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FCC TEST REPORT

FCC 47 CFR Part 22H
Industry Canada RSS-132, Issue 3
Cellular Telephones Operating in the Bands 824-849MHz and 869-894MHz
FCC 47 CFR Part 24E
Industry Canada RSS-133, Issue 6
2GHz Personal Communication Services

Report Reference No.....:	G0M-1406-3917-TFC224WC-V01
Testing Laboratory.....:	Eurofins Product Service GmbH
Address.....:	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation.....:	A2LA Accredited Testing Laboratory, Certificate No.: 1983.01 FCC Filed Test Laboratory, Reg.-No.: 96970 IC OATS Filing assigned code: 3470A
Applicant's name.....:	Leica Geosystems AG
Address.....:	Heinrich Wild Strasse 9435 Heerbrugg SWITZERLAND
Test specification:	
Standard.....:	47 CFR Part 22H, 47 CFR Part 24E RSS-132, Issue 3 : 2013-01, RSS-133, Issue 6 : 2013-01 SRSP-503 Issue 7 : 2008-09, SRSP-510 Issue 5 : 2009-02 RSS-Gen, Issue 4, 2014-11, ANSI/TIA-603-C-2004
Equipment under test (EUT):	
Product description	Field Controller Win EC7
Model No.	CS20 3.75G
Additional Model(s)	CS20 3.75G GNSS, CS20 3.75G Disto, CS20 3.75G Disto GNSS
Brand Name(s)	Leica Geosystems
Hardware version	V5.0
Firmware / Software version	1.0
	FCC-ID: RFD-CSNGF IC: 3177A-CSNGF
Test result	**Passed**

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 .....: 2014-08-04

Date (s) of performance of tests .....: 2014-11-20 - 2014-11-21

Compiled by ..... : Matthias Handrik

Tested by (+ signature)..... : (Responsible for Test) Burkhard Pudell .....B. Pudell.....

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

Date of issue ..... : 2015-04-22

Total number of pages ..... : 114

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:

Test case selection is based on full modular approval of licensed transmitter module used by the EUT. The EUT uses a GSM/GPRS module with full modular approval according to FCC and IC rules. For details about the radio module see EUT description in section 1.

CS20 3.75G was tested as the worst case configuration which incorporates all the radio technologies also used in CS20 3.75G GNSS, CS20 3.75G Disto, CS20 3.75G Disto GNSS

Version History

Version	Issue Date	Remarks	Revised by
01	2015-04-22	Initial Release	

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1 Equipment (Test item) Description

Description	Field Controller Win EC7		
Model	CS20 3.75G		
Additional Model(s)	CS20 3.75G GNSS, CS20 3.75G Disto, CS20 3.75G Disto GNSS		
Brand Name(s)	Leica Geosystems		
Serial number	None		
Hardware version	V5.0		
Software / Firmware version	1.0		
FCC-ID	RFD-CSNGF		
IC	3177A-CSNGF		
Equipment type	End product		
Equipment classification	Portable Device (Human Body distance < 20 cm)		
Radio type	Transceiver		
Radio technology	WCDMA FDDII / WCDMA FDDV		
Operating frequency range	FDDII : TX = 1850 MHz - 1910 MHz, RX = 1930 MHz - 1990 MHz FDDV : TX = 824 MHz - 849 MHz, RX = 869 MHz - 894 MHz		
Assigned frequency band	Cell. Service Block A & B : 824 - 849 MHz & 869 - 894 MHz Broadband PCS : 1850 - 1910 MHz & 1930 - 1990 MHz		
Main test frequencies FDDV	F_{LOW}	CH : 4133 UL: 826.6 MHz	CH : 4358 DL: 871.6 MHz
	F_{MID}	CH : 4175 UL: 835 MHz	CH : 4400 DL: 880 MHz
	F_{HIGH}	CH : 4232 UL: 846.4 MHz	CH : 4457 DL: 891.4 MHz
Main test frequencies FDDII	F_{LOW}	CH : 9263 UL: 1852.6 MHz	CH : 9663 DL: 1932.6 MHz
	F_{MID}	CH : 9400 UL: 1880.0 MHz	CH : 9800 DL: 1960.0 MHz
	F_{HIGH}	CH : 9537 UL: 1907.4 MHz	CH : 9937 DL: 1987.4 MHz
Supported transmission modes	HSDPA, HSUPA		
Modulations	QPSK		
Number of antennas	1		
Radio module	Type	GSM module	
	Model	PHS8-P	
	Manufacturer	Gemalto	
	HW Version	B1	
	SW Version	03.001	
	FCC-ID	QIPPHS8-P	
	IC	7830A-PHS8P	
Antenna	Type	integrated	
	Model	P522303	
	Manufacturer	Ethertronics	
	Gain	2.8dBi	

Manufacturer	Leica Geosystems AG Heinrich Wild Strasse 9435 Heerbrugg SWITZERLAND	
Power supply	V_{NOM}	11.1 V DC
	V_{MIN}	N/A
	V_{MIN}	N/A
AC/DC-Adaptor	Model	N/A
	Vendor	N/A
	Input	N/A
	Output	N/A

1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments
SIM	Radio communication tester	R&S	CMU200	
SIM : Simulator (Not Subjected to Test)				

1.5 Test Modes

Mode #	Description	
FDDII	General conditions:	EUT powered by battery. Active data call to communication tester.
	Radio conditions:	Mode = HSDPA Connection = Packet switched Modulation = QPSK Power level = Pattern Type (All 1)
FDDV	General conditions:	EUT powered by battery. Active data call to communication tester.
	Radio conditions:	Mode = HSDPA Connection = Packet switched Modulation = QPSK Power level = Pattern Type (All 1)
WCDMA IDLE FDDV	General conditions:	EUT powered by battery
	Radio conditions:	Mode = CELL-FACH
WCDMA IDLE FDDII	General conditions:	EUT powered by battery
	Radio conditions:	Mode = CELL-FACH

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	2014-02	2015-02

Radiated power					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Fully-anechoic chamber	Frankonia	AC 1	EF00062	-	-
Spectrum Analyzer	R&S	FSIQ 26	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

Radiated spurious emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Semi-anechoic chamber	Frankonia	AC 1	EF00062	-	-
Spectrum Analyzer	R&S	FSEK 30	EF00168	2014-01	2015-01
Biconical Antenna	R&S	HK 116	EF00012	2013-02	2016-02
LPD Antenna	R&S	HL 223	EF00212	2013-02	2016-02
LPD Antenna	R&S	HL 025	EF00327	2013-02	2016-02

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:

Reading on Analyzer (dBµV) + A.F. (dB) = Net field strength (dBµV/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:

Limit (dBµV/m) = 20*log (µV/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

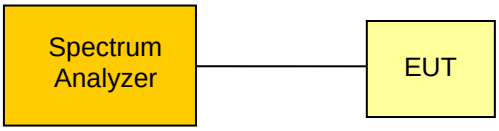
2 Result Summary

FCC 47 CFR Part 22H, 24E, IC RSS-132, 133				
Product Specific Standard Section	**Requirement – Test**	**Reference Method**	**Result**	**Remarks**
FCC § 2.1049 RSS-Gen 6.6	Occupied Bandwidth	RSS-Gen 6.6		Informational only
FCC § 24.235 FCC § 22.355 IC RSS-132 § 4.3 IC RSS-133 § 6.3	Frequency stability	FCC § 24.235 FCC § 22.355 IC RSS-132 § 4.3 IC RSS-133 § 6.3	N/R	Conducted results of licensed radio unaffected. See module radio report.
FCC § 22.913(a)	Effective radiated power	ANSI/TIA-603-C	PASS	
FCC § 24.232(c) IC RSS-132 § 4.4 IC RSS-133 § 6.4	Equivalent isotropic radiated power	ANSI/TIA-603-C	PASS	
FCC § 24.232(d) IC RSS-133 § 6.4	Peak to average ratio	FCC § 24.232(d) IC RSS-133 § 6.4	N/R	Conducted results of licensed radio unaffected. See module radio report
FCC § 22.917(b) FCC § 24.238(b) IC RSS-132 § 4.5 IC RSS-133 § 6.5	Band-edge compliance	FCC § 22.917(b) FCC § 24.238(b) IC RSS-132 § 4.5 IC RSS-133 § 6.5	N/R	Conducted results of licensed radio unaffected. See module radio report
FCC § 22.917(a) FCC § 24.238(a) IC RSS-132 § 4.5 IC RSS-133 § 6.5	Conducted out-of-band emissions	FCC § 22.917(a) FCC § 24.238(a) IC RSS-132 § 4.5 IC RSS-133 § 6.5	N/R	Conducted results of licensed radio unaffected. See module radio report
FCC § 22.917(a) FCC § 24.238(a) IC RSS-132 § 4.5 IC RSS-133 § 6.5	Radiated out-of-band emissions	ANSI/TIA-603-C	PASS	
IC RSS-132 § 4.6 IC RSS-133 § 6.6 IC RSS-Gen 7.1	Receiver radiated spurious emissions	IC RSS-132 § 4.6 IC RSS-133 § 6.6 IC RSS-Gen 7.1	PASS	
Remarks:				

3 Test Conditions and Results

3.1 Test Conditions and Results – Occupied Bandwidth

Occupied Bandwidth acc. to IC RSS-Gen	
Test according to measurement reference	Reference Method
	RSS-Gen 6.6
Test frequency range	Tested frequencies
	F_{LOW} / F_{MID} / F_{HIGH}
Limits	
None (Informational only)	
Test setup	



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Span set to at least twice the emission spectrum
3. Resolution bandwidth set to 1 % of span
4. Occupied Bandwidth (99 %) measurement with spectrum analyzer built in measurement function

Test results – FDDII

Channel	Frequency [MHz]	Mode	Occupied Bandwidth [kHz]
F_{LOW}	1852.6	HSDPA	4148
F_{MID}	1880.0	HSDPA	4168
F_{HIGH}	1907.4	HSDPA	4168

Test results – FDDV

Channel	Frequency [MHz]	Mode	Occupied Bandwidth [kHz]
F_{LOW}	826.4	HSDPA	4148
F_{MID}	835.0	HSDPA	4128
F_{HIGH}	846.4	HSDPA	4148

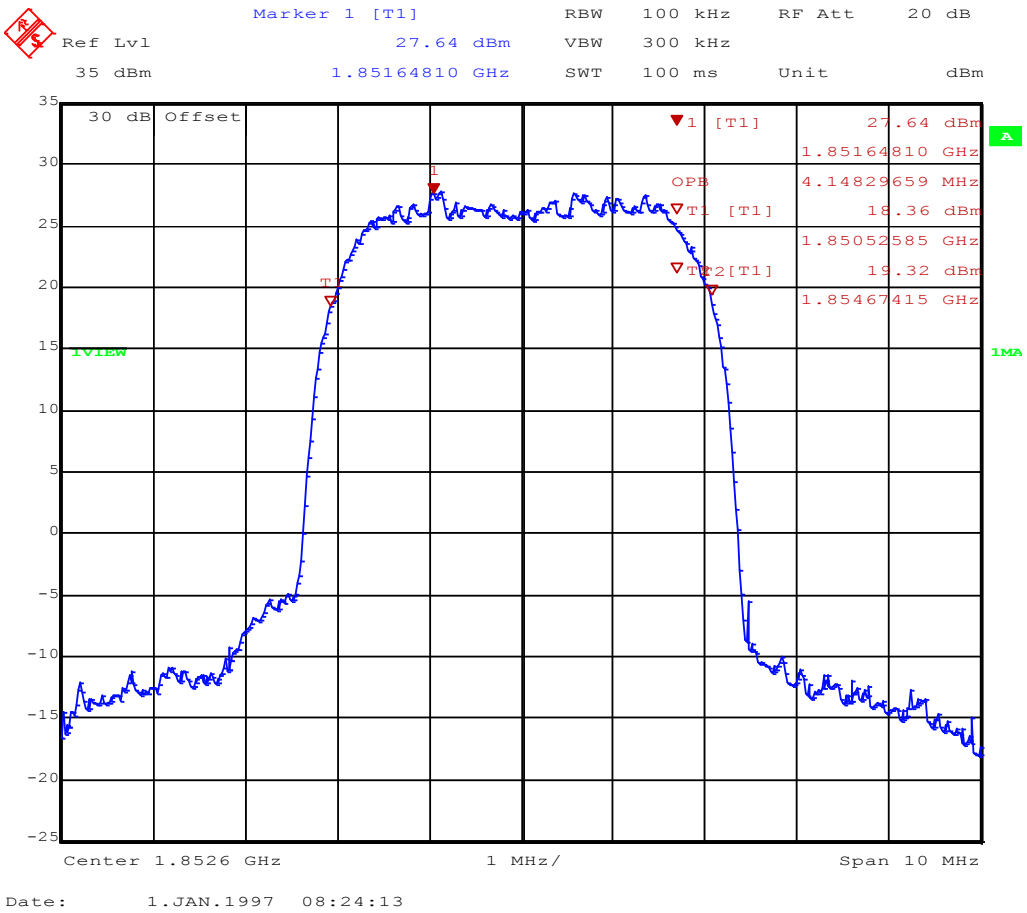
Comments:

Occupied Bandwidth – FDDII F_{LOW}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3917

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:	UMTS FDD II / CH: 9263 / HSUPA-HSDPA
Test Date:	2014-11-21
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.148 MHz

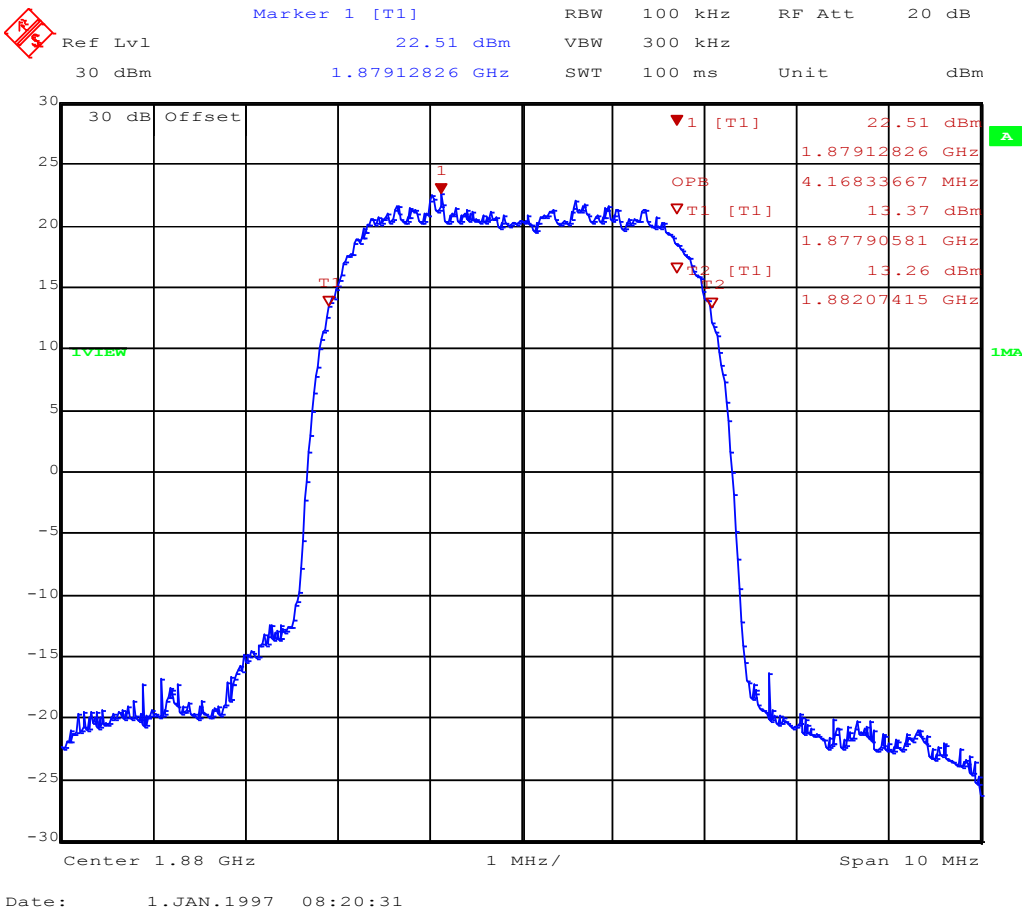


Occupied Bandwidth – FDDII F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3917

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:	UMTS FDD II / CH: 9400 / HSUPA-HSDPA
Test Date:	2014-11-21
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.168 MHz

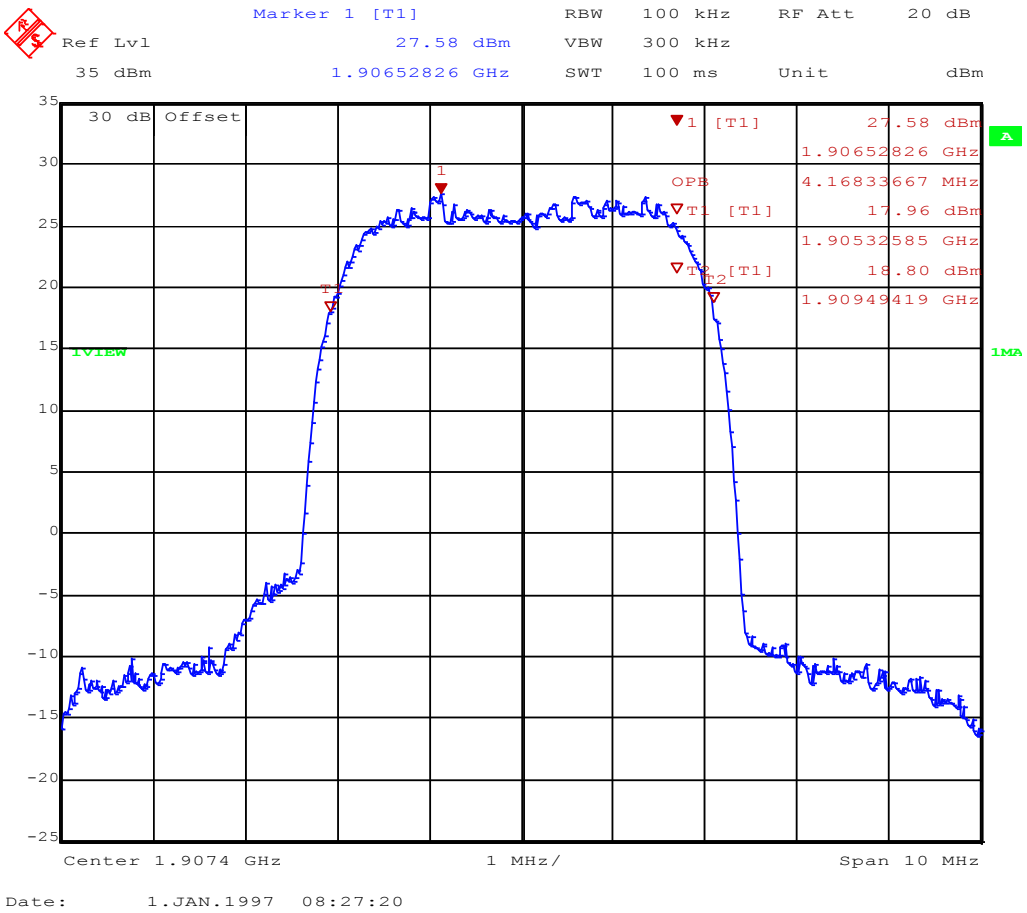


Occupied Bandwidth – FDDII F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3917

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:	UMTS FDD II / CH: 9537 / HSUPA-HSDPA
Test Date:	2014-11-21
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.168 MHz

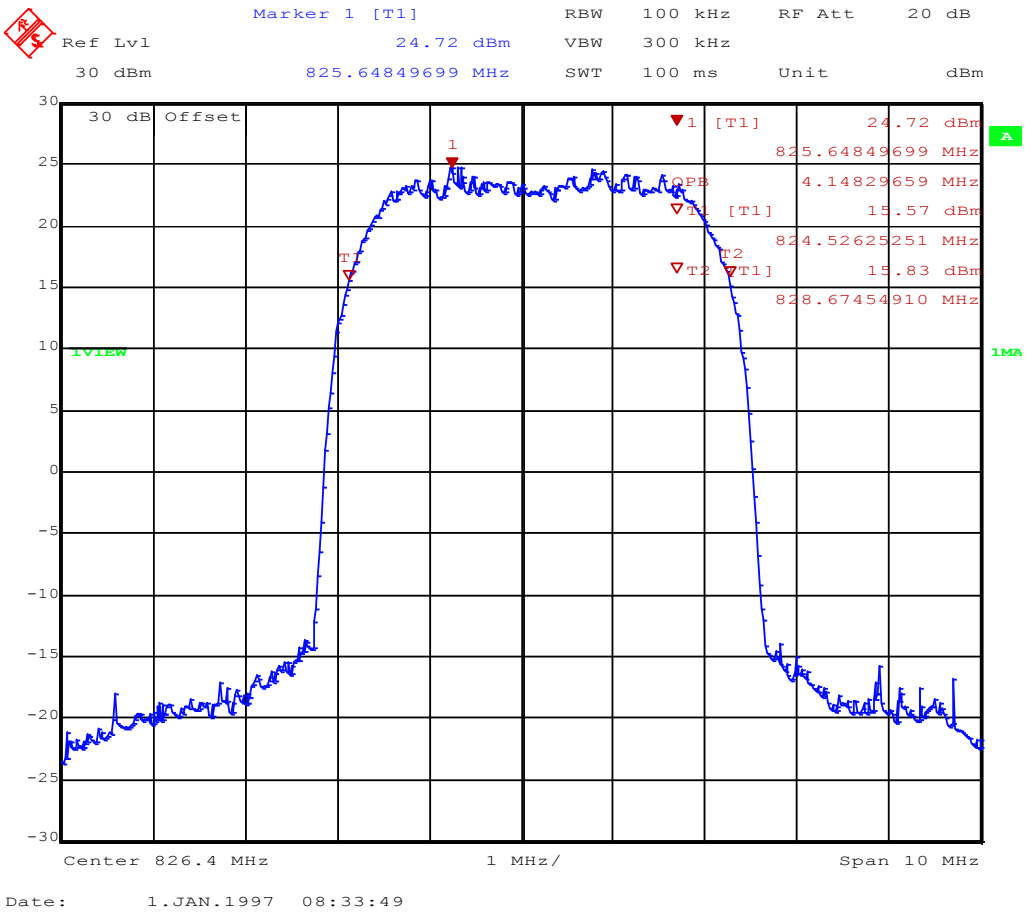


Occupied Bandwidth – FDDV F_{LOW}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3917

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:	UMTS FDD V / CH: 4133 / HSUPA-HSDPA
Test Date:	2014-11-21
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.148 MHz

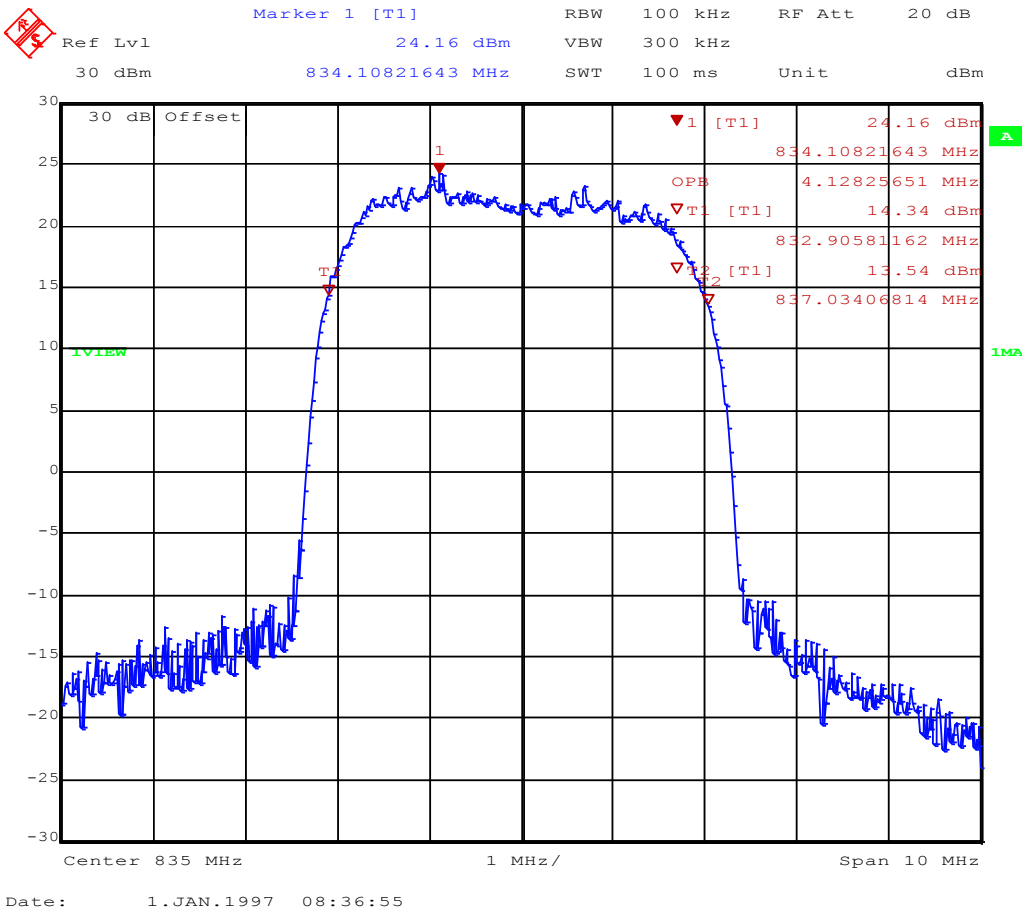


Occupied Bandwidth – FDDV F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3917

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:	UMTS FDD V / CH: 4175 / HSUPA-HSDPA
Test Date:	2014-11-21
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.128 MHz

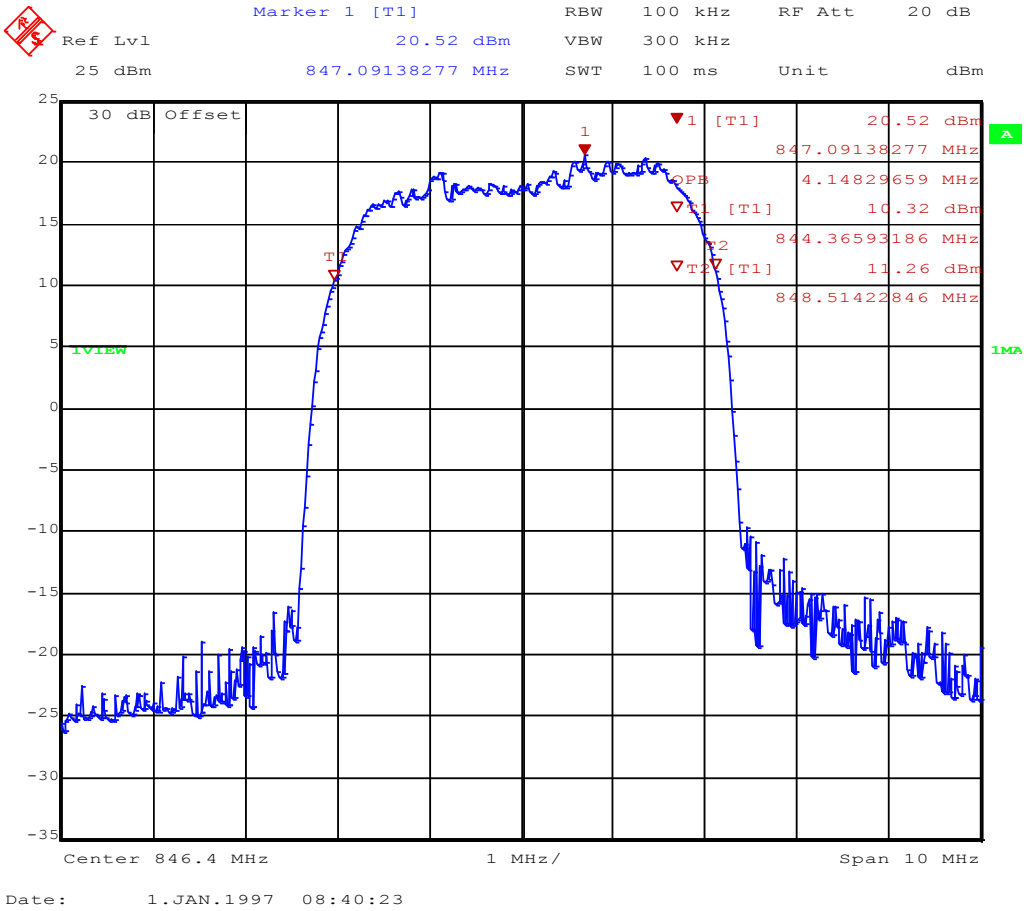


Occupied Bandwidth – FDDV F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3917

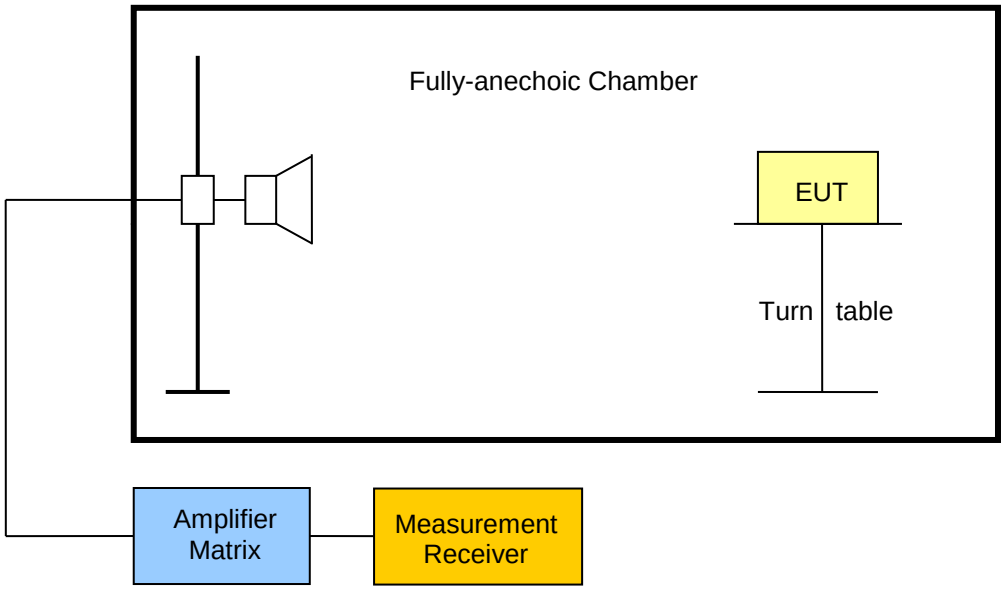
Applicant:	Leica Geosystems AG
EUT Name:	Field Controller Win EC7
Model:	CS20
Test Site:	Eurofins Product Service GmbH
Operator:	Burkhard Pudell
Test Conditions:	Tnom / Vnom
Mode:	UMTS FDD V / CH: 4232 / HSUPA-HSDPA
Test Date:	2014-11-21
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	OBW = 4.148 MHz



3.2 Test Conditions and Results – Effective radiated power / Equivalent isotropic radiated power

Radiated power acc. to FCC 22H / FCC 24E / IC RSS-132 / IC RSS-133		Verdict: PASS
EUT requirement rule parts and clause	Reference	
	FCC § 22.913(a) / FCC § 24.232(c) IC RSS-132 § 4.4 /IC RSS-133 § 6.4	
Test according to measurement reference	Reference Method	
	FCC § 22.913(a) / FCC § 24.232(c) / ANSI/TIA-603-C IC RSS-132 § 4.4 /IC RSS-133 § 6.4	
Test frequency range	Tested frequencies	
	F_{LOW} / F_{MID} / F_{HIGH}	
Limits		
Frequency range	Equipment type	Power limit
824-849 MHz	Mobile transmitter	FCC : 7 Watts (38.45 dBm) e.r.p. IC : 11.5 Watts (40.6 dBm) e.i.r.p.
1850-1910 MHz	Mobile transmitter	FCC : 2 Watts (33 dBm) e.i.r.p. IC : 2 Watts (33 dBm) e.i.r.p.

Test setup



Test procedure

1. EUT set to test mode
2. The radiated power is measured with a measurement antenna in vertical polarization
3. To obtain maximum level the EUT is rotated
4. The EUT is replaced with a half-wave dipole and the power to the dipole is adjusted to obtain same radiated power measurement value

Test results – FDDV E.R.P.							
Channel	Frequency [MHz]	Mode	Pol.	Power [dBm e.r.p]	Limit [dBm e.r.p]	Margin [dB]	Result
F_{LOW}	826.592	HSDPA	hor	25.5	38.45	-12.95	PASS
F_{MID}	834.885	HSDPA	hor	25.4	38.45	-13.05	PASS
F_{HIGH}	846.424	HSDPA	hor	26.2	38.45	-12.25	PASS
Test results – FDDV E.I.R.P.							
Channel	Frequency [MHz]	Mode	Pol.	Power [dBm e.i.r.p]	Limit [dBm e.i.r.p]	Margin [dB]	Result
F_{LOW}	826.592	HSDPA	hor	27.65	40.6	-12.95	PASS
F_{MID}	834.885	HSDPA	hor	27.55	40.6	-13.05	PASS
F_{HIGH}	846.424	HSDPA	hor	28.35	40.6	-12.25	PASS
Test results – FDDII E.I.R.P.							
Channel	Frequency [MHz]	Mode	Pol.	Power [dBm e.i.r.p]	Limit [dBm e.i.r.p]	Margin [dB]	Result
F_{LOW}	1852.8	GSM1900	hor	30.4	33	-02.60	PASS
F_{MID}	1880.5	GSM1900	hor	29.4	33	-03.60	PASS
F_{HIGH}	1906.6	GSM1900	hor	29.1	33	-03.90	PASS
Comments:							

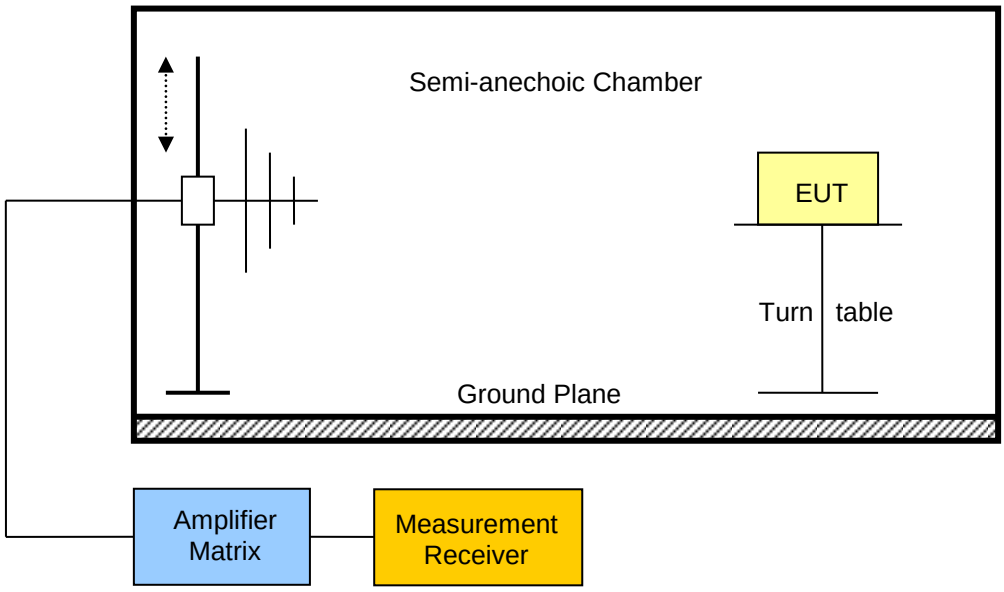
3.3 Test Conditions and Results – Transmitter radiated emissions

Transmitter radiated power acc. to FCC 22H / FCC 24E / IC RSS-132 / IC RSS-133	**Verdict: PASS**
Test according referenced standards	Reference Method
	FCC § 22.917(a) / FCC § 24.238(a) IC RSS-132 § 4.5 / IC RSS-133 § 6.5
Test according to measurement reference	Reference Method
	ANSI/TIA-603-C
Test frequency range	Tested frequencies
	30 MHz – 10th Harmonic

Limits

Frequency range	Limit
824-849 MHz	Attenuation below transmitter power ≥ 43 + 10 · $\log_{10}$(P) [dB] = -13 dBm
1850-1910 MHz	Attenuation below transmitter power ≥ 43 + 10 · $\log_{10}$(P) [dB] = -13 dBm

Test setup



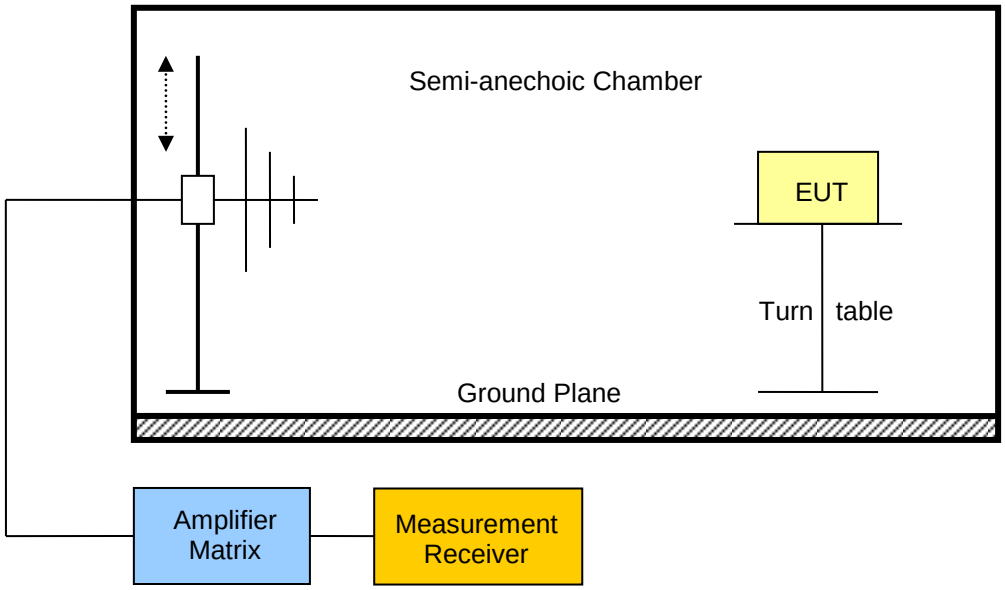
Test procedure

1. EUT set to test mode
2. Maximum emission level is measured by rotating the EUT and adjusting the antenna height for vertical polarization
3. The EUT is replaced by a substitution antenna and generator
4. The power level is set to obtain the same power reading
5. Measurement is repeated for horizontal polarization

Test results – FDDII							
Channel	Frequency [MHz]	Mode	Emission [MHz]	Level [dbm]	Pol.	Limit [dBm]	Margin [dB]
9263	1852.6	HSDPA	374.4	-27.60	ver	-13.00	-14.64
9263	1852.6	HSDPA	443.2	-27.40	ver	-13.00	-14.39
9263	1852.6	HSDPA	512	-27.50	ver	-13.00	-14.54
9263	1852.6	HSDPA	750.4	-27.10	hor	-13.00	-14.10
9263	1852.6	HSDPA	819.2	-26.10	hor	-13.00	-13.11
9263	1852.6	HSDPA	1850	-27.00	hor	-13.00	-14.00
9400	1880	HSDPA	374.4	-27.60	ver	-13.00	-14.63
9400	1880	HSDPA	443.2	-27.40	ver	-13.00	-14.36
9400	1880	HSDPA	512	-27.20	ver	-13.00	-14.18
9400	1880	HSDPA	750.4	-26.70	hor	-13.00	-13.72
9400	1880	HSDPA	819.2	-25.70	hor	-13.00	-12.72
9537	1907.4	HSDPA	374.4	-27.40	ver	-13.00	-14.42
9537	1907.4	HSDPA	443.2	-27.20	ver	-13.00	-14.19
9537	1907.4	HSDPA	512	-26.80	ver	-13.00	-13.81
9537	1907.4	HSDPA	750.4	-26.70	hor	-13.00	-13.70
9537	1907.4	HSDPA	819.2	-26.00	hor	-13.00	-13.01
Test results – FDDV							
Channel	Frequency [MHz]	Mode	Emission [MHz]	Level [dbm]	Pol.	Limit [dBm]	Margin [dB]
4133	826.6	HSDPA	822.724	-31.60	ver	-13.00	-18.57
4133	826.6	HSDPA	822.77	-26.10	hor	-13.00	-13.08
4232	846.4	HSDPA	850.4	-28.00	hor	-13.00	-14.96
4232	846.4	HSDPA	850.837	-31.90	ver	-13.00	-18.90
Comments:							

3.4 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 – 3th 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
1. EUT set to receive mode (Communication tester is used if needed) 2. Span it set according to measurement range 3. Resolution bandwidth below 1GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1MHz with peak/average detector is used above 1GHz 4. Markers are set to peak emission levels

Test results FDDII							
Channel	Frequency [MHz]	Emission [MHz]	Emission Level [dbµV/m]	Emission Level [µV/m]	Det.	Limit [µV/m]	Margin [µV/m]
9400	1880	443.2	36.14	64.1	pk	200	-135.90
9400	1880	750.4	36.69	68.3	pk	200	-131.70
Test results FDDV							
4175	835	443.2	36.37	65.8	pk	200	-134.20
4175	835	750.4	37.04	71.1	pk	200	-128.90
4175	835	896	36.24	64.9	pk	200	-135.10
Comments:							

ANNEX A Transmitter radiated spurious emissions

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9263; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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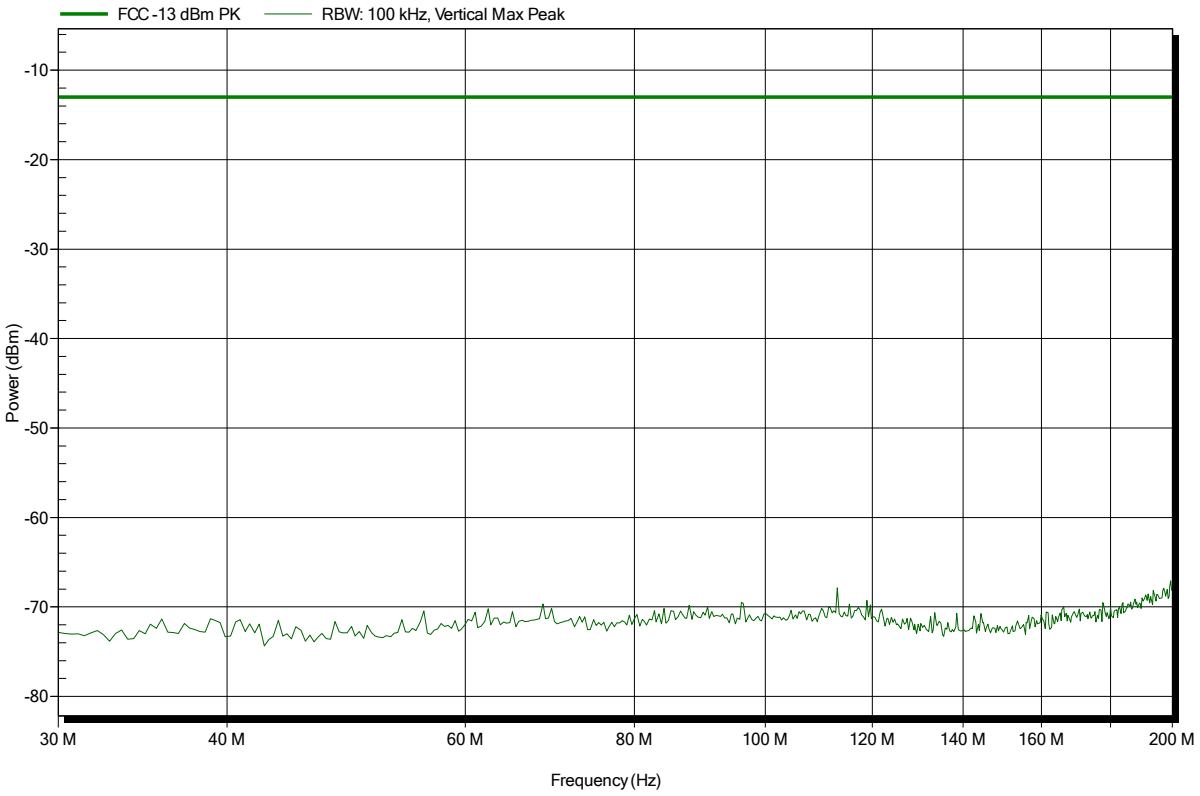

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9263; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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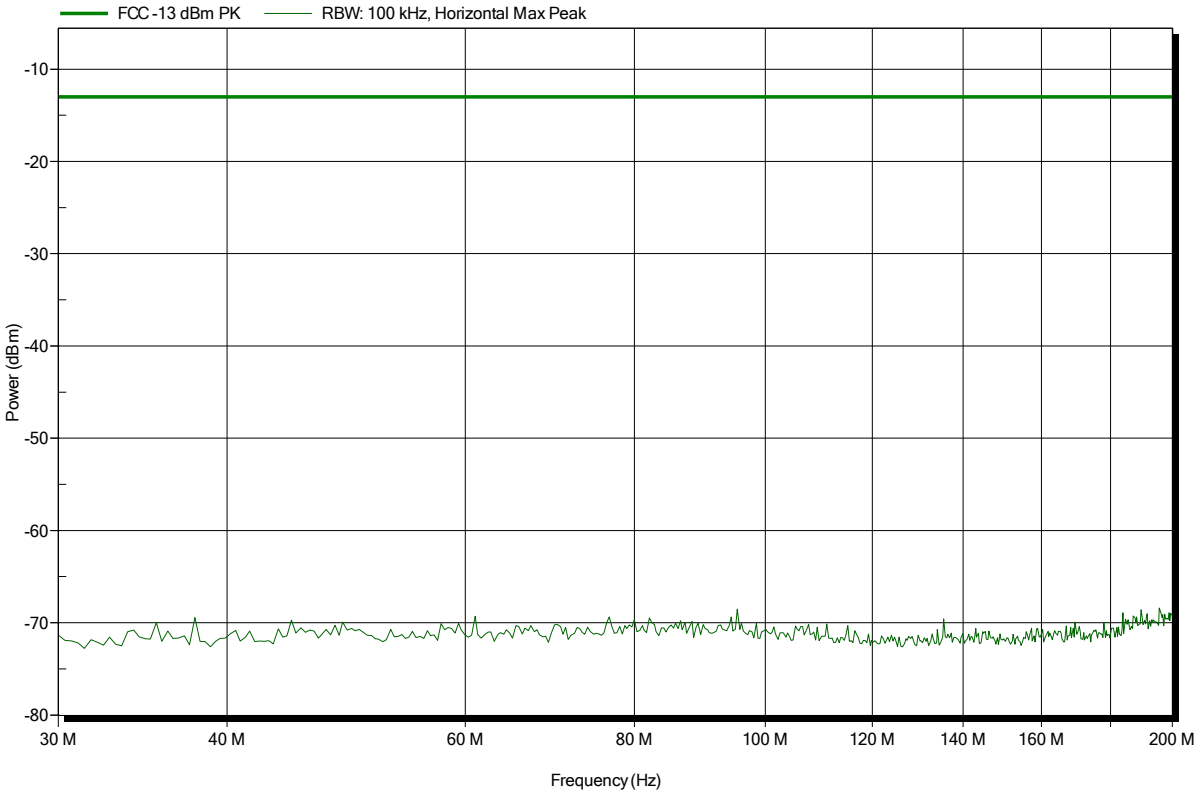

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9400; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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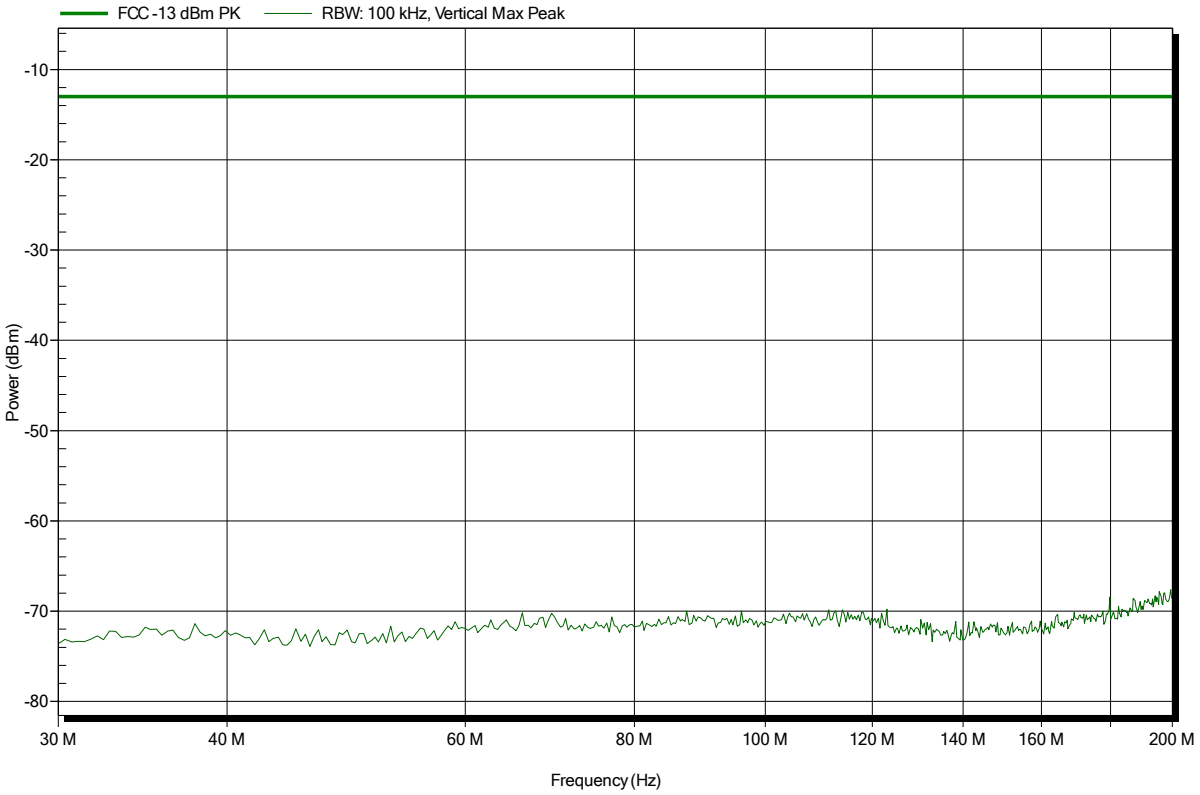

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9400; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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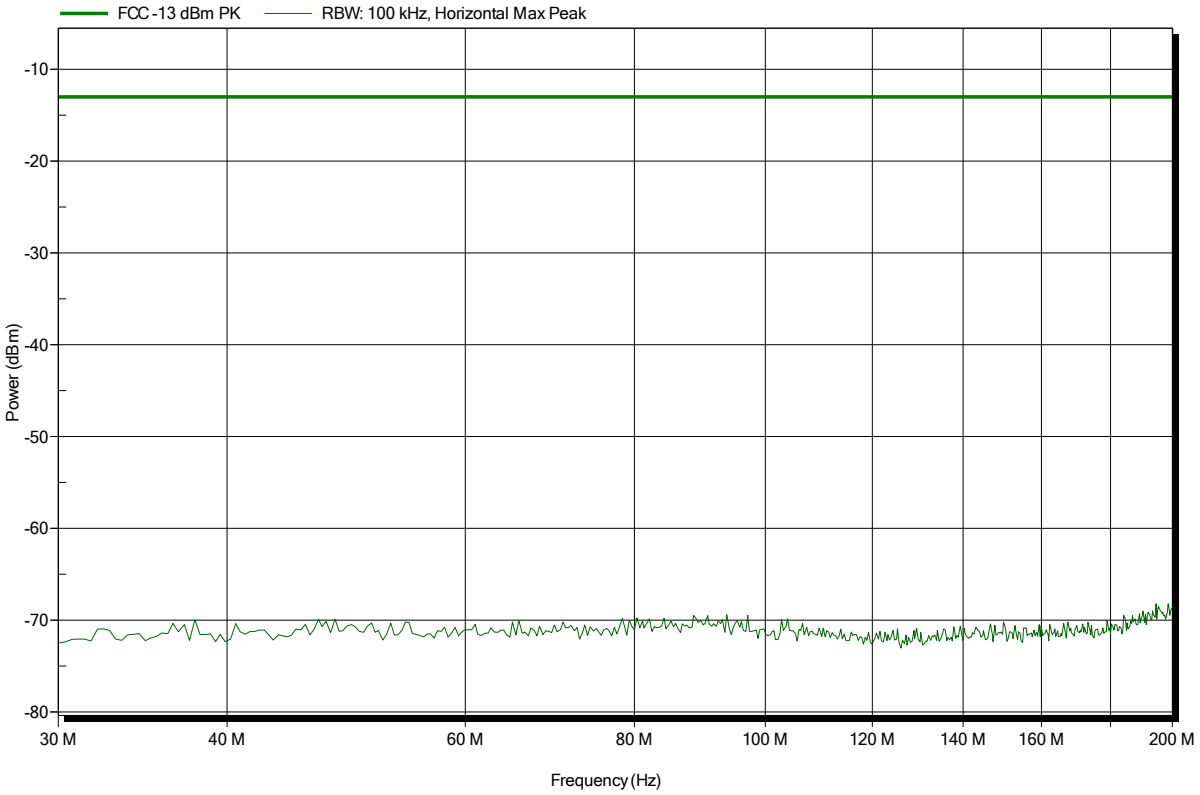

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9537; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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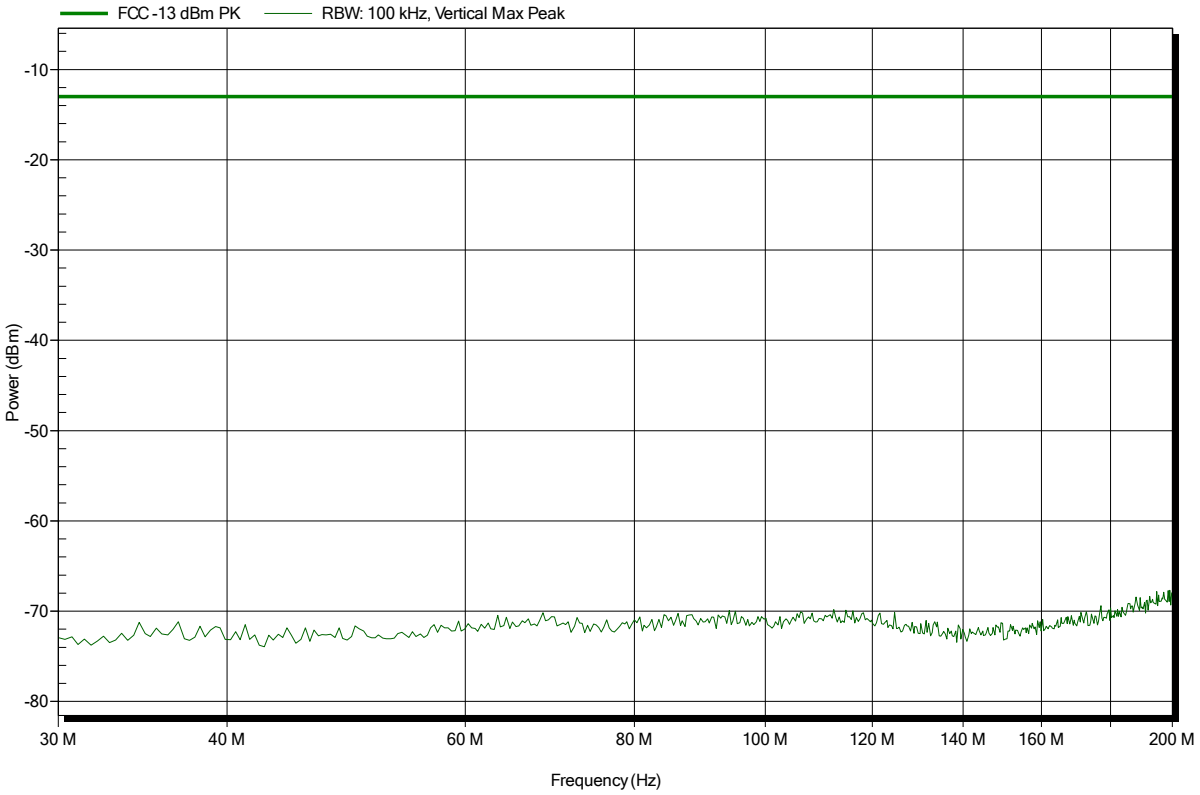

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9537; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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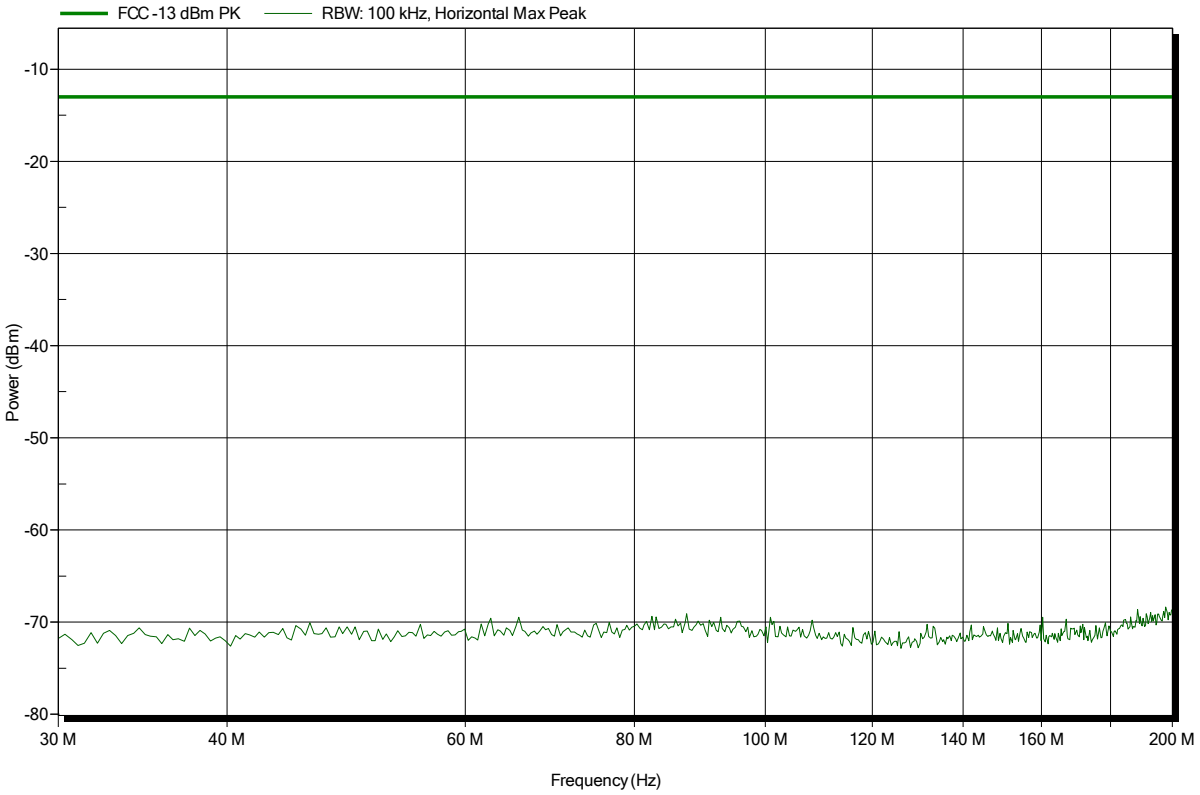

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9263; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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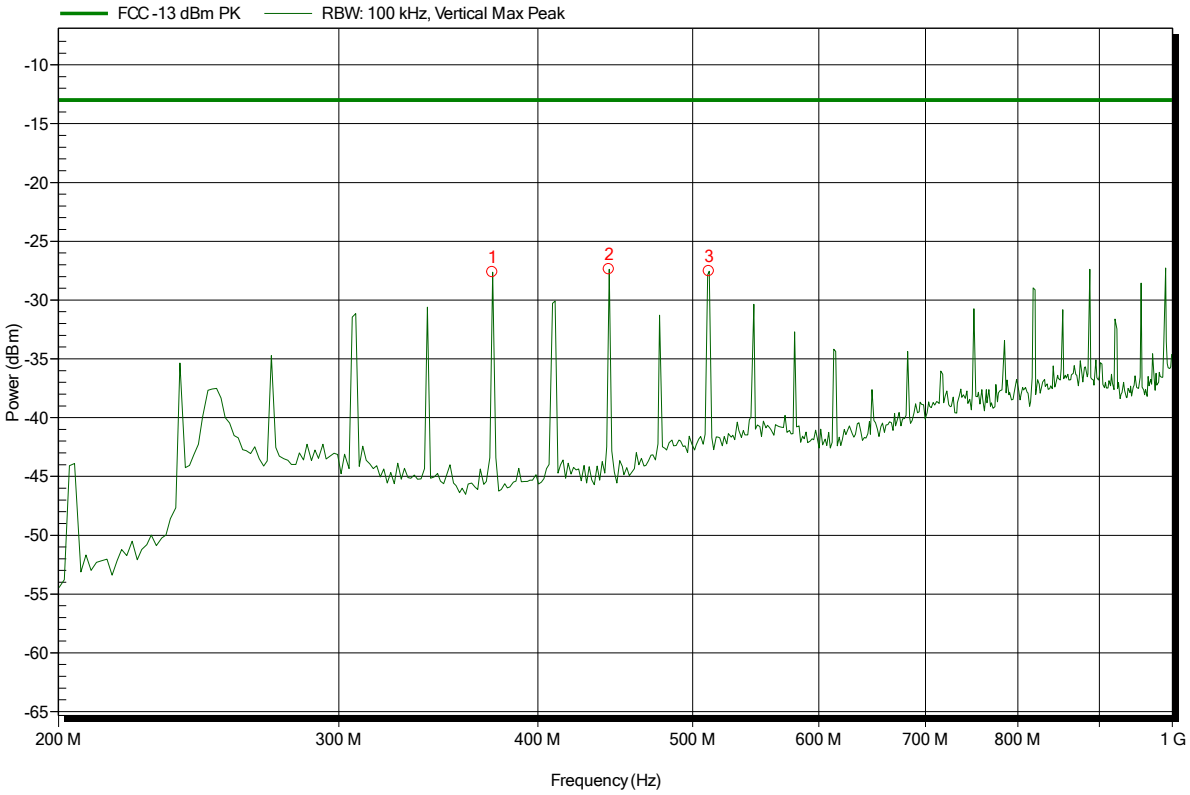

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
374.4 MHz	-27.6 dBm	-13 dBm	-14.64 dB	Pass
443.2 MHz	-27.4 dBm	-13 dBm	-14.39 dB	Pass
512 MHz	-27.5 dBm	-13 dBm	-14.54 dB	Pass

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9263; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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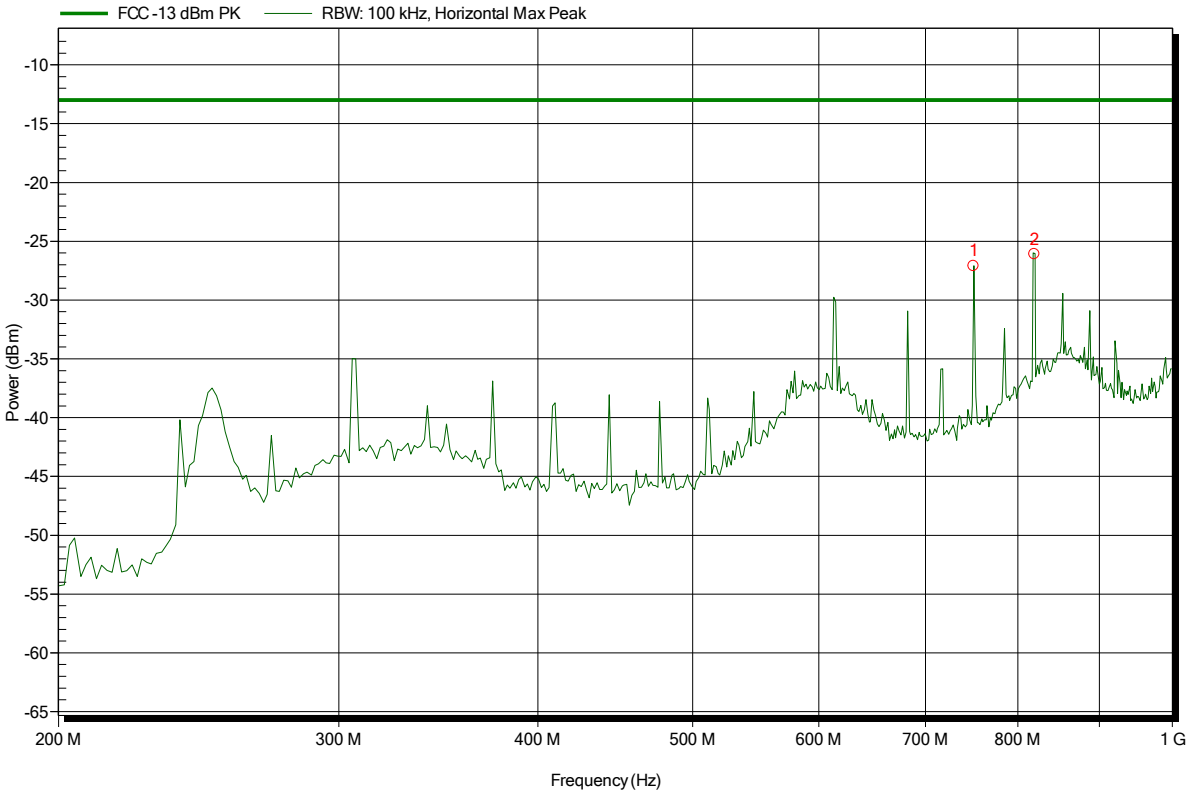

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
750.4 MHz	-27.1 dBm	-13 dBm	-14.1 dB	Pass
819.2 MHz	-26.1 dBm	-13 dBm	-13.11 dB	Pass

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9400; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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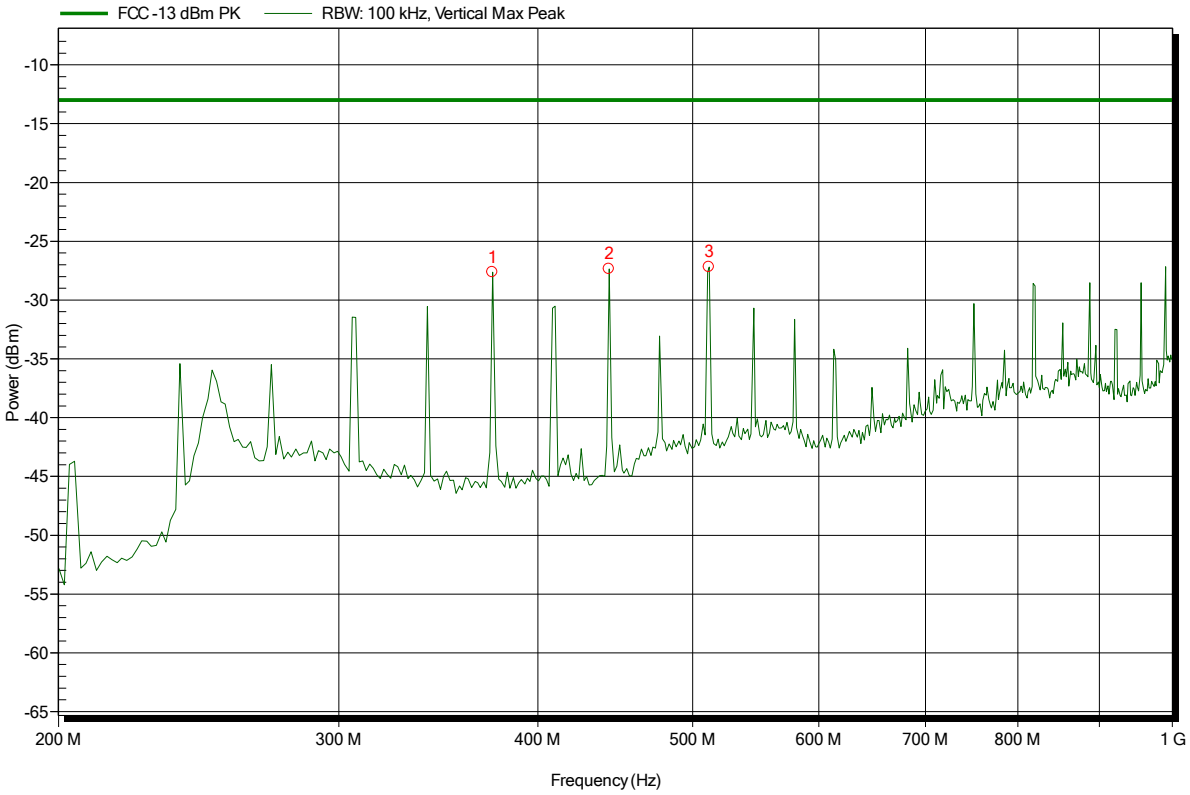

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
374.4 MHz	-27.6 dBm	-13 dBm	-14.63 dB	Pass
443.2 MHz	-27.4 dBm	-13 dBm	-14.36 dB	Pass
512 MHz	-27.2 dBm	-13 dBm	-14.18 dB	Pass

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9400; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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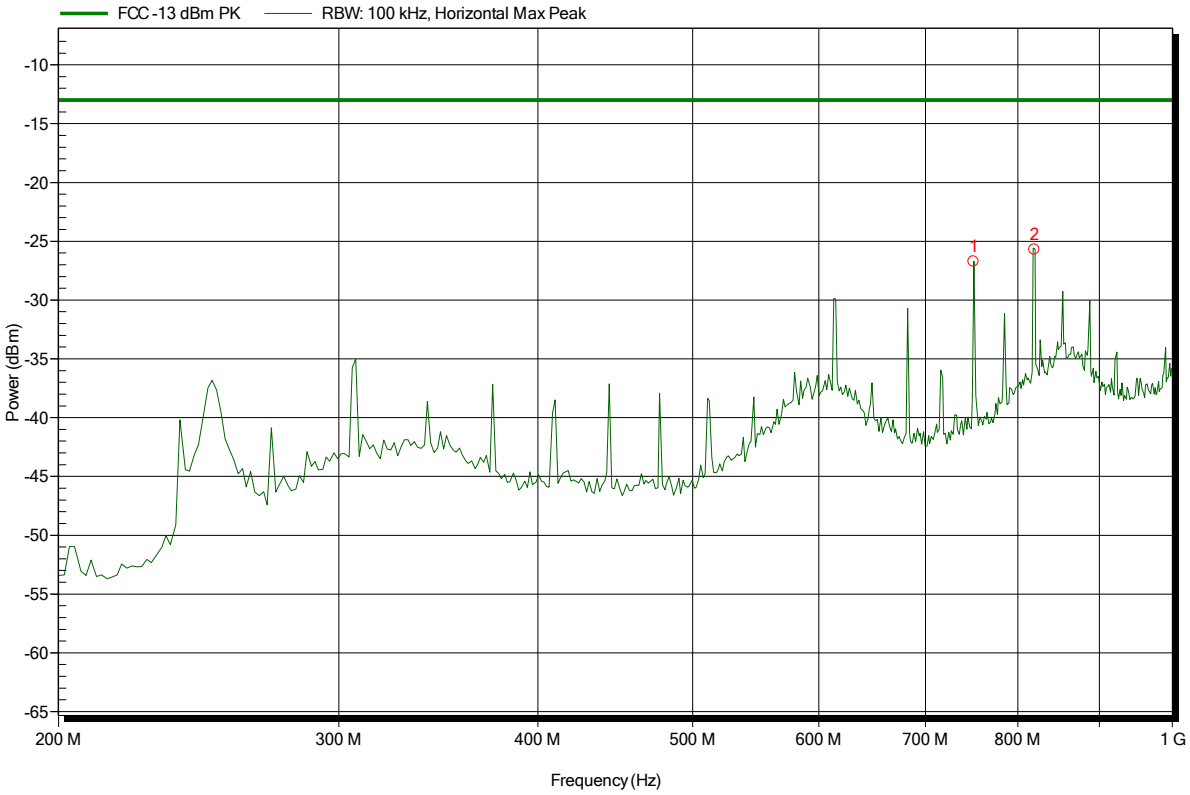

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
750.4 MHz	-26.7 dBm	-13 dBm	-13.72 dB	Pass
819.2 MHz	-25.7 dBm	-13 dBm	-12.72 dB	Pass

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9537; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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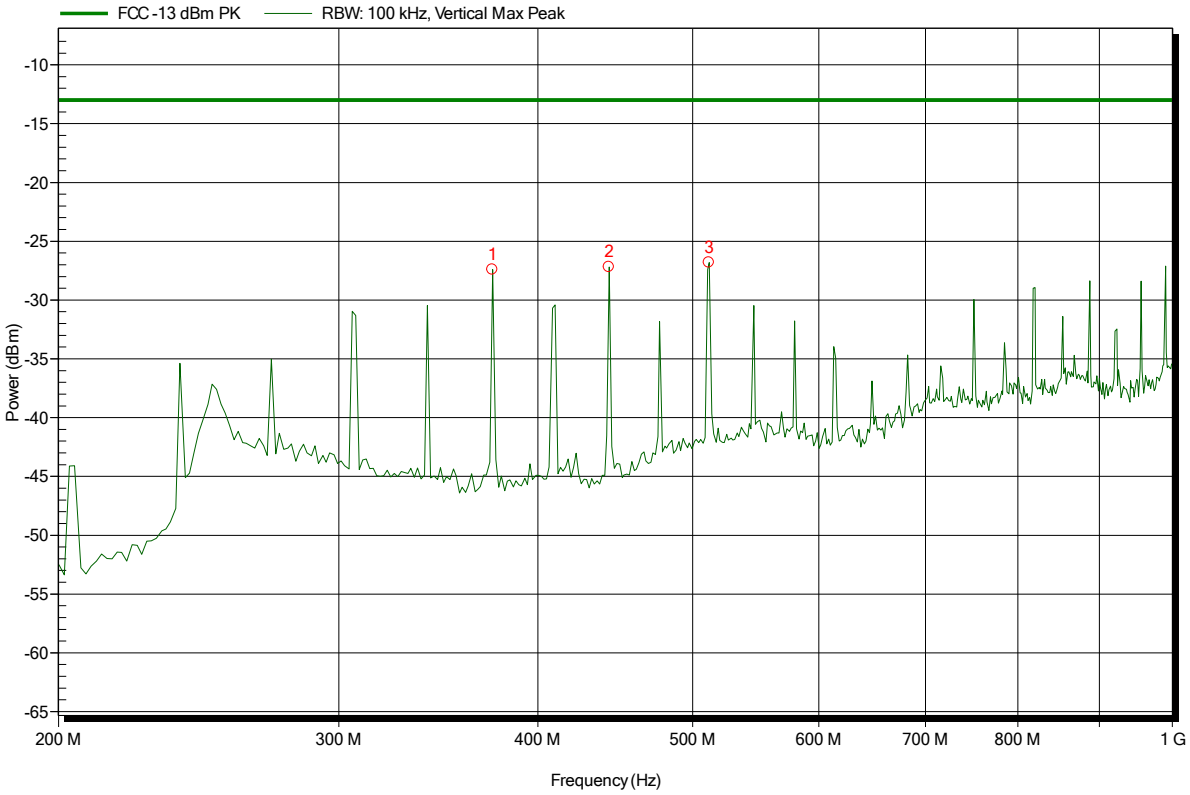

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
374.4 MHz	-27.4 dBm	-13 dBm	-14.42 dB	Pass
443.2 MHz	-27.2 dBm	-13 dBm	-14.19 dB	Pass
512 MHz	-26.8 dBm	-13 dBm	-13.81 dB	Pass

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9537; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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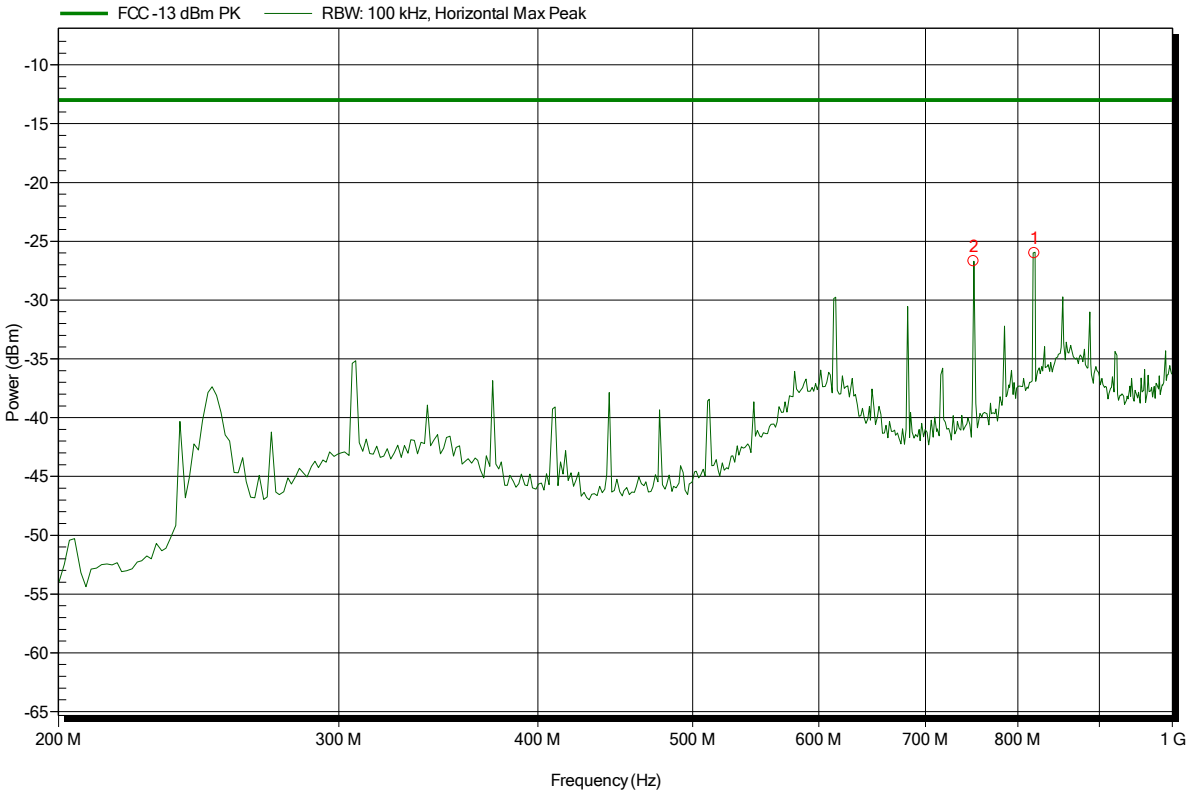

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
750.4 MHz	-26.7 dBm	-13 dBm	-13.7 dB	Pass
819.2 MHz	-26 dBm	-13 dBm	-13.01 dB	Pass

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9263; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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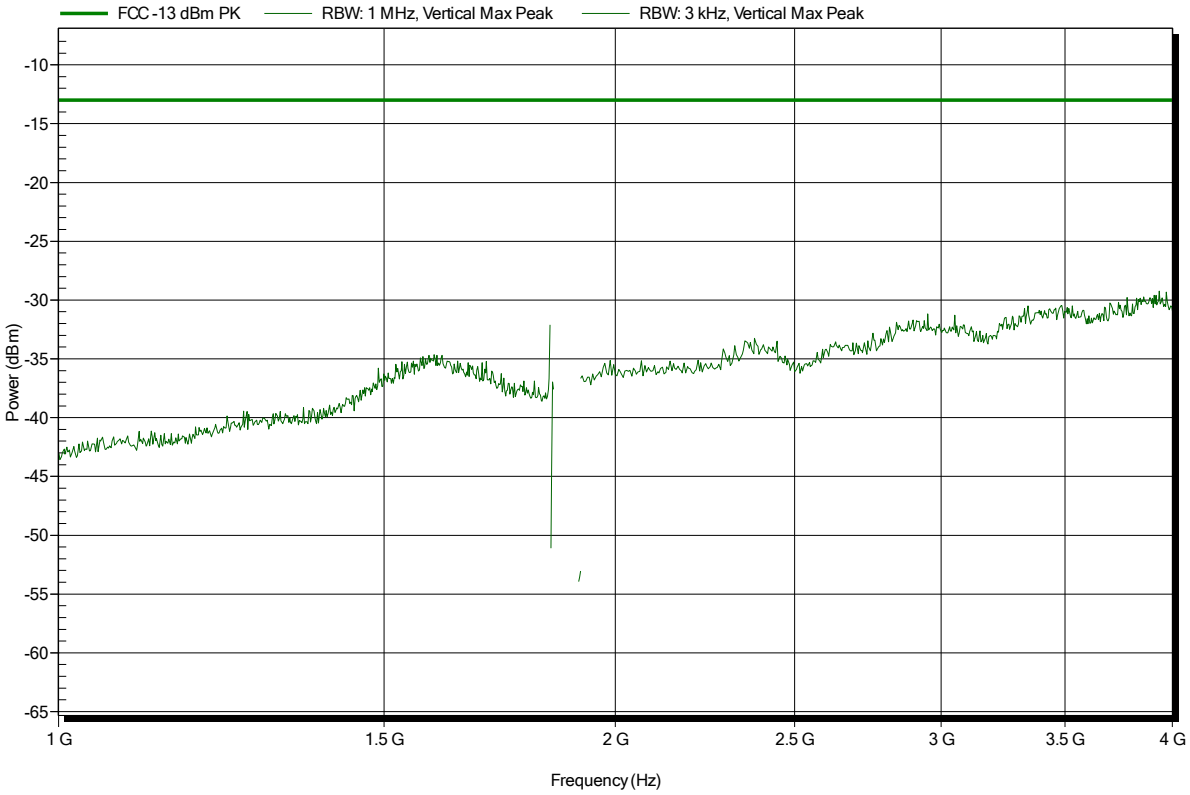

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9263; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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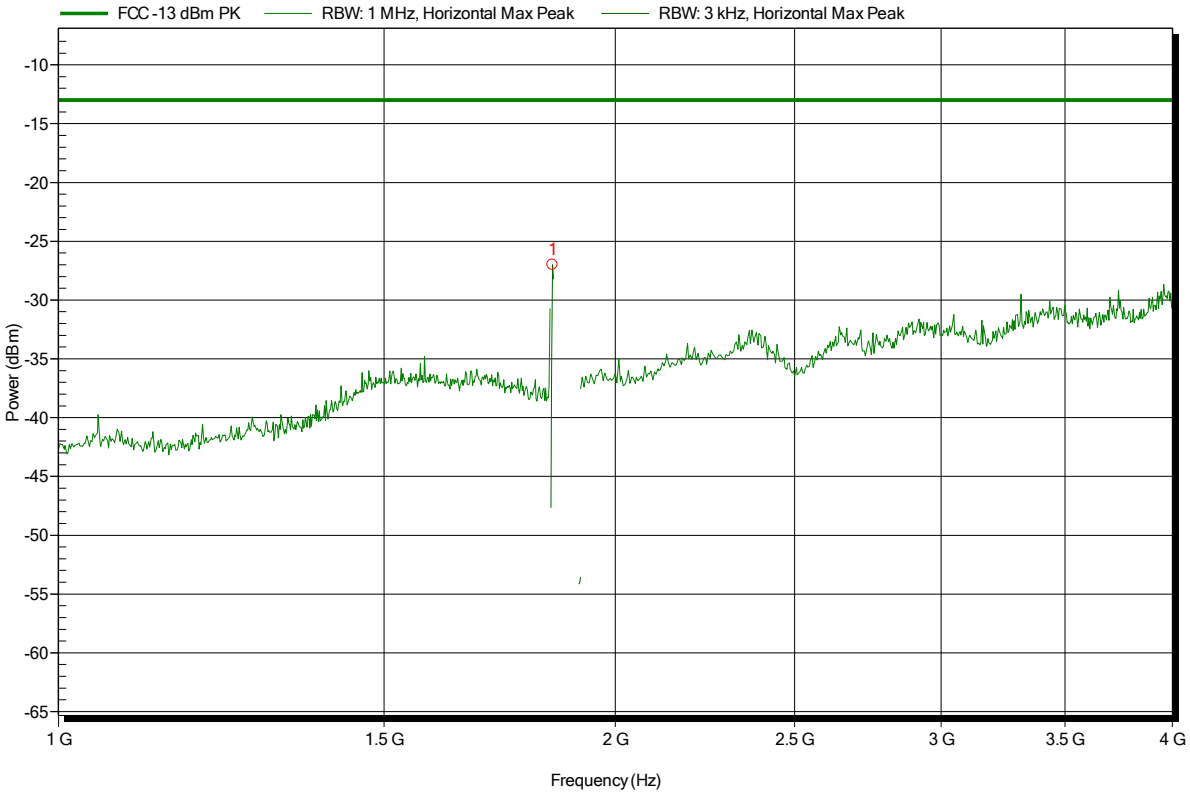

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.85 GHz	-27 dBm	-13 dBm	-14 dB	Pass

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9263; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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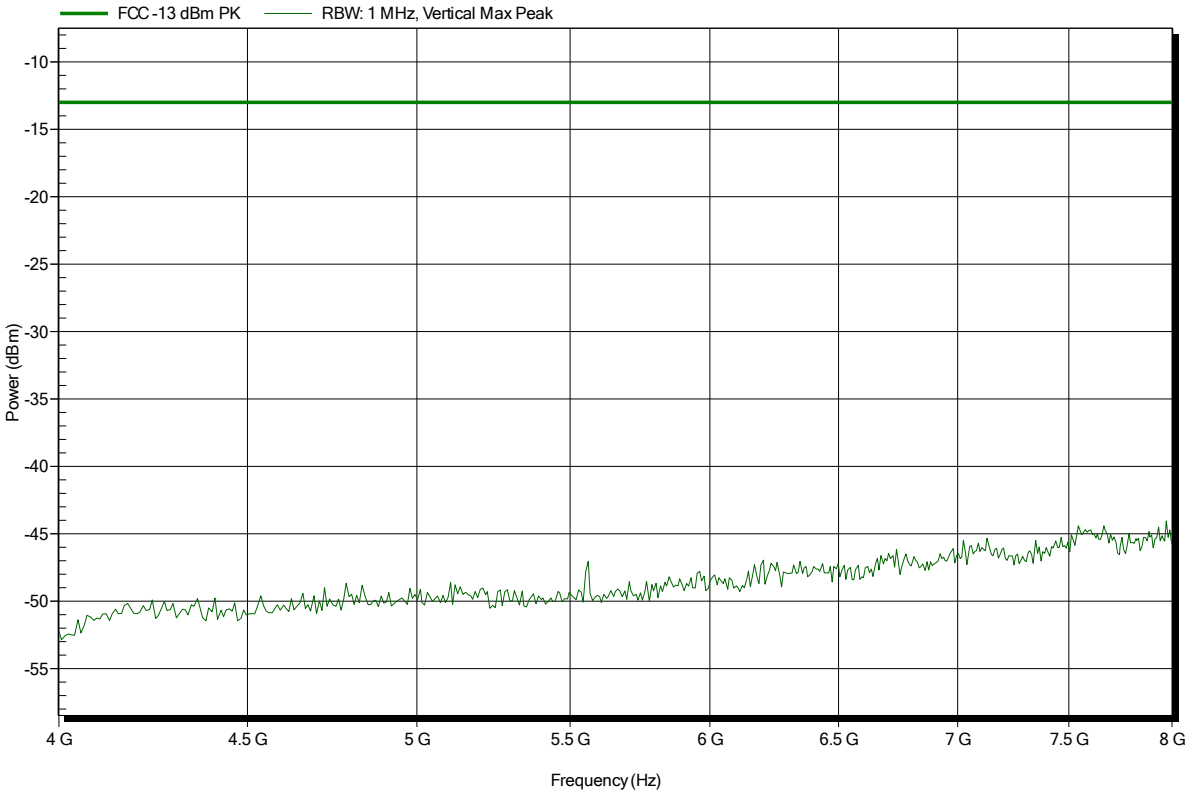

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9263; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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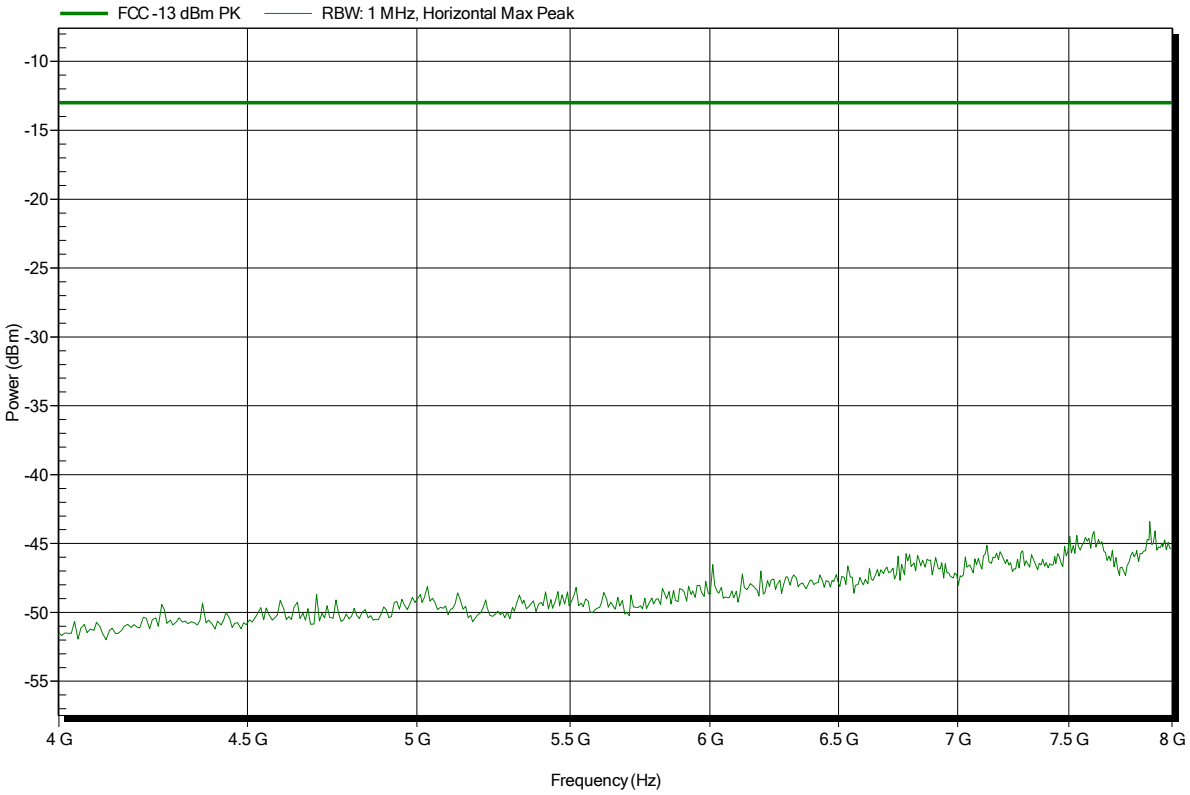

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9263; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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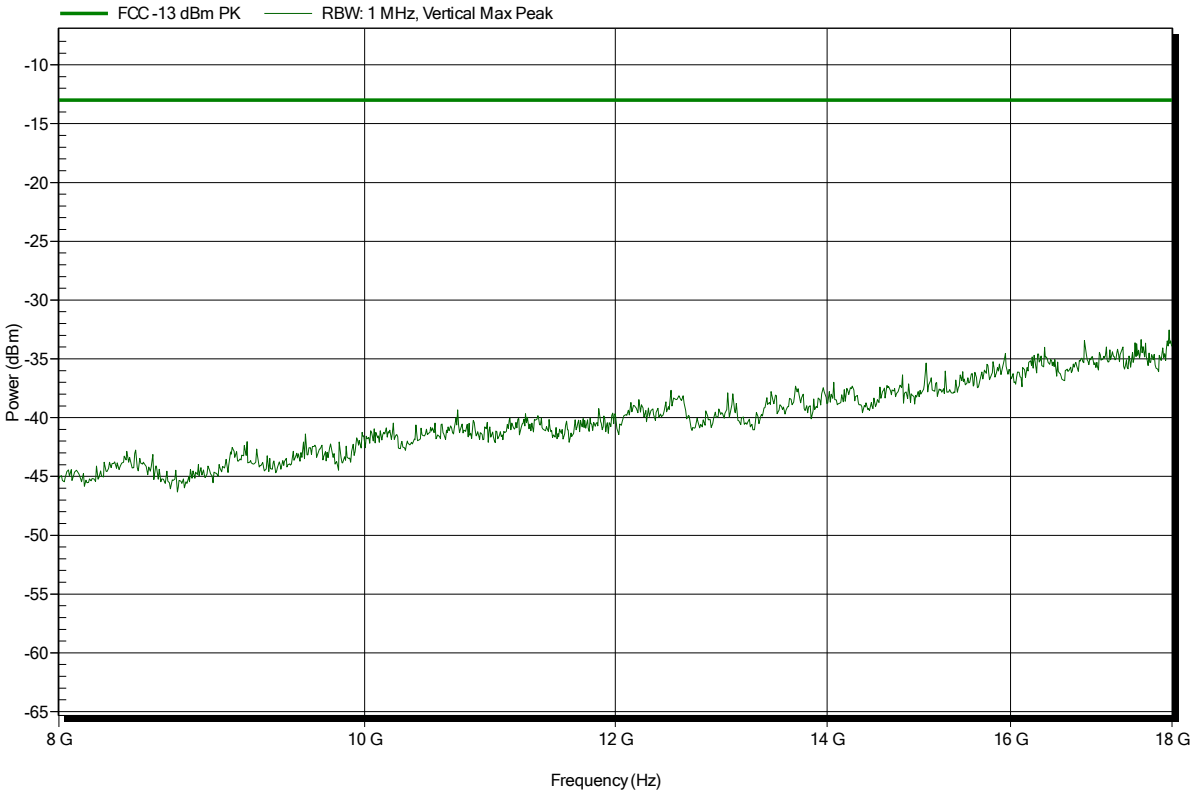

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9263; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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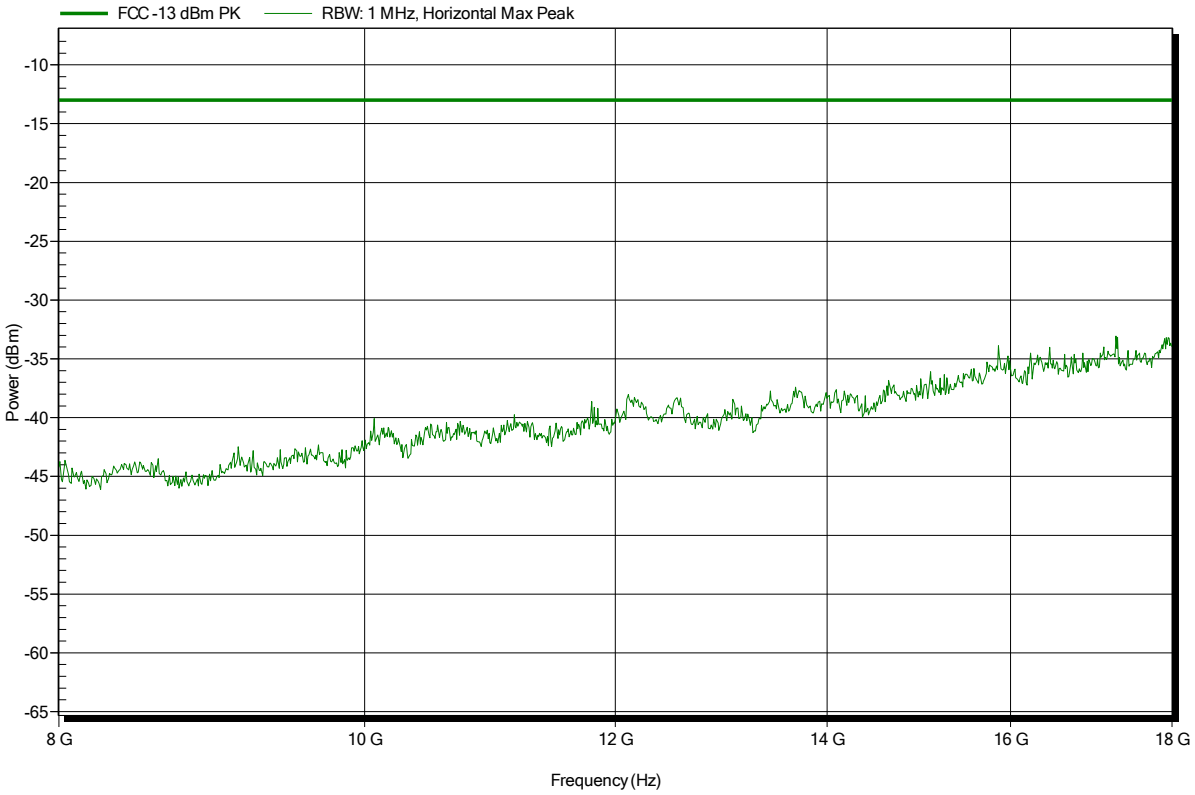

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9263; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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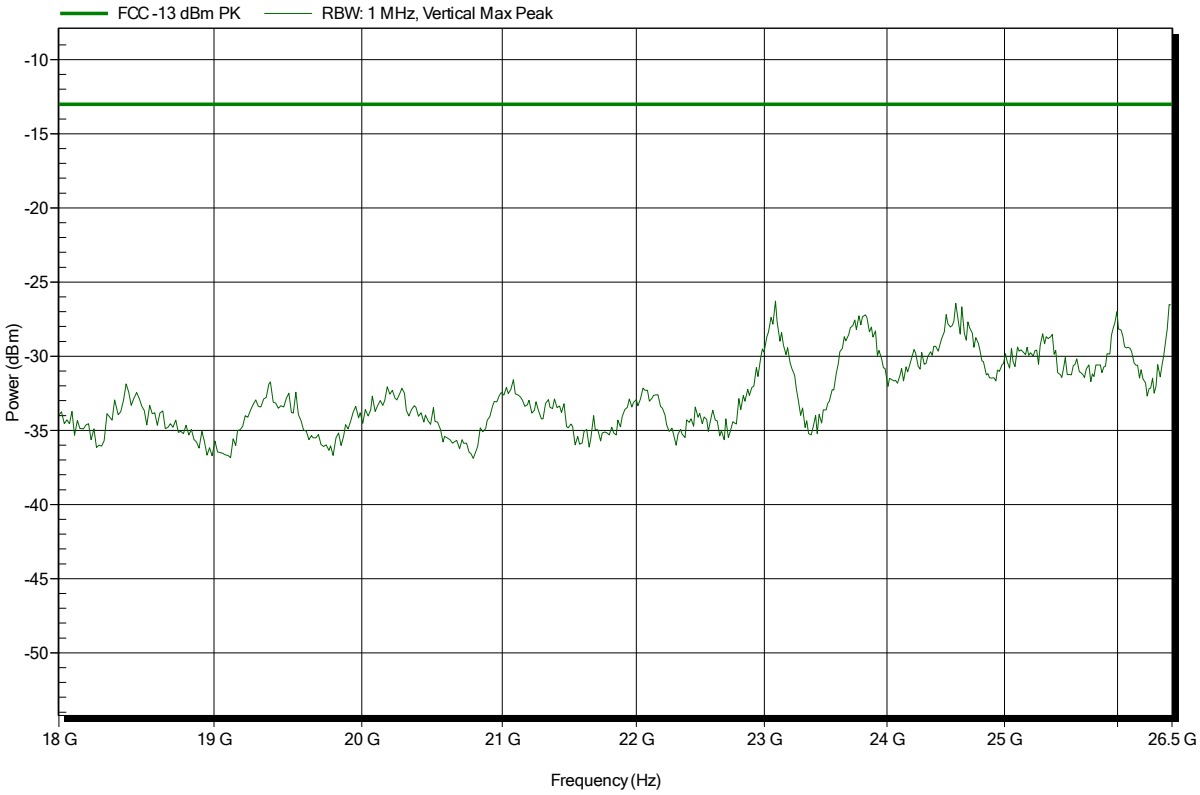

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9263; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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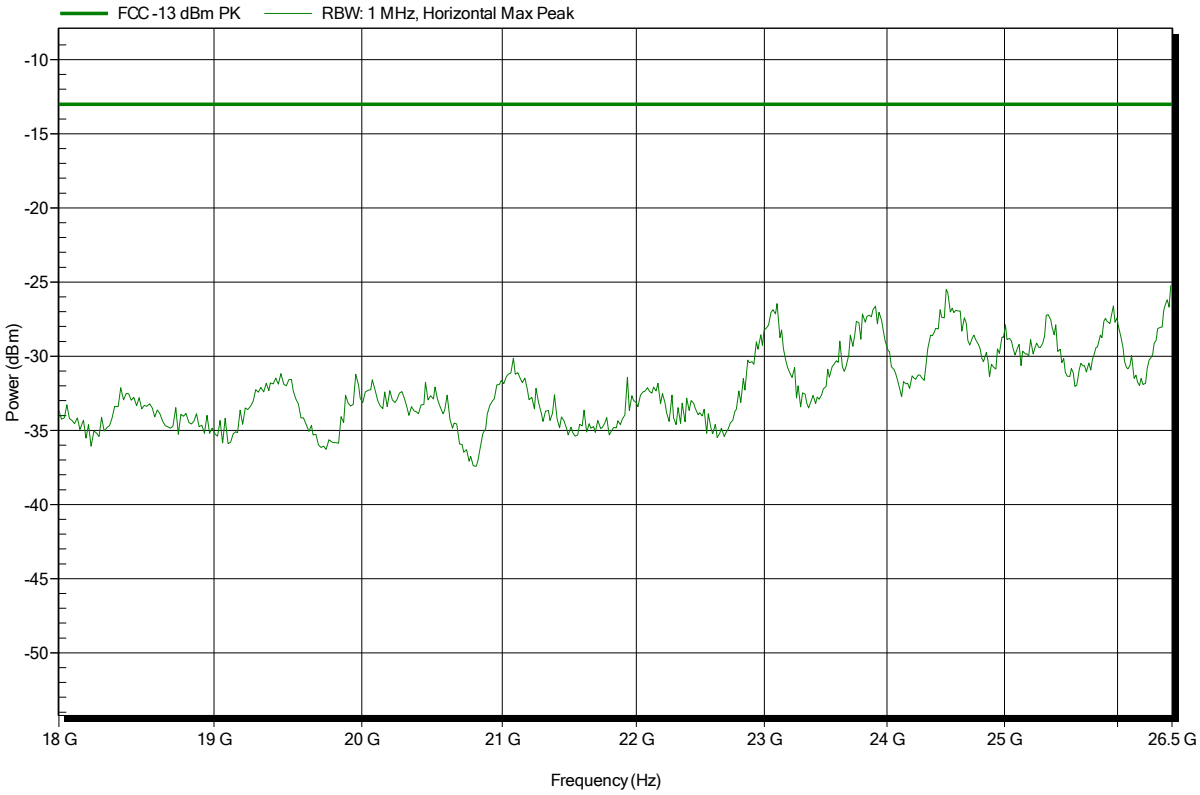

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9400; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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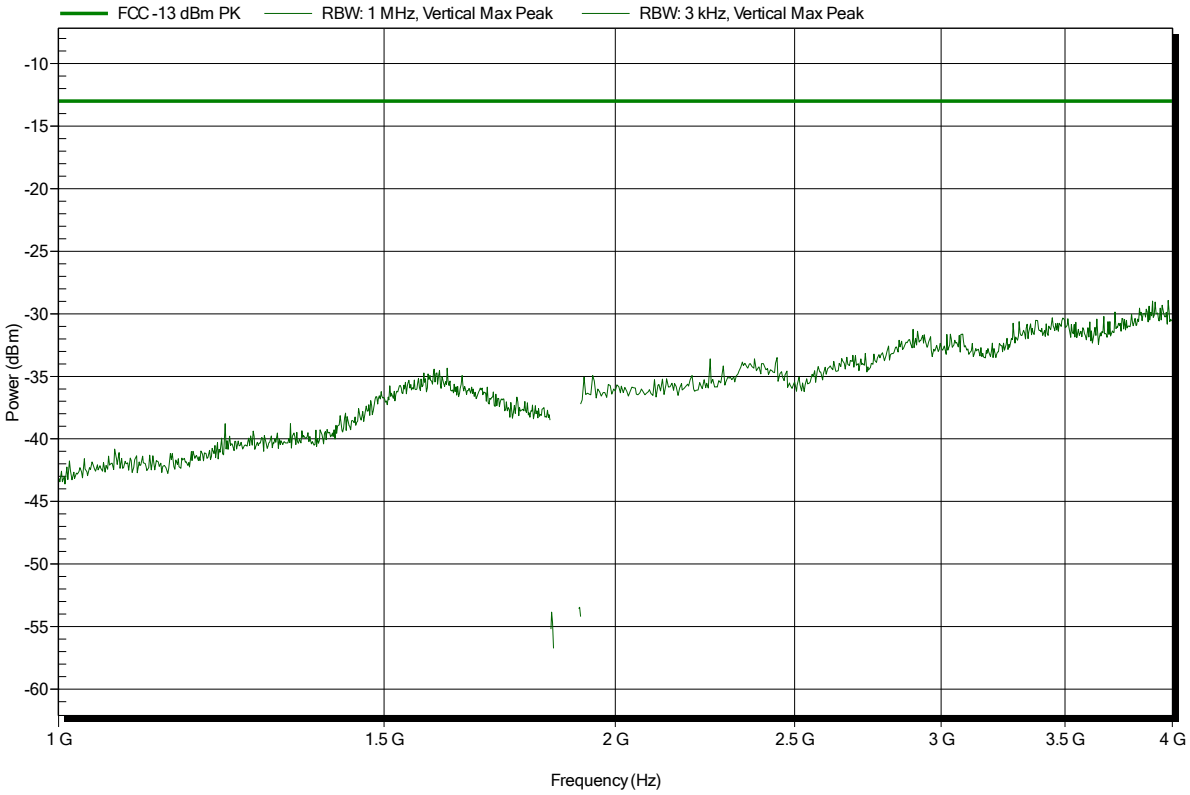

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9400; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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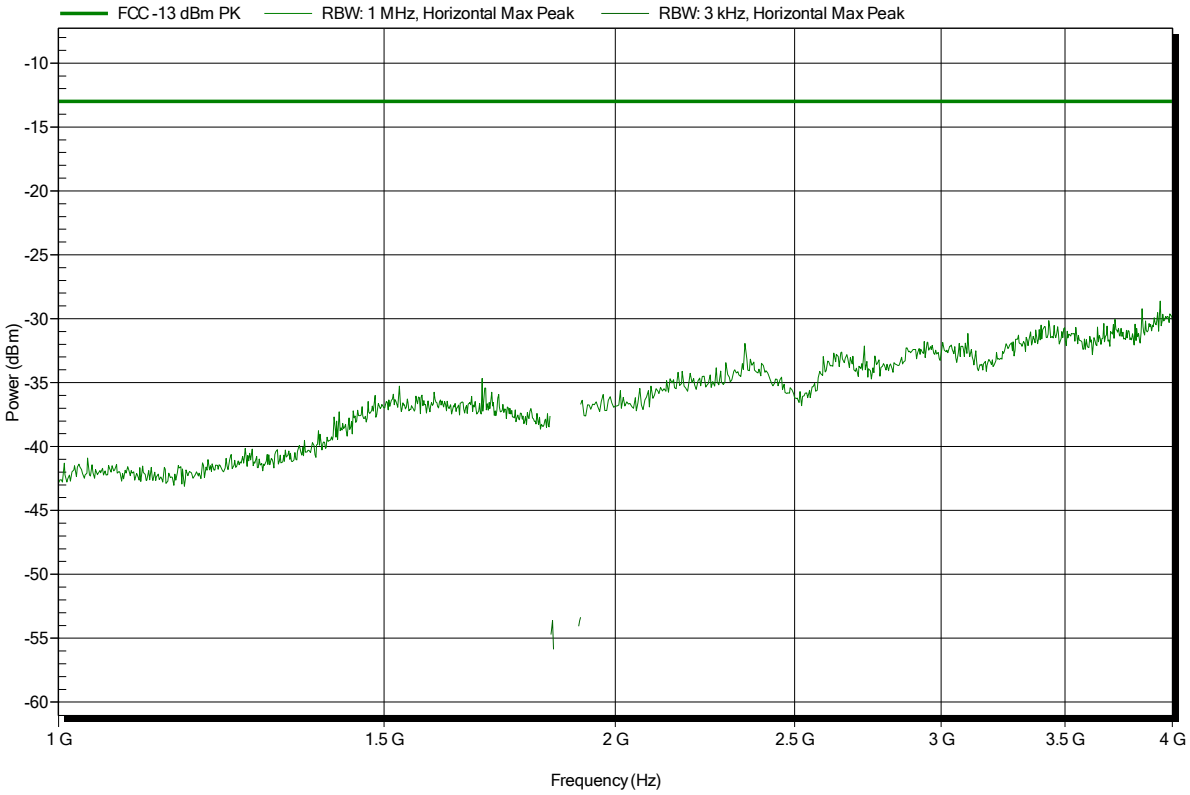
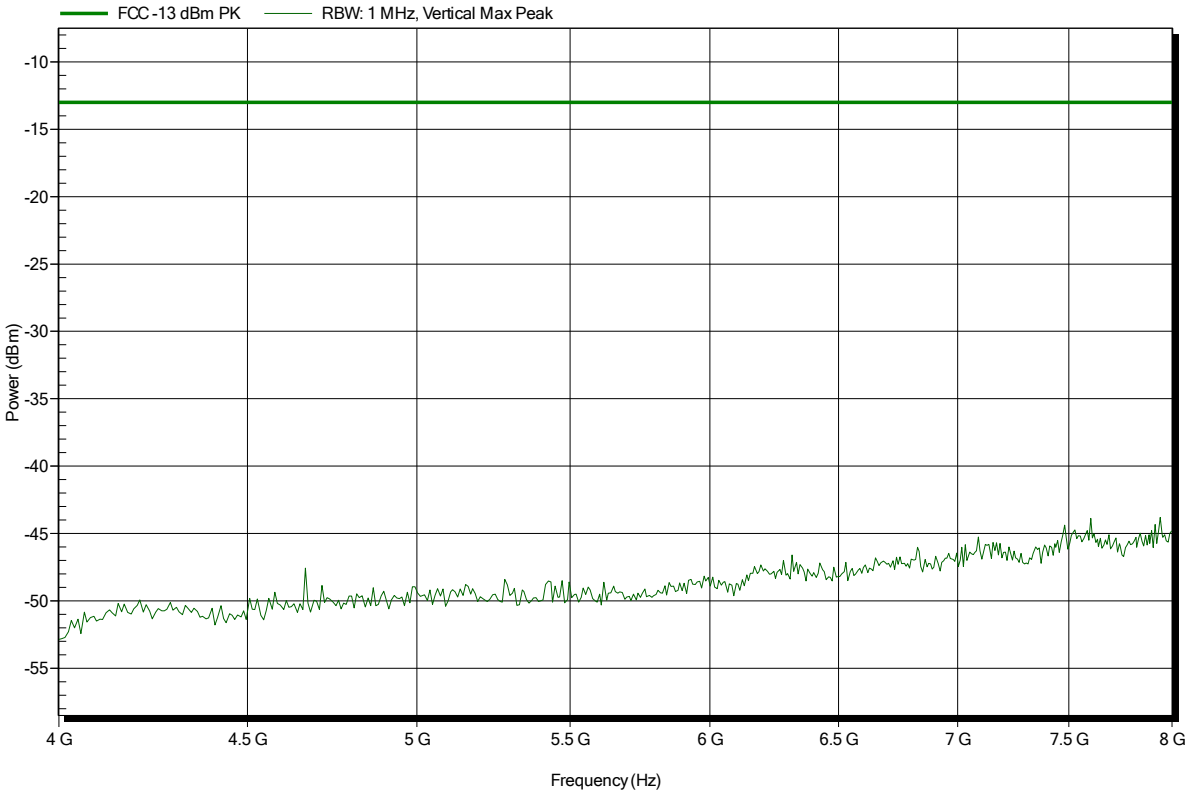


Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9400; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

Index 27



Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9400; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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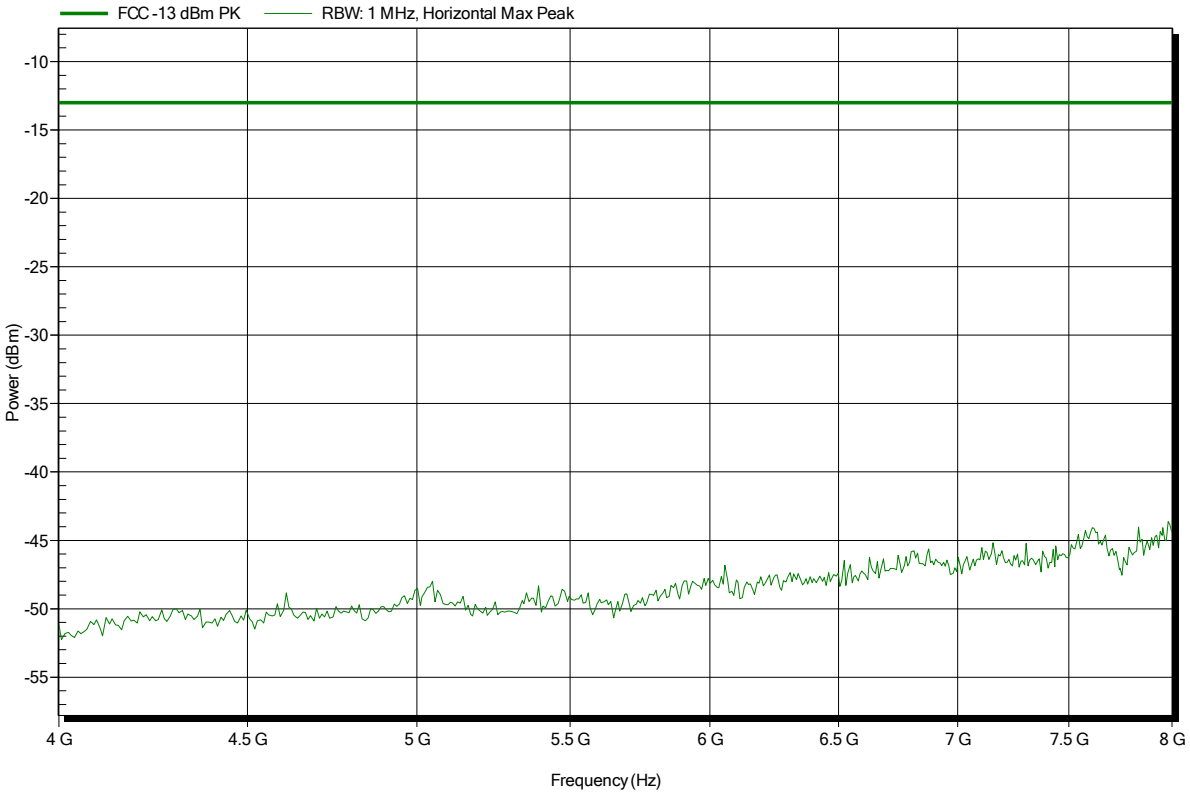

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9400; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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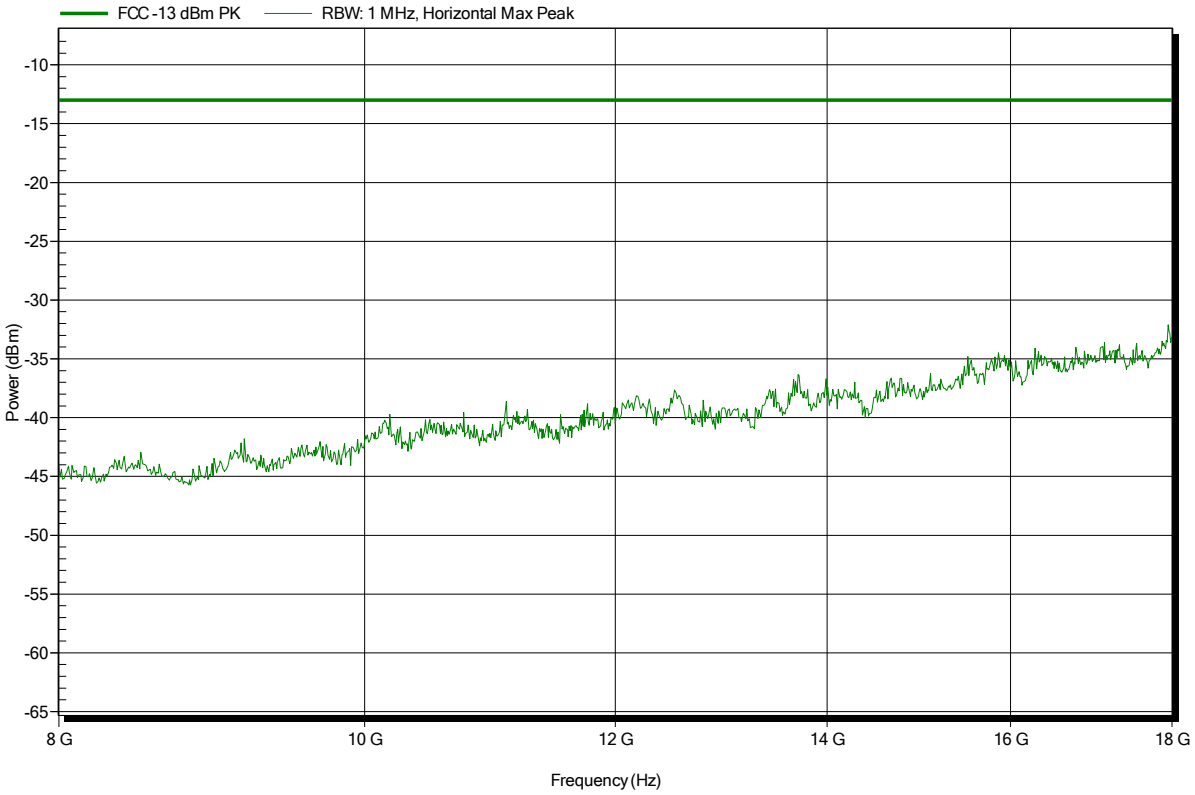
Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9400; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

Index 23



Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9400; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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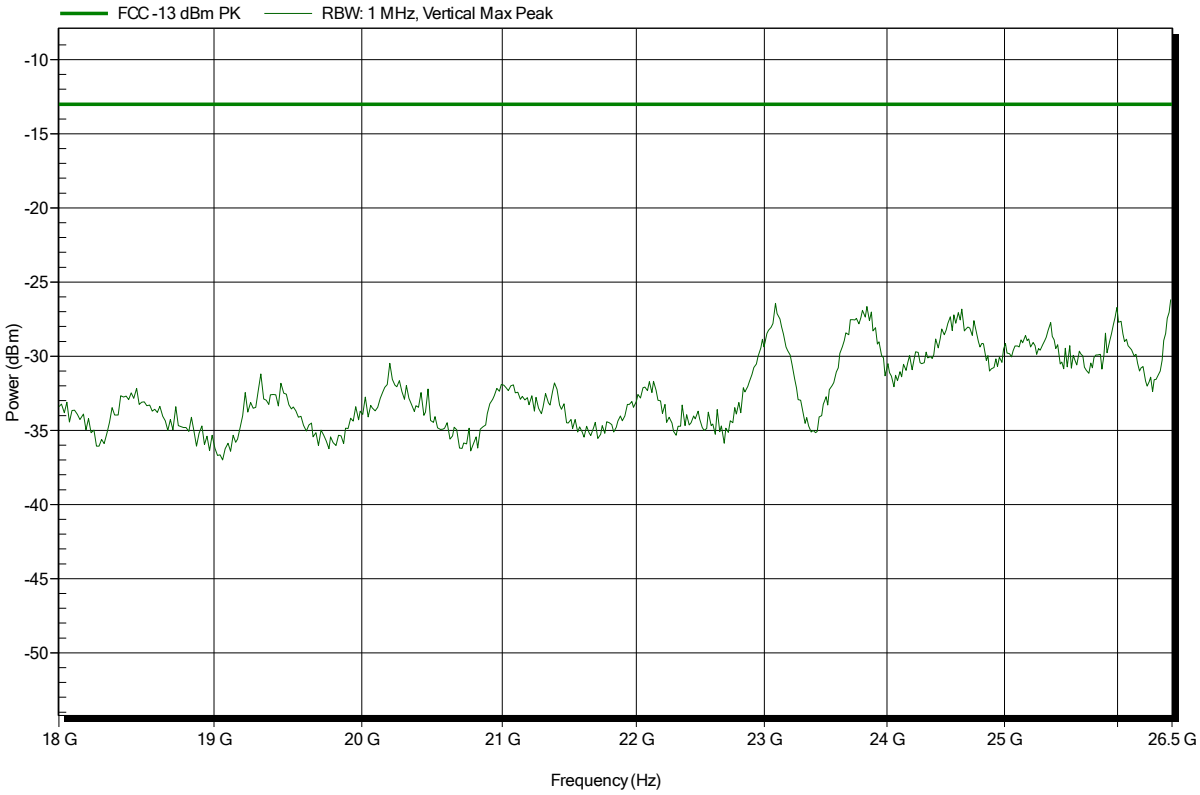

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9400; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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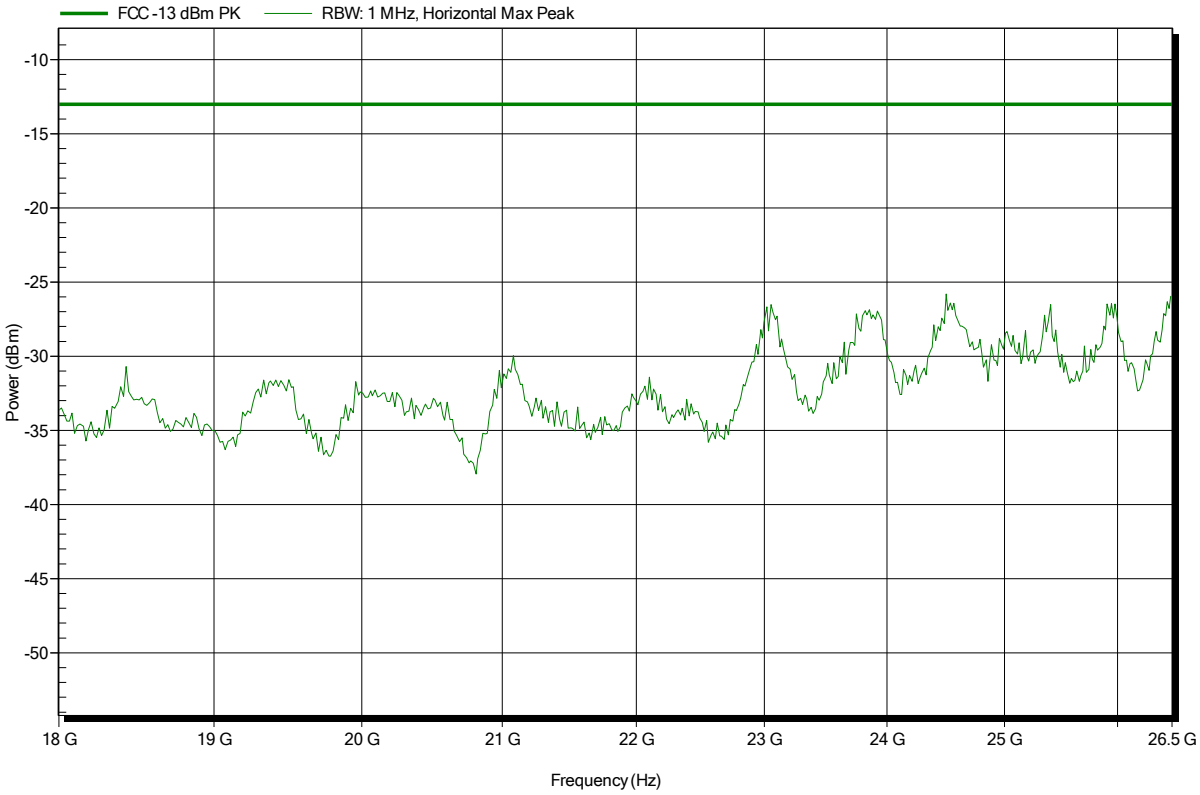

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9537; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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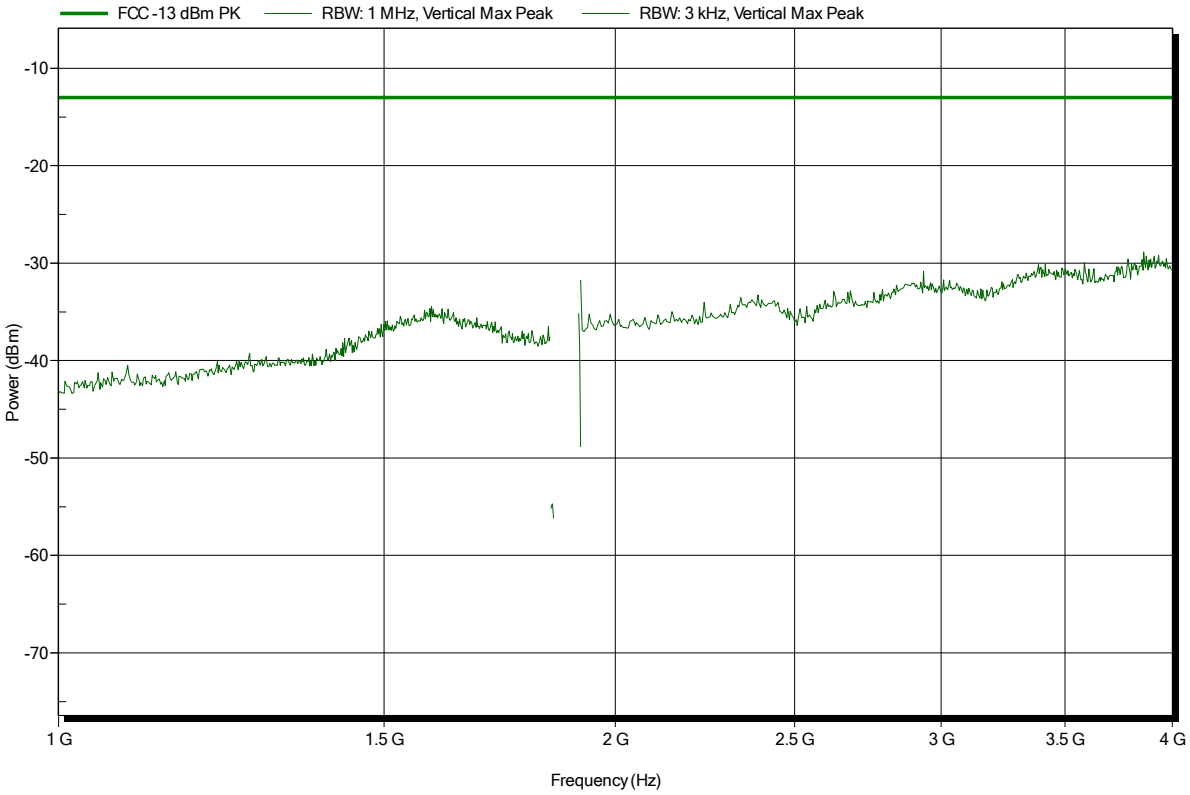

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9537; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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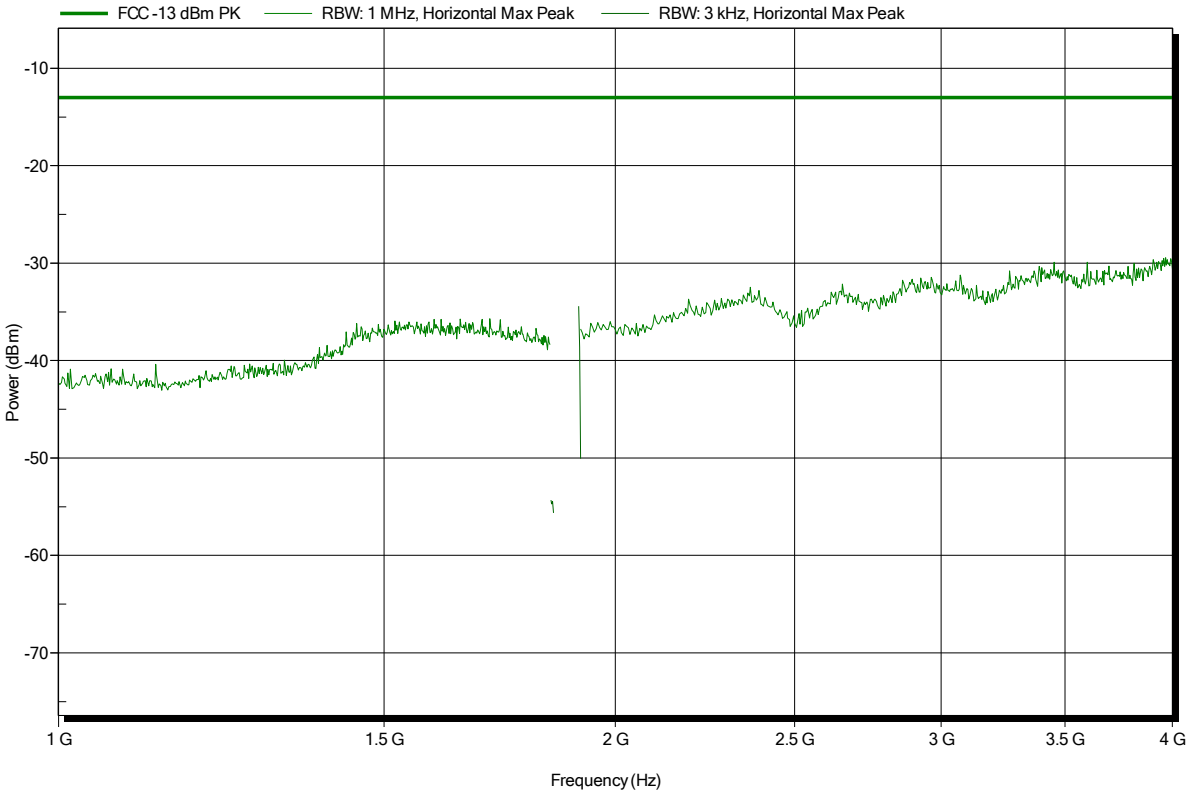

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9537; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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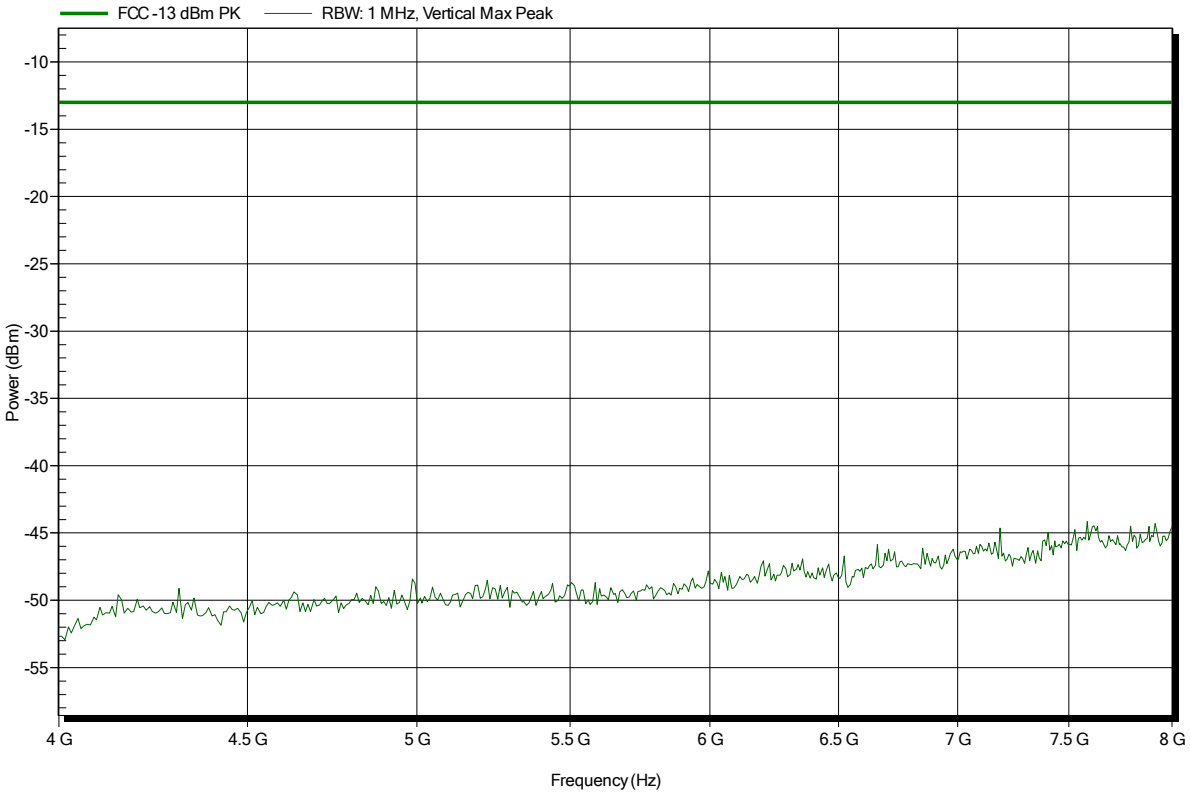

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9537; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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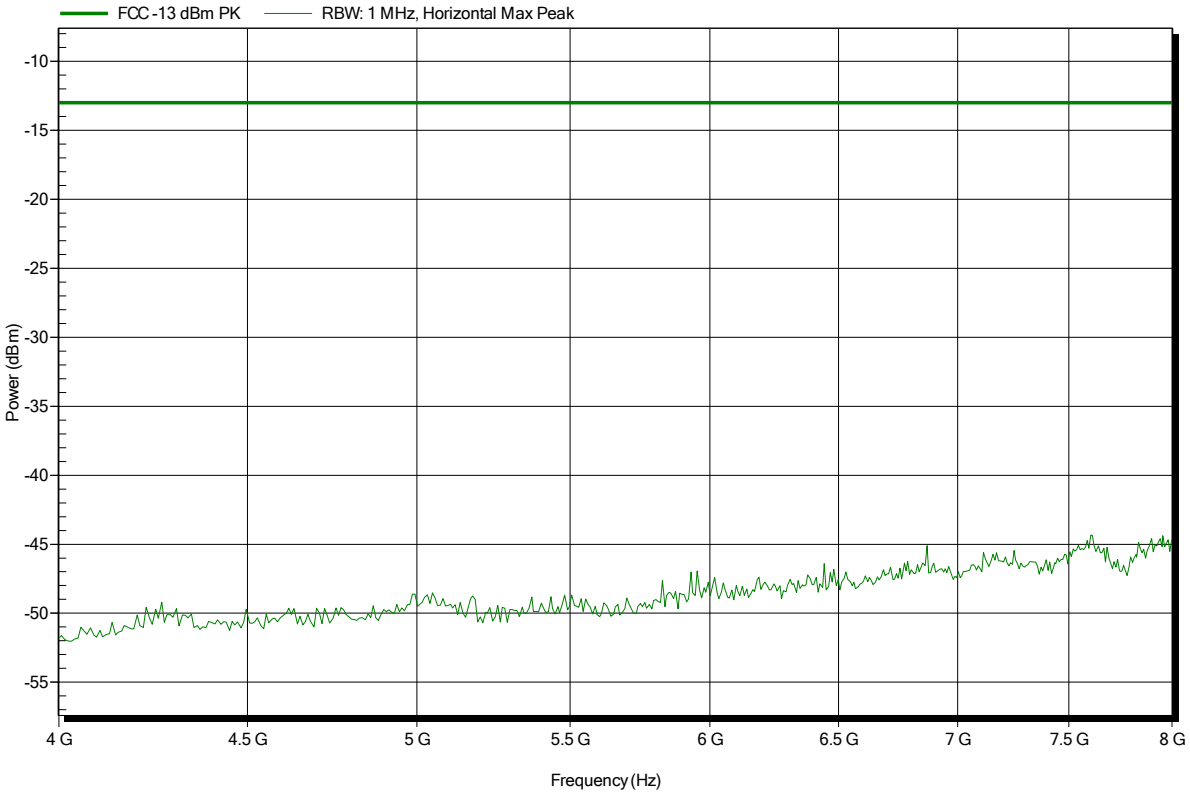

Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9537; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9537; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

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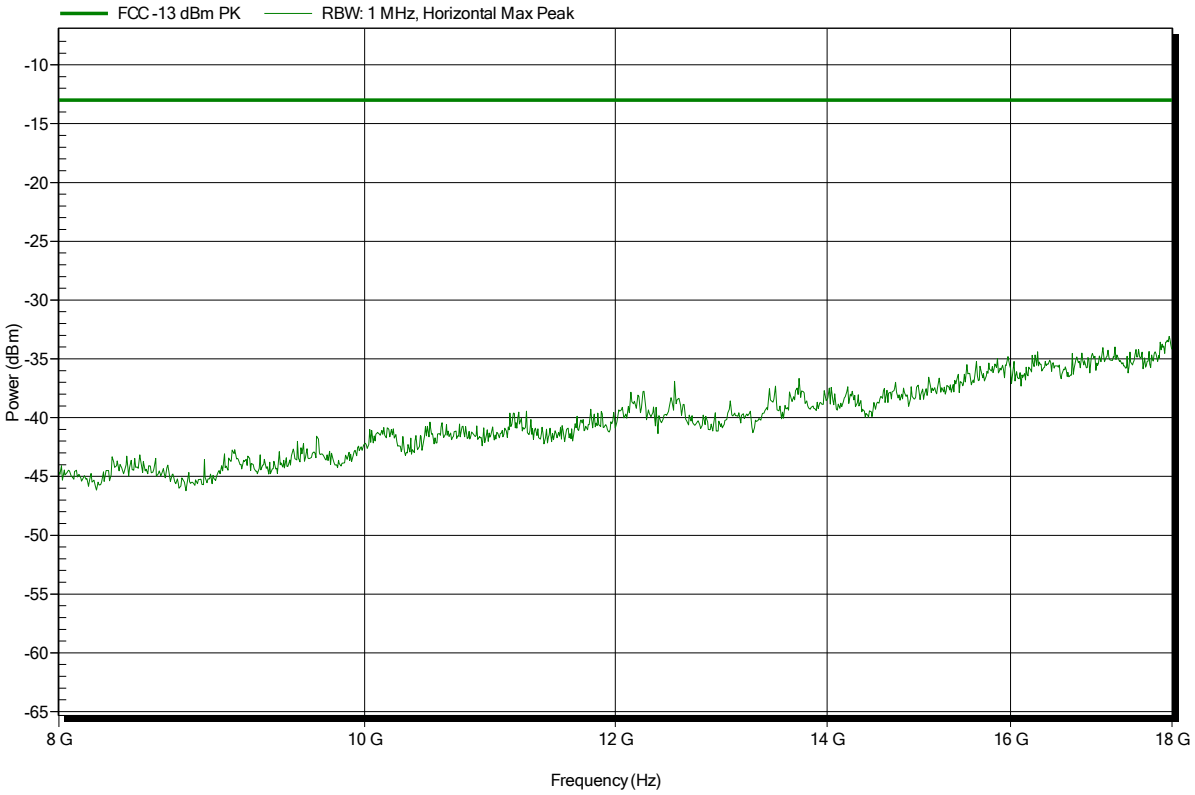
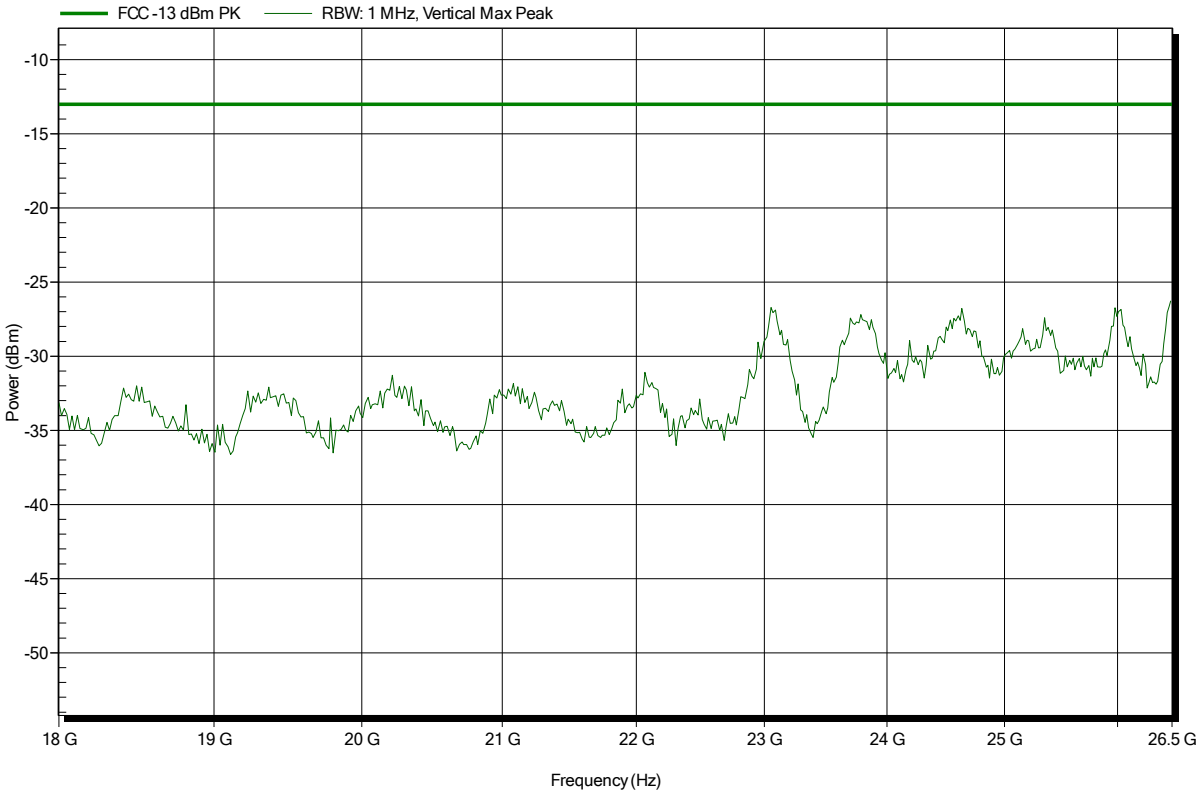


Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9537; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

Index 32

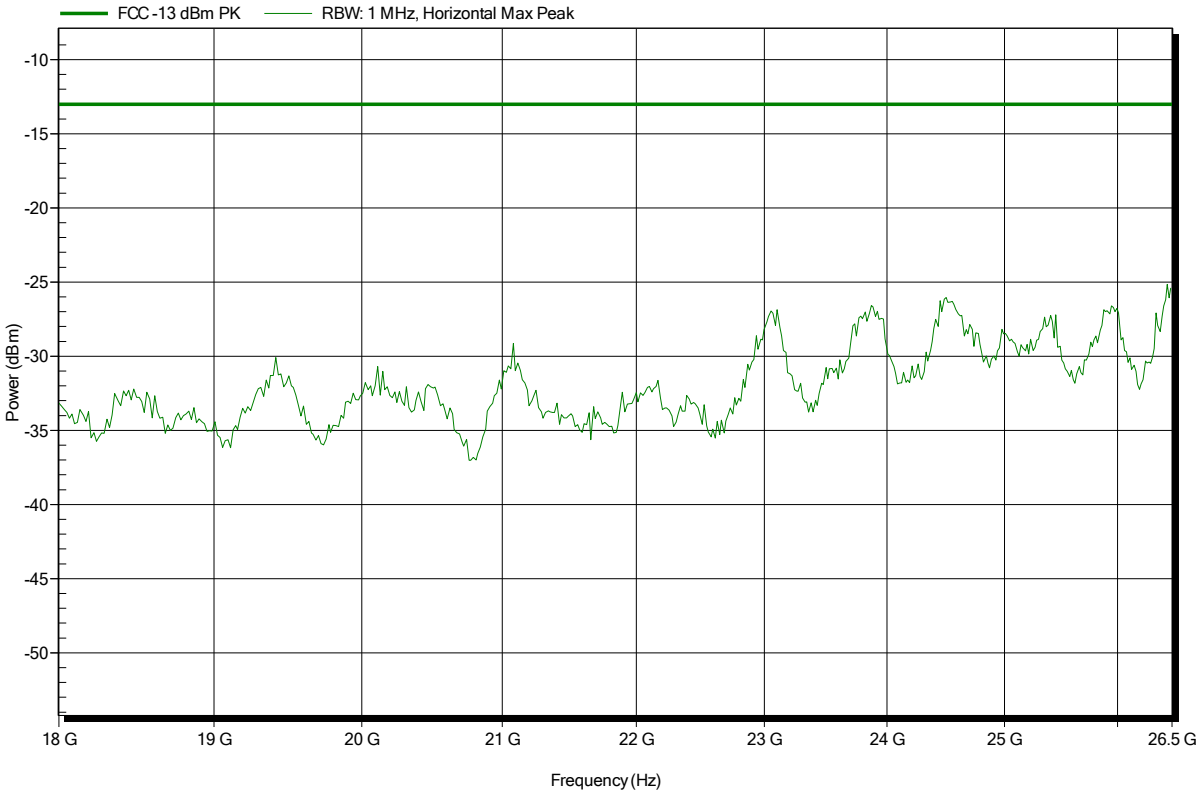


Spurious emissions according to FCC part 24 Subpart E, IC RSS-133

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD II; CH: 9537; HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

Index 33

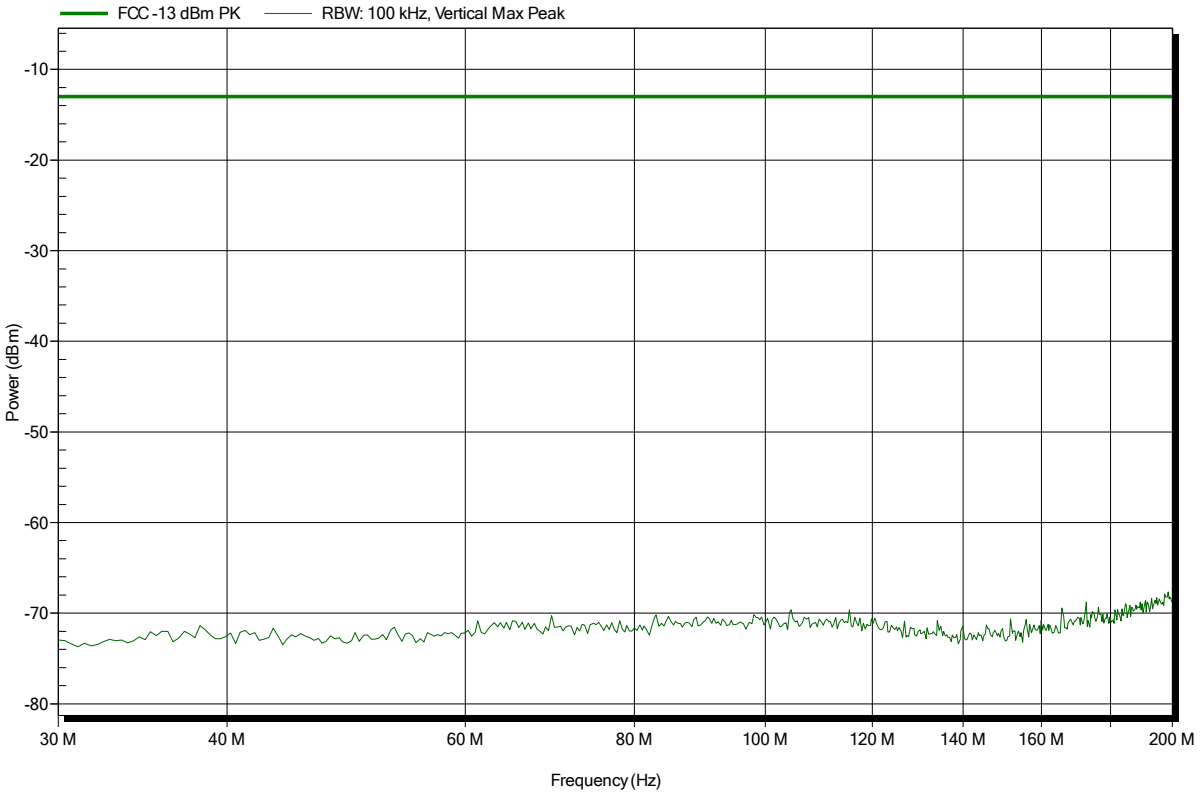


Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4133, HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

Index 6

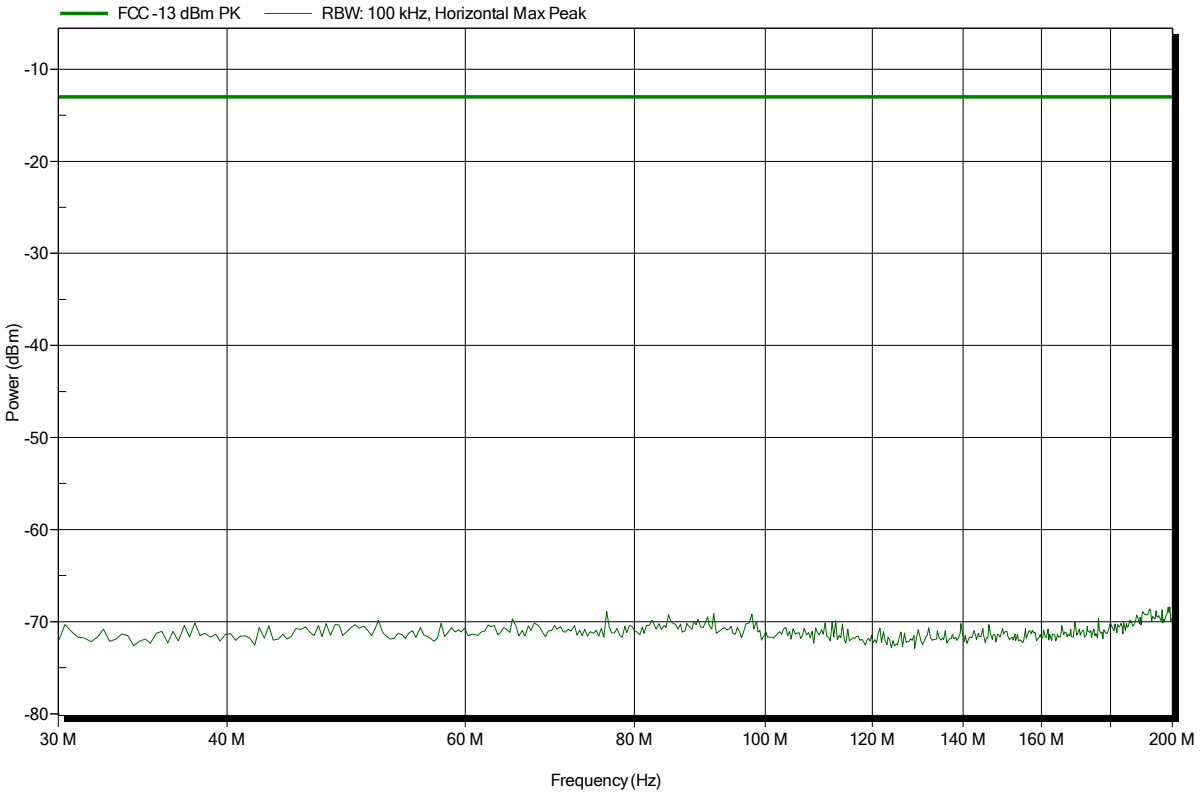


Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4133, HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

Index 1

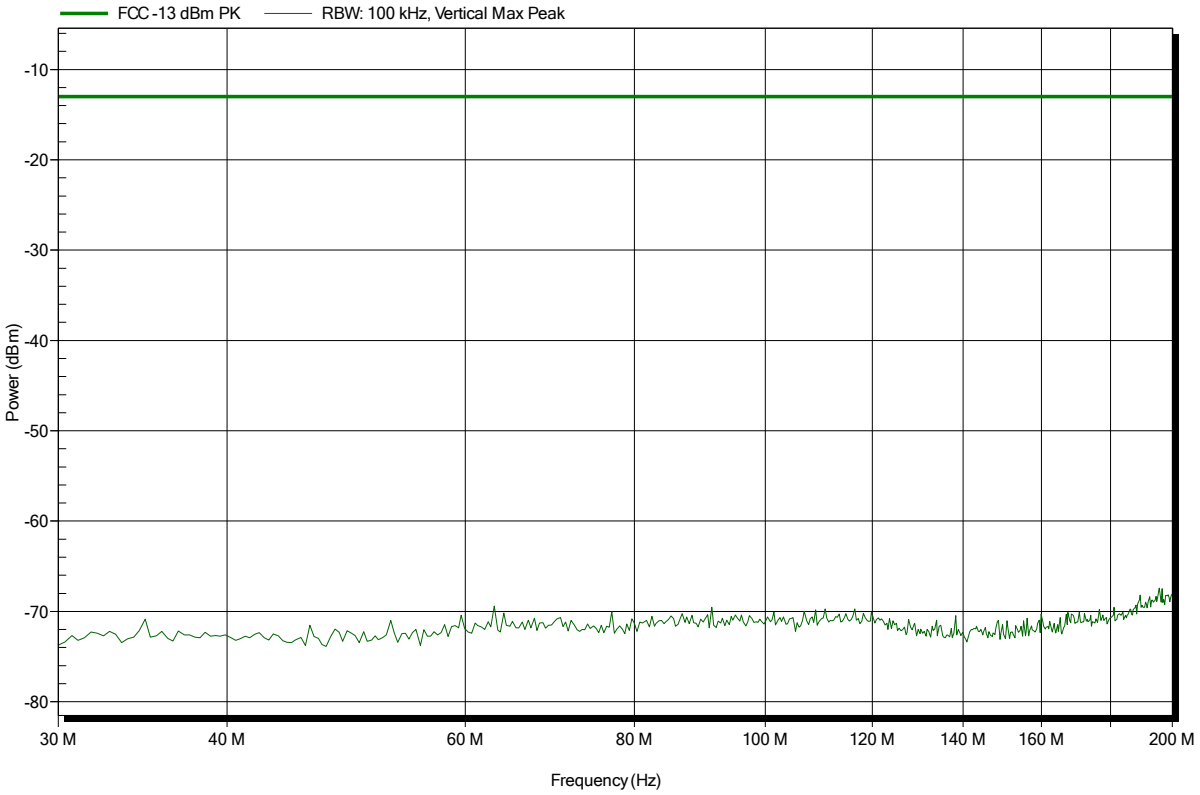


Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4175, HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

Index 5

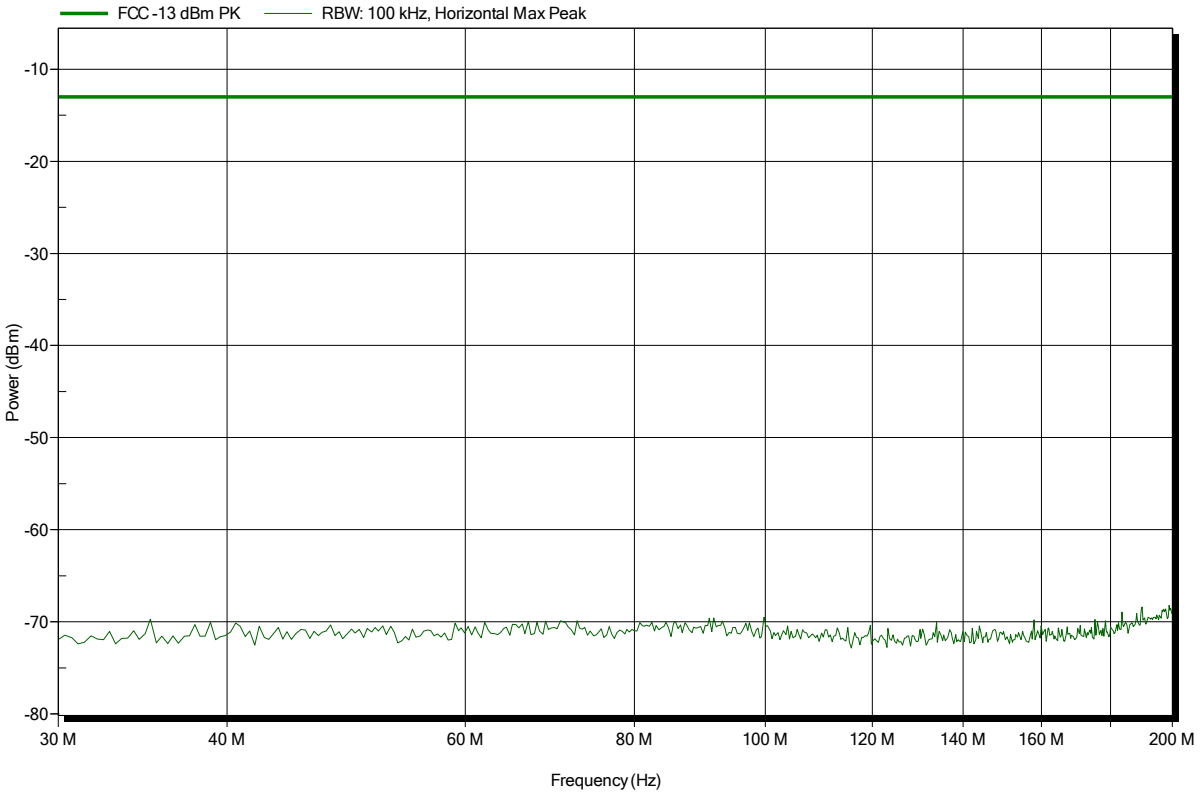


Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4175, HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

Index 2

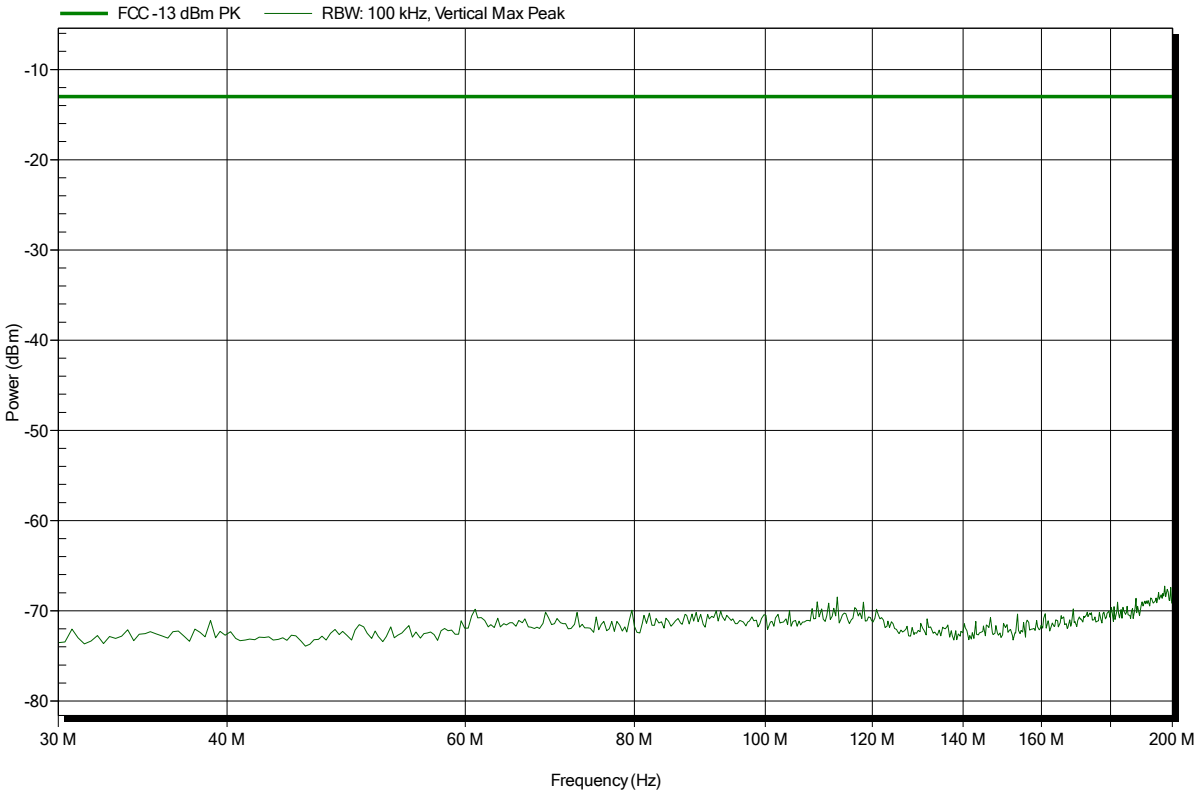


Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4232, HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

Index 4

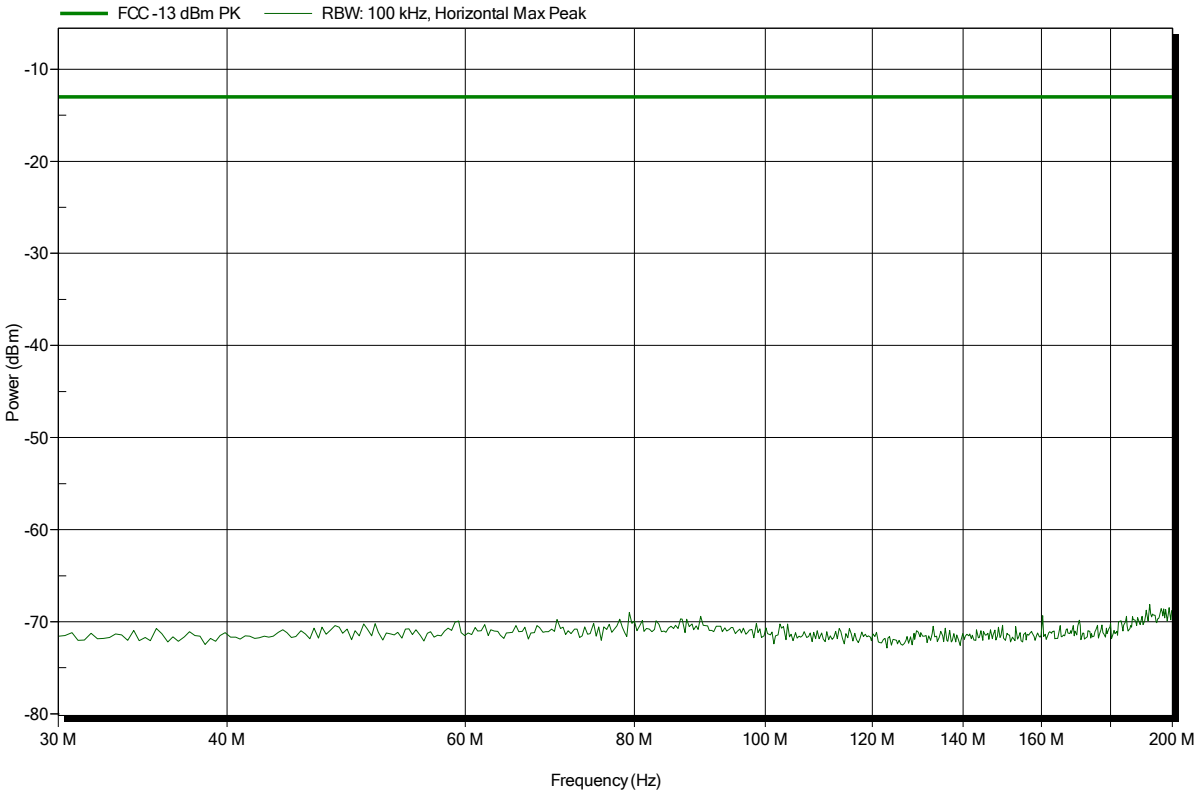


Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4232, HSUPA / HSDPA
Test Date:	2014-11-20
Note:	EUT vertical

Index 3



Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4133, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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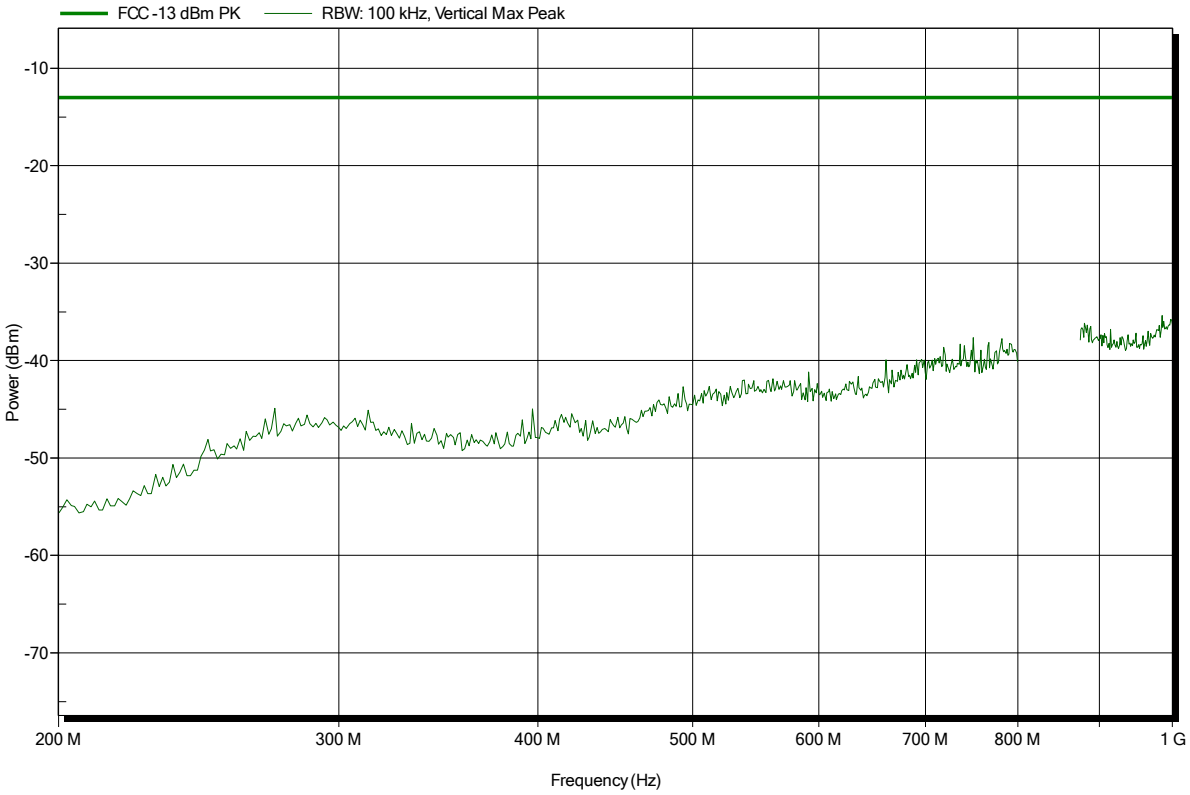

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4133, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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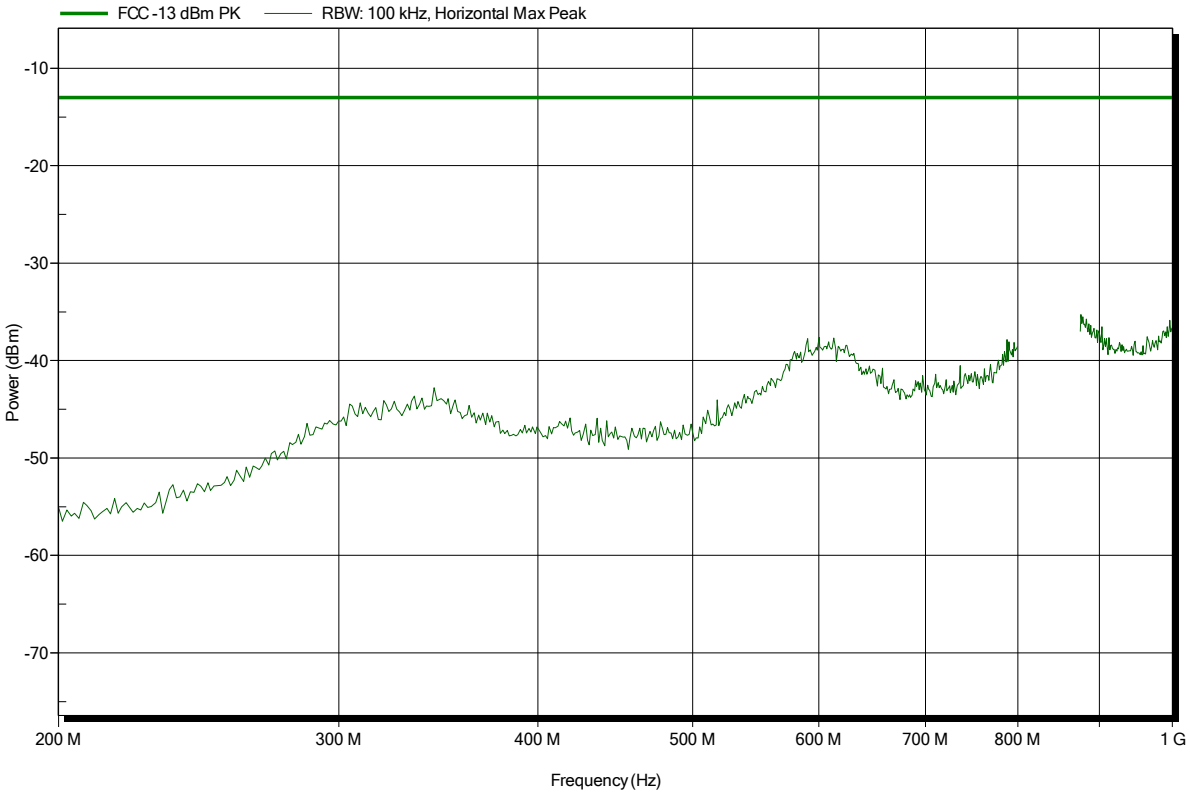

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4133, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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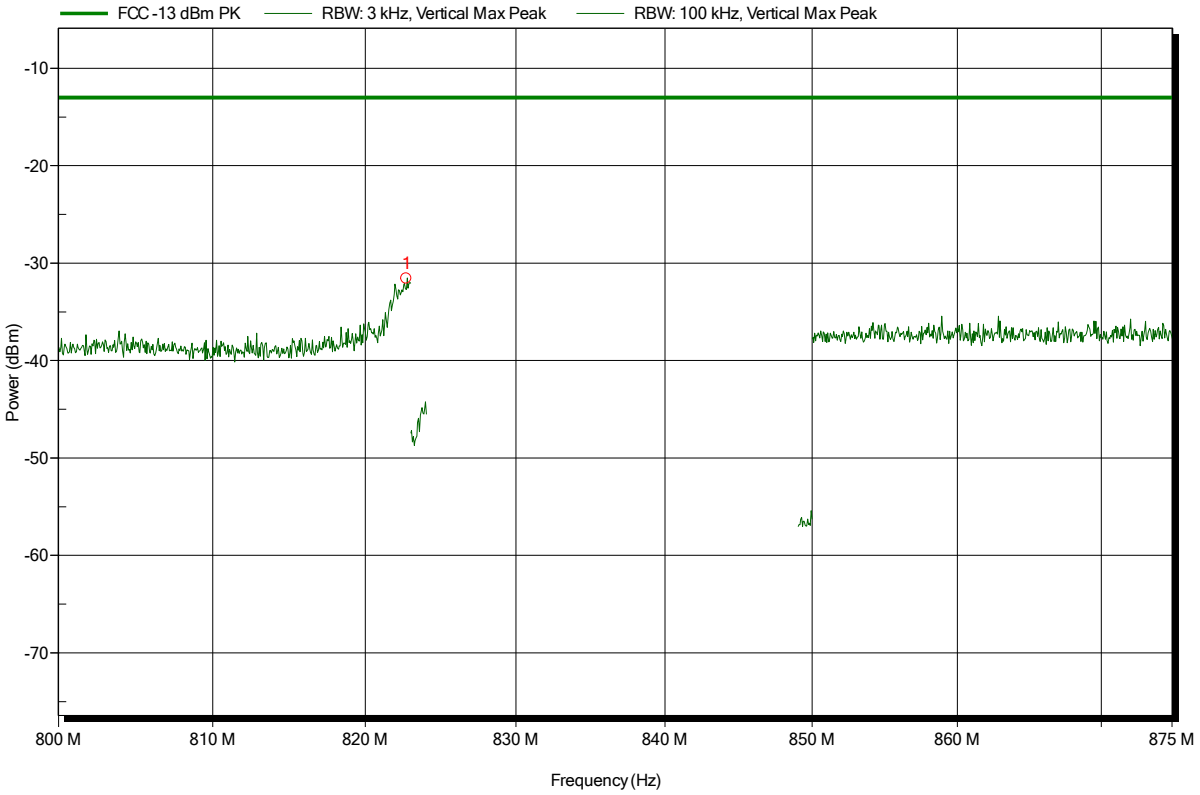

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
822.724 MHz	-31.6 dBm	-13 dBm	-18.57 dB	Pass

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4133, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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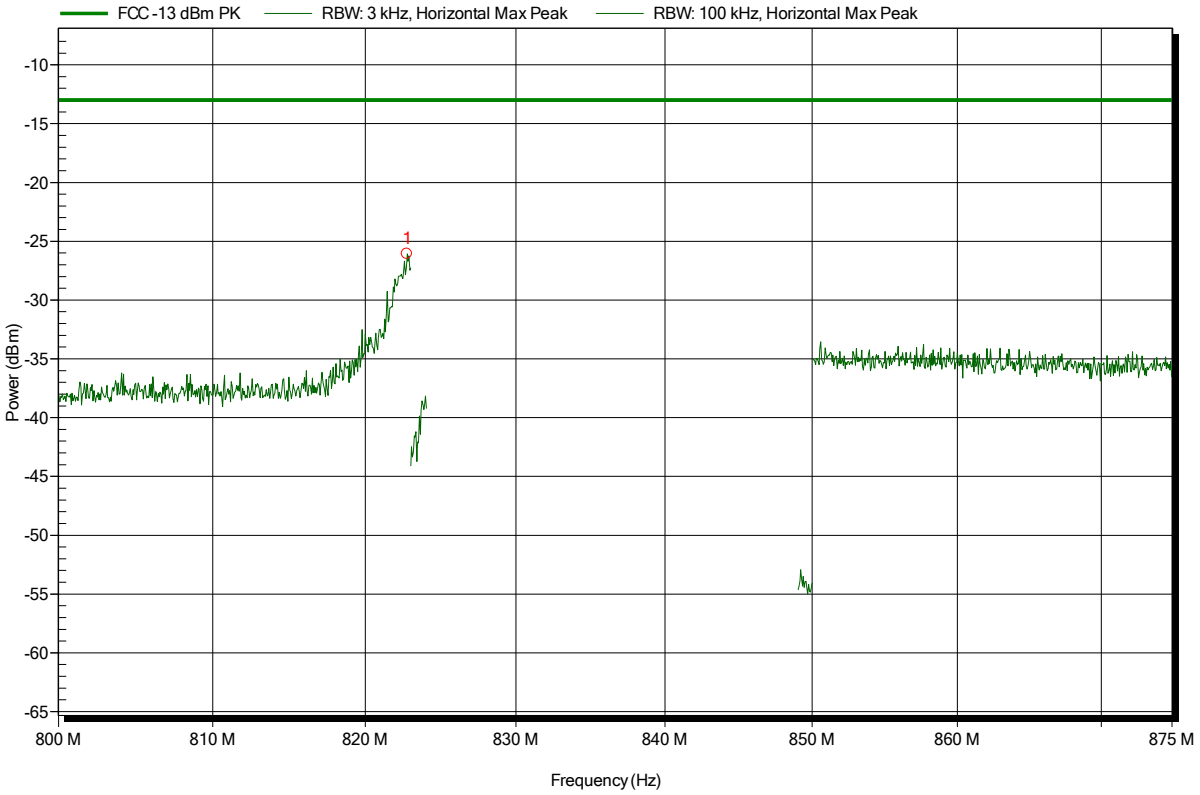

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
822.77 MHz	-26.1 dBm	-13 dBm	-13.08 dB	Pass

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4175, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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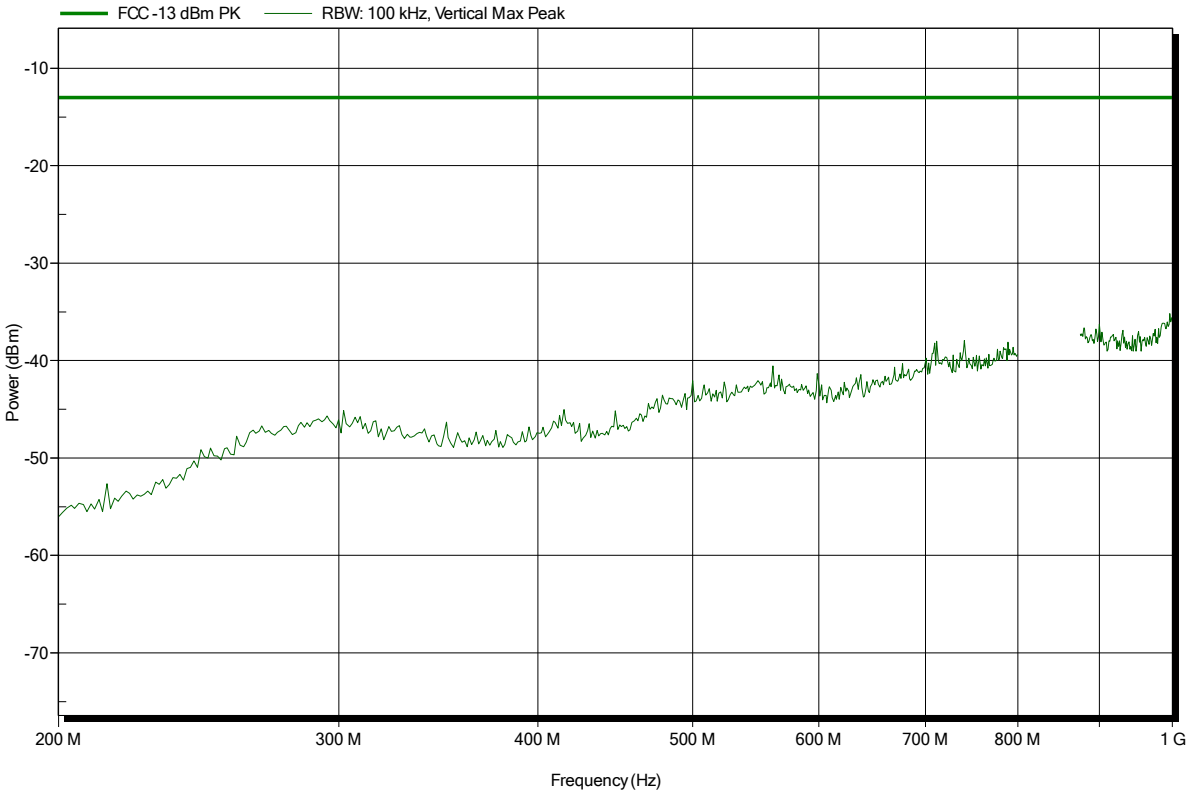

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4175, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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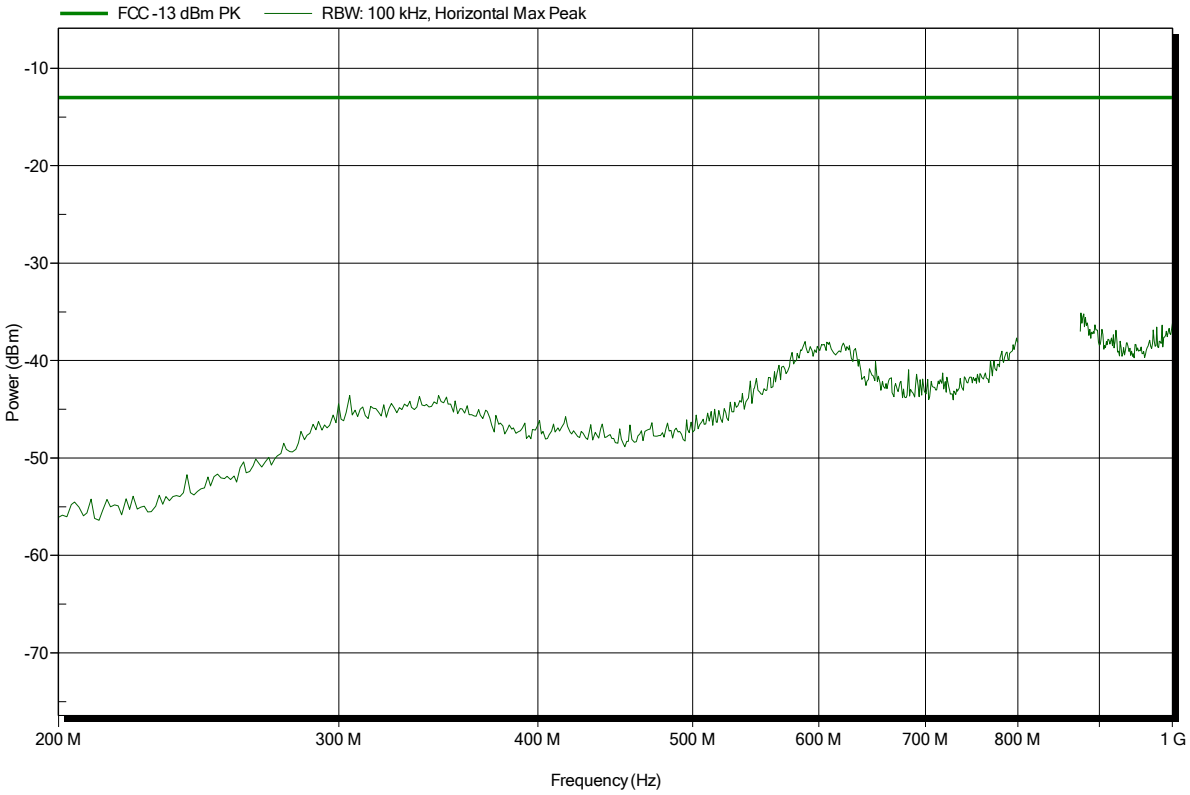

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4175, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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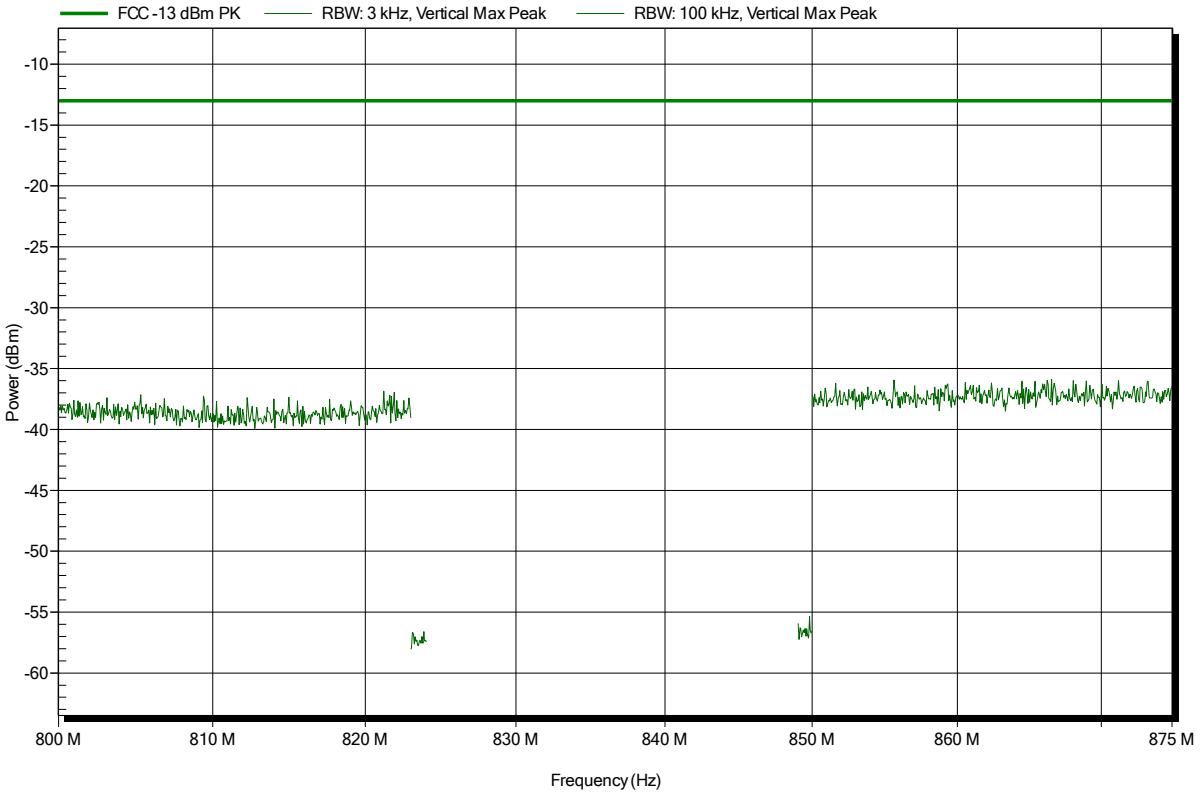

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4175, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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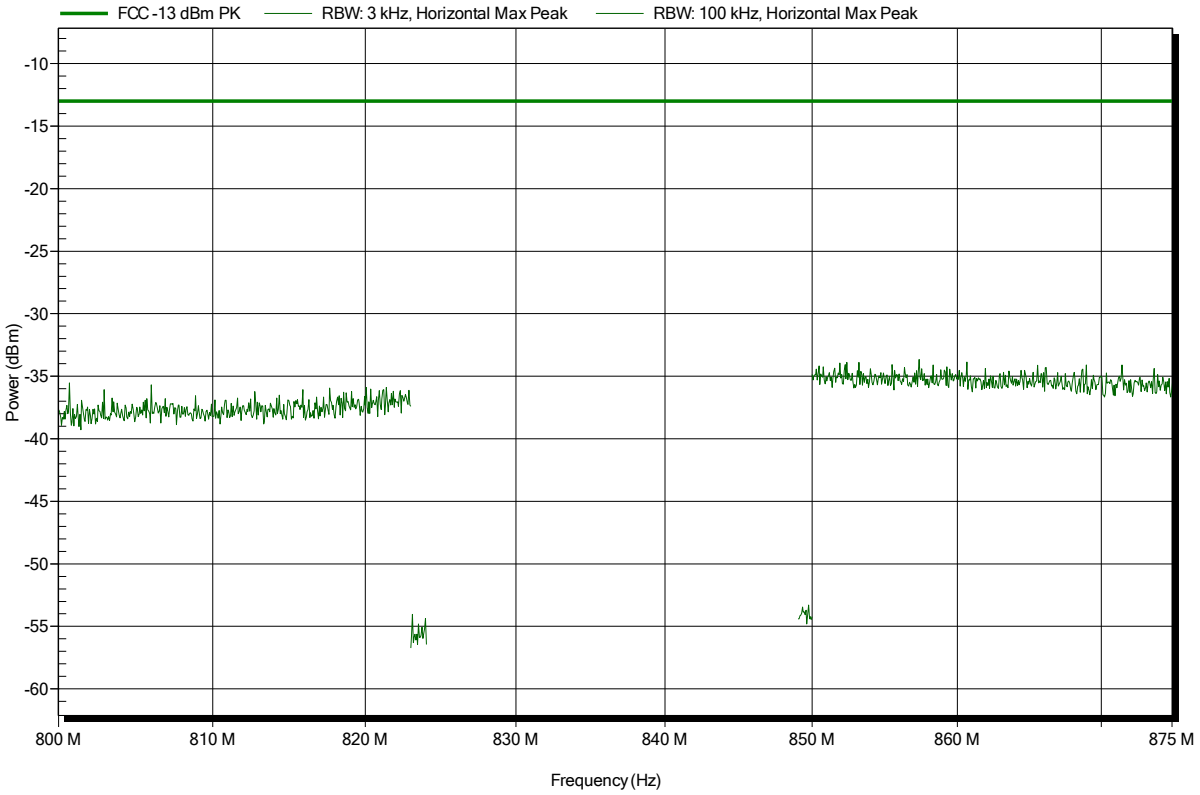

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4232, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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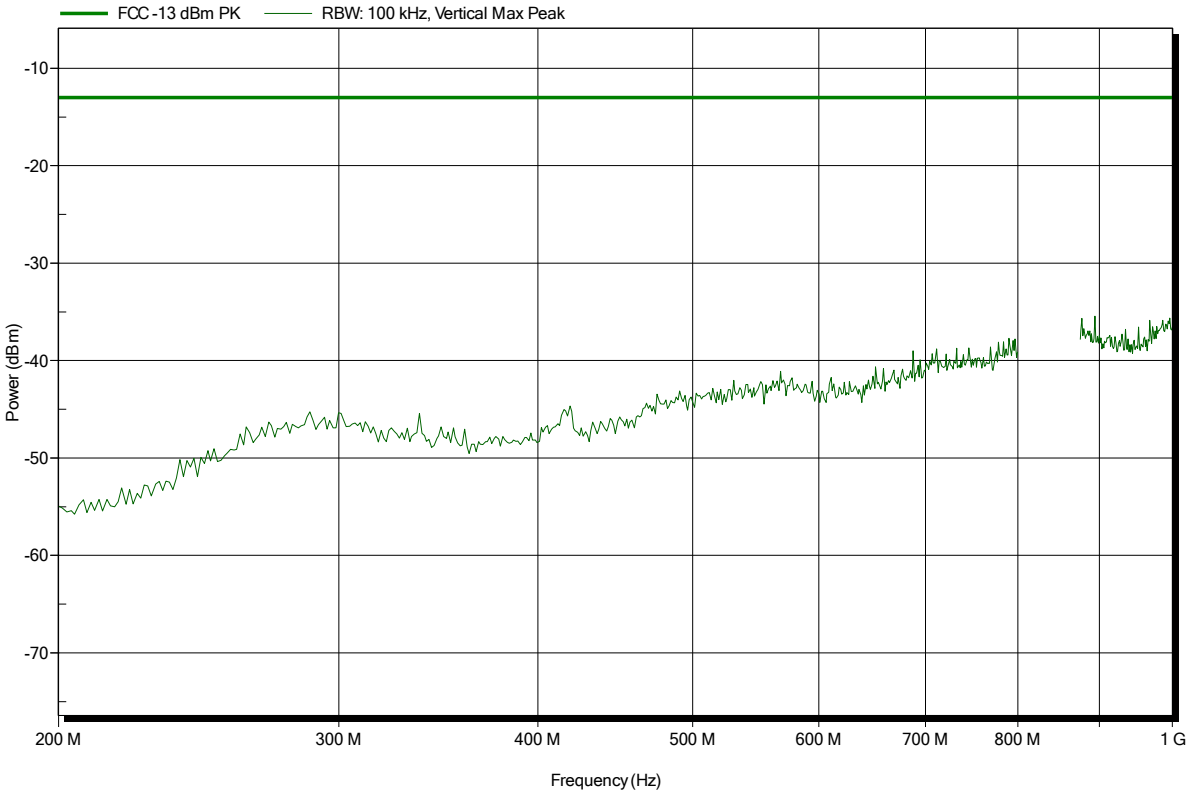

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4232, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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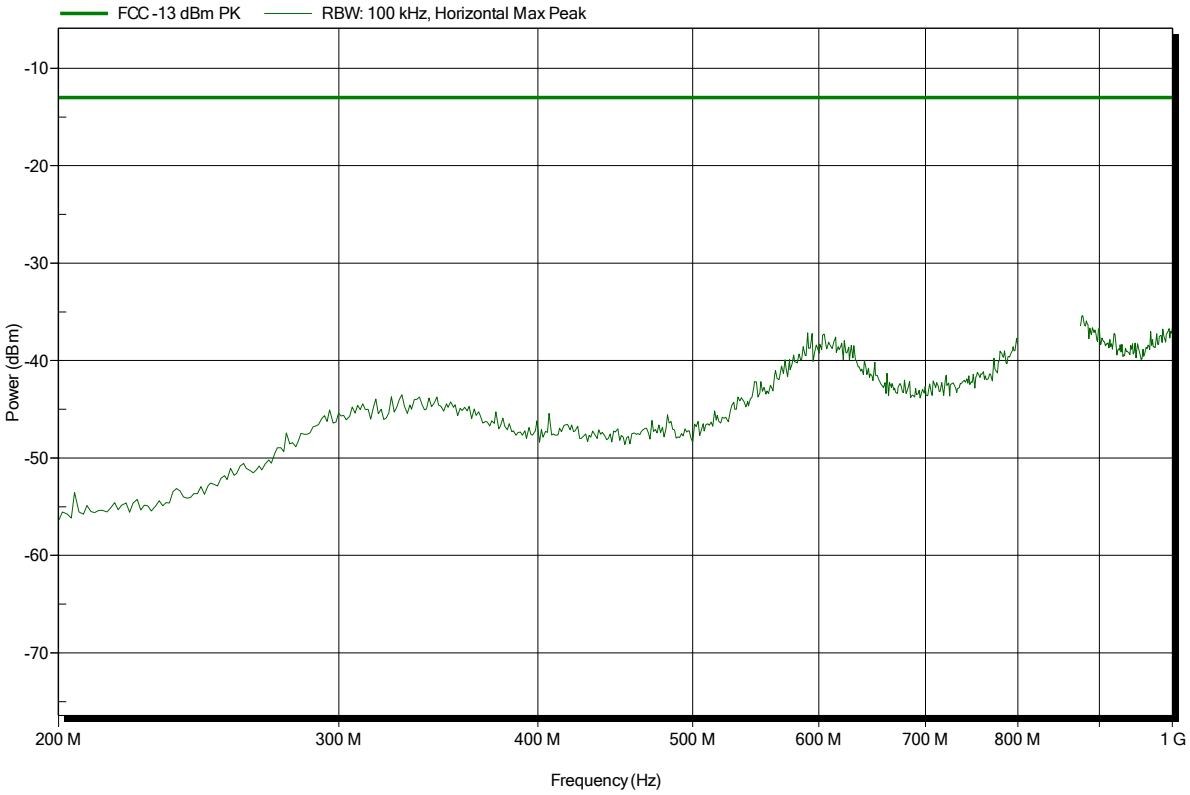

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4232, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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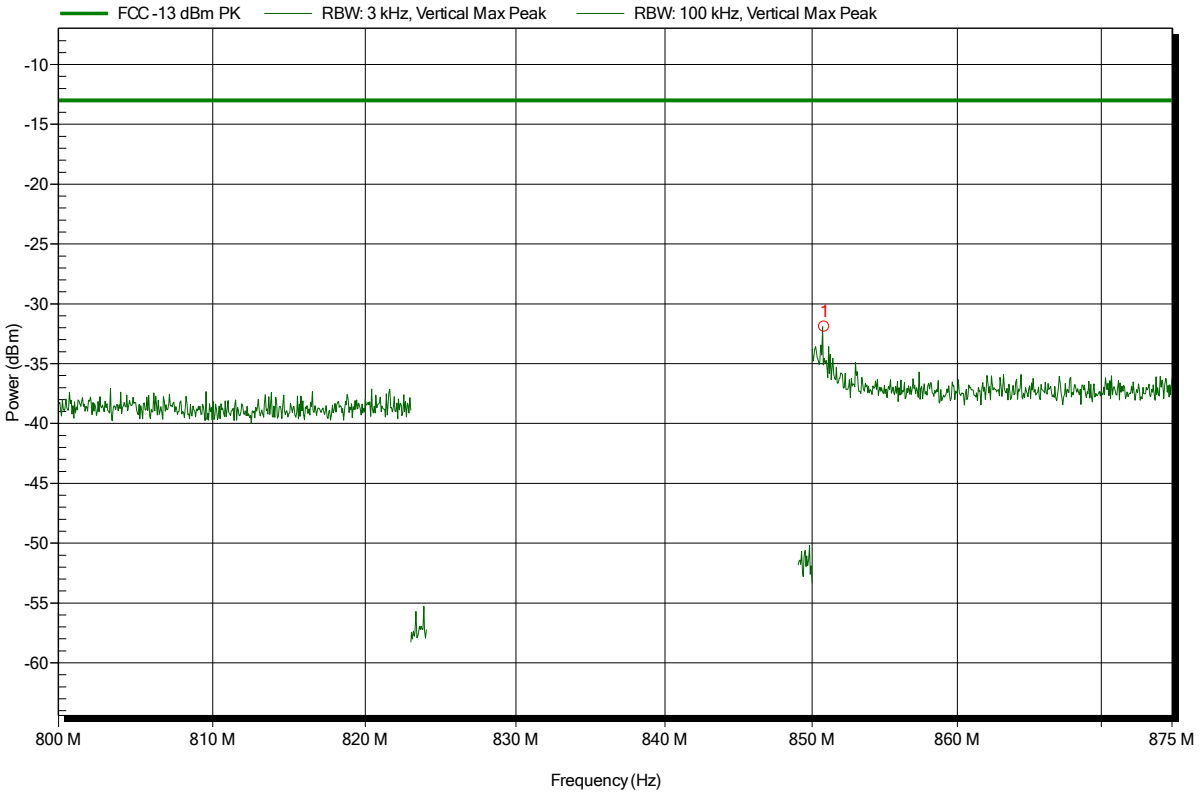

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
850.837 MHz	-31.9 dBm	-13 dBm	-18.9 dB	Pass

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4232, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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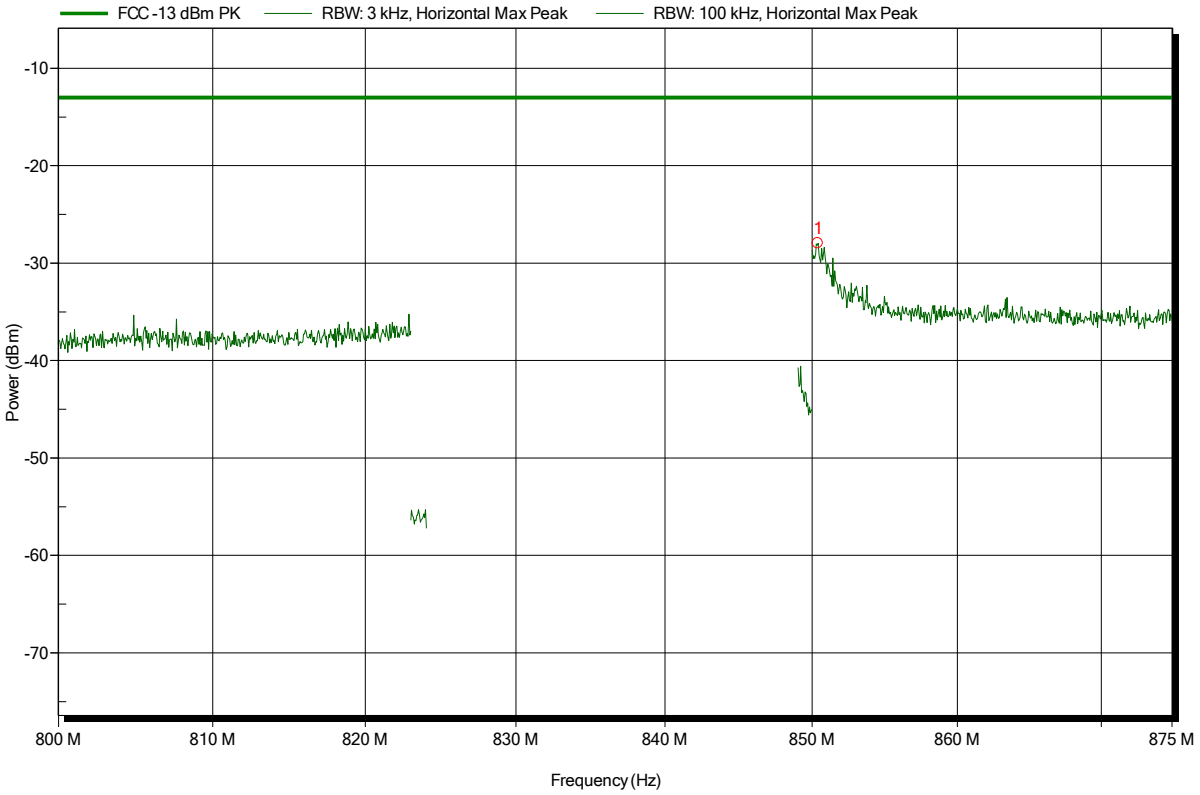

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
850.4 MHz	-28 dBm	-13 dBm	-14.96 dB	Pass

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4133, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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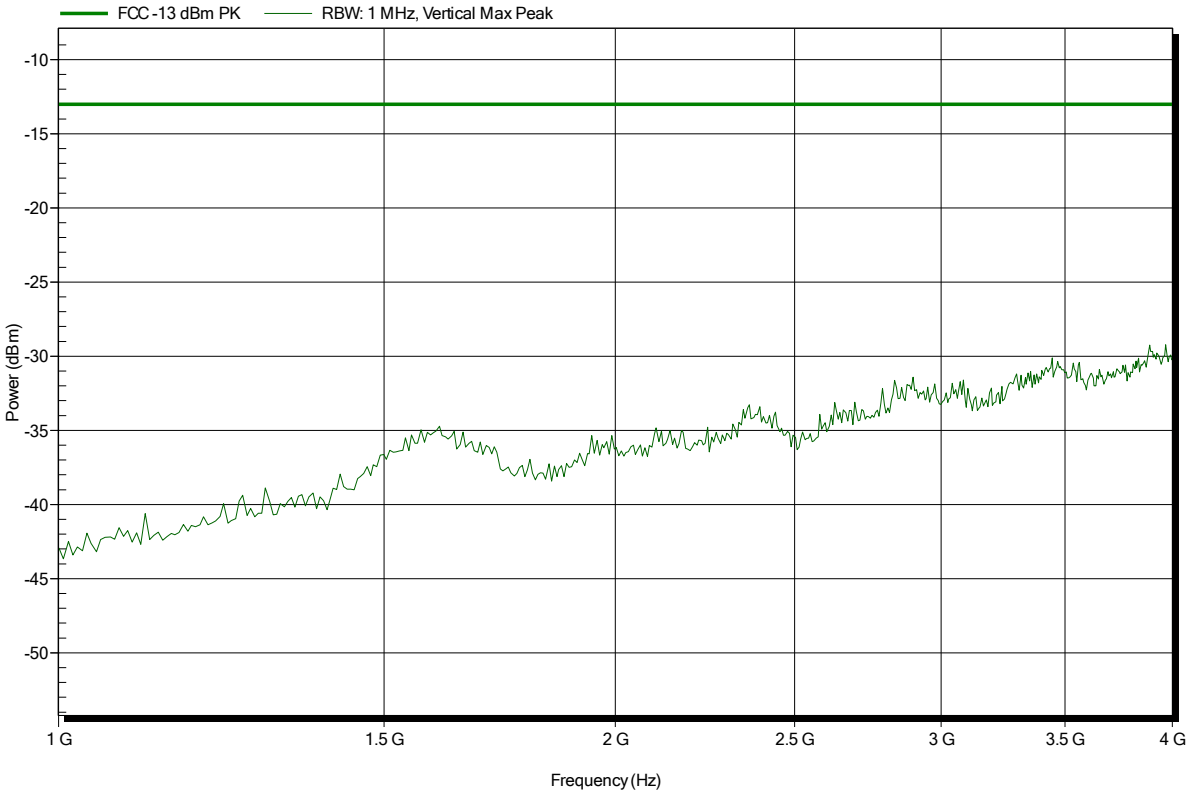

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4133, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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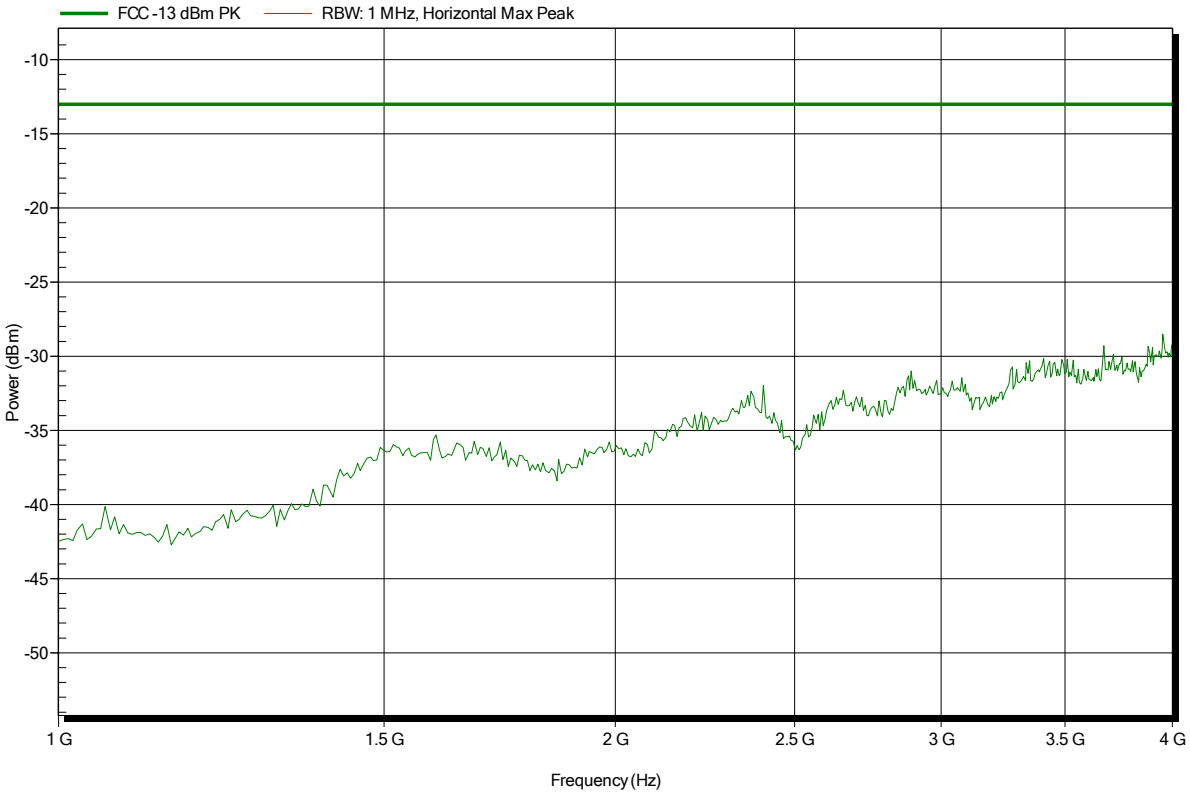

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4133, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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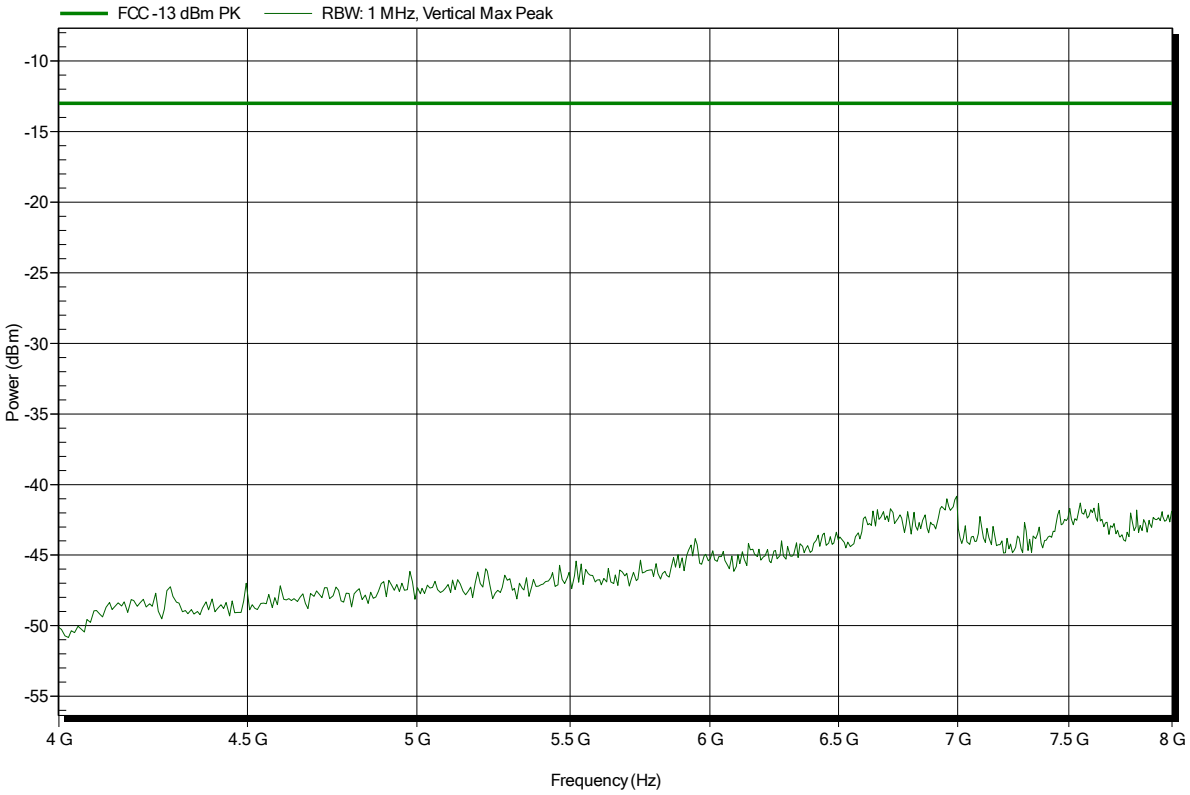

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4133, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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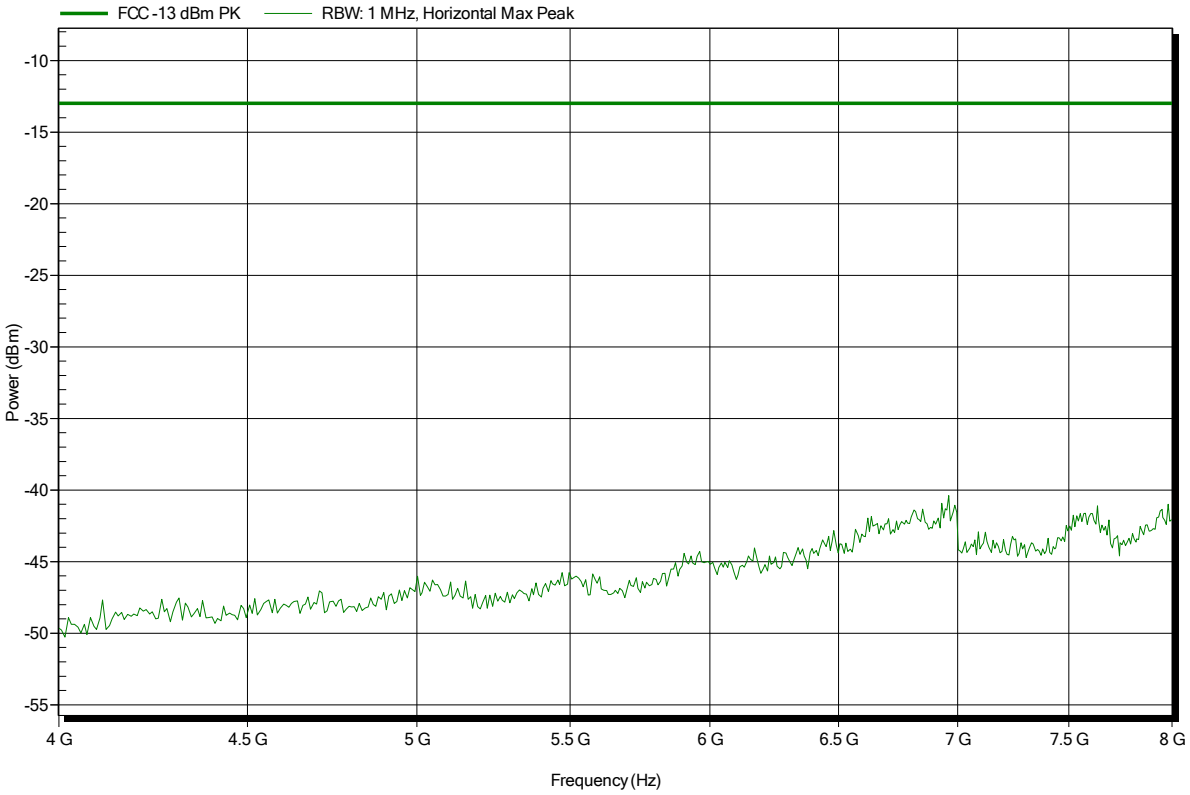

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4133, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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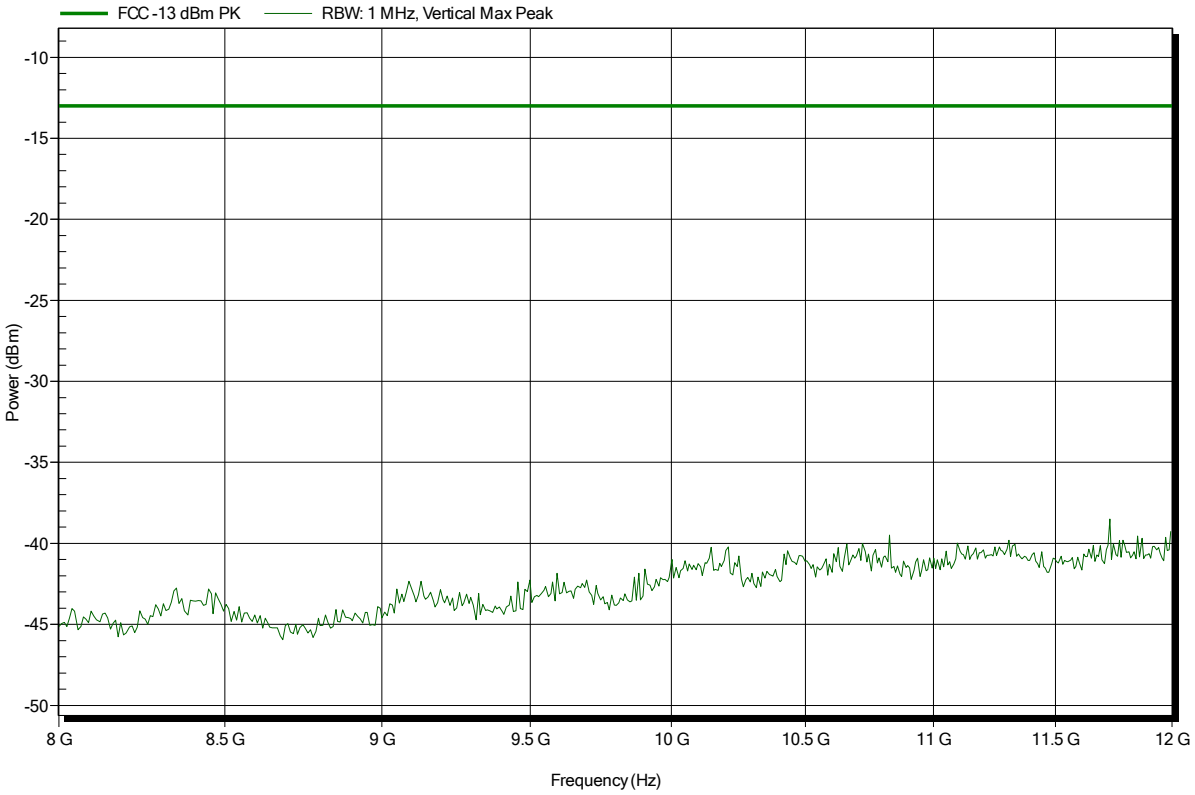

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4133, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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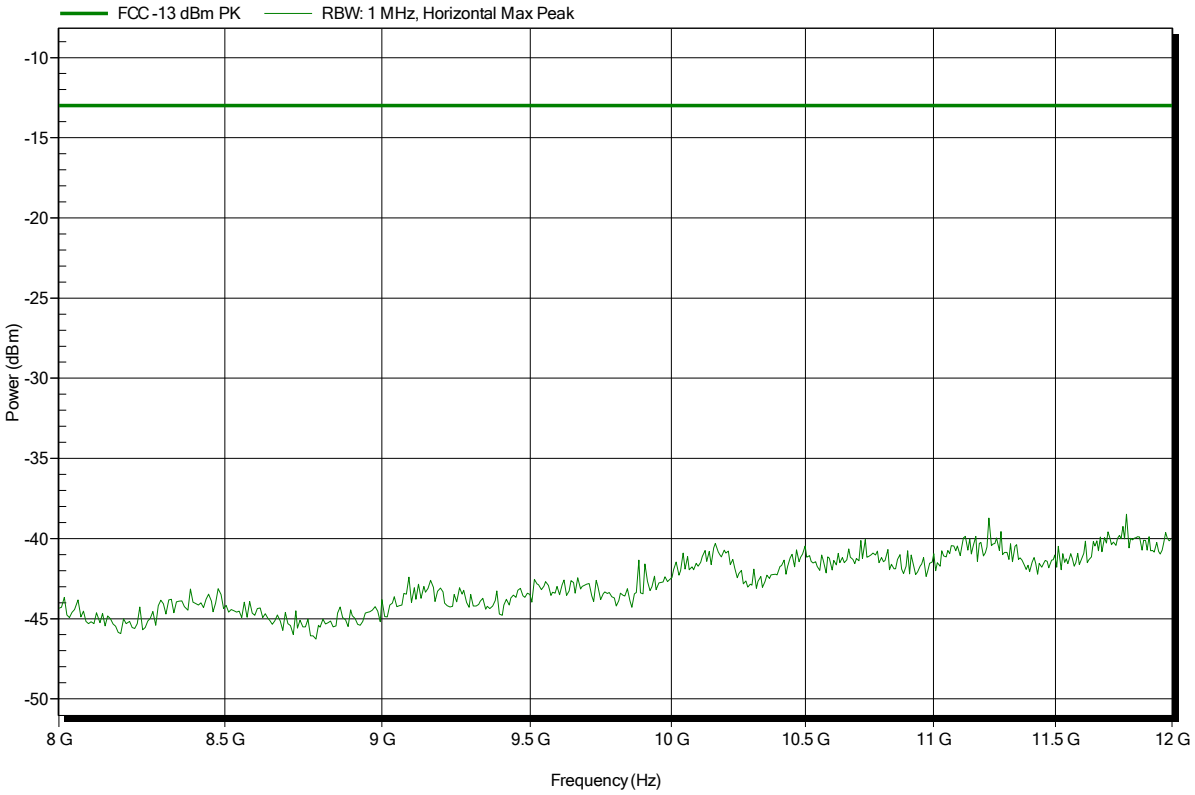

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4175, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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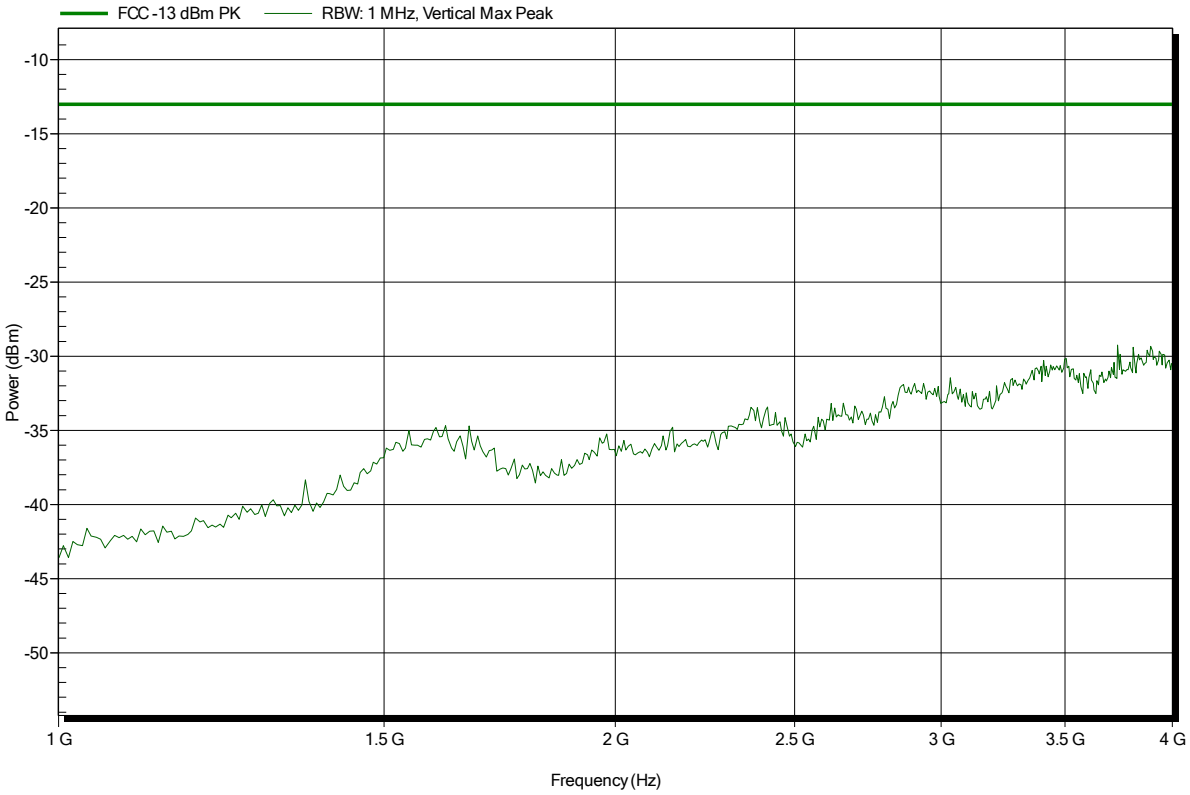

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4175, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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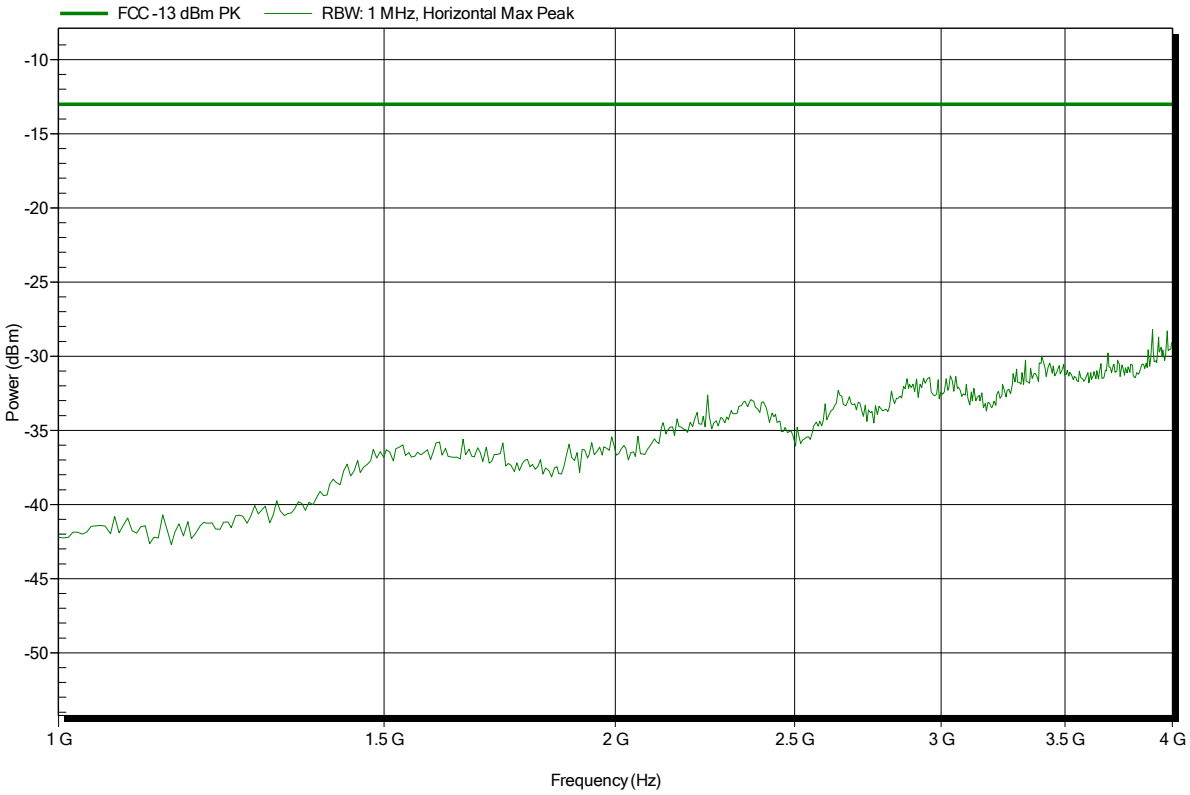

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4175, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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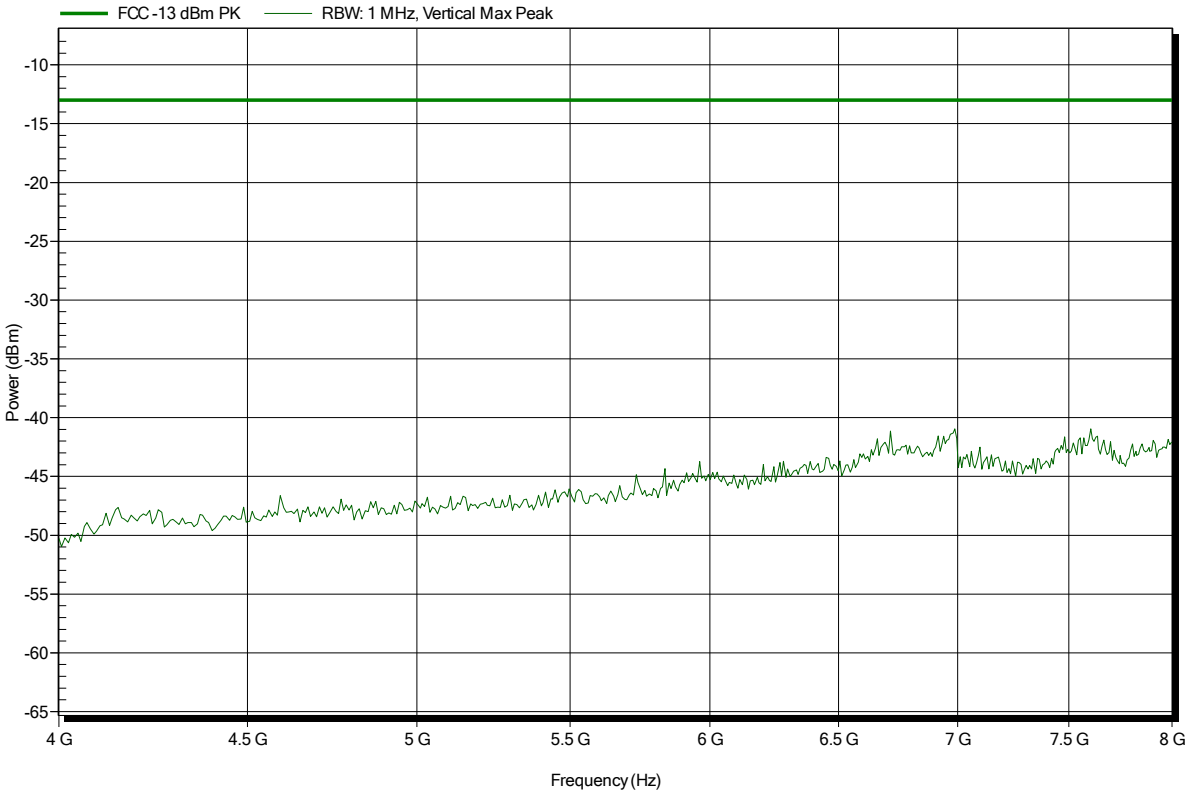

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4175, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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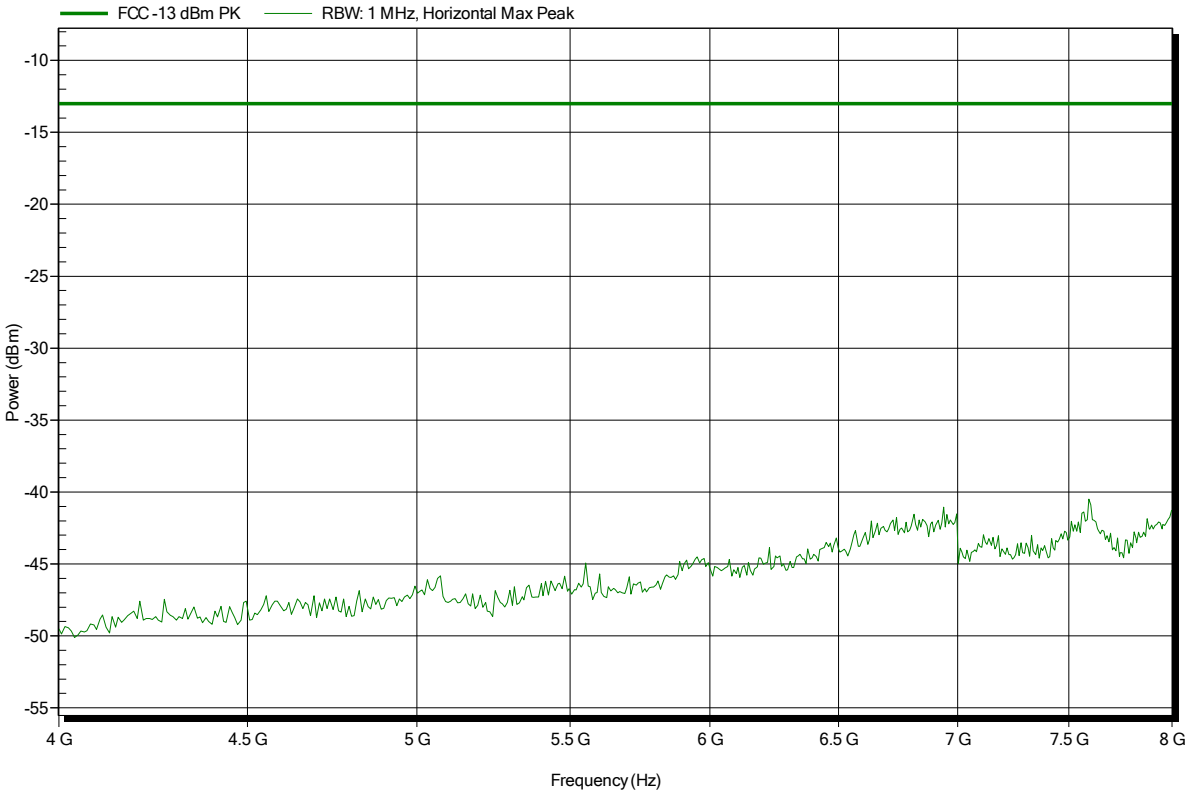

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4175, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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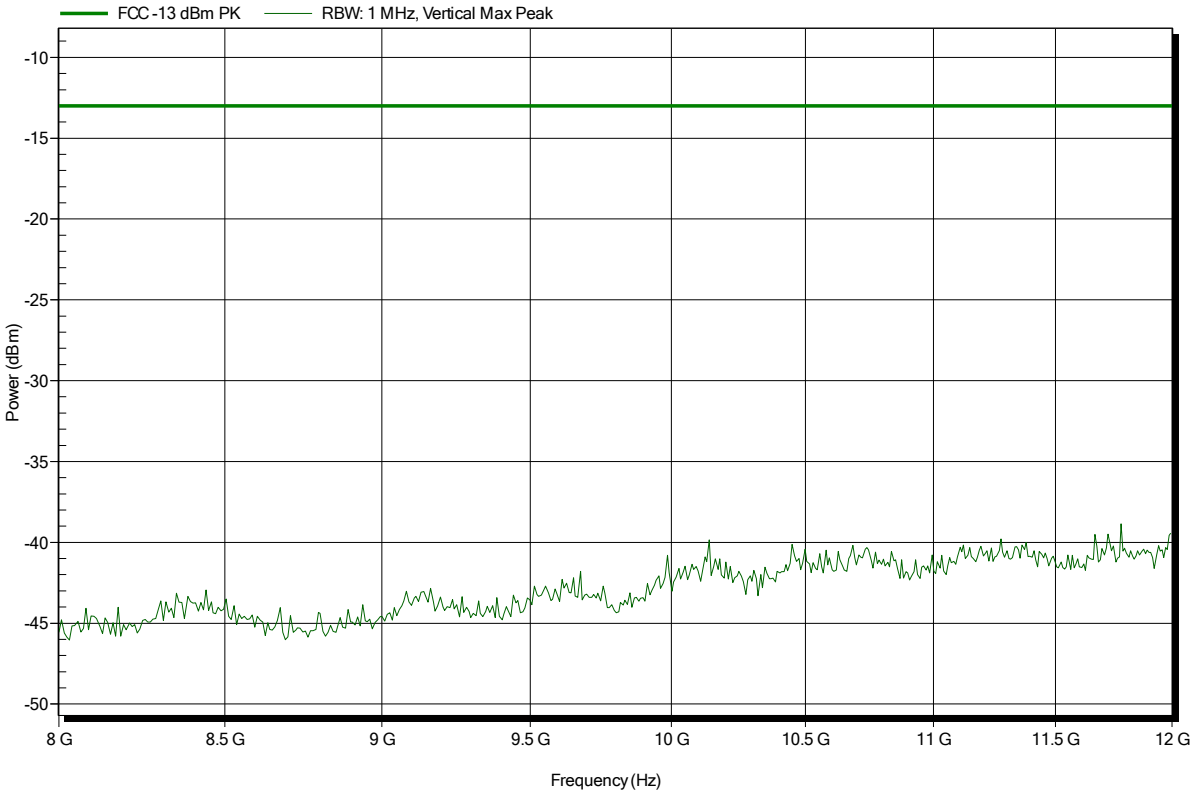

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4175, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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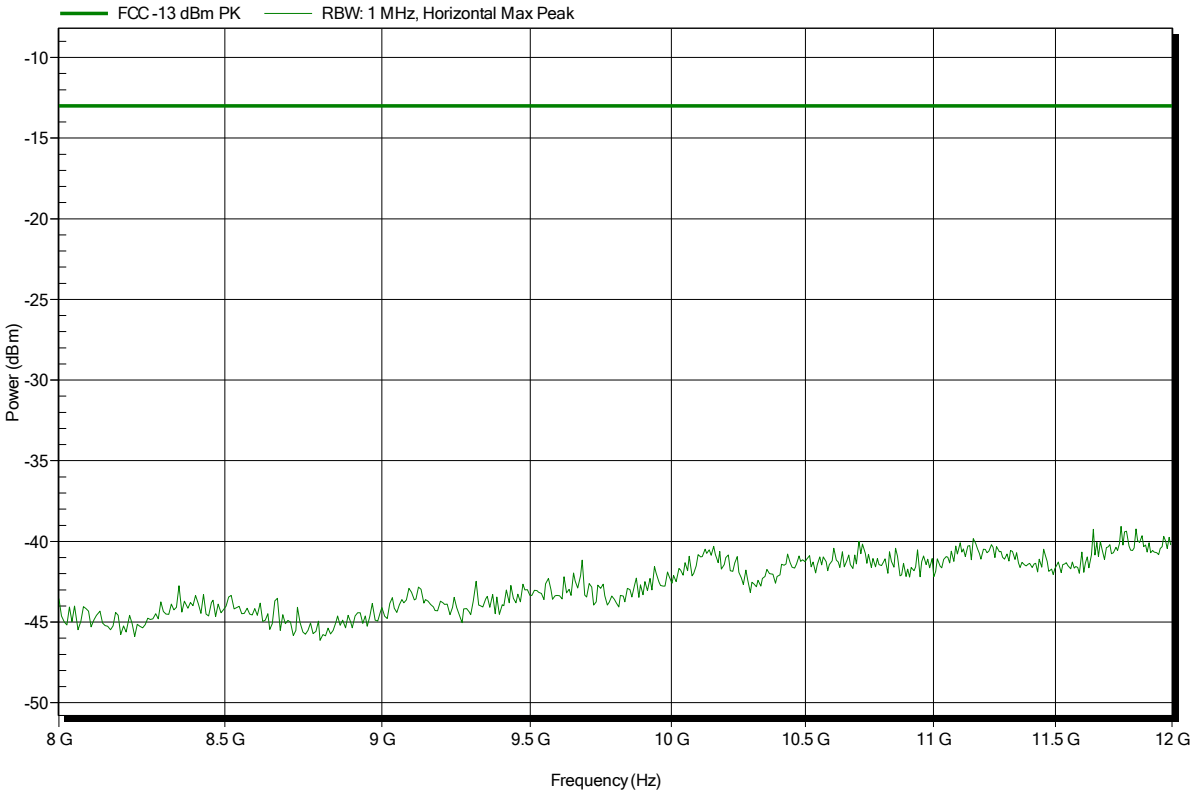

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4232, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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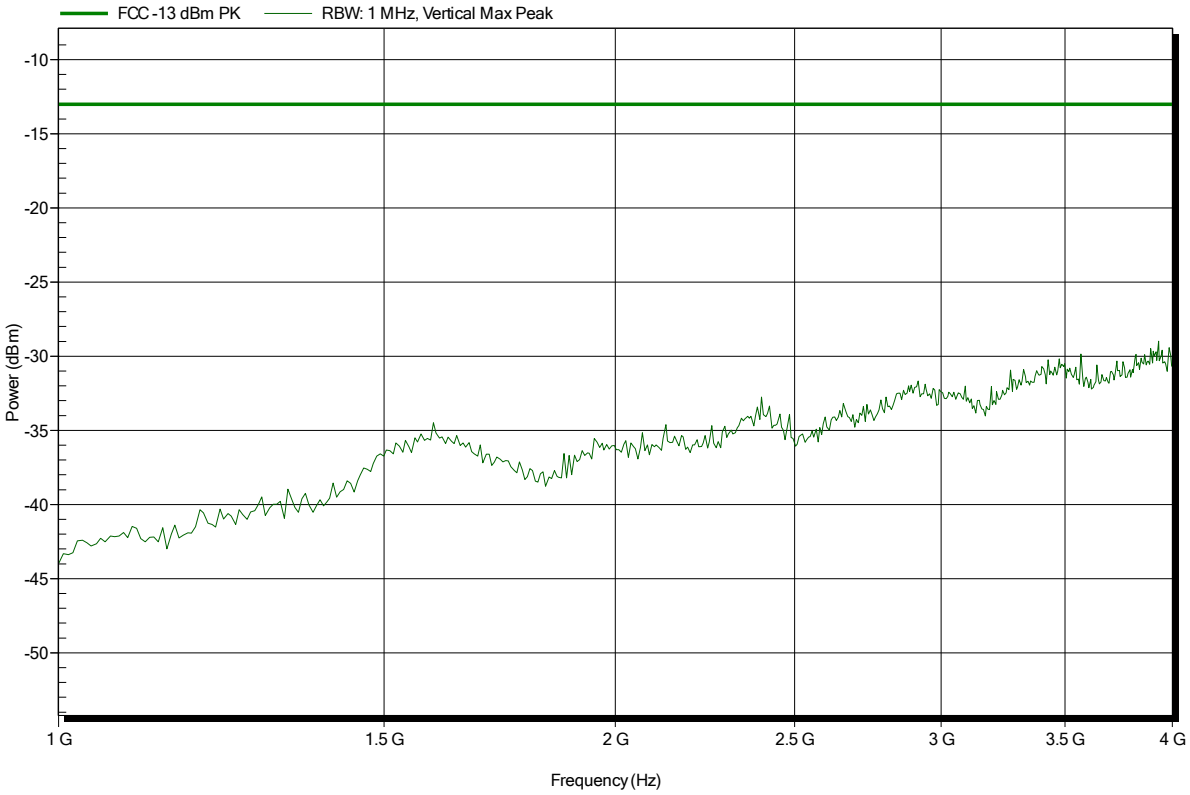

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Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4232, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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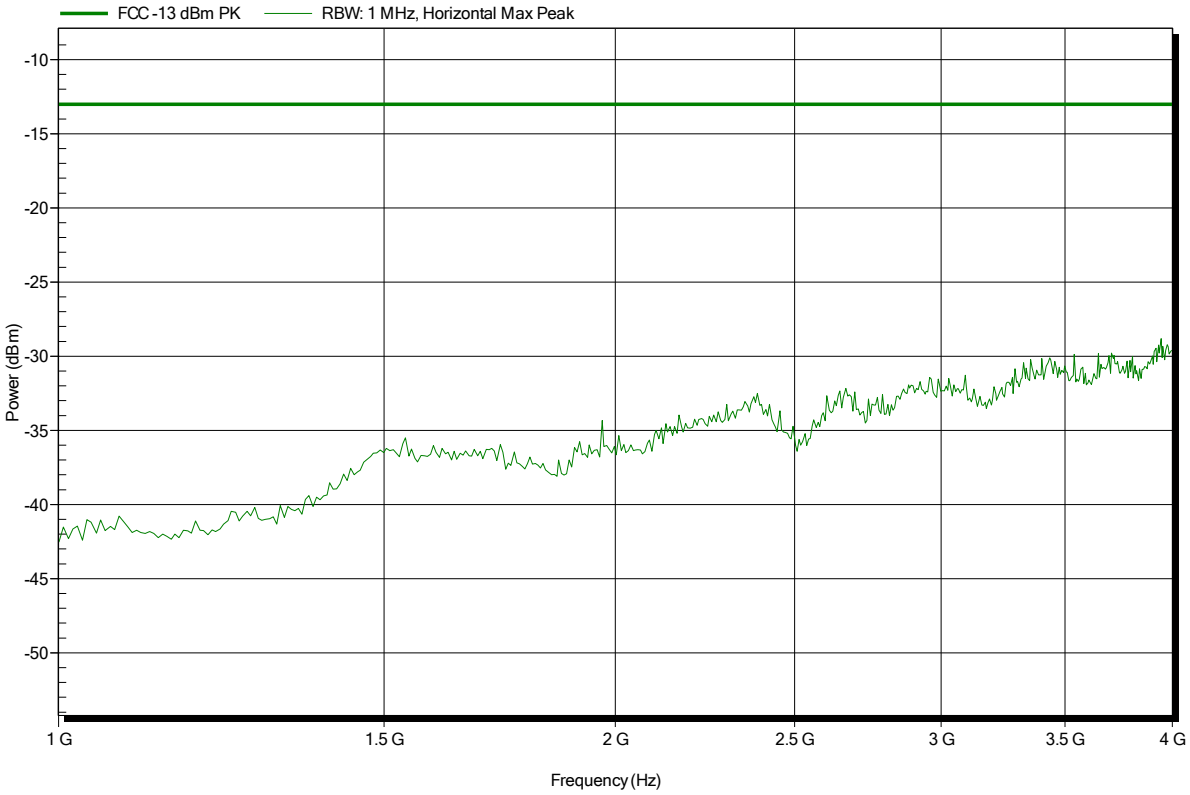

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4232, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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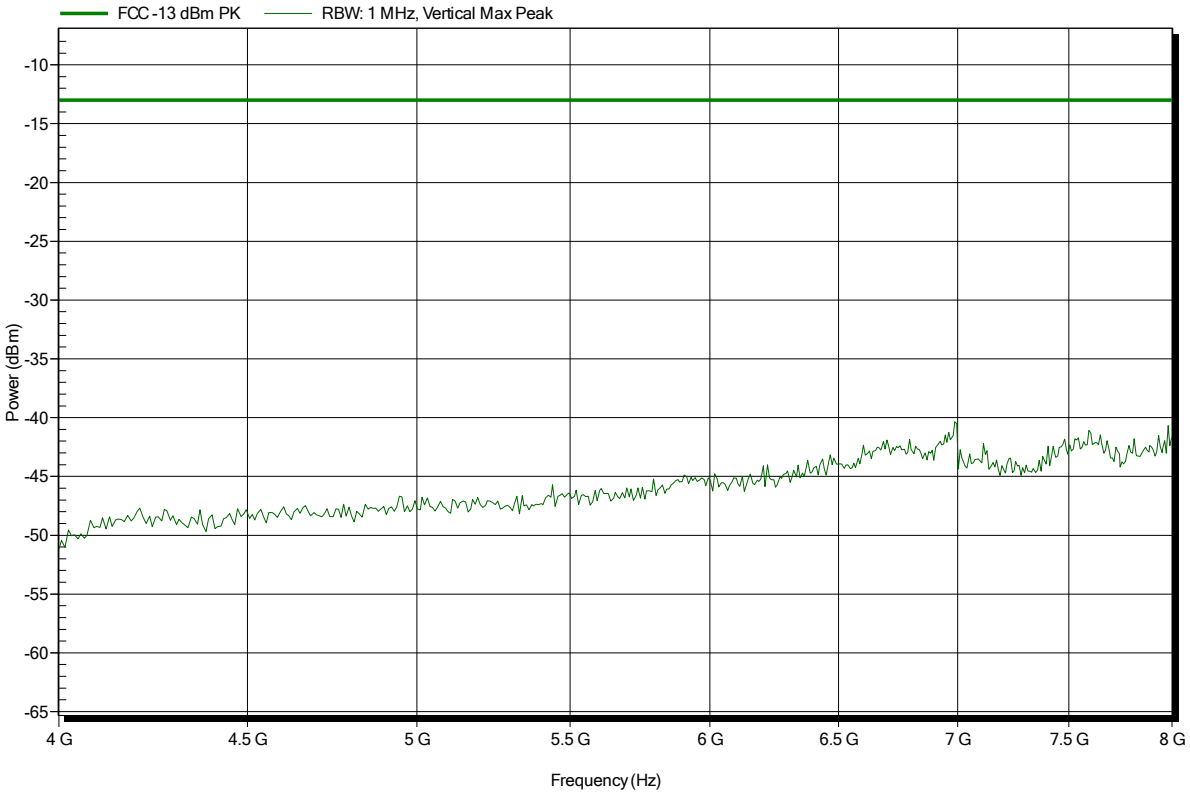

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4232, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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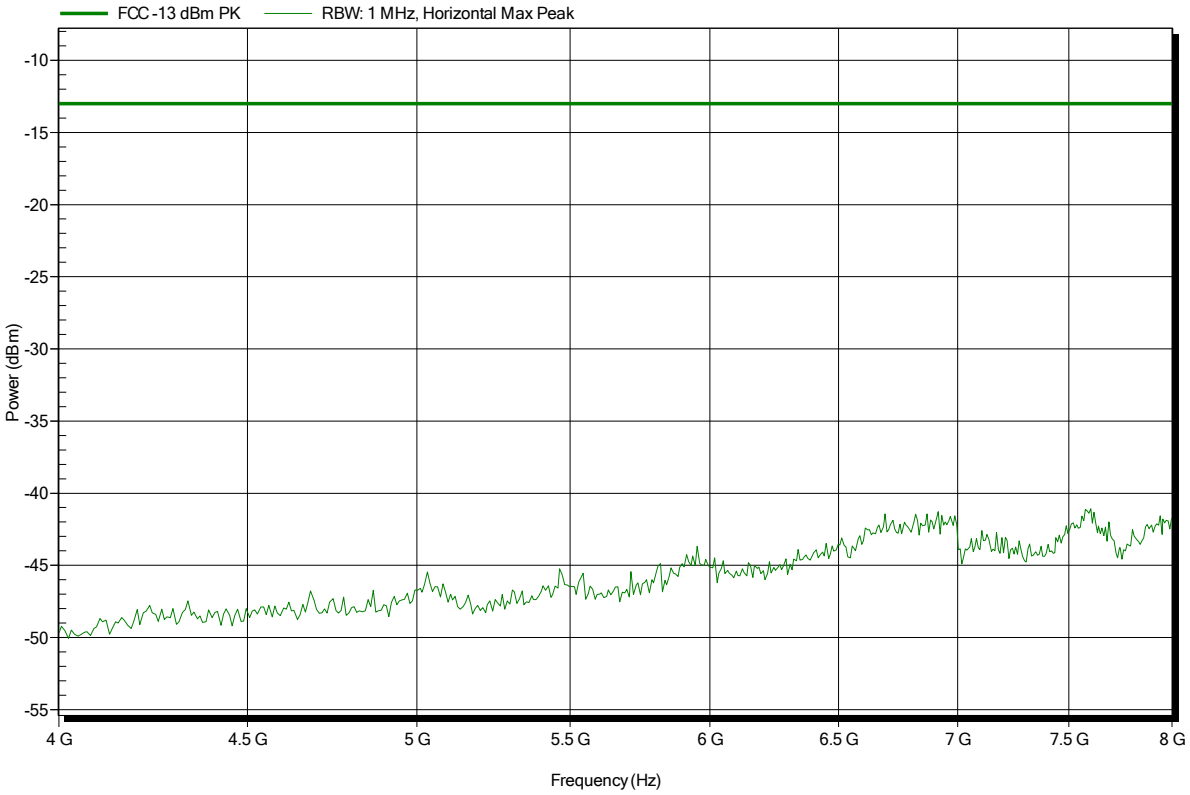

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4232, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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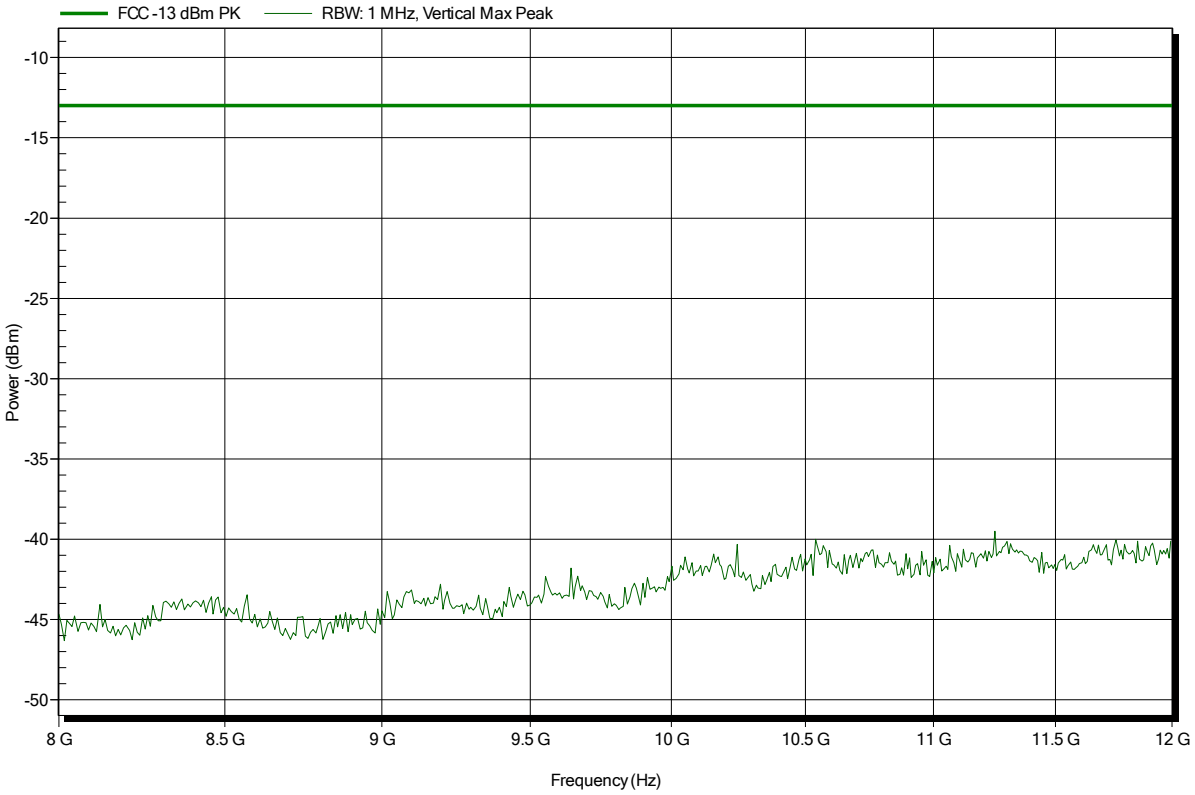

Spurious emissions according to FCC part 22 Subpart H, IC RSS-132

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	TX; UMTS FDD V ; CH: 4232, HSUPA / HSDPA
Test Date:	2014-11-21
Note:	EUT vertical

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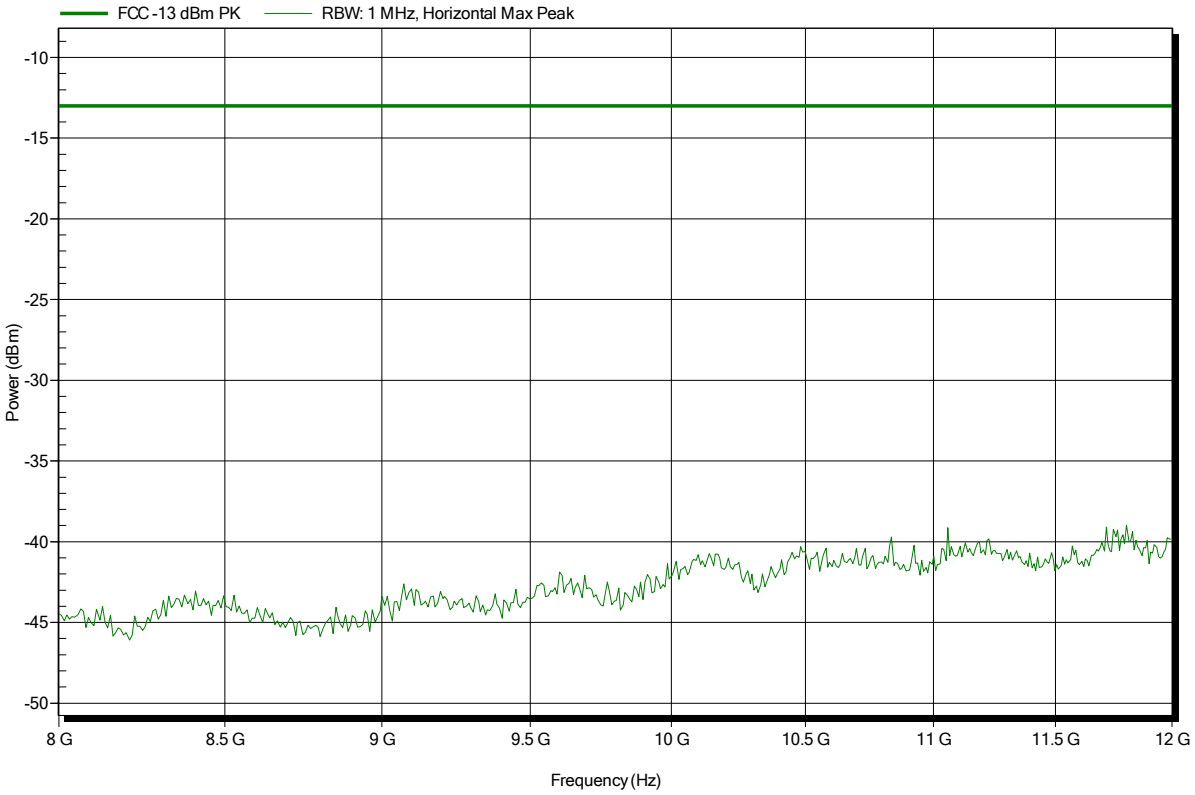

ANNEX B Receiver radiated spurious emissions

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	RX; UMTS FDD II; CH: 9400, RX-Idle Mode
Test Date:	2014-11-20
Note:	EUT vertical

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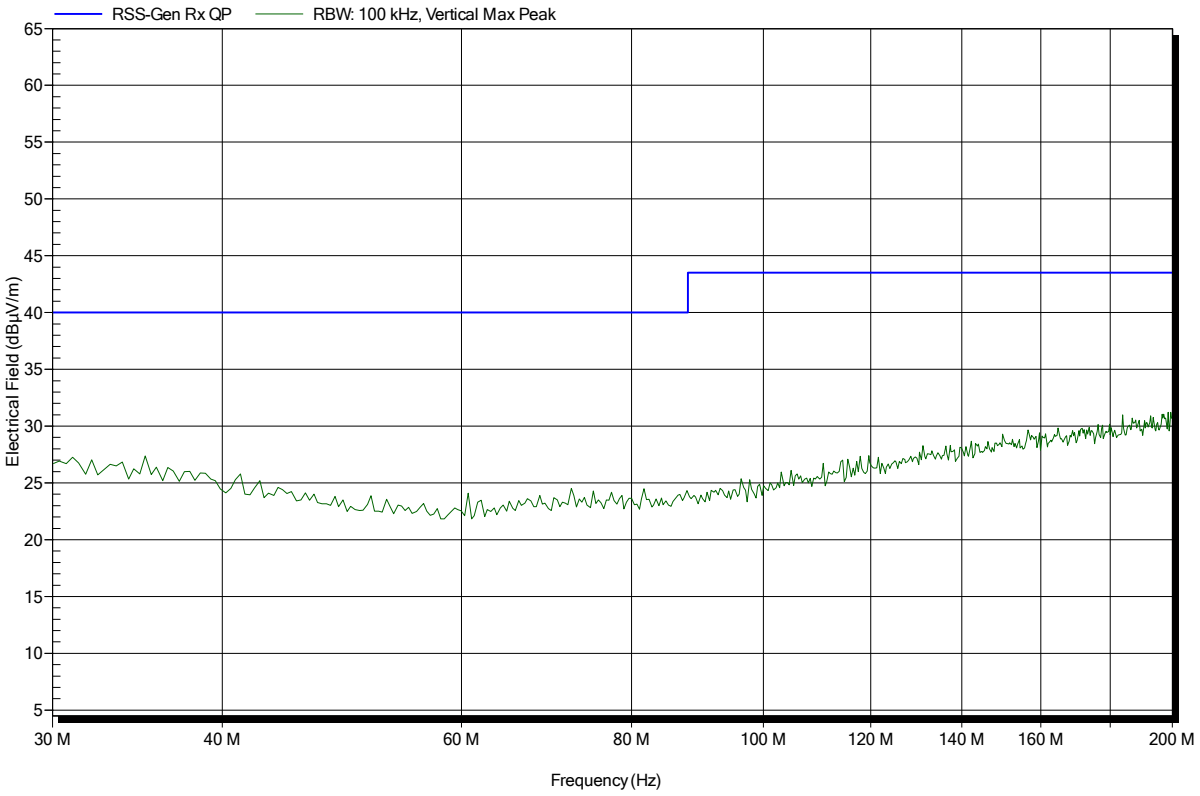

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	RX; UMTS FDD II; CH: 9400, RX-Idle Mode
Test Date:	2014-11-20
Note:	EUT vertical

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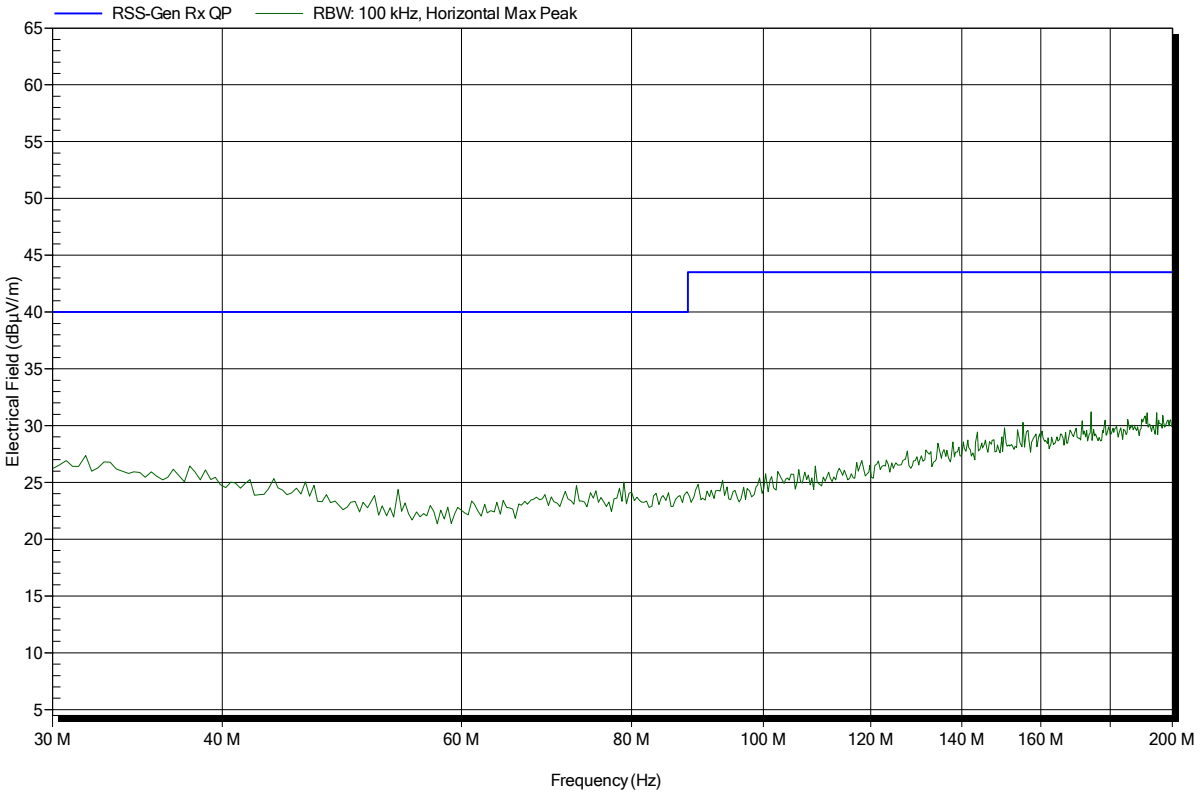

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	RX; UMTS FDD II; CH: 9400, RX-Idle Mode
Test Date:	2014-11-20
Note:	EUT vertical

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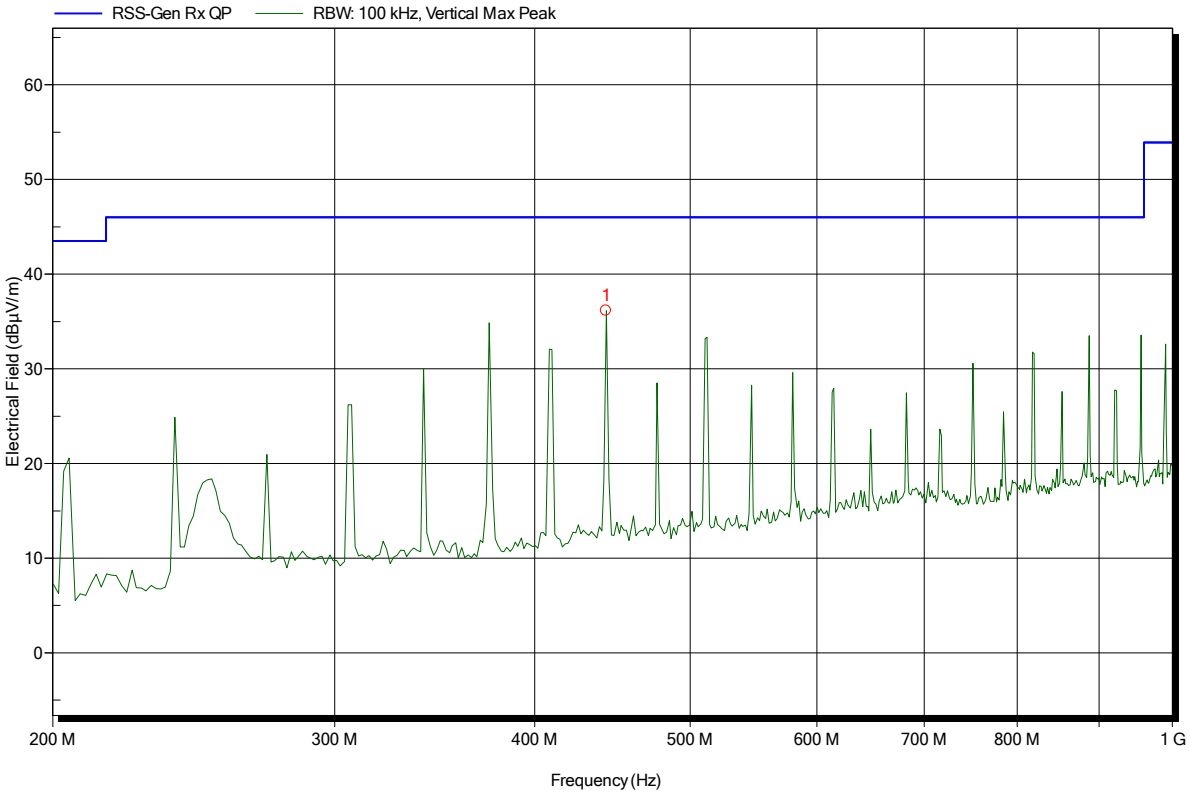

Frequency	Peak	Peak Limit	Peak Difference	Status
443.2 MHz	36.14 dBµV/m	46 dBµV/m	-9.86 dB	Pass

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	RX; UMTS FDD II; CH: 9400, RX-Idle Mode
Test Date:	2014-11-20
Note:	EUT vertical

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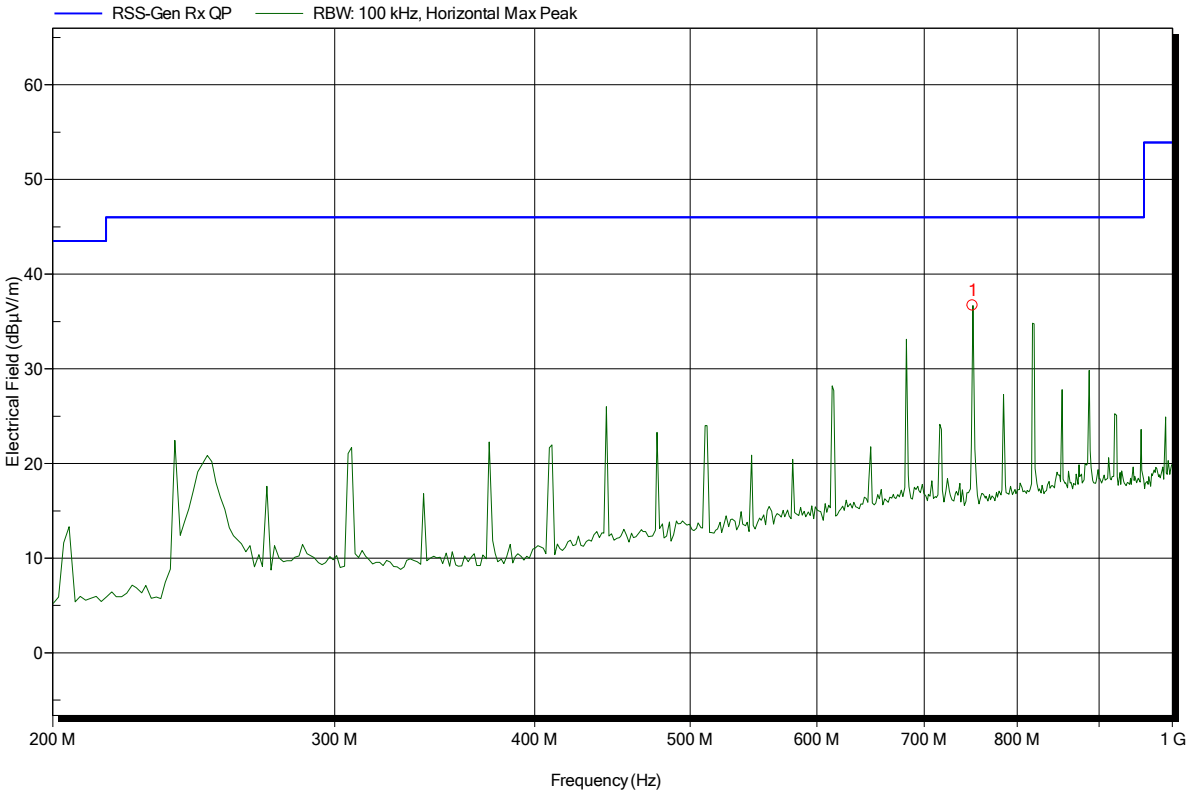

Frequency	Peak	Peak Limit	Peak Difference	Status
750.4 MHz	36.69 dBµV/m	46 dBµV/m	-9.31 dB	Pass

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	RX; UMTS FDD II; CH: 9400, RX-Idle Mode
Test Date:	2014-11-21
Note:	EUT vertical

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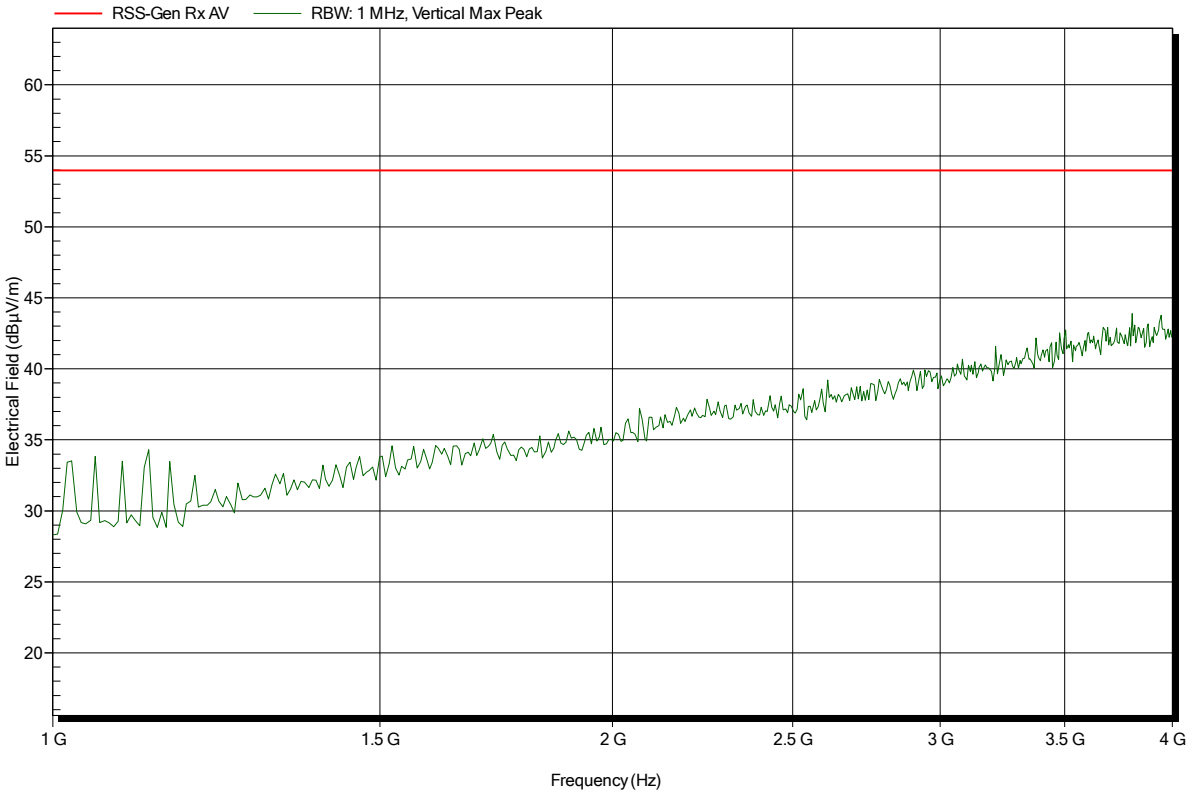

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	RX; UMTS FDD II; CH: 9400, RX-Idle Mode
Test Date:	2014-11-21
Note:	EUT vertical

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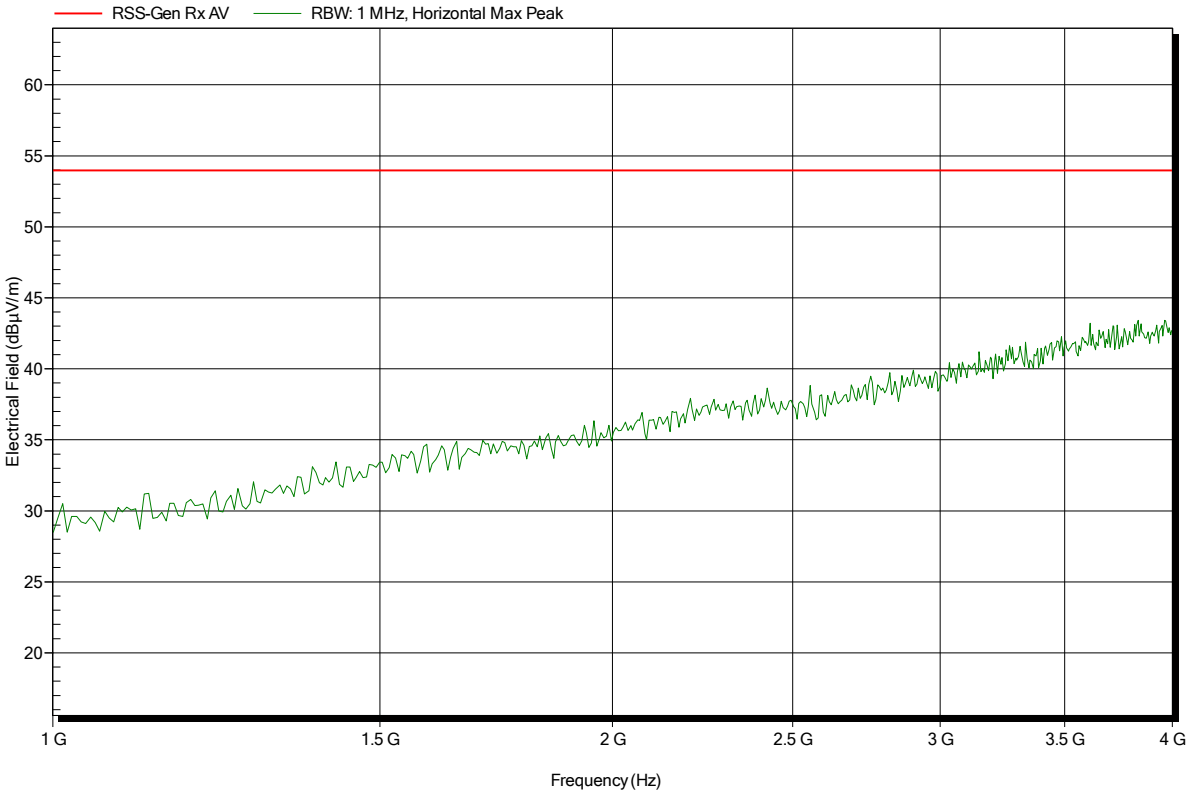

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	RX; UMTS FDD II; CH: 9400, RX-Idle Mode
Test Date:	2014-11-21
Note:	EUT vertical

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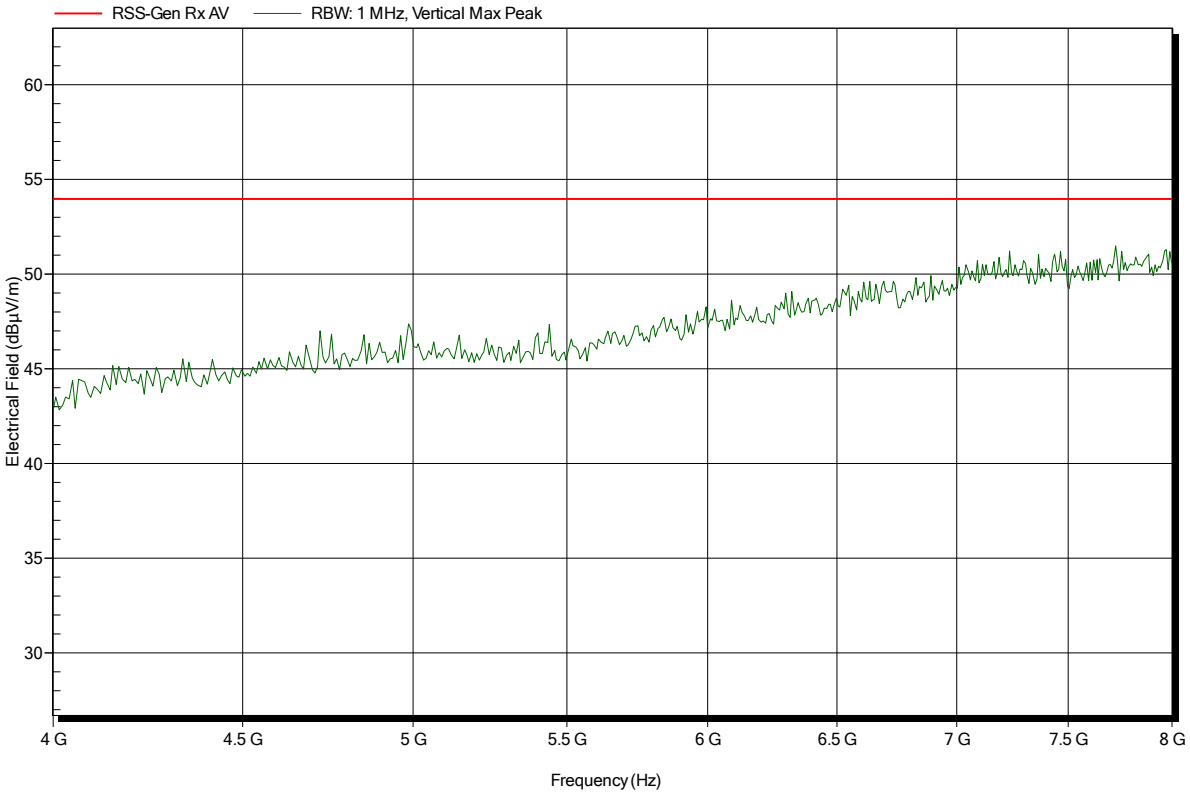

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	RX; UMTS FDD II; CH: 9400, RX-Idle Mode
Test Date:	2014-11-21
Note:	EUT vertical

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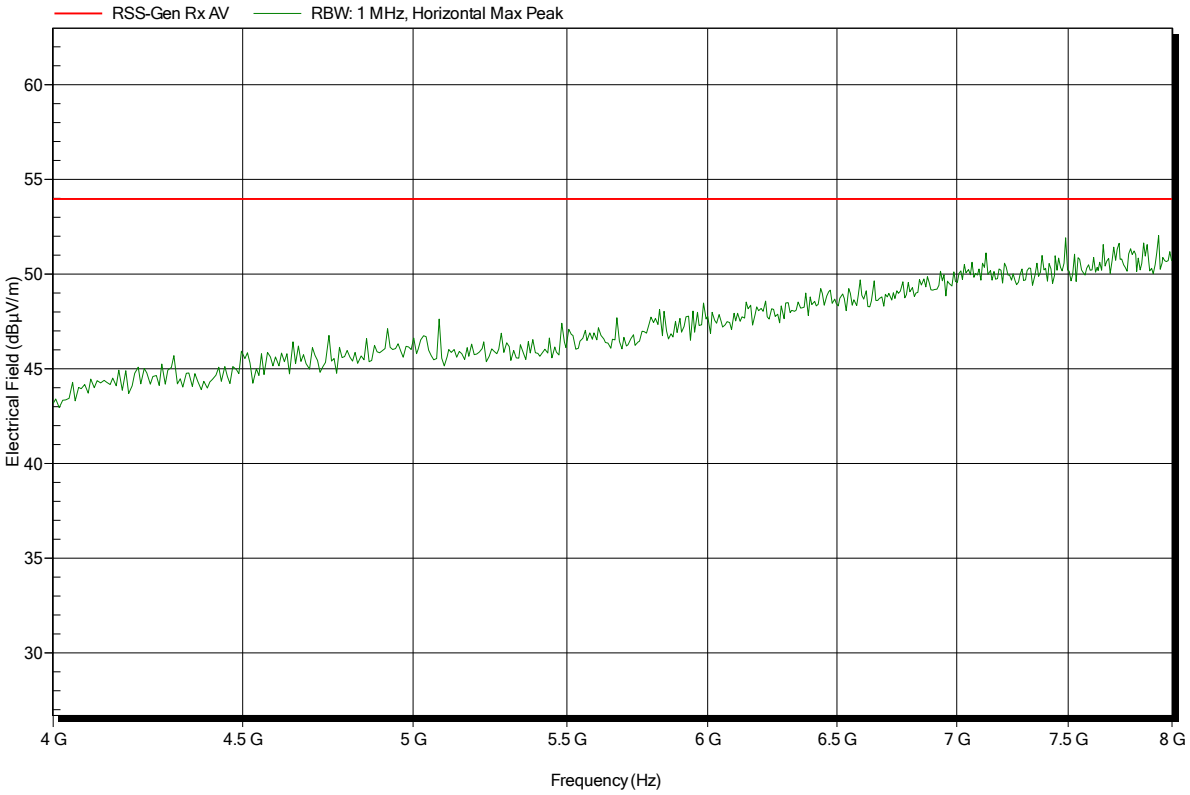

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	RX; UMTS FDD V; CH: 4175, RX-Idle Mode
Test Date:	2014-11-20
Note:	EUT vertical

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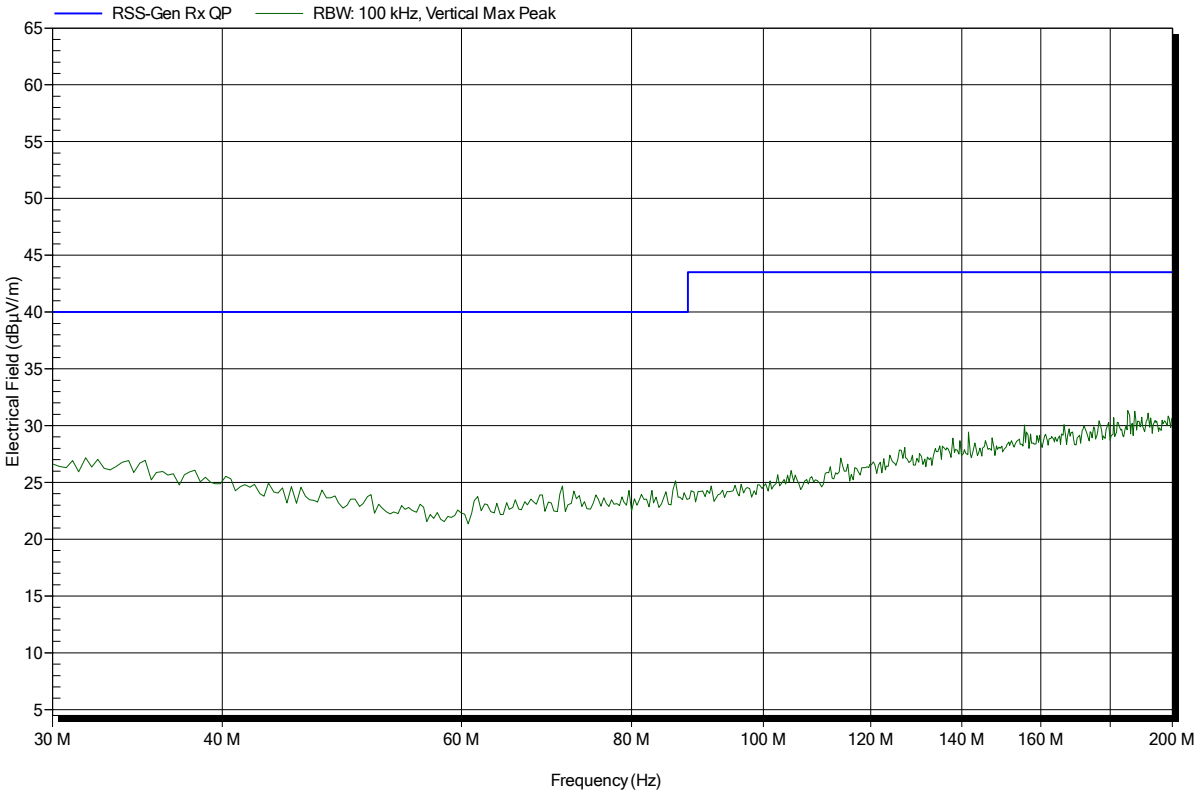

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	RX; UMTS FDD V; CH: 4175, RX-Idle Mode
Test Date:	2014-11-20
Note:	EUT vertical

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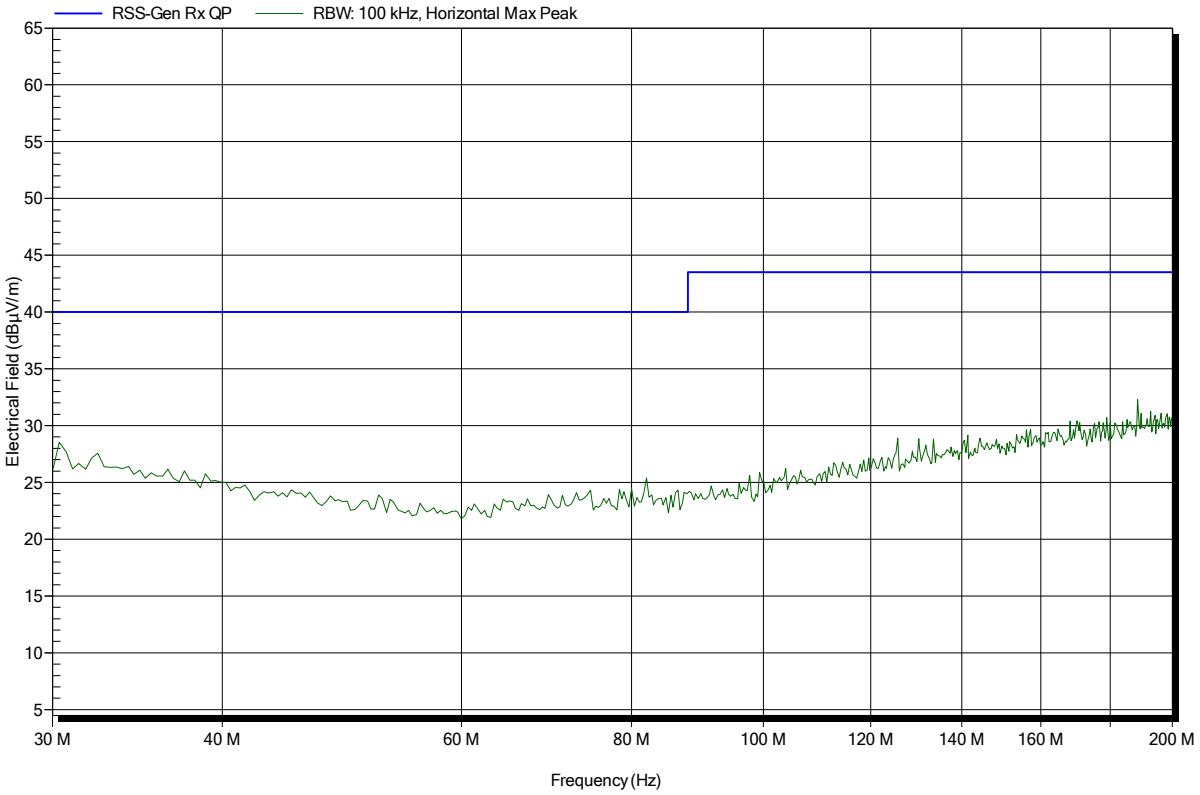

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	RX; UMTS FDD V; CH: 4175, RX-Idle Mode
Test Date:	2014-11-20
Note:	EUT vertical

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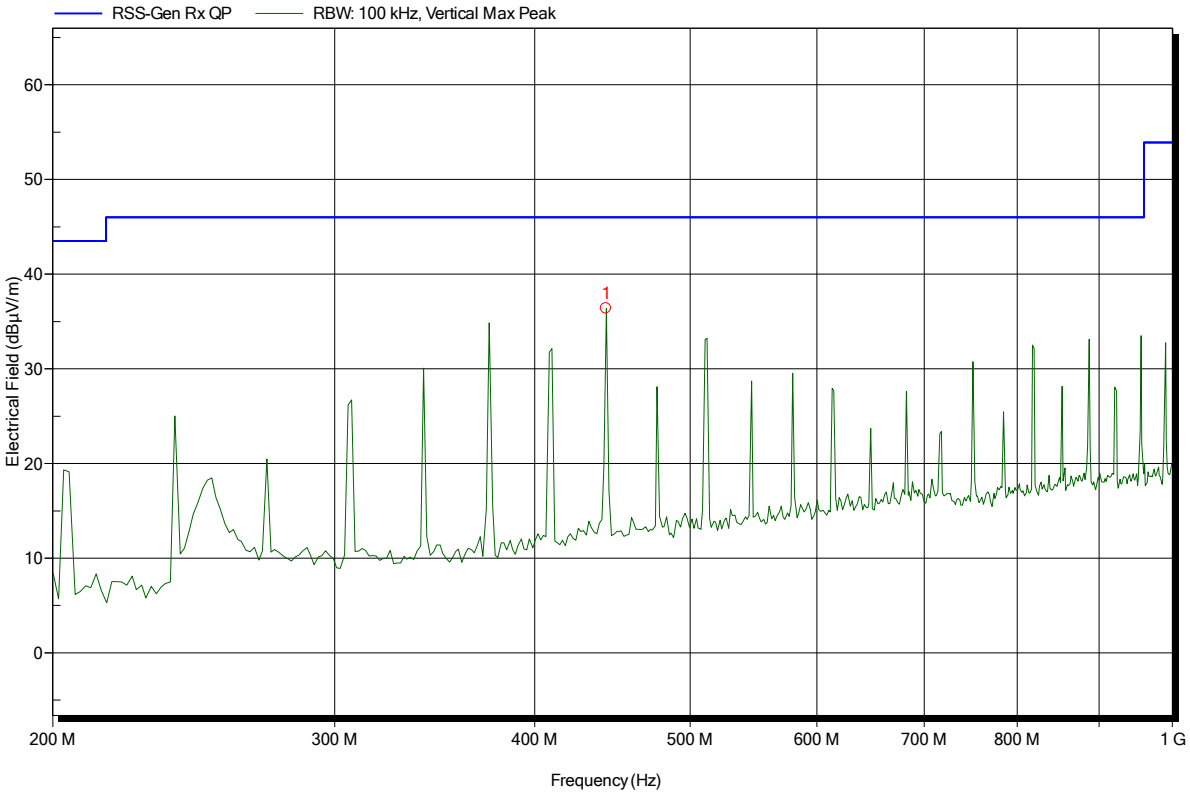

Frequency	Peak	Peak Limit	Peak Difference	Status
443.2 MHz	36.37 dBµV/m	46 dBµV/m	-9.63 dB	Pass

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	RX; UMTS FDD V; CH: 4175, RX-Idle Mode
Test Date:	2014-11-20
Note:	EUT vertical

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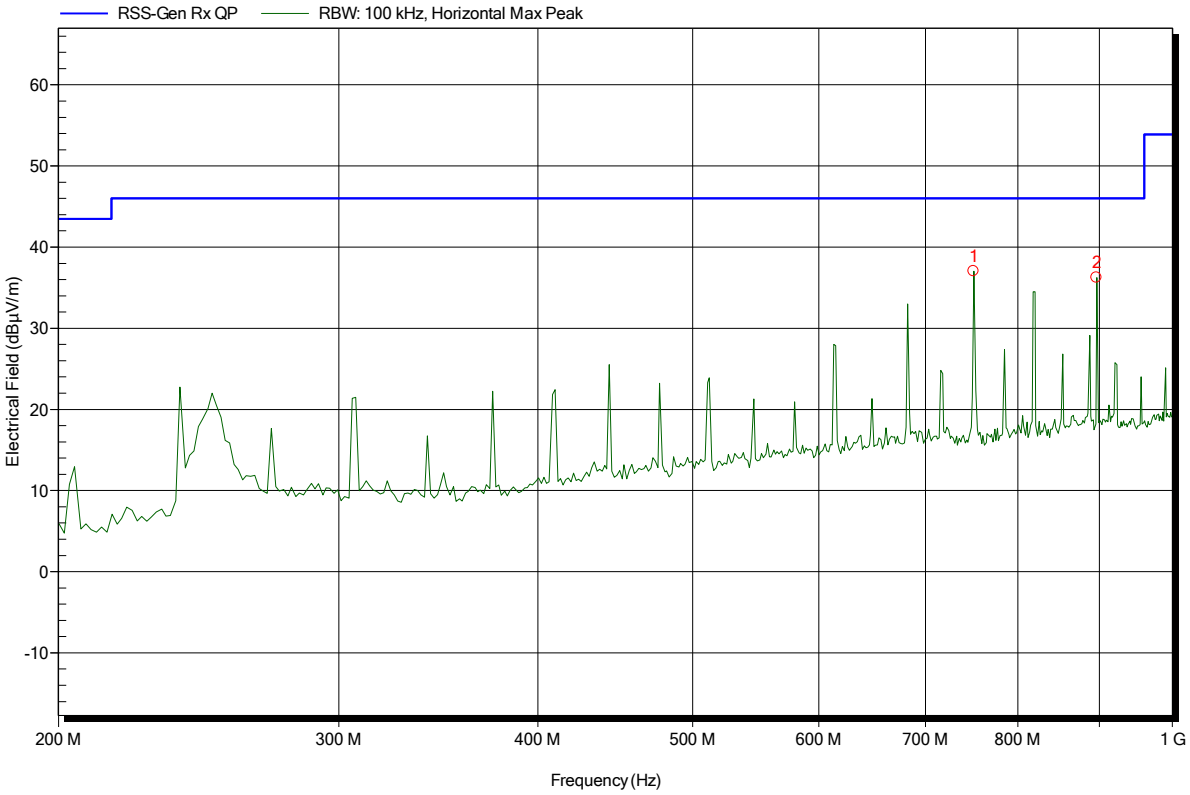

Frequency	Peak	Peak Limit	Peak Difference	Status
750.4 MHz	37.04 dBµV/m	46 dBµV/m	-8.96 dB	Pass
896 MHz	36.24 dBµV/m	46 dBµV/m	-9.76 dB	Pass

Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	3 m
Mode:	RX; UMTS FDD V; CH: 4175, RX-Idle Mode
Test Date:	2014-11-21
Note:	EUT vertical

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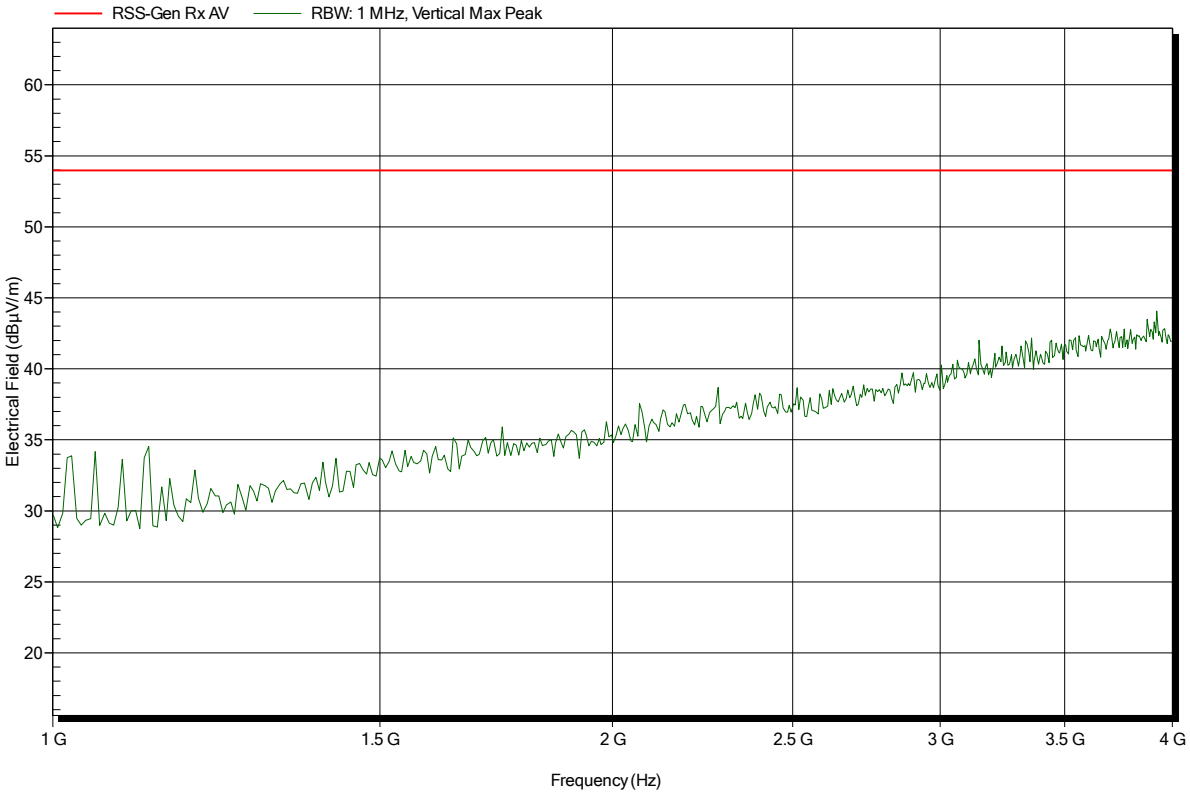
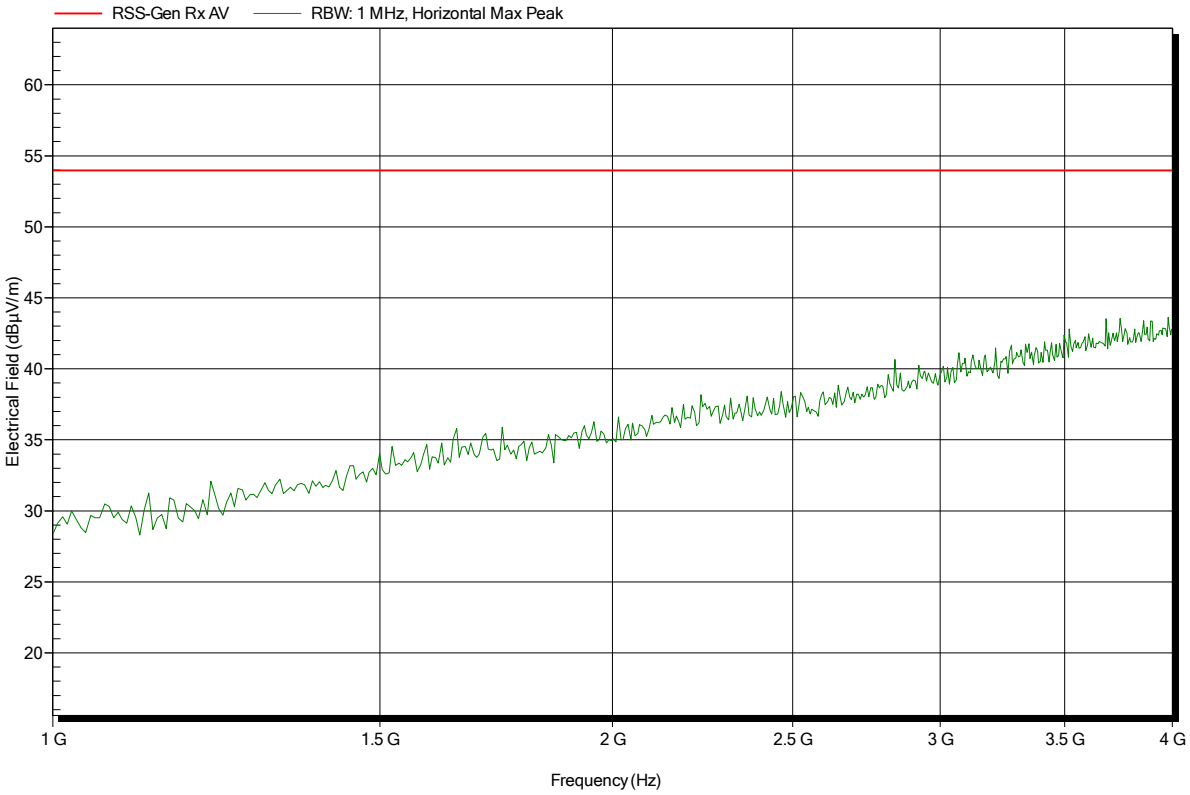


Spurious emissions according to IC RSS-Gen

Project number: G0M-1406-3917

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 VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	3 m
Mode:	RX; UMTS FDD V; CH: 4175, RX-Idle Mode
Test Date:	2014-11-21
Note:	EUT vertical

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