

| <b>FCC TEST REPORT</b><br><b>FCC 47 CFR Part 15C</b><br><b>Industry Canada RSS-210</b><br><b>Digital transmission systems operating within the 2400 – 2483.5 MHz band</b> |                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Report Reference No.</b> .....                                                                                                                                         | G0M-1406-3919-TFC247WF-V01                                                                                                                                                                                                                                                                                               |
| <b>Testing Laboratory</b> .....                                                                                                                                           | Eurofins Product Service GmbH                                                                                                                                                                                                                                                                                            |
| <b>Address</b> .....                                                                                                                                                      | Storkower Str. 38c<br>15526 Reichenwalde<br>Germany                                                                                                                                                                                                                                                                      |
| <b>Accreditation</b> .....                                                                                                                                                |  <br>A2LA Accredited Testing Laboratory, Certificate No.: 1983.01<br>FCC Filed Test Laboratory, Reg.-No.: 96970<br>IC OATS Filing assigned code: 3470A |
| <b>Applicant's name</b> .....                                                                                                                                             | Leica Geosystems AG                                                                                                                                                                                                                                                                                                      |
| <b>Address</b> .....                                                                                                                                                      | Heinrich Wild Strasse<br>9435 Heerbrugg<br>SWITZERLAND                                                                                                                                                                                                                                                                   |
| <b>Test specification:</b>                                                                                                                                                |                                                                                                                                                                                                                                                                                                                          |
| <b>Standard</b> .....                                                                                                                                                     | 47 CFR Part 15C<br>KDB Publication No. 558074 D01 v03r02<br>RSS-210, Issue 8, 2010-12<br>RSS-Gen, Issue 4, 2014-11<br>ANSI C63.4:2009                                                                                                                                                                                    |
| <b>Test scope</b> .....                                                                                                                                                   | partial Radio compliance test                                                                                                                                                                                                                                                                                            |
| <b>Equipment under test (EUT):</b>                                                                                                                                        |                                                                                                                                                                                                                                                                                                                          |
| Product description                                                                                                                                                       | Field Controller Win EC7                                                                                                                                                                                                                                                                                                 |
| Model No.                                                                                                                                                                 | CS20                                                                                                                                                                                                                                                                                                                     |
| Additional Model(s)                                                                                                                                                       | None                                                                                                                                                                                                                                                                                                                     |
| Brand Name(s)                                                                                                                                                             | Leica Geosystems                                                                                                                                                                                                                                                                                                         |
| Hardware version                                                                                                                                                          | V5.0                                                                                                                                                                                                                                                                                                                     |
| Firmware / Software version                                                                                                                                               | None                                                                                                                                                                                                                                                                                                                     |
|                                                                                                                                                                           | FCC-ID: RFD-CSNGB      IC: 3177A-CSNGB                                                                                                                                                                                                                                                                                   |
| <b>Test result</b>                                                                                                                                                        | <b>Passed</b>                                                                                                                                                                                                                                                                                                            |

**Possible test case verdicts:**

- neither assessed nor tested .....: N/N
- required by standard but not appl. to test object.....: N/A
- required by standard but not tested.....: N/T
- not required by standard for the test object .....: N/R
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement.....: F (Fail)

**Testing:**

Test Lab Temperature.....: 20 – 23 °C

Test Lab Humidity .....: 32 – 38 %

Date of receipt of test item .....: 2015-02-26

Date (s) of performance of tests .....: 2014-08-07 - 2015-02-27

Compiled by .....: Burkhard Pudell

Tested by (+ signature).....: Burkhard Pudell *B. Pudell*

(Responsible for Test) .....

Approved by (+ signature) .....: Christian Weber *C. Weber*

Date of issue .....: 2015-04-23

Total number of pages .....: 139

**General remarks:**

**The test results presented in this report relate only to the object tested.**

**The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.**

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

**Additional comments:**

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## Version History

| Version | Issue Date | Remarks         | Revised by |
|---------|------------|-----------------|------------|
| 01      | 2015-04-23 | Initial Release |            |

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## 1 Equipment (Test item) Description

|                             |                                                                               |                                     |
|-----------------------------|-------------------------------------------------------------------------------|-------------------------------------|
| Description                 | Field Controller Win EC7                                                      |                                     |
| Model                       | CS20                                                                          |                                     |
| Additional Model(s)         | None                                                                          |                                     |
| Brand Name(s)               | Leica Geosystems                                                              |                                     |
| Serial number               | None                                                                          |                                     |
| Hardware version            | V5.0                                                                          |                                     |
| Software / Firmware version | None                                                                          |                                     |
| FCC-ID                      | RFD-CSNGB                                                                     |                                     |
| IC                          | 3177A-CSNGB                                                                   |                                     |
| Equipment type              | End product                                                                   |                                     |
| Radio type                  | Transceiver                                                                   |                                     |
| Radio technology            | IEEE 802.11 b/g/n                                                             |                                     |
| Operating frequency range   | 2412 - 2462 MHz                                                               |                                     |
| Assigned frequency band     | 2400 - 2483.5 MHz                                                             |                                     |
| Main test frequencies       | F <sub>LOW20</sub>                                                            | 2412 MHz                            |
|                             | F <sub>MID20</sub>                                                            | 2437 MHz                            |
|                             | F <sub>HIGH20</sub>                                                           | 2462 MHz                            |
| Spreading                   | CCK, DSSS, OFDM                                                               |                                     |
| Modulations                 | BPSK, QPSK, 16-QAM, 64-QAM                                                    |                                     |
| Number of channels          | 11                                                                            |                                     |
| Channel spacing             | 5 MHz                                                                         |                                     |
| Number of antennas          | 1                                                                             |                                     |
| Antenna                     | Type                                                                          | integrated                          |
|                             | Model                                                                         | W3008C                              |
|                             | Manufacturer                                                                  | Pulse                               |
|                             | Gain                                                                          | +2.2 dBi (manufacturer declaration) |
| Manufacturer                | Leica Geosystems AG<br>Heinrich Wild Strasse<br>9435 Heerbrugg<br>SWITZERLAND |                                     |
| Power supply                | V <sub>NOM</sub>                                                              | 11.1 VDC                            |
|                             | V <sub>MIN</sub>                                                              | N/R                                 |
|                             | V <sub>MAX</sub>                                                              | N/R                                 |
| AC/DC-Adaptor               | Model                                                                         | AEL40US15                           |
|                             | Vendor                                                                        | XP Power                            |
|                             | Input                                                                         | 100 - 240 V AC                      |
|                             | Output                                                                        | 15 V DC                             |

#### 1.4 Supporting Equipment Used During Testing

| Product Type*                                                                                                                                                                       | Device | Manufacturer | Model No. | Comments |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|-----------|----------|
| none                                                                                                                                                                                |        |              |           |          |
| <p><b>*Note:</b> Use the following abbreviations:</p> <p>AE : Auxiliary/Associated Equipment, or</p> <p>SIM : Simulator (Not Subjected to Test)</p> <p>CABL : Connecting cables</p> |        |              |           |          |

## 1.5 Test Modes

| Mode #       | Description         |                                                                                                                                                             |
|--------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DSSS         | General conditions: | EUT powered by battery.                                                                                                                                     |
|              | Radio conditions:   | Mode = standalone transmit<br>Spreading = DSSS<br>Modulation = BPSK<br>Data rate = 1 Mbps<br>Bandwidth = 20 MHz<br>Duty cycle = 99 %<br>Power level = Max   |
| OFDM         | General conditions: | EUT powered by battery.                                                                                                                                     |
|              | Radio conditions:   | Mode = standalone transmit<br>Spreading = OFDM<br>Modulation = BPSK<br>Data rate = 6 Mbps<br>Bandwidth = 20 MHz<br>Duty cycle = 99 %<br>Power level = Max   |
| HT20         | General conditions: | EUT powered by battery.                                                                                                                                     |
|              | Radio conditions:   | Mode = standalone transmit<br>Spreading = OFDM<br>Modulation = BPSK<br>Data rate = 7.2 Mbps<br>Bandwidth = 20 MHz<br>Duty cycle = 99 %<br>Power level = Max |
| Receive      | General conditions: | EUT powered by battery.                                                                                                                                     |
|              | Radio conditions:   | Mode = standalone receive<br>Spreading = DSSS / OFDM                                                                                                        |
| AC-Powerline | General conditions: | EUT powered by dedicated AC/DC-Adaptor                                                                                                                      |
|              | Radio conditions:   | Mode = standalone transmit<br>Spreading = DSSS<br>Power level = Maximum                                                                                     |

## 1.6 Test Equipment Used During Testing

| Measurement Software |                  |            |           |
|----------------------|------------------|------------|-----------|
| Description          | Manufacturer     | Name       | Version   |
| EMC Test Software    | Dare Instruments | Radimation | 2014.1.15 |

| Occupied Bandwidth |              |        |            |           |          |
|--------------------|--------------|--------|------------|-----------|----------|
| Description        | Manufacturer | Model  | Identifier | Cal. Date | Cal. Due |
| Spectrum Analyzer  | R&S          | FSP 30 | EF00312    | 2015-02   | 2016-02  |

| 6dB Bandwidth     |              |        |            |           |          |
|-------------------|--------------|--------|------------|-----------|----------|
| Description       | Manufacturer | Model  | Identifier | Cal. Date | Cal. Due |
| Spectrum Analyzer | R&S          | FSP 30 | EF00312    | 2015-02   | 2016-02  |

| Maximum peak conducted power |              |        |            |           |          |
|------------------------------|--------------|--------|------------|-----------|----------|
| Description                  | Manufacturer | Model  | Identifier | Cal. Date | Cal. Due |
| Spectrum Analyzer            | R&S          | FSP 30 | EF00312    | 2015-02   | 2016-02  |

| Power spectral density |              |        |            |           |          |
|------------------------|--------------|--------|------------|-----------|----------|
| Description            | Manufacturer | Model  | Identifier | Cal. Date | Cal. Due |
| Spectrum Analyzer      | R&S          | FSP 30 | EF00312    | 2015-02   | 2016-02  |

| Band edge compliance |              |        |            |           |          |
|----------------------|--------------|--------|------------|-----------|----------|
| Description          | Manufacturer | Model  | Identifier | Cal. Date | Cal. Due |
| Spectrum Analyzer    | R&S          | FSP 30 | EF00312    | 2015-02   | 2016-02  |

| Conducted spurious emissions |              |        |            |           |          |
|------------------------------|--------------|--------|------------|-----------|----------|
| Description                  | Manufacturer | Model  | Identifier | Cal. Date | Cal. Due |
| Spectrum Analyzer            | R&S          | FSP 30 | EF00312    | 2015-02   | 2016-02  |

| Radiated spurious emissions |              |        |            |           |          |
|-----------------------------|--------------|--------|------------|-----------|----------|
| Description                 | Manufacturer | Model  | Identifier | Cal. Date | Cal. Due |
| Semi-anechoic chamber       | Frankonia    | AC 1   | EF00062    | -         | -        |
| Spectrum Analyzer           | R&S          | FSIQ26 | EF00242    | 2014-03   | 2015-03  |
| Biconical Antenna           | R&S          | HK 116 | EF00012    | 2013-02   | 2016-02  |
| LPD Antenna                 | R&S          | HL 223 | EF00187    | 2014-03   | 2017-03  |
| LPD Antenna                 | R&S          | HL 025 | EF00327    | 2013-02   | 2016-02  |

| AC powerline conducted emissions |              |         |            |           |          |
|----------------------------------|--------------|---------|------------|-----------|----------|
| Description                      | Manufacturer | Model   | Identifier | Cal. Date | Cal. Due |
| AMN                              | R&S          | ESH2-Z5 | EF00182    | 2014-11   | 2016-11  |
| EMI Test Receiver                | R&S          | ESCS 30 | EF00295    | 2014-10   | 2015-10  |

## 1.7 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dBμV. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

$$\text{Reading on Analyzer (dB}\mu\text{V)} + \text{A.F. (dB)} = \text{Net field strength (dB}\mu\text{V/m)}$$

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC Class B radiated emission limit (in units of dBμV/m). The FCC limits are given in units of μV/m. The following formula is used to convert the units of μV/m to dBμV/m:

$$\text{Limit (dB}\mu\text{V/m)} = 20 \cdot \log (\mu\text{V/m})$$

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

|           |   |       |   |             |   |                           |   |         |
|-----------|---|-------|---|-------------|---|---------------------------|---|---------|
| Reading   | + | AF    | = | Net Reading | : | Net reading - FCC limit   | = | Margin  |
| 21.5 dBμV | + | 26 dB | = | 47.5 dBμV/m | : | 47.5 dBμV/m - 57.0 dBμV/m | = | -9.5 dB |

## 2 Result Summary

| FCC 47 CFR Part 15C, IC RSS-210                                       |                                         |                                          |        |                    |
|-----------------------------------------------------------------------|-----------------------------------------|------------------------------------------|--------|--------------------|
| Product Specific Standard Section                                     | Requirement – Test                      | Reference Method                         | Result | Remarks            |
| RSS-Gen 6.6                                                           | Occupied Bandwidth                      | RSS-Gen 6.6                              | N/R    | Informational only |
| FCC § 15.247(a)(2)<br>IC RSS-210 § A8.2                               | 6dB Bandwidth                           | KDB Publication No. 558074               | PASS   |                    |
| FCC § 15.247(b)(3)<br>IC RSS-210 § A8.4                               | Maximum peak conducted power            | KDB Publication No. 558074               | PASS   |                    |
| FCC § 15.247(e)<br>IC RSS-210 § A8.2                                  | Power spectral density                  | KDB Publication No. 558074               | PASS   |                    |
| 47 CFR 15.207<br>RSS-Gen 8.8                                          | AC power line conducted emissions       | KDB Publication No. 558074 / ANSI C63.4  | PASS   |                    |
| FCC § 15.247(d)<br>IC RSS-210 § A8.5                                  | Band edge compliance                    | KDB Publication No. 558074               | PASS   |                    |
| FCC § 15.247(d)<br>IC RSS-210 § A8.5                                  | Conducted spurious emissions            | KDB Publication No. 558074               | PASS   |                    |
| FCC § 15.247(d)<br>FCC § 15.209<br>IC RSS-210 A8.5<br>IC RSS-Gen 6.13 | Transmitter radiated spurious emissions | KDB Publication No. 558074 / ANSI C 63.4 | PASS   |                    |
| IC RSS-Gen 7.1                                                        | Receiver radiated spurious emissions    | ANSI C 63.4                              | PASS   |                    |
| Remarks:                                                              |                                         |                                          |        |                    |

### 3 Test Conditions and Results

#### 3.1 Test Conditions and Results – Occupied Bandwidth

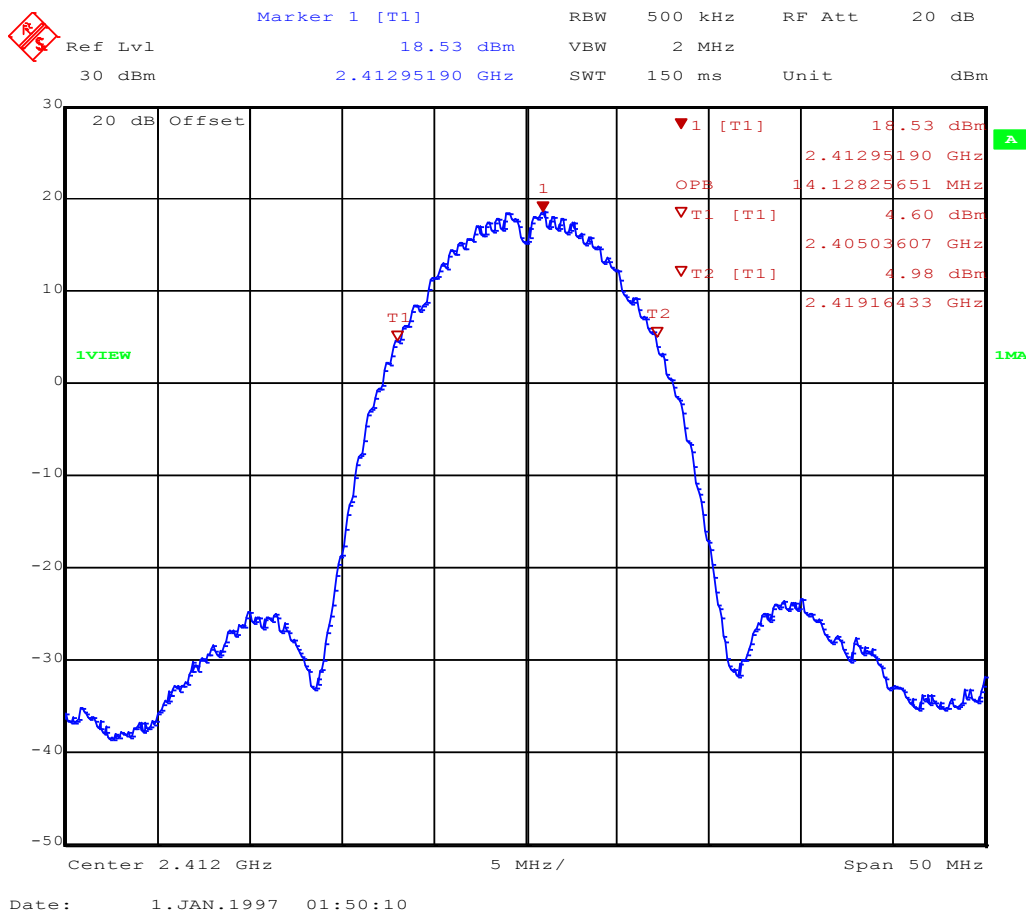
| Occupied Bandwidth acc. to IC RSS-Gen                                                                                                                                                                                                                                                                     |                                                         |      | Verdict: N/R             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|------|--------------------------|
| Test according to measurement reference                                                                                                                                                                                                                                                                   | Reference Method                                        |      |                          |
|                                                                                                                                                                                                                                                                                                           | RSS-Gen 6.6                                             |      |                          |
| Test frequency range                                                                                                                                                                                                                                                                                      | Tested frequencies                                      |      |                          |
|                                                                                                                                                                                                                                                                                                           | F <sub>LOW</sub> / F <sub>MID</sub> / F <sub>HIGH</sub> |      |                          |
| Limits                                                                                                                                                                                                                                                                                                    |                                                         |      |                          |
| None (Informational only)                                                                                                                                                                                                                                                                                 |                                                         |      |                          |
| Test setup                                                                                                                                                                                                                                                                                                |                                                         |      |                          |
| <div><div>Spectrum Analyzer</div><div>EUT</div></div>                                                                                                                                                                                                                                                     |                                                         |      |                          |
| Test procedure                                                                                                                                                                                                                                                                                            |                                                         |      |                          |
| <div>1. EUT set to test mode (Communication tester is used if needed)</div> <div>2. Span set to at least twice the emission spectrum</div> <div>3. Resolution bandwidth set to 1 % of span</div> <div>4. Occupied Bandwidth (99 %) measurement with spectrum analyzer built in measurement function</div> |                                                         |      |                          |
| Test results                                                                                                                                                                                                                                                                                              |                                                         |      |                          |
| Channel                                                                                                                                                                                                                                                                                                   | Frequency [MHz]                                         | Mode | Occupied Bandwidth [MHz] |
| F <sub>LOW20</sub>                                                                                                                                                                                                                                                                                        | 2412                                                    | DSSS | 14.128                   |
| F <sub>MID20</sub>                                                                                                                                                                                                                                                                                        | 2437                                                    | DSSS | 14.329                   |
| F <sub>HIGH20</sub>                                                                                                                                                                                                                                                                                       | 2462                                                    | DSSS | 14.429                   |
| F <sub>LOW20</sub>                                                                                                                                                                                                                                                                                        | 2412                                                    | OFDM | 17.635                   |
| F <sub>MID20</sub>                                                                                                                                                                                                                                                                                        | 2437                                                    | OFDM | 17.936                   |
| F <sub>HIGH20</sub>                                                                                                                                                                                                                                                                                       | 2462                                                    | OFDM | 18.437                   |
| F <sub>LOW20</sub>                                                                                                                                                                                                                                                                                        | 2412                                                    | HT20 | 19.539                   |
| F <sub>MID20</sub>                                                                                                                                                                                                                                                                                        | 2437                                                    | HT20 | 20.741                   |
| F <sub>HIGH20</sub>                                                                                                                                                                                                                                                                                       | 2462                                                    | HT20 | 22.846                   |
| Comments:                                                                                                                                                                                                                                                                                                 |                                                         |      |                          |

# Occupied Bandwidth – DSSS F<sub>LOW</sub>

## Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3919

Applicant: Leica Geosystems AG  
EUT Name: Field Controller Win EC7  
Model: CS20  
Test Site: Eurofins Product Service GmbH  
Operator: Burkhard Pudell  
Test Conditions: Tnom / Vnom  
Mode: Tx, WLAN 2.4G, 2412 MHz, DSSS, 1Mbps  
Test Date: 2015-02-27  
Verdict: NONE (INFORMATION ONLY)  
Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used  
Note 2: OBW= 14.128 MHz

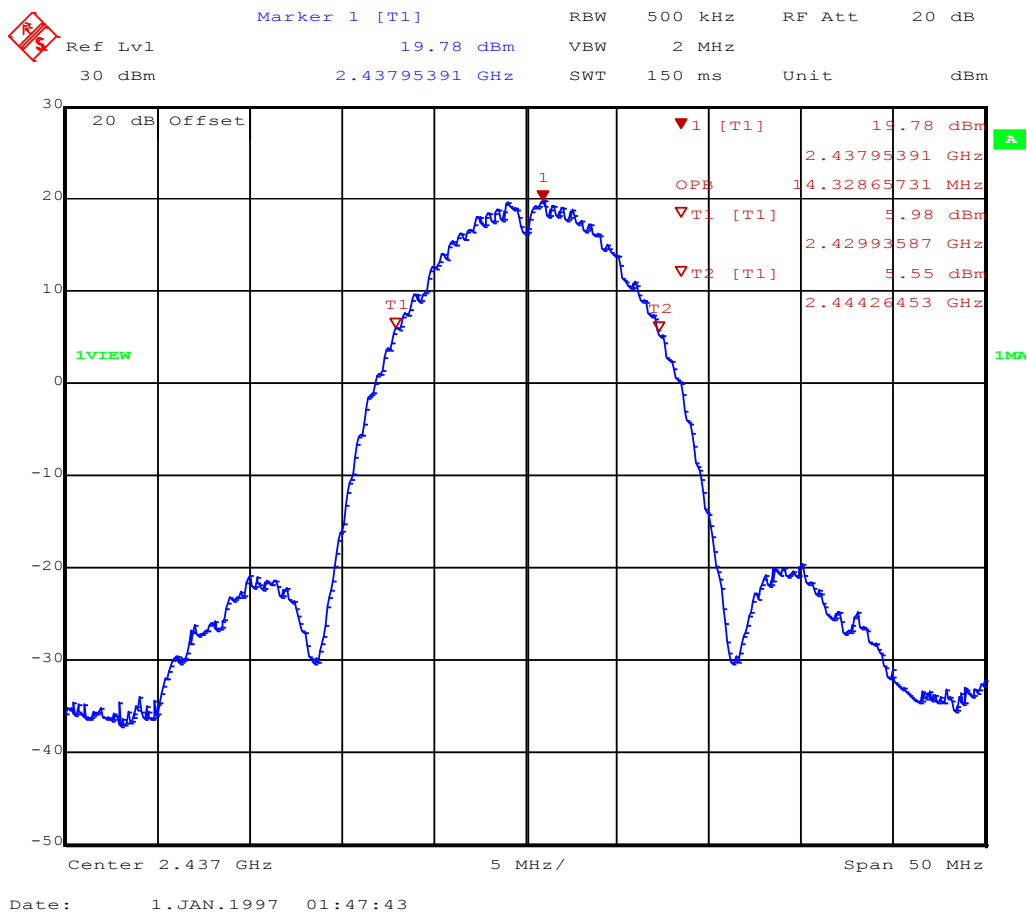


# Occupied Bandwidth – DSSS F<sub>MID</sub>

## Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3919

Applicant: Leica Geosystems AG  
EUT Name: Field Controller Win EC7  
Model: CS20  
Test Site: Eurofins Product Service GmbH  
Operator: Burkhard Pudell  
Test Conditions: Tnom / Vnom  
Mode: Tx, WLAN 2.4G, 2437 MHz, DSSS, 1Mbps  
Test Date: 2015-02-27  
Verdict: NONE (INFORMATION ONLY)  
Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used  
Note 2: OBW= 14.329 MHz

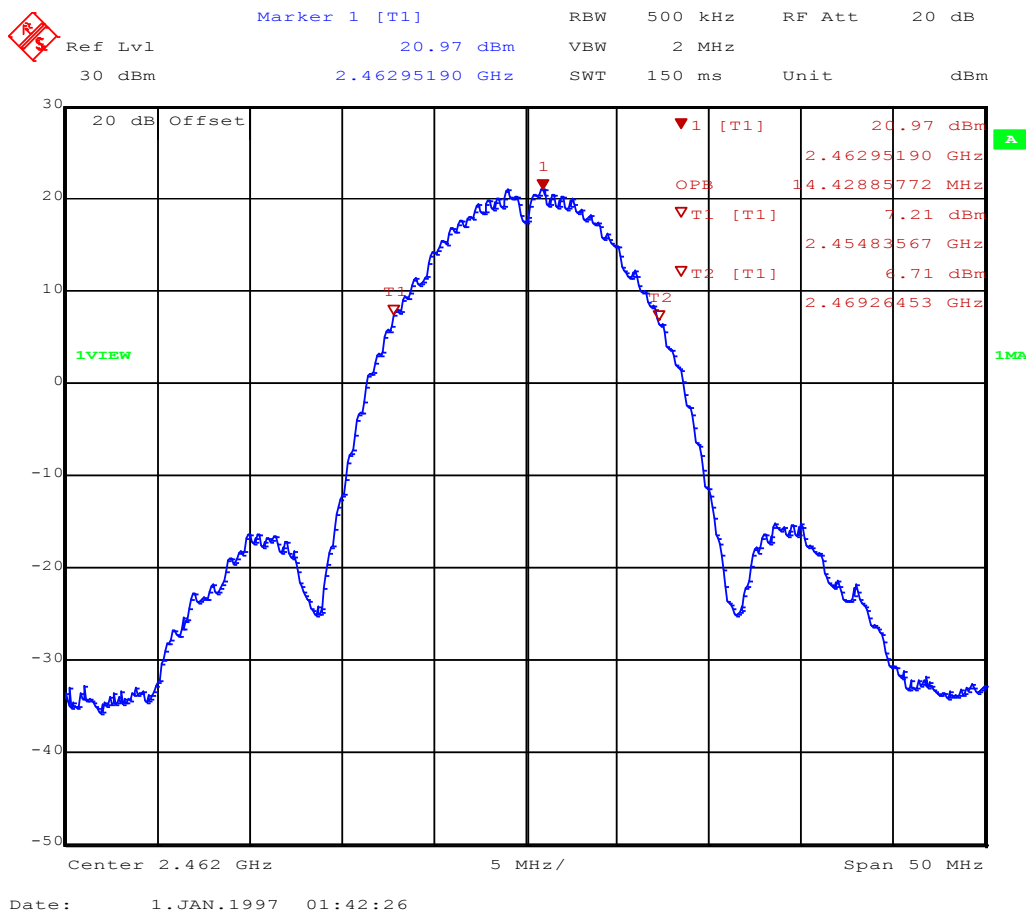


# Occupied Bandwidth – DSSS F<sub>HIGH</sub>

## Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3919

Applicant: Leica Geosystems AG  
EUT Name: Field Controller Win EC7  
Model: CS20  
Test Site: Eurofins Product Service GmbH  
Operator: Burkhard Pudell  
Test Conditions: Tnom / Vnom  
Mode: Tx, WLAN 2.4G, 2462 MHz, DSSS, 1Mbps  
Test Date: 2015-02-27  
Verdict: NONE (INFORMATION ONLY)  
Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used  
Note 2: OBW= 14.429 MHz

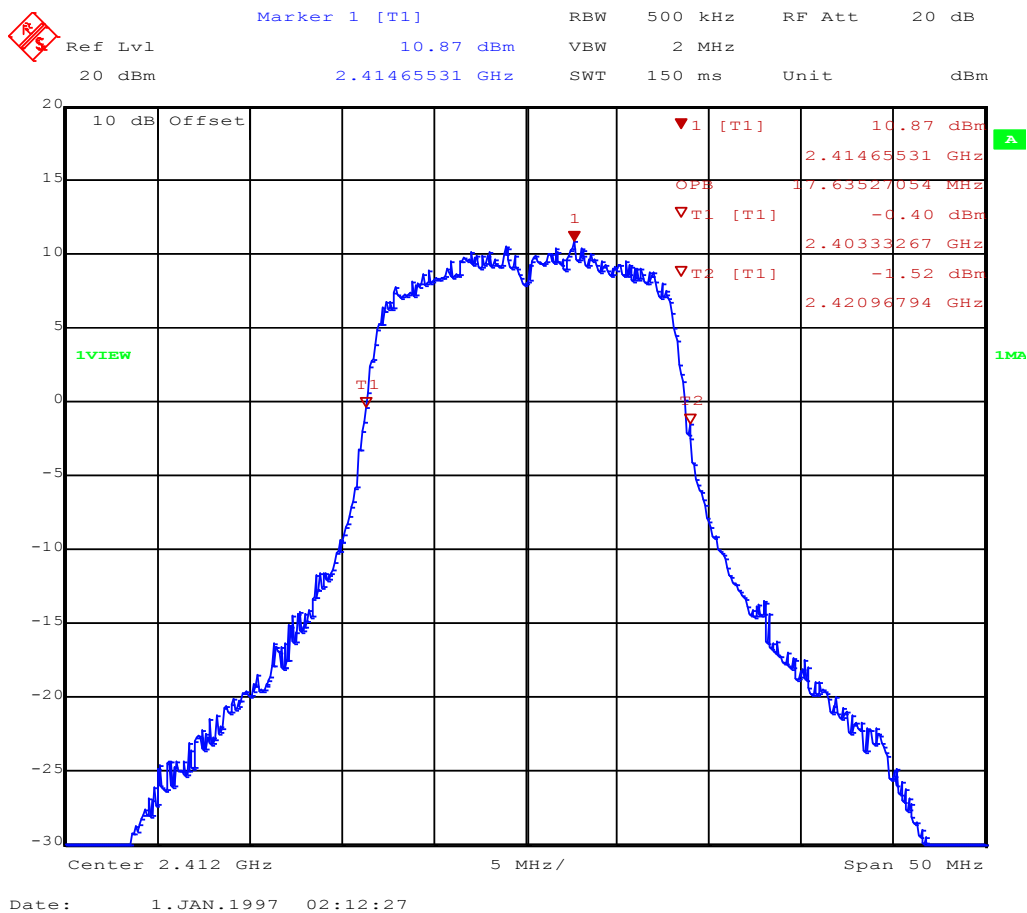


# Occupied Bandwidth – OFDM F<sub>LOW</sub>

## Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3919

Applicant: Leica Geosystems AG  
EUT Name: Field Controller Win EC7  
Model: CS20  
Test Site: Eurofins Product Service GmbH  
Operator: Burkhard Pudell  
Test Conditions: Tnom / Vnom  
Mode: Tx, WLAN 2.4G, 2412 MHz, OFDM, 6Mbps  
Test Date: 2015-02-27  
Verdict: NONE (INFORMATION ONLY)  
Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used  
Note 2: OBW= 17.635 MHz

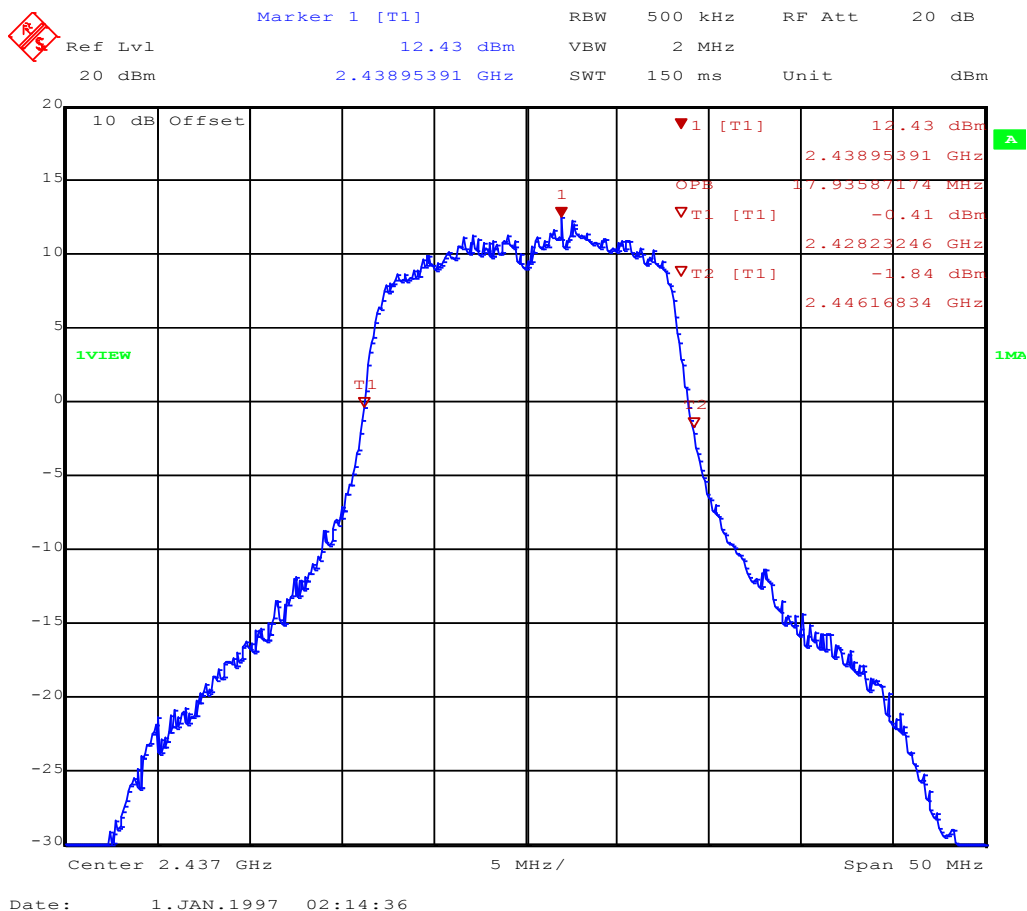


# Occupied Bandwidth – OFDM F<sub>MID</sub>

## Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3919

Applicant: Leica Geosystems AG  
EUT Name: Field Controller Win EC7  
Model: CS20  
Test Site: Eurofins Product Service GmbH  
Operator: Burkhard Pudell  
Test Conditions: Tnom / Vnom  
Mode: Tx, WLAN 2.4G, 2437 MHz, OFDM, 6Mbps  
Test Date: 2015-02-27  
Verdict: NONE (INFORMATION ONLY)  
Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used  
Note 2: OBW= 17.936 MHz



Test Report No.: G0M-1406-3919-TFC247WF-V01

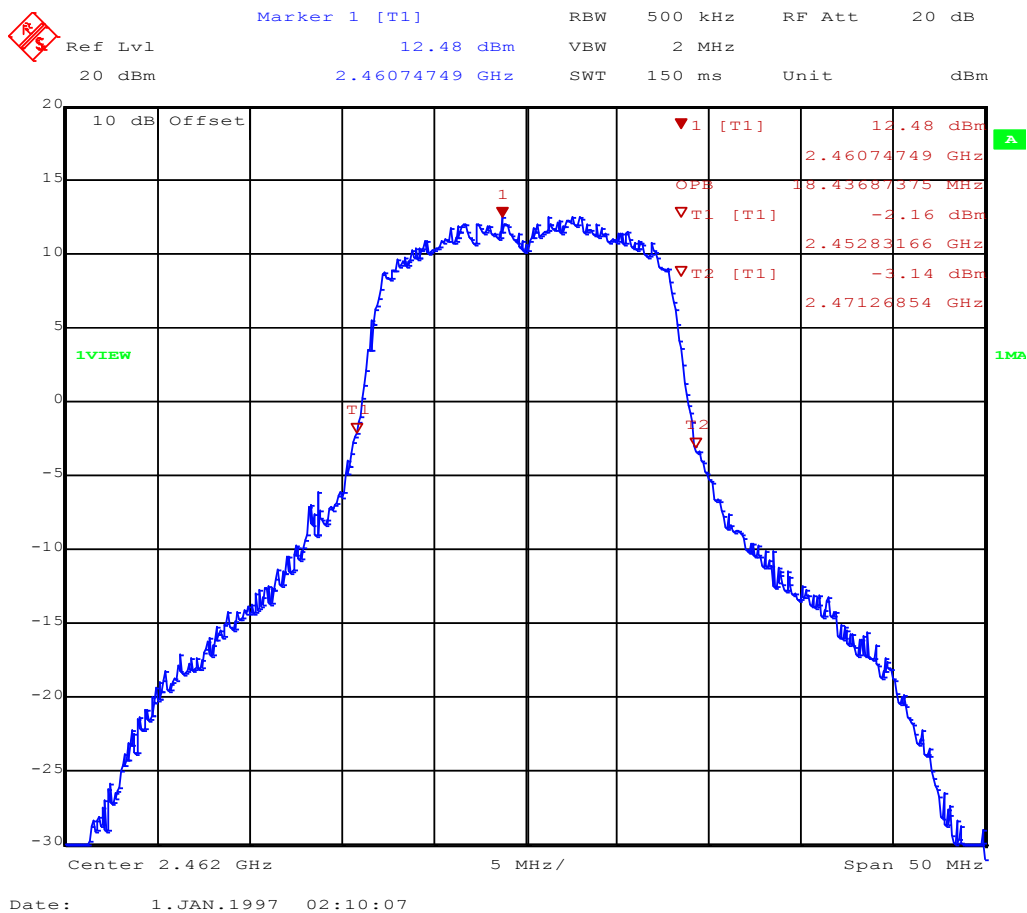
Eurofins Product Service GmbH  
Storkower Str. 38c, D-15526 Reichenwalde, Germany

# Occupied Bandwidth – OFDM $F_{HIGH}$

## Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3919

Applicant: Leica Geosystems AG  
EUT Name: Field Controller Win EC7  
Model: CS20  
Test Site: Eurofins Product Service GmbH  
Operator: Burkhard Pudell  
Test Conditions: Tnom / Vnom  
Mode: Tx, WLAN 2.4G, 2462 MHz, OFDM, 6Mbps  
Test Date: 2015-02-27  
Verdict: NONE (INFORMATION ONLY)  
Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used  
Note 2: OBW = 18.437 MHz

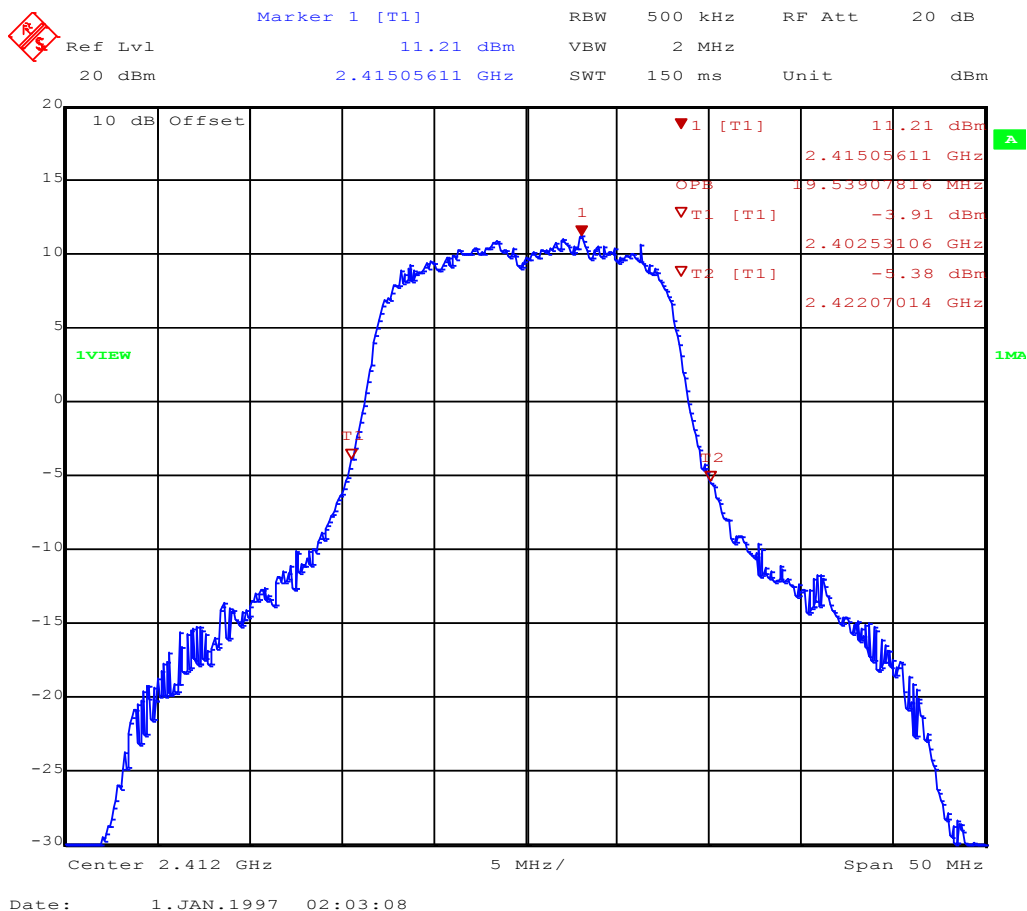


# Occupied Bandwidth – HT20 F<sub>LOW</sub>

## Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3919

Applicant: Leica Geosystems AG  
EUT Name: Field Controller Win EC7  
Model: CS20  
Test Site: Eurofins Product Service GmbH  
Operator: Burkhard Pudell  
Test Conditions: Tnom / Vnom  
Mode: Tx, WLAN 2.4G, 2412 MHz, OFDM, HT20, MCS0  
Test Date: 2015-02-27  
Verdict: NONE (INFORMATION ONLY)  
Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used  
Note 2: OBW = 19.539 MHz

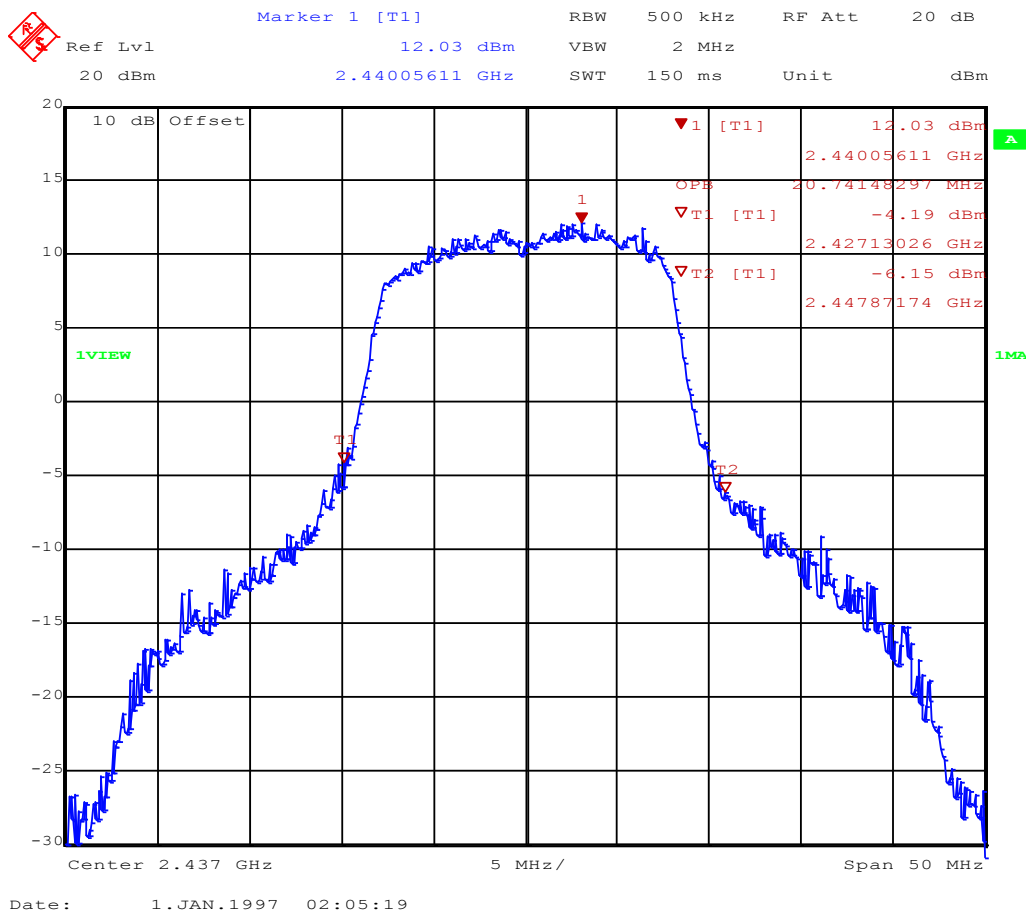


# Occupied Bandwidth – HT20 F<sub>MID</sub>

## Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3919

Applicant: Leica Geosystems AG  
EUT Name: Field Controller Win EC7  
Model: CS20  
Test Site: Eurofins Product Service GmbH  
Operator: Burkhard Pudell  
Test Conditions: Tnom / Vnom  
Mode: Tx, WLAN 2.4G, 2437 MHz, OFDM, HT20, MCS0  
Test Date: 2015-02-27  
Verdict: NONE (INFORMATION ONLY)  
Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used  
Note 2: OBW = 20.741 MHz

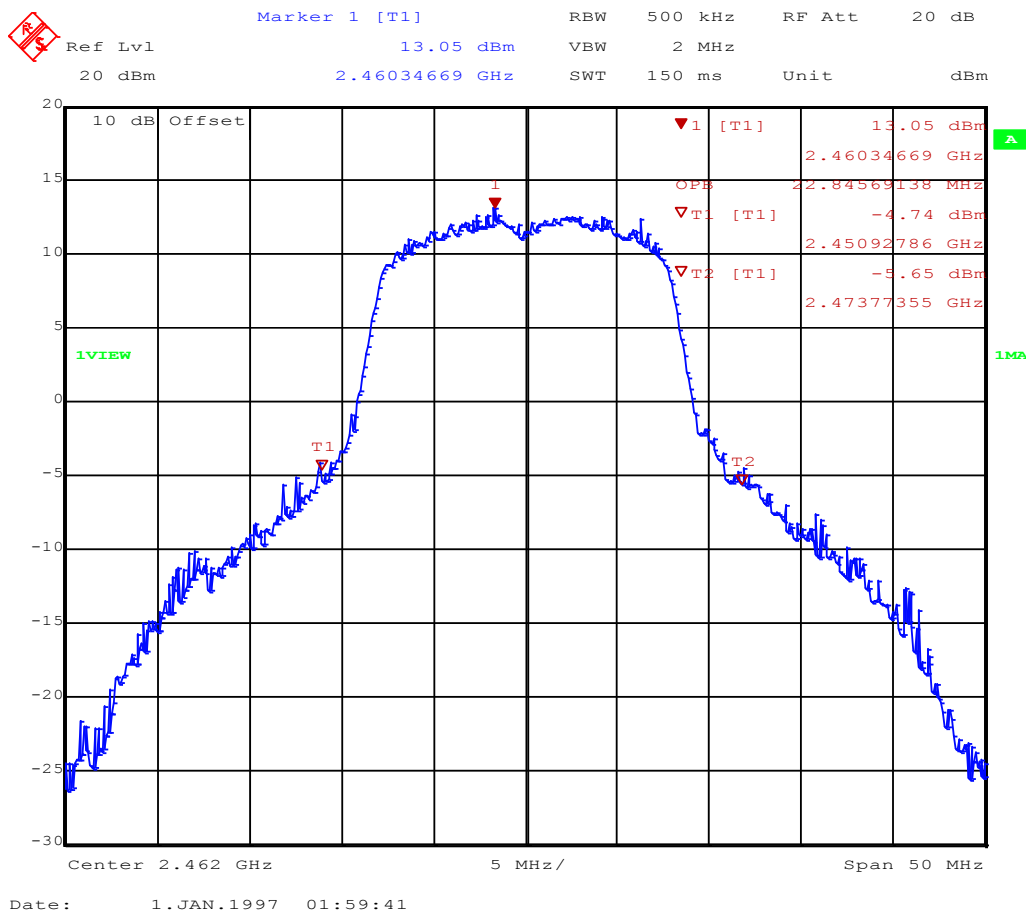


# Occupied Bandwidth – HT20 F<sub>HIGH</sub>

## Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3919

Applicant: Leica Geosystems AG  
EUT Name: Field Controller Win EC7  
Model: CS20  
Test Site: Eurofins Product Service GmbH  
Operator: Burkhard Pudell  
Test Conditions: Tnom / Vnom  
Mode: Tx, WLAN 2.4G, 2462 MHz, OFDM, HT20, MCS0  
Test Date: 2015-02-27  
Verdict: NONE (INFORMATION ONLY)  
Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used  
Note 2: OBW = 22.846 MHz



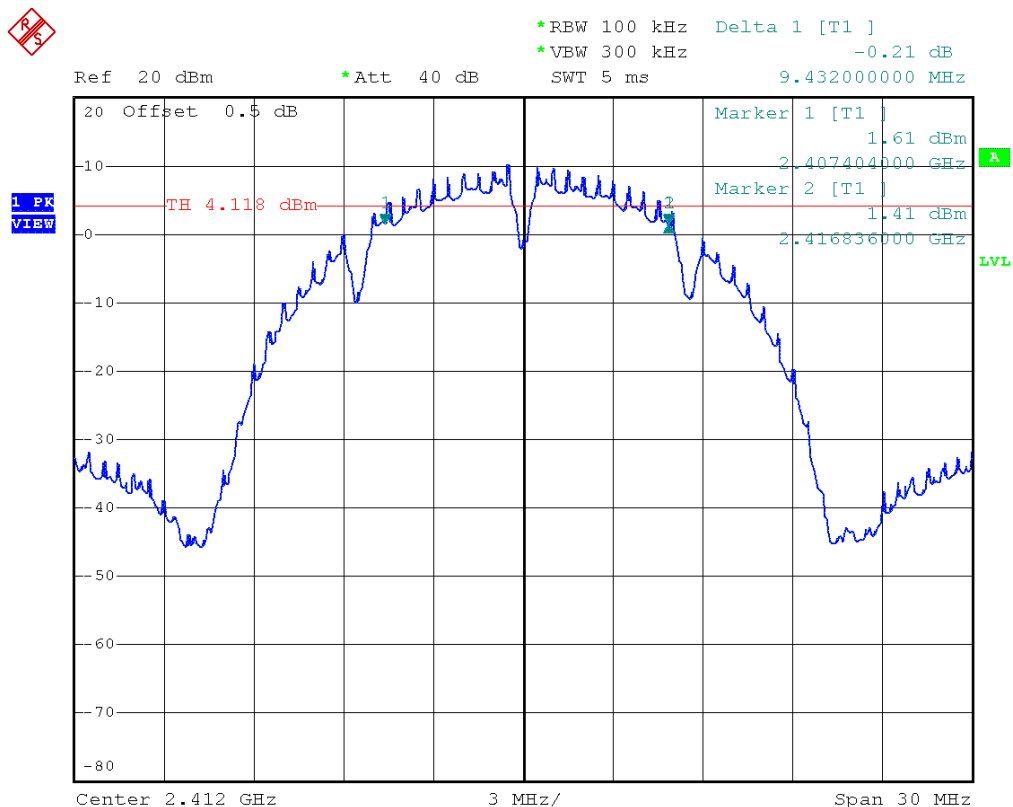
### 3.2 Test Conditions and Results – 6 dB Bandwidth

| 6dB Bandwidth acc. to FCC 15.247 / IC RSS-210                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                         |      |                      | Verdict: PASS |        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|------|----------------------|---------------|--------|
| EUT requirement<br>rule parts and clause                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Reference                                               |      |                      |               |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | FCC 15.247(a)(2) / IC RSS-210 A8.2                      |      |                      |               |        |
| Test according to<br>measurement reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Reference Method                                        |      |                      |               |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | FCC KDB Publication No. 558074                          |      |                      |               |        |
| Test frequency range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Tested frequencies                                      |      |                      |               |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | F <sub>LOW</sub> / F <sub>MID</sub> / F <sub>HIGH</sub> |      |                      |               |        |
| Limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                         |      |                      |               |        |
| Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                         |      |                      |               |        |
| ≥ 500kHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                         |      |                      |               |        |
| Test setup                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                         |      |                      |               |        |
| <div><div>Spectrum Analyzer</div><div>EUT</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                         |      |                      |               |        |
| Test procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                         |      |                      |               |        |
| <div>1. EUT set to test mode</div> <div>2. Span set to at least twice the emission spectrum</div> <div>3. Detector set to peak and max hold and RBW is set to 100 kHz</div> <div>4. Envelope peak value of emission spectrum is selected</div> <div>5. Marker on envelope of spectrum is set to level of -6 dB to the left of the peak</div> <div>6. Marker on envelope of spectrum is set to level of -6 dB to the right of the peak</div> <div>7. 6 dB Bandwidth is determined by marker frequency separation</div> |                                                         |      |                      |               |        |
| Test results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                         |      |                      |               |        |
| Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Frequency [MHz]                                         | Mode | 6 dB Bandwidth [kHz] | Limit [kHz]   | Result |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2412                                                    | DSSS | 9432                 | 500           | PASS   |
| F <sub>MID</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2437                                                    | DSSS | 9144                 | 500           | PASS   |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2462                                                    | DSSS | 9144                 | 500           | PASS   |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2412                                                    | OFDM | 15636                | 500           | PASS   |
| F <sub>MID</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2437                                                    | OFDM | 15888                | 500           | PASS   |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2462                                                    | OFDM | 15384                | 500           | PASS   |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2412                                                    | HT20 | 15756                | 500           | PASS   |
| F <sub>MID</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2437                                                    | HT20 | 15576                | 500           | PASS   |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2462                                                    | HT20 | 15.624               | 500           | PASS   |
| Comments:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                         |      |                      |               |        |

6 dB Bandwidth – DSSS F<sub>LOW</sub>
**Minimum 6 dB Bandwidth acc. to FCC 15.247**

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, DSSS, 1Mbps, 2412 MHz, modulated  
 Test Date: 2015-01-07  
 Verdict: PASS  
 Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)  
 Note 2: Minimum 6 dB Bandwidth conducted



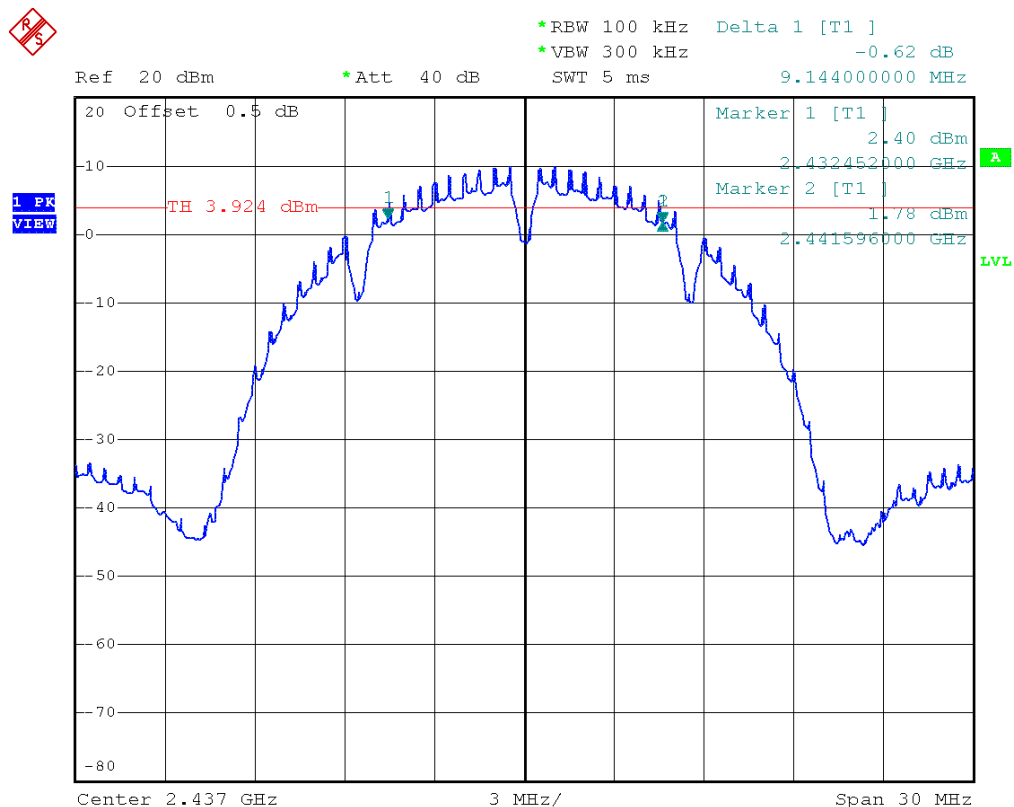
Comment: 6 dB bandwidth: 9432 KHz > 500 KHz;      verdict: PASS  
 Date: 7.JAN.2015 15:36:57

### 6 dB Bandwidth – DSSS $F_{\text{MID}}$

**Minimum 6 dB Bandwidth acc. to FCC 15.247**

Project Number: G0M-1406-3917

|                  |                                              |
|------------------|----------------------------------------------|
| Applicant:       | Leica Geosystems AG                          |
| EUT Name:        | Field Controller Win EC7                     |
| Model:           | CS20                                         |
| Test Site:       | Eurofins Product Service GmbH                |
| Operator:        | Wilfried Treffke                             |
| Test Conditions: | Tnom / Vnom                                  |
| Mode:            | Tx, WLAN, DSSS, 1Mbps, 2437 MHz, modulated   |
| Test Date:       | 2015-01-07                                   |
| Verdict:         | PASS                                         |
| Note 1:          | Procedure 8.1 DTS (558074 D01 Meas Guidance) |
| Note 2:          | Minimum 6 dB Bandwidth conducted             |

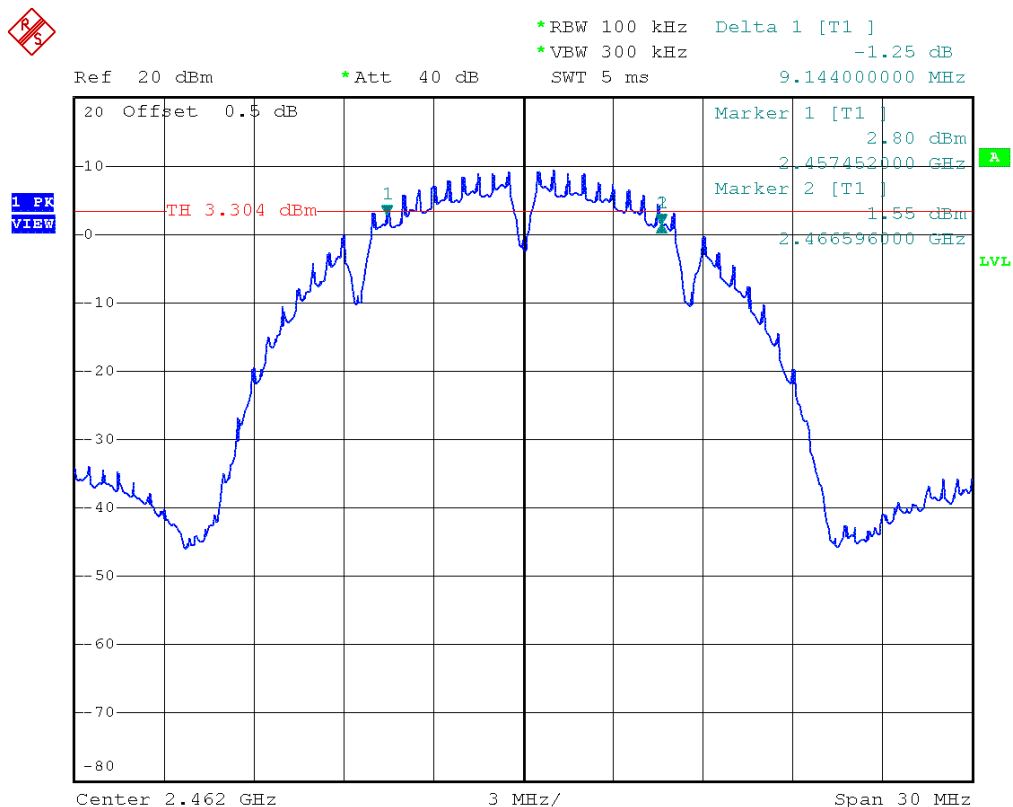


Comment: 6 dB bandwidth: 9144 KHz > 500 KHz; verdict: PASS  
Date: 7.JAN.2015 15:39:12

6 dB Bandwidth – DSSS F<sub>HIGH</sub>
**Minimum 6 dB Bandwidth acc. to FCC 15.247**

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, DSSS, 1Mbps, 2462 MHz, modulated  
 Test Date: 2015-01-07  
 Verdict: PASS  
 Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)  
 Note 2: Minimum 6 dB Bandwidth conducted



Comment: 6 dB bandwidth: 9144 KHz > 500 KHz;      verdict: PASS  
 Date: 7.JAN.2015 15:42:05

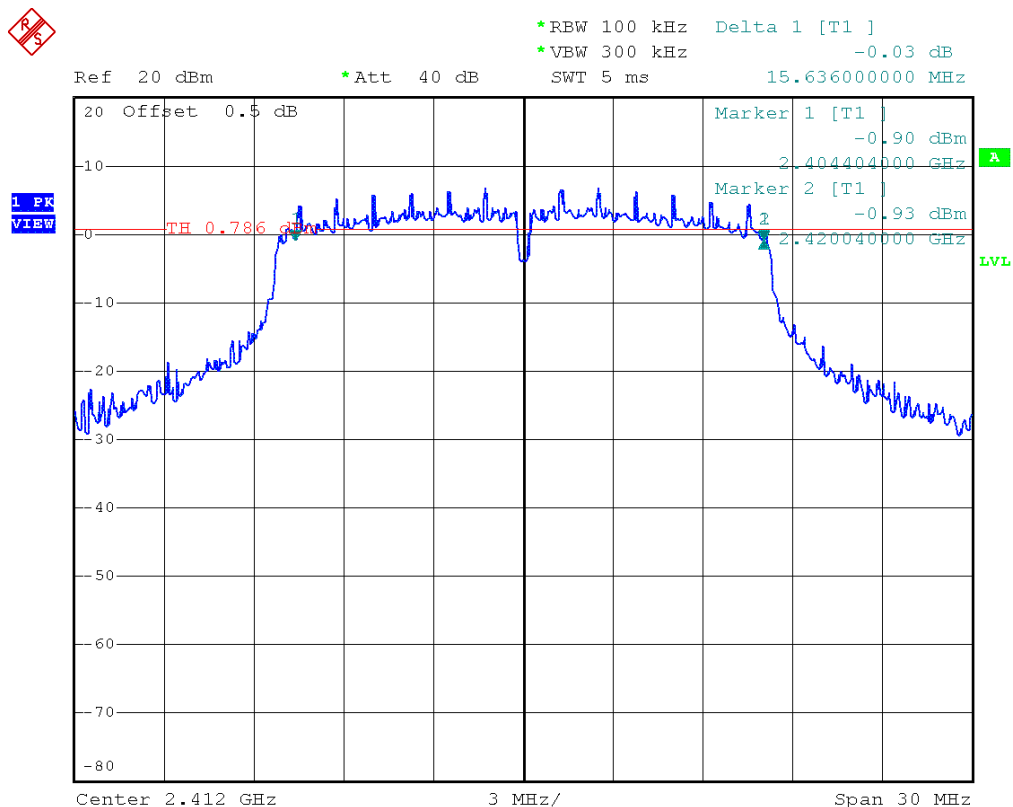
Test Report No.: G0M-1406-3919-TFC247WF-V01

Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

6 dB Bandwidth – OFDM F<sub>LOW</sub>
**Minimum 6 dB Bandwidth acc. to FCC 15.247**

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, OFDM, 6Mbps, 2412 MHz, modulated  
 Test Date: 2015-01-07  
 Verdict: PASS  
 Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)  
 Note 2: Minimum 6 dB Bandwidth conducted



Comment: 6 dB bandwidth: 15636 KHz > 500 KHz; verdict: PASS  
 Date: 7.JAN.2015 15:46:53

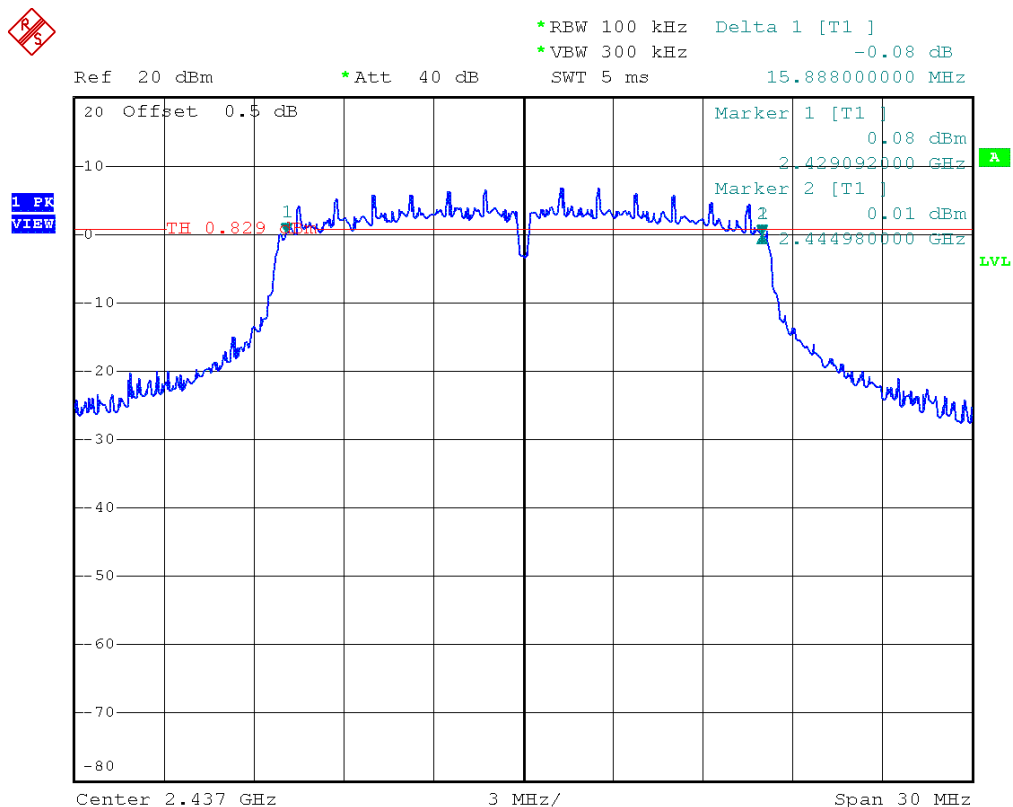
Test Report No.: G0M-1406-3919-TFC247WF-V01

Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

6 dB Bandwidth – OFDM  $F_{MD}$ 
**Minimum 6 dB Bandwidth acc. to FCC 15.247**

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, OFDM, 6Mbps, 2437 MHz, modulated  
 Test Date: 2015-01-07  
 Verdict: PASS  
 Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)  
 Note 2: Minimum 6 dB Bandwidth conducted



Comment: 6 dB bandwidth: 15888 KHz > 500 KHz;      verdict: PASS  
 Date: 7.JAN.2015 15:49:10

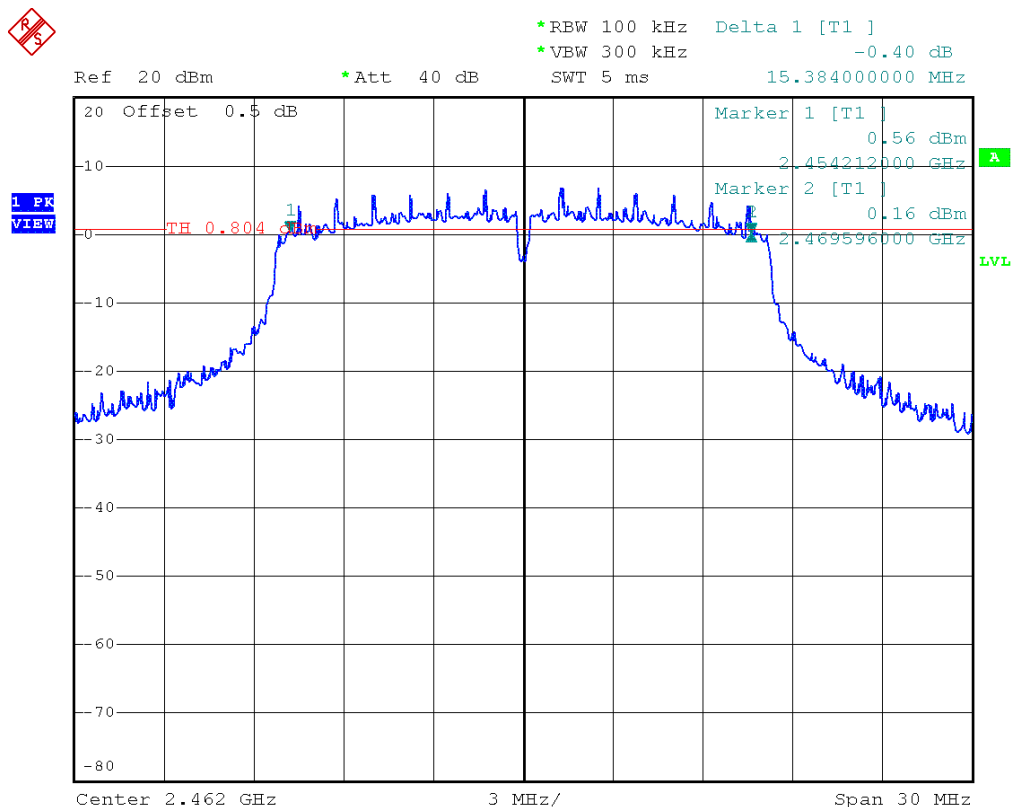
Test Report No.: G0M-1406-3919-TFC247WF-V01

Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

6 dB Bandwidth – OFDM F<sub>HIGH</sub>
**Minimum 6 dB Bandwidth acc. to FCC 15.247**

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, OFDM, 6Mbps, 2462 MHz, modulated  
 Test Date: 2015-01-07  
 Verdict: PASS  
 Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)  
 Note 2: Minimum 6 dB Bandwidth conducted



Comment: 6 dB bandwidth: 15384 KHz > 500 KHz;      verdict: PASS  
 Date: 7.JAN.2015 15:51:13

Test Report No.: G0M-1406-3919-TFC247WF-V01

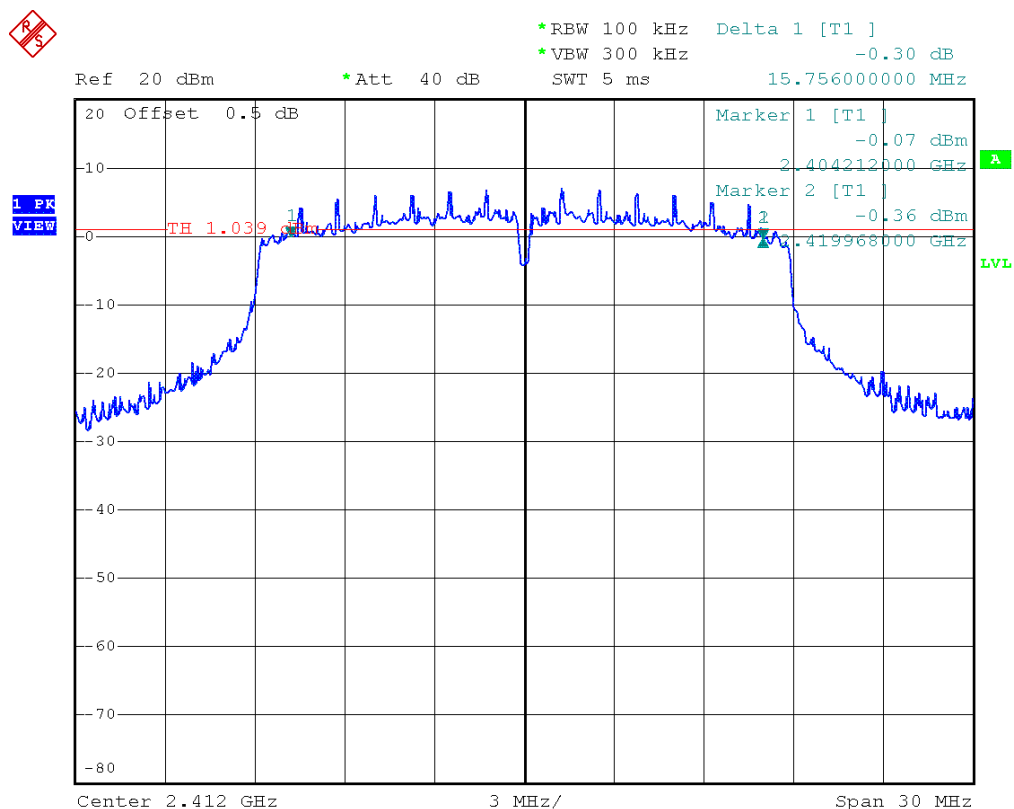
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

### 6 dB Bandwidth – HT20 F<sub>LOW</sub>

**Minimum 6 dB Bandwidth acc. to FCC 15.247**

Project Number: G0M-1406-3917

|                  |                                              |
|------------------|----------------------------------------------|
| Applicant:       | Leica Geosystems AG                          |
| EUT Name:        | Field Controller Win EC7                     |
| Model:           | CS20                                         |
| Test Site:       | Eurofins Product Service GmbH                |
| Operator:        | Wilfried Treffke                             |
| Test Conditions: | Tnom / Vnom                                  |
| Mode:            | Tx, WLAN, HT20, MCS0, 2412 MHz, modulated    |
| Test Date:       | 2015-01-07                                   |
| Verdict:         | PASS                                         |
| Note 1:          | Procedure 8.1 DTS (558074 D01 Meas Guidance) |
| Note 2:          | Minimum 6 dB Bandwidth conducted             |

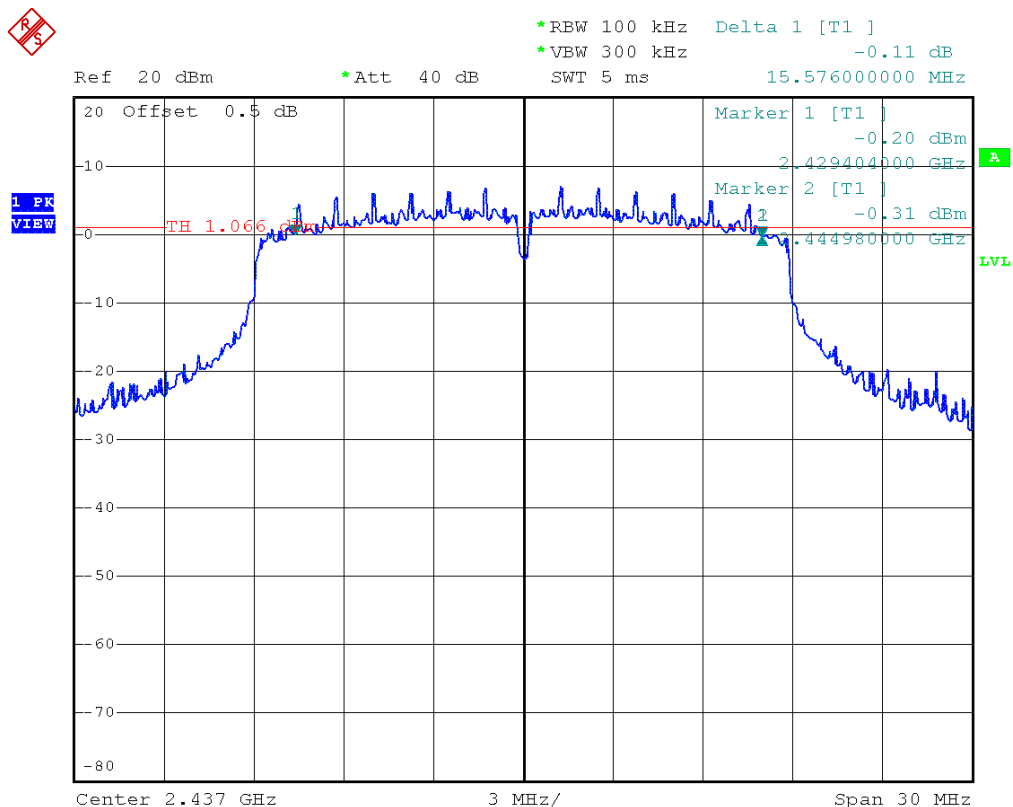


Comment: 6 dB bandwidth: 15756 KHz > 500 KHz; verdict: PASS  
Date: 7.JAN.2015 15:55:15

6 dB Bandwidth – HT20<sub>MID</sub>
**Minimum 6 dB Bandwidth acc. to FCC 15.247**

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, HT20, MCS0, 2437 MHz, modulated  
 Test Date: 2015-01-07  
 Verdict: PASS  
 Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)  
 Note 2: Minimum 6 dB Bandwidth conducted



Comment: 6 dB bandwidth: 15576 KHz > 500 KHz;      verdict: PASS  
 Date: 7.JAN.2015 15:58:00

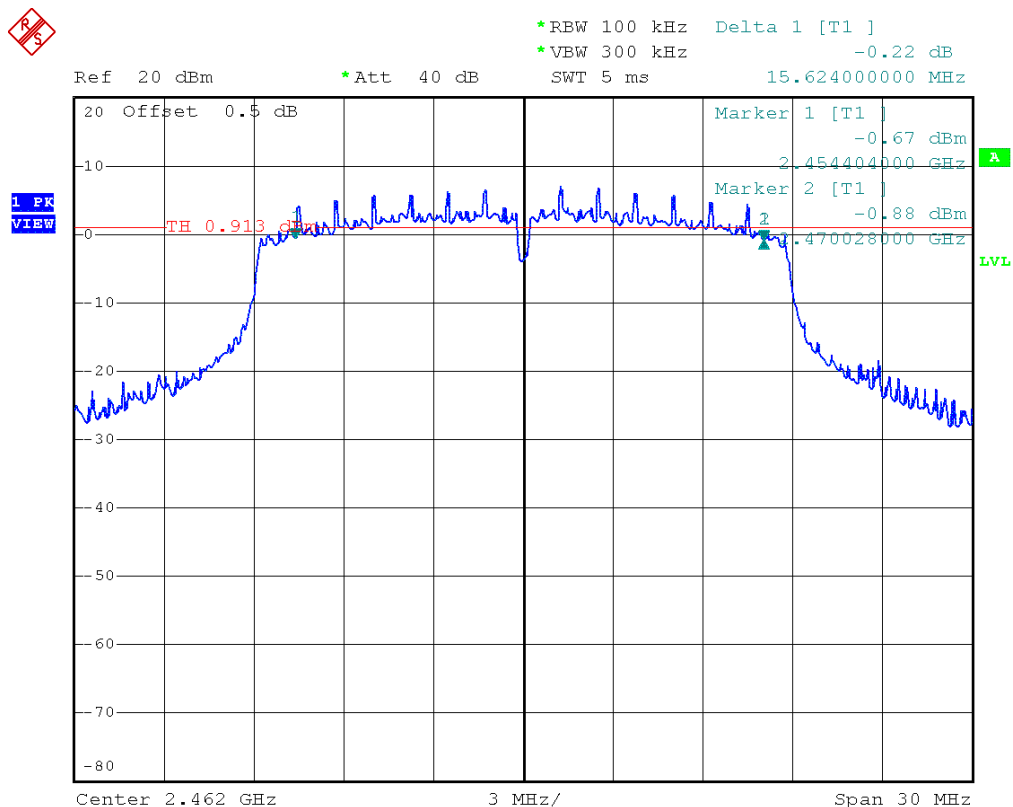
Test Report No.: G0M-1406-3919-TFC247WF-V01

Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

6 dB Bandwidth – HT20 F<sub>HIGH</sub>
**Minimum 6 dB Bandwidth acc. to FCC 15.247**

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, HT20, MCS0, 2462 MHz, modulated  
 Test Date: 2015-01-07  
 Verdict: PASS  
 Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)  
 Note 2: Minimum 6 dB Bandwidth conducted



Comment: 6 dB bandwidth: 15624 KHz > 500 KHz;      verdict: PASS  
 Date: 7.JAN.2015 16:00:01

### 3.3 Test Conditions and Results – Maximum peak conducted power

| Maximum peak conducted power acc. to FCC 15.247 / IC RSS-210                                                                                                                                                                                                                                                                                                                                                            |                                                     | Verdict: PASS |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------|
| EUT requirement<br>rule parts and clause                                                                                                                                                                                                                                                                                                                                                                                | Reference                                           |               |
|                                                                                                                                                                                                                                                                                                                                                                                                                         | FCC 15.247(b)(3) / IC RSS-210 A8.4                  |               |
| Test according to<br>measurement reference                                                                                                                                                                                                                                                                                                                                                                              | Reference Method                                    |               |
|                                                                                                                                                                                                                                                                                                                                                                                                                         | FCC KDB Publication No. 558074                      |               |
| Test frequency range                                                                                                                                                                                                                                                                                                                                                                                                    | Tested frequencies                                  |               |
|                                                                                                                                                                                                                                                                                                                                                                                                                         | $F_{\text{LOW}} / F_{\text{MID}} / F_{\text{HIGH}}$ |               |
| Measurement mode                                                                                                                                                                                                                                                                                                                                                                                                        | Peak                                                |               |
| Maximum antenna gain                                                                                                                                                                                                                                                                                                                                                                                                    | 2.2 dBi $\Rightarrow$ Limit correction = 0 dB       |               |
| Limits                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |               |
| Limit                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                     |               |
| 1 W (30 dBm)                                                                                                                                                                                                                                                                                                                                                                                                            |                                                     |               |
| The conducted output power limit specified above is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in the table, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi. |                                                     |               |
| Test setup                                                                                                                                                                                                                                                                                                                                                                                                              |                                                     |               |
|                                                                                                                                                                                                                                                                                                                                     |                                                     |               |
| Test procedure                                                                                                                                                                                                                                                                                                                                                                                                          |                                                     |               |
| <ol style="list-style-type: none"> <li>1. EUT set to test mode (Communication tester is used if needed)</li> <li>2. Center frequency set to test channel center frequency</li> <li>3. Span set to twice the 20 dB bandwidth and detector to peak and max hold</li> <li>4. Resolution bandwidth is set to 3 MHz</li> <li>5. Peak conducted power is determined from peak of spectrum envelope</li> </ol>                 |                                                     |               |

| Test results      |                 |          |      |                  |                |             |             |
|-------------------|-----------------|----------|------|------------------|----------------|-------------|-------------|
| Channel           | Frequency [MHz] | Voltage  | Mode | Peak power [dbm] | Peak power [W] | Limit [dBm] | Margin [dB] |
| F <sub>LOW</sub>  | 2412            | 11.1 VDC | DSSS | 20.3             | 0.107          | 30          | -09.70      |
| F <sub>MID</sub>  | 2437            | 11.1 VDC | DSSS | 20.0             | 0.100          | 30          | -10.00      |
| F <sub>HIGH</sub> | 2462            | 11.1 VDC | DSSS | 19.9             | 0.098          | 30          | -10.10      |
| F <sub>LOW</sub>  | 2412            | 11.1 VDC | OFDM | 24.1             | 0.257          | 30          | -05.90      |
| F <sub>MID</sub>  | 2437            | 11.1 VDC | OFDM | 23.9             | 0.245          | 30          | -06.10      |
| F <sub>HIGH</sub> | 2462            | 11.1 VDC | OFDM | 23.6             | 0.229          | 30          | -06.40      |
| F <sub>LOW</sub>  | 2412            | 11.1 VDC | HT20 | 24.1             | 0.257          | 30          | -05.90      |
| F <sub>MID</sub>  | 2437            | 11.1 VDC | HT20 | 23.9             | 0.245          | 30          | -06.10      |
| F <sub>HIGH</sub> | 2462            | 11.1 VDC | HT20 | 23.6             | 0.229          | 30          | -06.40      |
| Comments:         |                 |          |      |                  |                |             |             |

### 3.4 Test Conditions and Results – Power spectral density

| Power spectral density acc. to FCC 15.247 / IC RSS-210                                                                                                                                                                                                                                         |                 |           |                                 |                                | Verdict: PASS    |             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|---------------------------------|--------------------------------|------------------|-------------|
| EUT requirement<br>rule parts and clause                                                                                                                                                                                                                                                       |                 |           | Reference                       |                                |                  |             |
|                                                                                                                                                                                                                                                                                                |                 |           | FCC 15.247(e) / IC RSS-210 A8.2 |                                |                  |             |
| Test according to<br>measurement reference                                                                                                                                                                                                                                                     |                 |           | Reference Method                |                                |                  |             |
|                                                                                                                                                                                                                                                                                                |                 |           | FCC KDB Publication No. 558074  |                                |                  |             |
| Test frequency range                                                                                                                                                                                                                                                                           |                 |           | Tested frequencies              |                                |                  |             |
|                                                                                                                                                                                                                                                                                                |                 |           | F <sub>MID</sub>                |                                |                  |             |
| Measurement mode                                                                                                                                                                                                                                                                               |                 |           | Peak                            |                                |                  |             |
| Limits                                                                                                                                                                                                                                                                                         |                 |           |                                 |                                |                  |             |
| 8 dBm / 3 kHz                                                                                                                                                                                                                                                                                  |                 |           |                                 |                                |                  |             |
| Test setup                                                                                                                                                                                                                                                                                     |                 |           |                                 |                                |                  |             |
| <div><div>Spectrum Analyzer</div><div>EUT</div></div>                                                                                                                                                                                                                                          |                 |           |                                 |                                |                  |             |
| Test procedure                                                                                                                                                                                                                                                                                 |                 |           |                                 |                                |                  |             |
| 1. EUT set to test mode (Communication tester is used if needed)<br>2. Center frequency set to test channel center frequency<br>3. Span is set large enough to capture maximum emissions in passband, RBW is set to 3kHz<br>4. Peak power density is determined from peak emission of envelope |                 |           |                                 |                                |                  |             |
| Test results                                                                                                                                                                                                                                                                                   |                 |           |                                 |                                |                  |             |
| Channel                                                                                                                                                                                                                                                                                        | Frequency [MHz] | Test mode | Peak frequency [MHz]            | Peak power density [dBm/10kHz] | Limit [dBm/3kHz] | Margin [dB] |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                               | 2412            | DSSS      | 2410.47                         | 1.58                           | 8.0              | -06.42      |
| F <sub>MID</sub>                                                                                                                                                                                                                                                                               | 2437            | DSSS      | 2436.46                         | 1.26                           | 8.0              | -06.74      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                              | 2462            | DSSS      | 2462.54                         | 1.27                           | 8.0              | -06.73      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                               | 2412            | OFDM      | 2413.26                         | -0.81                          | 8.0              | -08.81      |
| F <sub>MID</sub>                                                                                                                                                                                                                                                                               | 2437            | OFDM      | 2440.15                         | -1.89                          | 8.0              | -09.89      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                              | 2462            | OFDM      | 2465.15                         | -1.85                          | 8.0              | -09.85      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                               | 2412            | HT20      | 2409.48                         | -1.32                          | 8.0              | -09.32      |
| F <sub>MID</sub>                                                                                                                                                                                                                                                                               | 2437            | HT20      | 2438.26                         | -1.74                          | 8.0              | -09.74      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                              | 2462            | HT20      | 2464.52                         | -2.87                          | 8.0              | -10.87      |
| Comments:                                                                                                                                                                                                                                                                                      |                 |           |                                 |                                |                  |             |

### 3.5 Test Conditions and Results – AC power line conducted emissions

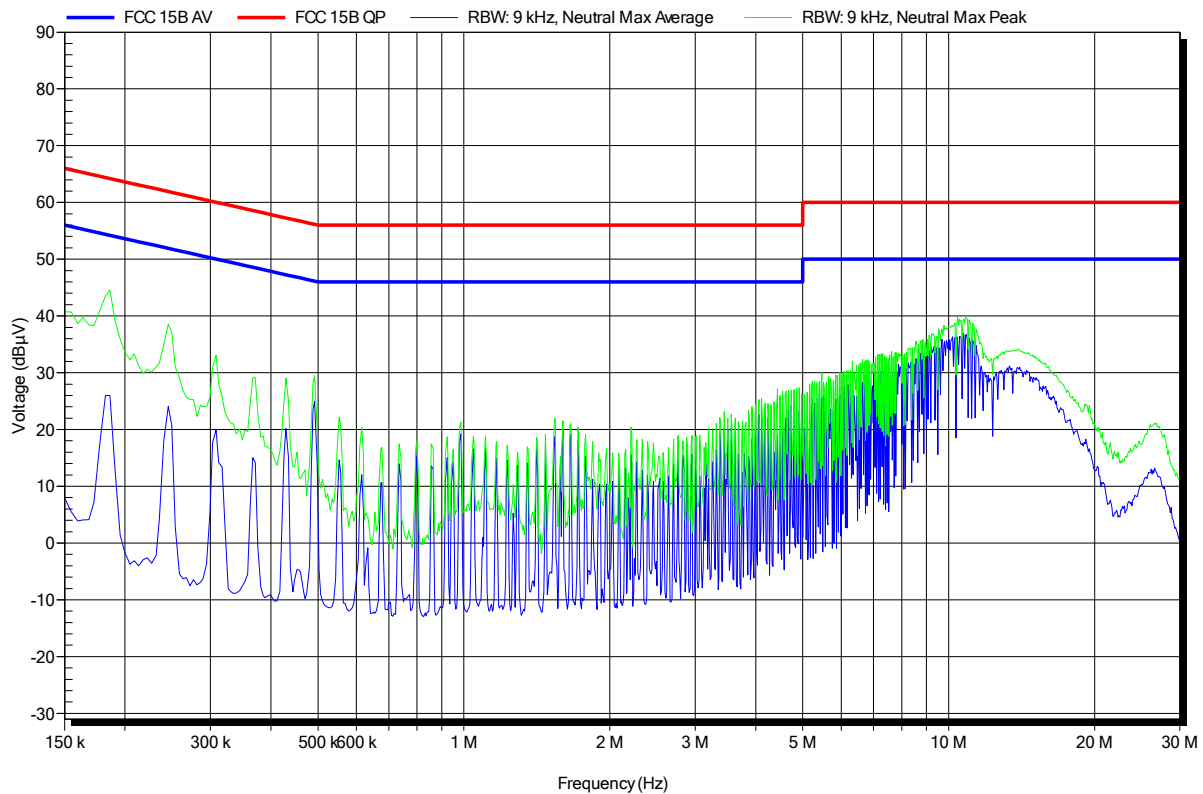
| Power line conducted emissions acc. to FCC 47 CFR 15.207 / IC RSS-Gen |                   |                       |                | Verdict: PASS |  |
|-----------------------------------------------------------------------|-------------------|-----------------------|----------------|---------------|--|
| Test according referenced standards                                   |                   | Reference Method      |                |               |  |
|                                                                       |                   | ANSI C63.4            |                |               |  |
| Fully configured sample scanned over the following frequency range    |                   | Frequency range       |                |               |  |
|                                                                       |                   | 0.15 MHz to 30 MHz    |                |               |  |
| Points of Application                                                 |                   | Application Interface |                |               |  |
| AC Mains                                                              |                   | LISN                  |                |               |  |
| EUT test mode                                                         |                   | AC-Powerline          |                |               |  |
| Limits and results                                                    |                   |                       |                |               |  |
| Frequency [MHz]                                                       | Quasi-Peak [dBμV] | Result                | Average [dBμV] | Result        |  |
| 0.15 to 0.5                                                           | 66 to 56*         | PASS                  | 56 to 46*      | PASS          |  |
| 0.5 to 5                                                              | 56                | PASS                  | 46             | PASS          |  |
| 5 to 30                                                               | 60                | PASS                  | 50             | PASS          |  |
| Comments:                                                             |                   |                       |                |               |  |
| * Limit decreases linearly with the logarithm of the frequency.       |                   |                       |                |               |  |

**Conducted Emissions**
**EMI voltage test in the ac-mains according to FCC Part 15b**

Project number: G0M-1406-3919

Manufacturer: Leica Geosystems AG  
 EUT Name: Feld- Controller  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Zunke  
 Test Conditions: Tnom: 25°C, Unom: 10.8VDC via AC/DC Adapter  
 LISN: ESH2-Z5 N  
 Mode: Basic, with power supply, WLAN link to AP, BT link to GPS Antenna  
 Test Date: 2014-08-06  
 Note:

Index 13



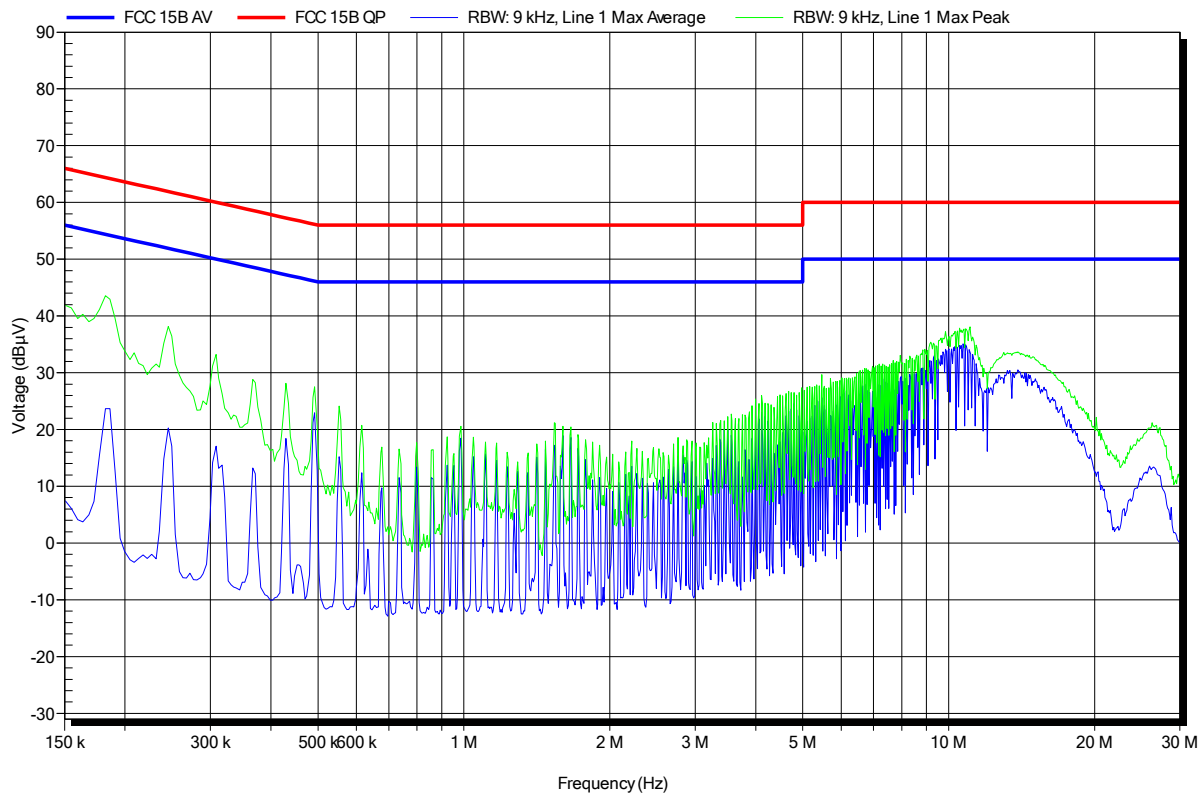
## Conducted Emissions

### EMI voltage test in the ac-mains according to FCC Part 15b

Project number: G0M-1406-3919

Manufacturer: Leica Geosystems AG  
 EUT Name: Feld- Controller  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Zunke  
 Test Conditions: Tnom: 25°C, Unom: 10.8VDC via AC/DC Adapter  
 LISN: ESH2-Z5 L  
 Mode: Basic, with power supply, WLAN link to AP, BT link to GPS Antenna  
 Test Date: 2014-08-06  
 Note:

Index 14



### 3.6 Test Conditions and Results – Band edge compliance

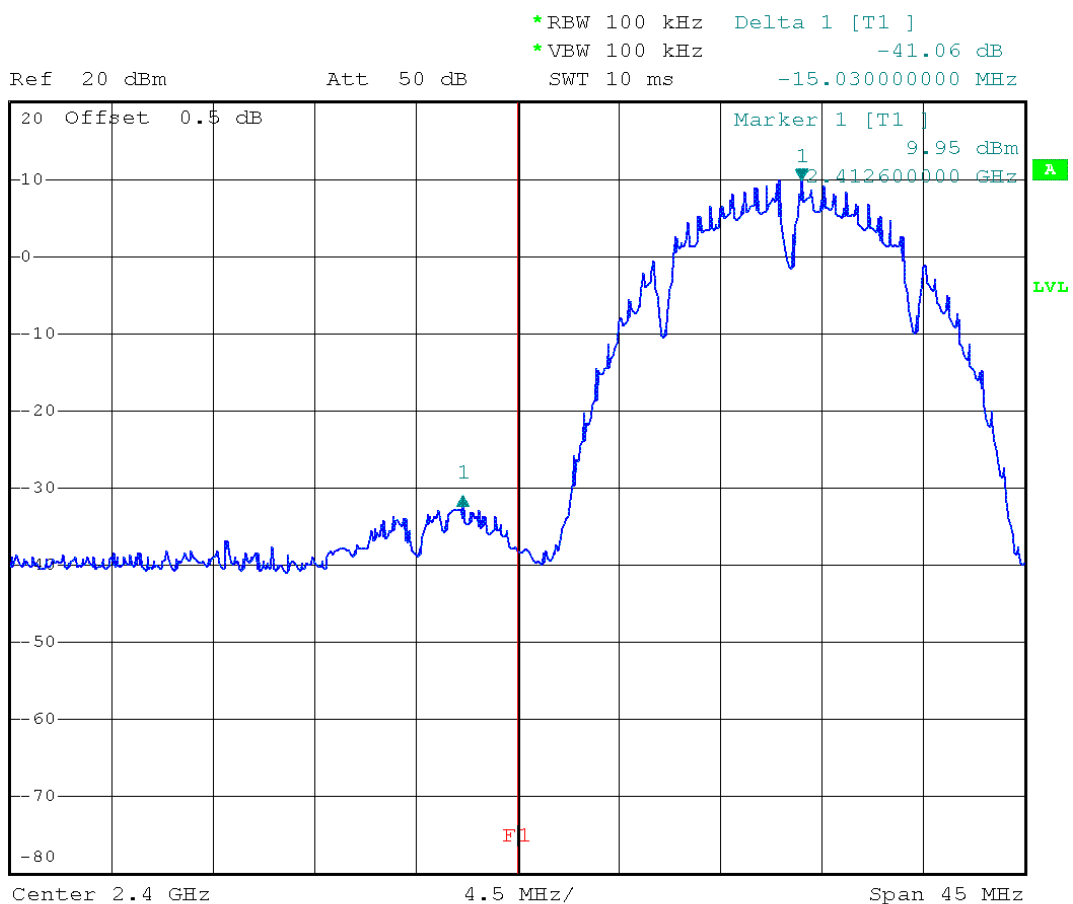
| Band-edge compliance acc. to FCC 15.247 / IC RSS-210                                                                                                                                                                                                                                                                                                                                                   |                 |                                      |                                        | Verdict: PASS |             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------|----------------------------------------|---------------|-------------|
| EUT requirement<br>rule parts and clause                                                                                                                                                                                                                                                                                                                                                               |                 | Reference                            |                                        |               |             |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                 | FCC 15.247(d) / IC RSS-210 A8.5      |                                        |               |             |
| Test according to<br>measurement reference                                                                                                                                                                                                                                                                                                                                                             |                 | Reference Method                     |                                        |               |             |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                 | FCC KDB Publication No. 558074       |                                        |               |             |
| Test frequency range                                                                                                                                                                                                                                                                                                                                                                                   |                 | Tested frequencies                   |                                        |               |             |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                 | F <sub>LOW</sub> / F <sub>HIGH</sub> |                                        |               |             |
| Measurement mode                                                                                                                                                                                                                                                                                                                                                                                       |                 | Peak                                 |                                        |               |             |
| Limits                                                                                                                                                                                                                                                                                                                                                                                                 |                 |                                      |                                        |               |             |
| Limit                                                                                                                                                                                                                                                                                                                                                                                                  |                 |                                      | Condition                              |               |             |
| ≤ -20 dB / 100 kHz                                                                                                                                                                                                                                                                                                                                                                                     |                 |                                      | Peak power measurement detector = Peak |               |             |
| ≤ -30 dB / 100 kHz                                                                                                                                                                                                                                                                                                                                                                                     |                 |                                      | Peak power measurement detector = RMS  |               |             |
| Test setup                                                                                                                                                                                                                                                                                                                                                                                             |                 |                                      |                                        |               |             |
| <div><div>Spectrum Analyzer</div><div>EUT</div></div>                                                                                                                                                                                                                                                                                                                                                  |                 |                                      |                                        |               |             |
| Test procedure                                                                                                                                                                                                                                                                                                                                                                                         |                 |                                      |                                        |               |             |
| <div>1. EUT set to test mode (Communication tester is used if needed)</div> <div>2. Span set around lower band edge and detector is set to peak and max hold</div> <div>3. Resolution bandwidth is set to 100 kHz</div> <div>4. Markers are set to peak emission levels within frequency band and outside frequency band</div> <div>5. Band edge attenuation is determined from level difference</div> |                 |                                      |                                        |               |             |
| Test results                                                                                                                                                                                                                                                                                                                                                                                           |                 |                                      |                                        |               |             |
| Channel                                                                                                                                                                                                                                                                                                                                                                                                | Frequency [MHz] | Mode                                 | Level [dBc]                            | Limit [dBc]   | Margin [dB] |
| F <sub>LOW20</sub>                                                                                                                                                                                                                                                                                                                                                                                     | 2412            | DSSS                                 | -41.06                                 | -20           | -21.06      |
| F <sub>HIGH20</sub>                                                                                                                                                                                                                                                                                                                                                                                    | 2462            | DSSS                                 | -46.65                                 | -20           | -26.65      |
| F <sub>LOW20</sub>                                                                                                                                                                                                                                                                                                                                                                                     | 2412            | OFDM                                 | -27.73                                 | -20           | -07.73      |
| F <sub>HIGH20</sub>                                                                                                                                                                                                                                                                                                                                                                                    | 2462            | OFDM                                 | -39.49                                 | -20           | -19.49      |
| F <sub>LOW20</sub>                                                                                                                                                                                                                                                                                                                                                                                     | 2412            | HT20                                 | -27.02                                 | -20           | -07.02      |
| F <sub>HIGH20</sub>                                                                                                                                                                                                                                                                                                                                                                                    | 2462            | HT20                                 | -38.86                                 | -20           | -18.86      |
| Comments:                                                                                                                                                                                                                                                                                                                                                                                              |                 |                                      |                                        |               |             |

Band-edge compliance – DSSS F<sub>LOW</sub>

## Band-edge compliance acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, DSSS, 1Mbps, 2412 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Procedure 13.2 Marker-delta method (558074 D01 Meas Guidance)  
 Note 2: lower Band-edge, conducted measurement



Comment: Limit: Marker Delta value >20 dB; Result: PASS  
 Date: 8.JAN.2015 09:52:46

Test Report No.: G0M-1406-3919-TFC247WF-V01

Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

# Band-edge compliance – DSSS $F_{HIGH}$

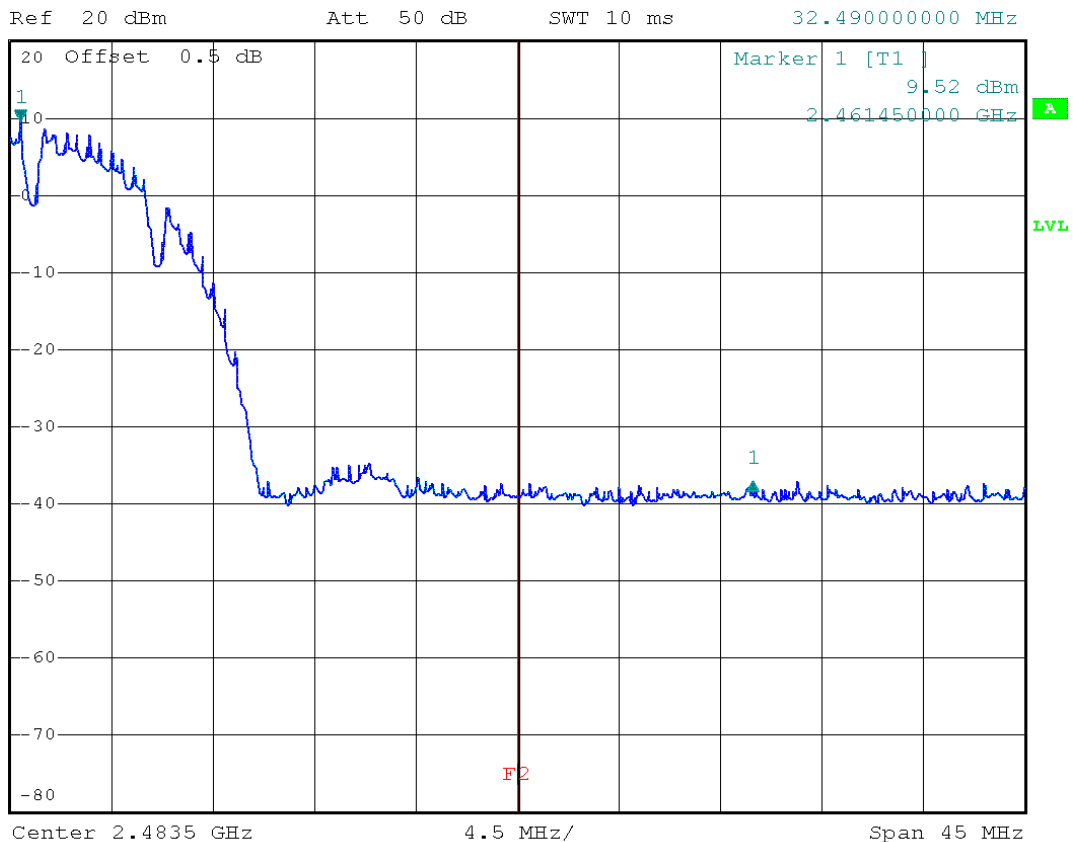
## Band-edge compliance acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
EUT Name: Field Controller Win EC7  
Model: CS20  
Test Site: Eurofins Product Service GmbH  
Operator: Wilfried Treffke  
Test Conditions: Tnom / Vnom  
Mode: Tx, WLAN, DSSS, 1Mbps, 2462 MHz, modulated  
Test Date: 2015-01-08  
Verdict: PASS  
Note 1: Procedure 13.2 Marker-delta method (558074 D01 Meas Guidance)  
Note 2: upper Band-edge, conducted measurement



\*RBW 100 kHz Delta 1 [T1 ]  
\*VBW 100 kHz -46.65 dB  
SWT 10 ms 32.490000000 MHz



Date: 8.JAN.2015 09:59:45

Test Report No.: G0M-1406-3919-TFC247WF-V01

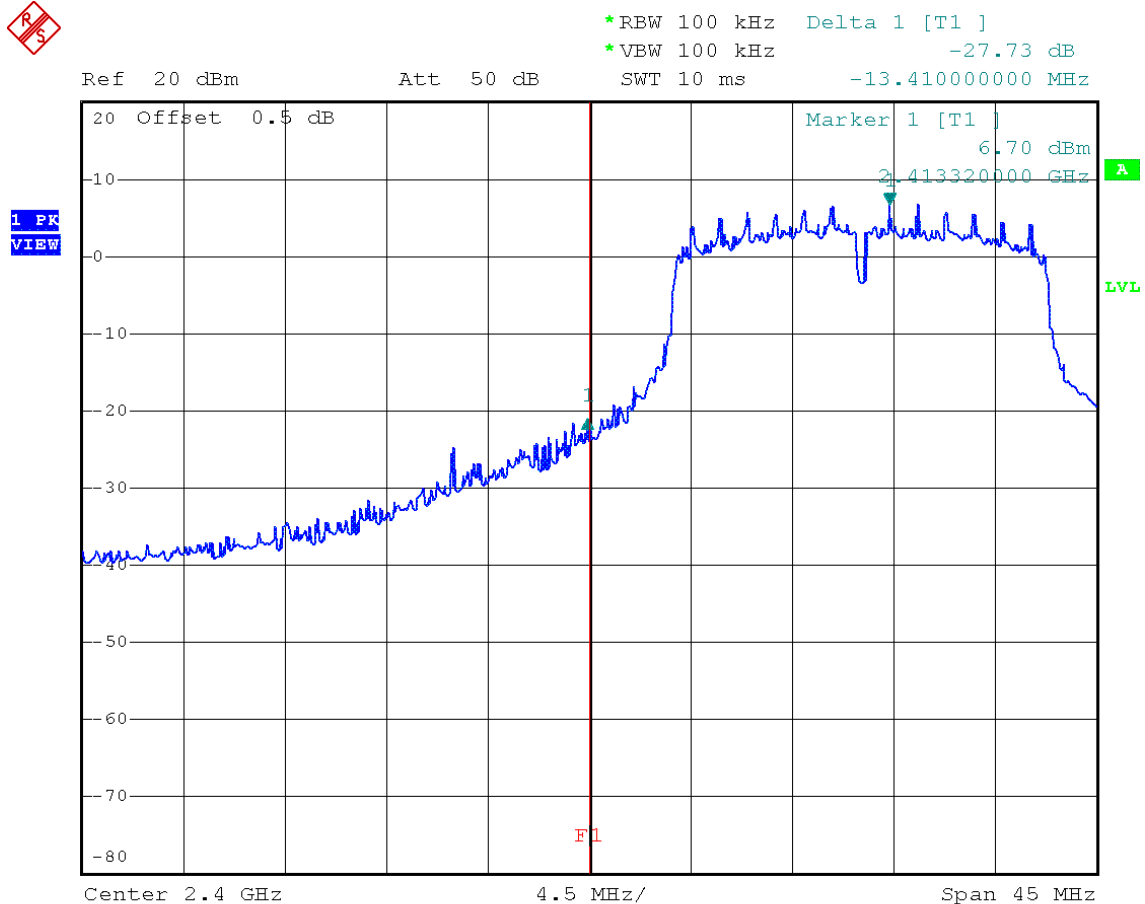
Eurofins Product Service GmbH  
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Band-edge compliance – OFDM F<sub>LOW</sub>

## Band-edge compliance acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, OFDM, 6Mbps, 2412 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Procedure 13.2 Marker-delta method (558074 D01 Meas Guidance)  
 Note 2: lower Band-edge, conducted measurement



Comment: Limit: Marker Delta value >20 dB; Result: PASS  
 Date: 8.JAN.2015 10:04:17

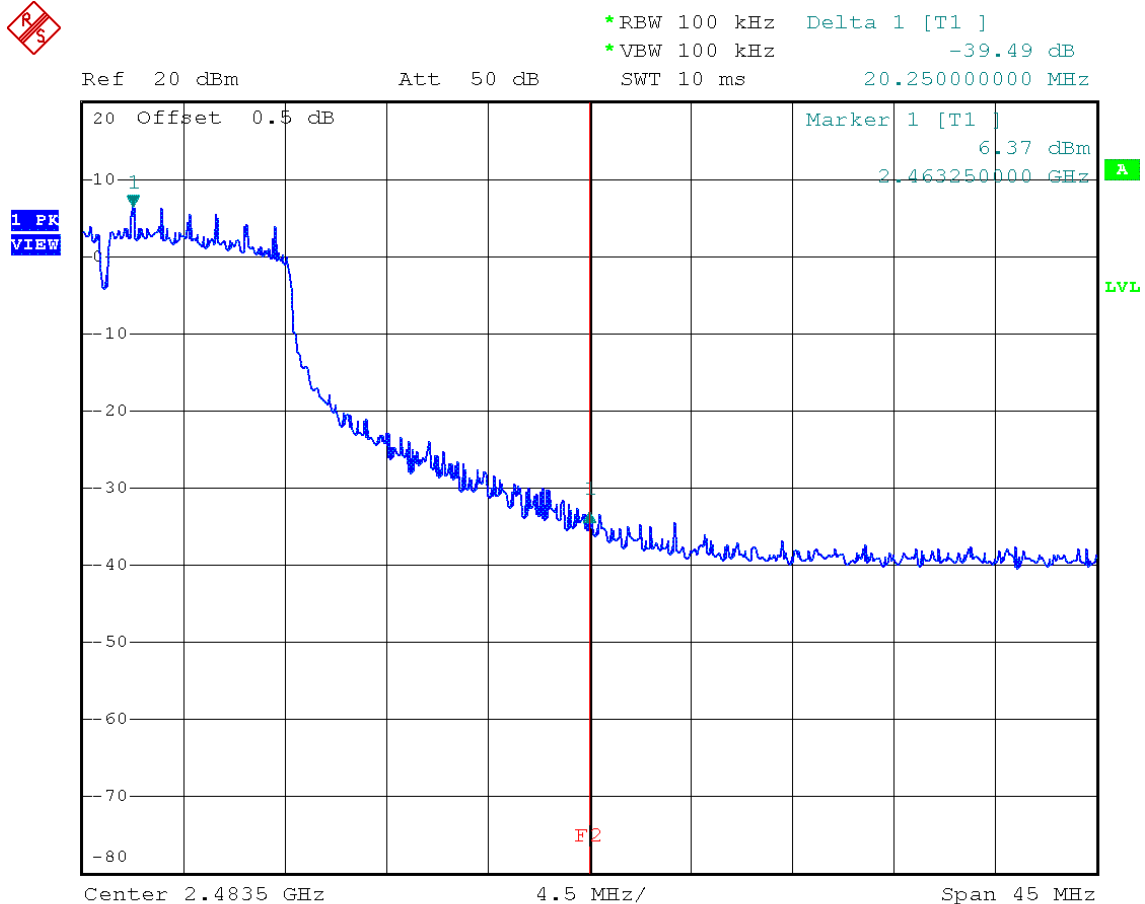
Test Report No.: G0M-1406-3919-TFC247WF-V01

Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Band-edge compliance – OFDM F<sub>HIGH</sub>
**Band-edge compliance acc. to FCC 15.247**

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, OFDM, 6Mbps, 2462 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Procedure 13.2 Marker-delta method (558074 D01 Meas Guidance)  
 Note 2: upper Band-edge, conducted measurement



Comment: Limit: Marker Delta value >20 dB; Result: PASS  
 Date: 8.JAN.2015 10:02:08

Test Report No.: G0M-1406-3919-TFC247WF-V01

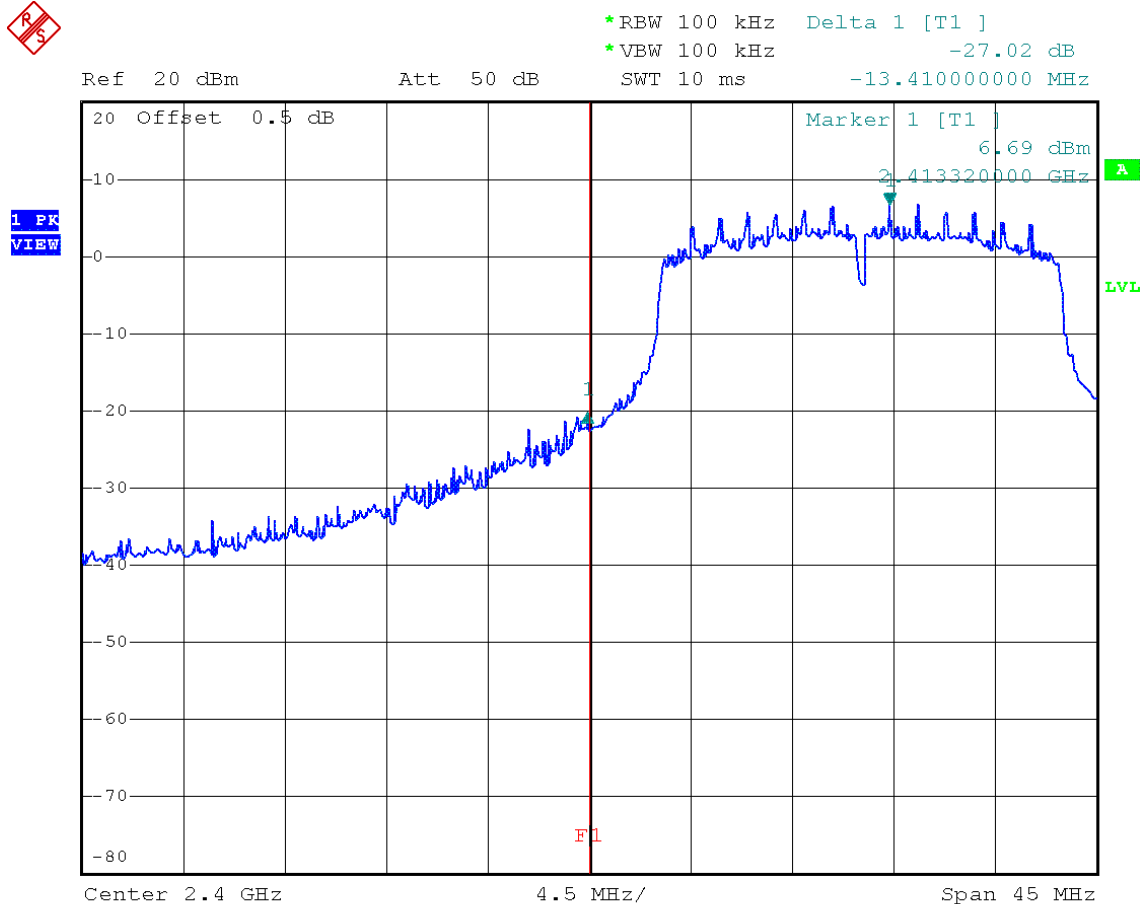
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Band-edge compliance – HT20 F<sub>Low</sub>

## Band-edge compliance acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, HT20, MCS0, 2412 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Procedure 13.2 Marker-delta method (558074 D01 Meas Guidance)  
 Note 2: lower Band-edge, conducted measurement



Comment: Limit: Marker Delta value >20 dB; Result: PASS  
 Date: 8.JAN.2015 10:07:01

Test Report No.: G0M-1406-3919-TFC247WF-V01

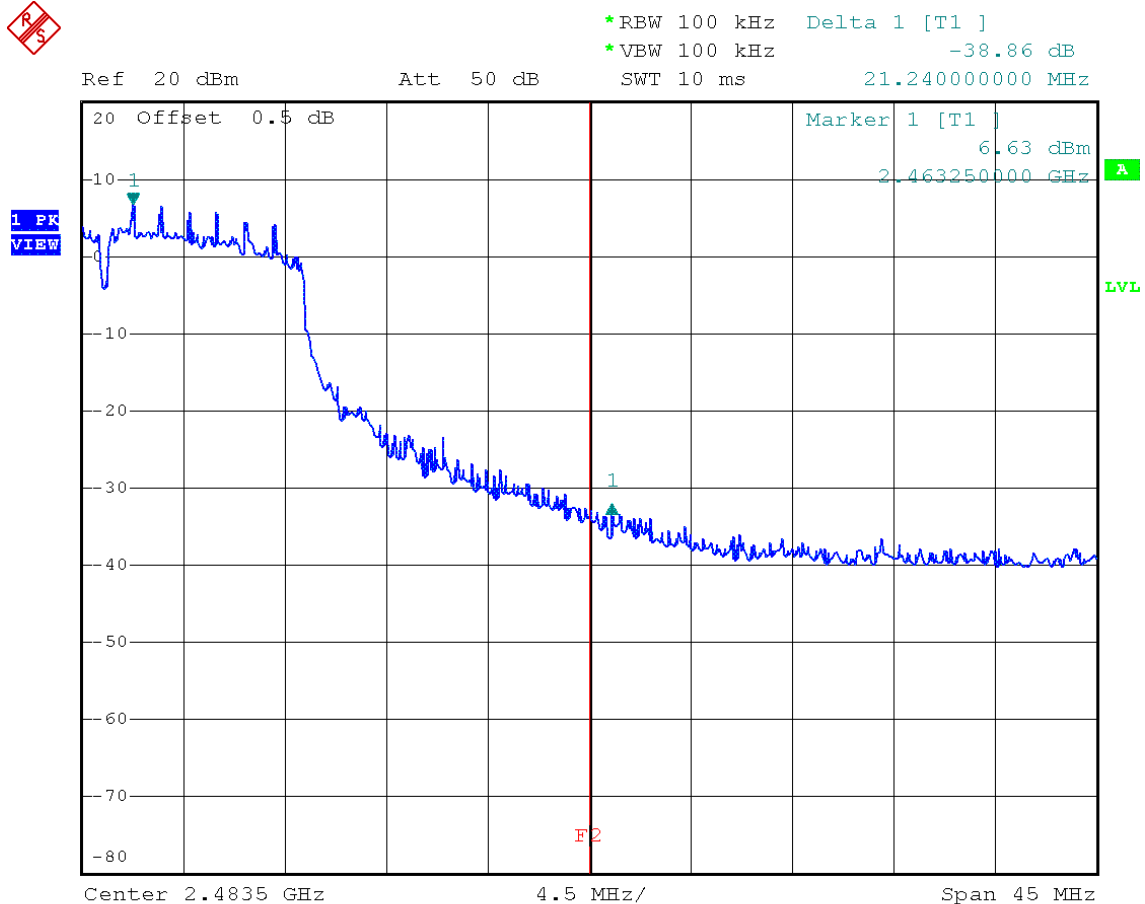
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Band-edge compliance – HT20 F<sub>HIGH</sub>

## Band-edge compliance acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, HT20, MCS0, 2462 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Procedure 13.2 Marker-delta method (558074 D01 Meas Guidance)  
 Note 2: upper Band-edge, conducted measurement



Comment: Limit: Marker Delta value >20 dB; Result: PASS  
 Date: 8.JAN.2015 10:09:43

Test Report No.: G0M-1406-3919-TFC247WF-V01

Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

### 3.7 Test Conditions and Results – Conducted spurious emissions

| Conducted spurious emissions acc. to FCC 15.247 / IC RSS-210                                                                                                                                                                                                                                                                                                                                                                                       |                                        | Verdict: PASS |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------|
| EUT requirement<br>rule parts and clause                                                                                                                                                                                                                                                                                                                                                                                                           | Reference                              |               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                    | FCC 15.247(d) / IC RSS-210 A8.5        |               |
| Test according to<br>measurement reference                                                                                                                                                                                                                                                                                                                                                                                                         | Reference Method                       |               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                    | FCC KDB Publication No. 558074         |               |
| Test frequency range                                                                                                                                                                                                                                                                                                                                                                                                                               | Tested frequencies                     |               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10 MHz – 10 <sup>th</sup> Harmonic     |               |
| Measurement mode                                                                                                                                                                                                                                                                                                                                                                                                                                   | Peak                                   |               |
| Limits                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        |               |
| Limit                                                                                                                                                                                                                                                                                                                                                                                                                                              | Condition                              |               |
| ≤ -20 dB / 100 kHz                                                                                                                                                                                                                                                                                                                                                                                                                                 | Peak power measurement detector = Peak |               |
| ≤ -30 dB /100 kHz                                                                                                                                                                                                                                                                                                                                                                                                                                  | Peak power measurement detector = RMS  |               |
| Test setup                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |               |
| <div><div>Spectrum Analyzer</div><div>EUT</div></div>                                                                                                                                                                                                                                                                                                                                                                                              |                                        |               |
| Test procedure                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                        |               |
| <div>1. EUT set to test mode (Communication tester is used if needed)</div> <div>2. Span it set according to measurement range</div> <div>3. Resolution bandwidth is set to 100 kHz and detector to peak and max hold</div> <div>4. Markers are set to peak emission levels within frequency band</div> <div>5. Emission level is determined by second marker on emission peak</div> <div>6. Attenuation is determined from level difference</div> |                                        |               |

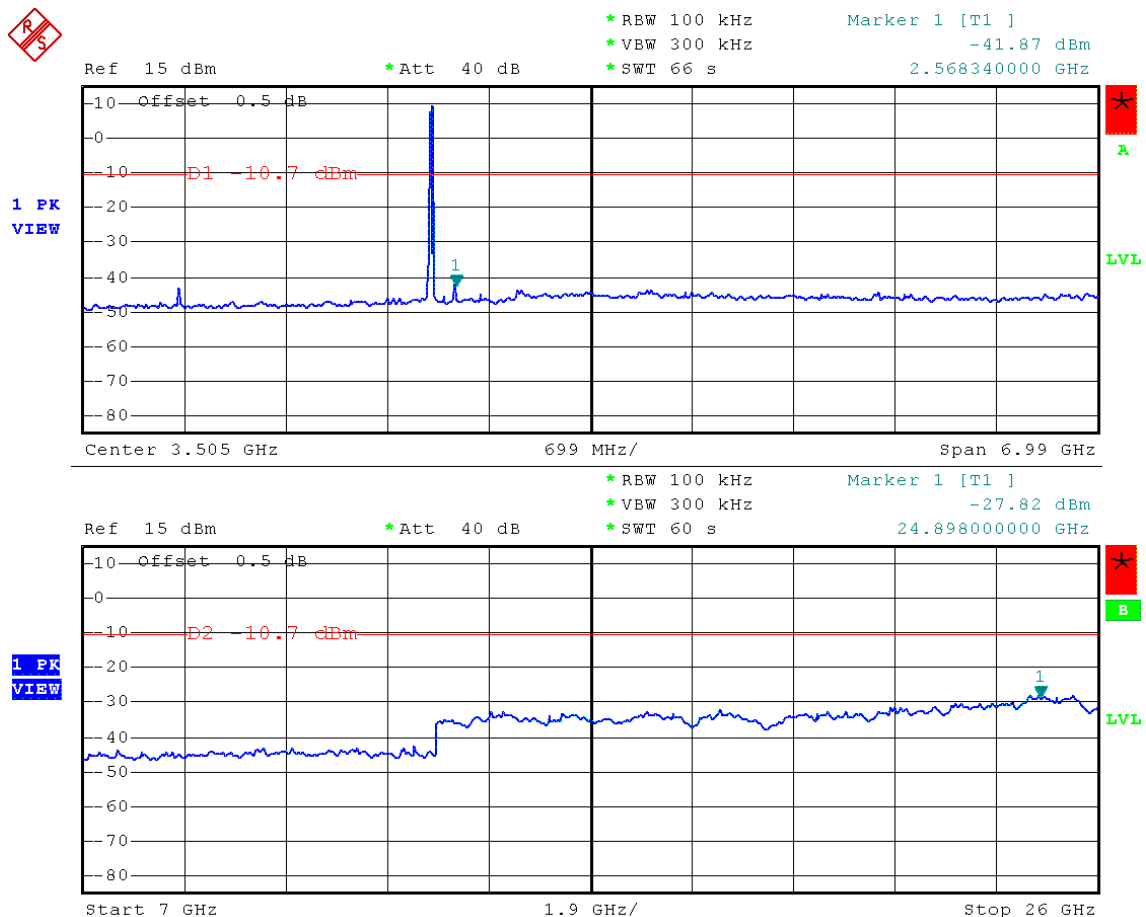
| Test results        |                 |      |                |                      |                  |             |             |
|---------------------|-----------------|------|----------------|----------------------|------------------|-------------|-------------|
| Channel             | Frequency [MHz] | Mode | Emission [MHz] | Emission Level [dbm] | Peak power [dBm] | Limit [dBm] | Margin [dB] |
| F <sub>LOW20</sub>  | 2412            | DSSS | 24898.0        | -27.82               | 9.3              | -10.7       | -17.12      |
| F <sub>MID20</sub>  | 2437            | DSSS | 24822.0        | -27.73               | 8.3              | -11.7       | -16.03      |
| F <sub>HIGH20</sub> | 2462            | DSSS | 25506.0        | -27.35               | 8.6              | -11.4       | -15.95      |
| F <sub>LOW20</sub>  | 2412            | OFDM | 25544.0        | -27.82               | 6.9              | -13.1       | -14.72      |
| F <sub>MID20</sub>  | 2437            | OFDM | 24974.0        | -27.98               | 8.7              | -14.3       | -13.68      |
| F <sub>HIGH20</sub> | 2462            | OFDM | 25012.0        | -27.44               | 8.7              | -14.3       | -13.14      |
| F <sub>LOW20</sub>  | 2412            | HT20 | 25468.0        | -27.96               | 7.0              | -13.0       | -14.96      |
| F <sub>MID20</sub>  | 2437            | HT20 | 24974.0        | -27.52               | 7.2              | -12.8       | -14.72      |
| F <sub>HIGH20</sub> | 2462            | HT20 | 25582.0        | -27.39               | 6.3              | -13.7       | -13.69      |
| Comments:           |                 |      |                |                      |                  |             |             |

Conducted spurious emissions – DSSS F<sub>LOW</sub>

## Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, DSSS, 1Mbps, 2412 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)  
 Note 2: conducted measurement



Date: 8.JAN.2015 10:50:07

Test Report No.: G0M-1406-3919-TFC247WF-V01

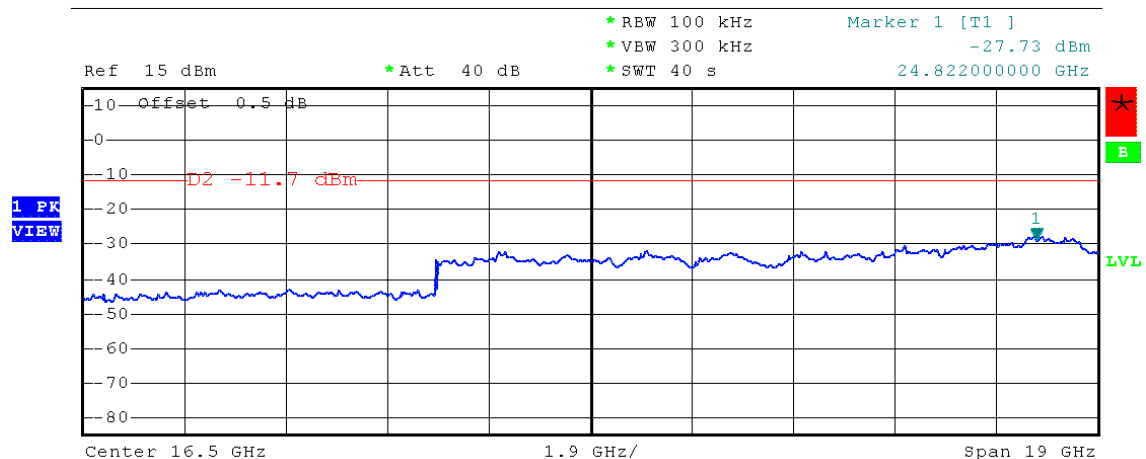
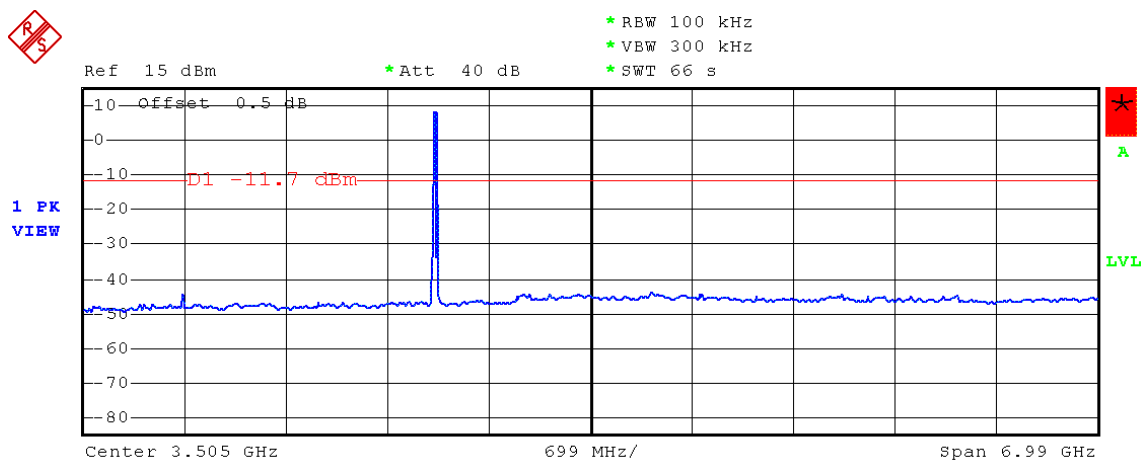
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted spurious emissions – DSSS F<sub>MID</sub>

## Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, DSSS, 1Mbps, 2437 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)  
 Note 2: conducted measurement



Date: 8.JAN.2015 10:59:33

Test Report No.: G0M-1406-3919-TFC247WF-V01

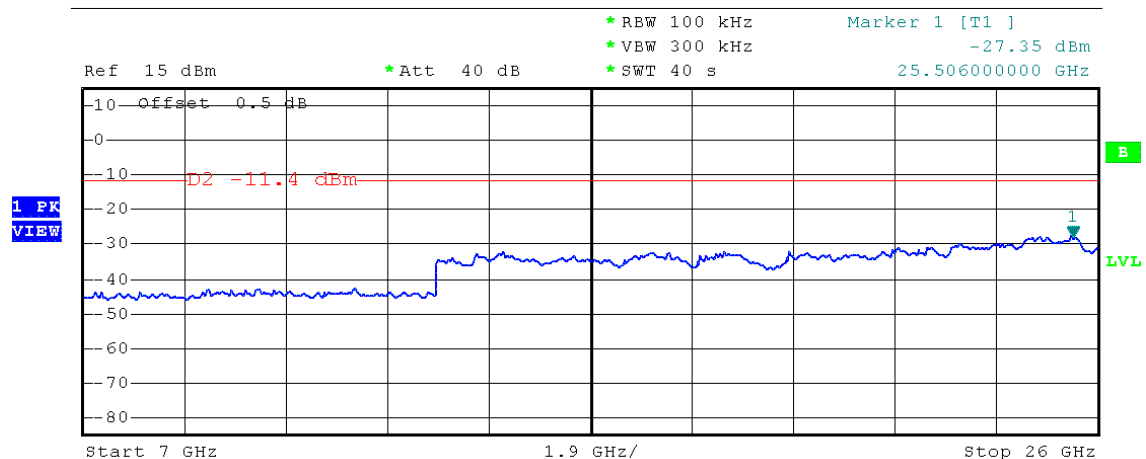
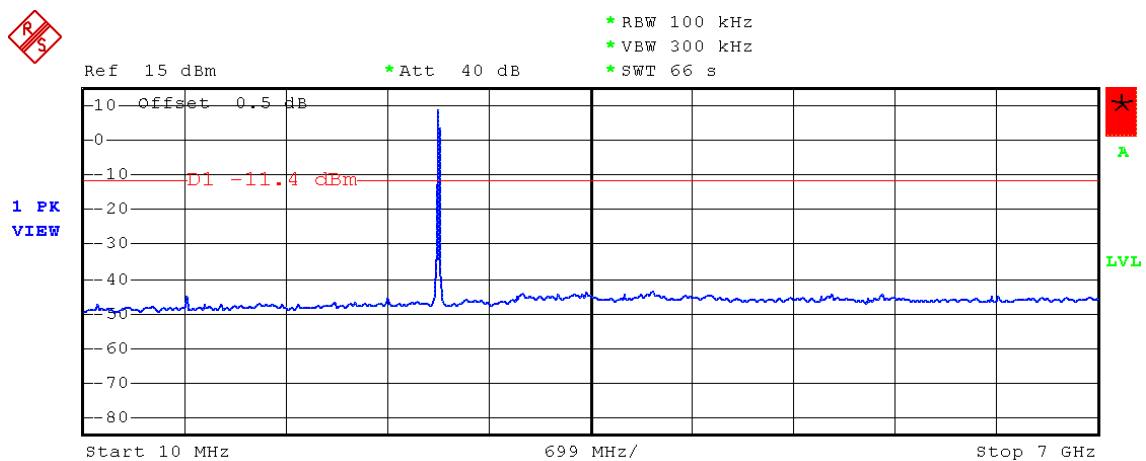
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

## Conducted spurious emissions – DSSS F<sub>HIGH</sub>

### Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, DSSS, 1Mbps, 2462 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)  
 Note 2: conducted measurement



Date: 8.JAN.2015 11:20:55

Test Report No.: G0M-1406-3919-TFC247WF-V01

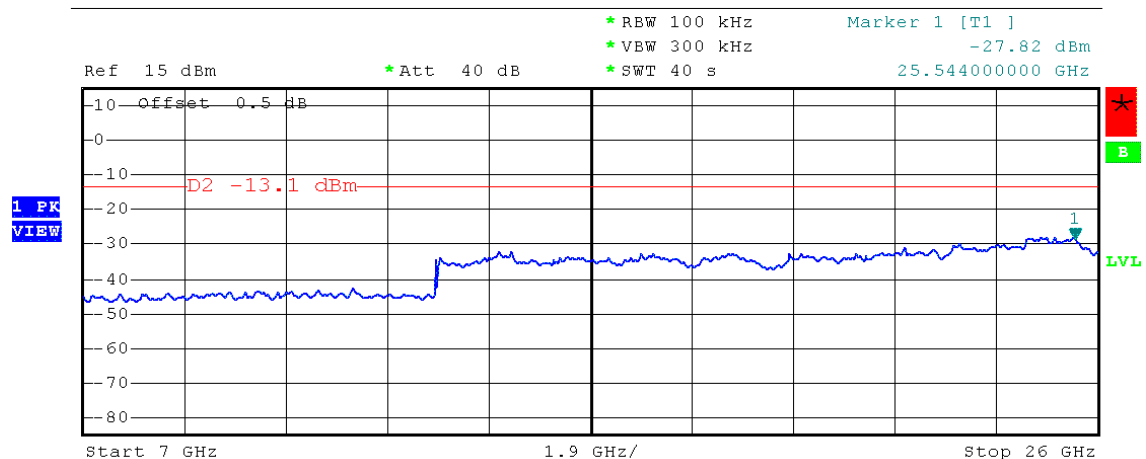
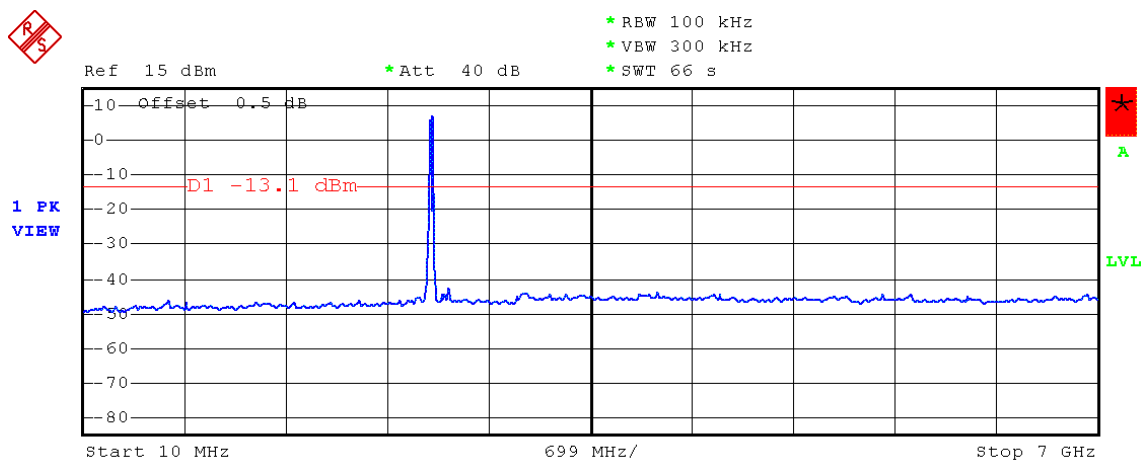
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted spurious emissions – OFDM F<sub>Low</sub>

## Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, OFDM, 6Mbps, 2412 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)  
 Note 2: conducted measurement



Date: 8.JAN.2015 11:27:24

Test Report No.: G0M-1406-3919-TFC247WF-V01

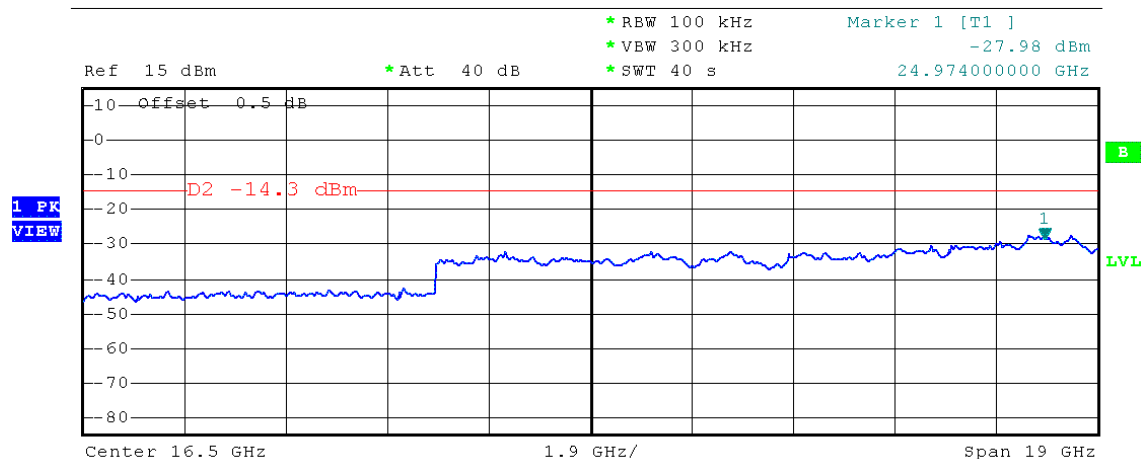
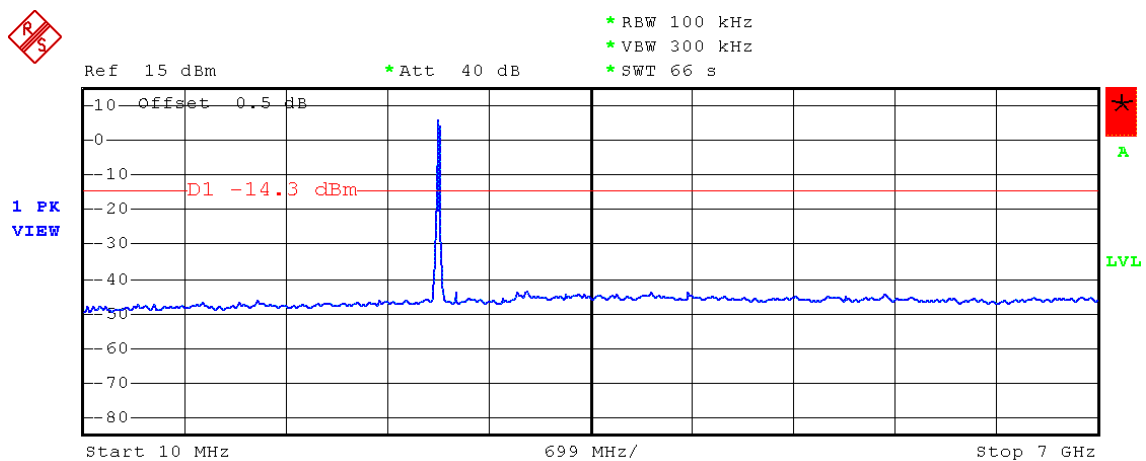
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted spurious emissions – OFDM  $F_{\text{MID}}$ 

## Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, OFDM, 6Mbps, 2437 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)  
 Note 2: conducted measurement



Date: 8.JAN.2015 11:44:36

Test Report No.: G0M-1406-3919-TFC247WF-V01

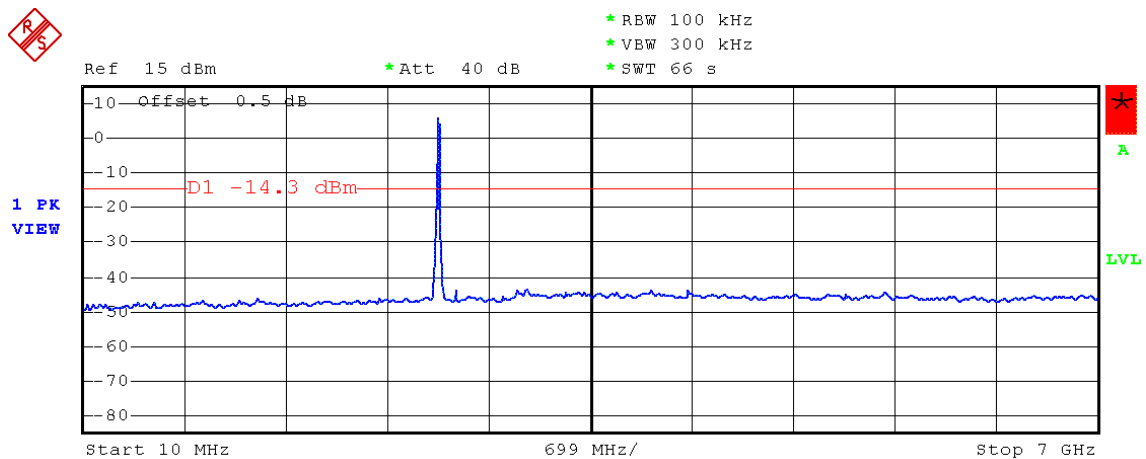
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted spurious emissions – OFDM F<sub>HIGH</sub>

## Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, OFDM, 6Mbps, 2462 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)  
 Note 2: conducted measurement



Date: 8.JAN.2015 11:42:01

Test Report No.: G0M-1406-3919-TFC247WF-V01

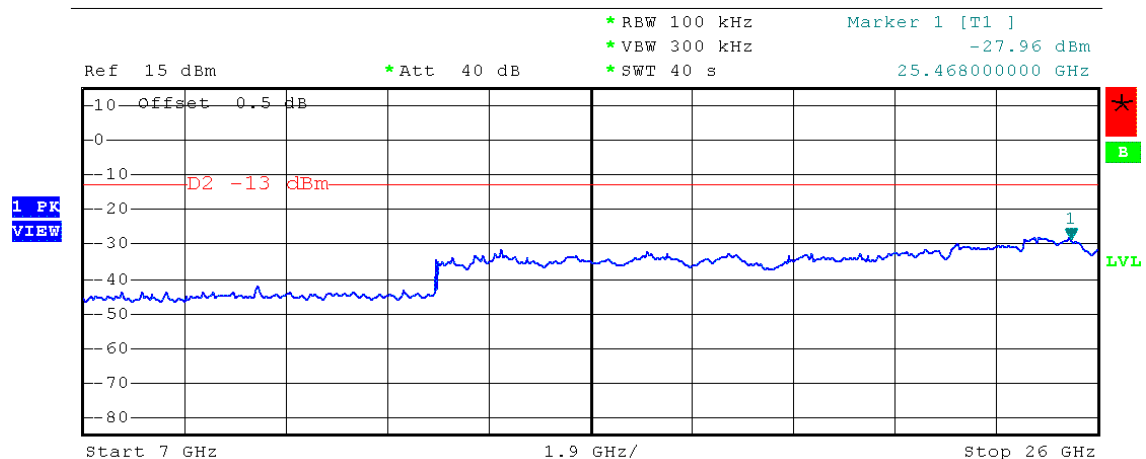
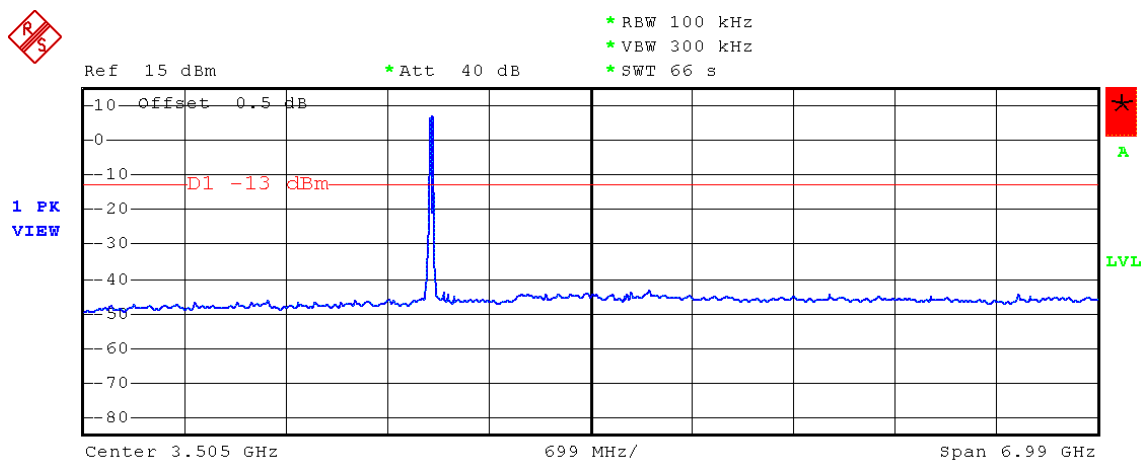
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted spurious emissions – HT20 F<sub>LOW</sub>

## Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, HT20, MCS0, 2412 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)  
 Note 2: conducted measurement



Date: 8.JAN.2015 11:49:36

Test Report No.: G0M-1406-3919-TFC247WF-V01

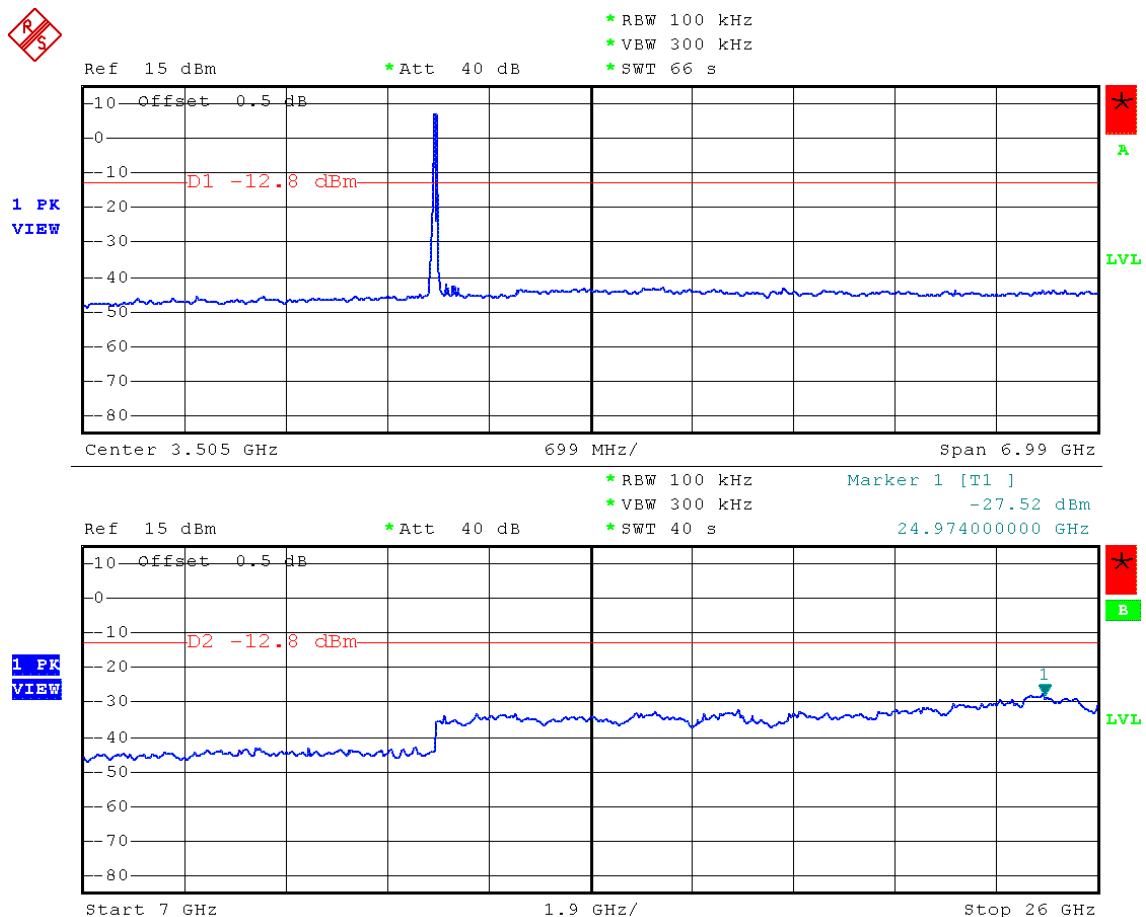
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted spurious emissions – HT20 F<sub>MID</sub>

## Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, HT20, MCS0, 2437 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)  
 Note 2: conducted measurement



Date: 8.JAN.2015 12:33:48

Test Report No.: G0M-1406-3919-TFC247WF-V01

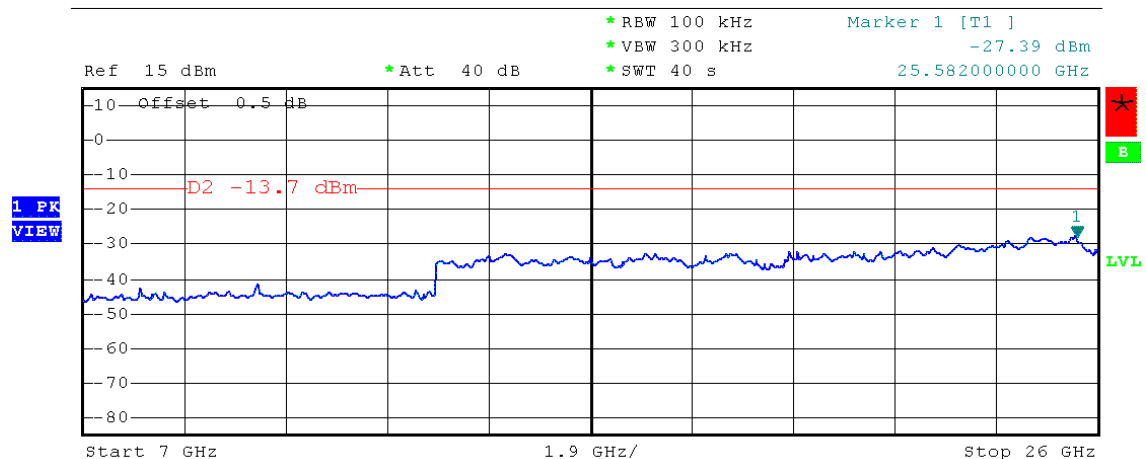
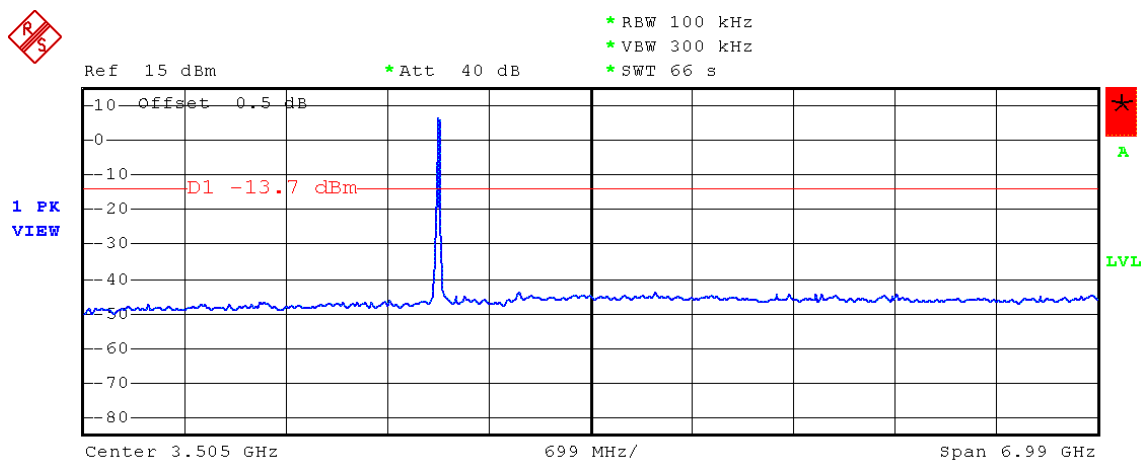
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted spurious emissions – HT20 F<sub>HIGH</sub>

## Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1406-3917

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Wilfried Treffke  
 Test Conditions: Tnom / Vnom  
 Mode: Tx, WLAN, HT20, MCS0, 2462 MHz, modulated  
 Test Date: 2015-01-08  
 Verdict: PASS  
 Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)  
 Note 2: conducted measurement

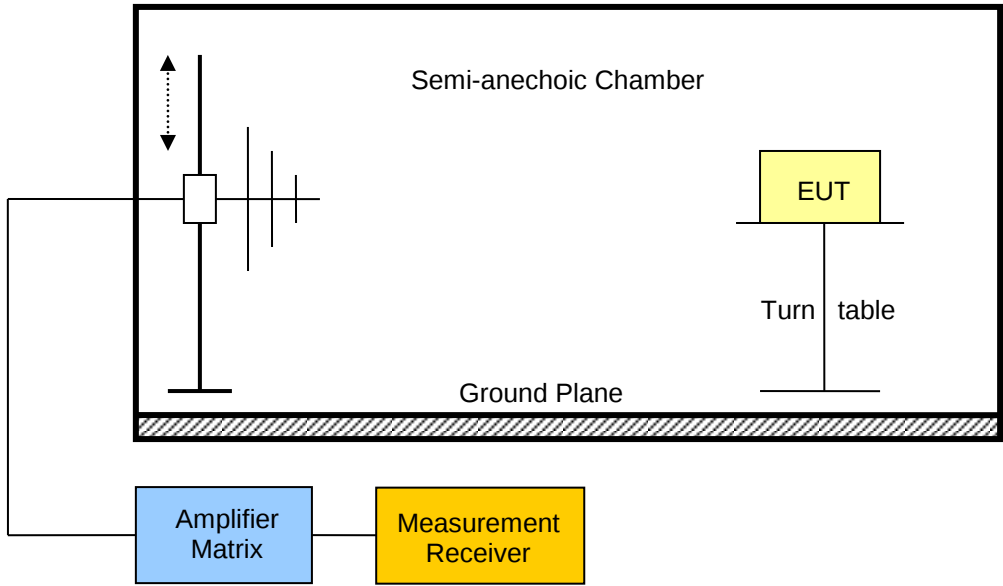


Date: 8.JAN.2015 12:38:21

Test Report No.: G0M-1406-3919-TFC247WF-V01

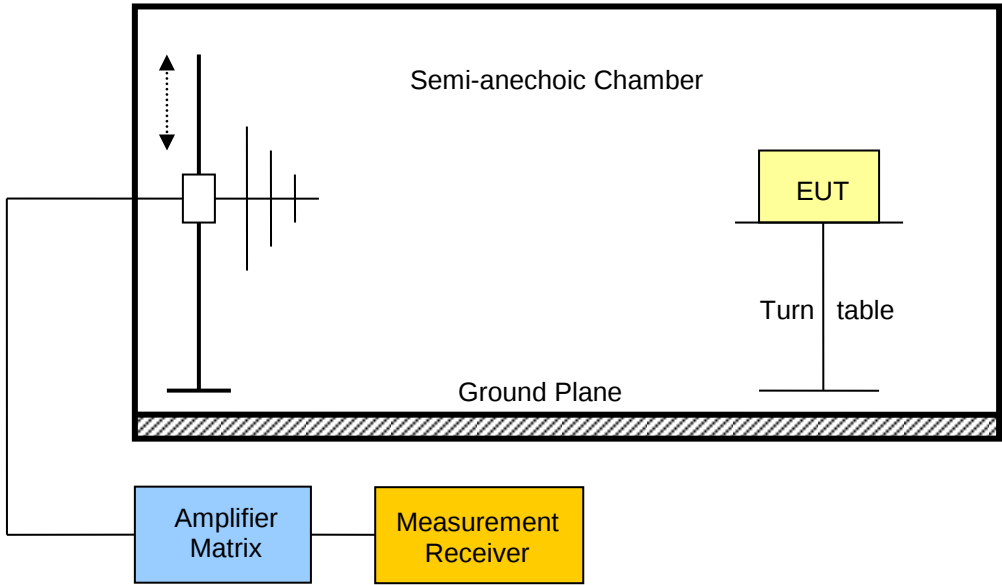
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

### 3.8 Test Conditions and Results – Transmitter radiated emissions

| Transmitter radiated emissions acc. to FCC 47 CFR 15.247 / IC RSS-210                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                             |              |                | Verdict: PASS      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------|----------------|--------------------|
| Test according referenced standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Reference Method                            |              |                |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | FCC 15.247(d) / IC RSS-210 A8.5             |              |                |                    |
| Test according to measurement reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Reference Method                            |              |                |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | FCC KDB Publication No. 558074 / ANSI C63.4 |              |                |                    |
| Test frequency range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Tested frequencies                          |              |                |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30 MHz – 10 <sup>th</sup> Harmonic          |              |                |                    |
| Limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                             |              |                |                    |
| Frequency range [MHz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Detector                                    | Limit [μV/m] | Limit [dBμV/m] | Limit Distance [m] |
| 30 – 88                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Quasi-Peak                                  | 100          | 40             | 3                  |
| 88 – 216                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Quasi-Peak                                  | 150          | 43.5           | 3                  |
| 216 – 960                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Quasi-Peak                                  | 200          | 46             | 3                  |
| 960 – 1000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Quasi-Peak                                  | 500          | 54             | 3                  |
| > 1000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Average                                     | 500          | 54             | 3                  |
| <p>Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).</p> <p>When average radiated emission measurements are specified, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.</p> |                                             |              |                |                    |
| Test setup                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                             |              |                |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                             |              |                |                    |

| Test procedure                                                                                                                                                                                                                                                                                                                                                                                                                |                 |      |                |                |      |      |                |                  |             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------|----------------|----------------|------|------|----------------|------------------|-------------|
| <ol style="list-style-type: none"> <li>1. EUT set to test mode (Communication tester is used if needed)</li> <li>2. Span it set according to measurement range</li> <li>3. Resolution bandwidth below 1 GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1 MHz with peak/average detector is used above 1 GHz</li> <li>4. Markers are set to peak emission levels within restricted bands</li> </ol> |                 |      |                |                |      |      |                |                  |             |
| Test results                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |      |                |                |      |      |                |                  |             |
| Channel                                                                                                                                                                                                                                                                                                                                                                                                                       | Frequency [MHz] | Mode | Emission [MHz] | Level [dBμV/m] | Det. | Pol. | Limit [dBμV/m] | Limit dist. [m]* | Margin [dB] |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                              | 2412            | HT20 | 2386           | 55.88          | pk   | ver  | 74.00          | 3                | -18.12      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                              | 2412            | HT20 | 2386           | 35.66          | RMS  | ver  | 54.00          | 3                | -18.34      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                              | 2412            | HT20 | 2387           | 53.95          | pk   | hor  | 74.00          | 3                | -20.05      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                              | 2412            | HT20 | 2387           | 34.10          | RMS  | hor  | 54.00          | 3                | -19.90      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                              | 2412            | HT20 | 2389           | 56.86          | pk   | hor  | 74.00          | 3                | -17.14      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                              | 2412            | HT20 | 2389           | 35.67          | RMS  | hor  | 54.00          | 3                | -18.33      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                              | 2412            | HT20 | 2390           | 58.65          | pk   | ver  | 74.00          | 3                | -15.35      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                              | 2412            | HT20 | 2390           | 40.20          | RMS  | ver  | 54.00          | 3                | -13.80      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                              | 2412            | HT20 | 2390           | 56.82          | pk   | hor  | 74.00          | 3                | -17.18      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                              | 2412            | HT20 | 2390           | 37.57          | RMS  | hor  | 54.00          | 3                | -16.43      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                              | 2412            | HT20 | 2490           | 51.73          | pk   | ver  | 74.00          | 3                | -22.27      |
| F <sub>LOW</sub>                                                                                                                                                                                                                                                                                                                                                                                                              | 2412            | HT20 | 2493           | 51.08          | pk   | hor  | 74.00          | 3                | -22.92      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                             | 2462            | HT20 | 2484           | 64.15          | pk   | ver  | 74.00          | 3                | -09.85      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                             | 2462            | HT20 | 2484           | 39.56          | RMS  | ver  | 54.00          | 3                | -14.44      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                             | 2462            | HT20 | 2484           | 64.42          | pk   | hor  | 74.00          | 3                | -09.58      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                             | 2462            | HT20 | 2484           | 40.90          | RMS  | hor  | 54.00          | 3                | -13.10      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                             | 2462            | HT20 | 2486           | 62.76          | pk   | ver  | 74.00          | 3                | -11.24      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                             | 2462            | HT20 | 2486           | 39.71          | RMS  | ver  | 54.00          | 3                | -14.29      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                             | 2462            | HT20 | 2488           | 60.15          | pk   | ver  | 74.00          | 3                | -13.85      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                             | 2462            | HT20 | 2488           | 37.57          | RMS  | ver  | 54.00          | 3                | -16.43      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                             | 2462            | HT20 | 2489           | 57.50          | pk   | hor  | 74.00          | 3                | -16.50      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                             | 2462            | HT20 | 2489           | 36.49          | RMS  | hor  | 54.00          | 3                | -17.51      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                             | 2462            | HT20 | 2493           | 52.86          | pk   | hor  | 74.00          | 3                | -21.14      |
| F <sub>HIGH</sub>                                                                                                                                                                                                                                                                                                                                                                                                             | 2462            | HT20 | 2493           | 34.28          | RMS  | hor  | 54.00          | 3                | -19.72      |
| Comments: * Physical distance between EUT and measurement antenna.                                                                                                                                                                                                                                                                                                                                                            |                 |      |                |                |      |      |                |                  |             |

### 3.9 Test Conditions and Results – Receiver radiated emissions

| Receiver radiated emissions acc. to IC RSS-210                                       |                                   |              |                | Verdict: PASS      |
|--------------------------------------------------------------------------------------|-----------------------------------|--------------|----------------|--------------------|
| Test according referenced standards                                                  | Reference Method                  |              |                |                    |
|                                                                                      | IC RSS-210 A8.5                   |              |                |                    |
| Test according to measurement reference                                              | Reference Method                  |              |                |                    |
|                                                                                      | ANSI C63.4                        |              |                |                    |
| Test frequency range                                                                 | Tested frequencies                |              |                |                    |
|                                                                                      | 30 MHz – 3 <sup>th</sup> Harmonic |              |                |                    |
| EUT test mode                                                                        | Receive                           |              |                |                    |
| Limits                                                                               |                                   |              |                |                    |
| Frequency range [MHz]                                                                | Detector                          | Limit [µV/m] | Limit [dBµV/m] | Limit Distance [m] |
| 30 – 88                                                                              | Quasi-Peak                        | 100          | 40             | 3                  |
| 88 – 216                                                                             | Quasi-Peak                        | 150          | 43.5           | 3                  |
| 216 – 960                                                                            | Quasi-Peak                        | 200          | 46             | 3                  |
| 960 – 1000                                                                           | Quasi-Peak                        | 500          | 54             | 3                  |
| > 1000                                                                               | Average                           | 500          | 54             | 3                  |
| Test setup                                                                           |                                   |              |                |                    |
|  |                                   |              |                |                    |

| Test procedure                                                                                                                                                                                                                                                                                                                                                                                           |                 |                |                               |      |                     |                      |                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|-------------------------------|------|---------------------|----------------------|---------------------|
| <ol style="list-style-type: none"> <li>1. EUT set to receive mode (Communication tester is used if needed)</li> <li>2. Span it set according to measurement range</li> <li>3. Resolution bandwidth below 1 GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1 MHz with peak/average detector is used above 1 GHz</li> <li>4. Markers are set to peak emission levels</li> </ol> |                 |                |                               |      |                     |                      |                     |
| Test results                                                                                                                                                                                                                                                                                                                                                                                             |                 |                |                               |      |                     |                      |                     |
| Channel                                                                                                                                                                                                                                                                                                                                                                                                  | Frequency [MHz] | Emission [MHz] | Emission Level [dB $\mu$ V/m] | Det. | Limit* Distance [m] | Limit [dB $\mu$ V/m] | Margin [ $\mu$ V/m] |
| F <sub>MID</sub>                                                                                                                                                                                                                                                                                                                                                                                         | 2437            | 141.568        | 34.25                         | pk   | 3                   | 43.50                | -9.25 dB            |
| F <sub>MID</sub>                                                                                                                                                                                                                                                                                                                                                                                         | 2437            | 416            | 36.46                         | pk   | 3                   | 46.00                | -9.54 dB            |
| Comments:<br>* Physical distance between EUT and measurement antenna.<br>** Emission level corresponds to ambient noise floor                                                                                                                                                                                                                                                                            |                 |                |                               |      |                     |                      |                     |

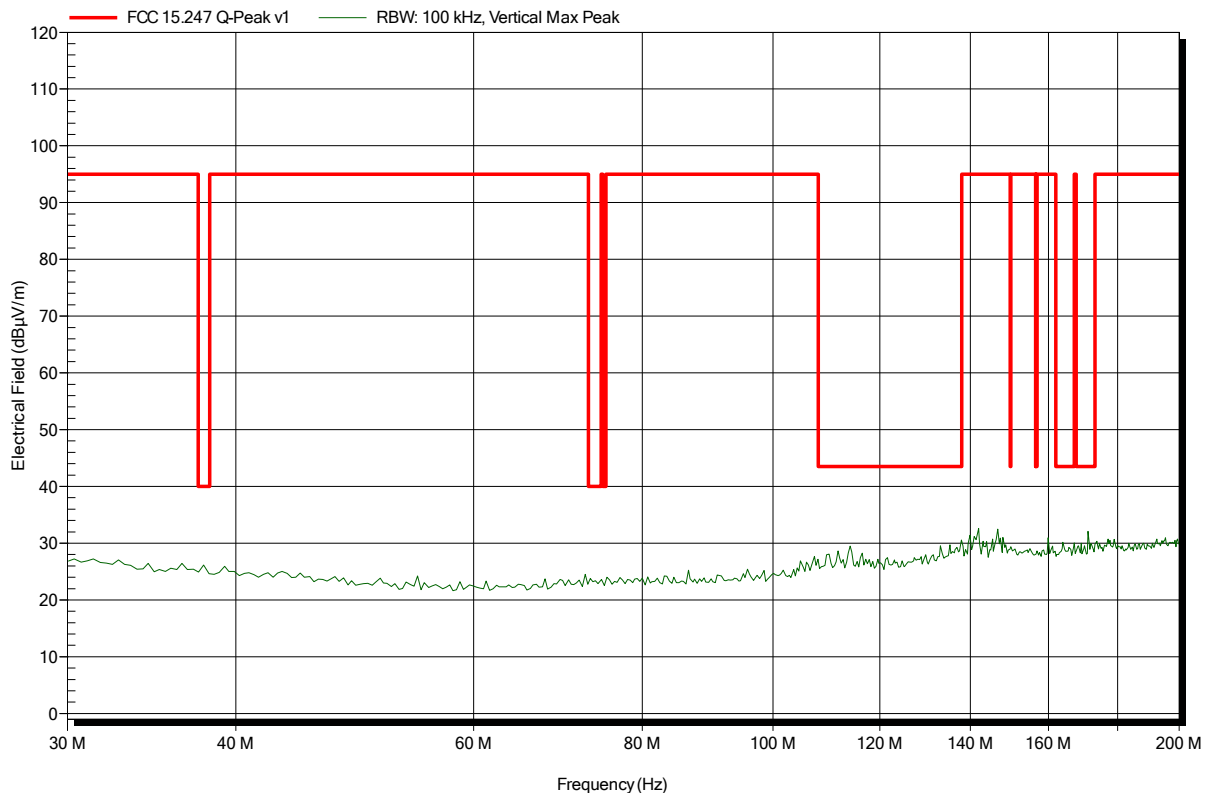
## ANNEX A Transmitter radiated spurious emissions

### Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

|                       |                                   |
|-----------------------|-----------------------------------|
| Applicant:            | Leica Geosystems AG               |
| EUT Name:             | Field Controller Win EC7          |
| Model:                | CS20                              |
| Test Site:            | Eurofins Product Service GmbH     |
| Operator:             | Mr. Pudell                        |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC       |
| Antenna:              | Rohde & Schwarz HK 116, Vertical  |
| Measurement distance: | 3 m                               |
| Mode:                 | TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps |
| Test Date:            | 2015-02-27                        |
| Note:                 | EUT vertical                      |

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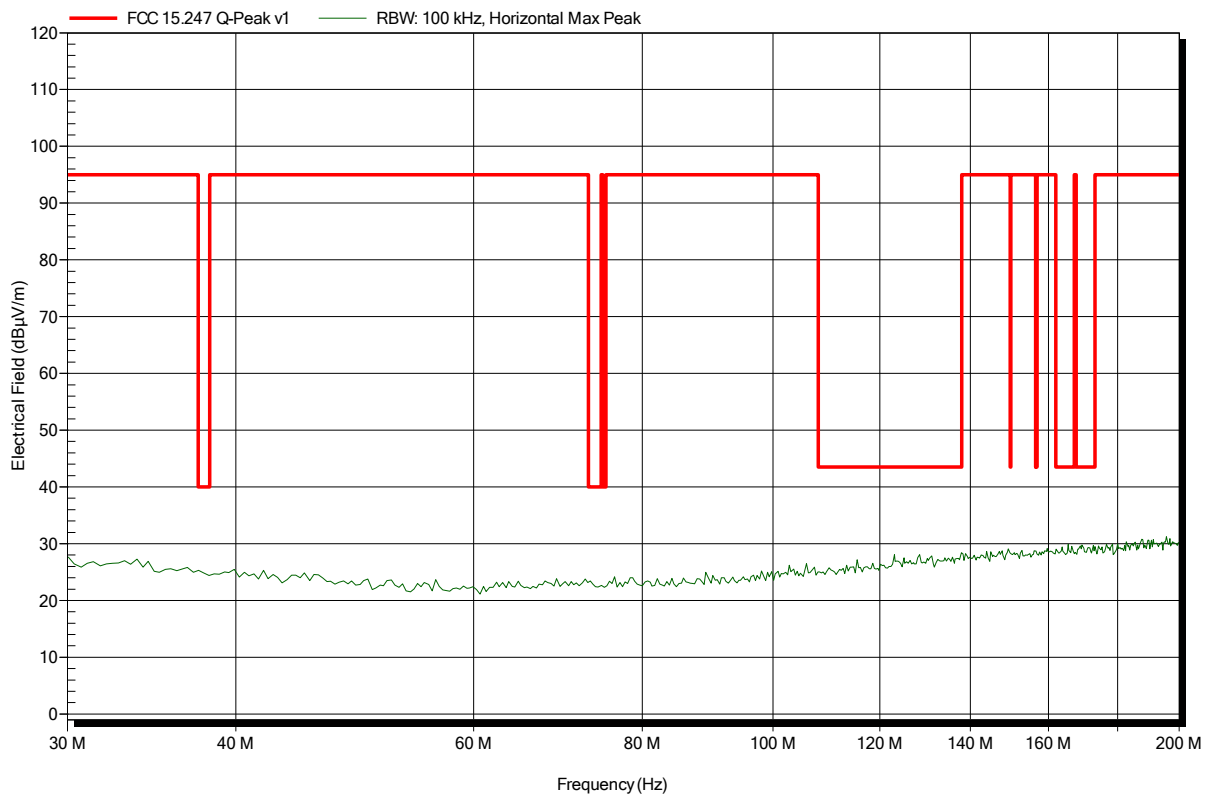


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

|                       |                                    |
|-----------------------|------------------------------------|
| Applicant:            | Leica Geosystems AG                |
| EUT Name:             | Field Controller Win EC7           |
| Model:                | CS20                               |
| Test Site:            | Eurofins Product Service GmbH      |
| Operator:             | Mr. Pudell                         |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC        |
| Antenna:              | Rohde & Schwarz HK 116, Horizontal |
| Measurement distance: | 3 m                                |
| Mode:                 | TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps  |
| Test Date:            | 2015-02-27                         |
| Note:                 | EUT vertical                       |

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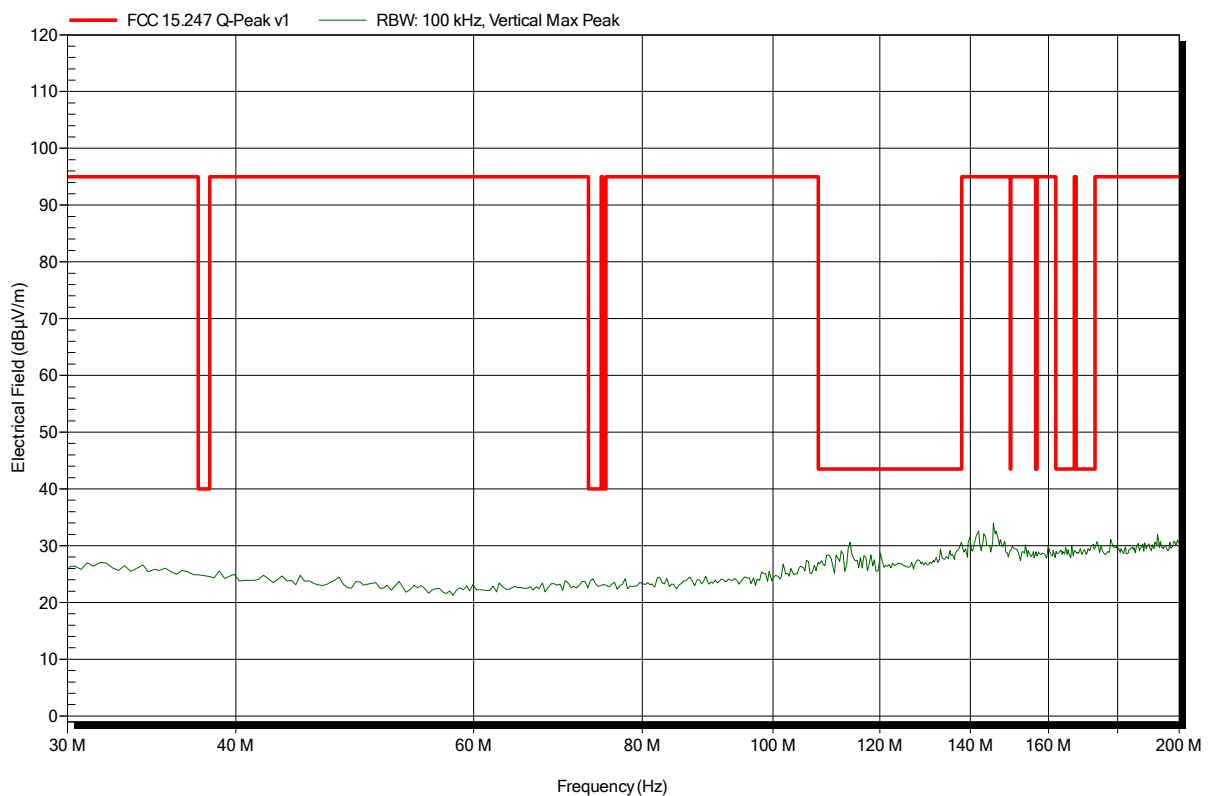


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

|                       |                                   |
|-----------------------|-----------------------------------|
| Applicant:            | Leica Geosystems AG               |
| EUT Name:             | Field Controller Win EC7          |
| Model:                | CS20                              |
| Test Site:            | Eurofins Product Service GmbH     |
| Operator:             | Mr. Pudell                        |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC       |
| Antenna:              | Rohde & Schwarz HK 116, Vertical  |
| Measurement distance: | 3 m                               |
| Mode:                 | TX; WLAN 2.4G; CH: 6; DSSS; 1Mbps |
| Test Date:            | 2015-02-27                        |
| Note:                 | EUT vertical                      |

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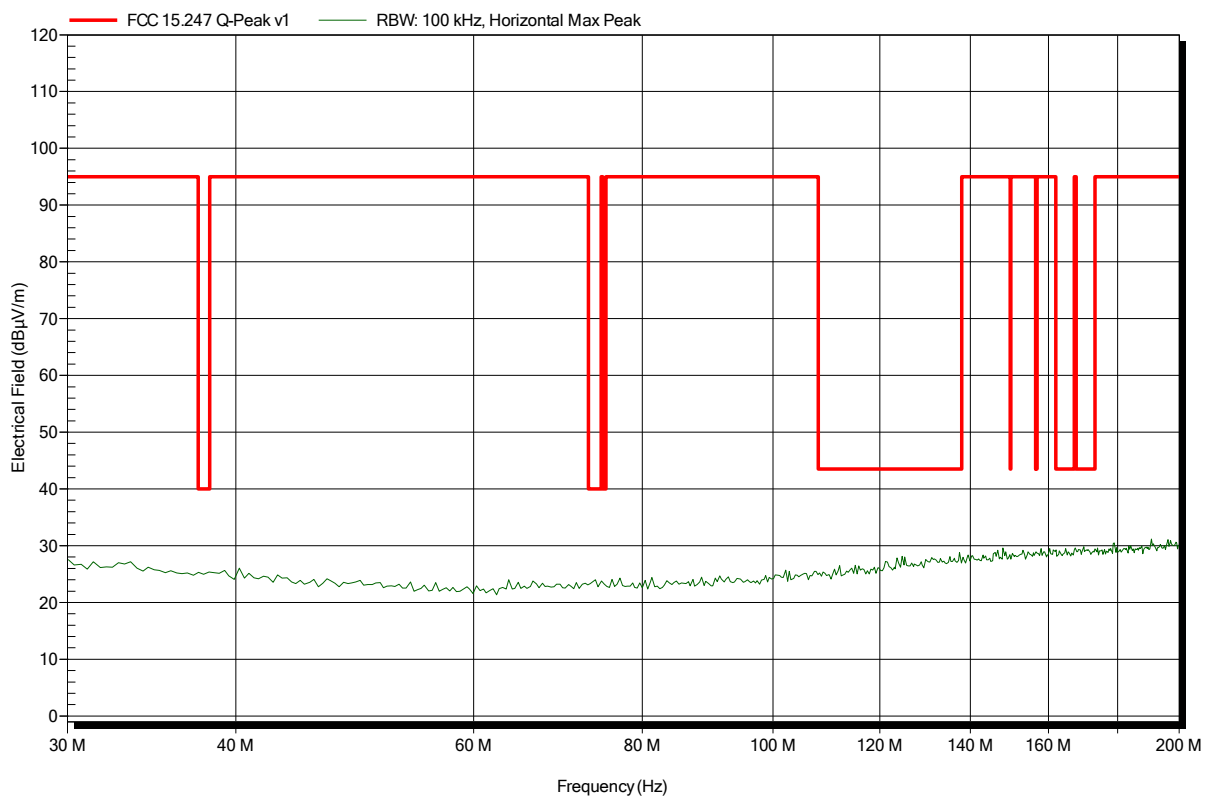


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

|                       |                                    |
|-----------------------|------------------------------------|
| Applicant:            | Leica Geosystems AG                |
| EUT Name:             | Field Controller Win EC7           |
| Model:                | CS20                               |
| Test Site:            | Eurofins Product Service GmbH      |
| Operator:             | Mr. Pudell                         |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC        |
| Antenna:              | Rohde & Schwarz HK 116, Horizontal |
| Measurement distance: | 3 m                                |
| Mode:                 | TX; WLAN 2.4G; CH: 6; DSSS; 1Mbps  |
| Test Date:            | 2015-02-27                         |
| Note:                 | EUT vertical                       |

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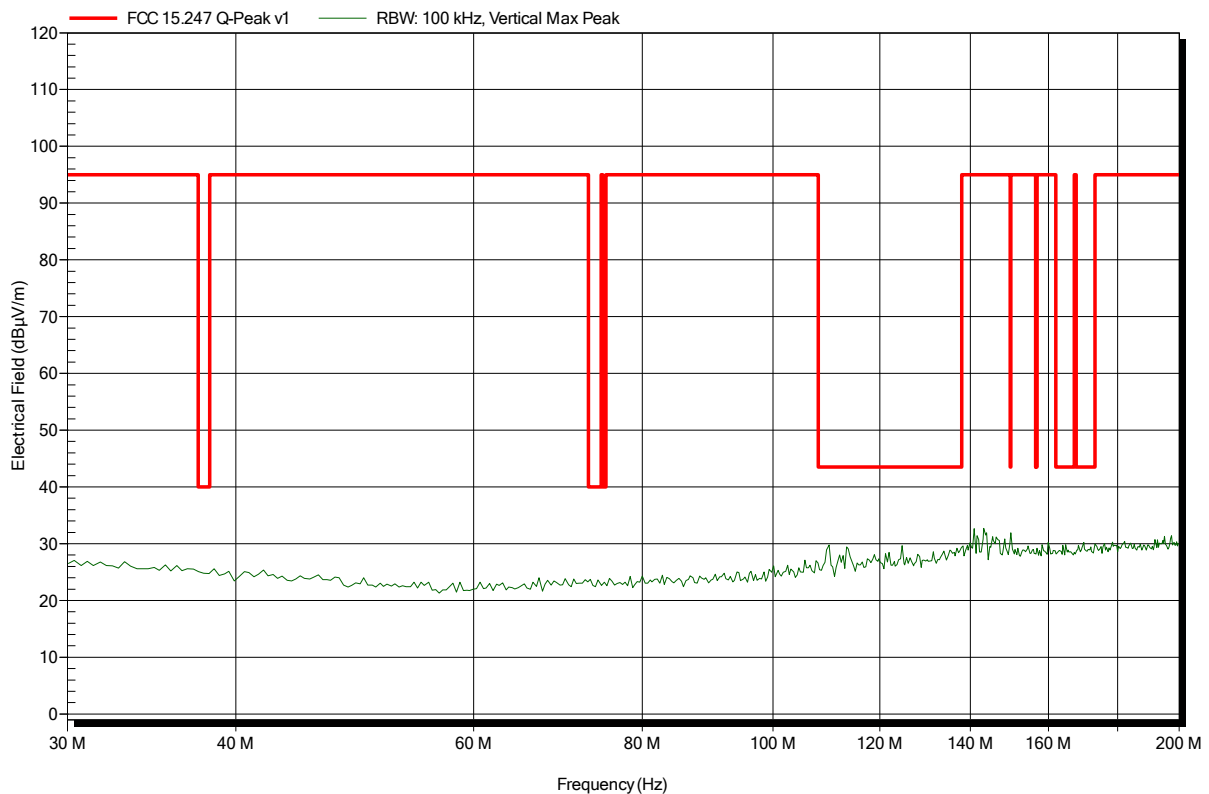


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

|                       |                                    |
|-----------------------|------------------------------------|
| Applicant:            | Leica Geosystems AG                |
| EUT Name:             | Field Controller Win EC7           |
| Model:                | CS20                               |
| Test Site:            | Eurofins Product Service GmbH      |
| Operator:             | Mr. Pudell                         |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC        |
| Antenna:              | Rohde & Schwarz HK 116, Vertical   |
| Measurement distance: | 3 m                                |
| Mode:                 | TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps |
| Test Date:            | 2015-02-27                         |
| Note:                 | EUT vertical                       |

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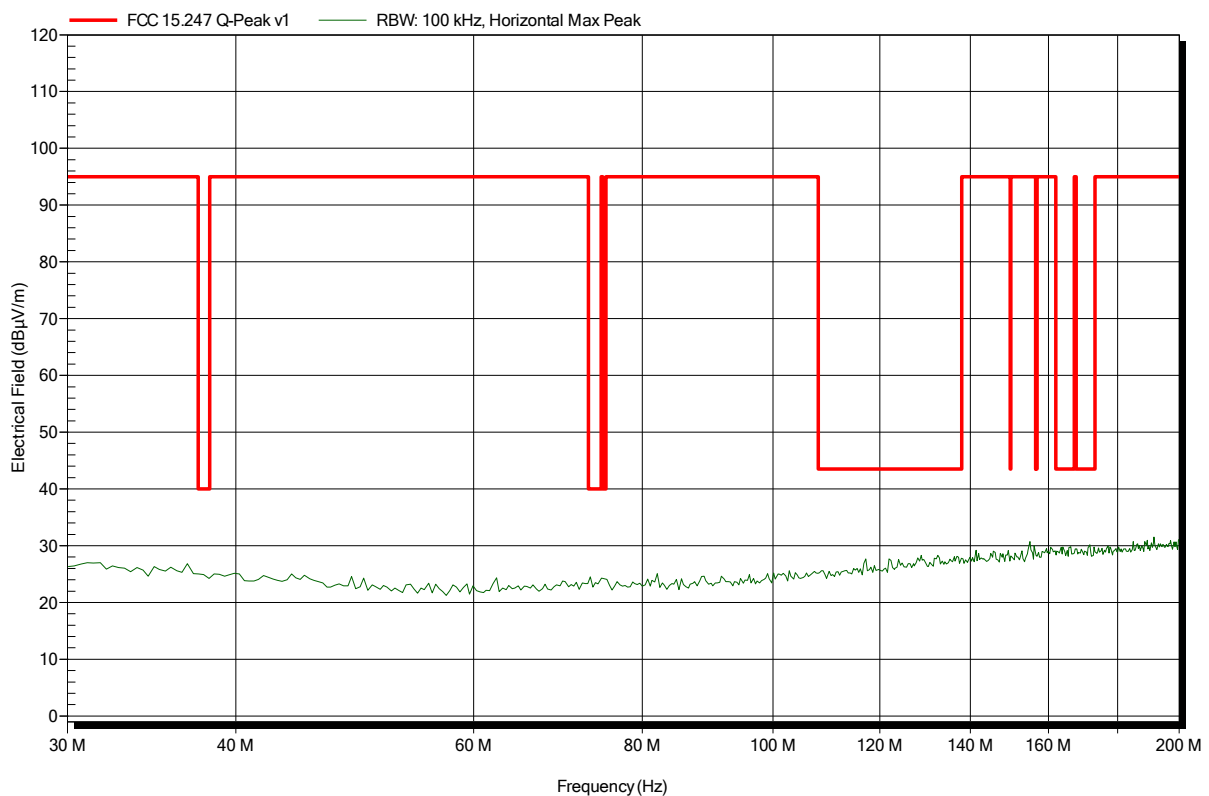


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

|                       |                                    |
|-----------------------|------------------------------------|
| Applicant:            | Leica Geosystems AG                |
| EUT Name:             | Field Controller Win EC7           |
| Model:                | CS20                               |
| Test Site:            | Eurofins Product Service GmbH      |
| Operator:             | Mr. Pudell                         |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC        |
| Antenna:              | Rohde & Schwarz HK 116, Horizontal |
| Measurement distance: | 3 m                                |
| Mode:                 | TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps |
| Test Date:            | 2015-02-27                         |
| Note:                 | EUT vertical                       |

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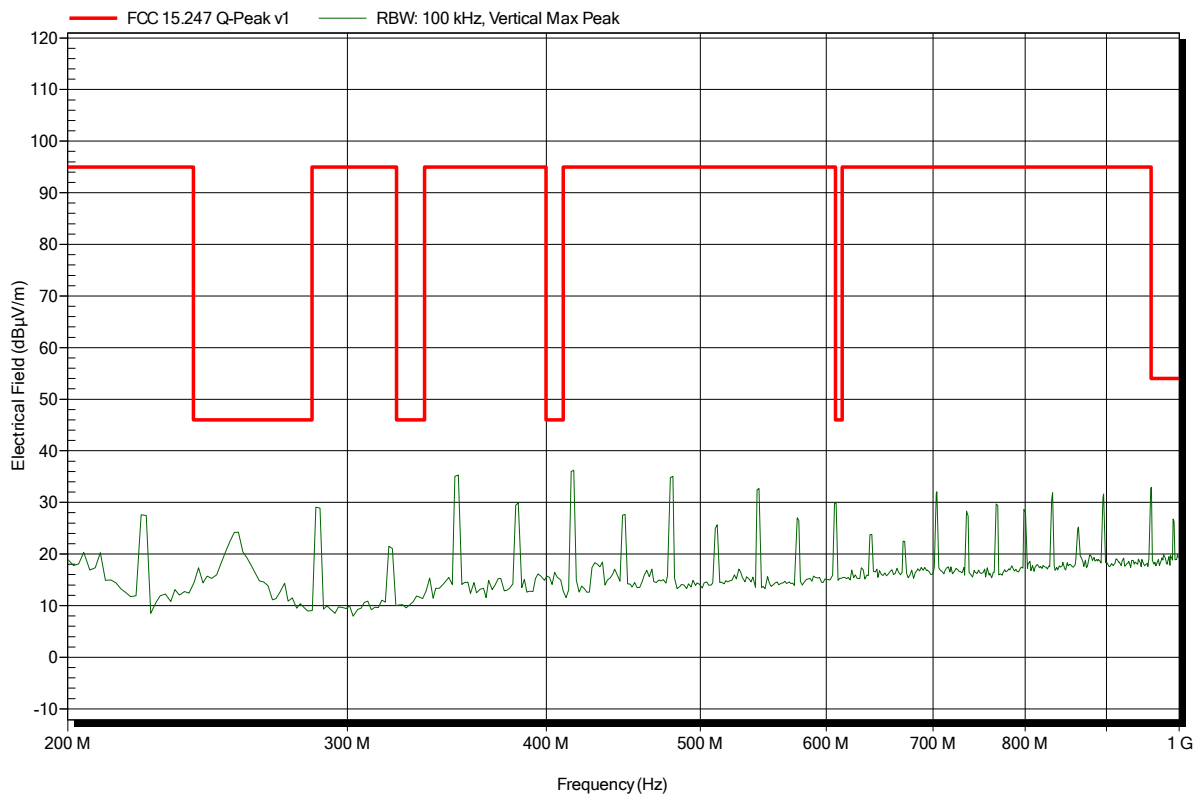


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

|                       |                                   |
|-----------------------|-----------------------------------|
| Applicant:            | Leica Geosystems AG               |
| EUT Name:             | Field Controller Win EC7          |
| Model:                | CS20                              |
| Test Site:            | Eurofins Product Service GmbH     |
| Operator:             | Mr. Pudell                        |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC       |
| Antenna:              | Rohde & Schwarz HL 223, Vertical  |
| Measurement distance: | 3 m                               |
| Mode:                 | TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps |
| Test Date:            | 2015-02-27                        |
| Note:                 | EUT vertical                      |

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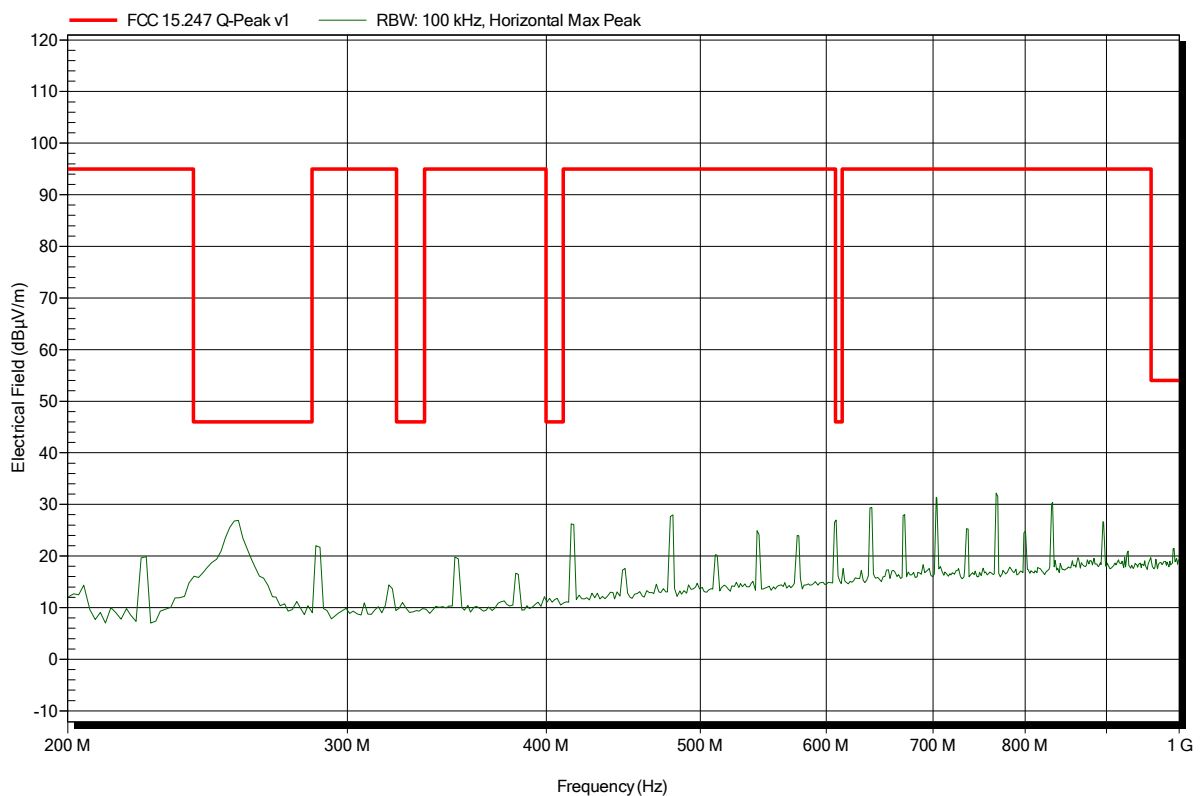


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

|                       |                                    |
|-----------------------|------------------------------------|
| Applicant:            | Leica Geosystems AG                |
| EUT Name:             | Field Controller Win EC7           |
| Model:                | CS20                               |
| Test Site:            | Eurofins Product Service GmbH      |
| Operator:             | Mr. Pudell                         |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC        |
| Antenna:              | Rohde & Schwarz HL 223, Horizontal |
| Measurement distance: | 3 m                                |
| Mode:                 | TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps  |
| Test Date:            | 2015-02-27                         |
| Note:                 | EUT vertical                       |

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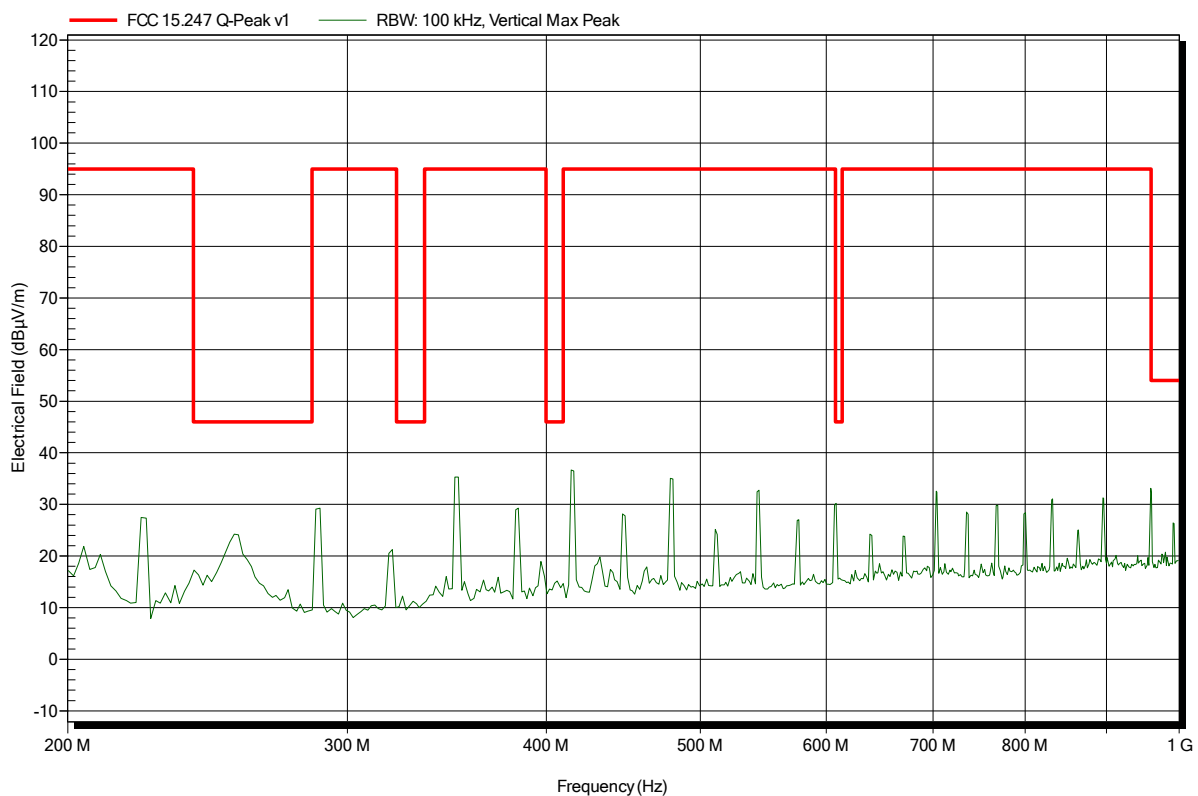


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

|                       |                                   |
|-----------------------|-----------------------------------|
| Applicant:            | Leica Geosystems AG               |
| EUT Name:             | Field Controller Win EC7          |
| Model:                | CS20                              |
| Test Site:            | Eurofins Product Service GmbH     |
| Operator:             | Mr. Pudell                        |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC       |
| Antenna:              | Rohde & Schwarz HL 223, Vertical  |
| Measurement distance: | 3 m                               |
| Mode:                 | TX; WLAN 2.4G; CH: 6; DSSS; 1Mbps |
| Test Date:            | 2015-02-27                        |
| Note:                 | EUT vertical                      |

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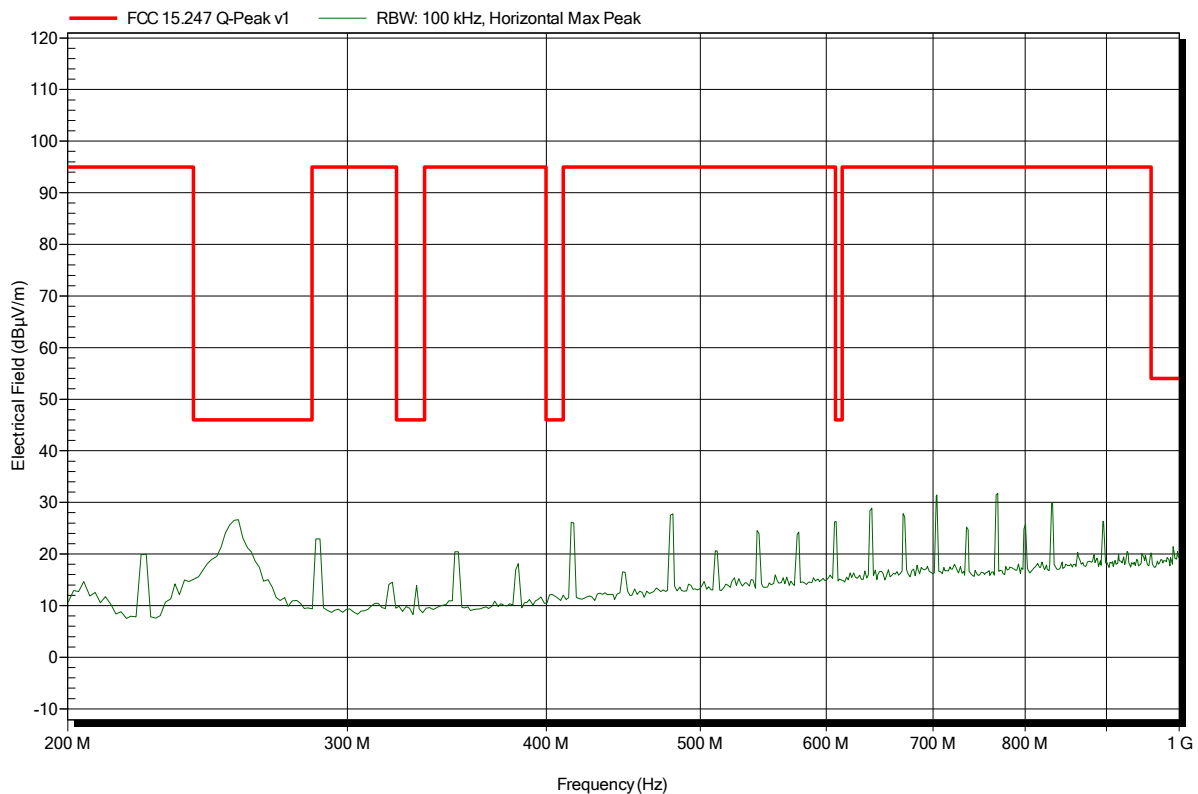


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

|                       |                                    |
|-----------------------|------------------------------------|
| Applicant:            | Leica Geosystems AG                |
| EUT Name:             | Field Controller Win EC7           |
| Model:                | CS20                               |
| Test Site:            | Eurofins Product Service GmbH      |
| Operator:             | Mr. Pudell                         |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC        |
| Antenna:              | Rohde & Schwarz HL 223, Horizontal |
| Measurement distance: | 3 m                                |
| Mode:                 | TX; WLAN 2.4G; CH: 6; DSSS; 1Mbps  |
| Test Date:            | 2015-02-27                         |
| Note:                 | EUT vertical                       |

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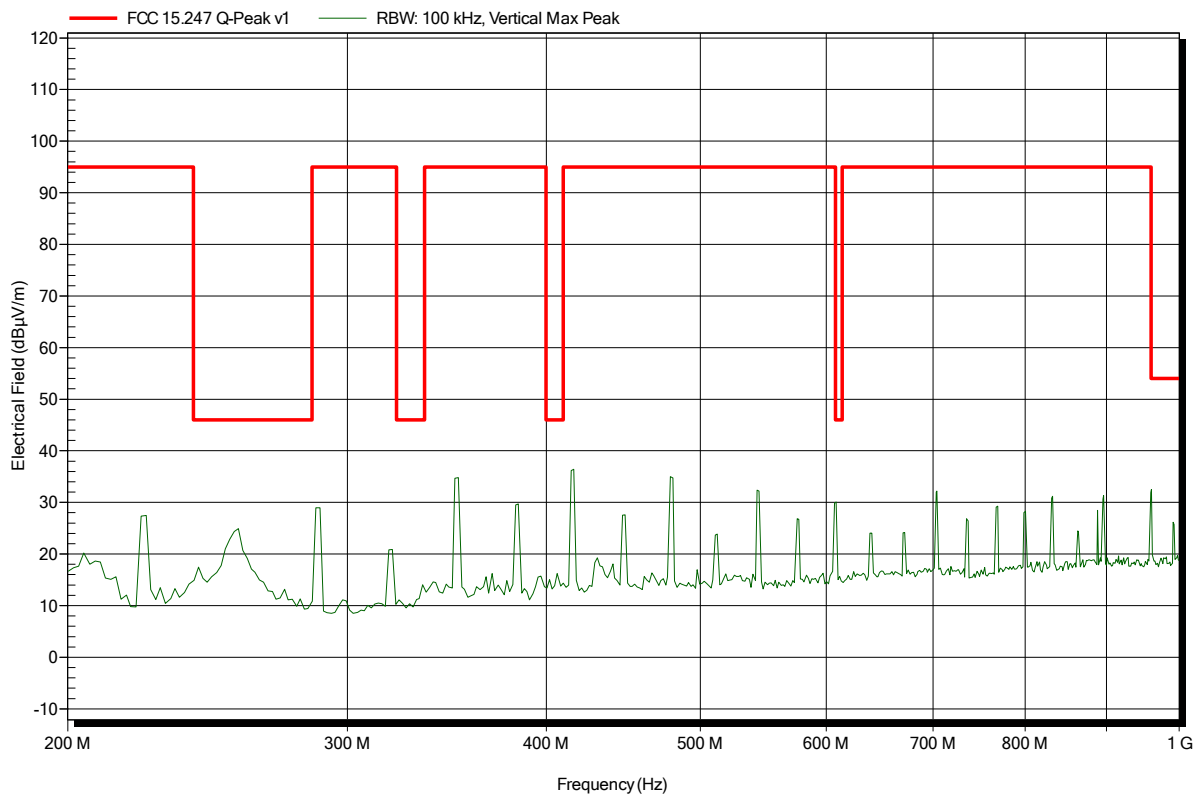


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

|                       |                                    |
|-----------------------|------------------------------------|
| Applicant:            | Leica Geosystems AG                |
| EUT Name:             | Field Controller Win EC7           |
| Model:                | CS20                               |
| Test Site:            | Eurofins Product Service GmbH      |
| Operator:             | Mr. Pudell                         |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC        |
| Antenna:              | Rohde & Schwarz HL 223, Vertical   |
| Measurement distance: | 3 m                                |
| Mode:                 | TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps |
| Test Date:            | 2015-02-27                         |
| Note:                 | EUT vertical                       |

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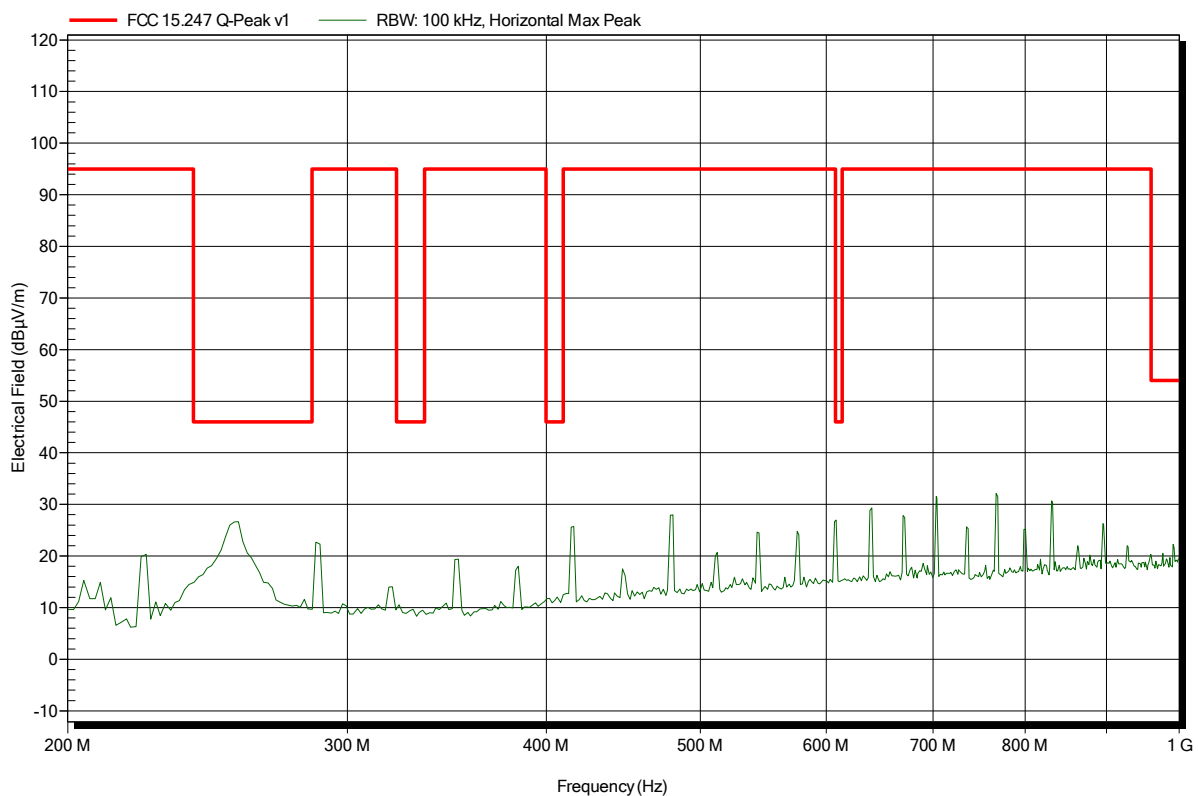


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

|                       |                                    |
|-----------------------|------------------------------------|
| Applicant:            | Leica Geosystems AG                |
| EUT Name:             | Field Controller Win EC7           |
| Model:                | CS20                               |
| Test Site:            | Eurofins Product Service GmbH      |
| Operator:             | Mr. Pudell                         |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC        |
| Antenna:              | Rohde & Schwarz HL 223, Horizontal |
| Measurement distance: | 3 m                                |
| Mode:                 | TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps |
| Test Date:            | 2015-02-27                         |
| Note:                 | EUT vertical                       |

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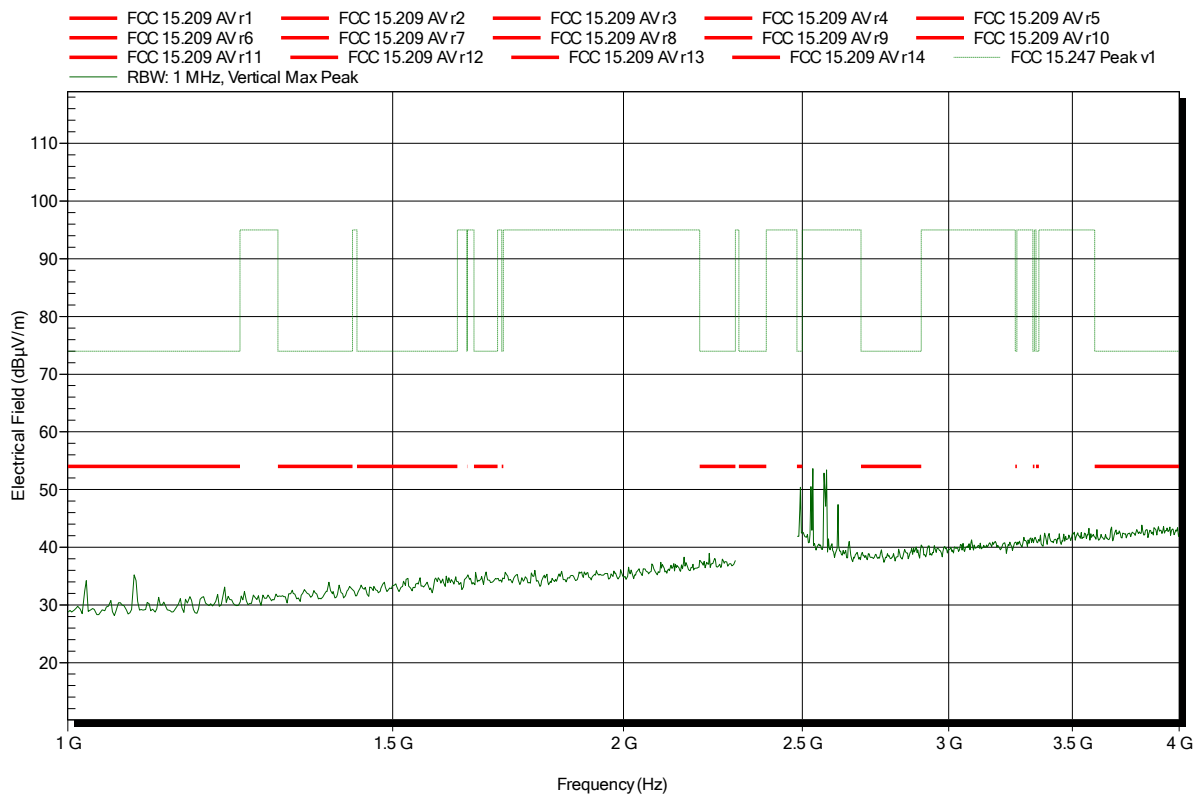


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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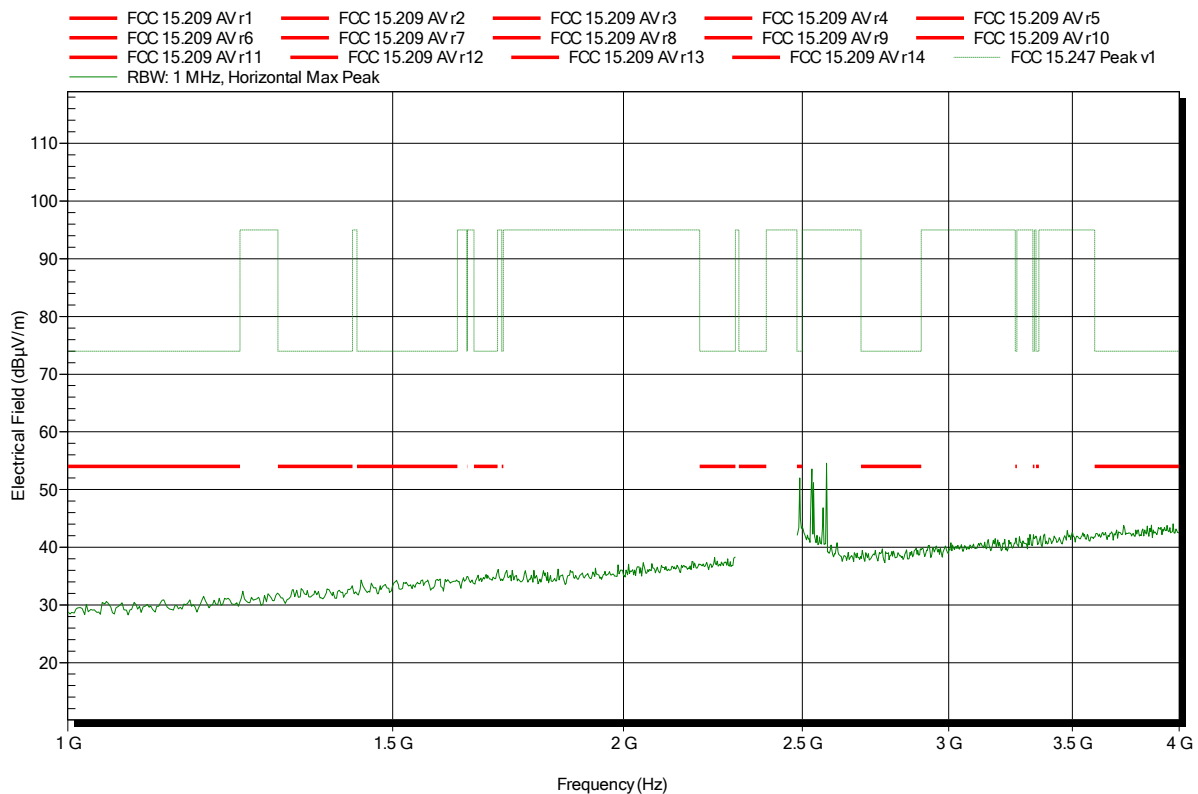


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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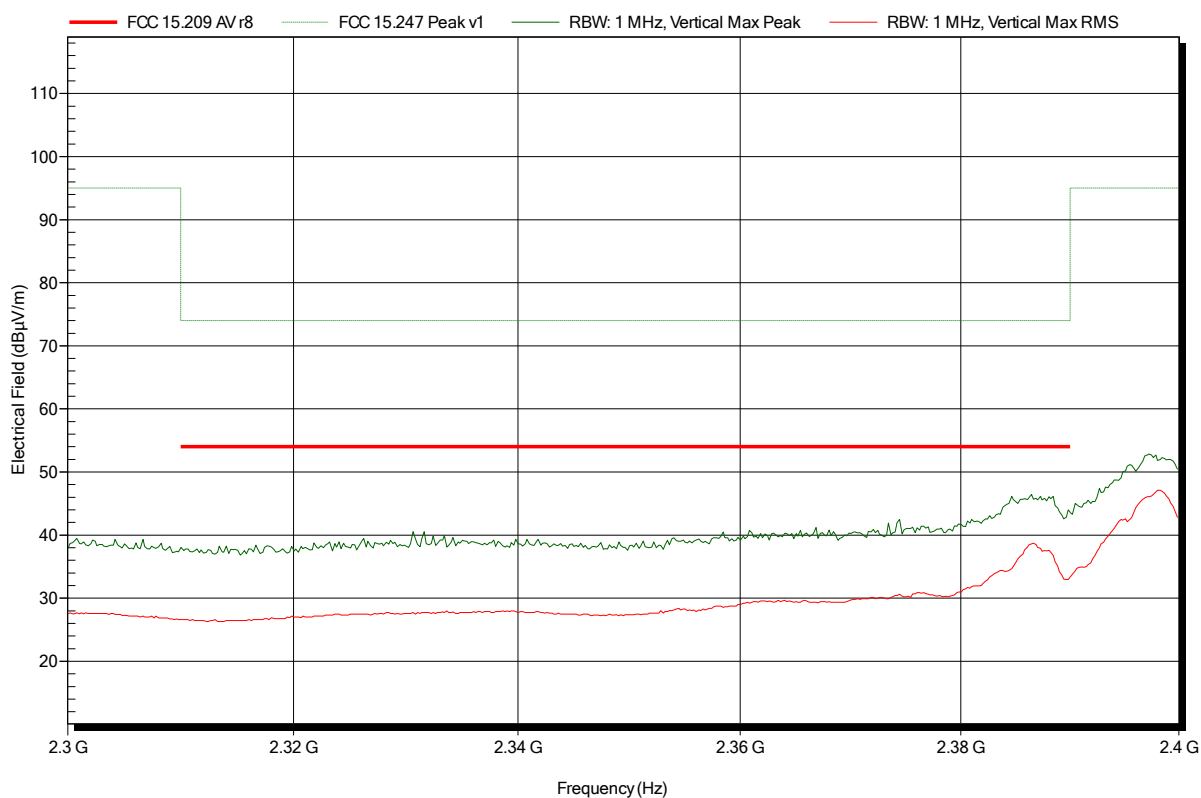


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical; lower bandedge

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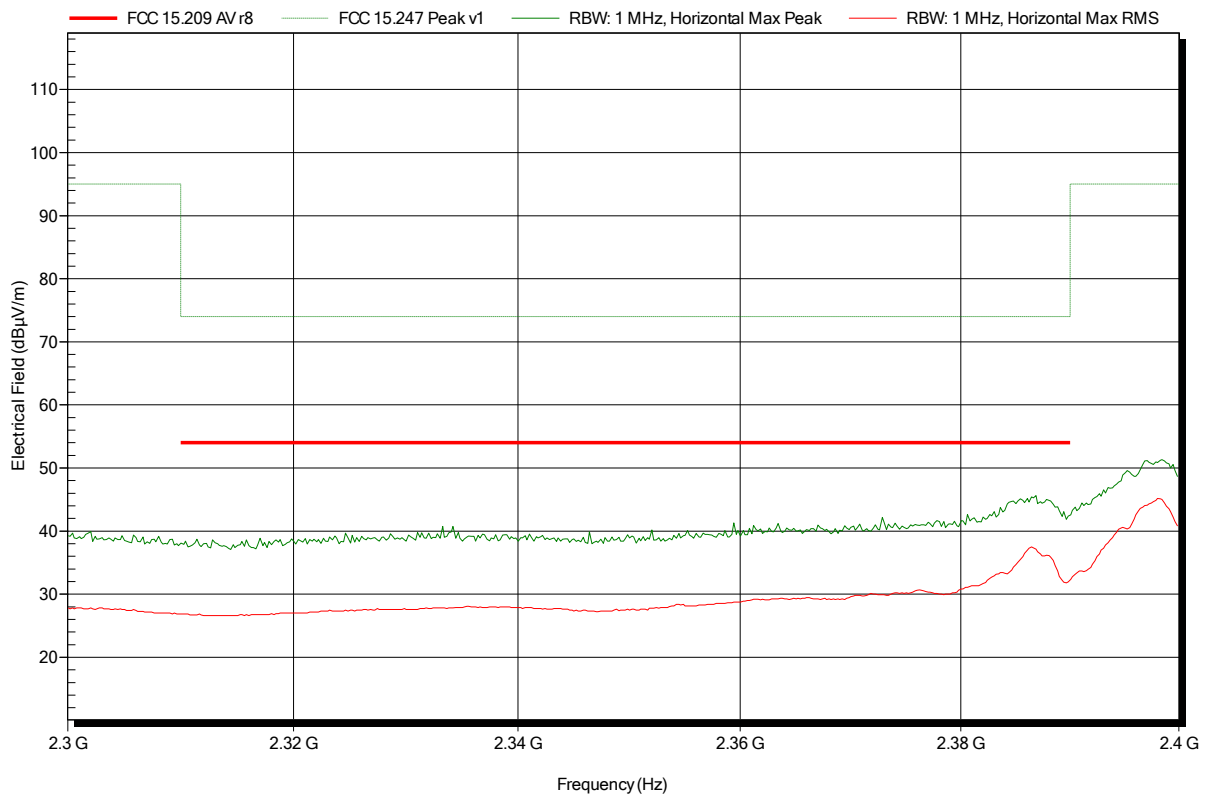


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

|                       |                                    |
|-----------------------|------------------------------------|
| Applicant:            | Leica Geosystems AG                |
| EUT Name:             | Field Controller Win EC7           |
| Model:                | CS20                               |
| Test Site:            | Eurofins Product Service GmbH      |
| Operator:             | Mr. Pudell                         |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC        |
| Antenna:              | Rohde & Schwarz HL 025, Horizontal |
| Measurement distance: | 3 m                                |
| Mode:                 | TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps  |
| Test Date:            | 2015-02-27                         |
| Note:                 | EUT vertical; lower bandedge       |

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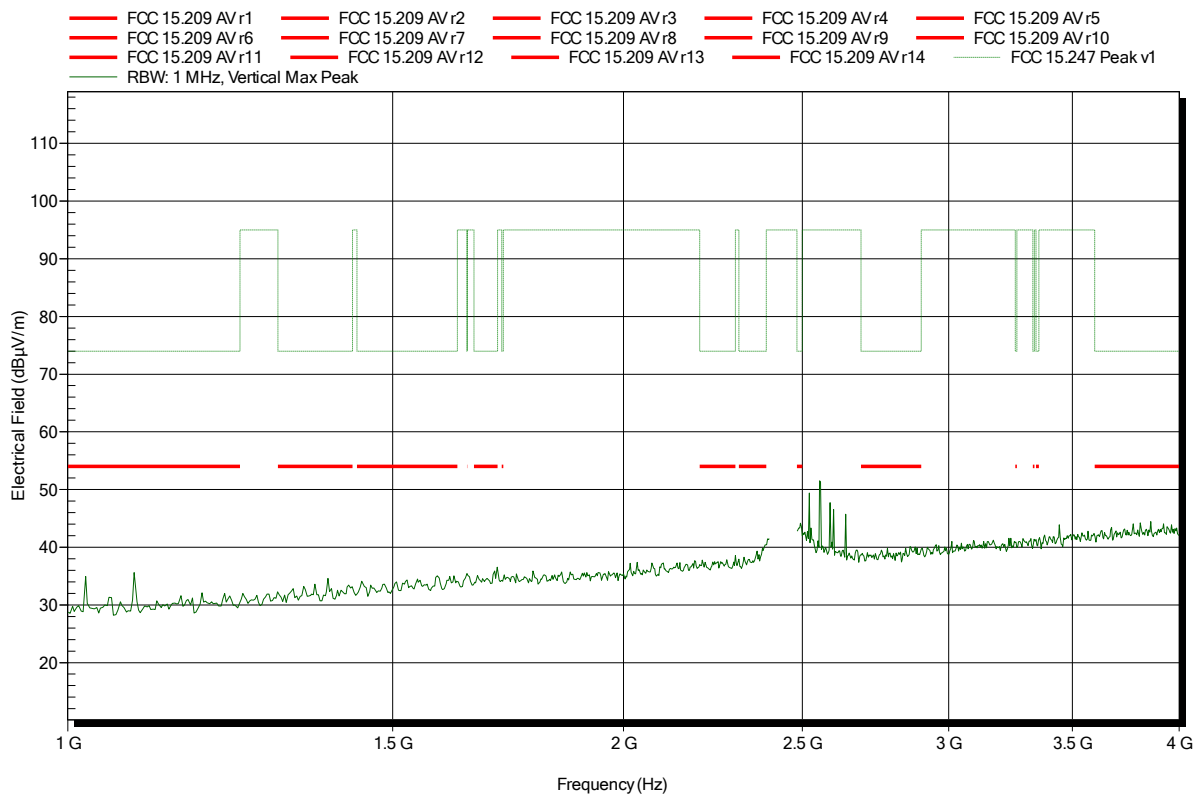


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 6; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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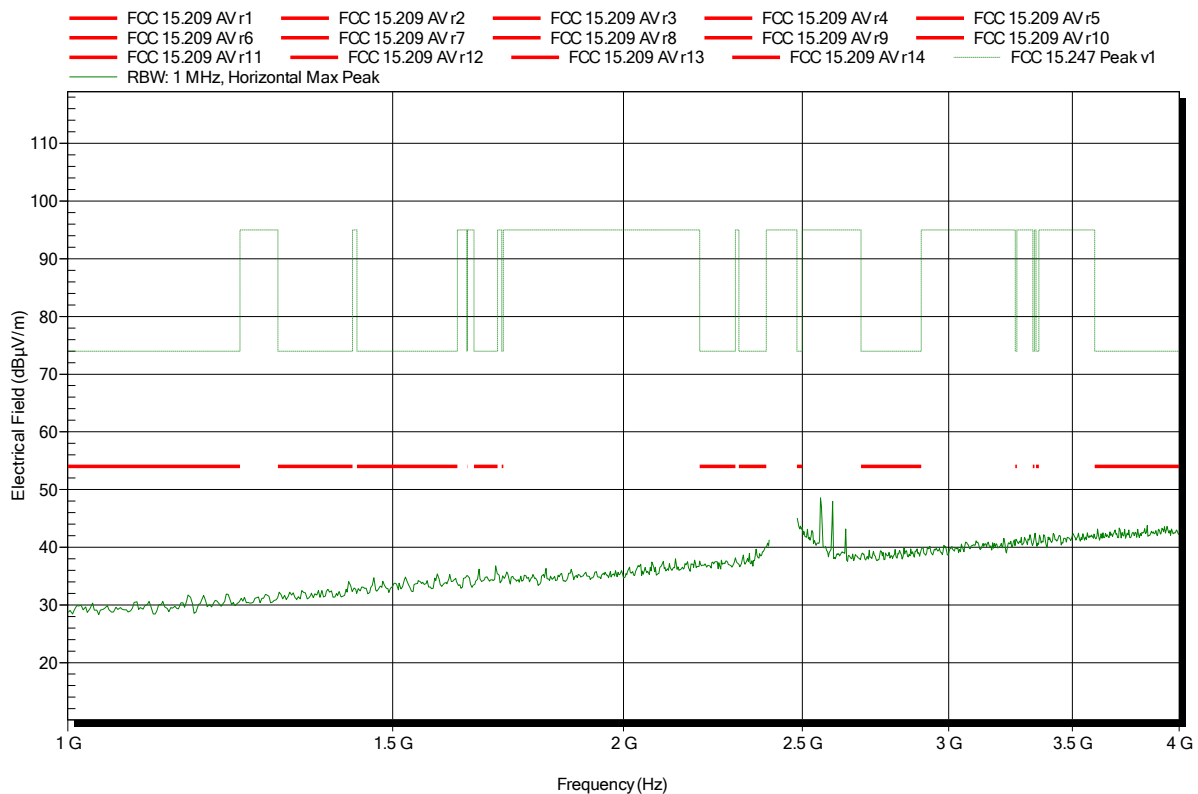


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 6; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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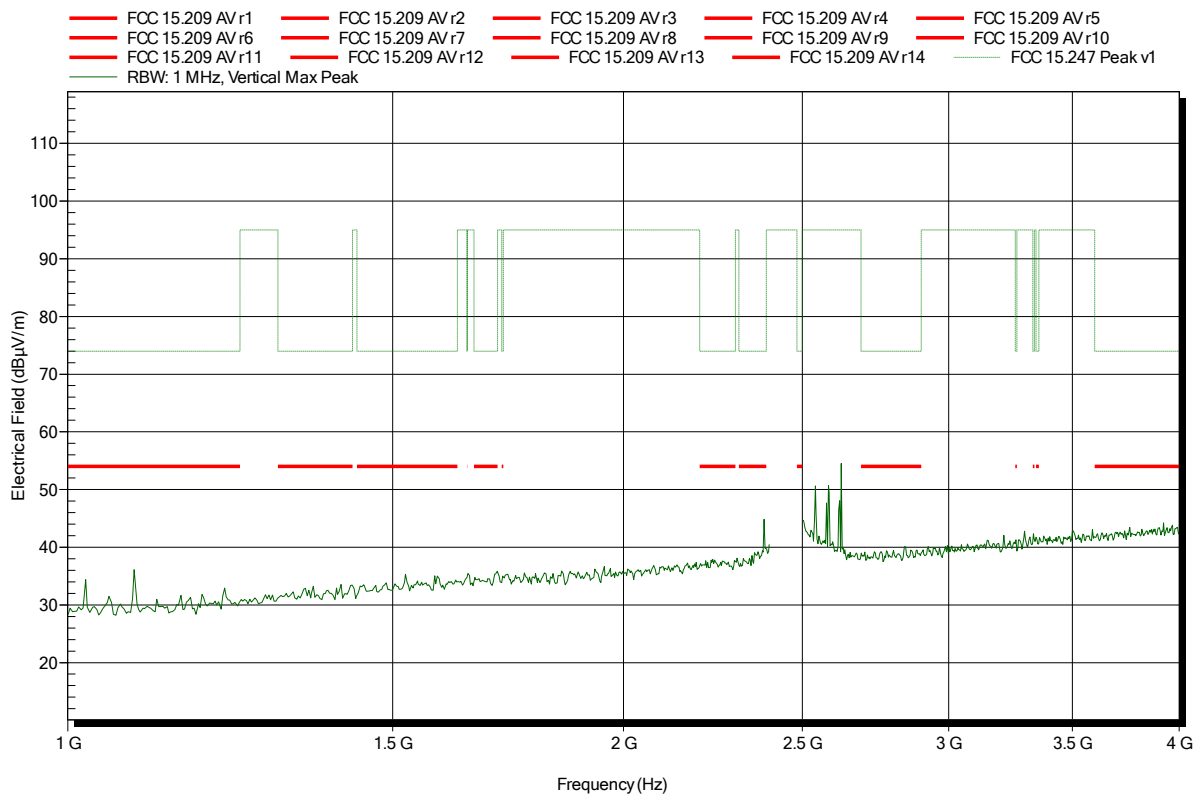


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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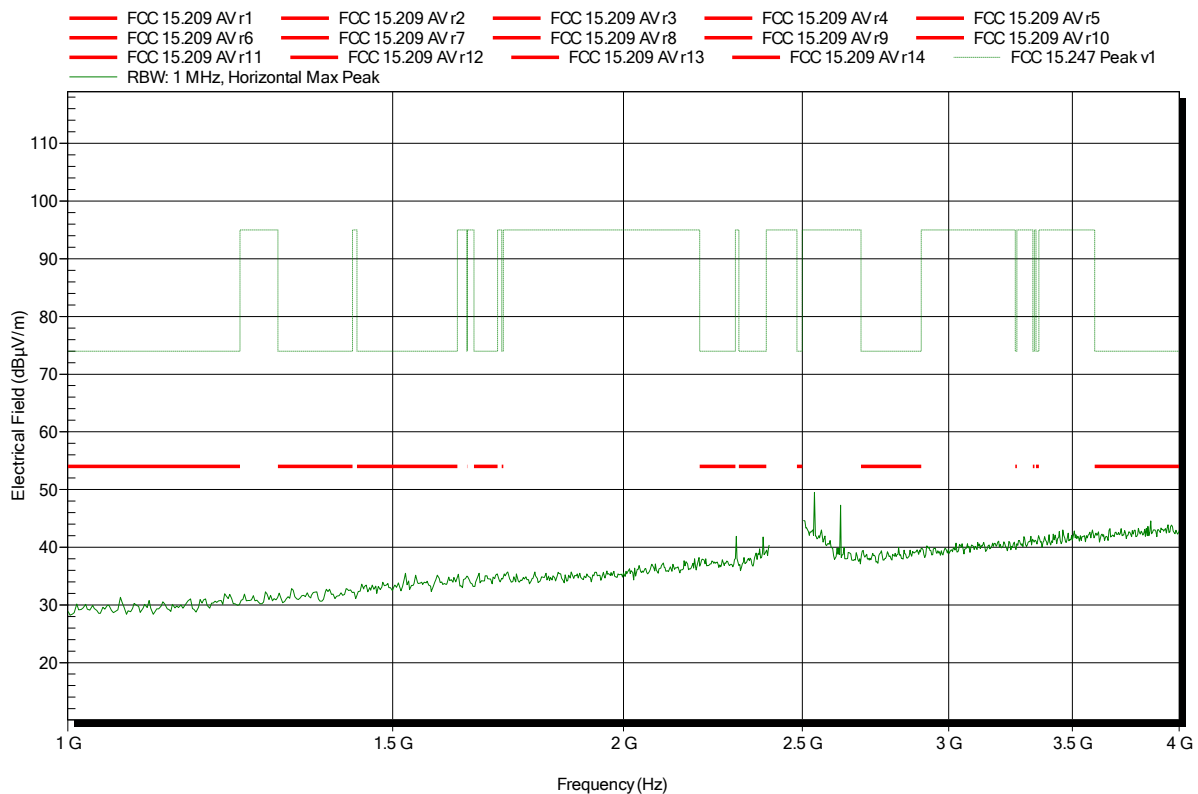


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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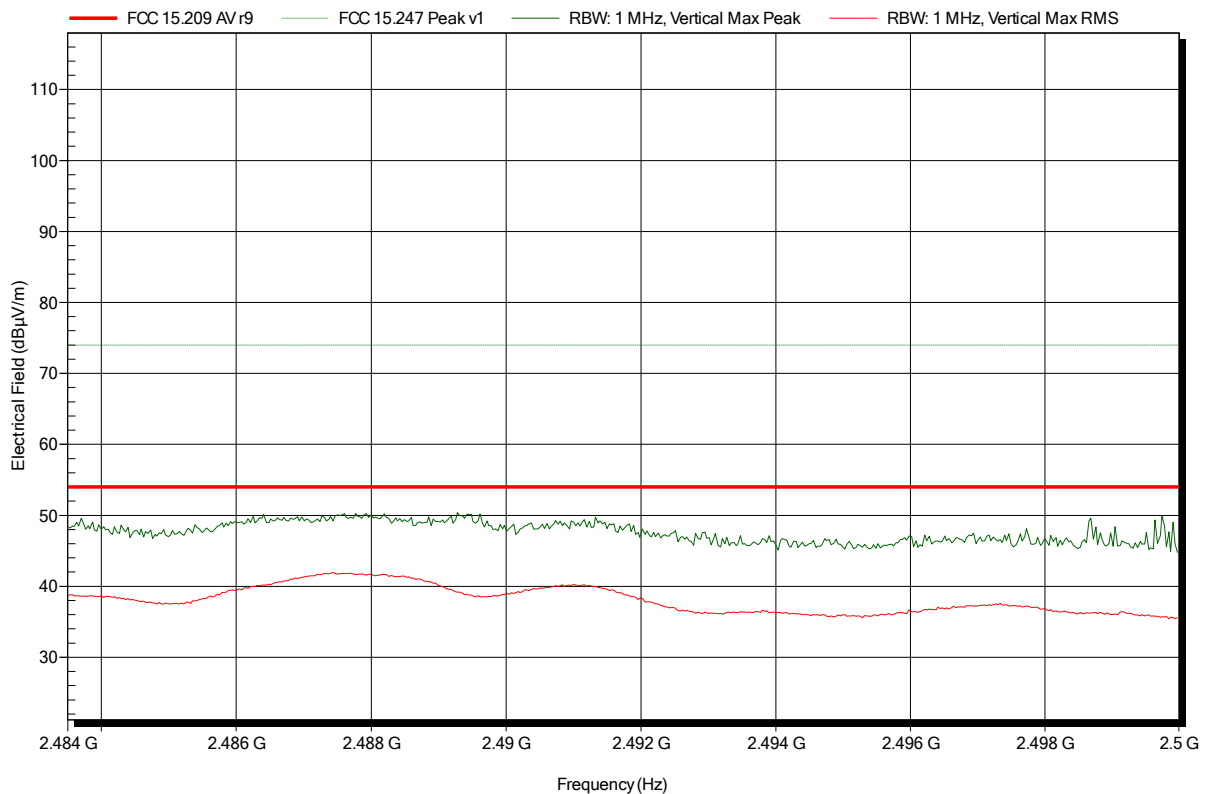


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

|                       |                                    |
|-----------------------|------------------------------------|
| Applicant:            | Leica Geosystems AG                |
| EUT Name:             | Field Controller Win EC7           |
| Model:                | CS20                               |
| Test Site:            | Eurofins Product Service GmbH      |
| Operator:             | Mr. Pudell                         |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC        |
| Antenna:              | Rohde & Schwarz HL 025, Vertical   |
| Measurement distance: | 3 m                                |
| Mode:                 | TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps |
| Test Date:            | 2015-02-27                         |
| Note:                 | EUT vertical; higher bandedge      |

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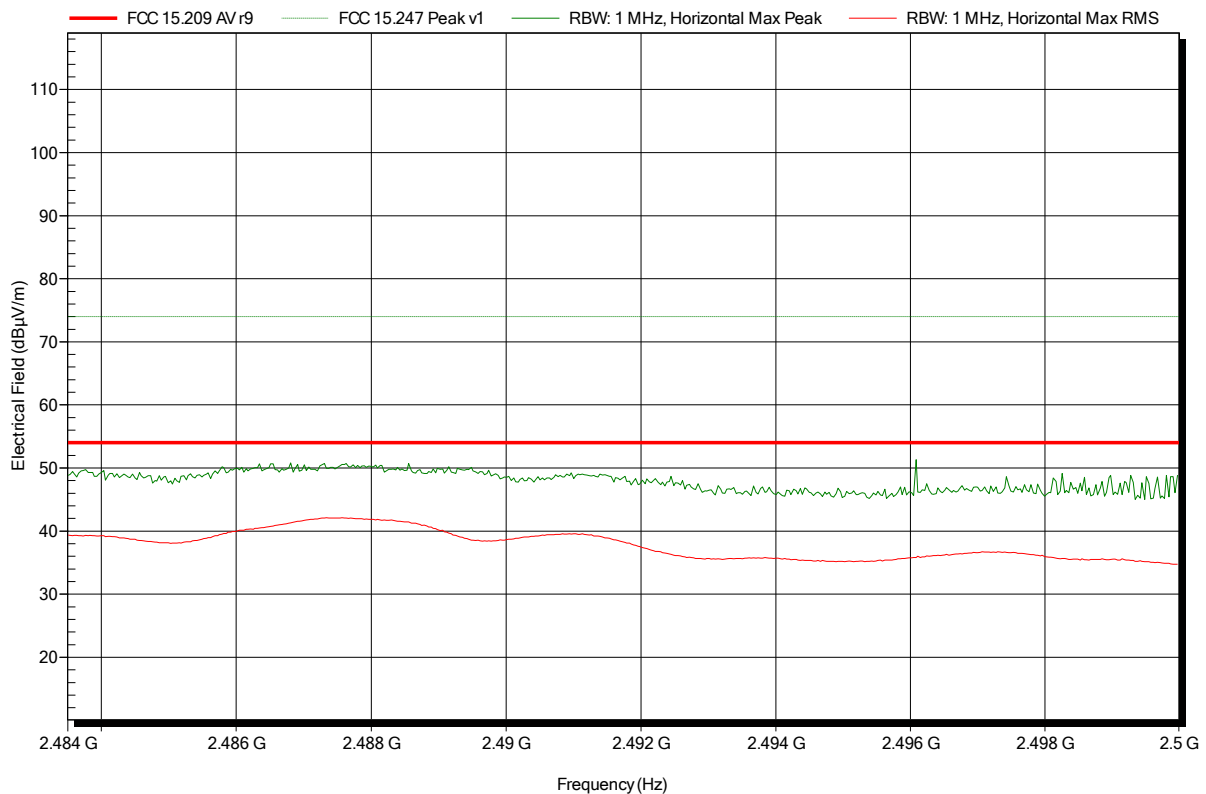


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

|                       |                                    |
|-----------------------|------------------------------------|
| Applicant:            | Leica Geosystems AG                |
| EUT Name:             | Field Controller Win EC7           |
| Model:                | CS20                               |
| Test Site:            | Eurofins Product Service GmbH      |
| Operator:             | Mr. Pudell                         |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC        |
| Antenna:              | Rohde & Schwarz HL 025, Horizontal |
| Measurement distance: | 3 m                                |
| Mode:                 | TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps |
| Test Date:            | 2015-02-27                         |
| Note:                 | EUT vertical; higher bandedge      |

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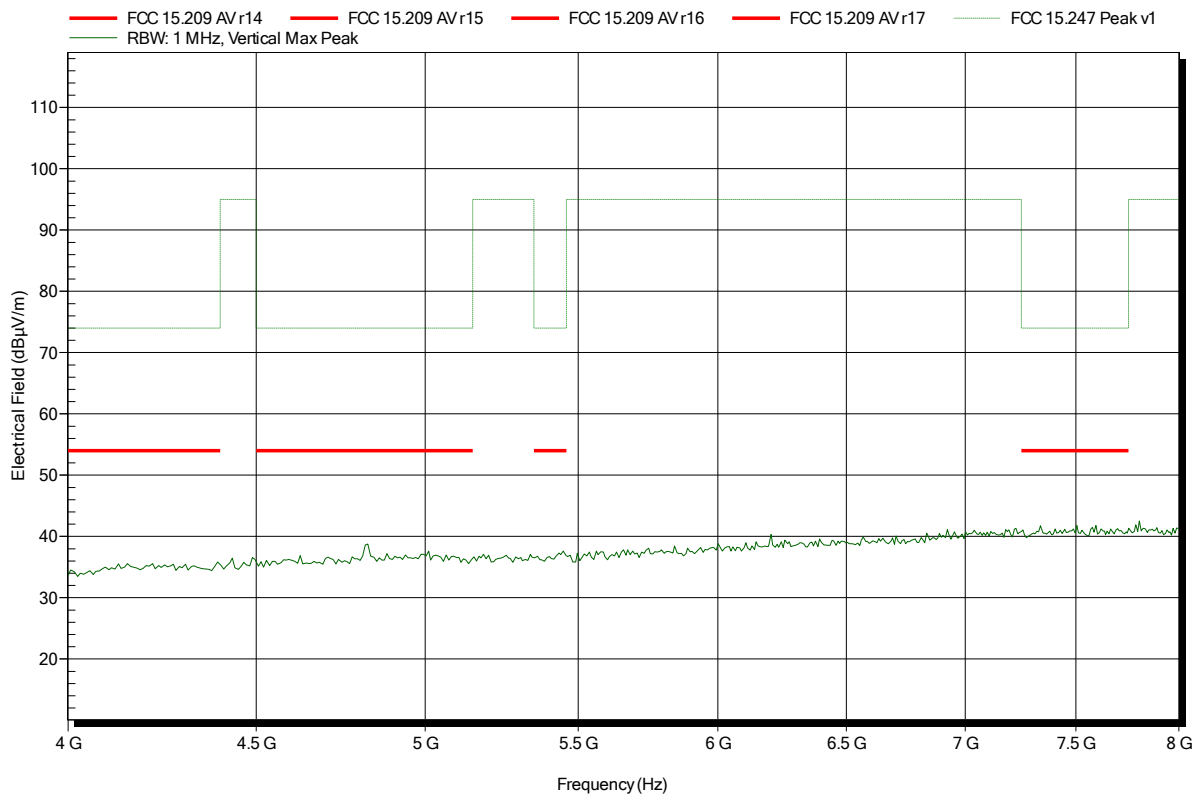


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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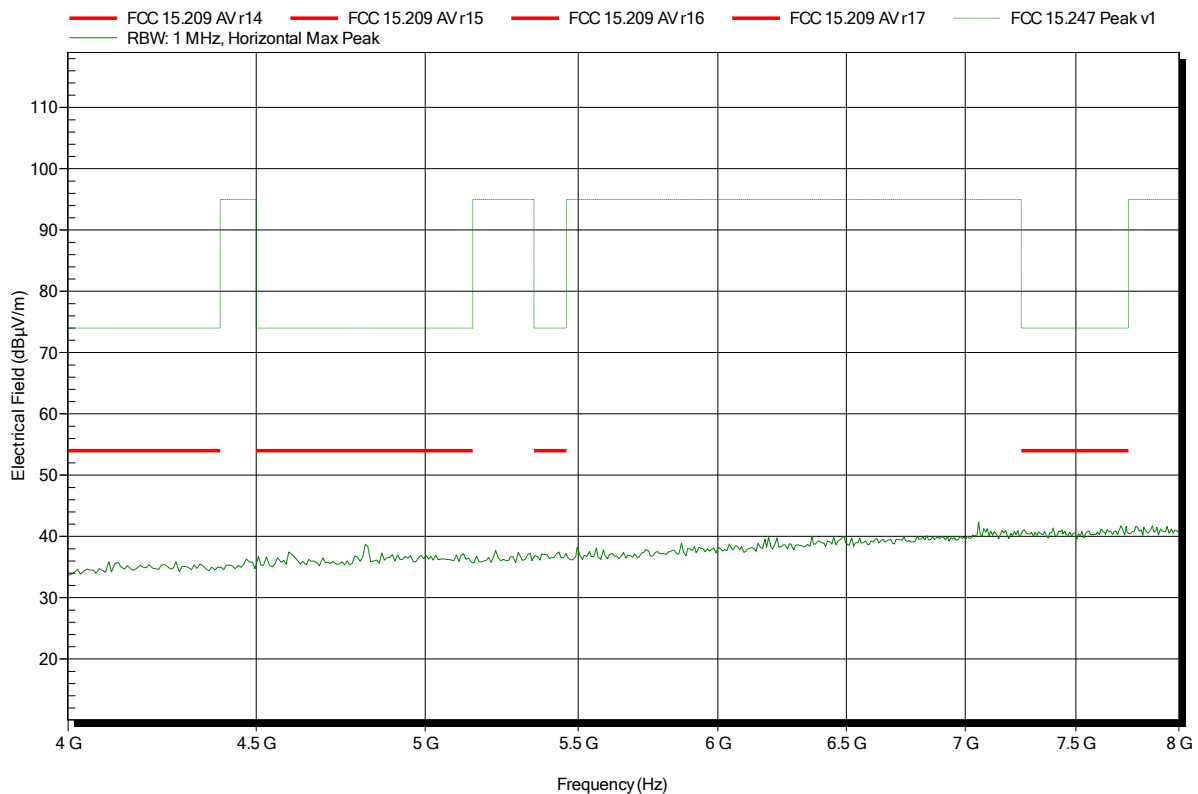


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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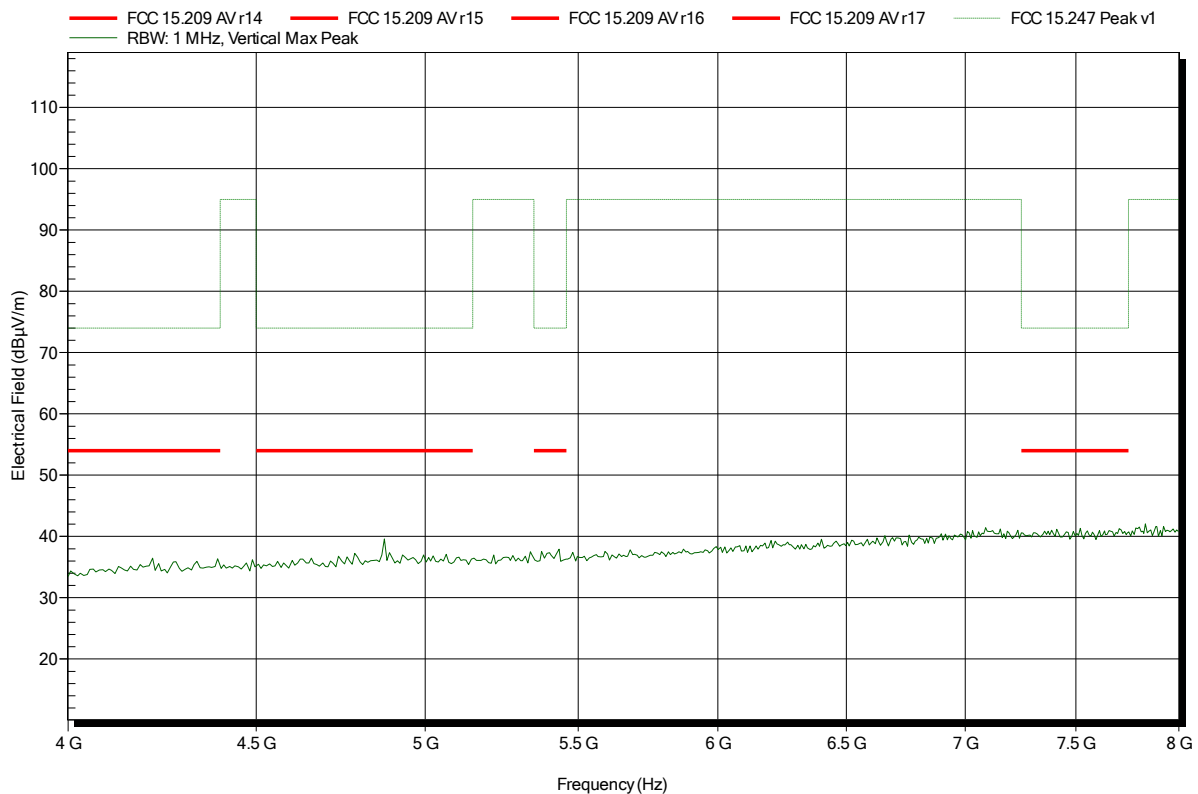


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 6; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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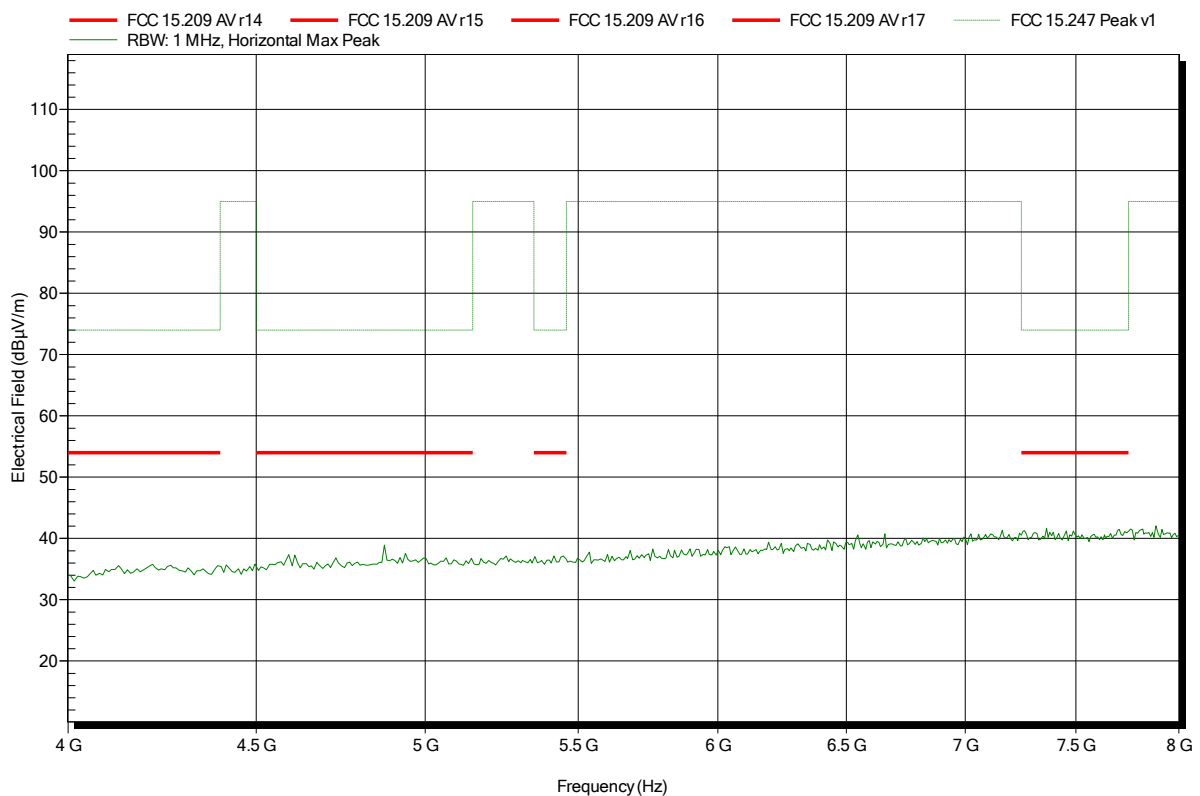


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 6; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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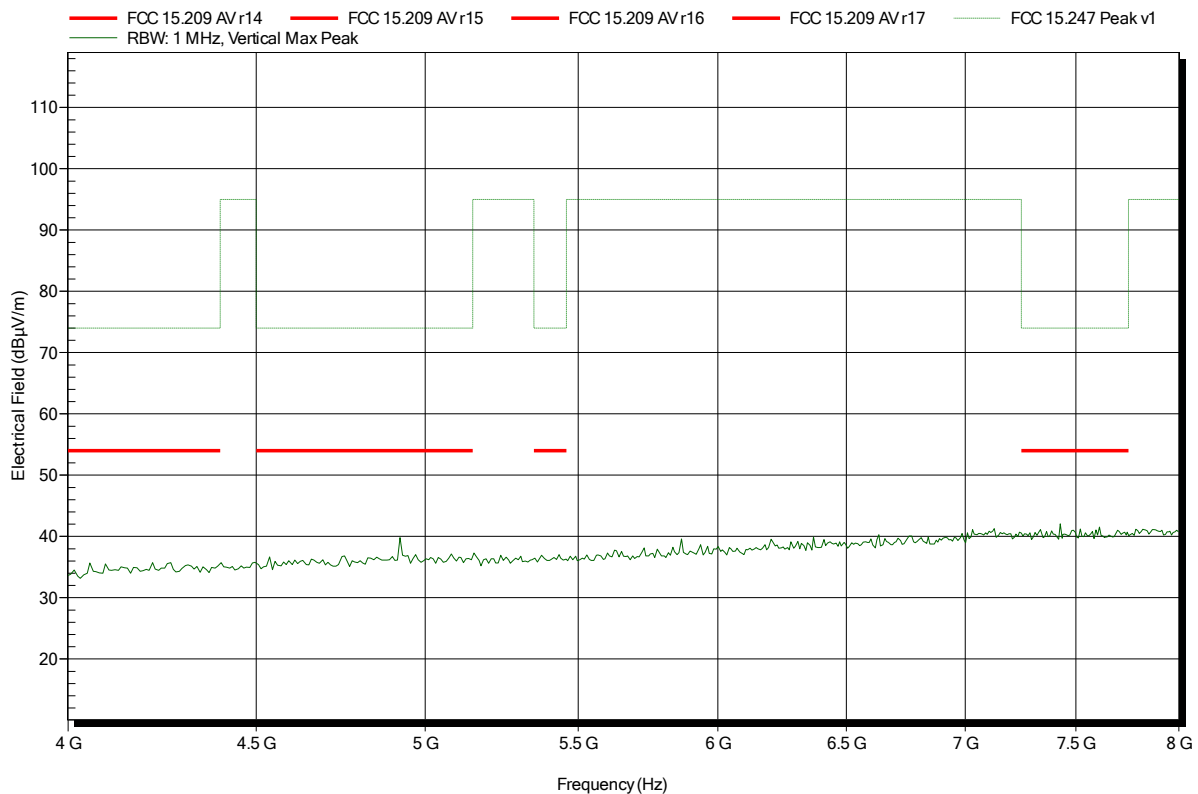


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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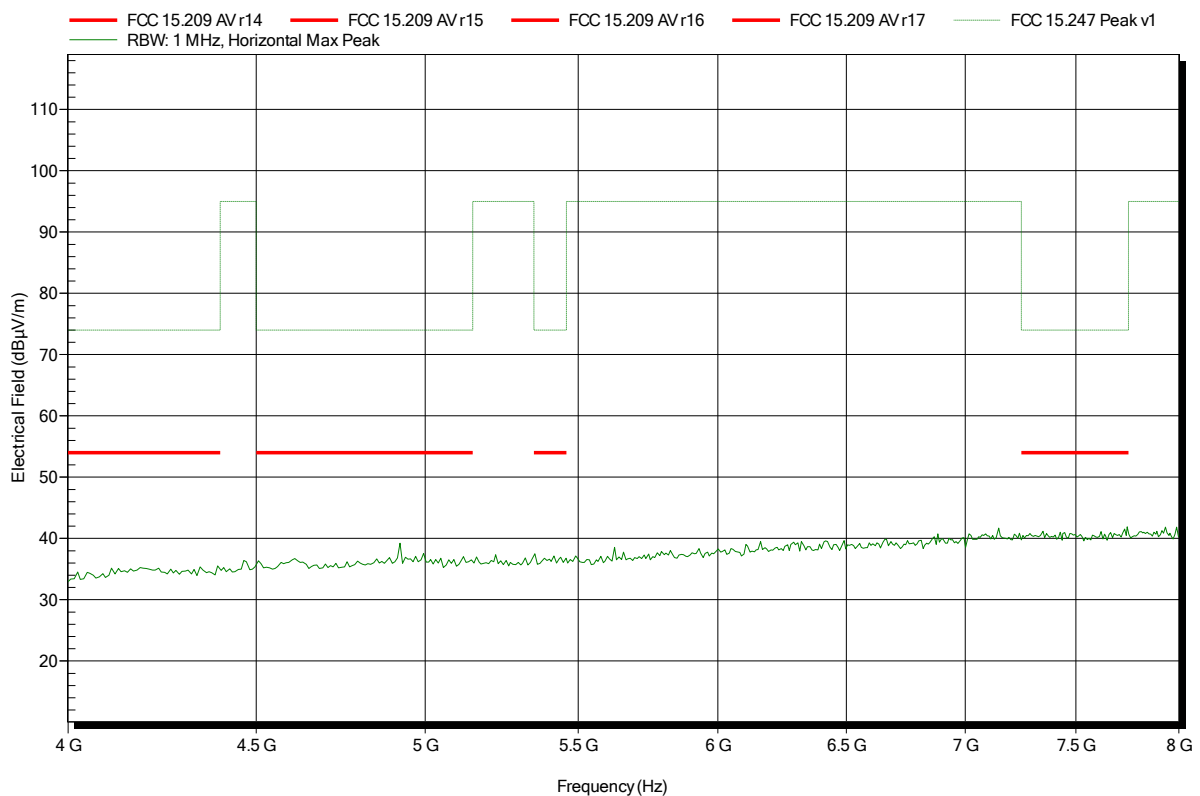


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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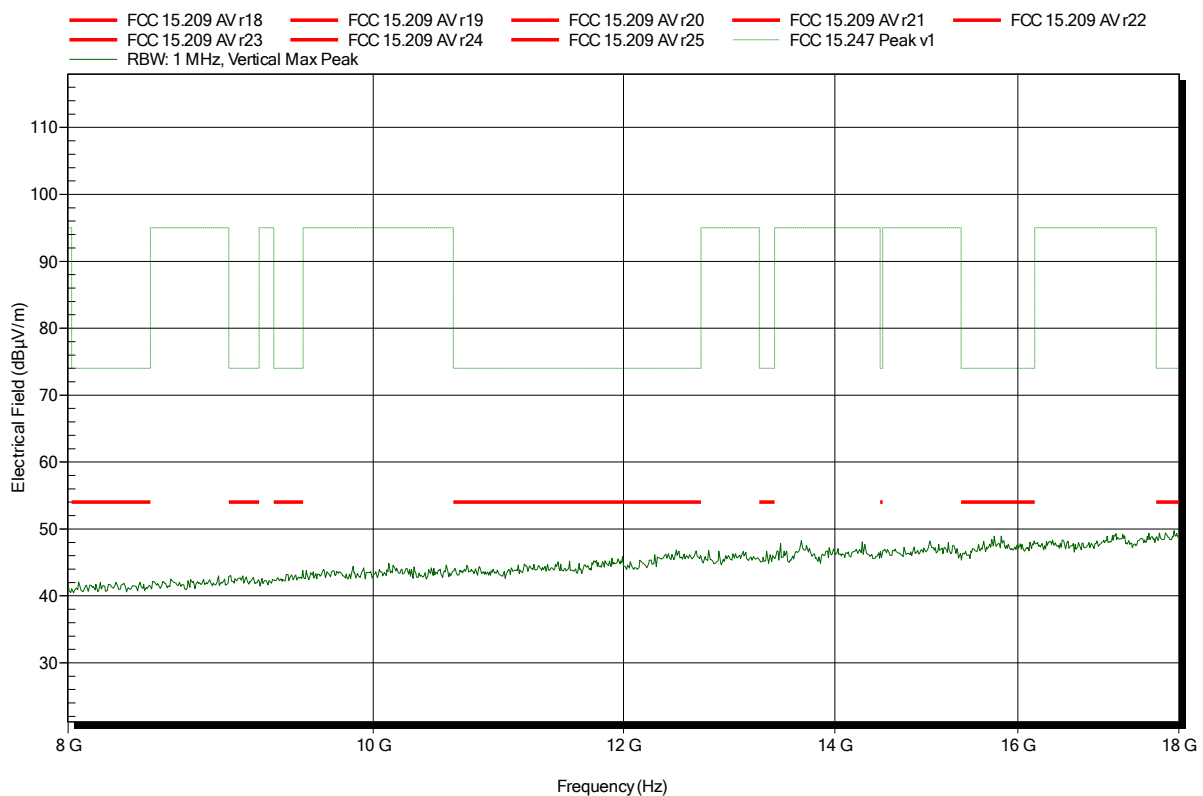


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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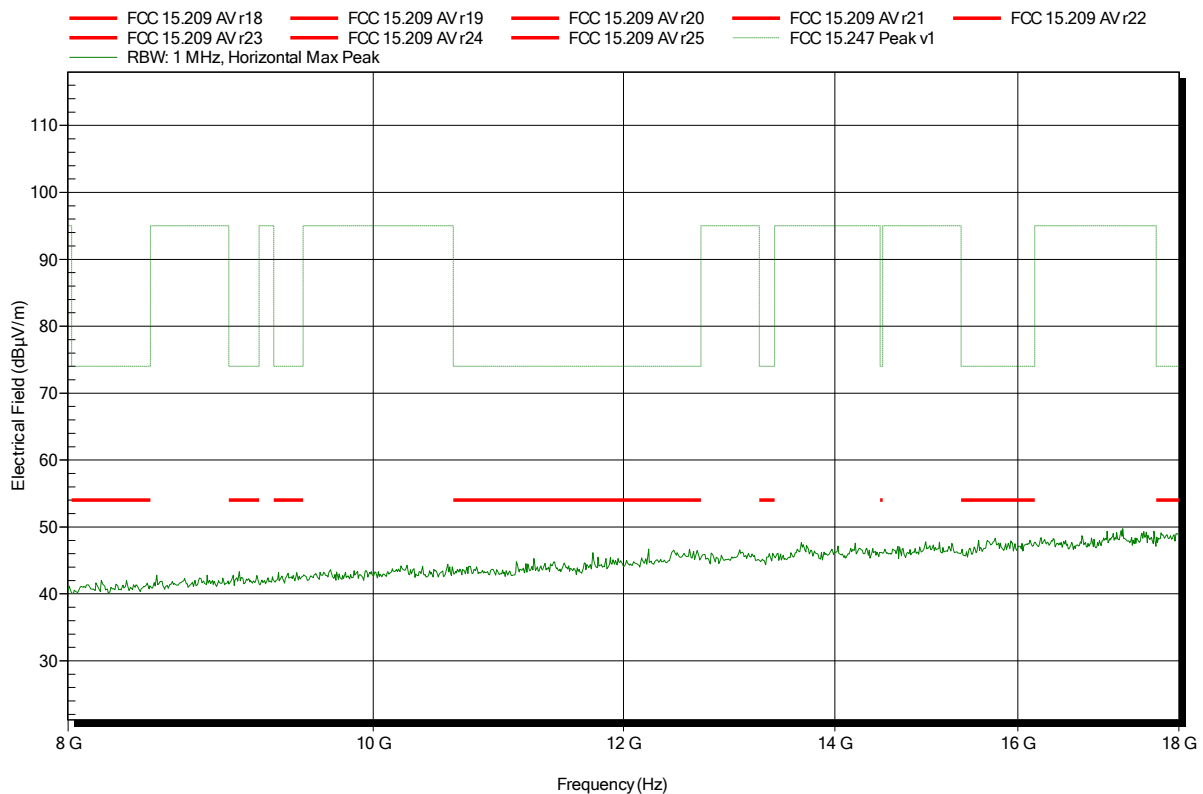


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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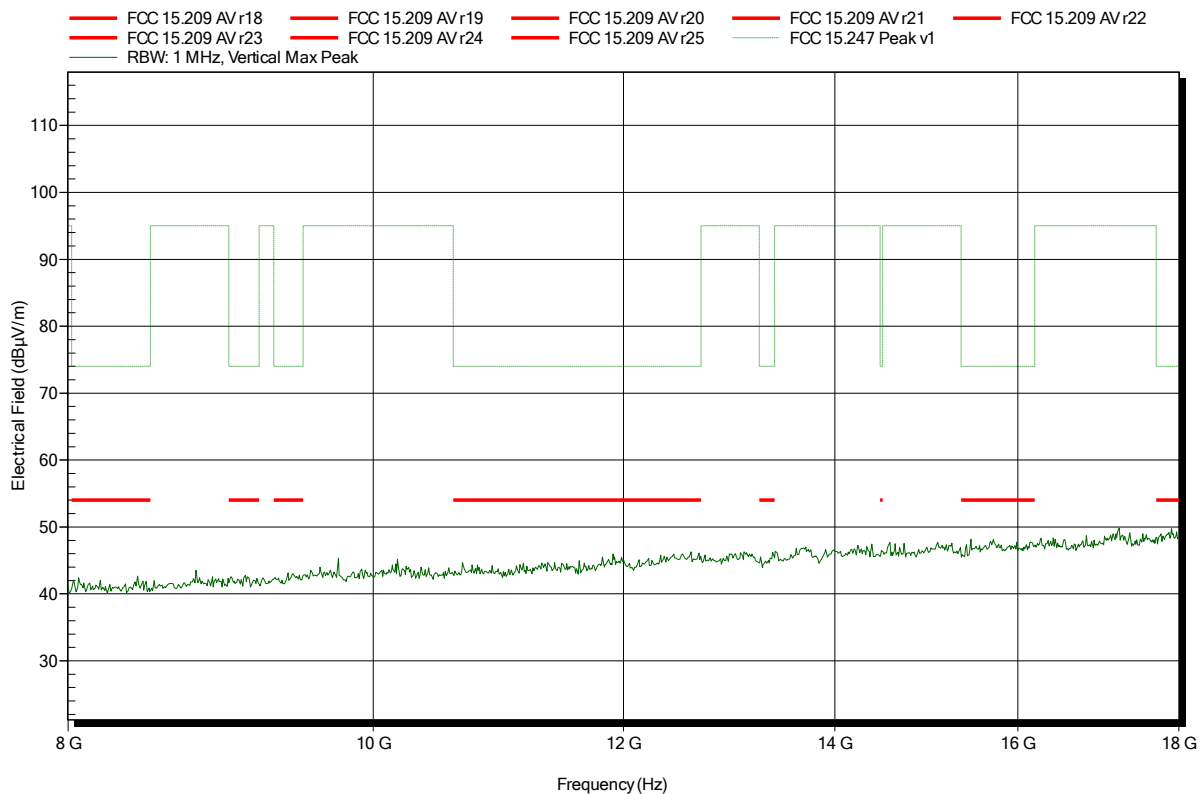


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 6; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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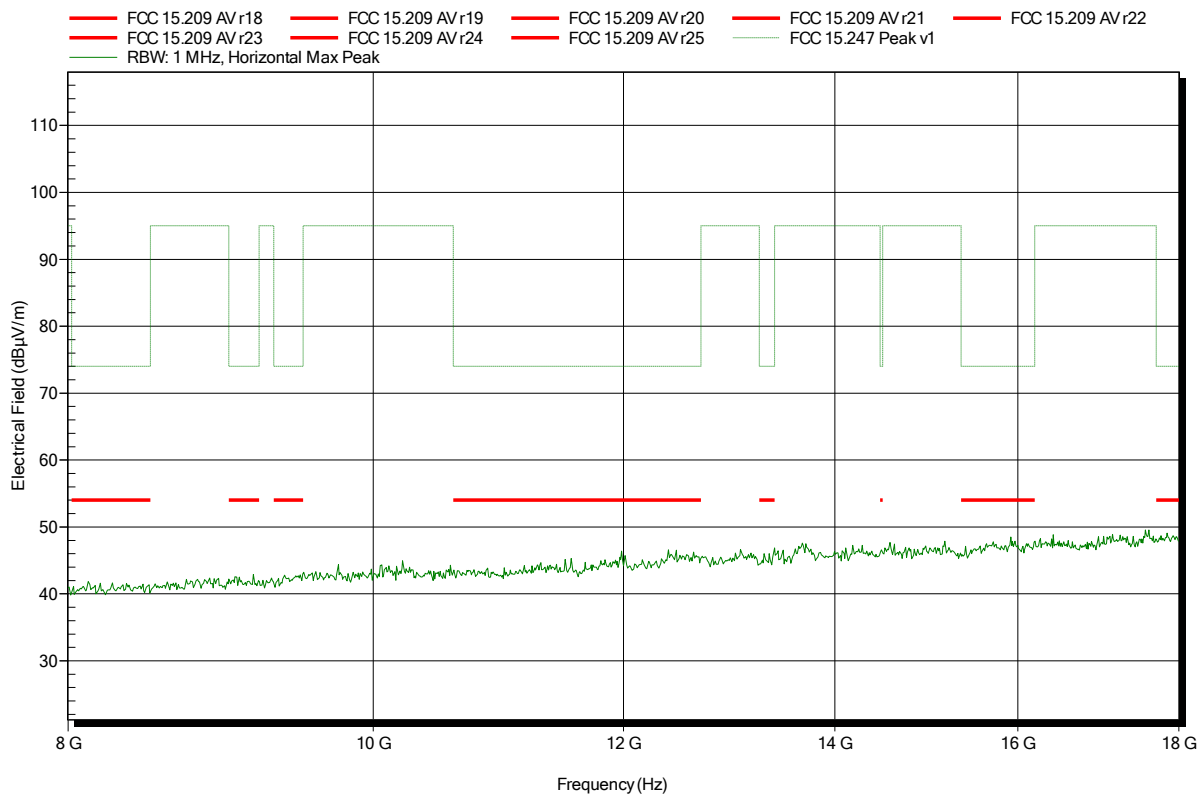


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 6; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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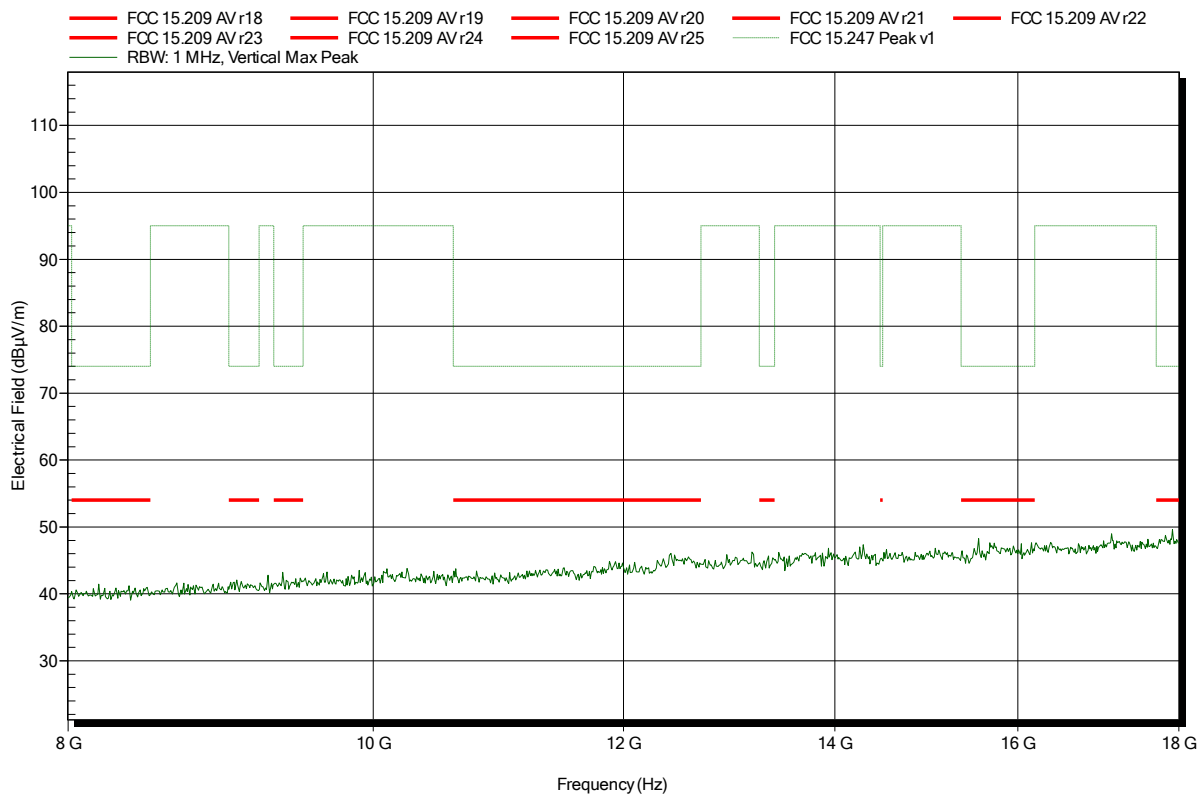


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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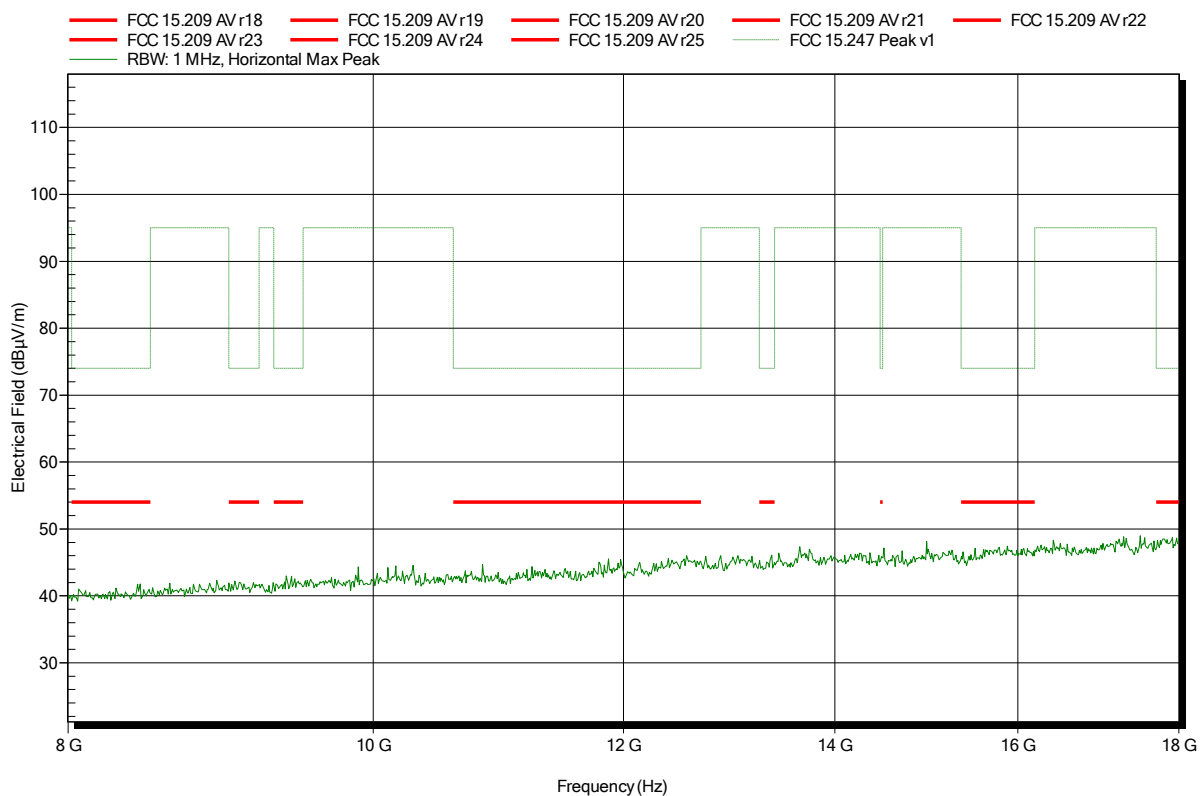


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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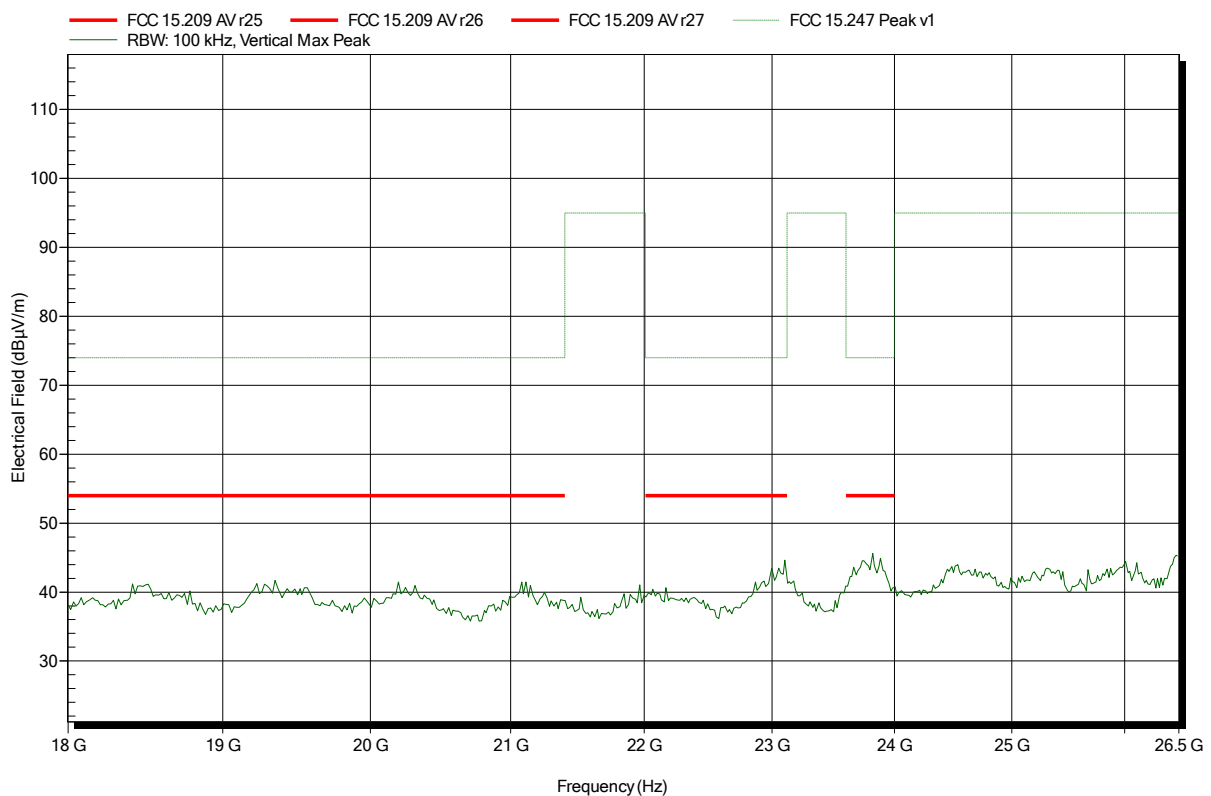


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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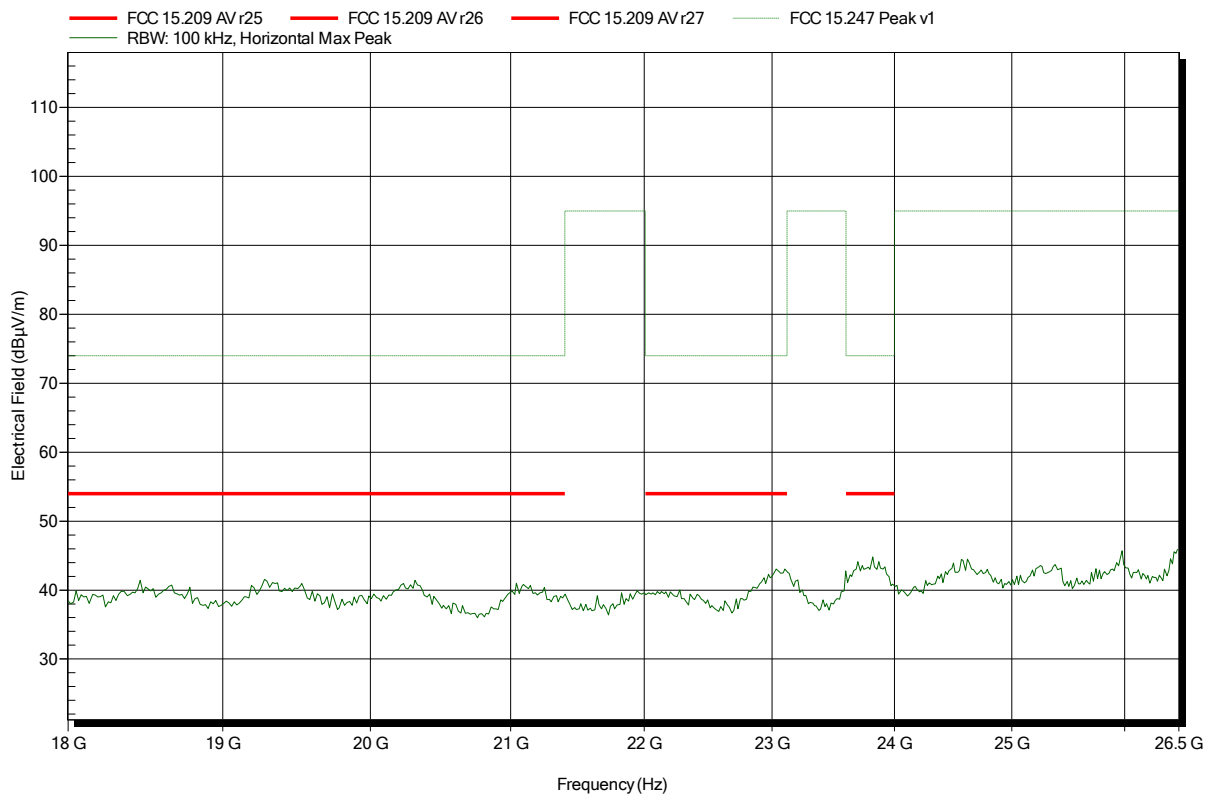


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 1; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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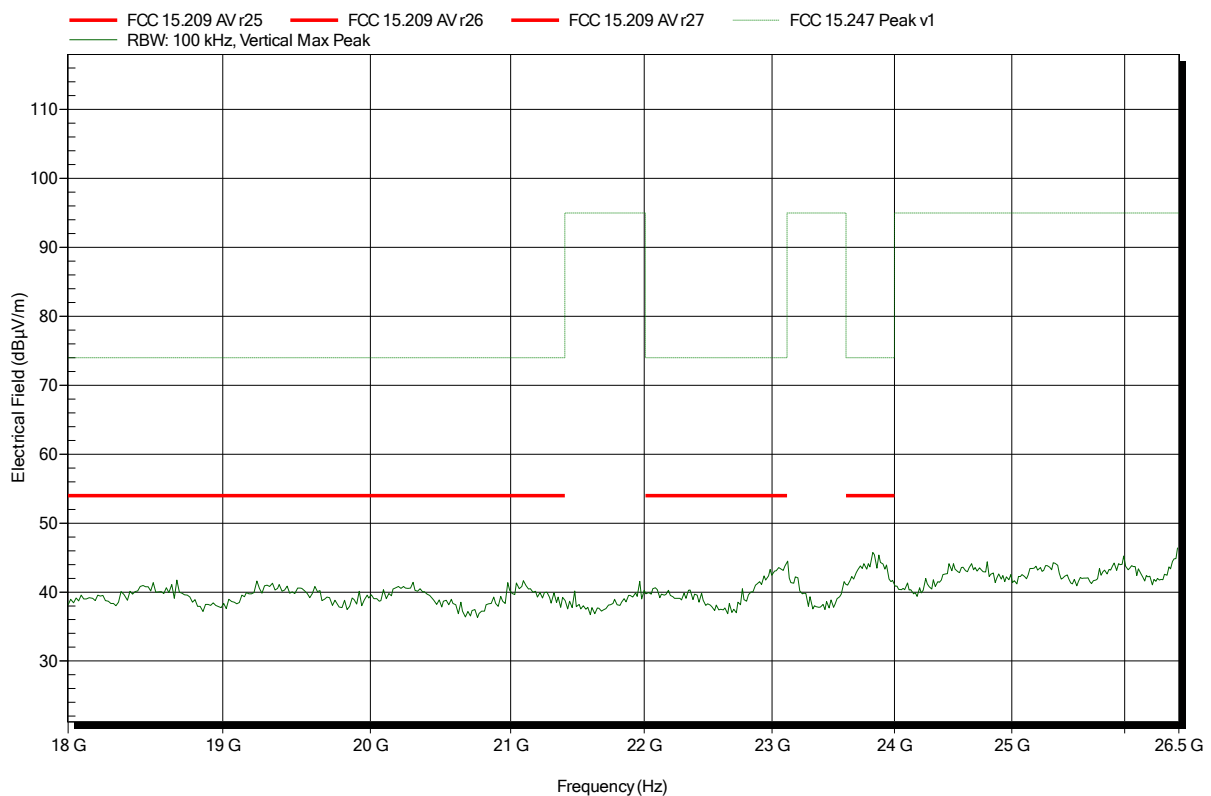


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 6; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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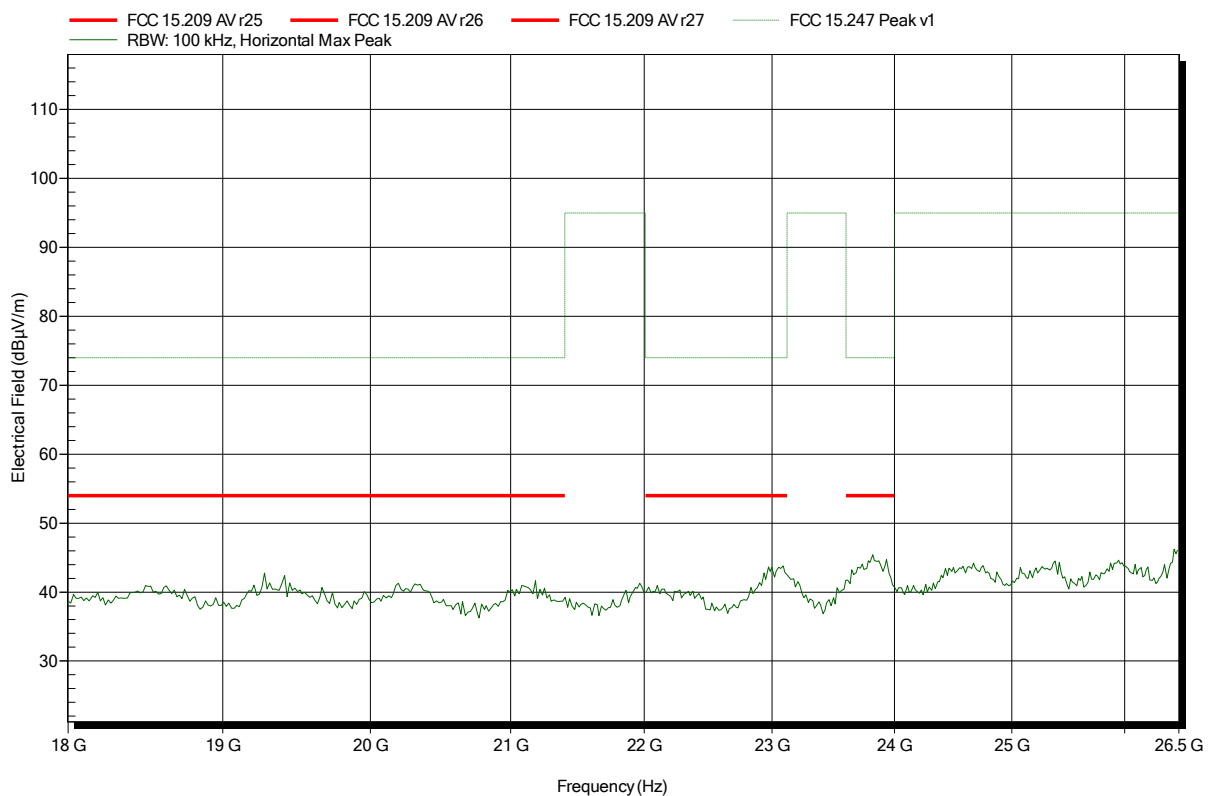


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 6; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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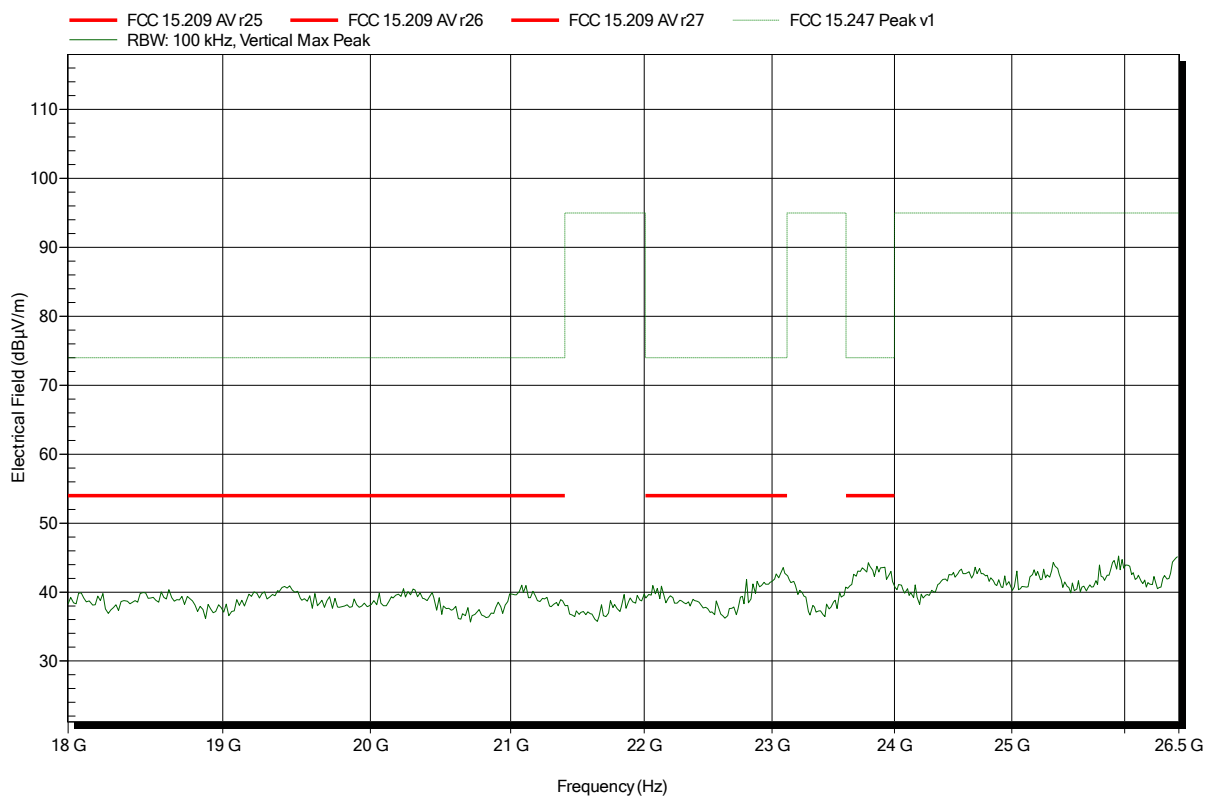


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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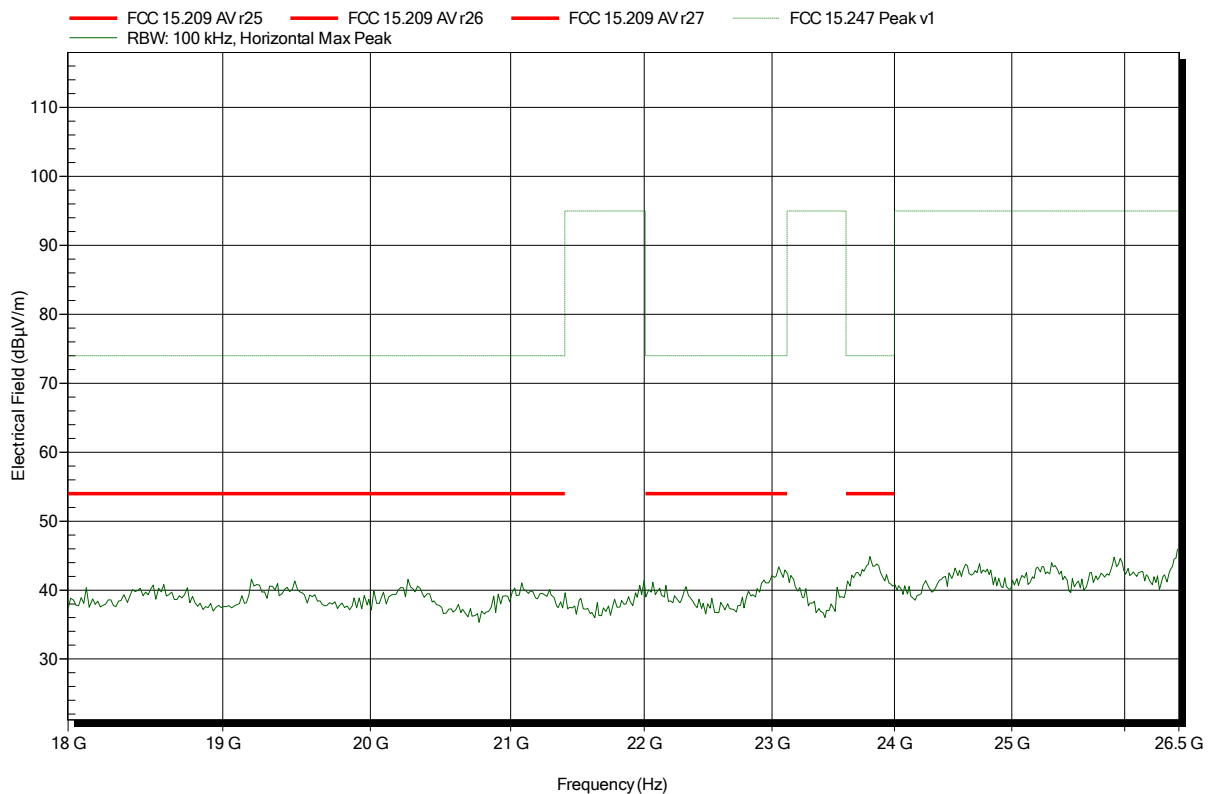


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 11; DSSS; 1Mbps  
 Test Date: 2015-02-27  
 Note: EUT vertical

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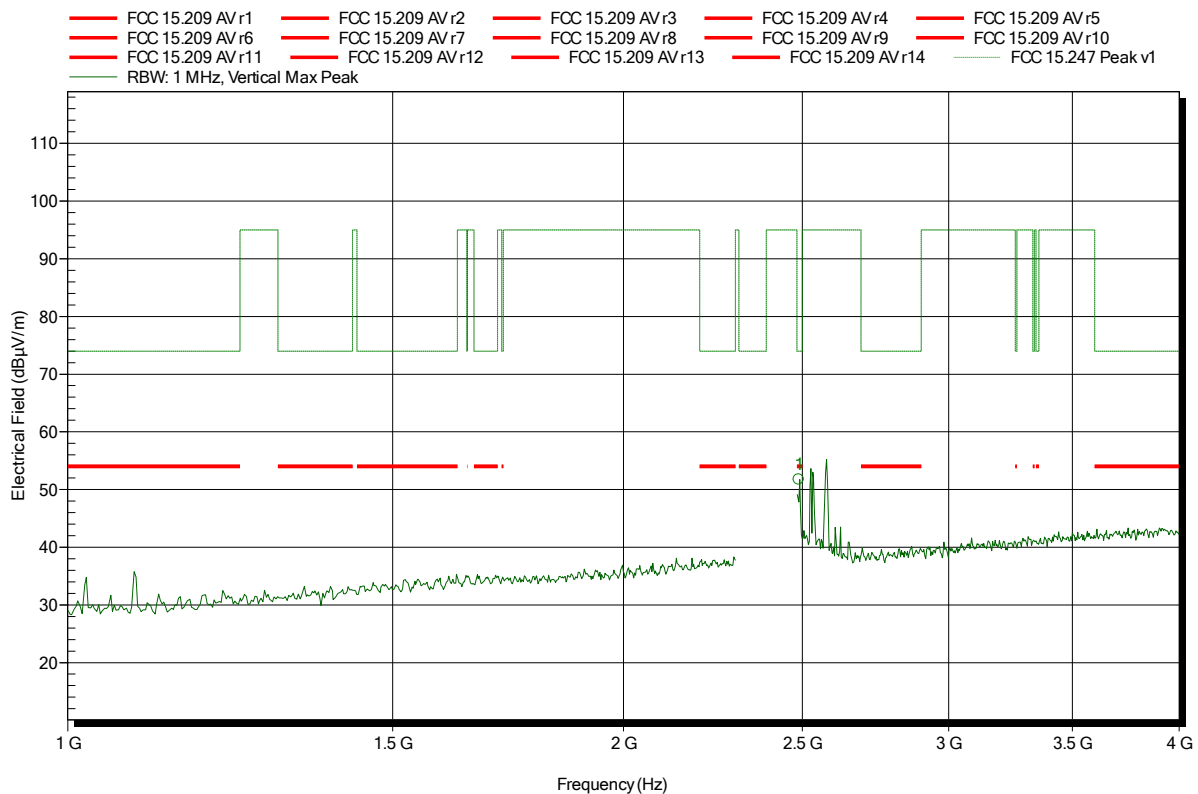


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 1; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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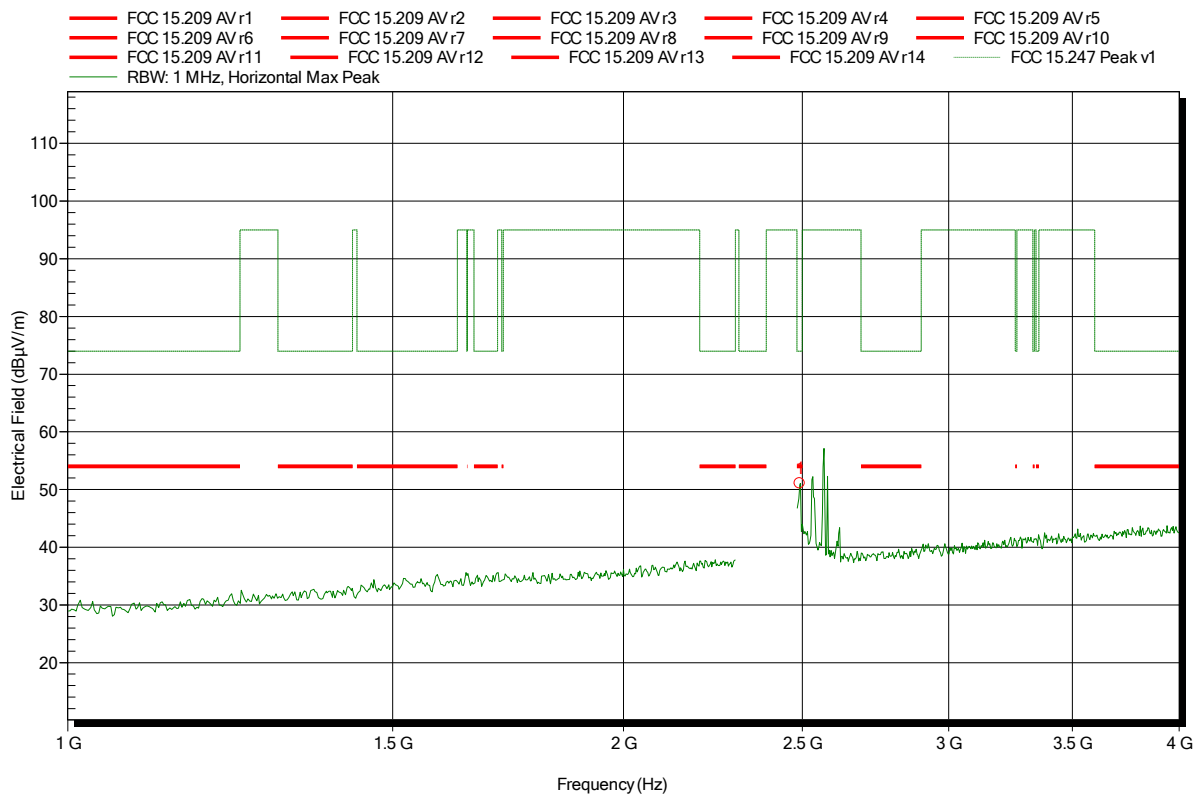
| Frequency | Peak         | Peak Limit | Peak Difference | Peak Status |
|-----------|--------------|------------|-----------------|-------------|
| 2.49 GHz  | 51.73 dBµV/m | 74 dBµV/m  | -22.27 dB       | Pass        |

## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 1; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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| Frequency | Peak         | Peak Limit | Peak Difference | Peak Status |
|-----------|--------------|------------|-----------------|-------------|
| 2.493 GHz | 51.08 dBµV/m | 74 dBµV/m  | -22.92 dB       | Pass        |

Test Report No.: G0M-1406-3919-TFC247WF-V01

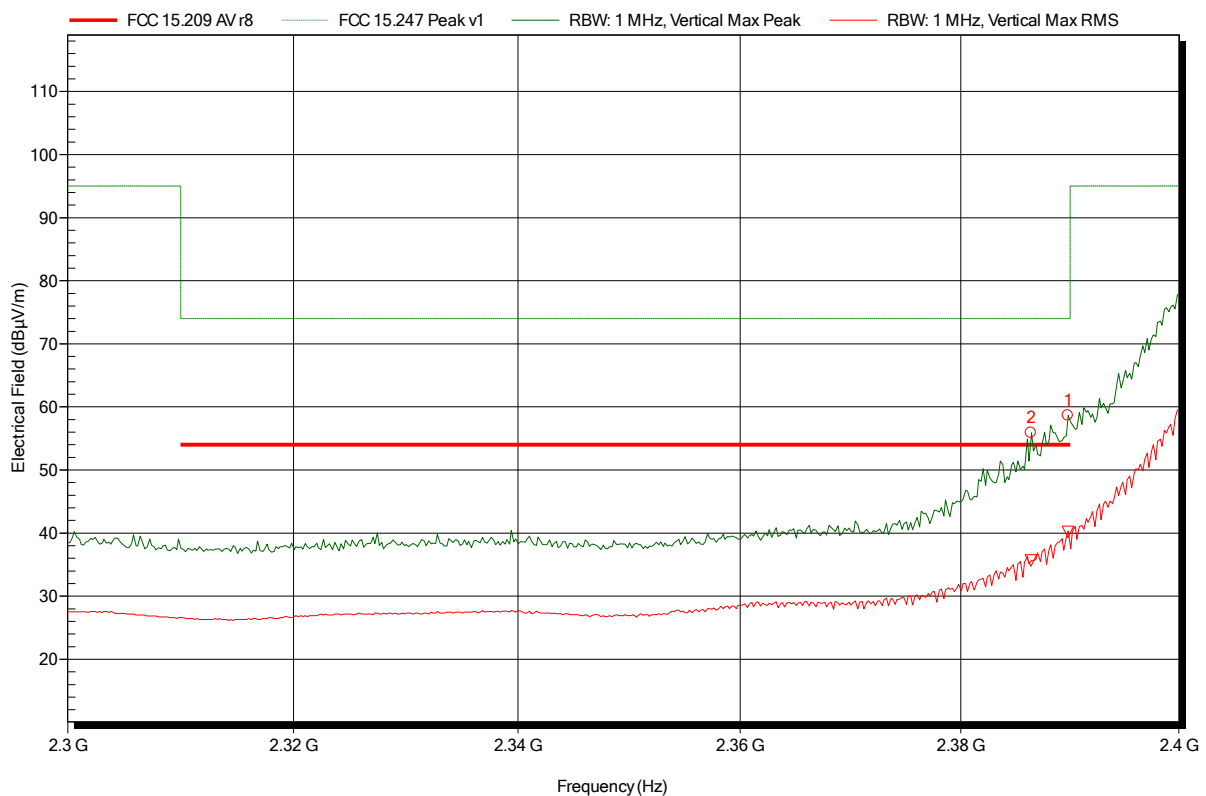
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 1; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical; lower bandedge

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| Frequency | Peak         | Peak Limit | Peak Difference | Peak Status |
|-----------|--------------|------------|-----------------|-------------|
| 2.386 GHz | 55.88 dBµV/m | 74 dBµV/m  | -18.12 dB       | Pass        |
| 2.39 GHz  | 58.65 dBµV/m | 74 dBµV/m  | -15.35 dB       | Pass        |

| Frequency | RMS          | RMS Limit | RMS Difference | RMS Status |
|-----------|--------------|-----------|----------------|------------|
| 2.386 GHz | 35.66 dBµV/m | 54 dBµV/m | -18.34 dB      | Pass       |
| 2.39 GHz  | 40.2 dBµV/m  | 54 dBµV/m | -13.8 dB       | Pass       |

Test Report No.: G0M-1406-3919-TFC247WF-V01

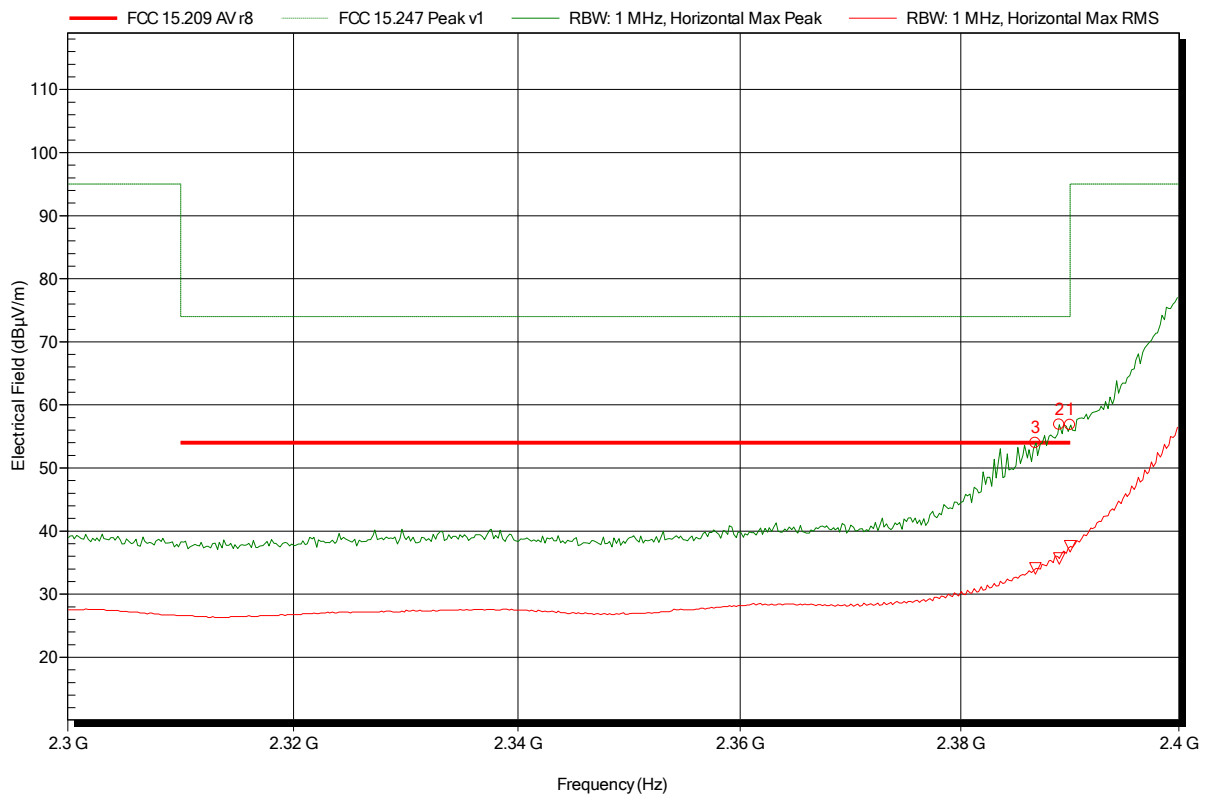
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 1; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical; lower bandedge

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| Frequency | Peak         | Peak Limit | Peak Difference | Peak Status |
|-----------|--------------|------------|-----------------|-------------|
| 2.387 GHz | 53.95 dBµV/m | 74 dBµV/m  | -20.05 dB       | Pass        |
| 2.389 GHz | 56.86 dBµV/m | 74 dBµV/m  | -17.14 dB       | Pass        |
| 2.39 GHz  | 56.82 dBµV/m | 74 dBµV/m  | -17.18 dB       | Pass        |

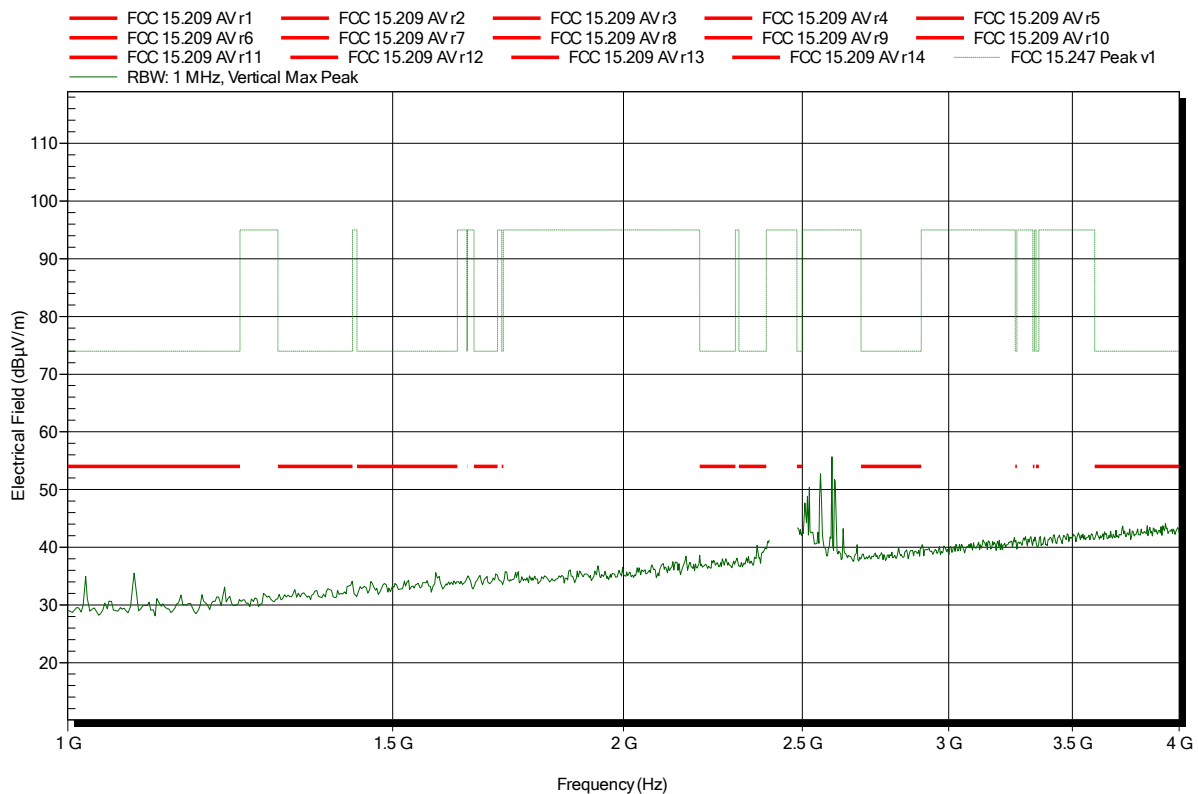
| Frequency | RMS          | RMS Limit | RMS Difference | RMS Status |
|-----------|--------------|-----------|----------------|------------|
| 2.387 GHz | 34.1 dBµV/m  | 54 dBµV/m | -19.9 dB       | Pass       |
| 2.389 GHz | 35.67 dBµV/m | 54 dBµV/m | -18.33 dB      | Pass       |
| 2.39 GHz  | 37.57 dBµV/m | 54 dBµV/m | -16.43 dB      | Pass       |

**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 6; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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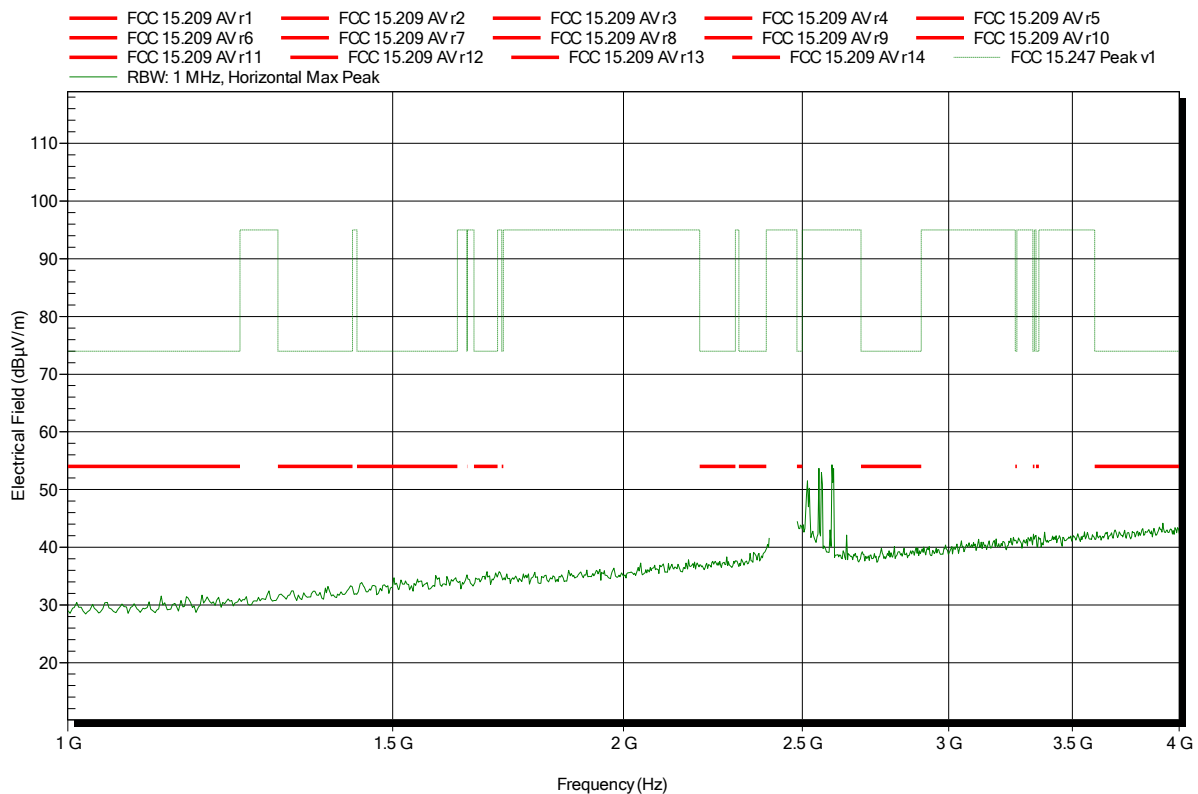


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 6; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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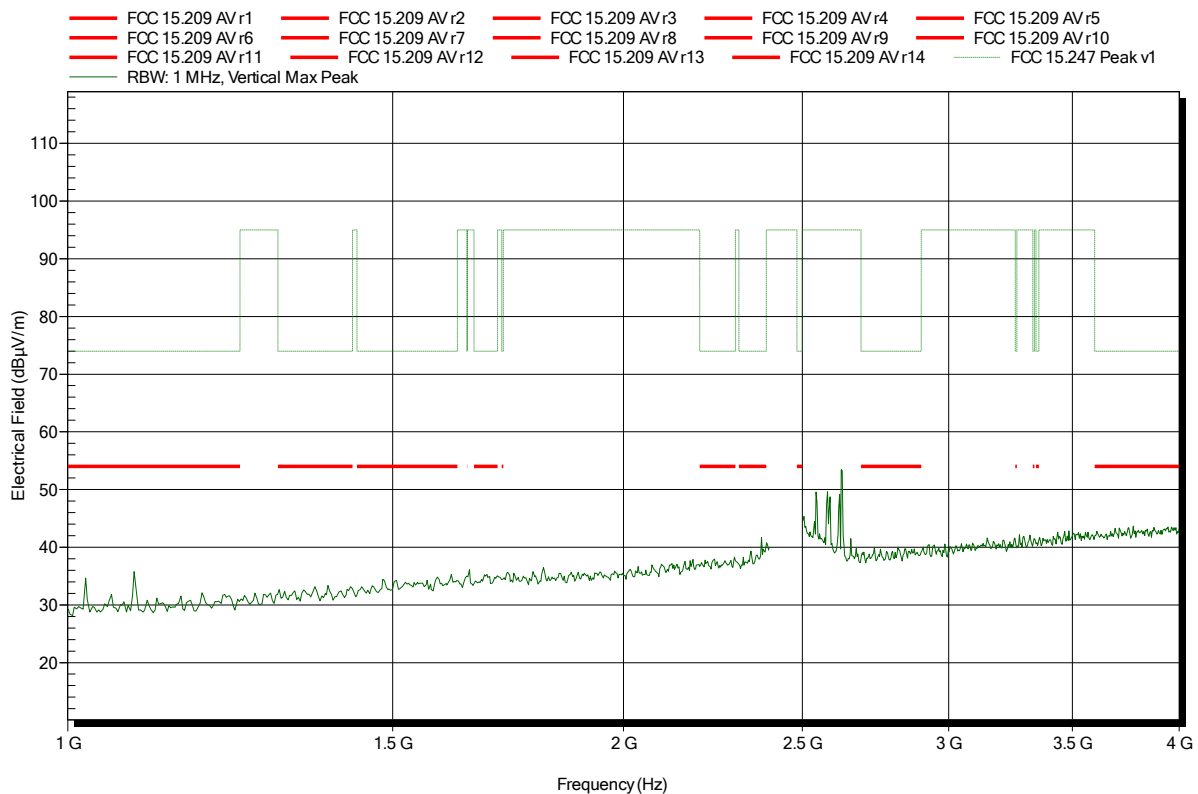


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 11; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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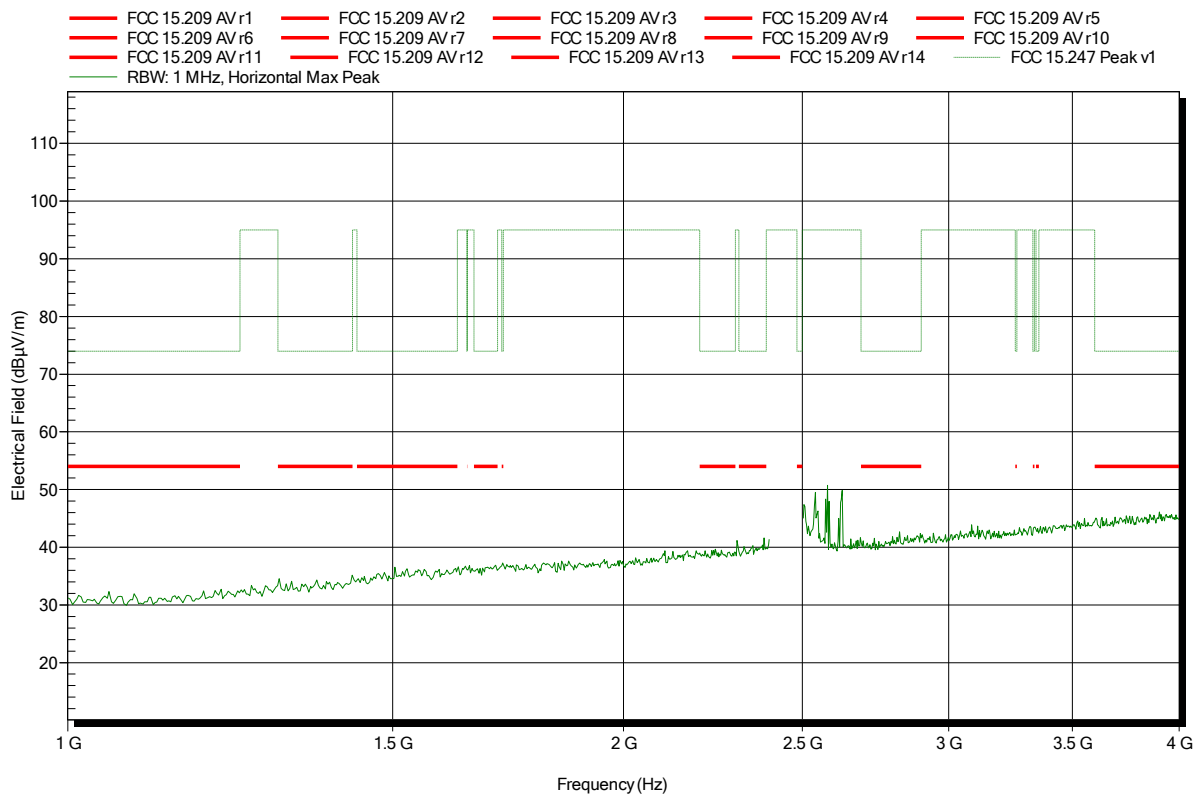


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 11; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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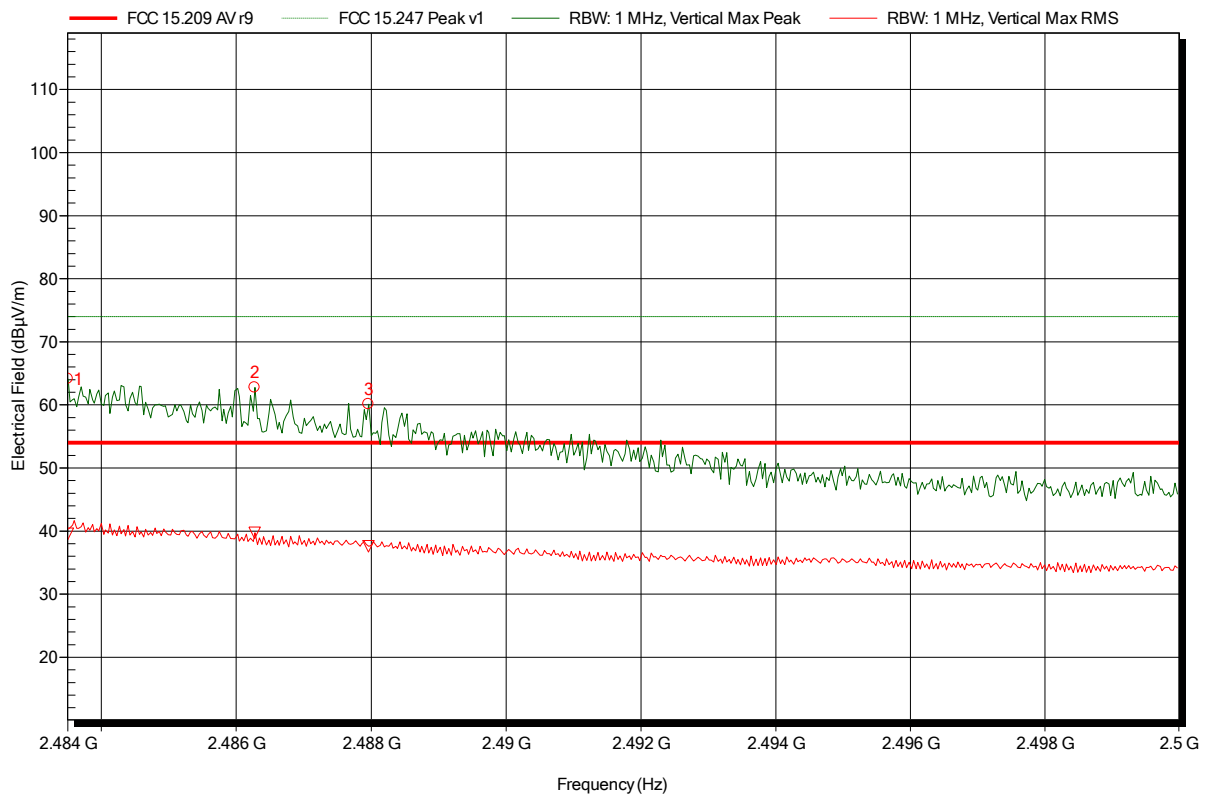


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 11; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical; higher bandedge

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| Frequency | Peak         | Peak Limit | Peak Difference | Peak Status |
|-----------|--------------|------------|-----------------|-------------|
| 2.484 GHz | 64.15 dBµV/m | 74 dBµV/m  | -9.85 dB        | Pass        |
| 2.486 GHz | 62.76 dBµV/m | 74 dBµV/m  | -11.24 dB       | Pass        |
| 2.488 GHz | 60.15 dBµV/m | 74 dBµV/m  | -13.85 dB       | Pass        |

| Frequency | RMS          | RMS Limit | RMS Difference | RMS Status |
|-----------|--------------|-----------|----------------|------------|
| 2.484 GHz | 39.56 dBµV/m | 54 dBµV/m | -14.44 dB      | Pass       |
| 2.486 GHz | 39.71 dBµV/m | 54 dBµV/m | -14.29 dB      | Pass       |
| 2.488 GHz | 37.57 dBµV/m | 54 dBµV/m | -16.43 dB      | Pass       |

Test Report No.: G0M-1406-3919-TFC247WF-V01

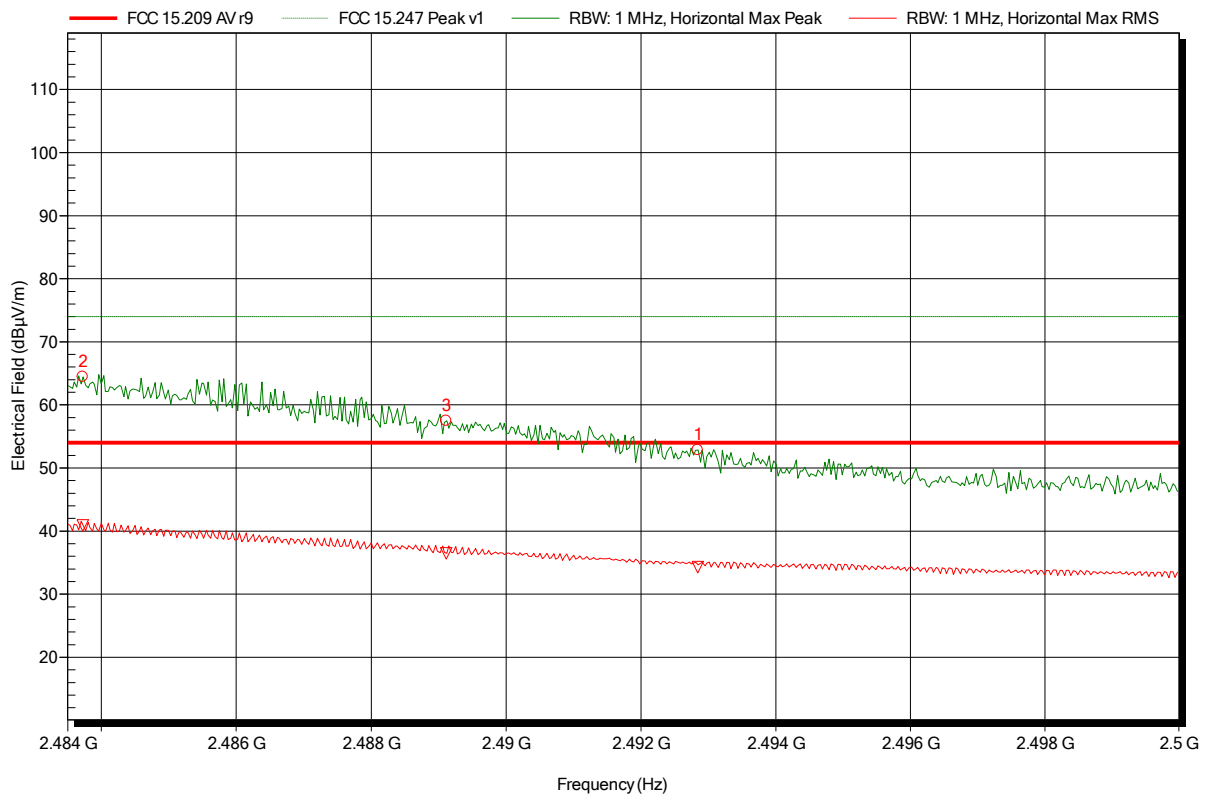
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; WLAN 2.4G; CH: 11; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical; higher bandedge

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| Frequency | Peak         | Peak Limit | Peak Difference | Peak Status |
|-----------|--------------|------------|-----------------|-------------|
| 2.484 GHz | 64.42 dBµV/m | 74 dBµV/m  | -9.58 dB        | Pass        |
| 2.489 GHz | 57.5 dBµV/m  | 74 dBµV/m  | -16.5 dB        | Pass        |
| 2.493 GHz | 52.86 dBµV/m | 74 dBµV/m  | -21.14 dB       | Pass        |

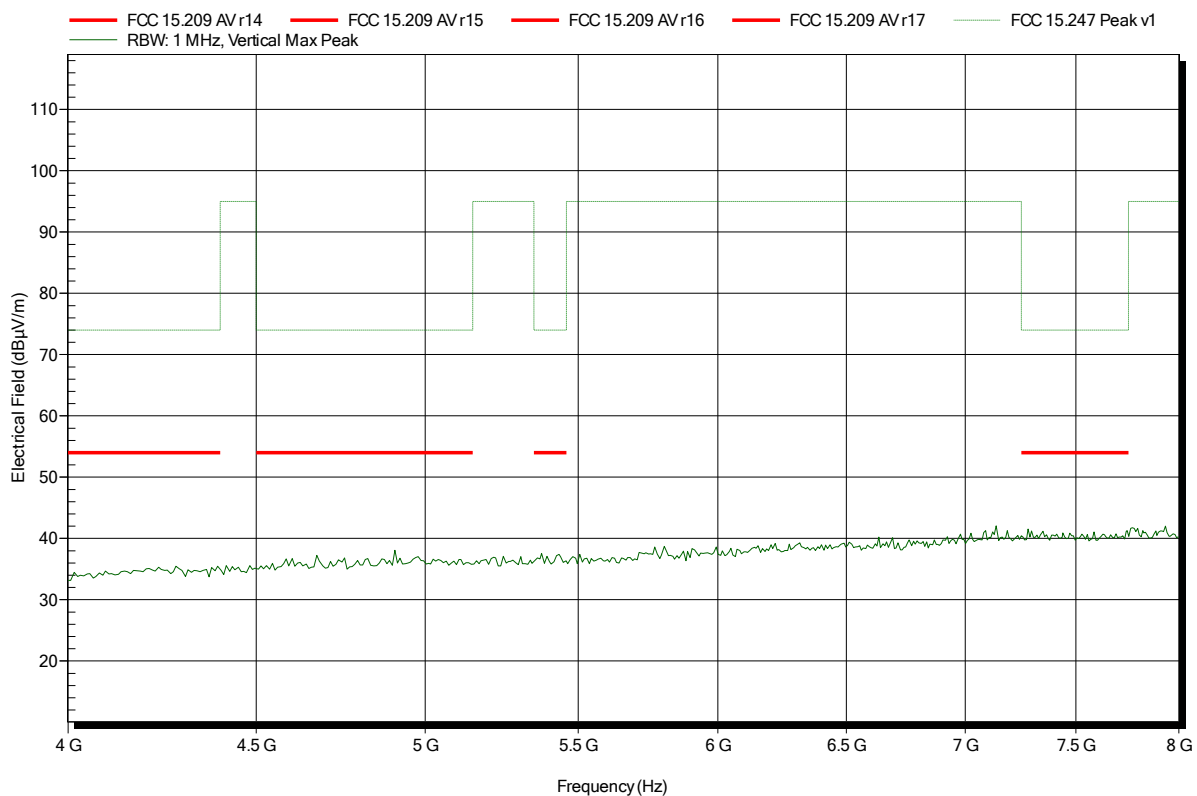
| Frequency | RMS          | RMS Limit | RMS Difference | RMS Status |
|-----------|--------------|-----------|----------------|------------|
| 2.484 GHz | 40.9 dBµV/m  | 54 dBµV/m | -13.1 dB       | Pass       |
| 2.489 GHz | 36.49 dBµV/m | 54 dBµV/m | -17.51 dB      | Pass       |
| 2.493 GHz | 34.28 dBµV/m | 54 dBµV/m | -19.72 dB      | Pass       |

## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 1; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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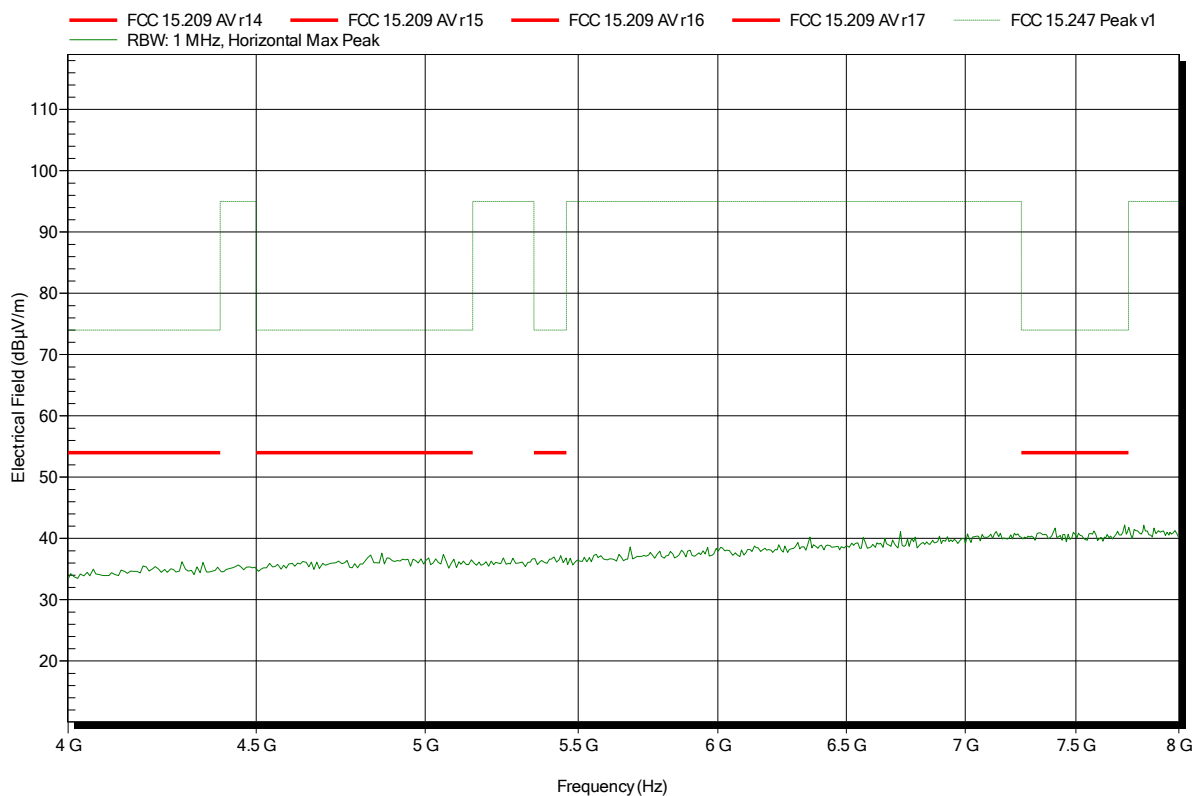


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 1; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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Test Report No.: G0M-1406-3919-TFC247WF-V01

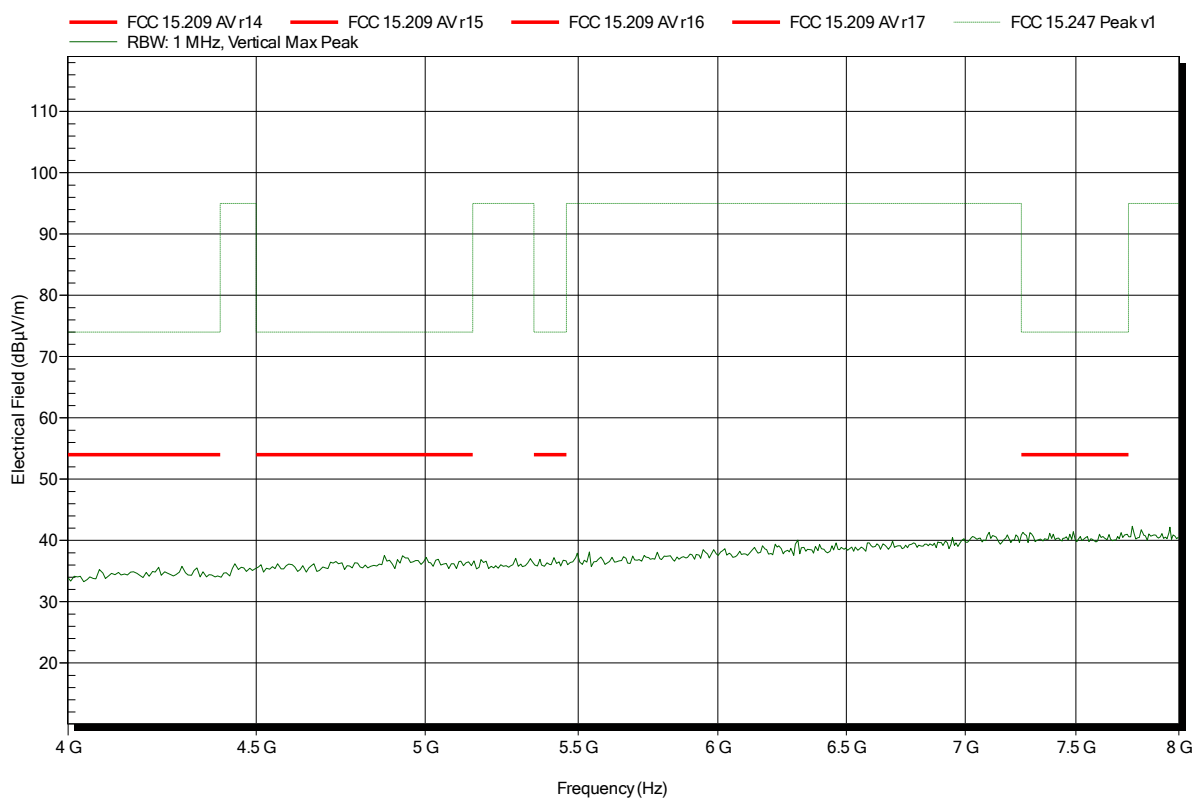
Eurofins Product Service GmbH  
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 6; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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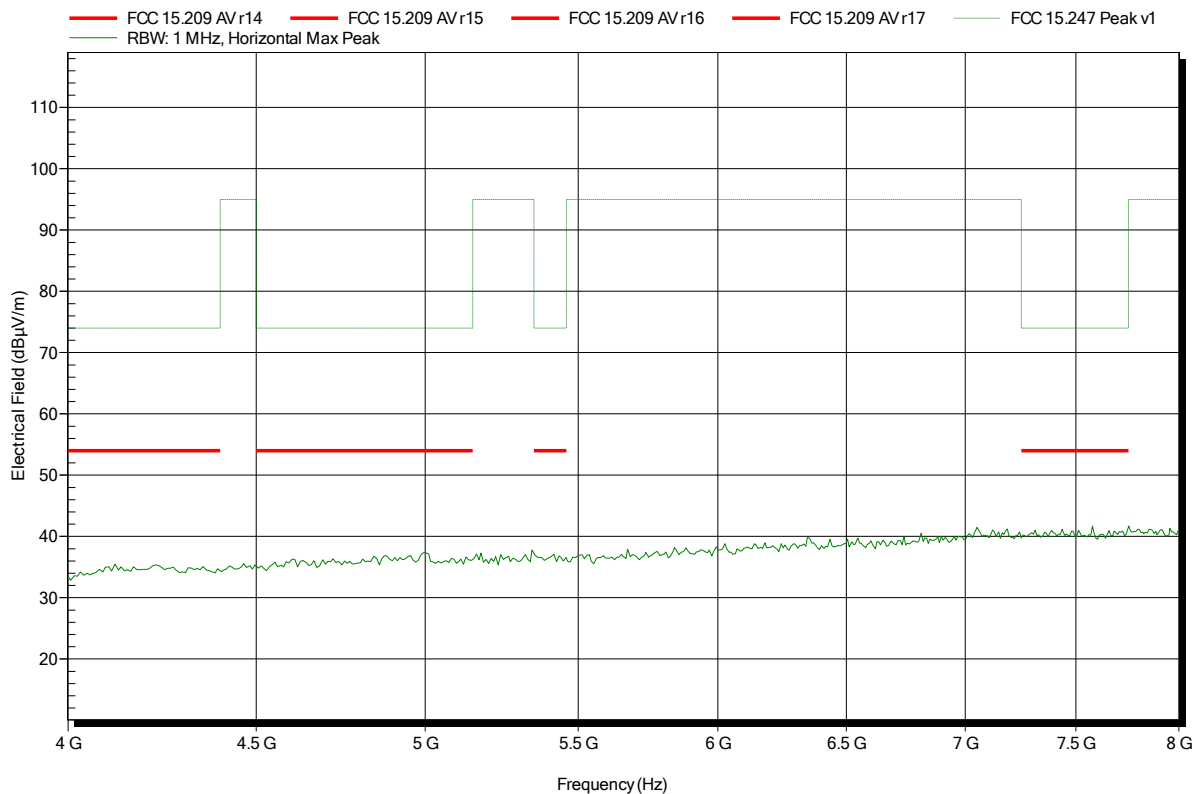


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 6; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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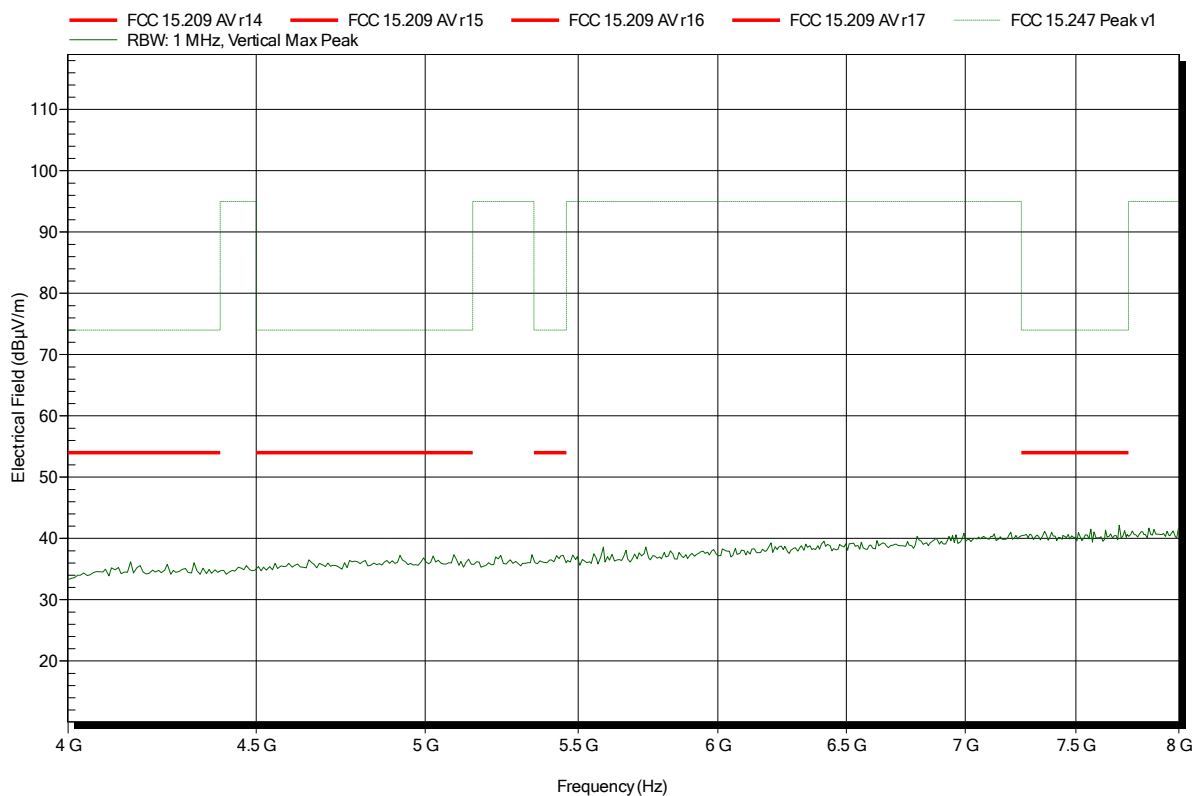


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 11; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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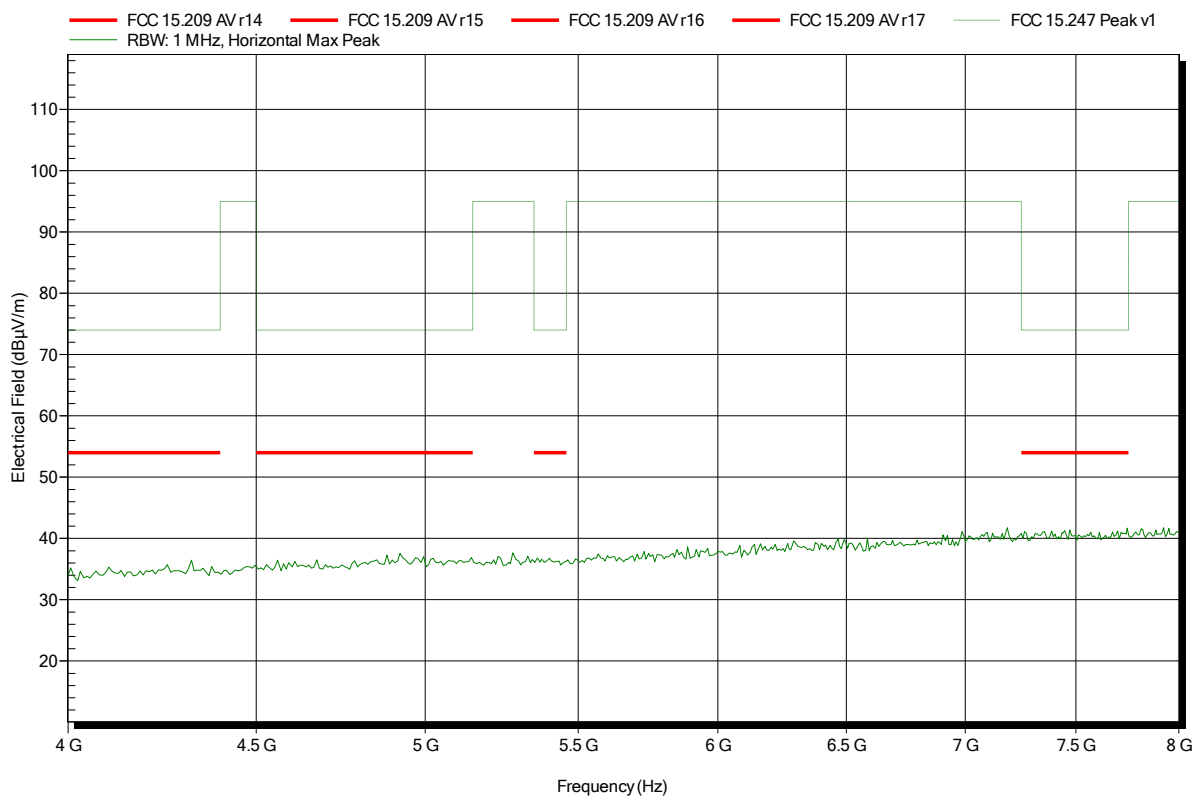


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 11; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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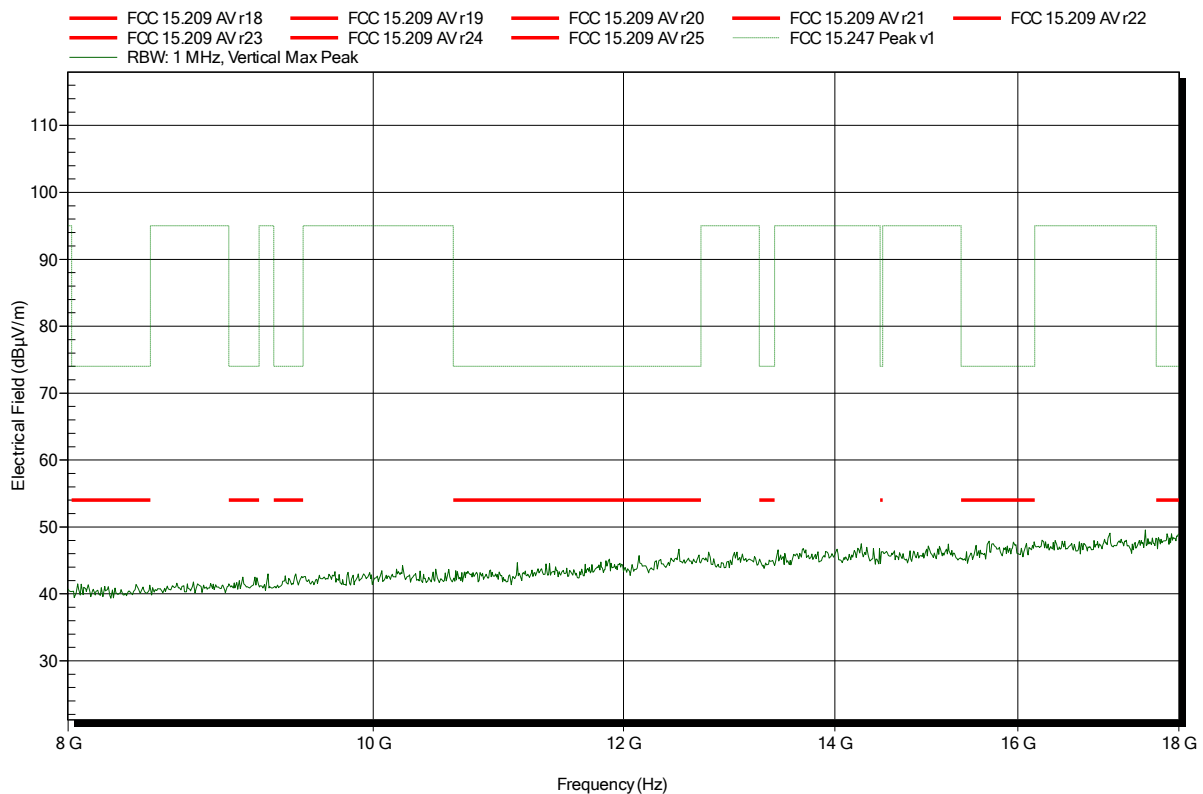


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 1; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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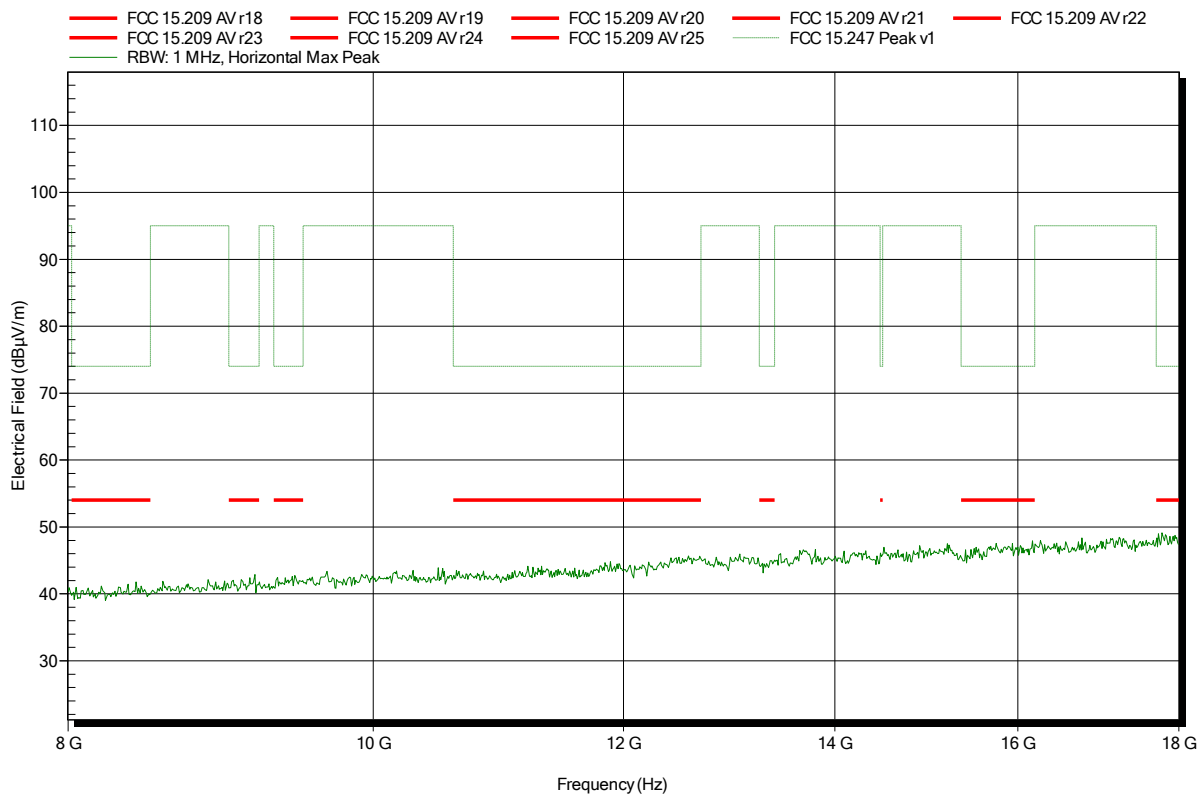


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 1; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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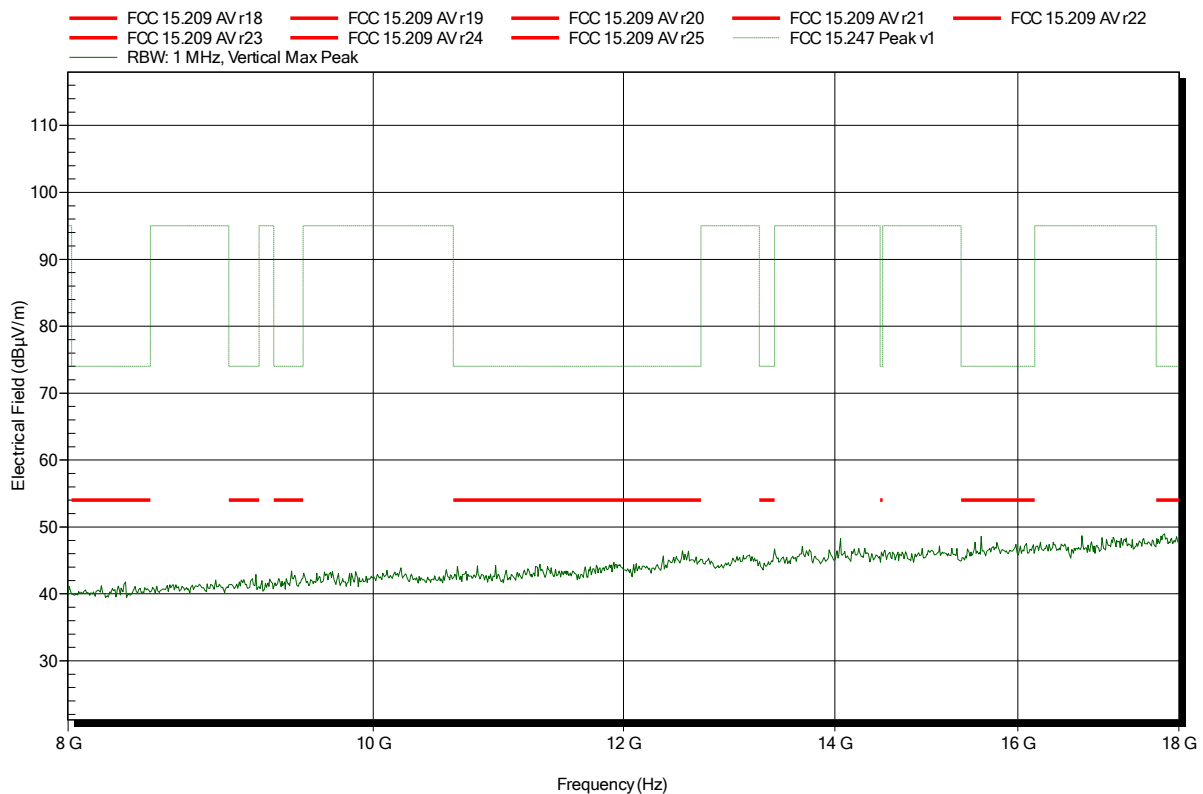


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 6; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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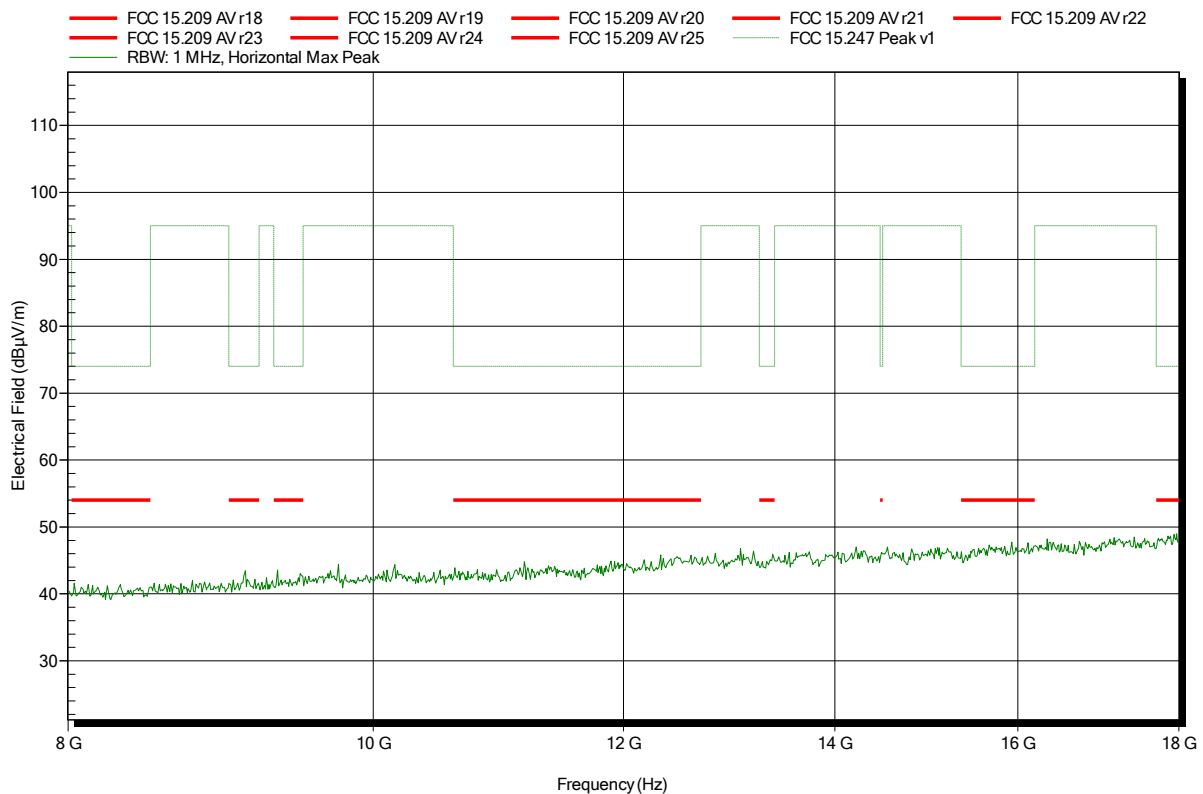


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 6; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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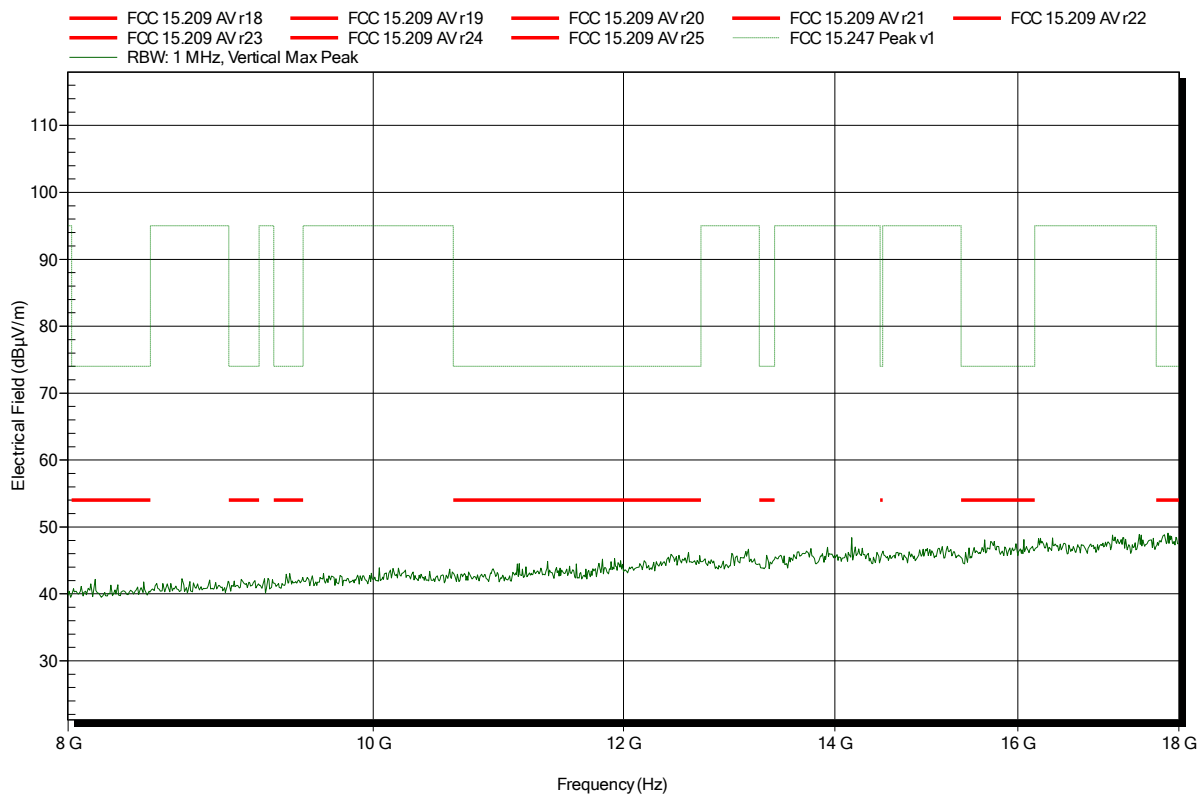


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 11; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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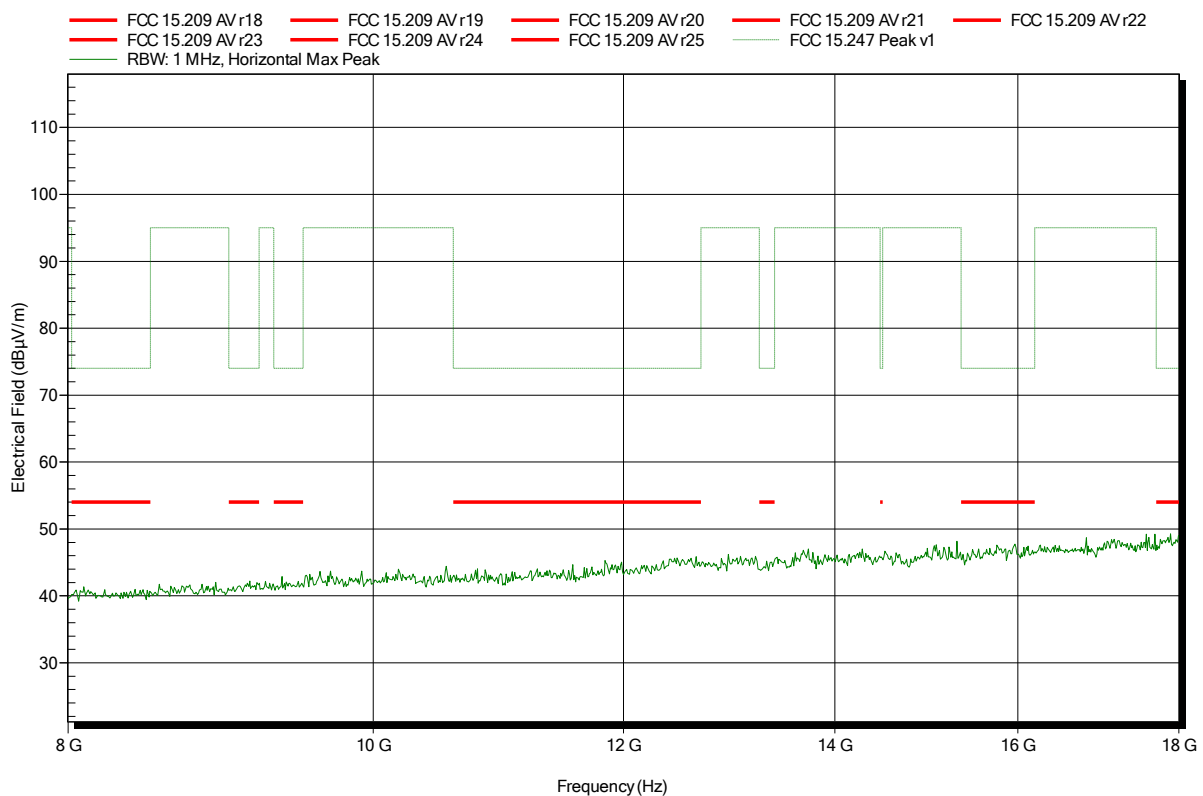


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 11; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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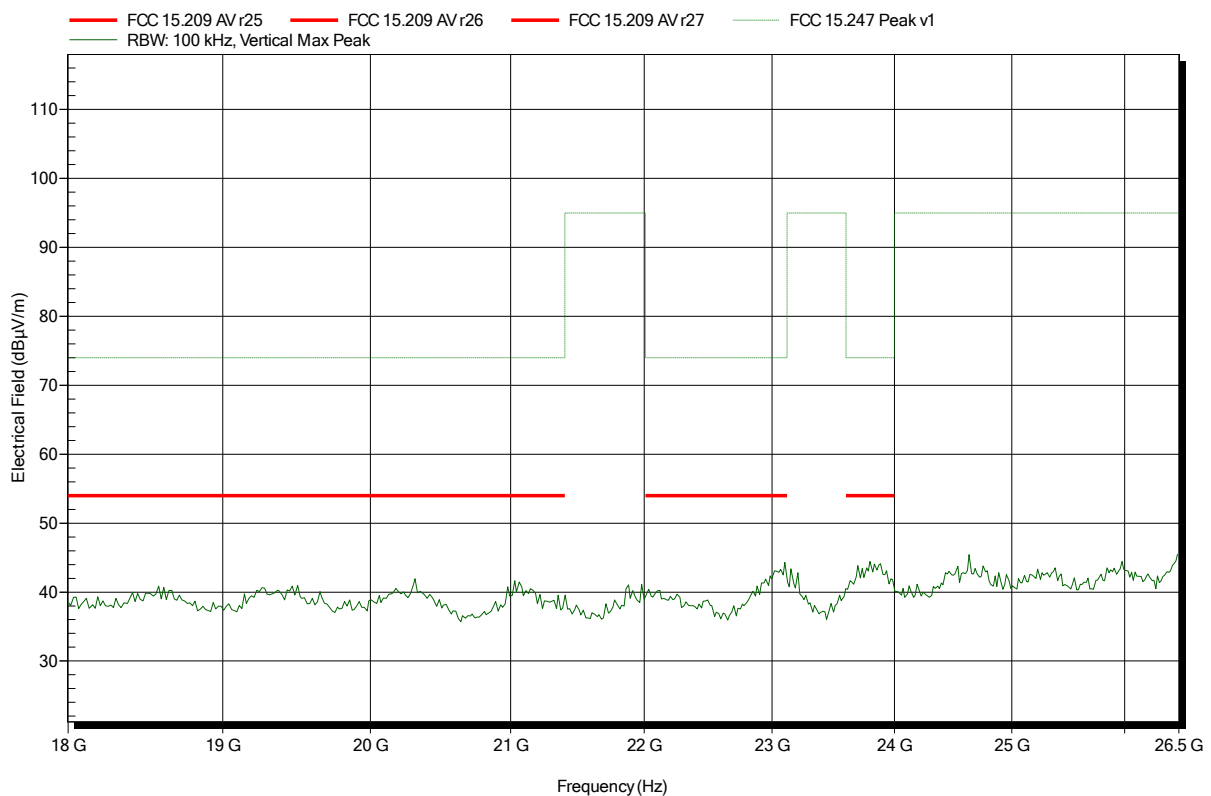


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 1; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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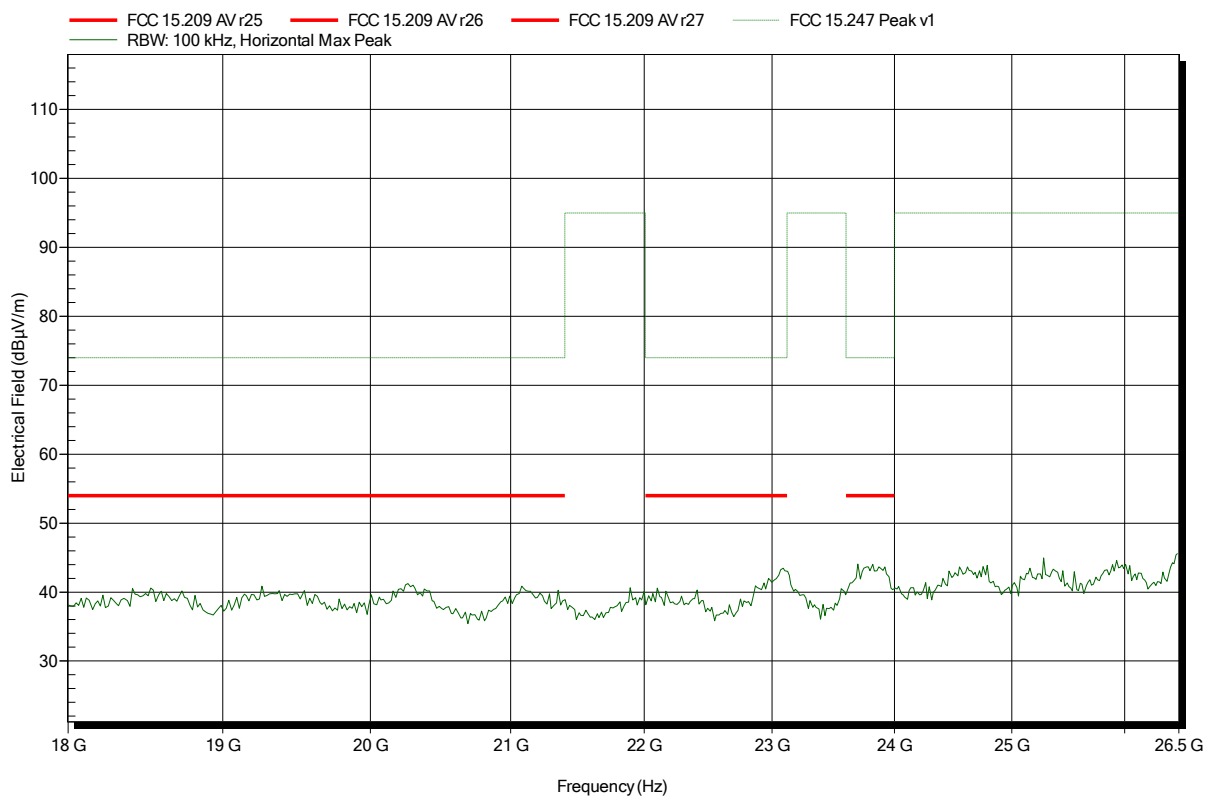


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 1; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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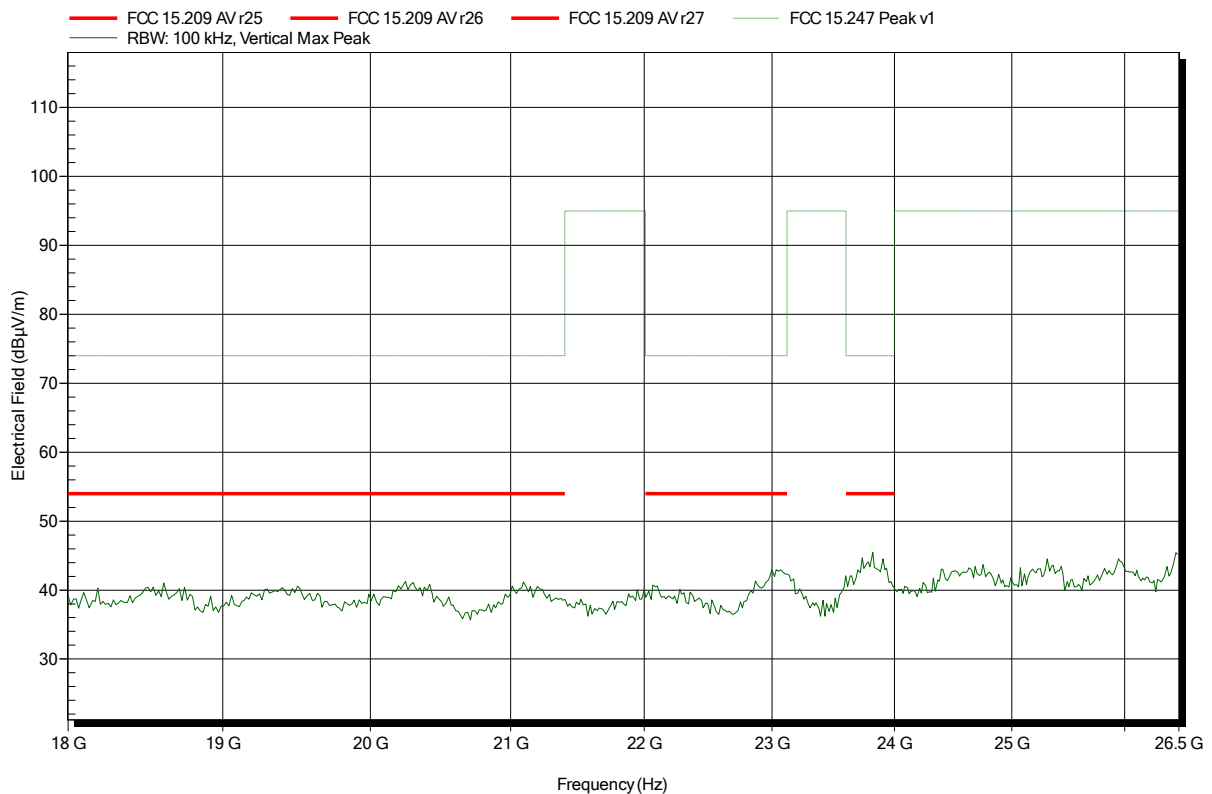


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

|                       |                                        |
|-----------------------|----------------------------------------|
| Applicant:            | Leica Geosystems AG                    |
| EUT Name:             | Field Controller Win EC7               |
| Model:                | CS20                                   |
| Test Site:            | Eurofins Product Service GmbH          |
| Operator:             | Mr. Pudell                             |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC            |
| Antenna:              | Rohde & Schwarz HL 025, Vertical       |
| Measurement distance: | 1 m converted to 3m                    |
| Mode:                 | TX; WLAN 2.4G; CH: 6; OFDM; HT20; MCS0 |
| Test Date:            | 2015-02-27                             |
| Note:                 | EUT vertical                           |

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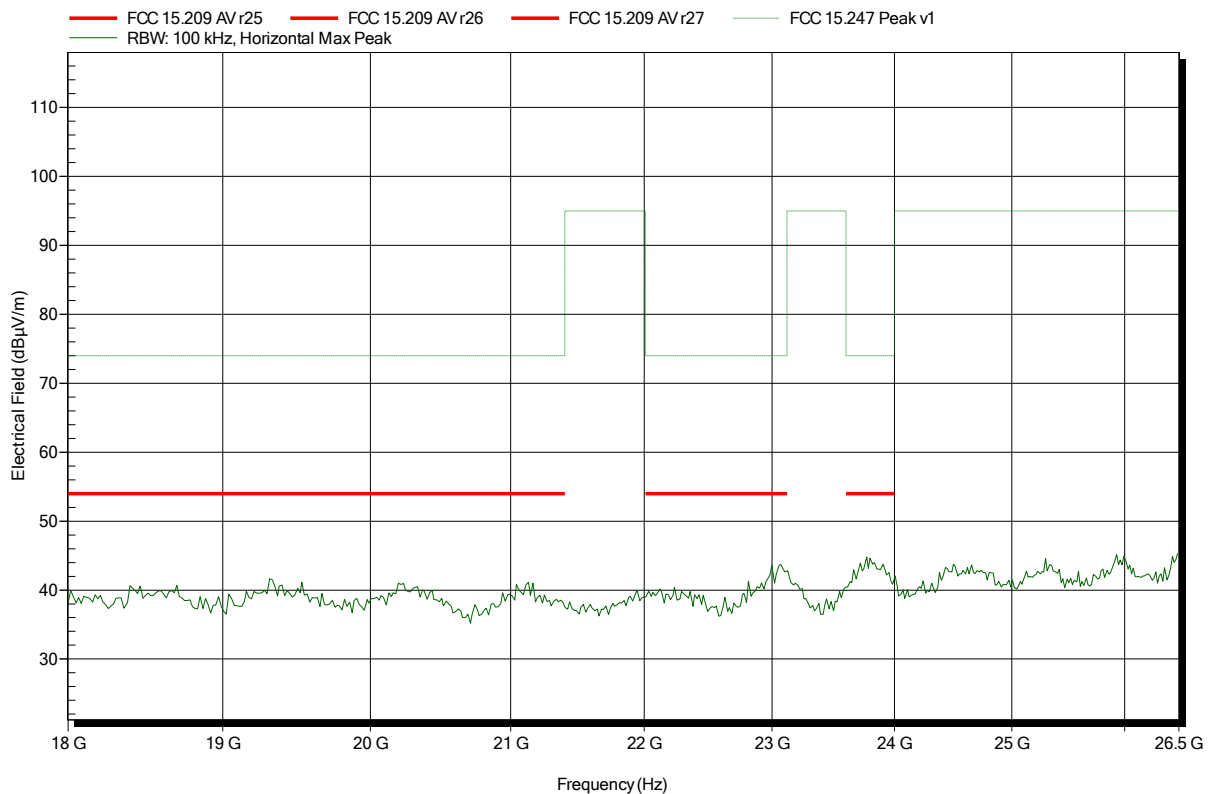


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 6; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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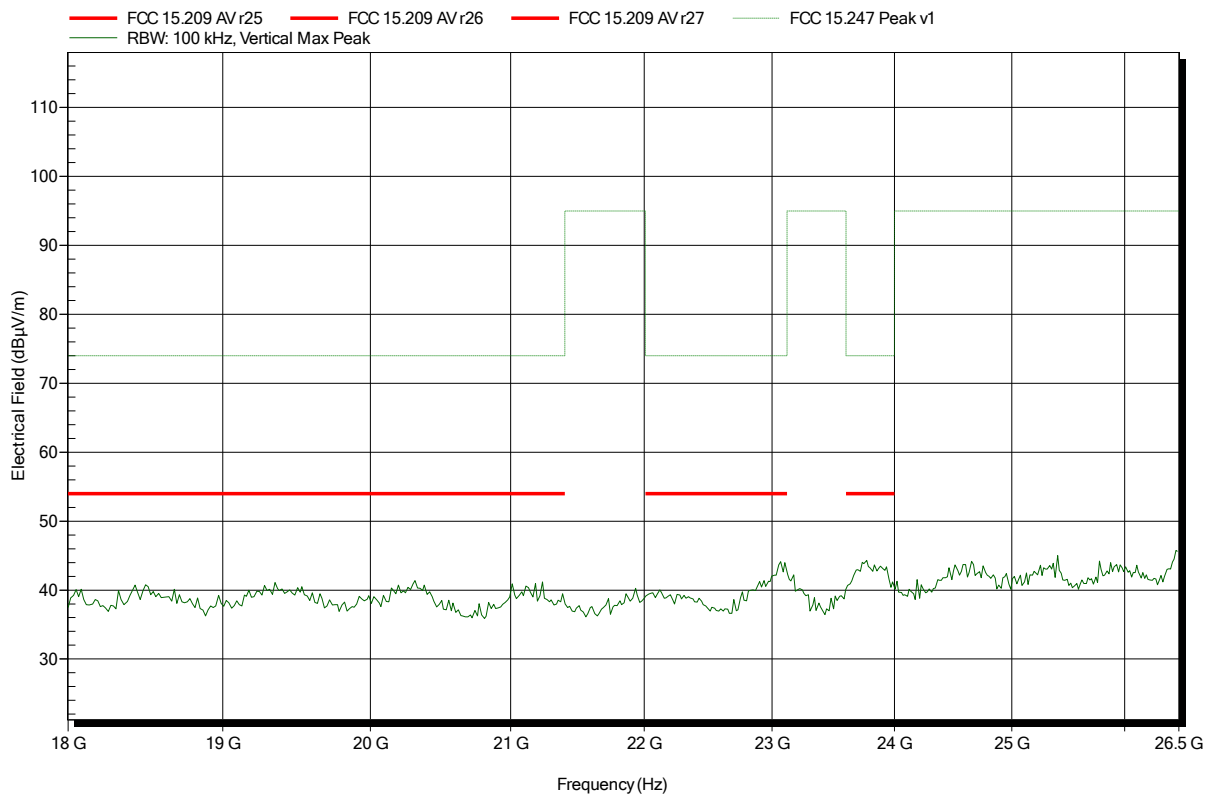


**Spurious emissions according to FCC part 15 Subpart C § 15.247**

Project number: G0M-1406-3919

|                       |                                         |
|-----------------------|-----------------------------------------|
| Applicant:            | Leica Geosystems AG                     |
| EUT Name:             | Field Controller Win EC7                |
| Model:                | CS20                                    |
| Test Site:            | Eurofins Product Service GmbH           |
| Operator:             | Mr. Pudell                              |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1 V DC             |
| Antenna:              | Rohde & Schwarz HL 025, Vertical        |
| Measurement distance: | 1 m converted to 3m                     |
| Mode:                 | TX; WLAN 2.4G; CH: 11; OFDM; HT20; MCS0 |
| Test Date:            | 2015-02-27                              |
| Note:                 | EUT vertical                            |

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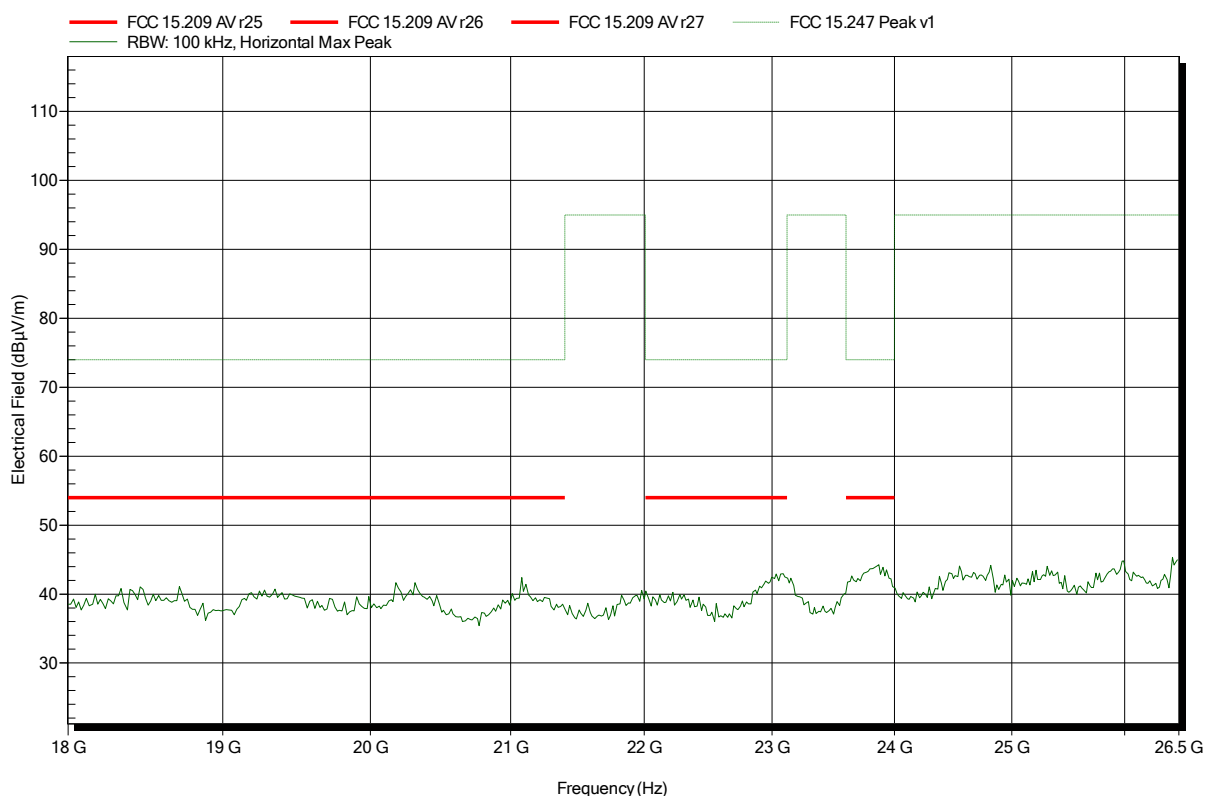


## Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1 V DC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: TX; WLAN 2.4G; CH: 11; OFDM; HT20; MCS0  
 Test Date: 2015-02-27  
 Note: EUT vertical

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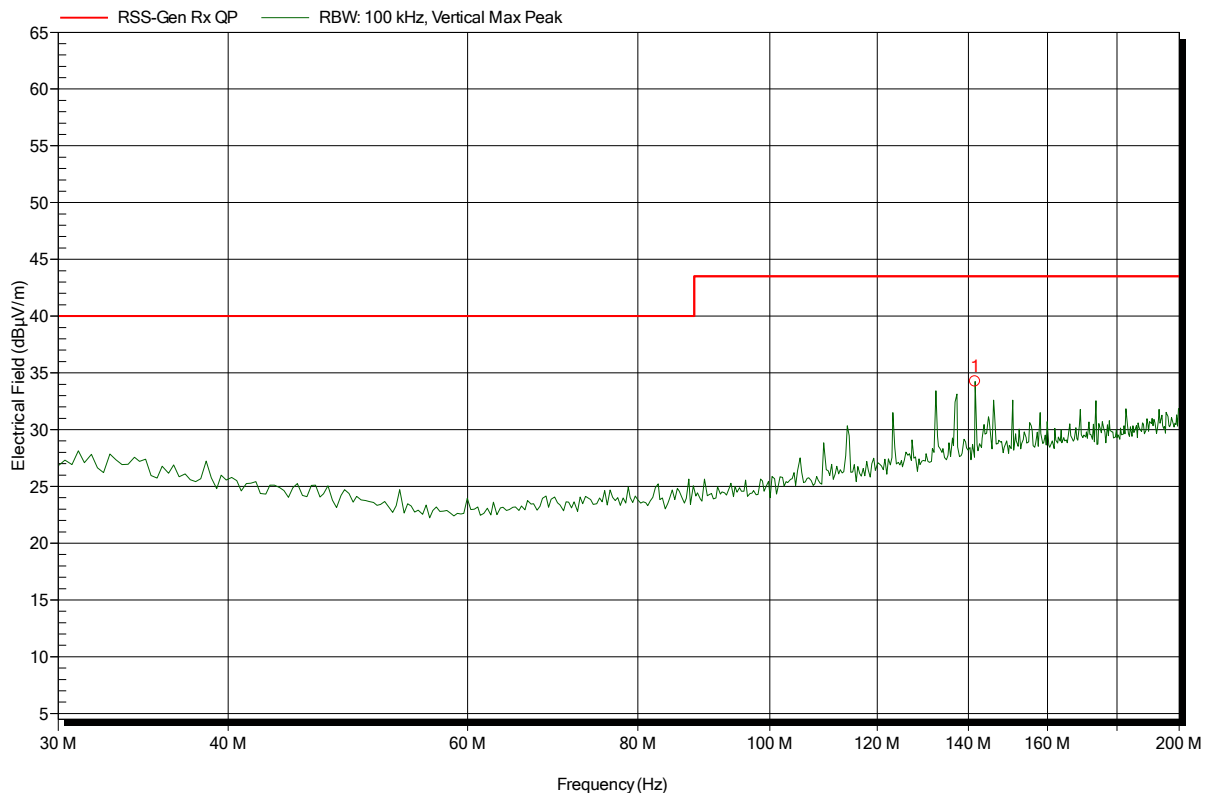
## ANNEX B Receiver radiated spurious emissions

### Spurious emissions according to FCC part 15 Subpart C § 15.247, IC RSS-210

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1VDC  
 Antenna: Rohde & Schwarz HK 116, Vertical  
 Measurement distance: 3 m  
 Mode: RX; WLAN 2.4G; CH: 6; RX -Test-Mode  
 Test Date: 2015-02-27  
 Note: EUT vertical

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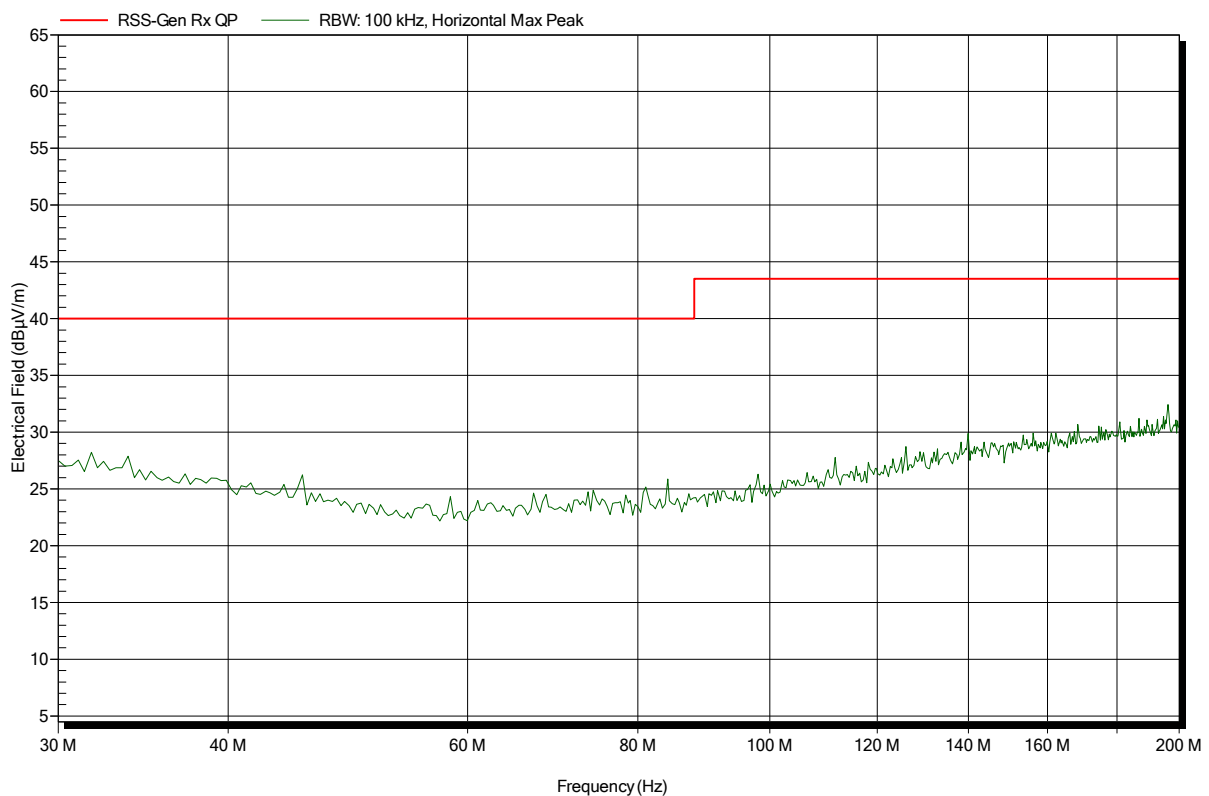
| Frequency   | Peak         | Peak Limit  | Peak Difference | Status |
|-------------|--------------|-------------|-----------------|--------|
| 141.568 MHz | 34.25 dBµV/m | 43.5 dBµV/m | -9.25 dB        | Pass   |

## Spurious emissions according to FCC part 15 Subpart C § 15.247, IC RSS-210

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1VDC  
 Antenna: Rohde & Schwarz HK 116, Horizontal  
 Measurement distance: 3 m  
 Mode: RX; WLAN 2.4G; CH: 6; RX -Test-Mode  
 Test Date: 2015-02-27  
 Note: EUT vertical

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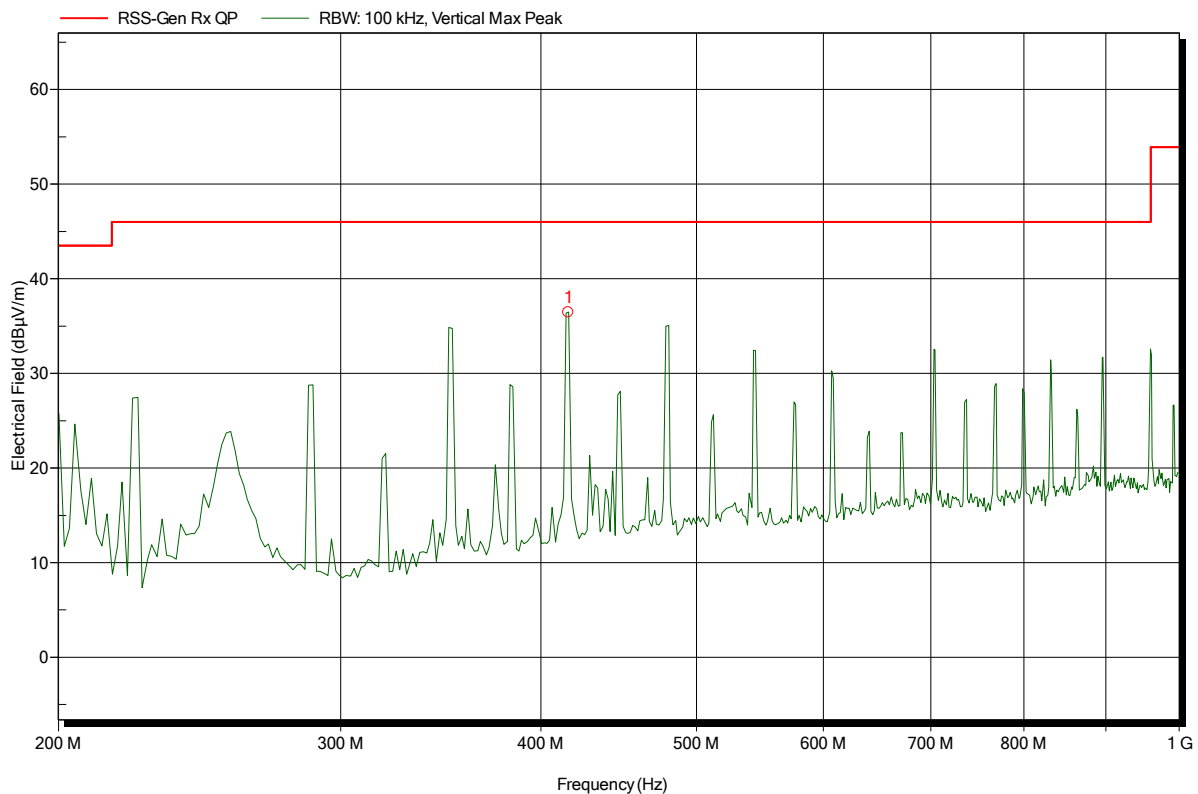


## Spurious emissions according to FCC part 15 Subpart C § 15.247, IC RSS-210

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1VDC  
 Antenna: Rohde & Schwarz HL 223, Vertical  
 Measurement distance: 3 m  
 Mode: RX; WLAN 2.4G; CH: 6; RX -Test-Mode  
 Test Date: 2015-02-27  
 Note: EUT vertical

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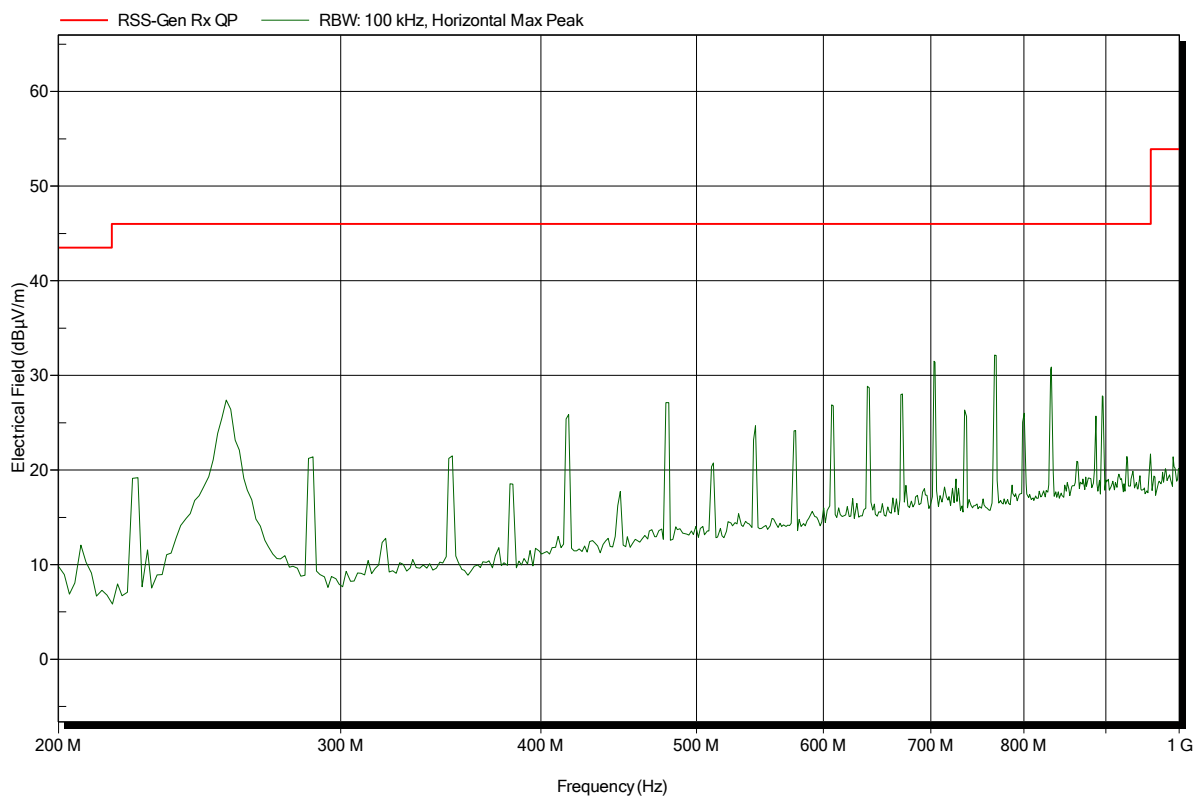
| Frequency | Peak         | Peak Limit | Peak Difference | Status |
|-----------|--------------|------------|-----------------|--------|
| 416 MHz   | 36.46 dBµV/m | 46 dBµV/m  | -9.54 dB        | Pass   |

## Spurious emissions according to FCC part 15 Subpart C § 15.247, IC RSS-210

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1VDC  
 Antenna: Rohde & Schwarz HL 223, Horizontal  
 Measurement distance: 3 m  
 Mode: RX; WLAN 2.4G; CH: 6; RX -Test-Mode  
 Test Date: 2015-02-27  
 Note: EUT vertical

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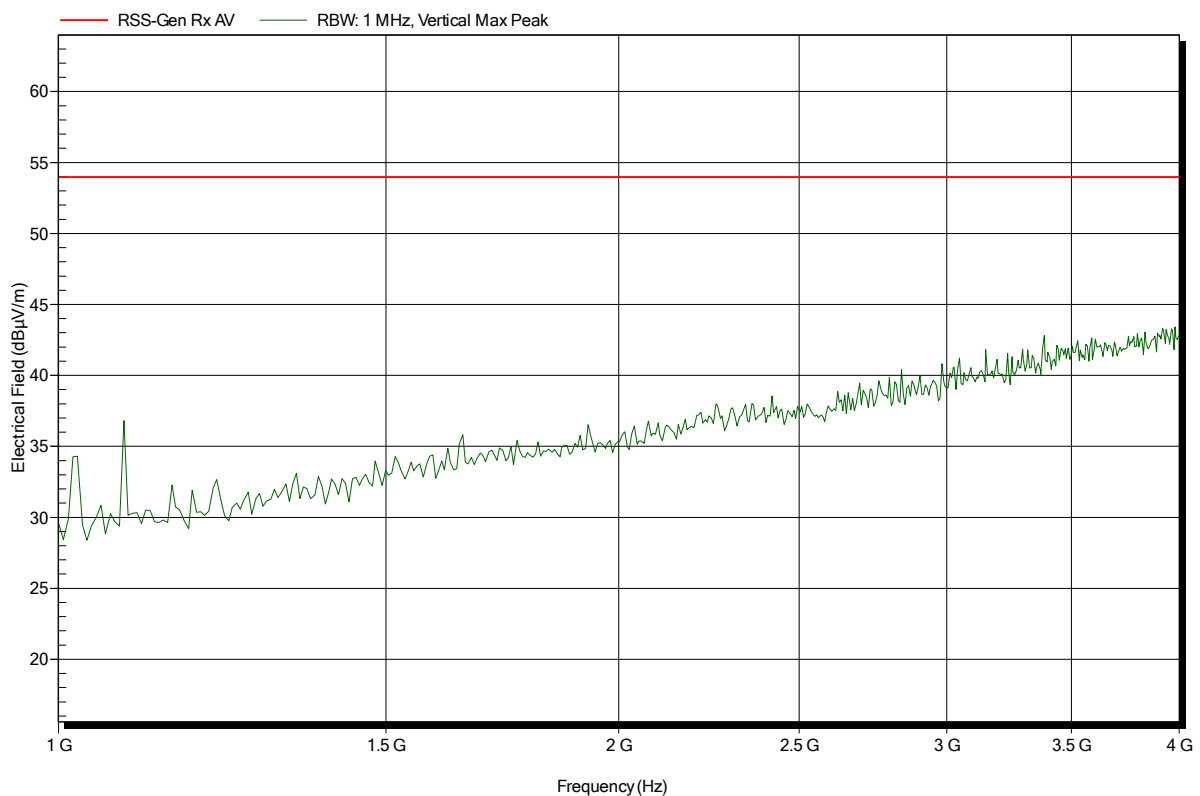


## Spurious emissions according to FCC part 15 Subpart C § 15.247, IC RSS-210

Project number: G0M-1406-3919

|                       |                                     |
|-----------------------|-------------------------------------|
| Applicant:            | Leica Geosystems AG                 |
| EUT Name:             | Field Controller Win EC7            |
| Model:                | CS20                                |
| Test Site:            | Eurofins Product Service GmbH       |
| Operator:             | Mr. Pudell                          |
| Test Conditions:      | Tnom: 24°C, Vnom: 11.1VDC           |
| Antenna:              | Rohde & Schwarz HL 025, Vertical    |
| Measurement distance: | 3 m                                 |
| Mode:                 | RX; WLAN 2.4G; CH: 6; RX -Test-Mode |
| Test Date:            | 2015-02-27                          |
| Note:                 | EUT vertical                        |

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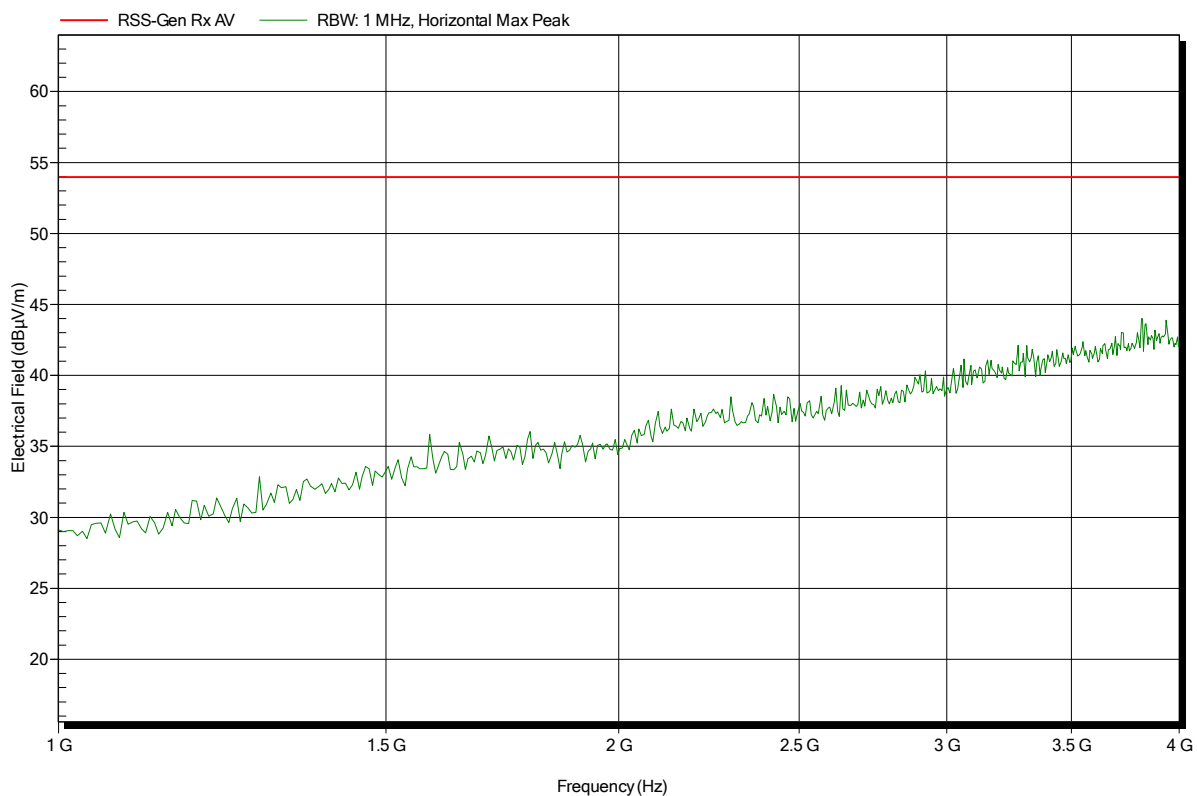


## Spurious emissions according to FCC part 15 Subpart C § 15.247, IC RSS-210

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1VDC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 3 m  
 Mode: RX; WLAN 2.4G; CH: 6; RX -Test-Mode  
 Test Date: 2015-02-27  
 Note: EUT vertical

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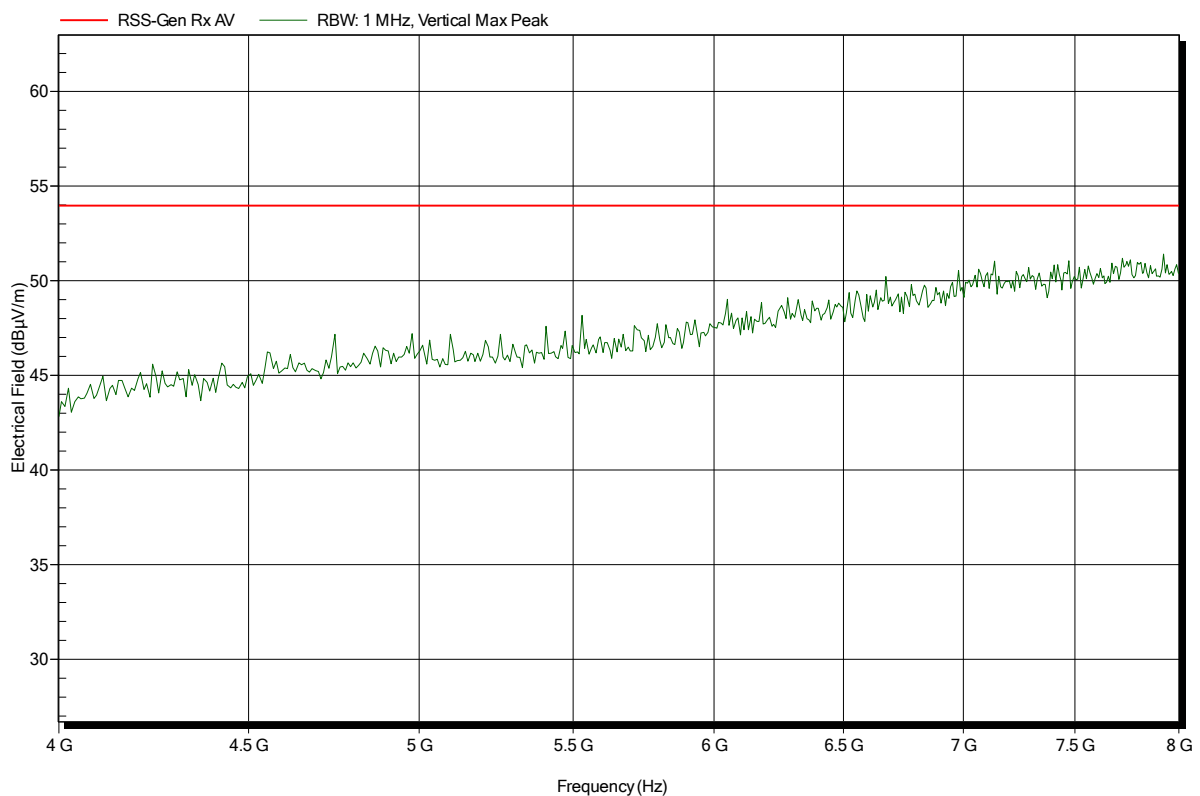


## Spurious emissions according to FCC part 15 Subpart C § 15.247, IC RSS-210

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1VDC  
 Antenna: Rohde & Schwarz HL 025, Vertical  
 Measurement distance: 3 m  
 Mode: RX; WLAN 2.4G; CH: 6; RX -Test-Mode  
 Test Date: 2015-02-27  
 Note: EUT vertical

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## Spurious emissions according to FCC part 15 Subpart C § 15.247, IC RSS-210

Project number: G0M-1406-3919

Applicant: Leica Geosystems AG  
 EUT Name: Field Controller Win EC7  
 Model: CS20  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Pudell  
 Test Conditions: Tnom: 24°C, Vnom: 11.1VDC  
 Antenna: Rohde & Schwarz HL 025, Horizontal  
 Measurement distance: 3 m  
 Mode: RX; WLAN 2.4G; CH: 6; RX -Test-Mode  
 Test Date: 2015-02-27  
 Note: EUT vertical

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