

## FCC Part 15E Compliance Test Report

|                                                        |                                                                                                                                                                                                                                                          |                            |                                                                                                                                |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Test Report no.:                                       | FCC15E_RM-984_01.docx                                                                                                                                                                                                                                    | Date of Report:            | 16-Jul-2014                                                                                                                    |
| Number of pages:                                       | 24                                                                                                                                                                                                                                                       | Customer's Contact person: | Victoria Abadilla                                                                                                              |
| Testing laboratory:                                    | TCC Microsoft Salo Laboratory<br>P.O.Box(86)<br>Joensuunkatu 7E<br>FIN-24101 SALO, FINLAND<br>Tel. +358 (0) 7180 08000<br>Fax. +358 71 80 44122                                                                                                          | Customer:                  | Microsoft San Diego<br>16620 West Bernardo Drive<br>San Diego, CA 92127<br>USA<br>Tel. +1 858 831 5000<br>Fax. +1 858 385 1598 |
| FCC listing no.:                                       | 533467                                                                                                                                                                                                                                                   |                            |                                                                                                                                |
| IC recognition no.:                                    | 661V-1                                                                                                                                                                                                                                                   |                            |                                                                                                                                |
| Tested devices/<br>accessories:                        | Phone RM-984 / Battery BV-L4A / Headset WH-208 / USB Cable CA-190CD / AC-Carger AC-60E / Dummy Battery SD-240R                                                                                                                                           |                            |                                                                                                                                |
| FCC ID:                                                | QMNRM-984                                                                                                                                                                                                                                                | IC:                        | -                                                                                                                              |
| Supplement reports:                                    | -                                                                                                                                                                                                                                                        |                            |                                                                                                                                |
| Testing has been<br>carried out in<br>accordance with: | CFR 47, FCC rules Part 15 Subpart E, ANSI C63.4 (2003), DTS procedures KDB 789033 D01, IC standards. Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".        |                            |                                                                                                                                |
| Documentation:                                         | 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. |                            |                                                                                                                                |
| Test Results:                                          | The EUT complies with the requirements in respect of all parameters subject to the test. The test results relate only to devices specified in this document                                                                                              |                            |                                                                                                                                |
| Date and signature<br>for the contents:                |                                                                                                                                                                                                                                                          |                            |                                                                                                                                |

**Tomi Lipponen, Specialist, EMC and Energy**

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

|                               |                                                     |
|-------------------------------|-----------------------------------------------------|
| Date of receipt               | 19-Jun-2014                                         |
| Testing completed             | 26-Jun-2014                                         |
| The customer's contact person | Victoria Abadilla                                   |
| Test Plan referred to         | T:\Projects\RM-984\TestPlan\RS_testplan_RM-984.xlsm |
| Notes                         | -                                                   |
| Document name                 | T:\Projects\RM-984\EMC\FCC15E_RM-984_01.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-984   | 0044024782224038059V6T6     | 0200 | -  | 02028.00000.14224.06001 | 18414 |
| Phone         | RM-984   | 0044024782225858059V6T6     | 0200 | -  | 02028.00000.14224.06001 | 18423 |
| Battery       | BV-L4A   | 4181574243S1140000180670727 | v3   | -  | -                       | 18424 |
| USB Cable     | CA-190CD | -                           | -    | -  | -                       | 16183 |
| AC-Carger     | AC-60E   | 409049326462030555380675677 | -    | -  | -                       | 17841 |
| Dummy Battery | SD-240R  | -                           | V1.0 | -  | -                       | 18415 |
| Headset       | WH-208   | -                           | -    | -  | -                       | 18416 |
| Headset       | WH-208   | 3342R31                     | -    | -  | -                       | 18425 |

### 1.2. Summary of Test Results

#### 5 GHz RLAN:

| Section in CFR 47 | Section in RSS-GEN or RSS-210 | Name of the test                     | Result |
|-------------------|-------------------------------|--------------------------------------|--------|
| 15.407(a)         | A9.2                          | Conducted peak output power          | PASSED |
| 15.407(b)         | A9.2                          | Band edge compliance of RF emissions | NP     |
| 15.407(a)(6)      | A9.2                          | Peak excursion                       | NP     |
| 15.407(b)         | A9.2                          | Spurious radiated emissions          | NP     |
| 15.407(b)(6)      | A9.2                          | AC powerline conducted emissions     | PASSED |
|                   | A9.2                          | 26dB(bandwidth)                      | NP     |
| 15.407(a)         | A9.2                          | Power spectral density               | NP     |

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.

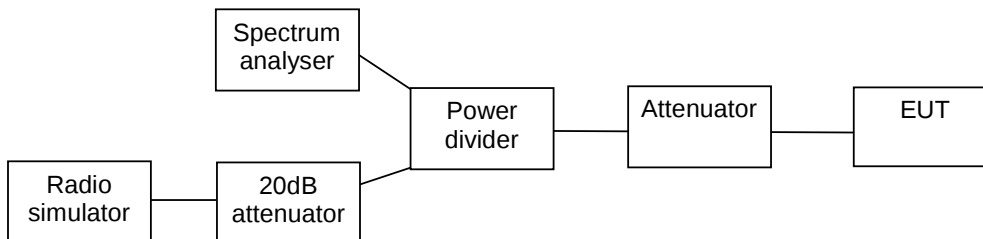
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## 2. Conducted peak output power (FCC §15.407(a), RSS-210 A9.2)

|                                                 |                                        |
|-------------------------------------------------|----------------------------------------|
| EUT with DUT number                             | RM-984, DUT 18414                      |
| Accessories with DUT numbers                    | SD-240R, DUT 18415 ; WH-208, DUT 18416 |
| Operation Voltage [V] / [Hz]                    | Nominal                                |
| Results                                         | PASSED                                 |
| Remarks                                         | -                                      |
| Temp [°C] / Humidity [%RH] / Air Pressure [kPa] | 21 / 50 / 101                          |
| Date of measurements                            | 23-Jun-2014                            |
| Measured by                                     | Tomi Lipponen                          |

### 2.1. Test Setup



### 2.2. Test method and limit

The measurement is made according to Public Notice KDB 789033 D01 and IC standard RSS-210.

Limits for Maximum conducted output power measurements

| Frequency range [MHz] | Limit [mW] / (dBm) | Limit [dBm] | Limit [dBm] for B=20 MHz |
|-----------------------|--------------------|-------------|--------------------------|
| 5150-5250             | 50 (17)            | 4+10 log B  | 17                       |
| 5250-5350             | 250 (24)           | 11+10 log B | 24                       |
| 5470-5725             | 250 (24)           | 11+10 log B | 24                       |
| 5725-5825             | 1000 (30)          | 17+10 log B | 30                       |

### 2.3. Power results summary

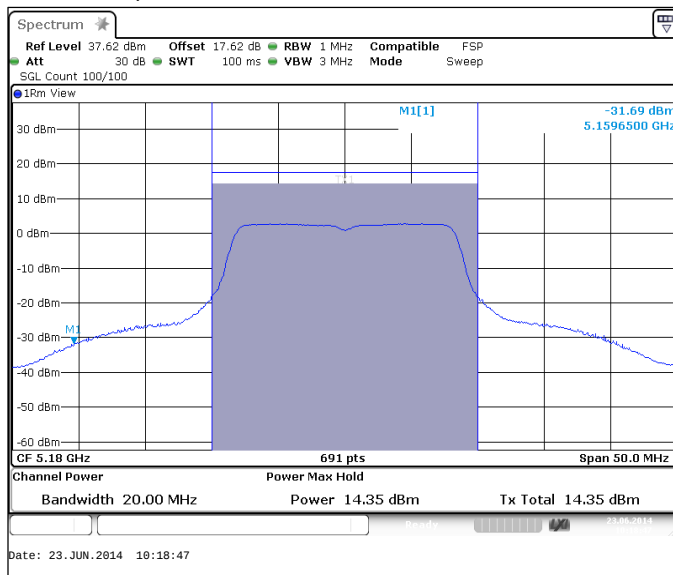
| Channel / fC [MHz] | Mode     | Modulation | Data rate          | Level [dBm] |
|--------------------|----------|------------|--------------------|-------------|
| 36 / 5180          | 802.11a  | BPSK       | 6 Mbps             | 14.35       |
| 36 / 5180          | 802.11a  | BPSK       | 9 Mbps             | 14.04       |
| 36 / 5180          | 802.11a  | QPSK       | 12 Mbps            | 14.05       |
| 36 / 5180          | 802.11a  | QPSK       | 18 Mbps            | 14.04       |
| 36 / 5180          | 802.11a  | 16QAM      | 24 Mbps            | 13.71       |
| 36 / 5180          | 802.11a  | 16QAM      | 36 Mbps            | 12.72       |
| 36 / 5180          | 802.11a  | 64QAM      | 48 Mbps            | 11.5        |
| 36 / 5180          | 802.11a  | 64QAM      | 54 Mbps            | 10.48       |
| 36 / 5180          | 802.11n  | BPSK       | 6.5 / 7.25 Mbps    | 14.51       |
| 36 / 5180          | 802.11n  | QPSK       | 13.0 / 14.4 Mbps   | 14.2        |
| 36 / 5180          | 802.11n  | QPSK       | 19.5 / 21.7 Mbps   | 14.24       |
| 36 / 5180          | 802.11n  | 16QAM      | 26.0 / 28.9 Mbps   | 13.75       |
| 36 / 5180          | 802.11n  | 16QAM      | 39.0 / 43.3 Mbps   | 12.78       |
| 36 / 5180          | 802.11n  | 64QAM      | 52.0 / 57.8 Mbps   | 12.75       |
| 36 / 5180          | 802.11n  | 64QAM      | 58.5 / 65.0 Mbps   | 11.51       |
| 36 / 5180          | 802.11n  | 64QAM      | 65.0 / 72.2 Mbps   | 10.45       |
| 36 / 5180          | 802.11ac | 256QAM     | 78.0 / 86.7 Mbps   | 7.57        |
| 36+40 / 5190       | 802.11n  | BPSK       | 13.5 / 15.0 Mbps   | 13.36       |
| 36+40 / 5190       | 802.11n  | QPSK       | 27.0 / 30.0 Mbps   | 13.41       |
| 36+40 / 5190       | 802.11n  | QPSK       | 40.5 / 45.0 Mbps   | 13.39       |
| 36+40 / 5190       | 802.11n  | 16QAM      | 54.0 / 60.0 Mbps   | 12.49       |
| 36+40 / 5190       | 802.11n  | 16QAM      | 81.0 / 90.0 Mbps   | 11.02       |
| 36+40 / 5190       | 802.11n  | 64QAM      | 108.0 / 120.0 Mbps | 10.94       |
| 36+40 / 5190       | 802.11n  | 64QAM      | 121.5 / 135.0 Mbps | 10.01       |
| 36+40 / 5190       | 802.11n  | 64QAM      | 135.0 / 150.0 Mbps | 9.9         |
| 36+40 / 5190       | 802.11ac | 256QAM     | 162.0 / 180.0 Mbps | 7.06        |
| 36+40 / 5190       | 802.11ac | 256QAM     | 180.0 / 200.0 Mbps | 6.16        |

## 2.4. 5 GHz RLAN Test results

### 2.4.1 802.11a mode, BPSK modulation, 6 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 14.35   | 27.227 | PASSED |

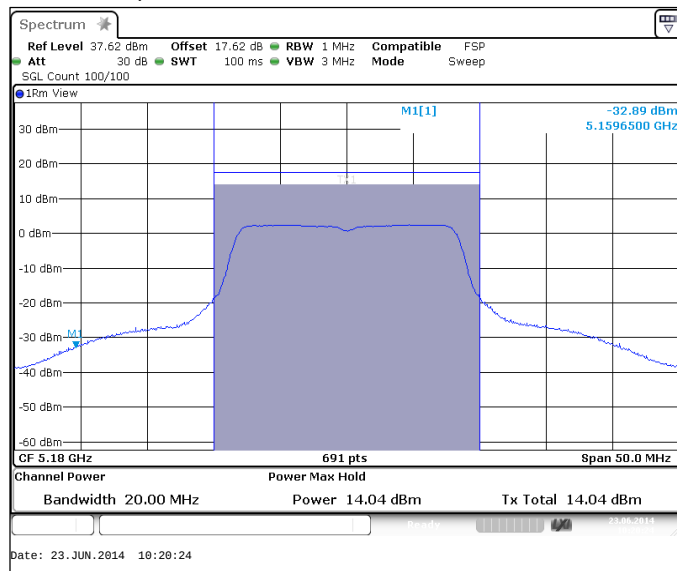
Channel 36 / 5180MHz



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

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 14.04   | 25.351 | PASSED |

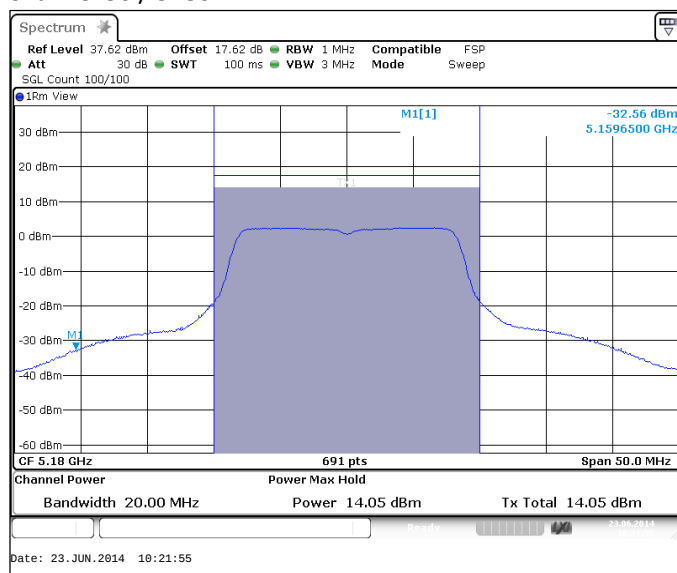
Channel 36 / 5180MHz



## 2.4.3 802.11a mode, QPSK modulation, 12 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 14.05   | 25.41  | PASSED |

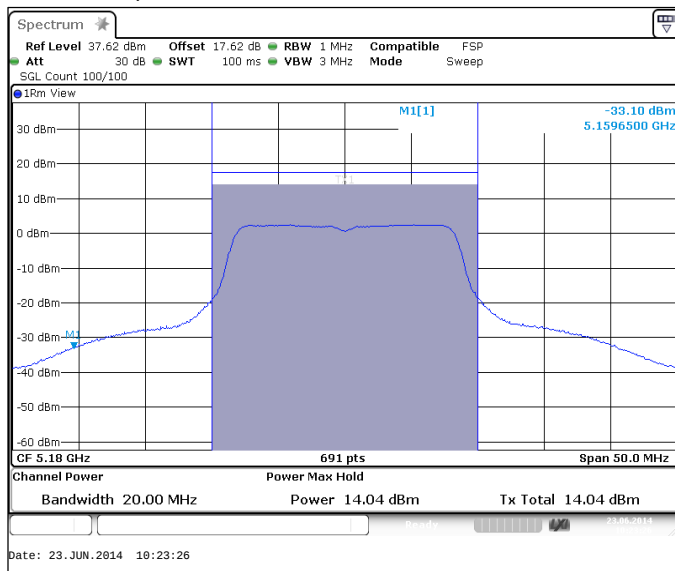
Channel 36 / 5180MHz



#### 2.4.4 802.11a mode, QPSK modulation, 18 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 14.04   | 25.351 | PASSED |

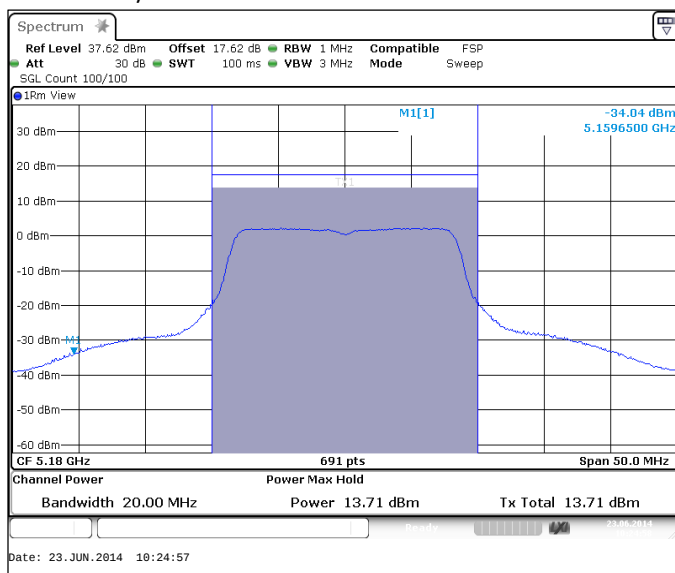
Channel 36 / 5180MHz



#### 2.4.5 802.11a mode, 16QAM modulation, 24 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 13.71   | 23.496 | PASSED |

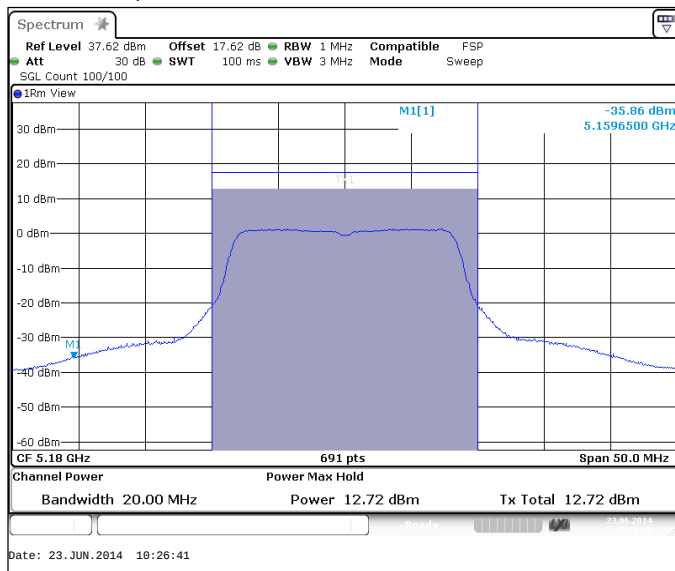
Channel 36 / 5180MHz



## 2.4.6 802.11a mode, 16QAM modulation, 36 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 12.72   | 18.707 | PASSED |

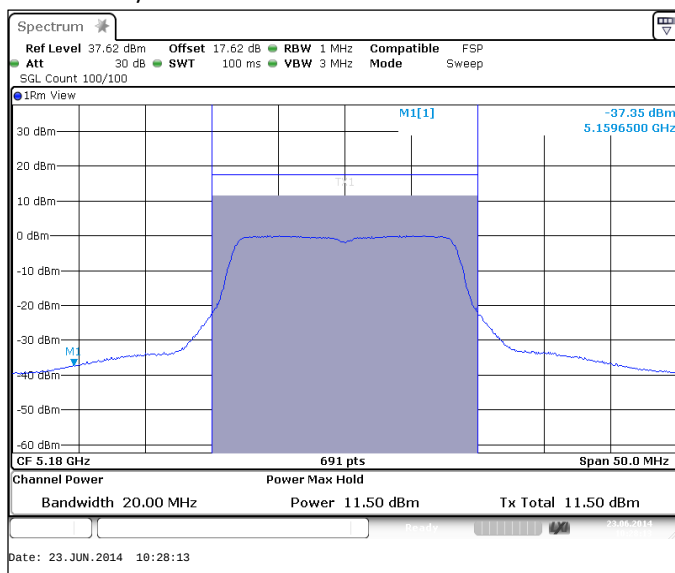
Channel 36 / 5180MHz



## 2.4.7 802.11a mode, 64QAM modulation, 48 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 11.5    | 14.125 | PASSED |

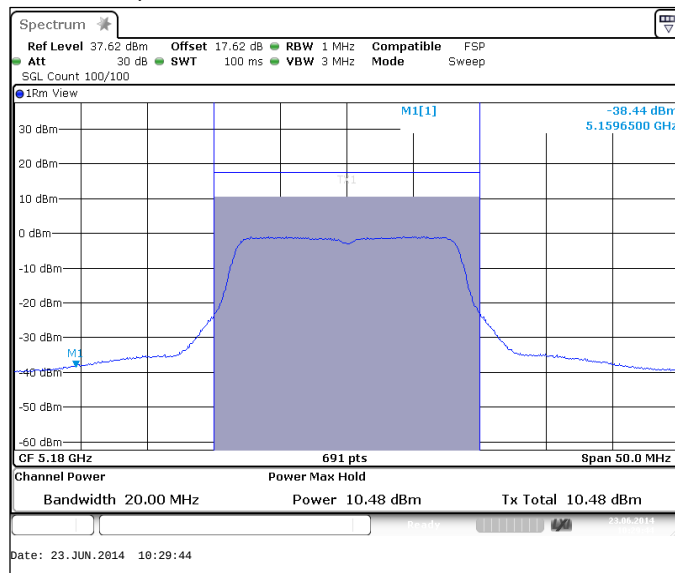
Channel 36 / 5180MHz



## 2.4.8 802.11a mode, 64QAM modulation, 54 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 10.48   | 11.169 | PASSED |

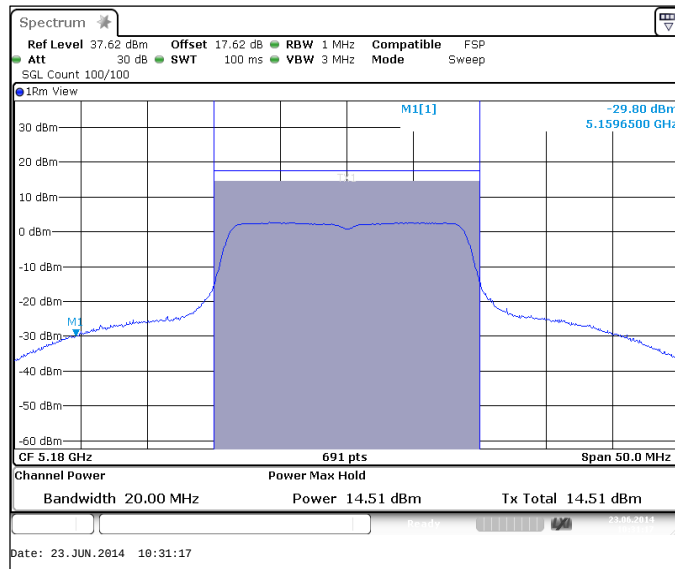
### Channel 36 / 5180MHz



## 2.4.9 802.11n mode, BPSK modulation, 6.5 / 7.25 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 14.51   | 28.249 | PASSED |

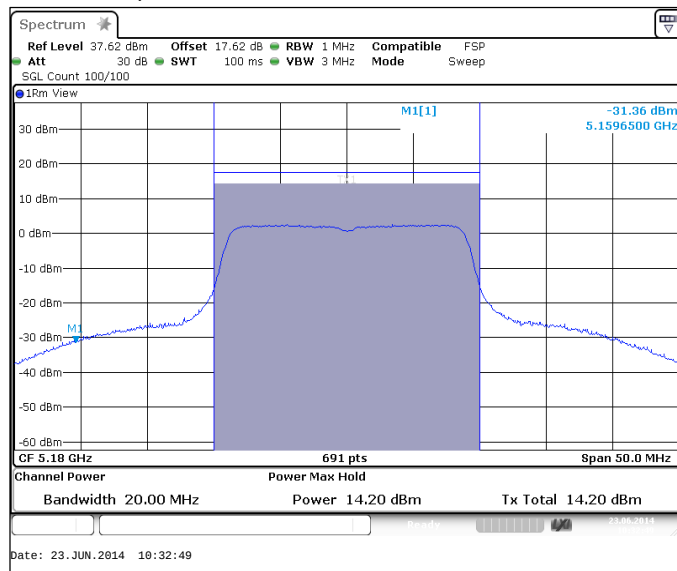
### Channel 36 / 5180MHz



## 2.4.10 802.11n mode, QPSK modulation, 13.0 / 14.4 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 14.2    | 26.303 | PASSED |

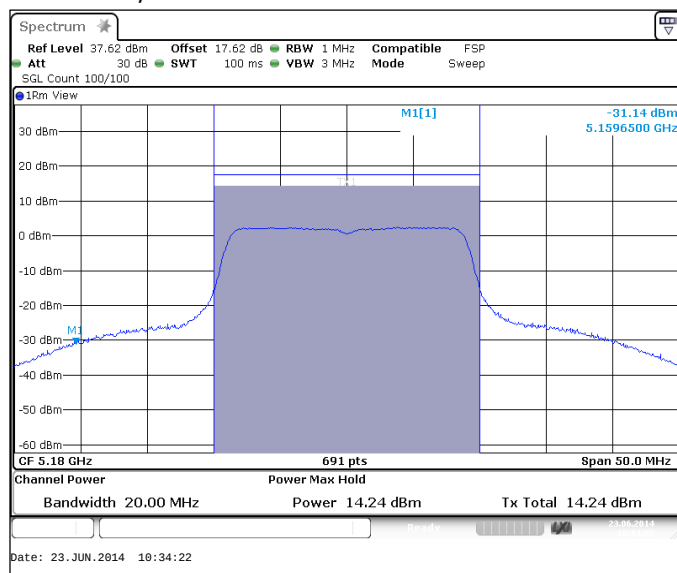
### Channel 36 / 5180MHz



## 2.4.11 802.11n mode, QPSK modulation, 19.5 / 21.7 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 14.24   | 26.546 | PASSED |

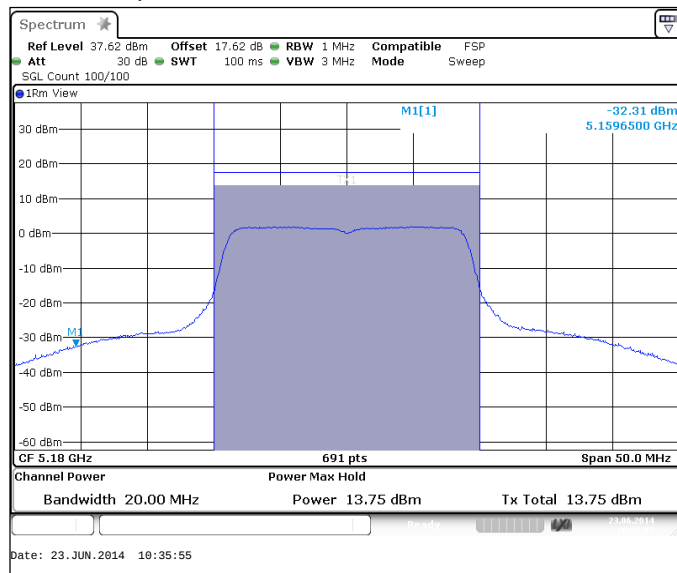
### Channel 36 / 5180MHz



## 2.4.12 802.11n mode, 16QAM modulation, 26.0 / 28.9 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 13.75   | 23.714 | PASSED |

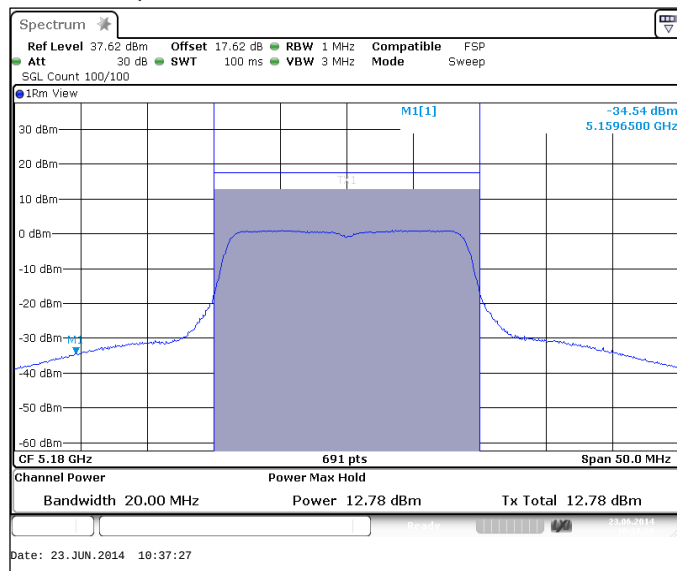
### Channel 36 / 5180MHz



## 2.4.13 802.11n mode, 16QAM modulation, 39.0 / 43.3 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 12.78   | 18.967 | PASSED |

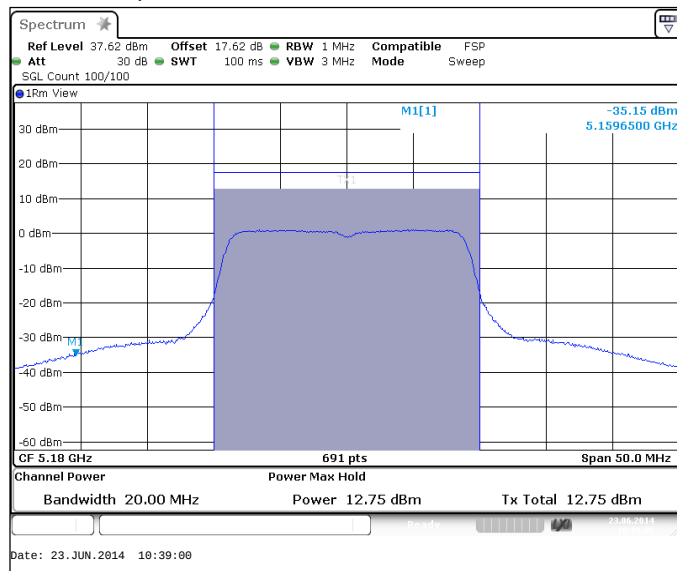
### Channel 36 / 5180MHz



## 2.4.14 802.11n mode, 64QAM modulation, 52.0 / 57.8 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 12.75   | 18.836 | PASSED |

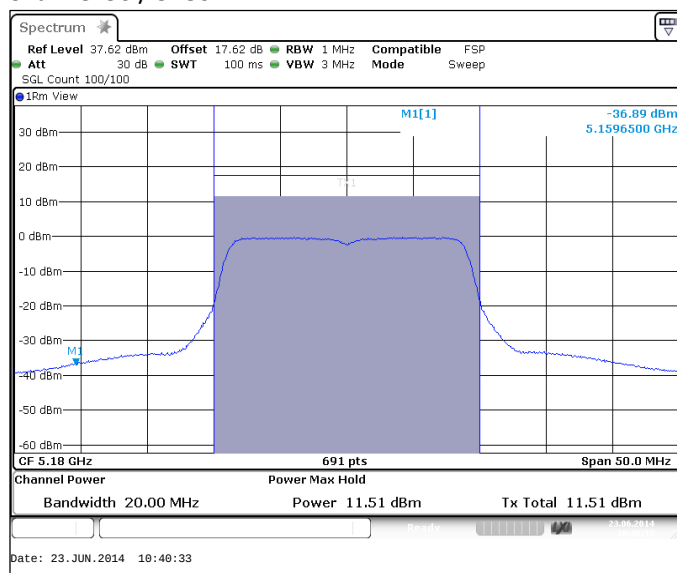
### Channel 36 / 5180MHz



## 2.4.15 802.11n mode, 64QAM modulation, 58.5 / 65.0 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 11.51   | 14.158 | PASSED |

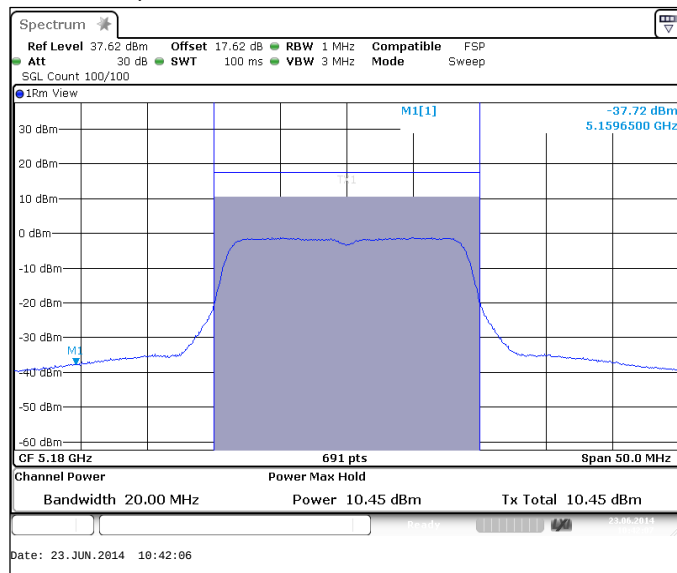
### Channel 36 / 5180MHz



## 2.4.16 802.11n mode, 64QAM modulation, 65.0 / 72.2 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 10.45   | 11.092 | PASSED |

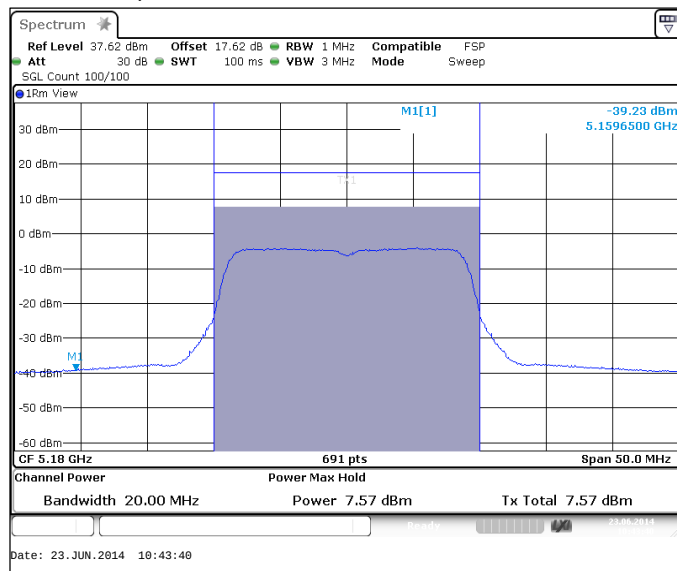
### Channel 36 / 5180MHz



## 2.4.17 802.11ac mode, 256QAM modulation, 78.0 / 86.7 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36 / 5180                      | 7.57    | 5.715  | PASSED |

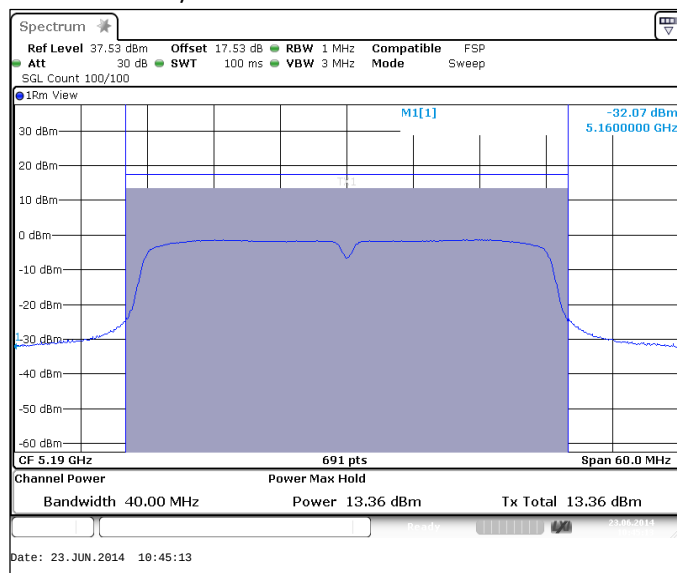
### Channel 36 / 5180MHz



## 2.4.18 802.11n mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36+40 / 5190                   | 13.36   | 21.677 | PASSED |

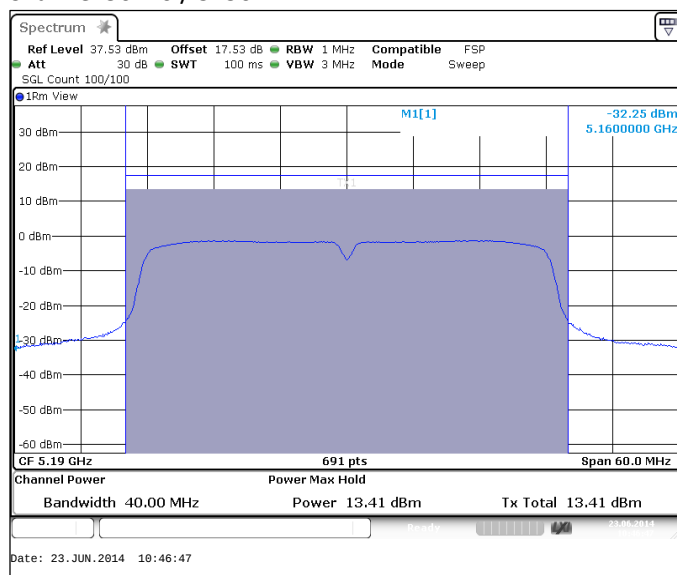
### Channel 36+40 / 5190MHz



## 2.4.19 802.11n mode, QPSK modulation, 27.0 / 30.0 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36+40 / 5190                   | 13.41   | 21.928 | PASSED |

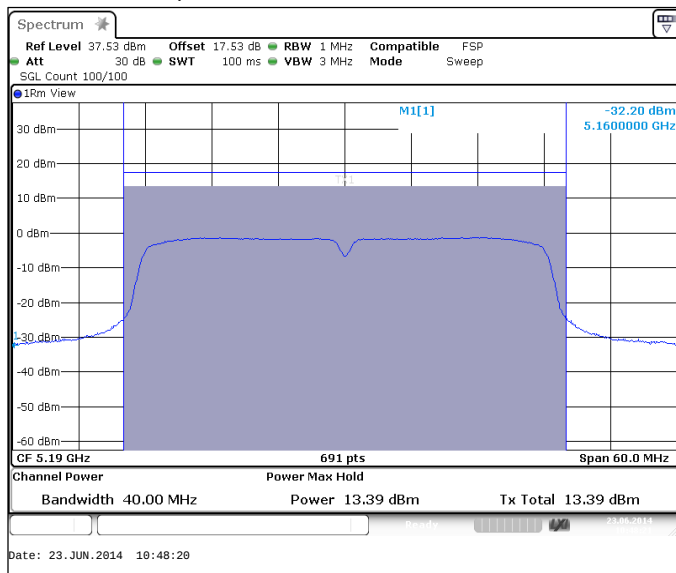
### Channel 36+40 / 5190MHz



## 2.4.20 802.11n mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36+40 / 5190                   | 13.39   | 21.827 | PASSED |

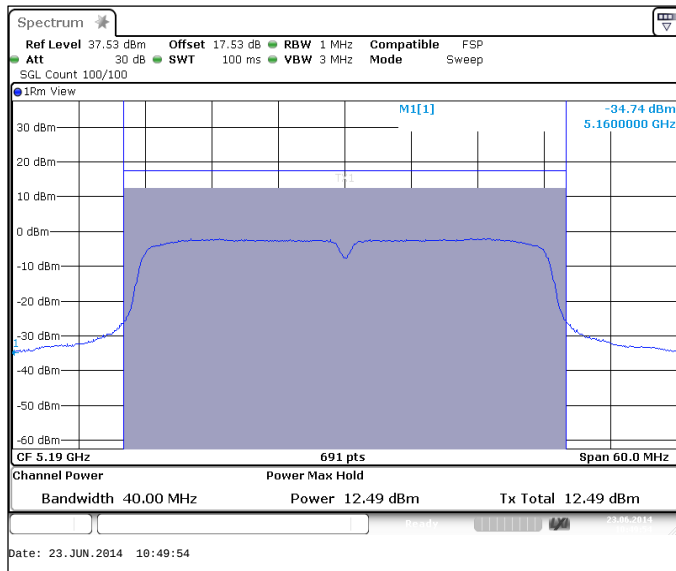
### Channel 36+40 / 5190MHz



## 2.4.21 802.11n mode, 16QAM modulation, 54.0 / 60.0 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36+40 / 5190                   | 12.49   | 17.742 | PASSED |

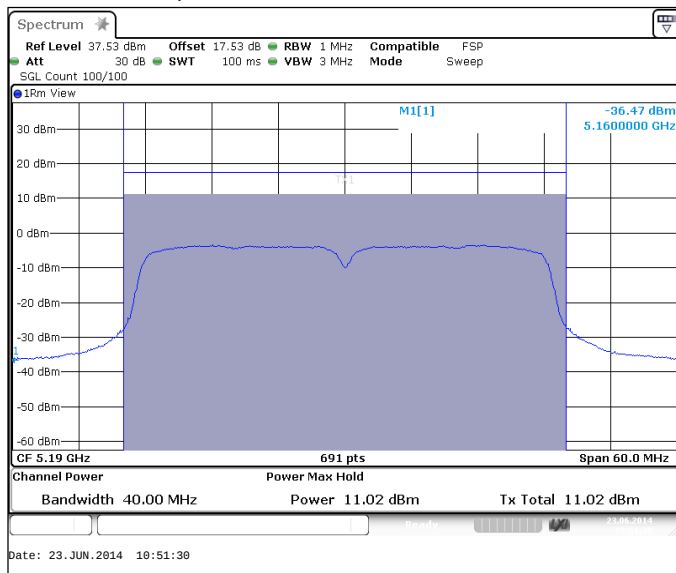
### Channel 36+40 / 5190MHz



## 2.4.22 802.11n mode, 16QAM modulation, 81.0 / 90.0 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36+40 / 5190                   | 11.02   | 12.647 | PASSED |

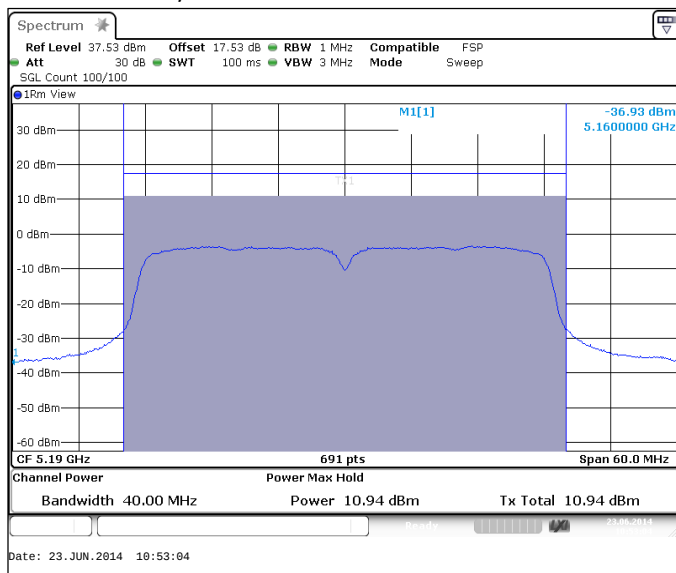
### Channel 36+40 / 5190MHz



## 2.4.23 802.11n mode, 64QAM modulation, 108.0 / 120.0 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36+40 / 5190                   | 10.94   | 12.417 | PASSED |

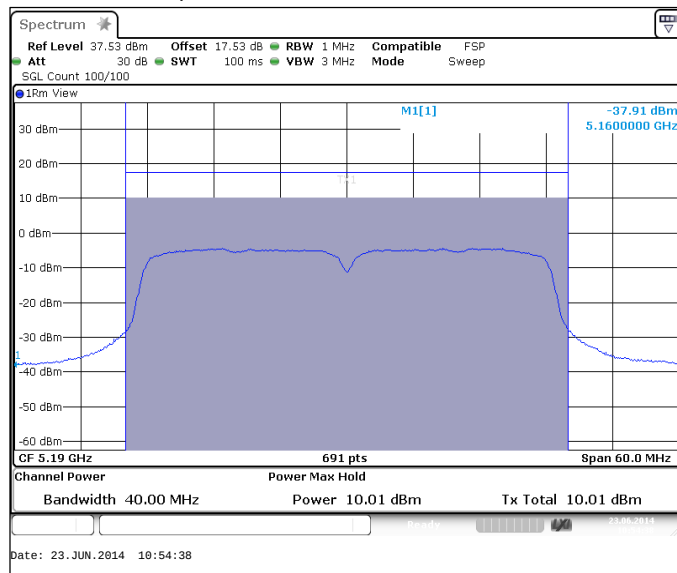
### Channel 36+40 / 5190MHz



## 2.4.24 802.11n mode, 64QAM modulation, 121.5 / 135.0 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36+40 / 5190                   | 10.01   | 10.023 | PASSED |

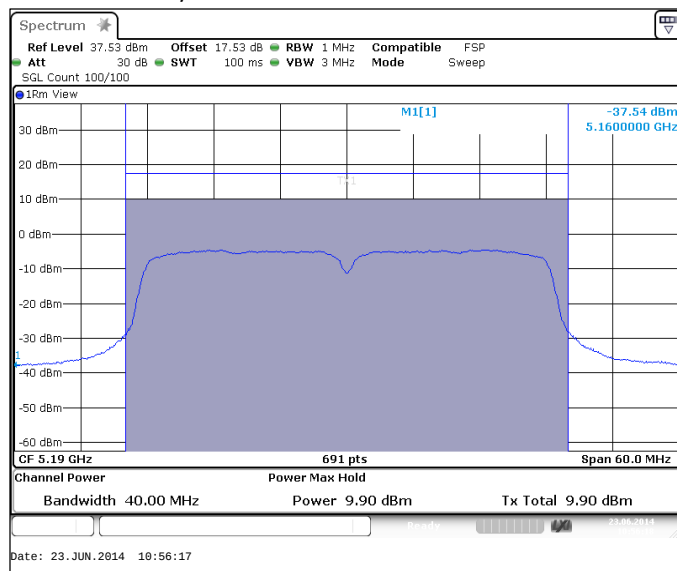
### Channel 36+40 / 5190MHz



## 2.4.25 802.11n mode, 64QAM modulation, 135.0 / 150.0 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36+40 / 5190                   | 9.9     | 9.772  | PASSED |

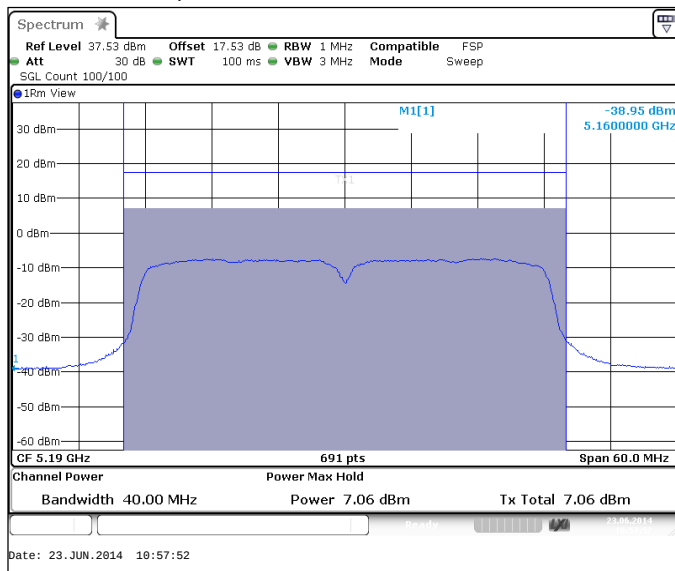
### Channel 36+40 / 5190MHz



## 2.4.26 802.11ac mode, 256QAM modulation, 162.0 / 180.0 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36+40 / 5190                   | 7.06    | 5.082  | PASSED |

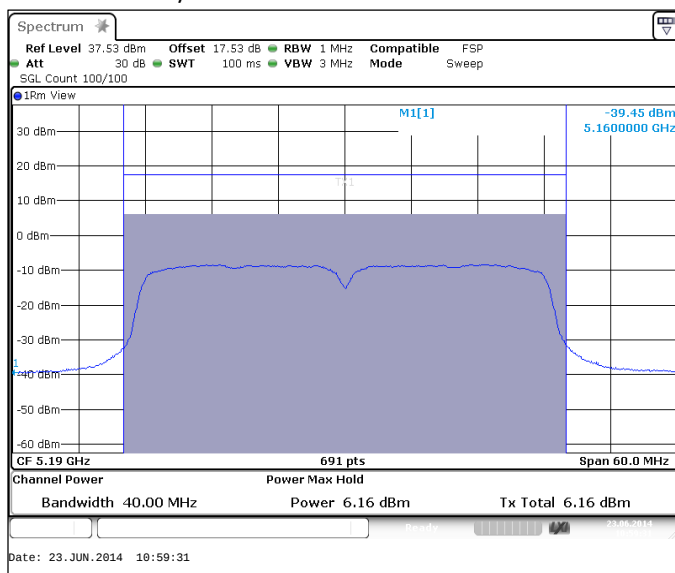
### Channel 36+40 / 5190MHz



## 2.4.27 802.11ac mode, 256QAM modulation, 180.0 / 200.0 Mbps data rate

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 36+40 / 5190                   | 6.16    | 4.13   | PASSED |

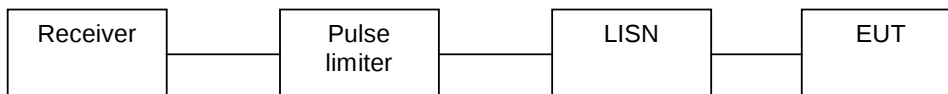
### Channel 36+40 / 5190MHz



### 3. AC powerline conducted emissions (FCC §15.407(b)(6), RSS-210 A9.2)

|                                                 |                                                                                 |
|-------------------------------------------------|---------------------------------------------------------------------------------|
| EUT with DUT number                             | RM-984, DUT 18423                                                               |
| Accessories with DUT numbers                    | BV-L4A, DUT 18424 ; WH-208, DUT 18425 ; CA-190CD, DUT 16183 ; AC-60E, DUT 17841 |
| Operation Voltage [V] / [Hz]                    | Nominal                                                                         |
| Results                                         | PASSED                                                                          |
| Remarks                                         | -                                                                               |
| Temp [°C] / Humidity [%RH] / Air Pressure [kPa] | 21 / 50 101                                                                     |
| Date of measurements                            | 26-Jun-2014                                                                     |
| Measured by                                     | Kalle Hannila / Kari Salminen                                                   |

#### 3.1. Test Setup



#### 3.2. Test method and limit

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:

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

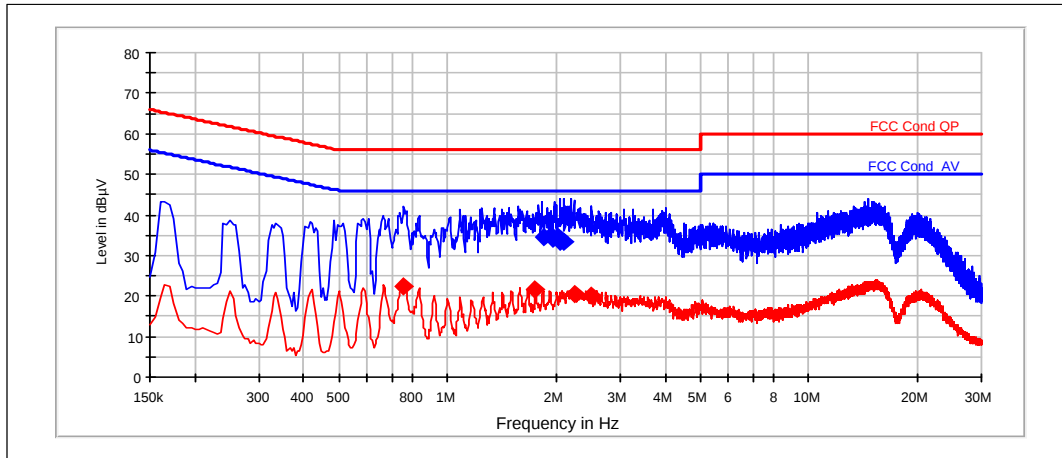
Where  $U_{RX}$  is receiver reading and  $A_{TOT}$  is total correction factor including cable and pulse limiter attenuations.

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                   |

### 3.3. 5 GHz RLAN Test results

#### 3.3.1 802.11n mode, BPSK modulation, 6.5 / 7.25 Mbps data rate



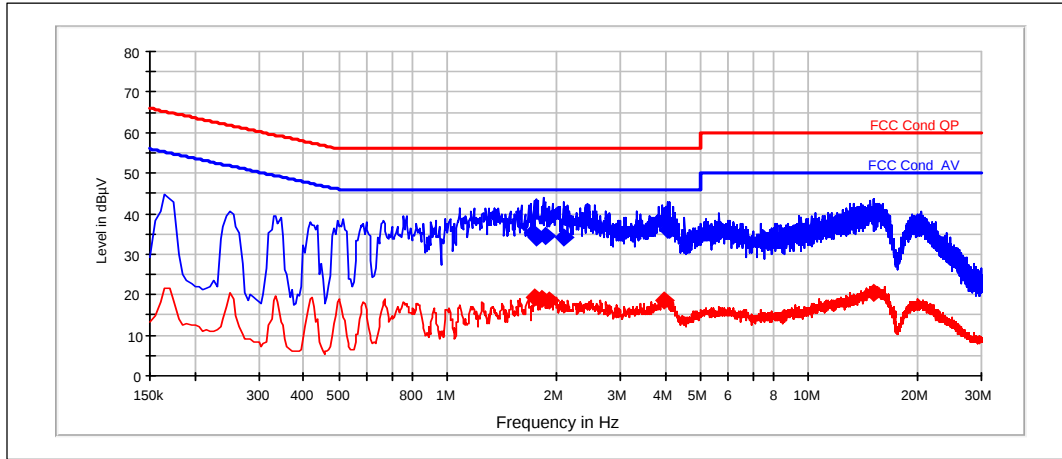
QuasiPeak (RBW: 9 kHz)

| Frequency [MHz] | U [dBμV] | Line | Result |
|-----------------|----------|------|--------|
| 1.85            | 34.41    | N    | PASSED |
| 1.93            | 34.7     | N    | PASSED |
| 1.945           | 34.04    | N    | PASSED |
| 2.035           | 34.57    | N    | PASSED |
| 2.045           | 33.21    | N    | PASSED |
| 2.105           | 33.52    | N    | PASSED |

Average (RBW: 9 kHz)

| Frequency [MHz] | U [dBμV] | Line | Result |
|-----------------|----------|------|--------|
| 0.755           | 22.44    | N    | PASSED |
| 1.75            | 21.76    | N    | PASSED |
| 2.25            | 20.55    | N    | PASSED |
| 2.495           | 20.15    | N    | PASSED |

### 3.3.2 802.11n mode, QPSK modulation, 19.5 / 21.7 Mbps data rate



QuasiPeak (RBW: 9 kHz)

| Frequency [MHz] | U [dBμV] | Line | Result |
|-----------------|----------|------|--------|
| 1.73            | 35.24    | N    | PASSED |
| 1.765           | 34.16    | N    | PASSED |
| 1.875           | 34.57    | N    | PASSED |
| 2.095           | 34.05    | N    | PASSED |
| 4.055           | 35.98    | N    | PASSED |
| 4.105           | 36.16    | N    | PASSED |

Average (RBW: 9 kHz)

| Frequency [MHz] | U [dBμV] | Line | Result |
|-----------------|----------|------|--------|
| 1.75            | 19.33    | N    | PASSED |
| 1.825           | 18.82    | N    | PASSED |
| 1.92            | 18.46    | N    | PASSED |
| 3.995           | 18.66    | N    | PASSED |
| 15.105          | 20.32    | N    | PASSED |

## 4. Test Equipment

### 4.1. Conducted measurements

| Eq. No | Equipment                       | Type          | Manufacturer  | Used in            |
|--------|---------------------------------|---------------|---------------|--------------------|
| 6039   | USB Interface                   | 5541765       | Testo         | 22/24/27, 15C, 15B |
| 6044   | V-network                       | ESH3-Z6       | R&S           | -                  |
| 2059   | V-network                       | ESH3-Z6       | R&S           | -                  |
| 1759   | LISN 50 µH                      | ESH3-Z5       | R&S           | 22/24/27, 15C, 15B |
| 2097   | Pulse Limiter                   | ESH3-Z2       | R&S           | 22/24/27, 15C, 15B |
| 1999   | Receiver                        | ESIB26        | R&S           | 22/24/27, 15C, 15B |
| 2180   | Communication Tester            | CMU200        | R&S           | 22/24/27, 15C, 15B |
| 2390   | Directional Coupler             | DC2600        | AR            | -                  |
| -      | RF immunity / Emission Software | EMC32         | R&S           | 22/24/27, 15C, 15B |
| 2060   | LISN 50 µH                      | ESH3-Z5       | R&S           | 15C, 15B           |
| 1759   | LISN 50 µH                      | ESH3-Z5       | R&S           | 15C, 15B           |
| 2039   | Power Supply                    | PL330QMD      | Thurlby       | 15C, 15B           |
| 6036   | Data Logger                     | 175-H2        | Testo         | 22/24/27, 15C, 15B |
| 2359   | Temperature Test Chamber        | VT4002        | Vötsch        | 22/24/27           |
| 2352   | Spectrum Analyzer               | FSP-30        | R&S           | 22/24/27, 15C      |
| 6109   | Communication Tester            | CMU200        | R&S           | 22/24/27, 15C      |
| 6246   | Power Supply                    | 66332A        | HP            | 22/24/27, 15C      |
| 1992   | Signal Generator                | 83630B        | Agilent       | 15C, 15B           |
| 6098   | Signal Generator                | 8648C         | Agilent       | -                  |
| 6046   | Attenuator 10dB                 | 8493C         | Agilent       | 22/24/27, 15C      |
| 6047   | Attenuator 20dB                 | 8493C         | Agilent       | 22/24/27, 15C      |
| 6045   | Power splitter                  | 11667B        | Agilent       | 22/24/27, 15C      |
| 6247   | Communication Tester            | CBT           | R&S           | 22/24/27, 15C 15B  |
| 6052   | Communication Tester            | CMU200        | R&S           | 22/24/27, 15C 15B  |
| 6248   | Power Supply                    | 6632B         | -             | 22/24/27, 15C 15B  |
| 6106   | Spectrum Analyzer               | FSP-30        | R&S           | 22/24/27, 15C 15B  |
| 6113   | Signal Generator                | SMF100A       | R&S           | 22/24/27, 15C 15B  |
| 6202   | Temperature Test Chamber        | VT4002        | Vötsch        | 22/24/27, 15C 15B  |
| 6122   | Power Splitter                  | 11667B        | Agilent       | 22/24/27, 15C 15B  |
| 6134   | Attenuator 10dB                 | BW-S10-2W263+ | Mini-Circuits | 22/24/27, 15C      |
| 6136   | Attenuator 20dB                 | BW-S20-2W263+ | Mini-Circuits | 22/24/27, 15C      |
| 6103   | Bluetooth tester                | CBT           | R&S           | 22/24/27, 15C 15B  |
| 6250   | Power Supply                    | 6651A         | Agilent       | 22/24/27, 15C 15B  |
| 6108   | Communication Tester            | CMU200        | R&S           | 22/24/27, 15C 15B  |
| 6105   | Spectrum Analyzer               | FSV-30        | R&S           | 22/24/27, 15C 15B  |
| 6251   | Temperature Test Chamber        | VT4002        | Vötsch        | 22/24/27, 15C 15B  |
| 6243   | Power Splitter                  | 1167B         | Agilent       | 22/24/27, 15C 15B  |
| 6245   | Attenuator 10dB                 | BW-S10-2W263+ | Mini-Circuits | 22/24/27, 15C 15B  |
| 6244   | Attenuator 20dB                 | BW-S20-2W263+ | Mini-Circuits | 22/24/27, 15C 15B  |

## 4.2. Radiated measurements

| Eq. No | Equipment                       | Type                                   | Manufacturer | Used in            |
|--------|---------------------------------|----------------------------------------|--------------|--------------------|
| 2388   | Bluetooth Tester                | CBT                                    | R&S          | 15B                |
| 10479  | Communication Tester            | CMW500                                 | R&S          | 22/24/27, 15C, 15B |
| 2347   | Communication Tester            | CMU200                                 | R&S          | 22/24/27, 15C, 15B |
| 2009   | Signal Generator                | SMP 22                                 | R&S          | 22/24/27, 15C, 15B |
| 2348   | Controller                      | G-1000DXC                              | Yaesu        | 22/24/27, 15C, 15B |
| 2349   | Computer Controller             | g-1000DXC                              | Yaesu        | 22/24/27, 15C, 15B |
| 2116   | Controller                      | EMCO 2090                              | ETS          | 22/24/27, 15C, 15B |
| 2109   | Power Supply                    | PL330QMD                               | Thurlby      | 22/24/27, 15C, 15B |
| 2353   | Receiver                        | ESIB26                                 | R&S          | 22/24/27, 15C, 15B |
| 6115   | Open switch and control unit    | OSP 130                                | R&S          | 22/24/27, 15C, 15B |
| 6116   | Open switch and control unit    | OSP 150                                | R&S          | 22/24/27, 15C, 15B |
| 6117   | Open switch and control unit    | OSP 150                                | R&S          | 22/24/27, 15C, 15B |
| 6131   | Notch Filter                    | WRCT902.4-0.4/40-8SS                   | Wainwright   | 22/24/27, 15C, 15B |
| 6130   | Notch Filter                    | WRCD1880-1.1.25/50-10SS                | Wainwright   | 22/24/27           |
| 6159   | Band Reject Filter              | WRCD1747.8-0.4/40-5SS                  | Wainwright   | 22/24/27, 15C, 15B |
| 6158   | Band Reject Filter              | WRCT836.6-0.4/40-8SS                   | Wainwright   | 22/24/27, 15C, 15B |
| 6197   | Band Reject Filter              | WRCJV2531/2539-2523/2547-60/12SS       | Wainwright   | 22/24/27, 15C, 15B |
| 2231   | Band Reject Filter              | WRCG1947/1953-1940/1960-40/6SS         | Wainwright   | 22/24/27, 15C, 15B |
| 2391   | Band Reject Filter              | WRCG1729.4/1735.4-1722.4/1742.4-40/6SS | Wainwright   | 27                 |
| 2386   | Band Reject Filter              | WRCG1764.4/1770.4-1760.4/1774.4-40/6SS | Wainwright   | 22/24/27, 15C, 15B |
| 2385   | Band Reject Filter              | WRCG1744.4/1750.4-1740.4/1754.4-40/6SS | Wainwright   | 22/24/27, 15C, 15B |
| 2357   | Band Reject Filter              | WRCG2400/2483-2390/2493-35/10SS        | Wainwright   | 15C                |
| 2188   | Preamplifier                    | AFS4-00100300-20-23P-6                 | Miteq        | 22/24/27, 15C, 15B |
| 6195   | High Pass Filter                | -                                      | Wainwright   | 22/24/27, 15C, 15B |
| 2364   | Band Reject Filter              | WRCG1877/1883 - 1870/1890-40/6SS       | Wainwright   | 24                 |
| 2361   | Anechoic Chamber                | 3 m Semi / Full Anechoic Chamber       | Euroshield   | 22/24/27, 15C, 15B |
| 6212   | Antenna Array system            | -                                      | TCC          | 22/24/27, 15C, 15B |
| -      | RF immunity / Emission Software | EMC32                                  | R&S          | 22/24/27, 15C, 15B |
| 6089   | Antenna                         | HFH2-Z2                                | R&S          | 15C, 15B           |
| 2027   | CDN                             | M2 (modified) DC1                      | MEB          | 22/24/27, 15C, 15B |
| 2028   | CDN                             | M3 (modified) DC2                      | MEB          | 22/24/27, 15C, 15B |
| 2176   | CDN                             | CDN 801-M3                             | Lüthi        | 22/24/27, 15C, 15B |
| 2135   | CDN                             | CDN 801-M3                             | Lüthi        | 22/24/27, 15C, 15B |
| 2029   | Power Supply                    | PL330                                  | Thurlby      | 22/24/27, 15C      |
| 6038   | Data Logger                     | Testo 580                              | Testo        | 22/24/27, 15C, 15B |
| 6037   | Data Logger                     | 175-H2                                 | Testo        | 22/24/27, 15C, 15B |
| 6039   | USB Interface                   | 5541765                                | Testo        | 22/24/27, 15C, 15B |