




# FCC Test Report

Equipment : 2x2 802.11a/b/g/n +BT Module(SiP)  
Brand Name : Qualcomm Atheros  
Model No. : QCA6234  
FCC ID : PPD-QCA6234  
Standard : 47 CFR FCC Part 15.247  
Operating Band : 2400 MHz – 2483.5 MHz  
FCC Classification : DTS  
Applicant : Dell Inc.  
Manufacturer : One Dell Way, Round Rock, Texas 78682, USA

The product sample received on Sep. 04, 2013 and completely tested on Sep. 13, 2013. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2009 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

  
Wayne Hsu / Assistant Manager





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**APPENDIX A. TEST PHOTOS**

**APPENDIX B. PHOTOGRAPHS OF EUT**



### Summary of Test Result

| Conformance Test Specifications |                  |  |  |  |          |
|---------------------------------|------------------|--|--|--|----------|
| Report Clause                   | Ref. Std. Clause | Description  | Measured   | Limit  | Result   |
| 1.1.1                           | 15.203           | Antenna Requirement  | Antenna connector mechanism complied   | FCC 15.203   | Complied |
| 3.1                             | 15.247(b)        | RF Output Power (Maximum Conducted (Average) Output Power) | Power [dBm]:17.06  | Power [dBm]:30   | Complied |
| 3.2                             | 15.247(c)        | Transmitter Radiated Bandedge Emissions                    | Non-Restricted Bands: 2399.50MHz: 28.13dB<br>Restricted Bands [dBuV/m at 3m]: 2483.50MHz 69.26 (Margin 4.74dB) - PK 53.15 (Margin 0.85dB) - AV | Non-Restricted Bands: > 20 dBc<br>Restricted Bands: FCC 15.209 | Complied |
| 3.3                             | 15.247(c)        | Transmitter Radiated Unwanted Emissions                    | Restricted Bands [dBuV/m at 3m]: 44.550MHz 33.94 (Margin 6.06dB) - PK  | Non-Restricted Bands: > 20 dBc<br>Restricted Bands: FCC 15.209 | Complied |



# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

| RF General Information |                  |                 |                |                                    |                       |
|------------------------|------------------|-----------------|----------------|------------------------------------|-----------------------|
| Frequency Range (MHz)  | IEEE Std. 802.11 | Ch. Freq. (MHz) | Channel Number | Transmit Chains (N <sub>TX</sub> ) | RF Output Power (dBm) |
| 2400-2483.5            | b                | 2412-2462       | 1-11 [11]      | 2                                  | 17.06                 |
| 2400-2483.5            | g                | 2412-2462       | 1-11 [11]      | 2                                  | 17.00                 |
| 2400-2483.5            | n (HT20)         | 2412-2462       | 1-11 [11]      | 2                                  | 16.97                 |
| 2400-2483.5            | n (HT40)         | 2422-2452       | 3-9 [7]        | 2                                  | 16.94                 |

Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.  
 Note 2: 802.11b uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.  
 Note 3: 802.11g/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.

### 1.1.2 Antenna Information

| Antenna Category                    |   |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Integral antenna (antenna permanently attached)   |
| <input checked="" type="checkbox"/> | Temporary RF connector provided   |
| <input type="checkbox"/>            | No temporary RF connector provided<br>Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the measuring equipment via a suitable attenuator and correct for all losses in the RF path. |

| Antenna General Information |           |           |            |
|-----------------------------|-----------|-----------|------------|
| No.                         | Ant. Cat. | Ant. Type | Gain (dBi) |
| 1                           | Integral  | PIFA      | -5.98      |
| 2                           | Integral  | PIFA      | -1.03      |

### 1.1.3 EUT Operational Condition

|                   |  |   |   |
|-------------------|--|---|---|
| Supply Voltage    | <input checked="" type="checkbox"/> AC mains | <input checked="" type="checkbox"/> DC                  |   |
| Type of DC Source | <input type="checkbox"/> Internal DC supply  | <input checked="" type="checkbox"/> External DC adapter | <input checked="" type="checkbox"/> Li-on Battery |

## 1.2 Support Equipment

| Support Equipment- Radiated Emission Test |   |            |   |
|---|---|------------|---|
| No.                                       | Equipment                                       | Brand Name | Model Name  |
| 1   | Notebook  | DELL       | E5520   |
| 2   | AC Adaptor<br>(For Tablet PC use)               | DVE        | HA24NM130   |
| 3   | Tablet PC<br>(Built in Qualcomm Atheros module) | DELL       | T06G.../T06G001<br>("." Can be 0-9, A-Z or blank) |

## 1.3 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ◆ 47 CFR FCC Part 15
- ◆ ANSI C63.10-2009
- ◆ FCC KDB 558074
- ◆ FCC KDB 662911
- ◆ FCC KDB 412172

## 1.4 Testing Location Information

| Testing Location                    |               |  |                      |
|-------------------------------------|---------------|--|----------------------|
| <input checked="" type="checkbox"/> | HWA YA        | ADD : No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. |                      |
|                                     |               | TEL : 886-3-327-3456   | FAX : 886-3-327-0973 |
| Test Condition                      | Test Site No. | Test Engineer  | Test Environment     |
| Radiated Emission                   | 03CH03-HY     | Eddie  | 23.7°C / 54.5%       |




## 1.5 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

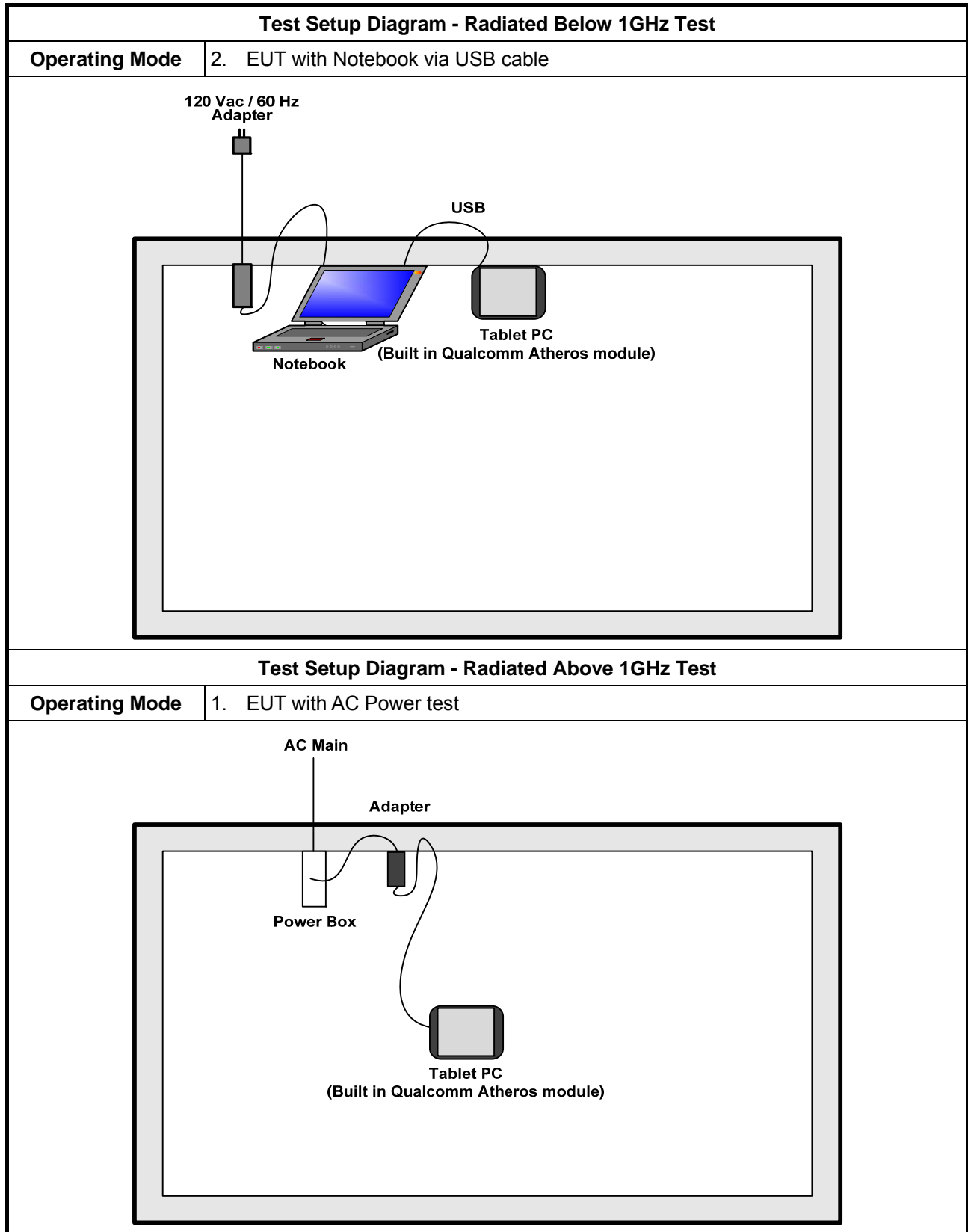
| Measurement Uncertainty |               |             |       |
|-------------------------|---------------|-------------|-------|
| Test Item               |               | Uncertainty | Limit |
| All emissions, radiated | 30 – 1000 MHz | ±2.56 dB    | N/A   |
|                         | 1 – 18 GHz    | ±3.59 dB    | N/A   |
|                         | 18 – 40 GHz   | ±3.82 dB    | N/A   |
|                         | 40 – 200 GHz  | N/A         | N/A   |
| Duty Cycle              |               | ±1.42 %     | N/A   |

## 2 Test Configuration of EUT

### 2.1 The Worst Case Measurement Configuration

| The Worst Case Mode for Following Conformance Tests |  |   |   |
|---|--|---|---|
| <b>Tests Item</b>                                   | Transmitter Radiated Unwanted Emissions<br>Transmitter Radiated Bandedge Emissions   |   |   |
| <b>Test Condition</b>                               | Radiated measurement   |   |   |
| <b>User Position</b>                                | <input type="checkbox"/> EUT will be placed in fixed position.   |   |   |
|   | <input checked="" type="checkbox"/> EUT will be placed in mobile position and operating multiple positions. EUT shall be performed two orthogonal planes. The worst planes is X. |   |   |
|   | <input type="checkbox"/> EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed two or three orthogonal planes.   |   |   |
| <b>Operating Mode &lt; 1GHz</b>                     | <input checked="" type="checkbox"/> 1. EUT with AC Power test  |   |   |
|   | <input checked="" type="checkbox"/> 2. EUT with Notebook via USB cable   |   |   |
|   | For operating mode 2 is the worst case and it was record in this test report.  |   |   |
| <b>Operating Mode &gt; 1GHz</b>                     | <input checked="" type="checkbox"/> 1. EUT with AC Power test  |   |   |
| <b>Modulation Mode</b>                              | 11b, 11g, HT20, HT40   |   |   |
| <b>Orthogonal Planes of EUT</b>                     | <b>X Plane</b>   | <b>Y Plane</b>  | <b>Z Plane</b>  |
|   |   |  |  |

## 2.2 Test Setup Diagram





### 3 Transmitter Test Result

#### 3.1 RF Output Power

##### 3.1.1 RF Output Power Limit

| RF Output Power Limit  |   |
|--|---|
| <b>Maximum Peak Conducted Output Power or Maximum Conducted Output Power Limit</b>   |   |
| <input checked="" type="checkbox"/> 2400-2483.5 MHz Band:  |   |
| <input checked="" type="checkbox"/>  | If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)  |
| <input checked="" type="checkbox"/>  | Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm  |
| <input type="checkbox"/>   | Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm     |
| <input type="checkbox"/>   | Smart antenna system (SAS):   |
| <input type="checkbox"/>   | Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm                      |
| <input type="checkbox"/>   | Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm                     |
| <input type="checkbox"/>   | Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dBm |
| <b>e.i.r.p. Power Limit:</b>   |   |
| <input checked="" type="checkbox"/> 2400-2483.5 MHz Band   |   |
| <input checked="" type="checkbox"/>  | Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)                                 |
| <input type="checkbox"/>   | Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm            |
| <input type="checkbox"/>   | Smart antenna system (SAS)  |
| <input type="checkbox"/>   | Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm                               |
| <input type="checkbox"/>   | Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm                              |
| <input type="checkbox"/>   | Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ dBm        |
| $P_{Out}$ = maximum peak conducted output power or maximum conducted output power in dBm,<br>$G_{TX}$ = the maximum transmitting antenna directional gain in dBi.<br>$P_{eirp}$ = e.i.r.p. Power in dBm. |   |

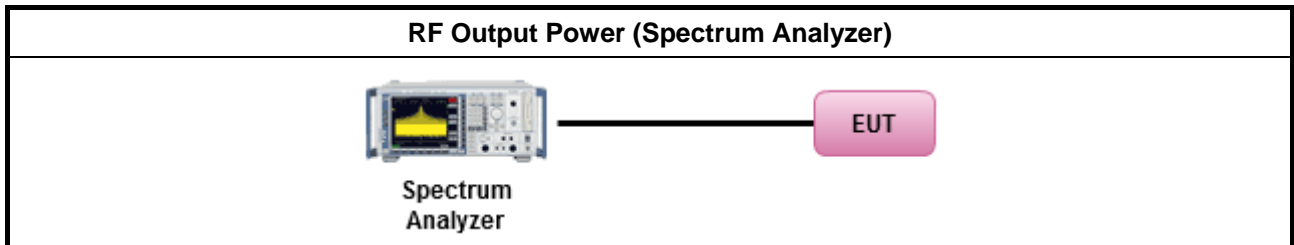
##### 3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

| Test Method                         |  |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Maximum Peak Conducted Output Power  |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 9.1.1 Option 1 (RBW ≥ EBW method).   |
| <input checked="" type="checkbox"/> | Refer as FCC KDB 558074, clause 9.1.2 Option 2 (integrated band power method).   |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 9.1.3 Option 2 (peak power meter for VBW ≥ DTS BW)   |
| <input checked="" type="checkbox"/> | Maximum Conducted Output Power   |
|                                     | [duty cycle ≥ 98% or external video / power trigger]   |
| <input checked="" type="checkbox"/> | Refer as FCC KDB 558074, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging).   |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 9.2.2.3 Method AVGSA-1 Alt. (slow sweep speed)   |
|                                     | duty cycle < 98% and average over on/off periods with duty factor  |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).   |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)   |
|                                     | RF power meter and average over on/off periods with duty factor or gated trigger   |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 9.2.3 Method AVGPM (using an RF average power meter).  |
| <input checked="" type="checkbox"/> | For conducted measurement.   |
| <input checked="" type="checkbox"/> | The EUT supports single transmit chain and measurements performed on this transmit chain.  |
| <input type="checkbox"/>            | The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.  |
| <input checked="" type="checkbox"/> | The EUT supports multiple transmit chains using options given below:<br>Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. |
| <input checked="" type="checkbox"/> | If multiple transmit chains, EIRP calculation could be following as methods:<br>$P_{total} = P_1 + P_2 + \dots + P_n$<br>(calculated in linear unit [mW] and transfer to log unit [dBm])<br>$EIRP_{total} = P_{total} + DG$  |

3.1.4 Test Setup



3.1.5 Directional Gain for Power Measurement

| Directional Gain (DG) Result   |                 |                        |                 |                                  |
|--------------------------------|-----------------|------------------------|-----------------|----------------------------------|
| Transmit Chains No.            | 1               | 2                      | -               | -                                |
| Maximum G <sub>ANT</sub> (dBi) | -5.98           | -1.03                  | -               | -                                |
| Modulation Mode                | N <sub>TX</sub> | N <sub>SS</sub> (Min.) | Array Gain (dB) | Power DG (dBi) Note <sup>3</sup> |
| 11b,1-11Mbps                   | 2               | 2                      | -               | -2.83                            |
| 11g,6-54Mbps                   | 2               | 2                      | -               | -2.83                            |
| HT20,M8-M15                    | 2               | 2                      | 0               | -2.83                            |
| HT40, M8-M15                   | 2               | 2                      | 0               | -2.83                            |

Note 1: For all transmitter outputs with equal antenna gains, directional gain is to be computed as follows:  
Any transmit signals are correlated, Directional Gain = G<sub>ANT</sub> + 10 log(N<sub>TX</sub>)  
All transmit signals are completely uncorrelated, Directional Gain = G<sub>ANT</sub>

Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows:  
Any transmit signals are correlated, Directional Gain = 10 log[(10<sup>G<sub>1</sub>/20</sup> + ... + 10<sup>G<sub>N</sub>/20</sup>)<sup>2</sup> / N<sub>TX</sub>]  
All transmit signals are completely uncorrelated, Directional Gain = 10 log[(10<sup>G<sub>1</sub>/10</sup> + ... + 10<sup>G<sub>N</sub>/10</sup>) / N<sub>TX</sub>]

Note 3: For Spatial Multiplexing, Directional Gain (DG) = G<sub>ANT</sub> + 10 log(N<sub>TX</sub>/N<sub>SS</sub>),  
where N<sub>SS</sub> = the number of independent spatial streams data.

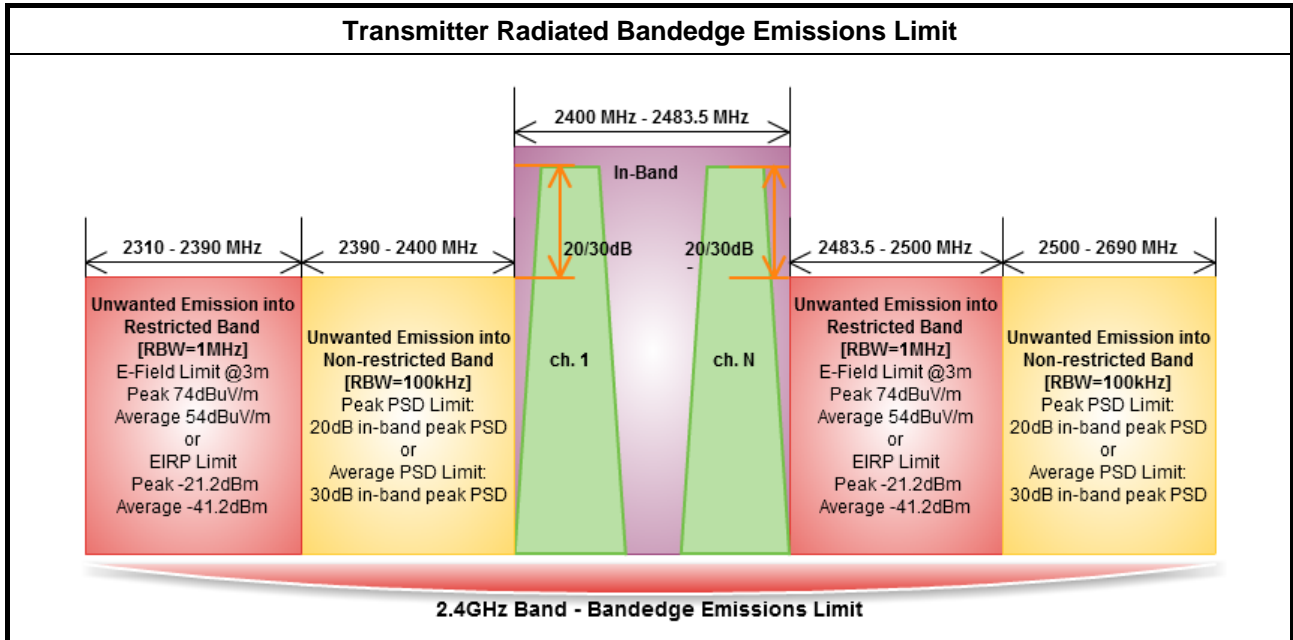
Note 4: For CDD transmissions, directional gain is calculated as power measurements:  
Directional Gain (DG) = G<sub>ANT</sub> + Array Gain, where Array Gain is as follows:  
Array Gain = 0 dB (i.e., no array gain) for N<sub>TX</sub> ≤ 4;  
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N<sub>TX</sub>;

3.1.6 Test Result of Maximum Conducted Output Power

| Maximum Conducted Output Power |                 |             |                       |              |           |             |          |            |            |
|--------------------------------|-----------------|-------------|-----------------------|--------------|-----------|-------------|----------|------------|------------|
| Condition                      |                 |             | RF Output Power (dBm) |              |           |             |          |            |            |
| Modulation Mode                | N <sub>TX</sub> | Freq. (MHz) | Chain Port 1          | Chain Port 2 | Sum Chain | Power Limit | DG (dBi) | EIRP Power | EIRP Limit |
| 11b                            | 2               | 2412        | 13.16                 | 14.77        | 17.05     | 30          | -2.83    | 14.21      | 36.00      |
| 11b                            | 2               | 2437        | 13.82                 | 14.27        | 17.06     | 30          | -2.83    | 14.23      | 36.00      |
| 11b                            | 2               | 2462        | 13.57                 | 13.91        | 16.75     | 30          | -2.83    | 13.92      | 36.00      |
| 11g                            | 2               | 2412        | 10.19                 | 9.83         | 13.02     | 30          | -2.83    | 10.19      | 36.00      |
| 11g                            | 2               | 2437        | 13.71                 | 14.25        | 17.00     | 30          | -2.83    | 14.16      | 36.00      |
| 11g                            | 2               | 2462        | 8.81                  | 9.25         | 12.05     | 30          | -2.83    | 9.21       | 36.00      |
| HT20                           | 2               | 2412        | 7.04                  | 8.51         | 10.85     | 30          | -2.83    | 8.01       | 36.00      |
| HT20                           | 2               | 2437        | 13.82                 | 14.10        | 16.97     | 30          | -2.83    | 14.14      | 36.00      |
| HT20                           | 2               | 2462        | 7.90                  | 8.18         | 11.05     | 30          | -2.83    | 8.22       | 36.00      |
| HT40                           | 2               | 2422        | 11.14                 | 11.93        | 14.56     | 30          | -2.83    | 11.73      | 36.00      |
| HT40                           | 2               | 2437        | 13.69                 | 14.16        | 16.94     | 30          | -2.83    | 14.11      | 36.00      |
| HT40                           | 2               | 2452        | 11.20                 | 11.58        | 14.40     | 30          | -2.83    | 11.57      | 36.00      |
| <b>Result</b>                  |                 |             | <b>Complied</b>       |              |           |             |          |            |            |

### 3.2 Transmitter Bandedge Emissions

#### 3.2.1 Transmitter Radiated Bandedge Emissions Limit



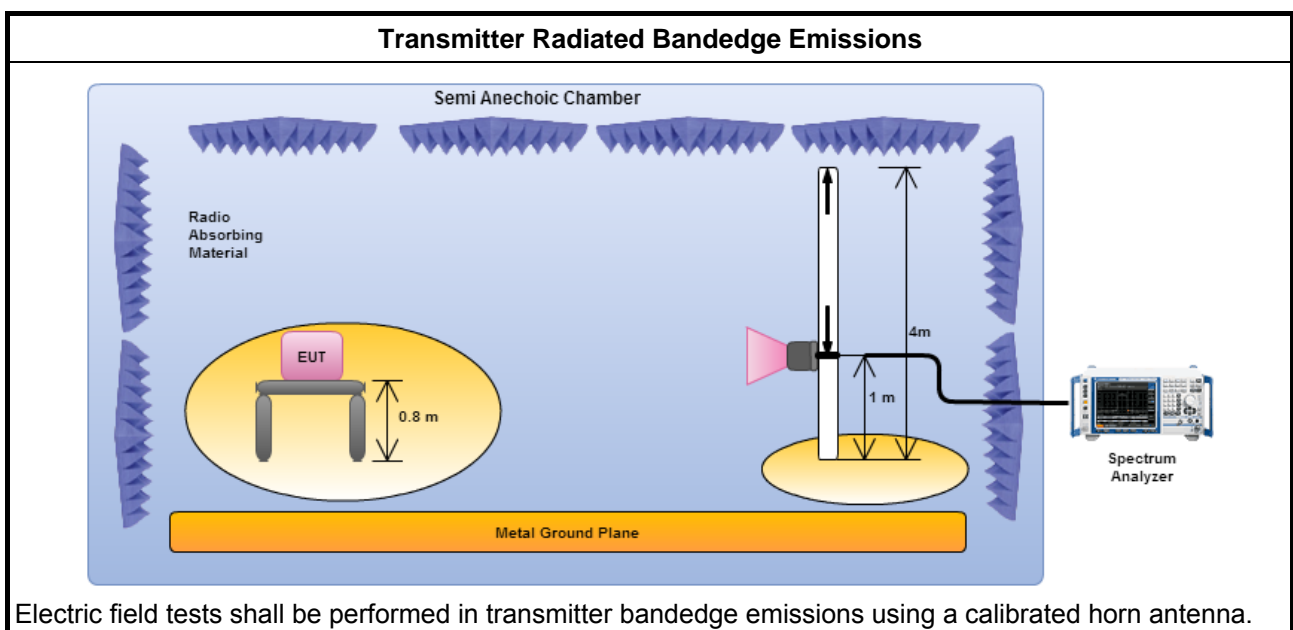
#### 3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

### 3.2.3 Test Procedures

| Test Method                         |   |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | The average emission levels shall be measured in [duty cycle $\geq 98$ or duty factor].   |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 6.9.2.2 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band. |
| <input checked="" type="checkbox"/> | For the transmitter unwanted emissions shall be measured using following options below:   |
| <input checked="" type="checkbox"/> | Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands.  |
| <input checked="" type="checkbox"/> | Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.  |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle $\geq 98\%$ )   |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).  |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW $\geq 1/T$ ).  |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq 1/T$ , where T is pulse time.   |
| <input type="checkbox"/>            | Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.   |
| <input checked="" type="checkbox"/> | Refer as FCC KDB 558074, clause 11.3 and 12.2.4 measurement procedure peak limit.   |
| <input checked="" type="checkbox"/> | For the transmitter bandedge emissions shall be measured using following options below:   |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).                       |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 6.9.2 for band-edge testing.   |
| <input type="checkbox"/>            | Refer as ANSI C63.10, clause 6.9.3 for marker-delta method for band-edge measurements.  |
| <input checked="" type="checkbox"/> | For radiated measurement, refer as FCC KDB 558074, clause 12.2.7.   |

### 3.2.4 Test Setup





3.2.5 Transmitter Radiated Bandedge Emissions

| 2400-2483.5MHz Transmitter Radiated Bandedge Emissions (Non-restricted Band) |                 |                  |                               |             |                                |                |            |      |
|--|-----------------|------------------|-------------------------------|-------------|--------------------------------|----------------|------------|------|
| Modulation   | N <sub>TX</sub> | Test Freq. (MHz) | In-band PSD [i] (dBuV/100kHz) | Freq. (MHz) | Out-band PSD [o] (dBuV/100kHz) | [i] – [o] (dB) | Limit (dB) | Pol. |
| 11b  | 2               | 2412             | 108.49                        | 2399.49     | 60.07                          | 48.42          | 20         | V    |
| 11b  | 2               | 2462             | 108.52                        | 2523.50     | 52.52                          | 56.00          | 20         | V    |
| 11g  | 2               | 2412             | 101.66                        | 2390.00     | 58.09                          | 43.57          | 20         | V    |
| 11g  | 2               | 2462             | 102.11                        | 2512.60     | 53.18                          | 48.93          | 20         | V    |
| HT20,M8-15   | 2               | 2412             | 99.45                         | 2389.63     | 55.72                          | 43.73          | 20         | V    |
| HT20,M8-15   | 2               | 2462             | 100.78                        | 2546.30     | 52.50                          | 48.28          | 20         | V    |
| HT40,M8-15   | 2               | 2422             | 96.00                         | 2399.50     | 67.87                          | 28.13          | 20         | V    |
| HT40,M8-15   | 2               | 2452             | 96.62                         | 2501.36     | 52.80                          | 43.82          | 20         | V    |

Note 1: Measurement worst emissions of receive antenna polarization

| 2400-2483.5MHz Transmitter Radiated Bandedge Emissions (Restricted Band) |                 |             |                      |                |                   |                   |                |                   |                   |      |
|--|-----------------|-------------|----------------------|----------------|-------------------|-------------------|----------------|-------------------|-------------------|------|
| Modulation Mode  | N <sub>TX</sub> | Freq. (MHz) | Measure Distance (m) | Freq. (MHz) PK | Level (dBuV/m) PK | Limit (dBuV/m) PK | Freq. (MHz) AV | Level (dBuV/m) AV | Limit (dBuV/m) AV | Pol. |
| 11b  | 2               | 2412        | 3                    | 2389.52        | 60.51             | 74                | 2387.28        | 47.95             | 54                | V    |
| 11b  | 2               | 2462        | 3                    | 2489.50        | 59.95             | 74                | 2486.60        | 47.66             | 54                | V    |
| 11g  | 2               | 2412        | 3                    | 2389.18        | 72.34             | 74                | 2390.00        | 52.50             | 54                | V    |
| 11g  | 2               | 2462        | 3                    | 2483.50        | 71.01             | 74                | 2483.50        | 52.17             | 54                | V    |
| HT20,M8-15   | 2               | 2412        | 3                    | 2390.00        | 67.86             | 74                | 2390.00        | 49.49             | 54                | V    |
| HT20,M8-15   | 2               | 2462        | 3                    | 2483.90        | 67.82             | 74                | 2483.50        | 51.40             | 54                | V    |
| HT40,M8-15   | 2               | 2422        | 3                    | 2390.00        | 68.31             | 74                | 2390.00        | 52.81             | 54                | V    |
| HT40,M8-15   | 2               | 2452        | 3                    | 2486.48        | 69.26             | 74                | 2483.50        | 53.15             | 54                | V    |

Note 1: Measurement worst emissions of receive antenna polarization.

### 3.3 Transmitter Unwanted Emissions

#### 3.3.1 Transmitter Radiated Unwanted Emissions Limit

| Restricted Band Emissions Limit |                       |                         |                      |
|---------------------------------|-----------------------|-------------------------|----------------------|
| Frequency Range (MHz)           | Field Strength (uV/m) | Field Strength (dBuV/m) | Measure Distance (m) |
| 0.009~0.490                     | 2400/F(kHz)           | 48.5 - 13.8             | 300                  |
| 0.490~1.705                     | 24000/F(kHz)          | 33.8 - 23               | 30                   |
| 1.705~30.0                      | 30                    | 29                      | 30                   |
| 30~88                           | 100                   | 40                      | 3                    |
| 88~216                          | 150                   | 43.5                    | 3                    |
| 216~960                         | 200                   | 46                      | 3                    |
| Above 960                       | 500                   | 54                      | 3                    |

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

| Un-restricted Band Emissions Limit |            |
|------------------------------------|------------|
| RF output power procedure          | Limit (dB) |
| Peak output power procedure        | 20         |
| Average output power procedure     | 30         |

Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

#### 3.3.2 Measuring Instruments

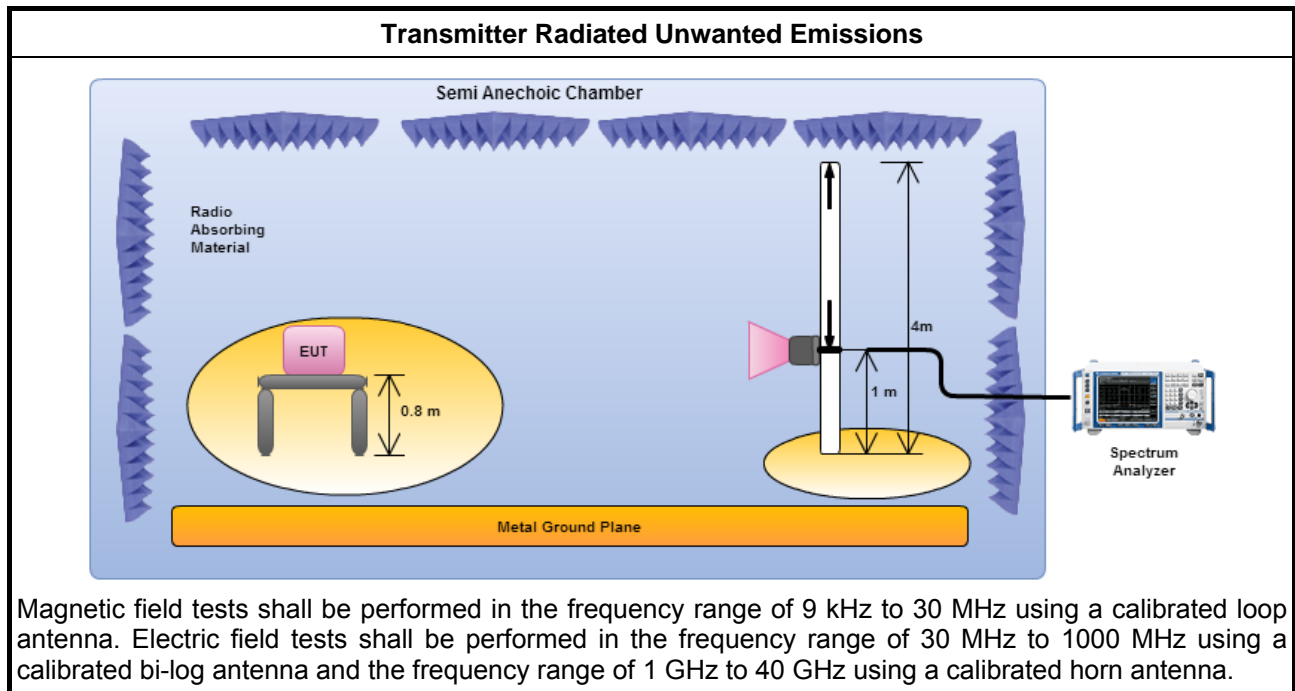
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

| Test Method                         |   |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements). |
| <input checked="" type="checkbox"/> | Measurements in the frequency range 10 GHz - 18GHz are typically made at a closer distance 1m, because the instrumentation noise floor is typically close to the radiated emission limit.   |
| <input checked="" type="checkbox"/> | Measurements in the frequency range above 18 GHz - 25GHz are typically made at a closer distance 0.5m, because the instrumentation noise floor is typically close to the radiated emission limit.   |
| <input checked="" type="checkbox"/> | The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].   |
| <input checked="" type="checkbox"/> | For the transmitter unwanted emissions shall be measured using following options below:   |
| <input checked="" type="checkbox"/> | Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands.  |
| <input checked="" type="checkbox"/> | Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.  |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle $\geq$ 98%)   |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).  |
| <input type="checkbox"/>            | Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW $\geq$ 1/T).   |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.  |
| <input type="checkbox"/>            | Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.   |
| <input checked="" type="checkbox"/> | Refer as FCC KDB 558074, clause 11.3 and 12.2.4 measurement procedure peak limit.   |
| <input checked="" type="checkbox"/> | Refer as FCC KDB 558074, clause 12.2.3 measurement procedure Quasi-Peak limit.  |
| <input checked="" type="checkbox"/> | For radiated measurement, refer as FCC KDB 558074, clause 12.2.7.   |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz.  |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1000 MHz.  |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 6.6 for radiated emissions from above 1 GHz.   |



### 3.3.4 Test Setup



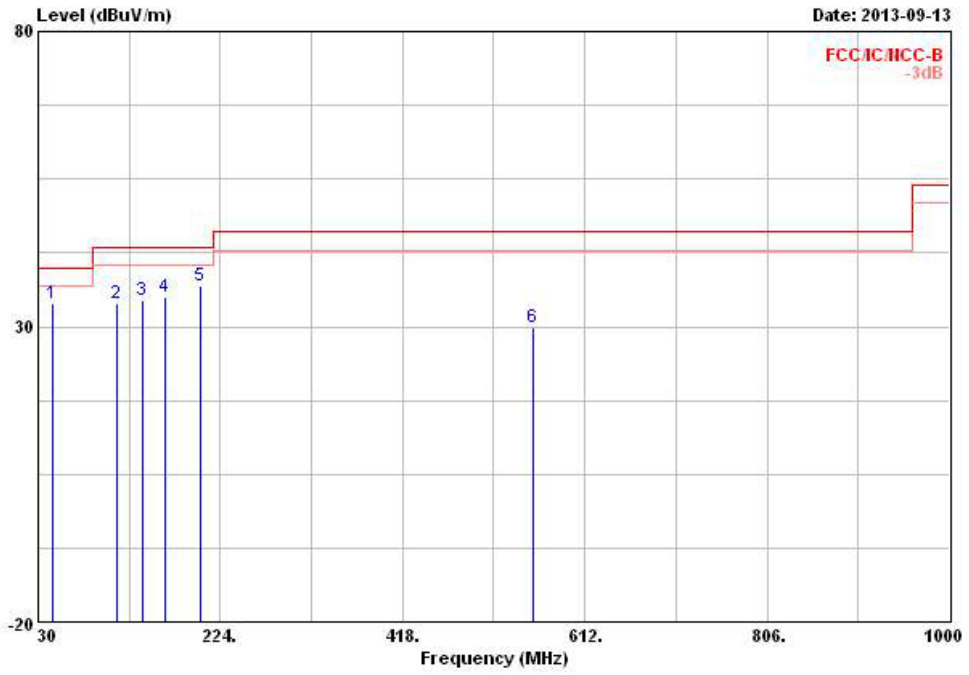
### 3.3.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.



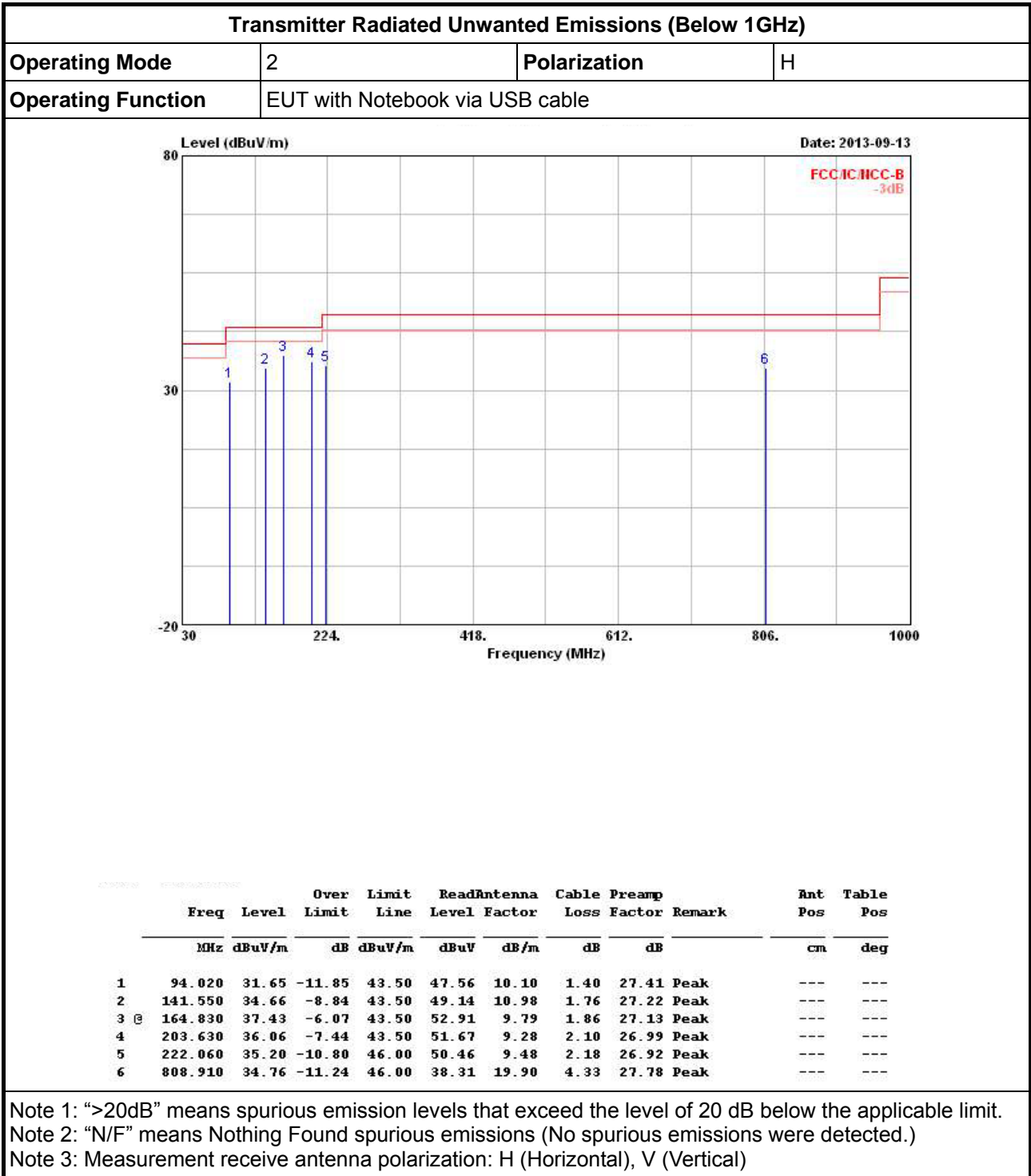
3.3.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

| Transmitter Radiated Unwanted Emissions (Below 1GHz) |                                 |              |   |
|--|---------------------------------|--------------|---|
| Operating Mode                                       | 2                               | Polarization | V |
| Operating Function                                   | EUT with Notebook via USB cable |              |   |



|   | Freq    | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|---------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz     | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 44.550  | 33.94  | -6.06      | 40.00      | 50.81             | 9.76           | 0.96       | 27.59         | Peak   | ---     | ---       |
| 2 | 113.420 | 34.04  | -9.46      | 43.50      | 47.71             | 12.09          | 1.57       | 27.33         | Peak   | ---     | ---       |
| 3 | 141.550 | 34.49  | -9.01      | 43.50      | 48.97             | 10.98          | 1.76       | 27.22         | Peak   | ---     | ---       |
| 4 | 164.830 | 34.97  | -8.53      | 43.50      | 50.45             | 9.79           | 1.86       | 27.13         | Peak   | ---     | ---       |
| 5 | 203.630 | 37.01  | -6.49      | 43.50      | 52.62             | 9.28           | 2.10       | 26.99         | Peak   | ---     | ---       |
| 6 | 556.710 | 29.74  | -16.26     | 46.00      | 35.54             | 18.60          | 3.54       | 27.94         | Peak   | ---     | ---       |

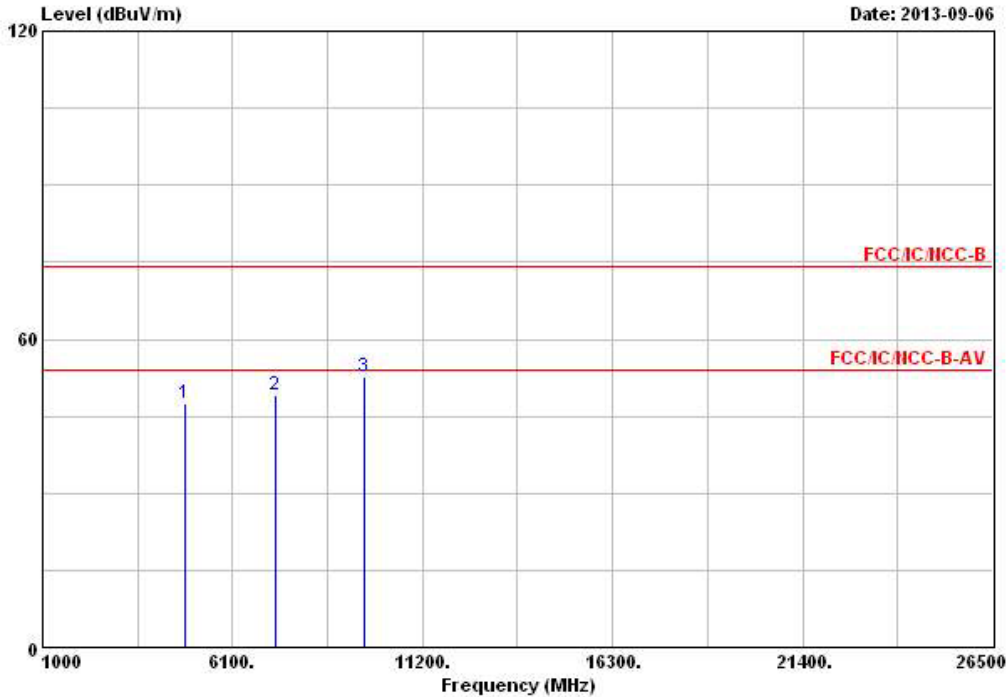
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)





3.3.7 Transmitter Radiated Unwanted Emissions (Above 1GHz)

| Transmitter Radiated Unwanted Emissions (Above 1GHz) |     |                  |      |
|--|-----|------------------|------|
| Modulation Mode                                      | 11b | Test Freq. (MHz) | 2412 |
| N <sub>TX</sub>                                      | 2   | Polarization     | V    |



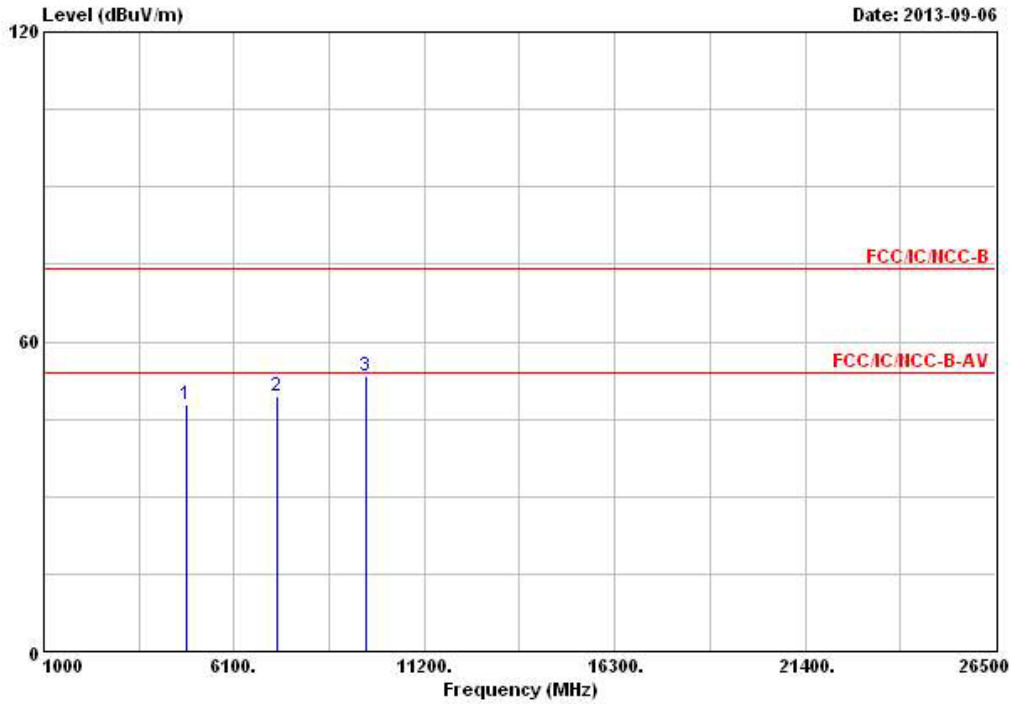
|   | Freq     | Level  | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|------------|----------------|------------|--------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV       | dB/m           | dB         | dB     |        | cm      | deg       |
| 1 | 4824.390 | 47.41  | -26.59     | 74.00      | 42.84      | 33.09          | 3.91       | 32.43  | Peak   | ---     | ---       |
| 2 | 7236.000 | 49.08  |            |            | 41.58      | 35.88          | 4.27       | 32.65  | Peak   | ---     | ---       |
| 3 | 9648.000 | 52.80  |            |            | 42.04      | 38.34          | 5.52       | 33.10  | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |     |                  |      |
|-----------------|-----|------------------|------|
| Modulation Mode | 11b | Test Freq. (MHz) | 2412 |
| N <sub>TX</sub> | 2   | Polarization     | H    |



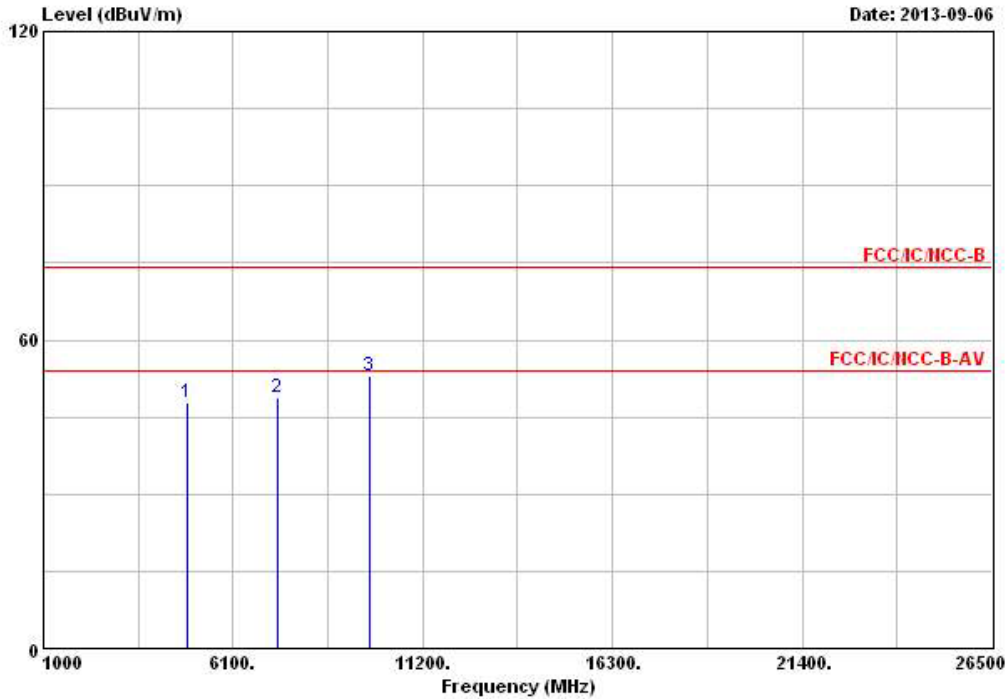
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4826.000 | 47.78  | -26.22     | 74.00      | 43.21             | 33.09          | 3.91       | 32.43         | Peak   | ---     | ---       |
| 2 | 7236.000 | 49.43  |            |            | 41.93             | 35.88          | 4.27       | 32.65         | Peak   | ---     | ---       |
| 3 | 9648.000 | 53.24  |            |            | 42.48             | 38.34          | 5.52       | 33.10         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |     |                  |      |
|-----------------|-----|------------------|------|
| Modulation Mode | 11b | Test Freq. (MHz) | 2437 |
| N <sub>TX</sub> | 2   | Polarization     | V    |



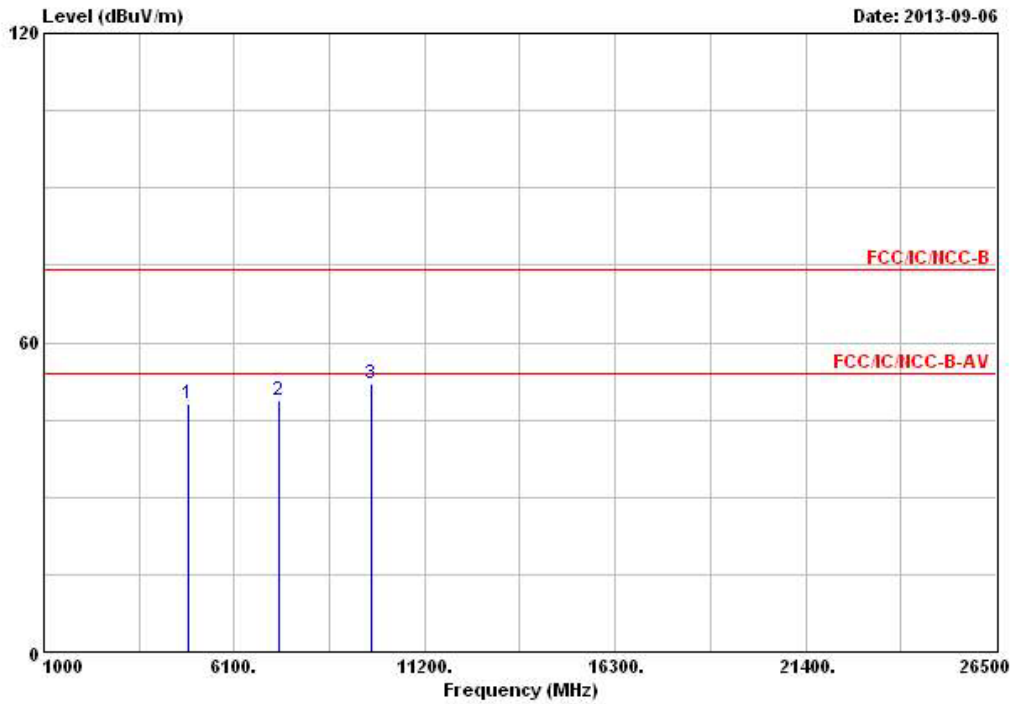
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna | Cable | Preamp | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------|-------|--------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV        | dB/m  | dB     | dB     | cm      | deg       |
| 1 | 4874.000 | 47.94  | -26.06     | 74.00      | 43.24       | 33.18 | 3.94   | 32.42  | Peak    | ---       |
| 2 | 7311.000 | 48.67  | -25.33     | 74.00      | 41.06       | 36.04 | 4.23   | 32.66  | Peak    | ---       |
| 3 | 9748.390 | 52.87  |            |            | 41.89       | 38.57 | 5.49   | 33.08  | Peak    | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



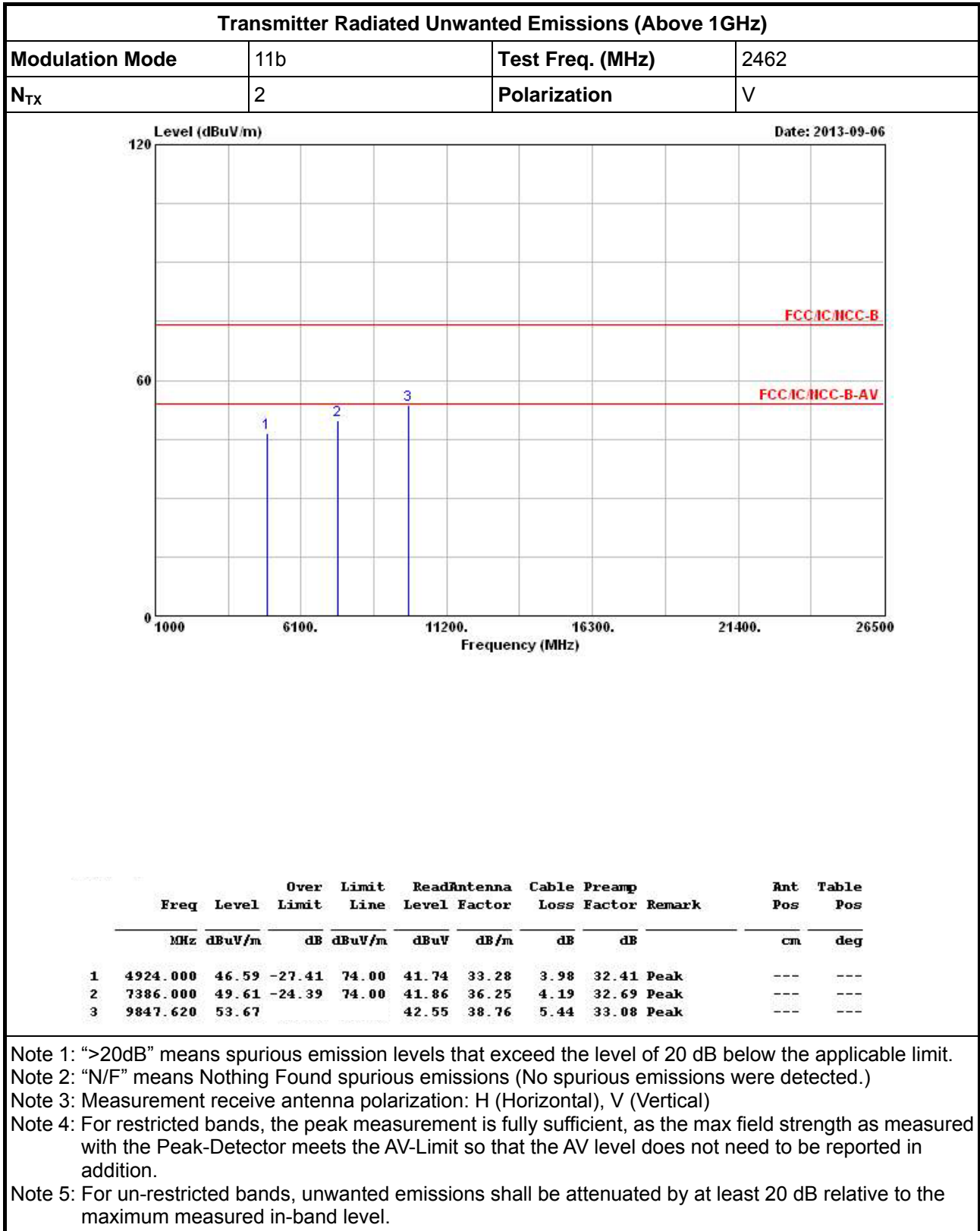
Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |     |                  |      |
|-----------------|-----|------------------|------|
| Modulation Mode | 11b | Test Freq. (MHz) | 2437 |
| N <sub>TX</sub> | 2   | Polarization     | H    |



|   | Freq     | Level  | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV       | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4876.000 | 48.21  | -25.79     | 74.00      | 43.51      | 33.18          | 3.94       | 32.42         | Peak   | ---     | ---       |
| 2 | 7312.000 | 48.89  | -25.11     | 74.00      | 41.29      | 36.04          | 4.23       | 32.67         | Peak   | ---     | ---       |
| 3 | 9748.000 | 52.05  |            |            | 41.07      | 38.57          | 5.49       | 33.08         | Peak   | ---     | ---       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

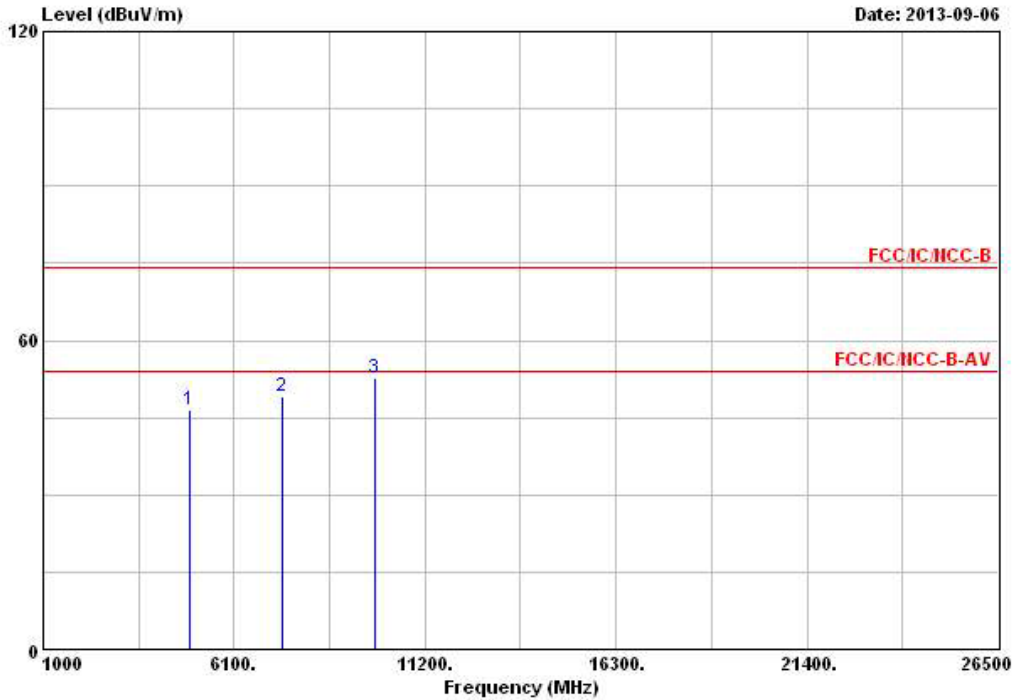






Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |     |                  |      |
|-----------------|-----|------------------|------|
| Modulation Mode | 11b | Test Freq. (MHz) | 2462 |
| N <sub>TX</sub> | 2   | Polarization     | H    |



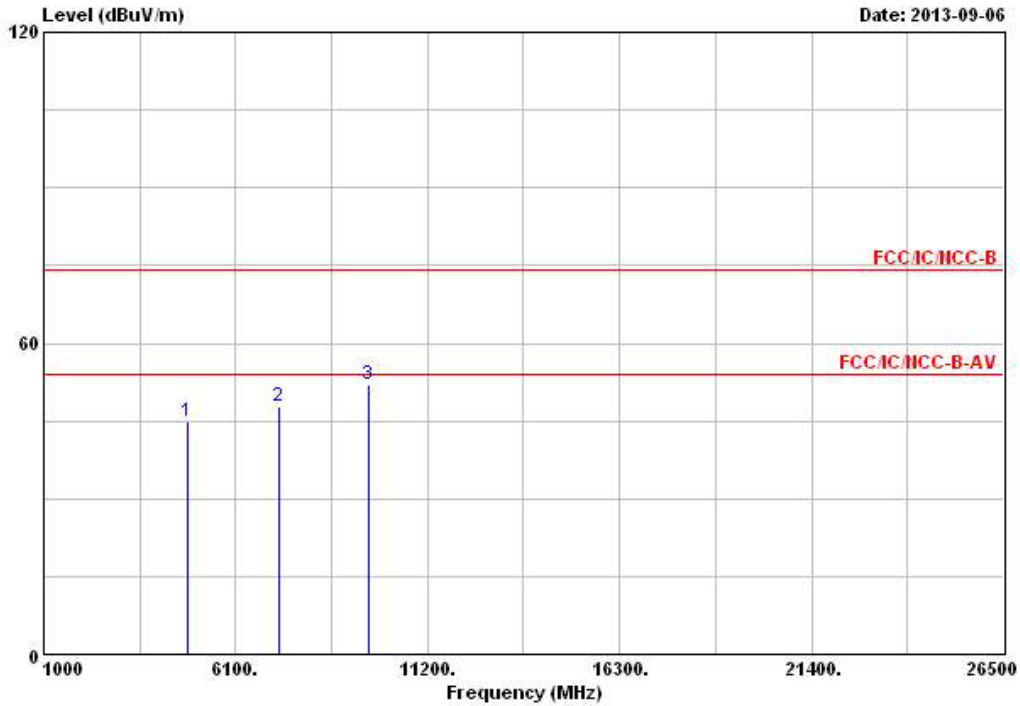
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4924.000 | 46.58  | -27.42     | 74.00      | 41.73             | 33.28          | 3.98       | 32.41         | Peak   | ---     | ---       |
| 2 | 7386.000 | 48.98  | -25.02     | 74.00      | 41.23             | 36.25          | 4.19       | 32.69         | Peak   | ---     | ---       |
| 3 | 9848.000 | 52.68  |            |            | 41.56             | 38.76          | 5.44       | 33.08         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |     |                  |      |
|-----------------|-----|------------------|------|
| Modulation Mode | 11g | Test Freq. (MHz) | 2412 |
| N <sub>TX</sub> | 2   | Polarization     | V    |



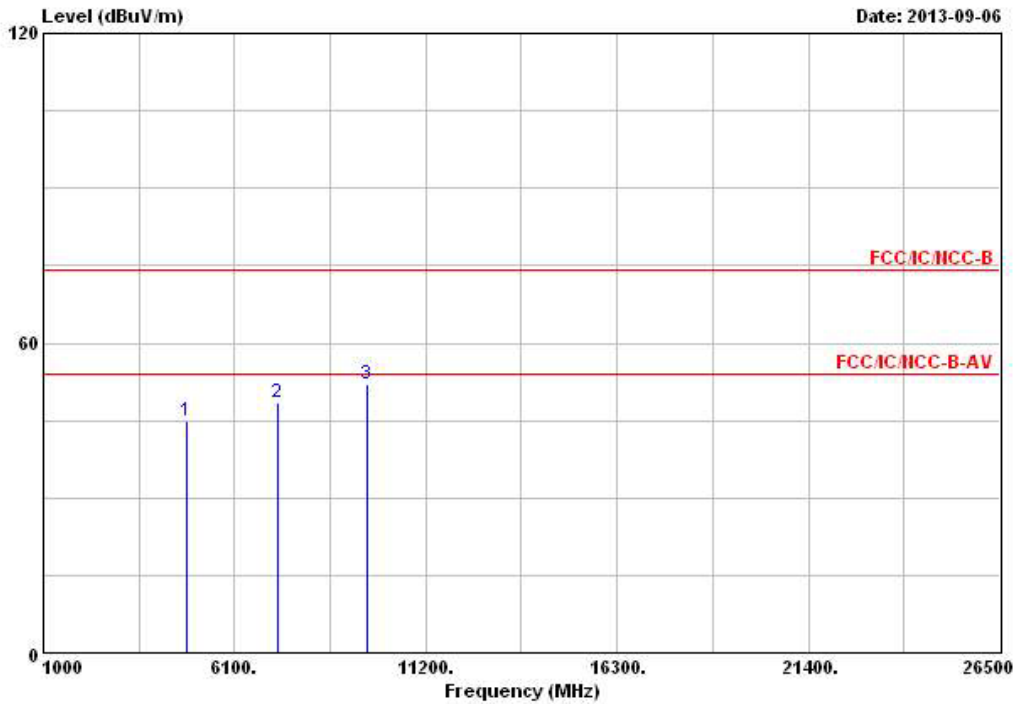
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4823.200 | 45.02  | -28.98     | 74.00      | 40.45             | 33.09          | 3.91       | 32.43         | Peak   | ---     | ---       |
| 2 | 7236.000 | 47.92  |            |            | 40.42             | 35.88          | 4.27       | 32.65         | Peak   | ---     | ---       |
| 3 | 9648.310 | 51.93  |            |            | 41.17             | 38.34          | 5.52       | 33.10         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |     |                  |      |
|-----------------|-----|------------------|------|
| Modulation Mode | 11g | Test Freq. (MHz) | 2412 |
| N <sub>TX</sub> | 2   | Polarization     | H    |



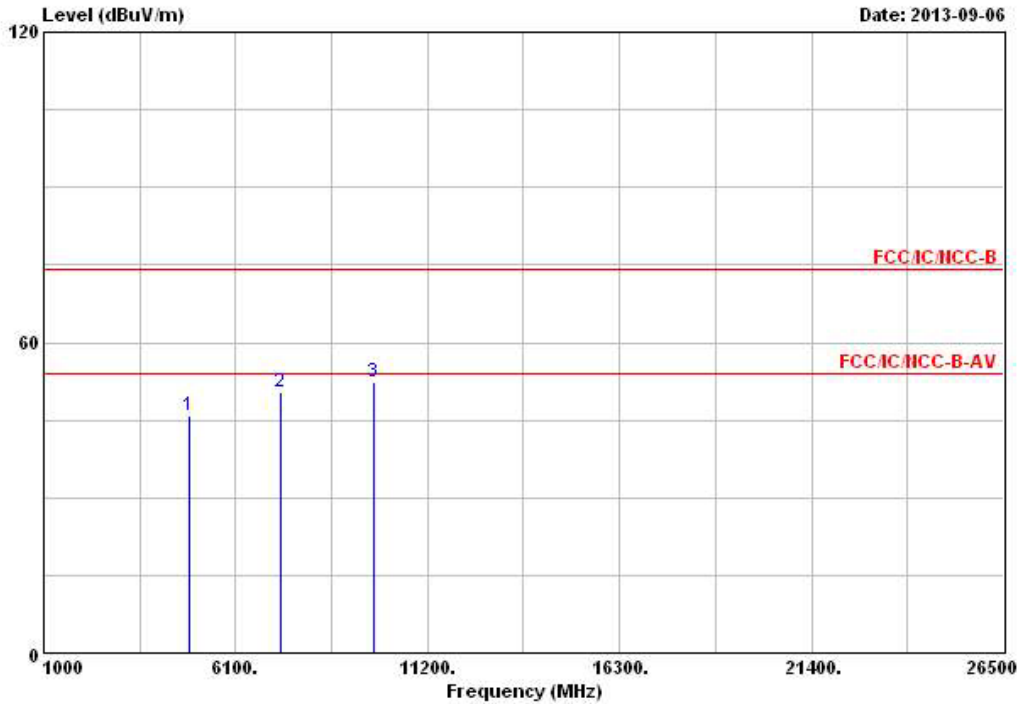
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna | Cable | Preamp | Remark     | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------|-------|--------|------------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV        | dB/m  | dB     | dB         | cm      | deg       |
| 1 | 4822.390 | 44.82  | -29.18     | 74.00      | 40.25       | 33.09 | 3.91   | 32.43 Peak | ---     | ---       |
| 2 | 7235.390 | 48.48  |            |            | 40.98       | 35.88 | 4.27   | 32.65 Peak | ---     | ---       |
| 3 | 9648.000 | 52.11  |            |            | 41.35       | 38.34 | 5.52   | 33.10 Peak | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |     |                  |      |
|-----------------|-----|------------------|------|
| Modulation Mode | 11g | Test Freq. (MHz) | 2437 |
| N <sub>TX</sub> | 2   | Polarization     | V    |

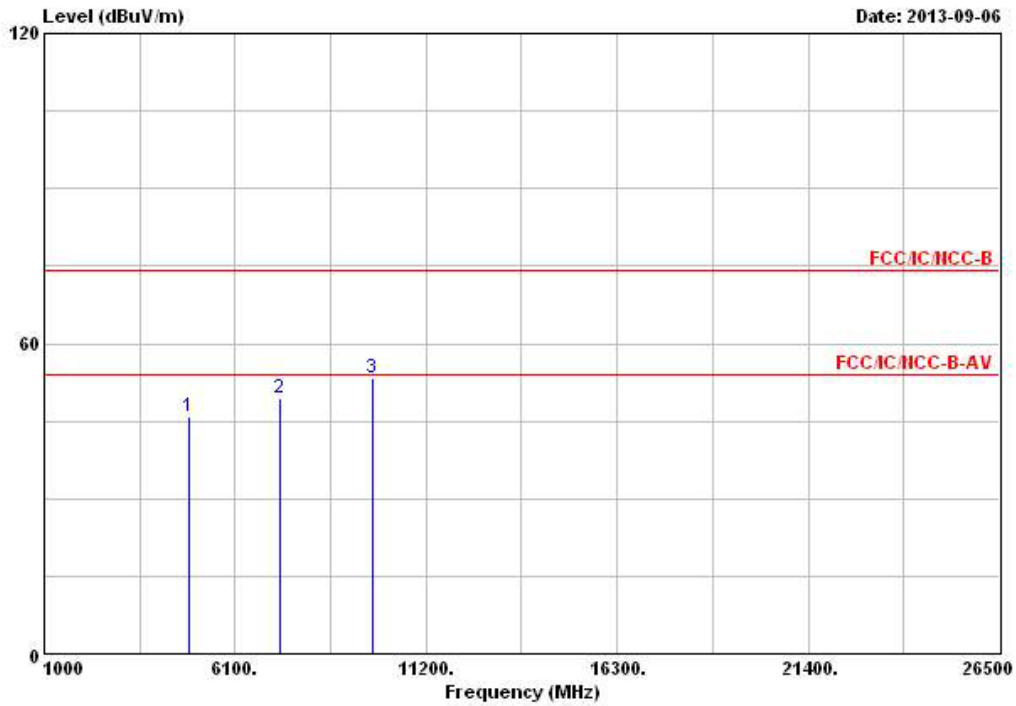


|   | Freq     | Level  | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBUV/m | dB         | dBUV/m     | dBuV       | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4874.000 | 45.96  | -28.04     | 74.00      | 41.26      | 33.18          | 3.94       | 32.42         | Peak   | ---     | ---       |
| 2 | 7311.000 | 50.34  | -23.66     | 74.00      | 42.73      | 36.04          | 4.23       | 32.66         | Peak   | ---     | ---       |
| 3 | 9748.340 | 52.43  |            |            | 41.45      | 38.57          | 5.49       | 33.08         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



| Transmitter Radiated Unwanted Emissions (Above 1GHz) |     |                  |      |
|--|-----|------------------|------|
| Modulation Mode                                      | 11g | Test Freq. (MHz) | 2437 |
| N <sub>TX</sub>                                      | 2   | Polarization     | H    |



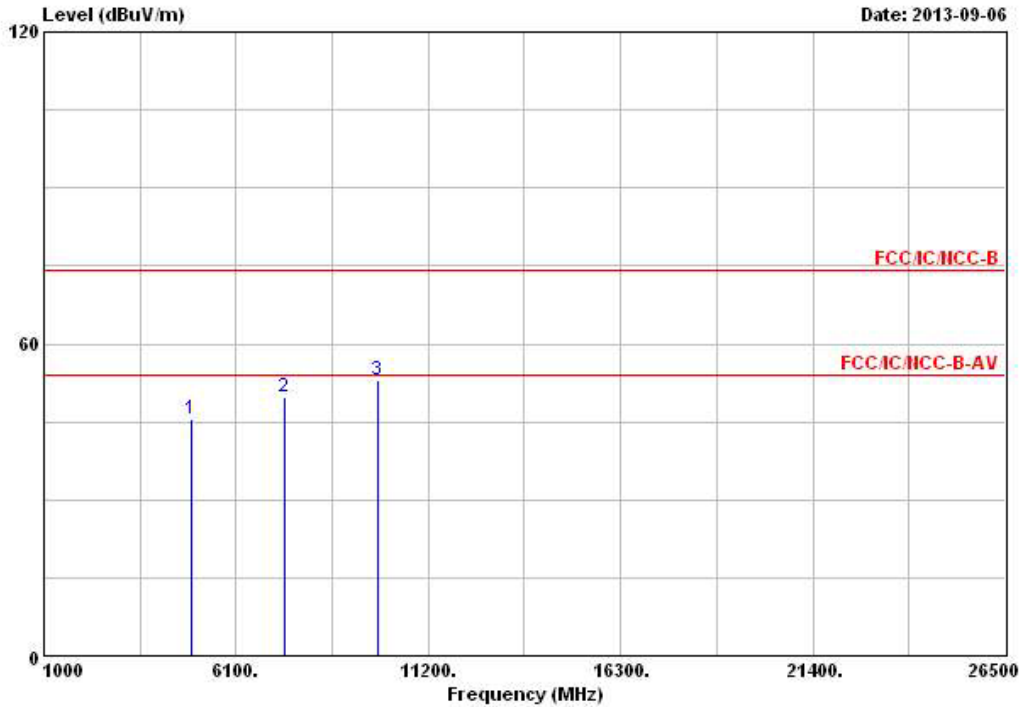
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4874.000 | 46.00  | -28.00     | 74.00      | 41.30             | 33.18          | 3.94       | 32.42         | Peak   | ---     | ---       |
| 2 | 7312.000 | 49.48  | -24.52     | 74.00      | 41.88             | 36.04          | 4.23       | 32.67         | Peak   | ---     | ---       |
| 3 | 9748.000 | 53.27  |            |            | 42.29             | 38.57          | 5.49       | 33.08         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |     |                  |      |
|-----------------|-----|------------------|------|
| Modulation Mode | 11g | Test Freq. (MHz) | 2462 |
| N <sub>TX</sub> | 2   | Polarization     | V    |



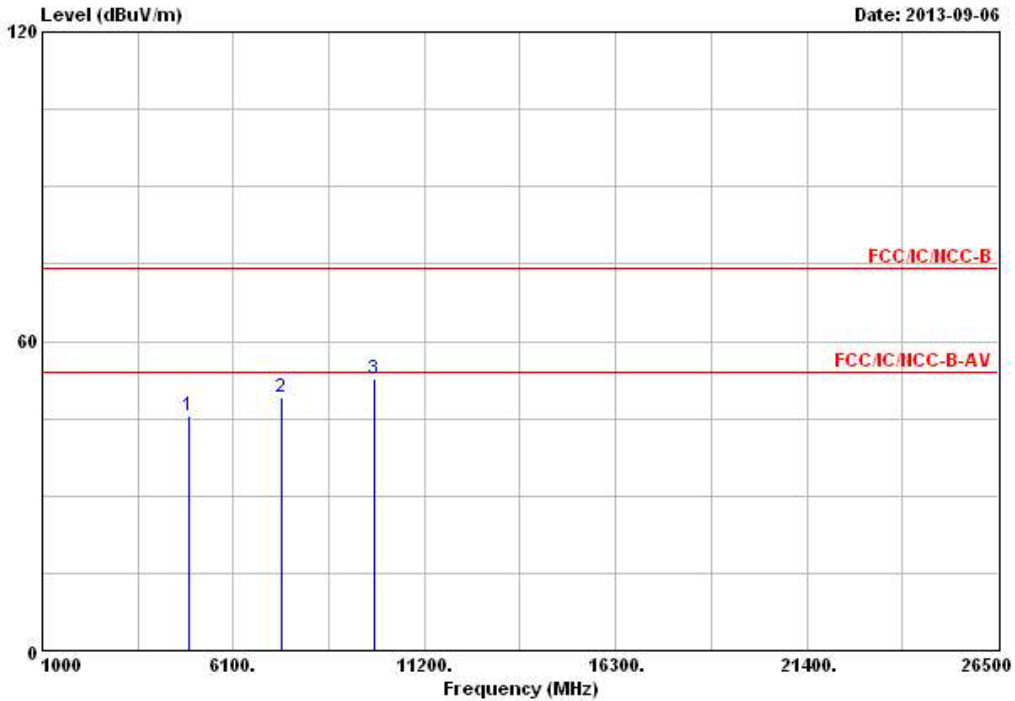
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBUV/m | dB         | dBUV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4924.620 | 45.42  | -28.58     | 74.00      | 40.57             | 33.28          | 3.98       | 32.41         | Peak   | ---     | ---       |
| 2 | 7386.000 | 49.65  | -24.35     | 74.00      | 41.90             | 36.25          | 4.19       | 32.69         | Peak   | ---     | ---       |
| 3 | 9847.620 | 53.11  |            |            | 41.99             | 38.76          | 5.44       | 33.08         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |     |                  |      |
|-----------------|-----|------------------|------|
| Modulation Mode | 11g | Test Freq. (MHz) | 2462 |
| N <sub>TX</sub> | 2   | Polarization     | H    |



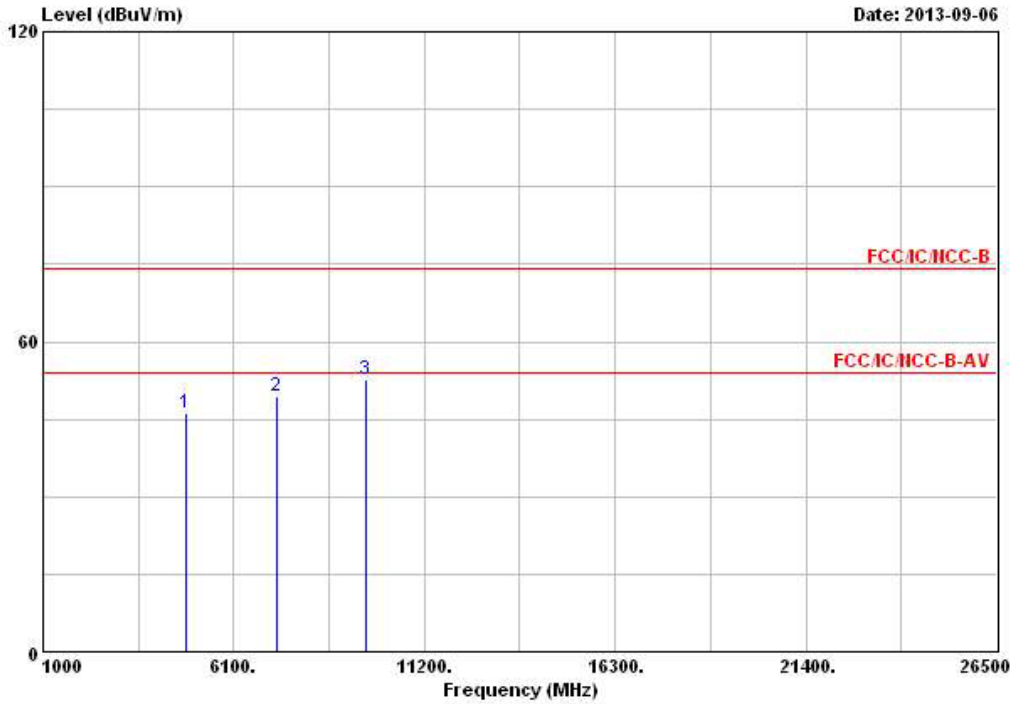
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4923.000 | 45.56  | -28.44     | 74.00      | 40.71             | 33.28          | 3.98       | 32.41         | Peak   | ---     | ---       |
| 2 | 7386.000 | 49.19  | -24.81     | 74.00      | 41.44             | 36.25          | 4.19       | 32.69         | Peak   | ---     | ---       |
| 3 | 9848.000 | 52.62  |            |            | 41.50             | 38.76          | 5.44       | 33.08         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |      |                  |      |
|-----------------|------|------------------|------|
| Modulation Mode | HT20 | Test Freq. (MHz) | 2412 |
| N <sub>TX</sub> | 2    | Polarization     | V    |



|   | Freq     | Level  | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV       | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4824.900 | 46.27  | -27.73     | 74.00      | 41.70      | 33.09          | 3.91       | 32.43         | Peak   | ---     | ---       |
| 2 | 7236.300 | 49.27  |            |            | 41.77      | 35.88          | 4.27       | 32.65         | Peak   | ---     | ---       |
| 3 | 9648.390 | 52.67  |            |            | 41.91      | 38.34          | 5.52       | 33.10         | Peak   | ---     | ---       |

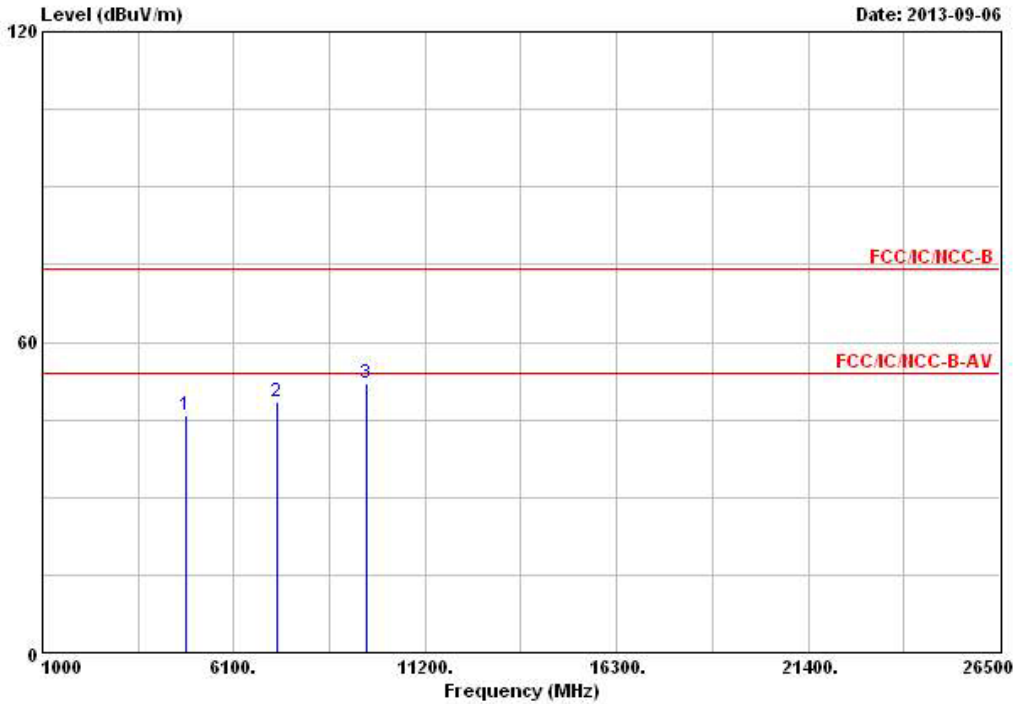
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.





Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |      |                  |      |
|-----------------|------|------------------|------|
| Modulation Mode | HT20 | Test Freq. (MHz) | 2412 |
| N <sub>TX</sub> | 2    | Polarization     | H    |



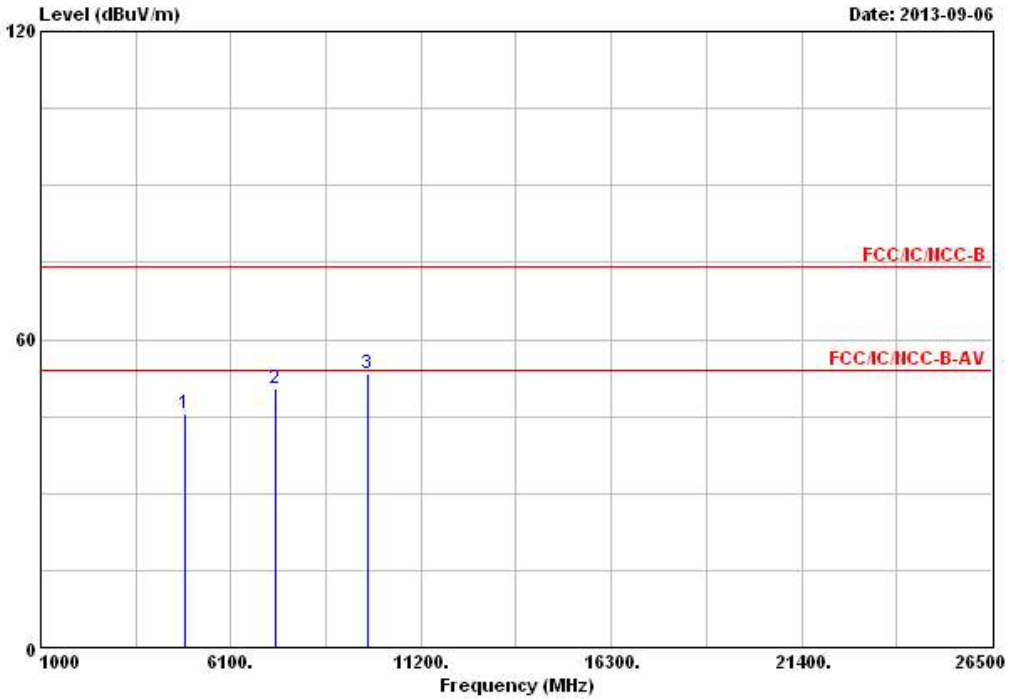
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4824.390 | 45.86  | -28.14     | 74.00      | 41.29             | 33.09          | 3.91       | 32.43         | Peak   | ---     | ---       |
| 2 | 7236.000 | 48.34  |            |            | 40.84             | 35.88          | 4.27       | 32.65         | Peak   | ---     | ---       |
| 3 | 9648.000 | 52.03  |            |            | 41.27             | 38.34          | 5.52       | 33.10         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |      |                  |      |
|-----------------|------|------------------|------|
| Modulation Mode | HT20 | Test Freq. (MHz) | 2437 |
| N <sub>TX</sub> | 2    | Polarization     | V    |



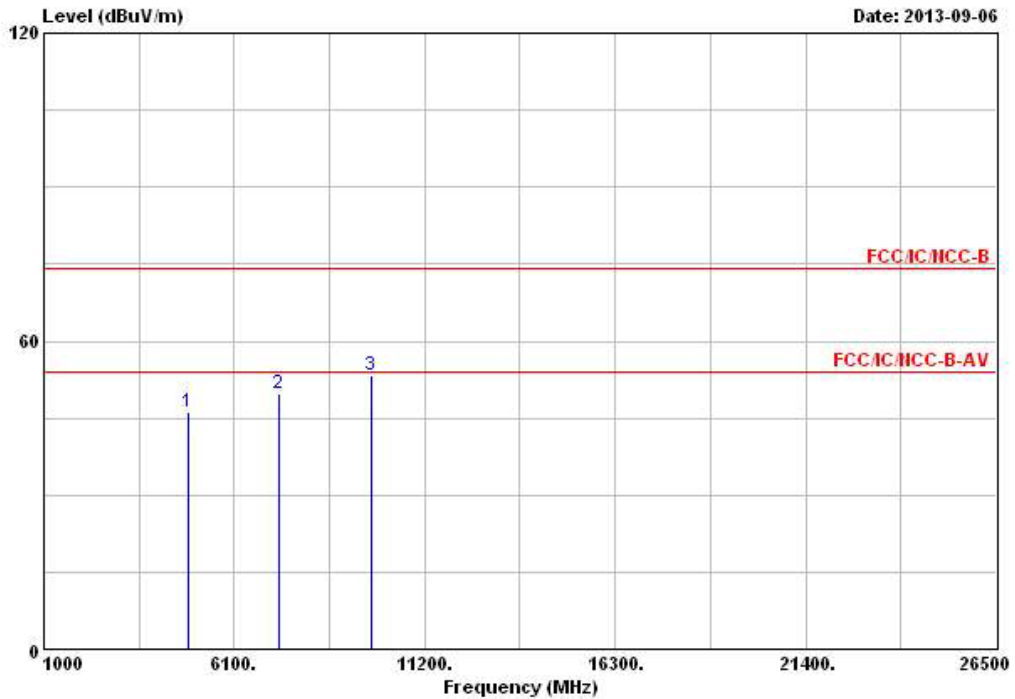
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4874.000 | 45.39  | -28.61     | 74.00      | 40.69             | 33.18          | 3.94       | 32.42         | Peak   | ---     | ---       |
| 2 | 7312.200 | 50.35  | -23.65     | 74.00      | 42.75             | 36.04          | 4.23       | 32.67         | Peak   | ---     | ---       |
| 3 | 9748.000 | 53.18  |            |            | 42.20             | 38.57          | 5.49       | 33.08         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |      |                  |      |
|-----------------|------|------------------|------|
| Modulation Mode | HT20 | Test Freq. (MHz) | 2437 |
| N <sub>TX</sub> | 2    | Polarization     | H    |



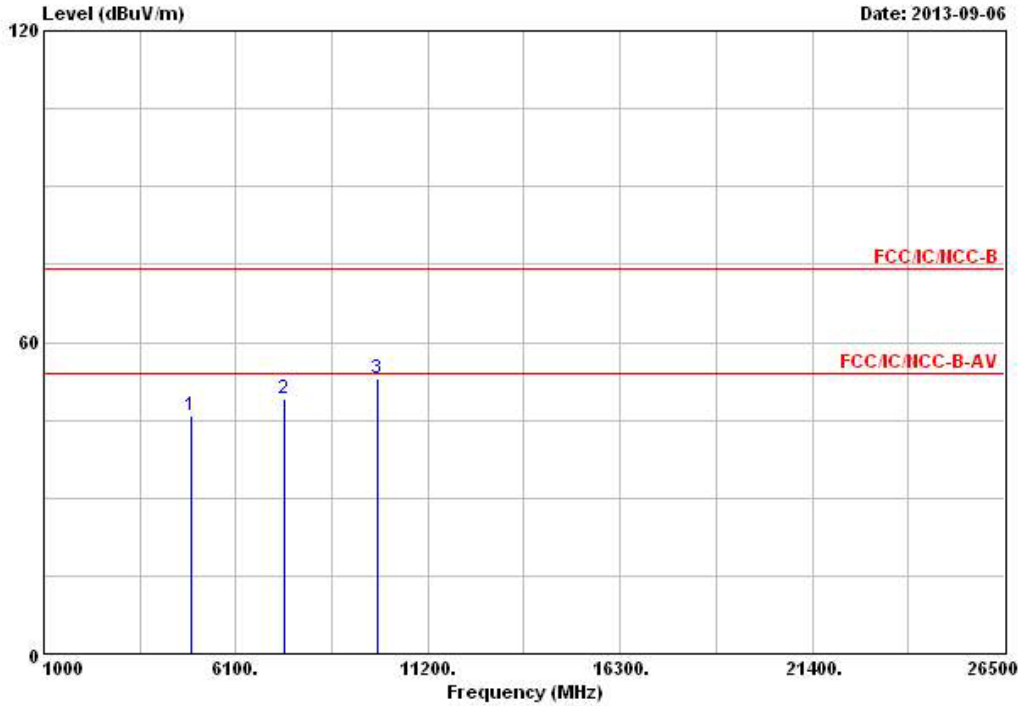
|   | Freq     | Level  | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV       | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4874.000 | 46.11  | -27.89     | 74.00      | 41.41      | 33.18          | 3.94       | 32.42         | Peak   | ---     | ---       |
| 2 | 7311.000 | 49.69  | -24.31     | 74.00      | 42.08      | 36.04          | 4.23       | 32.66         | Peak   | ---     | ---       |
| 3 | 9748.500 | 53.22  |            |            | 42.24      | 38.57          | 5.49       | 33.08         | Peak   | ---     | ---       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |      |                  |      |
|-----------------|------|------------------|------|
| Modulation Mode | HT20 | Test Freq. (MHz) | 2462 |
| N <sub>TX</sub> | 2    | Polarization     | V    |



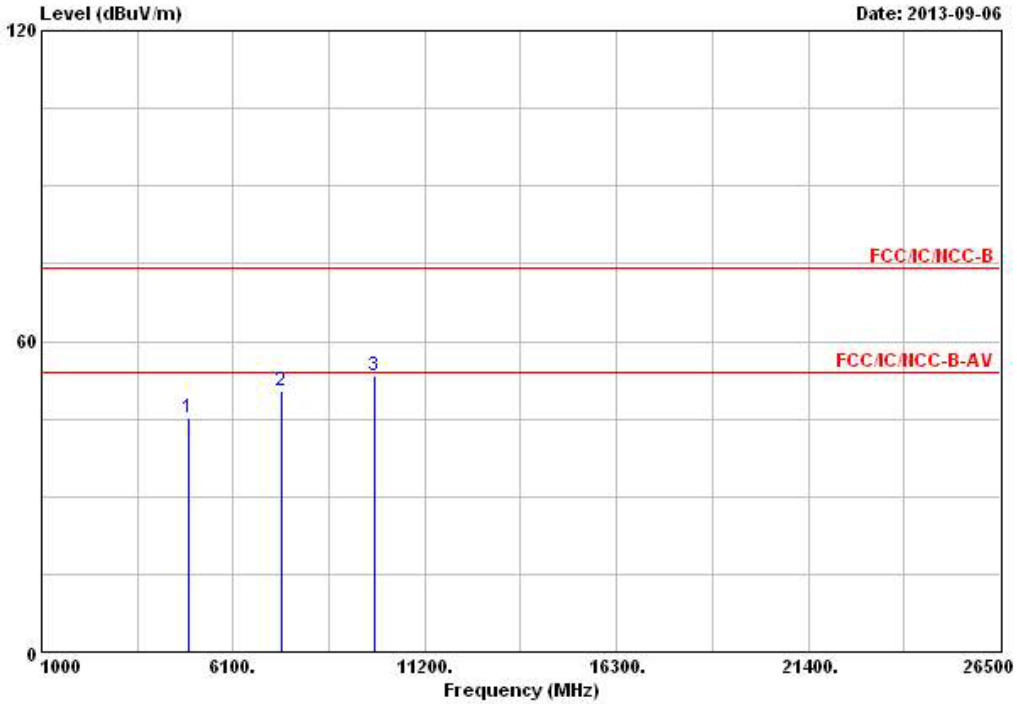
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4923.300 | 45.73  | -28.27     | 74.00      | 40.88             | 33.28          | 3.98       | 32.41         | Peak   | ---     | ---       |
| 2 | 7386.000 | 49.10  | -24.90     | 74.00      | 41.35             | 36.25          | 4.19       | 32.69         | Peak   | ---     | ---       |
| 3 | 9848.000 | 52.94  |            |            | 41.82             | 38.76          | 5.44       | 33.08         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |      |                  |      |
|-----------------|------|------------------|------|
| Modulation Mode | HT20 | Test Freq. (MHz) | 2462 |
| N <sub>TX</sub> | 2    | Polarization     | H    |



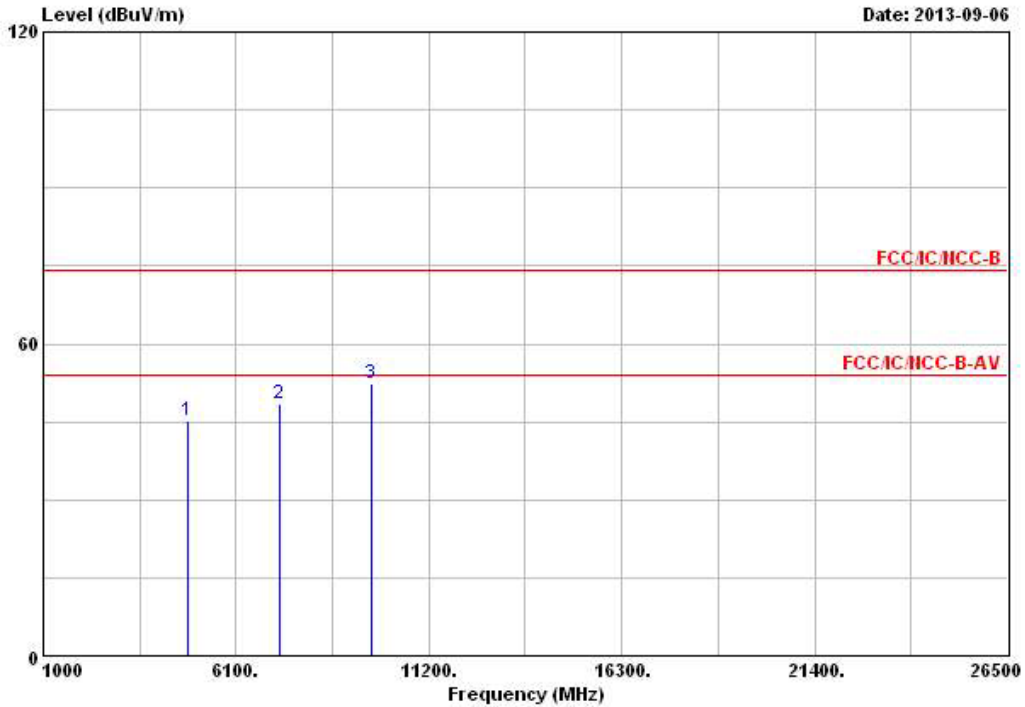
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4924.000 | 45.16  | -28.84     | 74.00      | 40.31             | 33.28          | 3.98       | 32.41         | Peak   | ---     | ---       |
| 2 | 7385.390 | 50.45  | -23.55     | 74.00      | 42.70             | 36.25          | 4.19       | 32.69         | Peak   | ---     | ---       |
| 3 | 9847.620 | 53.37  |            |            | 42.25             | 38.76          | 5.44       | 33.08         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |      |                  |      |
|-----------------|------|------------------|------|
| Modulation Mode | HT40 | Test Freq. (MHz) | 2422 |
| N <sub>TX</sub> | 2    | Polarization     | V    |



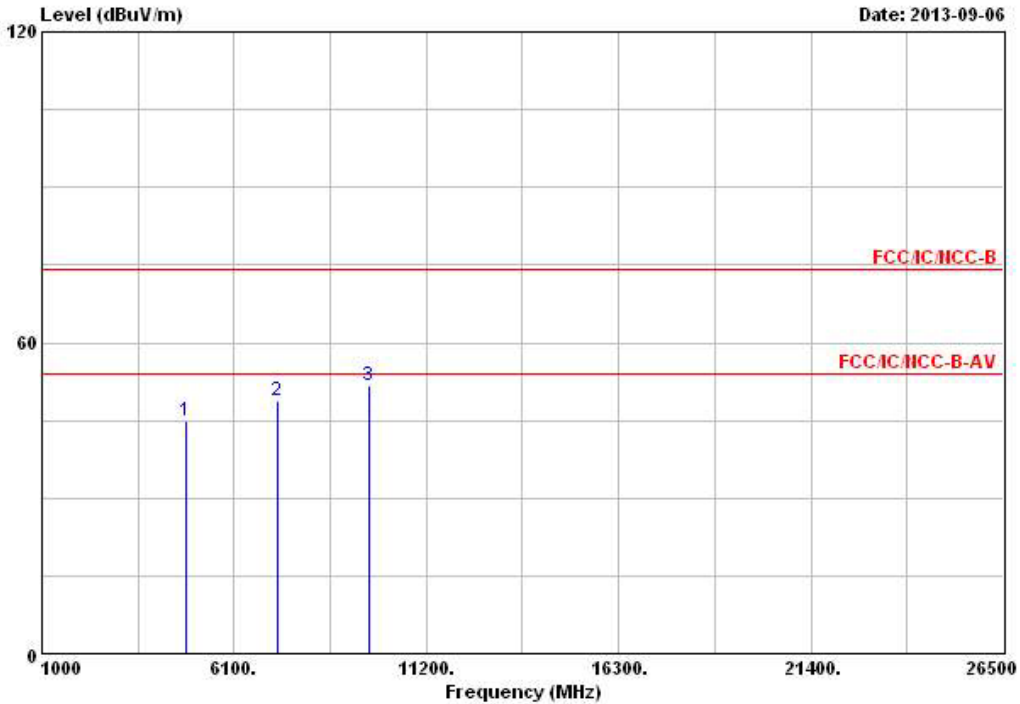
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4844.000 | 45.14  | -28.86     | 74.00      | 40.51             | 33.12          | 3.94       | 32.43         | Peak   | ---     | ---       |
| 2 | 7265.620 | 48.60  | -25.40     | 74.00      | 41.05             | 35.96          | 4.25       | 32.66         | Peak   | ---     | ---       |
| 3 | 9688.000 | 52.42  |            |            | 41.59             | 38.42          | 5.50       | 33.09         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |      |                  |      |
|-----------------|------|------------------|------|
| Modulation Mode | HT40 | Test Freq. (MHz) | 2422 |
| N <sub>TX</sub> | 2    | Polarization     | H    |



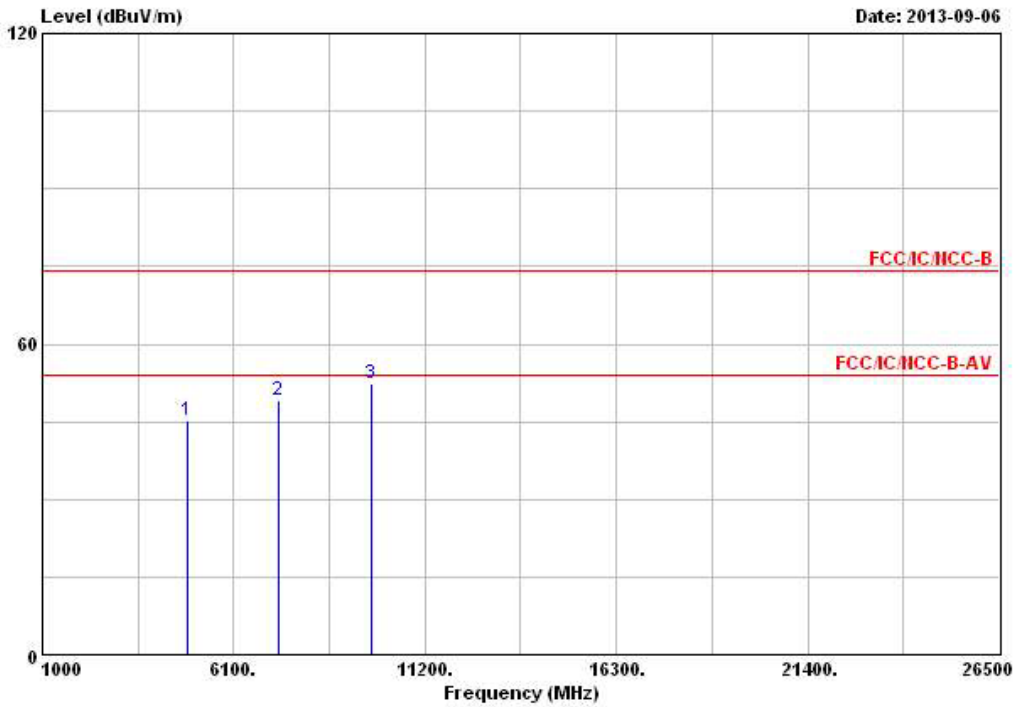
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4844.620 | 45.03  | -28.97     | 74.00      | 40.40             | 33.12          | 3.94       | 32.43         | Peak   | ---     | ---       |
| 2 | 7266.000 | 48.80  | -25.20     | 74.00      | 41.25             | 35.96          | 4.25       | 32.66         | Peak   | ---     | ---       |
| 3 | 9688.000 | 51.85  |            |            | 41.02             | 38.42          | 5.50       | 33.09         | Peak   | ---     | ---       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |      |                  |      |
|-----------------|------|------------------|------|
| Modulation Mode | HT40 | Test Freq. (MHz) | 2437 |
| N <sub>TX</sub> | 2    | Polarization     | V    |



|   | Freq     | Level  | Over Limit | Limit Line | Read Antenna | Cable | Preamp | Remark     | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|--------------|-------|--------|------------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV         | dB/m  | dB     | dB         | cm      | deg       |
| 1 | 4873.620 | 45.15  | -28.85     | 74.00      | 40.45        | 33.18 | 3.94   | 32.42 Peak | ---     | ---       |
| 2 | 7312.620 | 49.08  | -24.92     | 74.00      | 41.48        | 36.04 | 4.23   | 32.67 Peak | ---     | ---       |
| 3 | 9748.000 | 52.50  |            |            | 41.52        | 38.57 | 5.49   | 33.08 Peak | ---     | ---       |

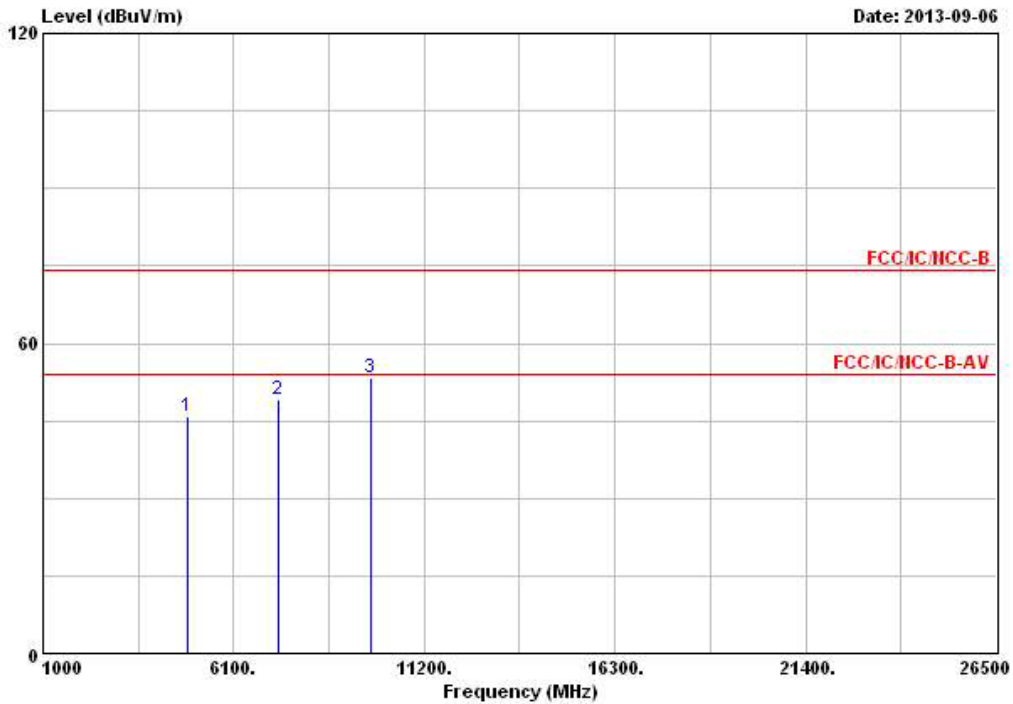
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.





Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |      |                  |      |
|-----------------|------|------------------|------|
| Modulation Mode | HT40 | Test Freq. (MHz) | 2437 |
| N <sub>TX</sub> | 2    | Polarization     | H    |



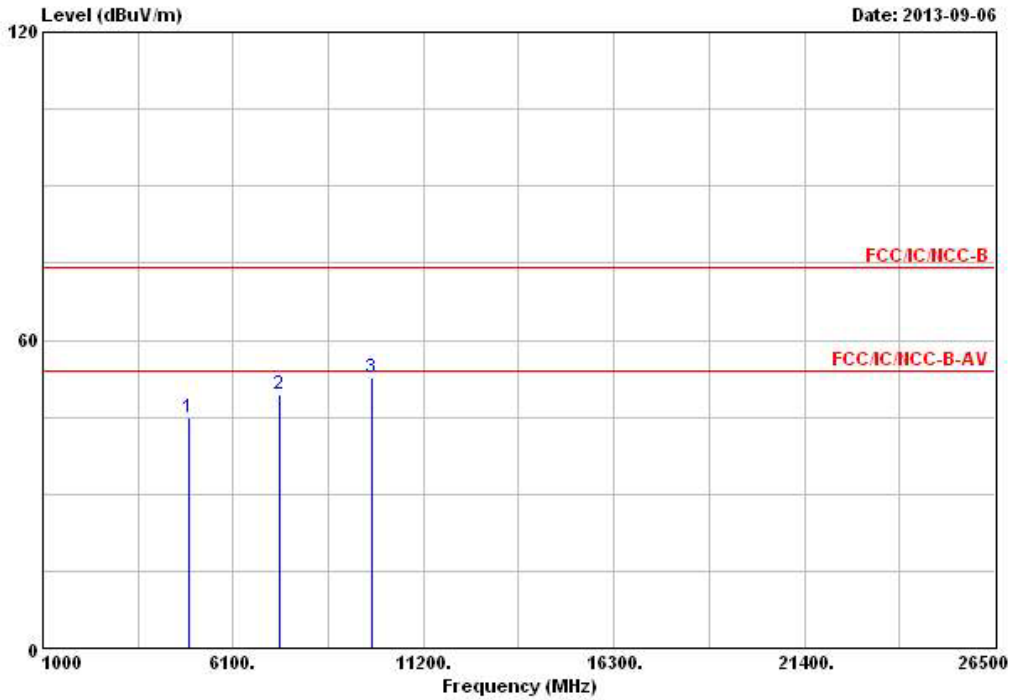
|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna | Cable | Preamp | Remark     | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------|-------|--------|------------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV        | dB    | dB     |            | cm      | deg       |
| 1 | 4874.000 | 45.72  | -28.28     | 74.00      | 41.02       | 33.18 | 3.94   | 32.42 Peak | ---     | ---       |
| 2 | 7311.000 | 49.05  | -24.95     | 74.00      | 41.44       | 36.04 | 4.23   | 32.66 Peak | ---     | ---       |
| 3 | 9748.390 | 53.26  |            |            | 42.28       | 38.57 | 5.49   | 33.08 Peak | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



Transmitter Radiated Unwanted Emissions (Above 1GHz)

|                 |      |                  |      |
|-----------------|------|------------------|------|
| Modulation Mode | HT40 | Test Freq. (MHz) | 2452 |
| N <sub>TX</sub> | 2    | Polarization     | V    |

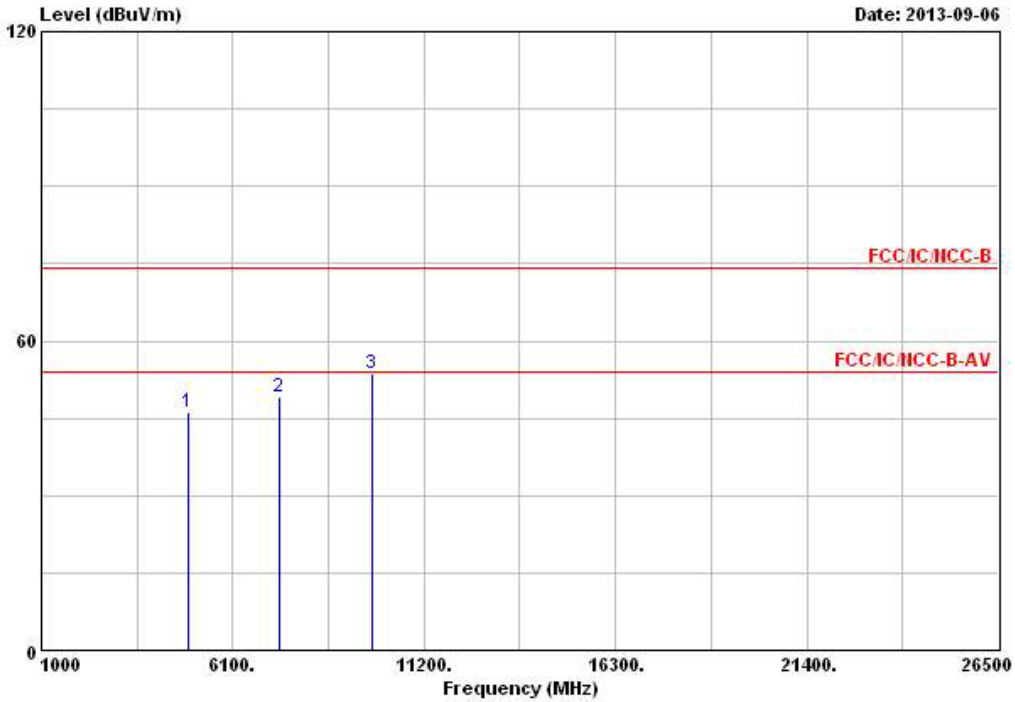


|   | Freq     | Level  | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBuV/m | dB         | dBuV/m     | dBuV       | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4904.000 | 44.73  | -29.27     | 74.00      | 39.95      | 33.24          | 3.96       | 32.42         | Peak   | ---     | ---       |
| 2 | 7356.390 | 49.46  | -24.54     | 74.00      | 41.76      | 36.17          | 4.21       | 32.68         | Peak   | ---     | ---       |
| 3 | 9807.620 | 52.64  |            |            | 41.58      | 38.68          | 5.46       | 33.08         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



| Transmitter Radiated Unwanted Emissions (Above 1GHz) |      |                  |      |
|--|------|------------------|------|
| Modulation Mode                                      | HT40 | Test Freq. (MHz) | 2452 |
| N <sub>TX</sub>                                      | 2    | Polarization     | H    |



|   | Freq     | Level  | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos |
|---|----------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|---------|-----------|
|   | MHz      | dBUV/m | dB         | dBUV/m     | dBuV              | dB/m           | dB         | dB            |        | cm      | deg       |
| 1 | 4904.000 | 46.28  | -27.72     | 74.00      | 41.50             | 33.24          | 3.96       | 32.42         | Peak   | ---     | ---       |
| 2 | 7356.000 | 49.22  | -24.78     | 74.00      | 41.52             | 36.17          | 4.21       | 32.68         | Peak   | ---     | ---       |
| 3 | 9808.390 | 53.61  |            |            | 42.55             | 38.68          | 5.46       | 33.08         | Peak   | ---     | ---       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.  
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)  
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)  
 Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.  
 Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.



## 4 Test Equipment and Calibration Data

| Instrument               | Manufacturer   | Model No.      | Serial No.   | Characteristics    | Calibration Date | Remark                   |
|--------------------------|----------------|----------------|--------------|--------------------|------------------|--------------------------|
| 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M         | 03CH03-HY    | 30MHz ~ 1GHz<br>3m | Dec. 01, 2012    | Radiation<br>(03CH03-HY) |
| Amplifier                | HP             | 8447D          | 2944A08033   | 10kHz ~ 1.3GHz     | May. 03, 2013    | Radiation<br>(03CH03-HY) |
| Amplifier                | Agilent        | 8449B          | 3008A02364   | 1GHz ~ 26.5GHz     | May. 06, 2013    | Radiation<br>(03CH03-HY) |
| Receiver                 | R&S            | ESU26          | 1302.6005.26 | 20Hz ~ 26.5GHz     | Apr. 02, 2013    | Radiation<br>(03CH03-HY) |
| Bilog Antenna            | SCHAFFNER      | CBL 6112D      | 22237        | 30MHz ~ 1GHz       | Sep. 22, 2012    | Radiation<br>(03CH03-HY) |
| Horn Antenna             | EMCO           | 3115           | 6741         | 1GHz ~ 18GHz       | May 31, 2013     | Radiation<br>(03CH03-HY) |
| RF Cable-R03m            | Jye Bao        | RG142          | CB021        | 9MHz ~ 1GHz        | Jan. 17, 2013    | Radiation<br>(03CH03-HY) |
| RF Cable-high            | SUHNER         | SUCOFLEX 106   | 03CH03-HY    | 1GHz ~ 40GHz       | Jan. 17, 2013    | Radiation<br>(03CH03-HY) |
| Turn Table               | EM Electronics | EM Electronics | 060615       | 0 ~ 360 degree     | N/A              | Radiation<br>(03CH03-HY) |
| Antenna Mast             | MF             | MF-7802        | MF780208179  | 1 ~ 4 m            | N/A              | Radiation<br>(03CH03-HY) |

Note: Calibration Interval of instruments listed above is one year.

| Instrument   | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark                   |
|--------------|--------------|-----------|------------|-----------------|------------------|--------------------------|
| Loop Antenna | TESEQ        | HLA 6120  | 31244      | 9 kHz - 30 MHz  | Dec. 02, 2012    | Radiation<br>(03CH02-HY) |

Note: Calibration Interval of instruments listed above is two year.