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FCC TEST REPORT

FCC 47 CFR Part 15C
Industry Canada RSS-247

Digital transmission systems operating within the 2400 – 2483.5 MHz band

Report Reference No. .....:	G0M-1508-4977-TFC247BL-V02
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 15C RSS-247, Issue 1, 2015-05 RSS-Gen, Issue 4, 2014-11 ANSI C63.10:2013 ANSI C63.4:2014
Test scope……..…..:	C2PC
Equipment under test (EUT):	
Product description	Laser Distance Meter
Model No.	Leica DISTO Sigma3
Additional Model(s)	LD 250 BT
Brand Name(s)	Leica DISTO
Hardware version	V04
Firmware / Software version	0309
	FCC-ID: RFF-LD1BT IC: 3177A-LD1BT
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 ..... :	2015-08-13	
Date (s) of performance of tests ..... :	2015-08-14	
Compiled by ..... :	Christian Weber	
Tested by (+ signature)..... : (Responsible for Test)	Wilfried Treffke	W. Treffke
Approved by (+ signature) ..... :	Christian Weber	C. Weber
Date of issue ..... :	2015-11-10	
Total number of pages ..... :	86	

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:

According to customer declaration the main model and the additional model are identical in hard- and software and therefore all test results are applicable to both models.

Version History

Version	Issue Date	Remarks	Revised by
01	2015-10-13	Initial Release	
02	2015-11-10	Additional model “LD 250 BT” added	C. Weber

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1 Equipment (Test item) Description

Description	Laser Distance Meter	
Model	Leica DISTO Sigma3	
Additional Model(s)	LD 250 BT	
Brand Name(s)	Leica DISTO	
Serial number	None	
Hardware version	V04	
Software / Firmware version	0309	
FCC-ID	RFF-LD1BT	
IC	3177A-LD1BT	
Equipment type	End product	
Radio type	Transceiver	
Radio technology	Bluetooth 4.0 Low Energy	
Operating frequency range	2402 - 2480 MHz	
Assigned frequency band	2400 - 2483.5 MHz	
Main test frequencies	F_{LOW}	2402 MHz
	F_{MID}	2442 MHz
	F_{HIGH}	2480 MHz
Spreading	Frequency Hopping	
Modulations	GFSK	
Number of channels	40	
Channel spacing	2 MHz	
Number of antennas	1	
Antenna	Type	integrated
	Model	2450AT18B100
	Manufacturer	Johanson Technology
	Gain	-0:5 dBi (manufacturer declaration)
Manufacturer	Leica Geosystems AG Heinrich Wild Strasse 9435 Heerbrugg SWITZERLAND	
Power supply	V_{NOM}	3.0VDC
	V_{MIN}	--
	V_{MAX}	--
AC/DC-Adaptor	none	

1.1 Photos – Equipment External

EUT TOP

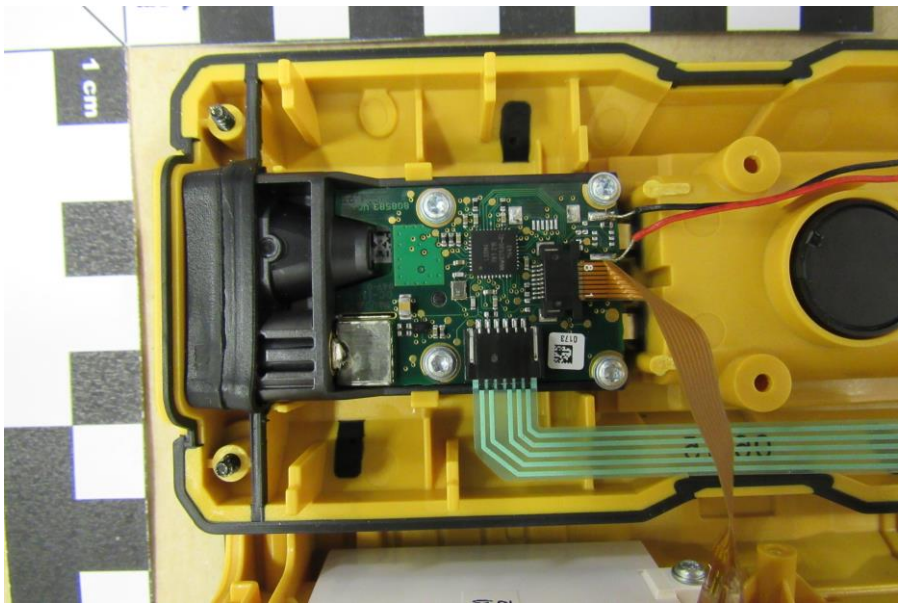

EUT BOTTOM

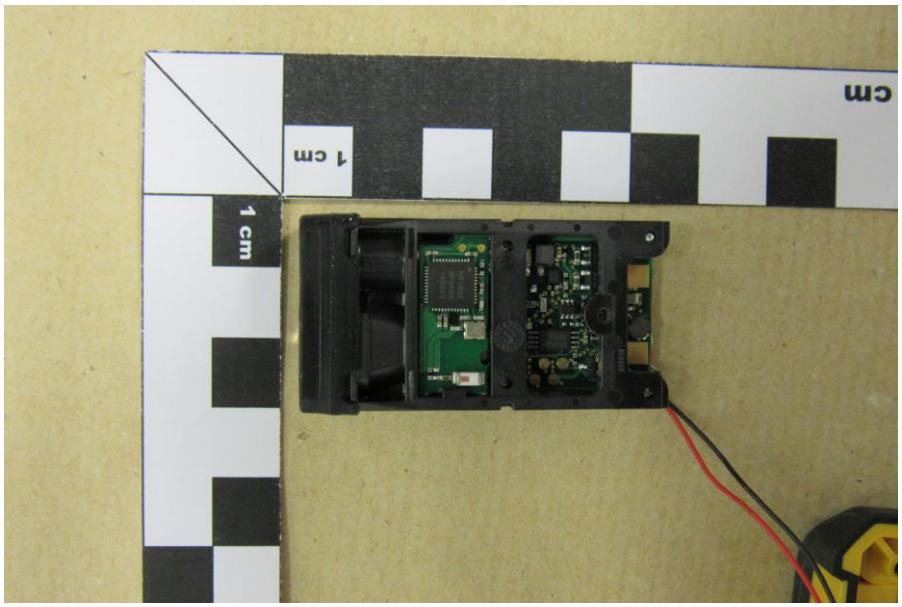

EUT BATTERY COMPARTMENT

EUT DISPLAY

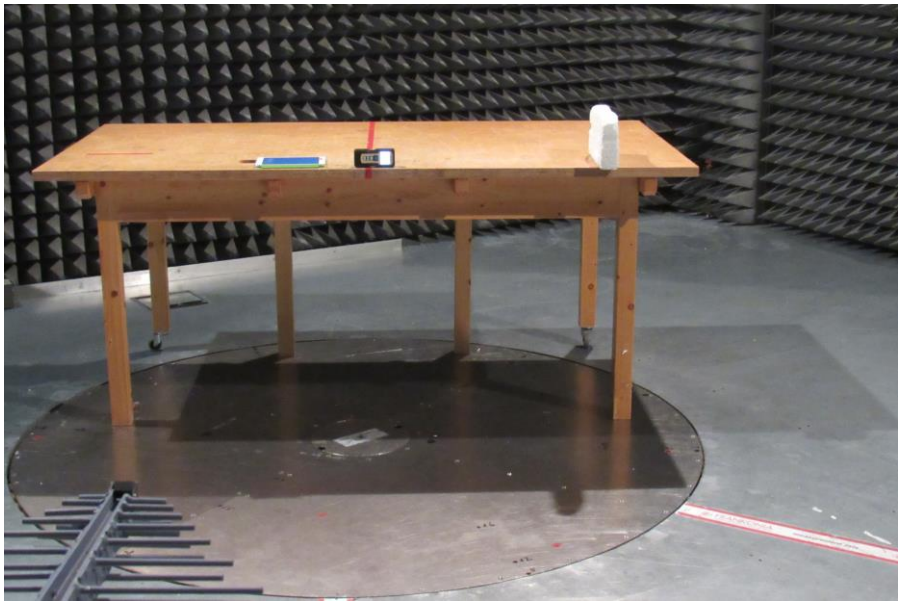
EUT ID


1.2 Photos – Equipment internal

EUT PCB TOP


EUT PCB BOTTOM (RADIO PART)


1.3 Photos – Test setup

TEST SETUP RADIATED


1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments
AE	I-PAD	Apple	-	-

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

AE : Auxiliary/Associated Equipment, or

SIM : Simulator (Not Subjected to Test)

CABL : Connecting cables

1.5 Test Modes

Mode #	Description	
Transmit	General conditions:	EUT powered by laboratory power supply.
	Radio conditions:	Mode = standalone transmit Spreading = Hopping stopped (single hopping channel) Modulation = GFSK Duty cycle = 100 %
Receive	General conditions:	EUT powered by laboratory power supply.
	Radio conditions:	Mode = standalone receive (scan mode) Modulation = GFSK

1.6 Test Equipment Used During Testing

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

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

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

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

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

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

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

Radiated spurious emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Semi-anechoic chamber	Frankonia	AC 5	EF00395	Verification	Verification
Spectrum Analyzer	R&S	FSIQ26	EF00242	2015-04	2016-04
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

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 15C, IC RSS-247				
Product Specific Standard Section	**Requirement – Test**	**Reference Method**	**Result**	**Remarks**
RSS-Gen 6.6	Occupied Bandwidth	ANSI C63.10	N/R	Informational only
FCC § 15.247(a)(2) IC RSS-247 § 5.2	6dB Bandwidth	ANSI C63.10	PASS	
FCC § 15.247(b)(3) IC RSS-247 § 5.4	Maximum peak conducted power	ANSI C63.10	PASS	
FCC § 15.247(e) IC RSS-247 § 5.2	Power spectral density	ANSI C63.10	PASS	
47 CFR 15.207 IC RSS-247 § 3.1	AC power line conducted emissions	ANSI C63.4	PASS	
FCC § 15.247(d) IC RSS-247 § 5.5	Band edge compliance	ANSI C63.10	PASS	
FCC § 15.247(d) IC RSS-247 § 5.5	Conducted spurious emissions	ANSI C63.10	PASS	
FCC § 15.247(d) FCC § 15.209 IC RSS-247 § 5.5	Transmitter radiated spurious emissions	ANSI C63.10	PASS	
IC RSS-247 § 3.1	Receiver radiated spurious emissions	ANSI C63.10	PASS	
Remarks:				

3 Test Conditions and Results

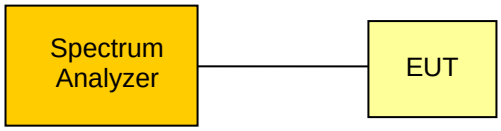
3.1 Test Conditions and Results – Occupied Bandwidth

Occupied Bandwidth acc. to IC RSS-Gen	**Verdict: PASS**
Test according to measurement reference	Reference Method
	ANSI C63.10
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

Channel	Frequency [MHz]	Mode	Occupied Bandwidth [MHz]
F_{LOW}	2402	Transmit	1.990
F_{MID}	2442	Transmit	2.088
F_{HIGH}	2480	Transmit	2.111

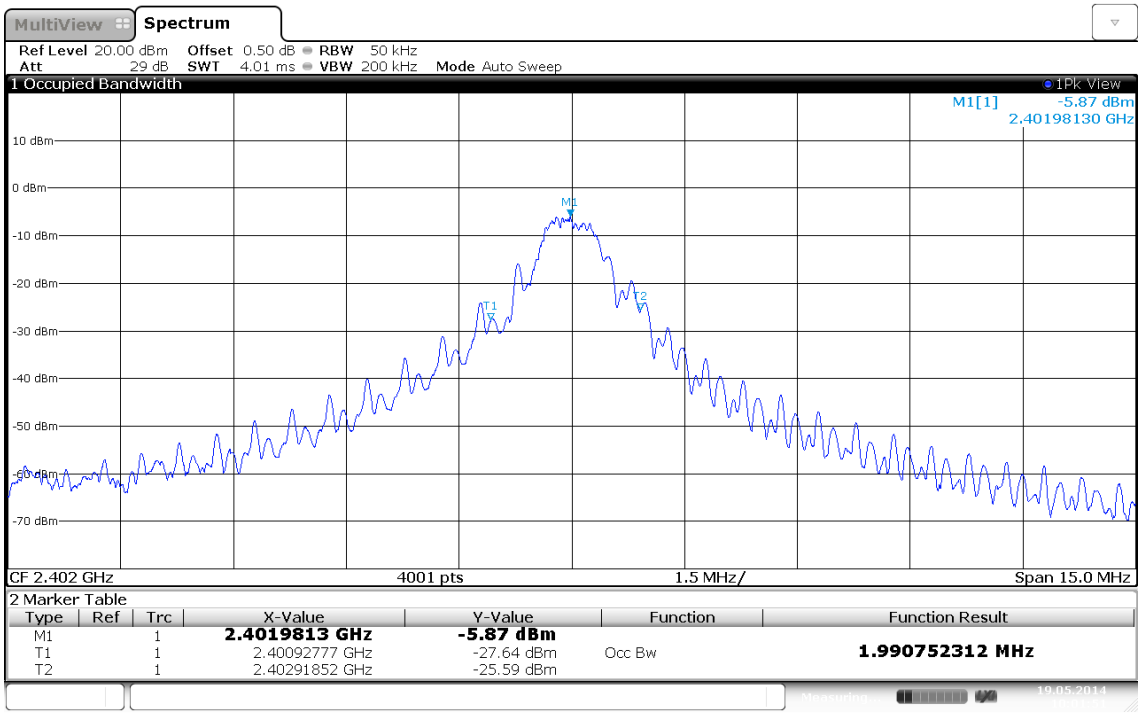
Comments:

Occupied Bandwidth – F_{LOW}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO E7100i
Test Site:	Eurofins Product Service GmbH
Operator:	Wilfried Treffke
Test Conditions:	Tnom / Vnom
Mode:	Tx, BTLE, 2402 MHz, modulated
Test Date:	2015-08-14
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	conducted measurement

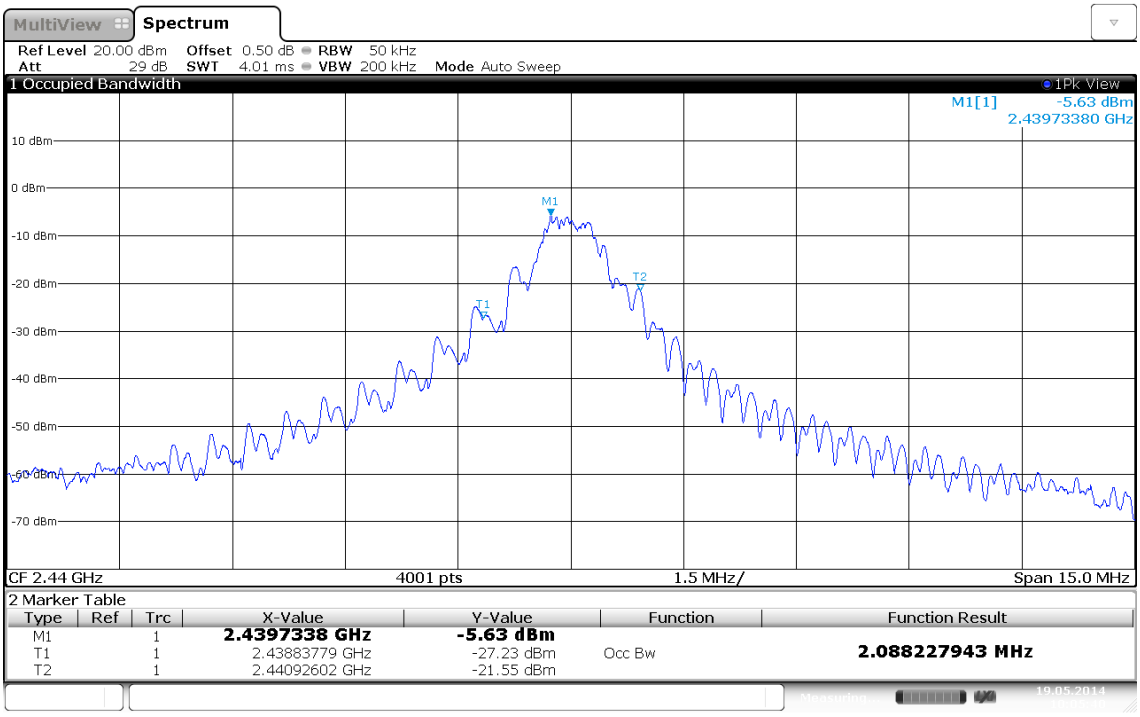


Occupied Bandwidth – F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO E7100i
Test Site:	Eurofins Product Service GmbH
Operator:	Wilfried Treffke
Test Conditions:	Tnom / Vnom
Mode:	Tx, BTLE, 2440 MHz, modulated
Test Date:	2015-08-14
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	conducted measurement

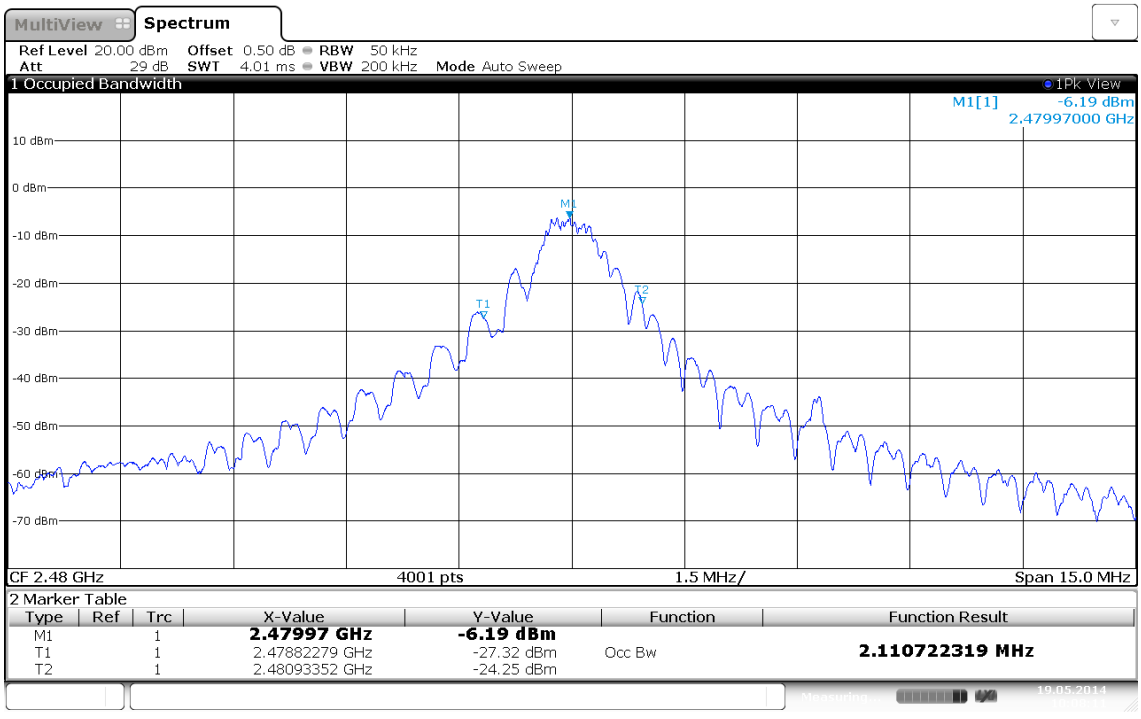


Occupied Bandwidth – F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO E7100i
Test Site:	Eurofins Product Service GmbH
Operator:	Wilfried Treffke
Test Conditions:	Tnom / Vnom
Mode:	Tx, BTLE, 2480 MHz, modulated
Test Date:	2015-08-14
Verdict:	NONE (INFORMATION ONLY)
Note 1:	A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2:	conducted measurement



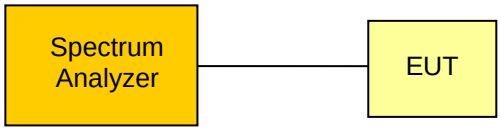
3.2 Test Conditions and Results – 6 dB Bandwidth

6dB Bandwidth acc. to FCC 15.247 / IC RSS-247	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.247(a)(2) / IC RSS-247 5.2
Test according to measurement reference	Reference Method
	ANSI C63.10
Test frequency range	Tested frequencies
	F_{LOW} / F_{MID} / F_{HIGH}

Limits

Limit
≥ 500kHz

Test setup



Test procedure

1. EUT set to test mode
2. Span set to at least twice the emission spectrum
3. Detector set to peak and max hold and RBW is set to 100 kHz
4. Envelope peak value of emission spectrum is selected
5. Marker on envelope of spectrum is set to level of -6 dB to the left of the peak
6. Marker on envelope of spectrum is set to level of -6 dB to the right of the peak
7. 6 dB Bandwidth is determined by marker frequency separation

Test results

Channel	Frequency [MHz]	Mode	6 dB Bandwidth [kHz]	Limit [kHz]	Result
F_{LOW}	2402	Transmit	755.4	500	PASS
F_{MID}	2442	Transmit	674.5	500	PASS
F_{HIGH}	2480	Transmit	658.0	500	PASS

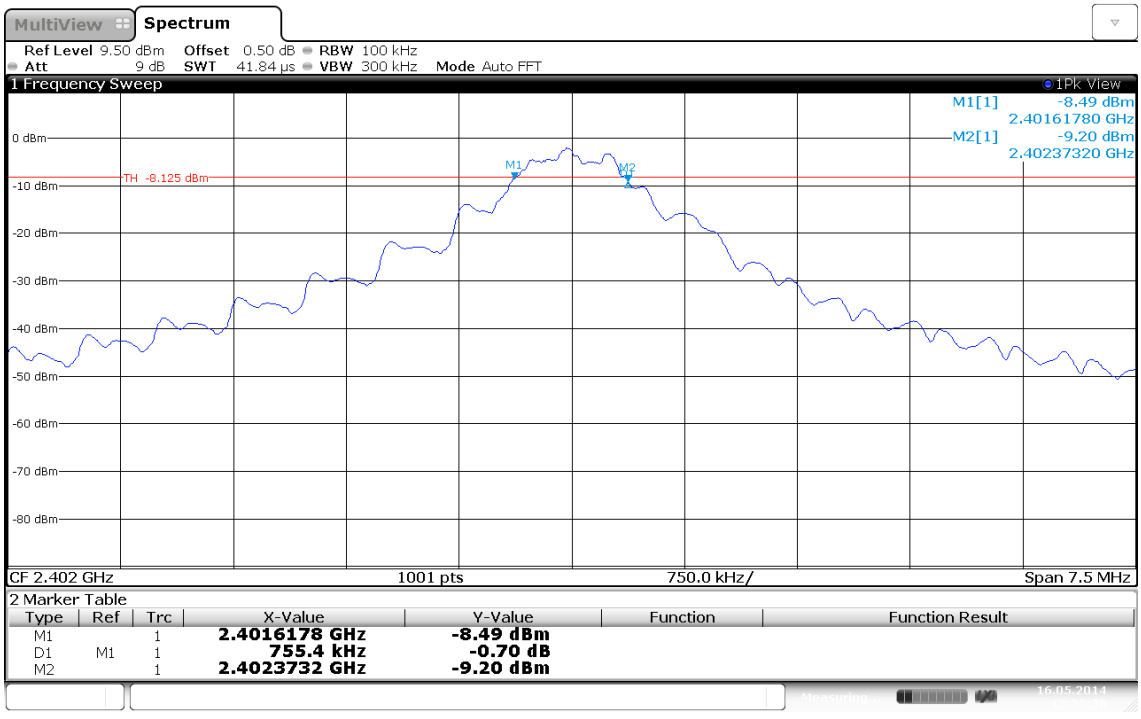
Comments:

6 dB Bandwidth – F_{LOW}

Minimum 6 dB Bandwidth acc. to FCC 15.247

Project Number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO E7100i
Test Site:	Eurofins Product Service GmbH
Operator:	Wilfried Treffke
Test Conditions:	Tnom / Vnom
Mode:	Tx, BTLE, 2402 MHz, modulated
Test Date:	2015-08-14
Verdict:	PASS
Note 1:	Procedure 8.1 DTS (558074 D01 Meas Guidance)
Note 2:	Minimum 6 dB Bandwidth conducted

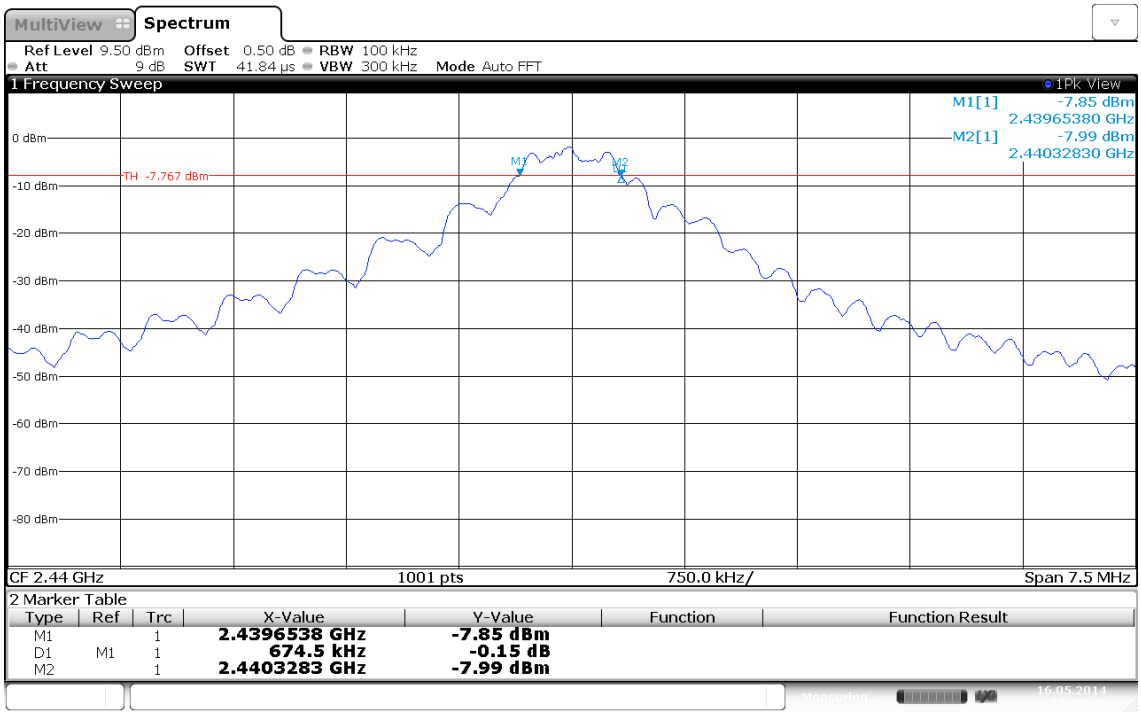


6 dB Bandwidth – F_{MID}

Minimum 6 dB Bandwidth acc. to FCC 15.247

Project Number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO E7100i
Test Site:	Eurofins Product Service GmbH
Operator:	Wilfried Treffke
Test Conditions:	Tnom / Vnom
Mode:	Tx, BTLE, 2440 MHz, modulated
Test Date:	2015-08-14
Verdict:	PASS
Note 1:	Procedure 8.1 DTS (558074 D01 Meas Guidance)
Note 2:	Minimum 6 dB Bandwidth conducted

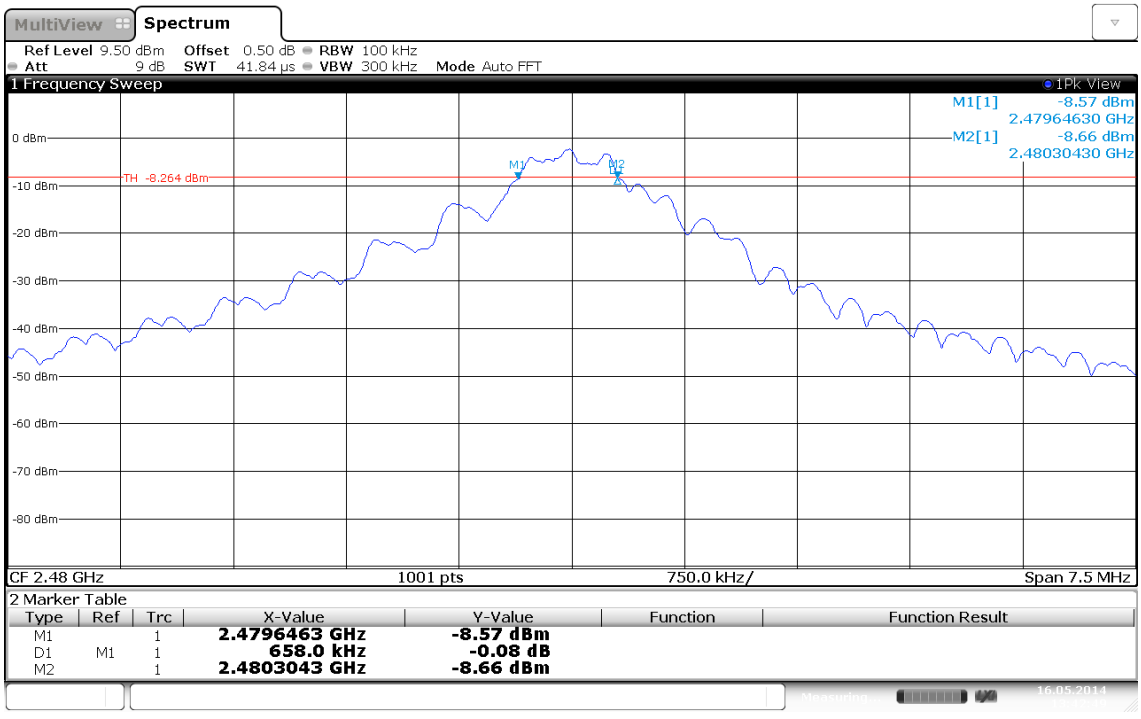


6 dB Bandwidth – F_{HIGH}

Minimum 6 dB Bandwidth acc. to FCC 15.247

Project Number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO E7100i
Test Site:	Eurofins Product Service GmbH
Operator:	Wilfried Treffke
Test Conditions:	Tnom / Vnom
Mode:	Tx, BTLE, 2480 MHz, modulated
Test Date:	2015-08-14
Verdict:	PASS
Note 1:	Procedure 8.1 DTS (558074 D01 Meas Guidance)
Note 2:	Minimum 6 dB Bandwidth conducted



3.3 Test Conditions and Results – Maximum peak conducted power

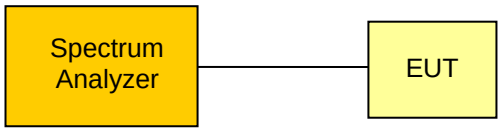
Maximum peak conducted power acc. to FCC 15.247 / IC RSS-247	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.247(b)(3) / IC RSS-247 5.4
Test according to measurement reference	Reference Method
	ANSI C63.10
Test frequency range	Tested frequencies
	F_{LOW} / F_{MID} / F_{HIGH}
Measurement mode	Peak
Maximum antenna gain	-0.5 dBi ⇒ Limit correction = 0 dB

Limits

1 W (30 dBm)

The conducted output power limit specified above is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in the table, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Center frequency set to test channel center frequency
3. Span set to twice the 20 dB bandwidth and detector to peak and max hold
4. Resolution bandwidth is set to 3 MHz
5. Peak conducted power is determined from peak of spectrum envelope

Test results

Channel	Frequency [MHz]	Voltage	Mode	Peak power [dbm]	Peak power [W]	Limit [dBm]	Margin [dB]
F_{LOW}	2402	V_{nom} = 3.3V	Transmit	-1.59	0.001	30	-31.59
F_{LOW}	2402	V_{min} = 2.0V	Transmit	-1.88	0.001	30	-31.88
F_{LOW}	2402	V_{max} = 3.6V	Transmit	-2.28	0.001	30	-32.28

Comment:

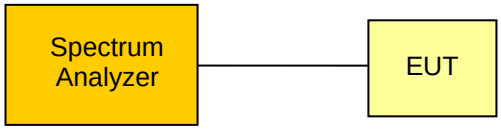
3.4 Test Conditions and Results – Power spectral density

Power spectral density acc. to FCC 15.247 / IC RSS-247	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.247(e) / IC RSS-247 5.2
Test according to measurement reference	Reference Method
	ANSI C63.10
Test frequency range	Tested frequencies
	F_{LOW} / F_{MID} / F_{HIGH}
Measurement mode	Peak

Limits

8 dBm / 3 kHz

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Center frequency set to test channel center frequency
3. Span is set large enough to capture maximum emissions in passband, RBW is set to 3kHz
4. Peak power density is determined from peak emission of envelope

Test results

Channel	Frequency [MHz]	Test mode	Peak frequency [MHz]	Peak power density [dBm]	Limit [dBm/3kHz]	Margin [dB]
F_{LOW}	2402	Transmit	2401.982	-1.81	8.0	-09.81
F_{MID}	2442	Transmit	2439.982	-2.00	8.0	-10.00
F_{HIGH}	2480	Transmit	2479.978	-2.36	8.0	-10.36

Comments:

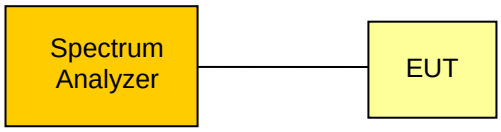
3.6 Test Conditions and Results – Band edge compliance

Band-edge compliance acc. to FCC 15.247 / IC RSS-247	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.247(d) / IC RSS-247 5.5
Test according to measurement reference	Reference Method
	ANSI C63.10
Test frequency range	Tested frequencies
	F_{LOW} / F_{HIGH}
Measurement mode	Peak

Limits

Limit	Condition
≤ -20 dB / 100 kHz	Peak power measurement detector = Peak
≤ -30 dB / 100 kHz	Peak power measurement detector = RMS

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Span set around lower band edge and detector is set to peak and max hold
3. Resolution bandwidth is set to 100 kHz
4. Markers are set to peak emission levels within frequency band and outside frequency band
5. Band edge attenuation is determined from level difference

Test results

Channel	Frequency [MHz]	Mode	Level [dBc]	Limit [dBc]	Margin [dB]
F_{LOW}	2402	Transmit	-31.95	-20	-11.95
F_{HIGH}	2480	Transmit	-46.25	-20	-26.25

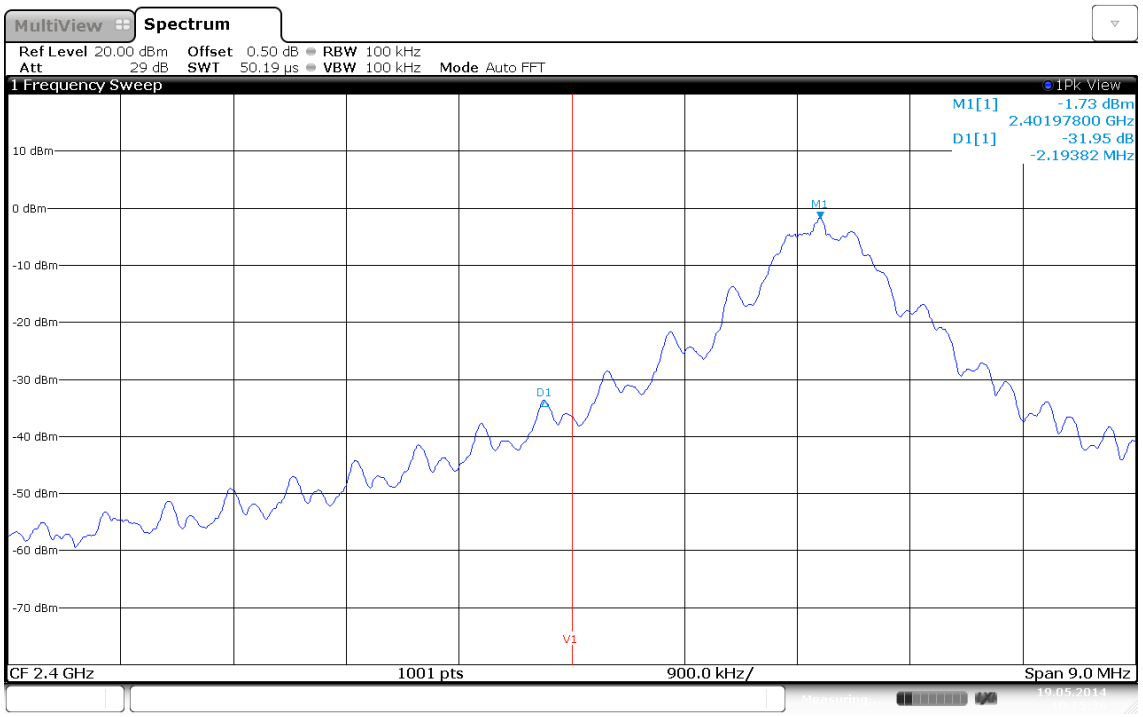
Comments:

Band-edge compliance

Band-edge compliance acc. to FCC 15.247

Project Number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO E7100i
Test Site:	Eurofins Product Service GmbH
Operator:	Wilfried Treffke
Test Conditions:	Tnom / Vnom
Mode:	Tx, BTLE, 2402 MHz, modulated
Test Date:	2015-08-14
Verdict:	PASS

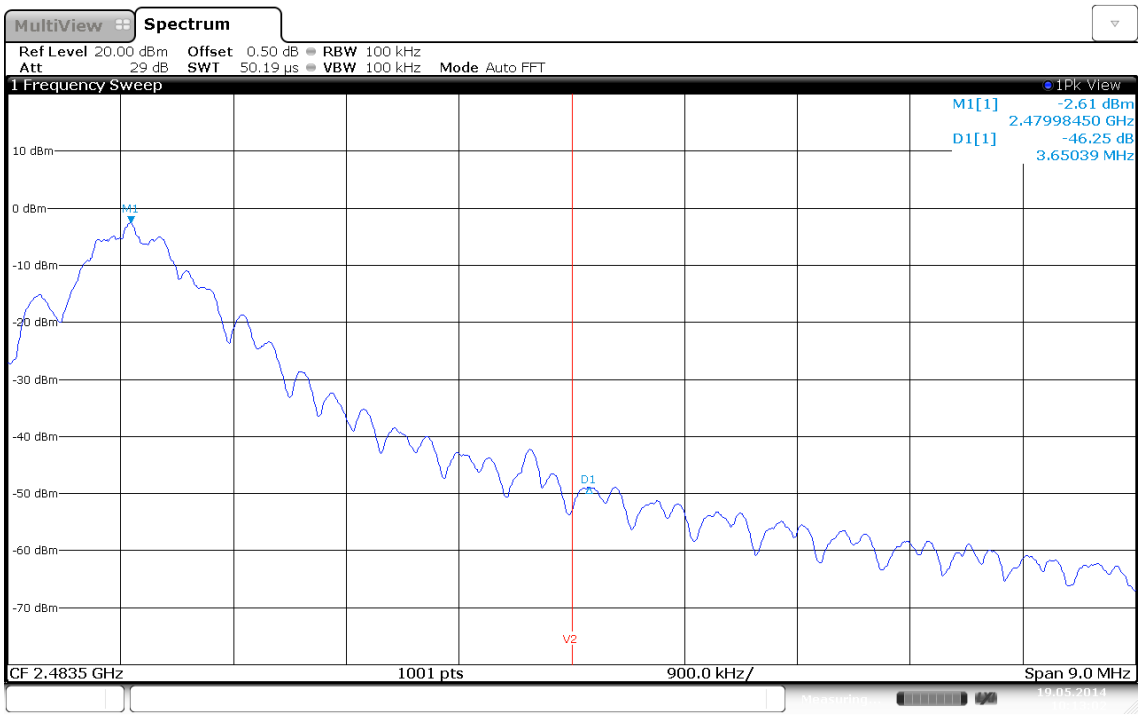


Band-edge compliance

Band-edge compliance acc. to FCC 15.247

Project Number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO E7100i
Test Site:	Eurofins Product Service GmbH
Operator:	Wilfried Treffke
Test Conditions:	Tnom / Vnom
Mode:	Tx, BTLE, 2480 MHz, modulated
Test Date:	2015-08-14
Verdict:	PASS



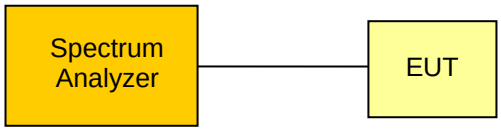
3.7 Test Conditions and Results – Conducted spurious emissions

Conducted spurious emissions acc. to FCC 15.247 / IC RSS-247	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.247(d) / IC RSS-247 5.5
Test according to measurement reference	Reference Method
	ANSI C63.10
Test frequency range	Tested frequencies
	10 MHz – 10th Harmonic
Measurement mode	Peak

Limits

Limit	Condition
≤ -20 dB / 100 kHz	Peak power measurement detector = Peak
≤ -30 dB /100 kHz	Peak power measurement detector = RMS

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Span it set according to measurement range
3. Resolution bandwidth is set to 100 kHz and detector to peak and max hold
4. Markers are set to peak emission levels within frequency band
5. Emission level is determined by second marker on emission peak
6. Attenuation is determined from level difference

Test results

Channel	Frequency [MHz]	Mode	Emission [MHz]	Emission Level [dBm]	Peak power [dBm]	Limit [dBm]	Margin [dB]
F_{LOW}	2402	BT LE	4804.720	-42.48	-1.97	-22.00	-20.48
F_{LOW}	2402	BT LE	4880.870	-45.35	-1.82	-22.00	-23.35
F_{HIGH}	2480	BT LE	4960.920	-46.73	-3.16	-22.00	-24.73

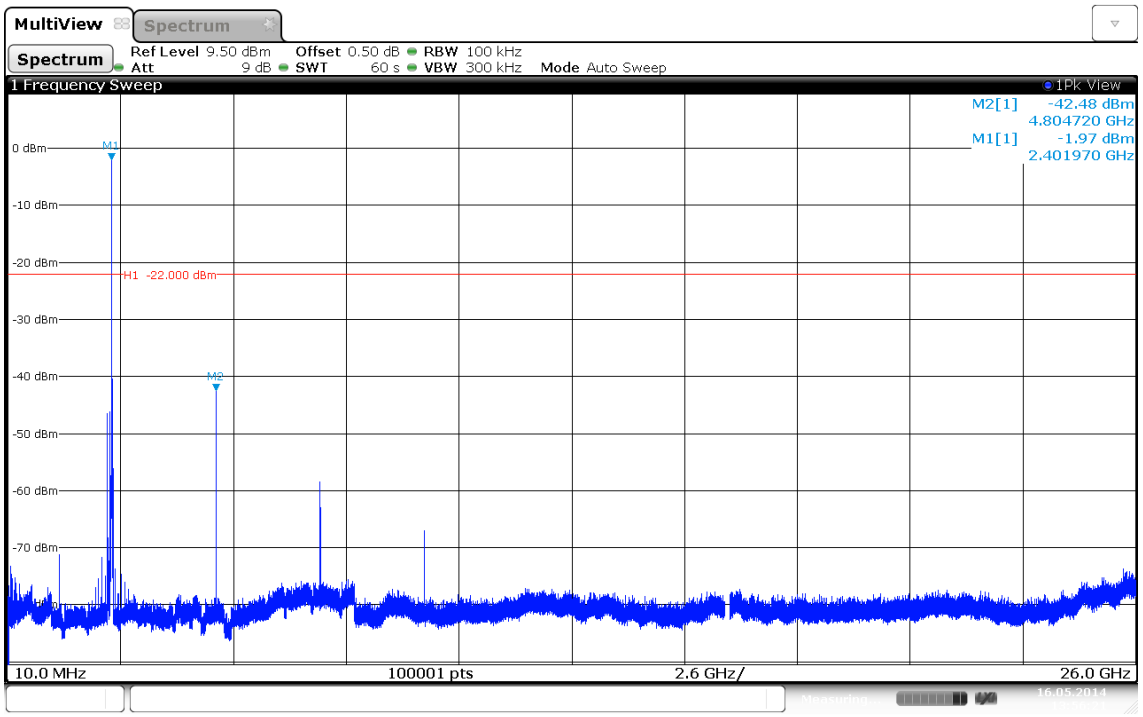
Comments:

Conducted spurious emissions – F_{LOW}

Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO E7100i
Test Site:	Eurofins Product Service GmbH
Operator:	Wilfried Treffke
Test Conditions:	Tnom / Vnom
Mode:	Tx, BTLE, 2402 MHz, modulated
Test Date:	2015-08-14
Verdict:	PASS

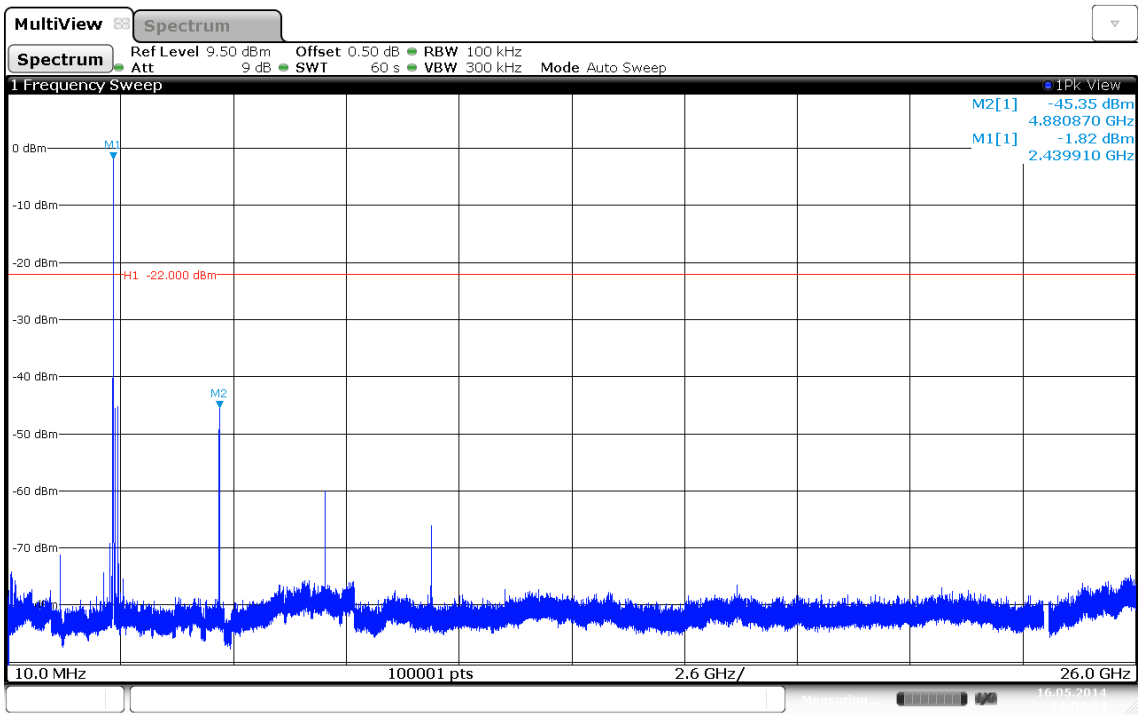


Conducted spurious emissions – F_{MID}

Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO E7100i
Test Site:	Eurofins Product Service GmbH
Operator:	Wilfried Treffke
Test Conditions:	Tnom / Vnom
Mode:	Tx, BTLE, 2440 MHz, modulated
Test Date:	2015-08-14
Verdict:	PASS

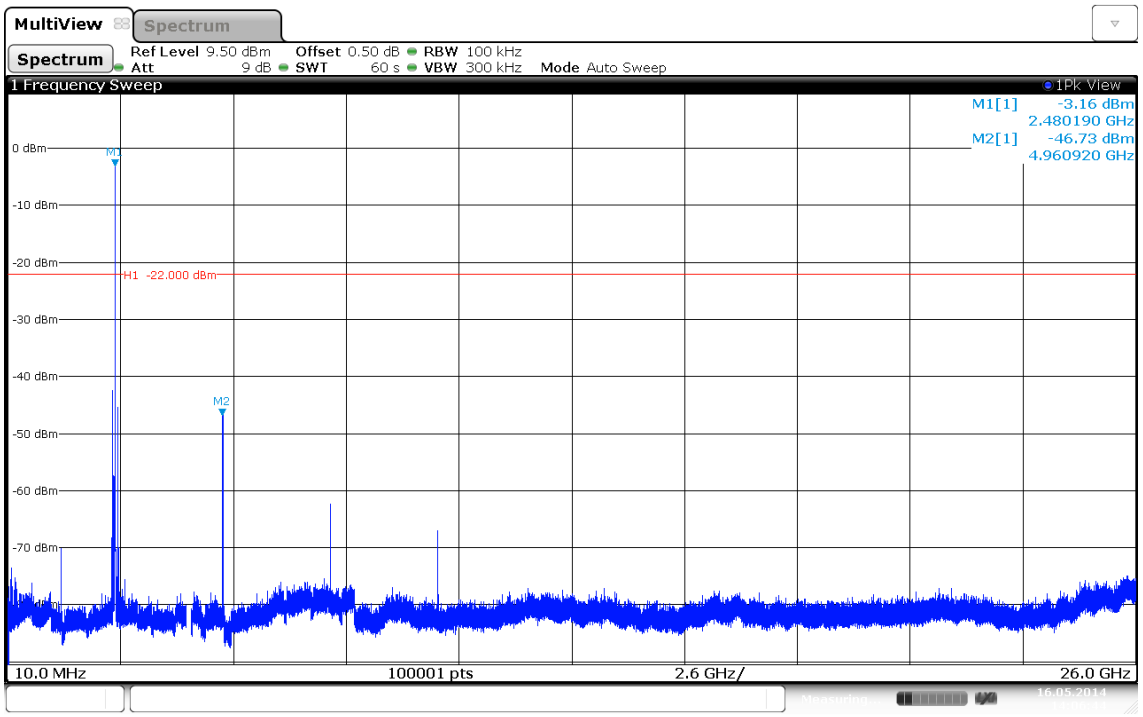


Conducted spurious emissions – F_{HIGH}

Spurious Emissions acc. to FCC 15.247

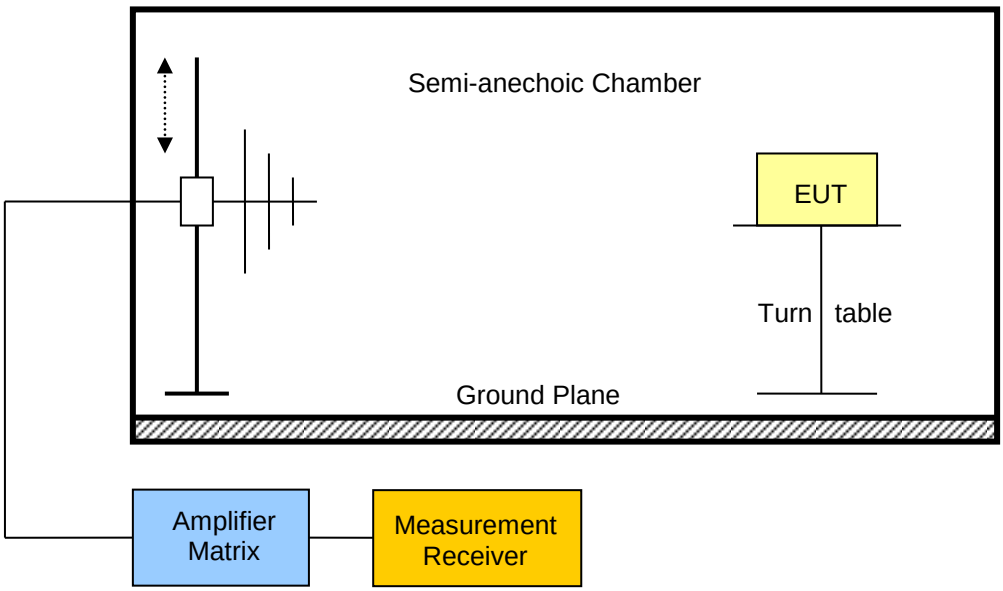
Project Number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO E7100i
Test Site:	Eurofins Product Service GmbH
Operator:	Wilfried Treffke
Test Conditions:	Tnom / Vnom
Mode:	Tx, BTLE, 2480 MHz, modulated
Test Date:	2015-08-14
Verdict:	PASS



3.8 Test Conditions and Results – Transmitter radiated emissions

Transmitter radiated emissions acc. to FCC 47 CFR 15.247 / IC RSS-247				**Verdict: PASS**
Test according referenced standards	Reference Method			
	FCC 15.247(d) / IC RSS-247 5.5			
Test according to measurement reference	Reference Method			
	ANSI C63.10			
Test frequency range	Tested frequencies			
	30 MHz – 10th Harmonic			
Limits				
Frequency range [MHz]	Detector	Limit [µV/m]	Limit [dBµV/m]	Limit Distance [m]
30 – 88	Quasi-Peak	100	40	3
88 – 216	Quasi-Peak	150	43.5	3
216 – 960	Quasi-Peak	200	46	3
960 – 1000	Quasi-Peak	500	54	3
> 1000	Average	500	54	3
Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)). When average radiated emission measurements are specified, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.				
Test setup				



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

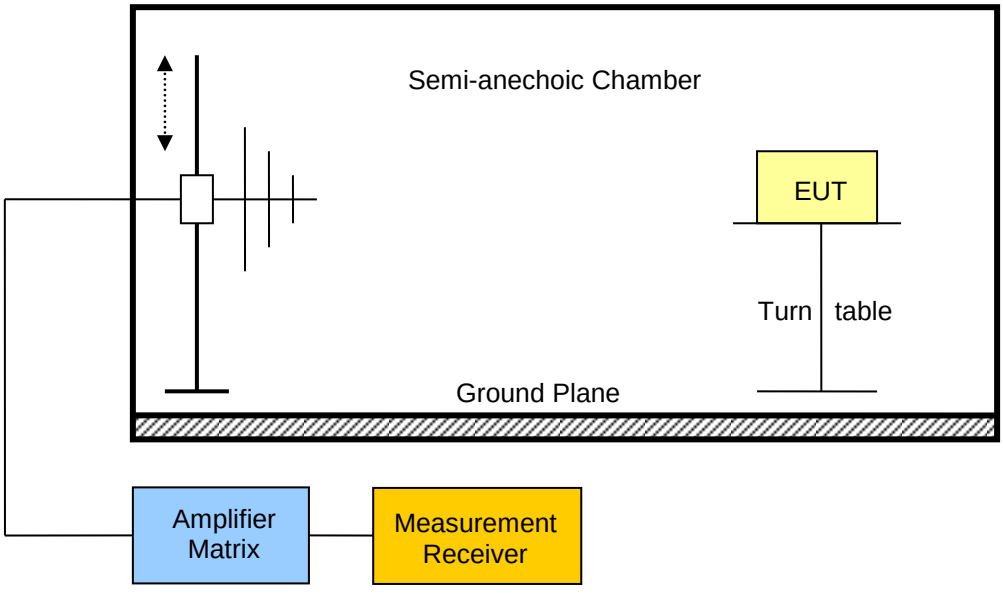
Test results

Channel	Frequency [MHz]	Mode	Emission [MHz]	Level [dbµV/m]	Det.	Pol.	Limit [dbµV/m]	Limit dist. [m]*	Margin [dB]
0	2402	Transmit	4800	52.38	pk	ver	74.00	3	-21.62
0	2402	Transmit	4800	52.38	pk	ver	54.00	3	-01.62
0	2402	Transmit	4804	60.37	pk	hor	74.00	3	-13.63
0	2402	Transmit	4804	48.24	RMS	hor	54.00	3	-05.72
19	2440	Transmit	4881	56.99	pk	hor	74.00	3	-17.01
19	2440	Transmit	4881	40.21	RMS	hor	54.00	3	-13.79
19	2440	Transmit	4881	52.78	pk	ver	74.00	3	-21.22
19	2440	Transmit	4881	52.78	pk	ver	54.00	3	-01.22
39	2480	Transmit	4960	51.01	pk	ver	74.00	3	-22.99
39	2480	Transmit	4960	42.01	RMS	hor	54.00	3	-11.99
39	2480	Transmit	4961	58.86	pk	hor	74.00	3	-15.14
39	2480	Transmit	4961	51.01	pk	ver	74.00	3	-22.99
39	2480	Transmit	4961	51.01	pk	ver	54.00	3	-02.99

Comments: * Physical distance between EUT and measurement antenna.

3.9 Test Conditions and Results – Receiver radiated emissions

Receiver radiated emissions acc. IC RSS-247				**Verdict: PASS**
Test according referenced standards	Reference Method			
	IC RSS-247 3.1			
Test according to measurement reference	Reference Method			
	ANSI C63.10			
Test frequency range	Tested frequencies			
	30 MHz – 5th 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 1 GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1 MHz with peak/average detector is used above 1 GHz 4. Markers are set to peak emission levels

Test results

Channel	Frequency [MHz]	Emission [MHz]	Emission Level [dbµV/m]	Pol	Det.	Limit [dBµV/m]	Margin [dB]
19	2440	3214	39.63	hor	pk	53.98	-14.35
19	2440	3880	40.29	ver	pk	53.98	-13.69
19	2440	5352	44.26	hor	pk	53.98	-09.72
19	2440	6768	47.18	hor	pk	53.98	-06.80
19	2440	7976	50.66	ver	pk	53.98	-03.32
19	2440	9454	41.66	ver	pk	53.98	-12.32
19	2440	10484	43.19	hor	pk	53.98	-10.79

Comments:

ANNEX A Transmitter radiated spurious emissions

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	EUT vertical

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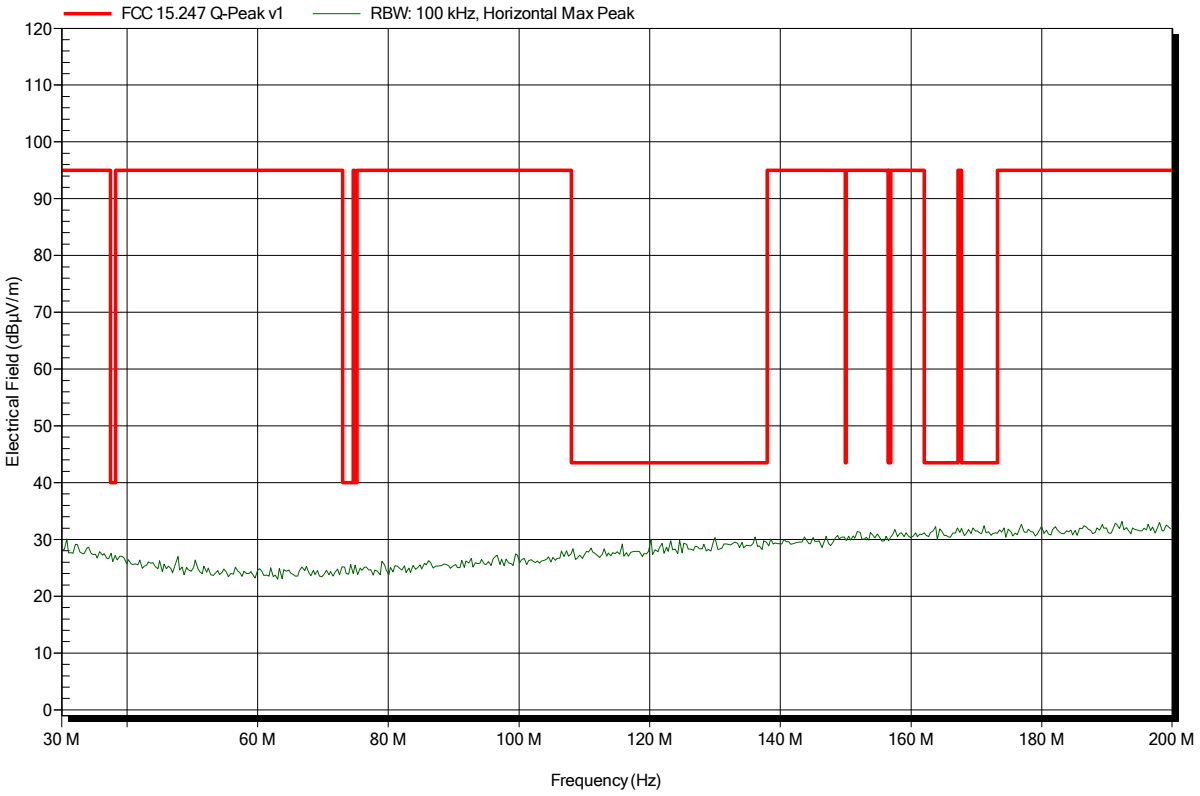

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	EUT vertical

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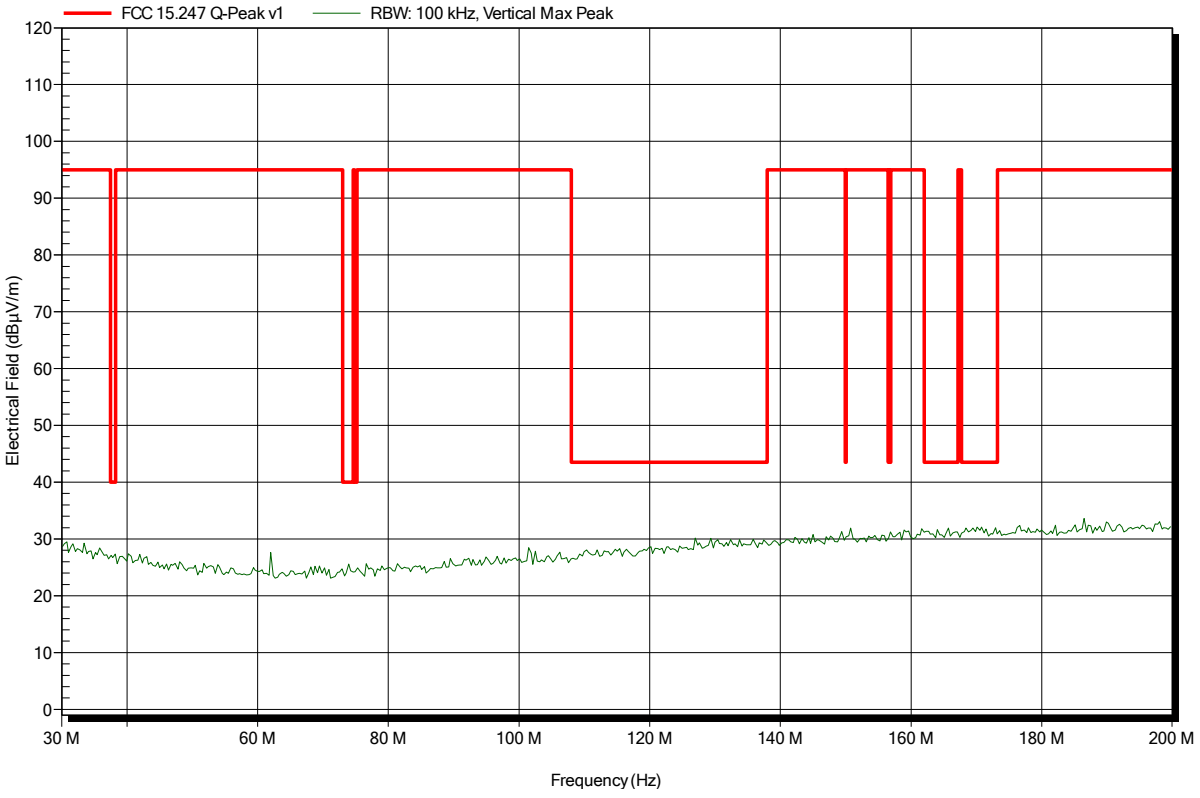

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	EUT vertical

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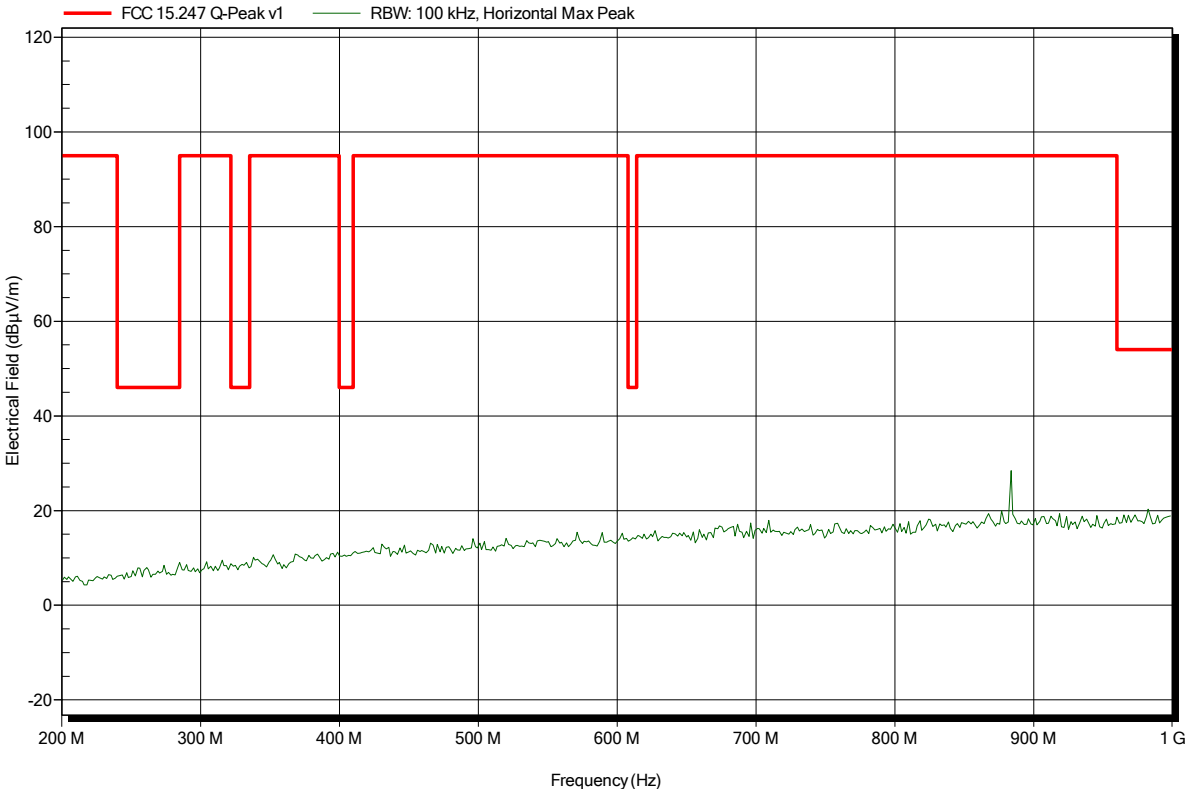

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	EUT vertical

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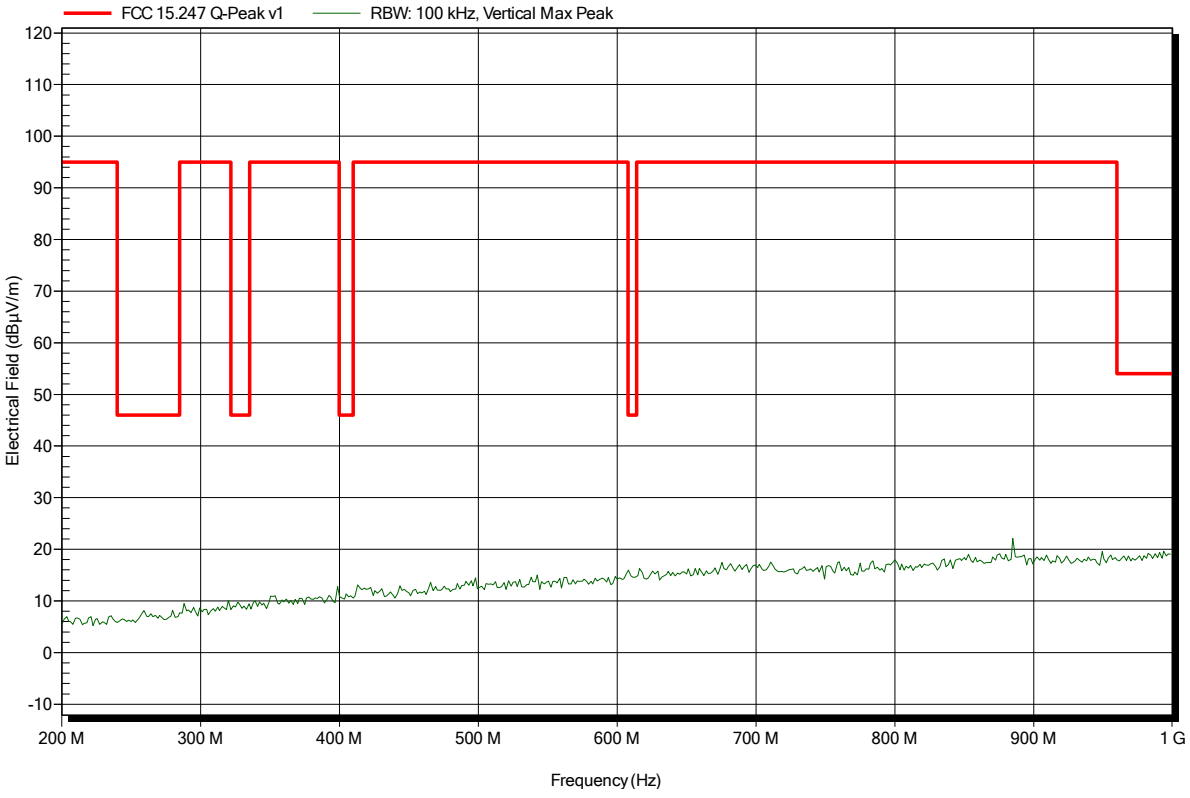

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	EUT vertical

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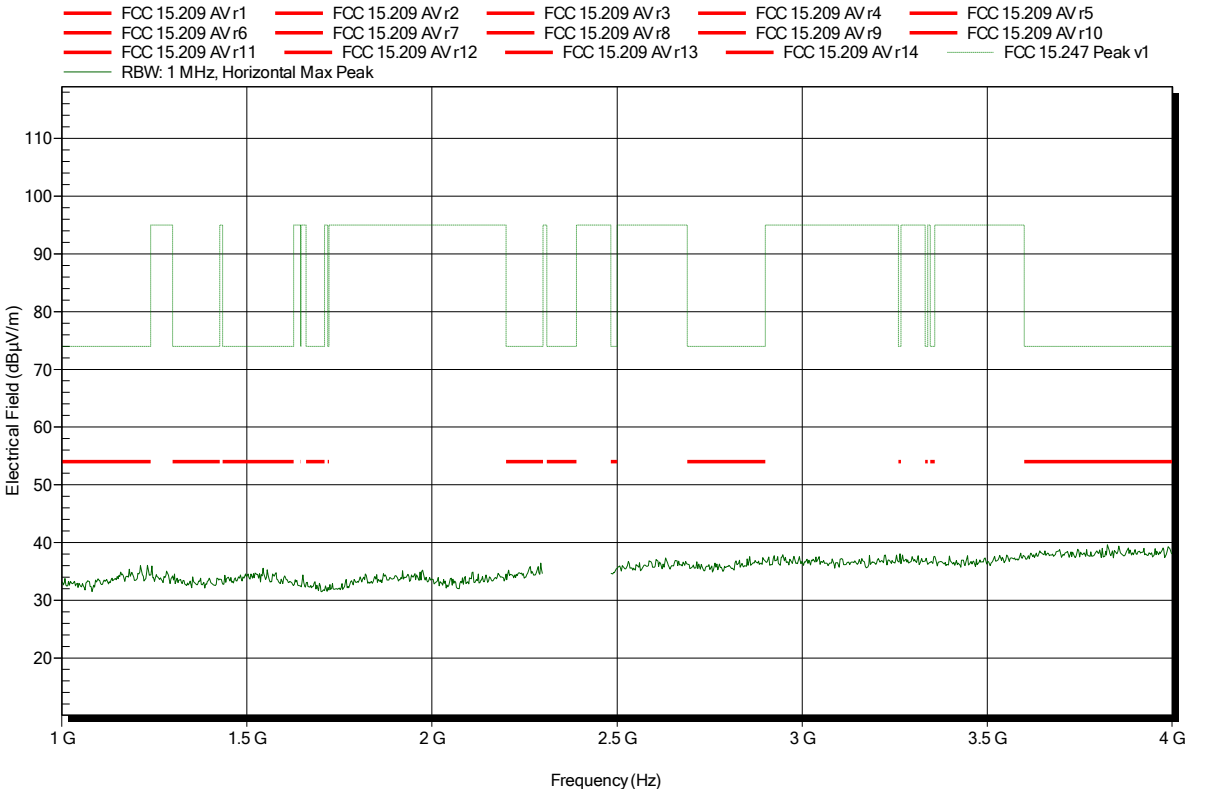

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	EUT vertical

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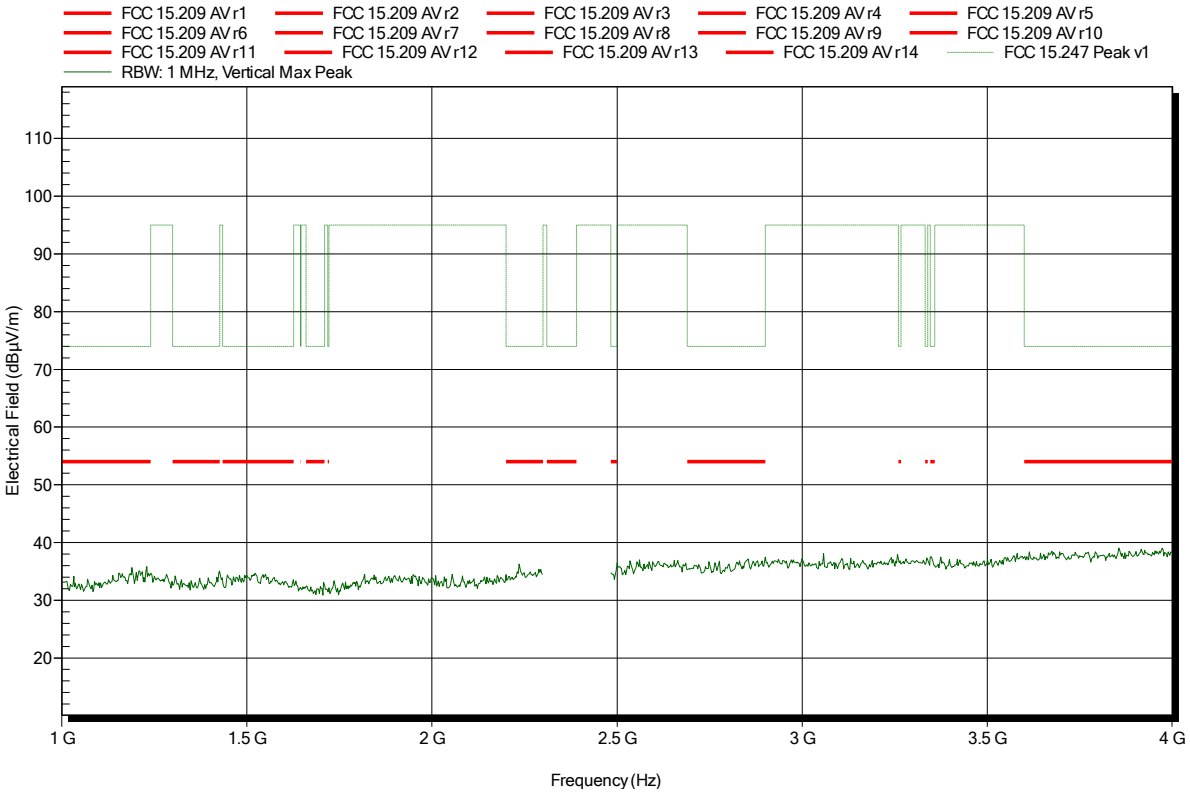
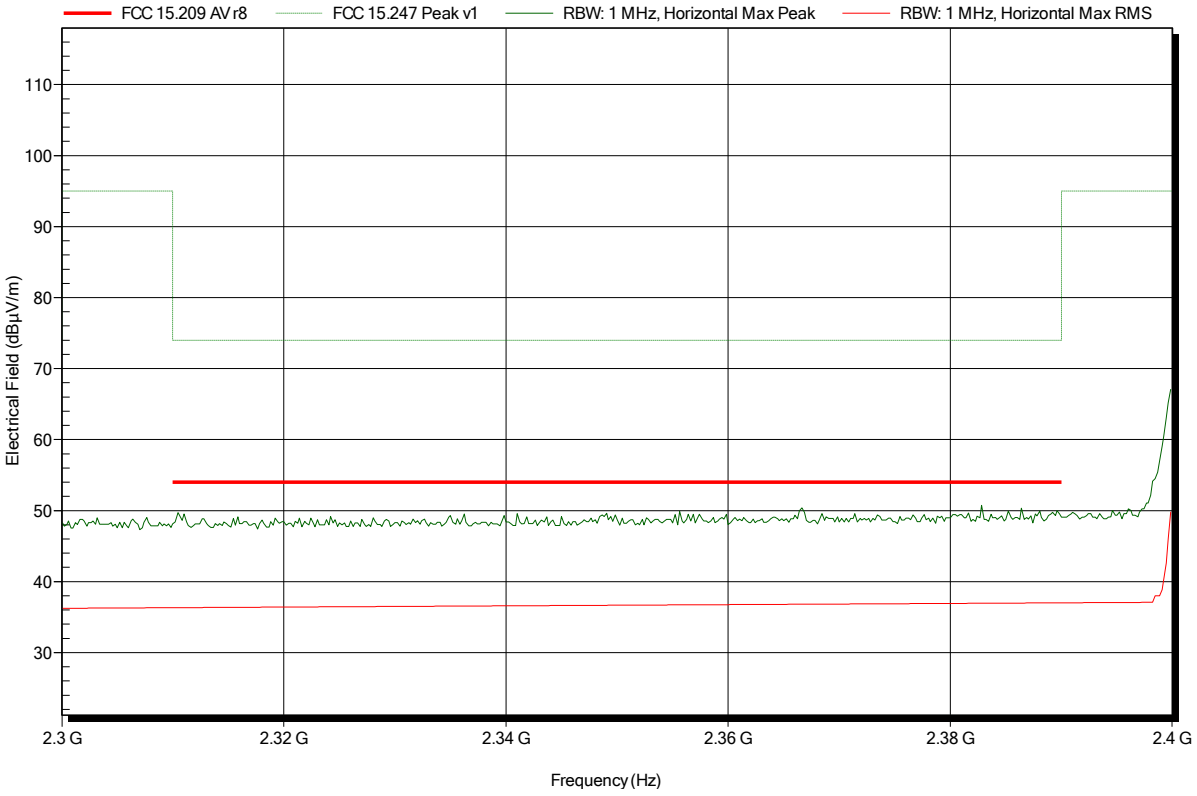


Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	lower bandedge, EUT vertical

Index 1

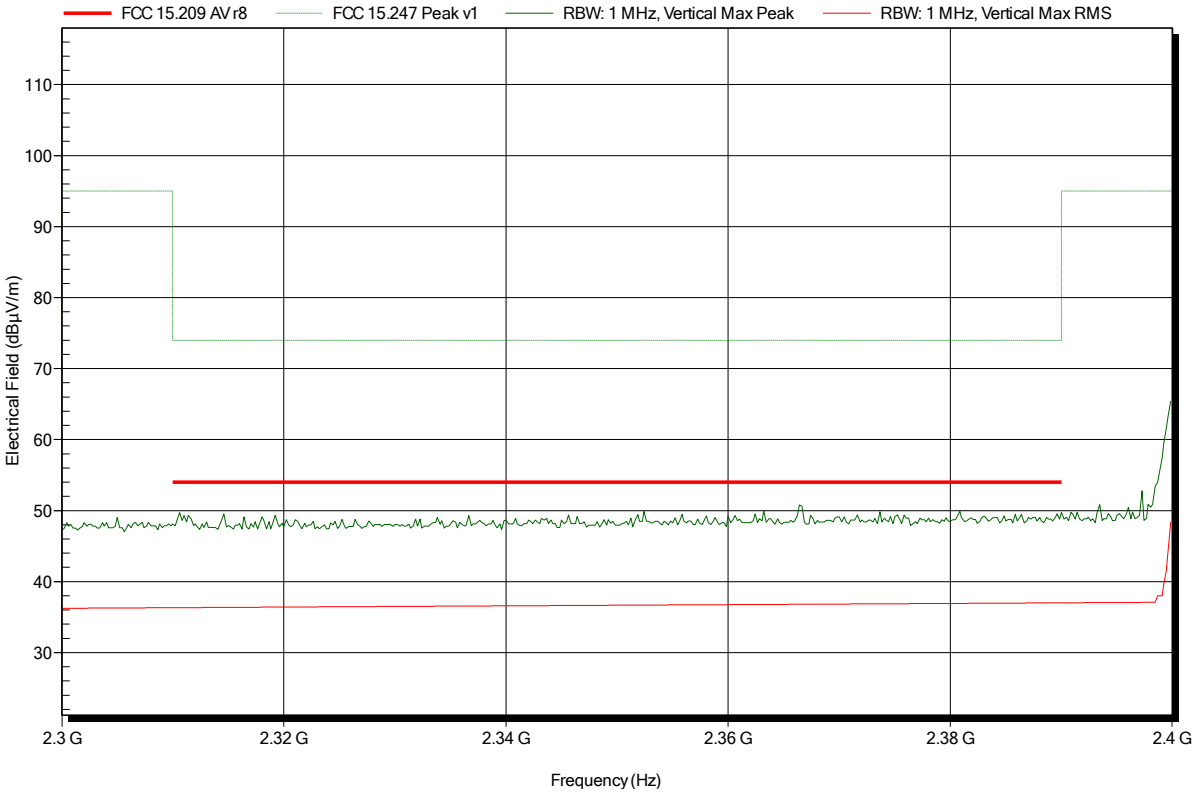


Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	lower bandedge, EUT vertical

Index 5



Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	EUT vertical

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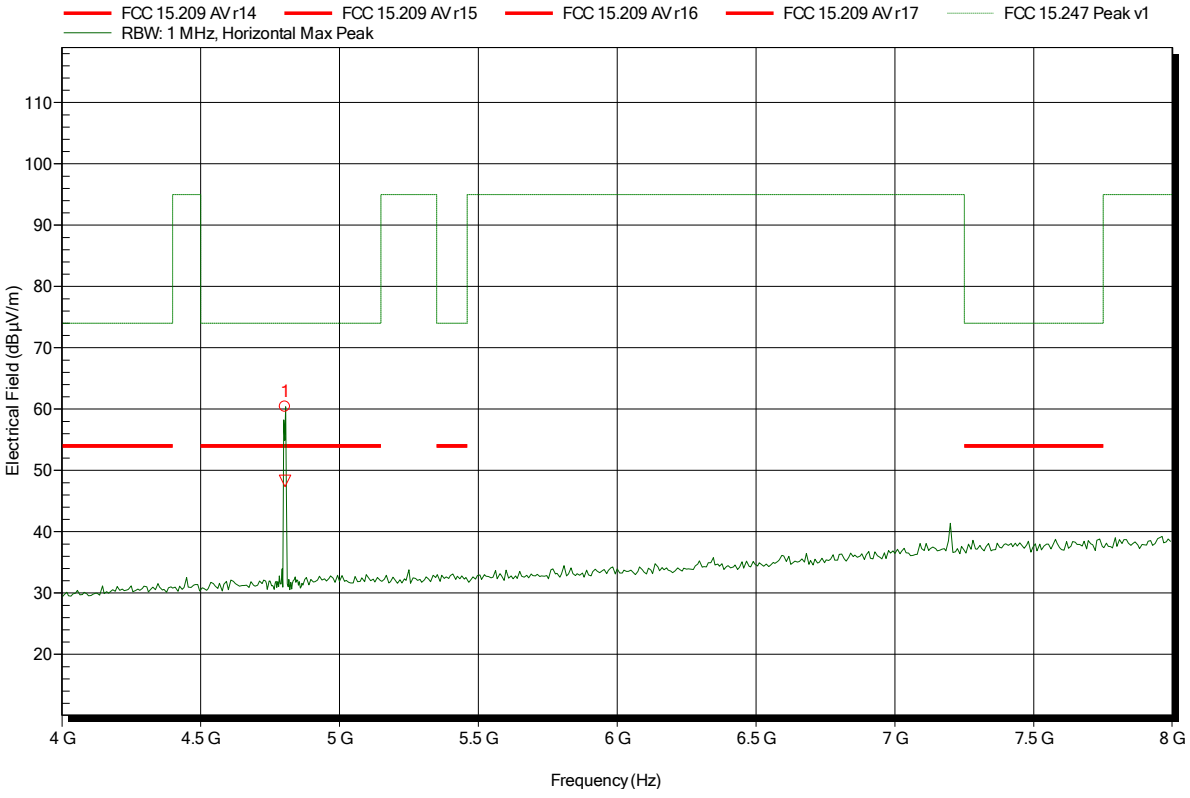


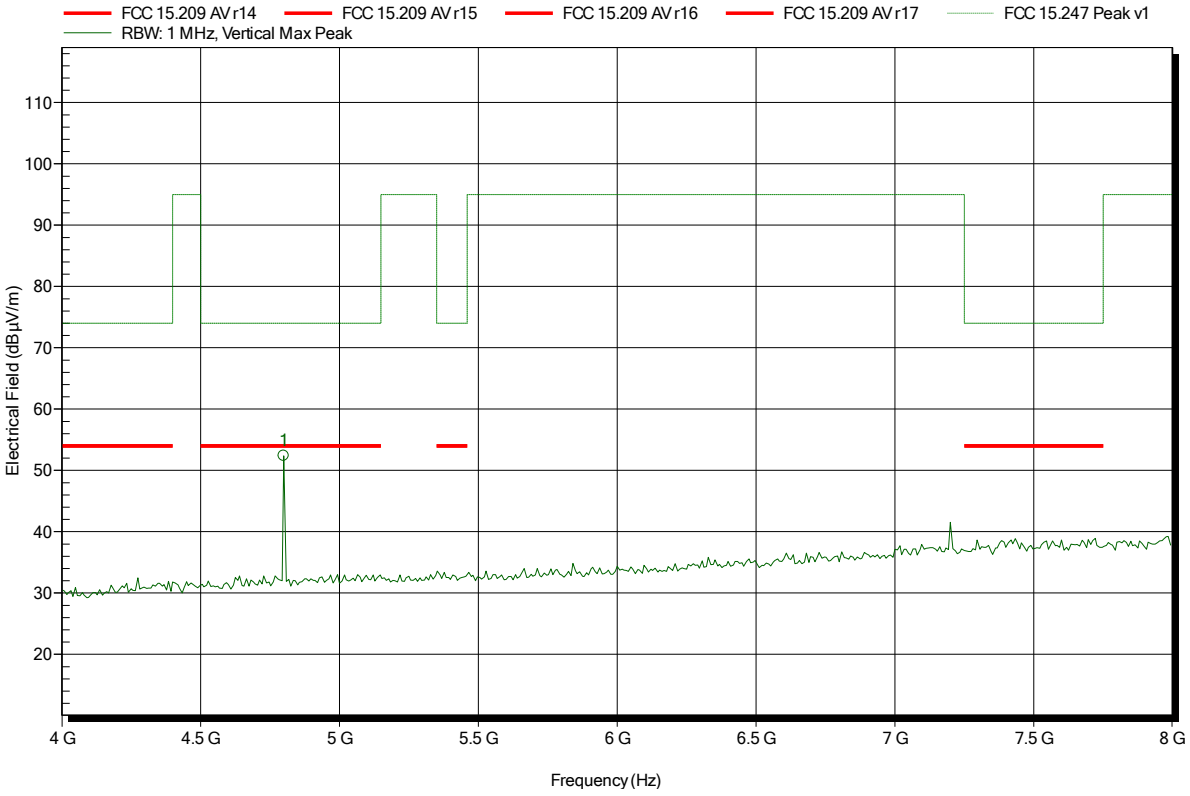
Frequency	Peak	Peak Limit	Peak Difference	Status
4.804 GHz	60.37 dBµV/m	74 dBµV/m	-13.63 dB	Pass

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	EUT vertical

Index 6



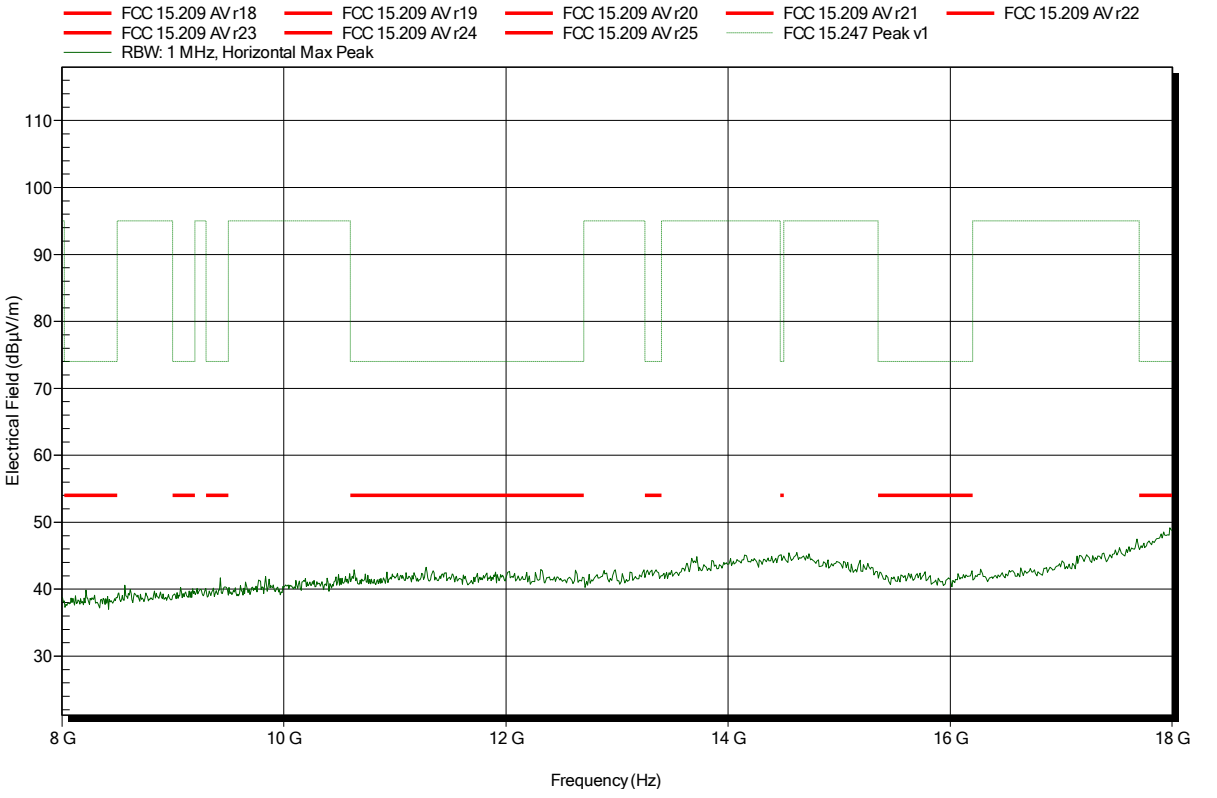
Frequency	Peak	Peak Limit	Peak Difference	Status
4.8 GHz	52.38 dBµV/m	74 dBµV/m	-21.62 dB	Pass

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	EUT vertical

Index 3



Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	EUT vertical

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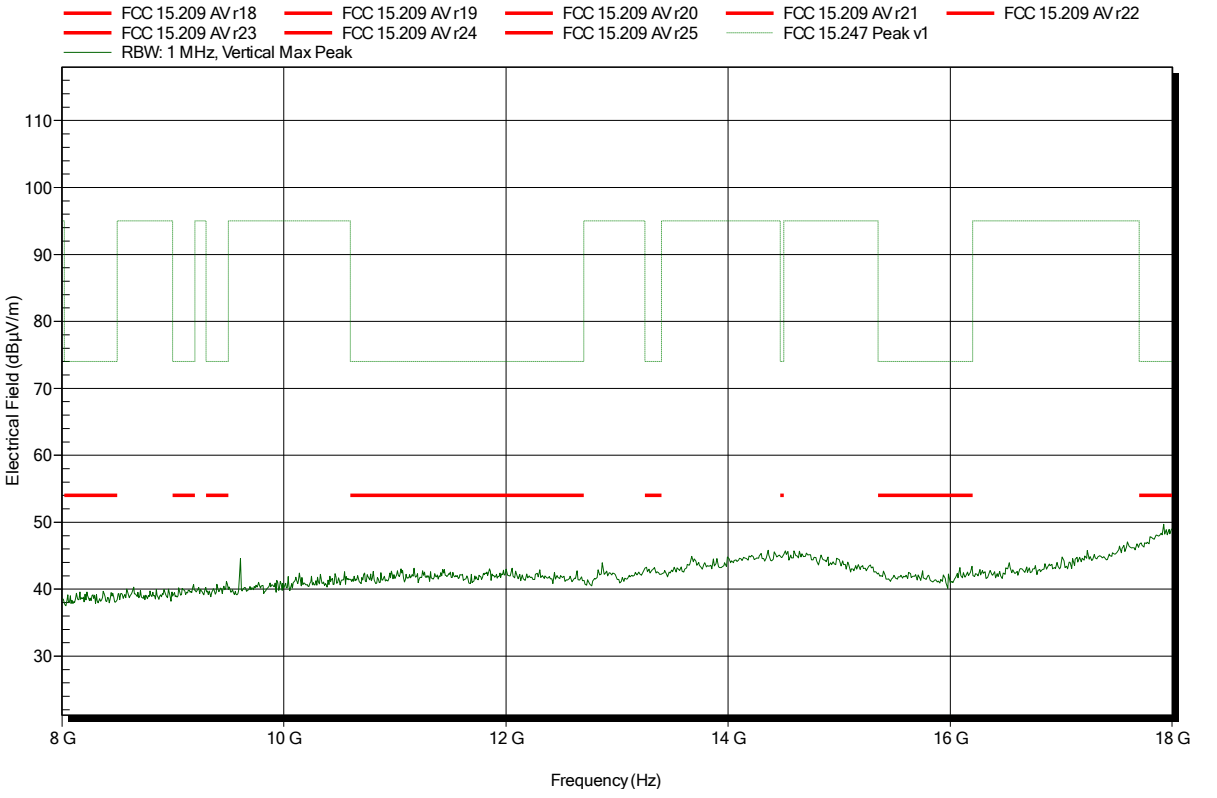
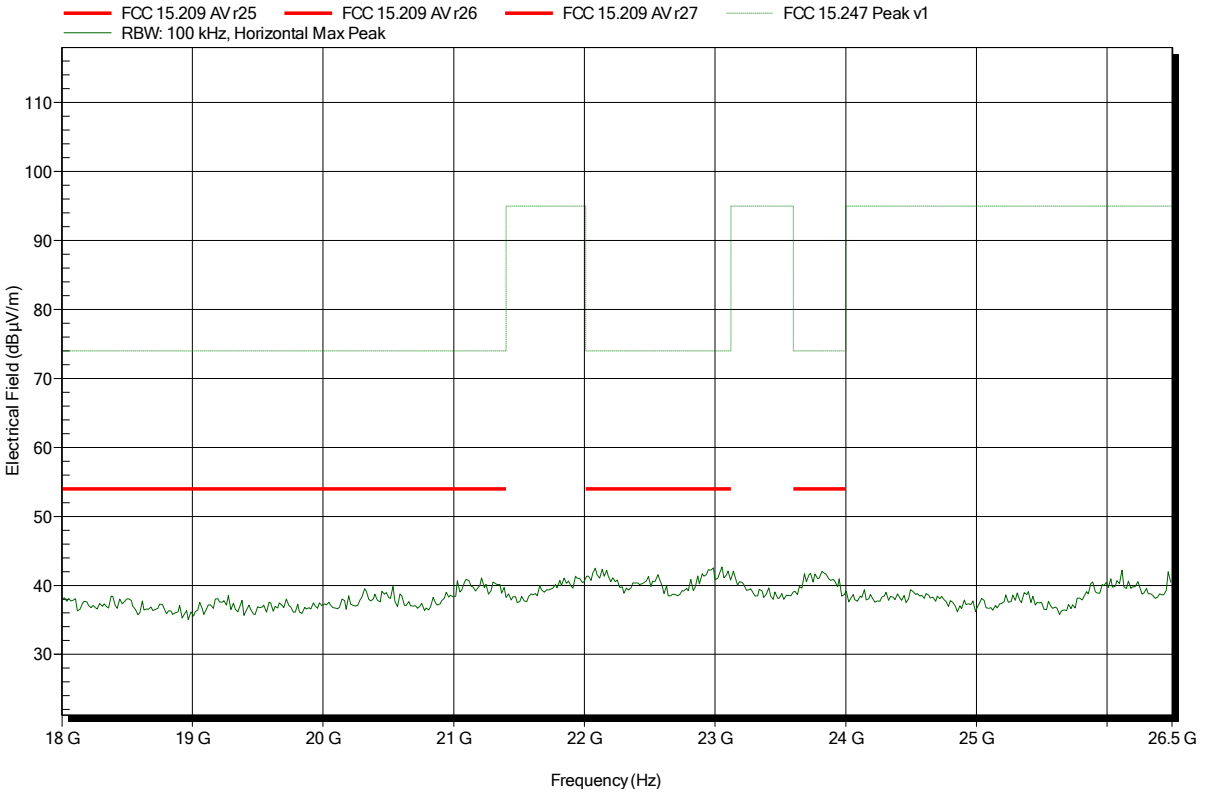


Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	EUT vertical

Index 4



Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 0
Test Date:	2015-08-14
Note:	EUT vertical

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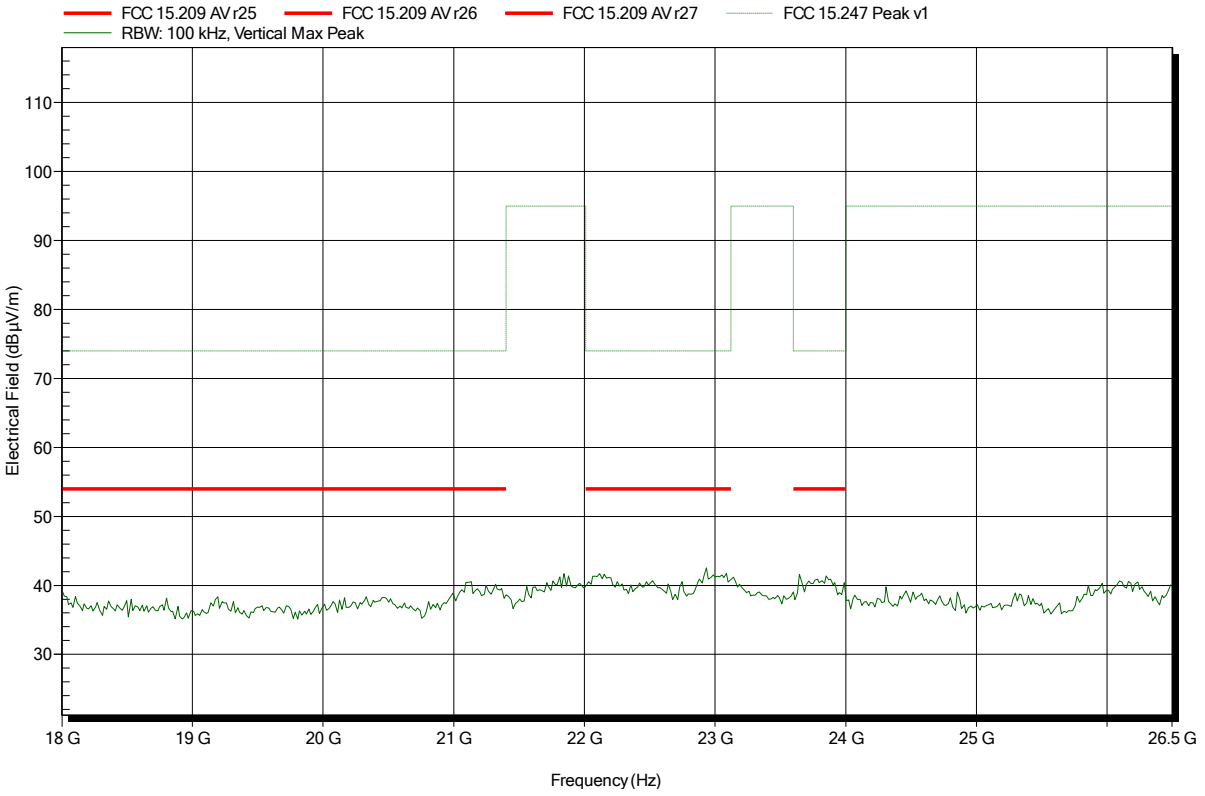

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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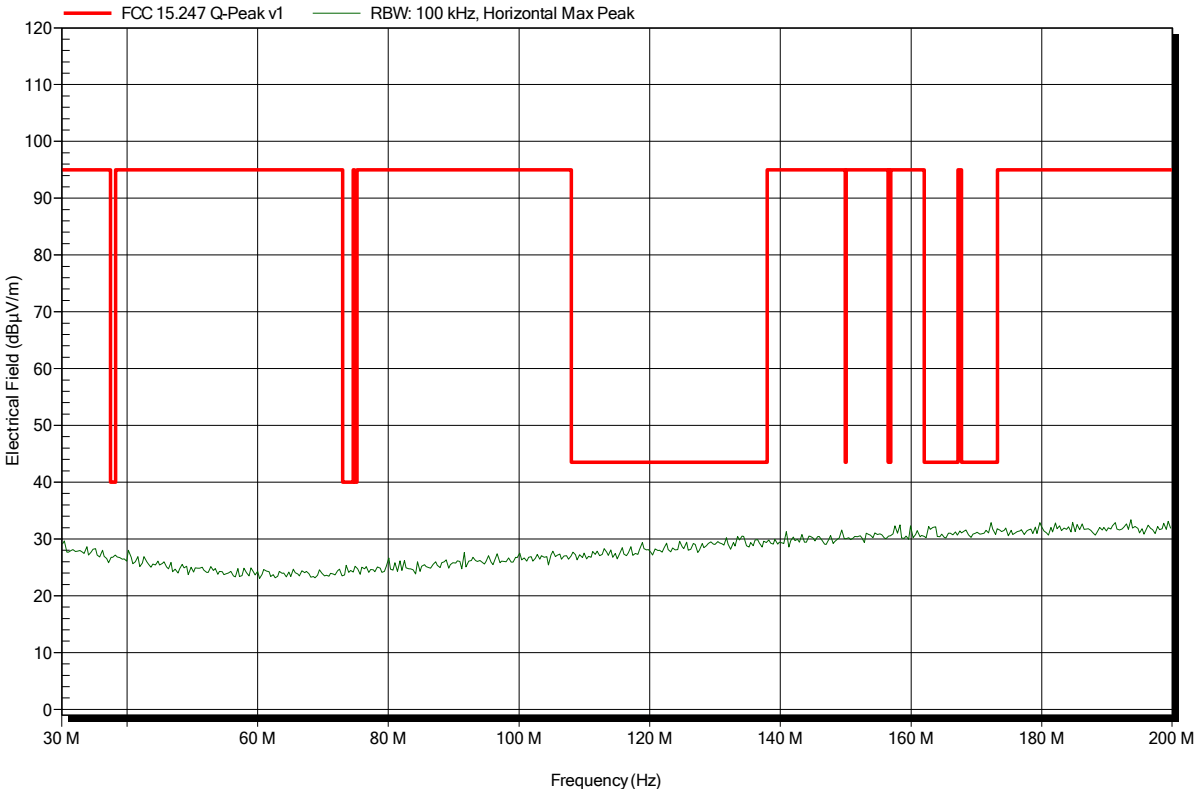

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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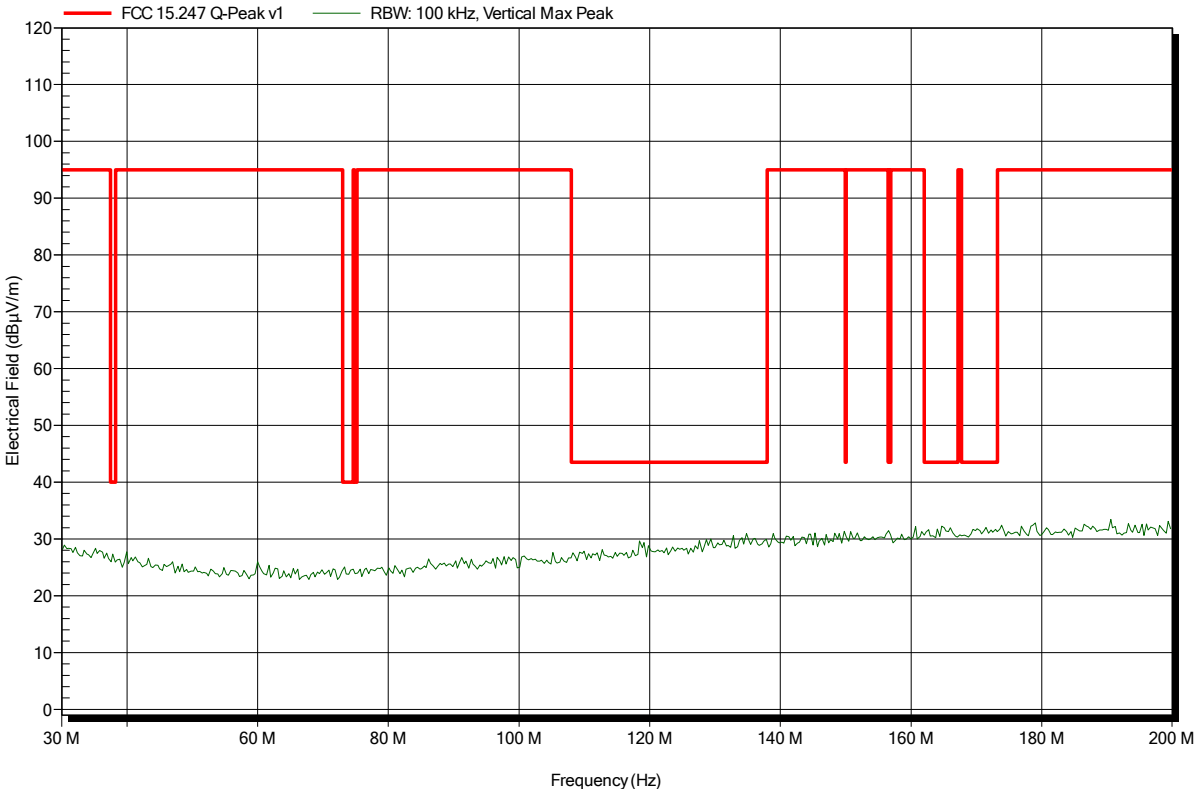

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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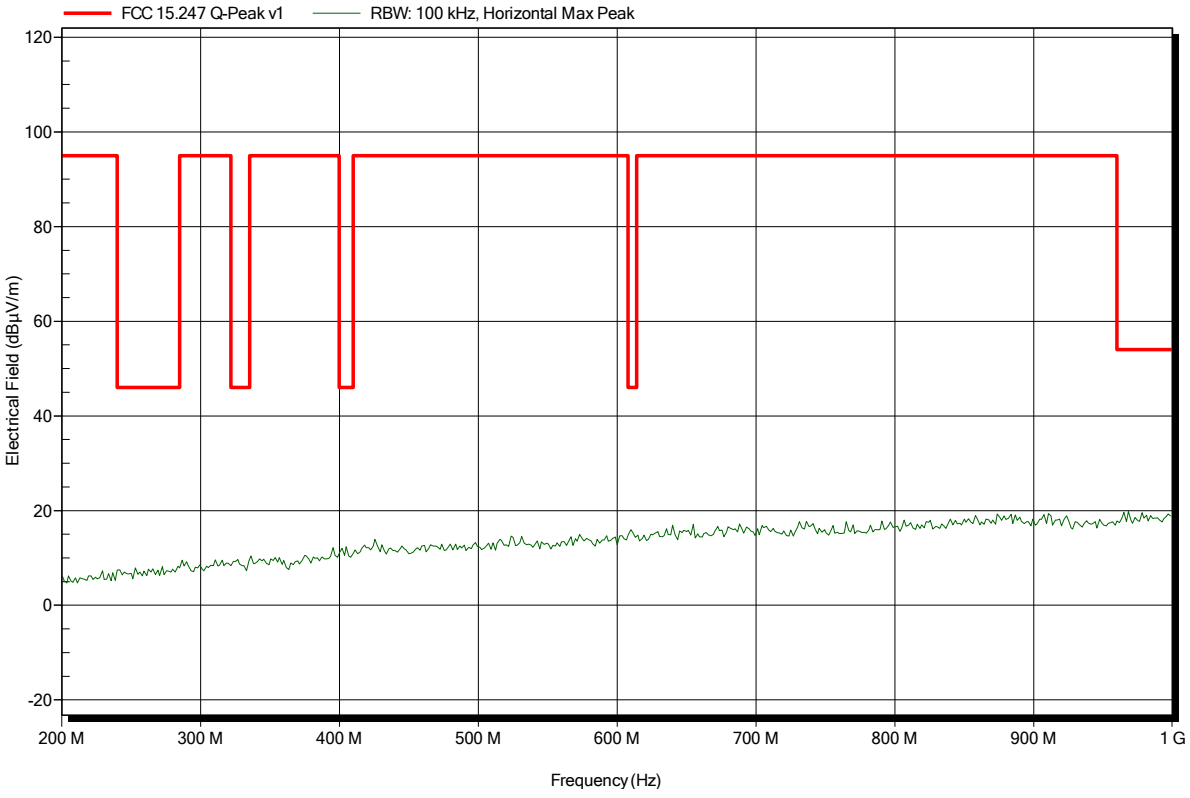

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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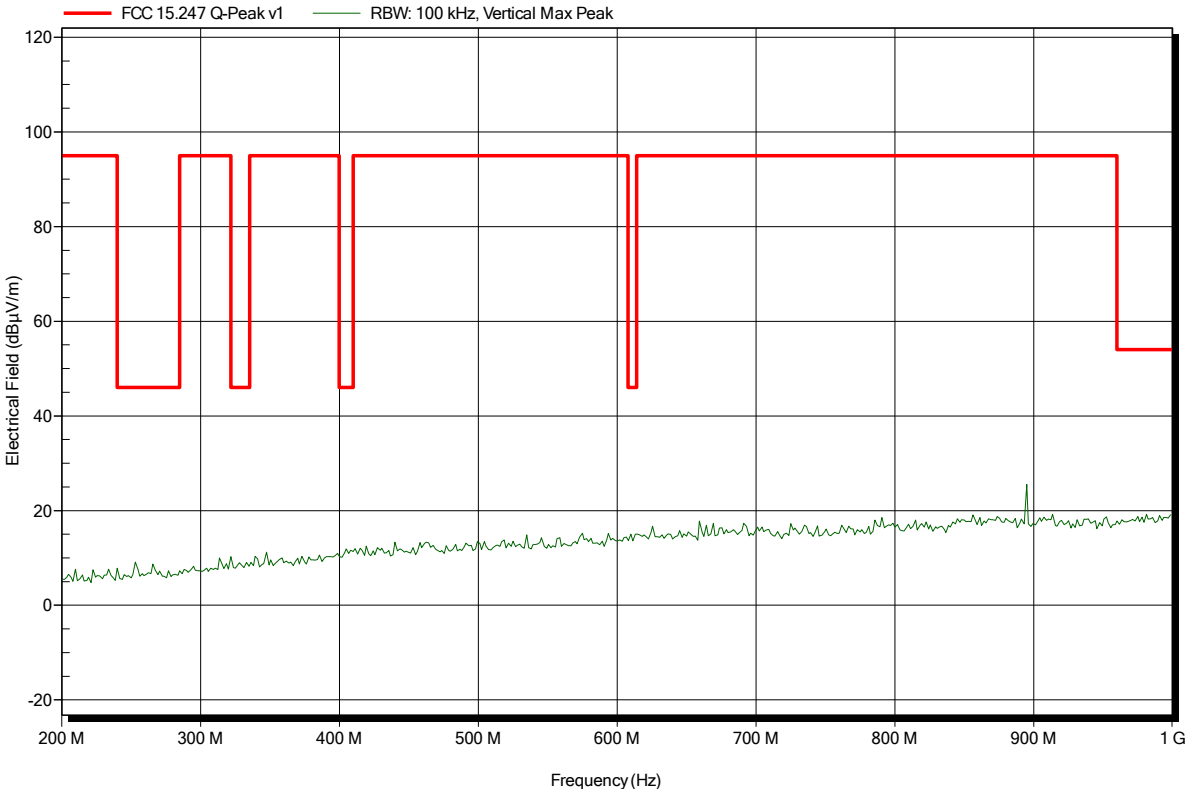

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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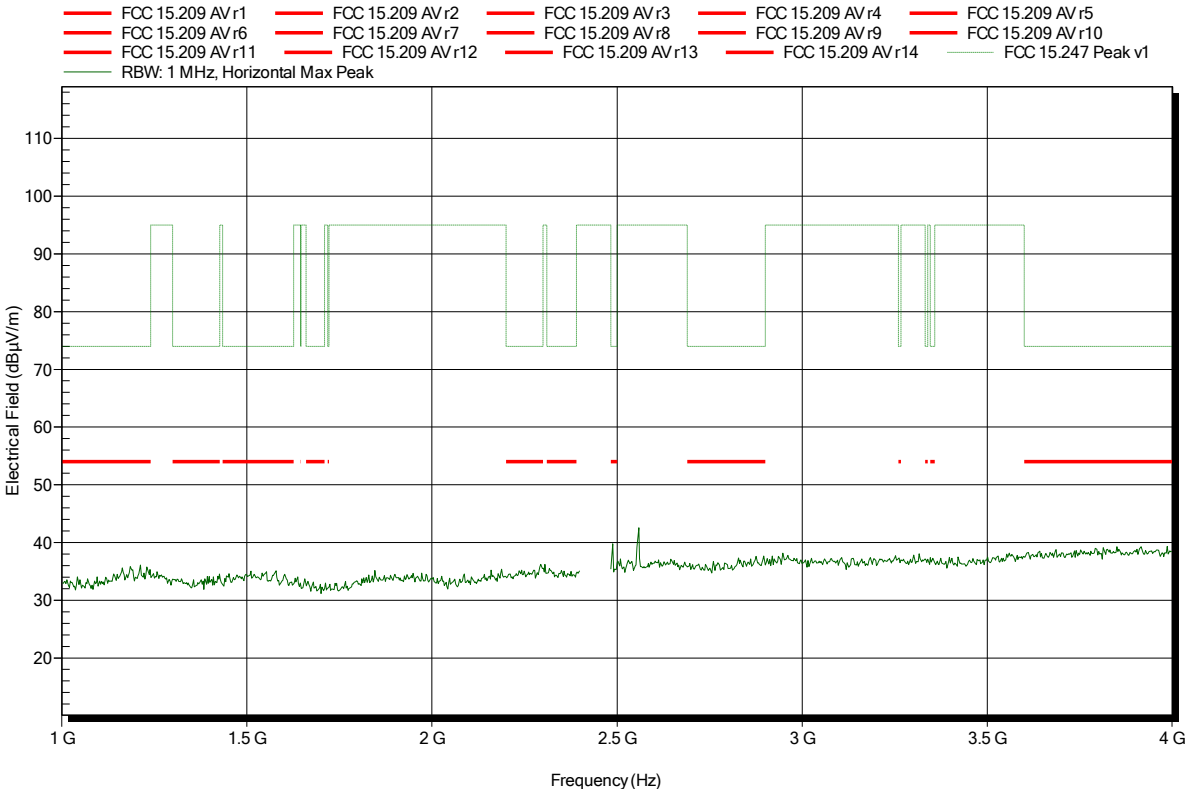

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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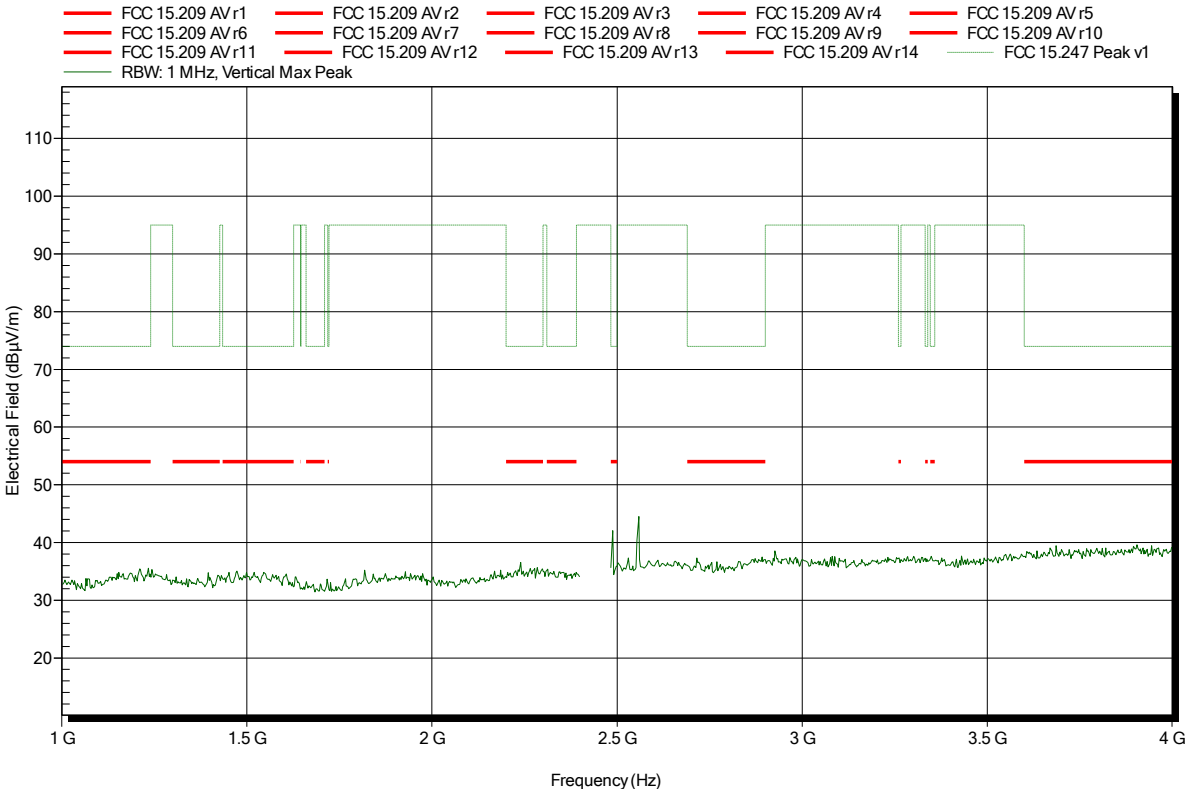
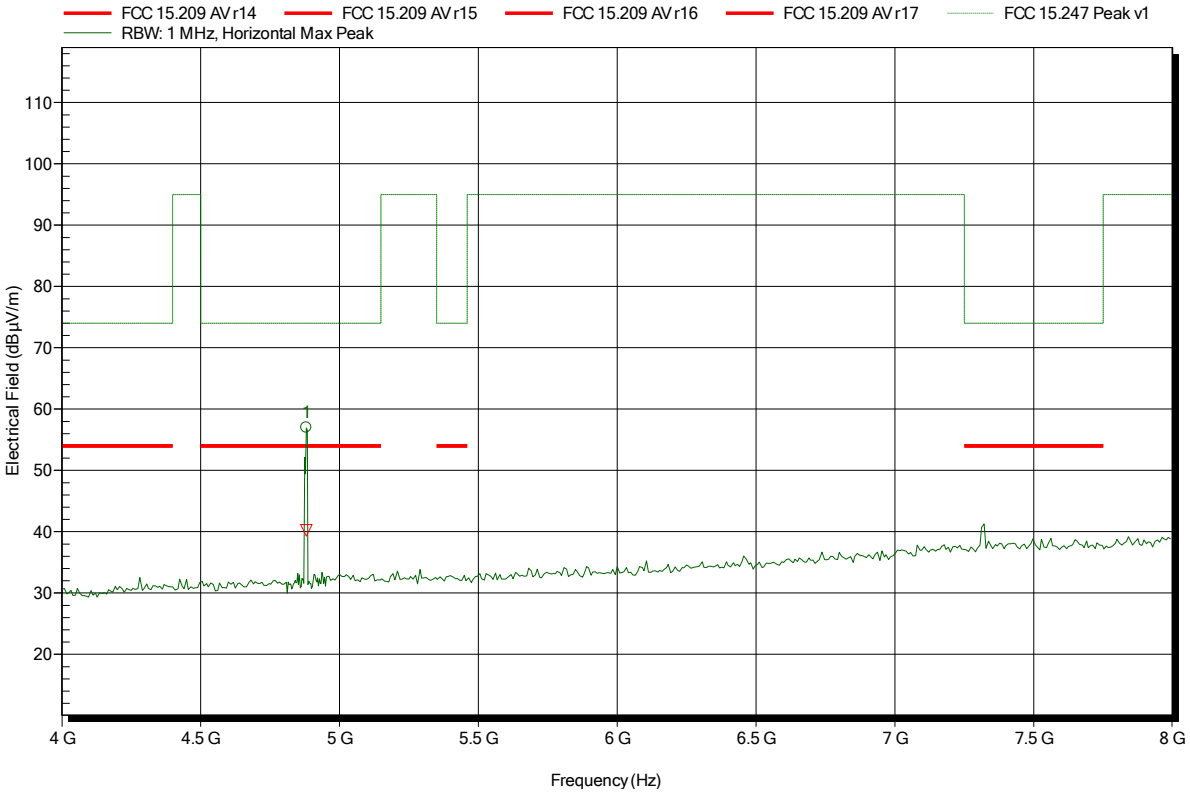


Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

Index 13



Frequency	Peak	Peak Limit	Peak Difference	Status
4.881 GHz	56.99 dBµV/m	74 dBµV/m	-17.01 dB	Pass

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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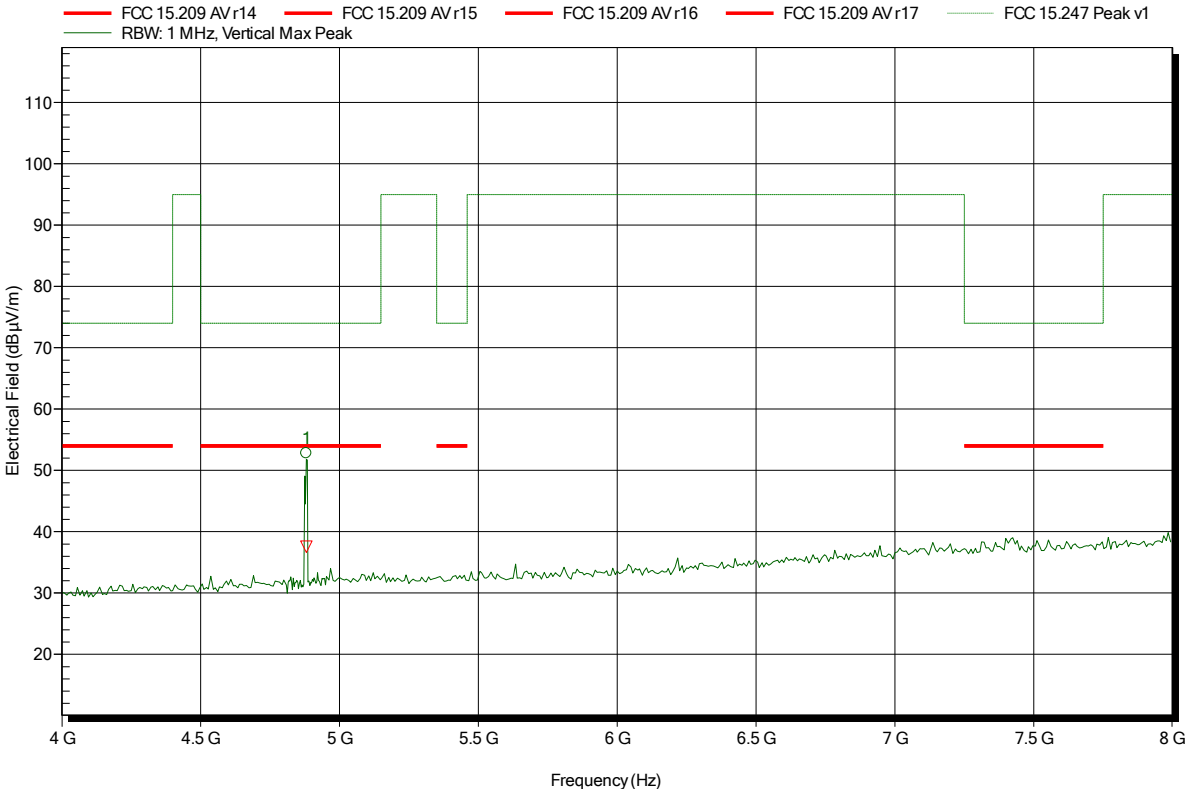

Frequency	Peak	Peak Limit	Peak Difference	Status
4.881 GHz	52.78 dBµV/m	74 dBµV/m	-21.22 dB	Pass

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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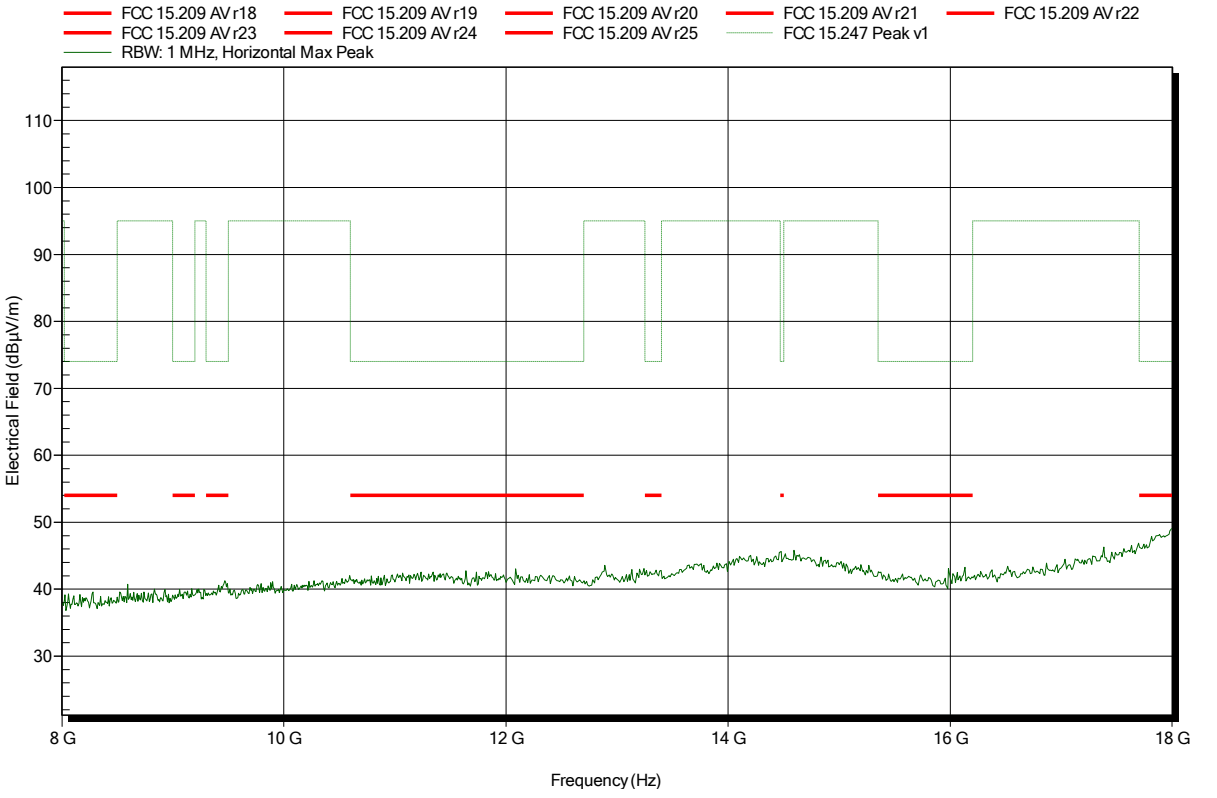

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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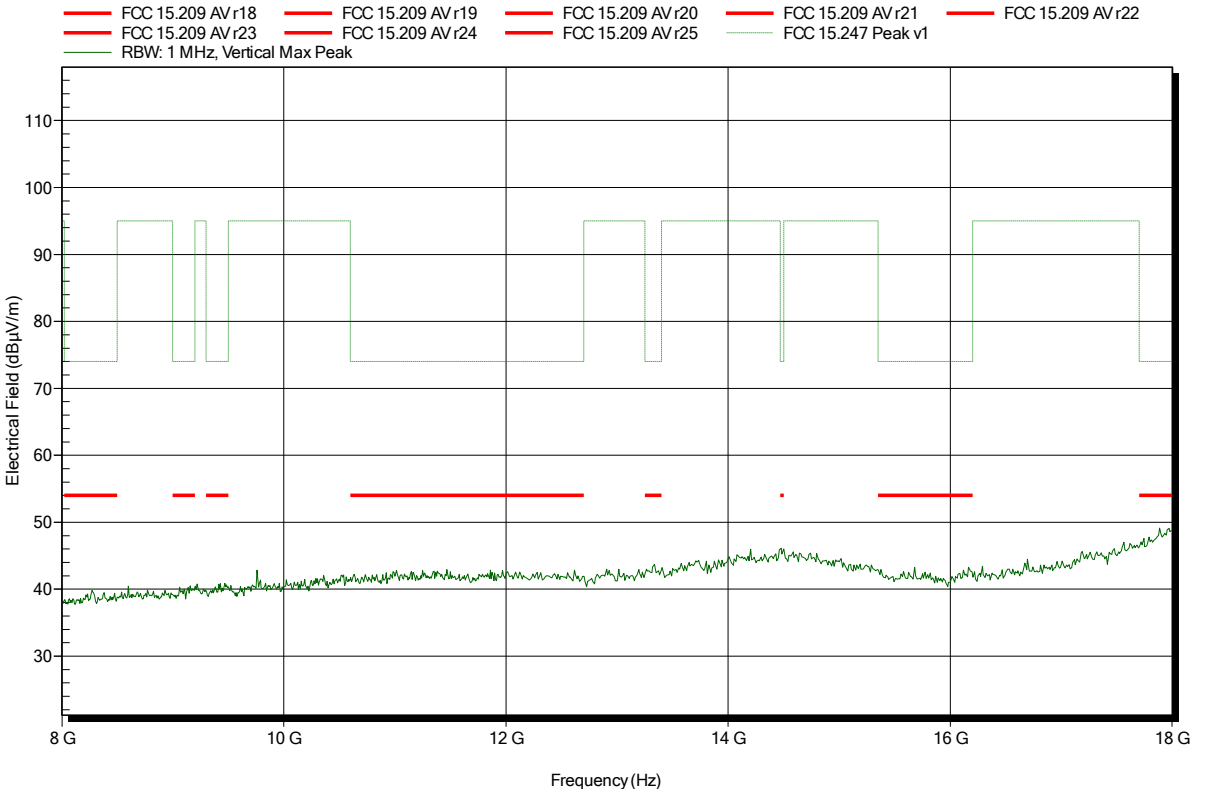

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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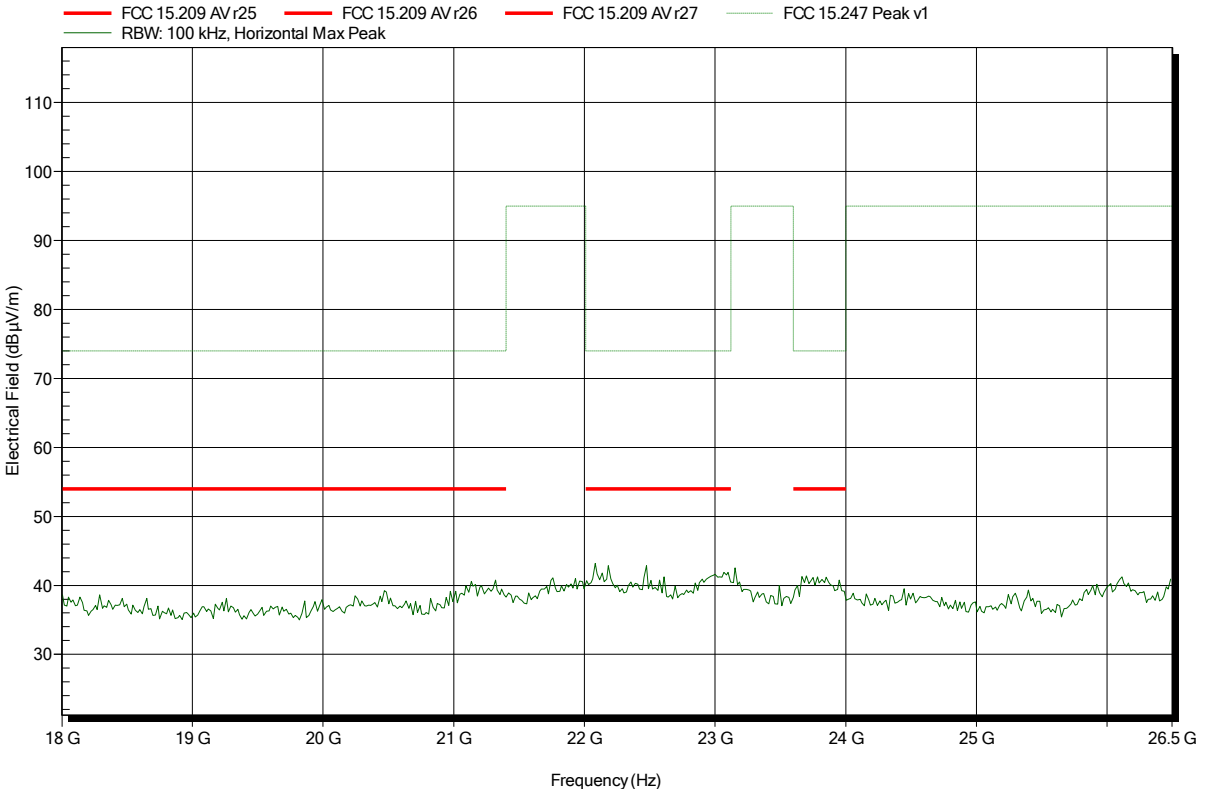
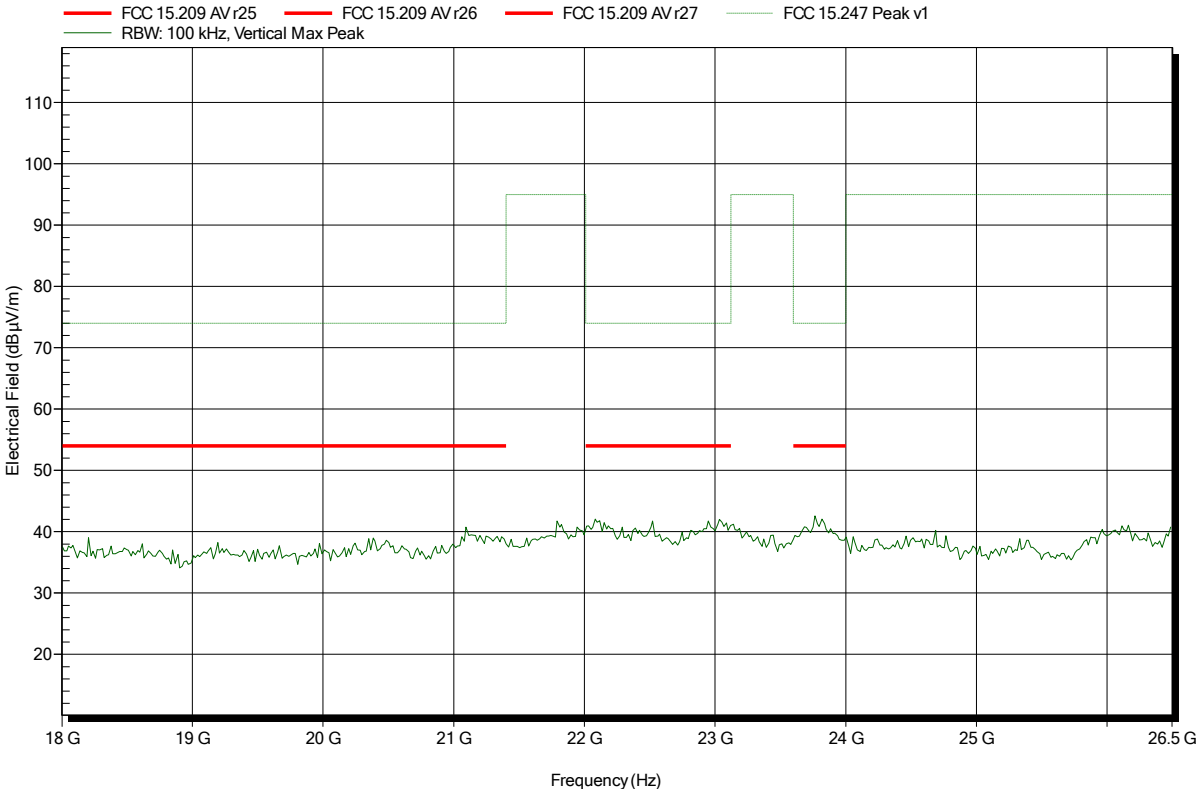


Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

Index 12



Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	EUT vertical

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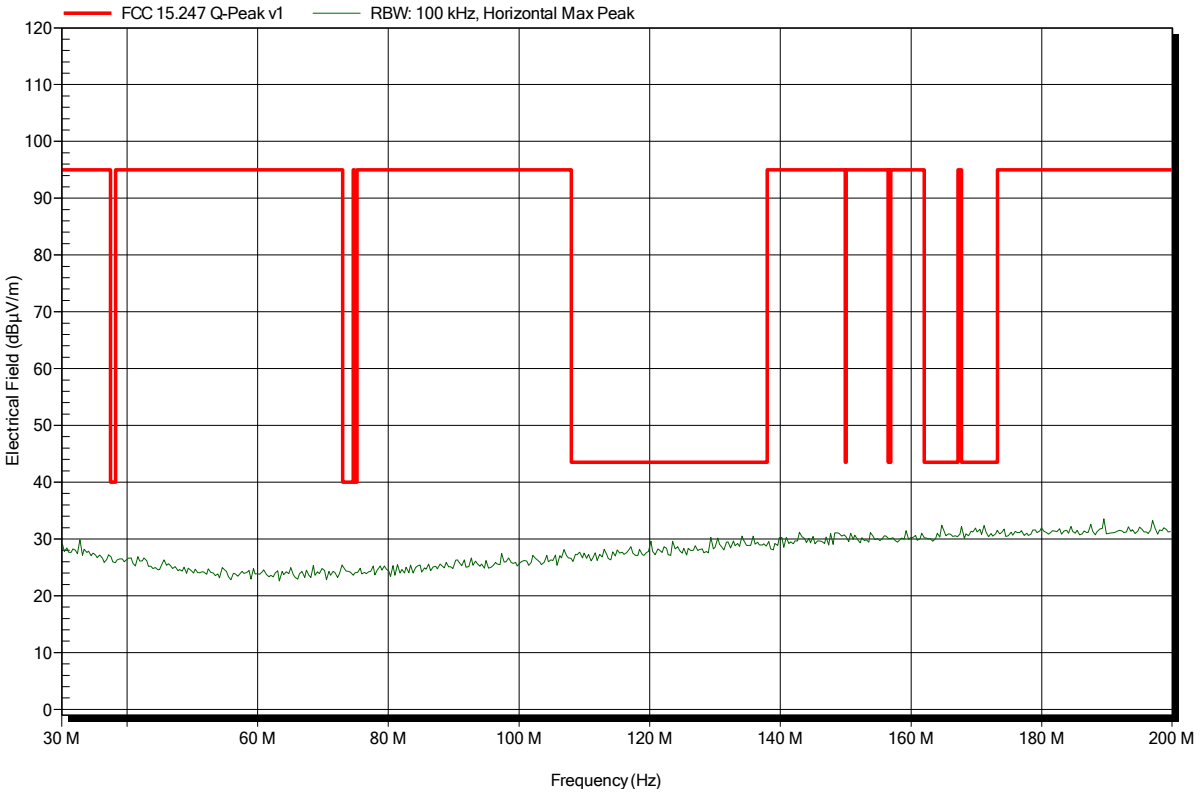

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	EUT vertical

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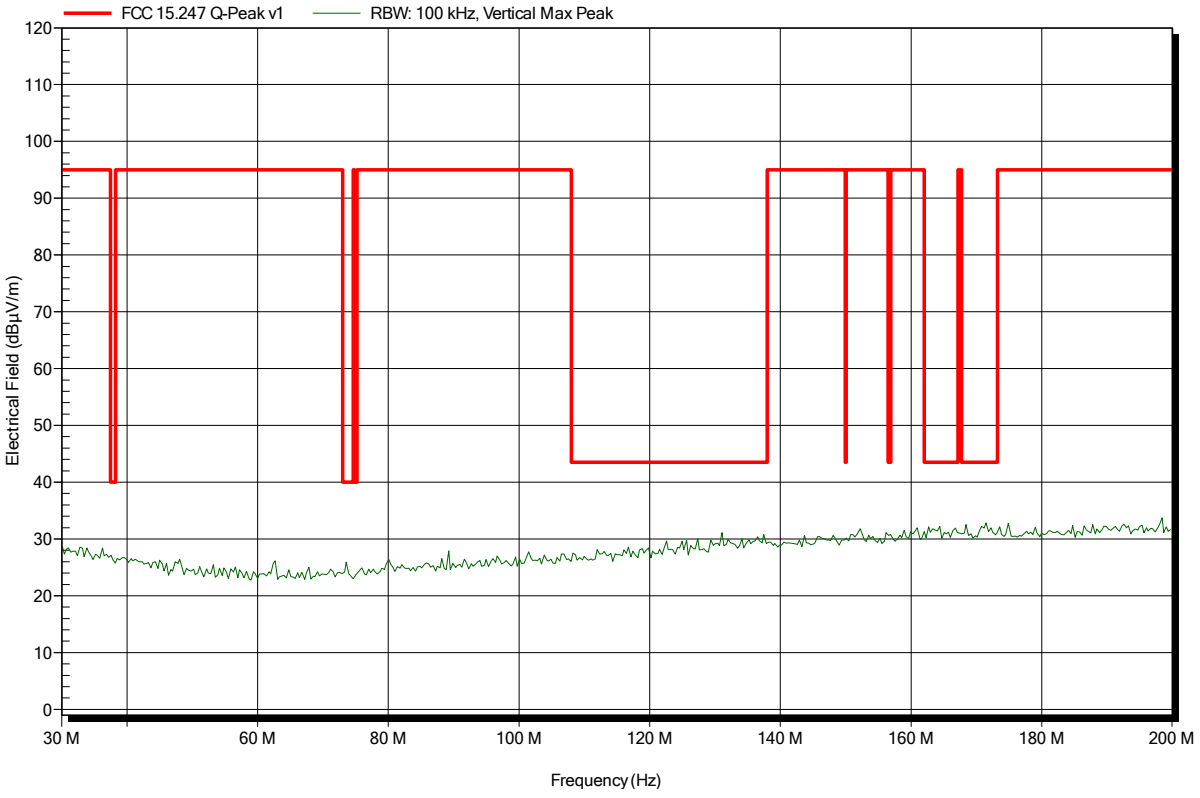

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	EUT vertical

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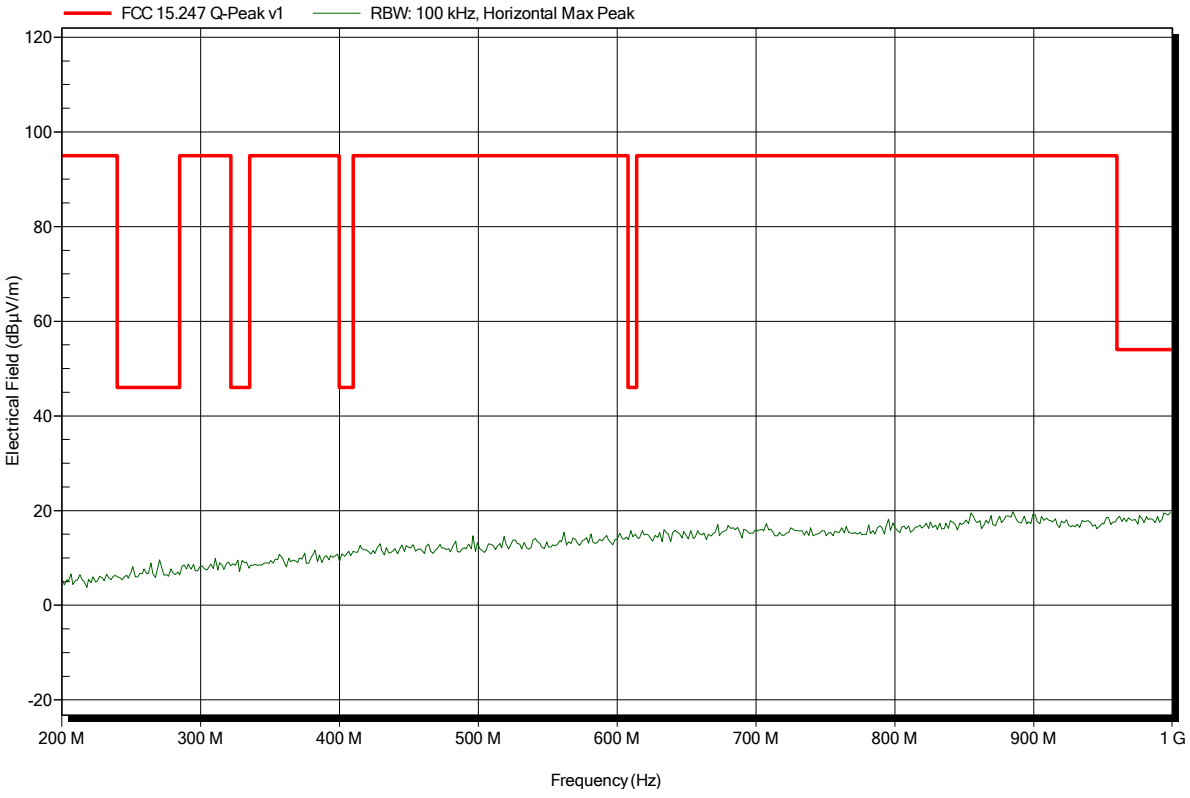

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	EUT vertical

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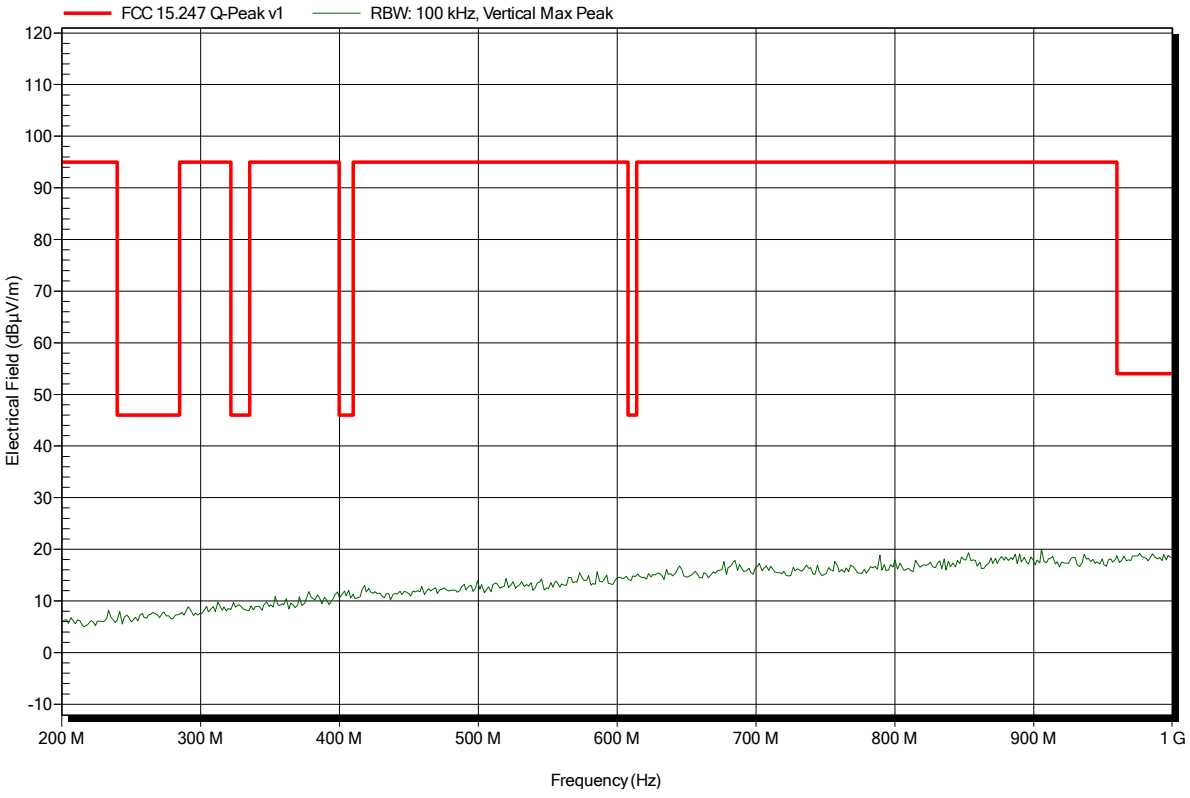

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	EUT vertical

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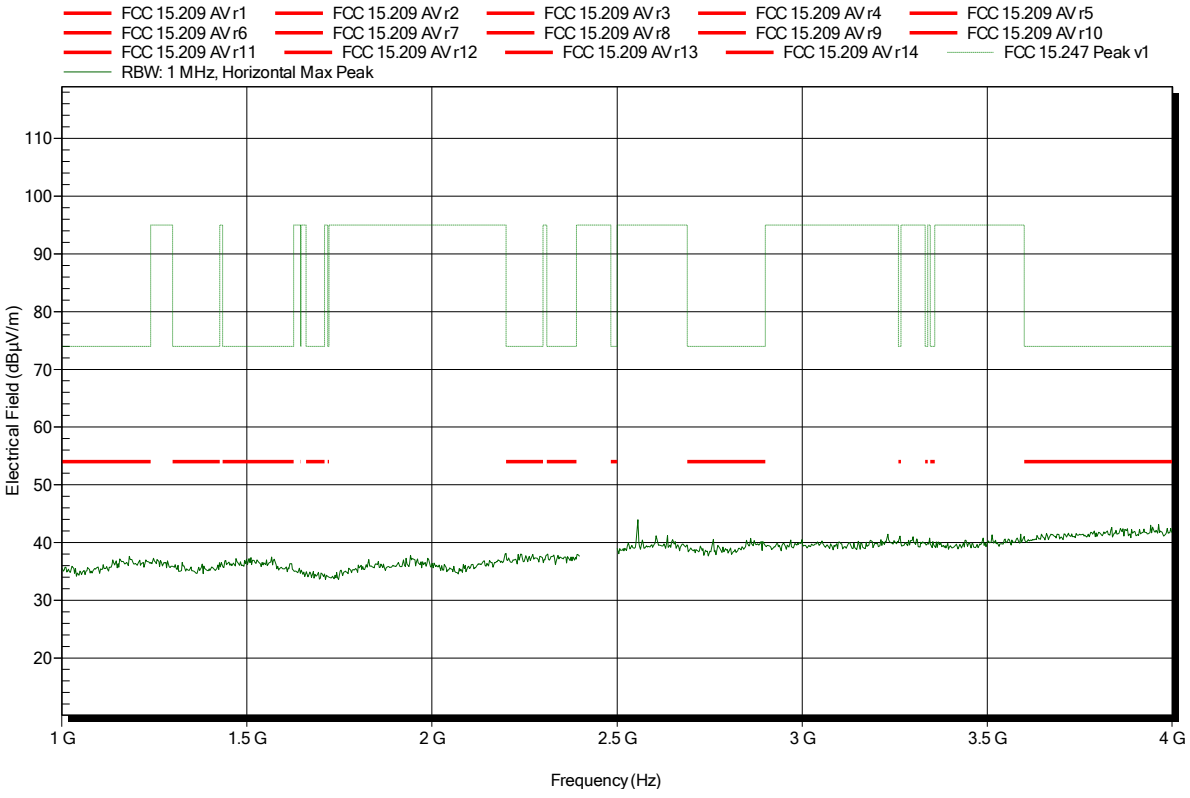

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	EUT vertical

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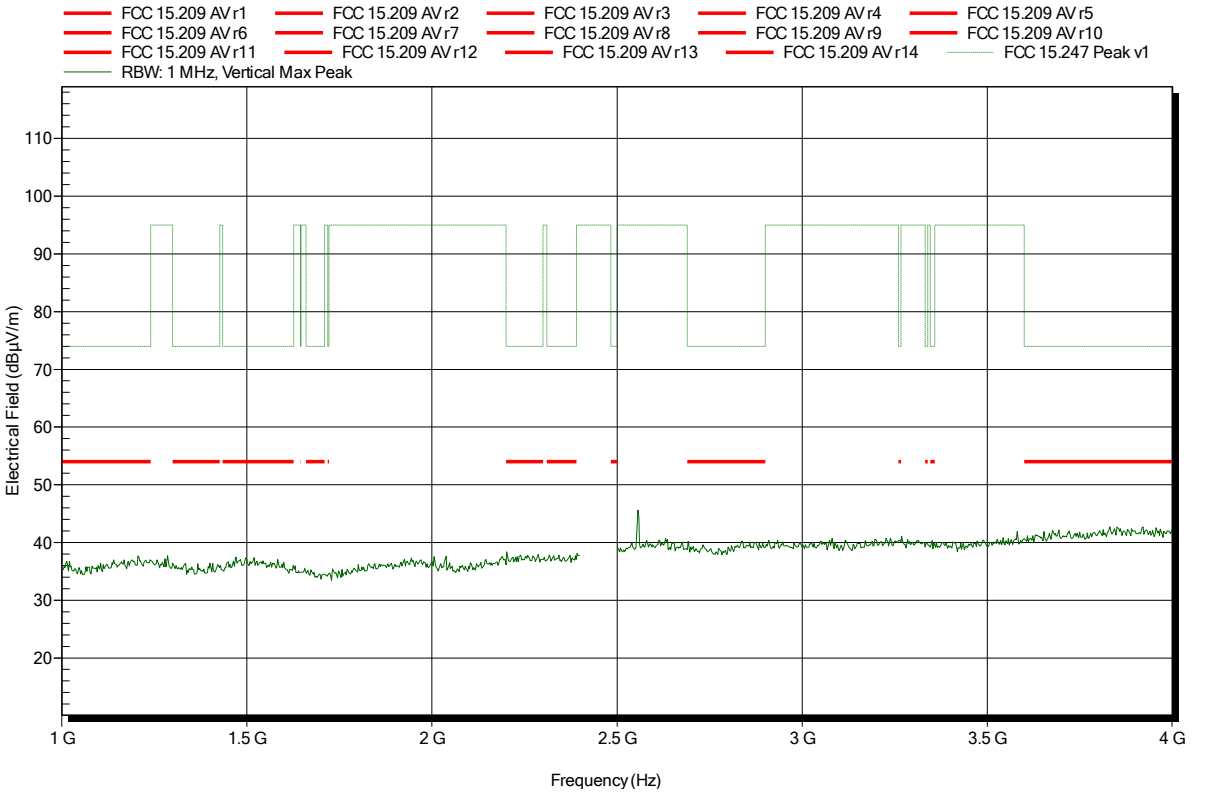

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	upper bandedge, EUT vertical

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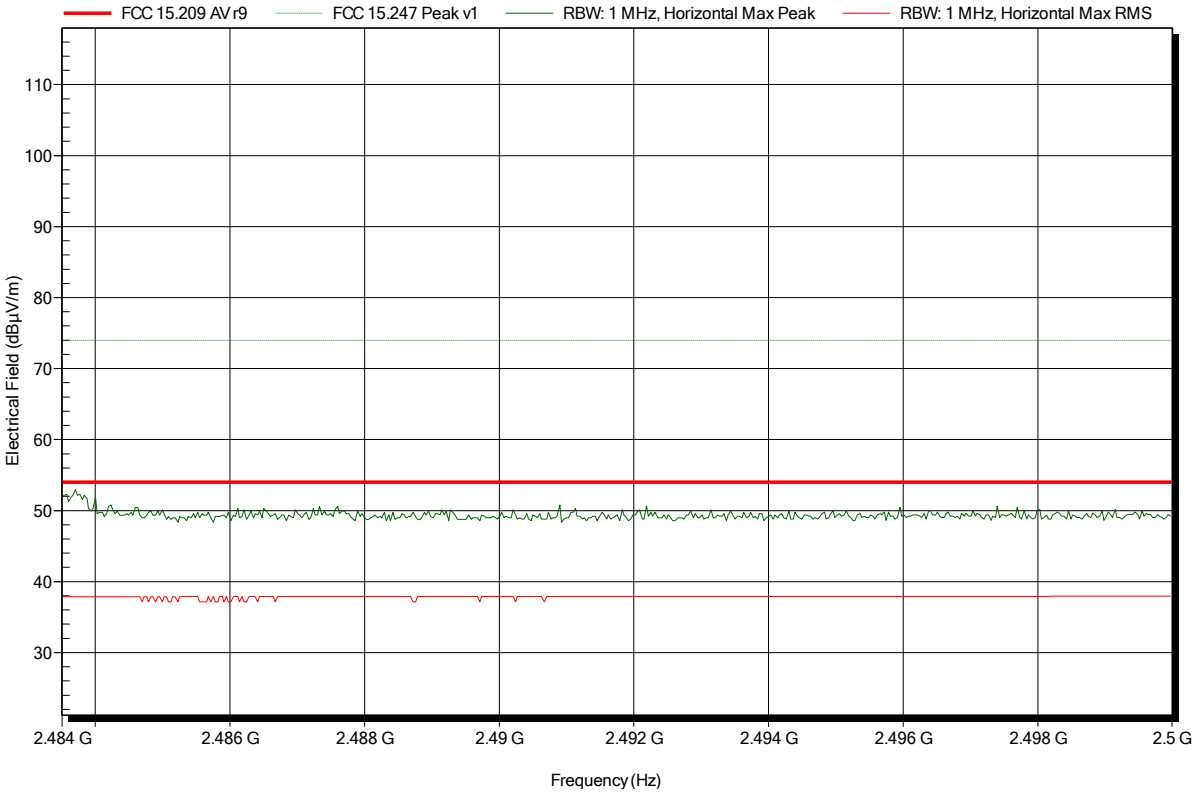

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	upper bandedge, EUT vertical

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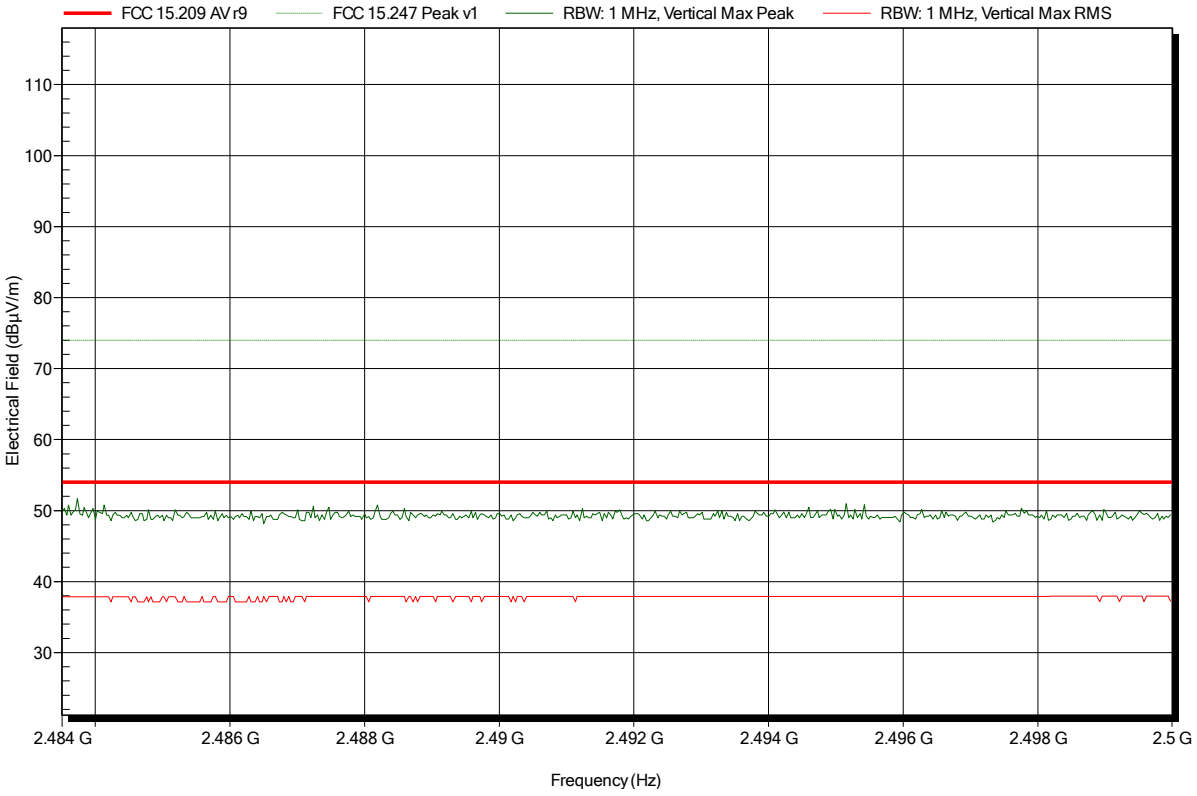

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	EUT vertical

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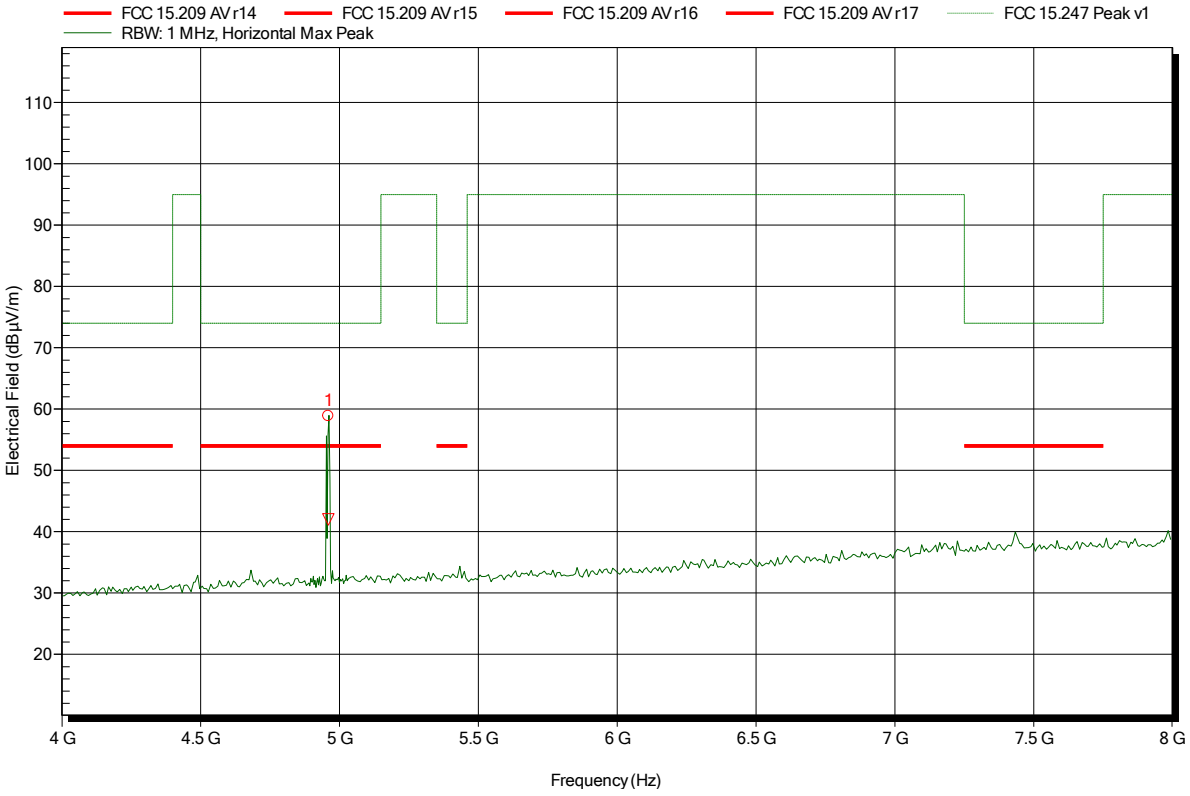

Frequency	Peak	Peak Limit	Peak Difference	Status
4.961 GHz	58.86 dBµV/m	74 dBµV/m	-15.14 dB	Pass

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	EUT vertical

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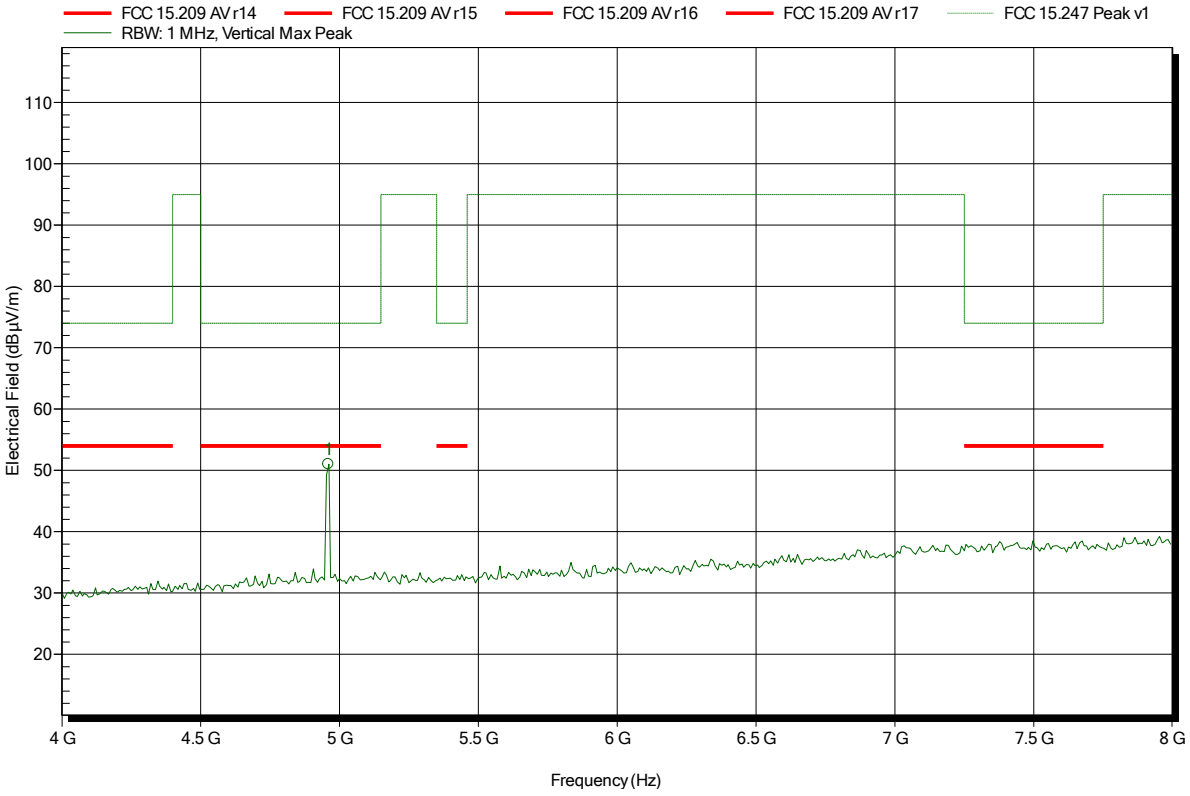

Frequency	Peak	Peak Limit	Peak Difference	Status
4.96 GHz	51.01 dBµV/m	74 dBµV/m	-22.99 dB	Pass

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	EUT vertical

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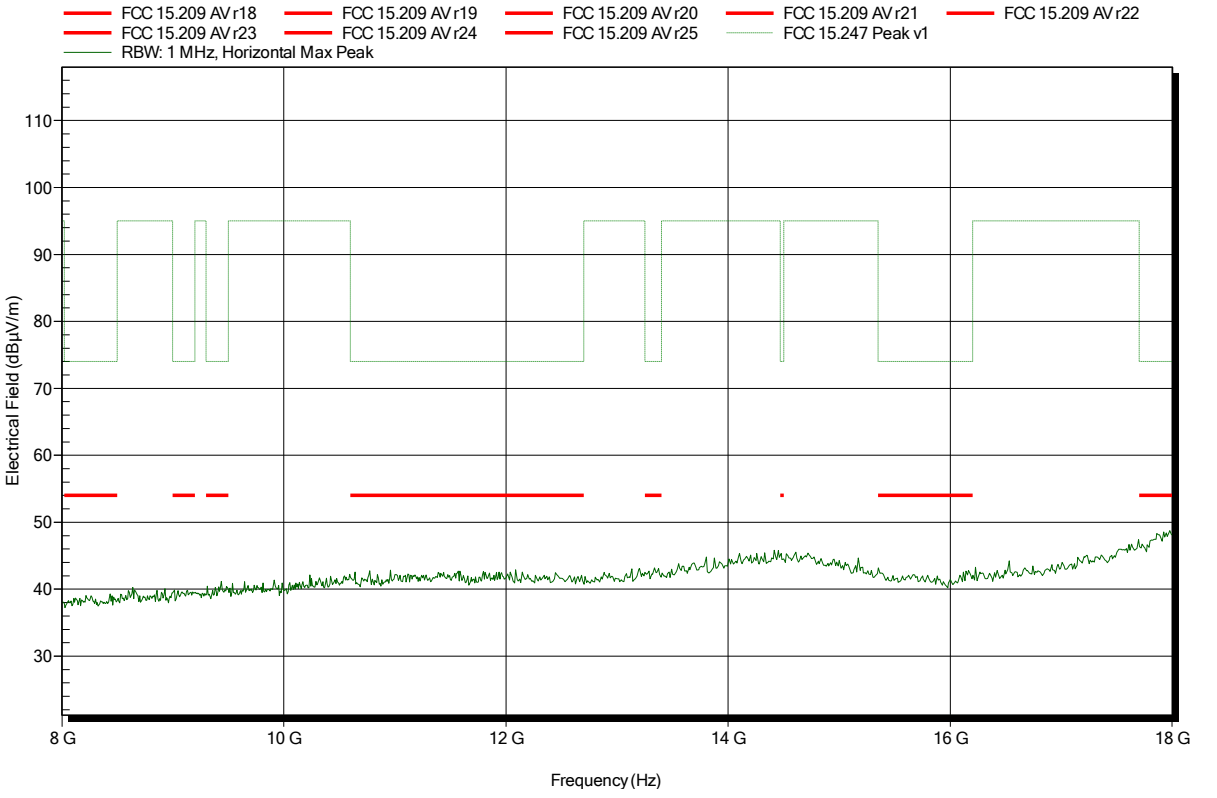

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	EUT vertical

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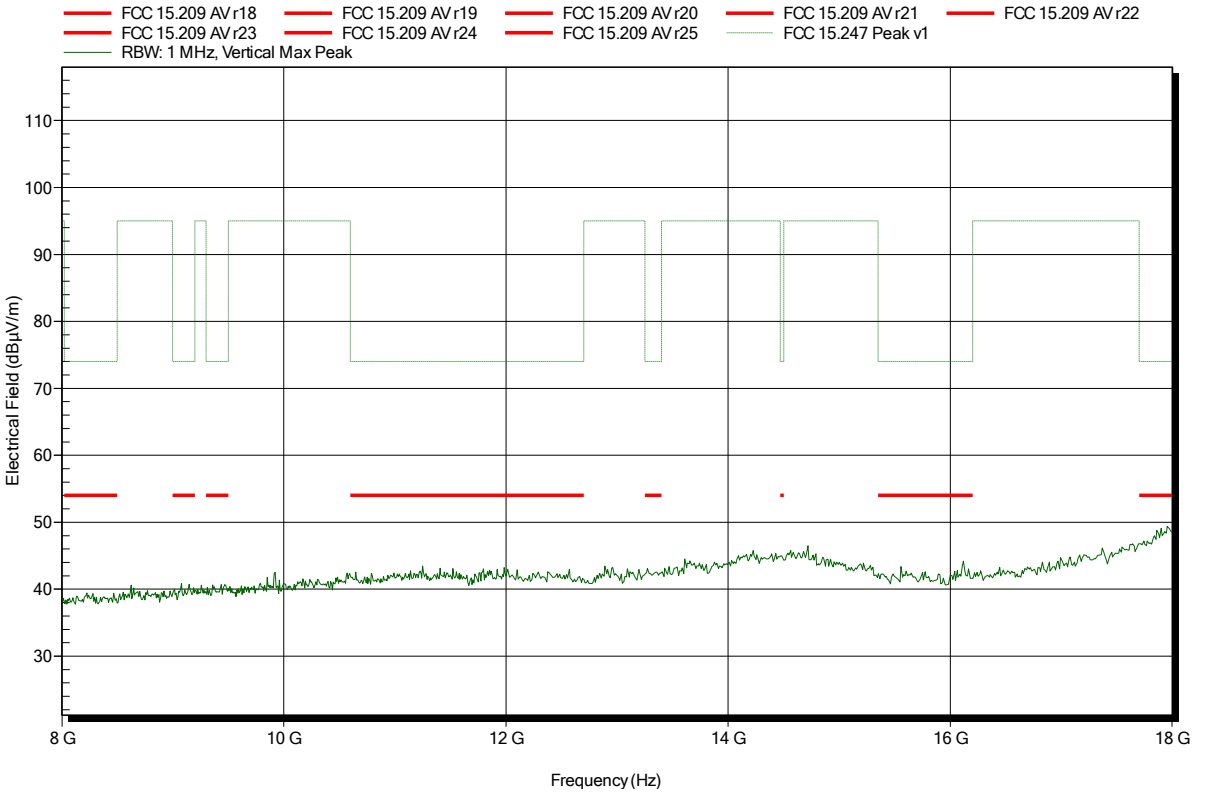

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	EUT vertical

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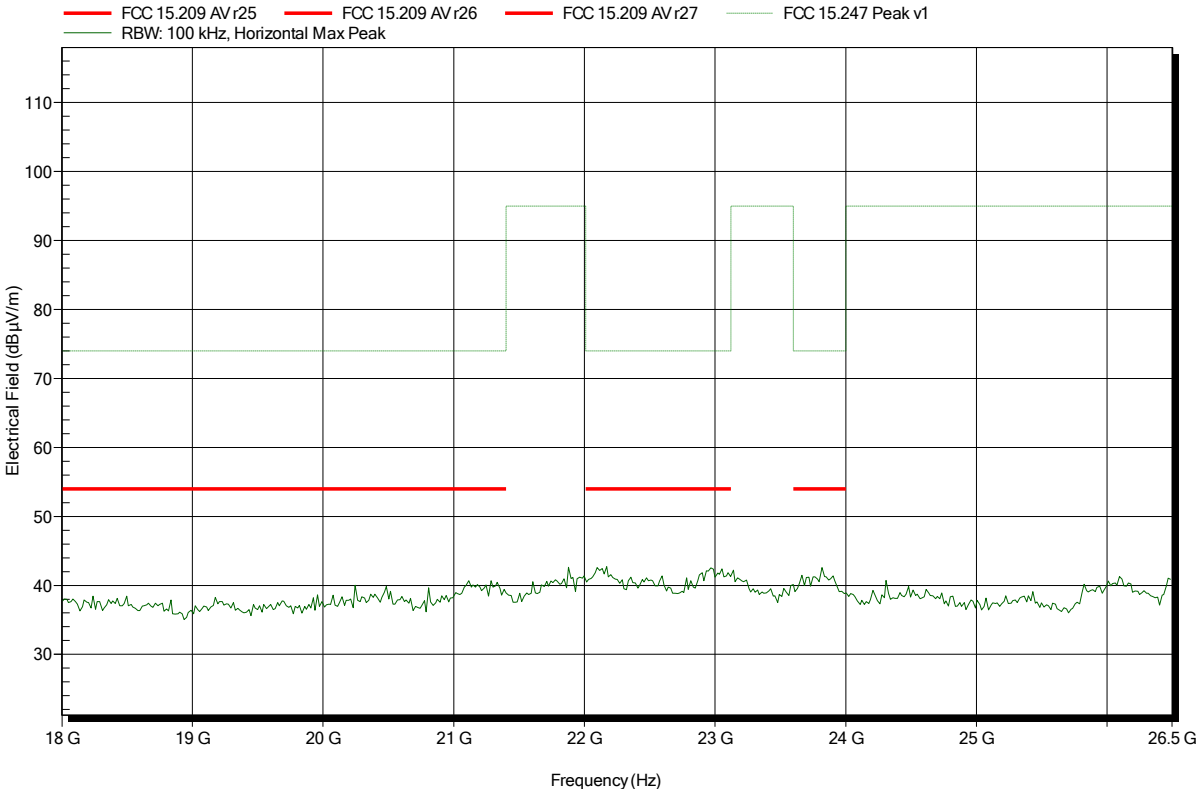
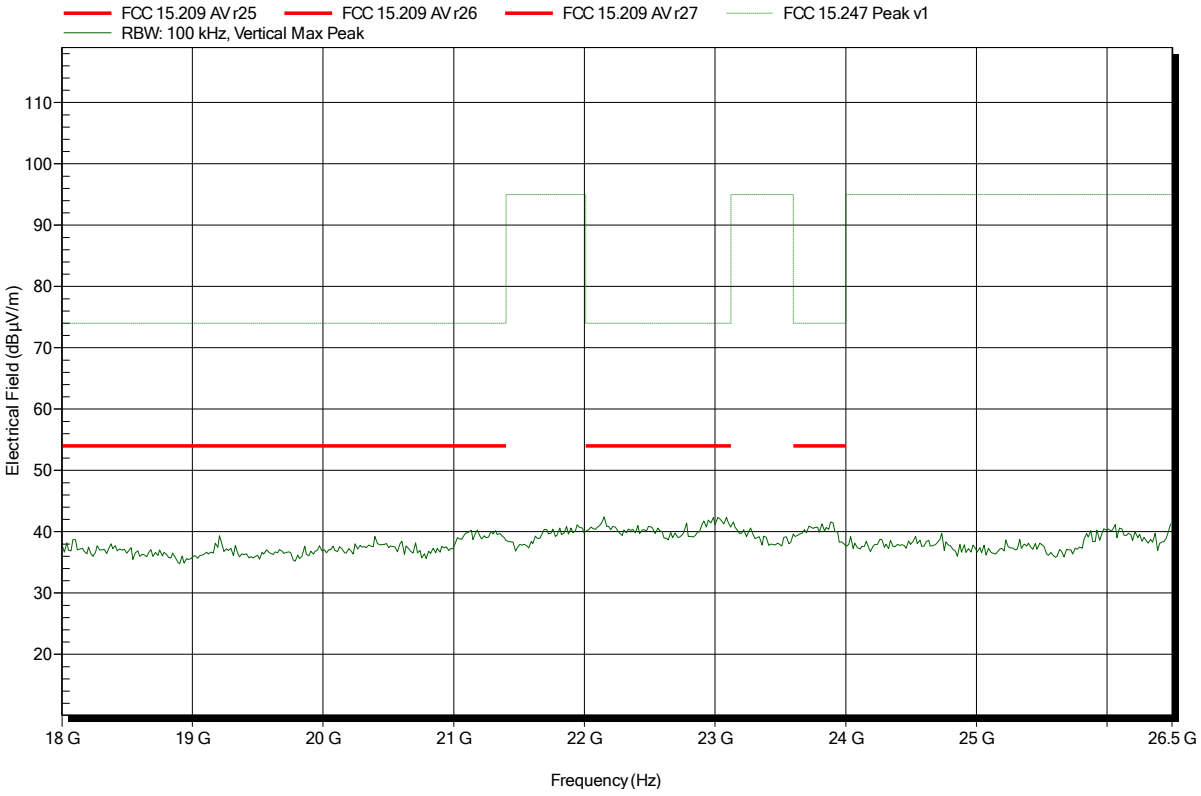


Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; BT-LE; Ch. 39
Test Date:	2015-08-14
Note:	EUT vertical

Index 19



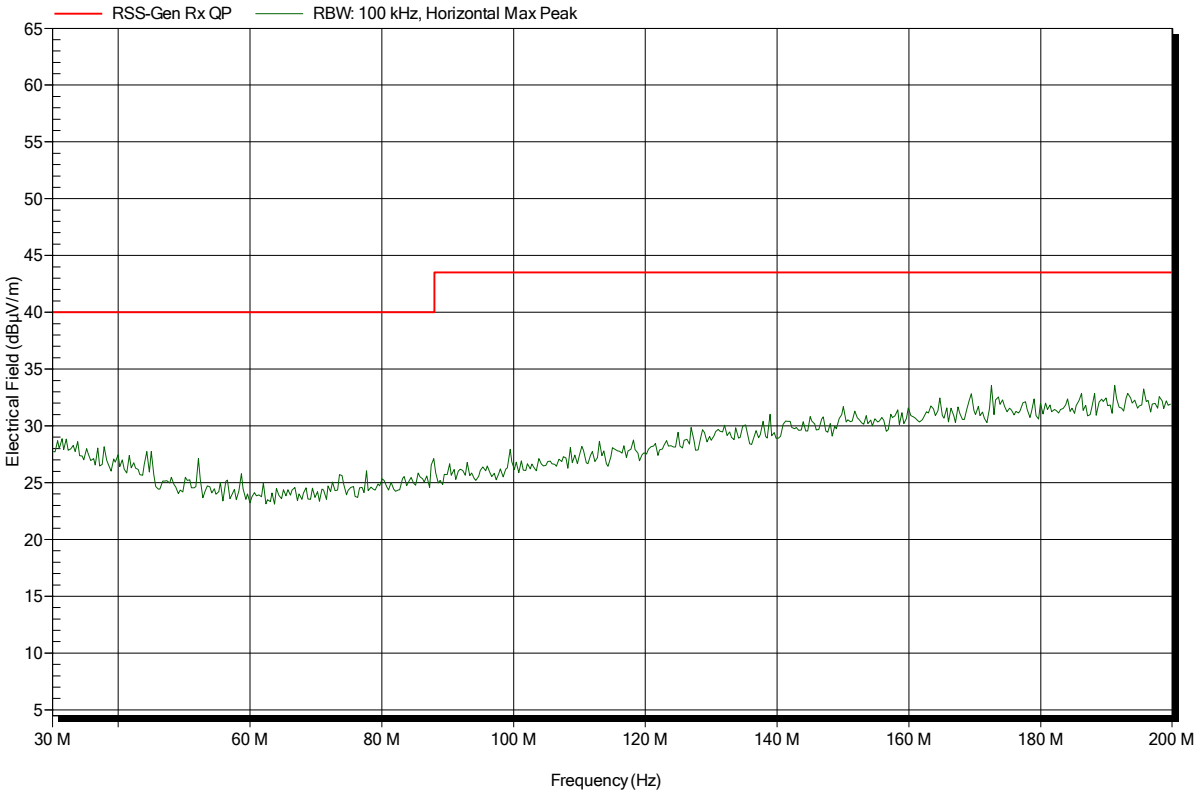
ANNEX B Receiver radiated spurious emissions

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	RX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

Index 2

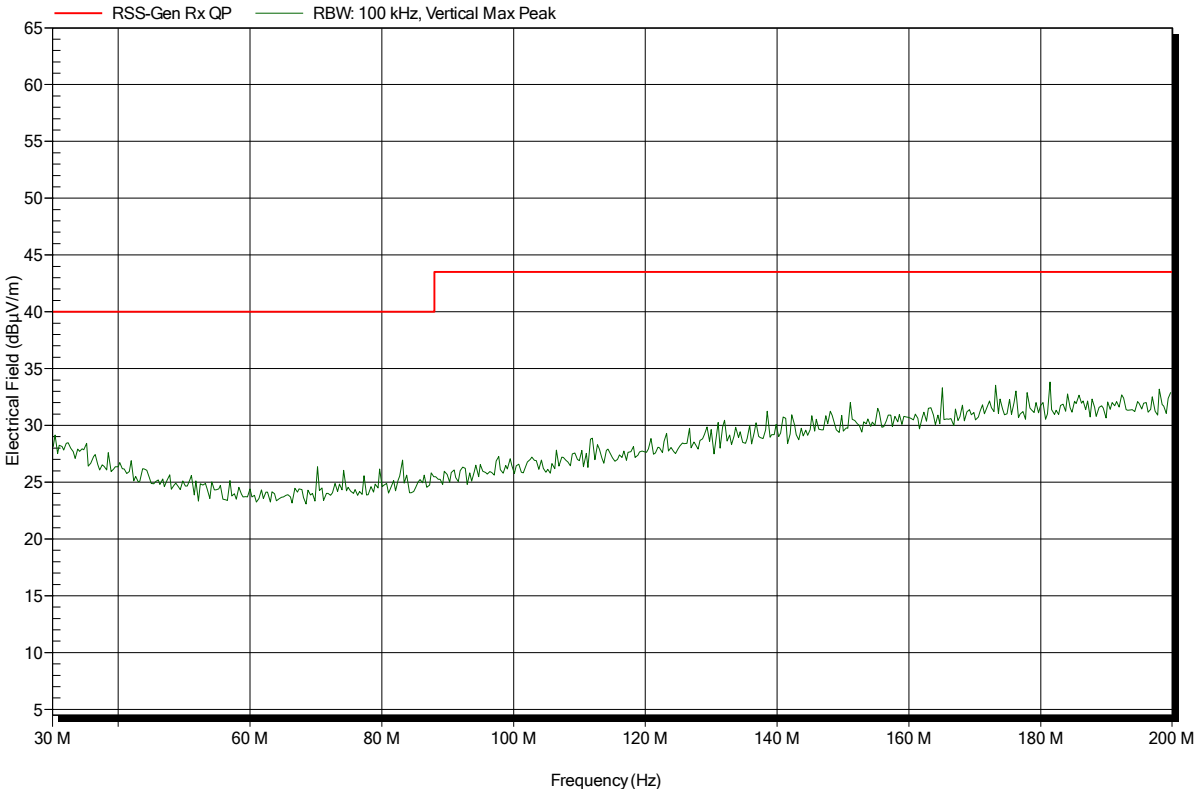


Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	RX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

Index 1



Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	RX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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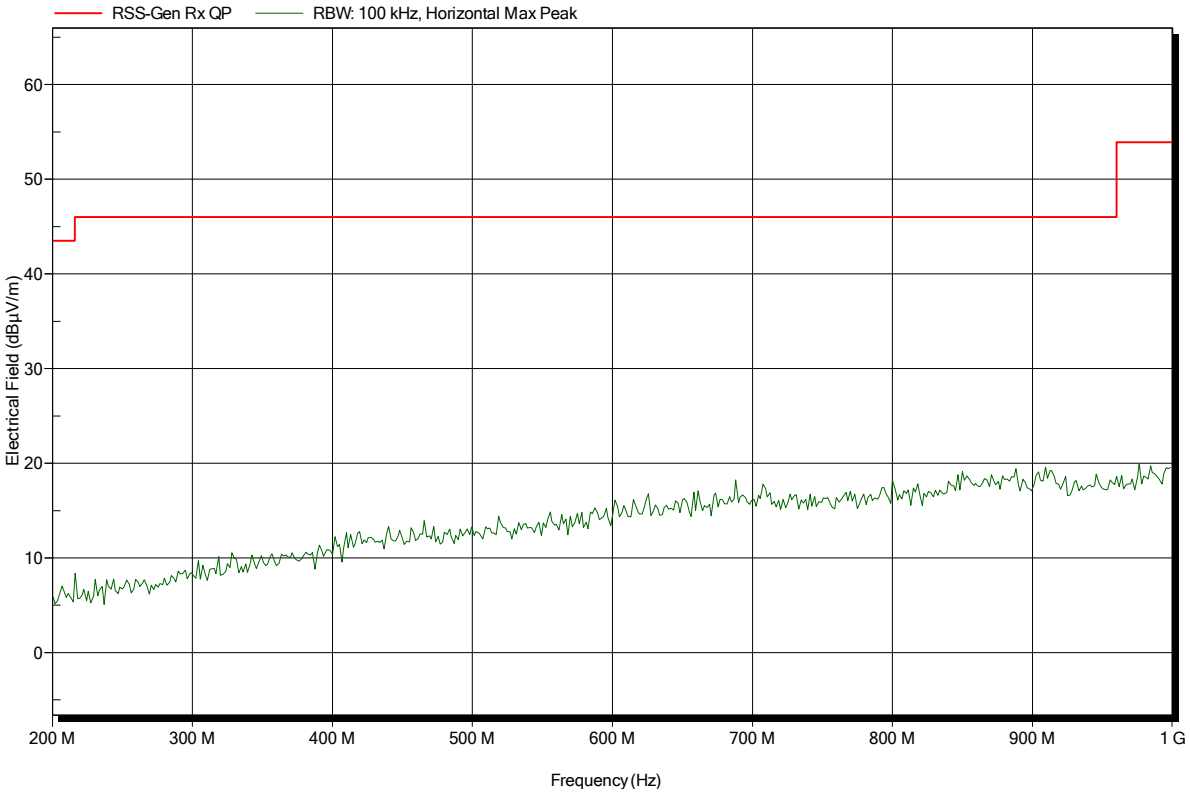

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	RX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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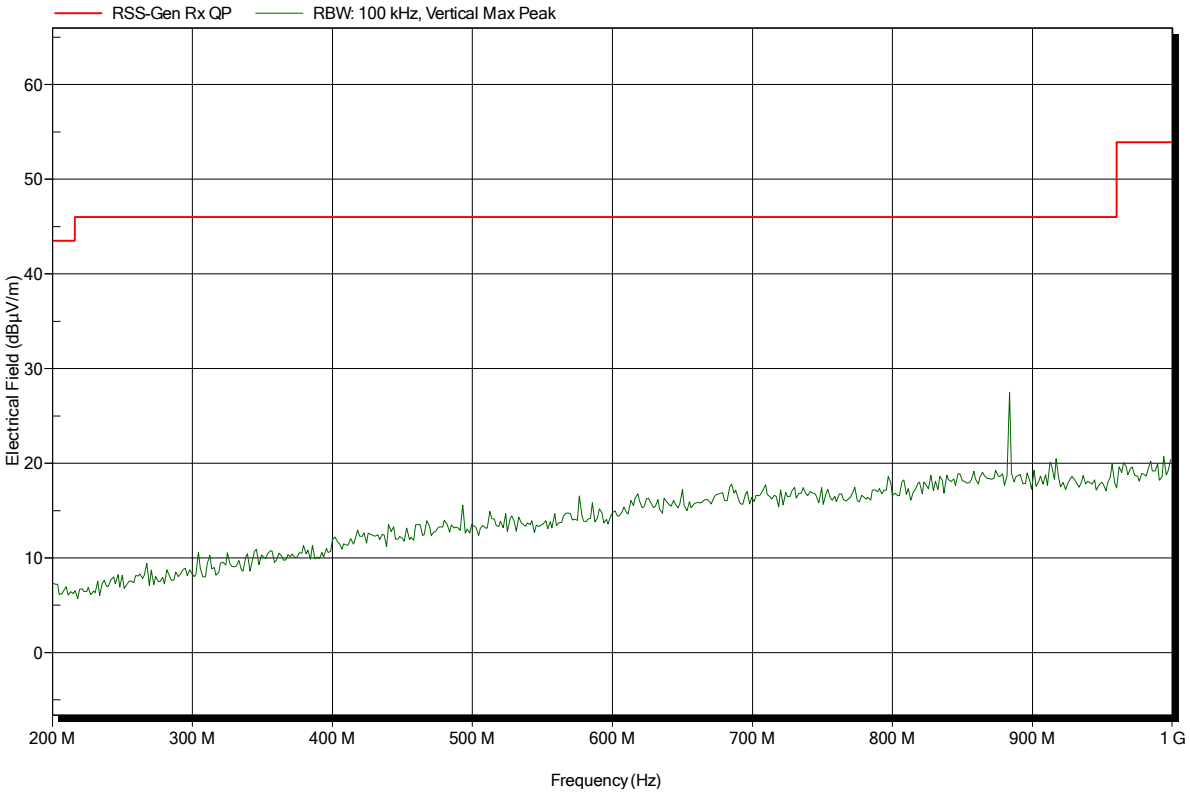

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	RX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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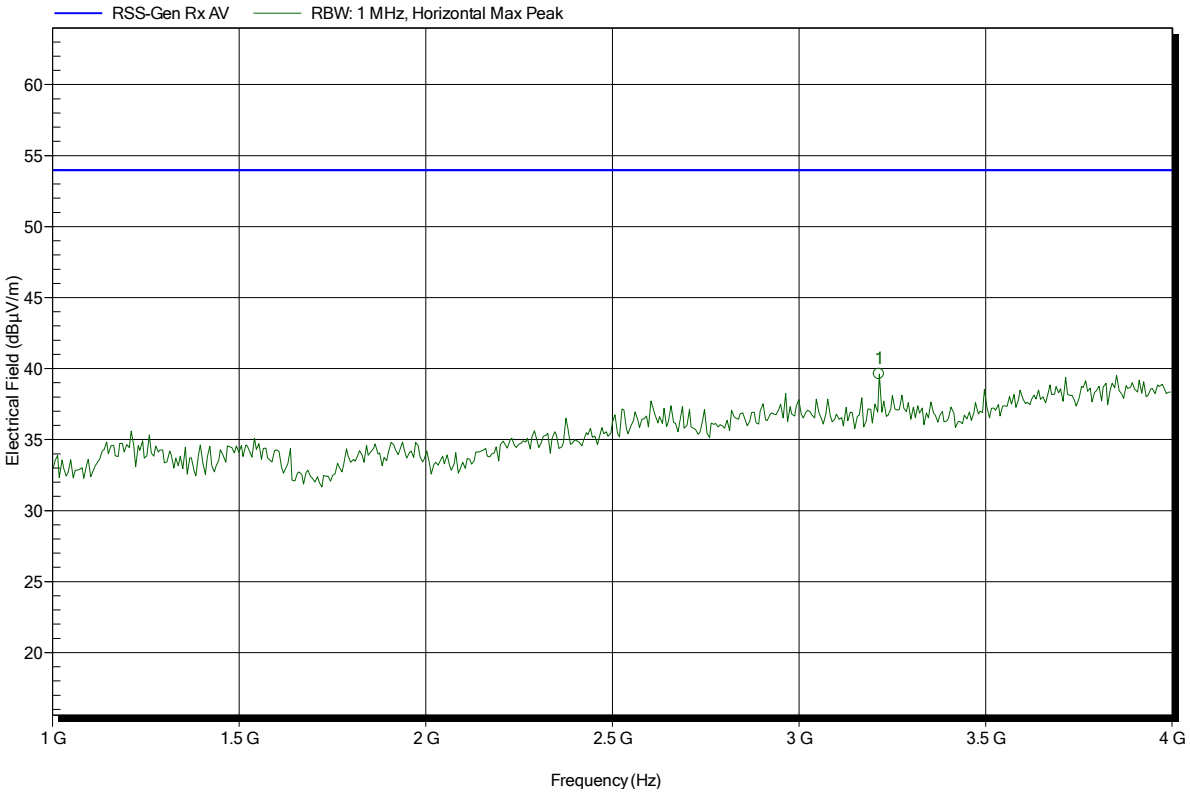

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
3.214 GHz	39.63 dBµV/m	53.98 dBµV/m	-14.35 dB	Pass

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	RX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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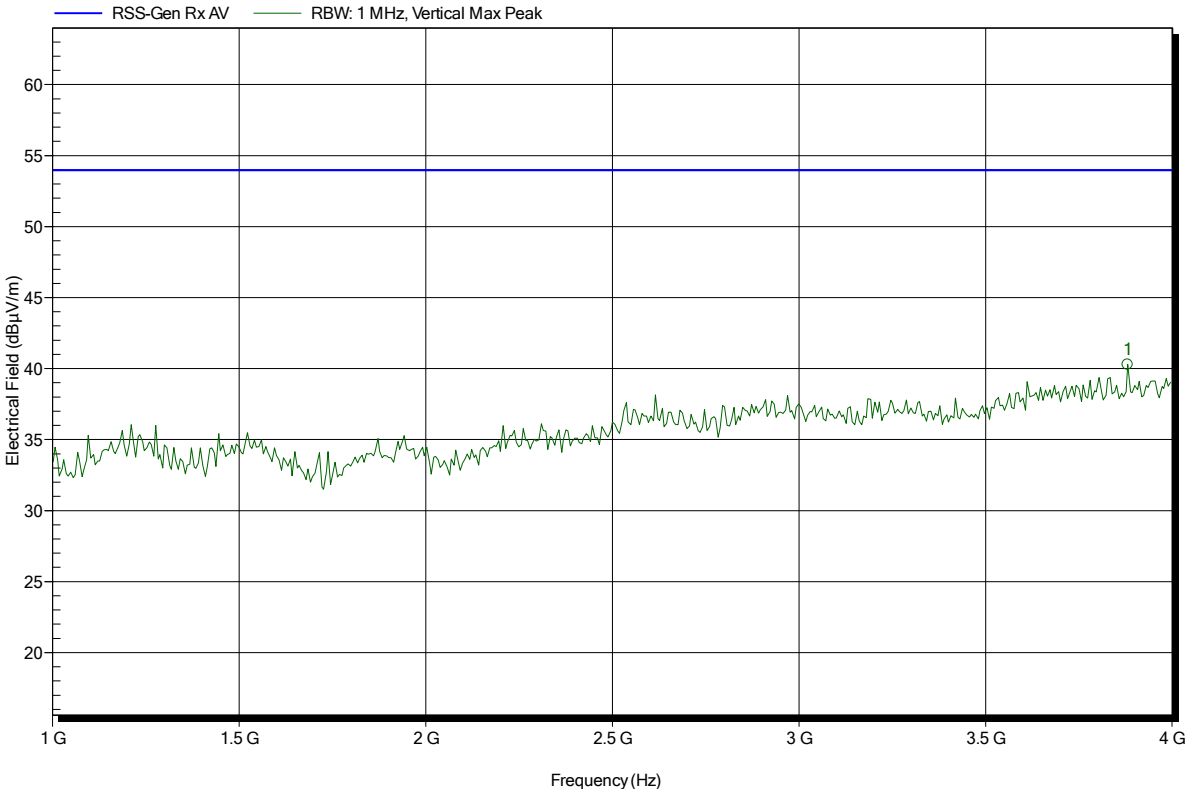

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
3.88 GHz	40.29 dBµV/m	53.98 dBµV/m	-13.69 dB	Pass

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	RX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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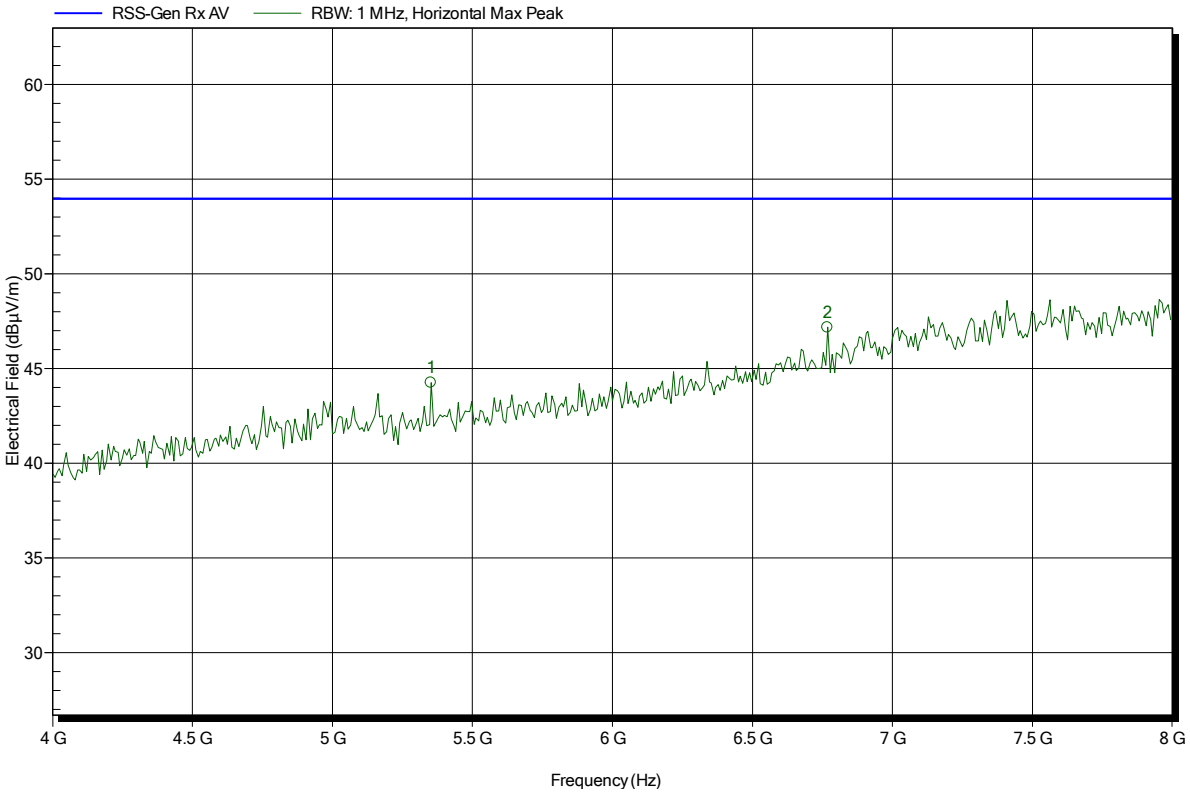

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.352 GHz	44.26 dBµV/m	53.98 dBµV/m	-9.72 dB	Pass
6.768 GHz	47.18 dBµV/m	53.98 dBµV/m	-6.8 dB	Pass

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	RX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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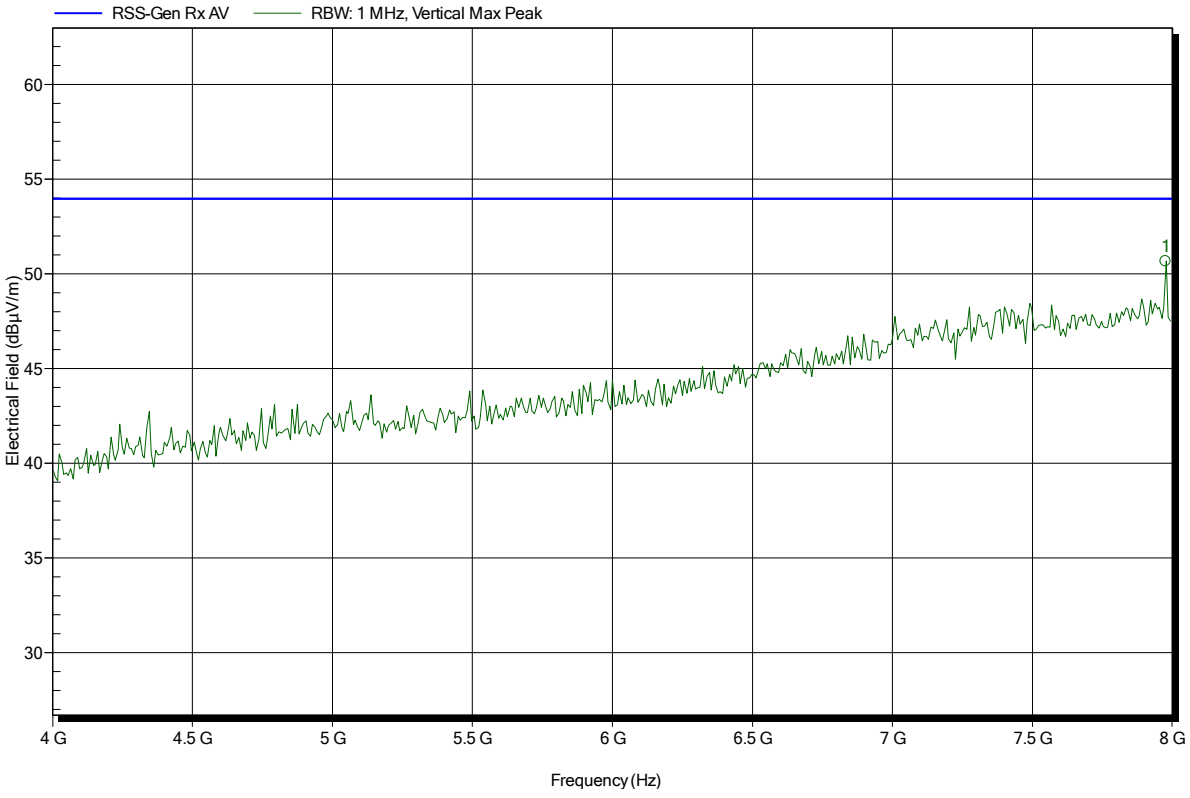

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
7.976 GHz	50.66 dBµV/m	53.98 dBµV/m	-3.32 dB	Pass

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	RX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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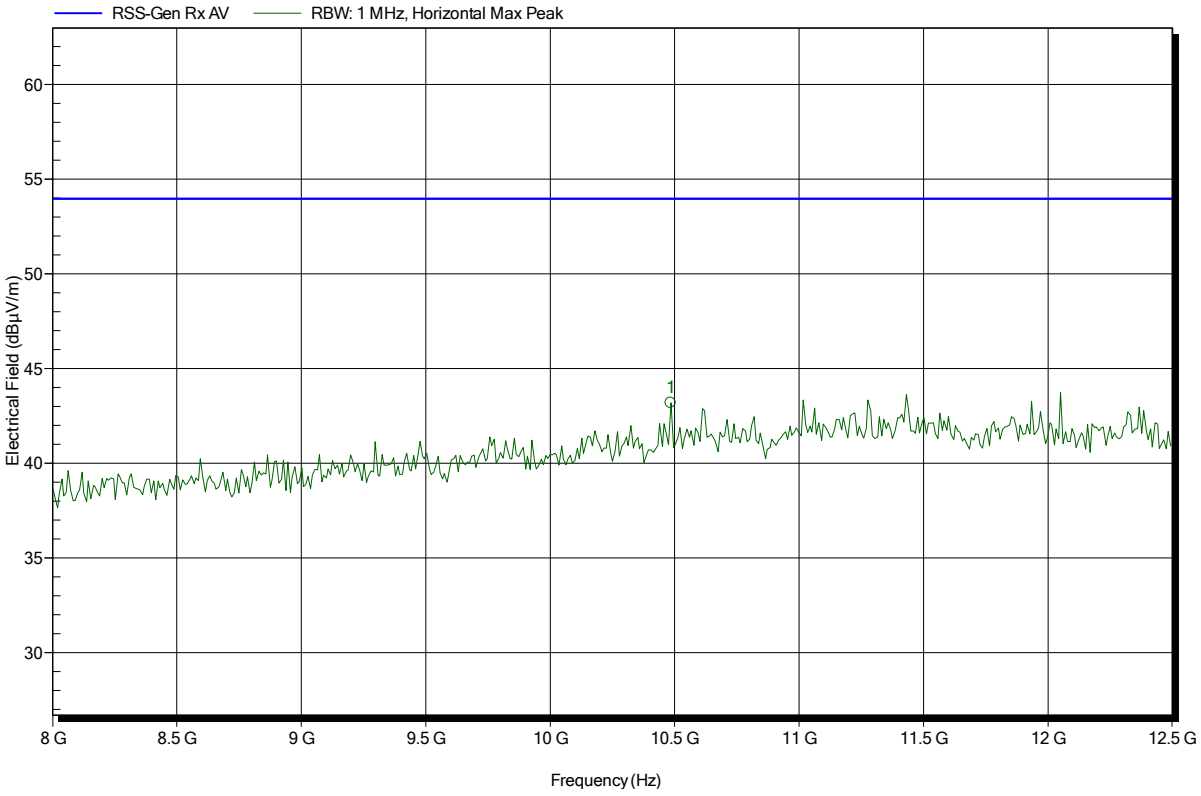

Frequency	Peak	Peak Limit	Peak Difference	Status
10.484 GHz	43.19 dBµV/m	53.98 dBµV/m	-10.79 dB	Pass

Spurious emissions according to FCC 15.247, RSS-247 Issue 1

Project number: G0M-1508-4977

Applicant:	Leica Geosystems AG
EUT Name:	Laser Distance Meter
Model:	Leica DISTO Sigma3
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Weber
Test Conditions:	Tnom: 24°C, Vnom: 3.0 VDC (Alkaline Battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	RX; BT-LE; Ch. 19
Test Date:	2015-08-14
Note:	EUT vertical

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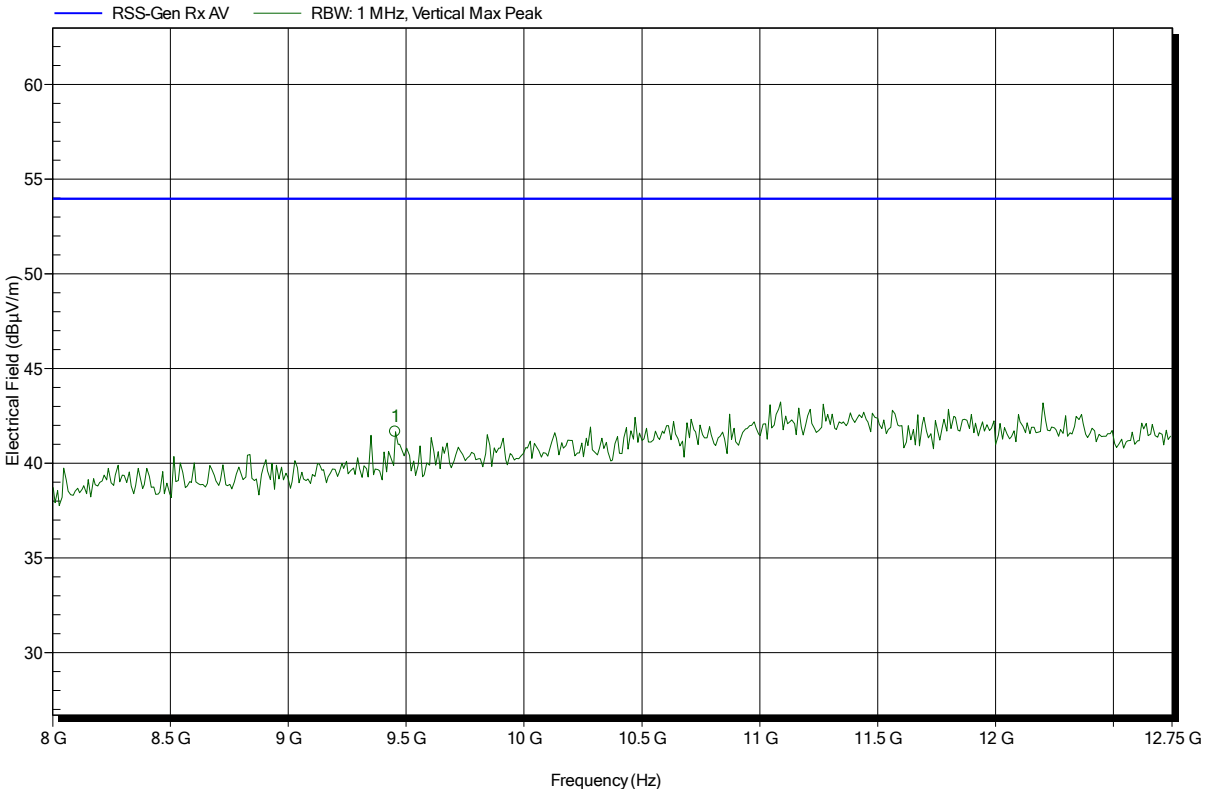

Frequency	Peak	Peak Limit	Peak Difference	Status
9.454 GHz	41.66 dBµV/m	53.98 dBµV/m	-12.32 dB	Pass