


| EMC TEST REPORT FCC 47 CFR Part 15B Industry Canada RSS-Gen Electromagnetic compatibility - Unintentional radiators | | |
|--|--|-------------------|
| Report Reference No. | G0M-1409-4119-EF0215B-V02 | |
| Testing Laboratory | Eurofins Product Service GmbH | |
| Address | Storkower Str. 38c 15526 Reichenwalde Germany | |
| Accreditation |  <p>A2LA Accredited Testing Laboratory, Certificate No.: 1983.01 FCC Filed Test Laboratory, Reg.-No.: 96970 IC OATS Filing assigned code: 3470A</p> | |
| Applicant's name | Leica Geosystems AG | |
| Address | Heinrich Wild Strasse 9435 Heerbrugg SWITZERLAND | |
| Test specification: | | |
| Standard..... | 47 CFR Part 15 Subpart B RSS-Gen, Issue 3, 2010-12 ANSI C63.4:2009 | |
| Equipment under test (EUT): | | |
| Product description | GNSS Receiver for Machine Control | |
| Model No. | iCG80 | |
| Additional Models | None | |
| Hardware version | Pantani PROTO1 | |
| Firmware / Software version | None | |
| FCC / IC ID | FCC-ID: RFD-ICG8XNG | IC: 3177A-ICG8XNG |
| Test result | Passed | |

Possible test case verdicts:

- not applicable to test object: N/A
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement.....: F (Fail)

Testing:

Date of receipt of test item: 2014-09-04

Date (s) of performance of tests: 2015-02-12 – 2015-02-26

Compiled by: Marcus Klein

Tested by (+ signature).....: Marcus Klein 

Approved by (+ signature): Jens Marquardt 

Date of issue.....: 2015-07-01

Total number of pages.....: 53

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:

Version History

| Version | Issue Date | Remarks | Revised by |
|---------|------------|---|------------|
| V01 | 2015-04-13 | Initial Release | |
| V02 | 2015-07-01 | Replaced Document: G0M-1409-4119-EF0215B-V01 Replaced By: G0M-1409-4119-EF0215B-V02 Reason: FCC / IC IDs corrected | M. Klein |

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1 Equipment (Test item) Description

| | | |
|------------------------------------|---|-----------------|
| Description | GNSS Receiver for Machine Control | |
| Model | iCG80 | |
| Additional Models | None | |
| Serial number | None | |
| Hardware version | Pantani PROTO1 | |
| Software / Firmware version | None | |
| FCC-ID | RFD-ICG8XNG | |
| IC | 3177A-ICG8XNG | |
| Power supply | 24 VDC | |
| Radio module | Type | Internal Radio |
| | FCC ID | MRBSATEL-TA13 |
| | IC ID | 2422A-SATELTA13 |
| | Model | CCD14 |
| | Manufacturer | SATEL |
| Manufacturer | Leica Geosystems AG Heinrich Wild Strasse 9435 Heerbrugg SWITZERLAND | |
| Highest emission frequency | Fmax [MHz] = 2600 | |
| Device classification | Class B | |
| Equipment type | Tabletop | |
| Number of tested samples | 1 | |

1.4 Supporting Equipment Used During Testing

| Product Type* | Device | Manufacturer | Model No. | Comments |
|---------------|----------------------------|--------------|-----------|----------|
| SIM | Radio Communication Tester | R&S | CMW | - |
| AE | Notebook | lenovo | R61 | - |
| AE | Power Supply | TTi | EX752M | - |

***Note:** Use the following abbreviations:

AE : Auxiliary/Associated Equipment, or

SIM : Simulator (Not Subjected to Test)

CABL : Connecting cables

1.5 Input / Output Ports

| Port # | Name | Type* | Max. Cable Length | Cable Shielded | Comments |
|--------|---------------|-------|-------------------|----------------|--------------|
| 1 | DC Power | DC | >3m | No | |
| 2 | Ethernet | TP | 2m | Yes | Service only |
| 3 | USB | I/O | <3m | Yes | Service only |
| 4 | GNSS Antenna | I/O | 10m | Yes | 2x |
| 5 | GSM Antenna | I/O | 10m | Yes | 1x |
| 6 | Radio Antenna | I/O | 10m | Yes | 1x |
| 7 | CAN | I/O | 10m | No | 1x |
| 8 | Lemo P1 | I/O | 2m | Yes | Service only |
| 9 | Lemo P2 | I/O | 1m | Yes | - |

***Note:** Use the following abbreviations:

AC : AC power port

DC : DC power port

N/E : Non electrical

I/O : Signal input or output port

TP : Telecommunication port

1.6 Operating Modes and Configurations

| Mode # | Description |
|---------------|--|
| 1 | 24 VDC, GSM850, SRD430MHz, BT2.1, CAN, GPS receive |
| 2 | 24 VDC, GSM1900, SRD430MHz, BT2.1, CAN, GPS receive |
| 3 | 24 VDC, UMTS FDDII, SRD430MHz, BT2.1, CAN, GPS receive |
| 4 | 24 VDC, UMTS FDDV, SRD430MHz, BT2.1, CAN, GPS receive |

| Configuration # | EUT Configuration |
|------------------------|--|
| 1 | Fully equipped with 2 GPS Antennas, 1 GSM Antenna, 1 SRD Antenna |

1.7 Test Equipment Used During Testing

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

| Radiated emissions | | | | | |
|---------------------------|--------------|------------|------------|-----------|----------|
| Description | Manufacturer | Model | Identifier | Cal. Date | Cal. Due |
| Biconical Antenna | R&S | HK 116 | EF00012 | 2013-02 | 2016-02 |
| LPD-Antenne | R&S | HL 223 | EF00187 | 2014-03 | 2017-03 |
| Horn antenna | Schwarzbeck | BBHA 9120D | EF00018 | 2013-09 | 2016-09 |
| EMI Test Receiver | R&S | ESU26 | EF00887 | 2015-01 | 2016-01 |

| Conducted emissions | | | | | |
|----------------------------|--------------|---------|------------|-----------|----------|
| Description | Manufacturer | Model | Identifier | Cal. Date | Cal. Due |
| AMN | R&S | ESH2-Z5 | EF00182 | 2014-11 | 2016-11 |
| AMN | R&S | ESH3-Z5 | EF00036 | 2014-12 | 2016-12 |
| EMI Test Receiver | R&S | ESCS 30 | EF00295 | 2014-10 | 2015-10 |

1.8 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 dB μ V. 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 dB μ V/m). The FCC limits are given in units of μ V/m. The following formula is used to convert the units of μ V/m to dB μ V/m:

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

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:

$$\begin{array}{rclcl} \text{Reading} & + & \text{AF} & = & \text{Net Reading} & : & \text{Net reading - FCC limit} & = & \text{Margin} \\ 21.5 \text{ dB}\mu\text{V} & + & 26 \text{ dB} & = & 47.5 \text{ dB}\mu\text{V/m} & : & 47.5 \text{ dB}\mu\text{V/m} - 57.0 \text{ dB}\mu\text{V/m} & = & -9.5 \text{ dB} \end{array}$$

2 Result Summary

| FCC 47 CFR Part 15B, Industry Canada RSS-Gen | | | | |
|--|-----------------------------------|------------------|--------|---------|
| Product Specific Standard | Requirement – Test | Reference Method | Result | Remarks |
| 47 CFR 15.109 RSS-Gen 4.9 & 4.10 | Radiated emissions | ANSI C 63.4 | PASS | |
| 47 CFR 15.107 RSS-Gen 7.2.4 | AC power line conducted emissions | ANSI C63.4 | PASS | |
| Remarks: | | | | |

3 Test Conditions and Results

3.1 Test Conditions and Results – Radiated emissions

| Radiated emissions acc. FCC 47 CFR 15.109 / IC RSS-Gen | | | | Verdict: PASS | | |
|--|---------------------|----------------------------|------------------|-----------------|---------------|--------|
| Laboratory Parameters: | | Required prior to the test | | During the test | | |
| Ambient Temperature | | 15 to 35 °C | | 24°C | | |
| Relative Humidity | | 30 to 60 % | | 33% | | |
| Test according referenced standards | | Reference Method | | | | |
| | | ANSI C63.4 | | | | |
| Sample is tested with respect to the requirements of the equipment class | | Equipment class | | | | |
| | | Class B | | | | |
| Test frequency range determined from highest emission frequency | | Highest emission frequency | | | | |
| | | Fmax [MHz] = 2600 | | | | |
| Fully configured sample scanned over the following frequency range | | Frequency range | | | | |
| | | 30 MHz to 13 GHz | | | | |
| Operating mode and configuration | | 1 - 1 / 2 / 3 / 4 | | | | |
| Limits and results Class B | | | | | | |
| Frequency [MHz] | Quasi-Peak [dBµV/m] | Result | Average [dBµV/m] | Result | Peak [dBµV/m] | Result |
| 30 – 88 | 40 | PASS | - | | - | - |
| 88 – 216 | 43.5 | PASS | - | | - | - |
| 216 – 960 | 46 | PASS | - | | - | - |
| 960 – 1000 | 54 | PASS | - | | - | - |
| > 1000 | - | - | 54 | PASS | 74 | PASS |
| Comments: | | | | | | |

Test Procedure:

The test site is in accordance with ANSI C63-4:2009 requirements and is listed by FCC.

The measurement procedure is as follows:

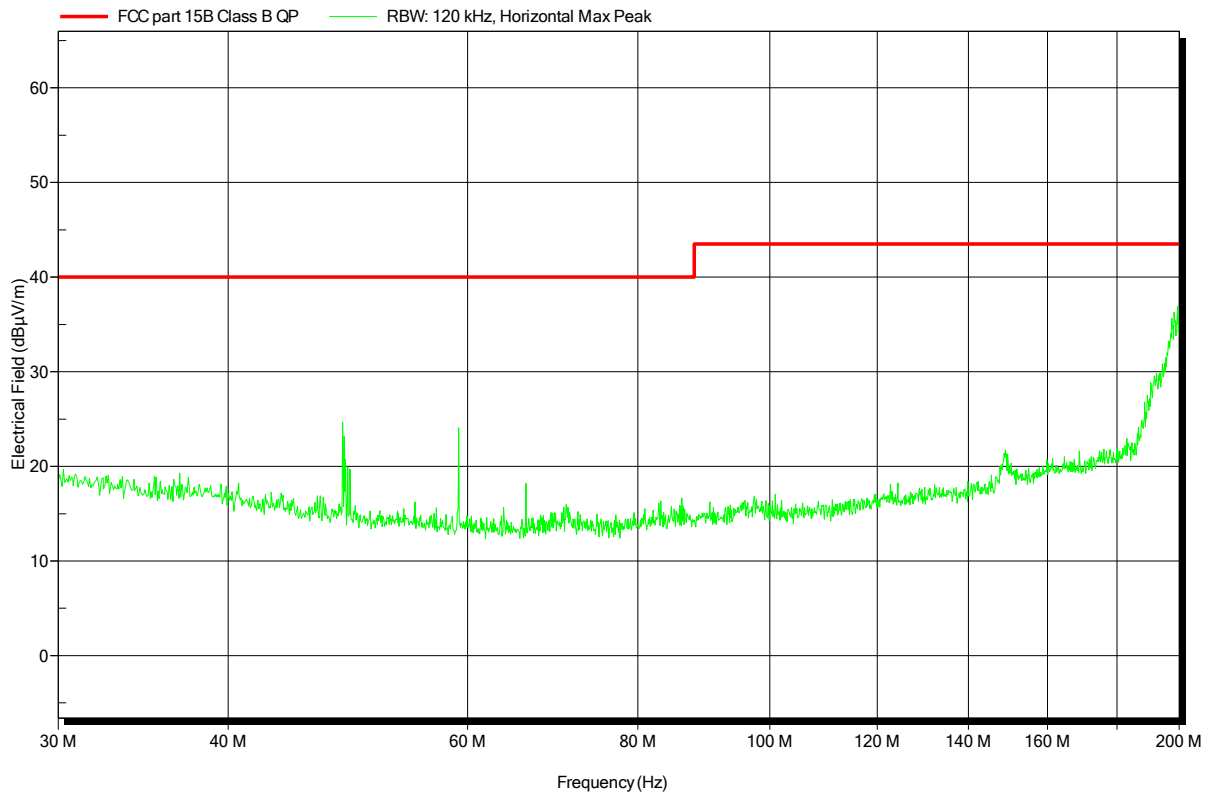
- 1) The EUT was placed on a 0.8 m non conductive table at a 3 m distance from the receive antenna (ANSI C63.4: 2009 item 6.2)
- 2) The antenna output was connected to the measurement receiver
- 3) A biconical antenna was used for the frequency range 30 – 200 MHz, a logarithmic periodical antenna was used for the frequency range from 200 – 1000 MHz. Above one 1 GHz a Double Ridged Broadband Horn antenna was used. The antenna was placed on an adjustable height antenna mast
- 4) Emissions were maximized at each frequency by rotating the EUT and adjusting the receive antenna height and polarization. The maximum values were recorded.

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1409-4119

| | |
|-----------------------|--|
| Manufacturer: | Leica Geosystems AG |
| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Pflug |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| Antenna: | Rohde & Schwarz HK 116, Horizontal |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, GSM850, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-26 |
| Note: | |

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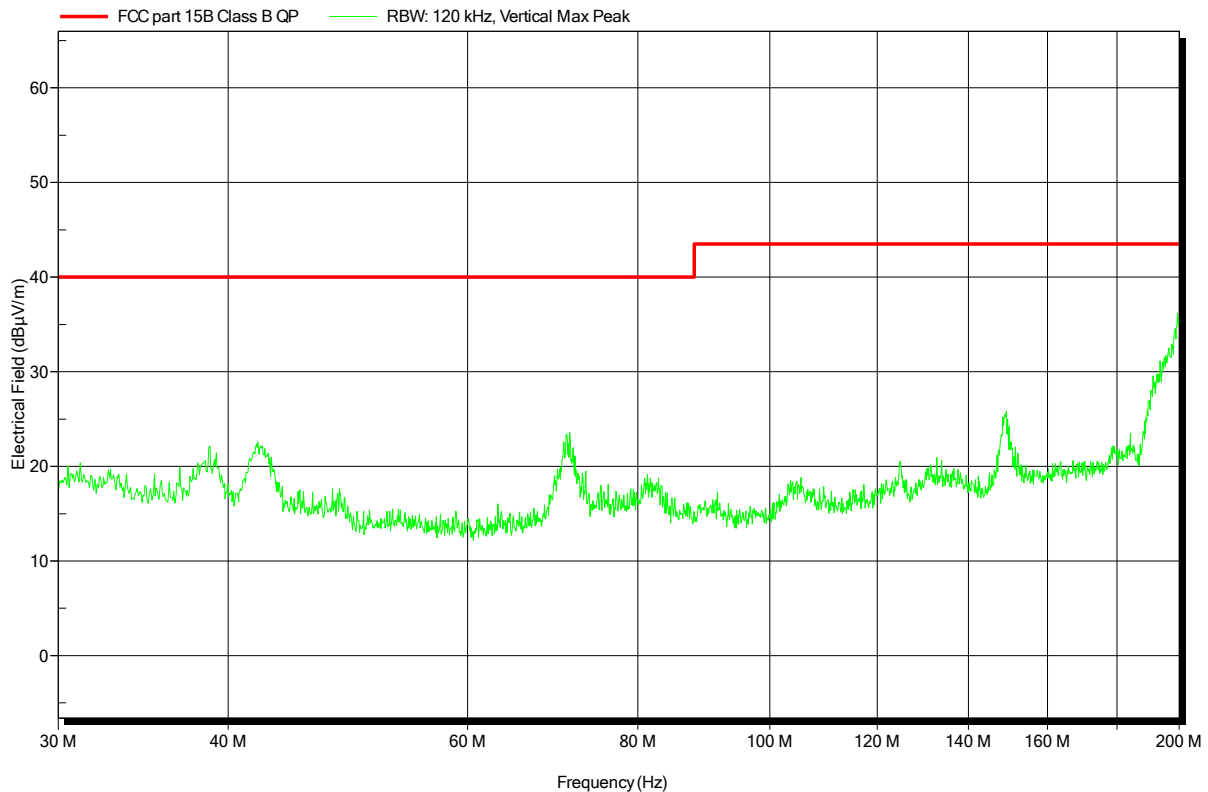


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| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Pflug |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| Antenna: | Rohde & Schwarz HK 116, Vertical |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, GSM850, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-26 |
| Note: | |

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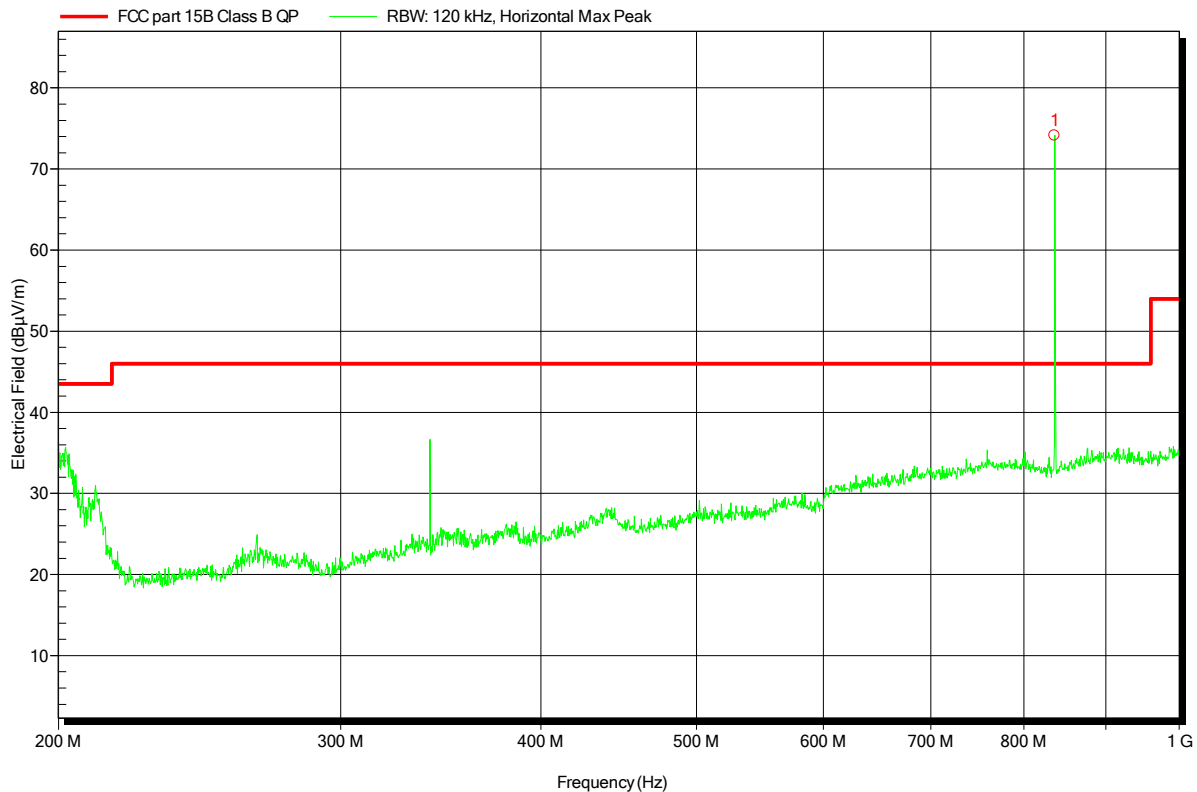


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| Manufacturer: | Leica Geosystems AG |
| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Pflug |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| Antenna: | Rohde & Schwarz HL 223, Horizontal |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, GSM850, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-26 |
| Note: | Peak 1: GSM Carrier |

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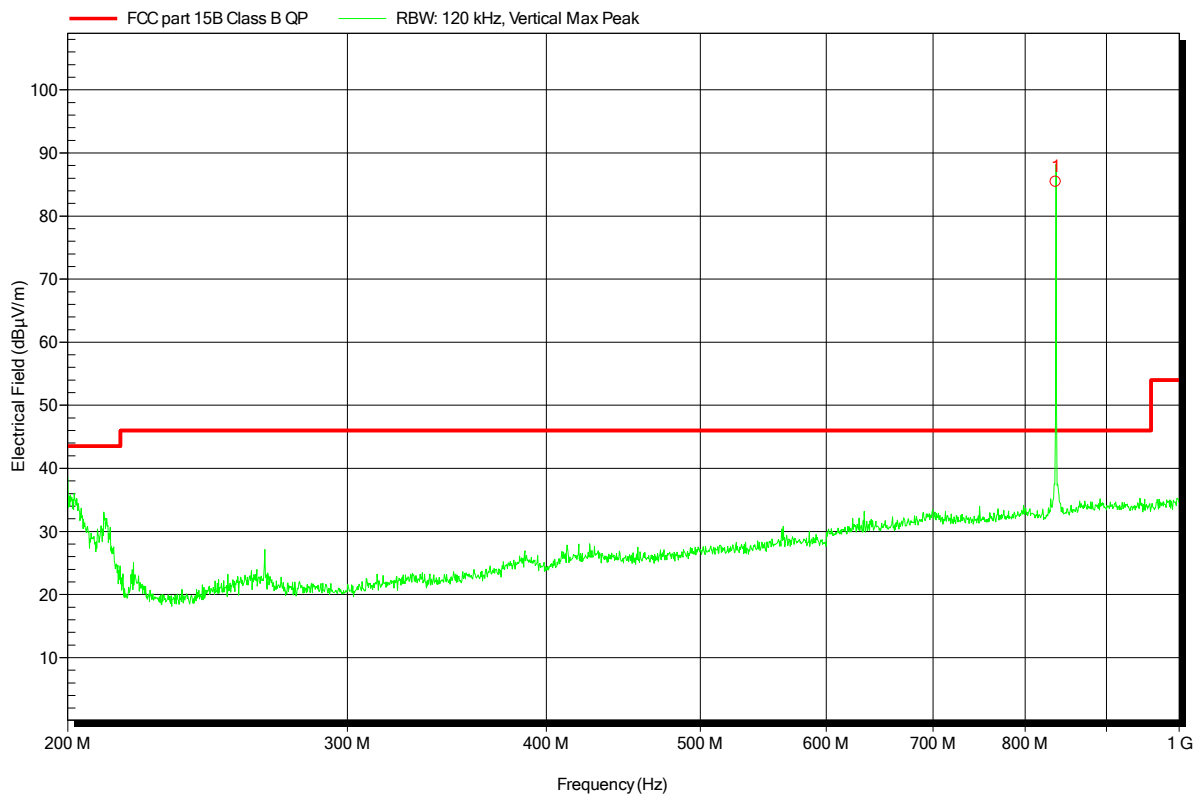

 Frequency
 836,15 MHz

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| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Pflug |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| Antenna: | Rohde & Schwarz HL 223, Vertical |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, GSM850, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-26 |
| Note: | Peak 1: GSM Carrier |

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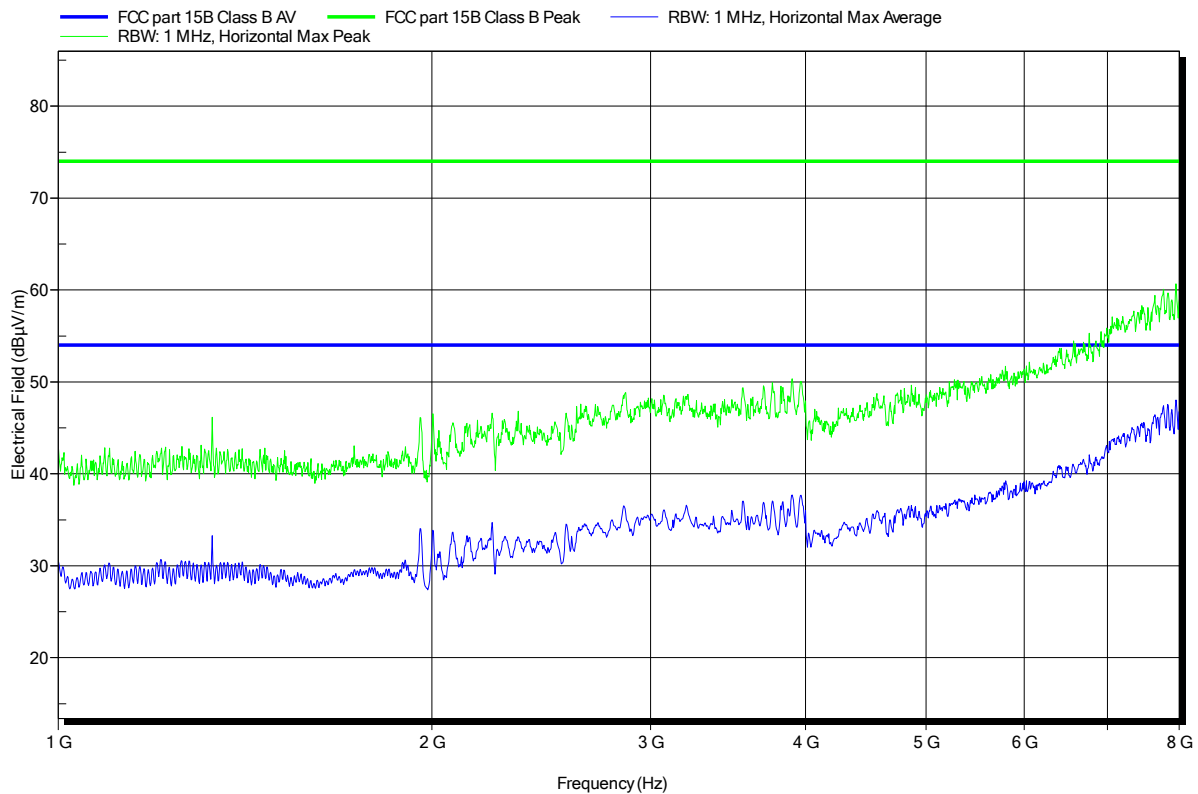

 Frequency
 836,18 MHz

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1409-4119

Manufacturer: Leica Geosystems AG
 EUT Name: GNSS Receiver for Machine Control
 Model: iCG80
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Pflug
 Test Conditions: Tnom: 23°C, Unom: 24 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3m
 Mode: SRD 430MHz, GSM850, GPS receive, Ethernet link, CAN active, Bluetooth Classic active
 Test Date: 2015-02-26
 Note:

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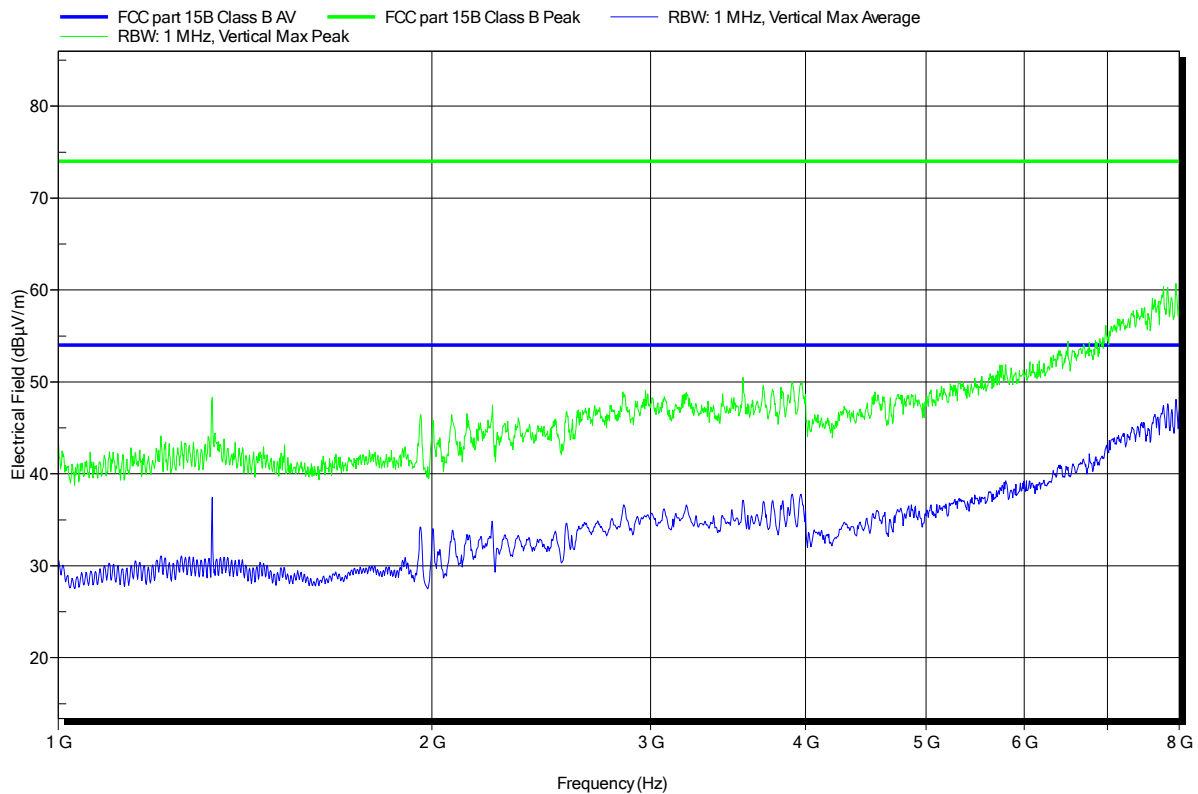


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 EUT Name: GNSS Receiver for Machine Control
 Model: iCG80
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Pflug
 Test Conditions: Tnom: 23°C, Unom: 24 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3m
 Mode: SRD 430MHz, GSM850, GPS receive, Ethernet link, CAN active, Bluetooth Classic active
 Test Date: 2015-02-26
 Note:

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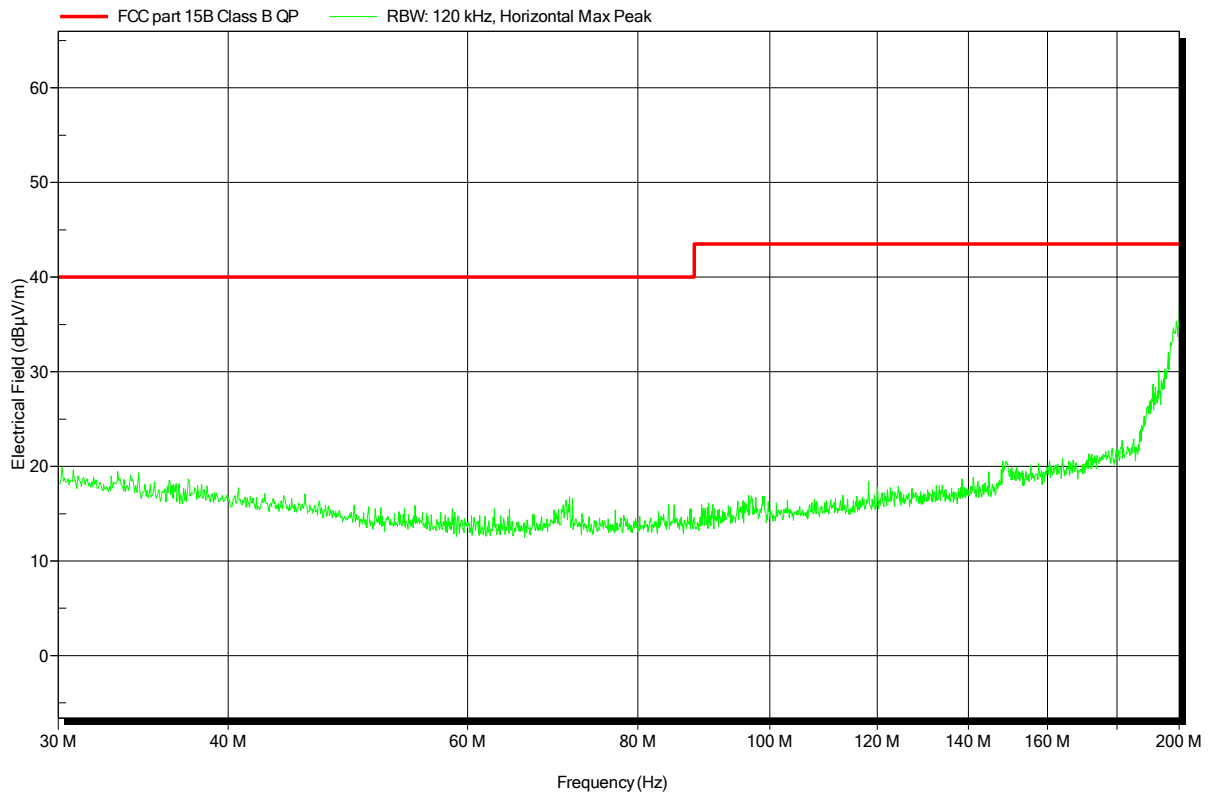


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| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Pflug |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| Antenna: | Rohde & Schwarz HK 116, Horizontal |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, GSM1900, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-26 |
| Note: | |

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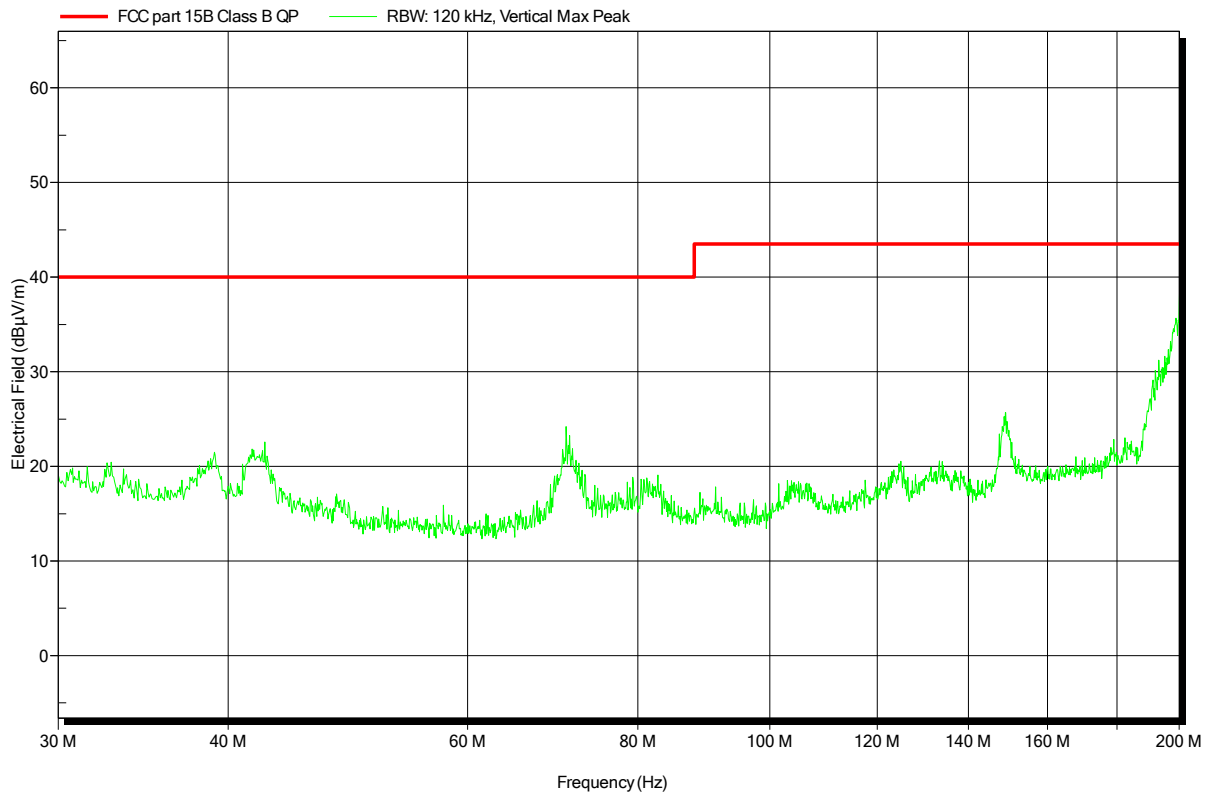


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| Antenna: | Rohde & Schwarz HK 116, Vertical |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, GSM1900, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-26 |
| Note: | |

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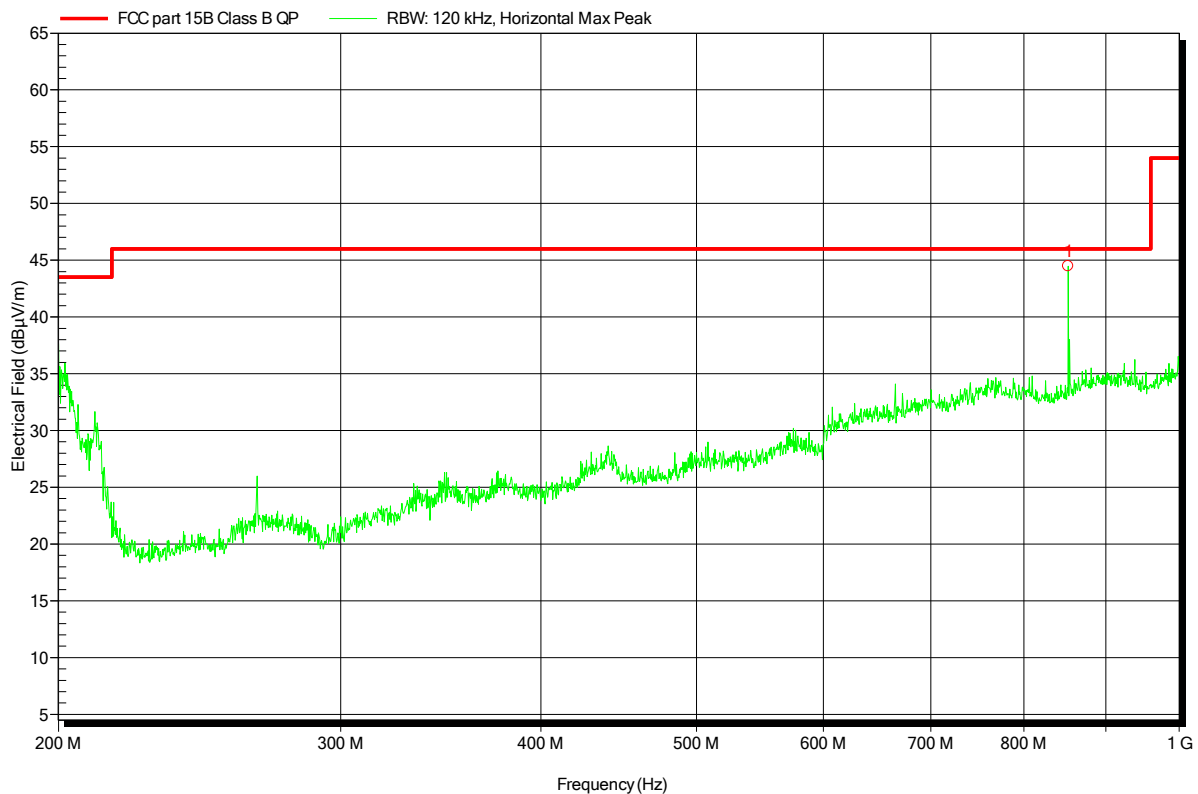


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| Antenna: | Rohde & Schwarz HL 223, Horizontal |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, GSM1900, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-26 |
| Note: | Peak 1: GSM Carrier |

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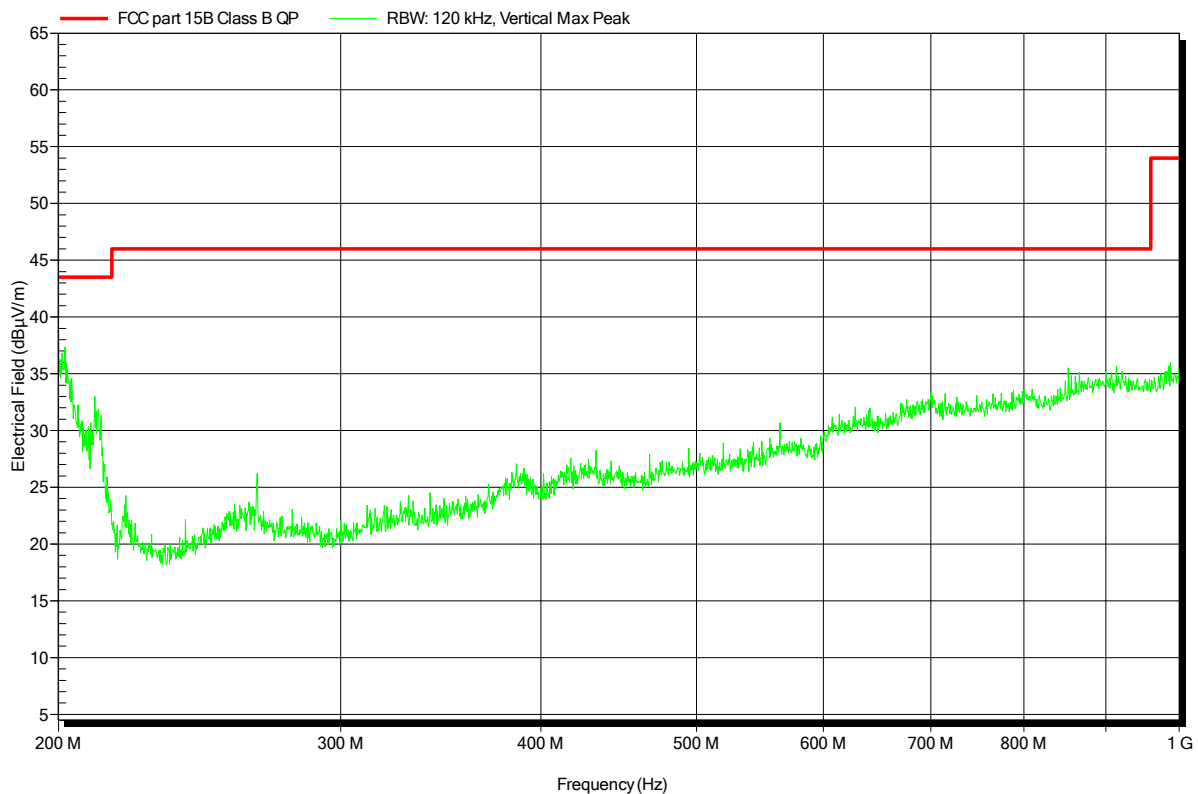

 Frequency
 852,65 MHz

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| Note: | |

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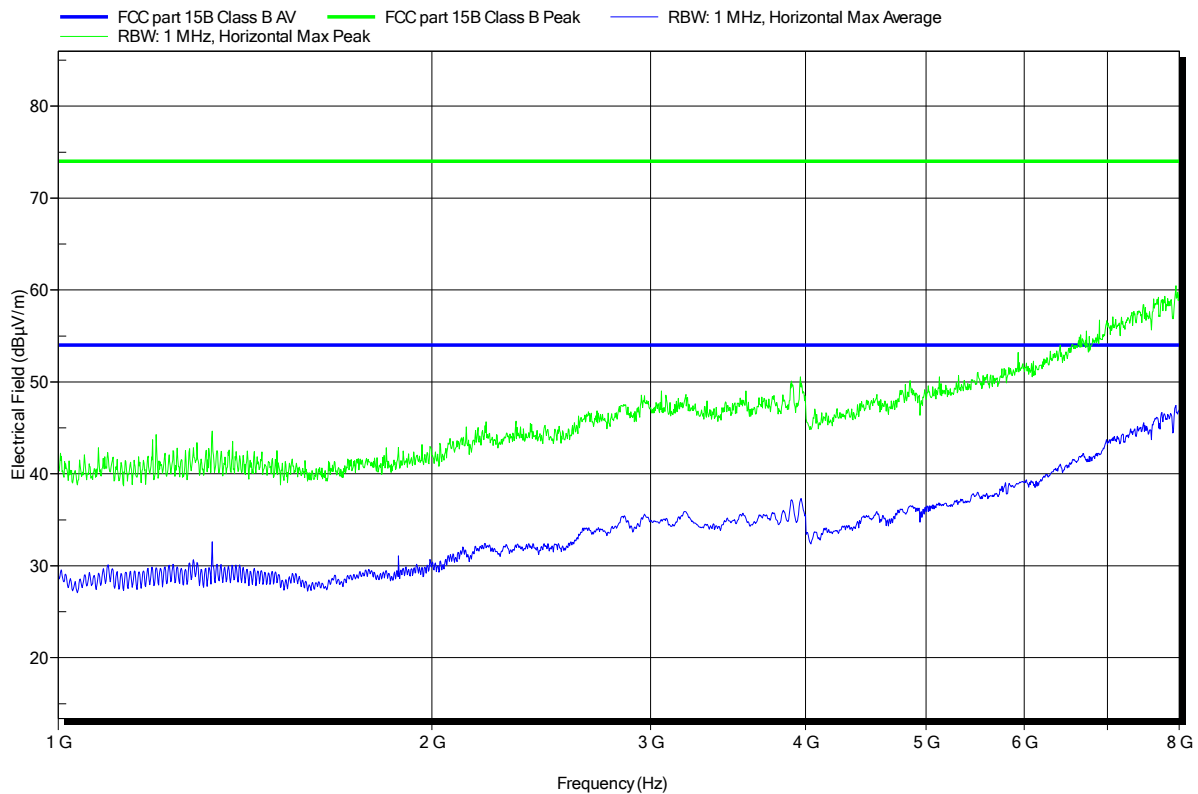


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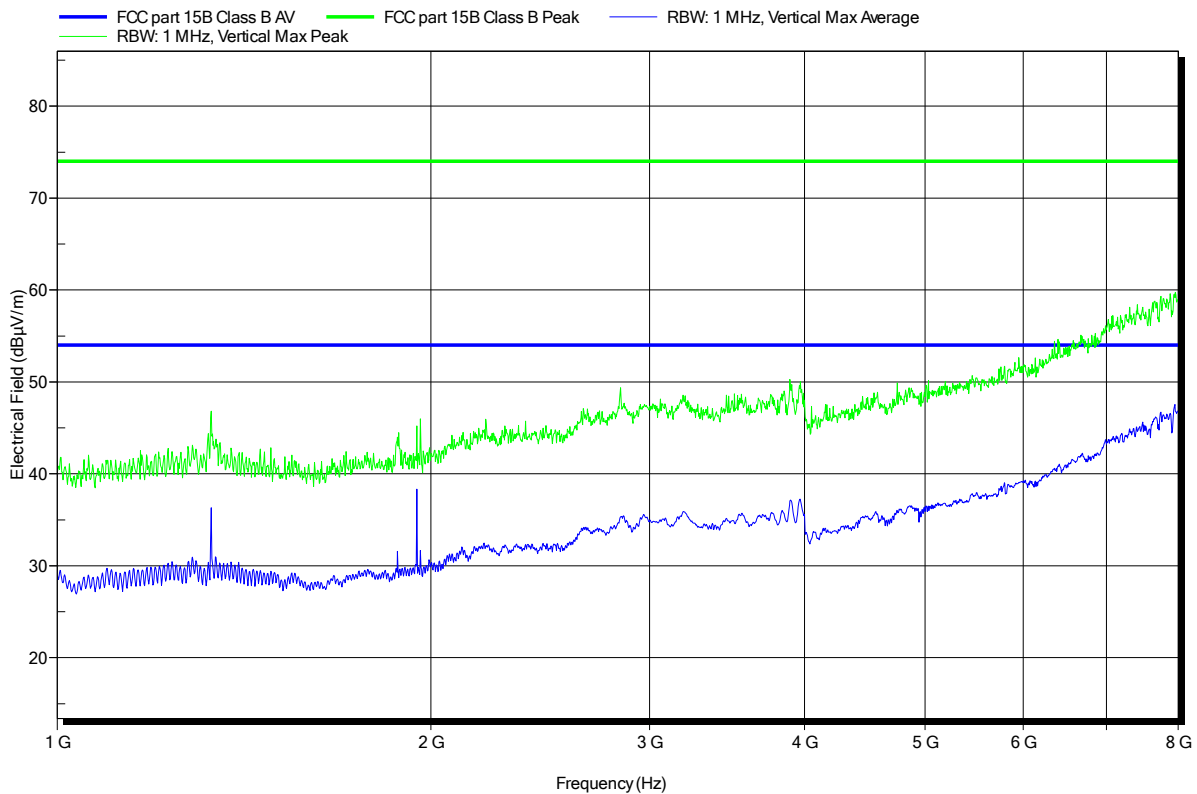


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| Note: | |

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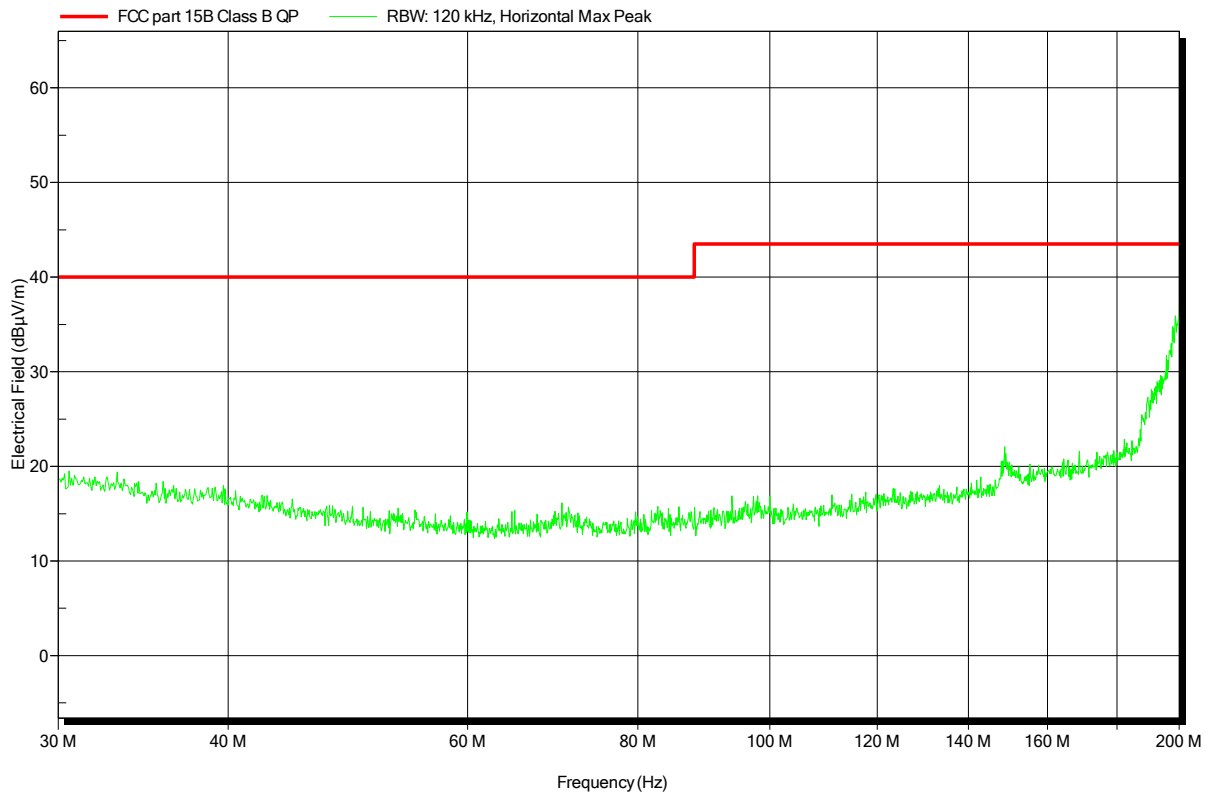


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 Antenna: Rohde & Schwarz HK 116, Horizontal
 Measurement distance: 3m
 Mode: SRD 430MHz, UMTS Band II, GPS receive, Ethernet link, CAN active, Bluetooth Classic active
 Test Date: 2015-02-27
 Note:

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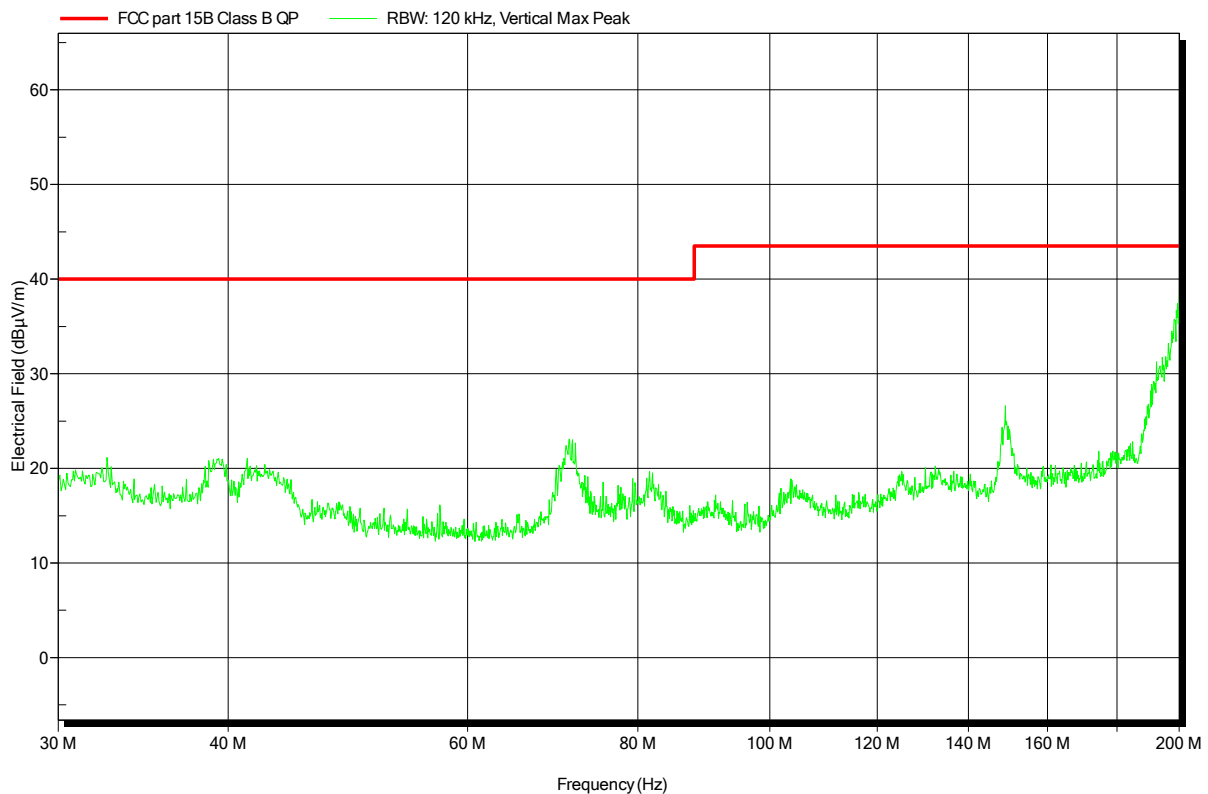


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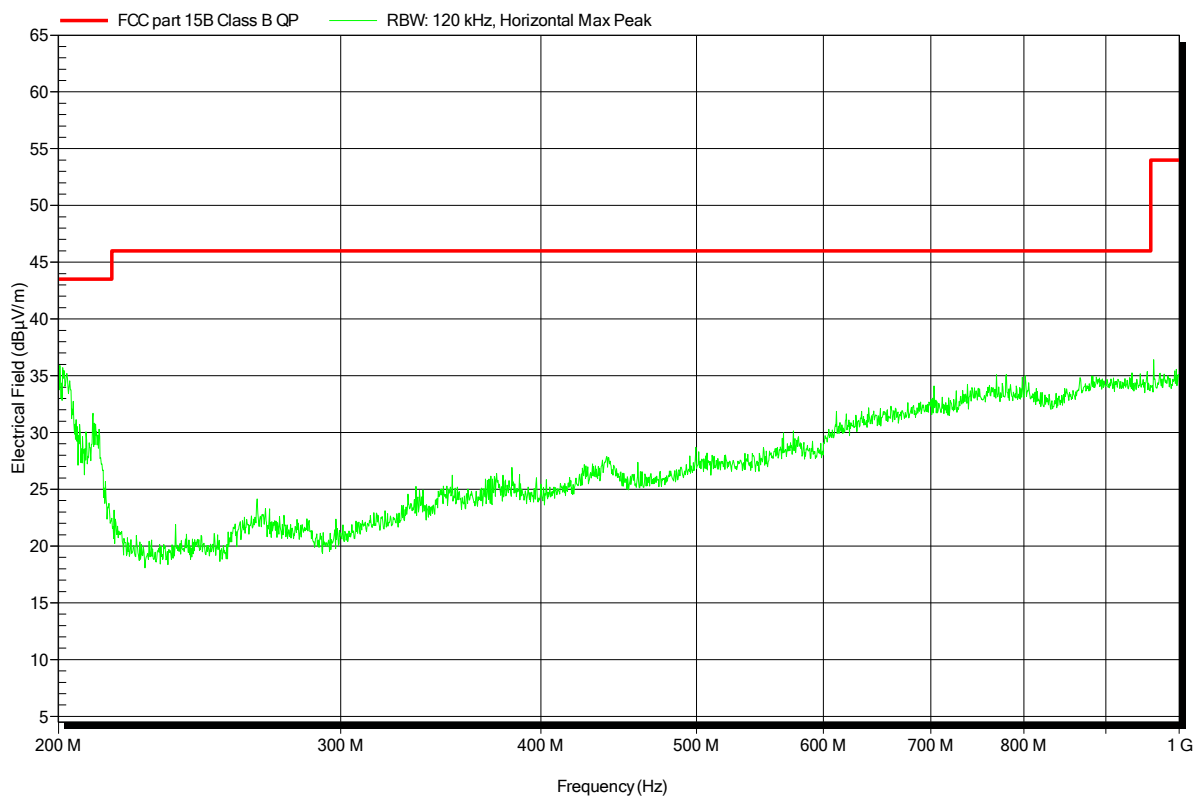


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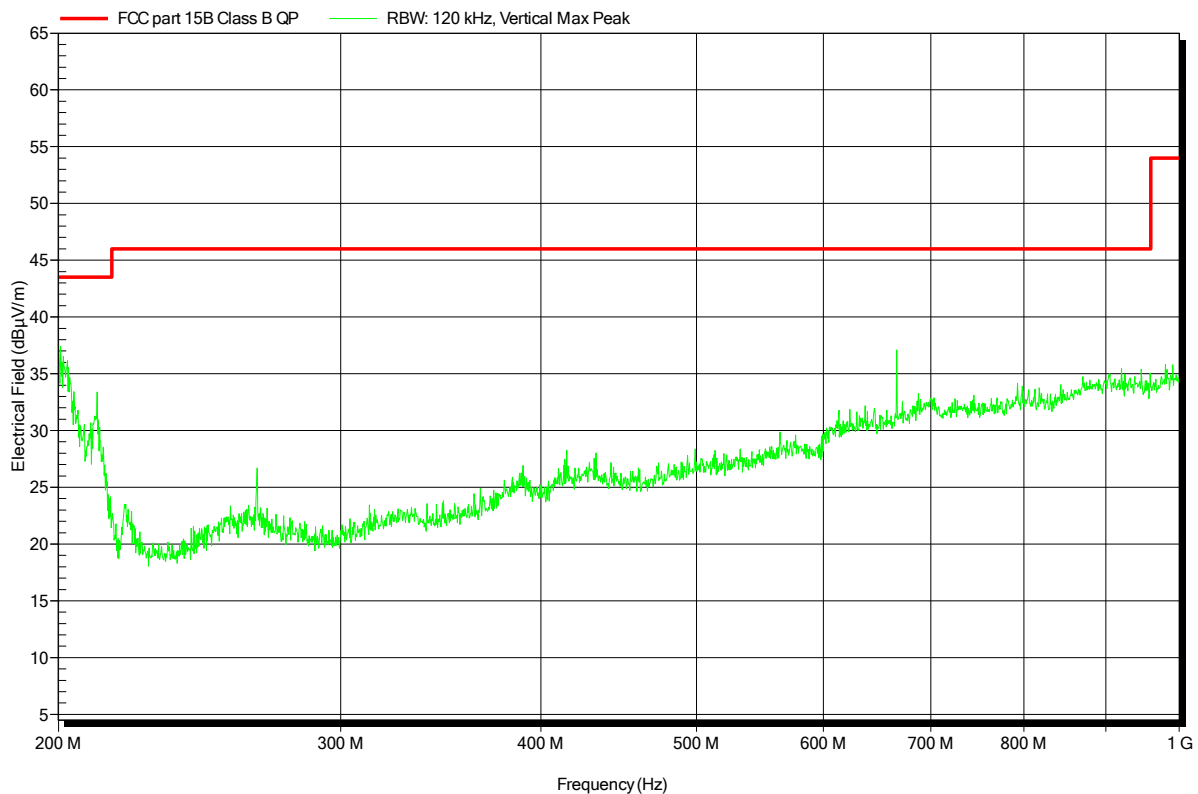


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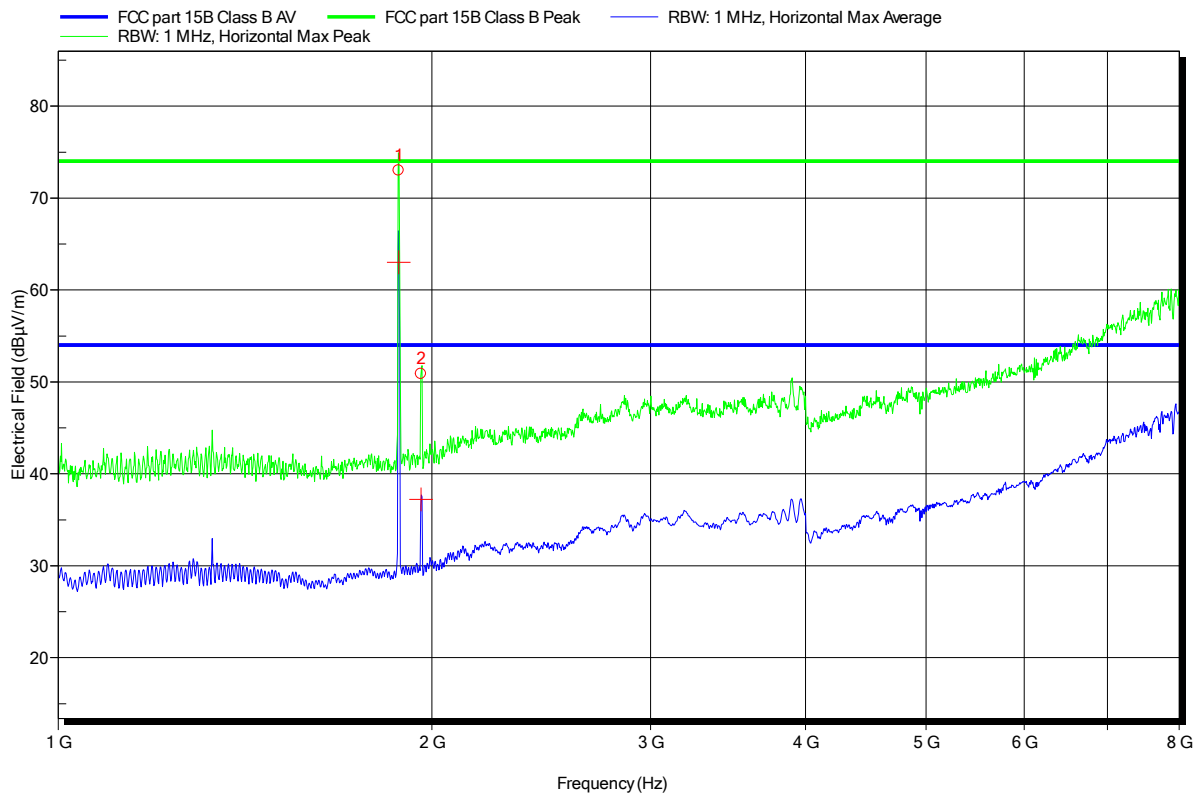


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| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Klein |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| Antenna: | Schwarzbeck BBHA 9120D, Horizontal |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, UMTS Band II, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-27 |
| Note: | Peak 1 + 2: UMTS Carrier |

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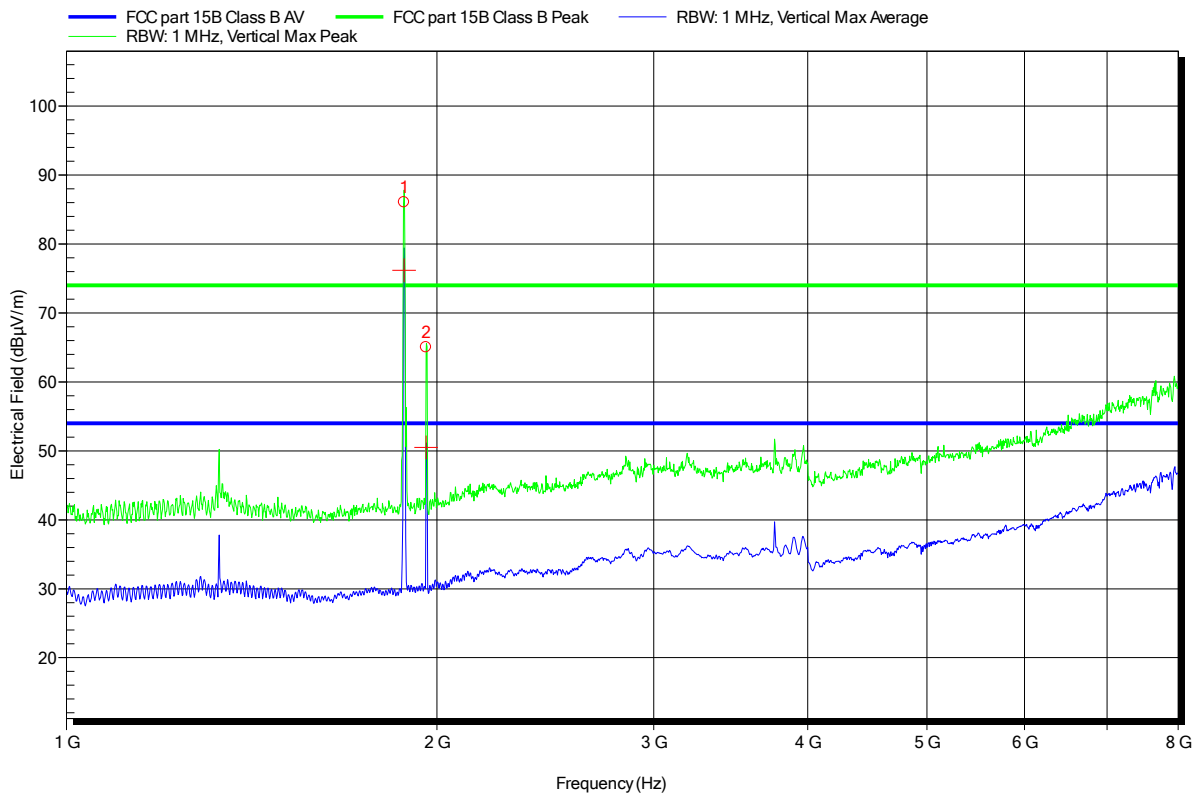
Frequency
 1,881 GHz
 1,96 GHz

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1409-4119

| | |
|-----------------------|--|
| Manufacturer: | Leica Geosystems AG |
| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Klein |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| Antenna: | Schwarzbeck BBHA 9120D, Vertical |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, UMTS Band II, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-27 |
| Note: | Peak 1 + 2: UMTS Carrier |

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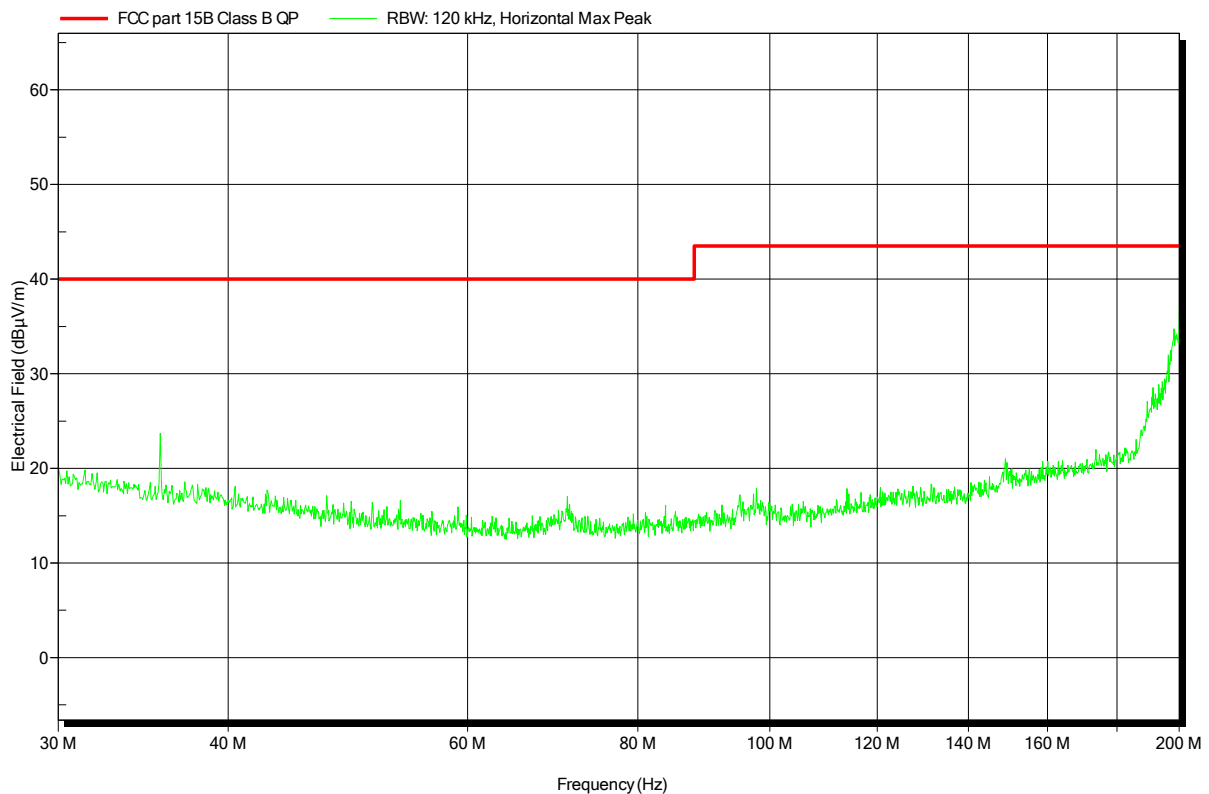
Frequency
1,881 GHz
1,96 GHz

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1409-4119

| | |
|-----------------------|---|
| Manufacturer: | Leica Geosystems AG |
| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Klein |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| Antenna: | Rohde & Schwarz HK 116, Horizontal |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, UMTS Band V, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-27 |
| Note: | |

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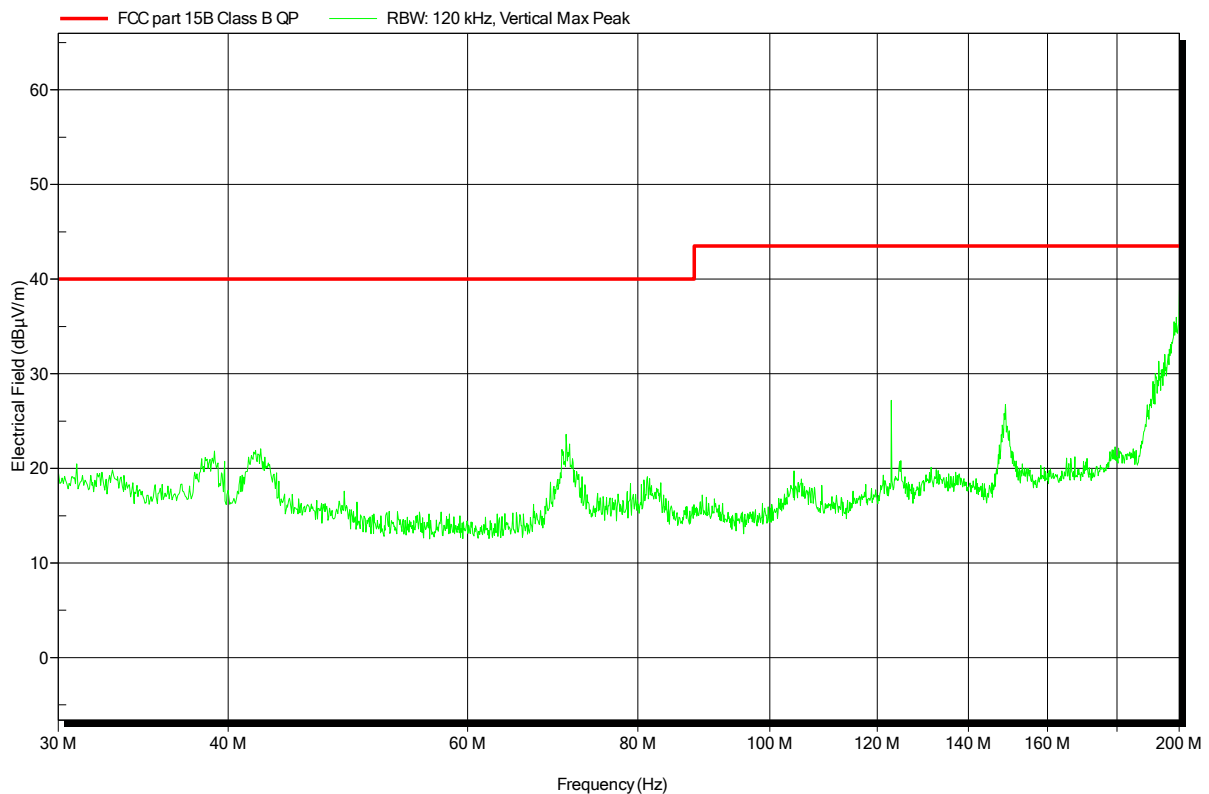


Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1409-4119

| | |
|-----------------------|---|
| Manufacturer: | Leica Geosystems AG |
| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Klein |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| Antenna: | Rohde & Schwarz HK 116, Vertical |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, UMTS Band V, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-27 |
| Note: | |

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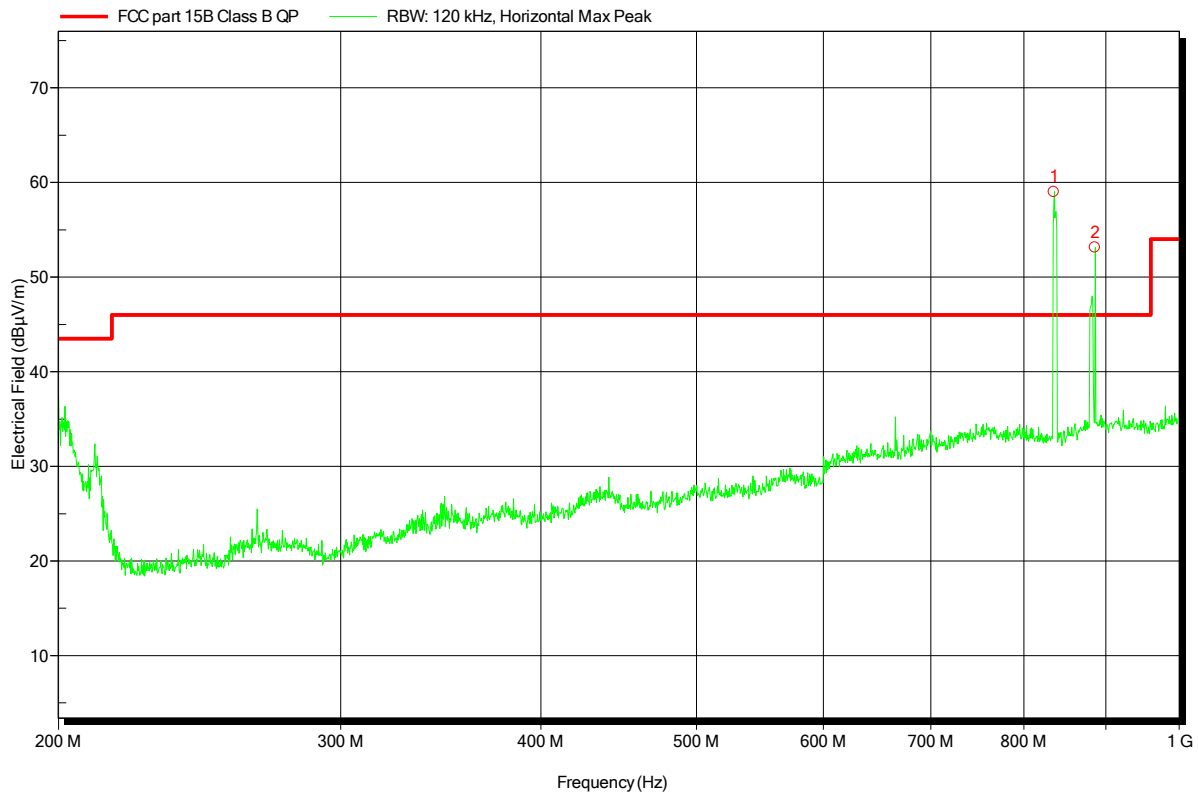


Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1409-4119

| | |
|-----------------------|---|
| Manufacturer: | Leica Geosystems AG |
| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Klein |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| Antenna: | Rohde & Schwarz HL 223, Horizontal |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, UMTS Band V, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-27 |
| Note: | Peak 1 + 2: GSM Carrier |

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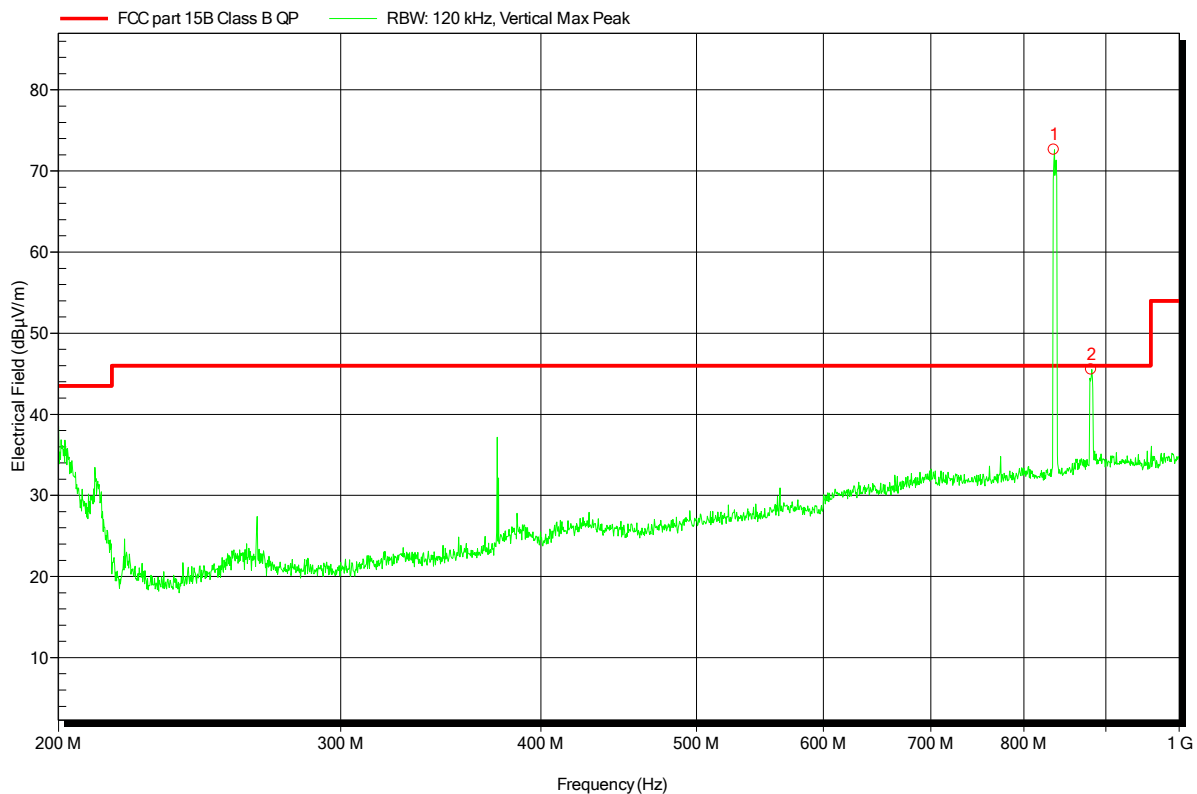
Frequency
835,3 MHz
886 MHz

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1409-4119

| | |
|-----------------------|---|
| Manufacturer: | Leica Geosystems AG |
| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Klein |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| Antenna: | Rohde & Schwarz HL 223, Vertical |
| Measurement distance: | 3m |
| Mode: | SRD 430MHz, UMTS Band V, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-27 |
| Note: | Peak 1 + 5: UMTS Carrier |

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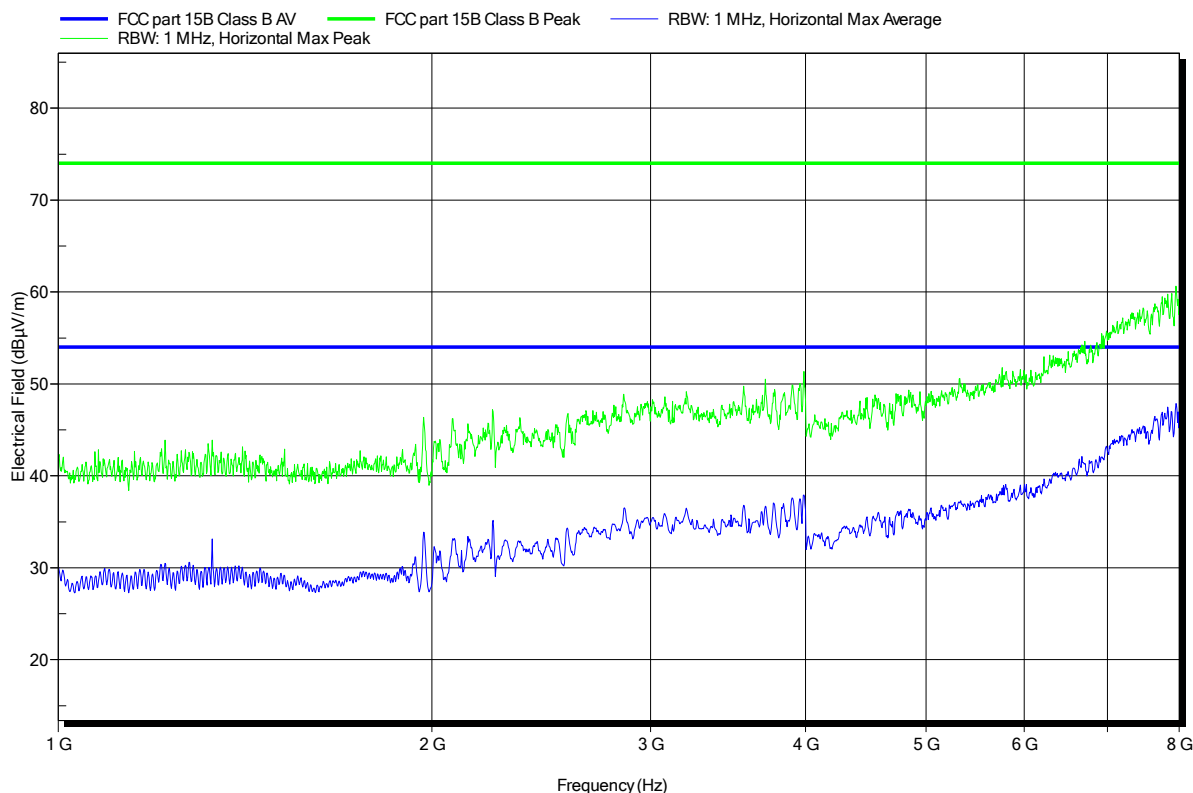
Frequency
835,34 MHz
881,3 MHz

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1409-4119

Manufacturer: Leica Geosystems AG
 EUT Name: GNSS Receiver for Machine Control
 Model: iCG80
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Klein
 Test Conditions: Tnom: 23°C, Unom: 24 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3m
 Mode: SRD 430MHz, UMTS Band V, GPS receive, Ethernet link, CAN active, Bluetooth Classic active
 Test Date: 2015-02-27
 Note:

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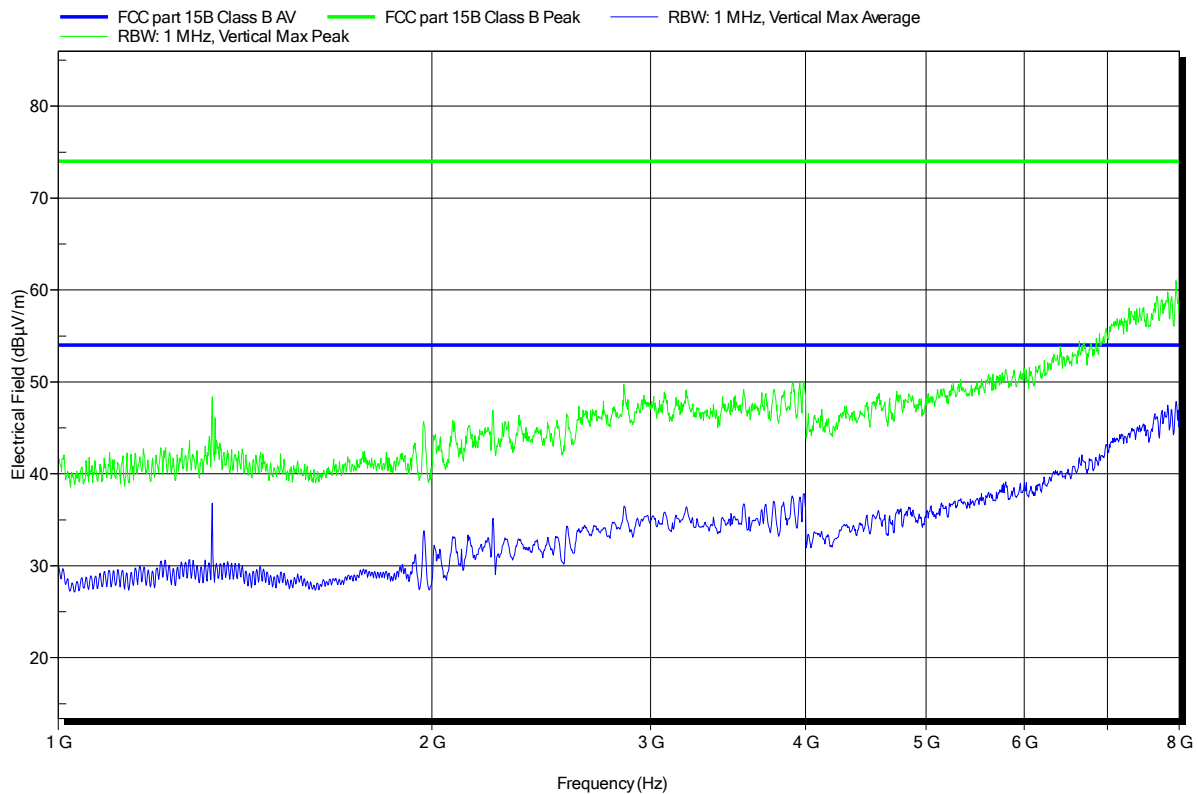


Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1409-4119

Manufacturer: Leica Geosystems AG
 EUT Name: GNSS Receiver for Machine Control
 Model: iCG80
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Klein
 Test Conditions: Tnom: 23°C, Unom: 24 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3m
 Mode: SRD 430MHz, UMTS Band V, GPS receive, Ethernet link, CAN active, Bluetooth Classic active
 Test Date: 2015-02-27
 Note:

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3.2 Test Conditions and Results – AC power line conducted emissions

| Conducted emissions acc. FCC 47 CFR 15.107 / IC RSS-Gen | | | Verdict: PASS | |
|--|----------------------------|--------|----------------------|--------|
| Laboratory Parameters: | Required prior to the test | | During the test | |
| Ambient Temperature | 15 to 35 °C | | 23°C | |
| Relative Humidity | 30 to 60 % | | 41% | |
| 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 | | | |
| Sample is tested with respect to the requirements of the equipment class | Equipment class | | | |
| | Class B | | | |
| Points of Application | Application Interface | | | |
| AC Mains | LISN | | | |
| Operating mode and configuration | 1 - 1 / 2 | | | |
| Limits and results Class B | | | | |
| Frequency [MHz] | Quasi-Peak [dB μ V] | Result | Average [dB μ V] | Result |
| 0.15 to 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. | | | | |

Test Procedure:

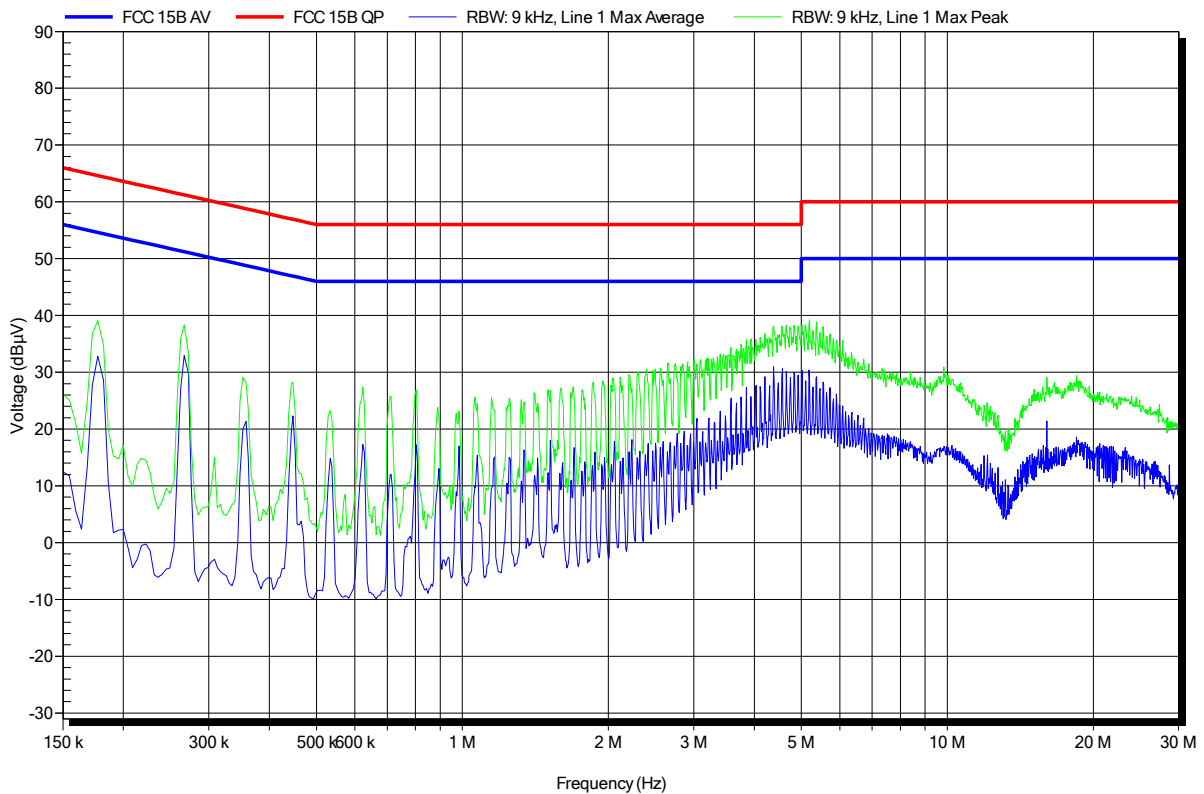
- 1) The EUT was placed on a non conductive table 0.8 m above the reference ground plane and 0.4 m away from the vertical conducting plane (ANSI C63.4: 2009 item 7.3.1)
- 2) The power cord that is normally supplied or recommended by the manufacturer was connected to the LISN.
- 3) The distance between the outer edge of the EUT and the LISN shall be set to 0.8 m. A longer power cord shall be bundled to this length (bundling shall not exceed 40 cm in length).
- 4) The LISN measurement port was connected to a measurement receiver
- 5) I/O cables were bundled not longer than 0.4 m
- 6) Measurement was performed in the frequency range 0.15 – 30MHz on each current-carrying conductor

EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1409-4119

| | |
|------------------|--|
| Manufacturer: | Leica Geosystems AG |
| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Klein |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| LISN: | ESH2-Z5 L |
| Mode: | SRD 430MHz, GSM850, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-25 |
| Note: | |

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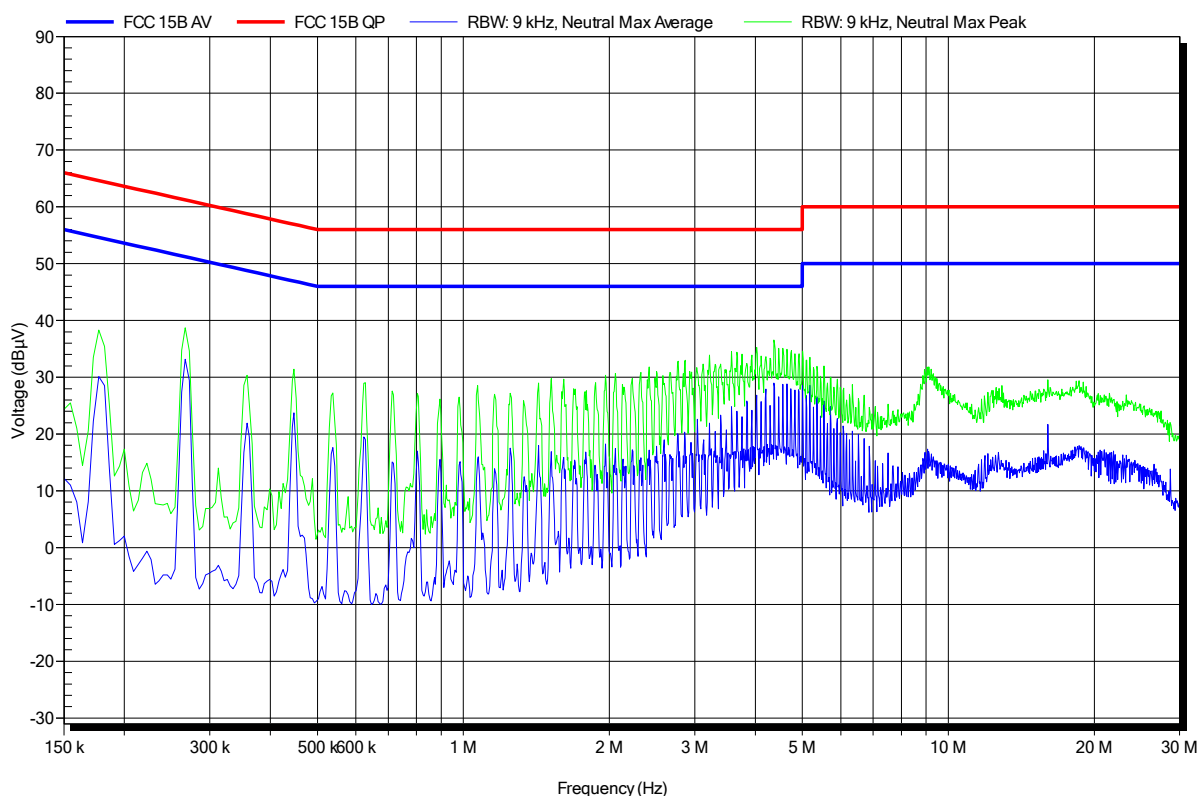


EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1409-4119

Manufacturer: Leica Geosystems AG
 EUT Name: GNSS Receiver for Machine Control
 Model: iCG80
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Klein
 Test Conditions: Tnom: 23°C, Unom: 24 VDC
 LISN: ESH2-Z5 N
 Mode: SRD 430MHz, GSM850, GPS receive, Ethernet link, CAN active, Bluetooth Classic active
 Test Date: 2015-02-25
 Note:

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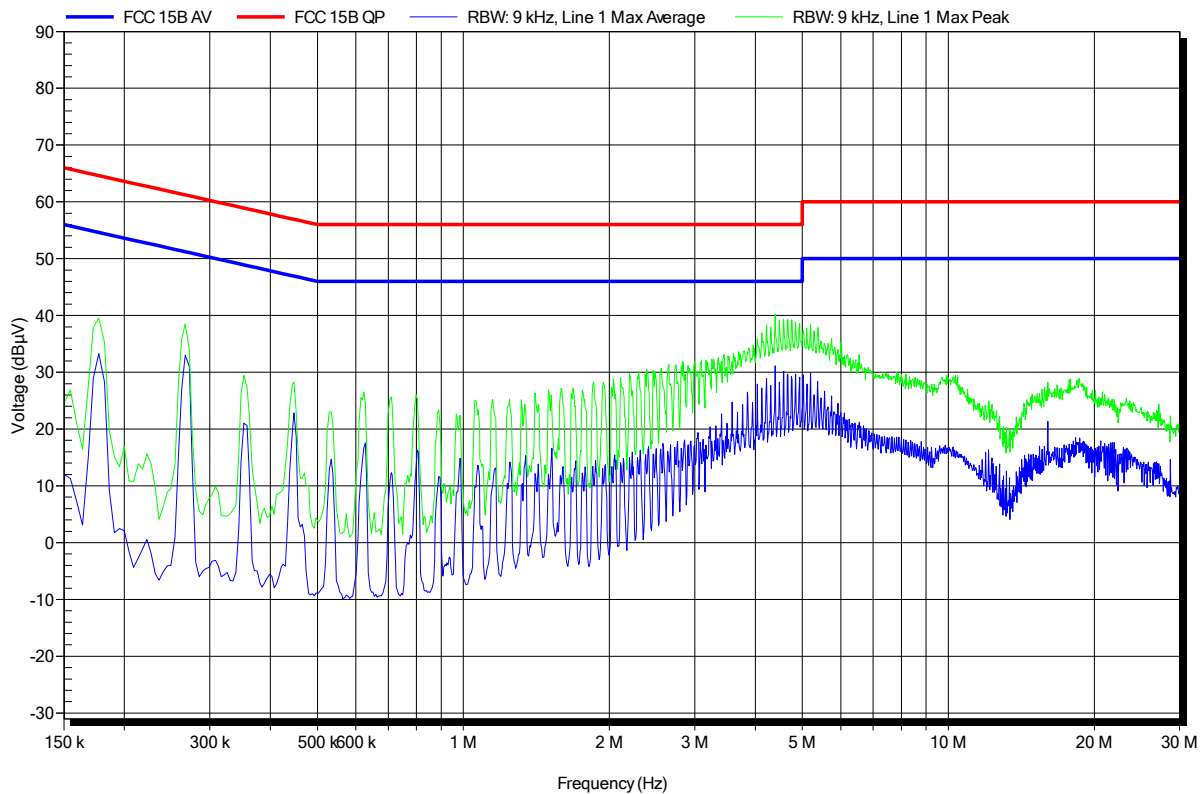


EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1409-4119

| | |
|------------------|---|
| Manufacturer: | Leica Geosystems AG |
| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Klein |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| LISN: | ESH2-Z5 L |
| Mode: | SRD 430MHz, GSM1900, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-25 |
| Note: | |

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EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1409-4119

| | |
|------------------|---|
| Manufacturer: | Leica Geosystems AG |
| EUT Name: | GNSS Receiver for Machine Control |
| Model: | iCG80 |
| Test Site: | Eurofins Product Service GmbH |
| Operator: | Mr. Klein |
| Test Conditions: | Tnom: 23°C, Unom: 24 VDC |
| LISN: | ESH2-Z5 N |
| Mode: | SRD 430MHz, GSM1900, GPS receive, Ethernet link, CAN active, Bluetooth Classic active |
| Test Date: | 2015-02-25 |
| Note: | |

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