eurofins | Product Service

EMC TEST REPORT

FCC 47 CFR Part 15B
Industry Canada ICES-003

Electromagnetic compatibility - Unintentional radiators

Report Reference No. ..... :	G0M-1607-5744-EF0115B-V01
Testing Laboratory ..... :	Eurofins Product Service GmbH
Address ..... :	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation ..... :	  A2LA Accredited Testing Laboratory, Certificate No.: 1983.01 FCC Filed Test Laboratory, Reg.-No.: 96970 IC OATS Filing assigned code: 3470A
Applicant's name ..... :	Leica Geosystems AG
Address ..... :	Heinrich Wild Strasse 9435 Heerbrugg SWITZERLAND
Test specification:	
Standard..... :	47 CFR Part 15 Subpart B ICES-003, Issue 6:2016 ANSI C63.4:2014
Equipment under test (EUT):	
Product description	Win CE Field Controller
Model No.	CS15
Additional Models	None
Hardware version	848513
Firmware / Software version	6
Contains	FCC-ID: RFD-CS-BG IC: N/A
Test result	**Passed**

Possible test case verdicts:	
- not applicable to test object ..... :	N/A
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement..... :	F (Fail)
Testing:	
Date of receipt of test item ..... :	2016-08-18
Date (s) of performance of tests ..... :	2016-08-18 – 2016-08-19
Compiled by..... :	Matthias Handrik
Tested by (+ signature)..... :	Matthias Handrik
Approved by (+ signature) ..... : Deputy Head of Lab	Jens Marquardt
Date of issue..... :	2016-08-22
Total number of pages..... :	36
General remarks:	
The test results presented in this report relate only to the object tested. **The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.**	
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.	
Additional comments:	

Version History

Version	Issue Date	Remarks	Revised by
V01	2016-08-22	Initial Release	

REPORT INDEX

1 Equipment (Test item) Description

Description	Win CE Field Controller	
Model	CS15	
Additional Models	None	
Serial number	None	
Hardware version	848513	
Software / Firmware version	6	
Contains FCC-ID	RFD-CS-BG	
Contains IC	N/A	
Power supply	7.4 VDC	
AC/DC-Adaptor	Model : GT-41080-1817.9-5.9 Manufacturer : GlobTek Input : 100-240VAC / 50-60Hz Output : 12VDC / 1.5A	
Radio module: Bluetooth	Type	Bluetooth
	Model	PAN1310
	Manufacturer	Panasonic
	FCC-ID	T7VEBMU
	IC	N/A
Radio module: WLAN	Type	WLAN
	Model	OWL221a
	Manufacturer	Connect Blue
	FCC-ID	PVH0926
	IC	N/A
Radio module: GSM	Type	GSM
	Model	UC864-G
	Manufacturer	Telit
	FCC-ID	R17UC864G
	IC	N/A
	IMEI	256365025077768
Manufacturer	Leica Geosystems AG Heinrich Wild Strasse 9435 Heerbrugg SWITZERLAND	

Highest emission frequency	2480 MHz
Device classification	Class B
Equipment type	Tabletop
Number of tested samples	1

1.1 Photos – Equipment external

EUT FRONT


EUT BACK


EUT BOTTOM


EUT TOP

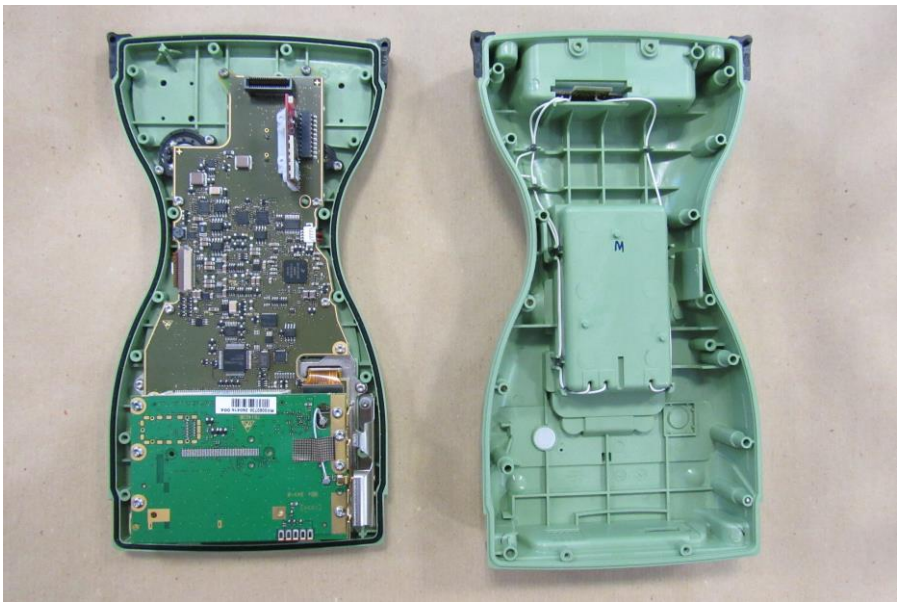

Docking Station TOP


Docking Station BOTTOM

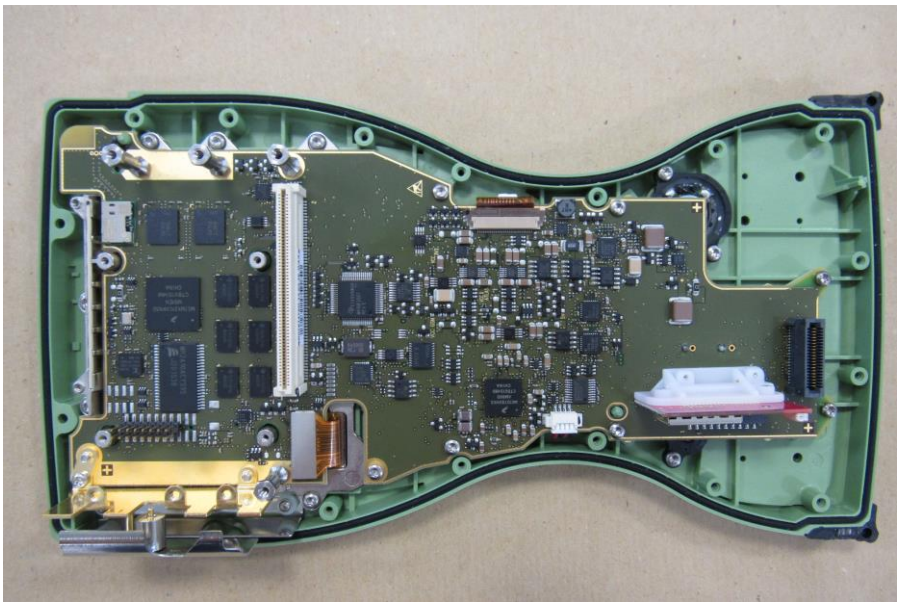

Docking Station BACK

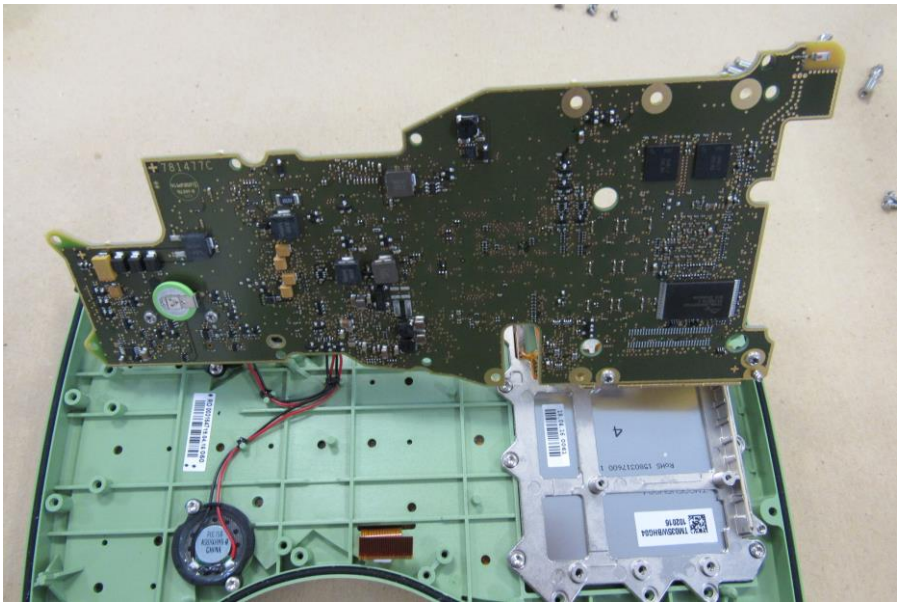

1.2 Photos – Equipment internal

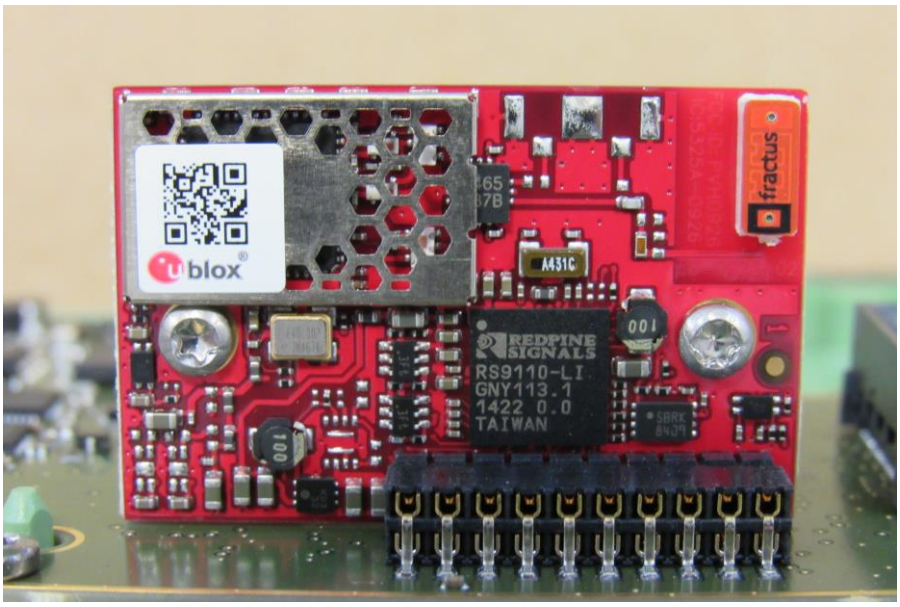
EUT PCB BACK



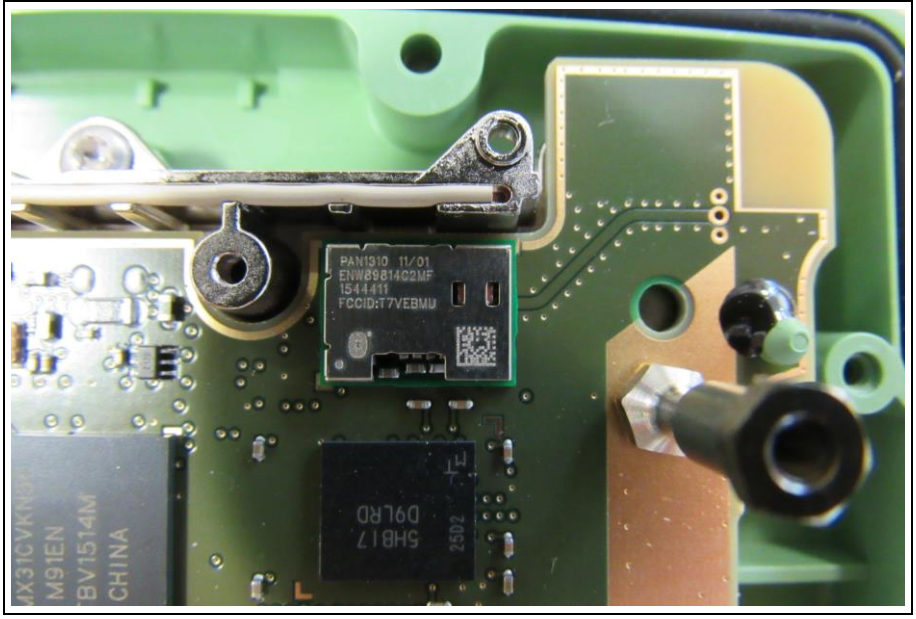
EUT PCB II BACK



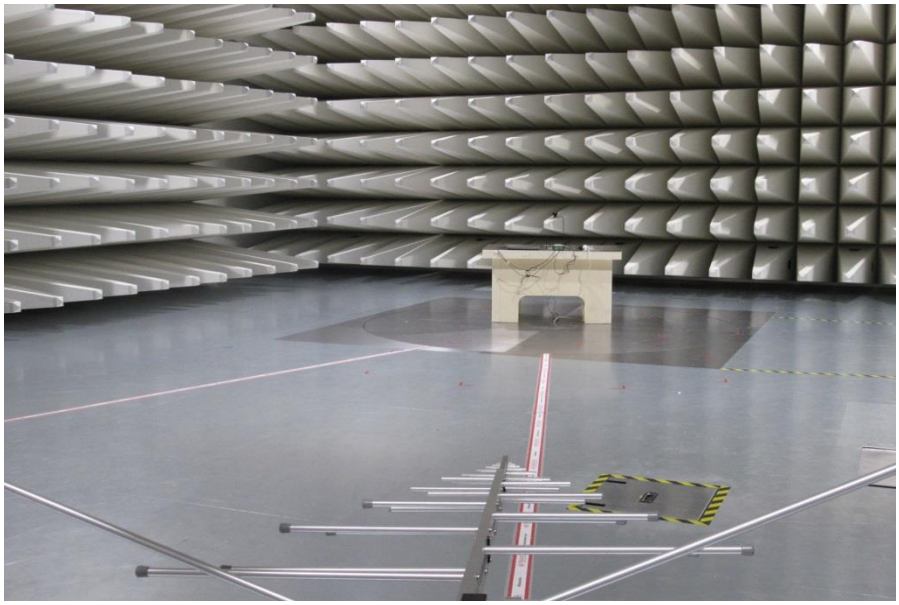
EUT PCB FRONT


EUT WLAN module


EUT GSM module

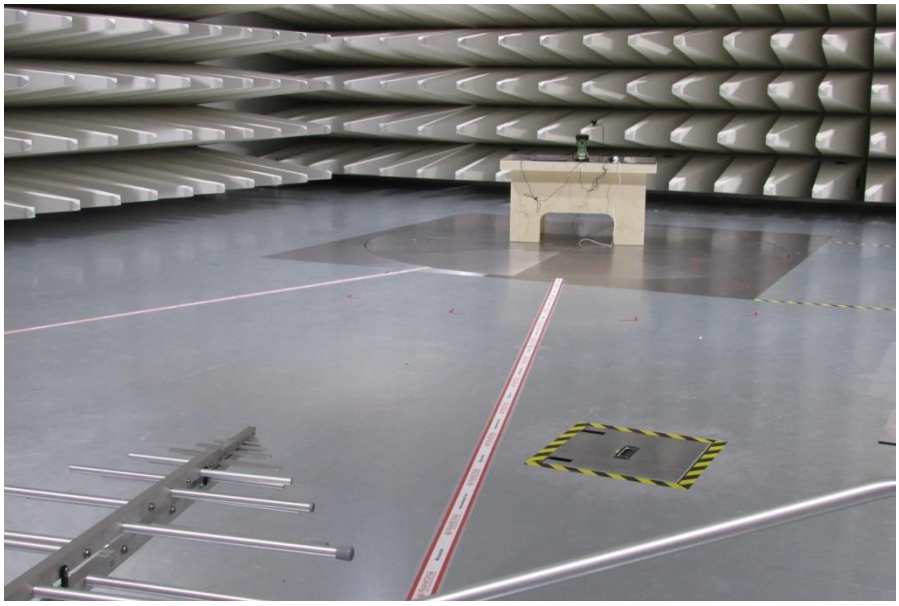

EUT Bluetooth module


1.3 Photos – Test setup

Test Setup : Radiated Emissions


Test Setup : Conducted Emissions


Test Setup : Radiated Emissions Docking Station



Test Setup : Conducted Emissions Docking Station

1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments (e.g. serial no.)
SIM	Communication tester	Rohde & Schwarz	CMU 200	
SIM	Communication tester	Rohde & Schwarz	CBT	Signaling
AE	WLAN companion	Leica	777247RevB	-
AE	Laptop	DELL	Latitude E6420	28148876029

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

AE : Auxiliary/Associated Equipment, or

SIM : Simulator (Not Subjected to Test)

CABL : Connecting cables

1.5 Input / Output Ports

Port #	Name	Type*	Max. Cable Length	Cable Shielded	Comments (e.g. Cat. of Cable)
1	USB OTG	I/O	1.8	Yes	
2	Power	D/C	-	-	
3	USB	I/O	-	-	
Docking Station					
1	Power	D/C	-	-	
2	USB	I/O	1.8	Yes	

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

AC : AC power port

DC : DC power port

N/E : Non electrical

I/O : Signal input or output port

TP : Telecommunication port

1.6 Operating Modes and Configurations

Mode #	Description
1	Charging; Bluetooth test mode: 3-DH5, Ch.: 78; GSM850: circuit switch, PCL5, Ch.: 188 WLAN 2.4 GHz ping to companion device
2	Charging with Docking Station; Bluetooth test mode: 3-DH5, Ch.: 78; GSM850: circuit switch, PCL5, Ch.: 188 WLAN 2.4 GHz ping to companion device

Configuration #	EUT Configuration
1	Charge EUT via Charger; Bluetooth works in DUT mode connect to CBT; WLAN ping to companion device; GSM connection to CMU
2	Charge EUT in Docking Station; Bluetooth works in DUT mode connect to CBT; WLAN ping to companion device; GSM connection to CMU

1.7 Test Equipment Used During Testing

Measurement Software			
Description	Manufacturer	Name	Version
EMC Test Software	Dare Instruments	Radimation	2015.1.2

Radiated emissions – 10m Chamber					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Biconical Antenna	R&S	HK 116	EF00012	2016-05	2019-05
LPD-Antenne	R&S	HL 223	EF00187	2016-05	2019-05
Horn antenna	Schwarzbeck	BBHA 9120D	EF00018	2013-09	2016-09
EMI Test Receiver	Keysight	N9038A-526	EF01070	2015-08	2016-08
RF Cable	Huber & Suhner	Sucoflex 106	-	System Cal.	System Cal
RF Cable	Huber & Suhner	Multiflex 141	-	System Cal.	System Cal

Conducted emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
AMN	R&S	ESH2-Z5	EF00182	2014-11	2016-11
AMN	R&S	ESH3-Z5	EF00036	2014-12	2016-12
AMN	Schwarzbeck	NSLK 8128	EF00975	2015-12	2016-12
EMI Test Receiver	R&S	ESR7	EF00943	2015-09	2016-09
EMI Test Receiver	Keysight	N9038A-526	EF01070	2015-08	2016-08
Cable	-	RG58/U	-	System Cal.	System Cal.

1.8 Sample emission level calculation

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

Reading:

This is the reading obtained on the spectrum analyzer in 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 15B, Industry Canada ICES-003				
Product Specific Standard	**Requirement – Test**	**Reference Method**	**Result**	**Remarks**
47 CFR 15.109 ICES-003 Item 6.2	Radiated emissions	ANSI C 63.4	PASS	
47 CFR 15.107 ICES-003 Item 6.1	AC power line conducted emissions	ANSI C63.4	PASS	
Remarks:				

3 Test Conditions and Results

3.1 Test Conditions and Results – Radiated emissions

Radiated emissions acc. FCC 47 CFR 15.109 / ICES-003						**Verdict: PASS**
Laboratory Parameters:	Required prior to the test		During the test			
Ambient Temperature	15 to 35 °C		22°C			
Relative Humidity	30 to 60 %		35%			
Test according referenced standards	Reference Method					
	ANSI C63.4					
Sample is tested with respect to the requirements of the equipment class	Equipment class					
	Class B					
Test frequency range determined from highest emission frequency	Highest emission frequency					
	2480 MHz					
Fully configured sample scanned over the following frequency range	Frequency range					
	30 MHz to 18 GHz					
Operating mode	1/2					
Configuration	1/2					
Limits and results Class B						
Frequency [MHz]	Quasi-Peak [dBµV/m]	Result	Average [dBµV/m]	Result	Peak [dBµV/m]	Result
30 – 88	40	PASS	-		-	-
88 – 216	43.5	PASS	-		-	-
216 – 960	46	PASS	-		-	-
960 – 1000	54	PASS	-		-	-
> 1000	-	-	54	PASS	74	PASS
Comments:						

Test Procedure:

The test site is in accordance with ANSI C63-4:2014 requirements and is listed by FCC.
The measurement procedure is as follows:

Exploratory measurement:

- The EUT was placed on a non-conductive table at a height of 0.8m.
- The EUT and support equipment, if needed, were set up to simulate typical usage.
- Cables, of type and length specified by the manufacturer, were connected to at least one port of each type and were terminated by a device or simulating load of actual usage.
- The antenna was placed at a distance of 3 or 10 m.
- The received signal was monitored at the measurement receiver.
    - Cables not bundled were manipulated within the range of likely arrangements to produce the highest emission amplitude
    - To maximize the suspected emissions the EUT is rotated 360 degrees. If the signal exceeds the previous amplitude, go back to the corresponding azimuth and manipulate the cables again for maximizing the emissions if possible.
    - Move the antenna from 1 to 4m to maximize the suspected highest amplitude signal.
- This procedure has to be performed in both antenna polarizations, horizontal and vertical.
- The arrangement of the equipment with the maximum emission level is shown on the setup picture at item 1.3.

Final measurement:

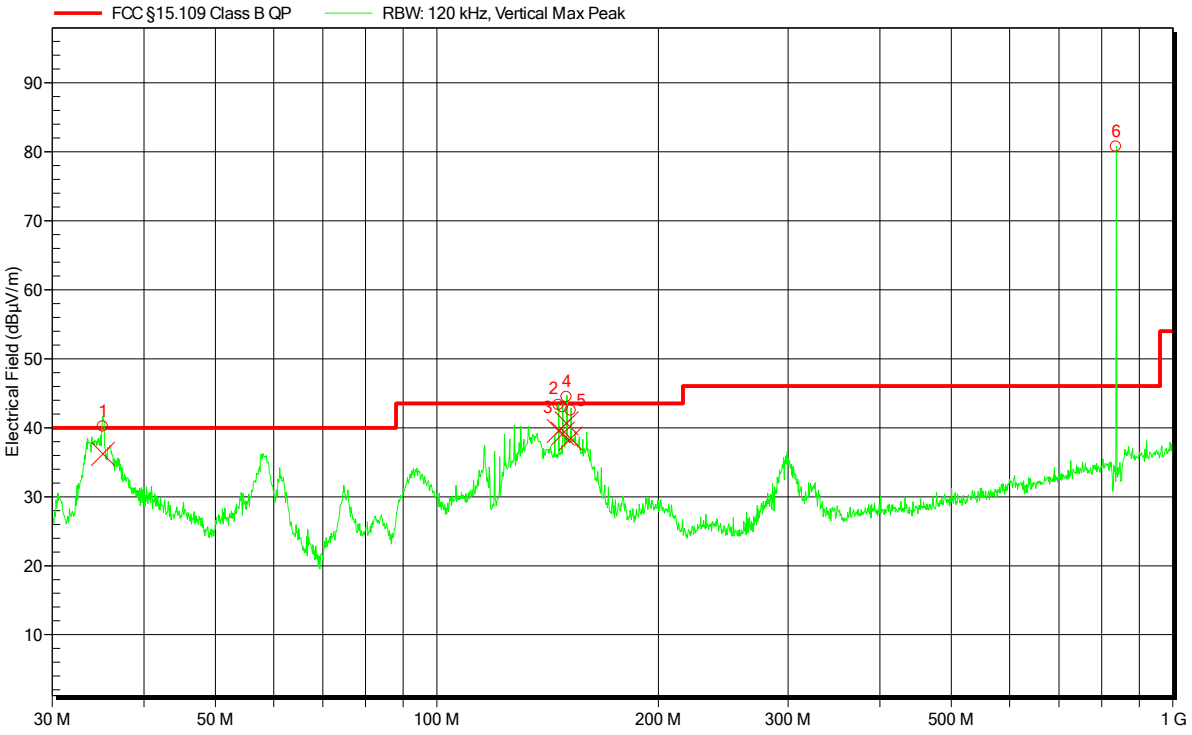
- The EUT was placed on a 0.8 m non-conductive table at a 10 m distance from the receive antenna. The antenna output was connected to the measurement receiver
- A biconical antenna was used for the frequency range 30 – 200 MHz, a logarithmic periodical antenna was used for the frequency range from 200 – 1000 MHz. Above one 1 GHz a Double Ridged Broadband Horn antenna was used. The antenna was placed on an adjustable height antenna mast
- The EUT and cable arrangement were based on the exploratory measurement results
- Emissions were maximized at each frequency by rotating the EUT and adjusting the receive antenna height and polarization. The maximum values were recorded.
- The test data of the worst-case conditions were recorded and shown on the next pages.

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1607-5744

Applicant:	Leica Geosystems AG
EUT Name:	Win CE Field Controller
Model:	CS15
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Unom: 120V AC (AC/DC adaptor)
Antenna:	Schwarzbeck VULB 9162, Vertical
Measurement distance:	10 m converted to 3 m
Mode:	charging; Bluetooth: DH5, 2480MHz; WLAN 2.4 GHz ping; GSM 850: Ch.: 188 PCL 5
Test Date:	2016-08-19
Note:	

Index 6



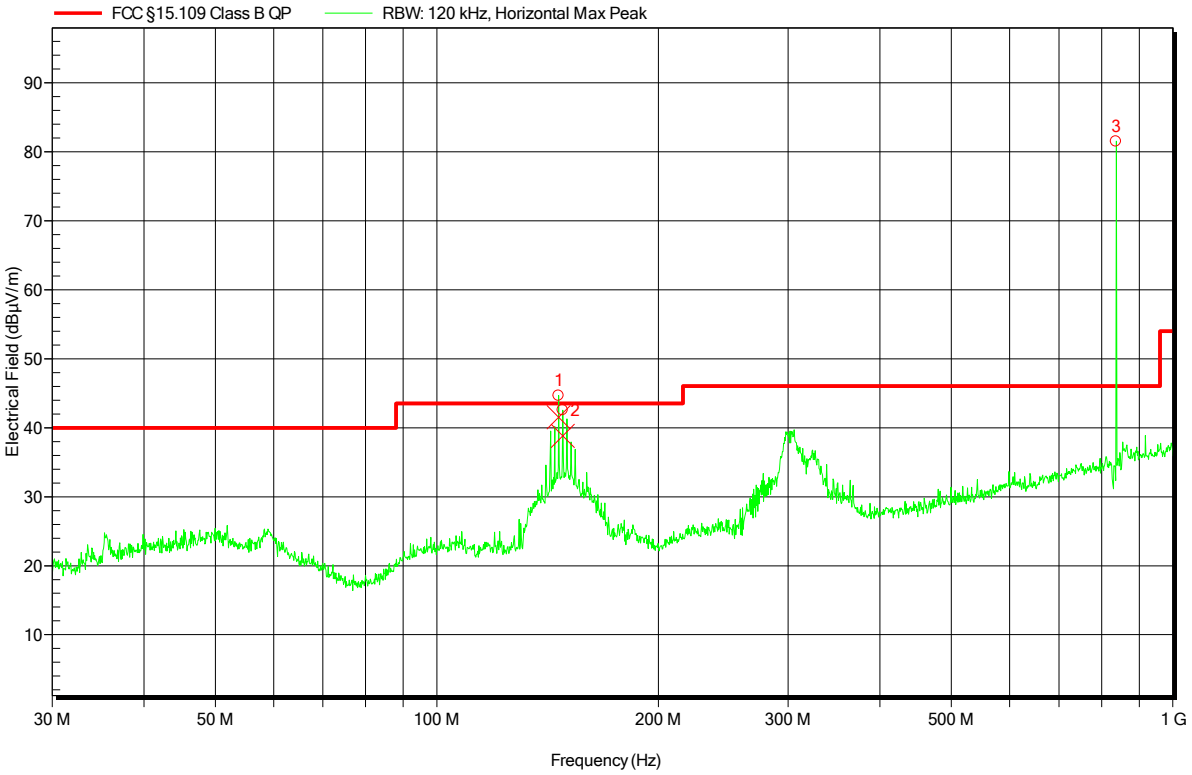
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	35.16 MHz	36.2 dBµV/m	40 dBµV/m	-3.8 dB	Pass	0 Degree	1 m
2	146.286 MHz	39.5 dBµV/m	43.5 dBµV/m	-4.0 dB	Pass	0 Degree	1 m
3	148.188 MHz	39.1 dBµV/m	43.5 dBµV/m	-4.4 dB	Pass	0 Degree	1 m
4	150.102 MHz	40.6 dBµV/m	43.5 dBµV/m	-2.9 dB	Pass	0 Degree	1 m
5	152.01 MHz	38.5 dBµV/m	43.5 dBµV/m	-5.1 dB	Pass	0 Degree	1 m
6	837.06 MHz	GSM carrier					

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1607-5744

Applicant:	Leica Geosystems AG
EUT Name:	Win CE Field Controller
Model:	CS15
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Unom: 120V AC (AC/DC adaptor)
Antenna:	Schwarzbeck VULB 9162, Horizontal
Measurement distance:	10 m converted to 3m
Mode:	charging; Bluetooth: DH5, 2480MHz; WLAN 2.4 GHz ping; GSM 850: Ch.: 188 PCL 5
Test Date:	2016-08-19
Note:	

Index 7



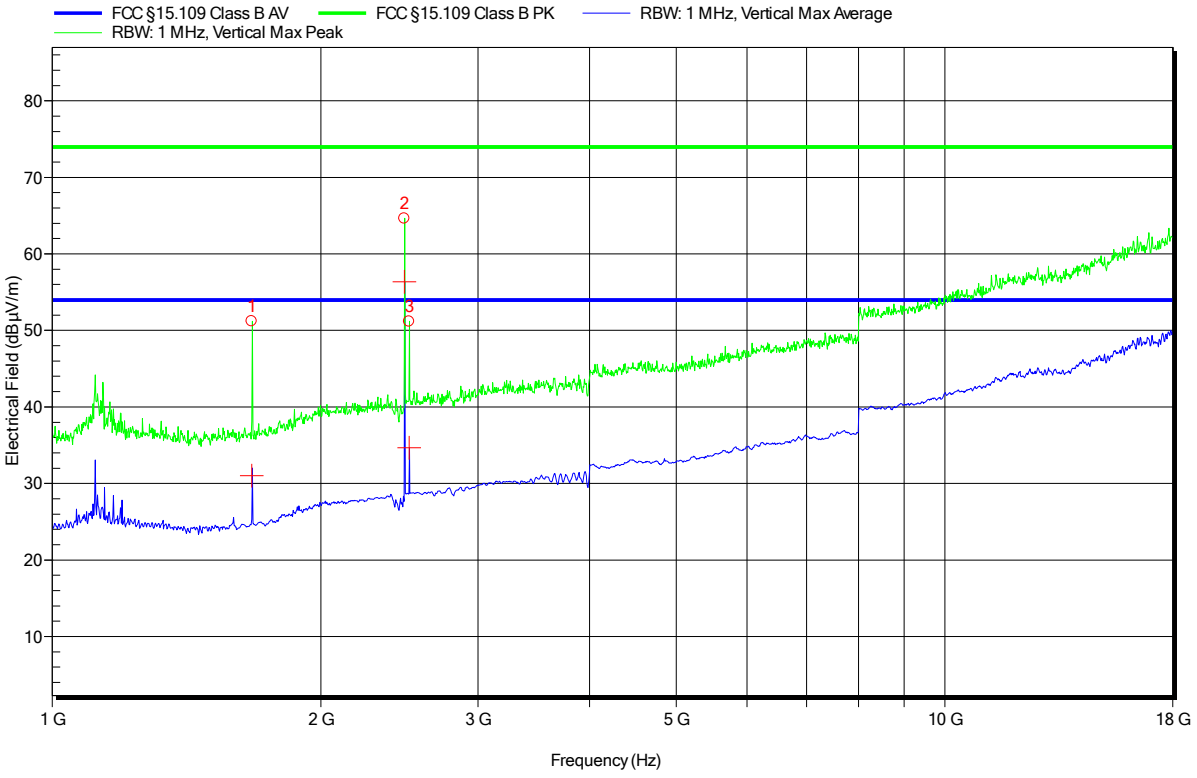
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	146.298 MHz	41.5 dBµV/m	43.5 dBµV/m	-2.0 dB	Pass	100 Degree	3.30 m
2	148.194 MHz	38.8 dBµV/m	43.5 dBµV/m	-4.7 dB	Pass	100 Degree	3.30 m
3	837.06 MHz	GSM carrier					

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1607-5744

Applicant:	Leica Geosystems AG
EUT Name:	Win CE Field Controller
Model:	CS15
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Unom: 120V AC (AC/DC adaptor)
Antenna:	ETS-Lindgren 3117, Vertical
Measurement distance:	3 m
Mode:	charging; Bluetooth: DH5, 2480MHz; WLAN 2.4 GHz ping; GSM 850: Ch.: 188 PCL 5
Test Date:	2016-08-19
Note:	with 2.4 GHz Notch filter

Index 14



Peak Number	Frequency	Peak	Angle	Height
1	1.674 GHz	51.2 dBµV/m	0 Degree	1 m
2	2.481 GHz	Bluetooth carrier		
3	2.511 GHz	WLAN carrier		

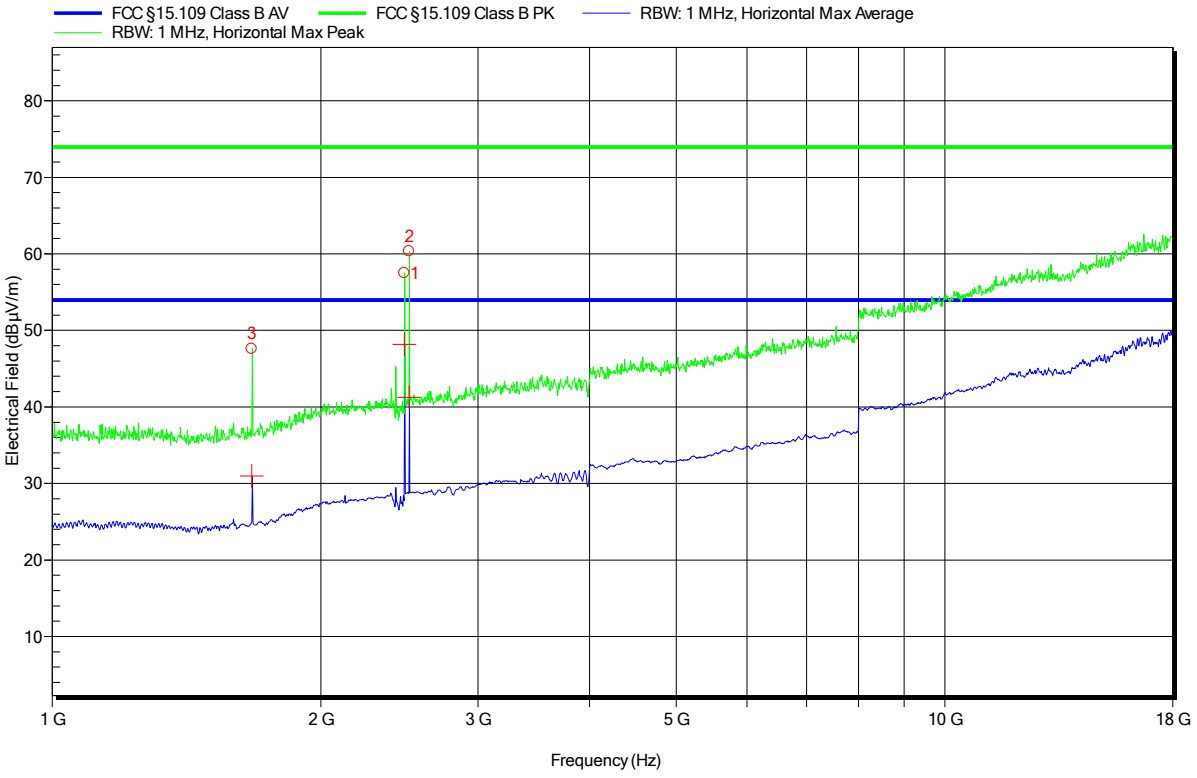
Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	1.674 GHz	31 dBµV/m	54 dBµV/m	-23.0 dB	Pass	0 Degree	1 m
2	2.481 GHz	Bluetooth carrier					
3	2.511 GHz	WLAN carrier					

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1607-5744

Applicant:	Leica Geosystems AG
EUT Name:	Win CE Field Controller
Model:	CS15
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Unom: 120V AC (AC/DC adaptor)
Antenna:	ETS-Lindgren 3117, Horizontal
Measurement distance:	3 m
Mode:	charging; Bluetooth: DH5, 2480MHz; WLAN 2.4 GHz ping; GSM 850: Ch.: 188 PCL 5
Test Date:	2016-08-19
Note:	with 2.4 GHz Notch filter

Index 15



Peak Number	Frequency	Peak	Angle	Height
1	2.481 GHz	Bluetooth carrier	180 Degree	2.90 m
2	2.511 GHz	WLAN carrier	180 Degree	2.90 m
3	1.674 GHz	47.6 dBµV/m	180 Degree	2.90 m

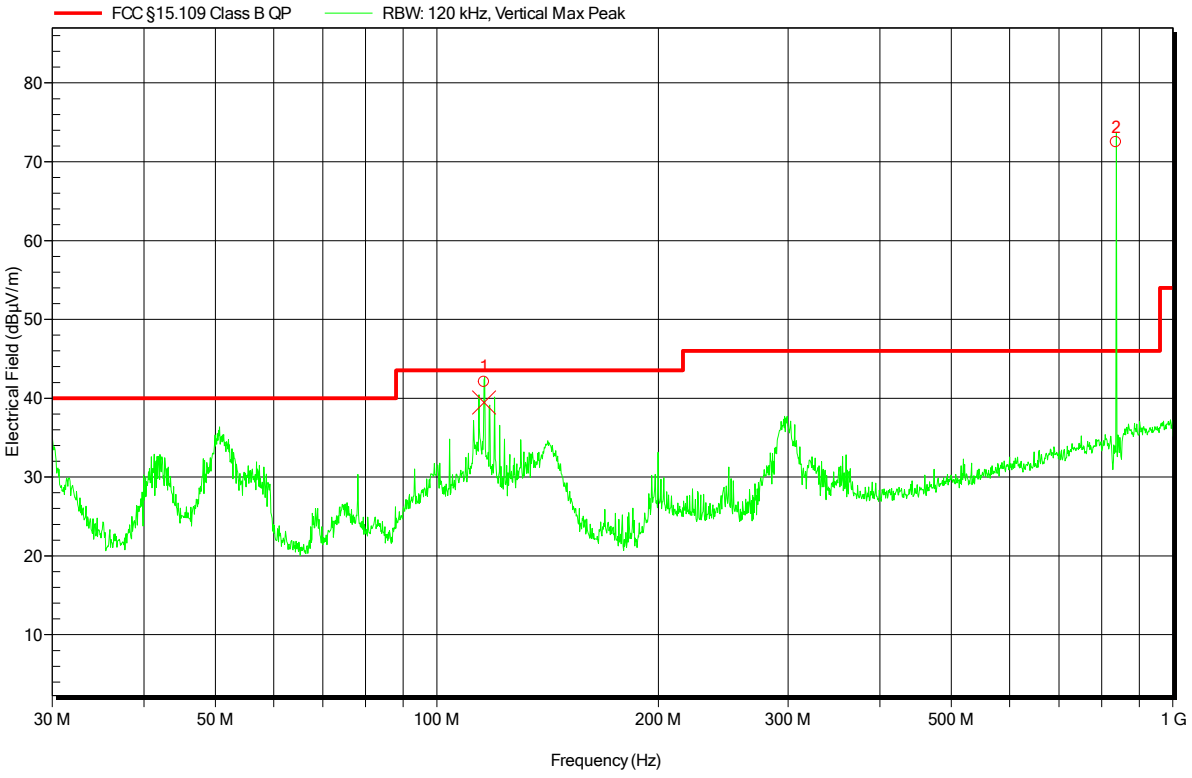
Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	2.481 GHz	Bluetooth carrier	54 dBµV/m	-5.8 dB	Pass	180 Degree	2.90 m
2	2.511 GHz	WLAN carrier	54 dBµV/m	-12.7 dB	Pass	180 Degree	2.90 m
3	1.674 GHz	31 dBµV/m	54 dBµV/m	-23.0 dB	Pass	180 Degree	2.90 m

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1607-5744

Applicant:	Leica Geosystems AG
EUT Name:	Win CE Field Controller
Model:	CS15
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Unom: 120V AC (AC/DC adaptor)
Antenna:	Schwarzbeck VULB 9162, Vertical
Measurement distance:	10 m corrected to 3m
Mode:	charging Docking Station; Bluetooth: DH5, 2480MHz; WLAN 2.4 GHz ping; GSM 850: Ch.: 188 PCL 5
Test Date:	2016-08-19
Note:	

Index 18



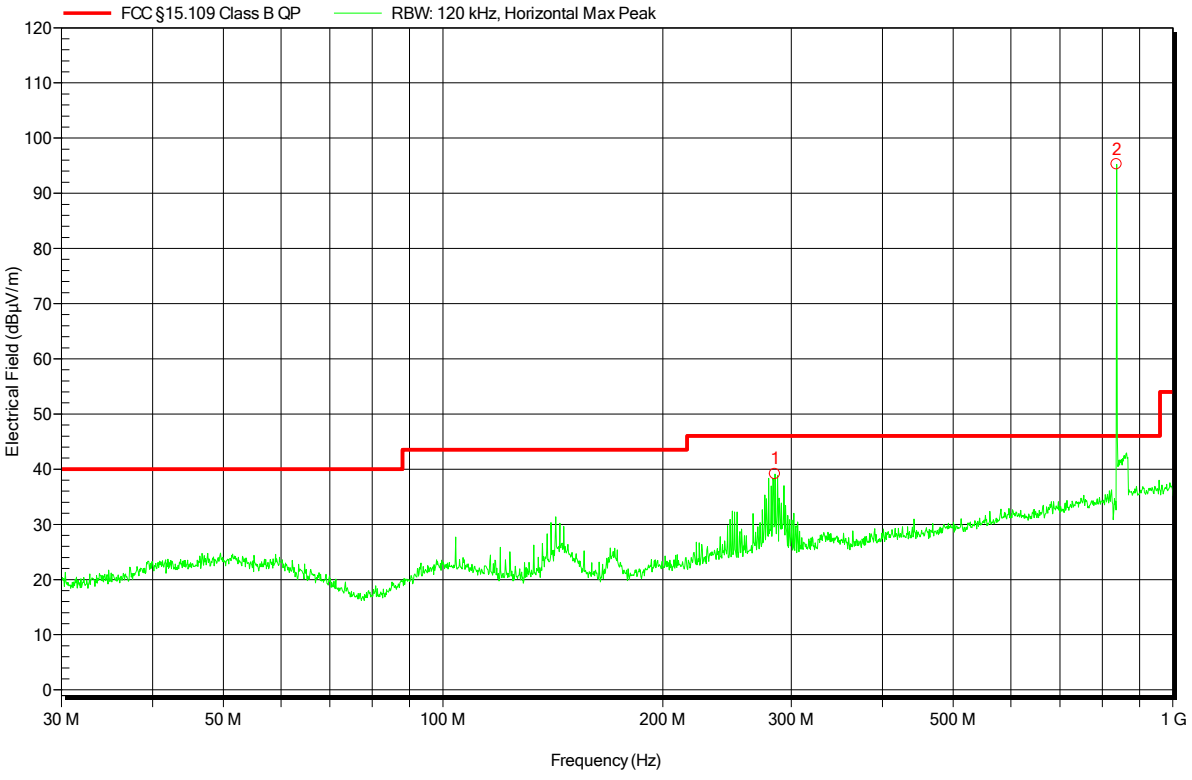
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	115.902 MHz	39.5 dBµV/m	43.5 dBµV/m	-4.1 dB	Pass	0 Degree	1 m
2	837 MHz	GSM carrier					

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1607-5744

Applicant:	Leica Geosystems AG
EUT Name:	Win CE Field Controller
Model:	CS15
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Unom: 120V AC (AC/DC adaptor)
Antenna:	Schwarzbeck VULB 9162, Horizontal
Measurement distance:	10 m corrected to 3m
Mode:	charging Docking Station; Bluetooth: DH5, 2480MHz; WLAN 2.4 GHz ping; GSM 850: Ch.: 188 PCL 5
Test Date:	2016-08-19
Note:	

Index 19



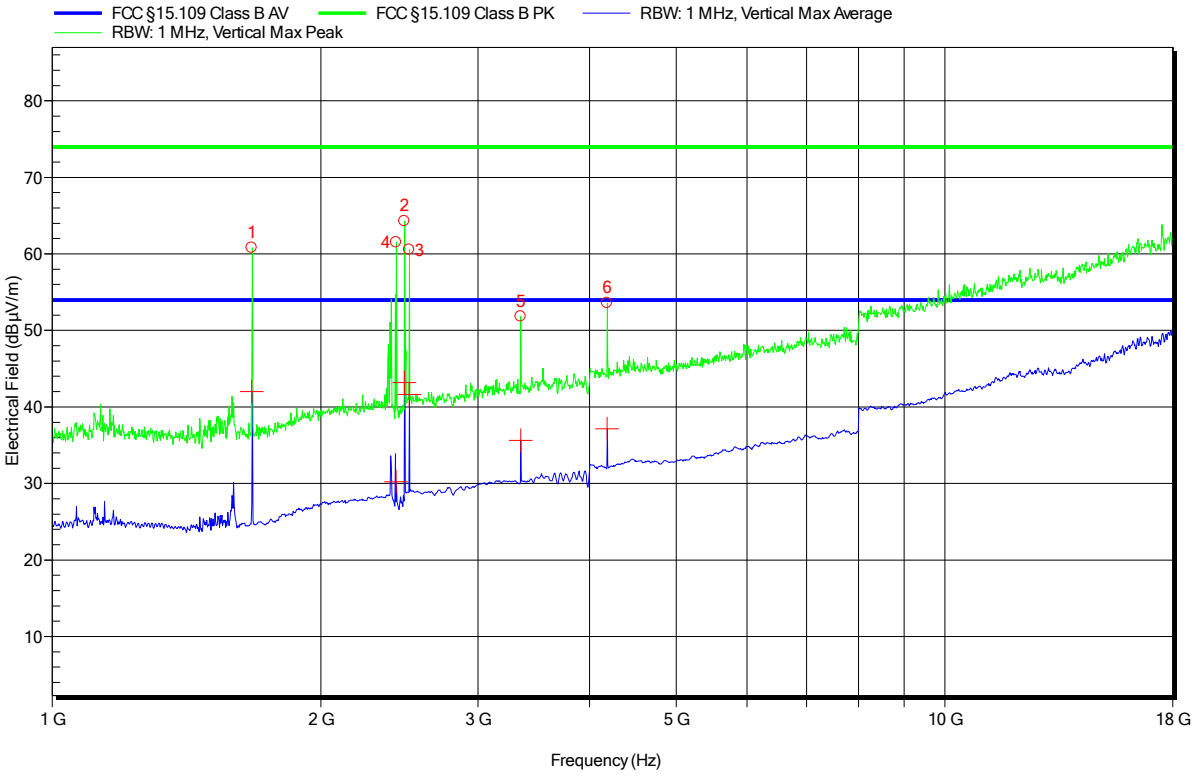
Peak Number	Frequency	Angle	Height
1	285 MHz	100 Degree	3.30 m
2	837.06 MHz	GSM carrier	

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1607-5744

Applicant:	Leica Geosystems AG
EUT Name:	Win CE Field Controller
Model:	CS15
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Unom: 120V AC (AC/DC adaptor)
Antenna:	ETS-Lindgren 3117, Vertical
Measurement distance:	3 m
Mode:	charging Docking Station; Bluetooth: DH5, 2480MHz; WLAN 2.4 GHz ping; GSM 850: Ch.: 188 PCL 5
Test Date:	2016-08-19
Note:	with 2.4GHz Notch filter

Index 17



Peak Number	Frequency	Peak	Angle	Height
1	1.674 GHz	60.8 dBµV/m	0 Degree	1 m
2	2.481 GHz	Bluetooth carrier		
3	2.511 GHz	WLAN carrier		
4	2.428 GHz	WLAN carrier		
5	3.348 GHz	51.8 dBµV/m	0 Degree	1 m
6	4.185 GHz	53.6 dBµV/m	0 Degree	1 m

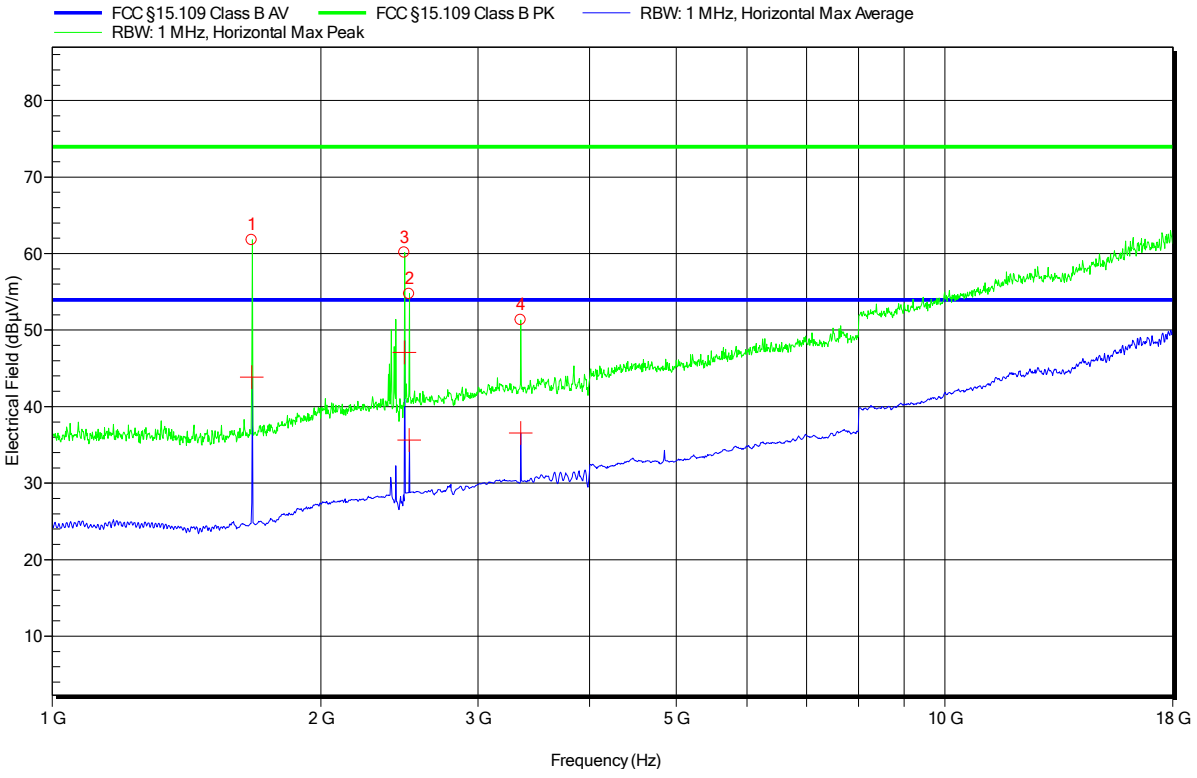
Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	1.674 GHz	42 dBµV/m	54 dBµV/m	-12.0 dB	Pass	0 Degree	1 m
2	2.481 GHz	43.2 dBµV/m	Bluetooth carrier				
3	2.511 GHz	41.6 dBµV/m	WLAN carrier				
4	2.428 GHz	30.2 dBµV/m	WLAN carrier				
5	3.348 GHz	35.6 dBµV/m	54 dBµV/m	-18.3 dB	Pass	0 Degree	1 m
6	4.185 GHz	37.1 dBµV/m	54 dBµV/m	-16.9 dB	Pass	0 Degree	1 m

Spurious emissions under normal conditions according to FCC 15B

Project number: G0M-1607-5744

Applicant:	Leica Geosystems AG
EUT Name:	Win CE Field Controller
Model:	CS15
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Unom: 120V AC (AC/DC adaptor)
Antenna:	ETS-Lindgren 3117, Horizontal
Measurement distance:	3 m
Mode:	charging Docking Station; Bluetooth: DH5, 2480MHz; WLAN 2.4 GHz ping; GSM 850: Ch.: 188 PCL 5
Test Date:	2016-08-19
Note:	with 2.4GHz Notch filter

Index 16



Peak Number	Frequency	Peak	Angle	Height
1	1.674 GHz	61.8 dBµV/m	180 Degree	2.90 m
2	2.511 GHz	WLAN carrier		
3	2.481 GHz	Bluetooth carrier		
4	3.348 GHz	51.3 dBµV/m	180 Degree	2.90 m

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	1.674 GHz	43.8 dBµV/m	54 dBµV/m	-10.1 dB	Pass	180 Degree	2.90 m
2	2.511 GHz	35.6 dBµV/m	WLAN carrier				
3	2.481 GHz	47.1 dBµV/m	Bluetooth carrier				
4	3.348 GHz	36.6 dBµV/m	54 dBµV/m	-17.4 dB	Pass	180 Degree	2.90 m

3.2 Test Conditions and Results – AC power line conducted emissions

Conducted emissions acc. FCC 47 CFR 15.107 / ICES-003		**Verdict: PASS**
Laboratory Parameters:	Required prior to the test	During the test
Ambient Temperature	15 to 35 °C	22°C
Relative Humidity	30 to 60 %	35%
Test according referenced standards	Reference Method	
	ANSI C63.4	
Fully configured sample scanned over the following frequency range	Frequency range	
	0.15 MHz to 30 MHz	
Sample is tested with respect to the requirements of the equipment class	Equipment class	
	Class B	
Points of Application	Application Interface	
AC Mains	LISN	
Operating mode	1/2	
Configuration	1/2	

Limits and results Class B

Frequency [MHz]	Quasi-Peak [dBµV]	Result	Average [dBµV]	Result
0.15 to 5	66 to 56*	PASS	56 to 46*	PASS
0.5 to 5	56	PASS	46	PASS
5 to 30	60	PASS	50	PASS

Comments:
* Limit decreases linearly with the logarithm of the frequency.

Test Procedure:

The test site is in accordance with ANSI C63-4:2014 requirements and is listed by FCC.
The measurement procedure is as follows:

Exploratory measurement:

- The EUT was placed on a non conductive table 0.8 m above the reference ground plane and 0.4 m away from the vertical conducting plane (ANSI C63.4: 2014 item 7.3.1)
- The power cord that is normally supplied or recommended by the manufacturer was connected to the LISN.
- The distance between the outer edge of the EUT and the LISN shall be set to 0.8 m. A longer power cord shall be bundled to this length (bundling shall not exceed 40 cm in length).
- The LISN measurement port was connected to a measurement receiver
- I/O cables were bundled not longer than 0.4 m
- Measurement was performed in the frequency range 0.15 – 30MHz on each current-carrying conductor
- To maximize the emissions the cable positions were manipulated
- The worst configuration of EUT and cables is shown on a test setup picture at item 1.3

Test Procedure:

Final measurement:

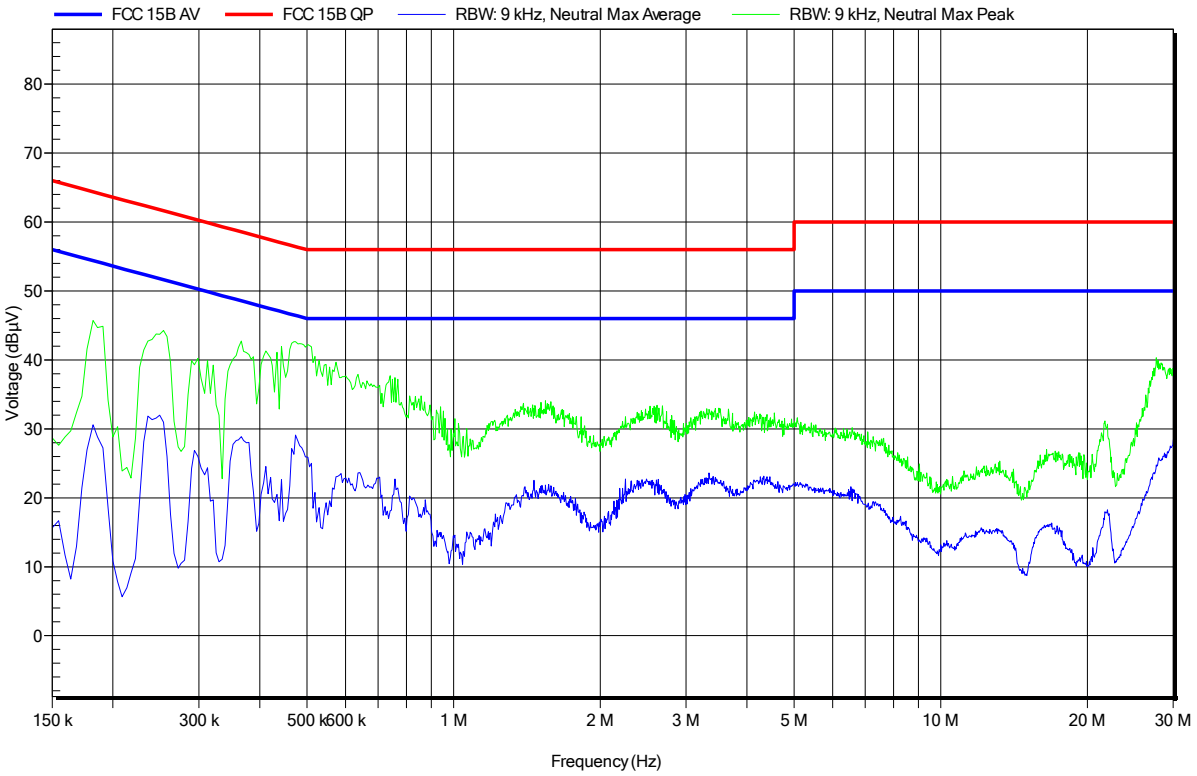
- The EUT was placed on a non conductive table 0.8 m above the reference ground plane and 0.4 m away from the vertical conducting plane (ANSI C63.4: 2014 item 7.3.1)
- The power cord that is normally supplied or recommended by the manufacturer was connected to the LISN.
- The distance between the outer edge of the EUT and the LISN shall be set to 0.8 m. A longer power cord shall be bundled to this length (bundling shall not exceed 40 cm in length).
- The LISN measurement port was connected to a measurement receiver
- The EUT and cable arrangement were based on the exploratory measurement results
- The test data of the worst-case conditions were recorded and shown on the next pages.

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

Project number: G0M-1607-5744

Applicant:	Leica Geosystems AG
EUT Name:	Win CE Field Controller
Model:	CS15
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Unom: 120V AC (AC/DC adaptor)
LISN:	ESH2-Z5 N
Mode:	charging; Bluetooth: DH5, 2480MHz; WLAN 2.4 GHz ping; GSM 850: Ch.: 188 PCL 5
Test Date:	2016-08-18
Note:	

Index 2

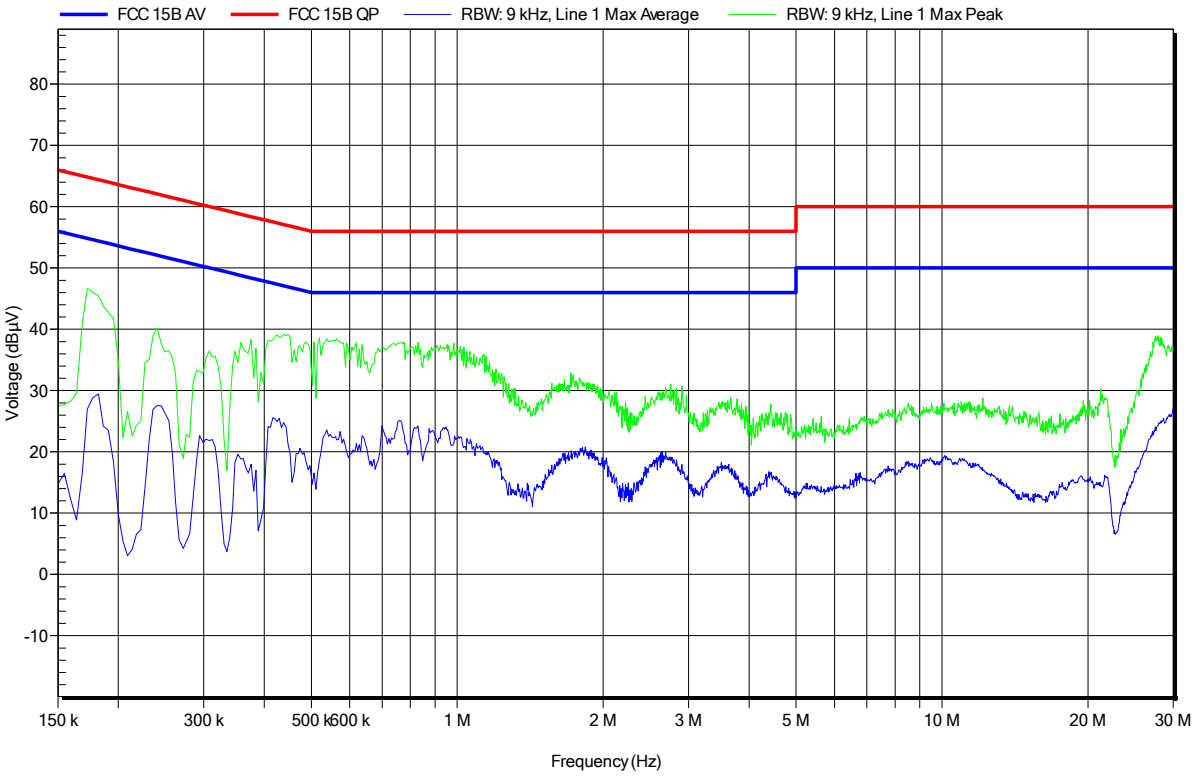


EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1607-5744

Applicant:	Leica Geosystems AG
EUT Name:	Win CE Field Controller
Model:	CS15
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Unom: 120V AC (AC/DC adaptor)
LISN:	ESH2-Z5 L
Mode:	charging; Bluetooth: DH5, 2480MHz; WLAN 2.4 GHz ping; GSM 850: Ch.: 188 PCL 5
Test Date:	2016-08-18
Note:	

Index 3

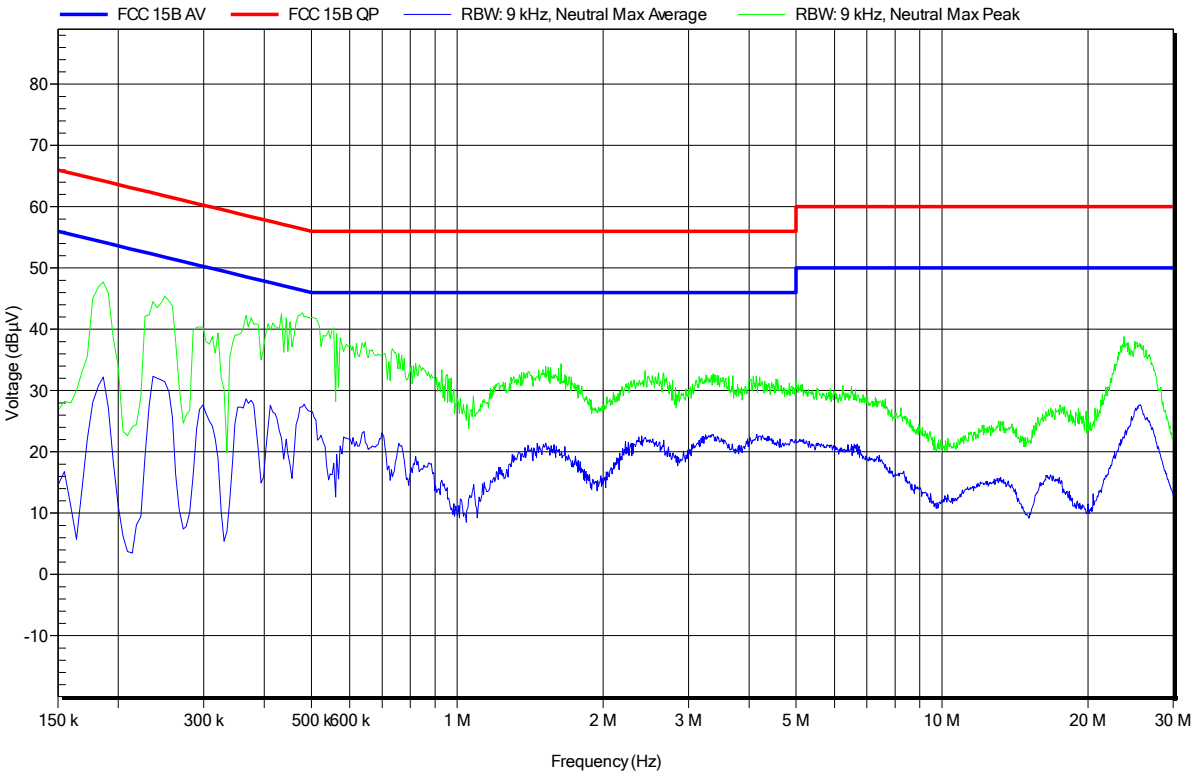


EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1607-5744

Applicant:	Leica Geosystems AG
EUT Name:	Win CE Field Controller
Model:	CS15
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Unom: 120V AC (AC/DC adaptor)
LISN:	ESH2-Z5 N
Mode:	charging Docking Station; Bluetooth: DH5, 2480MHz; WLAN 2.4 GHz ping; GSM 850: Ch.: 188 PCL 5
Test Date:	2016-08-18
Note:	

Index 5



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

Project number: G0M-1607-5744

Applicant:	Leica Geosystems AG
EUT Name:	Win CE Field Controller
Model:	CS15
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Unom: 120V AC (AC/DC adaptor)
LISN:	ESH2-Z5 L
Mode:	charging Docking Station; Bluetooth: DH5, 2480MHz; WLAN 2.4 GHz ping; GSM 850: Ch.: 188 PCL 5
Test Date:	2016-08-18
Note:	

Index 4