

## FCC Part 15C Compliance Test Report

|                                                         |                                                                                                                                                                                                                                                                                 |                                   |                                                                                                                                                                            |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Report no.:</b>                                 | FCC15CWLAN_RM-1090_14                                                                                                                                                                                                                                                           | <b>Date of Report:</b>            | 08-Oct-2014                                                                                                                                                                |
| <b>Number of pages:</b>                                 | 37                                                                                                                                                                                                                                                                              | <b>Customer's Contact person:</b> | Li Craig                                                                                                                                                                   |
| <b>Testing laboratory:</b>                              | TCC Microsoft Beijing Laboratory<br>Beijing Economic and Technological Development Area<br>No.5 Donghuan Zhonglu<br>Beijing<br>PRC China 100176<br>Tel. +86 10 8711 8888<br>Fax. +86 10 8711 4550                                                                               | <b>Customer:</b>                  | Microsoft<br>Beijing Economic and Technological Development Area<br>No.5 Donghuan Zhonglu<br>Beijing<br>PRC China 100176<br>Tel. +86 10 8711 8888<br>Fax. +86 10 8711 4550 |
| <b>FCC listing no.:</b>                                 | 975940                                                                                                                                                                                                                                                                          |                                   |                                                                                                                                                                            |
| <b>IC recognition no.:</b>                              | 661AH-1                                                                                                                                                                                                                                                                         |                                   |                                                                                                                                                                            |
| <b>Tested devices/ accessories:</b>                     | <b>Phone RM-1090 / Battery BL-L4A / AC-Charger AC-18E / Headset WH-108</b>                                                                                                                                                                                                      |                                   |                                                                                                                                                                            |
| <b>FCC ID:</b>                                          | PYARM-1090                                                                                                                                                                                                                                                                      | <b>IC:</b>                        | -                                                                                                                                                                          |
| <b>Supplement reports:</b>                              | -                                                                                                                                                                                                                                                                               |                                   |                                                                                                                                                                            |
| <b>Testing has been carried out in accordance with:</b> | CFR 47, FCC rules Part 15 Subpart C, ANSI C63.4 (2003), DTS procedures KDB 558074, IC standards, RSS-210 (Issue 8, December 2010). Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit". |                                   |                                                                                                                                                                            |
| <b>Documentation:</b>                                   | The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 15 years at TCC Microsoft.                        |                                   |                                                                                                                                                                            |
| <b>Test Results:</b>                                    | <b>The EUT complies with the requirements in respect of all parameters subject to the test.</b><br>The test results relate only to devices specified in this document                                                                                                           |                                   |                                                                                                                                                                            |
| <b>Date and signature for the contents:</b>             |                                                                                                                                                                                                                                                                                 |                                   |                                                                                                                                                                            |

Fu Roger, Engineer, EMC

## 1. Summary for FCC Part 15C Compliance Test Report

|                               |                                                       |
|-------------------------------|-------------------------------------------------------|
| Date of receipt               | 02-Sep-2014                                           |
| Testing completed             | 26-Sep-2014                                           |
| The customer's contact person | Li Craig                                              |
| Test Plan referred to         | T:\Projects\RM-1090\TestPlan\RS_Testplan_RM-1090.xlsm |
| Notes                         | -                                                     |
| Document name                 | FCC15CWLAN_RM-1090_14.docx                            |

### 1.1. EUT and Accessory Information

The EUT is a mobile phone with following features:

GSM/WCDMA/WLAN/Bluetooth

The EUT is tested with maximum rated TX power.

Devices under tests

| Product    | Type    | SN                                        | HW    | MV | SW                      | DUT   |
|------------|---------|-------------------------------------------|-------|----|-------------------------|-------|
| Phone      | RM-1090 | SIM1:004402479710497;SIM2:004402479710505 | 2000  | -  | 02038.00000.14325.55001 | 54590 |
| Battery    | BL-L4A  | 4175354312P10202289;0670762               | -     | -  | -                       | 54592 |
| AC-Charger | AC-18E  | 4868673455310302287;0675695               | -     | -  | -                       | 54218 |
| Headset    | WH-108  | 3022D71                                   | -     | -  | -                       | 54458 |
| Phone      | RM-1090 | SIM1:004402479711594;SIM2:004402479711602 | 2000a | -  | 02038.00000.14325.55001 | 54588 |
| Battery    | BL-L4A  | 4181574341S10300002;0670762               | -     | -  | -                       | 54595 |
| AC-Charger | AC-18E  | 4868674226410700997;0675695               | -     | -  | -                       | 54598 |
| Headset    | WH-108  | 3323471                                   | -     | -  | -                       | 54603 |

### 1.2. Summary of Test Results

WLAN:

| Section in CFR 47    | Section in RSS-GEN or RSS-210 | Name of the test                     | Result |
|----------------------|-------------------------------|--------------------------------------|--------|
| 15.247(b)(1)         | A8.4(4)                       | Conducted peak output power          | PASSED |
| 15.247(d), 15.205(b) | A8.5                          | Band edge compliance of RF emissions | PASSED |
| 15.247(d)            | A8.5                          | Spurious RF conducted emissions      | PASSED |
| 15.247(d), 15.209    | A8.5                          | Spurious radiated emissions          | PASSED |
| 15.207               | 7.2.4                         | AC powerline conducted emissions     | PASSED |
| 15.247(a)(2)         | A8.2(a)                       | 6dB(bandwidth)                       | PASSED |
| 15.247(e)            | A8.2(b)                       | Power spectral density               | PASSED |

PASSED  
FAILED  
NP

The EUT complies with the essential requirements in the standard.  
The EUT does not comply with the essential requirements in the standard.  
The test was not performed by the TCC Microsoft Laboratory.

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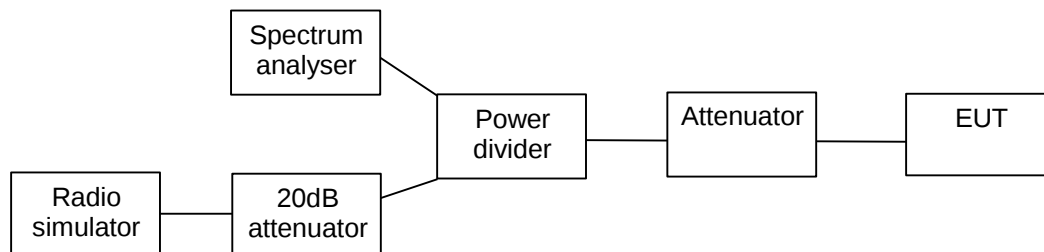
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|           |                              |           |
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## 2. Conducted peak output power (FCC §15.247(b)(1), RSS-210 A8.4(4))

|                                                        |                                                           |
|--------------------------------------------------------|-----------------------------------------------------------|
| <b>EUT with DUT number</b>                             | RM-1090, DUT 54590                                        |
| <b>Accessories with DUT numbers</b>                    | BL-L4A, DUT 54592 ; AC-18E, DUT 54218 ; WH-108, DUT 54458 |
| <b>Operation Voltage [V] / [Hz]</b>                    | Nominal                                                   |
| <b>Results</b>                                         | PASSED                                                    |
| <b>Remarks</b>                                         | -                                                         |
| <b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b> | 23/51/101.8                                               |
| <b>Date of measurements</b>                            | 18-Sep-2014                                               |
| <b>Measured by</b>                                     | Dou Rubo                                                  |

### 2.1. Test Setup



### 2.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

Limits for conducted peak output power measurements

| Frequency range [MHz]        | Limit [W] | Limit [dBm] |
|------------------------------|-----------|-------------|
| 2400 – 2483.5<br>5725 - 5850 | $\leq 1$  | $\leq 30$   |

### 2.3. Power results summary

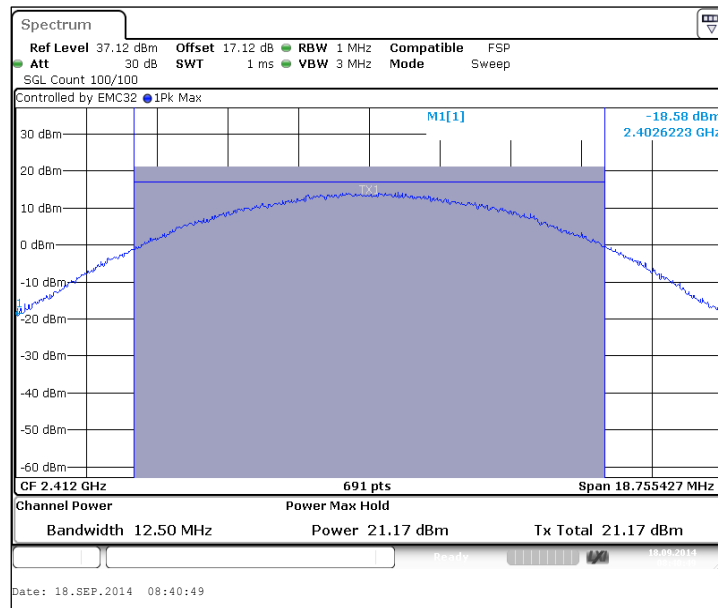
| Channel / f <sub>c</sub> [MHz] | Mode    | Modulation | Data rate | Level [dBm] |
|--------------------------------|---------|------------|-----------|-------------|
| 1 / 2412                       | 802.11b | QPSK       | 11 Mbps   | 21.17       |
| 6 / 2437                       | 802.11b | QPSK       | 11 Mbps   | 21.27       |
| 11 / 2462                      | 802.11b | QPSK       | 11 Mbps   | 20.42       |
| 1 / 2412                       | 802.11g | BPSK       | 9 Mbps    | 17.21       |
| 6 / 2437                       | 802.11g | BPSK       | 9 Mbps    | 18.09       |
| 11 / 2462                      | 802.11g | BPSK       | 9 Mbps    | 16.62       |

## 2.4. WLAN Test results

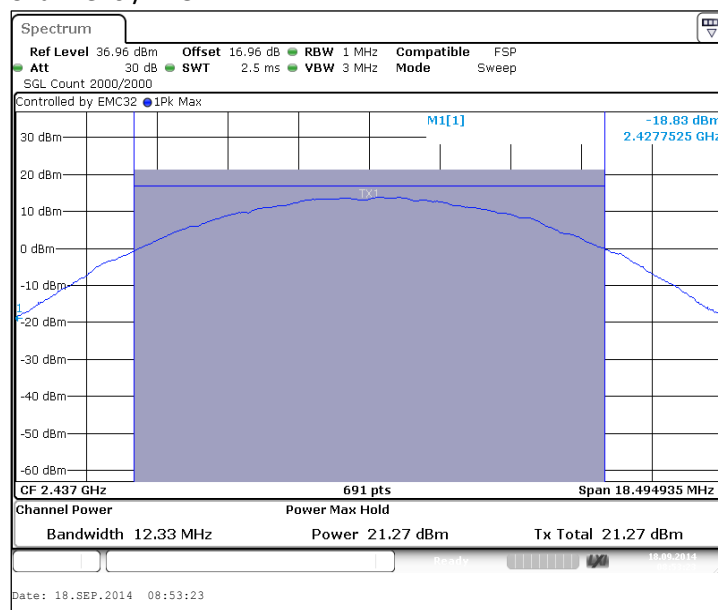
### 2.4.1 802.11b mode, QPSK modulation, 11 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW]  | Result |
|--------------------------------|---------|---------|--------|
| 1 / 2412                       | 21.17   | 130.918 | PASSED |
| 6 / 2437                       | 21.27   | 133.968 | PASSED |
| 11 / 2462                      | 20.42   | 110.154 | PASSED |

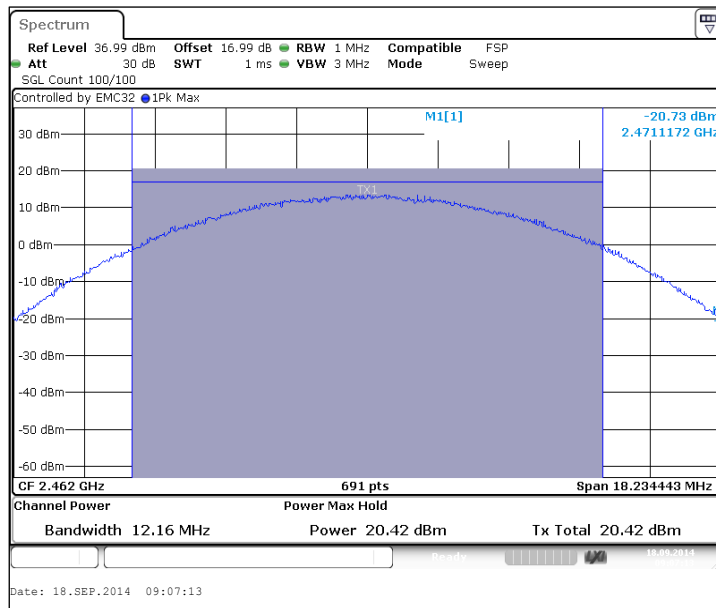
#### Channel 1 / 2412 MHz



#### Channel 6 / 2437 MHz



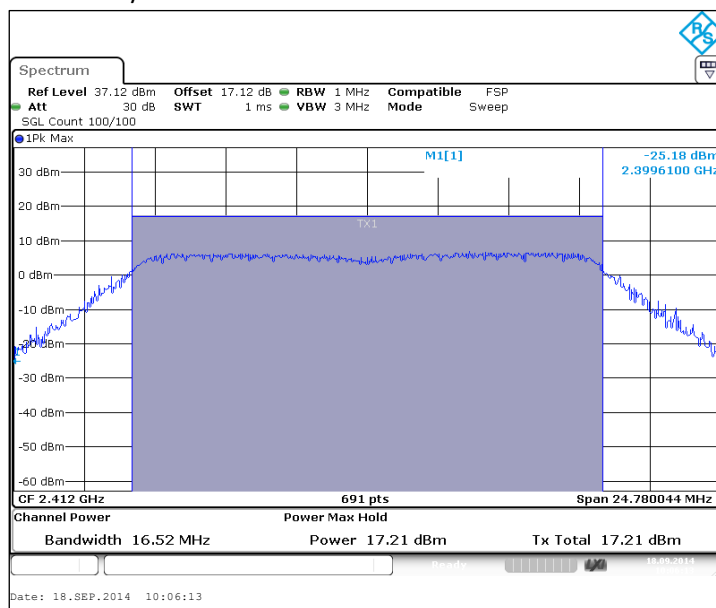
## Channel 11 / 2462 MHz



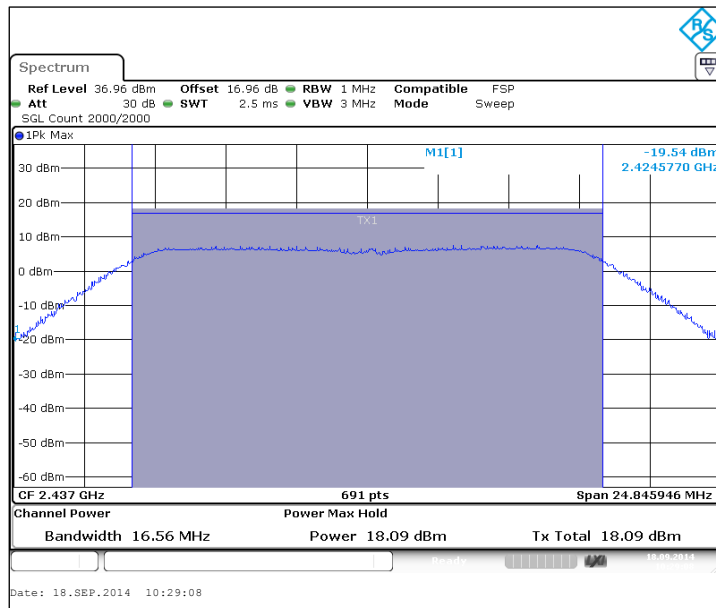
## 2.4.2 802.11g mode, BPSK modulation, 9 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 1 / 2412                       | 17.21   | 52.602 | PASSED |
| 6 / 2437                       | 18.09   | 64.417 | PASSED |
| 11 / 2462                      | 16.62   | 45.92  | PASSED |

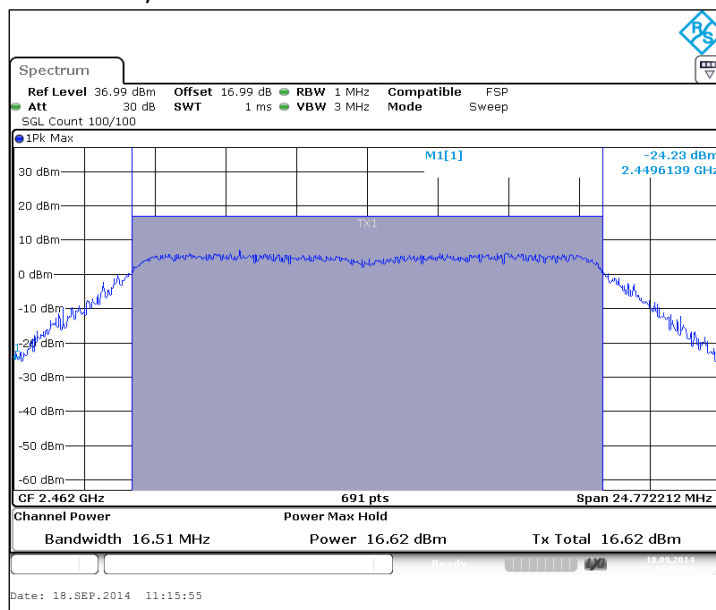
## Channel 1 / 2412 MHz



## Channel 6 / 2437 MHz



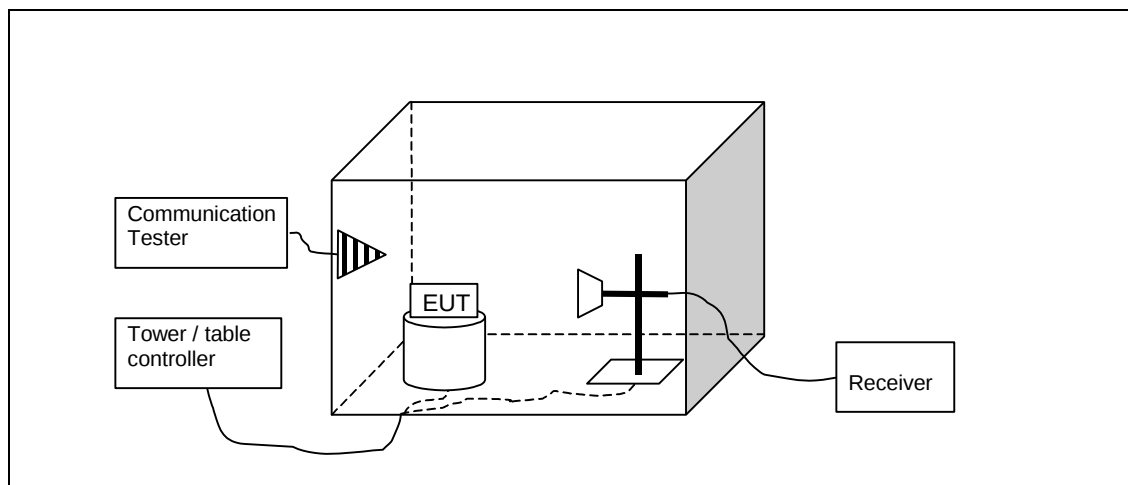
## Channel 11 / 2462 MHz



### 3. Band edge compliance of RF emissions (FCC 15.247(d), 15.205(b), RSS-210 A8.5)

|                                                 |                                                           |
|-------------------------------------------------|-----------------------------------------------------------|
| EUT with DUT number                             | RM-1090, DUT 54588                                        |
| Accessories with DUT numbers                    | BL-L4A, DUT 54595 ; AC-18E, DUT 54598 ; WH-108, DUT 54603 |
| Operation Voltage [V] / [Hz]                    | Nominal                                                   |
| Results                                         | PASSED                                                    |
| Remarks                                         | -                                                         |
| Temp [°C] / Humidity [%RH] / Air Pressure [kPa] | 23/54/101.4                                               |
| Date of measurements                            | 23-Sep-2014                                               |
| Measured by                                     | Gao Sherina                                               |

#### 3.1.1 Test setup



#### 3.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

The measurement results are obtained as described below:

$$E [dB\mu V/m] = U_{RX} + A_{TOT}$$

Where  $U_{RX}$  is receiver reading and  $A_{TOT}$  is total correction factor including cable loss, antenna factor and preamplifier gain ( $A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$ ).

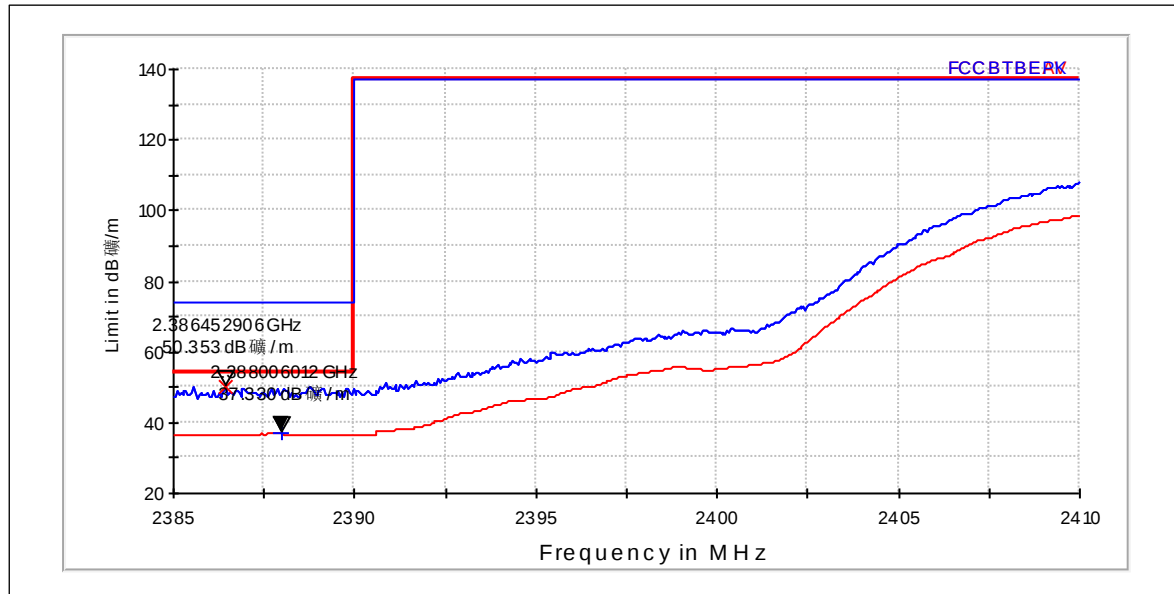
Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

| Frequency range [MHz]       | Limit                              |
|-----------------------------|------------------------------------|
| Below 2390 and above 2483.5 | 54 dBuV/m (avg) and 74 dBuV/m (pk) |

### 3.3. WLAN test results

#### 3.3.1 802.11b, QPSK modulation, 11 Mbps data rate.

Channel 1 / 2412 MHz



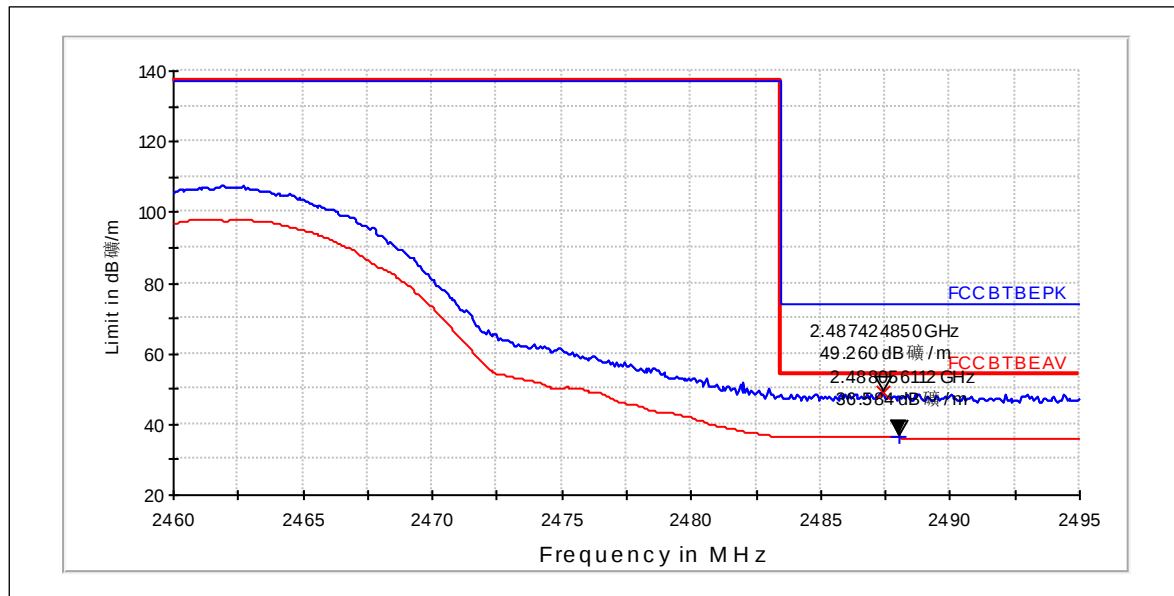
Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Results |
|-----------------|------------|----------|------------------------|-----------------------|---------|
| 2386            | 50.35      | 329.344  | 50.97                  | -0.62                 | PASSED  |

Average (RBW: 1 MHz, VBW: 10 Hz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Results |
|-----------------|------------|----------|------------------------|-----------------------|---------|
| 2388            | 37.33      | 73.536   | 37.95                  | -0.62                 | PASSED  |

Channel 11 / 2462 MHz



Peak (RBW: 1 MHz, VBW: 1 MHz)

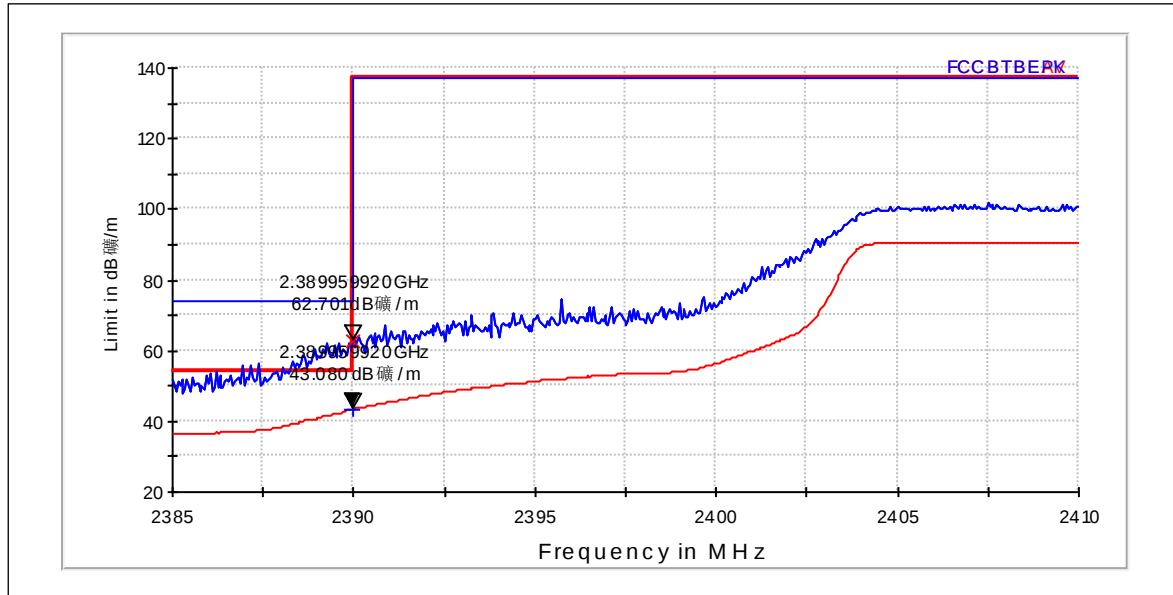
| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Results |
|-----------------|------------|----------|------------------------|-----------------------|---------|
| 2487            | 49.26      | 290.402  | 49.02                  | 0.24                  | PASSED  |

Average (RBW: 1 MHz, VBW: 10 Hz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Results |
|-----------------|------------|----------|------------------------|-----------------------|---------|
| 2488            | 36.58      | 67.484   | 36.34                  | 0.24                  | PASSED  |

### 3.3.2 802.11g, BPSK modulation, 9 Mbps data rate.

Channel 1 / 2412 MHz



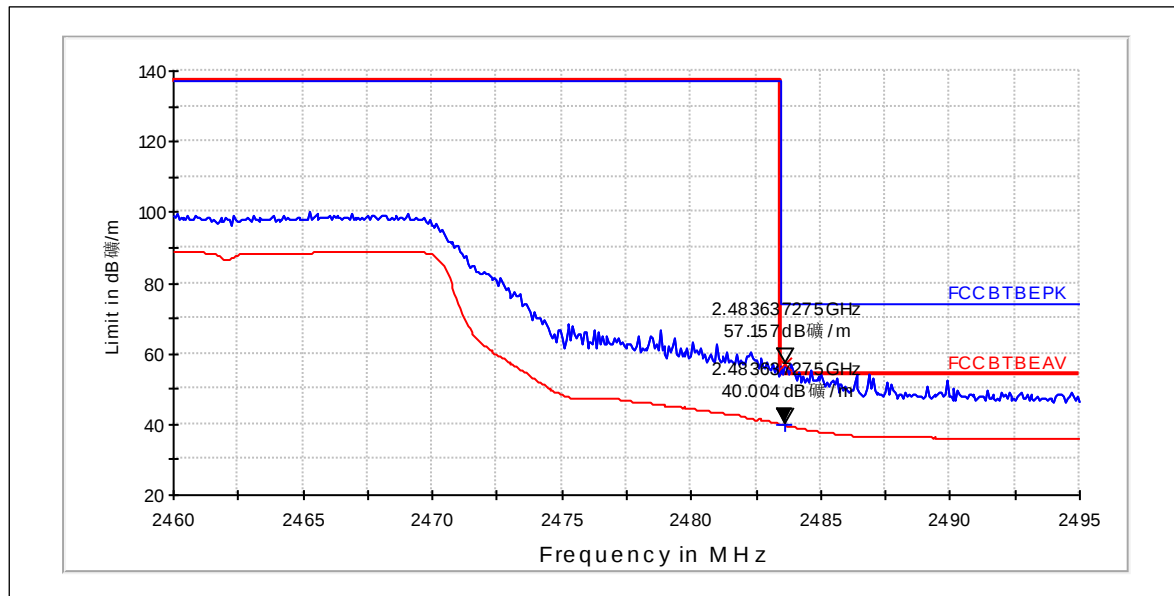
Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Results |
|-----------------|------------|----------|------------------------|-----------------------|---------|
| 2390            | 62.7       | 1364.74  | 63.32                  | -0.62                 | PASSED  |

Average (RBW: 1 MHz, VBW: 10 Hz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Results |
|-----------------|------------|----------|------------------------|-----------------------|---------|
| 2390            | 43.08      | 142.561  | 43.7                   | -0.62                 | PASSED  |

Channel 11 / 2462 MHz



Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Results |
|-----------------|------------|----------|------------------------|-----------------------|---------|
| 2484            | 57.16      | 720.858  | 56.92                  | 0.24                  | PASSED  |

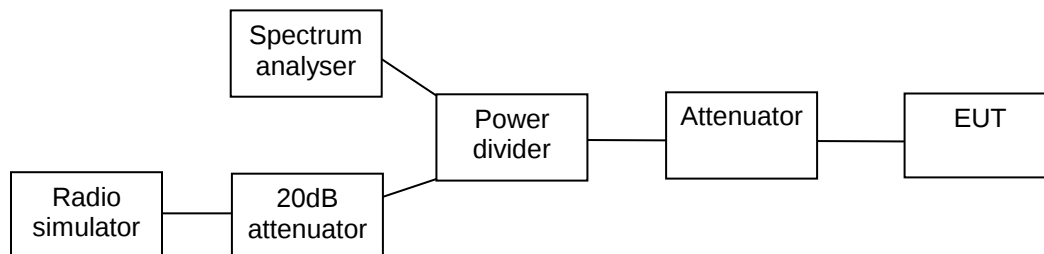
Average (RBW: 1 MHz, VBW: 10 Hz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Results |
|-----------------|------------|----------|------------------------|-----------------------|---------|
| 2484            | 40         | 100.046  | 39.76                  | 0.24                  | PASSED  |

#### 4. Spurious RF conducted emissions (FCC §15.247(d), RSS-210 A8.5)

|                                                        |                                                           |
|--------------------------------------------------------|-----------------------------------------------------------|
| <b>EUT with DUT number</b>                             | RM-1090, DUT 54590                                        |
| <b>Accessories with DUT numbers</b>                    | BL-L4A, DUT 54592 ; AC-18E, DUT 54218 ; WH-108, DUT 54458 |
| <b>Operation Voltage [V] / [Hz]</b>                    | Nominal                                                   |
| <b>Results</b>                                         | PASSED                                                    |
| <b>Remarks</b>                                         | -                                                         |
| <b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b> | 24/53/100.6                                               |
| <b>Date of measurements</b>                            | 26-Sep-2014                                               |
| <b>Measured by</b>                                     | Dou Rubo                                                  |

##### 4.1. Test Setup



##### 4.2. Test method and limit

The measurement is made according to Public notice KDB 558 074 and IC standard RSS-210.

The reference level for the -20 dBc measurement was obtained as instructed in section 11.2 of the KDB 558074, using span of 1.5 times the OBW.

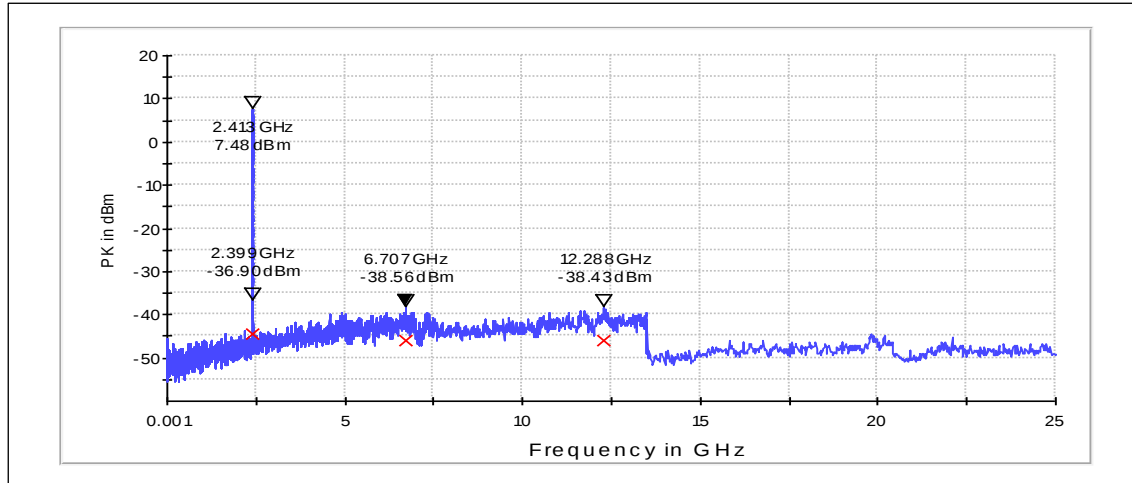
Limits for spurious RF conducted emissions measurements

| Frequency range [MHz] | Limit [dBc] |
|-----------------------|-------------|
| 1 – 25000             | <= -20      |

### 4.3. WLAN Test results

#### 4.3.1 802.11b mode, QPSK modulation, 11 Mbps data rate

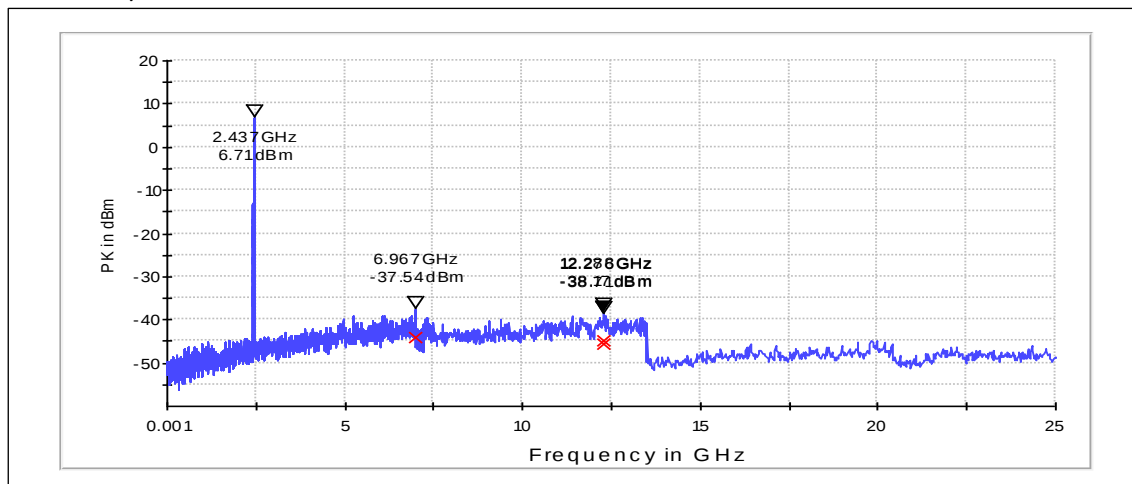
Channel 1 / 2412 MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

| Frequency [MHz] | P [dBc] | Result |
|-----------------|---------|--------|
| 2399.196        | -44.38  | PASSED |
| 12288.000       | -45.91  | PASSED |
| 6707.200        | -46.04  | PASSED |

Channel 6 / 2437 MHz

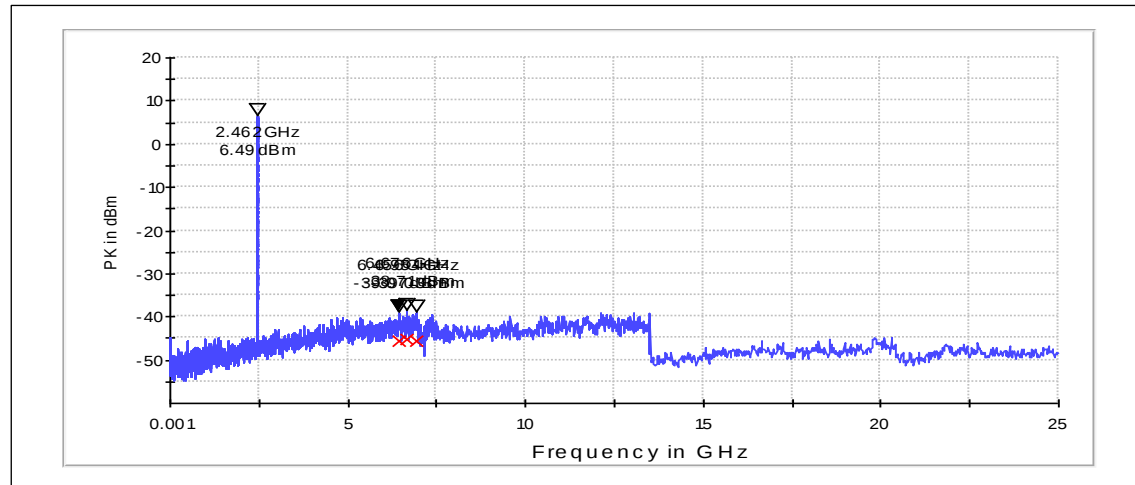


Peak (RBW: 100 kHz, VBW: 300 kHz)

| Frequency [MHz] | P [dBc] | Result |
|-----------------|---------|--------|
| 6966.800        | -44.25  | PASSED |
| 12288.000       | -44.88  | PASSED |

|           |        |        |
|-----------|--------|--------|
| 12276.000 | -45.42 | PASSED |
|-----------|--------|--------|

Channel 11 / 2462 MHz

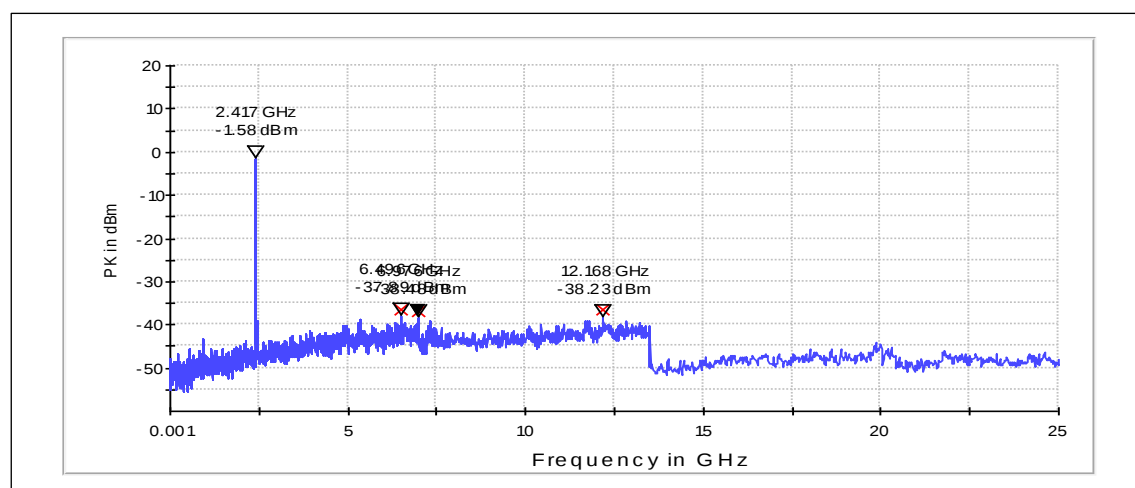


Peak (RBW: 100 kHz, VBW: 300 kHz)

| Frequency [MHz] | P [dBc] | Result |
|-----------------|---------|--------|
| 6676.400        | -45.20  | PASSED |
| 6953.600        | -45.52  | PASSED |
| 6456.400        | -45.56  | PASSED |

#### 4.3.2 802.11g mode, BPSK modulation, 9 Mbps data rate

Channel 1 / 2412 MHz

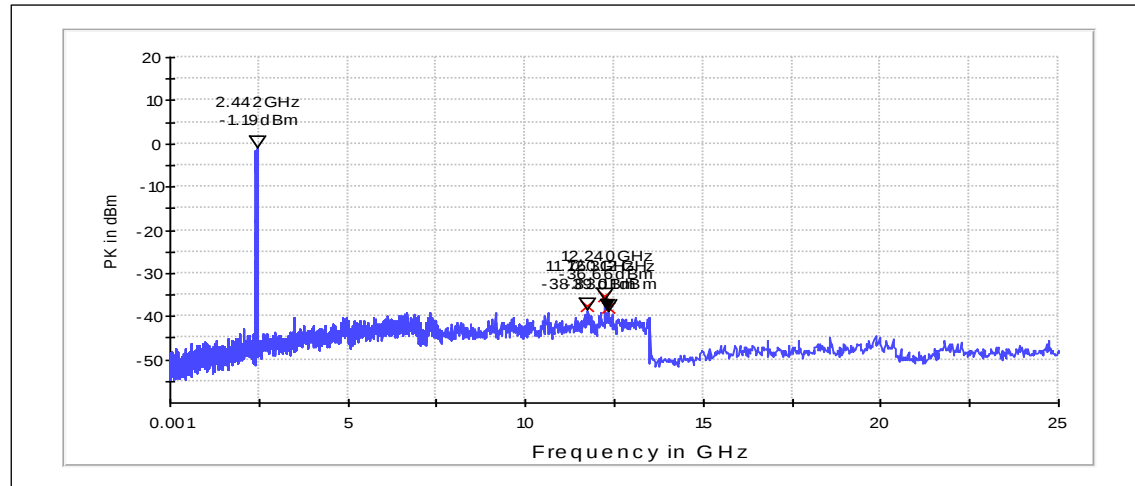


Peak (RBW: 100 kHz, VBW: 300 kHz)

| Frequency [MHz] | P [dBc] | Result |
|-----------------|---------|--------|
| 6496.000        | -36.31  | PASSED |

|           |        |        |
|-----------|--------|--------|
| 12168.000 | -36.65 | PASSED |
| 6975.600  | -36.90 | PASSED |

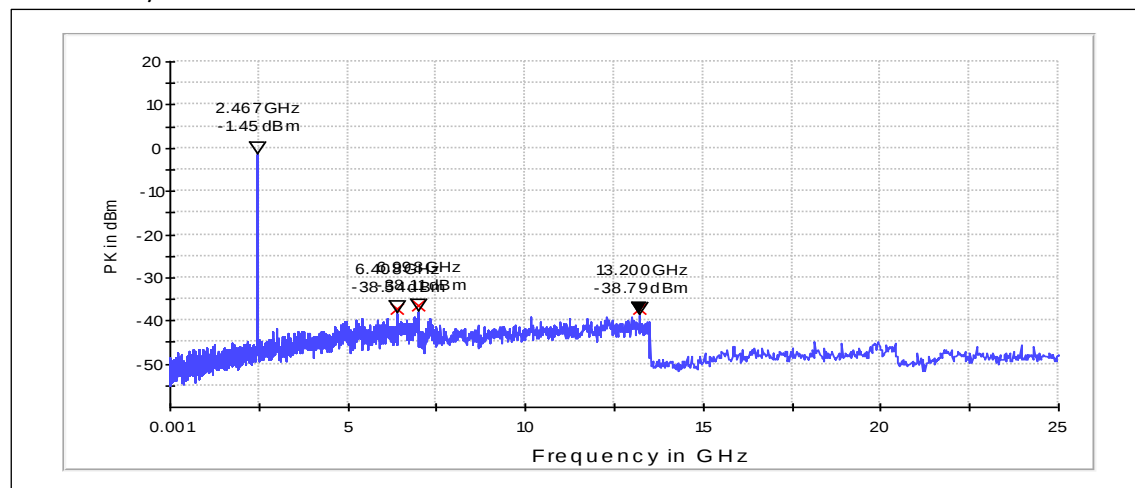
#### Channel 6 / 2437 MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

| Frequency [MHz] | P [dBc] | Result |
|-----------------|---------|--------|
| 12240.000       | -35.47  | PASSED |
| 11760.000       | -37.64  | PASSED |
| 12312.000       | -37.82  | PASSED |

#### Channel 11 / 2462 MHz



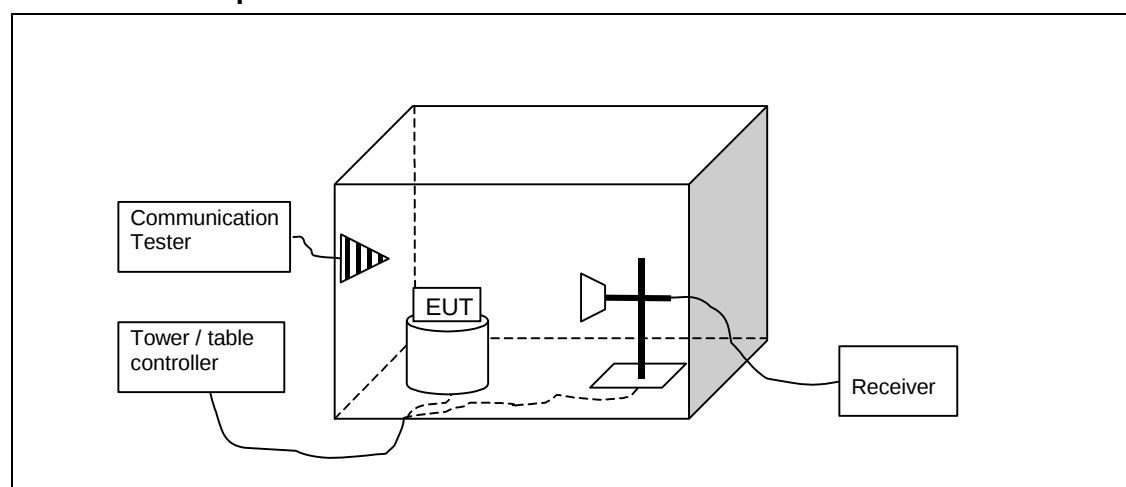
Peak (RBW: 100 kHz, VBW: 300 kHz)

| Frequency [MHz] | P [dBc] | Result |
|-----------------|---------|--------|
| 6997.600        | -36.66  | PASSED |
| 6408.000        | -37.09  | PASSED |
| 13200.000       | -37.34  | PASSED |

## 5. Spurious radiated emissions (FCC 15.247(d), 15.209, RSS-210 A8.5)

|                                                 |                                                           |
|-------------------------------------------------|-----------------------------------------------------------|
| EUT with DUT number                             | RM-1090, DUT 54588                                        |
| Accessories with DUT numbers                    | BL-L4A, DUT 54595 ; AC-18E, DUT 54598 ; WH-108, DUT 54603 |
| Operation Voltage [V] / [Hz]                    | Nominal                                                   |
| Results                                         | PASSED                                                    |
| Remarks                                         | -                                                         |
| Temp [°C] / Humidity [%RH] / Air Pressure [kPa] | 23/54/101.4                                               |
| Date of measurements                            | 23-Sep-2014                                               |
| Measured by                                     | Gao Sherina                                               |

### 5.1.1 Test setup



### 5.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210 as follows:

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with absorbers on the floor and measuring antenna at fixed height using 2-axis EUT position system.

The Final Measurement is performed in the Semi-Anechoic Chamber with conducting metal floor, if the Preliminary Measurement results are closer than 20 dB to the permissible value.

The EUT is placed at nonconductive plate at the turntable center.

For each suspected frequency, the turntable is rotated 360 degrees and antenna is scanned from 1 to 4 m. This is repeated for both horizontal and vertical receive antenna polarizations.

The emissions less than 20 dB below the permissible value are reported.

The measurement is made up to 10th harmonic of the EUT highest TX channel.

The measurement results are obtained as described below:

$$E [dB\mu V/m] = U_{RX} + A_{TOT}$$

Where  $U_{RX}$  is receiver reading and  $A_{TOT}$  is total correction factor including cable loss, antenna factor and preamplifier gain ( $A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$ ).

Limits for spurious radiated emissions measurements (3 m measurement distance)

| Frequency range [MHz] | Limit [ $\mu V/m$ ] | Limit [dB $\mu V/m$ ] | Detector   |
|-----------------------|---------------------|-----------------------|------------|
| 30 - 88               | 100                 | 40                    | Quasi peak |
| 88 – 216              | 150                 | 43.5                  | Quasi peak |
| 216 – 960             | 200                 | 46                    | Quasi peak |
| 960 – 1000            | 500                 | 54                    | Quasi peak |
| Above 1000            | 500                 | 54                    | Average    |
| Above 1000            | 5000                | 74                    | Peak       |

### 5.3. WLAN test results

#### 5.3.1 802.11b, QPSK modulation, 11 Mbps data rate.

Channel 6 / 2437 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 46.281          | 32.08      | 40.179   | 49.98                  | -17.9                 | 40             | 7.92   | PASSED  |
| 49.359          | 35.27      | 58.01    | 55.27                  | -20                   | 40             | 4.73   | PASSED  |
| 49.495          | 35.29      | 58.143   | 55.39                  | -20.1                 | 40             | 4.71   | PASSED  |

Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4879.5          | 45.07      | 179.267  | 43.57                  | 1.5                   | 74             | 28.91  | PASSED  |
| 7318.3          | 49.62      | 302.691  | 39.12                  | 10.5                  | 74             | 24.36  | PASSED  |

Average (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4879.5          | 31.21      | 36.35    | 29.71                  | 1.5                   | 54             | 22.77  | PASSED  |
| 7318.3          | 36.62      | 67.764   | 26.12                  | 10.5                  | 54             | 17.36  | PASSED  |

Channel 1 / 2412 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4824            | 50.48      | 334.195  | 49.18                  | 1.3                   | 74             | 23.5   | PASSED  |
| 7234.1          | 49.37      | 294.103  | 39.27                  | 10.1                  | 95             | 45.86  | PASSED  |

Average (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4824            | 38.86      | 87.7     | 37.56                  | 1.3                   | 54             | 15.12  | PASSED  |
| 7234.1          | 36.24      | 64.863   | 26.14                  | 10.1                  | ---            | ---    | PASSED  |

Channel 11 / 2462 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4924            | 50.24      | 325.087  | 48.74                  | 1.5                   | 74             | 23.74  | PASSED  |
| 7386.8          | 49.4       | 295.121  | 38.8                   | 10.6                  | 74             | 24.58  | PASSED  |

Average (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4924            | 37.67      | 76.472   | 36.17                  | 1.5                   | 54             | 16.31  | PASSED  |
| 7386.8          | 36.62      | 67.764   | 26.02                  | 10.6                  | 54             | 17.36  | PASSED  |

### 5.3.2 802.11g, BPSK modulation, 9 Mbps data rate.

Channel 1 / 2412 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4823.6          | 44.99      | 177.623  | 43.79                  | 1.2                   | 74             | 28.99  | PASSED  |
| 7234.7          | 49.26      | 290.402  | 39.16                  | 10.1                  | 95             | 45.97  | PASSED  |

Average (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4823.6          | 31.7       | 38.459   | 30.5                   | 1.2                   | 54             | 22.28  | PASSED  |
| 7234.7          | 36.11      | 63.9     | 26.01                  | 10.1                  | ---            | ---    | PASSED  |

## Channel 6 / 2437 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 49.305          | 35.15      | 57.214   | 55.05                  | -19.9                 | 40             | 4.85   | PASSED  |
| 49.389          | 35.11      | 56.951   | 55.11                  | -20                   | 40             | 4.89   | PASSED  |
| 49.413          | 35.11      | 56.951   | 55.11                  | -20                   | 40             | 4.89   | PASSED  |

Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4878.9          | 44.95      | 176.807  | 43.45                  | 1.5                   | 74             | 29.03  | PASSED  |
| 7319.7          | 49.92      | 313.329  | 39.42                  | 10.5                  | 74             | 24.06  | PASSED  |

Average (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4878.9          | 30.98      | 35.4     | 29.48                  | 1.5                   | 54             | 23     | PASSED  |
| 7319.7          | 36.56      | 67.298   | 26.06                  | 10.5                  | 54             | 17.42  | PASSED  |

## Channel 11 / 2462 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4926            | 45.72      | 193.197  | 44.22                  | 1.5                   | 74             | 28.26  | PASSED  |
| 7387.6          | 49.51      | 298.882  | 38.91                  | 10.6                  | 74             | 24.47  | PASSED  |

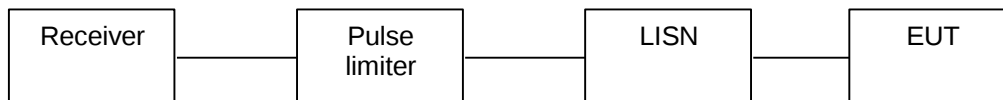
Average (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4926            | 32.15      | 40.504   | 30.65                  | 1.5                   | 54             | 21.83  | PASSED  |
| 7387.6          | 36.45      | 66.451   | 25.85                  | 10.6                  | 54             | 17.53  | PASSED  |

## 6. AC powerline conducted emissions (FCC §15.207, RSS-210 7.2.4)

|                                                 |                                                           |
|-------------------------------------------------|-----------------------------------------------------------|
| EUT with DUT number                             | RM-1090, DUT 54587                                        |
| Accessories with DUT numbers                    | AC-18E, DUT 54599 ; BL-L4A, DUT 54594 ; WH-108, DUT 54601 |
| Operation Voltage [V] / [Hz]                    | 115/60                                                    |
| Results                                         | PASSED                                                    |
| Remarks                                         | -                                                         |
| Temp [°C] / Humidity [%RH] / Air Pressure [kPa] | 24/50/101.7                                               |
| Date of measurements                            | 17-Sep-2014                                               |
| Measured by                                     | Dou Rubo                                                  |

### 6.1. Test Setup



### 6.2. Test method and limit

The measurement is made according to procedure KDB 558074 and IC standard RSS-GEN as follows:

The EUT is placed on a wooden table 80 cm above the reference groundplane.

The EUT is connected via LISN to a test power supply.

The measurement results are obtained as described below:

$$U [dB\mu V] = U_{RX} + A_{TOT}$$

Where  $U_{RX}$  is receiver reading and  $A_{TOT}$  is total correction factor including cable and pulse limiter attenuations.

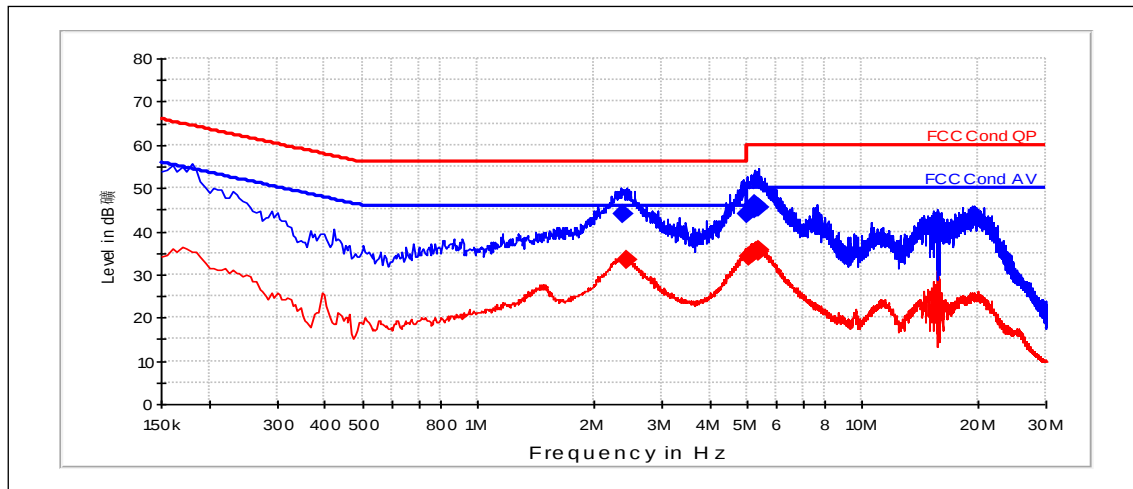
CISPR 22 Class B limits

| Frequency range [MHz] | Quasi peak limit [dBμV] | Average limit [dBμV] |
|-----------------------|-------------------------|----------------------|
| 0.15 - 0.5            | 66 - 56                 | 56 - 46              |
| 0.5 - 5               | 56                      | 46                   |
| 5 - 30                | 60                      | 50                   |

### 6.3. WLAN Test results

#### 6.3.1 802.11b mode, QPSK modulation, 11 Mbps data rate

Channel 6 / 2437 MHz



QuasiPeak (RBW: 9 kHz)

| Frequency [MHz] | U [dBμV] | Line | Result |
|-----------------|----------|------|--------|
| 2.385           | 43.96    | L1   | PASSED |
| 4.995           | 44.06    | L1   | PASSED |
| 5.275           | 46.38    | L1   | PASSED |
| 5.28            | 45.08    | L1   | PASSED |
| 5.29            | 45.58    | L1   | PASSED |
| 5.405           | 45.39    | L1   | PASSED |

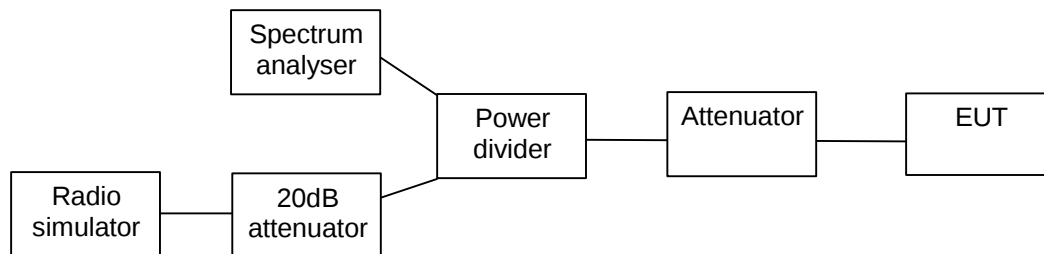
Average (RBW: 9 kHz)

| Frequency [MHz] | U [dBμV] | Line | Result |
|-----------------|----------|------|--------|
| 2.425           | 33.48    | L1   | PASSED |
| 5.085           | 34.14    | L1   | PASSED |
| 5.195           | 34.74    | L1   | PASSED |
| 5.37            | 35.45    | L1   | PASSED |
| 5.39            | 35.77    | L1   | PASSED |

## 7. 6dB(bandwidth) (FCC §15.247(a)(2), RSS-210 A8.2(a))

|                                                        |                                                           |
|--------------------------------------------------------|-----------------------------------------------------------|
| <b>EUT with DUT number</b>                             | RM-1090, DUT 54590                                        |
| <b>Accessories with DUT numbers</b>                    | BL-L4A, DUT 54592 ; AC-18E, DUT 54218 ; WH-108, DUT 54458 |
| <b>Operation Voltage [V] / [Hz]</b>                    | Nominal                                                   |
| <b>Results</b>                                         | PASSED                                                    |
| <b>Remarks</b>                                         | -                                                         |
| <b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b> | 23/51/101.8                                               |
| <b>Date of measurements</b>                            | 18-Sep-2014                                               |
| <b>Measured by</b>                                     | Dou Rubo                                                  |

### 7.1. Test Setup



### 7.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

Limits for 6 dB bandwidth measurements

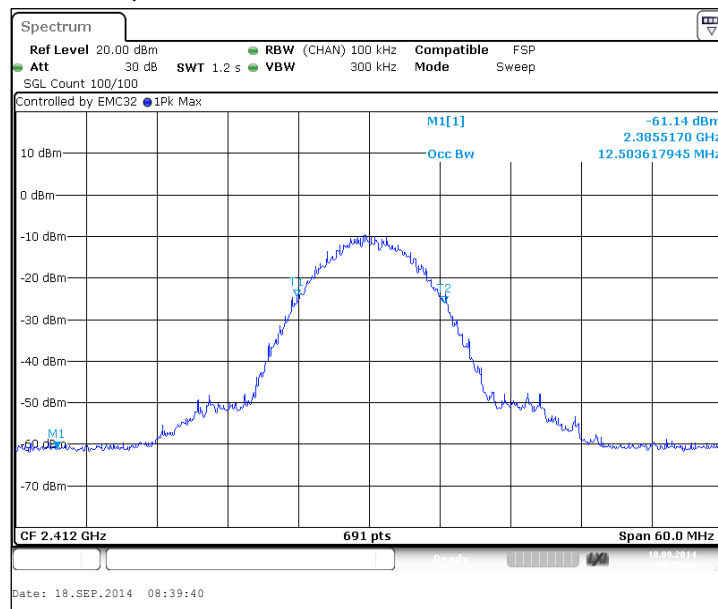
| Limit [kHz] |
|-------------|
| >= 500      |

### 7.3. WLAN Test results

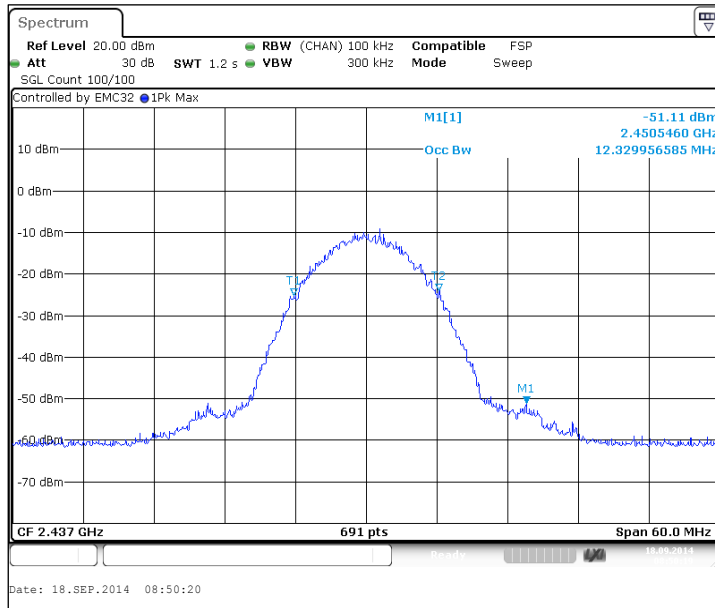
#### 7.3.1 802.11b mode, QPSK modulation, 11 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | 6 dB bandwidth [kHz] | Result |
|--------------------------------|----------------------|--------|
| 1 / 2412                       | 12503.6              | PASSED |
| 6 / 2437                       | 12330                | PASSED |
| 11 / 2462                      | 12156.3              | PASSED |

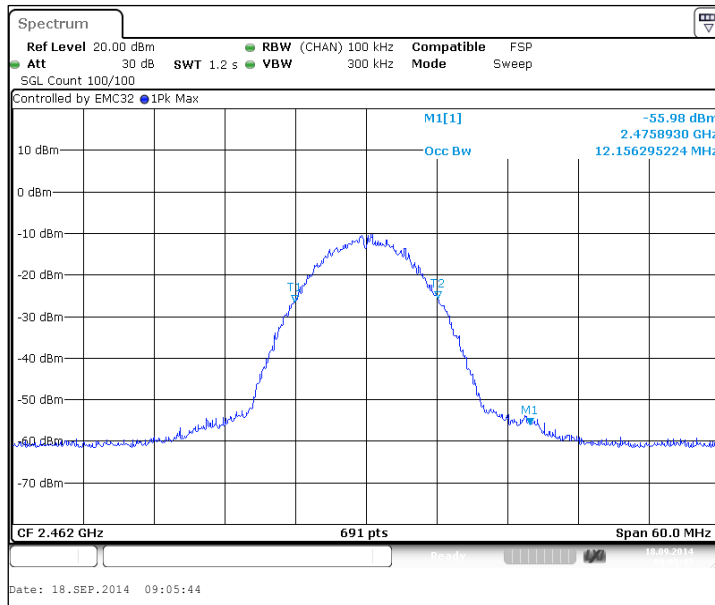
#### Channel 1 / 2412 MHz



## Channel 6 / 2437 MHz



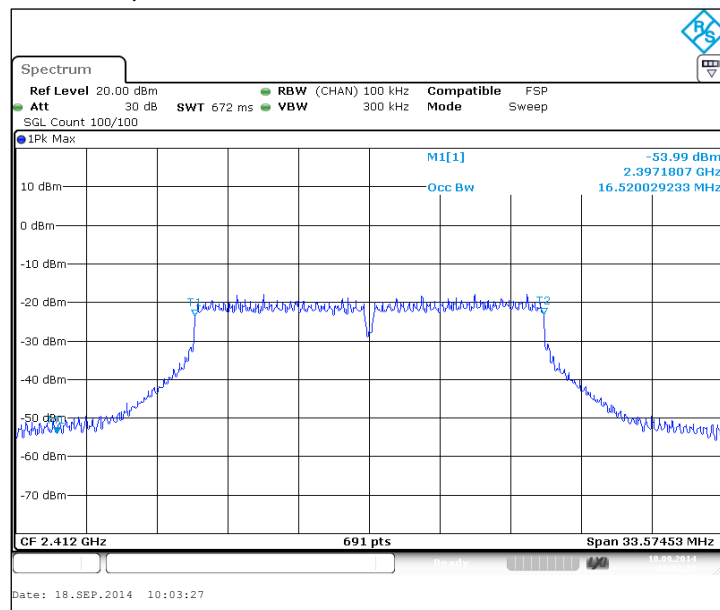
## Channel 11 / 2462 MHz



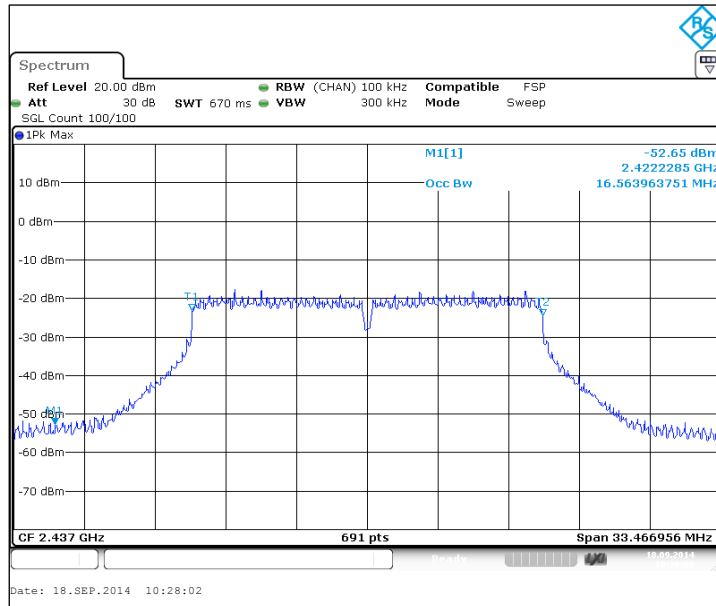
### 7.3.2 802.11g mode, BPSK modulation, 9 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | 6 dB bandwidth [kHz] | Result |
|--------------------------------|----------------------|--------|
| 1 / 2412                       | 16520                | PASSED |
| 6 / 2437                       | 16564                | PASSED |
| 11 / 2462                      | 16514.8              | PASSED |

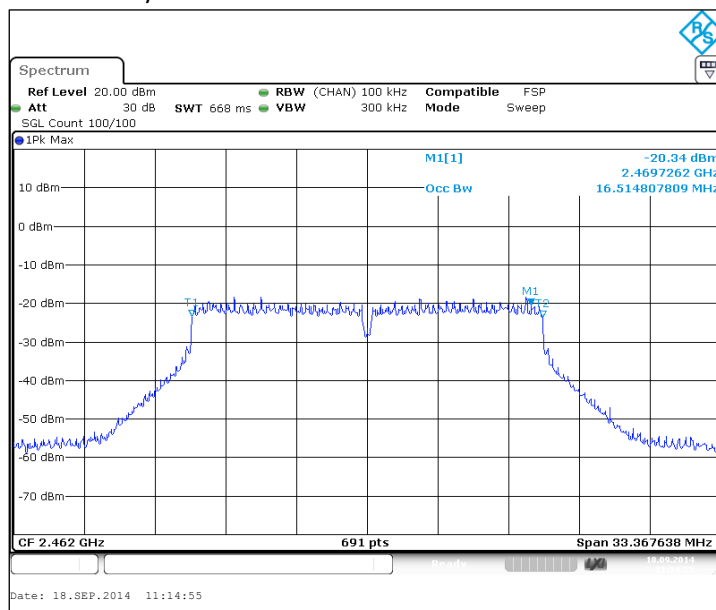
#### Channel 1 / 2412 MHz



## Channel 6 / 2437 MHz



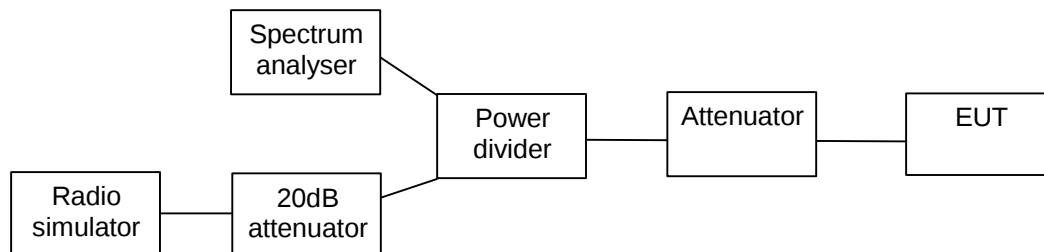
## Channel 11 / 2462 MHz



## 8. Power spectral density (FCC §15.247(e), RSS-210 A8.2(b))

|                                                 |                                                           |
|-------------------------------------------------|-----------------------------------------------------------|
| EUT with DUT number                             | RM-1090, DUT 54590                                        |
| Accessories with DUT numbers                    | BL-L4A, DUT 54592 ; AC-18E, DUT 54218 ; WH-108, DUT 54458 |
| Operation Voltage [V] / [Hz]                    | Nominal                                                   |
| Results                                         | PASSED                                                    |
| Remarks                                         | -                                                         |
| Temp [°C] / Humidity [%RH] / Air Pressure [kPa] | 23/51/101.8                                               |
| Date of measurements                            | 18-Sep-2014                                               |
| Measured by                                     | Dou Rubo                                                  |

### 8.1. Test Setup



### 8.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

Limits for power spectral density measurements

| Limit [dBm] @ 3 kHz |
|---------------------|
| <= 8                |

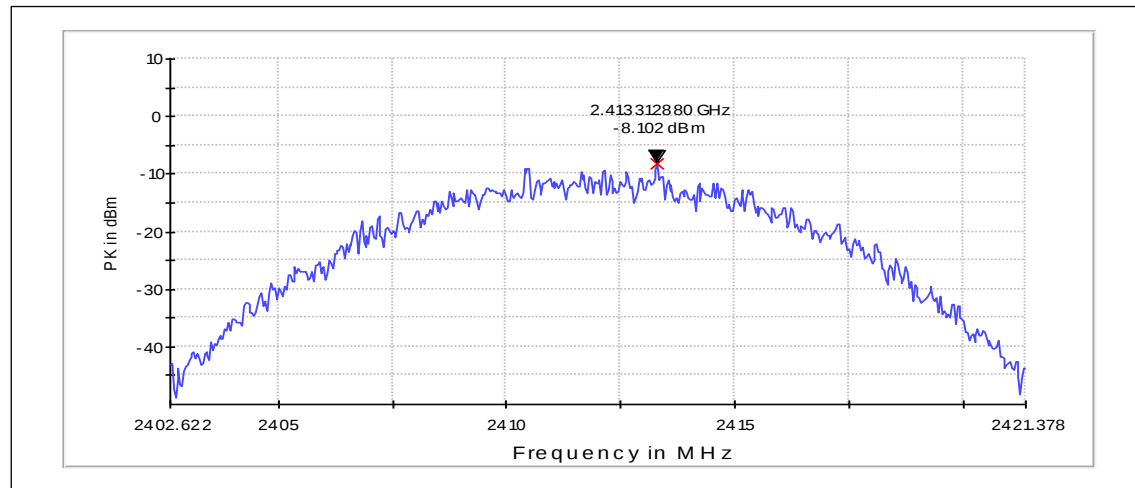
### 8.3. WLAN Test results

#### 8.3.1 802.11b mode, QPSK modulation, 11 Mbps data rate

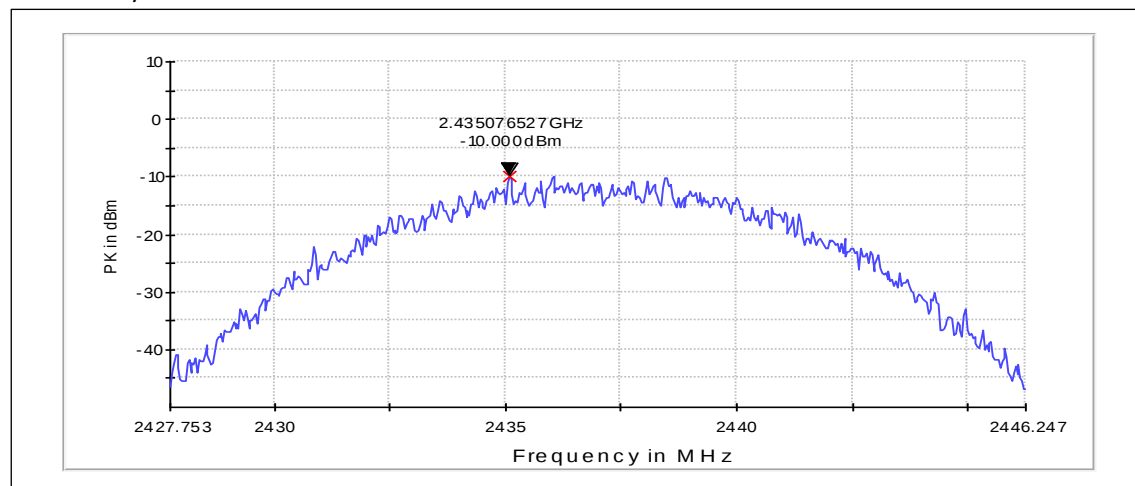
Peak (RBW: 3 kHz, VBW: 10 kHz, Max hold)

| Channel / $f_c$ [MHz] | P [dBm] | Result |
|-----------------------|---------|--------|
| 1 / 2412              | -8.1    | PASSED |
| 6 / 2437              | -10     | PASSED |
| 11 / 2462             | -9.52   | PASSED |

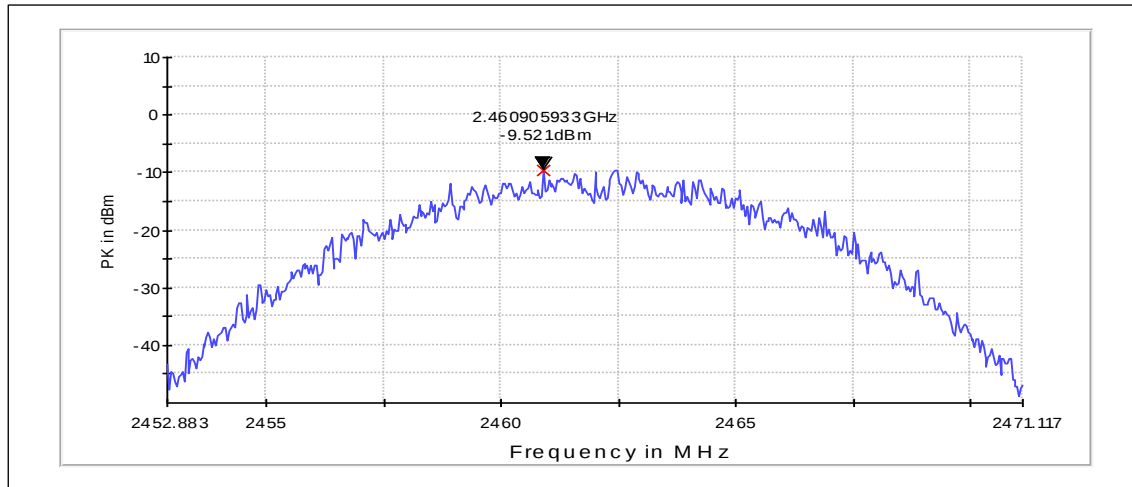
Channel 1 / 2412 MHz



Channel 6 / 2437 MHz



### Channel 11 / 2462 MHz

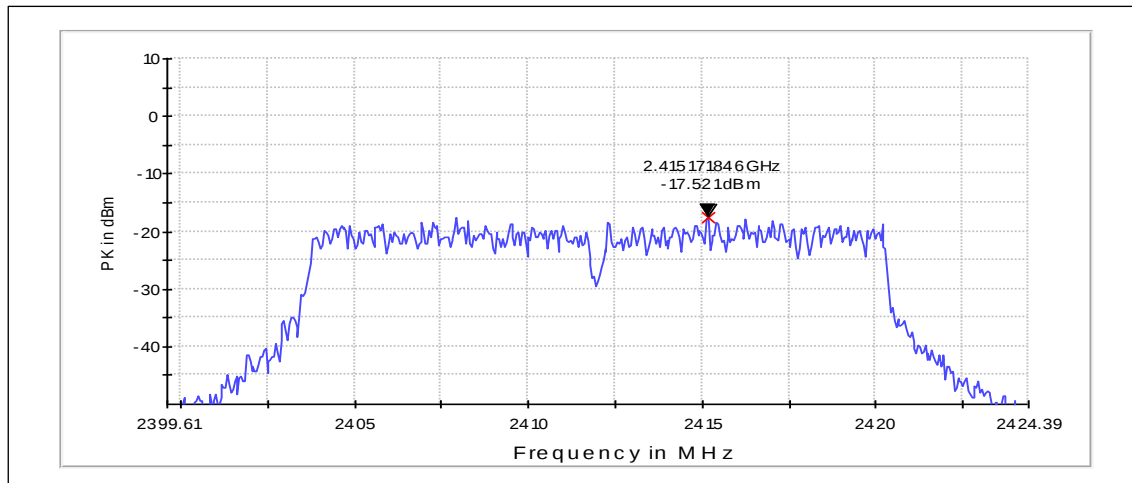


### 8.3.2 802.11g mode, BPSK modulation, 9 Mbps data rate

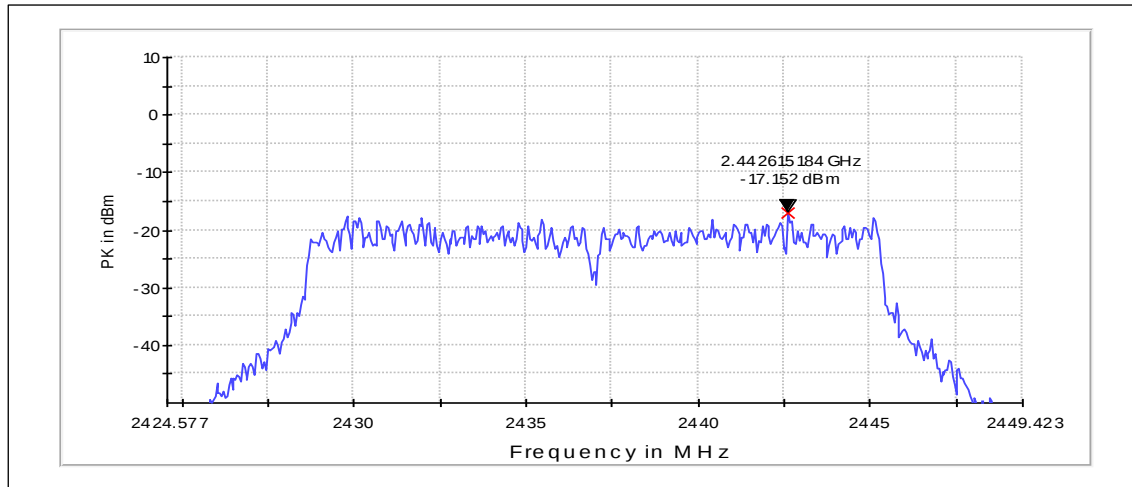
Peak (RBW: 3 kHz, VBW: 10 kHz, Max hold)

| Channel / $f_c$ [MHz] | P [dBm] | Result |
|-----------------------|---------|--------|
| 1 / 2412              | -17.52  | PASSED |
| 6 / 2437              | -17.15  | PASSED |
| 11 / 2462             | -16.82  | PASSED |

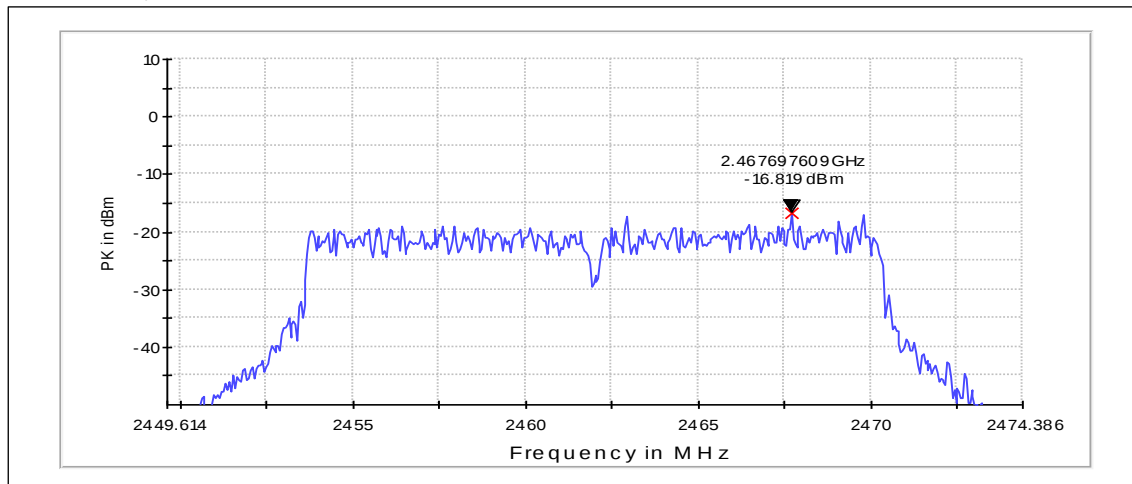
### Channel 1 / 2412 MHz



Channel 6 / 2437 MHz



Channel 11 / 2462 MHz



## 9. Test Equipment

### 9.1. Conducted measurements

| Eq. No      | Equipment                              | Type                | Manufacturer            | Used in            |
|-------------|----------------------------------------|---------------------|-------------------------|--------------------|
| -           | BT / WLAN Antenna                      | SPA 2400/75/9/0/V   | Huber-Suhner            | 15C, 15B           |
| -           | BT / WLAN Antenna                      | SPA 2400/75/9/0/V   | Huber-Suhner            | 15C, 15B           |
| -           | RF Emission Software                   | EMC32 Test Software | R&S                     | 22/24/27, 15C, 15B |
| BJPCHW0020  | DC Power supply                        | Hp6632B             | HP                      | 22/24/27, 15C      |
| BJPCPT0040  | Receiver                               | ESCS30              | R&S                     | 15C, 15B           |
| BJPCPT0069  | LISN 50 $\mu$ H                        | ESH3-Z5             | R&S                     | 15C, 15B           |
| BJPCTC0323  | Signal Generator                       | SMR 27              | R&S                     | 22/24/27, 15C, 15B |
| BJPCPT0073  | Signal Generator                       | SMR 20              | R&S                     | 22/24/27, 15C, 15B |
| BJPCPT0191  | Pulse Limiter                          | ESH3-Z2             | R&S                     | 15C, 15B           |
| BJPCPT0208  | UPS                                    | PULSAR RX10         | Merlin gerin            | 15C, 15B           |
| BJPCTC0001  | DIGITAL CAMERA                         | PC1015              | CANON                   | 15C, 15R           |
| BJPCTC0017  | Communication Tester                   | CMU200              | R&S                     | 22/24/27, 15C, 15B |
| BJPCTC0062  | AC Power source                        | 6812B               | HP                      | 15C, 15B           |
| BJPCTC0067  | Bluetooth Tester                       | CBT                 | R&S                     | 22/24/27, 15C      |
| BJPCTC0082  | Humidity and Temperature Sensor        | 175-H2              | Testo                   | 15B, 15C           |
| BJPCTC0088  | Absolut pressure meter                 | testo 511           | Testo                   | 22/24/27, 15B, 15C |
| BJPCTC0089  | Temperature Test chamber               | VT4002              | Votsch industrietechnik | 22/24/27, 15C      |
| BJPCTC0090  | FSP spectrum analyzer                  | FSP30               | R&S                     | 22/24/27, 15C      |
| BJPCTC0094  | GPIO-RS232 convertor                   | GPIO-RS232          | NI                      | 22/24/27, 15C      |
| BJPCTC0112  | Power Splitter                         | 11667B              | Agilent                 | 22/24/27, 15C      |
| BJPCTC0115  | Communication Tester                   | CMU200              | R&S                     | 22/24/27, 15B, 15C |
| BJPCTC0127  | AC Power source                        | SOYI-500VA          | SOYI                    | 15B, 15C           |
| BJPCTC0128  | Communication antenna                  | JXTXLB-10180        | A-INFOMW                | 22/24/27, 15B, 15C |
| BJPCTC0129  | Communication antenna                  | JXTXLB-10180        | A-INFOMW                | 22/24/27, 15B, 15C |
| BJPCTC0131  | Communication tester                   | CMW500              | R&S                     | 22/24/27, 15B, 15C |
| BJPCTC0136  | Communication antenna                  | JXTXLB-880-NF       | A-INFOMW                | 15B, 15C           |
| BJPCTC0306  | Power Splitter                         | 11667B              | Agilent                 | 22/24/27, 15C      |
| BJPCTC0305  | GPIO converter                         | GPIO-RS232          | NI                      | 22/24/27, 15C      |
| BJPCTC0304  | Spectrum Analyser                      | FSV30               | R&S                     | 22/24/27, 15C      |
| BJPCTC0309  | GPIO-RS232 convertor                   | RS232               | NI                      | 22/24/27, 15C      |
| BJPCTC0307  | Dual channel battery/charger simulator | 2306                | KEITHLEY                | 22/24/27, 15C      |
| BJPCTC0308  | Dual channel battery/charger simulator | 2306                | KEITHLEY                | 22/24/27, 15C      |
| BJPCTC0352  | Signal Generator 20GHz                 | MG3692B             | Anritsu                 | 22/24/27, 15C      |
| BJBDATC0169 | Temperature Test chamber               | VT4002              | Votsch                  | 22/24/27, 15C      |
| BJPCTC0334  | Communication Tester                   | CMU200              | R&S                     | 22/24/27, 15C, 15B |
| BJPCTC0342  | Communication Tester                   | CMU200              | R&S                     | 15B, 15C           |
| BJPCTC0343  | Power Splitter                         | 1167A               | Agilent                 | EN300328           |
| BJPCTC0344  | Power Splitter                         | 1167A               | Agilent                 | EN300328           |
| BJPCTC0345  | Power Splitter                         | 1167A               | Agilent                 | EN300328           |
| BJPCTC0346  | Attenuator                             | 8496A               | Agilent                 | EN300328           |
| BJPCTC0347  | Directional Coupler                    | 4226-20             | Narda                   | EN300328           |
| BJPCTC0348  | Signal generator                       | E4438C              | Agilent                 | EN300328           |
| BJPCTC0336  | Signal Generator                       | SMP22               | R&S                     | 22/24/27, 15C      |

### 9.2. Radiated measurements

| Eq. No     | Equipment            | Type                | Manufacturer | Used in            |
|------------|----------------------|---------------------|--------------|--------------------|
| -          | BT / WLAN Antenna    | SPA 2400/75/9/0/V   | Huber-Suhner | 15C, 15B           |
| -          | BT / WLAN Antenna    | SPA 2400/75/9/0/V   | Huber-Suhner | 15C, 15B           |
| -          | RF Emission Software | EMC32 Test Software | R&S          | 22/24/27, 15C, 15B |
| BJPCPT0072 | Receiver             | ESI B26             | R&S          | 22/24/27, 15C, 15B |

| Eq. No     | Equipment                       | Type                              | Manufacturer                        | Used in            |
|------------|---------------------------------|-----------------------------------|-------------------------------------|--------------------|
| BJPCPT0150 | High Pass Filter                | WHKS1200-10SS                     | Wainwright                          | 22/24/27, 15C, 15B |
| BJPCPT0151 | Band Reject Filter              | WRCD1880/2000-0.2/40-5SSK         | Wainwright                          | 24, 15B            |
| BJPCPT0154 | Band Reject Filter              | WRCT2402/2480-2400/2483.5-30-20SS | Wainwright                          | 15C, 15B           |
| BJPCPT0166 | Antenna                         | VUBA 9117                         | Swarzbeck                           | 22/24/27           |
| BJPCPT0208 | UPS                             | PULSAR RX10                       | Merlin gerin                        | 15C, 15B           |
| BJPCTC0001 | DIGITAL CAMERA                  | PC1015                            | CANON                               | 15C, 15R           |
| BJPCTC0007 | Antenna                         | HL562                             | R&S                                 | 22/24/27, 15C, 15B |
| BJPCTC0029 | Antenna                         | HF906                             | R&S                                 | 22/24/27, 15C, 15B |
| BJPCTC0034 | Band Reject Filter              | WRCT 800/880-0.2/40-5SSK          | Wainwright                          | 22, 15B            |
| BJPCTC0049 | Preamplifier                    | Blma 0118-1A-Bt                   | Bonn                                | 22/24/27, 15C, 15B |
| BJPCTC0055 | Communication Tester            | CMU200                            | R&S                                 | 22/24/27, 15C, 15B |
| BJPCTC0058 | Bluetooth Tester                | CBT                               | R&S                                 | 15C, 15B           |
| BJPCTC0062 | AC Power source                 | 6812B                             | Hp                                  | 15C, 15B           |
| BJPCTC0064 | Band Reject Filter              | WRCG1877/1883-1870/1890-40/6SS    | Wainwright                          | 24, 15B            |
| BJPCTC0071 | Multi-Device Controller         | 2090                              | EMCO                                | 22/24/27, 15C, 15B |
| BJPCTC0072 | Anechoic Chamber                | 3 m Semi / Full Anechoic Chamber  | ETS                                 | 22/24/27, 15C, 15B |
| BJPCTC0073 | MAST                            | Model-TR/POL                      | ETS                                 | 22/24/27, 15C, 15B |
| BJPCTC0074 | MAST                            | Model 2070-2                      | ETS                                 | 22/24/27, 15C, 15B |
| BJPCTC0075 | Turntable                       | Model 2188                        | ETS-EMCO                            | 22/24/27, 15C, 15B |
| BJPCTC0081 | Humidity and Temperature Sensor | 175-H2                            | Testo                               | 15B, 15C           |
| BJPCTC0088 | Absolut pressure meter          | testo 511                         | Testo                               | 22/24/27, 15B, 15C |
| BJPCTC0113 | Receiver                        | ESI B26                           | R&S                                 | 22/24/27, 15B, 15C |
| BJPCTC0115 | Communication Tester            | CMU200                            | R&S                                 | 22/24/27, 15B, 15C |
| BJPCTC0124 | Attenuator                      | SA18N200W-40                      | Fairview Microwave                  | -                  |
| BJPCTC0125 | Loop Antenna                    | HFH2-Z2                           | R&S                                 | 15C                |
| BJPCTC0126 | Tripod                          | FHU-Z                             | R&S                                 | 15C                |
| BJPCTC0128 | Communication antenna           | JXTXLB-10180                      | A-INFOMW                            | 22/24/27 15B 15C   |
| BJPCTC0129 | Communication antenna           | JXTXLB-10180                      | A-INFOMW                            | 22/24/27 15B 15C   |
| BJPCTC0131 | Communication tester            | CMW500                            | R&S                                 | 22/24/27 15B 15C   |
| BJPCTC0133 | Open Swith and contril unit     | OSP 150                           | R&S                                 | 15B, 15C           |
| BJPCTC0134 | Open Swith and contril unit     | OSP 150                           | R&S                                 | 15B, 15C           |
| BJPCTC0135 | Open Swith and contril unit     | OSP 130                           | R&S                                 | 15B, 15C           |
| BJPCTC0136 | Communication antenna           | JXTXLB-880-NF                     | A-INFOMW                            | 15B 15C            |
| BJPCTC0171 | Broad-band Horn Antenna         | BBHA9120 D                        | SCHWARZBECK<br>MESS -<br>ELEKTRONIK | 22/24/27, 15C, 15B |
| BJPCTC0310 | Horn Antenna                    | QSH20SMA                          | Q-par                               | 22/24/27, 15C, 15B |
| BJPCTC0311 | Horn Antenna                    | QSH18SMA                          | Q-par                               | 22/24/27, 15C, 15B |
| BJPCTC0312 | Relay Switch Unit               | -                                 | -                                   | 22/24/27, 15C, 15B |
| BJPCTC0313 | High Pass Filter                | WHKX1.0/15G-12SS                  | Wainwright                          | 22/24/27, 15C, 15B |
| BJPCTC0314 | High Pass Filter                | WHKX8.0/18G-88SS                  | Wainwright                          | 22/24/27, 15C, 15B |
| BJPCTC0315 | High Pass Filter                | WHKX3.0/18G-12SS                  | Wainwright                          | 22/24/27, 15C, 15B |
| BJPCTC0316 | Preamplifier                    | AMT-5F-18002550-25-108            | -                                   | 22/24/27, 15C, 15B |
| BJPCTC0317 | Preamplifier                    | AMF-6D-02001800-29-20P            | -                                   | 22/24/27, 15C, 15B |
| BJPCTC0350 | Preamplifier                    | AMF-4D-01000800-30-29P            | Miteq                               | 22/24/27, 15C, 15B |
| BJPCTC0324 | Preamplifier                    | AFS4-00100300-20-23P-6            | Miteq                               | 22/24/27, 15C, 15B |
| BJPCTC0329 | Relay Switch Unit               | -                                 | -                                   | 22/24/27, 15C, 15B |
| BJPCTC0334 | Communication Tester            | CMU200                            | R&S                                 | 22/24/27, 15C, 15B |
| BJPCTC0342 | Communication Tester            | CMU200                            | R&S                                 | 15B, 15C           |

| Eq. No     | Equipment    | Type                   | Manufacturer | Used in            |
|------------|--------------|------------------------|--------------|--------------------|
| BJPCTC0349 | Preamplifier | AMF-4D-01000800-30-79P | Miteg        | 22/24/27, 15C, 15B |
| BJPCTC0350 | Preamplifier | AMF-4D-01000800-30-29P | Miteg        | 22/24/27, 15C, 15B |
| BJPCTC0351 | Preamplifier | AFS4-00101800          | -            | 22/24/27, 15C, 15B |