

RADIO REPORT FCC 47 CFR Part 15C ISED Canada RSS-247 Digital transmission systems operating within the 2400 – 2483.5 MHz band	
Report Reference No	G0M-1905-8271-TFC247BL-V01
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	    DAkkS - Registration number : D-PL-12092-01-03 (ISED) ISED Testing Laboratory site: 3470A-2 DAkkS - Registration number : D-PL-12092-01-04 (FCC) FCC Filed Test Laboratory, Reg.-No.: 96970
Applicant	Leica Geosystems AG
Address	Heinrich Wild Strasse 9435 Heerbrugg SWITZERLAND
Test Specification	According to FCC/ISED rules
Standard	47 CFR Part 15C RSS-247, Issue 2, 2017-02 RSS-Gen, Issue 5, Amendment 1, 2019-03
Non-Standard Test Method	None
Equipment under Test (EUT):	
Product Description	Imaging Laser Scanner
Model(s)	BLK2GO
Additional Model(s)	None
Brand Name(s)	Leica
Hardware Version(s)	HW Rev. B
Software Version(s)	EDM FPGA SW V1.3; Main_FPGA SW V0.4; Alcapone SW V.0.4.8; Android V. 3.1
FCC-ID	RFD-BLK2GO
IC	3177A-BLK2GO
Test Result	PASSED

Possible test case verdicts:		
required by standard but not tested	N/T	
not required by standard	N/R	
not applicable to EUT	N/A	
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	2019-07-15	
Report:		
Compiled by	Toralf Jahn	
Tested by (+ signature) (Responsible for Test)	Toralf Jahn	
Approved by (+ signature) (Head of Lab)	Christian Weber	
Date of Issue	2019-09-04	
Total number of pages	67	
General Remarks:		
The test results presented in this report relate only to the object tested. The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.		
Additional Comments:		

VERSION HISTORY

Version History			
Version	Issue Date	Remarks	Revised By
01	2019-09-04	Initial Release	

ABBREVIATIONS AND ACRONYMS

Acronyms	
Acronym	Description
EUT	Equipment Under Test
FCC	Federal Communications Commission
ISED	Innovation, Science and Economic Development Canada
RBW	Resolution bandwidth
RMS	Root mean square
VBW	Video bandwidth
V _{NOM}	Nominal supply voltage

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1 Equipment (Test Item) Under Test

Description	Imaging Laser Scanner	
Model	BLK2GO	
Additional Model(s)	None	
Brand Name(s)	Leica	
Serial Number(s)	3630046	
Hardware Version(s)	HW Rev. B	
Software Version(s)	EDM FPGA SW V1.3; Main_FPGA SW V0.4; Alcapone SW V.0.4.8; Android V. 3.1	
PMN	BLK2GO	
HVIN	BLK2GO	
FVIN	EDM FPGA SW V1.3 - MAIN_FPGA SW V0.4 - ALCAPONE SW V0.4.8 - ANDROID V3.1	
HMN	-	
FCC-ID	RFD-BLK2GO	
IC	3177A-BLK2GO	
Equipment type	End Product	
Radio type	Transmitter	
Assigned frequency bands	2400 - 2483.5 MHz	
Radio technology	Bluetooth LE	
Modulation	GFSK	
Number of antenna ports	1	
Radio Module	Type	Bluetooth, WLAN
	Model	NFA324A-12H32
	Manufacturer	Foxconn
	HW Version	V02
	SW Version	BSP 3.1
Antenna	Type	Integral
	Model	2458N (120-232-01)
	Manufacturer	Wepotec electronic solutions gmbh
	Gain	-2.9 dBi
Supply Voltage	V _{NOM}	7.2 VDC battery
Operating Temperature	T _{NOM}	20 °C
AC/DC-Adaptor	Model	None
	Vendor	None
	Input	None
	Output	None
Manufacturer	Leica Geosystems AG Heinrich Wild Strasse 9435 Heerbrugg SWITZERLAND	

1.4 Support Equipment

Product Type	Device	Manufacturer	Model	Comment
AE	Laptop	Lenovo	T440	Disconnected during measurements.
SFT	Radio Control Toolkit	Qualcomm	QRCT	Setting radio parameters.
CBL	USB cable	AUKEY	USB 3.0	For test mode only. Setting radio parameters. Connected during measurements.
AE	External batterie adaptor	Leica	GLK821	For test mode only. Connected during measurements.
Description:				
AE	Auxiliary Equipment			
SIM	Simulator			
CBL	Connecting Cable			
SFT	Software			
Comment:				

1.5 Test Modes

Mode	Description
GFSK	Mode = Transmit Modulation = GFSK Spreading = None Duty cycle = 64%
Comment:	

1.6 Test Frequencies

Designator	Mode	Channel	Frequency [MHz]
F1	Tx / Rx	0	2402
F2	Tx / Rx	19	2440
F3	Tx / Rx	39	2480

1.7 Sample emission level calculation

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

Reading:

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

A.F.:

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

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

Net:

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

Limit:

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

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

Margin:

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

Example only:

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

2 Result Summary

FCC 47 CFR Part 15C, ISED RSS-247				
Product Standard Reference	Requirement	Reference Method	Result	Remarks
ISED RSS-Gen, Issue 5 (section 6.6)	Occupied Bandwidth	ANSI C63.10-2013	N/R	Informational only
FCC § 15.247(a)(2) ISED RSS-247, Issue 2 (section 5.2)	6 dB Bandwidth	ANSI C63.10-2013	N/T	
FCC § 15.247(b)(1) ISED RSS-247, Issue 2 (section 5.4)	Maximum peak conducted power	ANSI C63.10-2013	N/T	
FCC § 15.247(e) ISED RSS-247, Issue 2 (section 5.2)	Power spectral density	ANSI C63.10-2013	N/T	
FCC § 15.207 ISED RSS-247, Issue 2 (section 3.1)	AC power line conducted emissions	ANSI C63.10-2013	N/R	No direct or indirect connection to AC power line
FCC § 15.247(d) ISED RSS-247, Issue 2 (section 5.5)	Band edge compliance	ANSI C63.10-2013	N/T	
FCC § 15.247(d) ISED RSS-247, Issue 2 (section 5.5)	Conducted spurious emissions	ANSI C63.10-2013	N/T	
FCC § 15.247(d) FCC § 15.209 ISED RSS-Gen, Issue 5 (section 6.13)	Transmitter radiated spurious emissions	ANSI C63.10-2013	PASS	
ISED RSS-247, Issue 2 (section 3.1)	Receiver radiated spurious emissions	ANSI C63.10-2013	N/R	No receive mode
Comment:				

Possible Test Case Verdicts	
PASS	Test object does meet the requirements
FAIL	Test object does not meet the requirements
N/T	Required by standard but not tested
N/R	Not required by standard for the test object

3 Test Conditions and Results

3.1 Test Conditions and Results - Occupied bandwidth

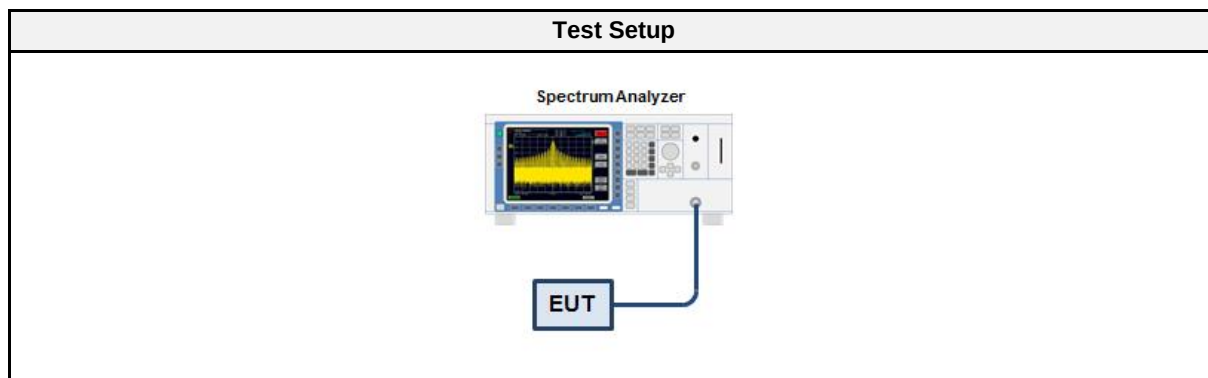
3.1.1 Information

Test Information	
Reference	ISED RSS-Gen, Issue 5 (section 6.6)
Measurement Method	ANSI C63.10 6.9.3
Operator	Toralf Jahn
Date	2019-07-24

3.1.2 Limits

Limits
None (Informational only)

3.1.3 Setup



3.1.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSIQ 26	EF00151	2018-07	2019-07

3.1.5 Procedure

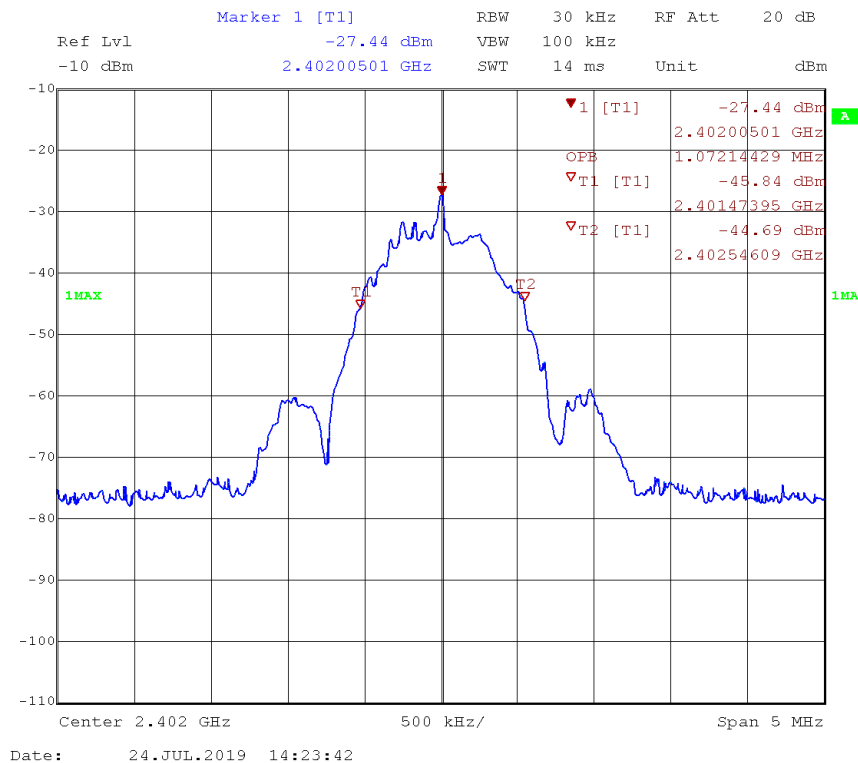
Test Procedure
1. EUT transmitter is activated in test mode under normal conditions 2. The spectrum analyzer is set to peak detection and maximum hold with a span twice the emission spectrum 3. The resolution bandwidth is set to the range of 1 % to 5 % of the occupied bandwidth 4. The occupied bandwidth is measured with the build-in analyzer function

3.1.6 Results

Test Results		
Mode	Frequency [MHz]	Bandwidth [MHz]
GFSK	2402	1.072
GFSK	2440	1.062
GFSK	2480	1.062

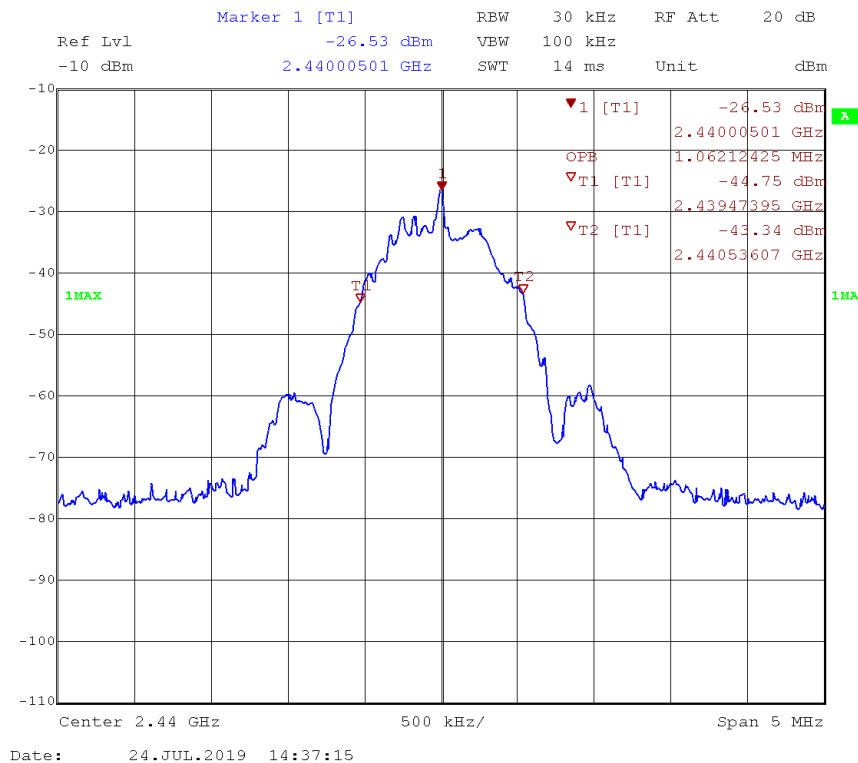
Occupied Bandwidth

Project Number: G0M-1905-8271
 Applicant: Leica Geosystems AG
 Model Description: Imaging Laser Scanner
 Model: BLK2GO
 Test Sample ID: 24664
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: GFSK, Channel: 0, 2402 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2019-07-24
 Note: BTLE
 Occupied Bandwidth [MHz]: 1.072



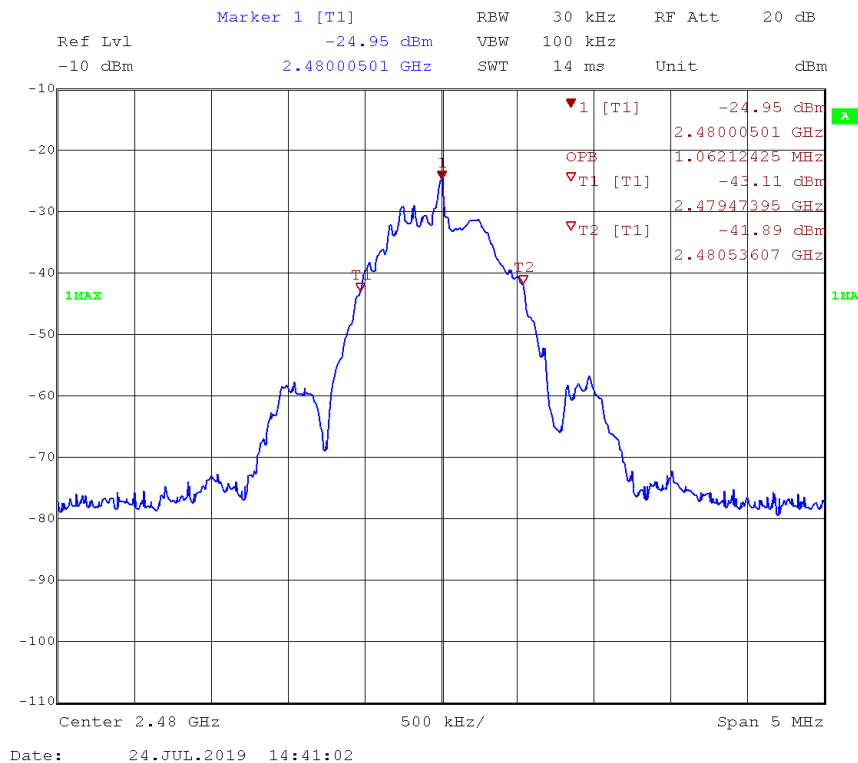
Occupied Bandwidth

Project Number: G0M-1905-8271
 Applicant: Leica Geosystems AG
 Model Description: Imaging Laser Scanner
 Model: BLK2GO
 Test Sample ID: 24664
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: GFSK, Channel: 19, 2440 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2019-07-24
 Note: BTLE
 Occupied Bandwidth [MHz]: 1.062



Occupied Bandwidth

Project Number: G0M-1905-8271
 Applicant: Leica Geosystems AG
 Model Description: Imaging Laser Scanner
 Model: BLK2GO
 Test Sample ID: 24664
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: GFSK, Channel: 39, 2480 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2019-07-24
 Note: BTLE
 Occupied Bandwidth [MHz]: 1.062



3.2 Test Conditions and Results - Transmitter radiated emissions

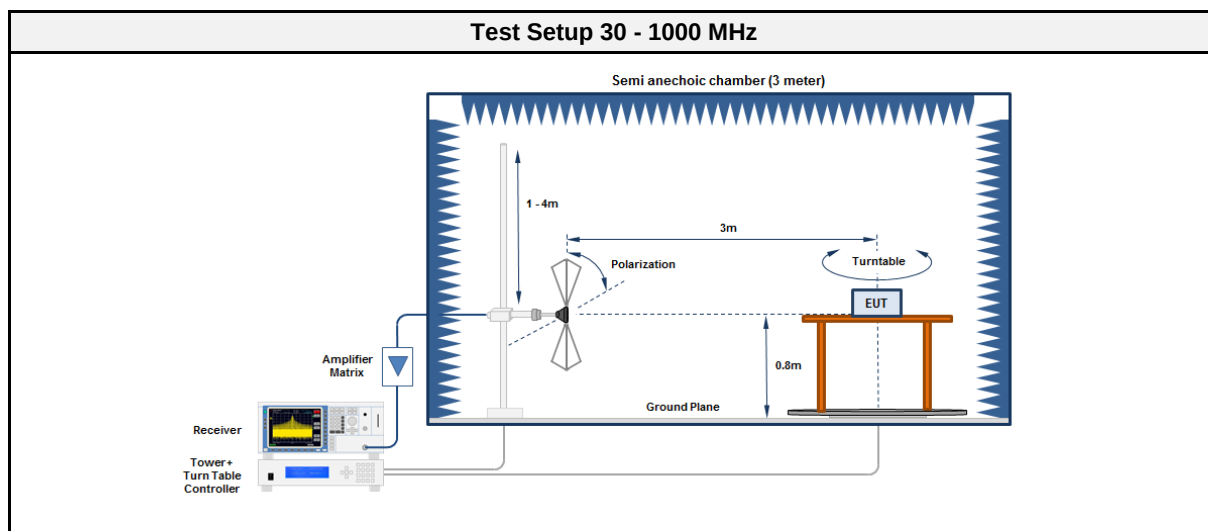
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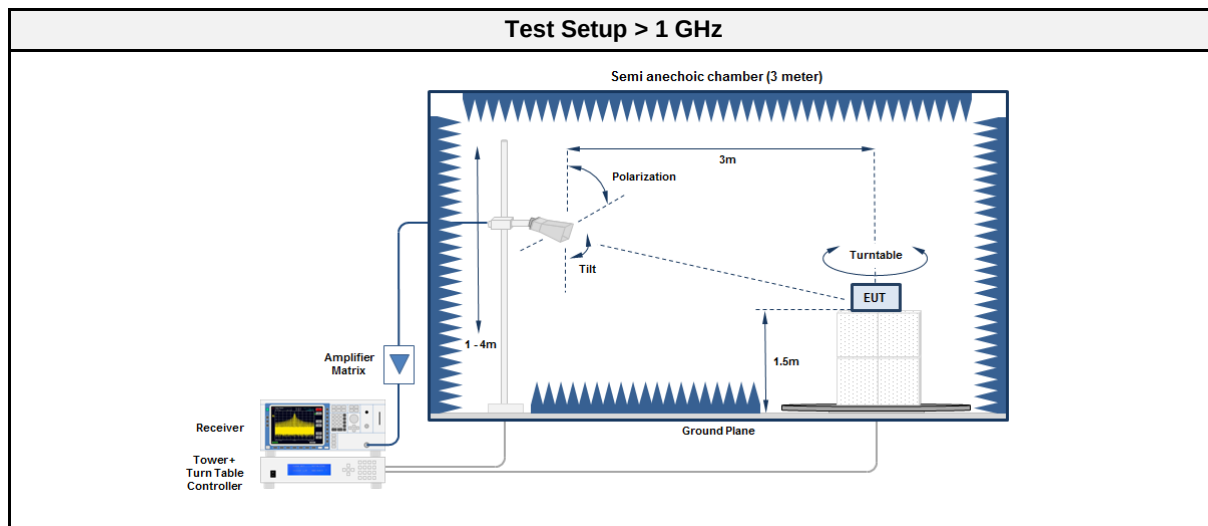
Test Information	
Reference	FCC § 15.247(d); FCC § 15.209; ISSED RSS-Gen, Issue 5 (section 6.13)
Measurement Method	ANSI C63.10 6.4, 6.5, 6.6, 11.12
Operator	Toralf Jahn
Date	2019-07-25

3.2.2 Limits

Limits			
Frequency [MHz]	Detector	Field strength [$\mu\text{V/m}$]	Measurement distance [m]
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

3.2.3 Setup





3.2.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2015.2.4

Test Equipment 30 - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2018-07	2021-07
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2018-08	2019-08
Antenna	R&S	VULB 9162	EF00978	2016-11	2019-11
Antenna	R&S	HK 116	EF00030	2019-04	2022-04
Antenna	R&S	HL 223	EF00187	2019-05	2022-05

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2018-07	2021-07
Measurement Receiver	Agilent	N9038A-526/WXP	EF01070	2018-08	2019-08
Antenna	Schwarzbeck	BBHA 9120D	EF01153	2018-09	2019-09

3.2.5 Procedure

Test Procedure 30 - 1000 MHz	
1.	EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground
2.	EUT set to test mode
3.	The receiver is set to peak detection with max hold
4.	The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m
5.	All significant emissions are measured again using the corresponding final detector

Test Procedure > 1 GHz	
1.	EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground
2.	EUT set to test mode
3.	The receiver is set to peak detection with max hold
4.	The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m
5.	All significant emissions are measured again using the corresponding final detector

3.2.6 Results

Test Results						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
2402	110.8859	30.70	qpk	hor	43.50	-12.78
2402	111.3363	36.70	qpk	ver	43.50	-06.80
2402	608.4058	38.50	qpk	hor	46.00	-07.47
2402	613.6593	38.60	qpk	ver	46.00	-07.42
2440	110.8865	30.80	qpk	hor	43.50	-12.77
2440	111.3309	36.90	qpk	ver	43.50	-06.62
2440	611.4497	38.60	qpk	hor	46.00	-07.41
2440	613.4131	38.60	qpk	ver	46.00	-07.42
2480	111.3303	30.80	qpk	hor	43.50	-12.69
2480	111.3309	36.90	qpk	ver	43.50	-06.61
2480	609.6433	38.60	qpk	ver	46.00	-07.44
2480	612.939	38.70	qpk	hor	46.00	-07.32
2402	1075	43.85	pk	ver	74.00	-30.15
2402	1499	41.69	pk	hor	74.00	-32.31
2402	7296	41.48	pk	hor	74.00	-32.52
2402	7344	40.24	pk	ver	74.00	-33.76
2402	14490	46.30	pk	hor	74.00	-27.70
2402	14490	47.18	pk	ver	74.00	-26.82
2440	1403	43.05	pk	ver	74.00	-30.95
2440	3876	44.69	pk	hor	74.00	-29.31
2440	7480	39.52	pk	hor	74.00	-34.48
2440	7488	40.03	pk	ver	74.00	-33.97
2440	14480	46.69	pk	hor	74.00	-27.31
2440	14490	46.17	pk	ver	74.00	-27.83
2480	1406	43.46	pk	ver	74.00	-30.54
2480	3859	44.89	pk	hor	74.00	-29.11
2480	7456	40.39	pk	ver	74.00	-33.61
2480	7704	40.88	pk	hor	74.00	-33.12
2480	14500	46.41	pk	hor	74.00	-27.59
2480	14500	45.52	pk	ver	74.00	-28.48

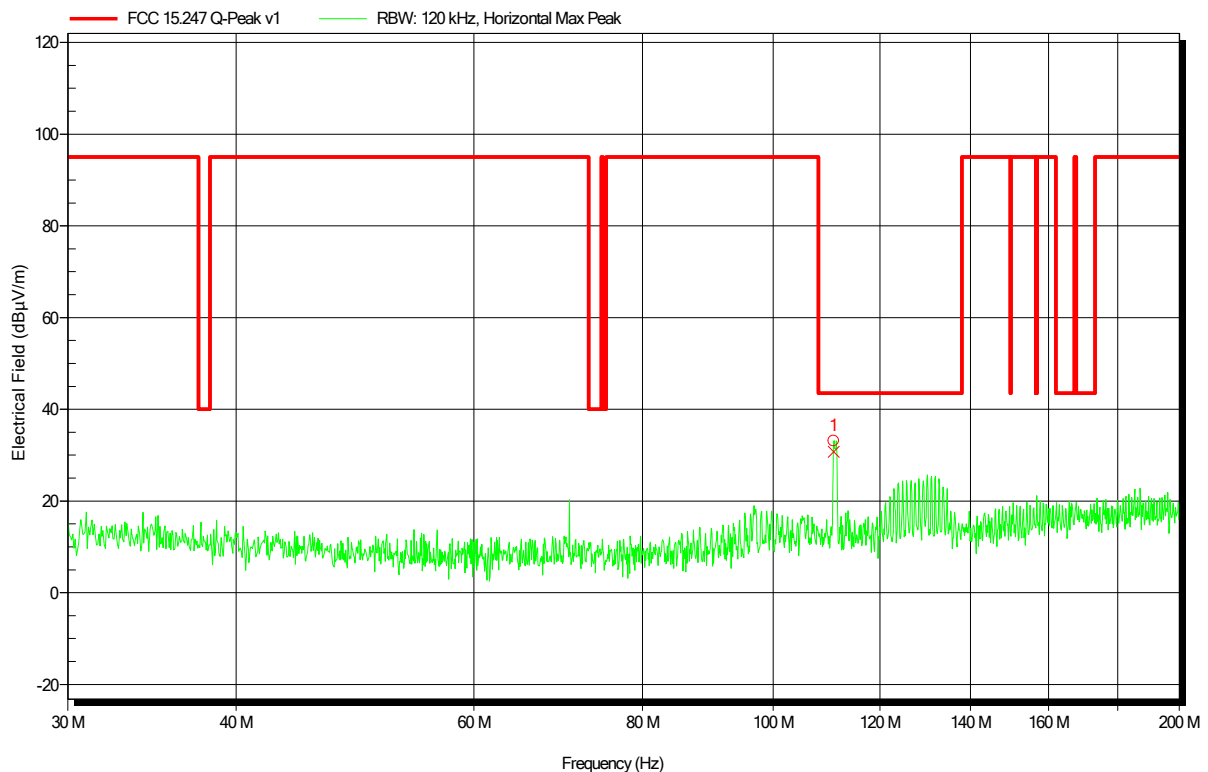
ANNEX A Transmitter spurious emissions

Spurious emissions according to FCC 15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Test Conditions: Tnom: 23°C, Vnom: 7.2 VDC battery
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: TX; BTLE, 2402 MHz
Test Date: 2019-07-25
Note:

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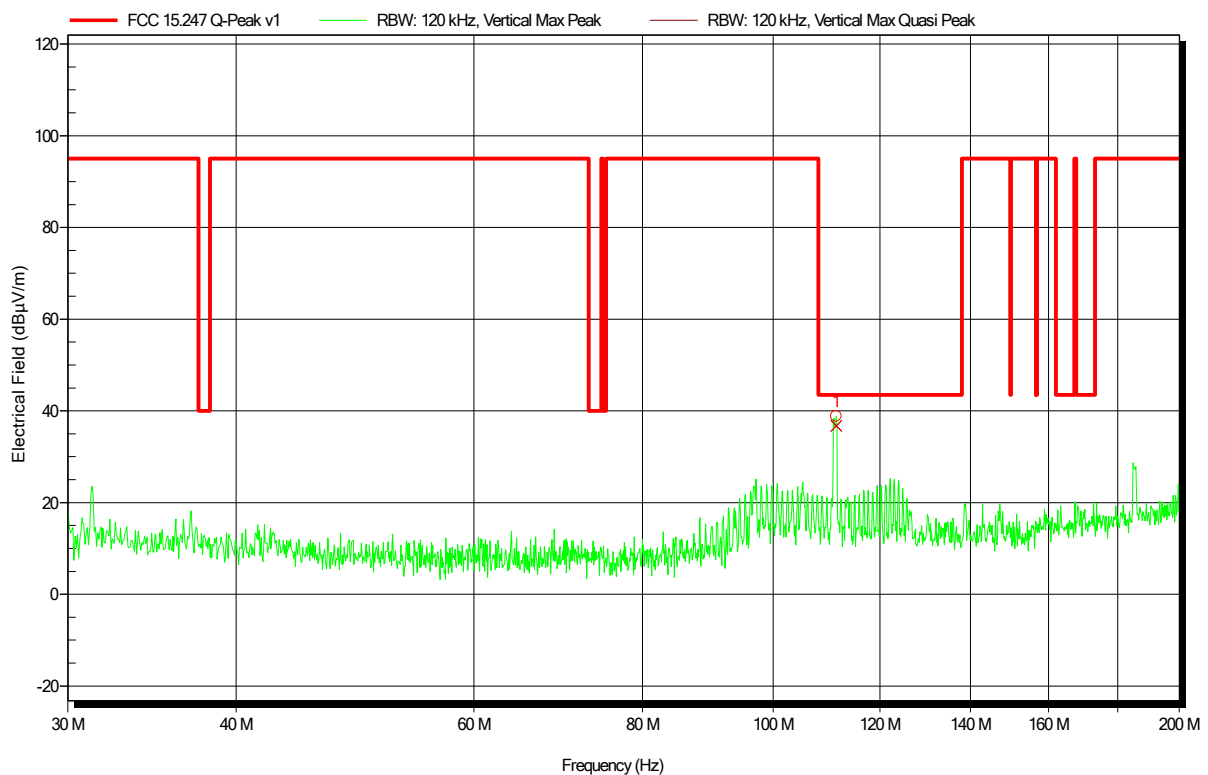
Frequency 110.8859 MHz	Peak 33.1 dBµV/m	Peak Limit 43.5 dBµV/m	Peak Difference -10.39 dB	Status Pass
Frequency 110.8859 MHz	Quasi-Peak 30.7 dBµV/m	Quasi-Peak Limit 43.5 dBµV/m	Quasi-Peak Difference -12.78 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1905-8271

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 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Test Conditions: Tnom: 23°C, Vnom: 7.2 VDC battery
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: TX; BTLE, 2402 MHz
 Test Date: 2019-07-25
 Note:

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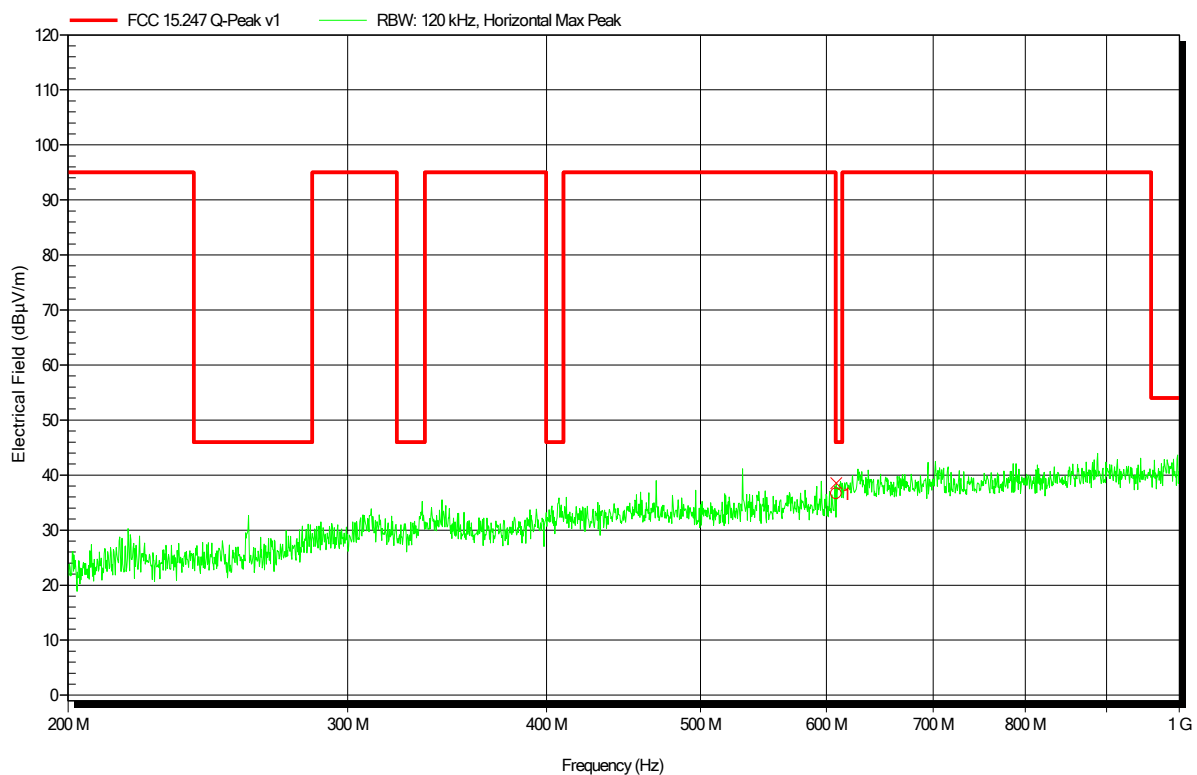
Frequency 111.3363 MHz	Peak 38.9 dBμV/m	Peak Limit 43.5 dBμV/m	Peak Difference -4.67 dB	Status Pass
Frequency 111.3363 MHz	Quasi-Peak 36.7 dBμV/m	Quasi-Peak Limit 43.5 dBμV/m	Quasi-Peak Difference -6.8 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Test Conditions: Tnom: 23°C, Vnom: 7.2 VDC battery
 Antenna: Rohde & Schwarz HL 223, Horizontal
 Measurement distance: 3 m
 Mode: TX; BTLE, 2402 MHz
 Test Date: 2019-07-25
 Note:

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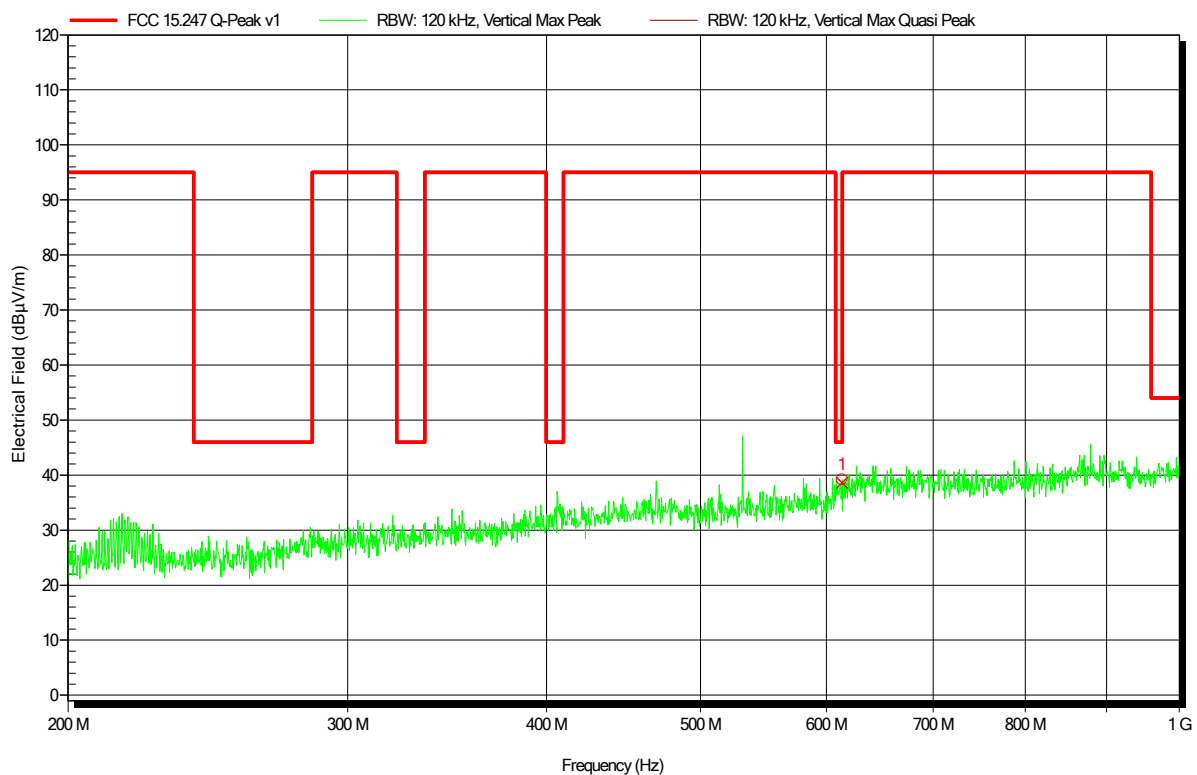
Frequency 608.4058 MHz	Peak 36.6 dBµV/m	Peak Limit 46 dBµV/m	Peak Difference -9.39 dB	Status Pass
Frequency 608.4058 MHz	Quasi-Peak 38.5 dBµV/m	Quasi-Peak Limit 46 dBµV/m	Quasi-Peak Difference -7.47 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
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 Test Conditions: Tnom: 23°C, Vnom: 7.2 VDC battery
 Antenna: Rohde & Schwarz HL 223, Vertical
 Measurement distance: 3 m
 Mode: TX; BTLE, 2402 MHz
 Test Date: 2019-07-25
 Note:

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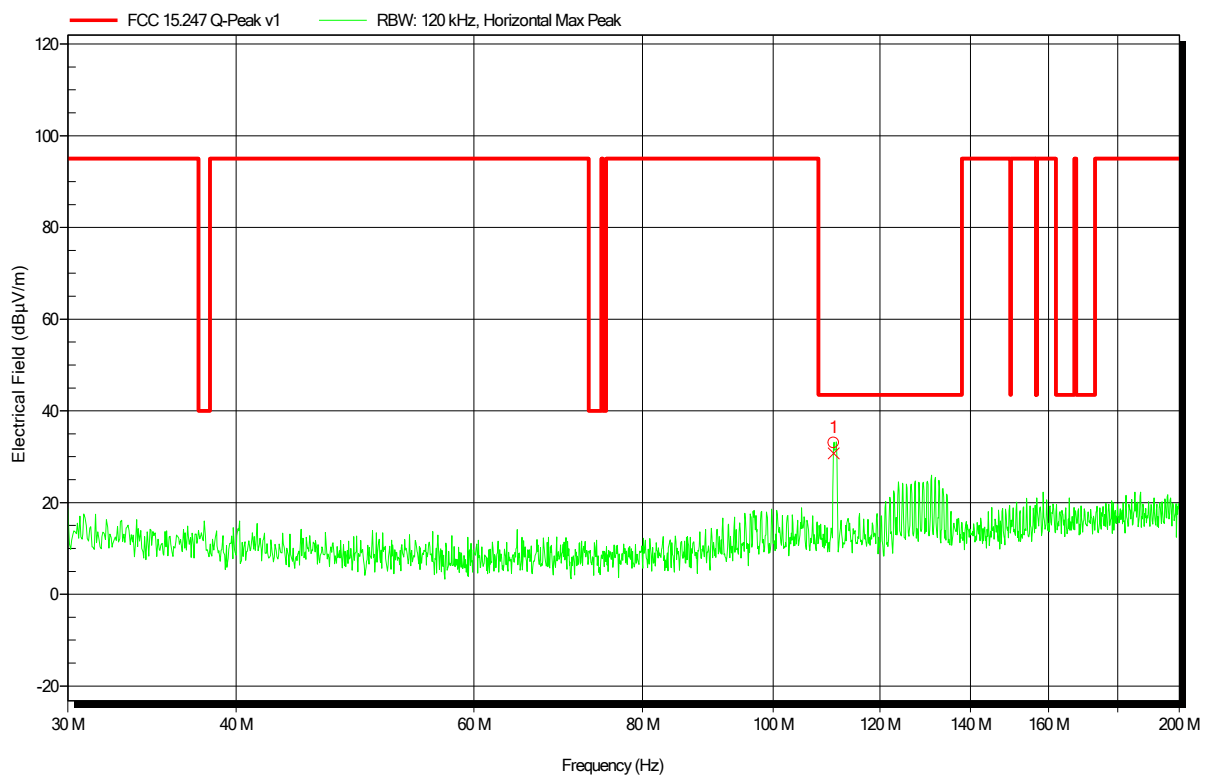
Frequency 613.6593 MHz	Peak 39.2 dBµV/m	Peak Limit 46 dBµV/m	Peak Difference -6.84 dB	Status Pass
Frequency 613.6593 MHz	Quasi-Peak 38.6 dBµV/m	Quasi-Peak Limit 46 dBµV/m	Quasi-Peak Difference -7.42 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1905-8271

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 Operator: Mr. Jahn
 Test Conditions: Tnom: 23°C, Vnom: 7.2 VDC battery
 Antenna: Rohde & Schwarz HK 116, Horizontal
 Measurement distance: 3 m
 Mode: TX; BTLE, 2440 MHz
 Test Date: 2019-07-25
 Note:

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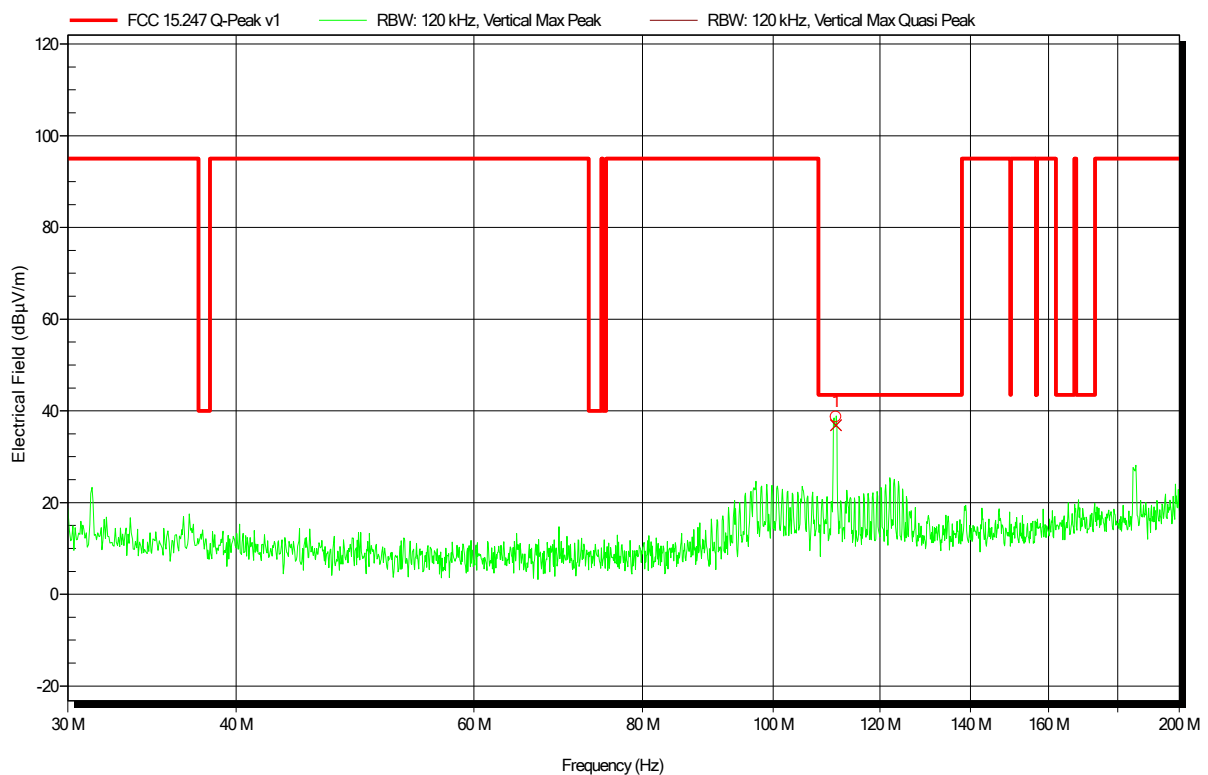
Frequency 110.8865 MHz	Peak 33.1 dBµV/m	Peak Limit 43.5 dBµV/m	Peak Difference -10.47 dB	Status Pass
Frequency 110.8865 MHz	Quasi-Peak 30.8 dBµV/m	Quasi-Peak Limit 43.5 dBµV/m	Quasi-Peak Difference -12.77 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Test Conditions: Tnom: 23°C, Vnom: 7.2 VDC battery
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: TX; BTLE, 2440 MHz
 Test Date: 2019-07-25
 Note:

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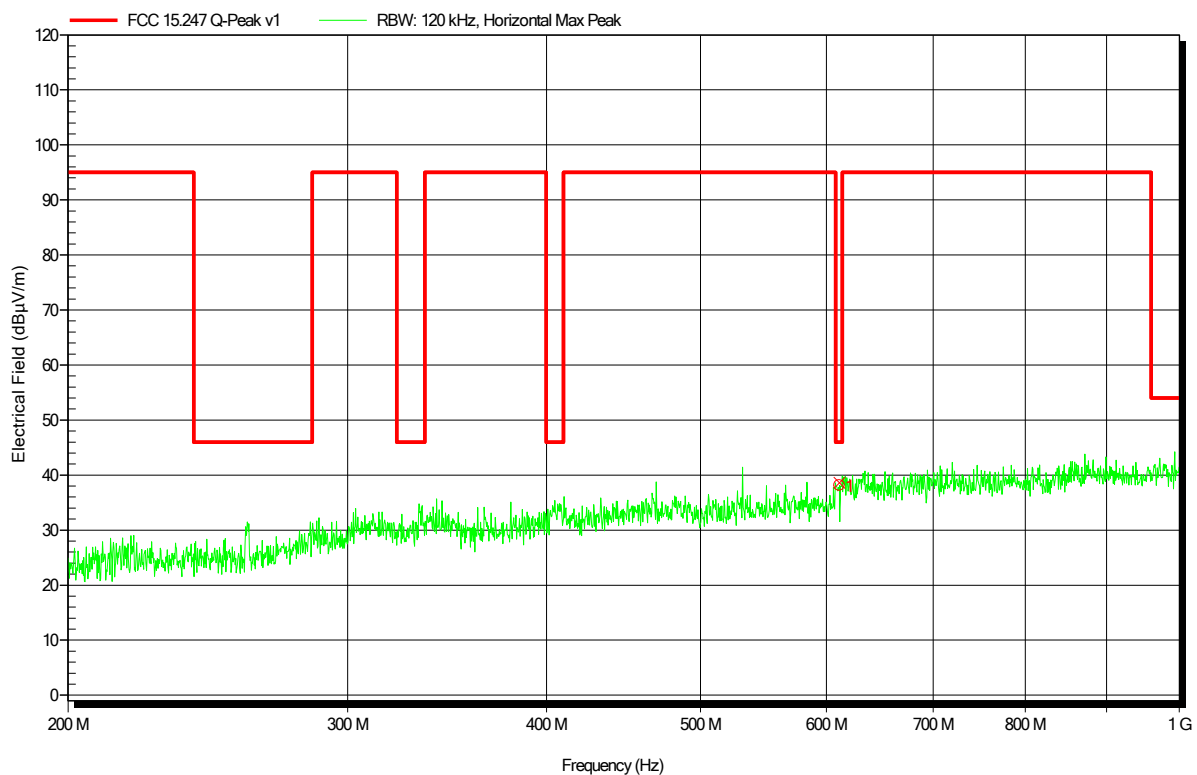
Frequency 111.3309 MHz	Peak 38.7 dBµV/m	Peak Limit 43.5 dBµV/m	Peak Difference -4.84 dB	Status Pass
Frequency 111.3309 MHz	Quasi-Peak 36.9 dBµV/m	Quasi-Peak Limit 43.5 dBµV/m	Quasi-Peak Difference -6.62 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Test Conditions: Tnom: 23°C, Vnom: 7.2 VDC battery
 Antenna: Rohde & Schwarz HL 223, Horizontal
 Measurement distance: 3 m
 Mode: TX; BTLE, 2440 MHz
 Test Date: 2019-07-25
 Note:

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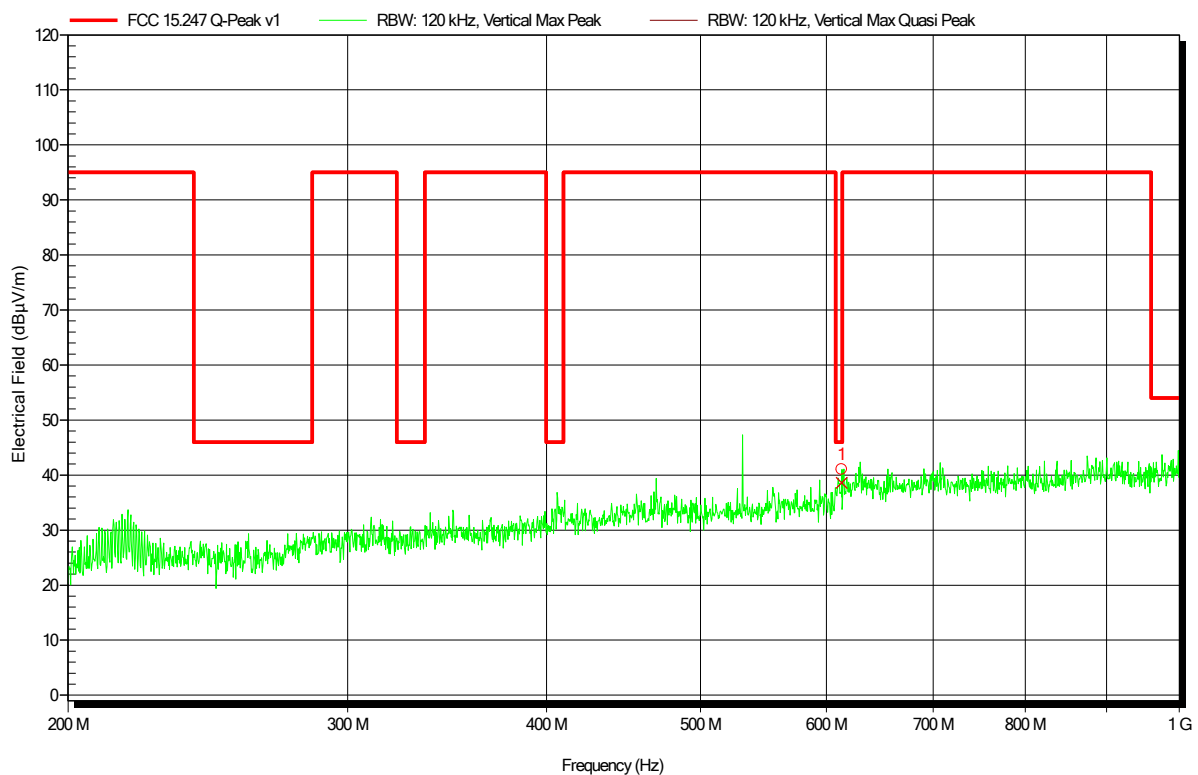
Frequency 611.4497 MHz	Peak 38.1 dBµV/m	Peak Limit 46 dBµV/m	Peak Difference -7.9 dB	Status Pass
Frequency 611.4497 MHz	Quasi-Peak 38.6 dBµV/m	Quasi-Peak Limit 46 dBµV/m	Quasi-Peak Difference -7.41 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1905-8271

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 Measurement distance: 3 m
 Mode: TX; BTLE, 2440 MHz
 Test Date: 2019-07-25
 Note:

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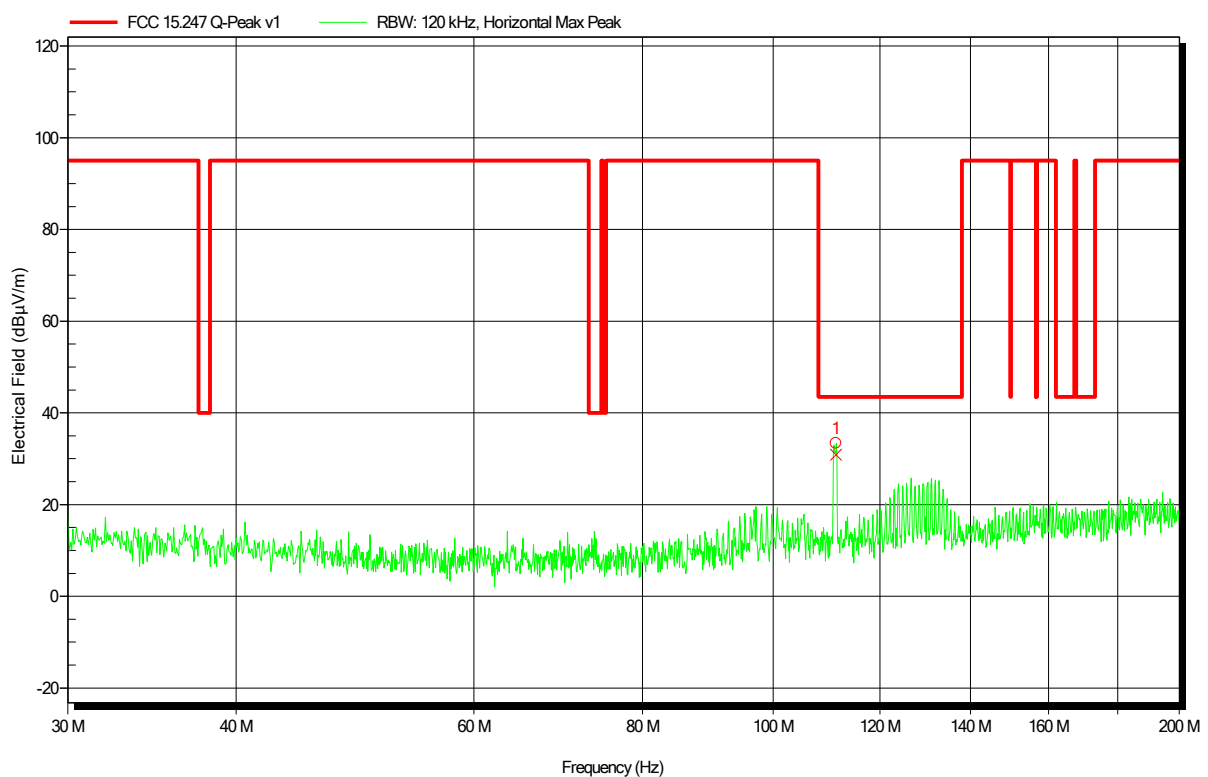
Frequency 613.4131 MHz	Peak 41.1 dBµV/m	Peak Limit 46 dBµV/m	Peak Difference -4.95 dB	Status Pass
Frequency 613.4131 MHz	Quasi-Peak 38.6 dBµV/m	Quasi-Peak Limit 46 dBµV/m	Quasi-Peak Difference -7.42 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Test Conditions: Tnom: 23°C, Vnom: 7.2 VDC battery
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: TX; BTLE, 2480 MHz
Test Date: 2019-07-25
Note:

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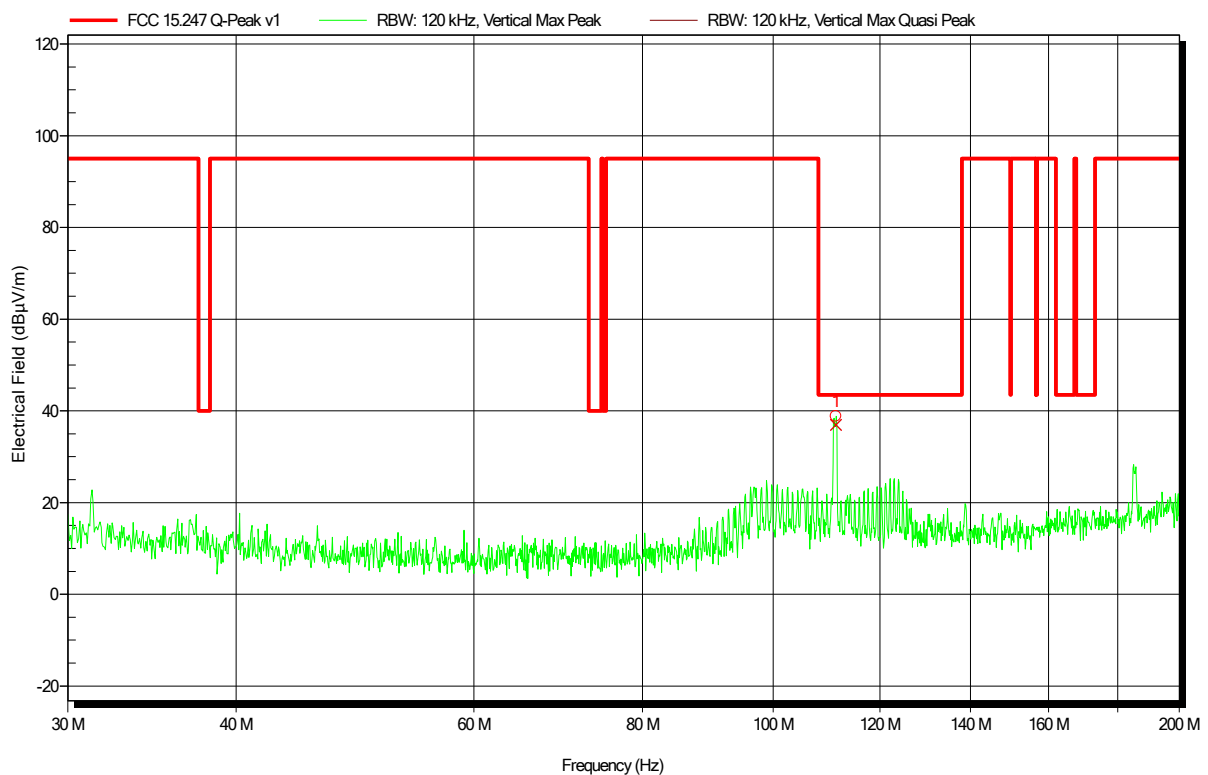
Frequency 111.3303 MHz	Peak 33.4 dBμV/m	Peak Limit 43.5 dBμV/m	Peak Difference -10.17 dB	Status Pass
Frequency 111.3303 MHz	Quasi-Peak 30.8 dBμV/m	Quasi-Peak Limit 43.5 dBμV/m	Quasi-Peak Difference -12.69 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Test Conditions: Tnom: 23°C, Vnom: 7.2 VDC battery
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: TX; BTLE, 2480 MHz
 Test Date: 2019-07-25
 Note:

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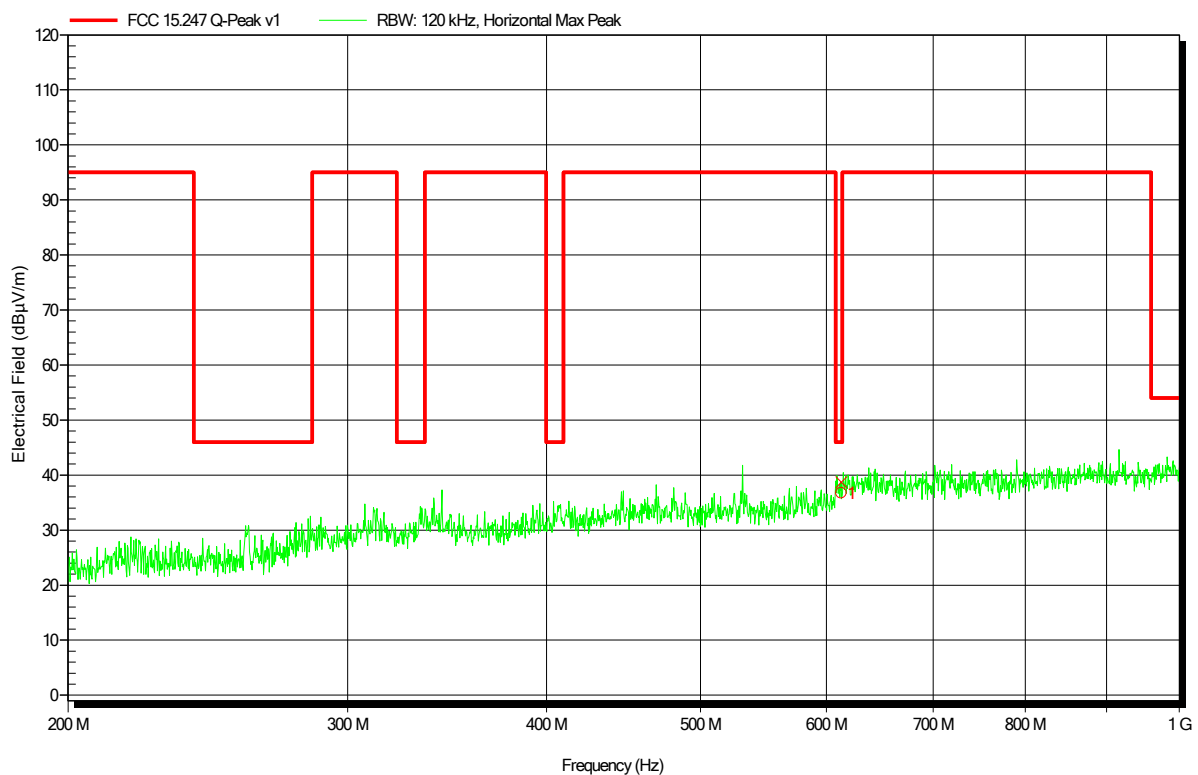
Frequency 111.3309 MHz	Peak 38.8 dBμV/m	Peak Limit 43.5 dBμV/m	Peak Difference -4.71 dB	Status Pass
Frequency 111.3309 MHz	Quasi-Peak 36.9 dBμV/m	Quasi-Peak Limit 43.5 dBμV/m	Quasi-Peak Difference -6.61 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Test Conditions: Tnom: 23°C, Vnom: 7.2 VDC battery
 Antenna: Rohde & Schwarz HL 223, Horizontal
 Measurement distance: 3 m
 Mode: TX; BTLE, 2480 MHz
 Test Date: 2019-07-25
 Note:

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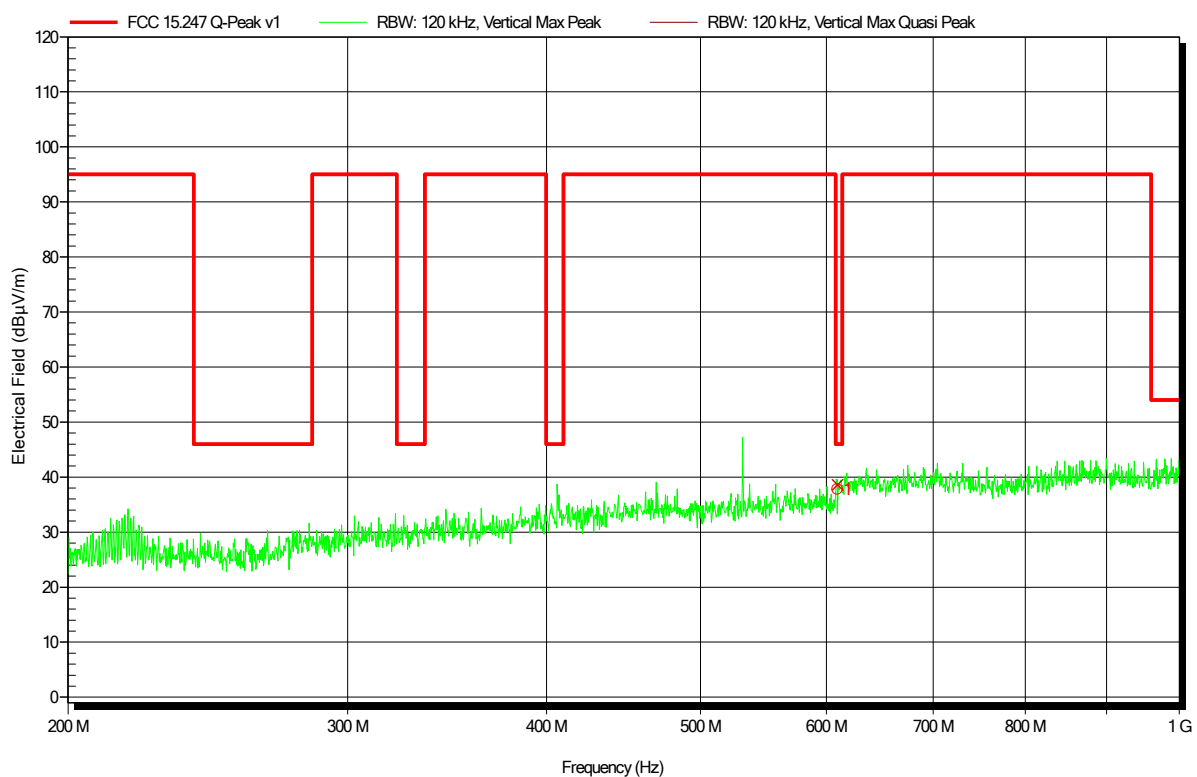


Frequency 612.939 MHz	Peak 36.7 dBµV/m	Peak Limit 46 dBµV/m	Peak Difference -9.26 dB	Status Pass
Frequency 612.939 MHz	Quasi-Peak 38.7 dBµV/m	Quasi-Peak Limit 46 dBµV/m	Quasi-Peak Difference -7.32 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1905-8271
 Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Test Conditions: Tnom: 23°C, Vnom: 7.2 VDC battery
 Antenna: Rohde & Schwarz HL 223, Vertical
 Measurement distance: 3 m
 Mode: TX; BTLE, 2480 MHz
 Test Date: 2019-07-25
 Note:

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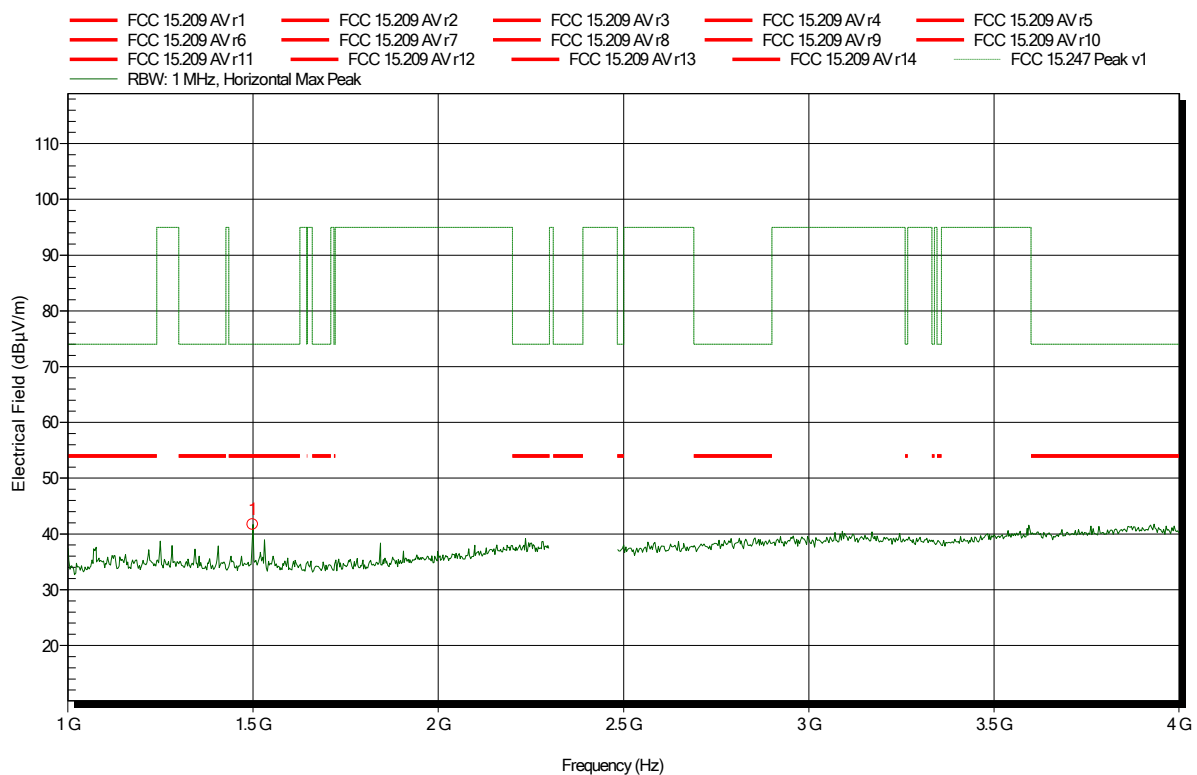
Frequency 609.6433 MHz	Peak 37.8 dBµV/m	Peak Limit 46 dBµV/m	Peak Difference -8.22 dB	Status Pass
Frequency 609.6433 MHz	Quasi-Peak 38.6 dBµV/m	Quasi-Peak Limit 46 dBµV/m	Quasi-Peak Difference -7.44 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 25°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 3 m
Mode: TX; BTLE, 2402 MHz
Test Date: 2019-07-22
Note:

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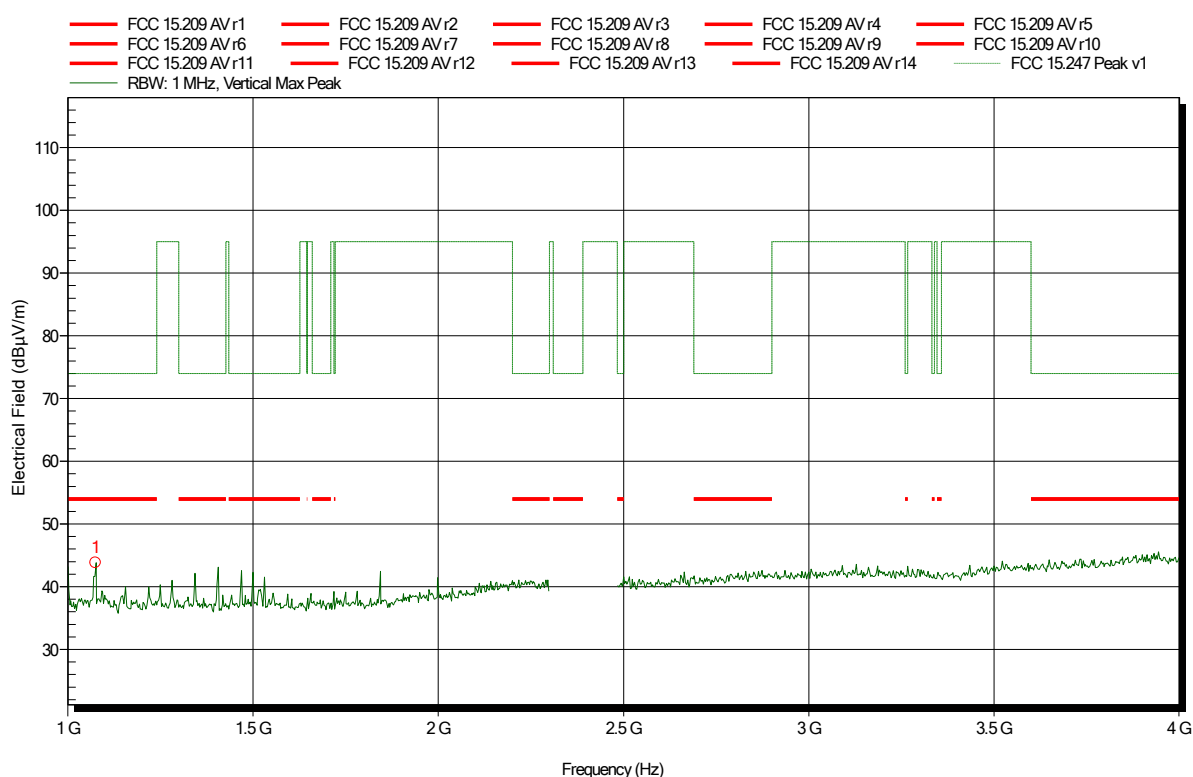
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.499 GHz	41.69 dBµV/m	74 dBµV/m	-32.31 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: TX; BTLE, 2402 MHz
 Test Date: 2019-07-23
 Note:

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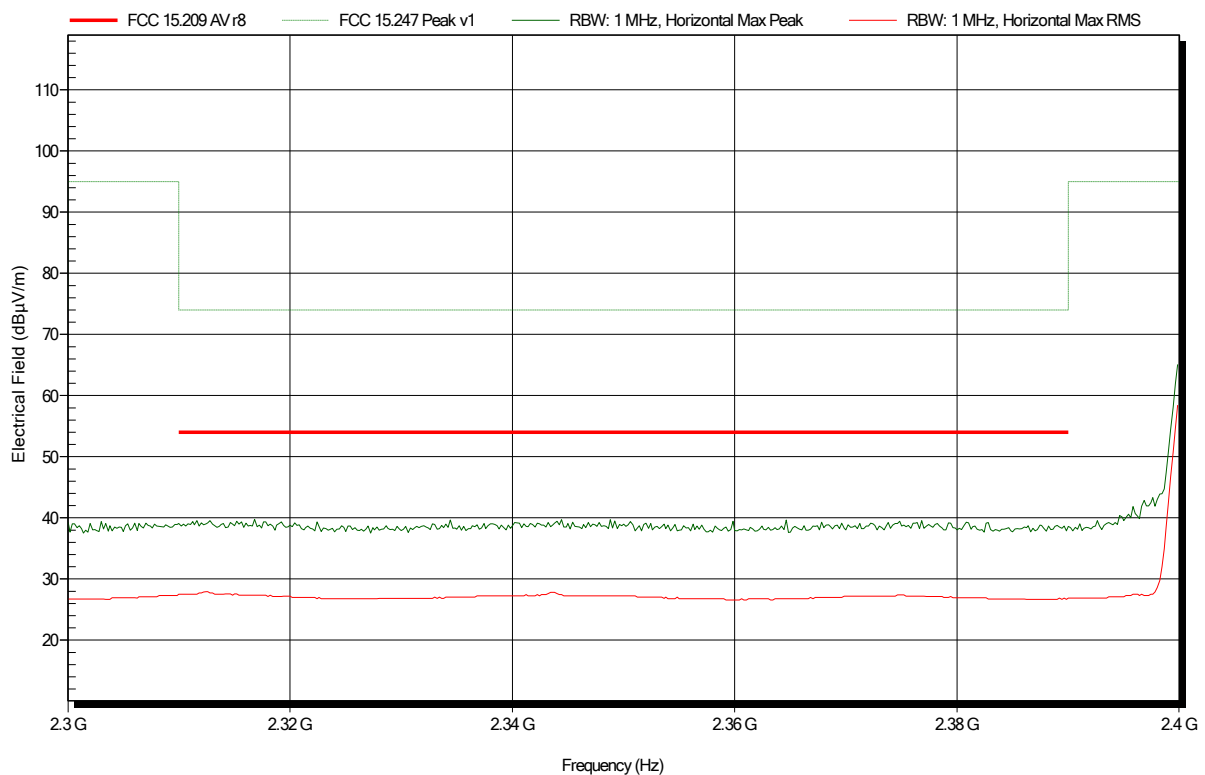
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.075 GHz	43.85 dBμV/m	74 dBμV/m	-30.15 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 25°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 3 m
Mode: TX; BTLE, 2402 MHz
Test Date: 2019-07-22
Note: Band Edge. Lower Channel.

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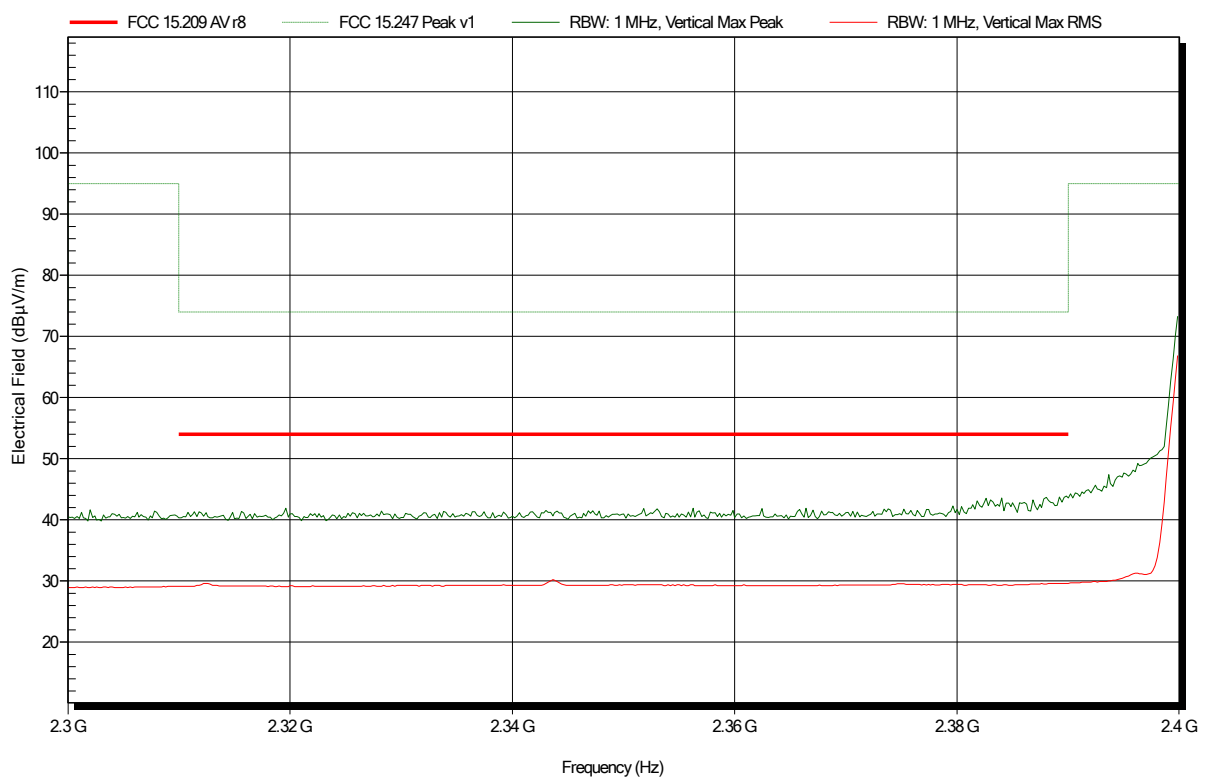


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 3 m
Mode: TX; BTLE, 2402 MHz
Test Date: 2019-07-23
Note: Band Edge. Lower Channel.

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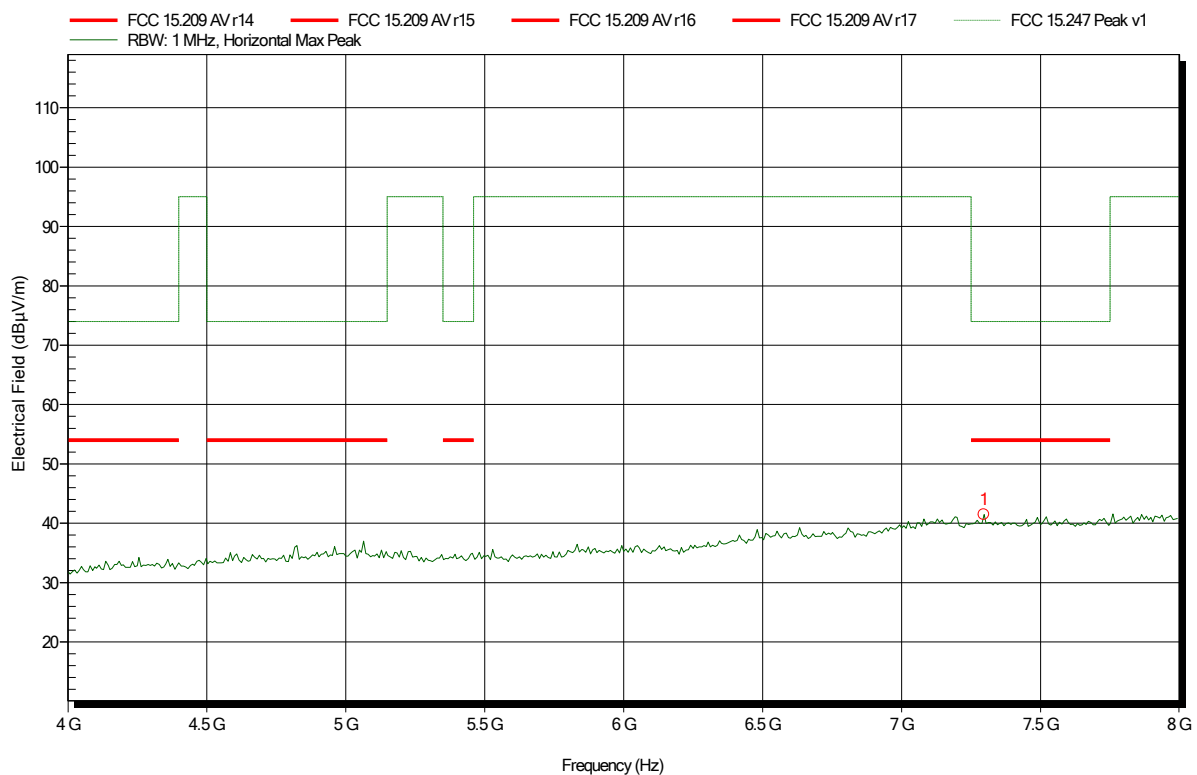


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; BTLE, 2402 MHz
 Test Date: 2019-07-23
 Note:

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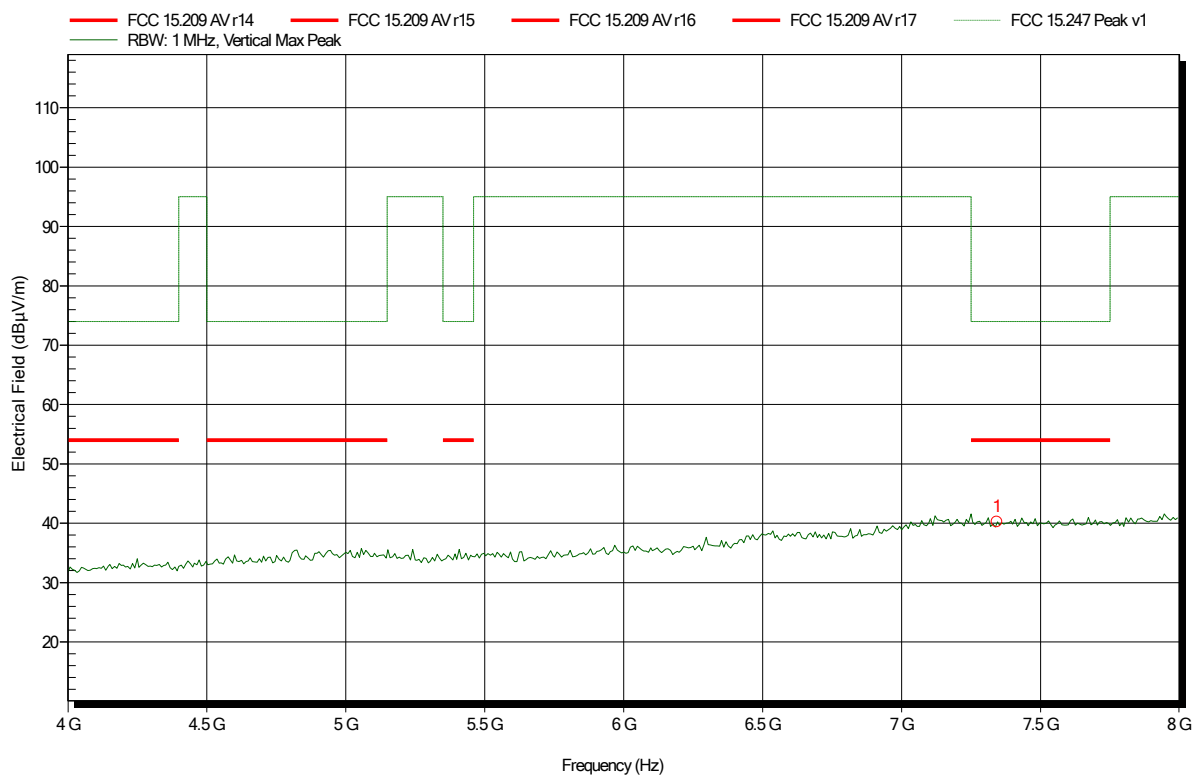
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
7.296 GHz	41.48 dBµV/m	74 dBµV/m	-32.52 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; BTLE, 2402 MHz
Test Date: 2019-07-23
Note:

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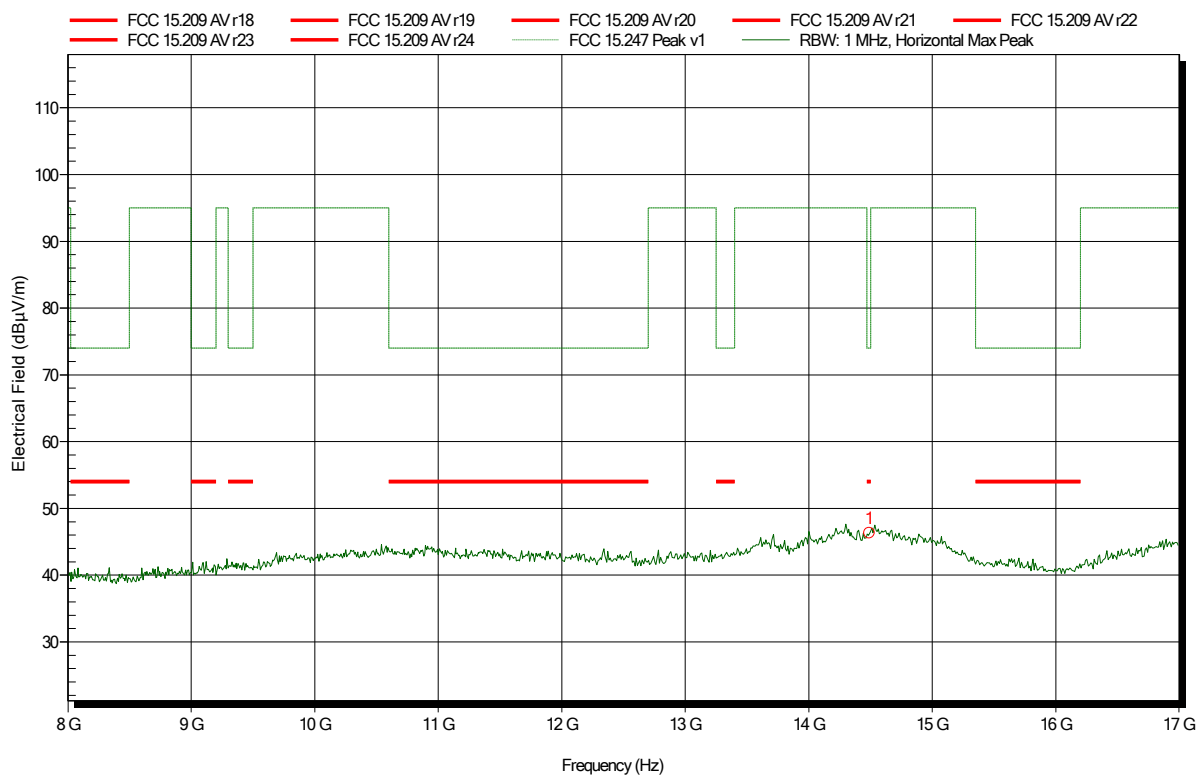
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
7.344 GHz	40.24 dBµV/m	74 dBµV/m	-33.76 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; BTLE, 2402 MHz
 Test Date: 2019-07-23
 Note:

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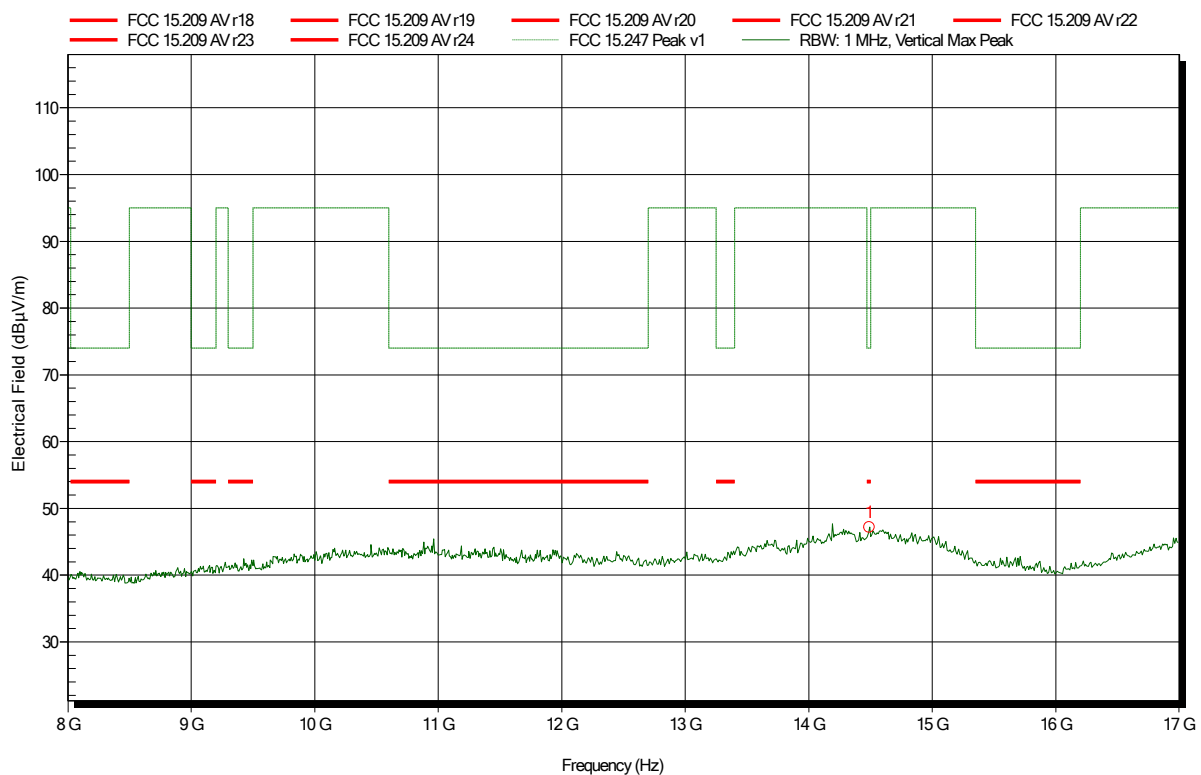
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
14.49 GHz	46.3 dBμV/m	74 dBμV/m	-27.7 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; BTLE, 2402 MHz
Test Date: 2019-07-23
Note:

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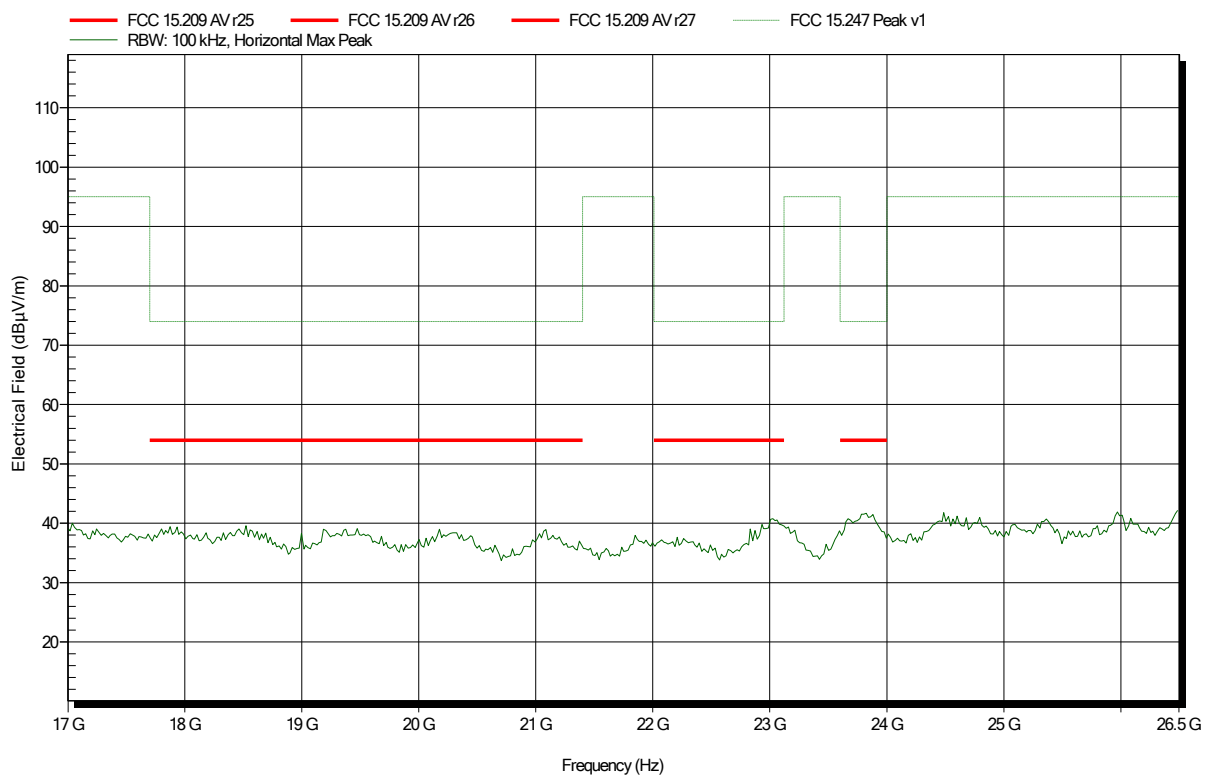
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
14.49 GHz	47.18 dBμV/m	74 dBμV/m	-26.82 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: ATH18G40, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; BTLE, 2402 MHz
Test Date: 2019-07-23
Note:

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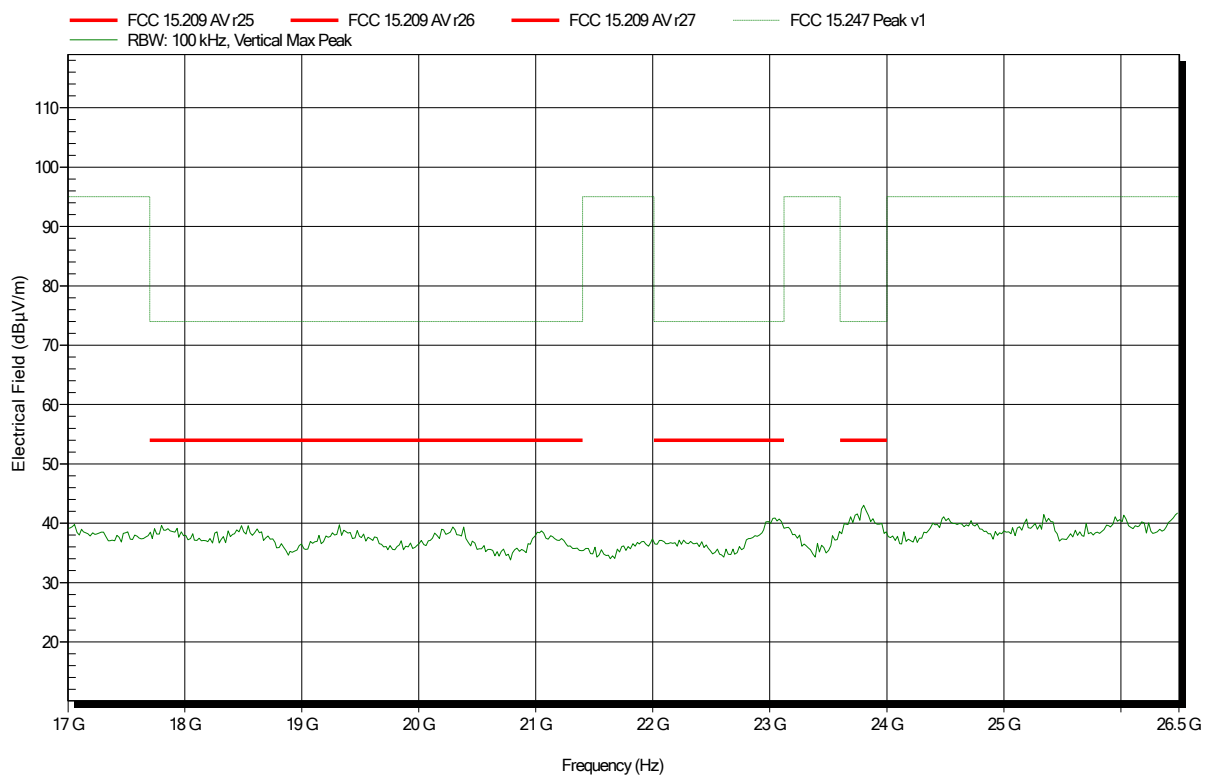


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: ATH18G40, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; BTLE, 2402 MHz
Test Date: 2019-07-23
Note:

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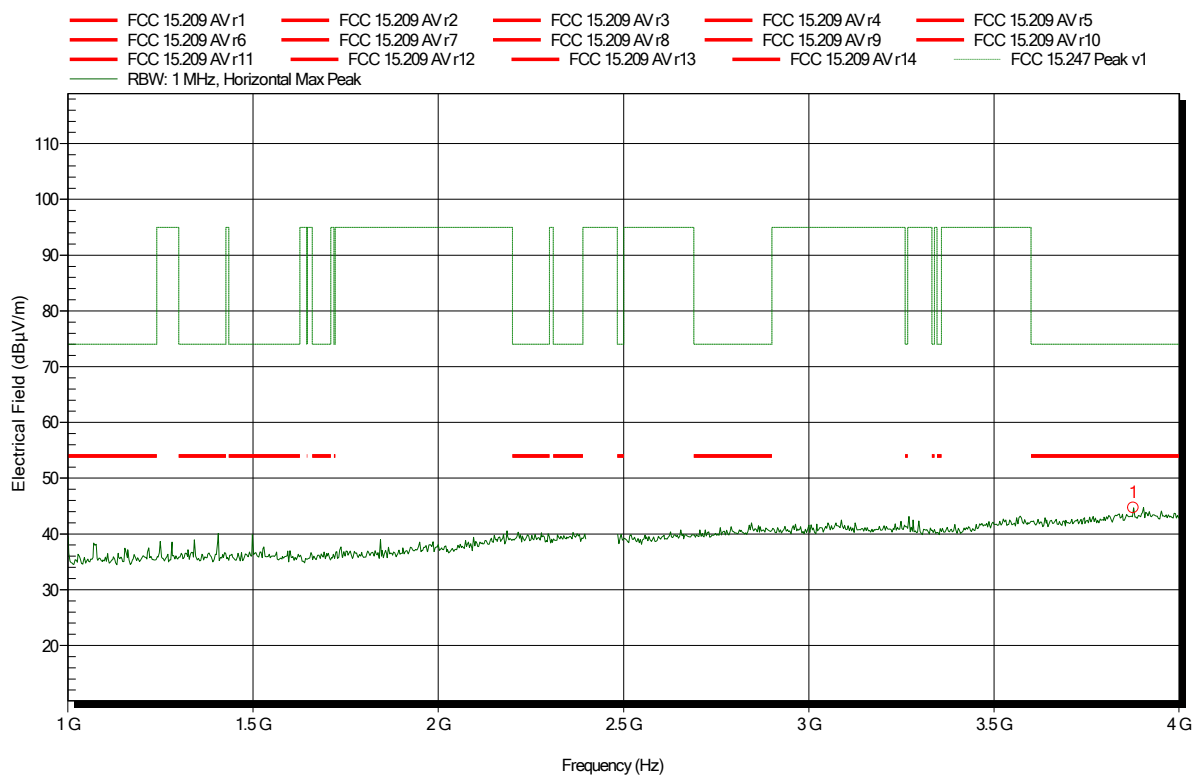


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: TX; BTLE, 2440 MHz
 Test Date: 2019-07-23
 Note:

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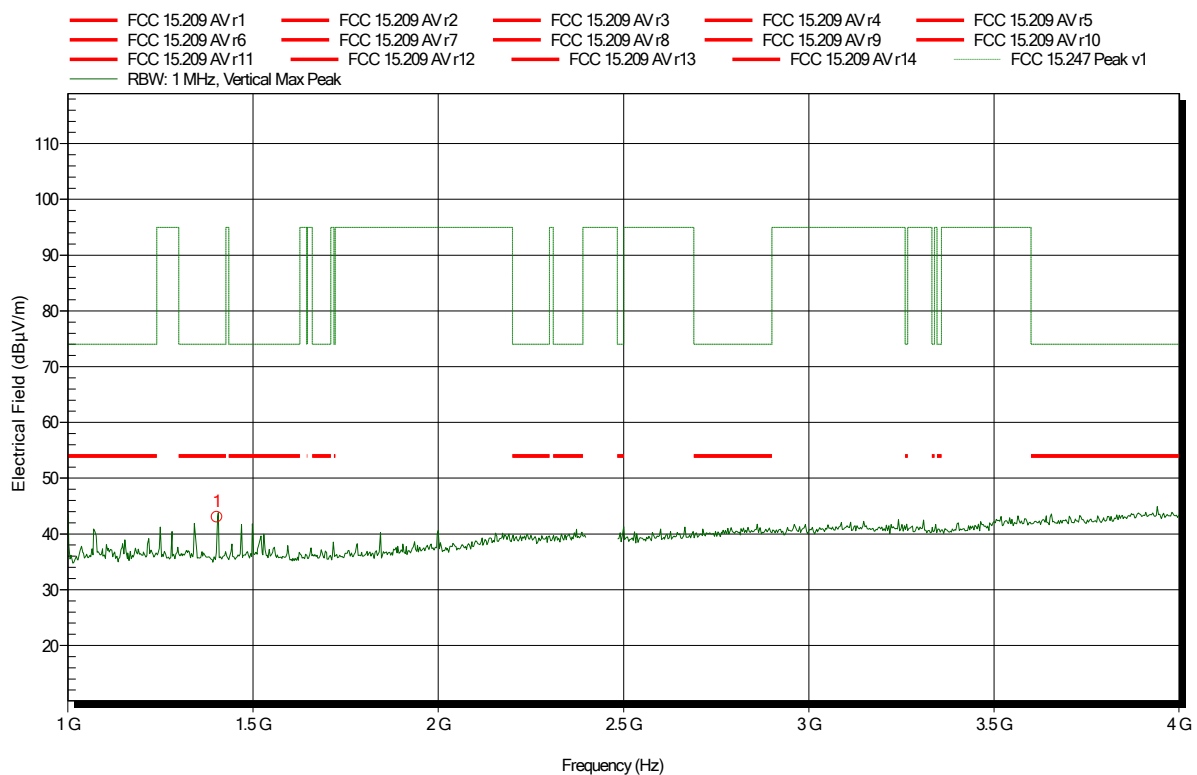
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
3.876 GHz	44.69 dBµV/m	74 dBµV/m	-29.31 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 3 m
Mode: TX; BTLE, 2440 MHz
Test Date: 2019-07-23
Note:

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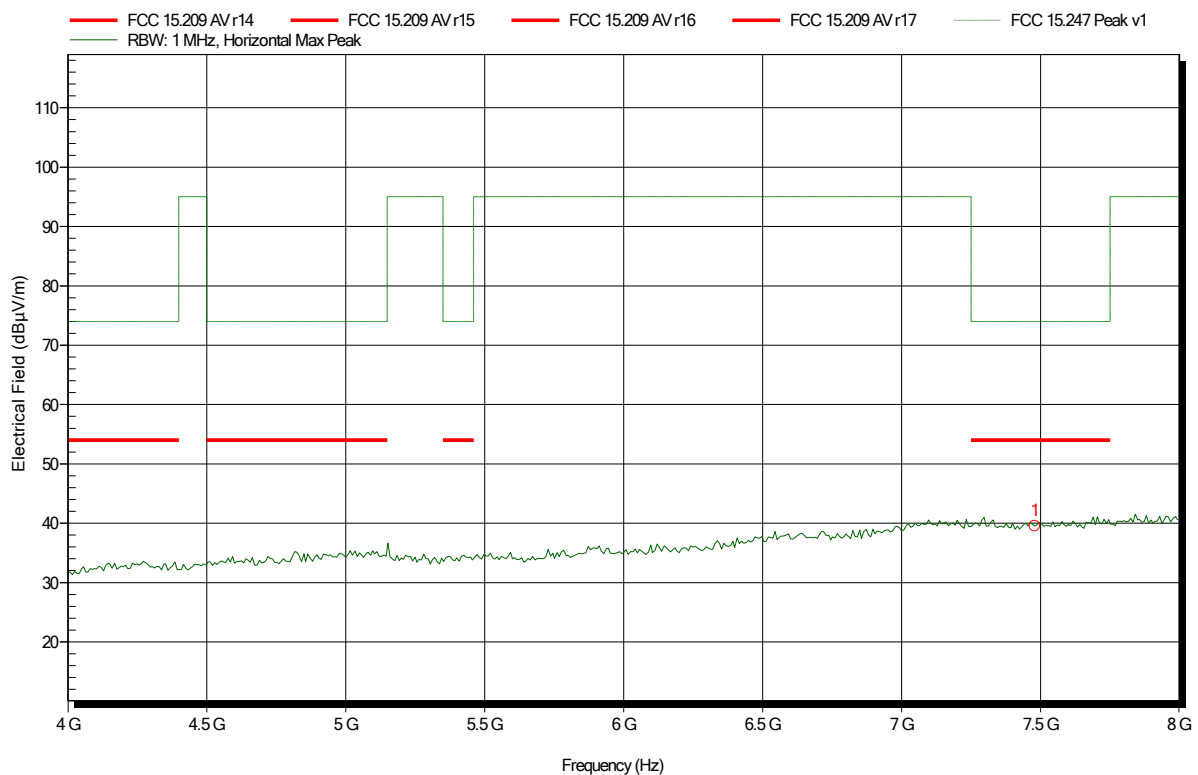
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.403 GHz	43.05 dBµV/m	74 dBµV/m	-30.95 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; BTLE, 2440 MHz
 Test Date: 2019-07-23
 Note:

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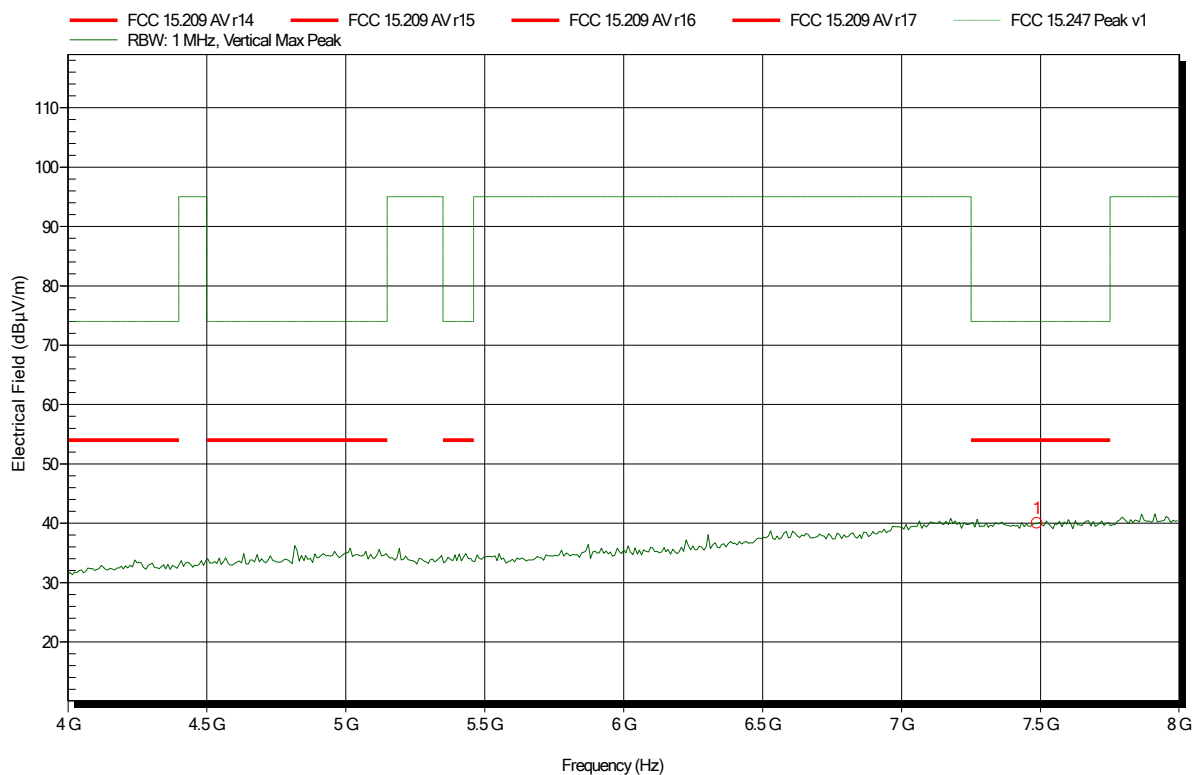
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
7.48 GHz	39.52 dBμV/m	74 dBμV/m	-34.48 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; BTLE, 2440 MHz
 Test Date: 2019-07-23
 Note:

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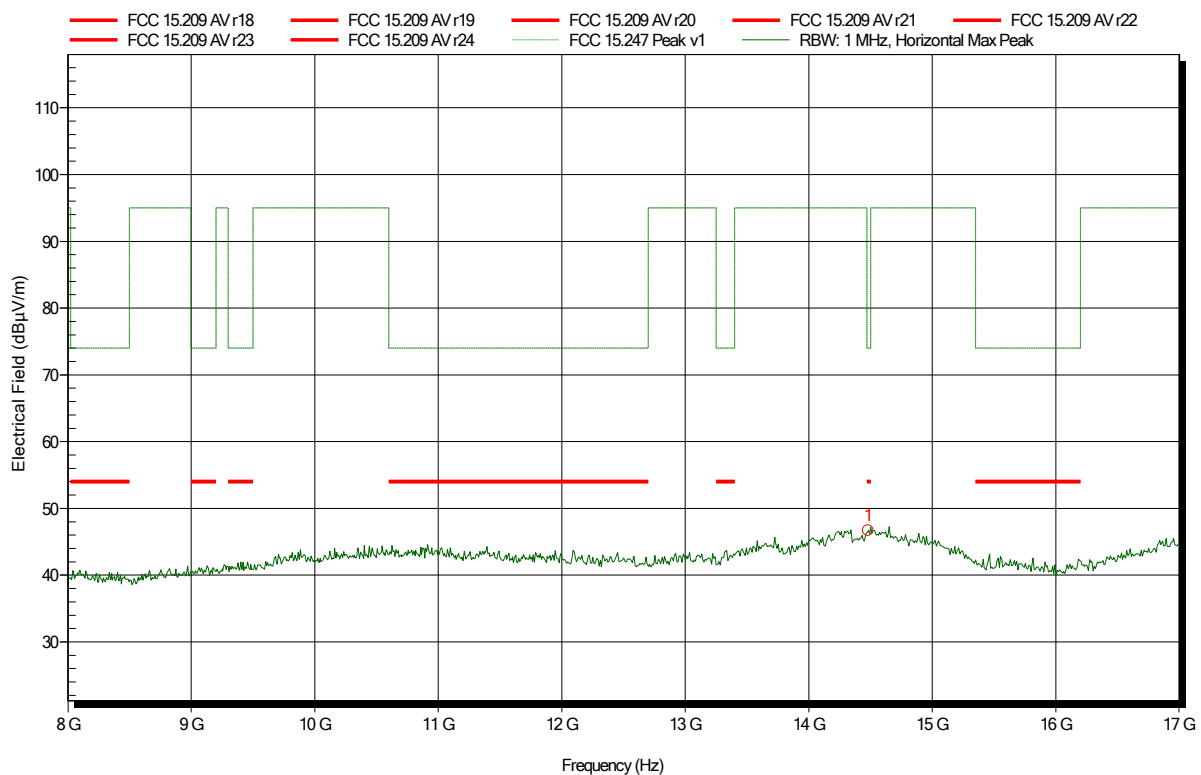
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
7.488 GHz	40.03 dBµV/m	74 dBµV/m	-33.97 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; BTLE, 2440 MHz
Test Date: 2019-07-23
Note:

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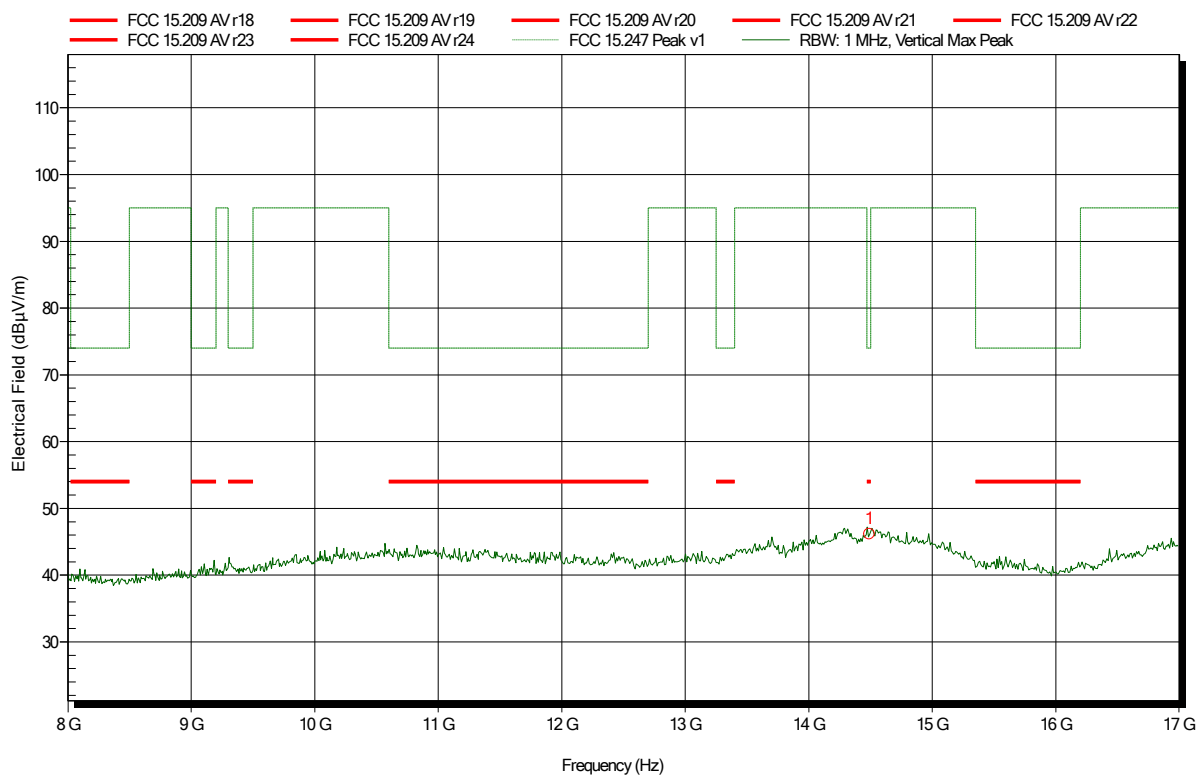
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
14.48 GHz	46.69 dBμV/m	74 dBμV/m	-27.31 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; BTLE, 2440 MHz
Test Date: 2019-07-23
Note:

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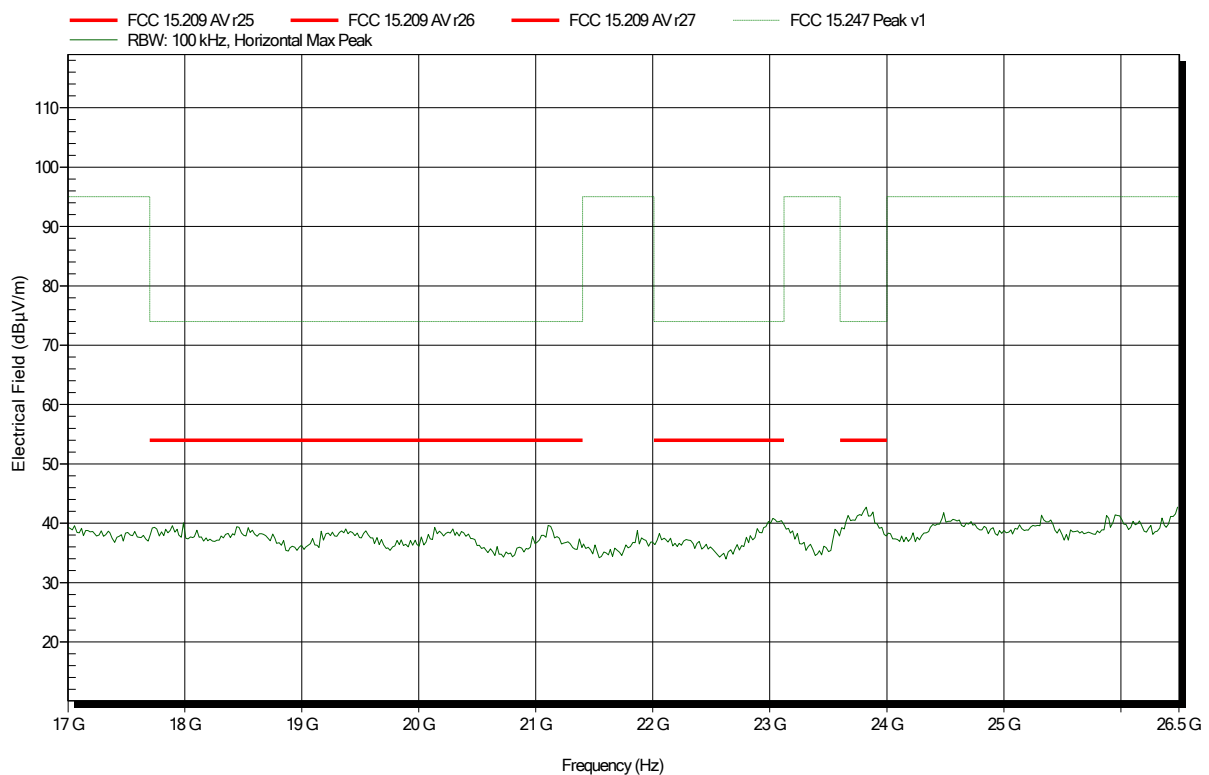
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
14.49 GHz	46.17 dBµV/m	74 dBµV/m	-27.83 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: ATH18G40, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; BTLE, 2440 MHz
Test Date: 2019-07-23
Note:

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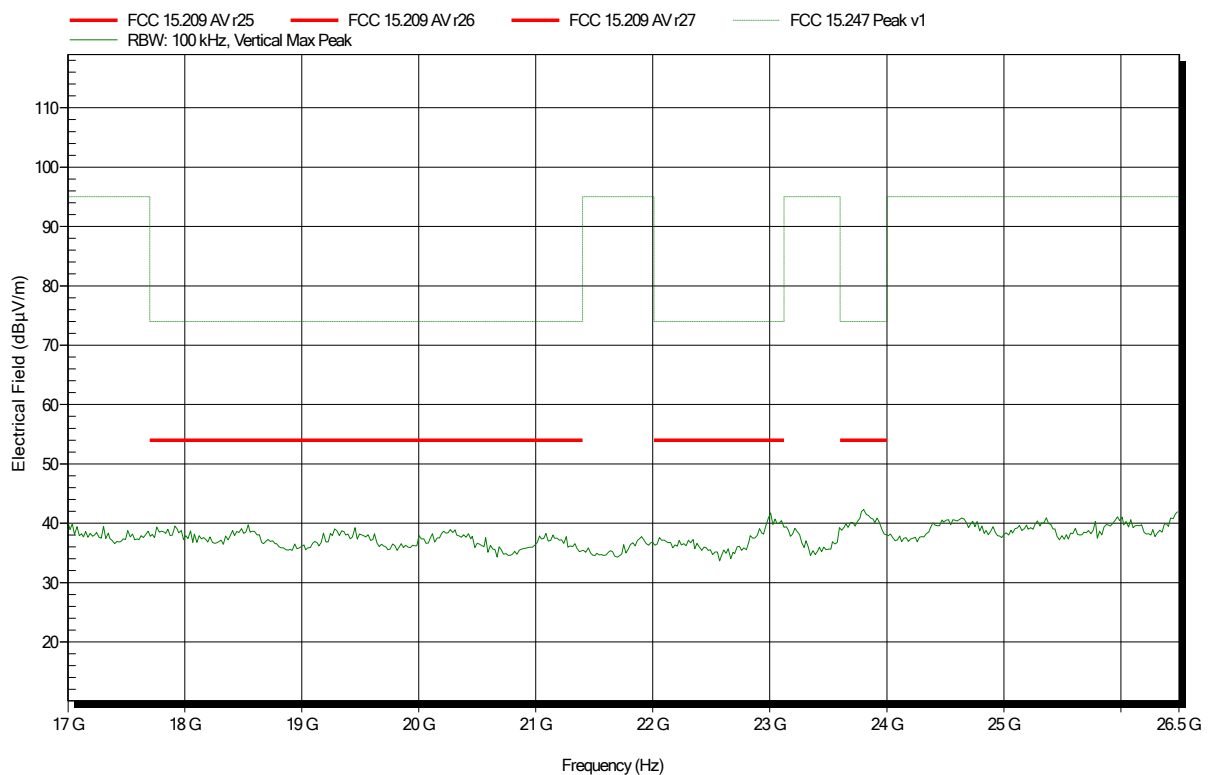


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: ATH18G40, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; BTLE, 2440 MHz
Test Date: 2019-07-23
Note:

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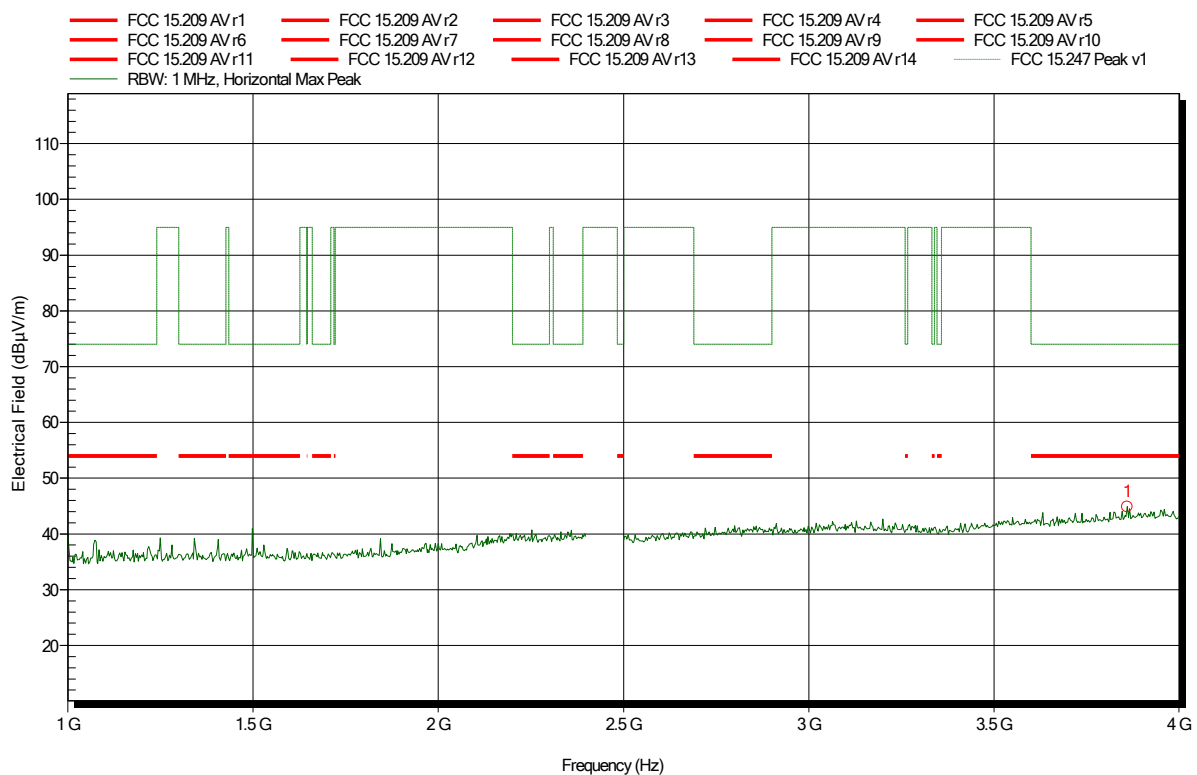


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 3 m
Mode: TX; BTLE, 2480 MHz
Test Date: 2019-07-23
Note:

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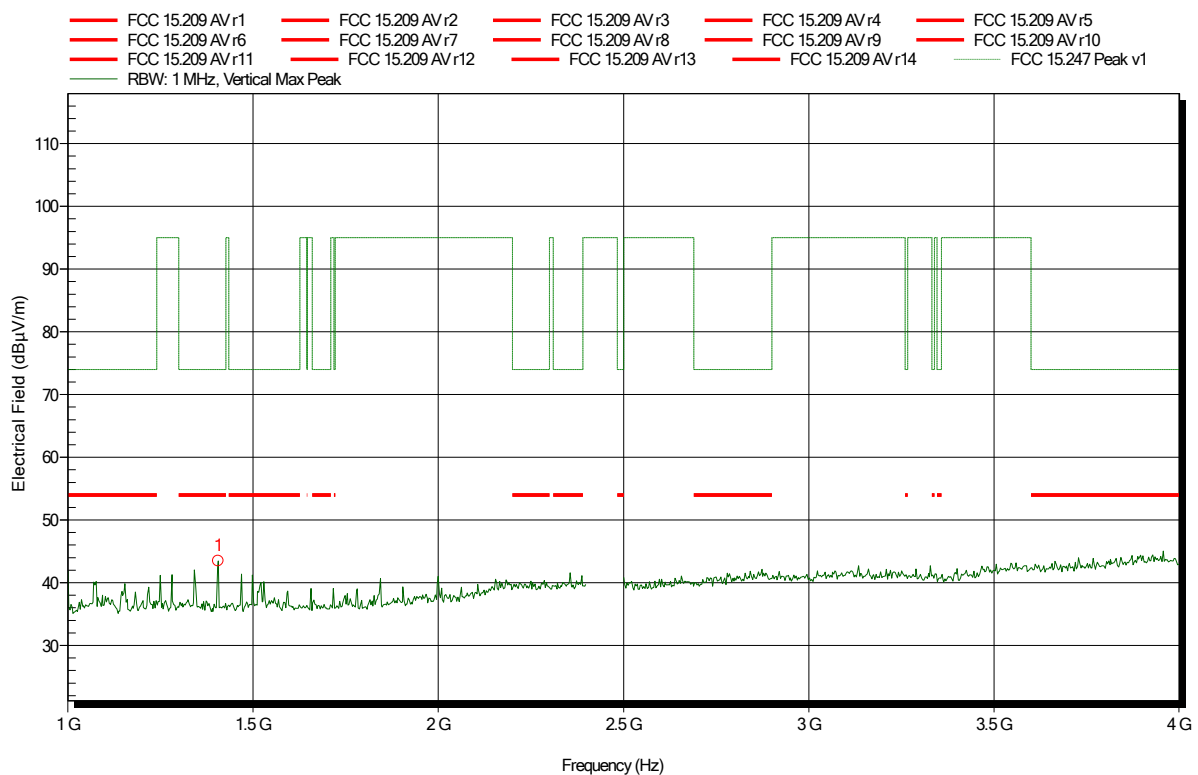
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
3.859 GHz	44.89 dBµV/m	74 dBµV/m	-29.11 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: TX; BTLE, 2480 MHz
 Test Date: 2019-07-23
 Note:

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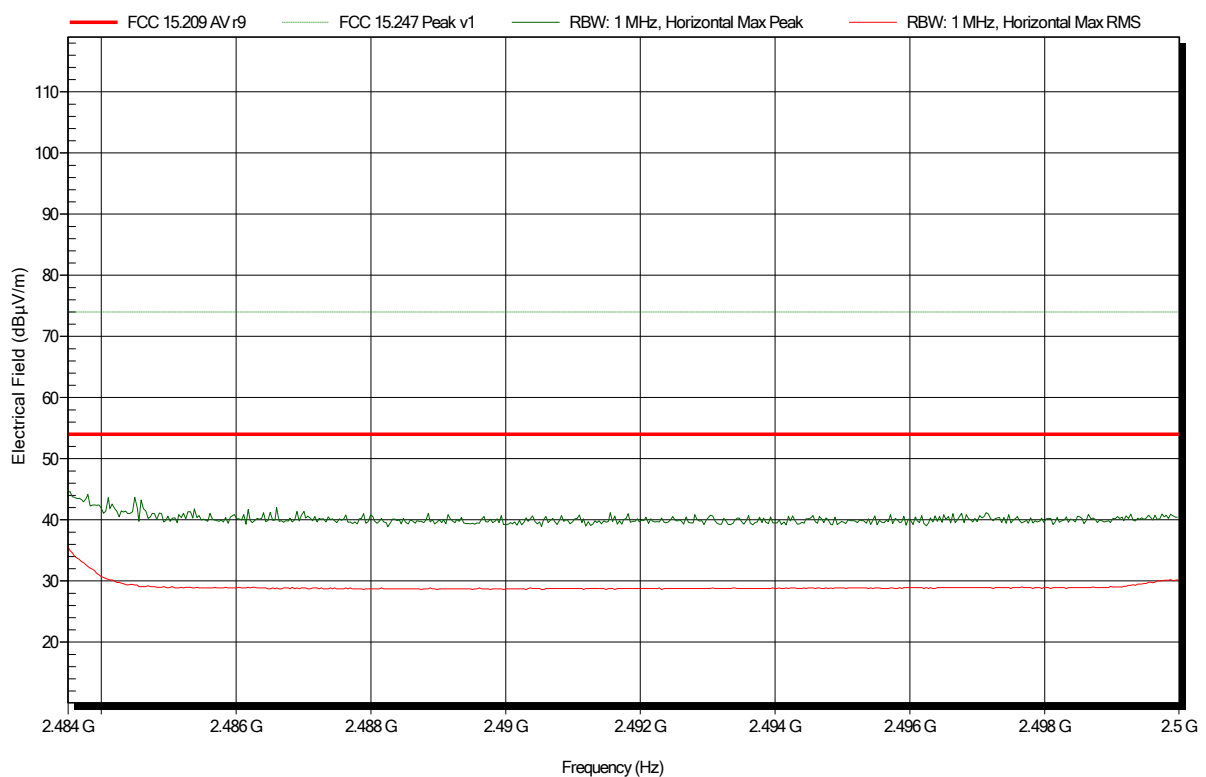
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.406 GHz	43.46 dBµV/m	74 dBµV/m	-30.54 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 3 m
Mode: TX; BTLE, 2480 MHz
Test Date: 2019-07-23
Note: Band Edge. Higher Channel.

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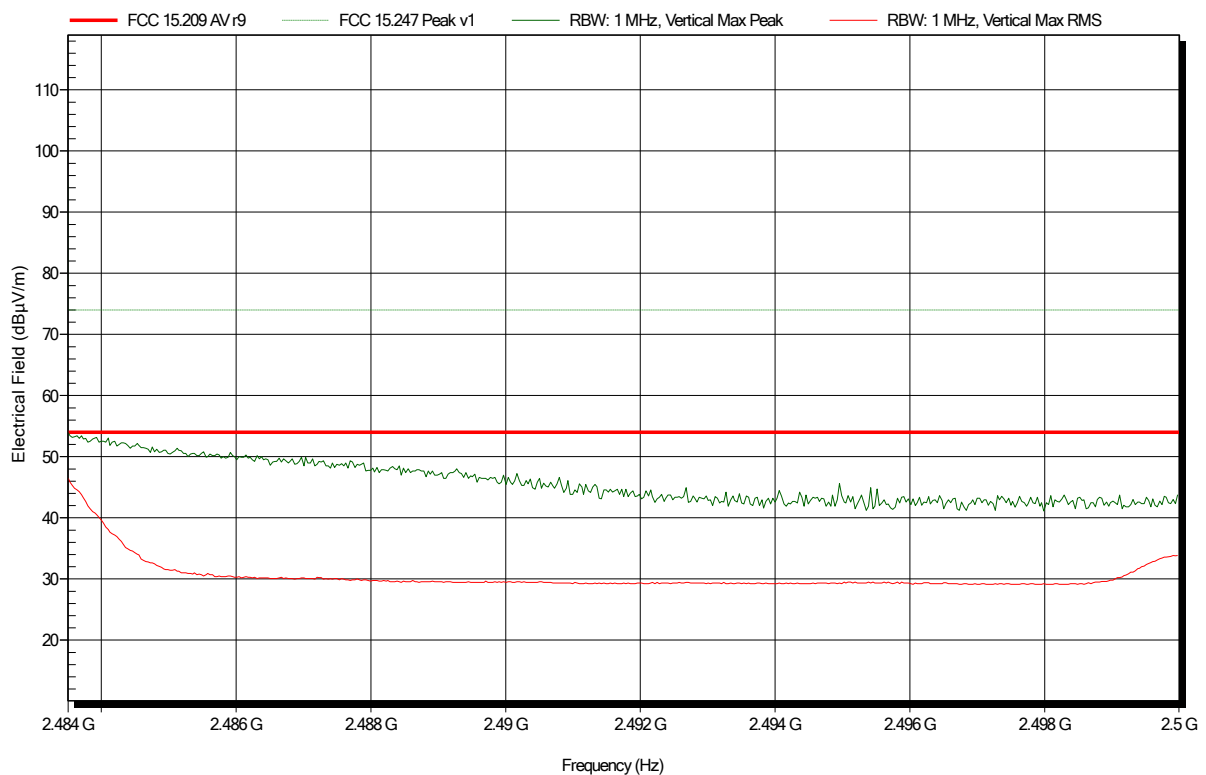


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 3 m
Mode: TX; BTLE, 2480 MHz
Test Date: 2019-07-23
Note: Band Edge. Higher Channel.

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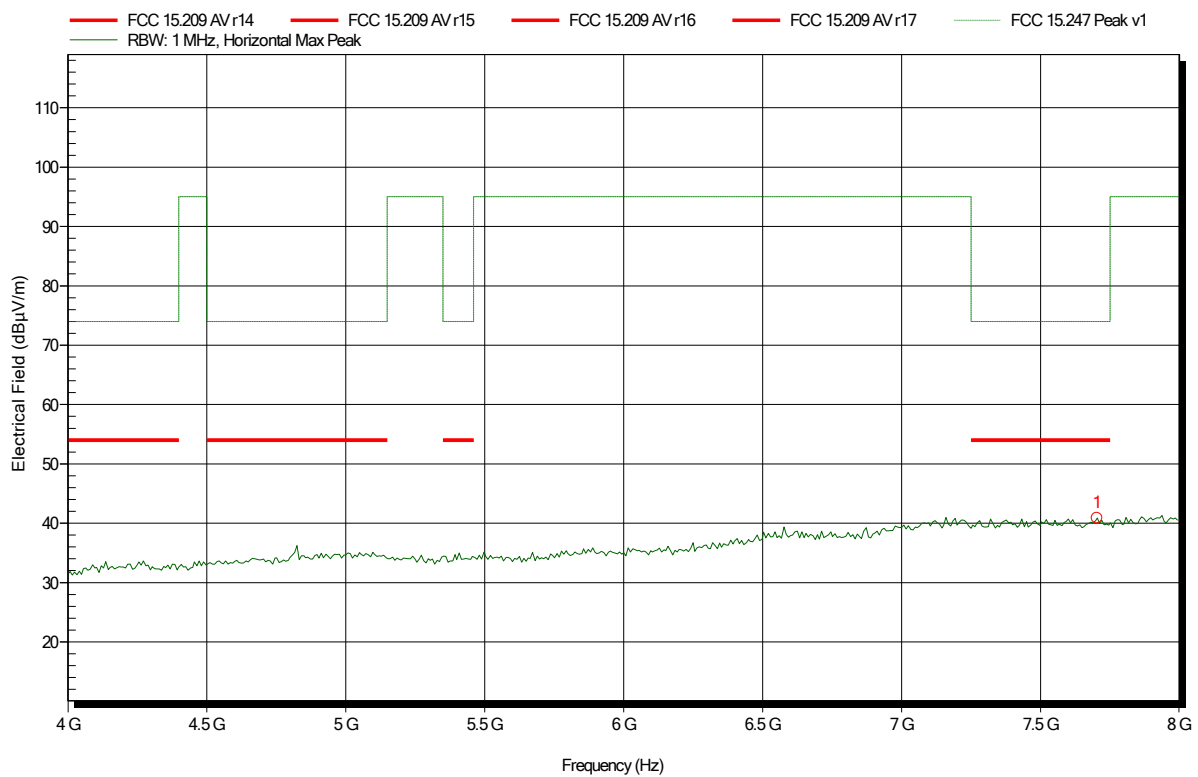


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; BTLE, 2480 MHz
 Test Date: 2019-07-23
 Note:

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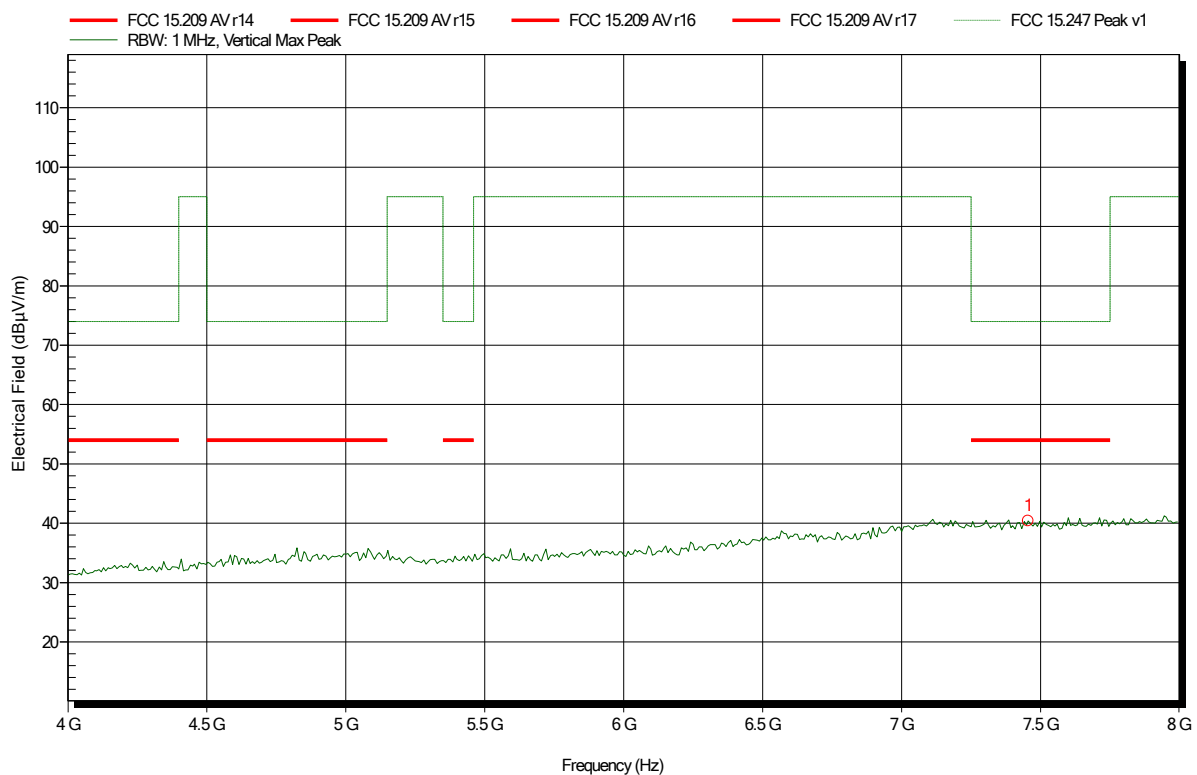
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
7.704 GHz	40.88 dBµV/m	74 dBµV/m	-33.12 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; BTLE, 2480 MHz
Test Date: 2019-07-23
Note:

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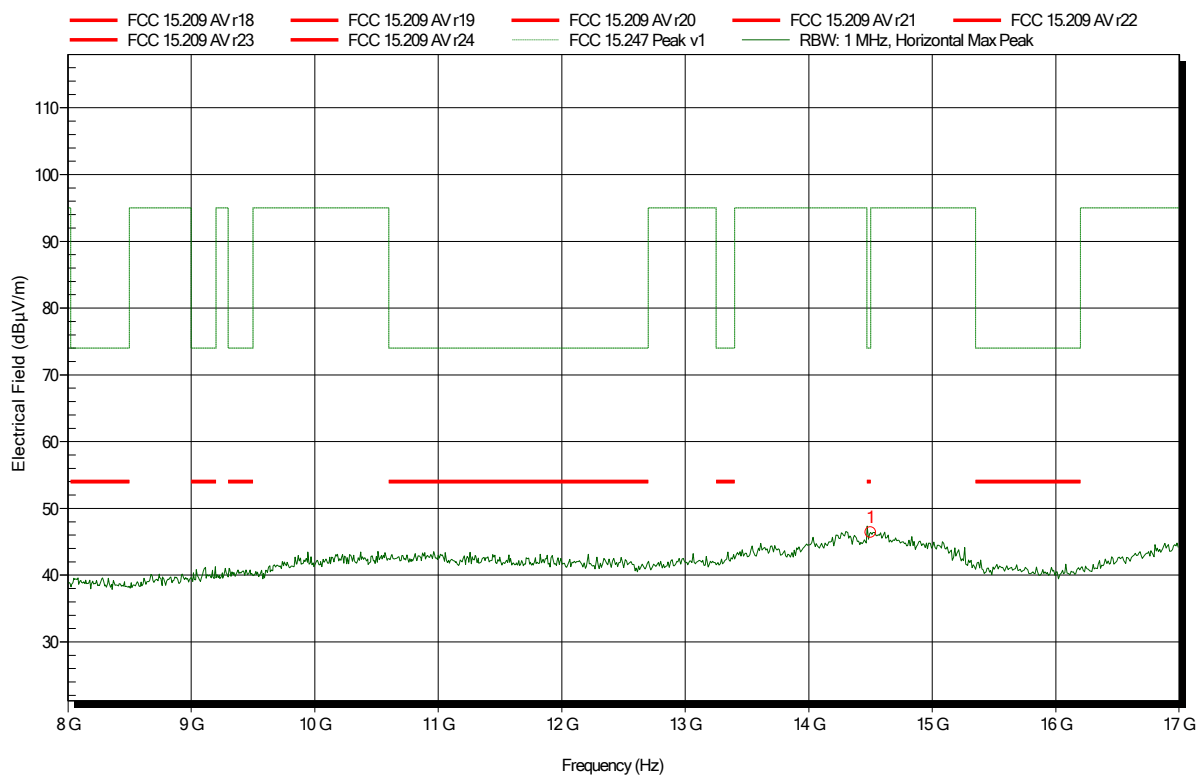
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
7.456 GHz	40.39 dBμV/m	74 dBμV/m	-33.61 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; BTLE, 2480 MHz
Test Date: 2019-07-23
Note:

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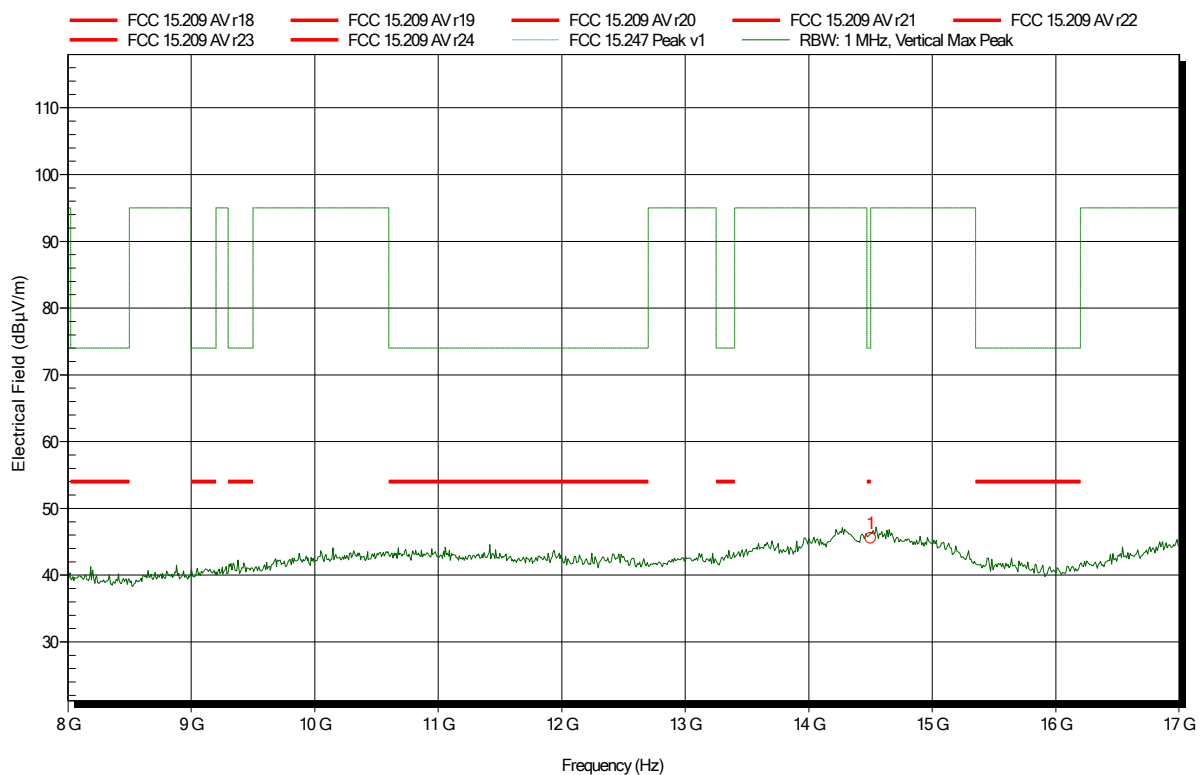
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
14.5 GHz	46.41 dBµV/m	74 dBµV/m	-27.59 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; BTLE, 2480 MHz
 Test Date: 2019-07-23
 Note:

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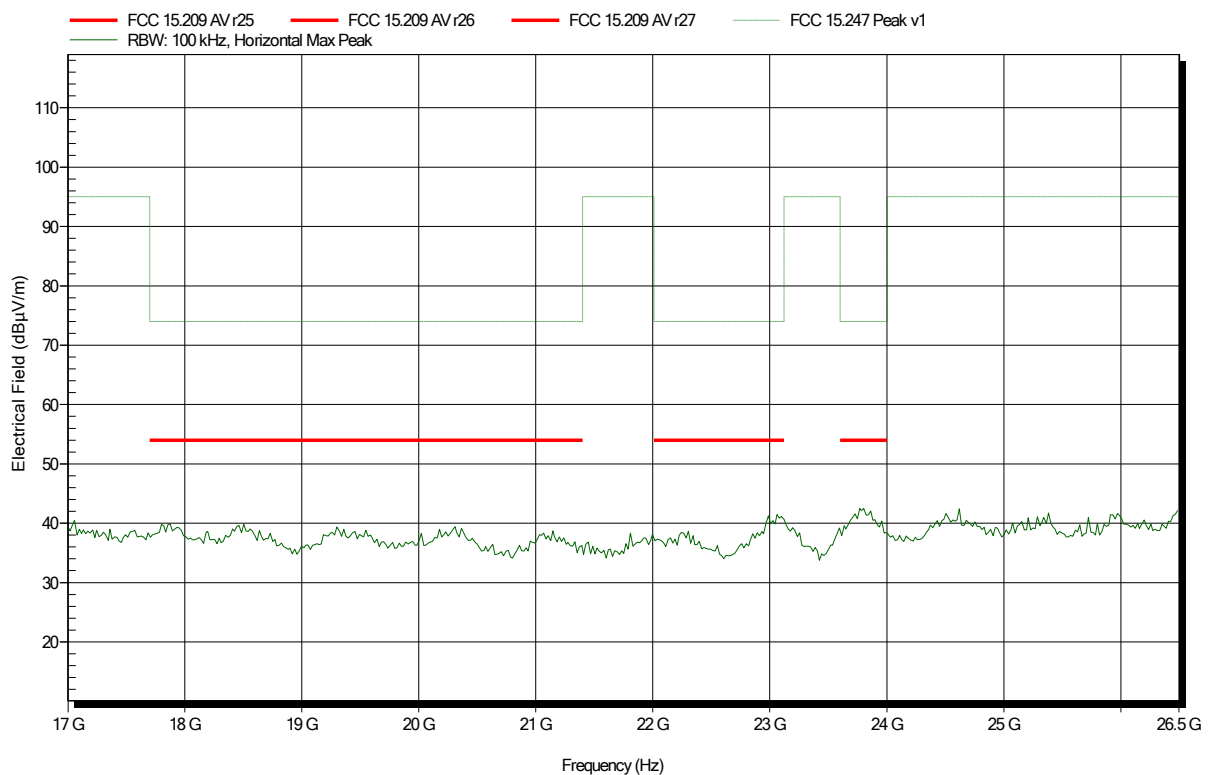
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
14.5 GHz	45.52 dBµV/m	74 dBµV/m	-28.48 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
EUT Name: Imaging Laser Scanner
Model: BLK2GO
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
Antenna: ATH18G40, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; BTLE, 2480 MHz
Test Date: 2019-07-23
Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-1905-8271

Applicant: Leica Geosystems AG
 EUT Name: Imaging Laser Scanner
 Model: BLK2GO
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 7.2 VDC battery
 Antenna: ATH18G40, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; BTLE, 2480 MHz
 Test Date: 2019-07-23
 Note:

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