------------|
| EUT1           | /           | proto             | vF06              |
| EUT2           | /           | proto             | vF06              |

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

#### **3.3. Internal Identification of AE Used During the Test**

| <b>AE ID*</b> | <b>Description</b> | <b>Type</b>  | <b>SN</b> |
|---------------|--------------------|--------------|-----------|
| AE1           | Battery            | CAB32E0000C1 | /         |
| AE2           | Charger            | CBA3008AA0C1 | /         |

\*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 HSUPA/HSDPA/UMTS triband/GSM quadband 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;                                                                                                | Oct,    |
|            | 15.209 Radiated emission limits, general requirements;                                                                               | 2012    |
|            | 15.247 Operation within the bands 902-928MHz, 2400-2483.5 MHz, and 5725-5850 MHz.                                                    |         |
| 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 | 2003    |
| 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 Semi-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 (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 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/manufacture 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.

This model is a variant product which market name is ONE TOUCH 5036A; all the test result has been derived from test report of ONE TOUCH 5036A.

## 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     | 3.8V (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-Lindgren    | /                    |

### 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

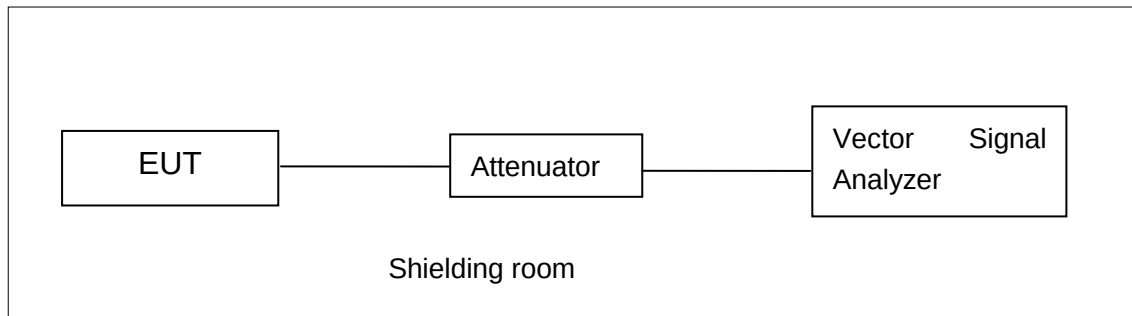


Fig.A.1.1.1: Test Setup Diagram for Conducted Measurements

#### 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;

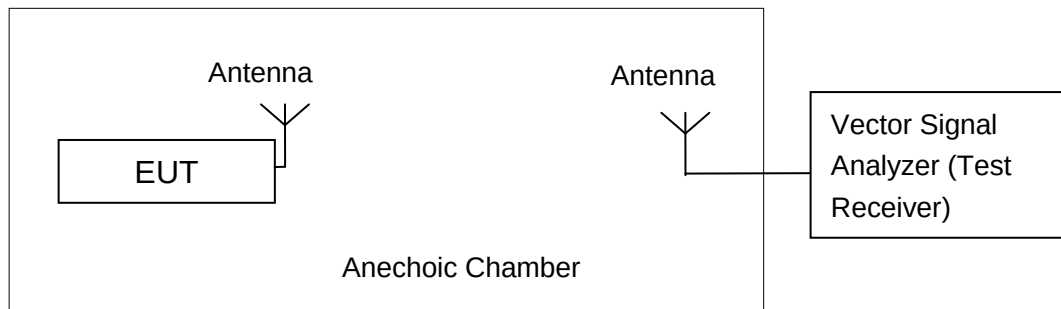


Fig.A.1.2.1: Test Setup Diagram for Radiated Measurements

## 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                | 20.46             | /             | /               |
|         | 2                | 20.71             | /             | /               |
|         | 5.5              | 22.16             | /             | /               |
|         | 11               | 23.68             | 23.92         | 23.82           |
| 802.11g | 6                | 22.98             | /             | /               |
|         | 9                | 22.99             | /             | /               |
|         | 12               | 22.69             | /             | /               |
|         | 18               | 22.70             | /             | /               |
|         | 24               | 23.22             | 23.08         | 23.06           |
|         | 36               | 22.99             | /             | /               |
|         | 48               | 23.03             | /             | /               |
|         | 54               | 23.04             | /             | /               |

The data rate 11Mbps and 24Mbps 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              | 21.86             | /             | /               |
|                 | MCS1              | 21.58             | /             | /               |
|                 | MCS2              | 21.54             | /             | /               |
|                 | MCS3              | 22.07             | 21.94         | 22.05           |
|                 | MCS4              | 21.88             | /             | /               |
|                 | MCS5              | 22.01             | /             | /               |
|                 | MCS6              | 21.95             | /             | /               |
|                 | MCS7              | 21.94             | /             | /               |

The data rate MCS3 is selected as worse condition, and the following cases are performed with this condition.

**802.11n-HT40 mode**

| Mode            | Data Rate (Index) | Test Result (dBm) |               |                |
|-----------------|-------------------|-------------------|---------------|----------------|
|                 |                   | 2422MHz (Ch3)     | 2437MHz (Ch6) | 2452 MHz (Ch9) |
| 802.11n (40MHz) | MCS0              | 19.41             | /             | /              |
|                 | MCS1              | 19.16             | /             | /              |
|                 | MCS2              | 19.10             | /             | /              |
|                 | MCS3              | 19.58             | 19.61         | 19.63          |
|                 | MCS4              | 19.38             | /             | /              |
|                 | MCS5              | 19.39             | /             | /              |
|                 | MCS6              | 19.45             | /             | /              |
|                 | MCS7              | 19.43             | /             | /              |

The data rate MCS3 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 | 16.55             | 16.88         | 16.96           |
| 802.11g | 13.86             | 13.92         | 14.28           |

**802.11n-HT20 mode**

| Mode            | Test Result (dBm) |               |                 |
|-----------------|-------------------|---------------|-----------------|
|                 | 2412MHz (Ch1)     | 2437MHz (Ch6) | 2462 MHz (Ch11) |
| 802.11n (20MHz) | 12.88             | 12.86         | 13.10           |

**802.11n-HT40 mode**

| Mode            | Test Result (dBm) |               |                |
|-----------------|-------------------|---------------|----------------|
|                 | 2422MHz (Ch3)     | 2437MHz (Ch6) | 2452 MHz (Ch9) |
| 802.11n (40MHz) | 10.18             | 10.27         | 10.29          |

**Conclusion: Pass**

**Measurement Uncertainty:**

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

### A.3. Peak Power Spectral Density

#### Measurement Limit:

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

The measurement is made according to KDB558074.

#### Modulation type and data rate tested:

|             |              |              |              |
|-------------|--------------|--------------|--------------|
| 802.11b     | 802.11g      | 802.11n-HT20 | 802.11n-HT40 |
| 11Mbps(CCK) | 24Mbps(OFDM) | MCS3(OFDM)   | MCS3(OFDM)   |

#### Measurement Results:

##### 802.11b/g mode

| Mode    | Channel | Power Spectral Density<br>( dBm/3 kHz ) |        | Conclusion |
|---------|---------|-----------------------------------------|--------|------------|
| 802.11b | 1       | Fig.A.3.1                               | -6.62  | P          |
|         | 6       | Fig.A.3.2                               | -7.03  | P          |
|         | 11      | Fig.A.3.3                               | -6.50  | P          |
| 802.11g | 1       | Fig.A.3.4                               | -9.26  | P          |
|         | 6       | Fig.A.3.5                               | -11.11 | P          |
|         | 11      | Fig.A.3.6                               | -9.80  | P          |

##### 802.11n-HT20 mode

| Mode              | Channel | Power Spectral Density<br>( dBm/3 kHz ) |        | Conclusion |
|-------------------|---------|-----------------------------------------|--------|------------|
| 802.11n<br>(HT20) | 1       | Fig.A.3.7                               | -12.00 | P          |
|                   | 6       | Fig.A.3.8                               | -12.20 | P          |
|                   | 11      | Fig.A.3.9                               | -11.50 | P          |

##### 802.11n-HT40 mode

| Mode              | Channel | Power Spectral Density<br>( dBm/3 kHz ) |        | Conclusion |
|-------------------|---------|-----------------------------------------|--------|------------|
| 802.11n<br>(HT40) | 3       | Fig.A.3.10                              | -18.71 | P          |
|                   | 6       | Fig.A.3.11                              | -18.27 | P          |
|                   | 9       | Fig.A.3.12                              | -18.24 | P          |

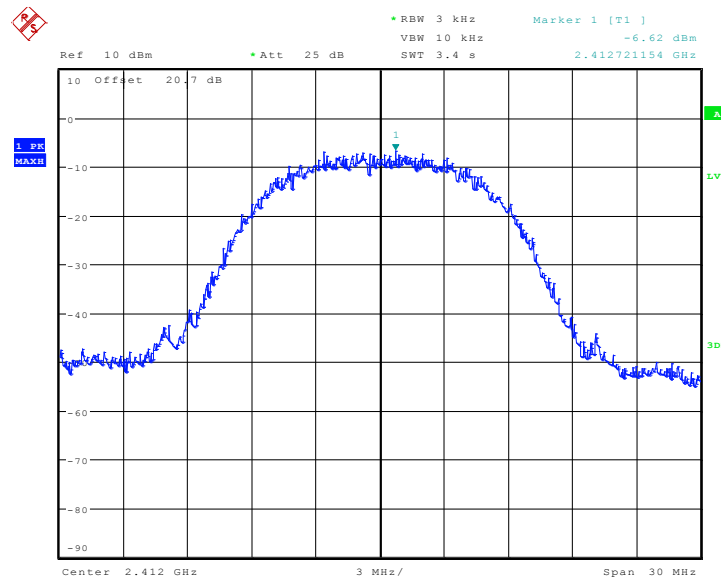
**Conclusion: Pass**

#### Measurement Uncertainty:

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

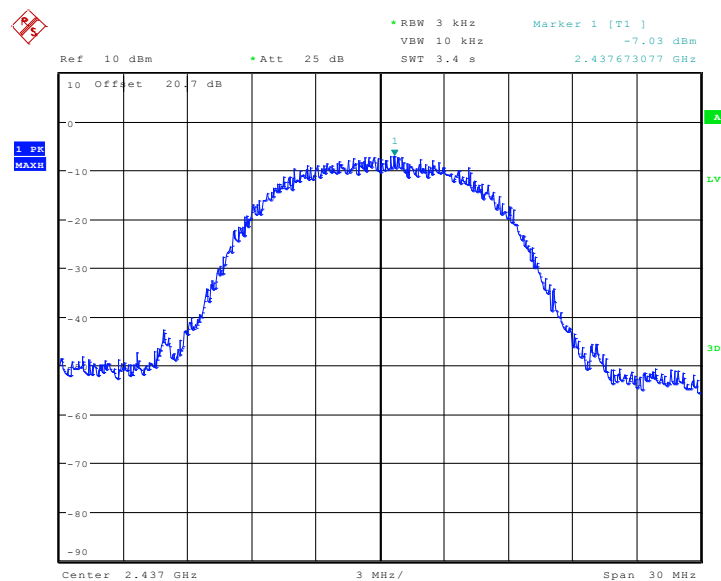
**Test graphs as below:**





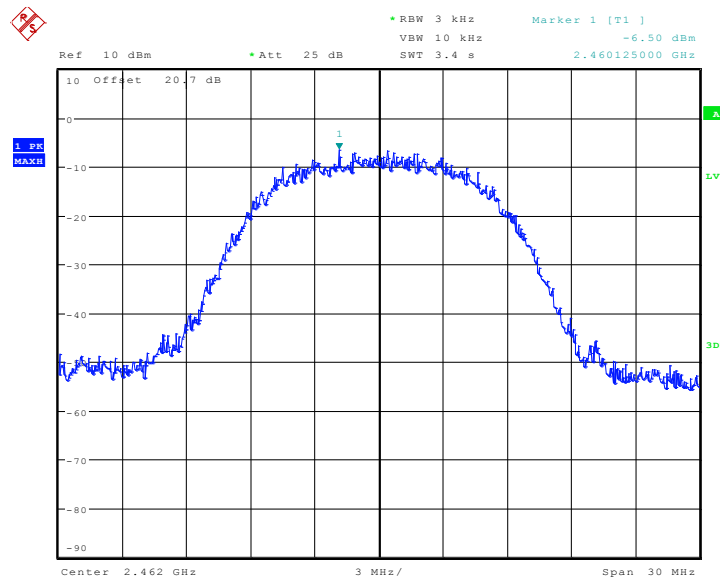
Date: 2.SEP.2013 10:02:46

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



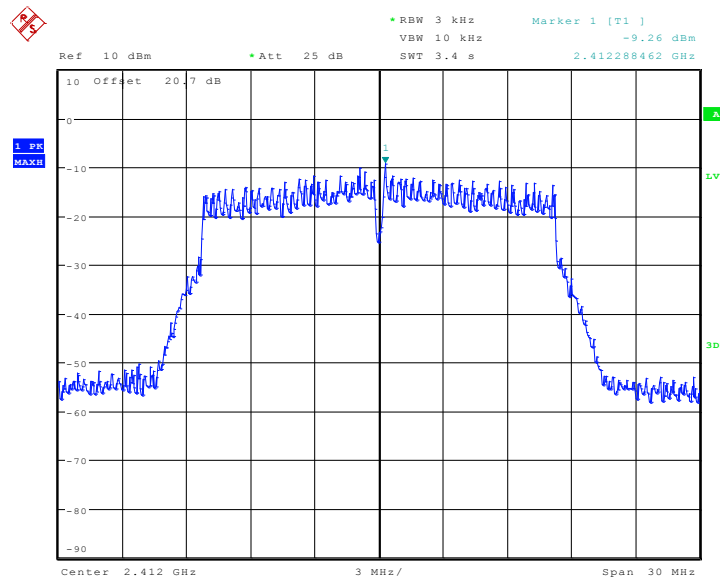
Date: 2.SEP.2013 10:03:34

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



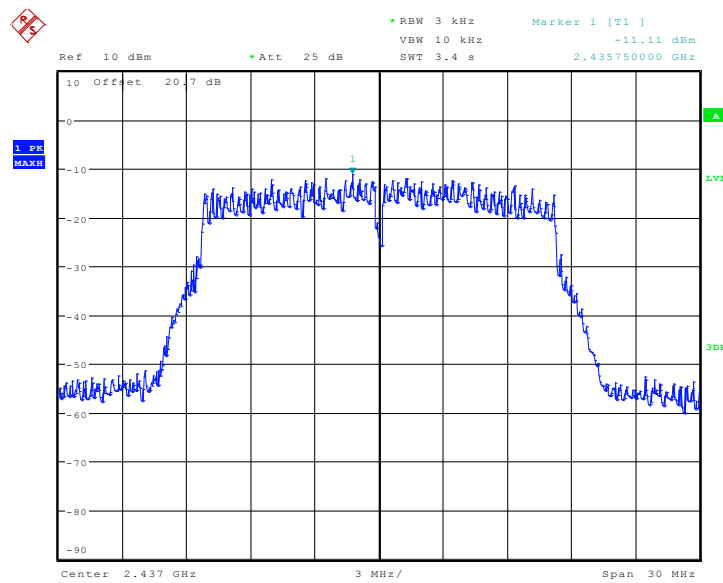
Date: 2.SEP.2013 10:04:10

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



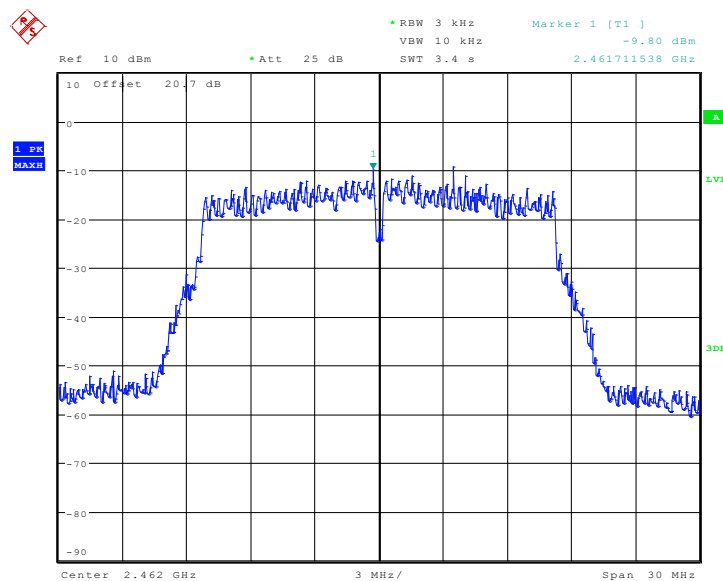
Date: 2.SEP.2013 10:05:14

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



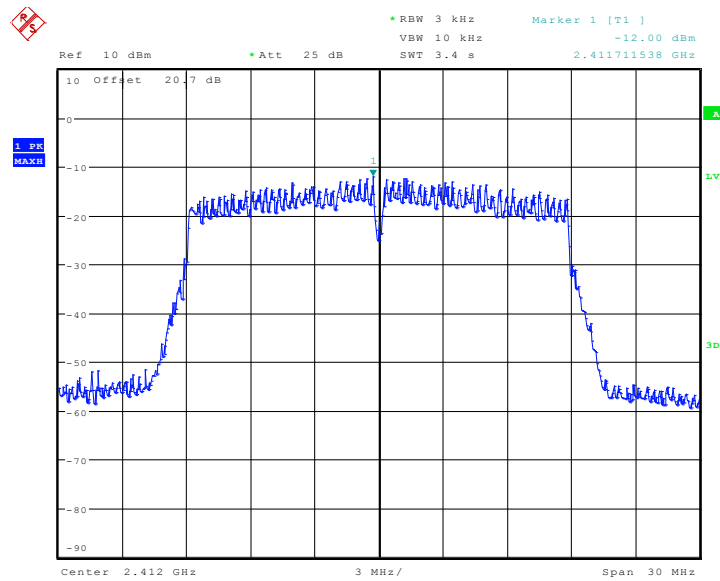
Date: 2.SEP.2013 10:06:11

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



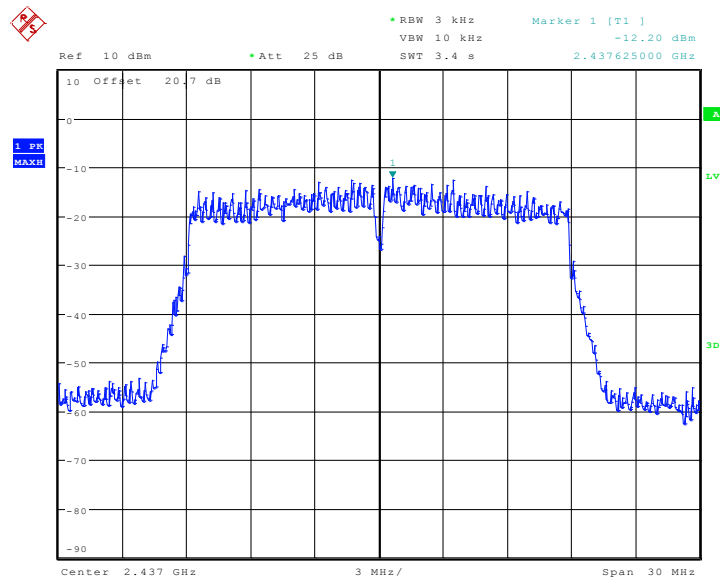
Date: 2.SEP.2013 10:06:48

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



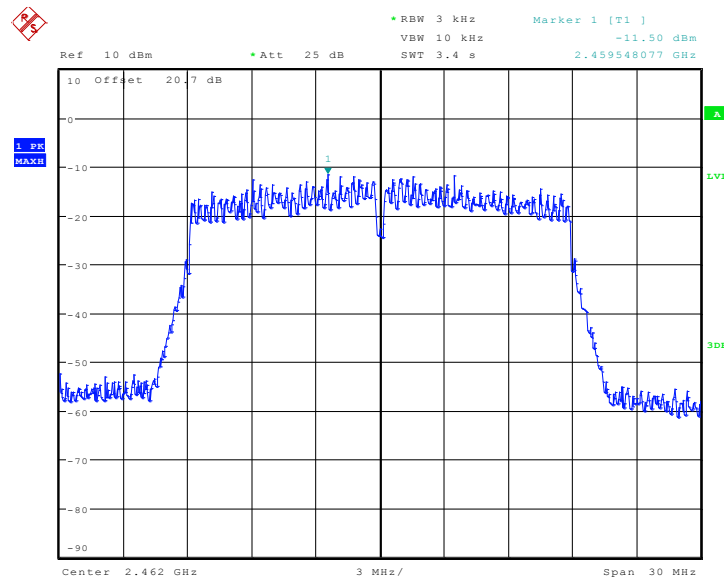
Date: 2.SEP.2013 10:18:54

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



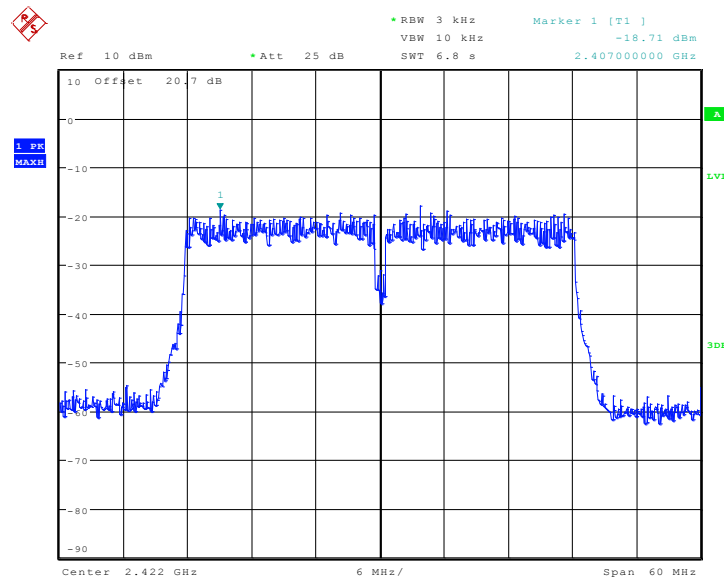
Date: 2.SEP.2013 10:19:47

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



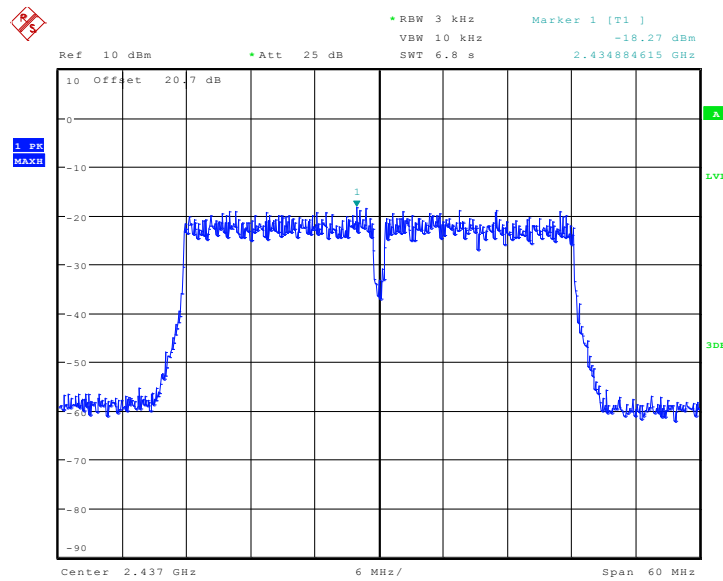
Date: 2.SEP.2013 10:20:38

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



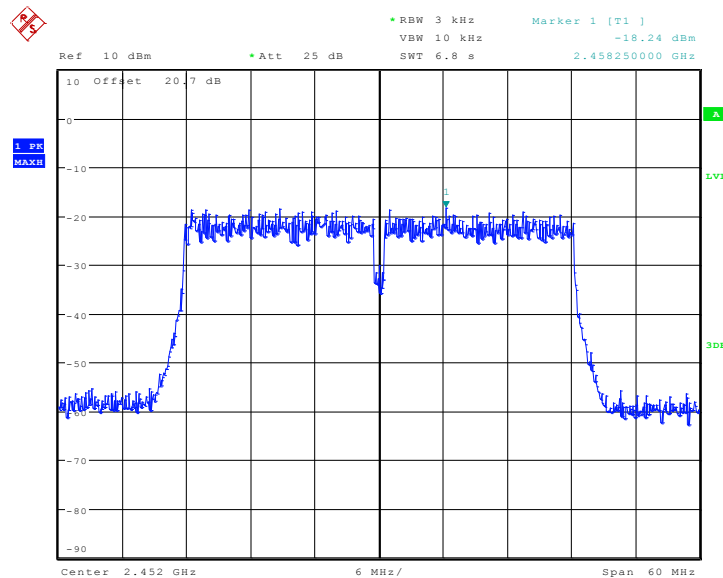
Date: 2.SEP.2013 10:23:58

**Fig.A.3.10 Power Spectral Density (802.11n-HT40, Ch 3)**



Date: 2.SEP.2013 10:24:47

**Fig.A.3.11 Power Spectral Density (802.11n-HT40, Ch 6)**



Date: 2.SEP.2013 10:25:52

**Fig.A.3.12 Power Spectral Density (802.11n-HT40, Ch 9)**

#### 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 | 802.11n-HT40 |
| 11Mbps(CCK) | 24Mbps(OFDM) | MCS3(OFDM)   | MCS3(OFDM)   |

##### Measurement Result:

##### 802.11b/g mode

| Mode    | Channel | Occupied 6dB Bandwidth<br>( kHz) |       | conclusion |
|---------|---------|----------------------------------|-------|------------|
| 802.11b | 1       | Fig.A.4.1                        | 10192 | <b>P</b>   |
|         | 6       | Fig.A.4.2                        | 10096 | <b>P</b>   |
|         | 11      | Fig.A.4.3                        | 10000 | <b>P</b>   |
| 802.11g | 1       | Fig.A.4.4                        | 16538 | <b>P</b>   |
|         | 6       | Fig.A.4.5                        | 16442 | <b>P</b>   |
|         | 11      | Fig.A.4.6                        | 16346 | <b>P</b>   |

##### 802.11n-HT20 mode

| Mode              | Channel | Occupied 6dB Bandwidth<br>( kHz) |       | conclusion |
|-------------------|---------|----------------------------------|-------|------------|
| 802.11n<br>(HT20) | 1       | Fig.A.4.7                        | 17404 | <b>P</b>   |
|                   | 6       | Fig.A.4.8                        | 17692 | <b>P</b>   |
|                   | 11      | Fig.A.4.9                        | 17596 | <b>P</b>   |

##### 802.11n-HT40 mode

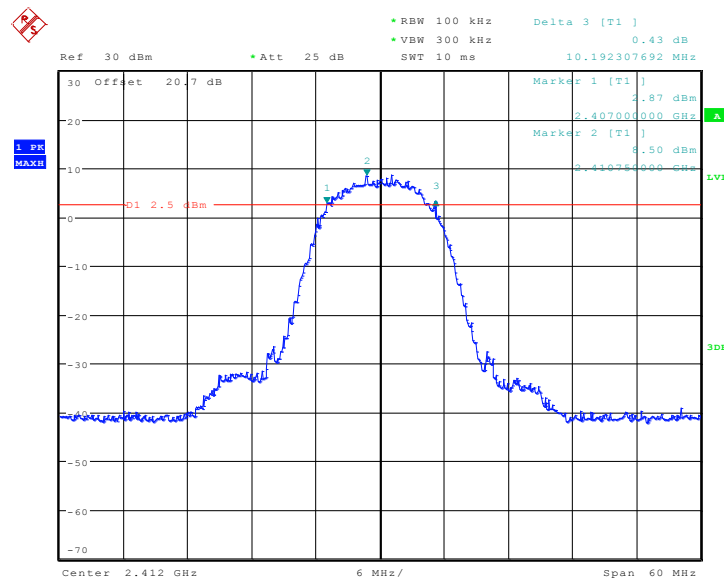
| Mode              | Channel | Occupied 6dB Bandwidth<br>( kHz) |       | conclusion |
|-------------------|---------|----------------------------------|-------|------------|
| 802.11n<br>(HT40) | 3       | Fig.A.4.10                       | 36538 | <b>P</b>   |
|                   | 6       | Fig.A.4.11                       | 36538 | <b>P</b>   |
|                   | 9       | Fig.A.4.12                       | 36538 | <b>P</b>   |

**Conclusion: Pass**

##### Measurement Uncertainty:

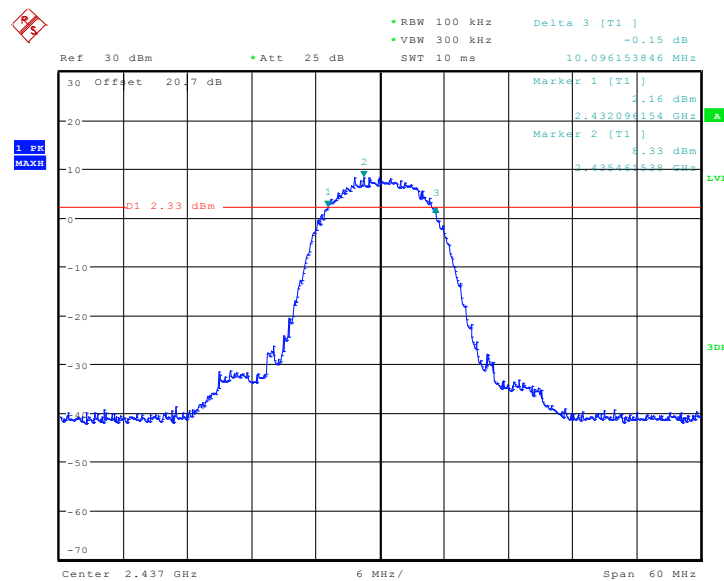
|                         |         |
|-------------------------|---------|
| Measurement Uncertainty | 60.80Hz |
|-------------------------|---------|

Test graphs as below:



Date: 2.SEP.2013 10:29:44

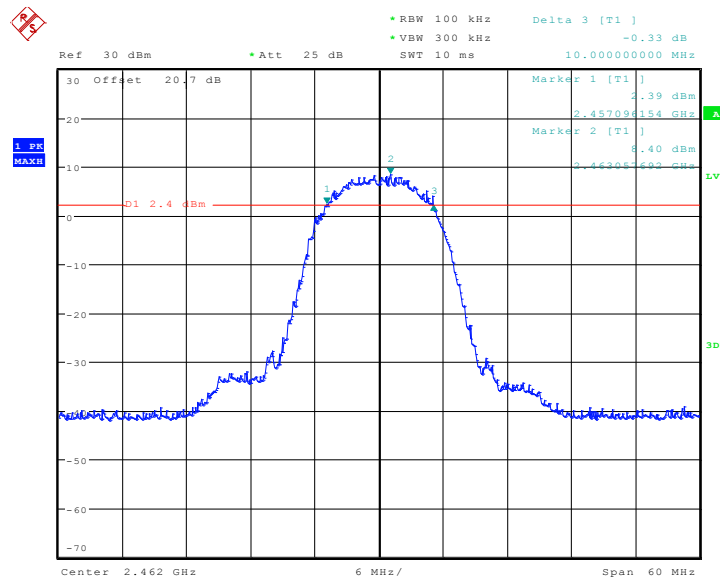
**Fig.A.4.1 Occupied 6dB Bandwidth (802.11b, Ch 1)**



Date: 2.SEP.2013 10:31:41

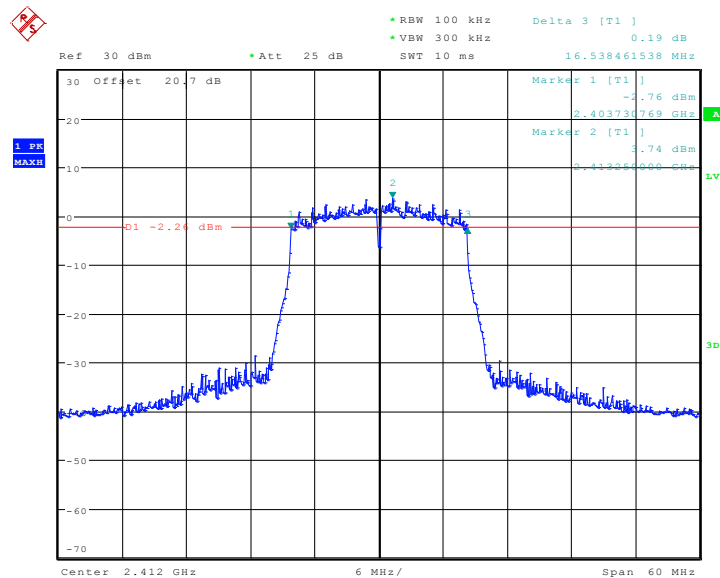
**Fig.A.4.2 Occupied 6dB Bandwidth (802.11b, Ch 6)**





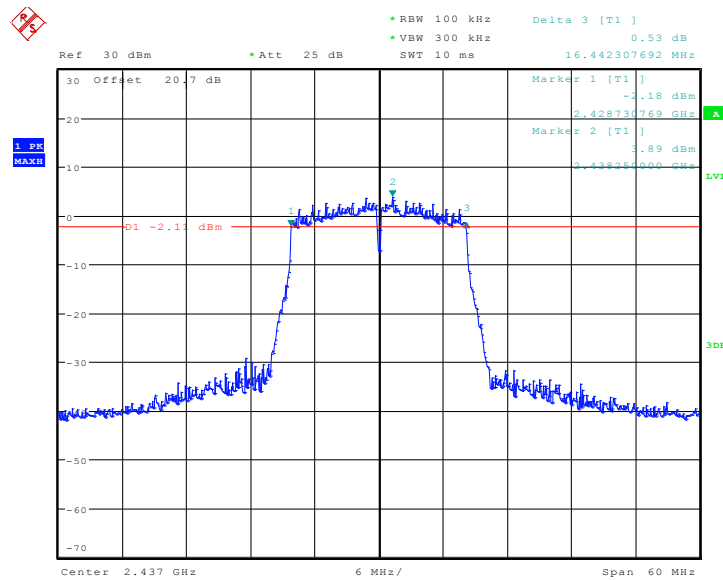
Date: 2.SEP.2013 10:33:05

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



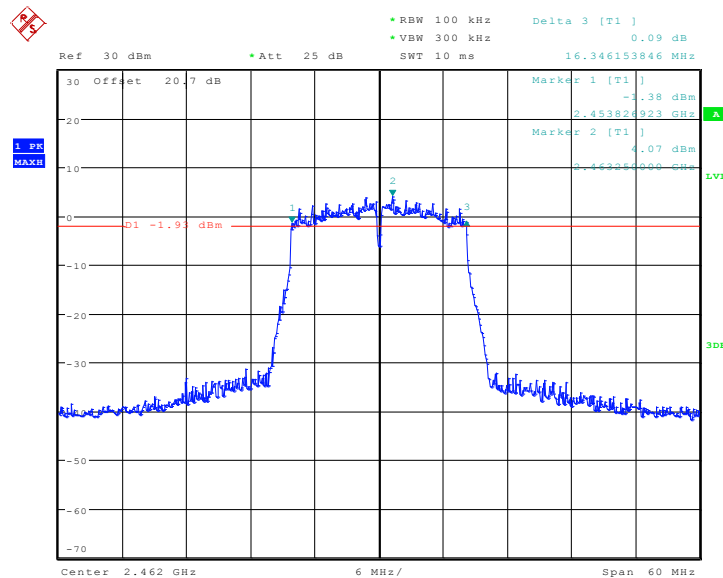
Date: 2.SEP.2013 10:36:44

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



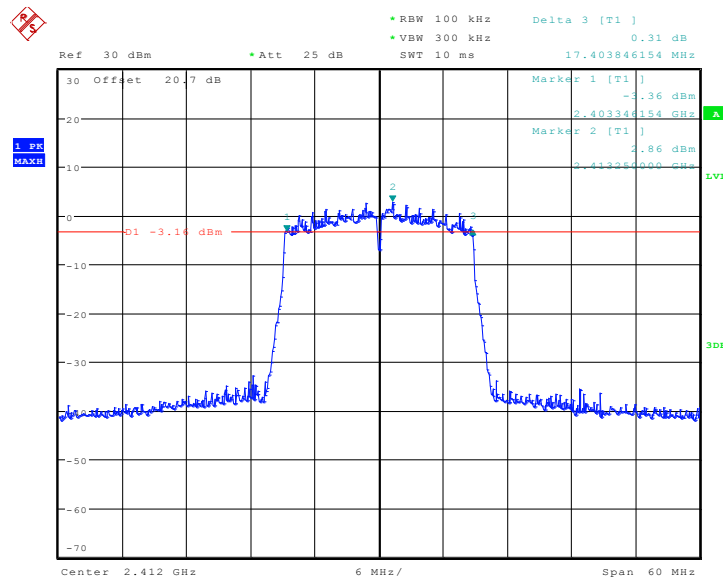
Date: 2.SEP.2013 10:37:52

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



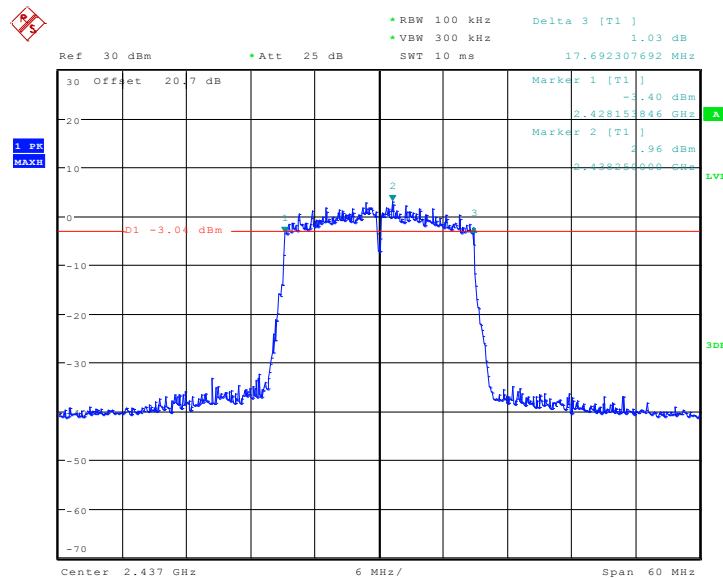
Date: 2.SEP.2013 10:39:02

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



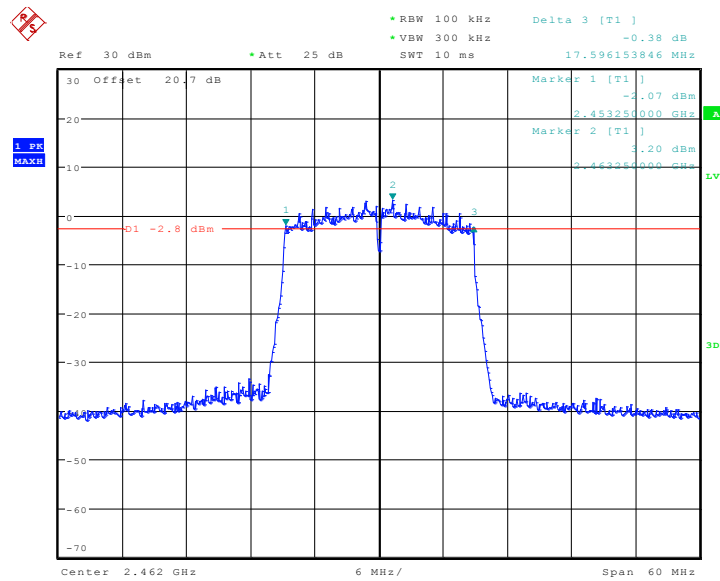
Date: 2.SEP.2013 10:40:31

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



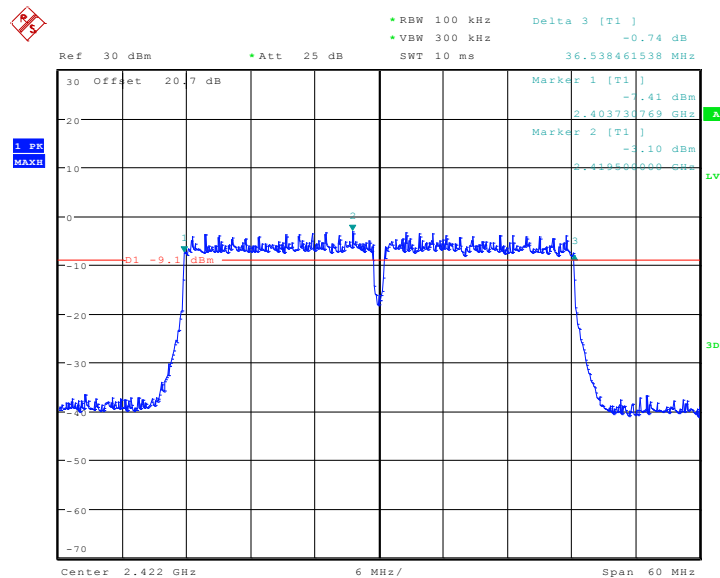
Date: 2.SEP.2013 10:42:26

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



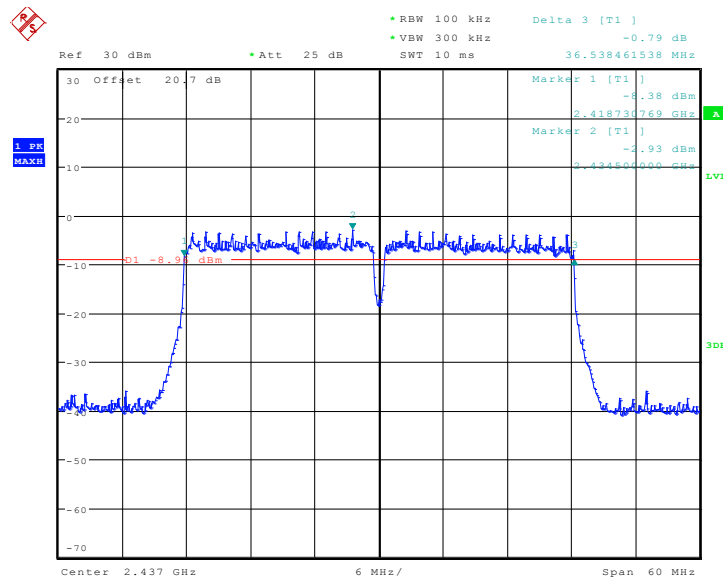
Date: 2.SEP.2013 10:43:37

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



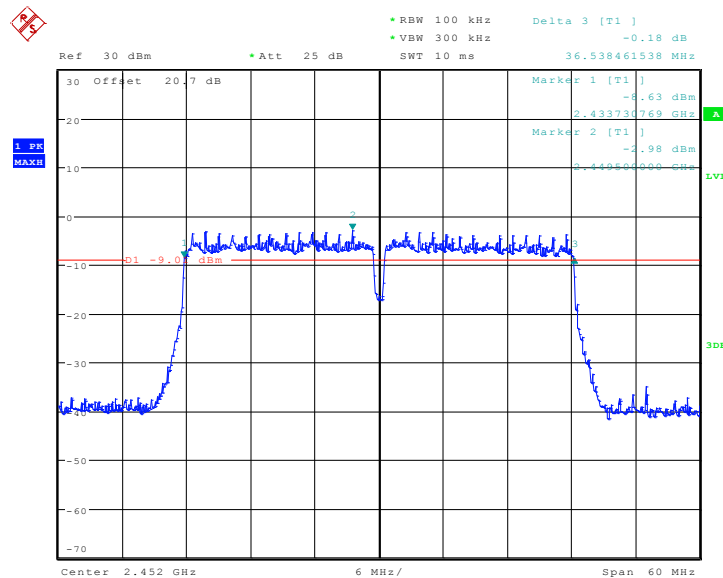
Date: 2.SEP.2013 10:45:52

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



Date: 2.SEP.2013 10:46:55

**Fig.A.4.11 Occupied 6dB Bandwidth (802.11n-HT40, Ch 6)**



Date: 2.SEP.2013 10:47:47

**Fig.A.4.12 Occupied 6dB Bandwidth (802.11n-HT40, Ch 9)**

## 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 | 802.11n-HT40 |
| 11Mbps(CCK) | 24Mbps(OFDM) | MCS3(OFDM)   | MCS3(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<br>(HT20) | 1       | Fig.A.5.5    | P          |
|                   | 11      | Fig.A.5.6    | P          |

#### 802.11n-HT40 mode

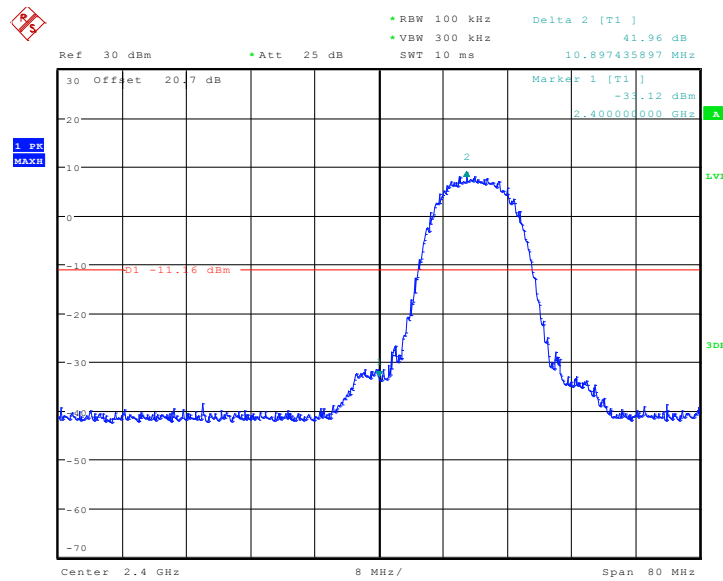
| Mode              | Channel | Test Results | Conclusion |
|-------------------|---------|--------------|------------|
| 802.11n<br>(HT40) | 3       | Fig.A.5.7    | P          |
|                   | 9       | Fig.A.5.8    | P          |

**Conclusion: Pass**

### Measurement Uncertainty:

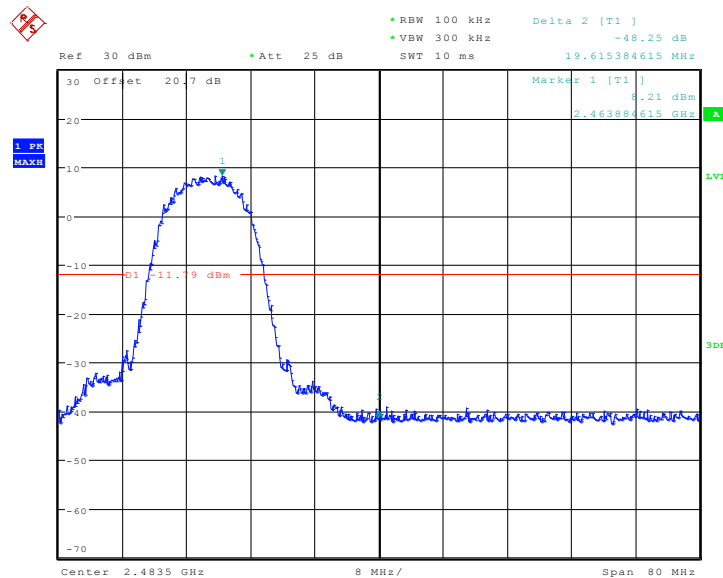
|                         |        |
|-------------------------|--------|
| Measurement Uncertainty | 0.75dB |
|-------------------------|--------|

Test graphs as below:



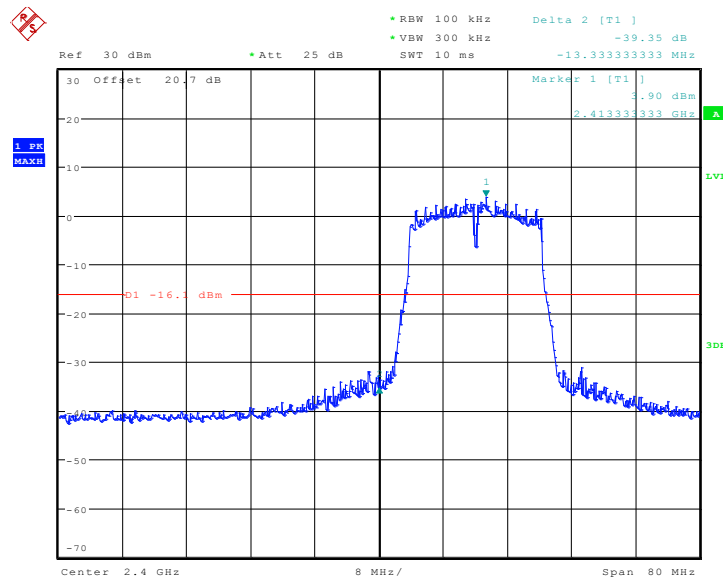
Date: 2.SEP.2013 10:49:32

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



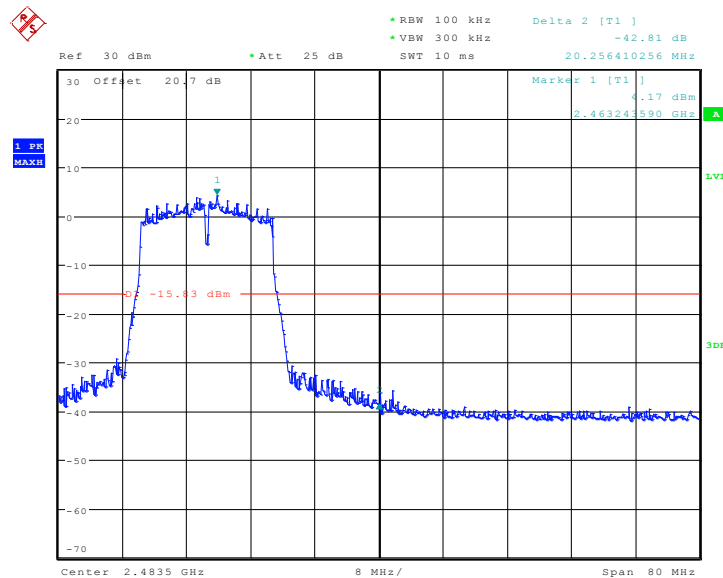
Date: 2.SEP.2013 10:50:38

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



Date: 2.SEP.2013 10:52:23

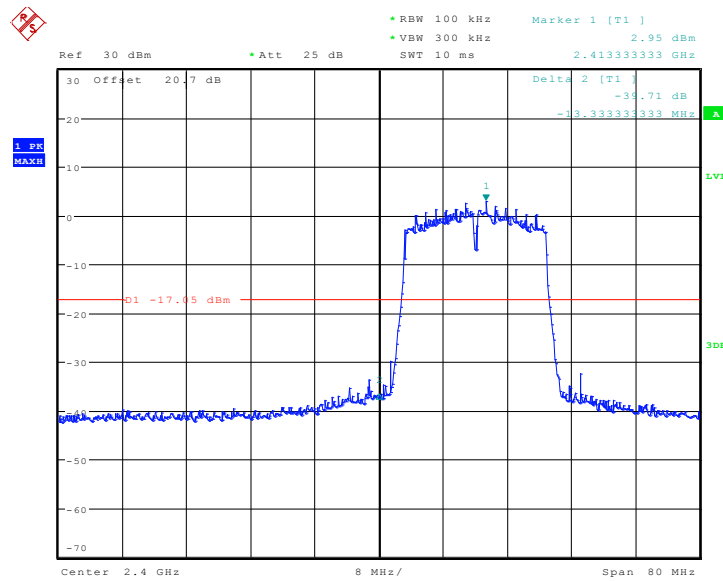
**Fig.A.5.3 Band Edges (802.11g, Ch 1)**



Date: 2.SEP.2013 10:51:38

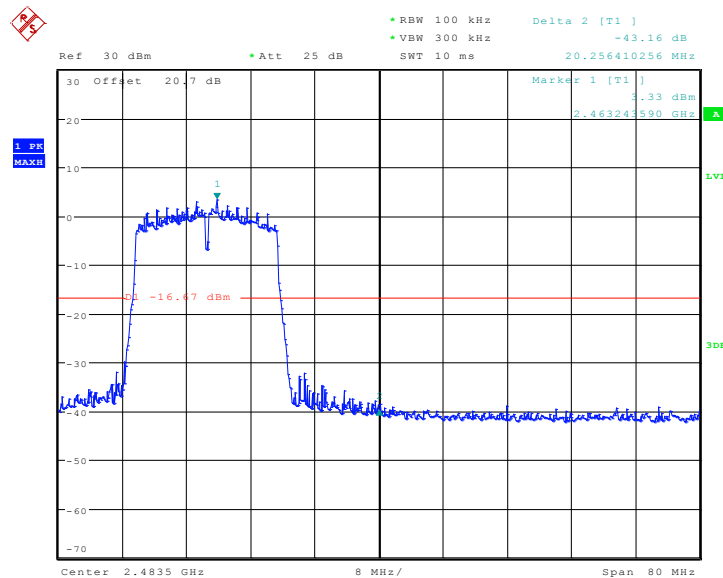
**Fig.A.5.4 Band Edges (802.11g, Ch 11)**





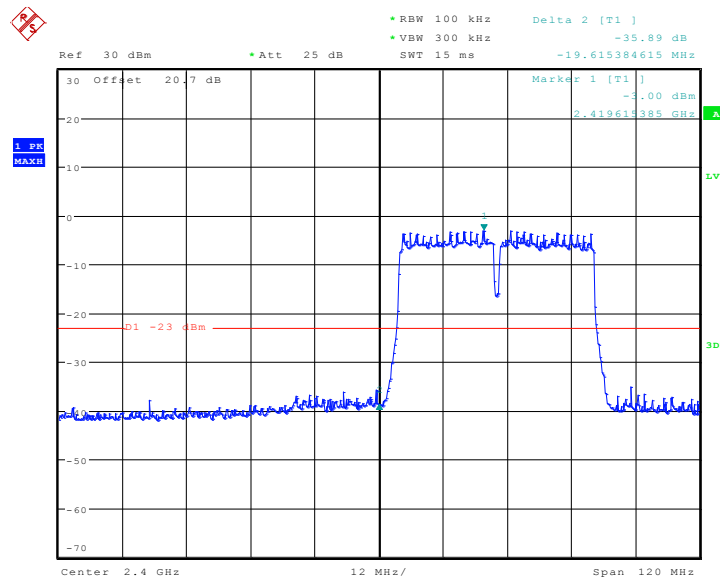
Date: 2.SEP.2013 10:53:18

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



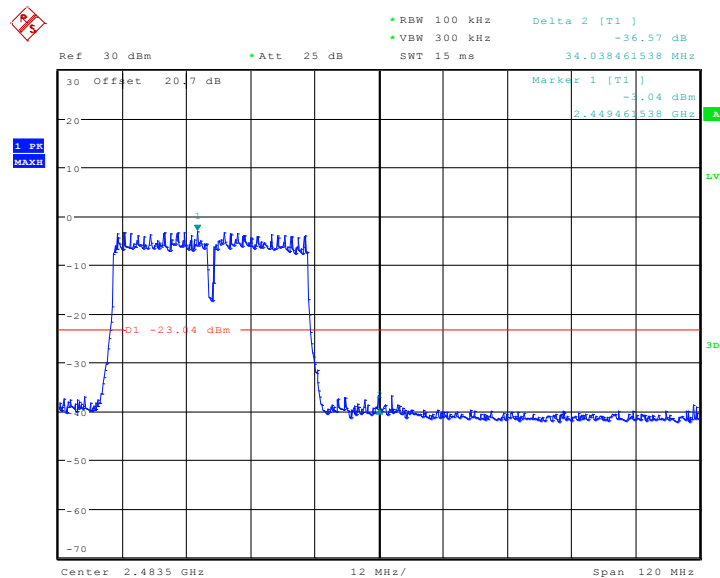
Date: 2.SEP.2013 10:54:04

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



Date: 2.SEP.2013 10:55:27

**Fig.A.5.7 Band Edges (802.11n-HT40, Ch 3)**



Date: 2.SEP.2013 10:56:07

**Fig.A.5.8 Band Edges (802.11n-HT40, Ch 9)**

## 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 | 802.11n-HT40 |
| 11Mbps(CCK) | 24Mbps(OFDM) | MCS3(OFDM)   | MCS3(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 | <b>P</b>   |
|         |         | 30 MHz ~ 1 GHz    | Fig.A.6.1.26 | <b>P</b>   |
|         |         | 1 GHz ~ 2.5 GHz   | Fig.A.6.1.27 | <b>P</b>   |
|         |         | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.28 | <b>P</b>   |
|         |         | 7.5 GHz ~ 10 GHz  | Fig.A.6.1.29 | <b>P</b>   |
|         |         | 10 GHz ~ 15 GHz   | Fig.A.6.1.30 | <b>P</b>   |
|         |         | 15 GHz ~ 20 GHz   | Fig.A.6.1.31 | <b>P</b>   |
|         |         | 20 GHz ~ 26 GHz   | Fig.A.6.1.32 | <b>P</b>   |
|         | 6       | 2.437 GHz         | Fig.A.6.1.33 | <b>P</b>   |
|         |         | 30 MHz ~ 1 GHz    | Fig.A.6.1.34 | <b>P</b>   |
|         |         | 1 GHz ~ 2.5 GHz   | Fig.A.6.1.35 | <b>P</b>   |
|         |         | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.36 | <b>P</b>   |
|         |         | 7.5 GHz ~ 10 GHz  | Fig.A.6.1.37 | <b>P</b>   |
|         |         | 10 GHz ~ 15 GHz   | Fig.A.6.1.38 | <b>P</b>   |
|         |         | 15 GHz ~ 20 GHz   | Fig.A.6.1.39 | <b>P</b>   |
|         |         | 20 GHz ~ 26 GHz   | Fig.A.6.1.40 | <b>P</b>   |
|         | 11      | 2.462 GHz         | Fig.A.6.1.41 | <b>P</b>   |
|         |         | 30 MHz ~ 1 GHz    | Fig.A.6.1.42 | <b>P</b>   |
|         |         | 1 GHz ~ 2.5 GHz   | Fig.A.6.1.43 | <b>P</b>   |
|         |         | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.44 | <b>P</b>   |
|         |         | 7.5 GHz ~ 10 GHz  | Fig.A.6.1.45 | <b>P</b>   |
|         |         | 10 GHz ~ 15 GHz   | Fig.A.6.1.46 | <b>P</b>   |
|         |         | 15 GHz ~ 20 GHz   | Fig.A.6.1.47 | <b>P</b>   |
|         |         | 20 GHz ~ 26 GHz   | Fig.A.6.1.48 | <b>P</b>   |

**802.11n-HT20 mode**

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

**802.11n-HT40 mode**

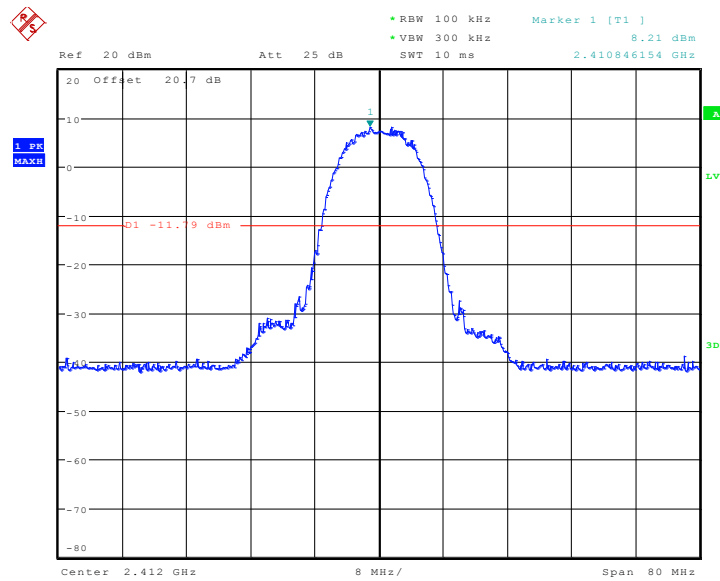
| MODE              | Channel | Frequency Range   | Test Results | Conclusion |
|-------------------|---------|-------------------|--------------|------------|
| 802.11n<br>(HT40) | 3       | 2.422 GHz         | Fig.A.6.1.73 | P          |
|                   |         | 30 MHz ~ 1 GHz    | Fig.A.6.1.74 | P          |
|                   |         | 1 GHz ~ 2.5 GHz   | Fig.A.6.1.75 | P          |
|                   |         | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.76 | P          |
|                   |         | 7.5 GHz ~ 10 GHz  | Fig.A.6.1.77 | P          |
|                   |         | 10 GHz ~ 15 GHz   | Fig.A.6.1.78 | P          |
|                   |         | 15 GHz ~ 20 GHz   | Fig.A.6.1.79 | P          |
|                   |         | 20 GHz ~ 26 GHz   | Fig.A.6.1.80 | P          |
|                   | 6       | 2.437 GHz         | Fig.A.6.1.81 | P          |
|                   |         | 30 MHz ~ 1 GHz    | Fig.A.6.1.82 | P          |
|                   |         | 1 GHz ~ 2.5 GHz   | Fig.A.6.1.83 | P          |
|                   |         | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.84 | P          |
|                   |         | 7.5 GHz ~ 10 GHz  | Fig.A.6.1.85 | P          |
|                   |         | 10 GHz ~ 15 GHz   | Fig.A.6.1.86 | P          |
|                   |         | 15 GHz ~ 20 GHz   | Fig.A.6.1.87 | P          |
|                   |         | 20 GHz ~ 26 GHz   | Fig.A.6.1.88 | P          |
|                   | 9       | 2.452 GHz         | Fig.A.6.1.89 | P          |
|                   |         | 30 MHz ~ 1 GHz    | Fig.A.6.1.90 | P          |
|                   |         | 1 GHz ~ 2.5 GHz   | Fig.A.6.1.91 | P          |
|                   |         | 2.5 GHz ~ 7.5 GHz | Fig.A.6.1.92 | P          |
|                   |         | 7.5 GHz ~ 10 GHz  | Fig.A.6.1.93 | P          |
|                   |         | 10 GHz ~ 15 GHz   | Fig.A.6.1.94 | P          |
|                   |         | 15 GHz ~ 20 GHz   | Fig.A.6.1.95 | P          |
|                   |         | 20 GHz ~ 26 GHz   | Fig.A.6.1.96 | P          |

**Conclusion: Pass**

**Measurement Uncertainty:**

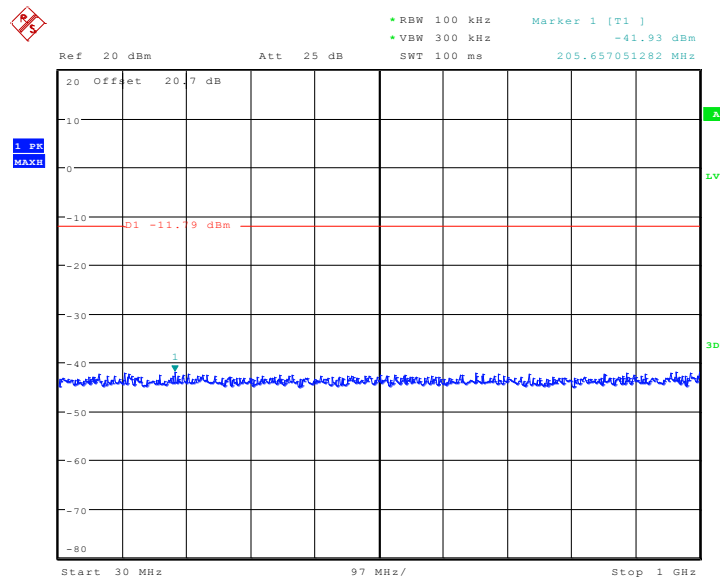
| Frequency Range   | Uncertainty(dB) |
|-------------------|-----------------|
| 30MHz ≤ f ≤ 2GHz  | 0.63            |
| 2GHz ≤ f ≤ 3.6GHz | 0.82            |
| 3.6GHz ≤ f ≤ 8GHz | 1.55            |
| 8GHz ≤ f ≤ 20GHz  | 1.86            |
| 20GHz ≤ f ≤ 22GHz | 1.90            |
| 22GHz ≤ f ≤ 26GHz |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

**Test graphs as below:**



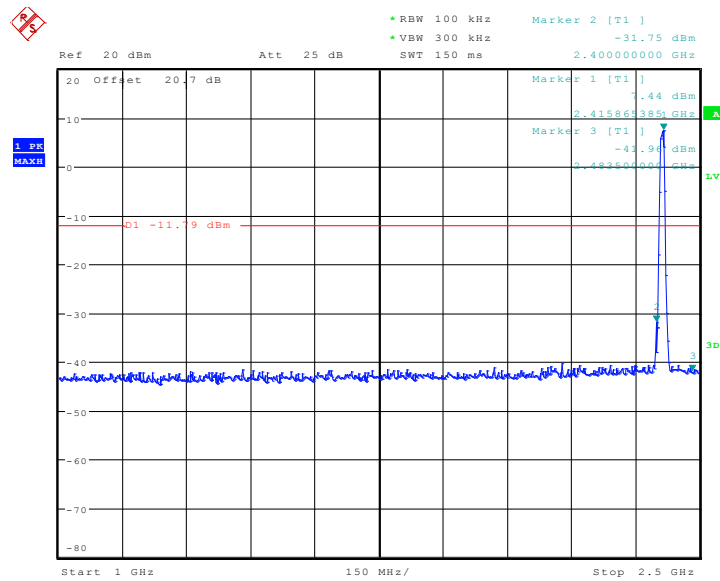
Date: 1.SEP.2013 17:40:08

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



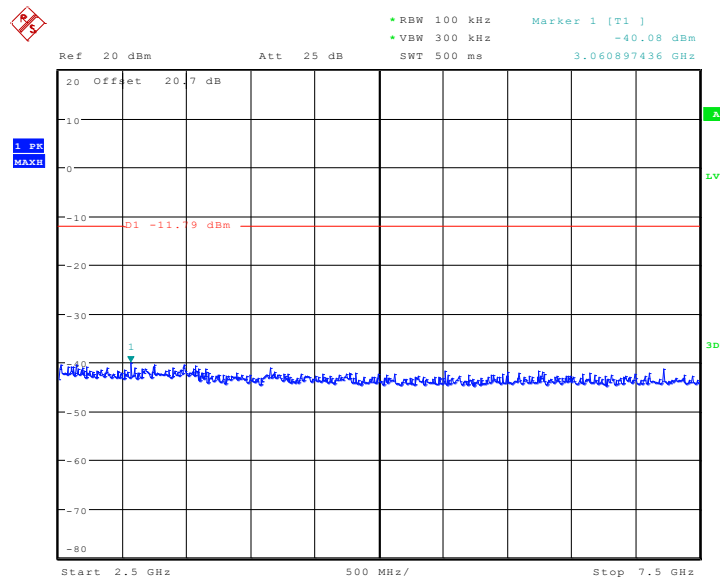
Date: 1.SEP.2013 17:40:32

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



Date: 1.SEP.2013 17:41:07

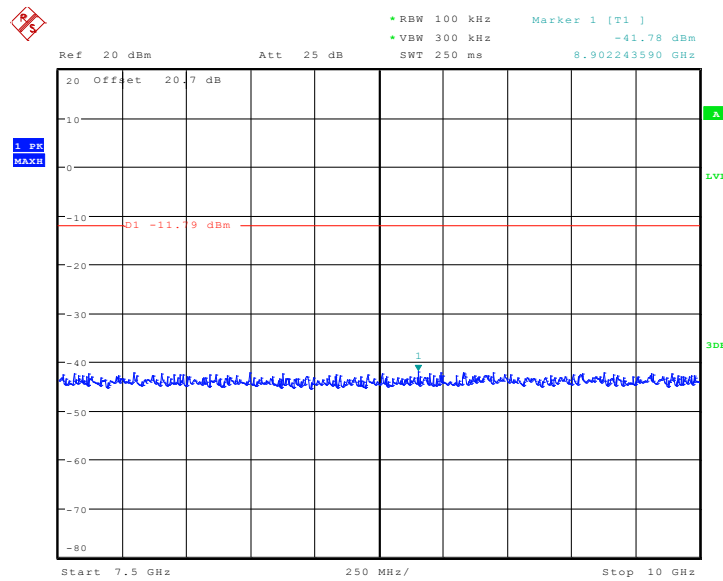
**Fig.A.6.1.3 Conducted Spurious Emission (802.11b, Ch1, 1 GHz-2.5 GHz)**



Date: 1.SEP.2013 17:41:40

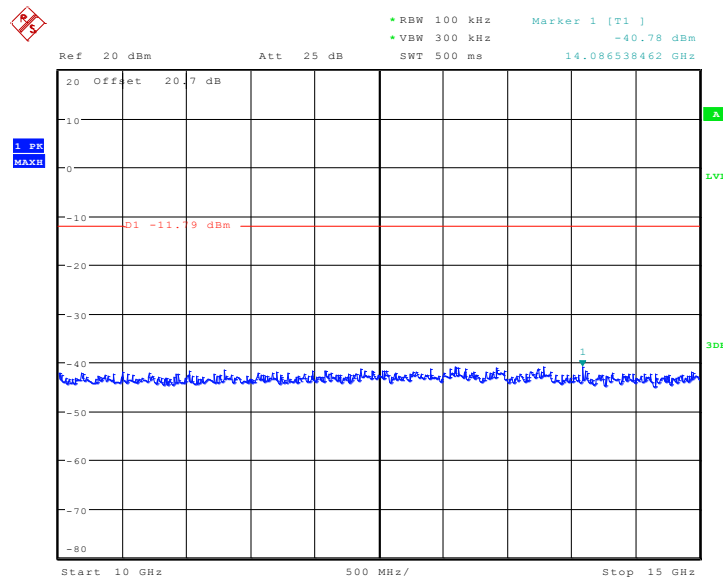
**Fig.A.6.1.4 Conducted Spurious Emission (802.11b, Ch1, 2.5 GHz-7.5 GHz)**





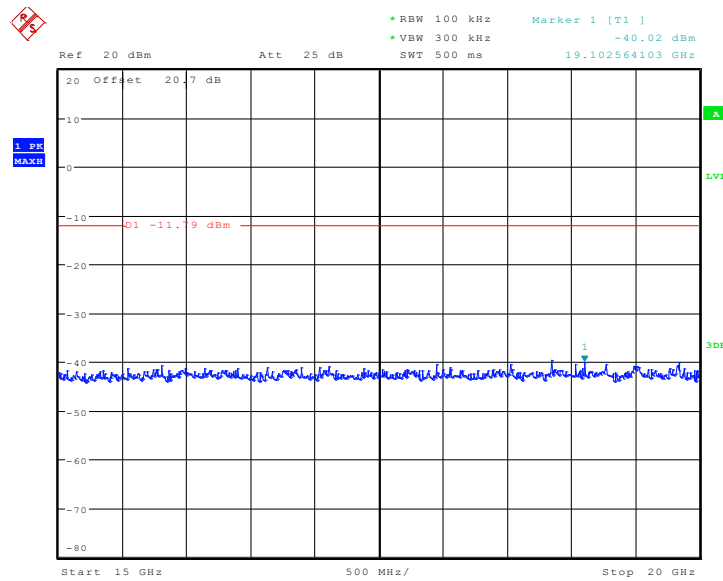
Date: 1.SEP.2013 17:41:59

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



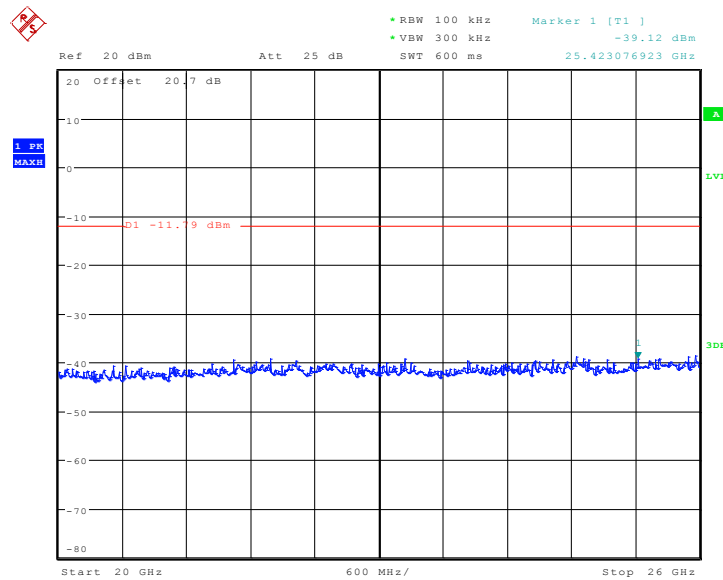
Date: 1.SEP.2013 17:42:14

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



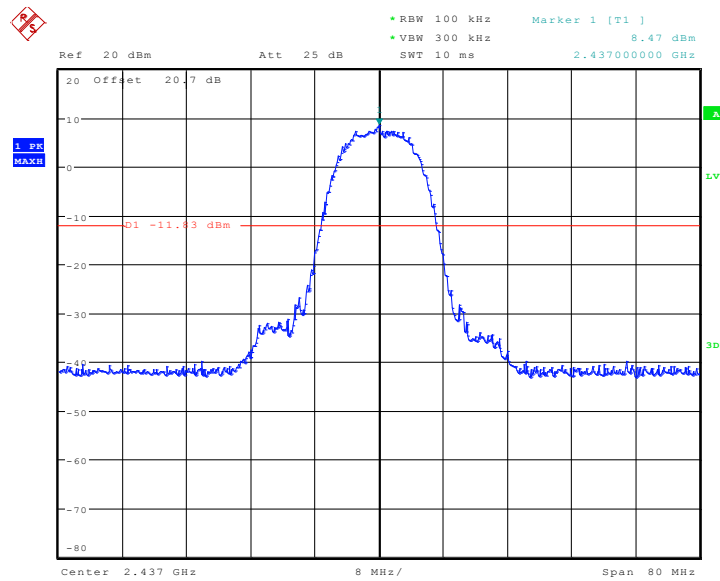
Date: 1.SEP.2013 17:42:34

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



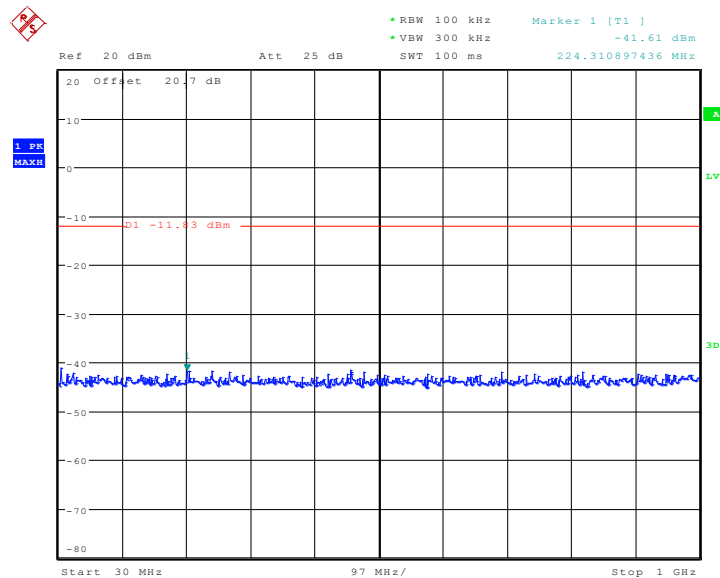
Date: 1.SEP.2013 17:42:58

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



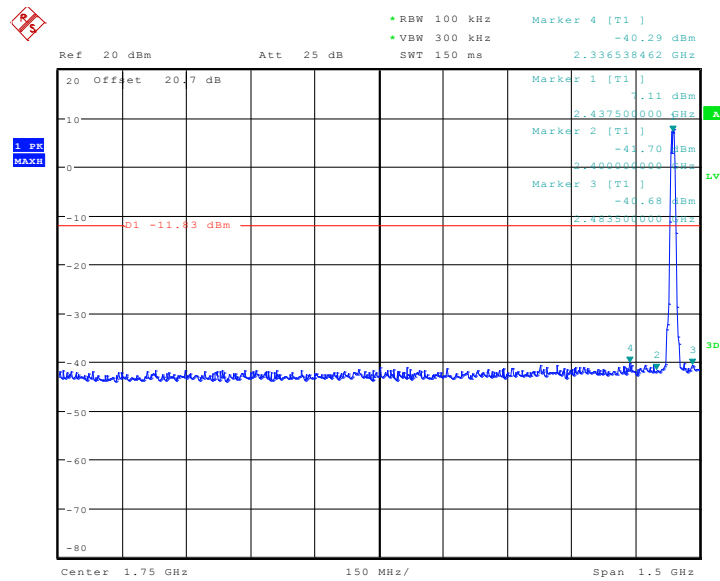
Date: 1.SEP.2013 17:46:38

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



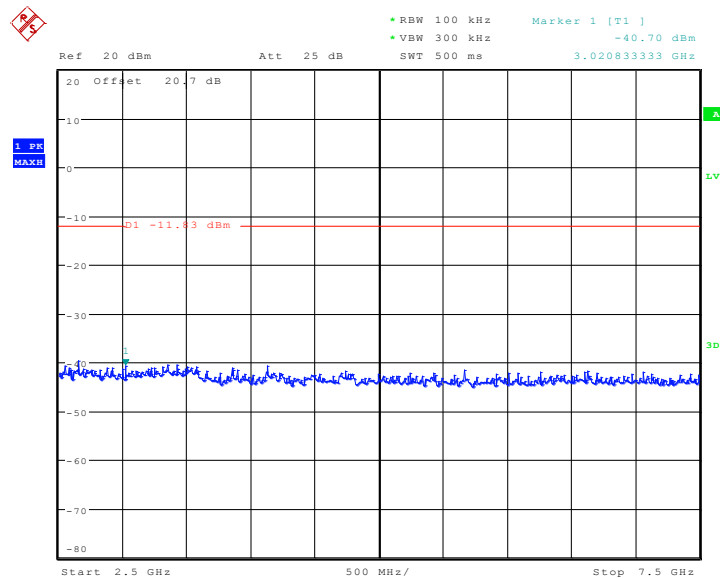
Date: 1.SEP.2013 17:46:56

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



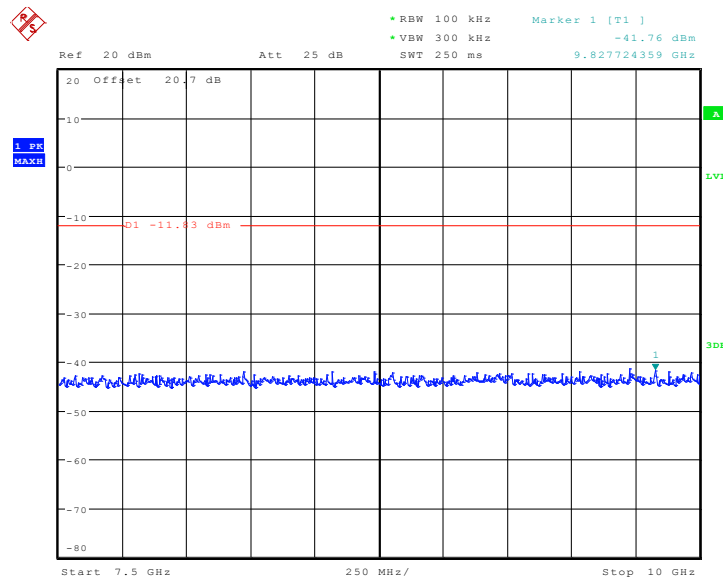
Date: 1.SEP.2013 17:47:42

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



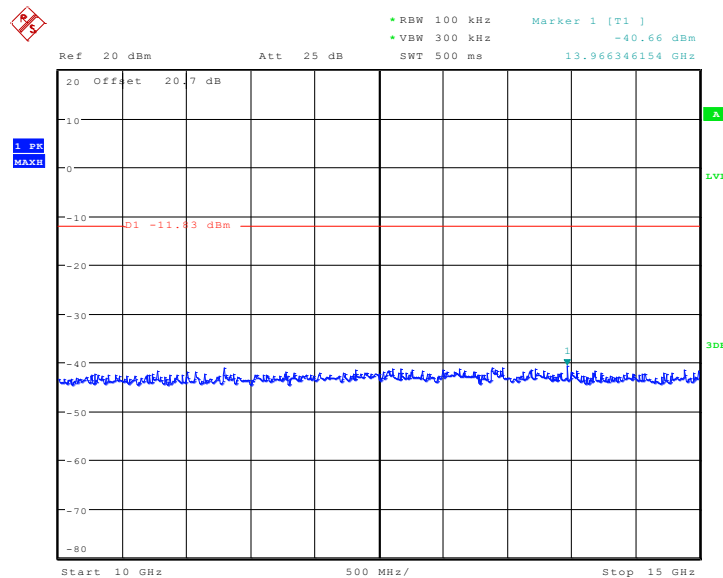
Date: 1.SEP.2013 17:48:06

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



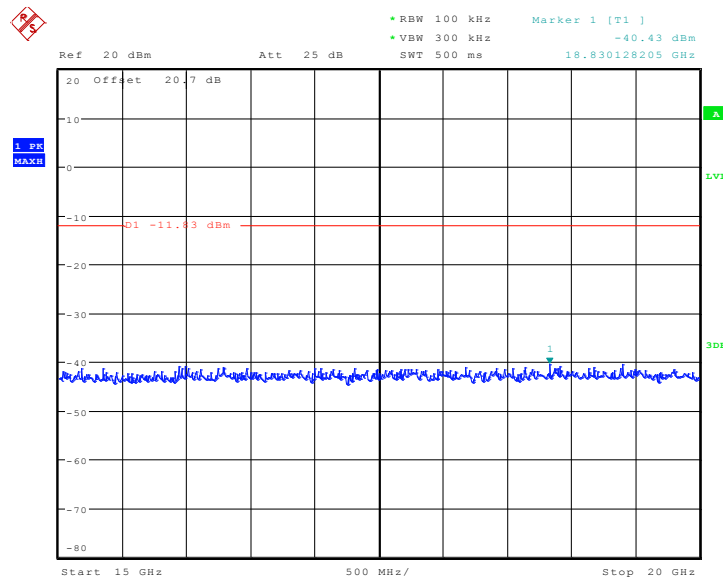
Date: 1.SEP.2013 17:48:24

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



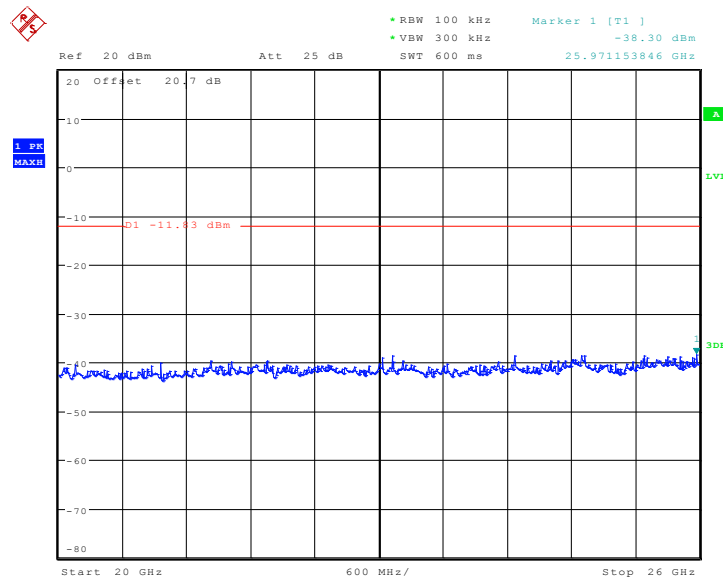
Date: 1.SEP.2013 17:48:40

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



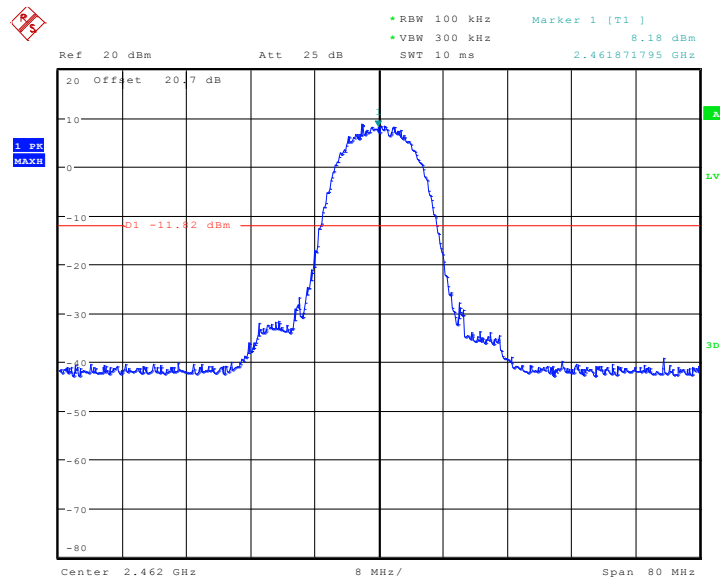
Date: 1.SEP.2013 17:48:57

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



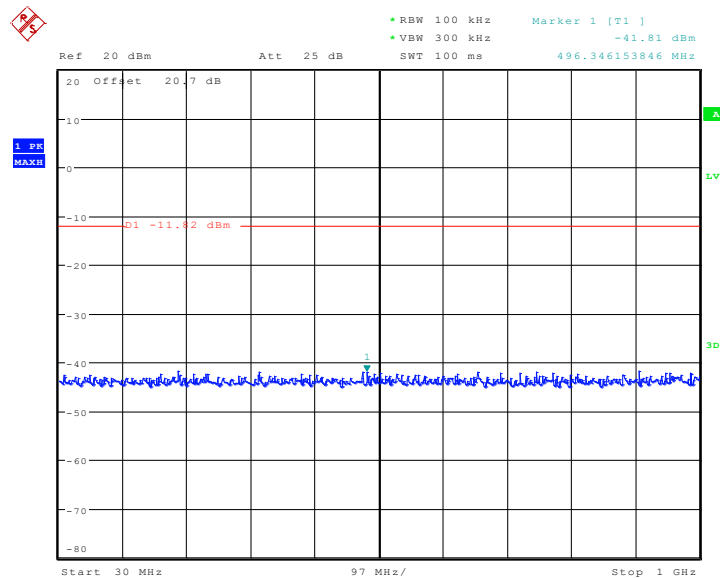
Date: 1.SEP.2013 17:49:19

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



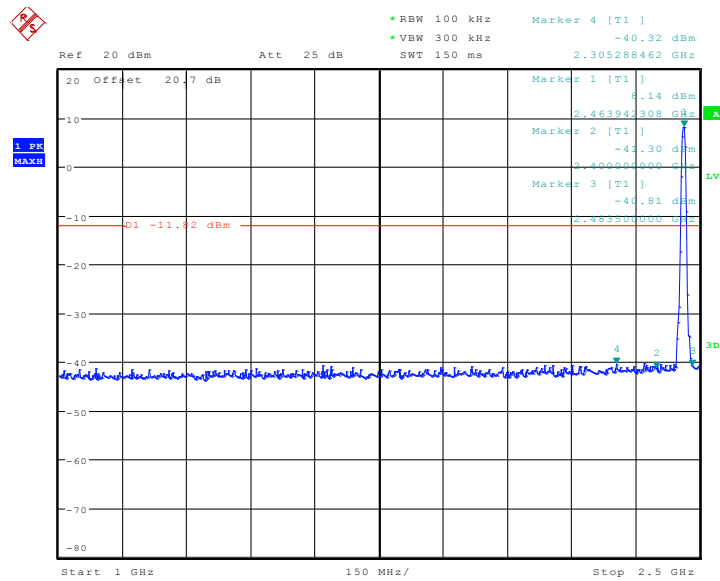
Date: 1.SEP.2013 17:50:40

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



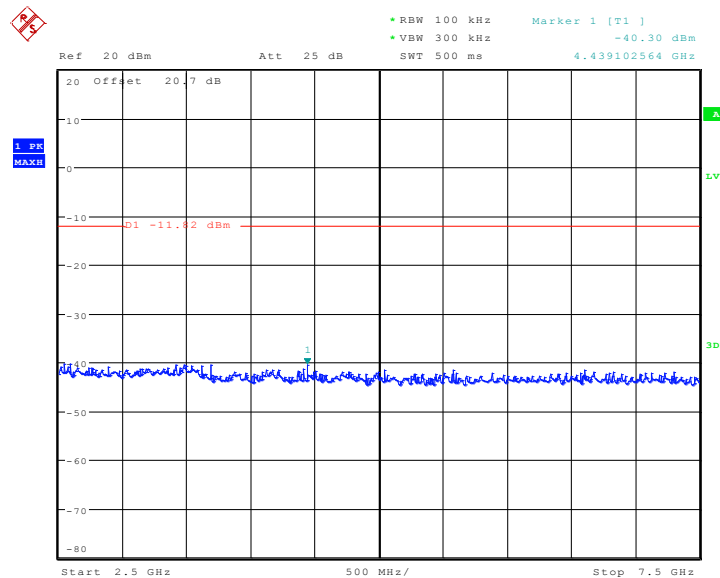
Date: 1.SEP.2013 17:51:02

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



Date: 1.SEP.2013 17:52:15

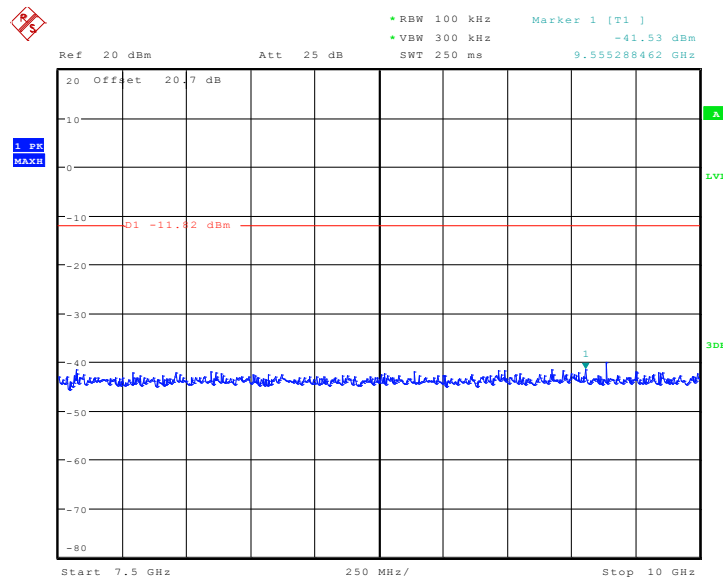
**Fig.A.6.1.19 Conducted Spurious Emission (802.11b, Ch11, 1 GHz-2.5 GHz)**



Date: 1.SEP.2013 17:52:46

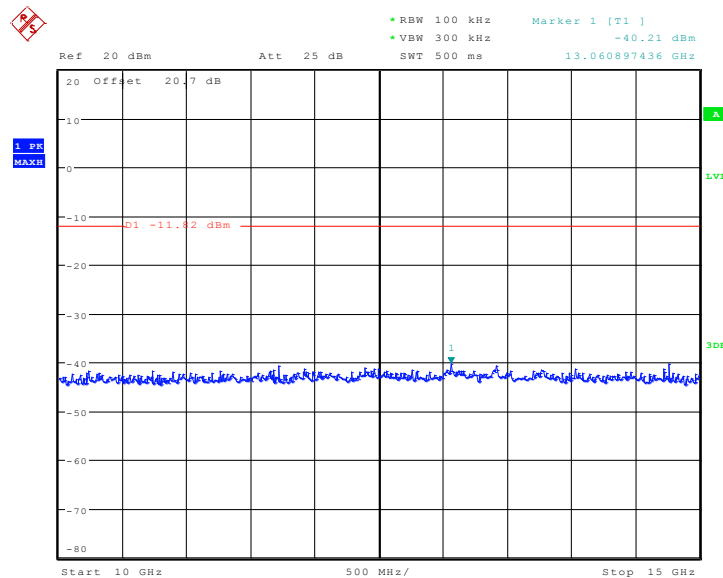
**Fig.A.6.1.20 Conducted Spurious Emission (802.11b, Ch11, 2.5 GHz-7.5 GHz)**





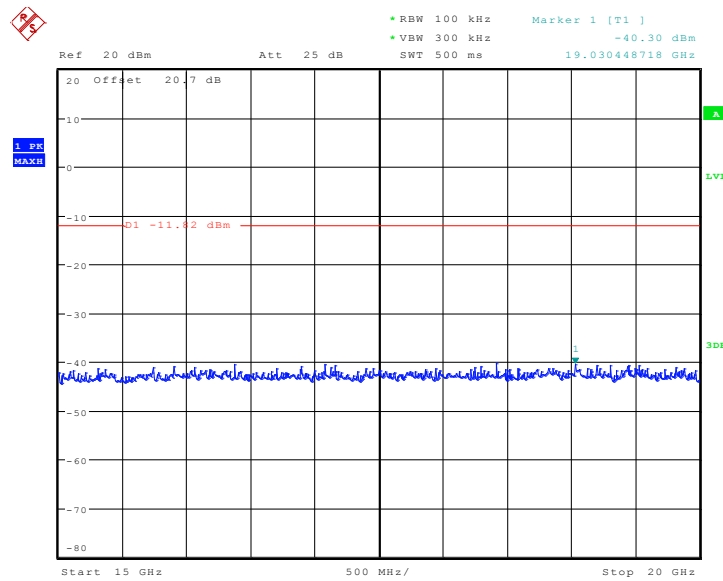
Date: 1.SEP.2013 17:53:06

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



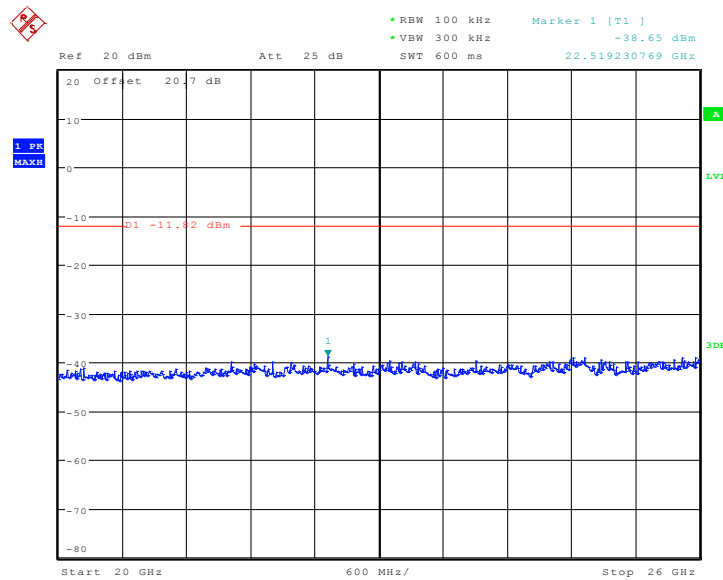
Date: 1.SEP.2013 17:53:25

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



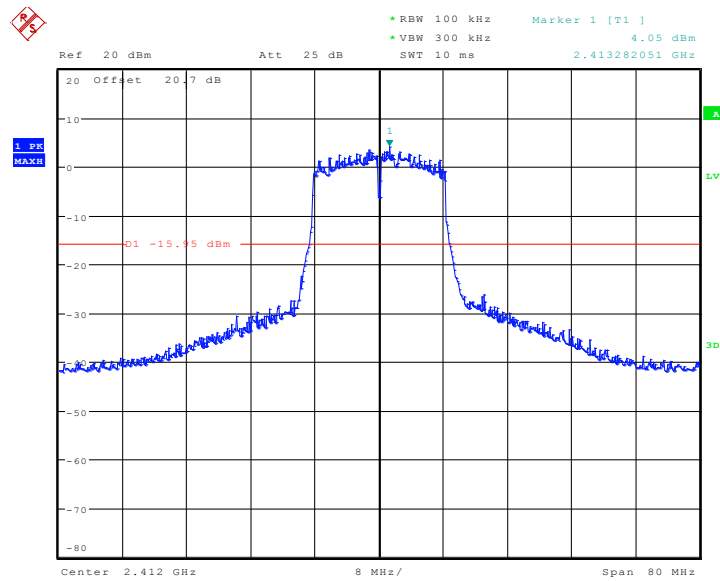
Date: 1.SEP.2013 17:53:43

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



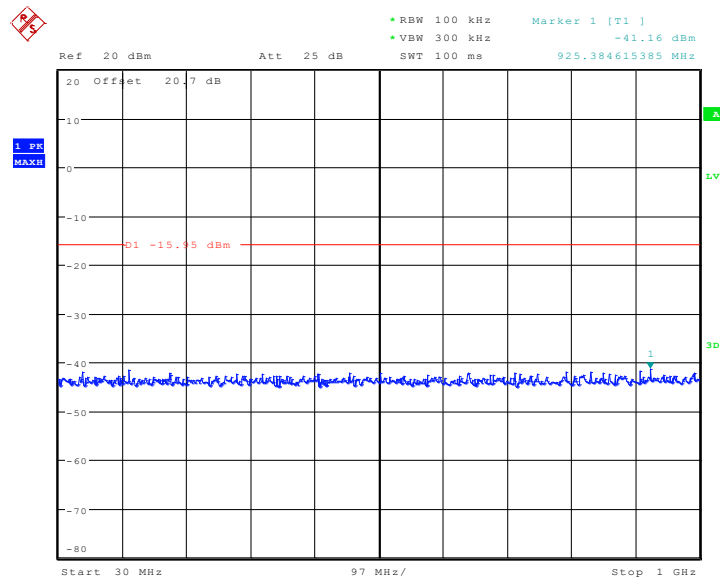
Date: 1.SEP.2013 17:54:23

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



Date: 1.SEP.2013 17:56:18

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



Date: 1.SEP.2013 18:00:48

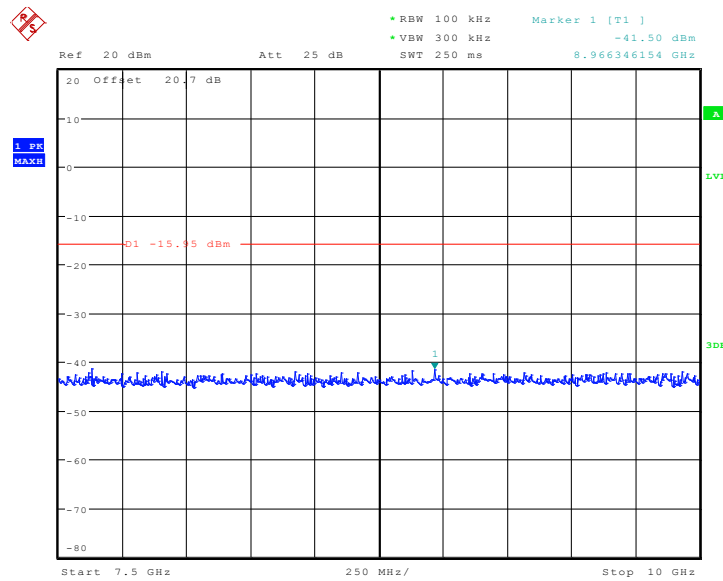
**Fig.A.6.1.26 Conducted Spurious Emission (802.11g, Ch1, 30 MHz-1 GHz)**



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

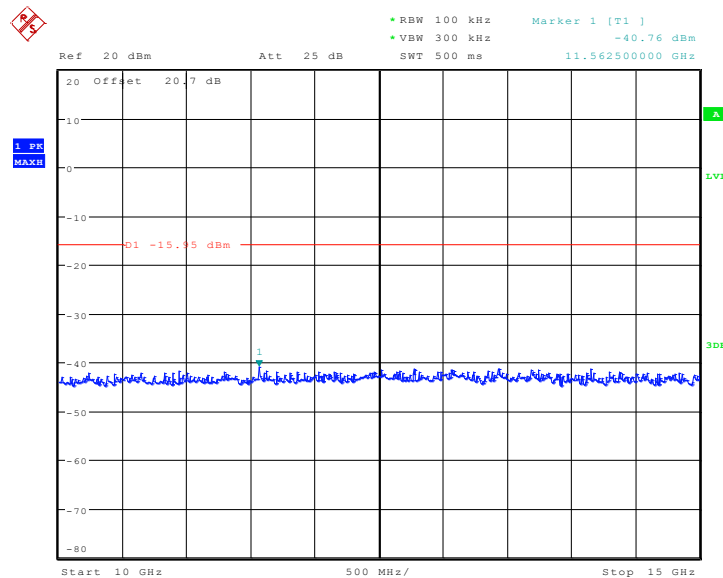


**Fig.A.6.1.28 Conducted Spurious Emission (802.11g, Ch1, 2.5 GHz-7.5 GHz)**



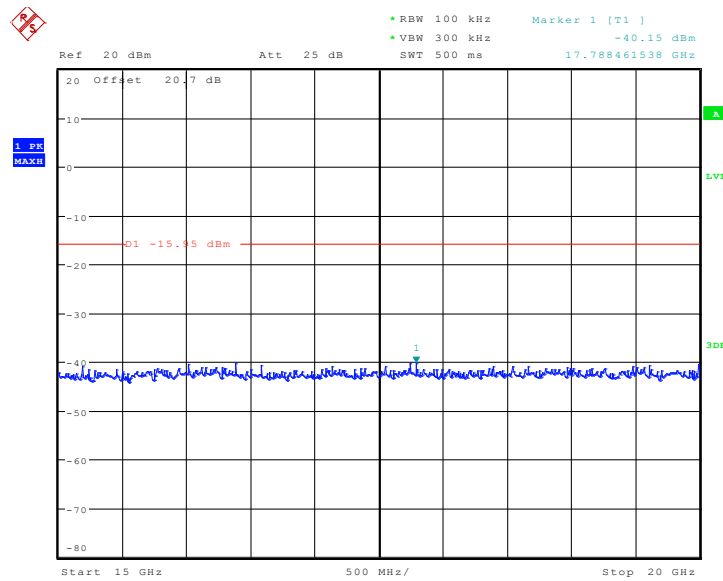
Date: 1.SEP.2013 17:57:45

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



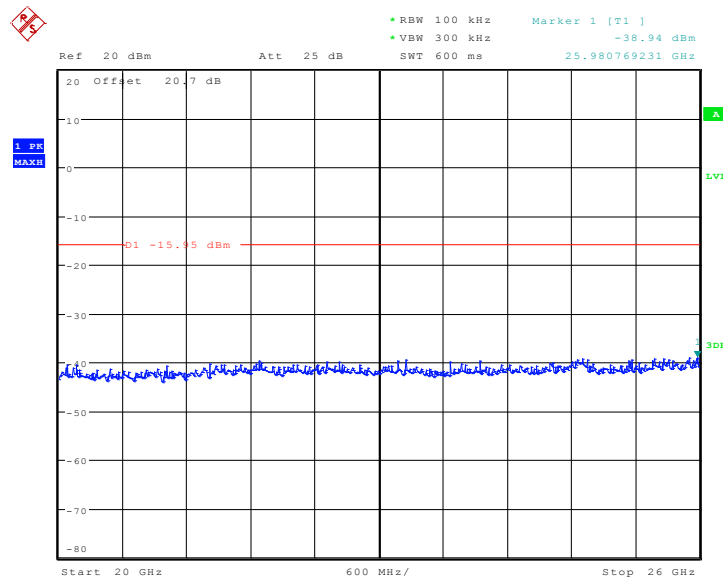
Date: 1.SEP.2013 17:58:00

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



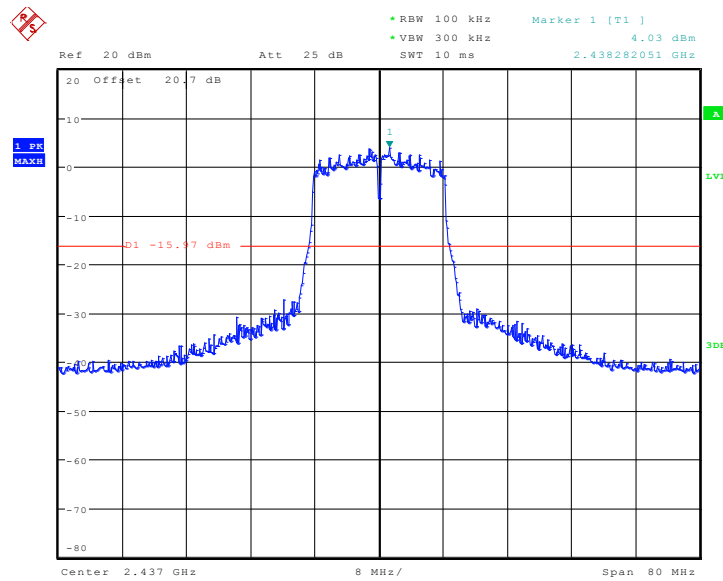
Date: 1.SEP.2013 17:58:27

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



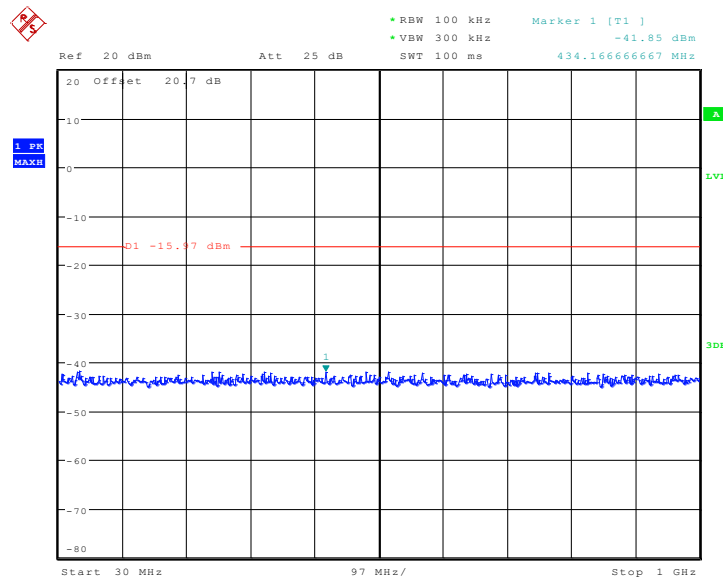
Date: 1.SEP.2013 17:58:45

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



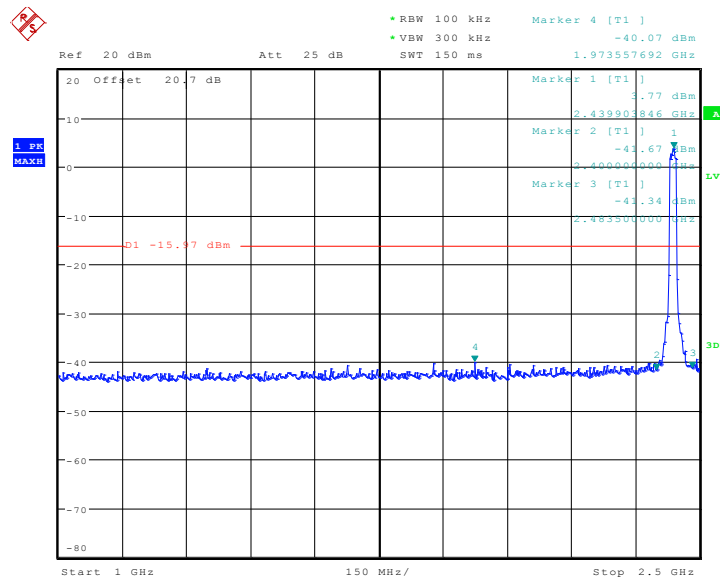
Date: 1.SEP.2013 18:05:41

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



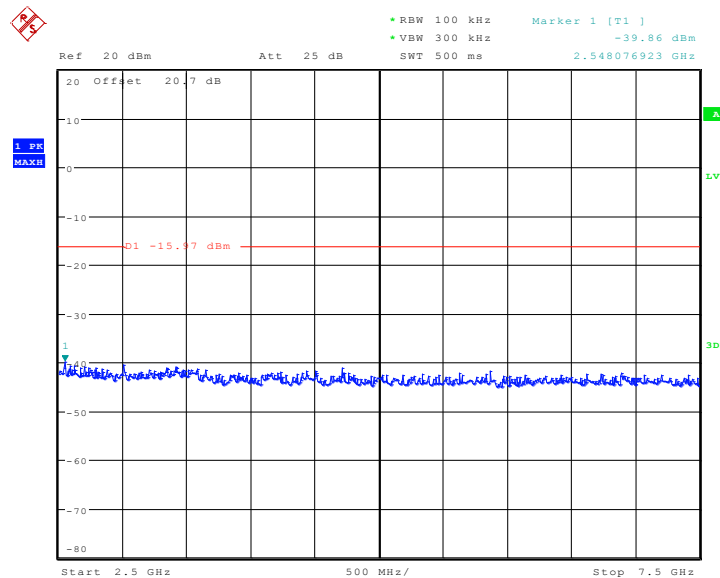
Date: 1.SEP.2013 18:06:57

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



Date: 1.SEP.2013 18:07:43

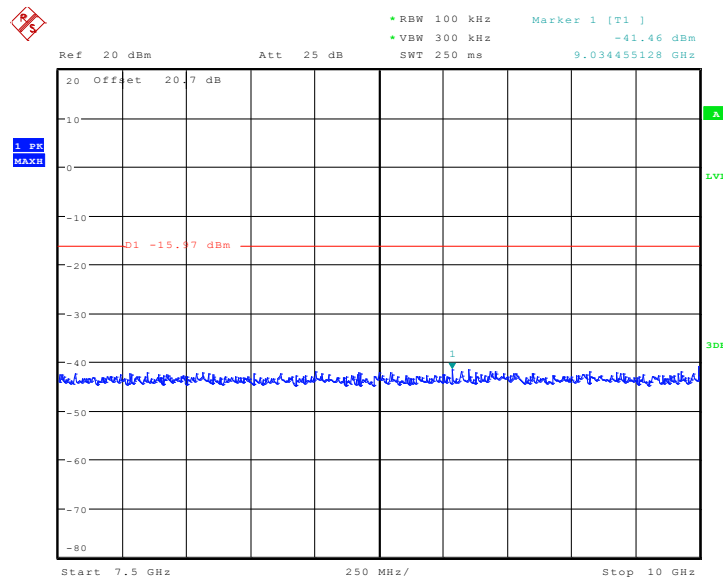
**Fig.A.6.1.35 Conducted Spurious Emission (802.11g, Ch6, 1 GHz-2.5 GHz)**



Date: 1.SEP.2013 18:08:01

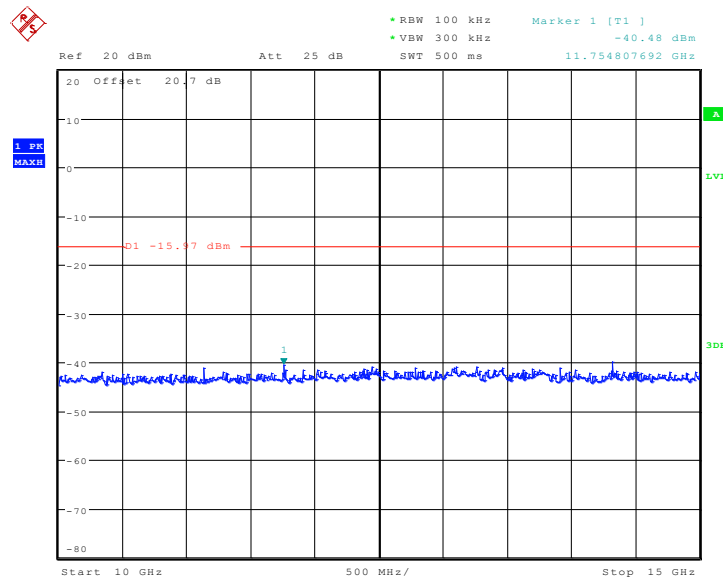
**Fig.A.6.1.36 Conducted Spurious Emission (802.11g, Ch6, 2.5 GHz-7.5 GHz)**





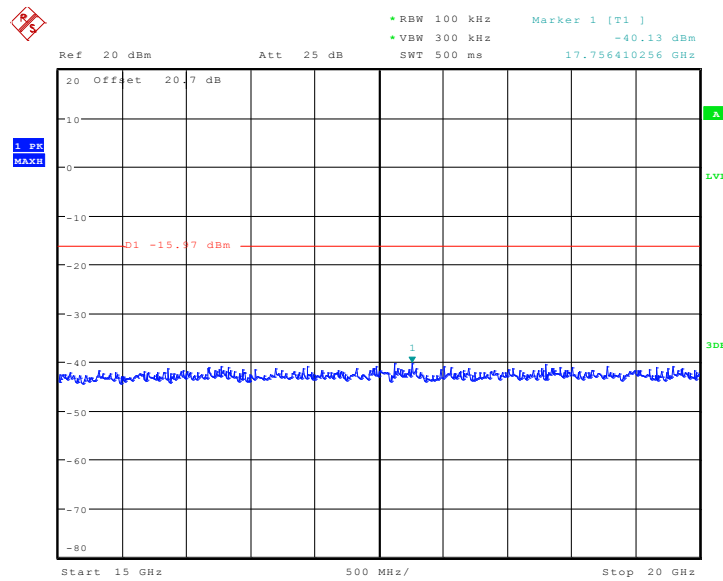
Date: 1.SEP.2013 18:08:27

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



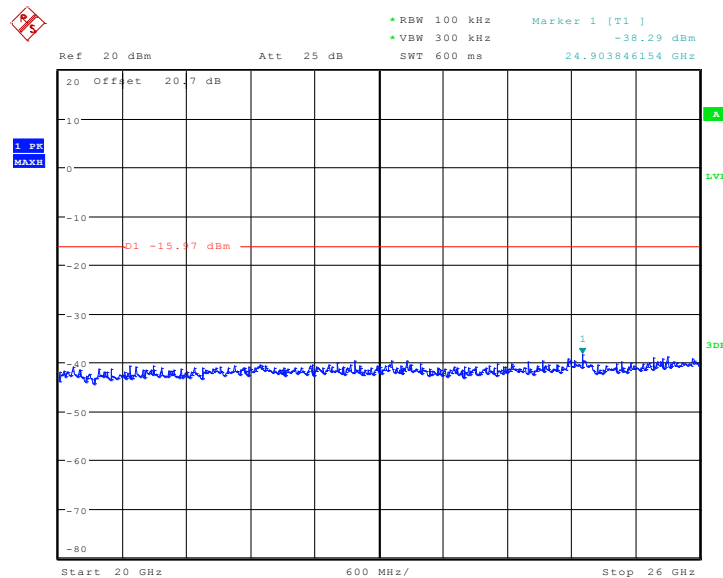
Date: 1.SEP.2013 18:08:45

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



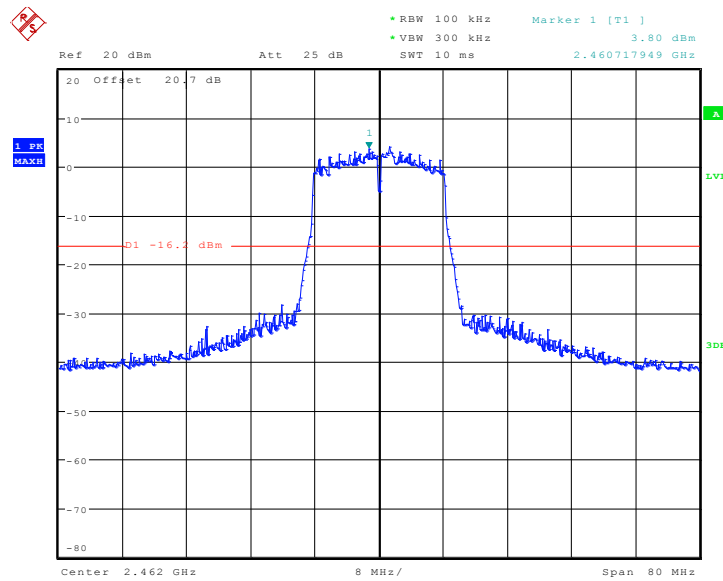
Date: 1.SEP.2013 18:09:05

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



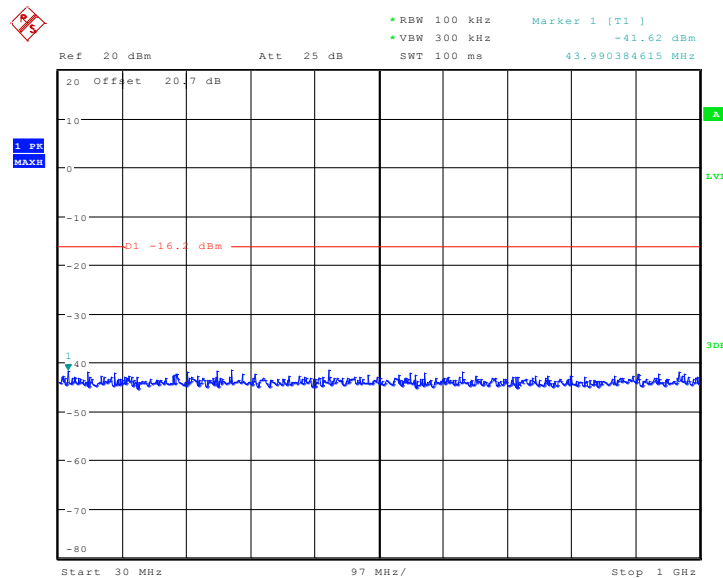
Date: 1.SEP.2013 18:09:23

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



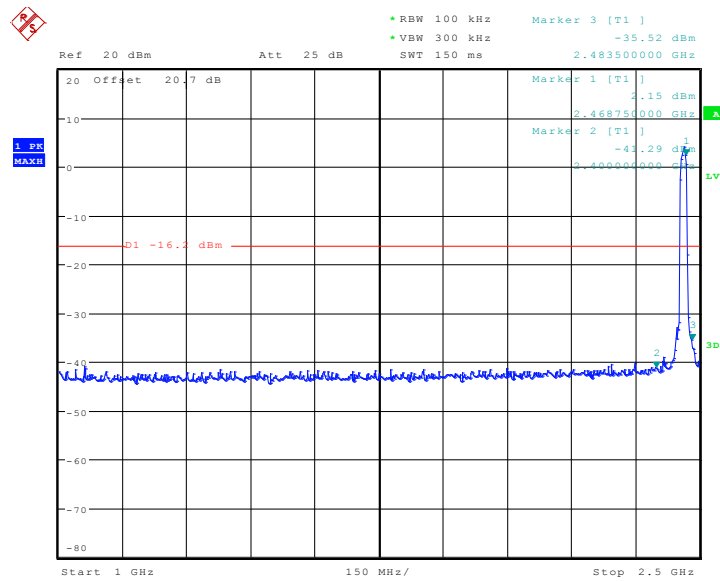
Date: 1.SEP.2013 18:11:08

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



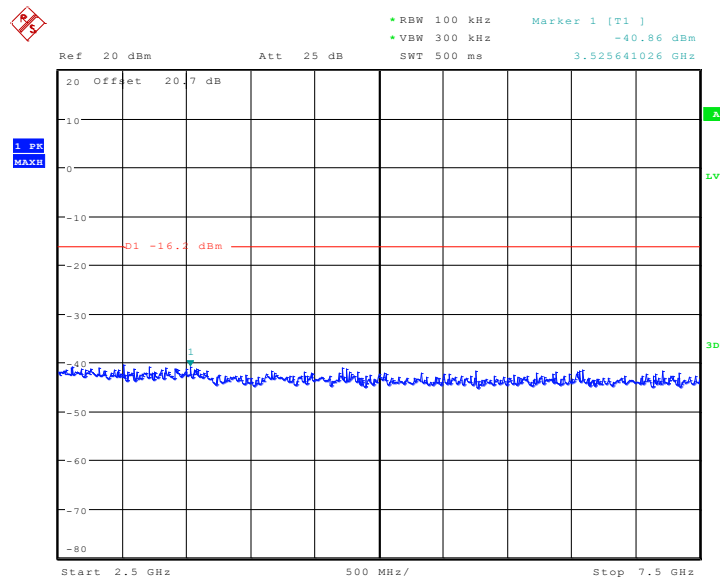
Date: 1.SEP.2013 18:11:22

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



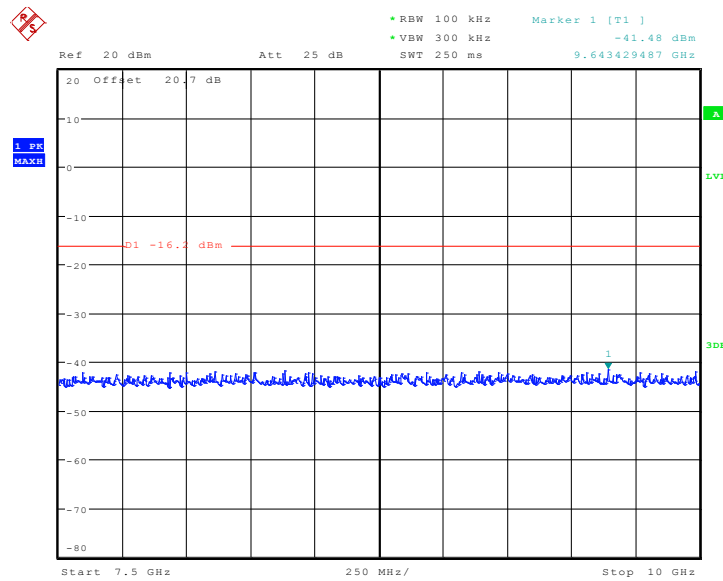
Date: 1.SEP.2013 18:11:55

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



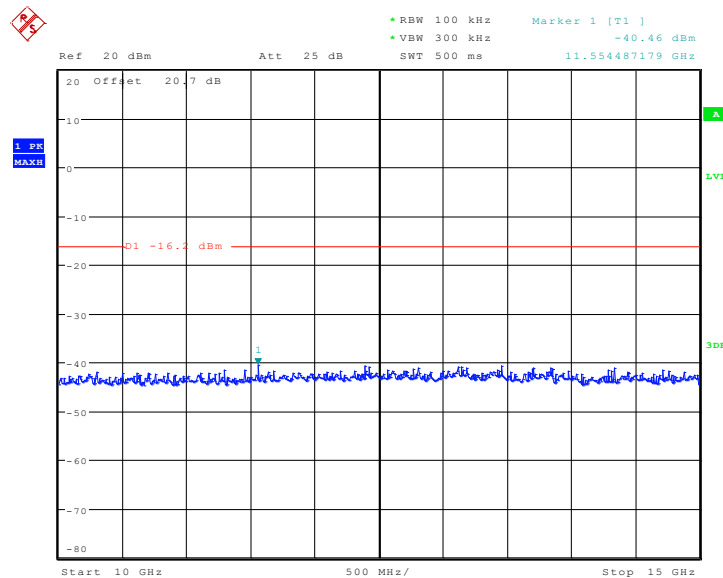
Date: 1.SEP.2013 18:12:13

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



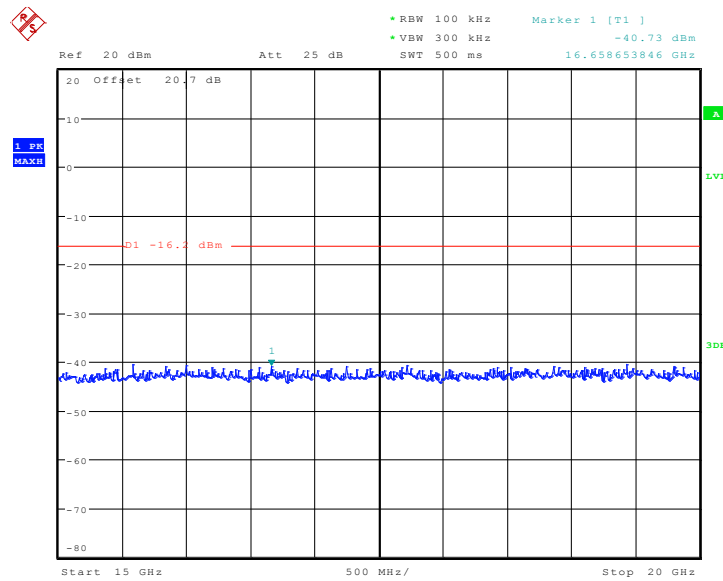
Date: 1.SEP.2013 18:12:31

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



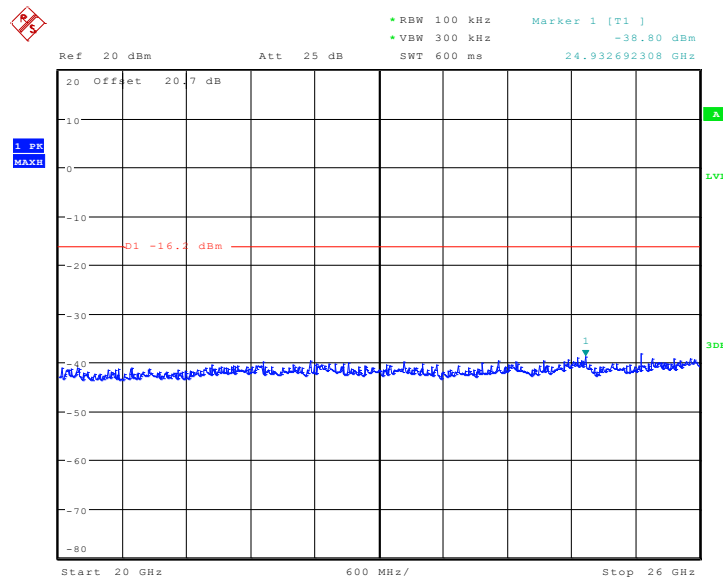
Date: 1.SEP.2013 18:12:51

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



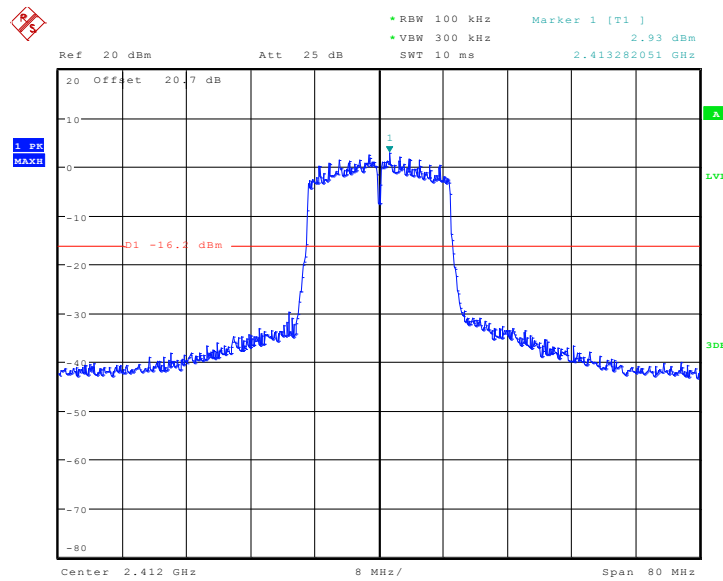
Date: 1.SEP.2013 18:13:09

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



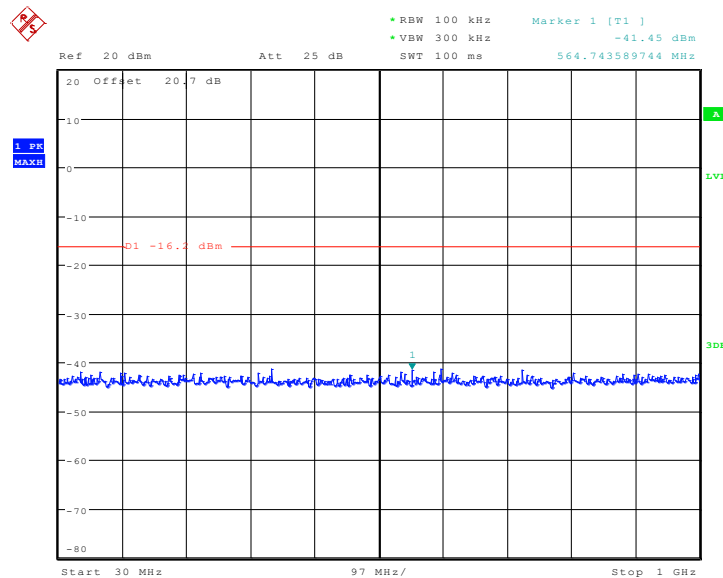
Date: 1.SEP.2013 18:13:26

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



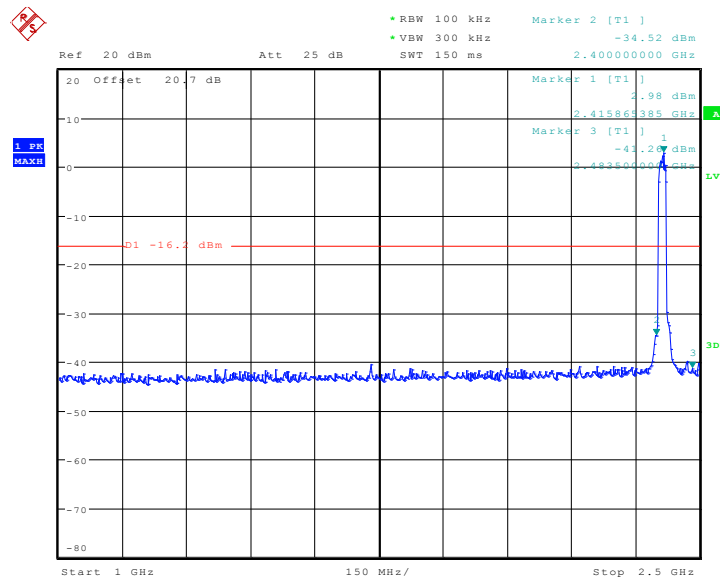
Date: 1.SEP.2013 18:16:55

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



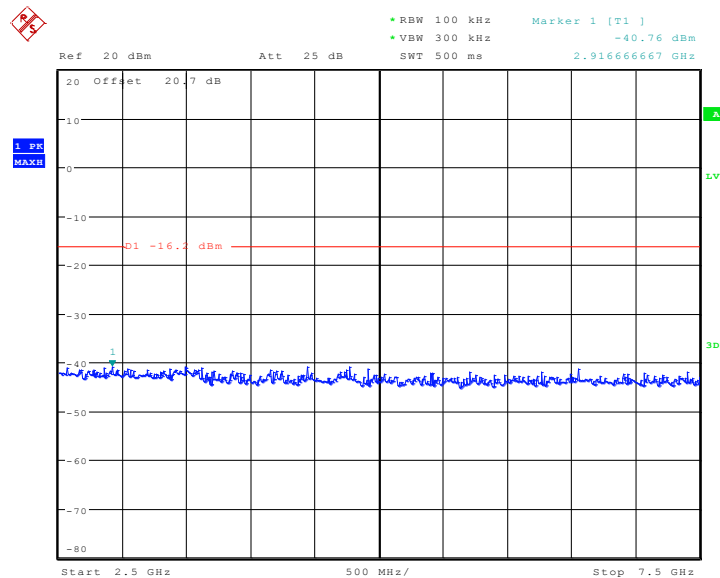
Date: 1.SEP.2013 18:17:11

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



Date: 1.SEP.2013 18:17:38

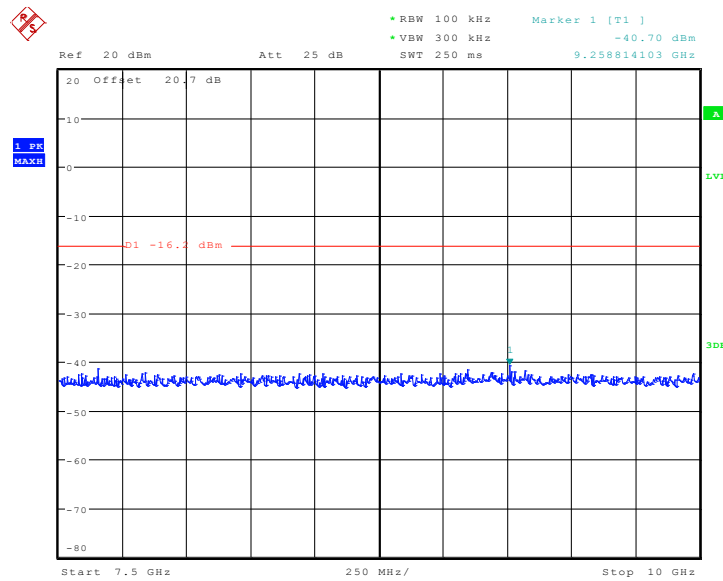
**Fig.A.6.1.51 Conducted Spurious Emission (802.11n-HT20, Ch1, 1 GHz-2.5 GHz)**



Date: 1.SEP.2013 18:17:58

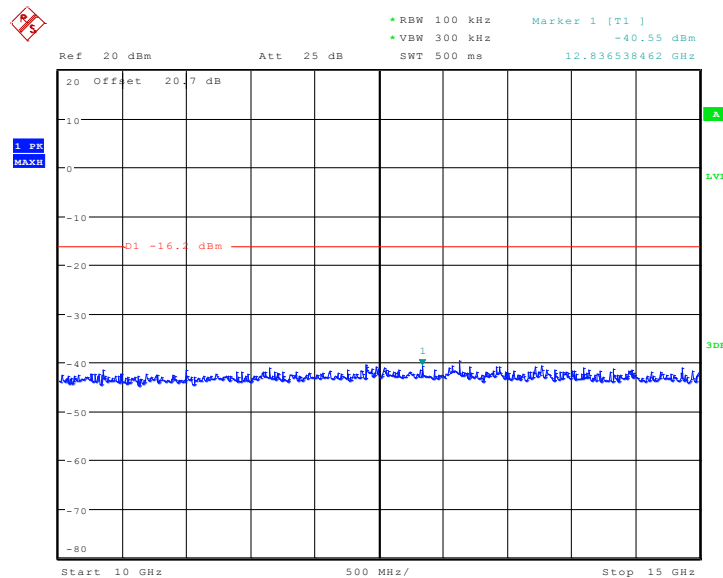
**Fig.A.6.1.52 Conducted Spurious Emission (802.11n-HT20, Ch1, 2.5 GHz-7.5 GHz)**





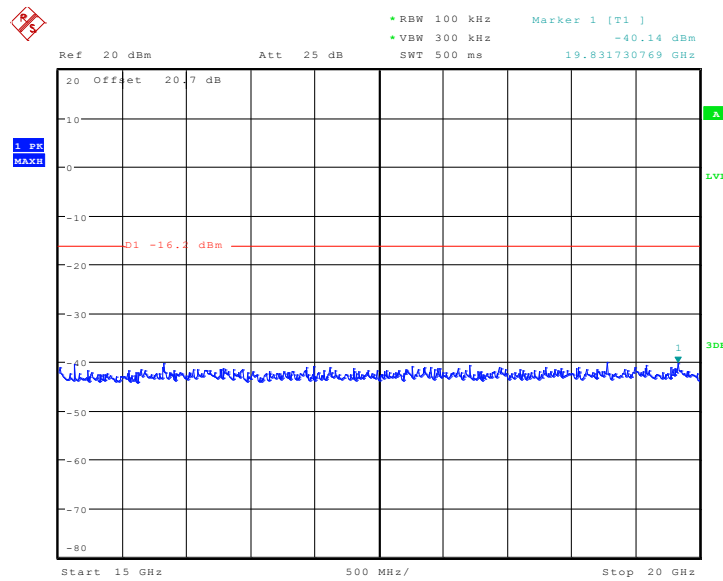
Date: 1.SEP.2013 18:18:16

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



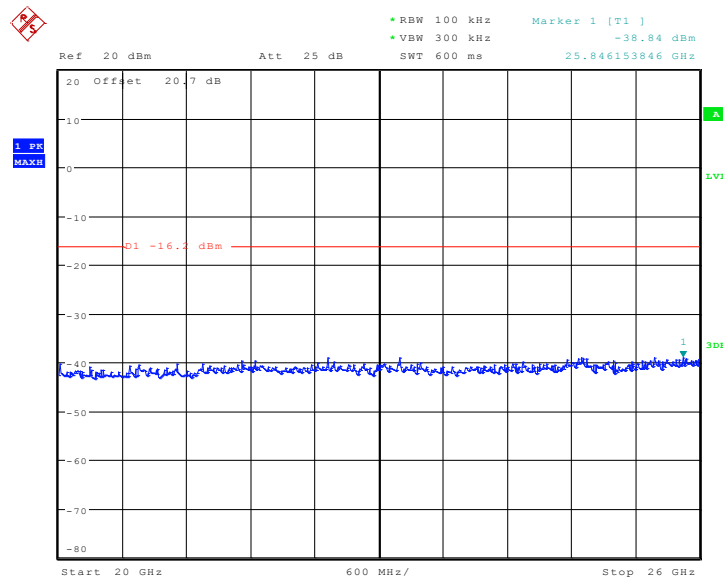
Date: 1.SEP.2013 18:18:37

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



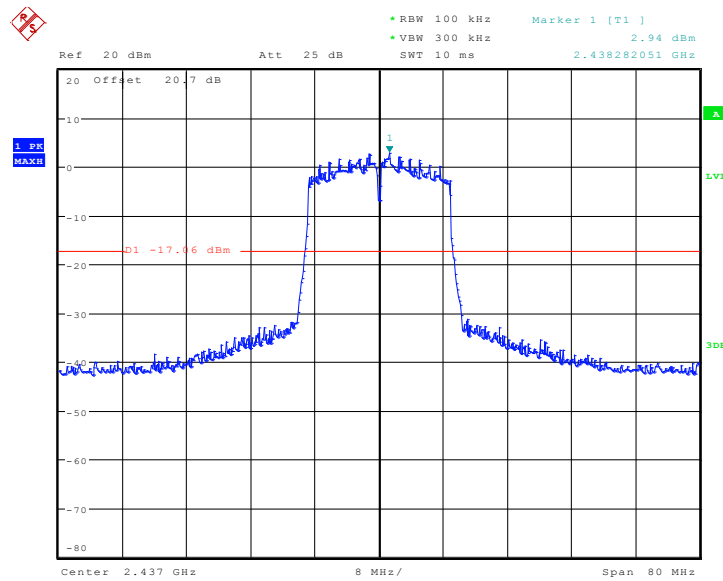
Date: 1.SEP.2013 18:18:58

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



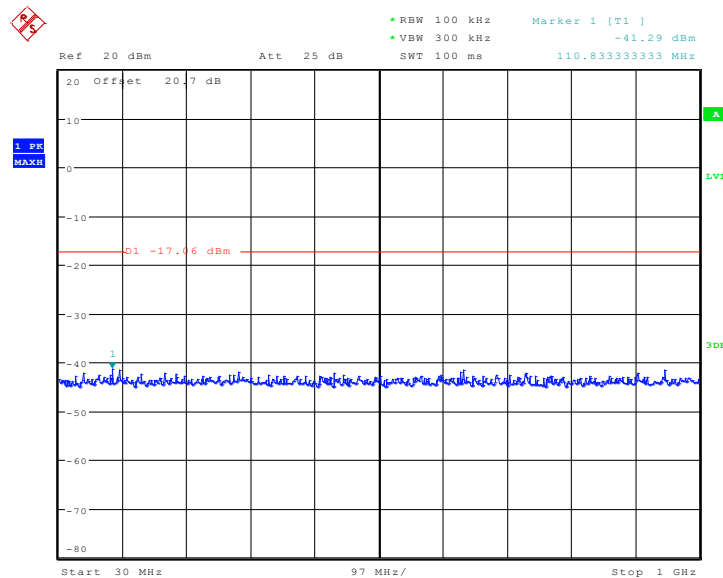
Date: 1.SEP.2013 18:19:26

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



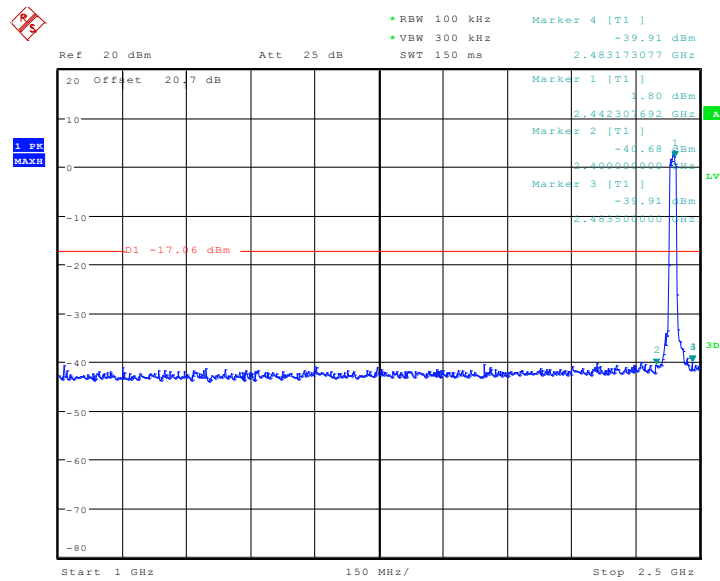
Date: 1.SEP.2013 18:20:11

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



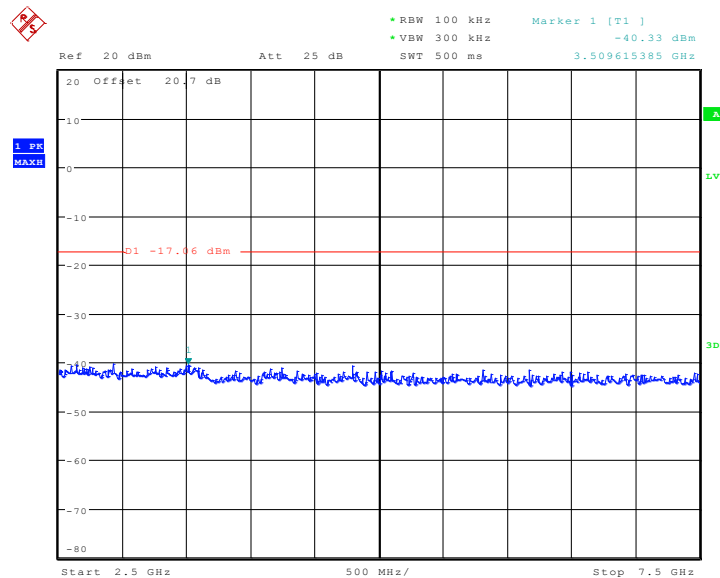
Date: 1.SEP.2013 18:20:26

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



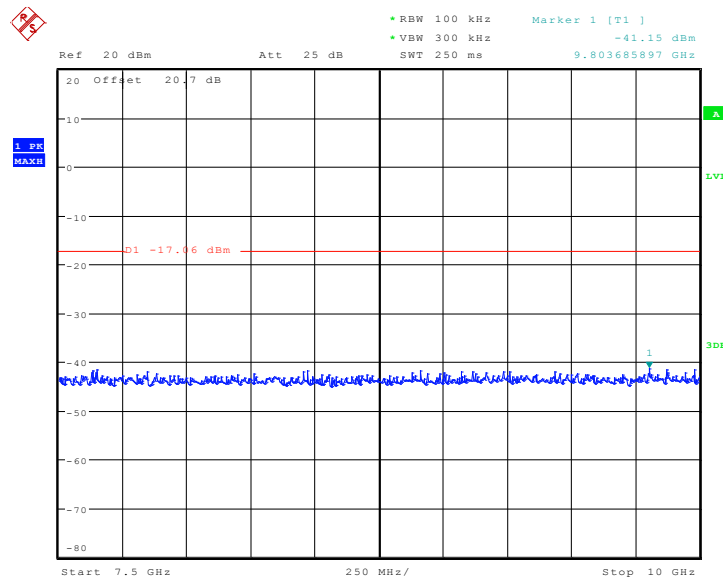
Date: 1.SEP.2013 18:21:27

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



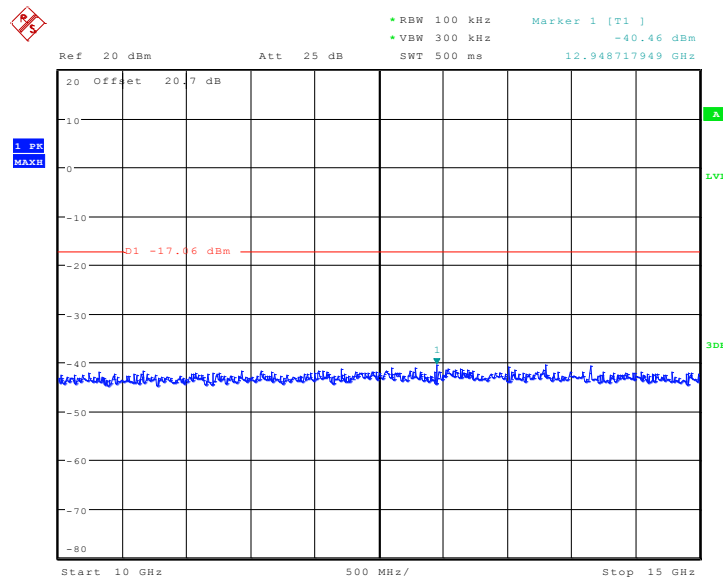
Date: 1.SEP.2013 18:21:53

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



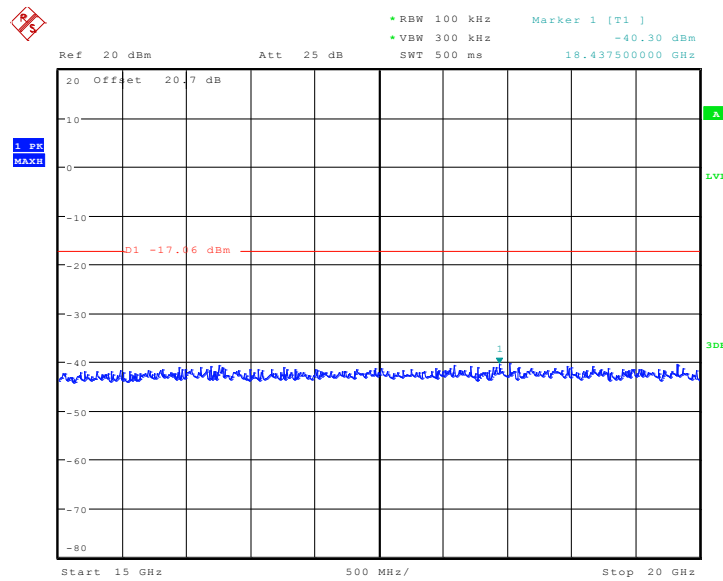
Date: 1.SEP.2013 18:22:15

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



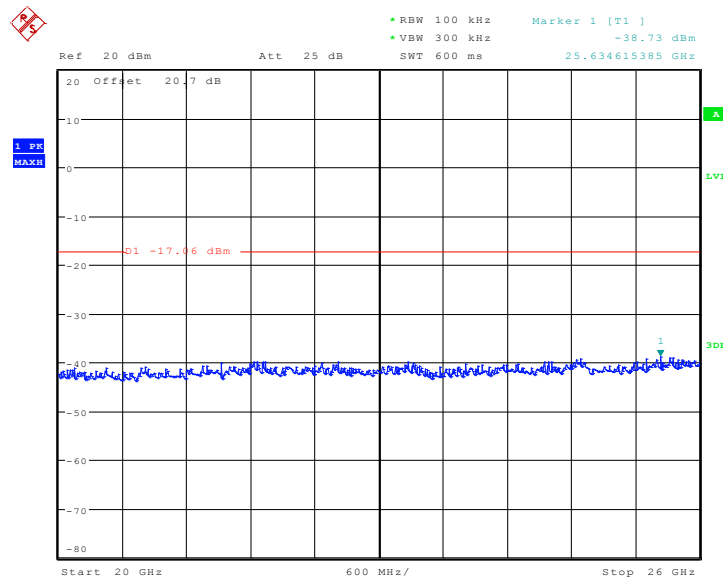
Date: 1.SEP.2013 18:22:32

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



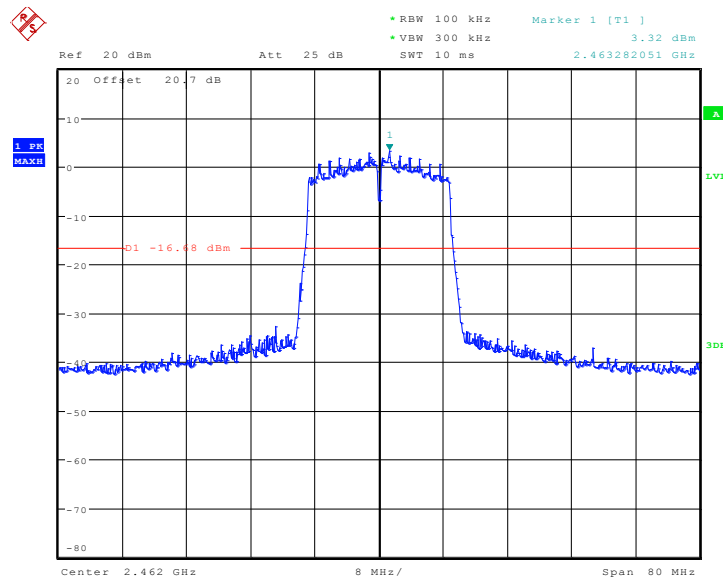
Date: 1.SEP.2013 18:22:54

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



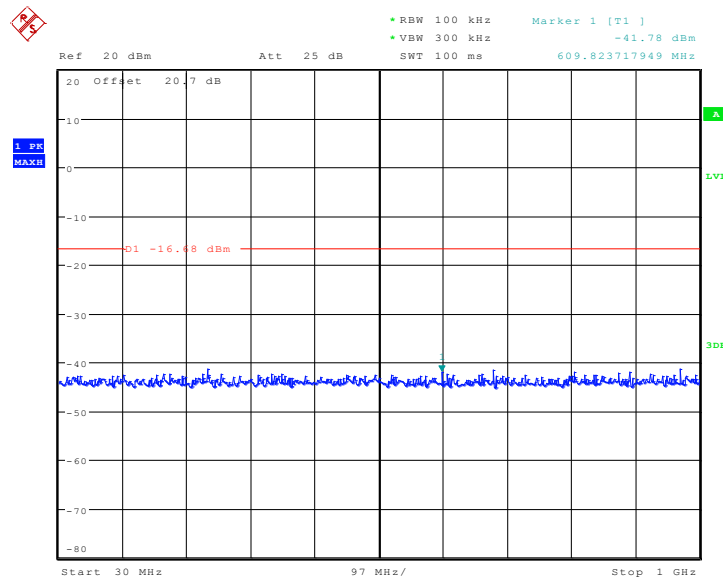
Date: 1.SEP.2013 18:23:16

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



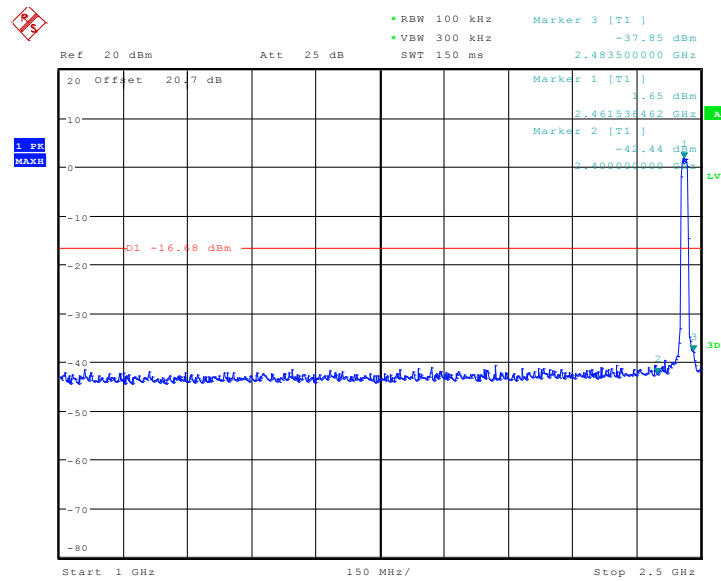
Date: 1.SEP.2013 18:24:34

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



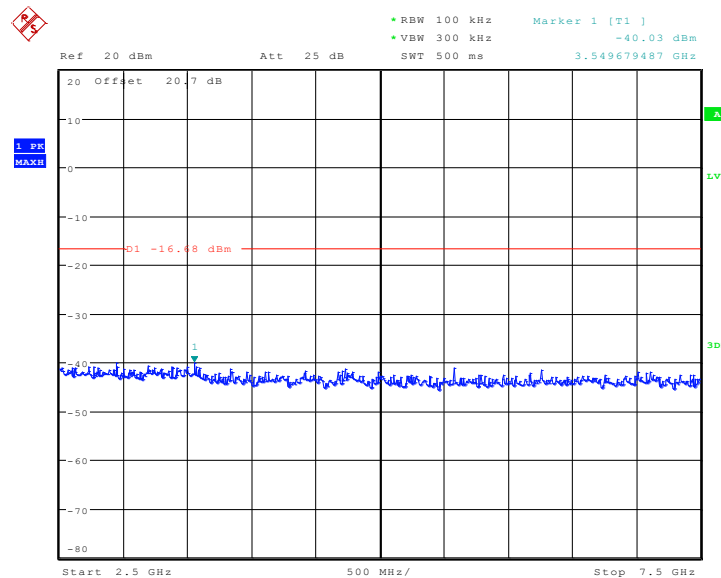
Date: 1.SEP.2013 18:24:48

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



Date: 1.SEP.2013 18:25:13

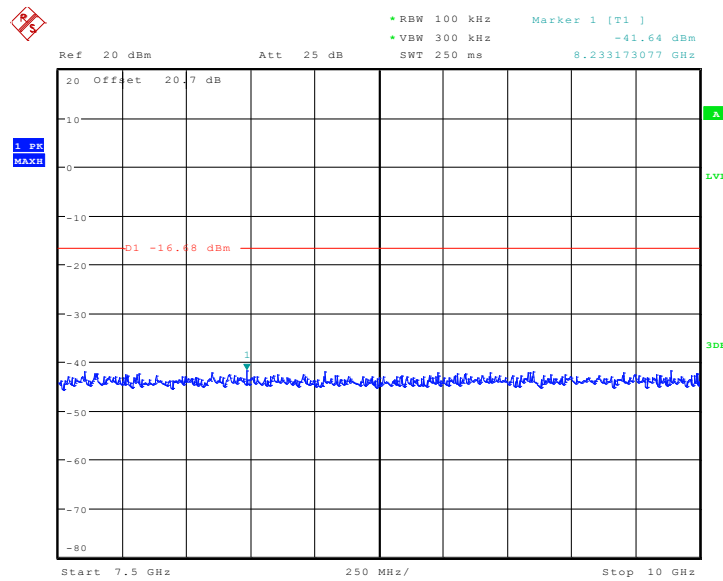
**Fig.A.6.1.67 Conducted Spurious Emission (802.11n-HT20, Ch11, 1 GHz-2.5 GHz)**



Date: 1.SEP.2013 18:25:29

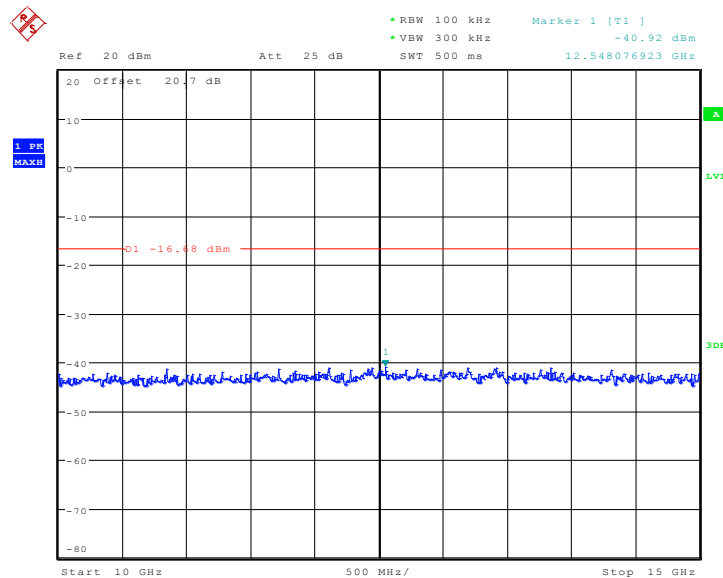
**Fig.A.6.1.68 Conducted Spurious Emission (802.11n-HT20, Ch11, 2.5 GHz-7.5 GHz)**





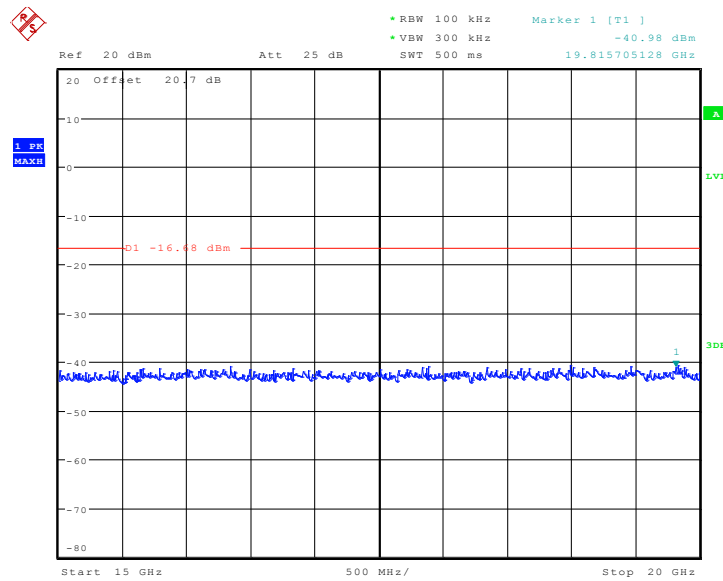
Date: 1.SEP.2013 18:25:46

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



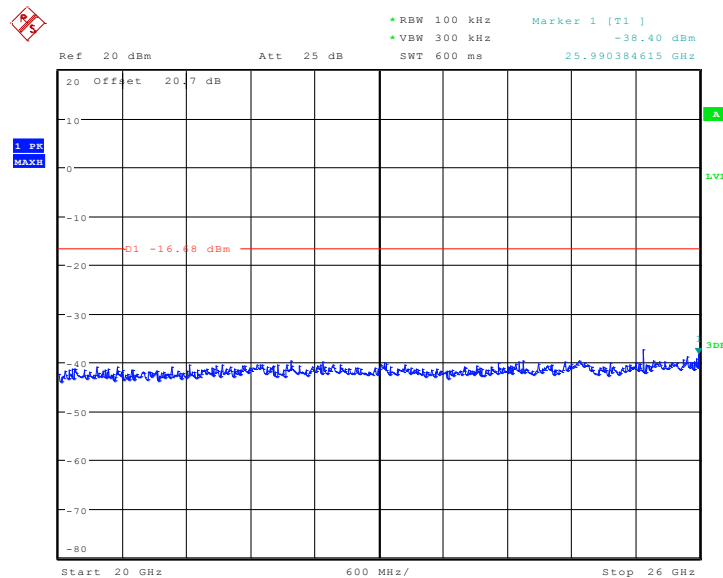
Date: 1.SEP.2013 18:26:03

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



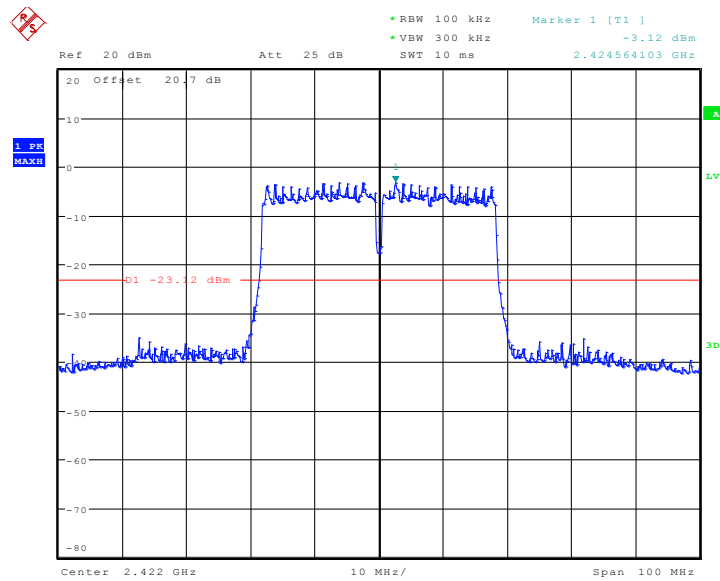
Date: 1.SEP.2013 18:26:20

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



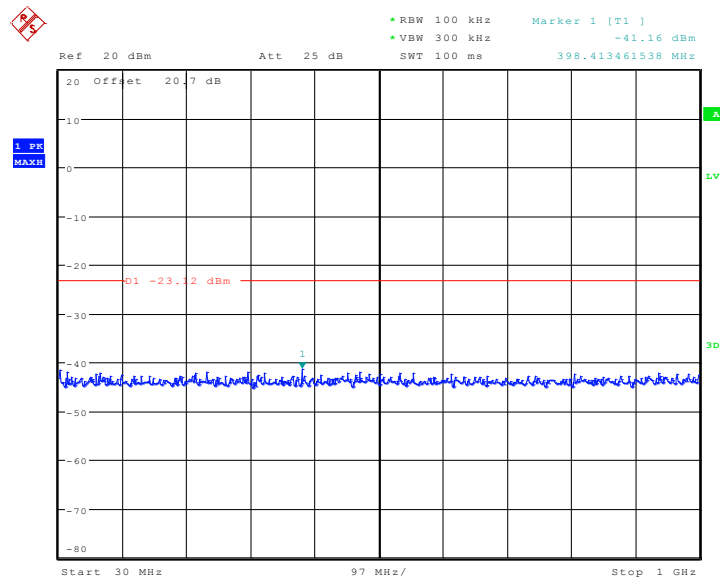
Date: 1.SEP.2013 18:26:36

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



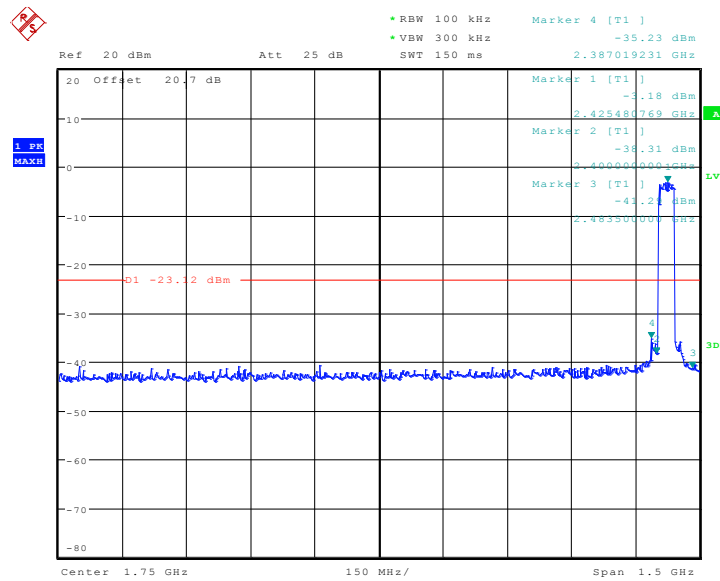
Date: 1.SEP.2013 18:30:32

**Fig.A.6.1.73 Conducted Spurious Emission (802.11n-HT40, Ch3, Center Frequency)**



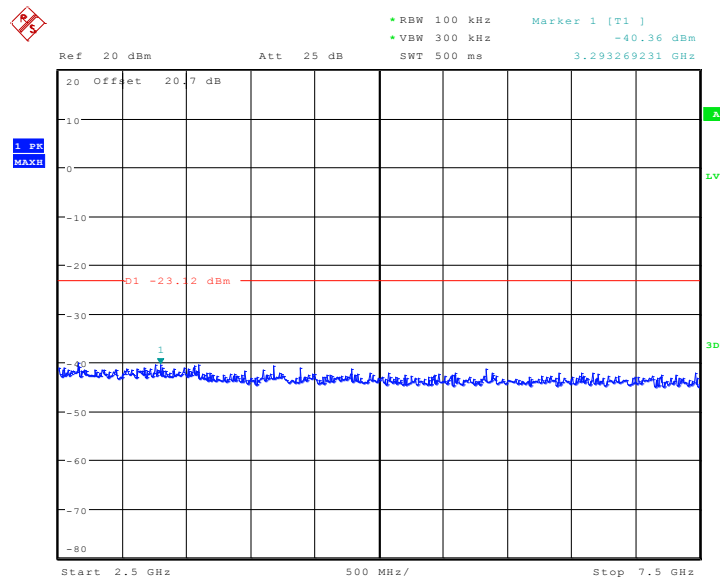
Date: 1.SEP.2013 18:30:53

**Fig.A.6.1.74 Conducted Spurious Emission (802.11n-HT40, Ch3, 30 MHz-1 GHz)**



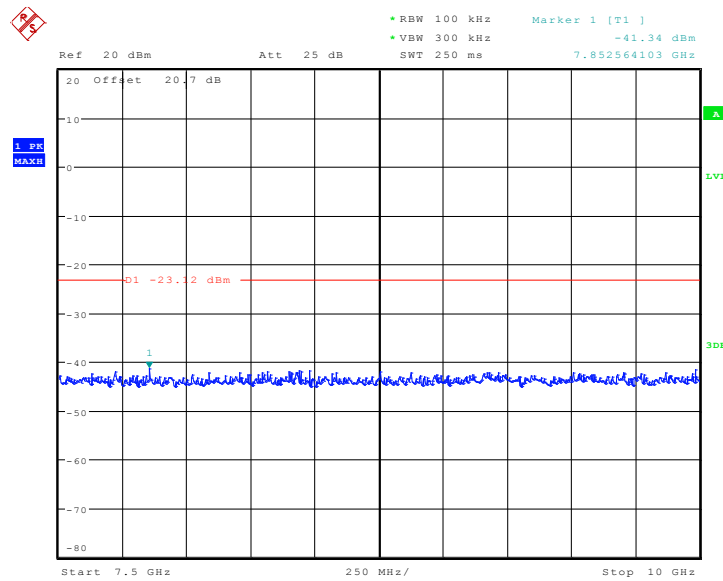
Date: 1.SEP.2013 18:31:37

**Fig.A.6.1.75 Conducted Spurious Emission (802.11n-HT40, Ch3, 1 GHz-2.5 GHz)**



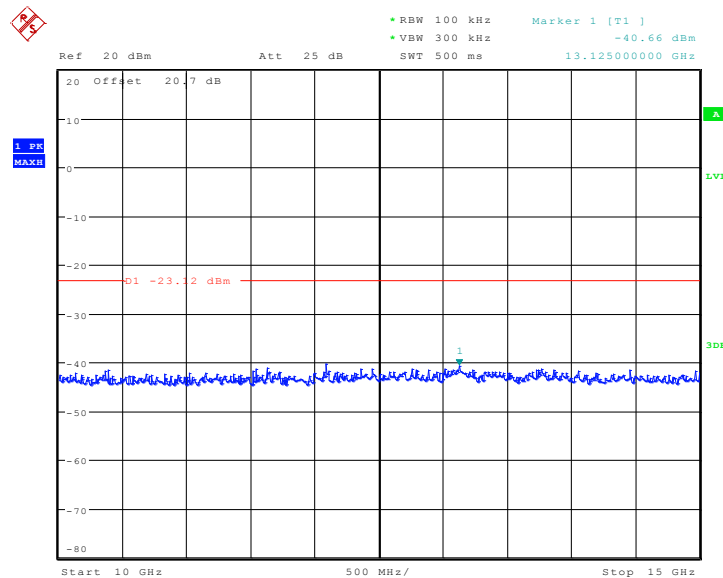
Date: 1.SEP.2013 18:31:58

**Fig.A.6.1.76 Conducted Spurious Emission (802.11n-HT40, Ch3, 2.5 GHz-7.5 GHz)**



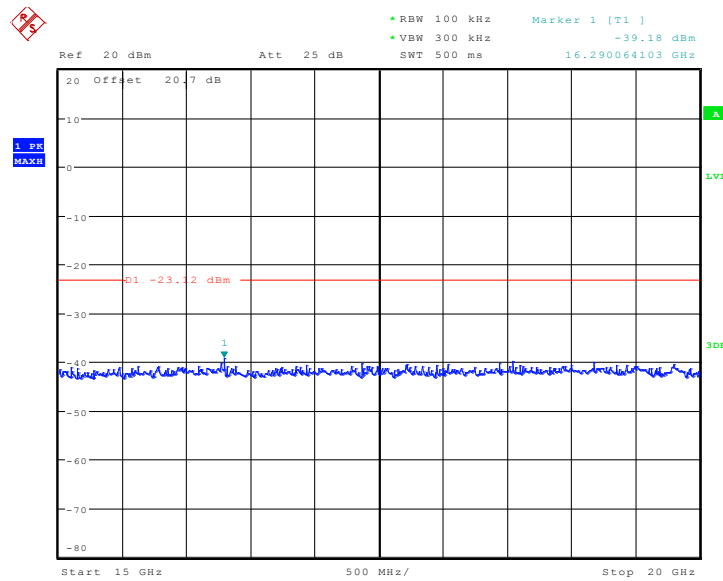
Date: 1.SEP.2013 18:32:20

**Fig.A.6.1.77 Conducted Spurious Emission (802.11n-HT40, Ch3, 7.5 GHz-10 GHz)**



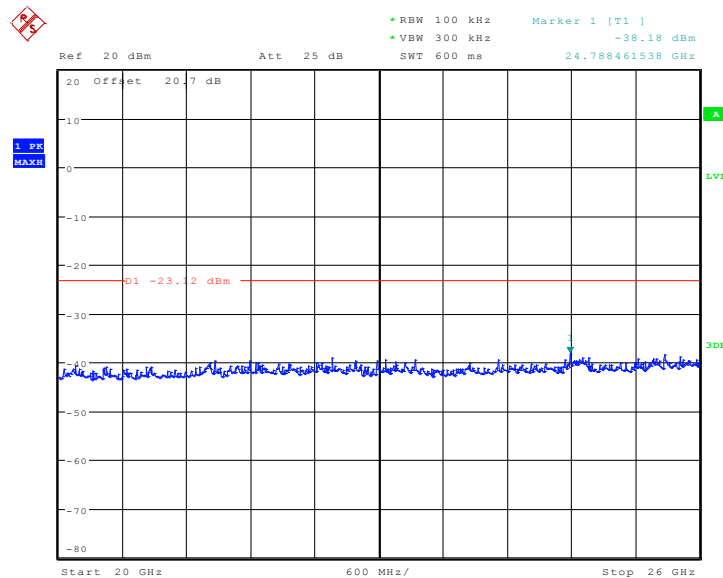
Date: 1.SEP.2013 18:32:49

**Fig.A.6.1.78 Conducted Spurious Emission (802.11n-HT40, Ch3, 10 GHz-15 GHz)**



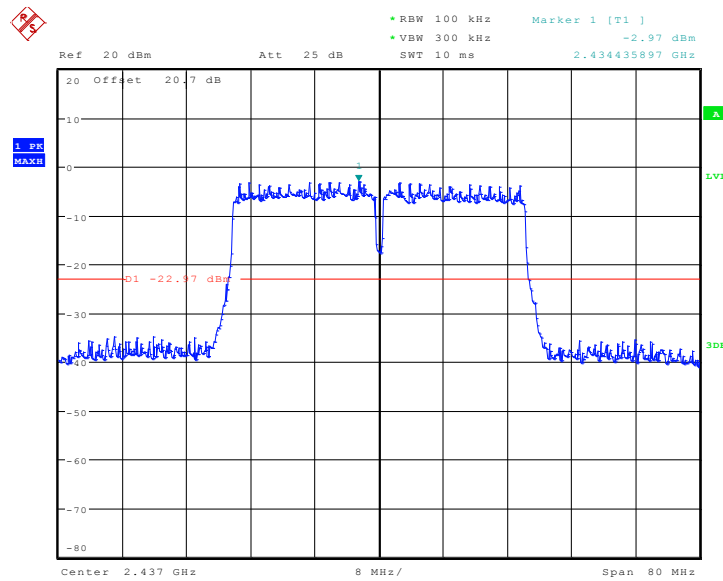
Date: 1.SEP.2013 18:33:51

**Fig.A.6.1.79 Conducted Spurious Emission (802.11n-HT40, Ch3, 15 GHz-20 GHz)**



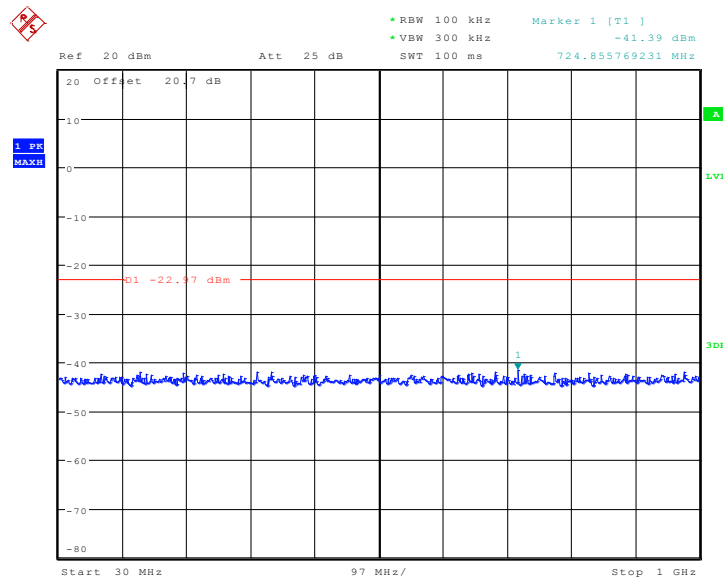
Date: 1.SEP.2013 18:34:23

**Fig.A.6.1.80 Conducted Spurious Emission (802.11n-HT40, Ch3, 20 GHz-26 GHz)**



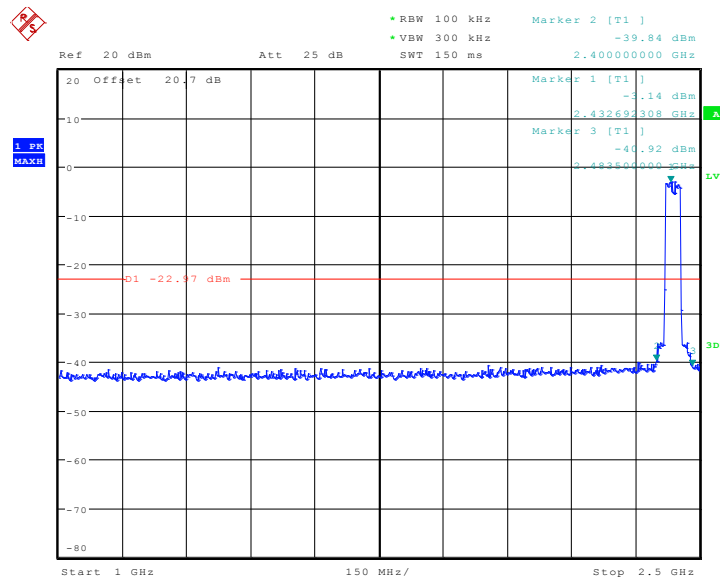
Date: 1.SEP.2013 18:38:11

**Fig.A.6.1.81 Conducted Spurious Emission (802.11n-HT40, Ch6, Center Frequency)**



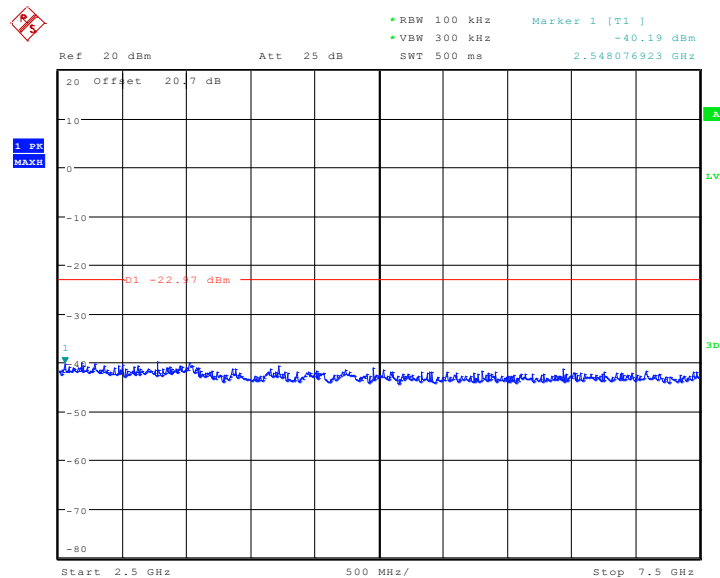
Date: 1.SEP.2013 18:38:37

**Fig.A.6.1.82 Conducted Spurious Emission (802.11n-HT40, Ch6, 30 MHz-1 GHz)**



Date: 1.SEP.2013 18:39:40

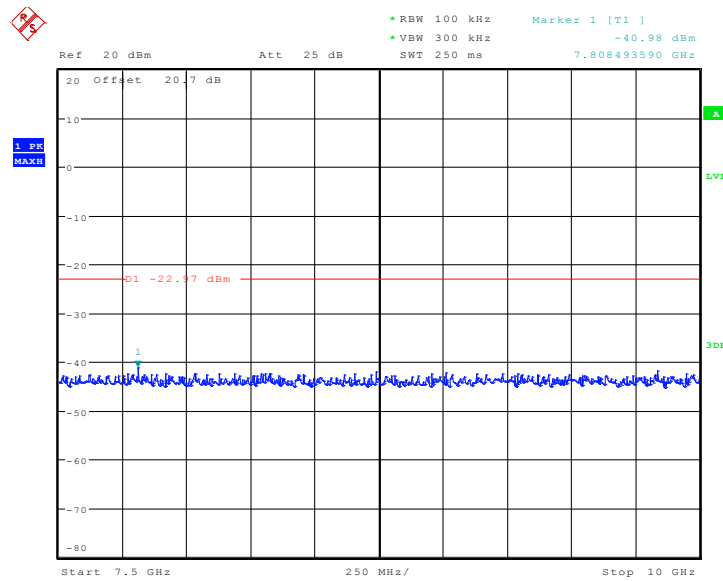
**Fig.A.6.1.83 Conducted Spurious Emission (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)**



Date: 1.SEP.2013 18:40:27

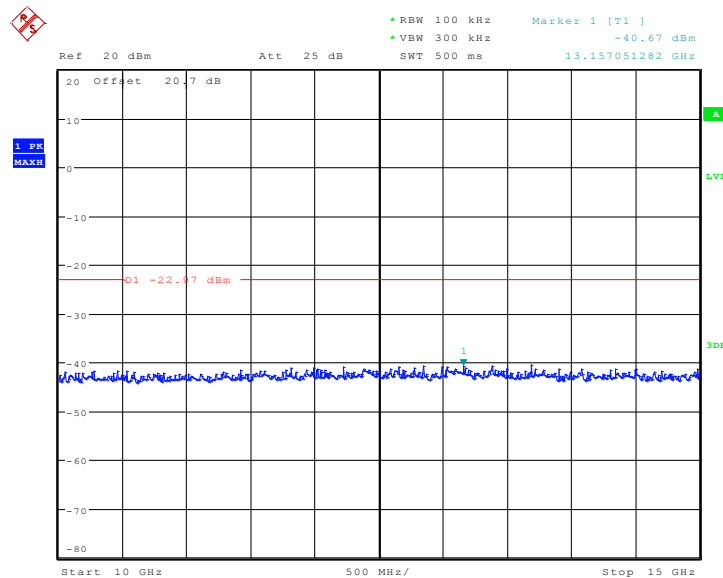
**Fig.A.6.1.84 Conducted Spurious Emission (802.11n-HT40, Ch6, 2.5 GHz-7.5 GHz)**





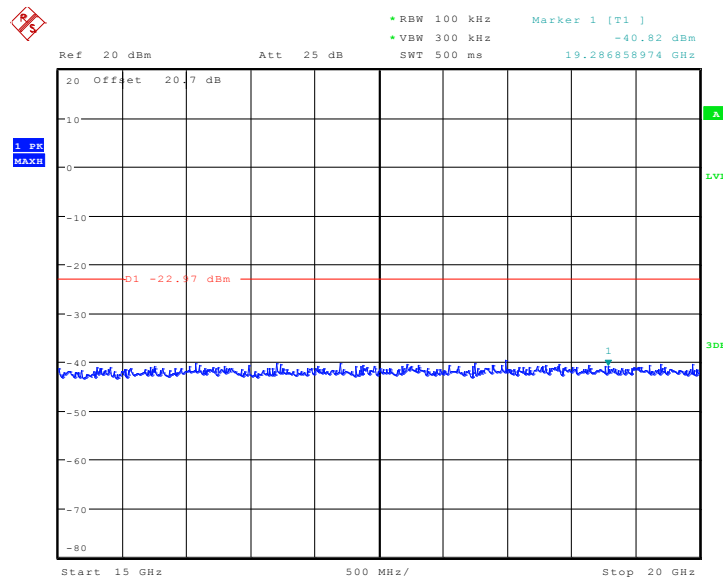
Date: 1.SEP.2013 18:40:52

**Fig.A.6.1.85 Conducted Spurious Emission (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)**



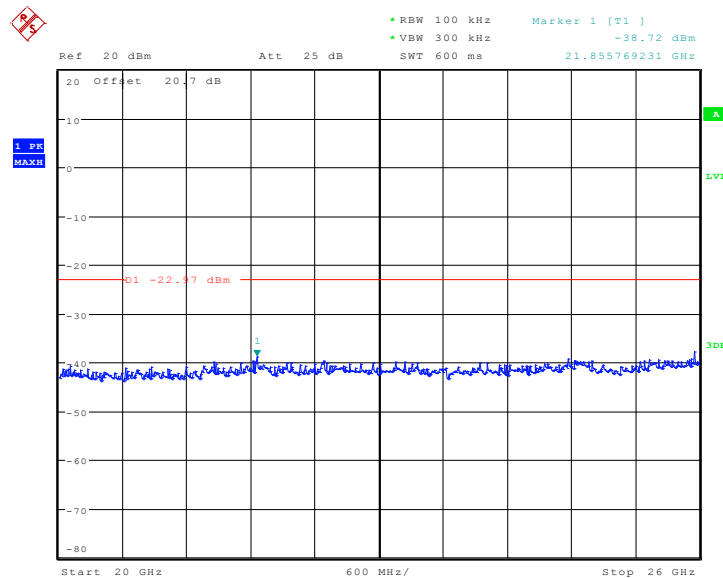
Date: 1.SEP.2013 18:41:28

**Fig.A.6.1.86 Conducted Spurious Emission (802.11n-HT40, Ch6, 10 GHz-15 GHz)**



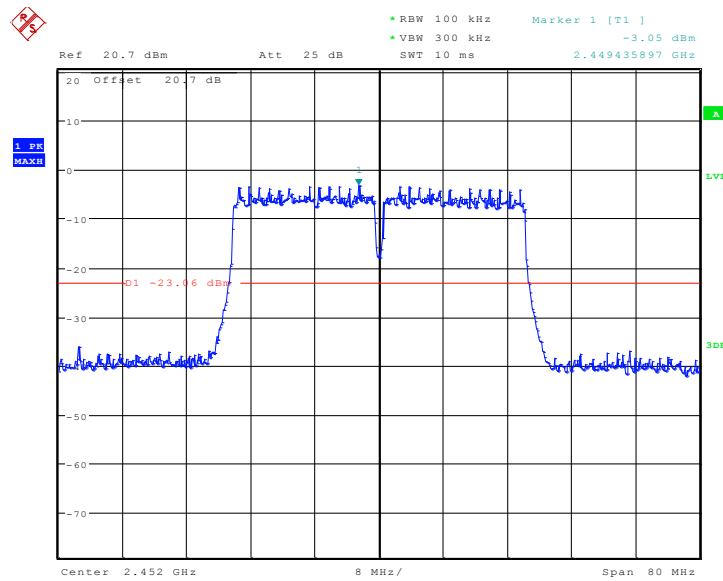
Date: 1.SEP.2013 18:42:29

**Fig.A.6.1.87 Conducted Spurious Emission (802.11n-HT40, Ch6, 15 GHz-20 GHz)**



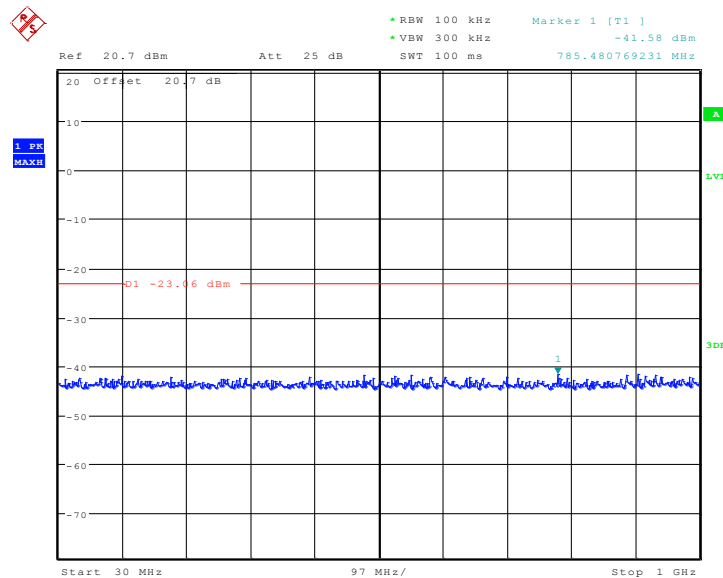
Date: 1.SEP.2013 18:42:54

**Fig.A.6.1.88 Conducted Spurious Emission (802.11n-HT40, Ch6, 20 GHz-26 GHz)**



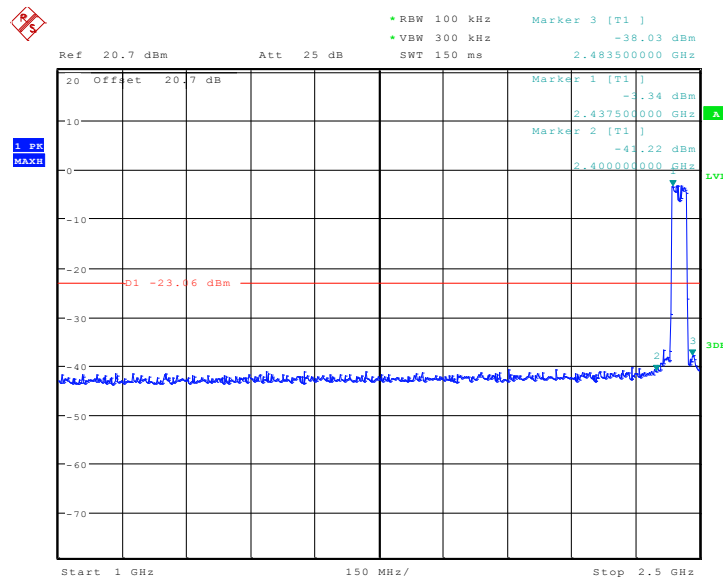
Date: 1.SEP.2013 18:44:47

**Fig.A.6.1.89 Conducted Spurious Emission (802.11n-HT40, Ch9, Center Frequency)**



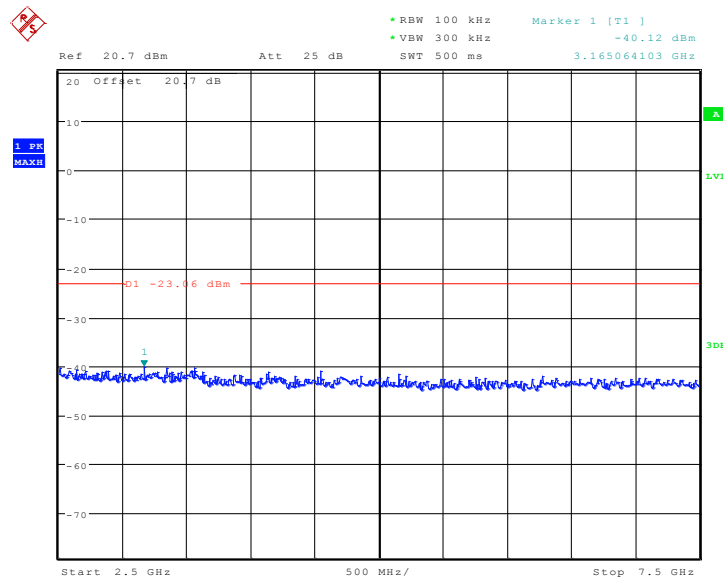
Date: 1.SEP.2013 18:45:14

**Fig.A.6.1.90 Conducted Spurious Emission (802.11n-HT40, Ch9, 30 MHz-1 GHz)**



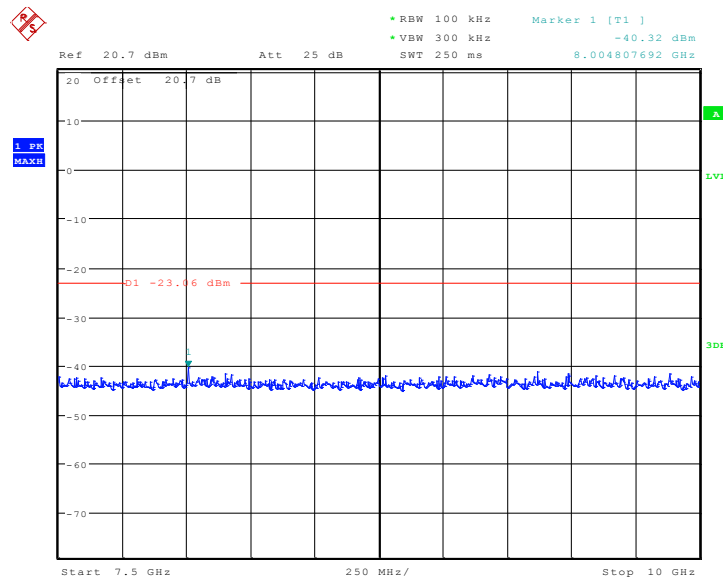
Date: 1.SEP.2013 18:46:22

**Fig.A.6.1.91 Conducted Spurious Emission (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)**



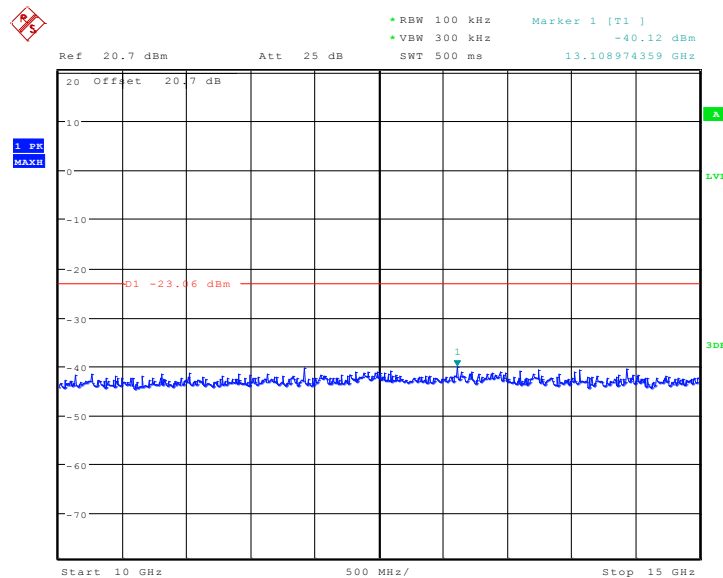
Date: 1.SEP.2013 18:46:49

**Fig.A.6.1.92 Conducted Spurious Emission (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)**



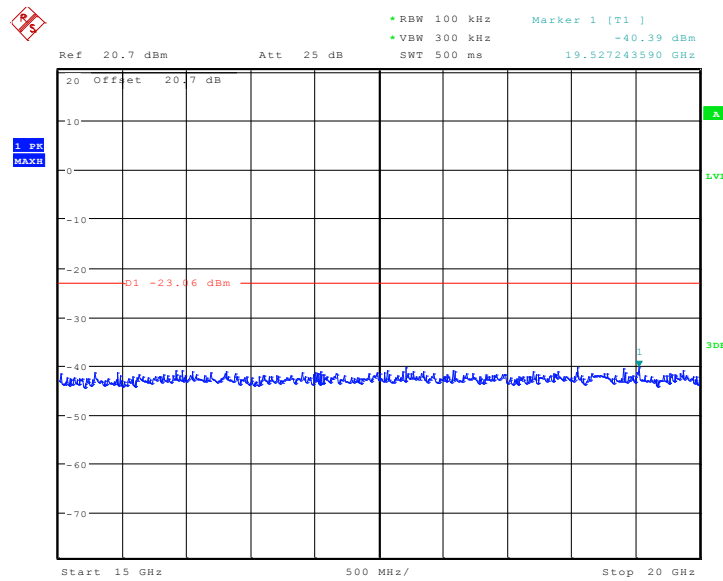
Date: 1.SEP.2013 18:47:10

**Fig.A.6.1.93 Conducted Spurious Emission (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)**



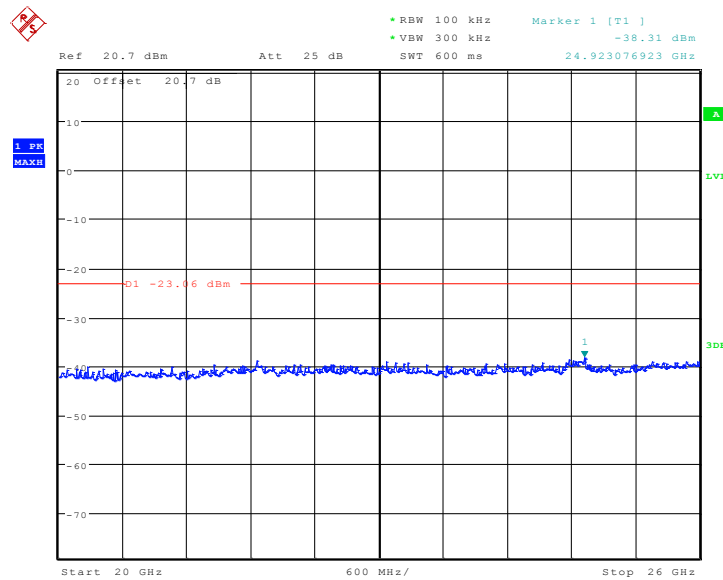
Date: 1.SEP.2013 18:47:35

**Fig.A.6.1.94 Conducted Spurious Emission (802.11n-HT40, Ch9, 10 GHz-15 GHz)**



Date: 1.SEP.2013 18:48:06

**Fig.A.6.1.95 Conducted Spurious Emission (802.11n-HT40, Ch9, 15 GHz-20 GHz)**



Date: 1.SEP.2013 18:49:46

**Fig.A.6.1.96 Conducted Spurious Emission (802.11n-HT40, Ch9, 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 | 802.11n-HT40 |
| 11Mbps(CCK) | 24Mbps(OFDM) | MCS3(OFDM)   | MCS3(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 | P          |
|         | 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<br>(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          |
| 802.11n<br>(HT40) | Power   | 2.38GHz ~2.45GHz | Fig.A.6.2.34 | P          |
|                   | 3       | 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          |



|  |       |                 |                  |          |
|--|-------|-----------------|------------------|----------|
|  | 6     | 30 MHz ~1 GHz   | Fig.A.6.2.38     | <b>P</b> |
|  |       | 1 GHz ~ 3 GHz   | Fig.A.6.2.39     | <b>P</b> |
|  |       | 3 GHz ~ 18 GHz  | Fig.A.6.2.40     | <b>P</b> |
|  | Power | 2.45GHz ~2.5GHz | Fig.A.6.2.41     | <b>P</b> |
|  | 9     | 30 MHz ~1 GHz   | Fig.A.6.2.42     | <b>P</b> |
|  |       | 1 GHz ~ 3 GHz   | Fig.A.6.2.43     | <b>P</b> |
|  |       | 3 GHz ~ 18 GHz  | Fig.A.6.2.44     | <b>P</b> |
|  | /     | All channels    | 18 GHz~ 26.5 GHz | <b>P</b> |
|  |       |                 |                  |          |

**Conclusion: Pass**

**Measurement Uncertainty:**

| Frequency Range      | Uncertainty(dB) |
|----------------------|-----------------|
| $f \leq 1\text{GHz}$ | 3.9             |
| $f > 1\text{GHz}$    | 4.3             |

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

**802.11b**
**Ch1**

| Frequency(MHz) | Result (dBuV/m) | Cable Loss(dB) | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|----------------|----------------|---------------------------|--------------|
| 17758.500      | 58.5            | -22.8          | 42.2           | 39.171                    | VERTICAL     |
| 17450.250      | 57.9            | -23.7          | 42.6           | 39.023                    | HORIZONTAL   |
| 17490.000      | 57.6            | -22.8          | 43.0           | 37.345                    | HORIZONTAL   |
| 17589.000      | 57.5            | -22.8          | 42.7           | 37.575                    | HORIZONTAL   |
| 17514.000      | 57.5            | -22.8          | 42.8           | 37.515                    | VERTICAL     |
| 17852.250      | 57.4            | -22.9          | 42.7           | 37.553                    | HORIZONTAL   |

**Ch6**

| Frequency(MHz) | Result (dBuV/m) | Cable Loss(dB) | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|----------------|----------------|---------------------------|--------------|
| 17526.000      | 57.9            | -22.8          | 42.9           | 37.755                    | HORIZONTAL   |
| 17947.500      | 57.7            | -22.9          | 42.4           | 38.193                    | HORIZONTAL   |
| 17627.250      | 57.5            | -22.8          | 42.7           | 37.615                    | VERTICAL     |
| 17988.000      | 57.5            | -22.5          | 42.3           | 37.767                    | HORIZONTAL   |
| 17444.250      | 57.4            | -23.7          | 42.7           | 38.383                    | HORIZONTAL   |
| 17446.500      | 57.2            | -23.7          | 42.7           | 38.183                    | VERTICAL     |

**Ch11**

| Frequency(MHz) | Result (dBuV/m) | Cable Loss(dB) | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|----------------|----------------|---------------------------|--------------|
| 17997.000      | 57.9            | -22.5          | 42.3           | 38.167                    | VERTICAL     |
| 17712.000      | 57.8            | -22.8          | 42.8           | 37.811                    | HORIZONTAL   |
| 17498.250      | 57.7            | -22.8          | 43.0           | 37.445                    | VERTICAL     |
| 17502.000      | 57.5            | -22.8          | 42.8           | 37.515                    | HORIZONTAL   |
| 17208.000      | 57.4            | -23.7          | 43.0           | 38.043                    | HORIZONTAL   |
| 17472.750      | 57.4            | -22.8          | 42.6           | 37.585                    | VERTICAL     |

**802.11g**

## Ch1

| Frequency(MHz) | Result (dBuV/m) | Cable Loss(dB) | Antenna Factor | PMea (dBuV/m) | Polarization |
|----------------|-----------------|----------------|----------------|---------------|--------------|
| 17466.000      | 57.8            | -22.8          | 42.6           | 37.985        | HORIZONTAL   |
| 17575.500      | 57.6            | -22.8          | 42.7           | 37.675        | HORIZONTAL   |
| 17581.500      | 57.4            | -22.8          | 42.7           | 37.475        | VERTICAL     |
| 17448.750      | 57.4            | -23.7          | 42.7           | 38.383        | HORIZONTAL   |
| 17895.750      | 57.3            | -22.9          | 42.5           | 37.693        | HORIZONTAL   |
| 17408.250      | 57.2            | -23.7          | 42.7           | 38.213        | VERTICAL     |

## Ch6

| Frequency(MHz) | Result (dBuV/m) | Cable Loss(dB) | Antenna Factor | PMea (dBuV/m) | Polarization |
|----------------|-----------------|----------------|----------------|---------------|--------------|
| 17521.500      | 58.6            | -22.8          | 42.8           | 38.615        | VERTICAL     |
| 17700.000      | 57.8            | -22.8          | 42.8           | 37.811        | VERTICAL     |
| 17662.500      | 57.7            | -22.8          | 42.7           | 37.871        | HORIZONTAL   |
| 17943.750      | 57.6            | -22.9          | 42.4           | 38.093        | VERTICAL     |
| 17151.000      | 57.4            | -23.7          | 43.0           | 38.113        | HORIZONTAL   |
| 17961.750      | 57.4            | -22.9          | 42.7           | 37.583        | HORIZONTAL   |

## Ch11

| Frequency(MHz) | Result (dBuV/m) | Cable Loss(dB) | Antenna Factor | PMea (dBuV/m) | Polarization |
|----------------|-----------------|----------------|----------------|---------------|--------------|
| 17527.500      | 58.1            | -22.8          | 42.9           | 37.955        | VERTICAL     |
| 17511.000      | 57.8            | -22.8          | 42.8           | 37.815        | HORIZONTAL   |
| 17415.000      | 57.7            | -23.7          | 42.7           | 38.713        | VERTICAL     |
| 17025.000      | 57.6            | -23.9          | 43.6           | 37.830        | VERTICAL     |
| 17440.500      | 57.6            | -23.7          | 42.7           | 38.583        | VERTICAL     |
| 17445.750      | 57.5            | -23.7          | 42.7           | 38.483        | VERTICAL     |

**802.11n-HT20**
**Ch1**

| Frequency(MHz) | Result (dBuV/m) | Cable Loss(dB) | Antenna Factor | PMea (dBuV/m) | Polarization |
|----------------|-----------------|----------------|----------------|---------------|--------------|
| 17931.750      | 58.5            | -22.9          | 42.4           | 38.993        | HORIZONTAL   |
| 17496.000      | 57.9            | -22.8          | 43.0           | 37.645        | HORIZONTAL   |
| 17536.500      | 57.8            | -22.8          | 42.9           | 37.655        | HORIZONTAL   |
| 17148.750      | 57.8            | -23.7          | 42.2           | 39.253        | VERTICAL     |
| 17769.750      | 57.7            | -22.8          | 42.2           | 38.371        | VERTICAL     |
| 17981.250      | 57.7            | -22.9          | 42.3           | 38.323        | VERTICAL     |

**Ch6**

| Frequency(MHz) | Result (dBuV/m) | Cable Loss(dB) | Antenna Factor | PMea (dBuV/m) | Polarization |
|----------------|-----------------|----------------|----------------|---------------|--------------|
| 17491.500      | 59.2            | -22.8          | 43.0           | 38.945        | HORIZONTAL   |
| 17383.500      | 57.7            | -23.7          | 42.8           | 38.623        | HORIZONTAL   |
| 17898.750      | 57.6            | -22.9          | 42.5           | 37.993        | HORIZONTAL   |
| 17737.500      | 57.5            | -22.8          | 42.1           | 38.261        | VERTICAL     |
| 17499.000      | 57.4            | -22.8          | 43.0           | 37.145        | HORIZONTAL   |
| 17735.250      | 57.3            | -22.8          | 42.1           | 38.061        | HORIZONTAL   |

**Ch11**

| Frequency(MHz) | Result (dBuV/m) | Cable Loss(dB) | Antenna Factor | PMea (dBuV/m) | Polarization |
|----------------|-----------------|----------------|----------------|---------------|--------------|
| 17424.000      | 57.8            | -23.7          | 42.7           | 38.813        | VERTICAL     |
| 17734.500      | 57.7            | -22.8          | 42.1           | 38.461        | VERTICAL     |
| 17484.750      | 57.7            | -22.8          | 43.0           | 37.445        | HORIZONTAL   |
| 17513.250      | 57.4            | -22.8          | 42.8           | 37.415        | VERTICAL     |
| 17430.750      | 57.4            | -23.7          | 42.7           | 38.383        | HORIZONTAL   |
| 17541.750      | 57.3            | -22.8          | 42.9           | 37.155        | VERTICAL     |

**802.11n-HT40**
**Ch3**

| Frequency(MHz) | Result (dBuV/m) | Cable Loss(dB) | Antenna Factor | PMea (dBuV/m) | Polarization |
|----------------|-----------------|----------------|----------------|---------------|--------------|
| 17491.500      | 57.9            | -22.8          | 43.0           | 37.645        | HORIZONTAL   |
| 17553.750      | 57.6            | -22.8          | 42.3           | 38.125        | VERTICAL     |
| 17550.750      | 57.5            | -22.8          | 42.3           | 38.025        | HORIZONTAL   |
| 17467.500      | 57.5            | -22.8          | 42.6           | 37.685        | VERTICAL     |
| 17937.750      | 57.4            | -22.9          | 42.4           | 37.893        | VERTICAL     |
| 17075.250      | 57.3            | -23.9          | 42.8           | 38.400        | VERTICAL     |

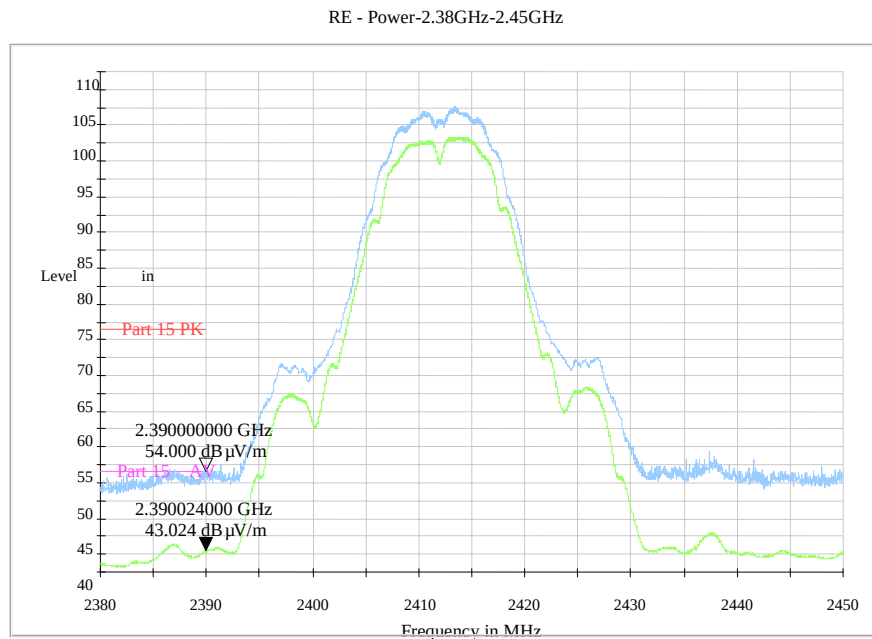
**Ch6**

| Frequency(MHz) | Result (dBuV/m) | Cable Loss(dB) | Antenna Factor | PMea (dBuV/m) | Polarization |
|----------------|-----------------|----------------|----------------|---------------|--------------|
| 17801.250      | 58.0            | -22.8          | 42.9           | 37.901        | HORIZONTAL   |
| 17458.500      | 58.0            | -22.8          | 42.6           | 38.185        | HORIZONTAL   |
| 17603.250      | 57.9            | -22.8          | 42.8           | 37.925        | HORIZONTAL   |
| 17454.000      | 57.5            | -23.7          | 42.6           | 38.623        | VERTICAL     |
| 17667.000      | 57.5            | -22.8          | 42.7           | 37.671        | VERTICAL     |
| 17790.750      | 57.5            | -22.8          | 42.0           | 38.391        | HORIZONTAL   |

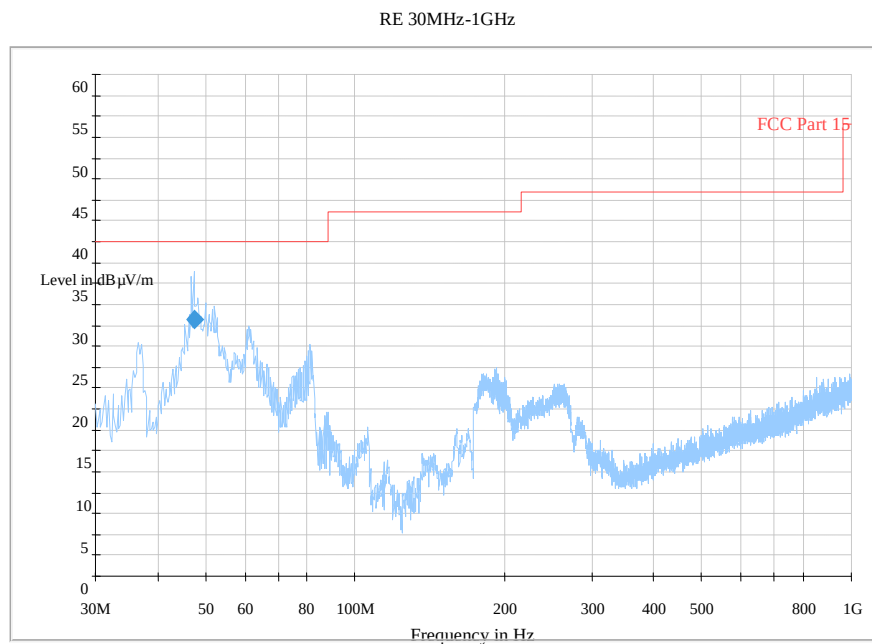
**Ch9**

| Frequency(MHz) | Result (dBuV/m) | Cable Loss(dB) | Antenna Factor | PMea (dBuV/m) | Polarization |
|----------------|-----------------|----------------|----------------|---------------|--------------|
| 17424.000      | 57.8            | -23.7          | 42.7           | 38.813        | VERTICAL     |
| 17734.500      | 57.7            | -22.8          | 42.1           | 38.461        | VERTICAL     |
| 17484.750      | 57.7            | -22.8          | 43.0           | 37.445        | HORIZONTAL   |
| 17513.250      | 57.4            | -22.8          | 42.8           | 37.415        | VERTICAL     |
| 17430.750      | 57.4            | -23.7          | 42.7           | 38.383        | HORIZONTAL   |
| 17541.750      | 57.3            | -22.8          | 42.9           | 37.155        | VERTICAL     |

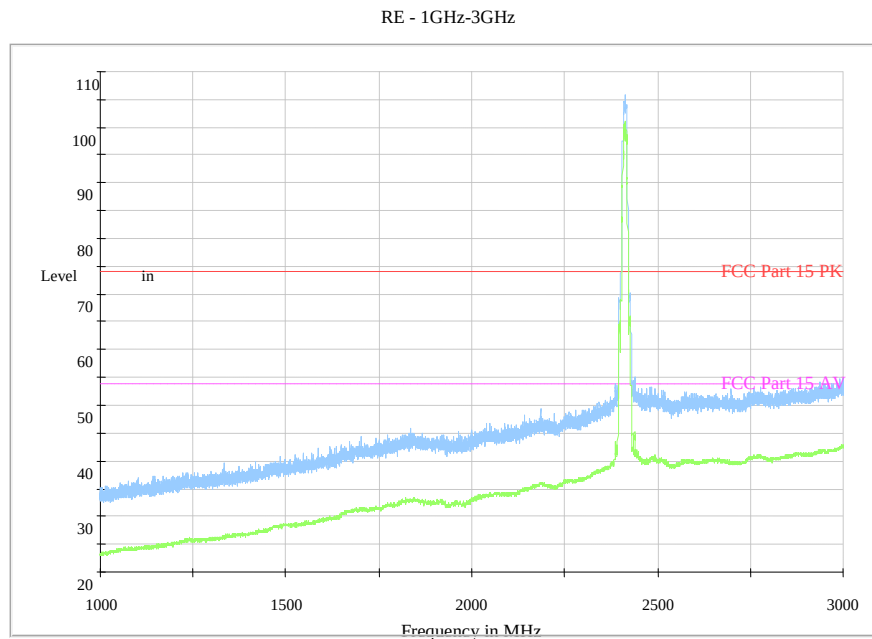
**Test graphs as below:**



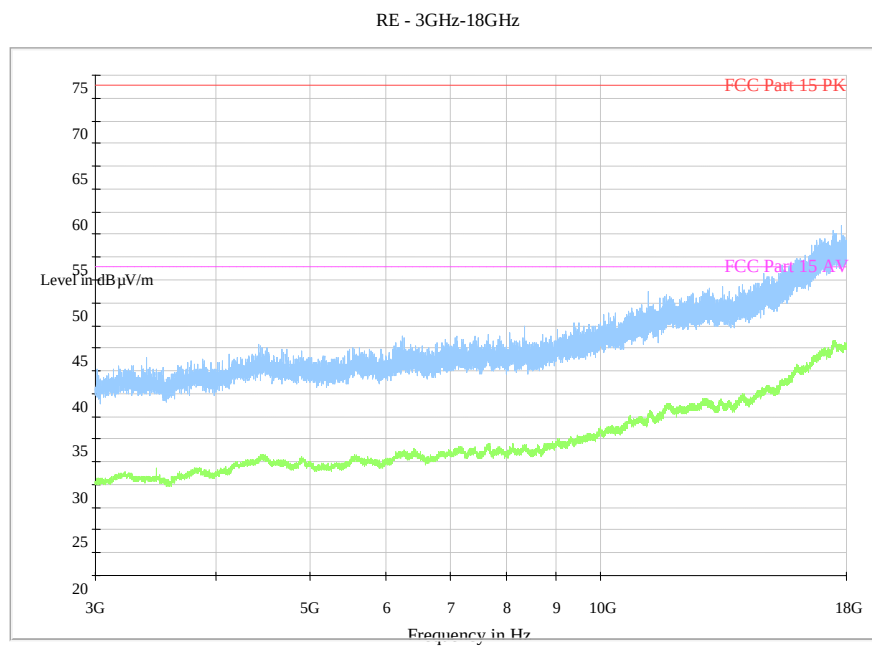
**Fig.A.6.2.1 Radiated Spurious Emission (Power): 802.11b, ch1, 2.38 GHz – 2.45GHz**



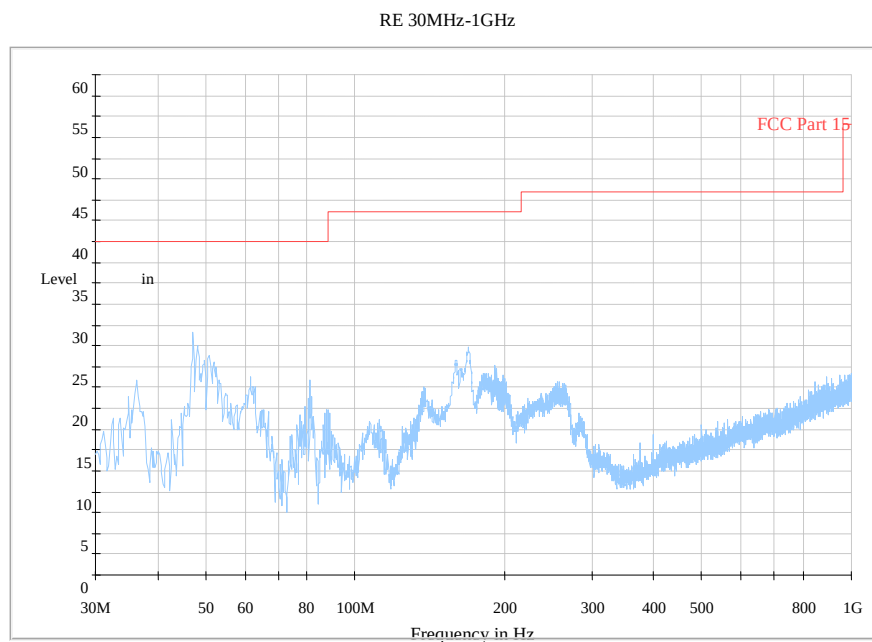
**Fig.A.6.2.2 Radiated Spurious Emission (802.11b, Ch1, 30 MHz-1 GHz)**



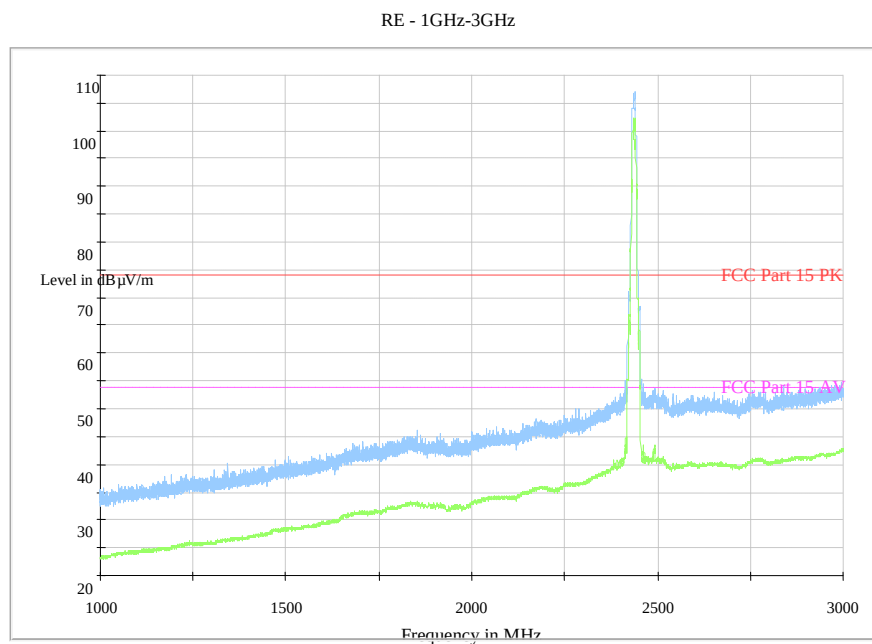
**Fig.A.6.2.3 Radiated Spurious Emission (802.11b, Ch1, 1 GHz-3 GHz)**



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

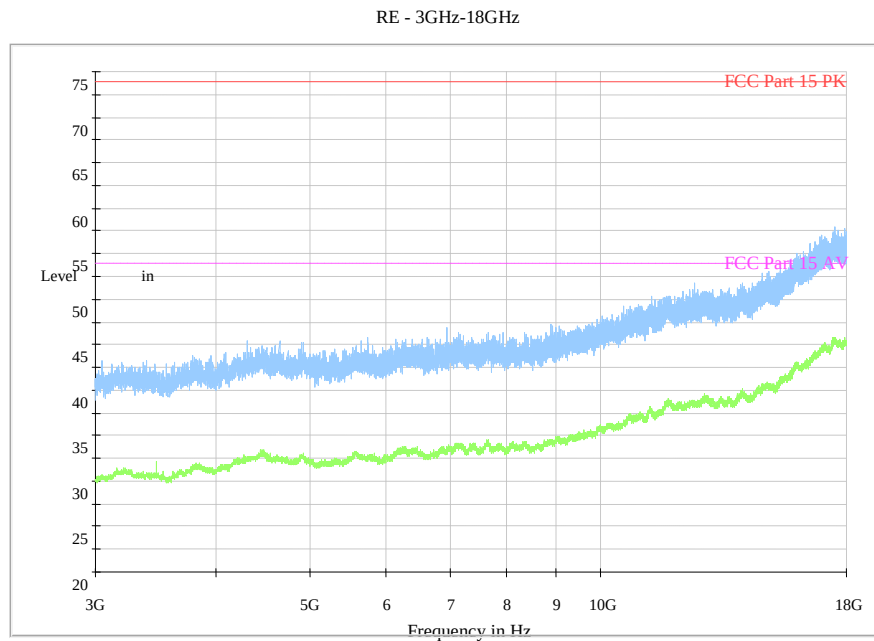


**Fig.A.6.2.5 Radiated Spurious Emission (802.11b, Ch6, 30 MHz-1 GHz)**

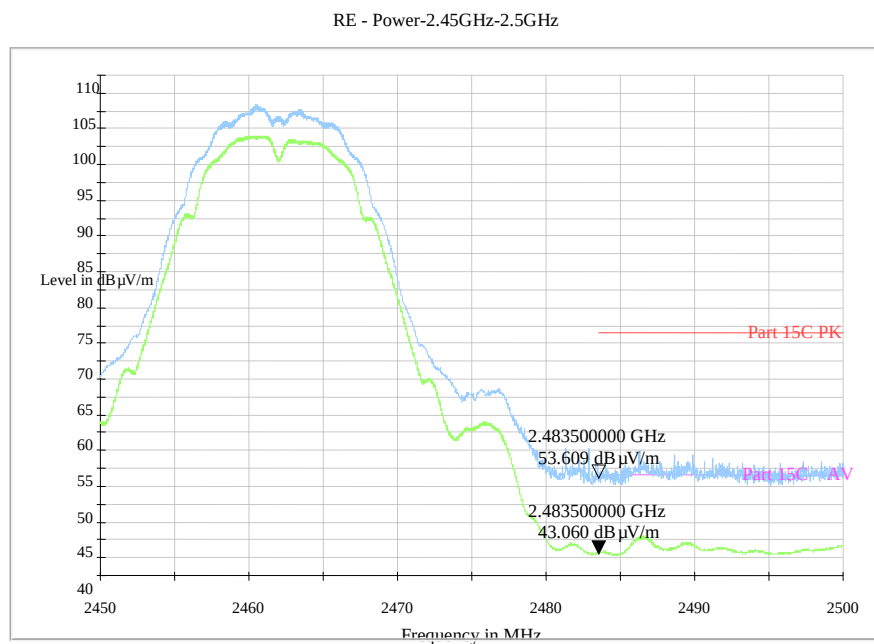


**Fig.A.6.2.6 Radiated Spurious Emission (802.11b, Ch6, 1 GHz-3 GHz)**

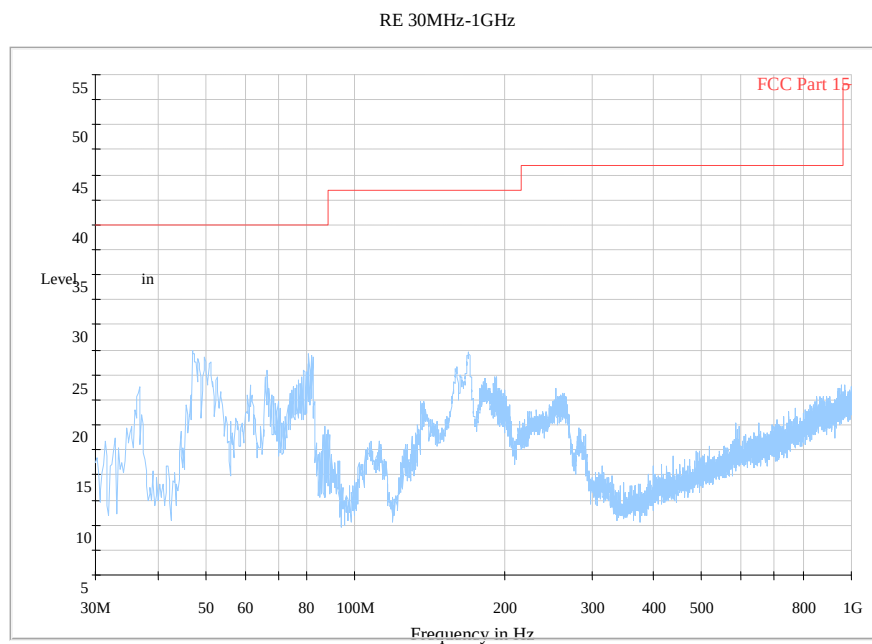




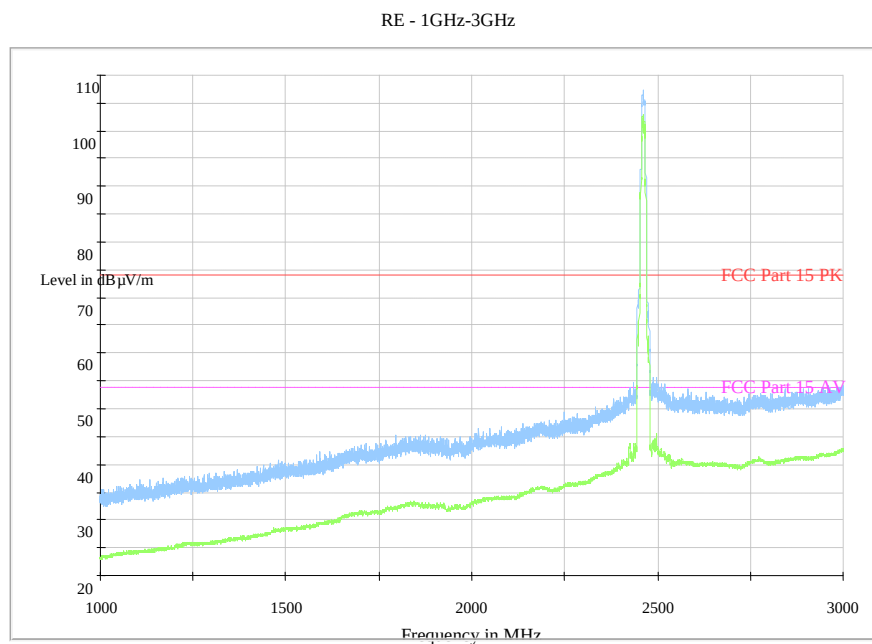
**Fig.A.6.2.7 Radiated Spurious Emission (802.11b, Ch6, 3 GHz-18 GHz)**



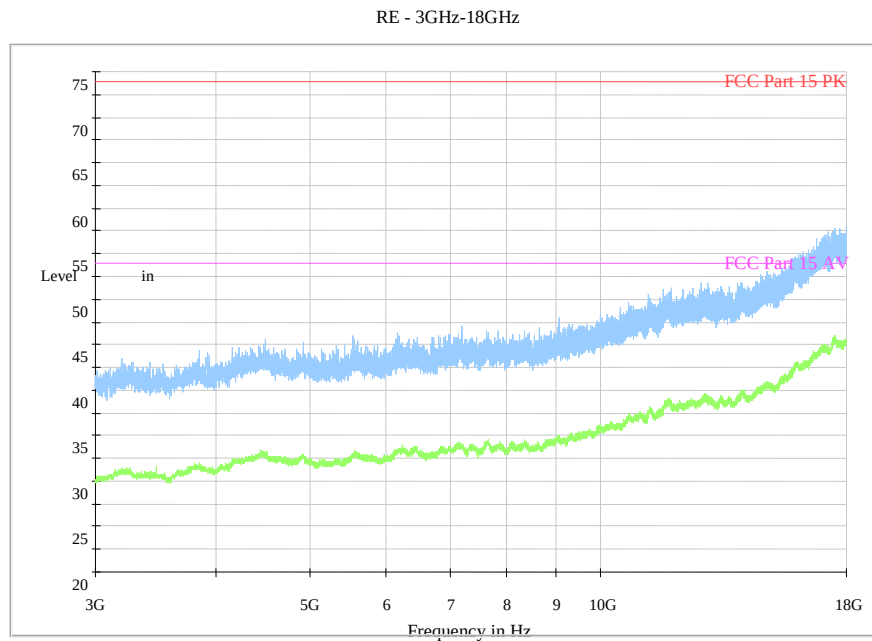
**Fig.A.6.2.8 Radiated Spurious Emission (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz**



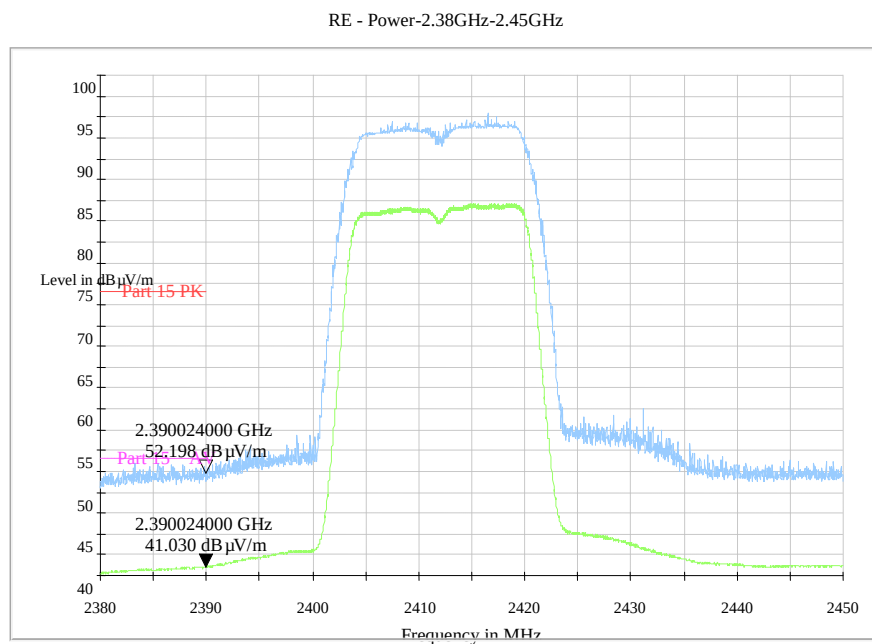
**Fig.A.6.2.9 Radiated Spurious Emission (802.11b, Ch11, 30 MHz-1 GHz)**



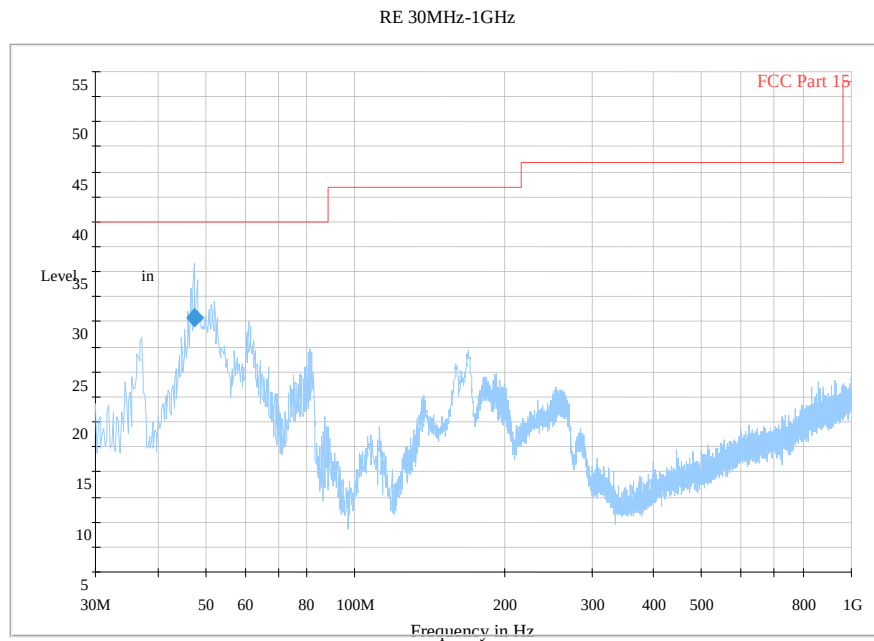
**Fig.A.6.2.10 Radiated Spurious Emission (802.11b, Ch11, 1 GHz-3 GHz)**



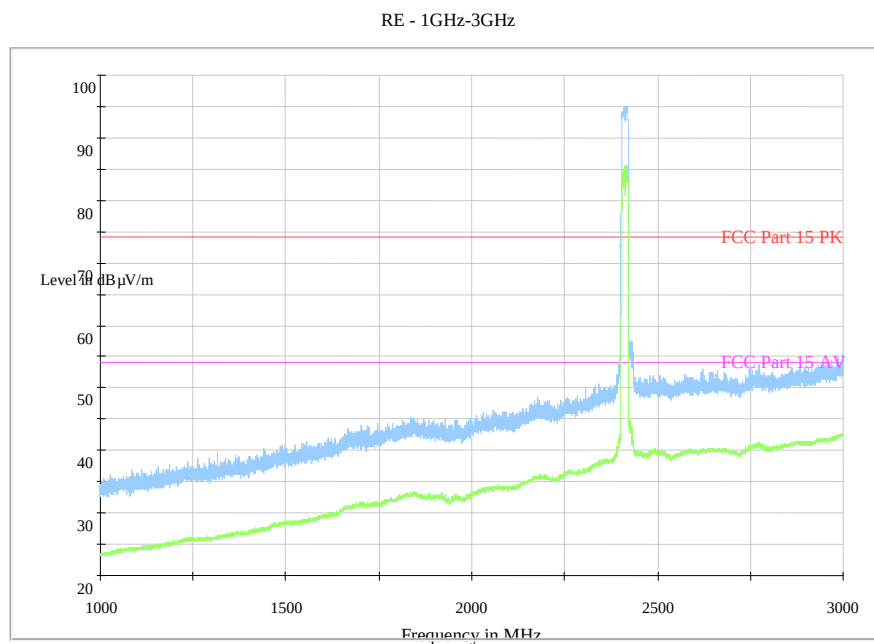
**Fig.A.6.2.11 Radiated Spurious Emission (802.11b, Ch11, 3 GHz-18 GHz)**



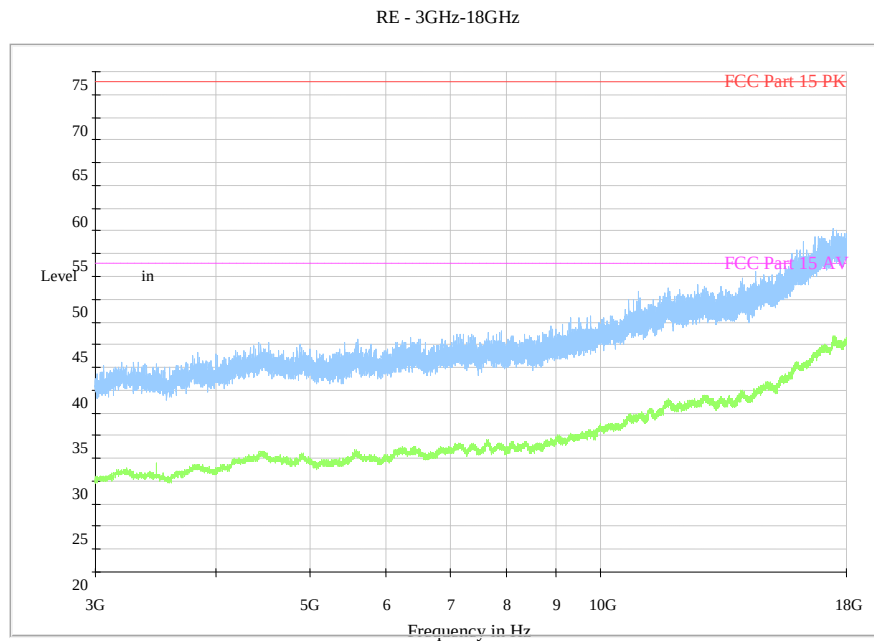
**Fig.A.6.2.12 Radiated Spurious Emission (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz**



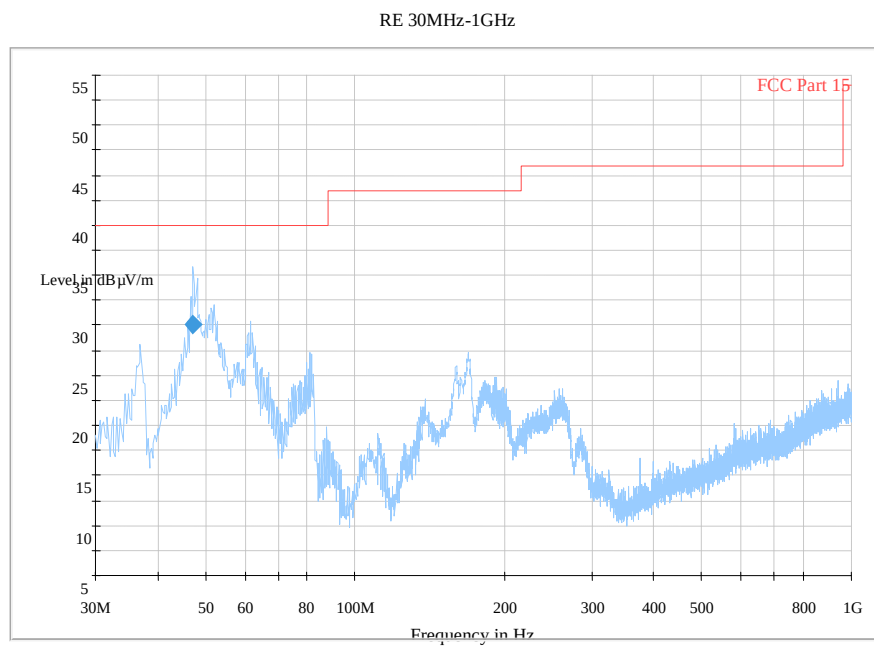
**Fig.A.6.2.13 Radiated Spurious Emission (802.11g, Ch1, 30 MHz-1 GHz)**



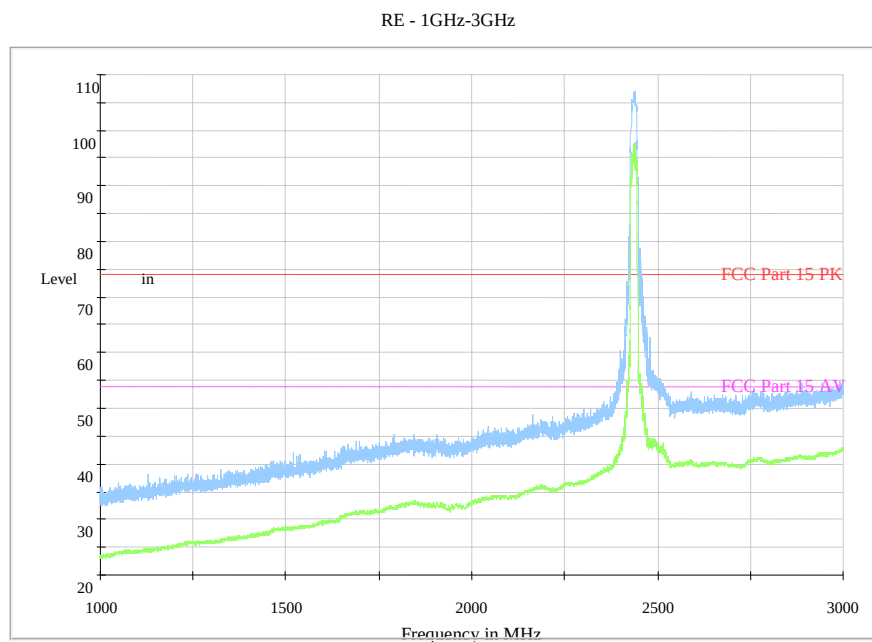
**Fig.A.6.2.14 Radiated Spurious Emission (802.11g, Ch1, 1 GHz-3 GHz)**



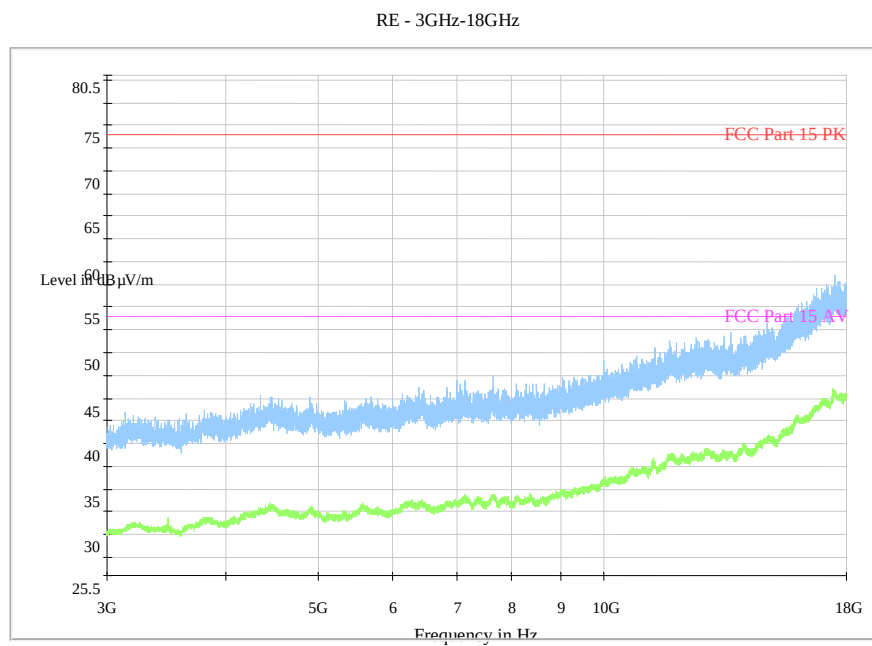
**Fig.A.6.2.15 Radiated Spurious Emission (802.11g, Ch1, 3 GHz-18 GHz)**



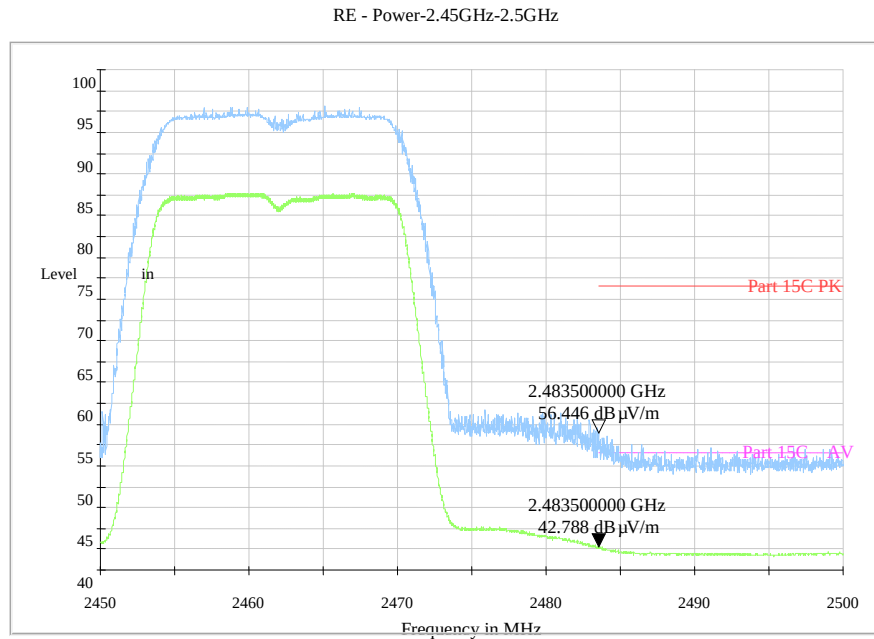
**Fig.A.6.2.16 Radiated Spurious Emission (802.11g, Ch6, 30 MHz-1 GHz)**



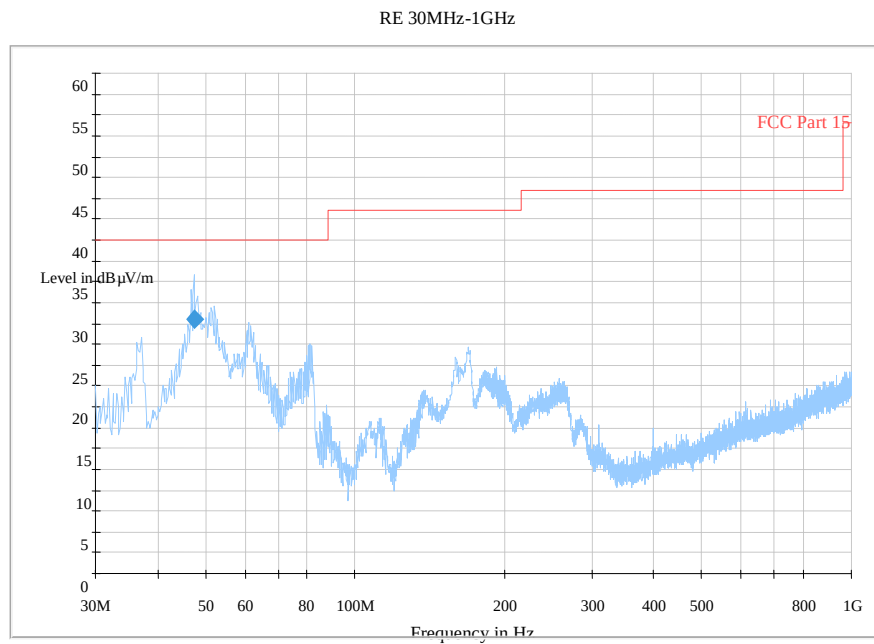
**Fig.A.6.2.17 Radiated Spurious Emission (802.11g, Ch6, 1 GHz-3 GHz)**



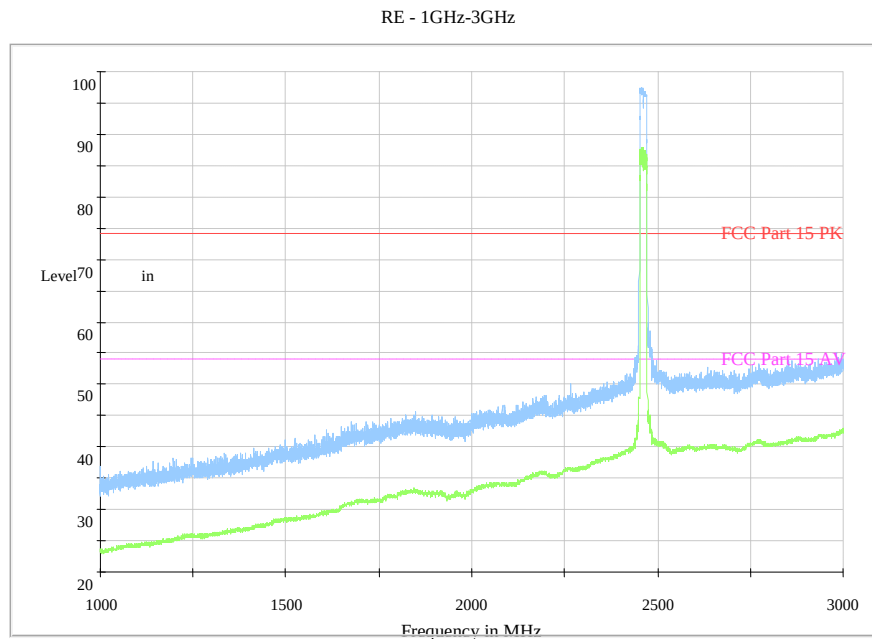
**Fig.A.6.2.18 Radiated Spurious Emission (802.11g, Ch6, 3 GHz-18 GHz)**



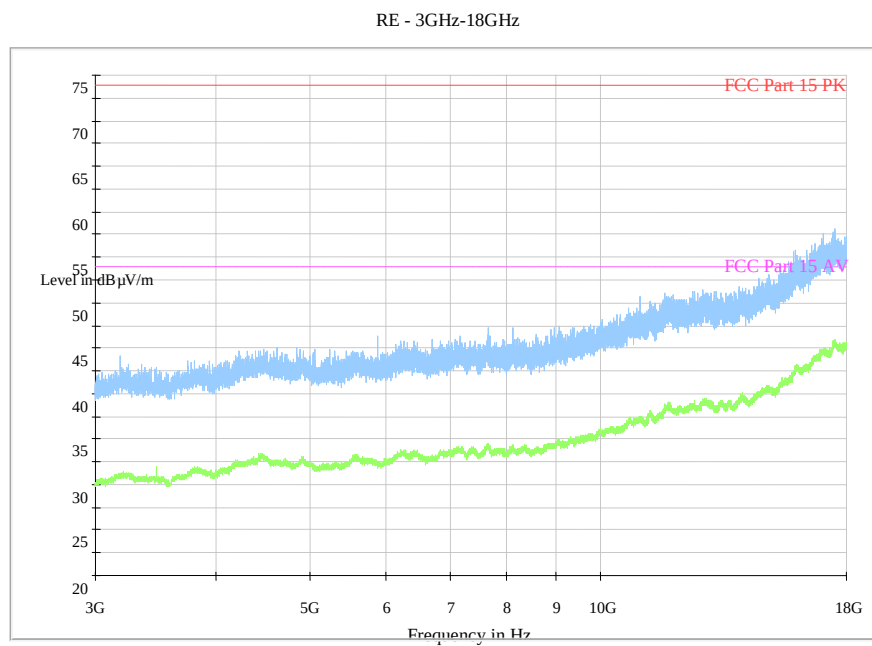
**Fig.A.6.2.19 Radiated Spurious Emission (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz**



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

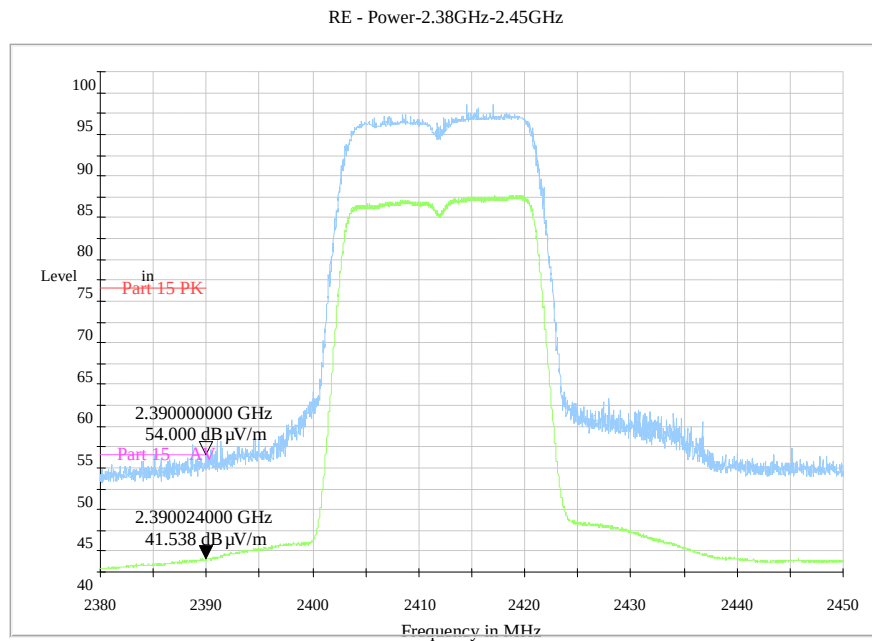


**Fig.A.6.2.21 Radiated Spurious Emission (802.11g, Ch11, 1 GHz-3 GHz)**

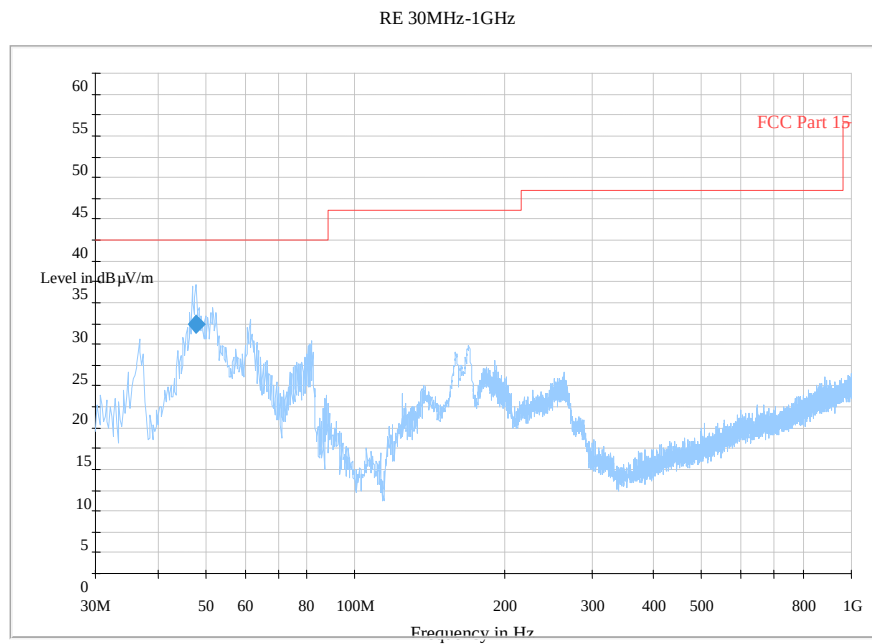


**Fig.A.6.2.22 Radiated Spurious Emission (802.11g, Ch11, 3 GHz-18 GHz)**

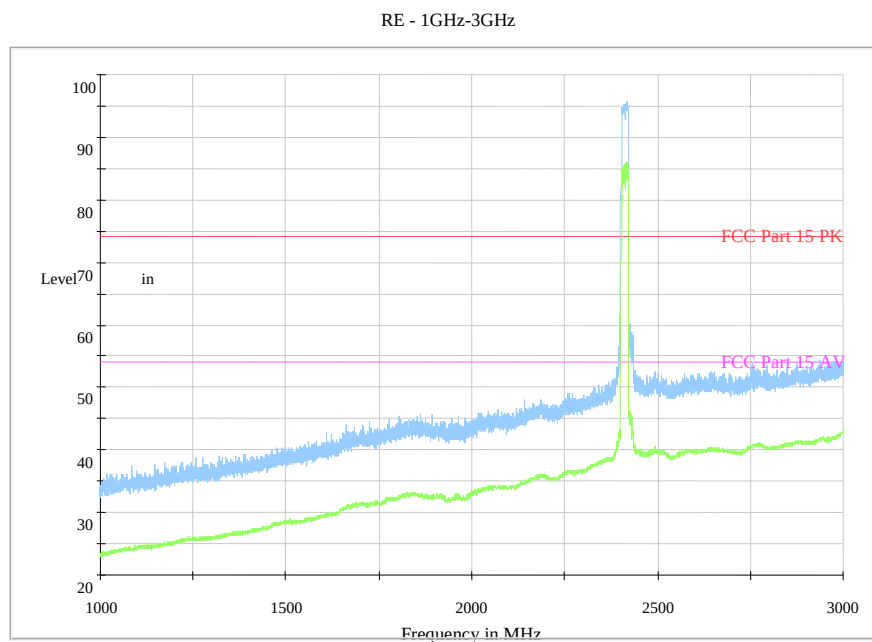




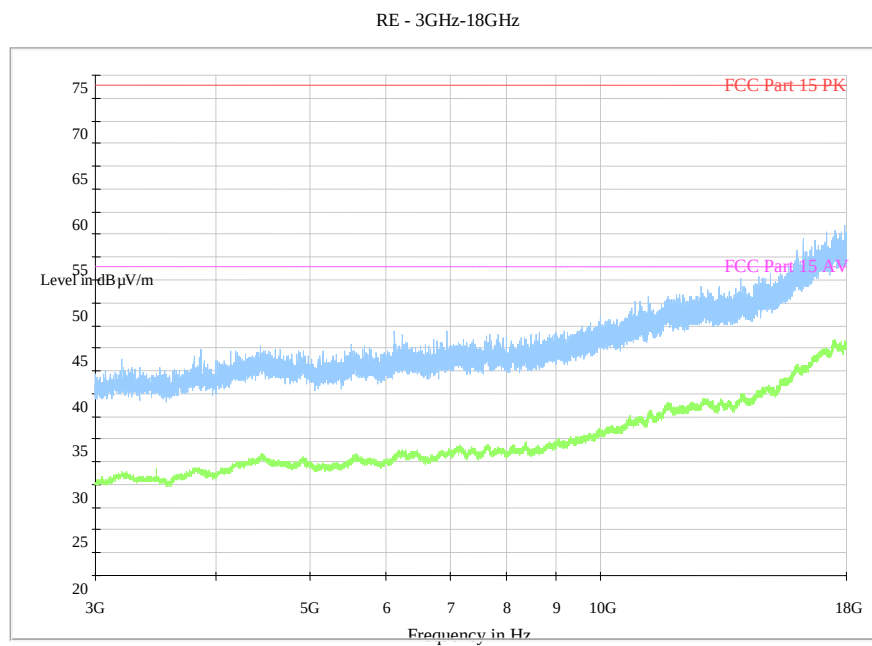
**Fig.A.6.2.23 Radiated Spurious Emission (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz**



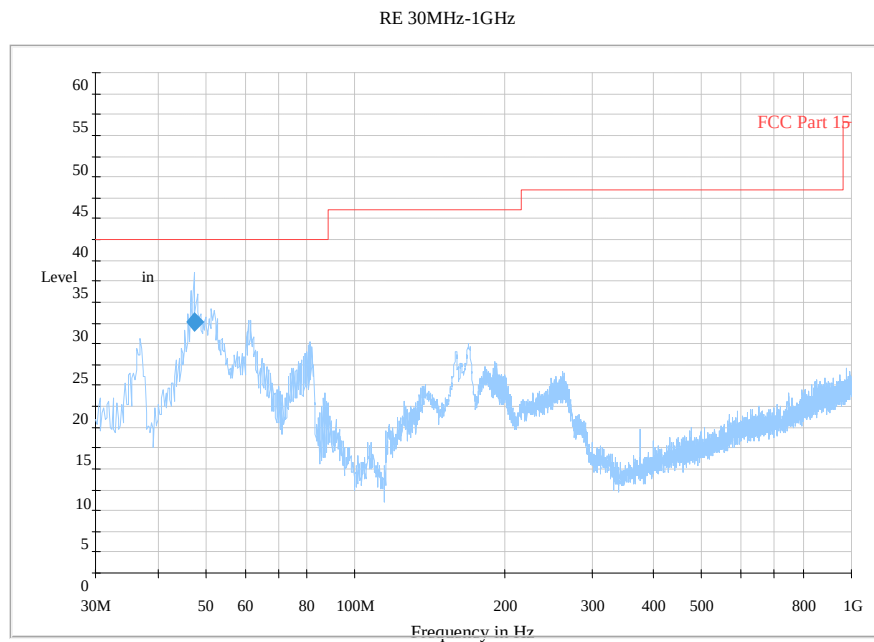
**Fig.A.6.2.24 Radiated Spurious Emission (802.11n-HT20, Ch1, 30 MHz-1 GHz)**



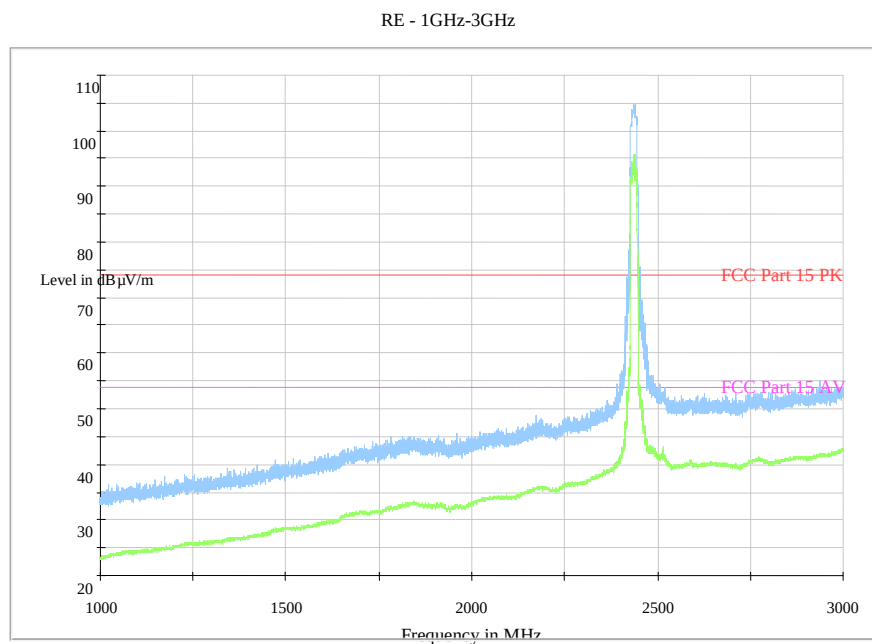
**Fig.A.6.2.25 Radiated Spurious Emission (802.11n-HT20, Ch1, 1 GHz-3 GHz)**



**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)**

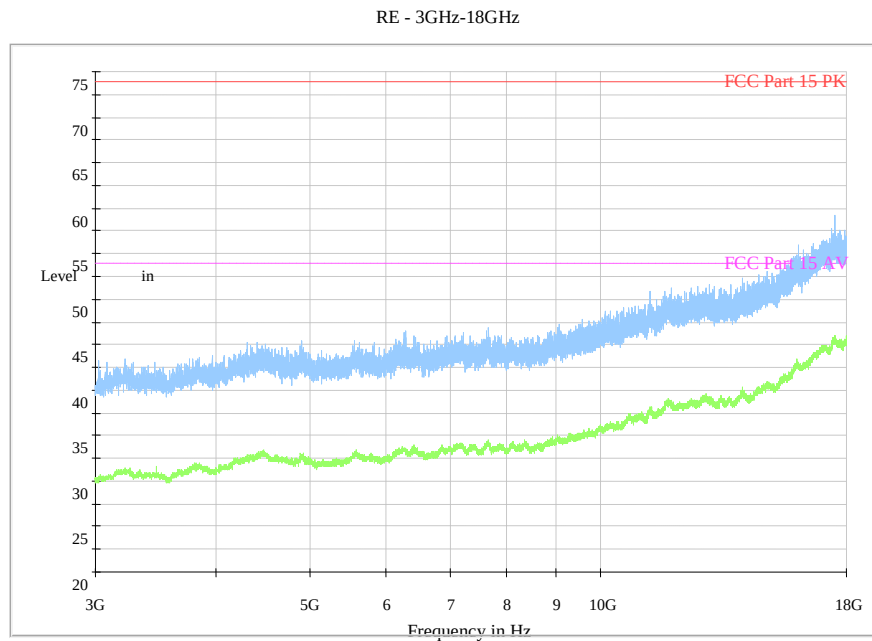


Fig.A.6.2.29 Radiated Spurious Emission (802.11n-HT20, Ch6, 3 GHz-18 GHz)

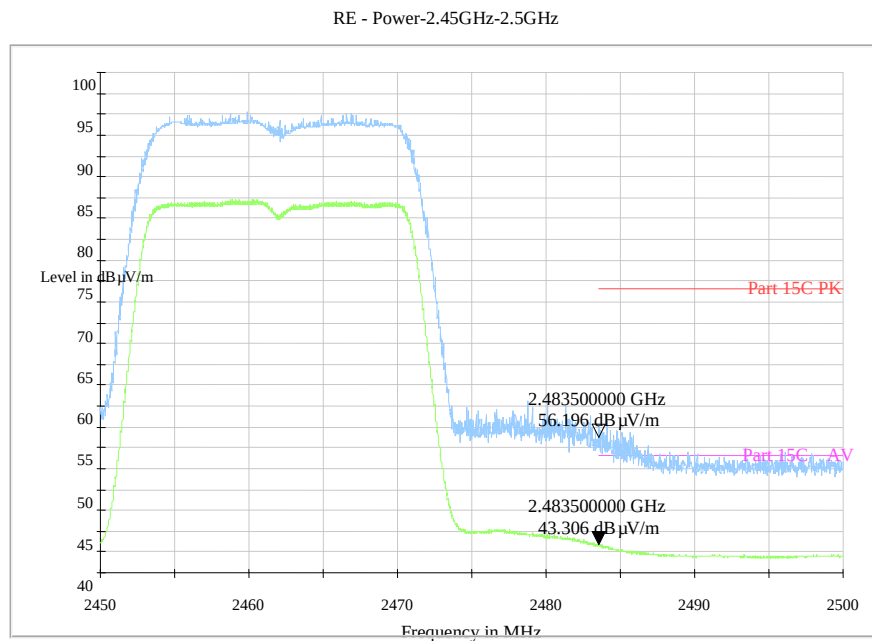
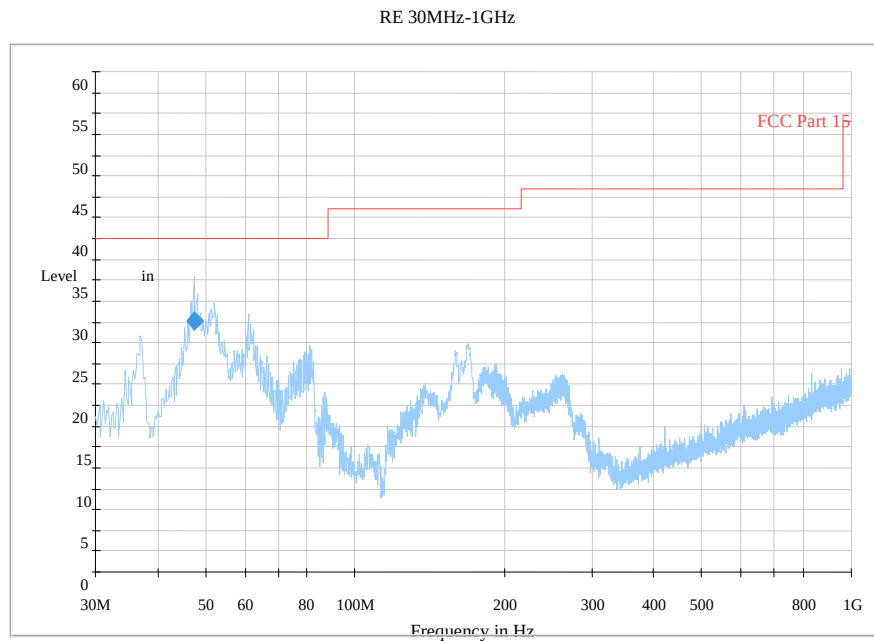
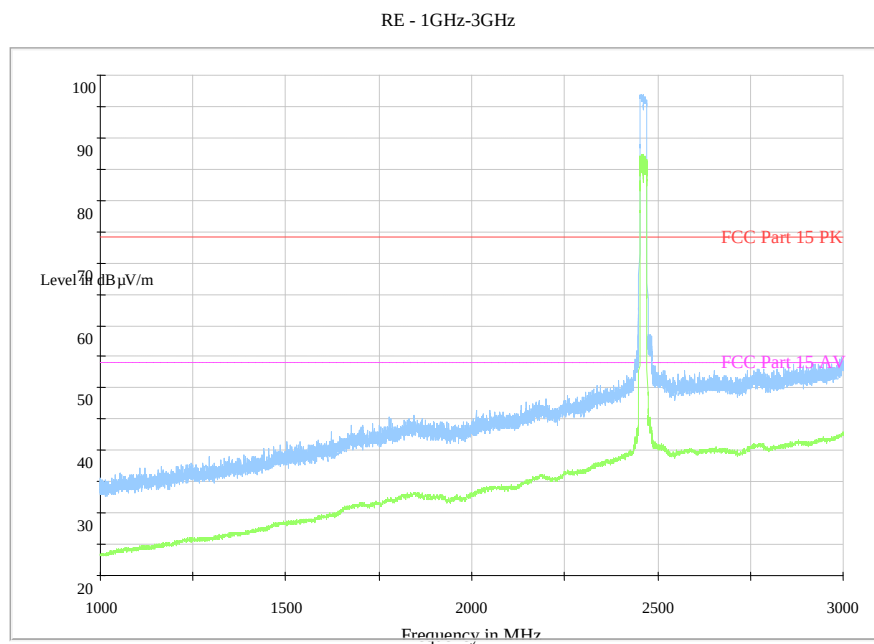


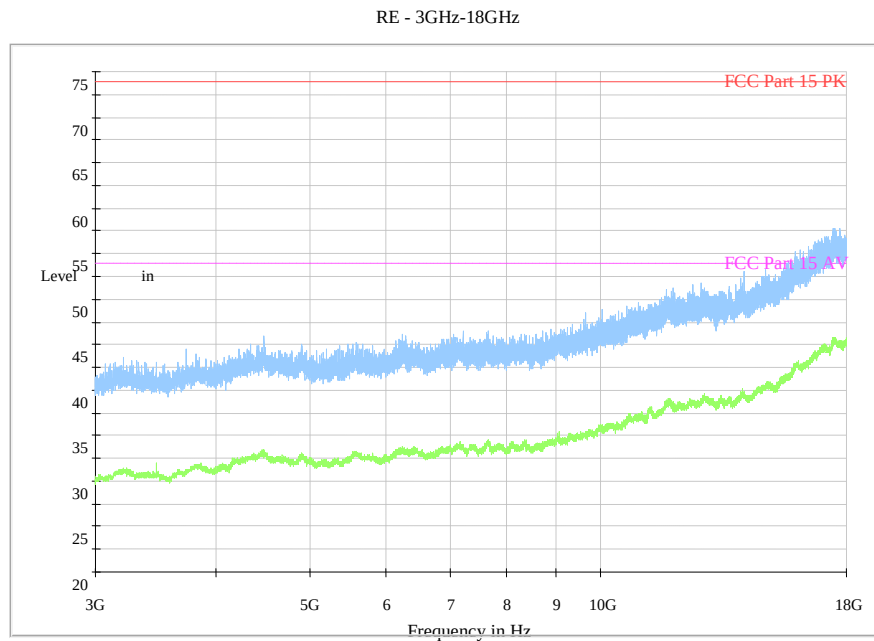
Fig.A.6.2.30 Radiated Spurious Emission (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz



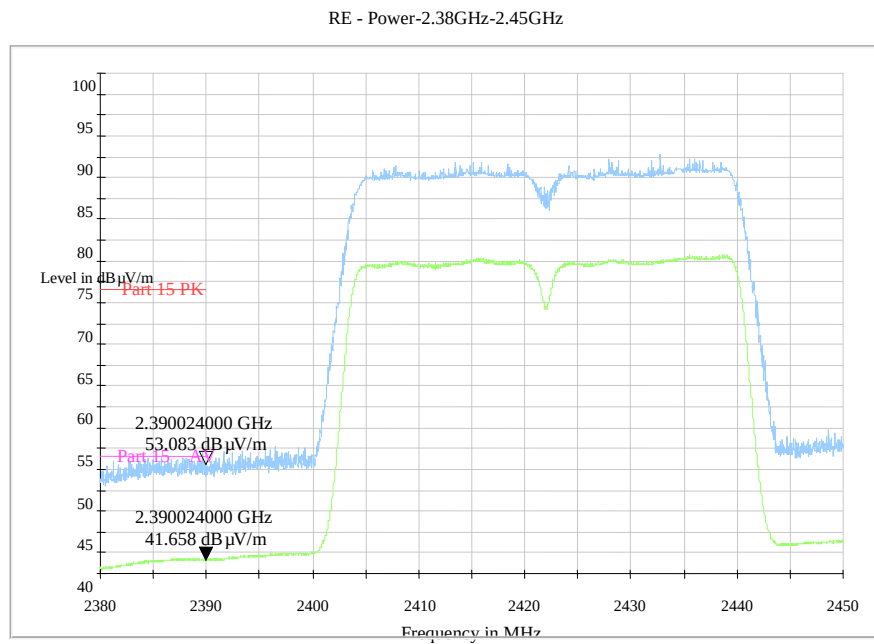
**Fig.A.6.2.31 Radiated Spurious Emission (802.11n-HT20, Ch11, 30 MHz-1 GHz)**



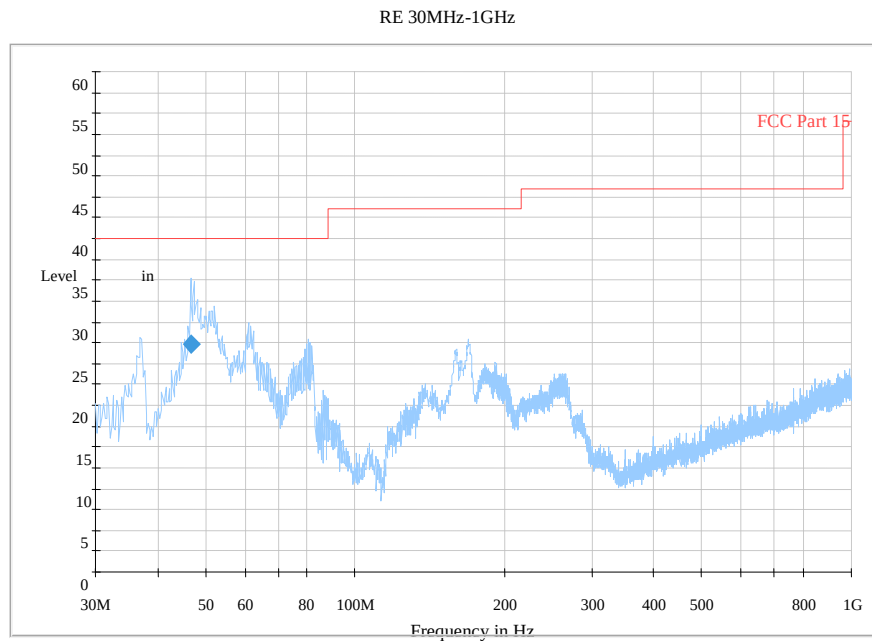
**Fig.A.6.2.32 Radiated Spurious Emission (802.11n-HT20, Ch11, 1 GHz-3 GHz)**



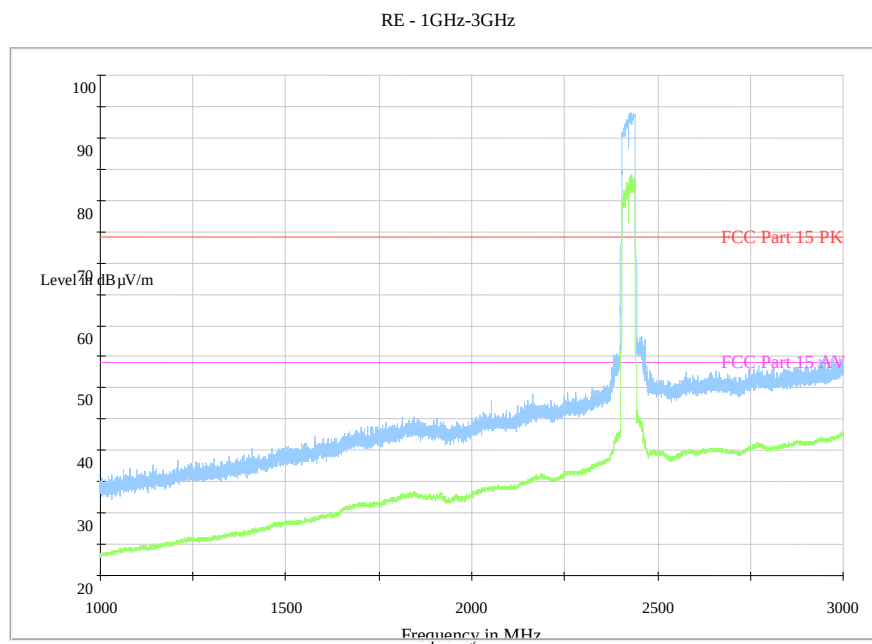
**Fig.A.6.2.33 Radiated Spurious Emission (802.11n-HT20, Ch11, 3 GHz-18 GHz)**



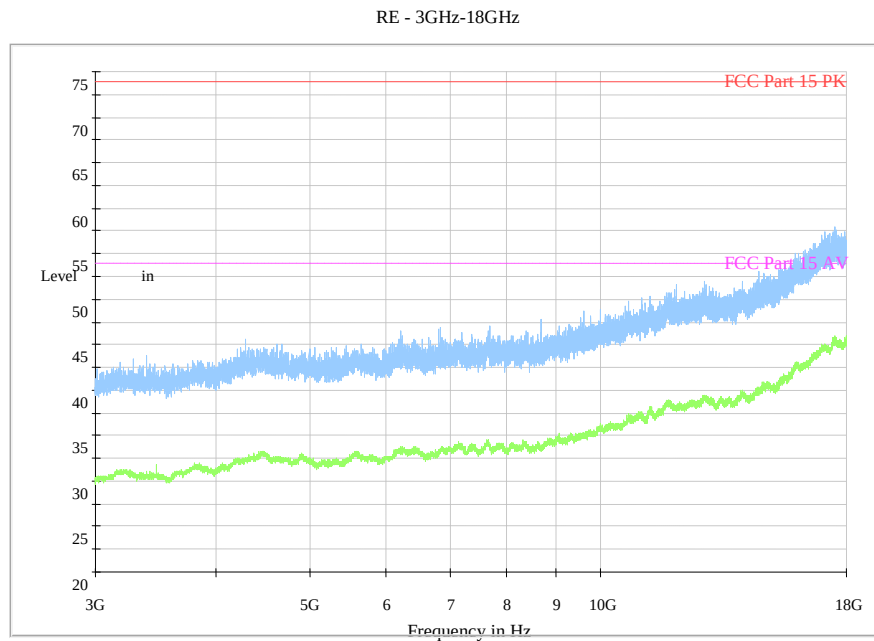
**Fig.A.6.2.34 Radiated Spurious Emission (Power): 802.11n-HT40, ch3, 2.38 GHz - 2.45GHz**



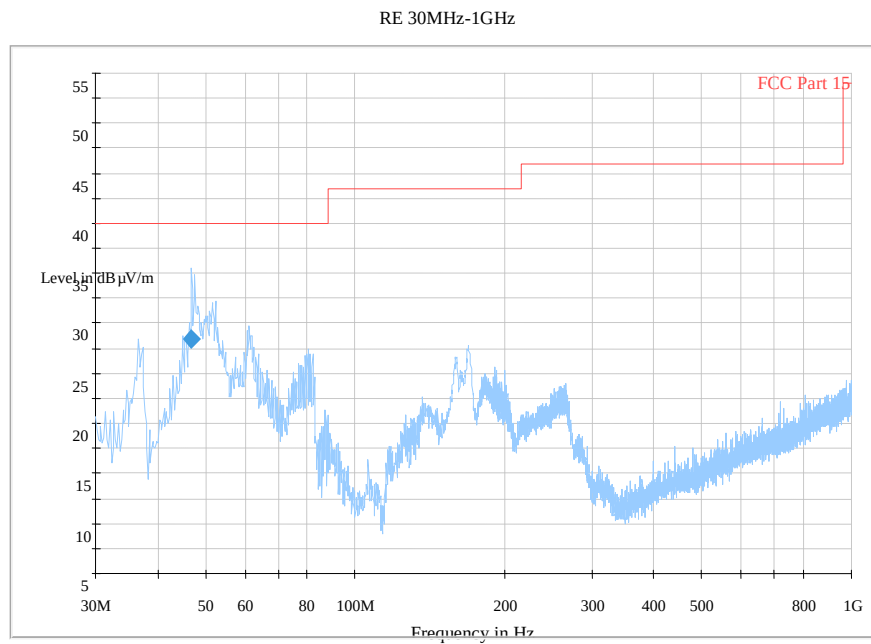
**Fig.A.6.2.35 Radiated Spurious Emission (802.11n-HT40, ch3, 30 MHz-1 GHz)**



**Fig.A.6.2.36 Radiated Spurious Emission (802.11n-HT40, ch3, 1 GHz-3 GHz)**

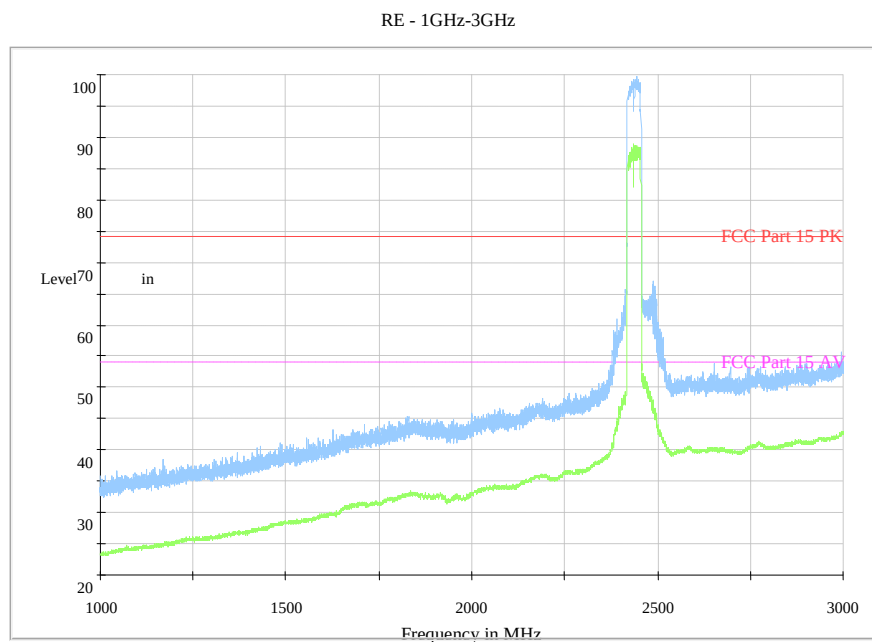


**Fig.A.6.2.37 Radiated Spurious Emission (802.11n-HT40, ch3, 3 GHz-18 GHz)**

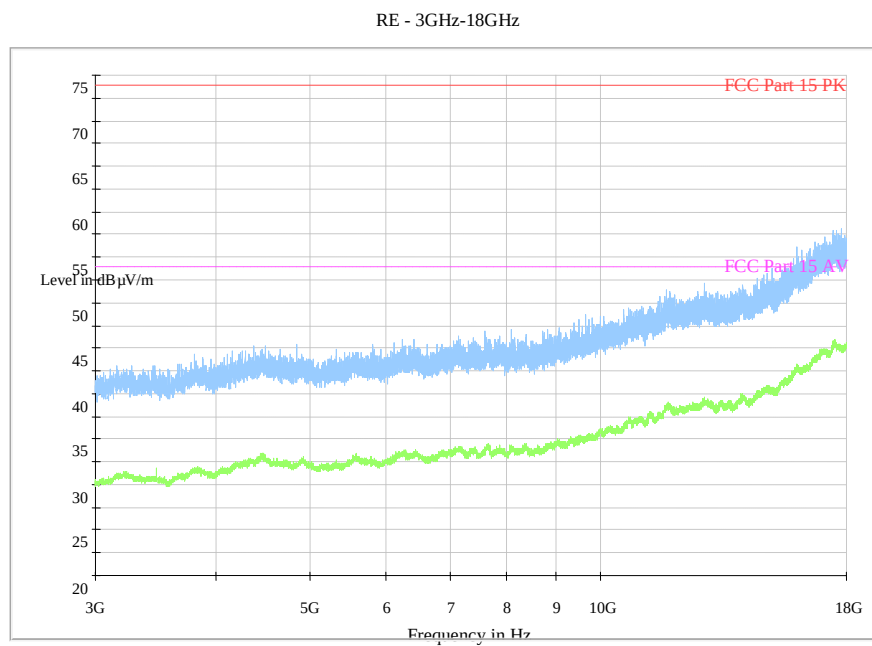


**Fig.A.6.2.38 Radiated Spurious Emission (802.11n-HT40, Ch6, 30 MHz-1 GHz)**

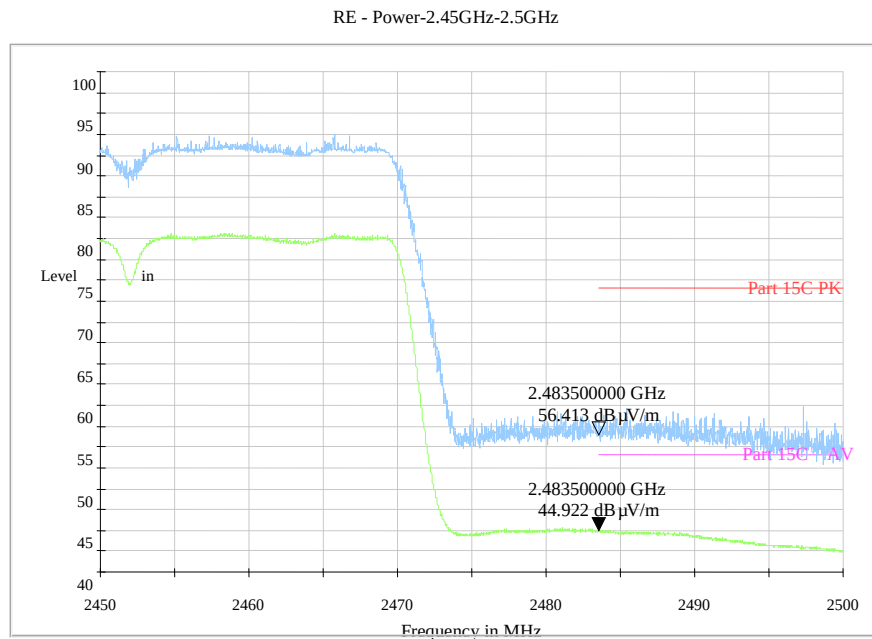




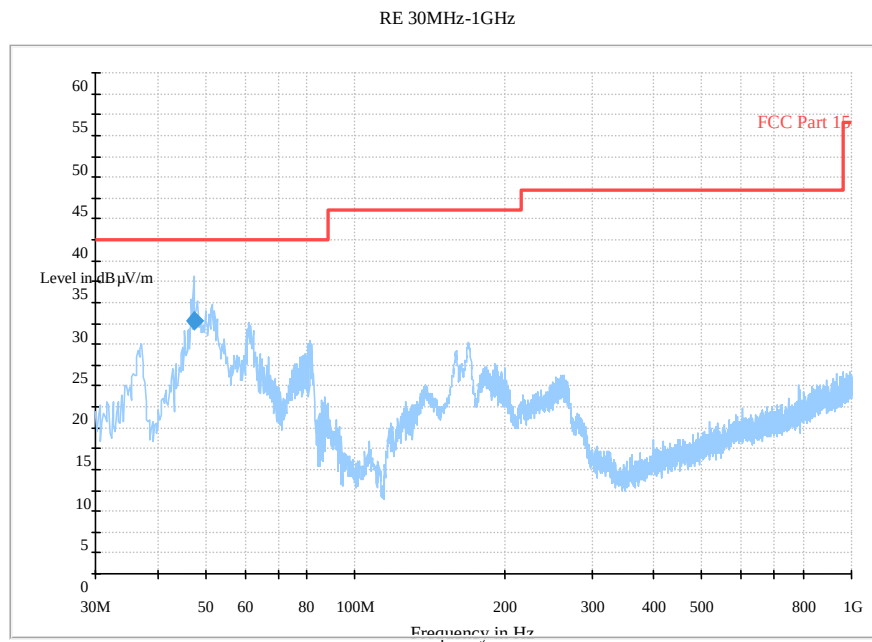
**Fig.A.6.2.39 Radiated Spurious Emission (802.11n-HT40, Ch6, 1 GHz-3 GHz)**



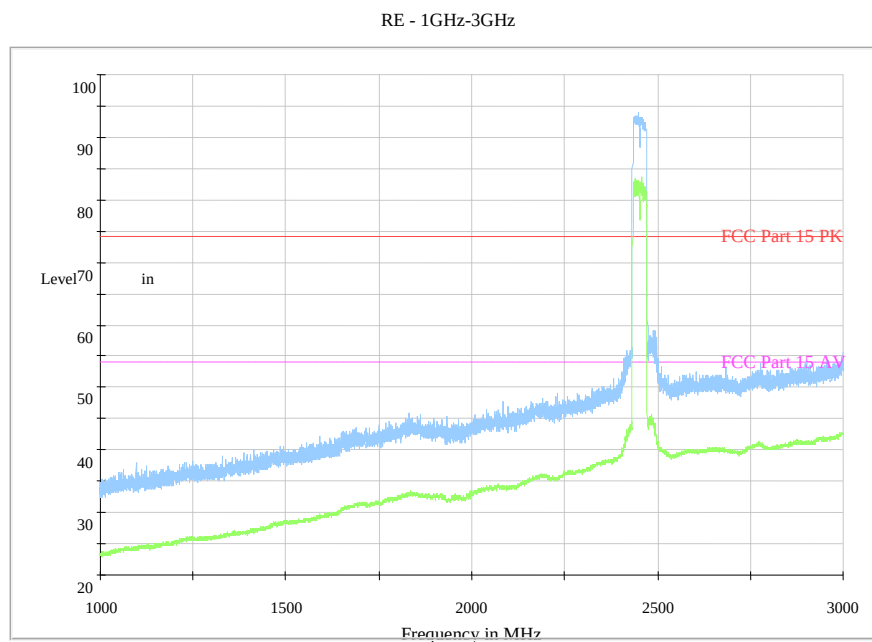
**Fig.A.6.2.40 Radiated Spurious Emission (802.11n-HT40, Ch6, 3 GHz-18 GHz)**



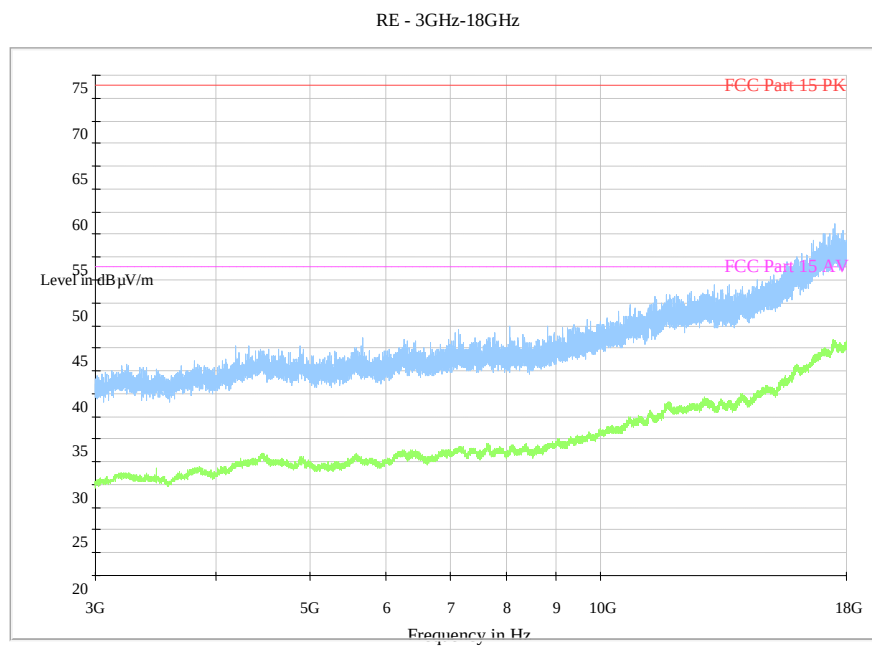
**Fig.A.6.2.41 Radiated Spurious Emission (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz**



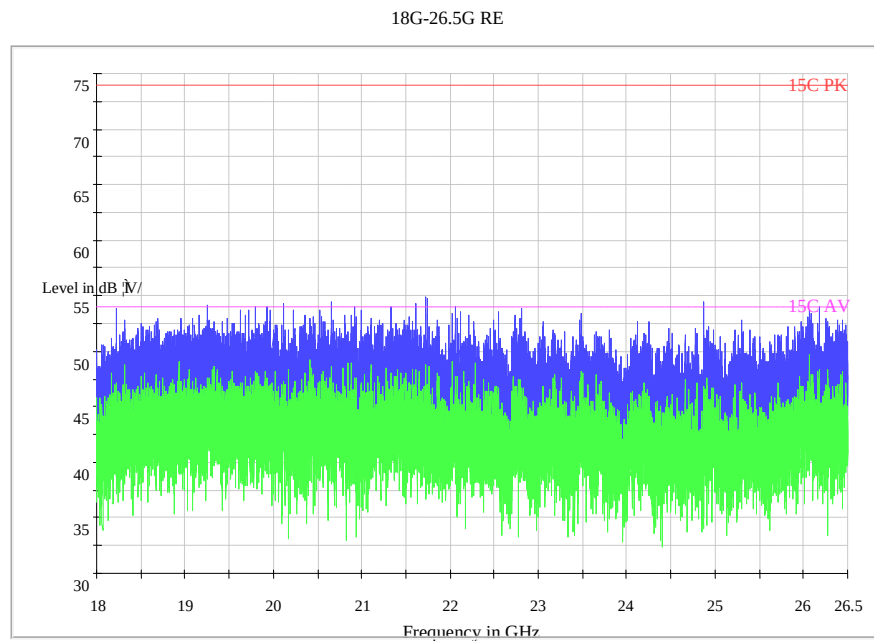
**Fig.A.6.2.42 Radiated Spurious Emission (802.11n-HT40, ch9, 30 MHz-1 GHz)**



**Fig.A.6.2.43 Radiated Spurious Emission (802.11n-HT40, ch9, 1 GHz-3 GHz)**



**Fig.A.6.2.44 Radiated Spurious Emission (802.11n-HT40, ch9, 3 GHz-18 GHz)**



**Fig.A.6.2.45 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<br>(MHz)                                                                                 | Quasi-peak<br>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 | <b>P</b>   |
| 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<br>(MHz)                                                                                 | Average Limit<br>(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. |                         |               |           |            |

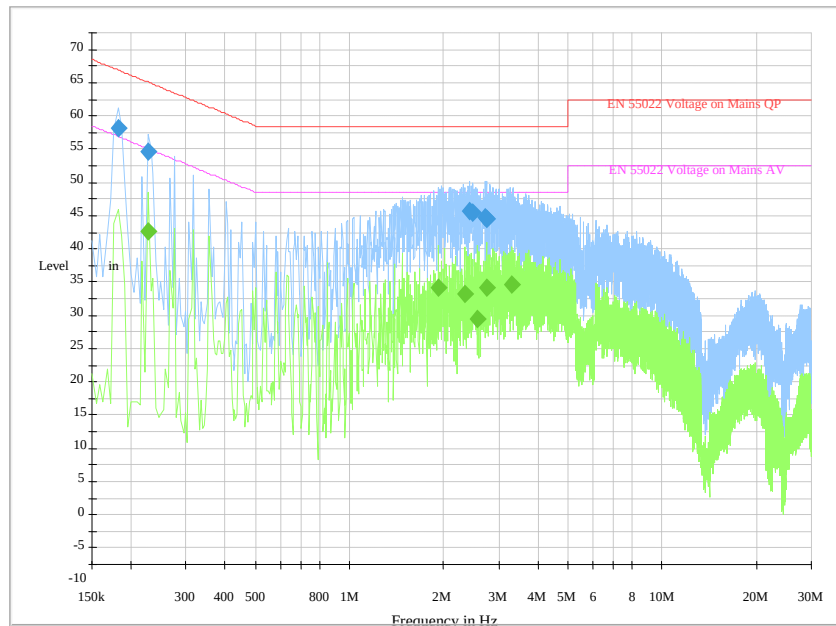
The measurement is made according to KDB558074.

### 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**

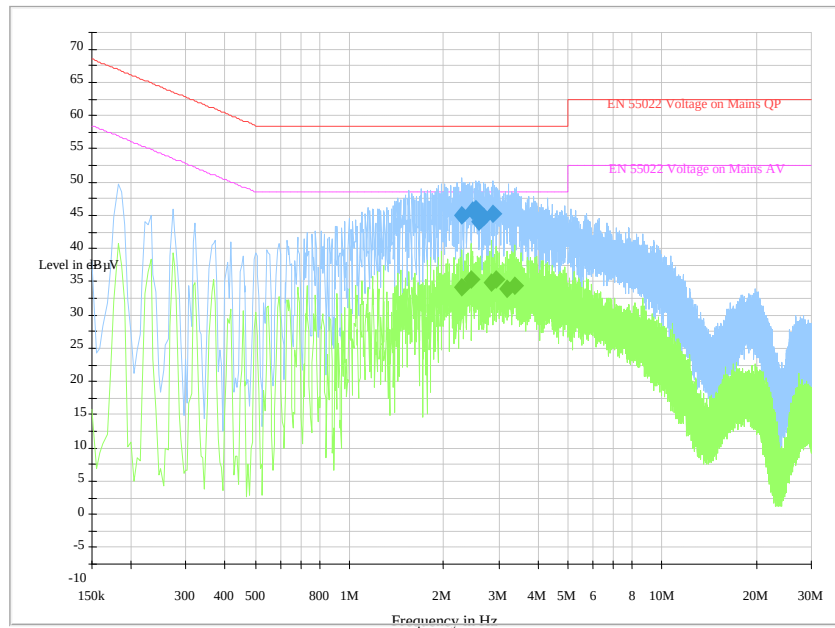
Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

| Frequency (MHz) | QuasiPeak (dBμV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.181501        | 55.6             | GND | N    | 9.9        | 8.8         | 64.4         |
| 0.226501        | 52.1             | GND | N    | 9.9        | 10.4        | 62.6         |
| 2.422501        | 43.1             | GND | N    | 9.9        | 12.9        | 56.0         |
| 2.467501        | 42.9             | GND | N    | 9.9        | 13.1        | 56.0         |
| 2.715001        | 42.2             | GND | N    | 9.9        | 13.8        | 56.0         |
| 2.733001        | 42.1             | GND | N    | 9.9        | 13.9        | 56.0         |

Final Result 2

| Frequency (MHz) | CAverage (dBμV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|-----------------|-----|------|------------|-------------|--------------|
| 0.226501        | 40.0            | GND | N    | 9.9        | 12.6        | 52.6         |
| 1.918501        | 31.7            | GND | N    | 9.9        | 14.3        | 46.0         |
| 2.328001        | 30.8            | GND | N    | 9.9        | 15.2        | 46.0         |
| 2.562001        | 27.0            | GND | N    | 9.9        | 19.0        | 46.0         |
| 2.733001        | 31.7            | GND | N    | 9.9        | 14.3        | 46.0         |
| 3.309001        | 32.1            | GND | N    | 9.9        | 13.9        | 46.0         |



**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) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 2.296501        | 42.5             | GND | N    | 9.9        | 13.5        | 56.0         |
| 2.481001        | 43.1             | GND | N    | 9.9        | 12.9        | 56.0         |
| 2.530501        | 43.3             | GND | N    | 9.9        | 12.7        | 56.0         |
| 2.607001        | 41.6             | GND | N    | 9.9        | 14.4        | 56.0         |
| 2.683501        | 42.2             | GND | N    | 9.9        | 13.8        | 56.0         |
| 2.872501        | 42.7             | GND | N    | 9.9        | 13.3        | 56.0         |

Final Result 2

| Frequency (MHz) | CAverage (dBμV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|-----------------|-----|------|------------|-------------|--------------|
| 2.296501        | 31.6            | GND | N    | 9.9        | 14.4        | 46.0         |
| 2.436001        | 32.8            | GND | N    | 9.9        | 13.2        | 46.0         |
| 2.841001        | 32.2            | GND | N    | 9.9        | 13.8        | 46.0         |
| 2.949001        | 32.8            | GND | N    | 9.9        | 13.2        | 46.0         |
| 3.183001        | 31.5            | GND | N    | 9.9        | 14.5        | 46.0         |
| 3.385501        | 32.0            | GND | N    | 9.9        | 14.0        | 46.0         |

\*\*\* END OF REPORT BODY \*\*\*