EMC TEST REPORT

FCC 47 CFR Part 15B, ISED ICES-003 Issue 6

Report Reference No	G0M-1807-7565-EF0115B-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 Testing Laboratory site: 3470A-2
Applicant	RADIXON s.r.o.
Address	Opatska 19 04018 Kosice-Krasna SLOVAKIA
Test Specification	Full compliance test
Standard	47 CFR Part 15 Subpart B ISED ICES-003 Issue 6 ANSI C63.4:2014
Non-Standard Test Method	None
Equipment under Test (EUT):	
Product Description	G6 External direct sampling receiver/digitizer
Model(s)	G6 external direct sampling receiver/digitizer up to 190 MHz
Additional Model(s)	None
Brand Name(s)	None
Hardware Version(s)	1.0
Software Version(s)	0.44
FCC-ID	2AQYWG6E5
IC	N/A
Contains FCC-ID	FCC-ID
Contains IC	IC-ID
Test Result	**PASSED**

Possibe test case verdicts:		
required by standard but not tested	N/T	
not required by standard	N/R	
required by standard but not appl. 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	2018-08-17	
Report:		
Compiled by	Manuel Engel	
Tested by (+ signature) (Responsible for Test)	Manuel Engel Matthias Handrik	....
Approved by (+ signature) (Deputy Head of Lab)	Christian Weber	C. Weber .....
Date of Issue	2018-09-21	
Total number of pages	40	
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:		

ABBREVIATIONS AND ACRONYMS

Acronyms	
Acronym	Description
EUT	Equipment Under Test
FCC	Federal Communications Commission
ISED	Innovation, Science and Economic Development Canada
T_{NOM}	Nominal operating temperature
V_{NOM}	Nominal supply voltage

VERSION HISTORY

Version History			
Version	Issue Date	Remarks	Revised By
01	2018-09-20	Initial Release	
02	2018-09-21	Replaced document: G0M-1807-7565-EF0115B-V01 Replaced by: G0M-1807-7565-EF0115B-V02 Reason: correction date of receipt of test item	Mr. Engel

REPORT INDEX

1 Equipment (Test Item) Under Test 6
1.1 Equipment Ports 7
1.2 Equipment Photos - Internal 8
1.3 Equipment Photos - External 11
1.4 Support Equipment 15
1.5 Operational Modes 15
1.6 EUT Configuration 15
1.7 Sample emission level calculation 16
2 Result Summary 17
2.1 Test Conditions and Results - Radiated emissions acc. to ANSI C63.4 18
2.2 Test Conditions and Results - Conducted emissions acc. to ANSI C63.4 34

1 Equipment (Test Item) Under Test

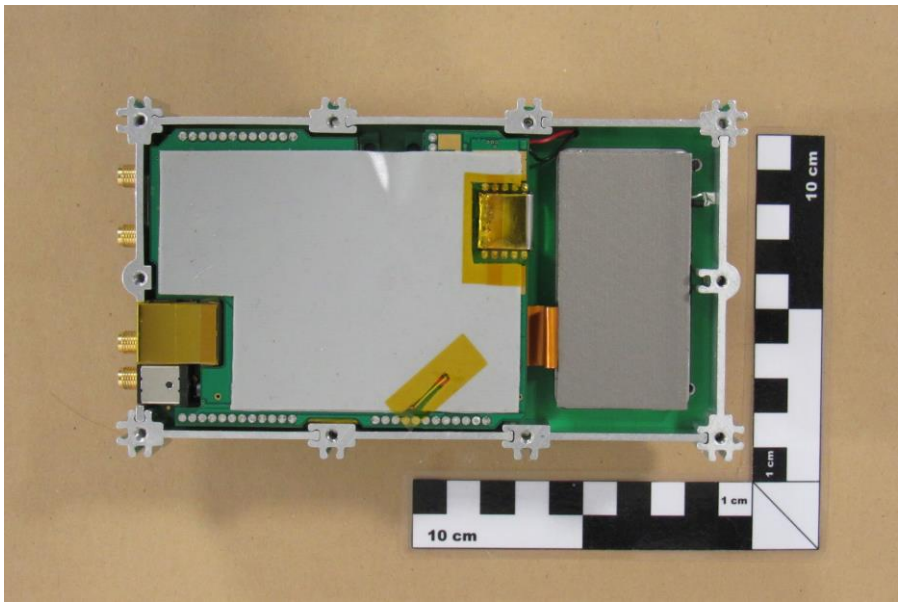
Description	G6 External direct sampling receiver/digitizer	
Model	G6 external direct sampling receiver/digitizer up to 190 MHz	
Additional Model(s)	None	
Brand Name(s)	None	
Serial Number(s)	Unspecified	
Hardware Version(s)	1.0	
Software Version(s)	0.44	
FCC-ID	2AQYWG6E5	
IC	unspecified	
Class	Class B	
Equipment type	Table top	
Highest internal frequency [MHz]	210	
Supply Voltage	V_{NOM}	12 VDC
AC/DC-Adaptor	Model	AU1241202g
	Vendor	I.T.E POWER SUPPL
	Input	100-240 V AC
	Output	12 V DC
Manufacturer	RADIXON GROUP Pty.Ltd. 45-47 Islington Street Collingwood Victoria 3066 Melbourne	

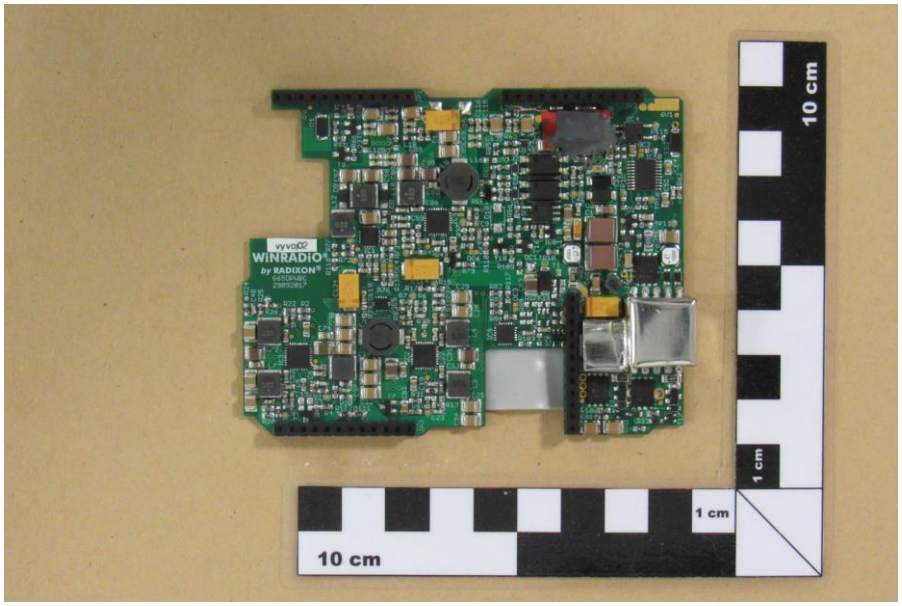
1.1 Equipment Ports

Name	Type	Attributes	Comment
Power	DC	Count: 1 Direction: In Service only: No	
RF IN Range 1	IO	Count: 1 Direction: In Service only: No	
RF IN Range 2	IO	Count: 1 Direction: In Service only: No	
RF IN reference clock	IO	Count: 1 Direction: In Service only: No	
RF OUT reference clock	IO	Count: 1 Direction: Out Service only: No	
USB	IO	Count: 1 Direction: IO Service only: No	
Ethernet	IO	Count: 1 Direction: IO Service only: No	Customer provided CAT6 for testing PoE, regulare ethernet was tested also with CAT6

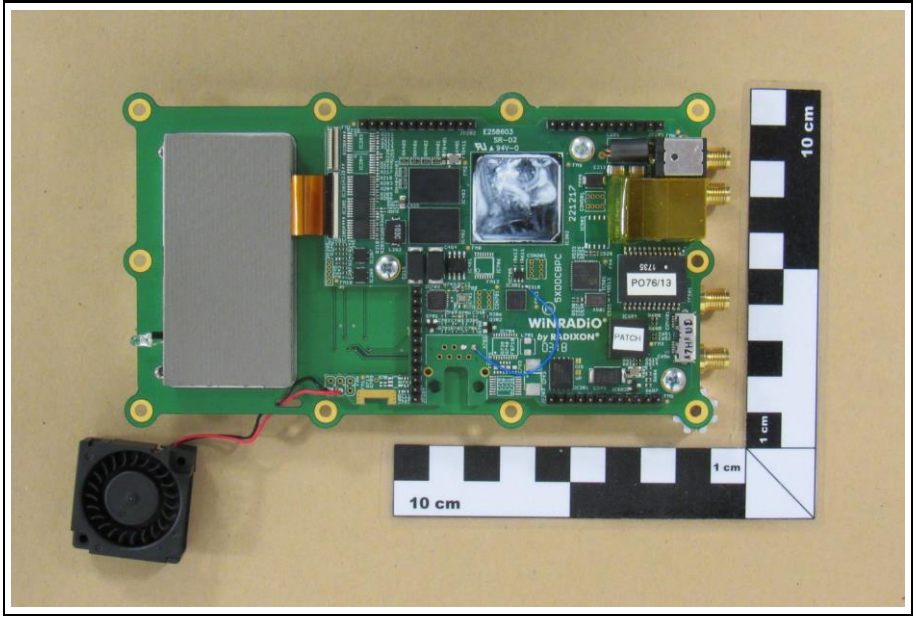
Description:	
AC	AC mains power input/output port
DC	DC power input/output port
IO	Input/Output port
TP	Telecommunication port
NE	Non-electrical port

1.2 Equipment Photos - Internal

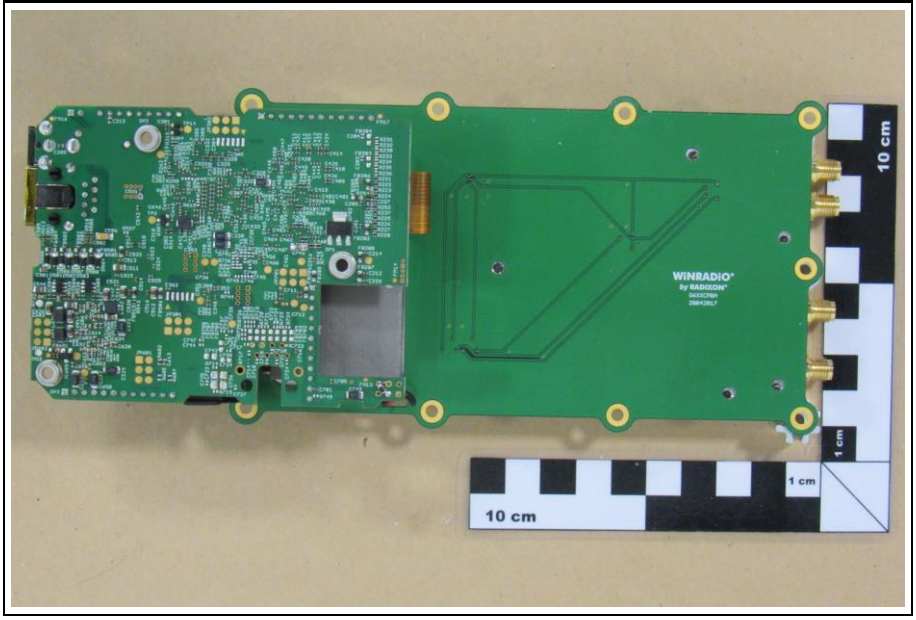
EUT bottom internal overview


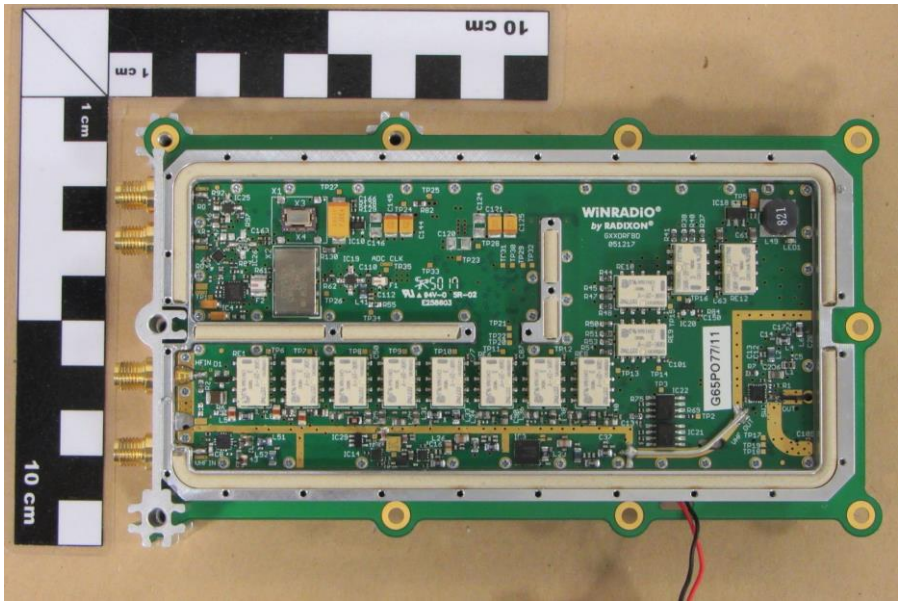
EUT PCB 1 top


EUT PCB 2 top



EUT PCB 2 bottom and PCB 3 top



EUT top PCB


1.3 Equipment Photos - External

EUT front

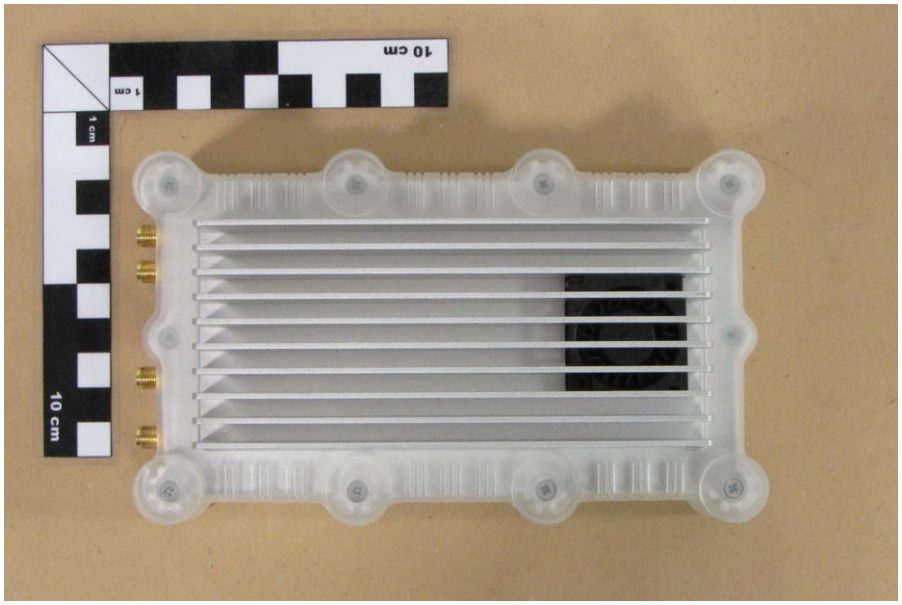
EUT left

EUT back

EUT right

EUT bottom

EUT top



Customer cable, AC/DC and PoE adaptor

1.4 Support Equipment

Product Type	Device	Manufacturer	Model	Comment
AE	PoE	ZyXEL	PoE12-HP	
AE	Signal generator	R & S	SMY 01	EF0171
AE	Notebook	Dell	Latitude E6420	DE31LAB00009
CBL	SMA cable	Huber+Suhner	SN 3683/4E	Terminated with 50Ω
CBL	SMA cable	Spectrum	100-0500-91-91	Terminated with 50Ω
CBL	SMA cable	GIGALANE	SN 1536	Terminated with 50Ω
CBL	LAN cable	GIGABIT	CAT 6 S/FTP	
Description:				
AE	Auxillary Equipment			
SIM	Simulator			
CBL	Connecting Cable			
Comment:				

1.5 Operational Modes

Mode #	Description
1	receiver tuned on 30 MHz, Atten OFF, Preamp OFF, RF Filter OFF software application running
Comment:	

1.6 EUT Configuration

Configuration #	Description
1	EUT powered via 120V AC/DC adaptor. EUT and notebook are placed inside the measurement chamber. Signal Generator placed outside the measure chamber and connected with REF IN 1. LAN connection via CAT 6 cable and USB to notebook. All other port are connected with SMA cable. terminated with a resistor.
2	EUT powered via PoE adaptor.. EUT and notebook placed inside the measurement chamber. Signal Generator placed outside the measure chamber and connected with REF IN 1. PoE adapter data is connected with CAT 6 cable to notebook, USB connection from notebook to EUT. All other port are connected with SMA cable and terminated with a resistor.
Comment:	

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 15B, ISED ICES-003 Issue 6				
Reference	**Requirement**	**Reference Method**	**Result**	**Remarks**
Emission				
FCC 15.109 ICES-003, 8, 6.1	Radiated emissions	ANSI C63.4:2014	PASS	
FCC 15.107 ICES-003, 8, 6.2	AC power line conducted emissions	ANSI C63.4:2014	PASS	
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

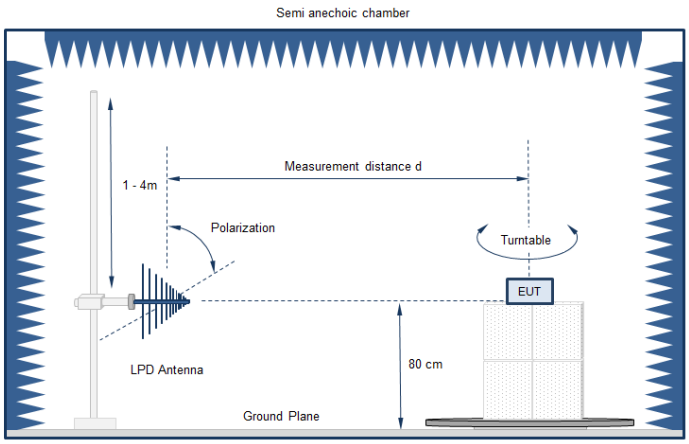
2.1 Test Conditions and Results - Radiated emissions acc. to ANSI C63.4

2.1.1 Information

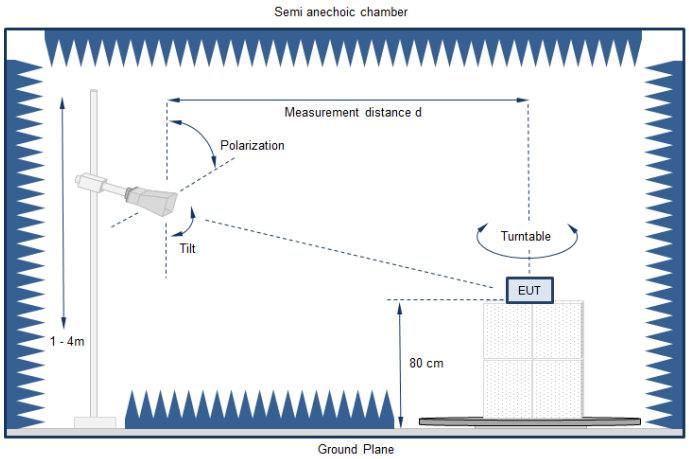
Test Information	
Reference	FCC 15.109, ICES-003, 8, 6.1
Reference method	ANSI C63.4:2014 Section 8
Equipment class	Class B
Equipment type	Table top
Highest internal frequency [MHz]	210
Measurement range	30 MHz to 2 GHz
Temperature [°C]	24 C°
Humidity [%]	43 %
Operator	Manuel Engel
Date	2018-09-10

2.1.2 Setup

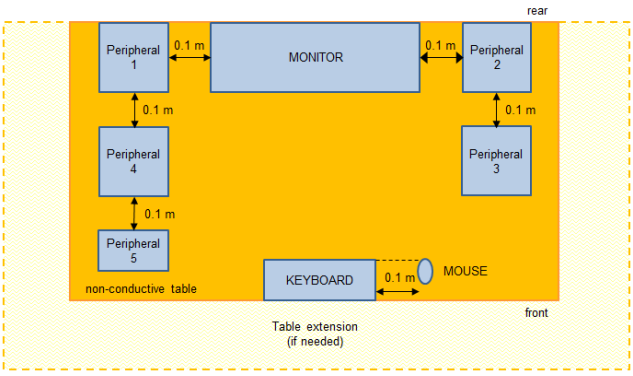
Measurement up to 1 GHz



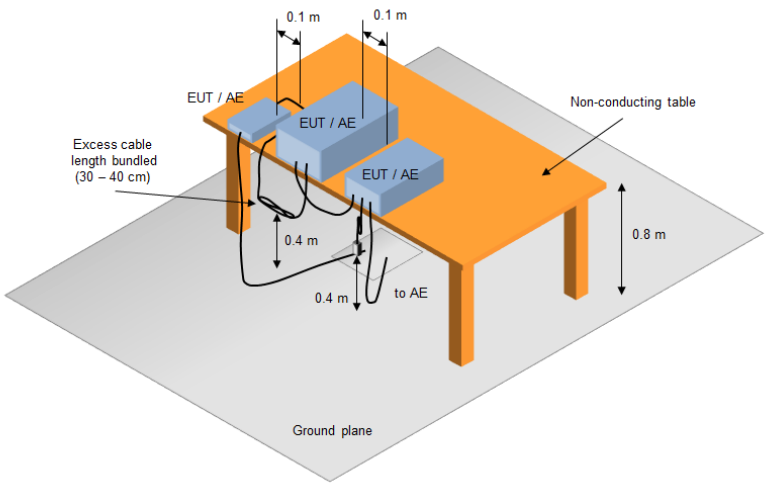
Measurement above 1 GHz



Equipment placement - Table top



Test Setup



2.1.3 Equipment

Test Equipment					
Manufacturer	Description	Model	Identifier	Cal. Date	Cal. Due
Anechoic chamber	Frankonia	AC1	EF00200	functional test	functional test
Rohde & Schwarz Vertriebs GmbH	EMI Test Receiver	ESR7	EF00943	2018-07	2019-07
Rohde & Schwarz Vertriebs GmbH	Biconical Antenna	HK116	EF00186	2018-03	2020-03
R&S	LPD Antenna	HL 223	EF00187	2016-05	2019-05
Schwarzbeck	Horn Antenna	BBHA 9120D (1-18GHz)	EF00018	2016-09	2019-09

2.1.4 Procedure

Exploratory measurement
1. The EUT was placed on a non-conductive table at a height of 0.8m. 2. The EUT and support equipment, if needed, were set up to simulate typical usage. 3. 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. 4. The antenna was placed at a distance of 3 or 10 m. 5. The received signal was monitored at the measurement receiver. 6. This procedure has to be performed in both antenna polarizations, horizontal and vertical. 7. The arrangement of the equipment with the maximum emission level is shown on the setup picture at item 1.3

Final measurement
1. The EUT was placed on a 0.8 m non-conductive table at a 3 m distance from the receive antenna. The antenna output was connected to the measurement receiver. 2. 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. 3. The EUT and cable arrangement were based on the exploratory measurement results. 4. Emissions were maximized at each frequency by rotating the EUT and adjusting the receive antenna height and polarization. The maximum values were recorded. 5. The test data of the worst-case conditions were recorded and shown on the next pages.

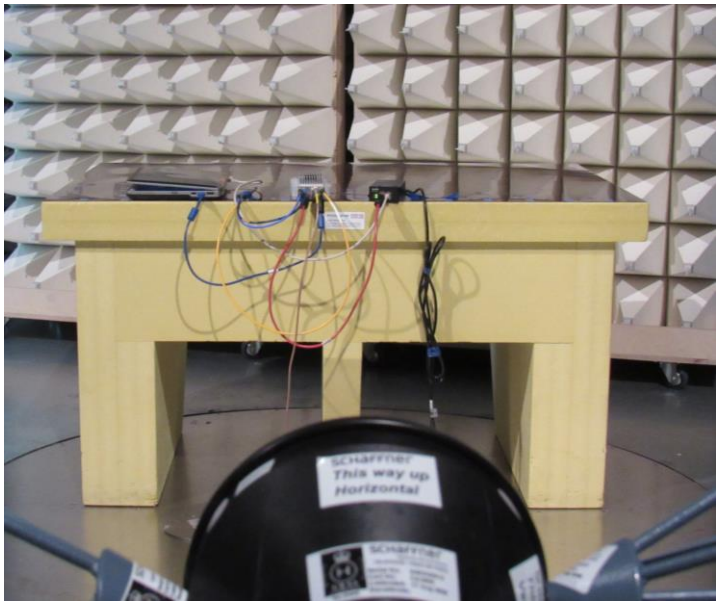
2.1.5 Limits

Class B @ 3 m		
Frequency [MHz]	Detector	Limit [dBµV/m]
30 - 88	Quasi-peak	40
88 - 216	Quasi-peak	43.5
216 - 960	Quasi-peak	46
960 - 1000	Quasi-peak	54
> 1000	Peak Average	74 54

2.1.6 Results

Test Results			
Operational mode	EUT Configuration	Verdict	Remark
1	1,2	PASS	

2.1.7 Setup Photos

Sample test setup


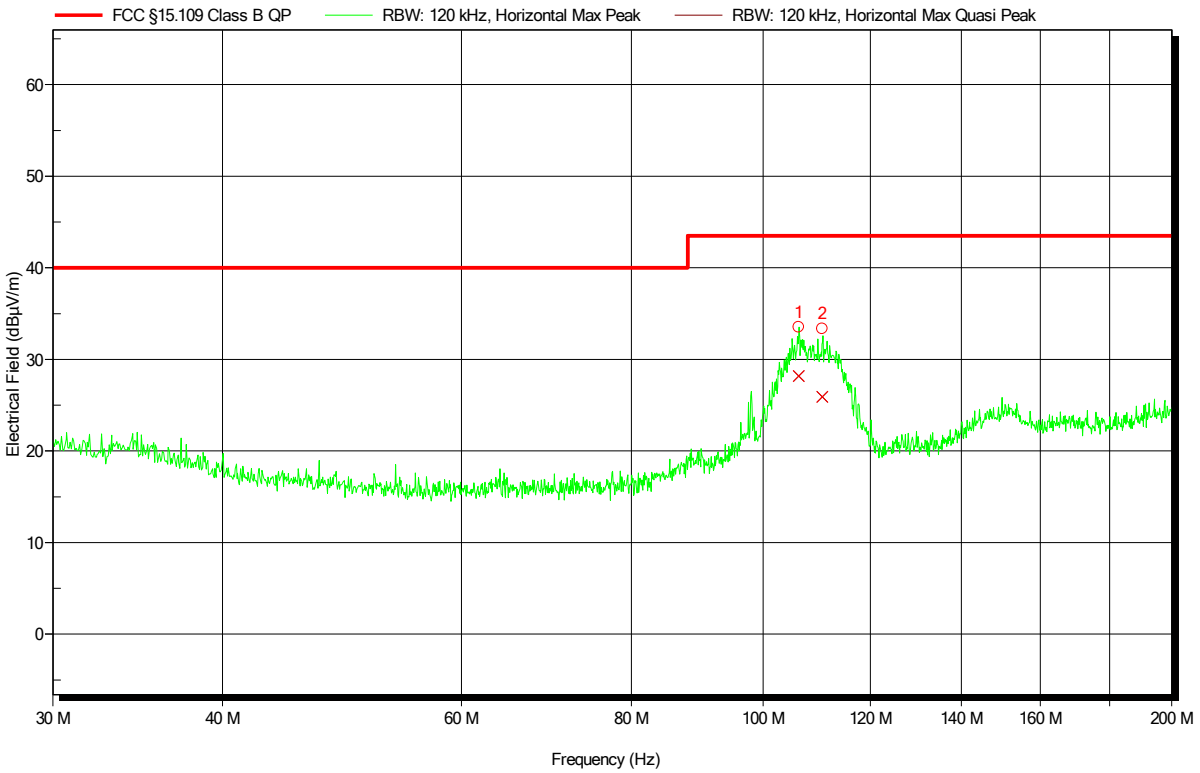
2.1.8 Records

Radiated emissions under normal conditions according to FCC part 15B

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC (AC/DC adaptor input)
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3m
Mode:	Configuration 1
Test Date:	2018-09-10
Note:	

Index 9



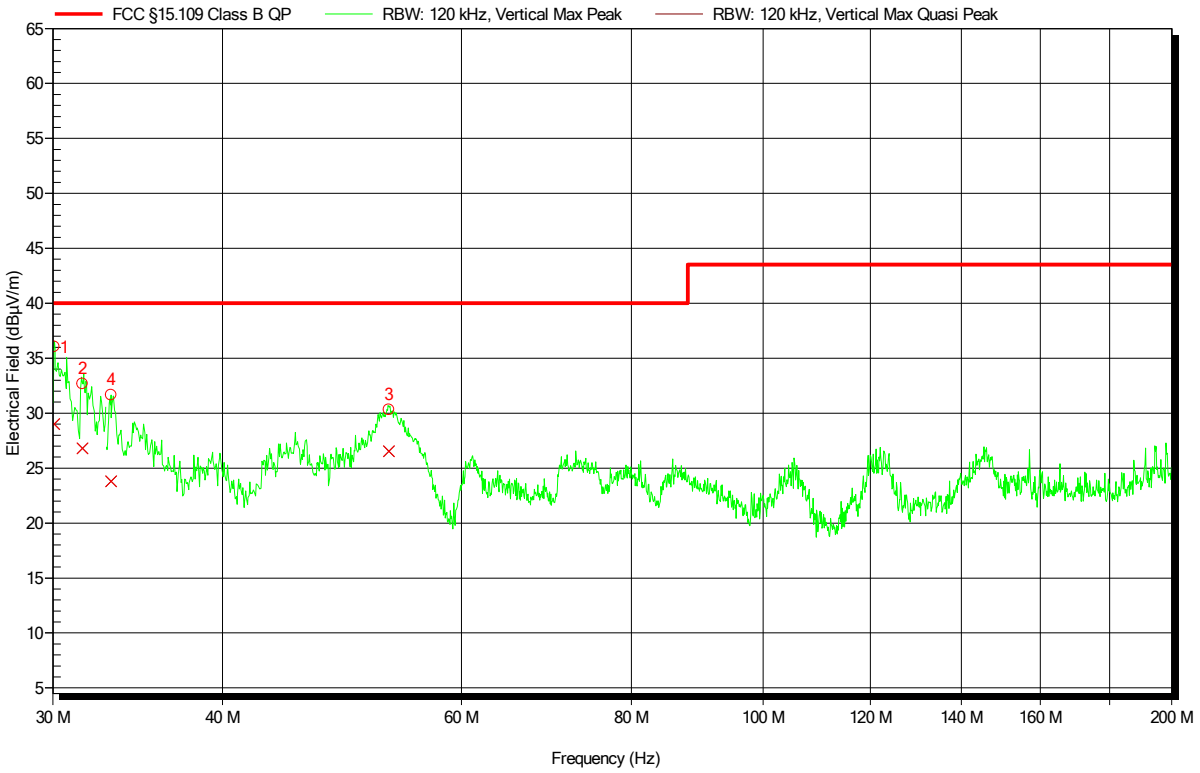
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	106.254 MHz	28.18 dBµV/m	43.52 dBµV/m	-15.34 dB	Pass	105 Degree	2.12 m
2	110.58 MHz	25.92 dBµV/m	43.52 dBµV/m	-17.6 dB	Pass	105 Degree	2.12 m

Radiated emissions under normal conditions according to FCC part 15B

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC (AC/DC adaptor input)
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3m
Mode:	Configuration 1
Test Date:	2018-09-10
Note:	

Index 10



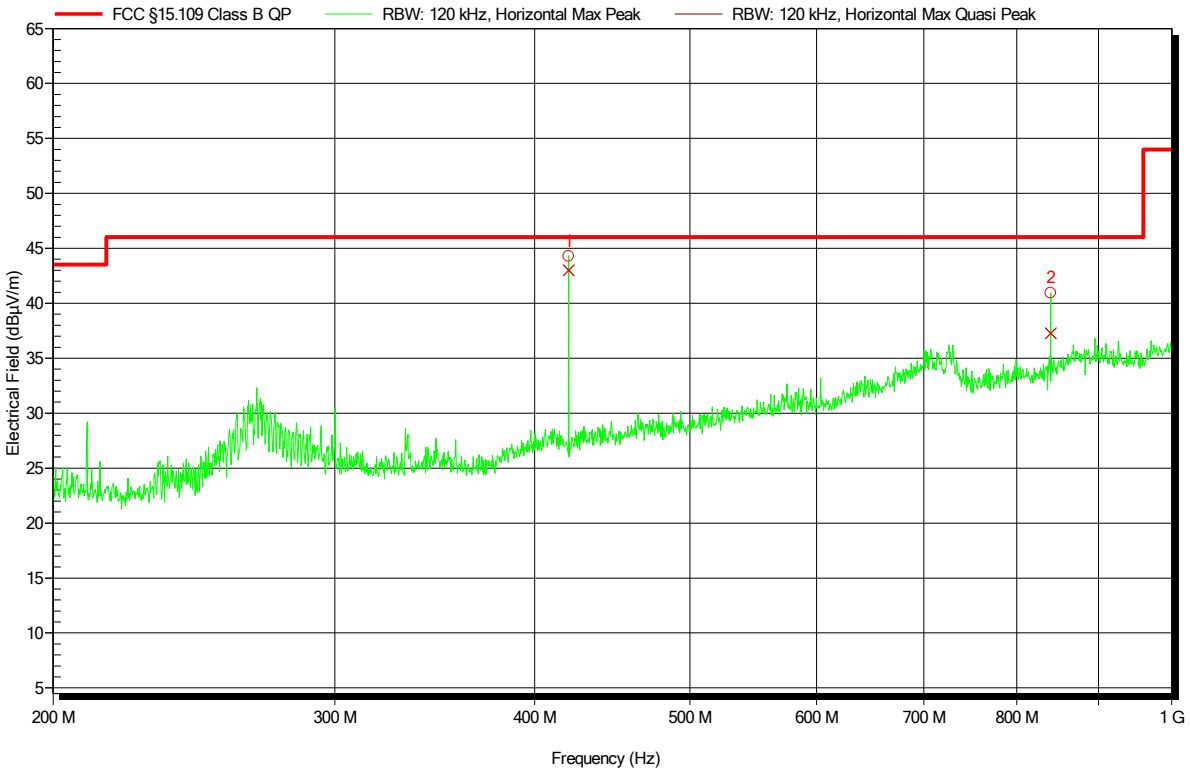
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	30.066 MHz	29.01 dBµV/m	40 dBµV/m	-10.99 dB	Pass	-180 Degree	1 m
2	31.56 MHz	26.78 dBµV/m	40 dBµV/m	-13.22 dB	Pass	-180 Degree	1 m
3	53.04 MHz	26.53 dBµV/m	40 dBµV/m	-13.47 dB	Pass	-180 Degree	1 m
4	33.114 MHz	23.81 dBµV/m	40 dBµV/m	-16.19 dB	Pass	-180 Degree	1 m

Radiated emissions under normal conditions according to FCC part 15B

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC (AC/DC adaptor input)
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3m
Mode:	Configuration 1
Test Date:	2018-09-10
Note:	

Index 11



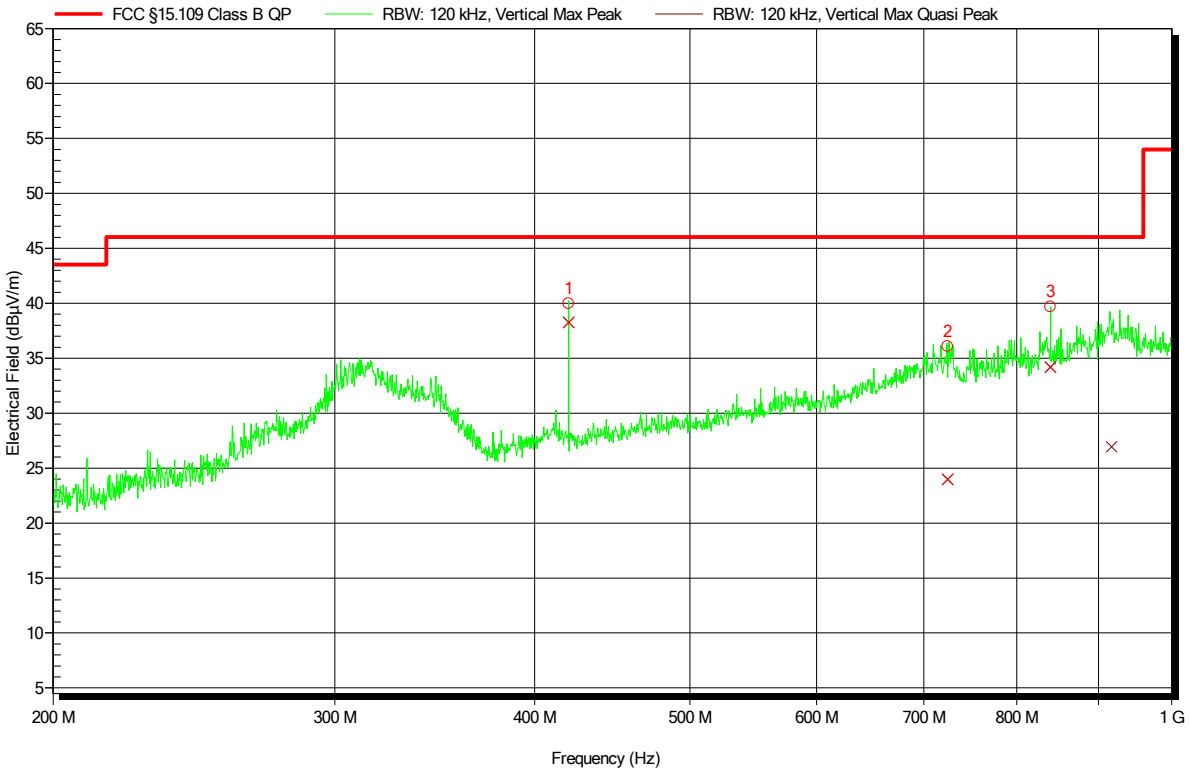
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	420.002 MHz	42.99 dBµV/m	46.02 dBµV/m	-3.03 dB	Pass	109 Degree	1 m
2	840.009 MHz	37.27 dBµV/m	46.02 dBµV/m	-8.75 dB	Pass	109 Degree	1 m

Radiated emissions under normal conditions according to FCC part 15B

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC (AC/DC adaptor input)
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3m
Mode:	Configuration 1
Test Date:	2018-09-10
Note:	

Index 12



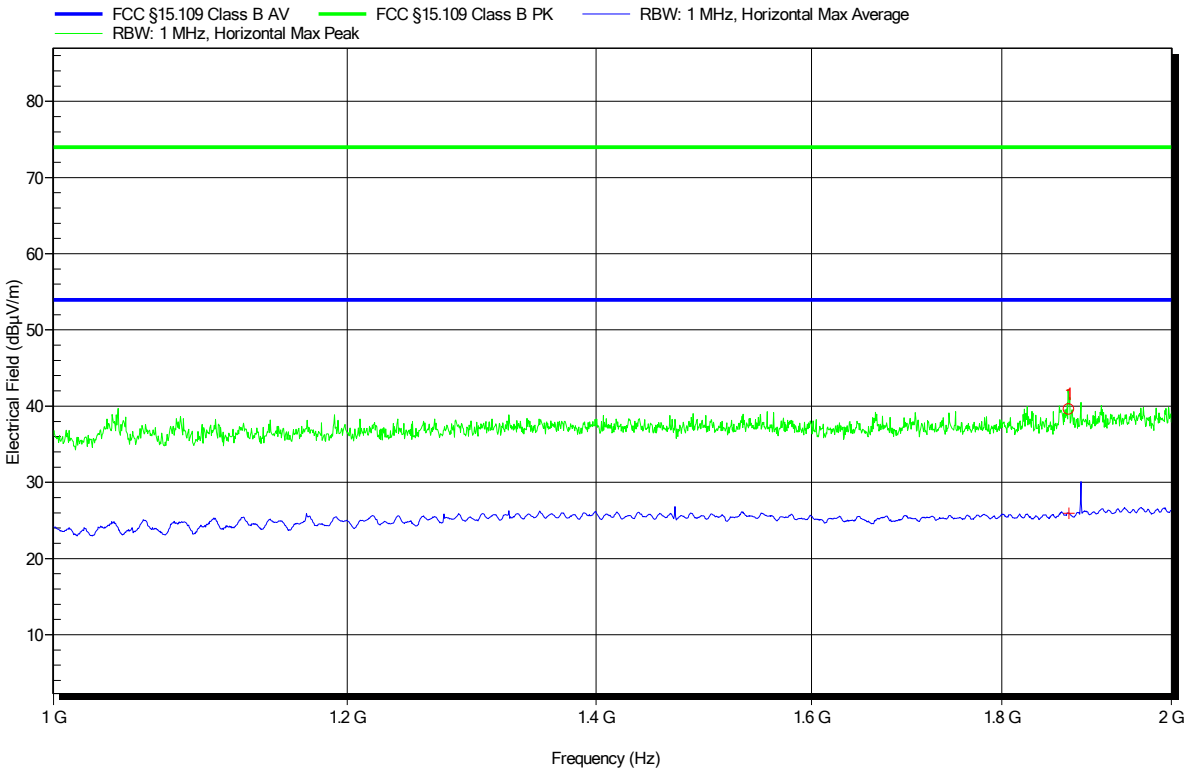
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	420.002 MHz	38.25 dBµV/m	46.02 dBµV/m	-7.77 dB	Pass	-92 Degree	1.44 m
2	724.46 MHz	23.97 dBµV/m	46.02 dBµV/m	-22.05 dB	Pass	-92 Degree	1.44 m
3	839.996 MHz	34.18 dBµV/m	46.02 dBµV/m	-11.84 dB	Pass	-92 Degree	1.44 m

Radiated emissions under normal conditions according to FCC part 15B

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC (AC/DC adaptor input)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3m
Mode:	Configuration 1
Test Date:	2018-09-10
Note:	

Index 13



Peak Number	Frequency	Peak	Angle	Height
1	1.877 GHz	39.56 dBµV/m	0 Degree	1.14 m

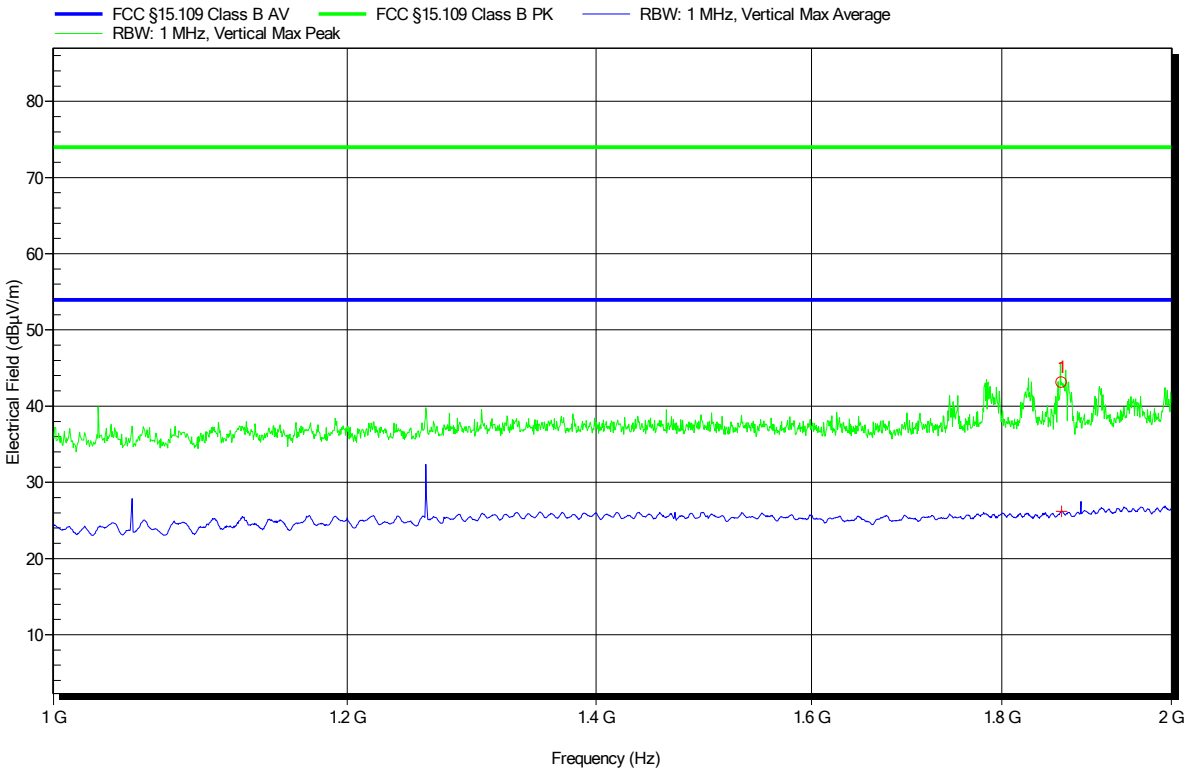
Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	1.877 GHz	25.93 dBµV/m	53.98 dBµV/m	-28.05 dB	Pass	0 Degree	1.14 m

Radiated emissions under normal conditions according to FCC part 15B

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC (AC/DC adaptor input)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3m
Mode:	Configuration 1
Test Date:	2018-09-10
Note:	

Index 14



Peak Number	Frequency	Peak	Angle	Height
1	1.868 GHz	43.08 dBµV/m	0 Degree	1.14 m

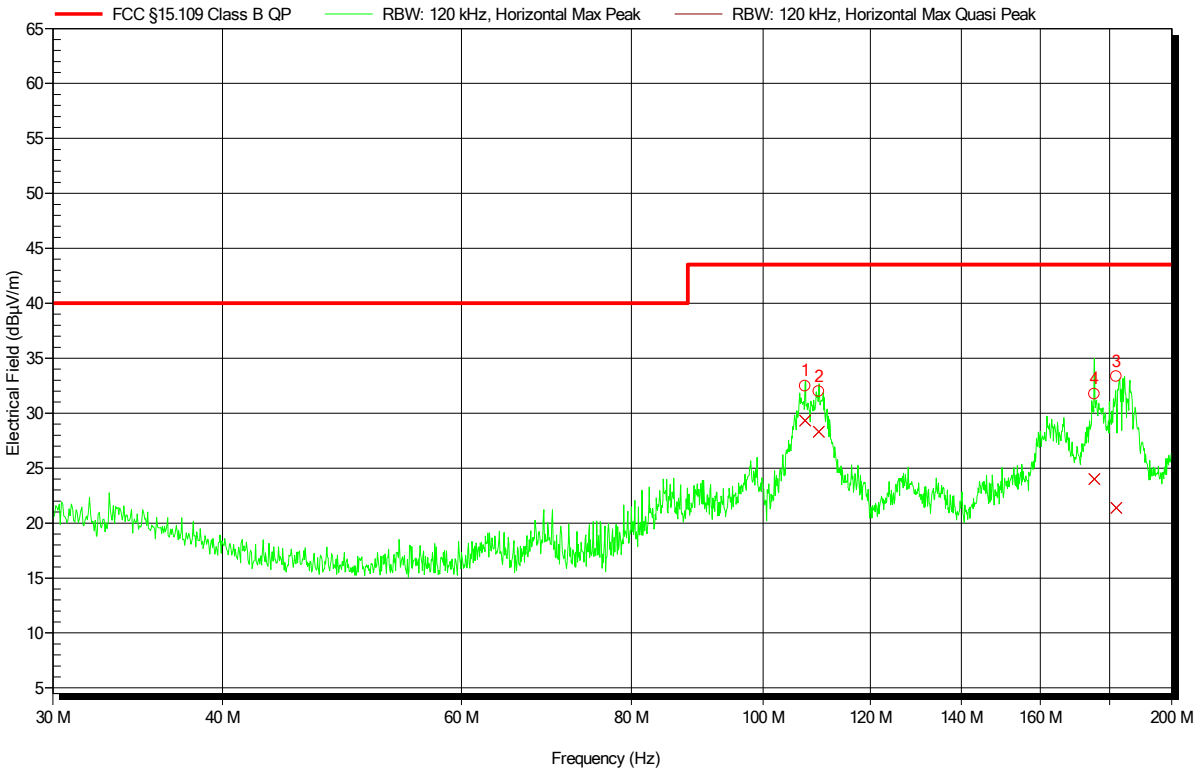
Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	1.868 GHz	26.18 dBµV/m	53.98 dBµV/m	-27.8 dB	Pass	0 Degree	1.14 m

Radiated emissions under normal conditions according to FCC part 15B

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC (PoE input)
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3m
Mode:	Configuration 2
Test Date:	2018-09-10
Note:	

Index 5



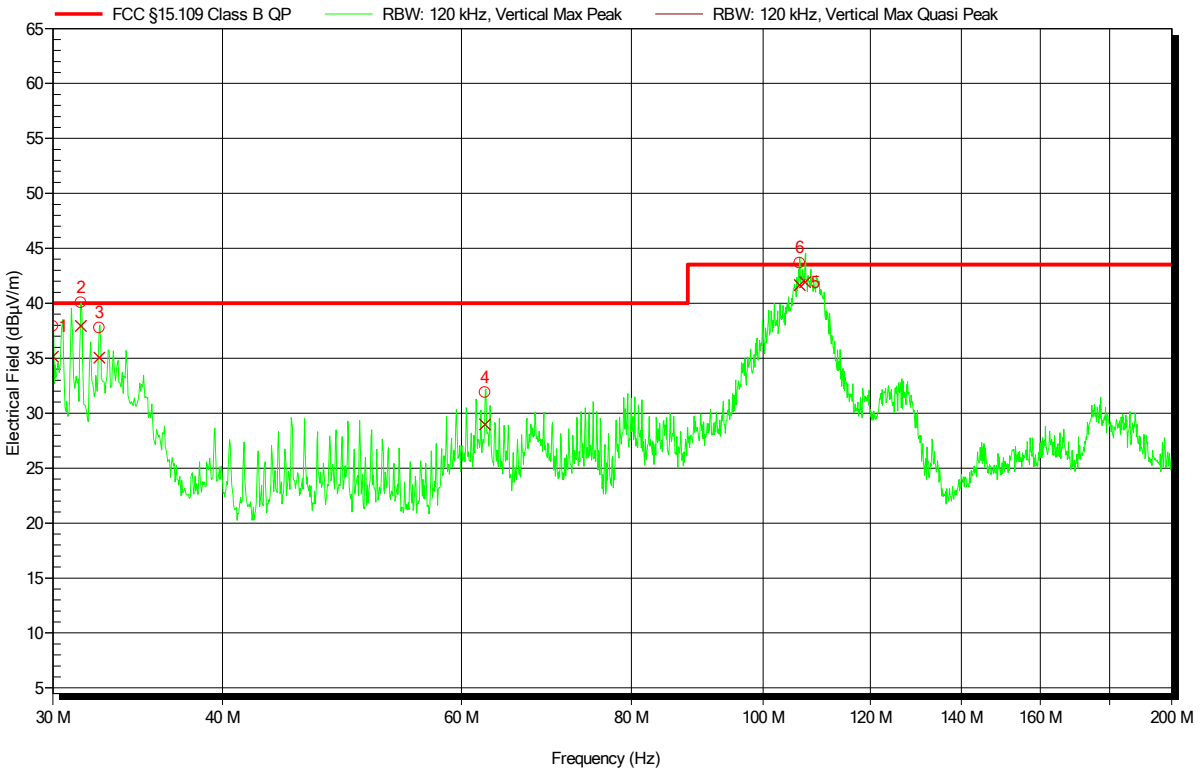
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	107.4 MHz	29.32 dBµV/m	43.52 dBµV/m	-14.21 dB	Pass	51 Degree	1.9 m
2	109.92 MHz	28.32 dBµV/m	43.52 dBµV/m	-15.21 dB	Pass	51 Degree	1.9 m
3	182.04 MHz	21.39 dBµV/m	43.52 dBµV/m	-22.14 dB	Pass	51 Degree	1.9 m
4	175.38 MHz	24 dBµV/m	43.52 dBµV/m	-19.52 dB	Pass	51 Degree	1.9 m

Radiated emissions under normal conditions according to FCC part 15B

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC (PoE input)
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3m
Mode:	Configuration 2
Test Date:	2018-09-10
Note:	

Index 6



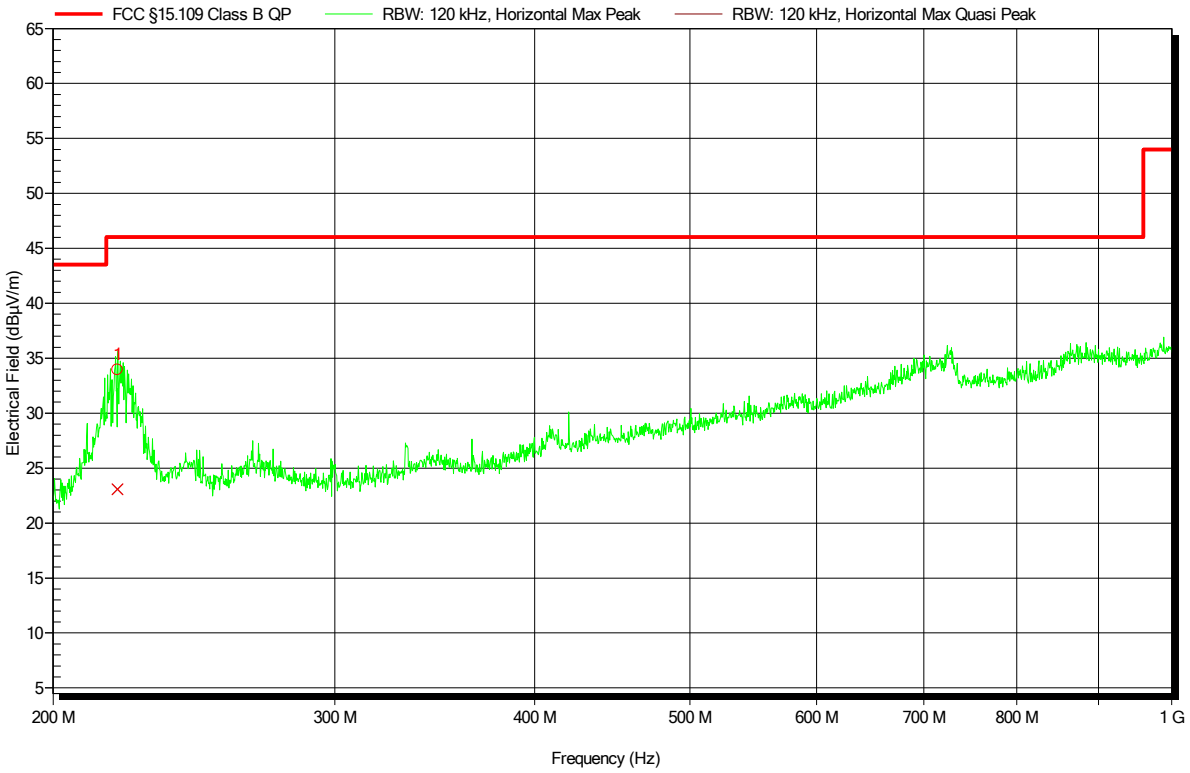
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	30 MHz	35.14 dBµV/m	40 dBµV/m	-4.86 dB	Pass	-180 Degree	1 m
2	31.464 MHz	37.93 dBµV/m	40 dBµV/m	-2.07 dB	Pass	-180 Degree	1 m
3	32.472 MHz	35.04 dBµV/m	40 dBµV/m	-4.96 dB	Pass	-180 Degree	1 m
4	62.442 MHz	28.97 dBµV/m	40 dBµV/m	-11.03 dB	Pass	-180 Degree	1 m
5	107.4 MHz	41.93 dBµV/m	43.52 dBµV/m	-1.6 dB	Pass	-180 Degree	1 m
6	106.4 MHz	41.65 dBµV/m	43.52 dBµV/m	-1.87 dB	Pass	-180 Degree	1 m

Radiated emissions under normal conditions according to FCC part 15B

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC (PoE input)
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3m
Mode:	Configuration 2
Test Date:	2018-09-10
Note:	

Index 8



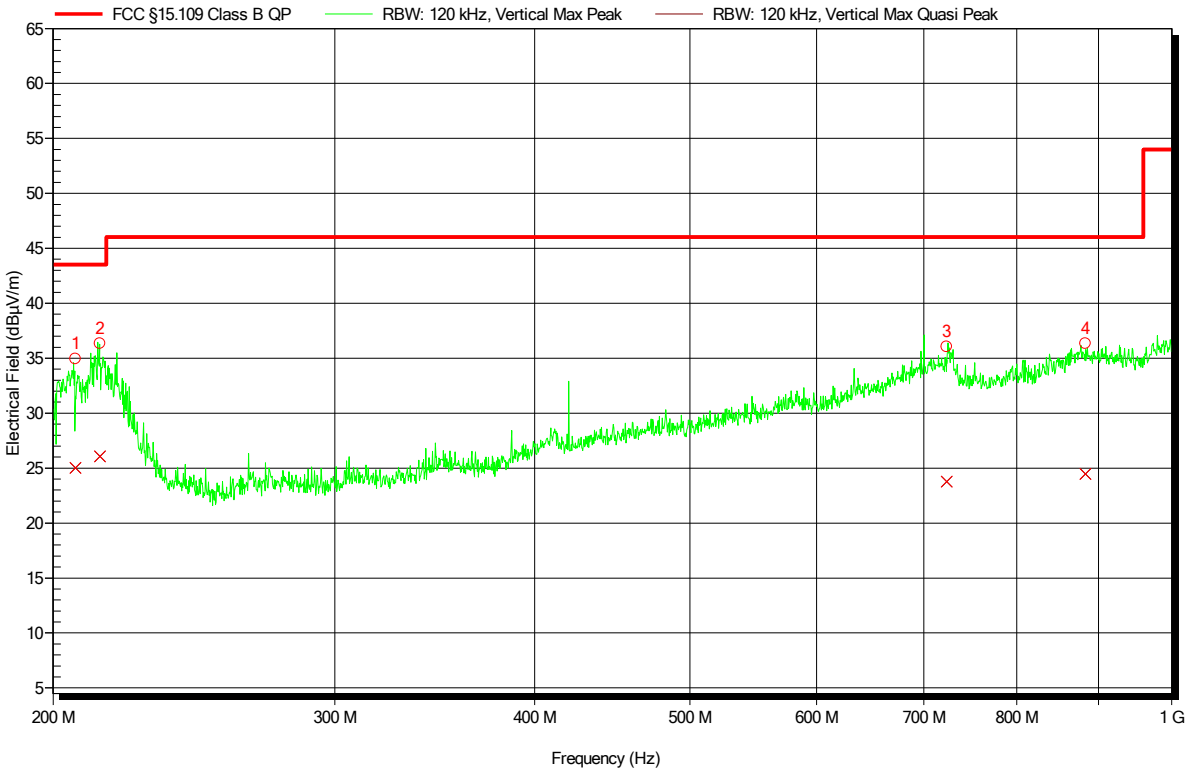
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	219.476 MHz	23.06 dBµV/m	46.02 dBµV/m	-22.96 dB	Pass	97 Degree	1.37 m

Radiated emissions under normal conditions according to FCC part 15B

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC (PoE input)
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3m
Mode:	Configuration 2
Test Date:	2018-09-10
Note:	

Index 7



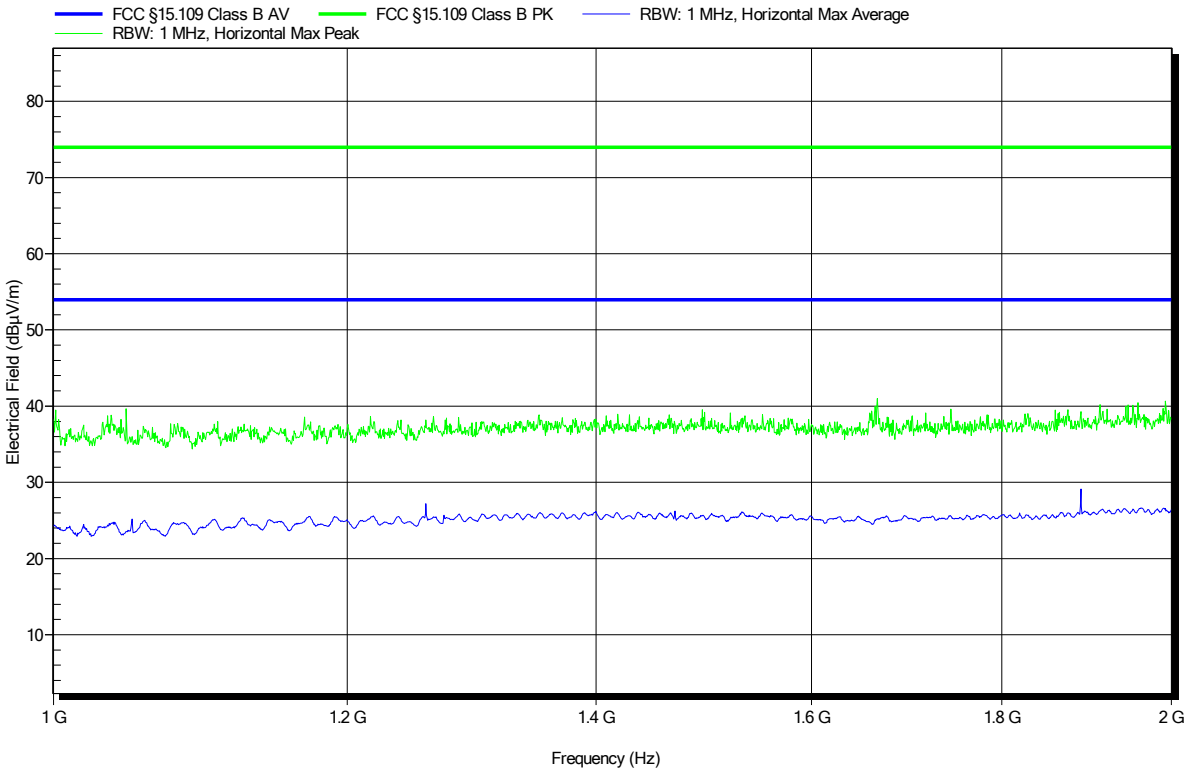
Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	206.66 MHz	25.03 dBµV/m	43.52 dBµV/m	-18.49 dB	Pass	30 Degree	1 m
2	214.1 MHz	26.06 dBµV/m	43.52 dBµV/m	-17.46 dB	Pass	30 Degree	1 m
3	723.26 MHz	23.76 dBµV/m	46.02 dBµV/m	-22.26 dB	Pass	30 Degree	1 m
4	883.34 MHz	24.46 dBµV/m	46.02 dBµV/m	-21.56 dB	Pass	30 Degree	1 m

Radiated emissions under normal conditions according to FCC part 15B

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC (PoE input)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3m
Mode:	Configuration 2
Test Date:	2018-09-10
Note:	

Index 16

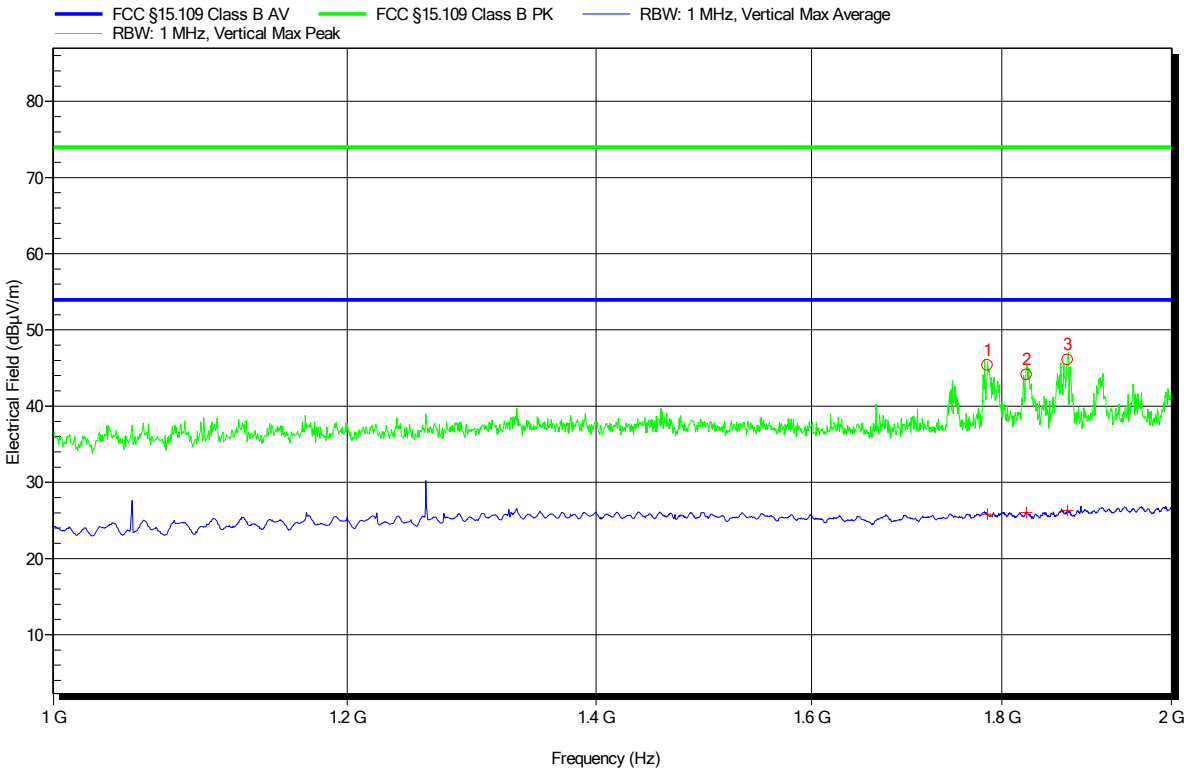


Radiated emissions under normal conditions according to FCC part 15B

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24|°C, Unom: 120 V AC (PoE input)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3m
Mode:	Configuration 2
Test Date:	2018-09-10
Note:	

Index 15



Peak Number	Frequency	Peak	Angle	Height
1	1.784 GHz	45.35 dBµV/m	0 Degree	1.14 m
2	1.828 GHz	44.11 dBµV/m	0 Degree	1.14 m
3	1.875 GHz	46.07 dBµV/m	0 Degree	1.14 m

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	Angle	Height
1	1.784 GHz	25.81 dBµV/m	53.98 dBµV/m	-28.17 dB	Pass	0 Degree	1.14 m
2	1.828 GHz	26.02 dBµV/m	53.98 dBµV/m	-27.96 dB	Pass	0 Degree	1.14 m
3	1.875 GHz	26.31 dBµV/m	53.98 dBµV/m	-27.67 dB	Pass	0 Degree	1.14 m

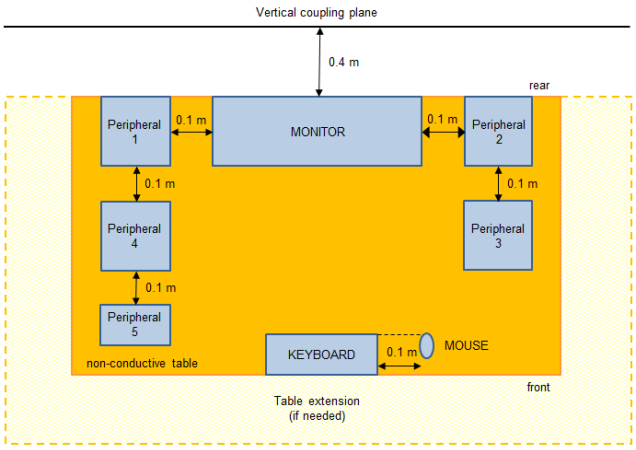
2.2 Test Conditions and Results - Conducted emissions acc. to ANSI C63.4

2.2.1 Information

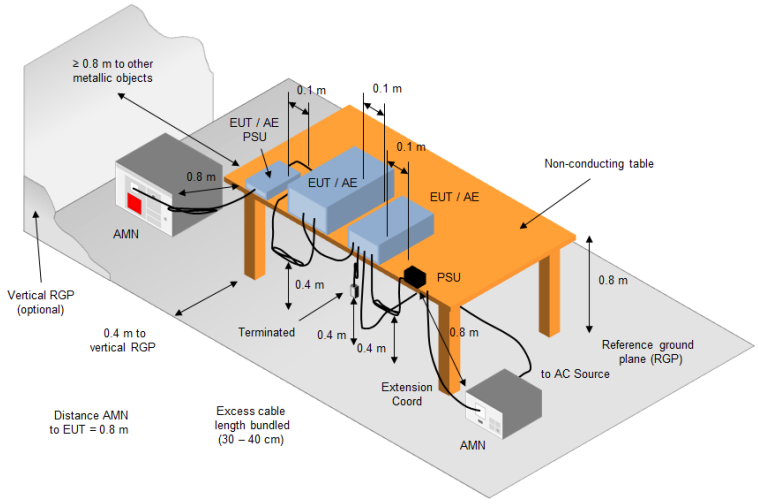
Test Information	
Reference	FCC 15.107, ICES-003, 8, 6.2
Reference method	ANSI C63.4:2014 Section 12
Measurement range	150 kHz to 30 MHz
Equipment class	Class B
Equipment type	Table top
Temperature [°C]	24 C°
Humidity [%]	53 %
Operator	Manuel Engel
Date	2018-09-07

2.2.2 Setup

Equipment placement



Test Setup



2.2.3 Equipment

Test Equipment					
Manufacturer	Description	Model	Identifier	Cal. Date	Cal. Due
R&S	AMN	ESH2-Z5	EF00182	2017-01	2019-01
R&S	AMN	ESH3-Z5	EF00036	2017-01	2019-01
R&S	Pulse Limiter	ESH3-Z2	EF01063	2018-07	2019-07
Rohde & Schwarz Vertriebs GmbH	EMI Test Receiver	ESCS 30	EF00295	2018-07	2019-07

2.2.4 Procedure

Exploratory measurement
1. The EUT was placed on a non conductive table 0.8 m above the reference ground plane and 0.4 m away from the vertical conducting plane (ANSI C63.4: 2014 item 7.3.1) 2. The power cord that is normally supplied or recommended by the manufacturer was connected to the LISN. 3. The distance between the outer edge of the EUT and the LISN shall be set to 0.8 m. A longer power cord shall be bundled to this length (bundling shall not exceed 40 cm in length). 4. The LISN measurement port was connected to a measurement receiver 5. I/O cables were bundled not longer than 0.4 m 6. Measurement was performed in the frequency range 0.15 – 30MHz on each current-carrying conductor 7. To maximize the emissions the cable positions were manipulated 8. The worst configuration of EUT and cables is shown on a test setup picture at item 1.3

Final measurement
1. The EUT was placed on a non conductive table 0.8 m above the reference ground plane and 0.4 m away from the vertical conducting plane (ANSI C63.4: 2014 item 7.3.1) 2. The power cord that is normally supplied or recommended by the manufacturer was connected to the LISN. 3. The distance between the outer edge of the EUT and the LISN shall be set to 0.8 m. A longer power cord shall be bundled to this length (bundling shall not exceed 40 cm in length). 4. The LISN measurement port was connected to a measurement receiver 5. The EUT and cable arrangement were based on the exploratory measurement results 6. The test data of the worst-case conditions were recorded and shown on the next pages

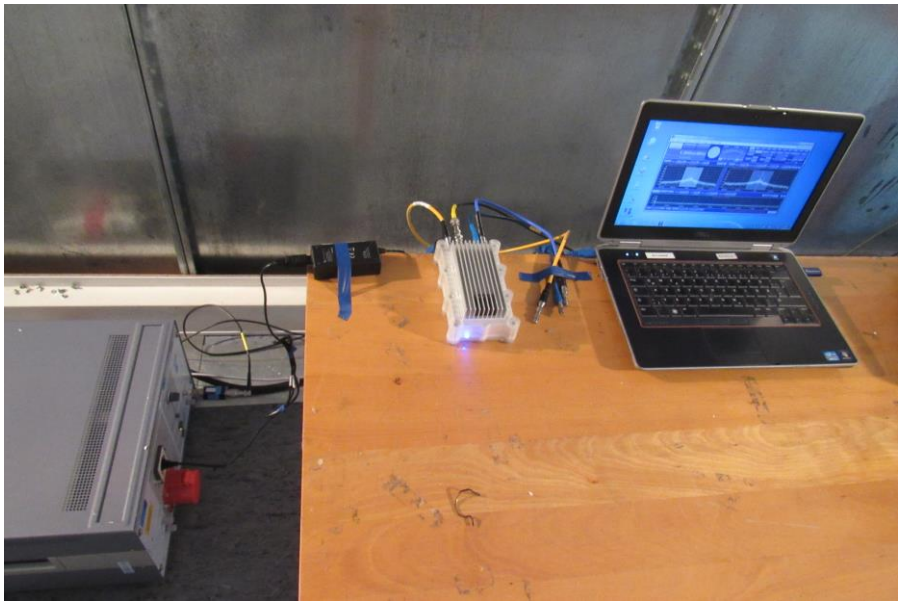
2.2.5 Limits

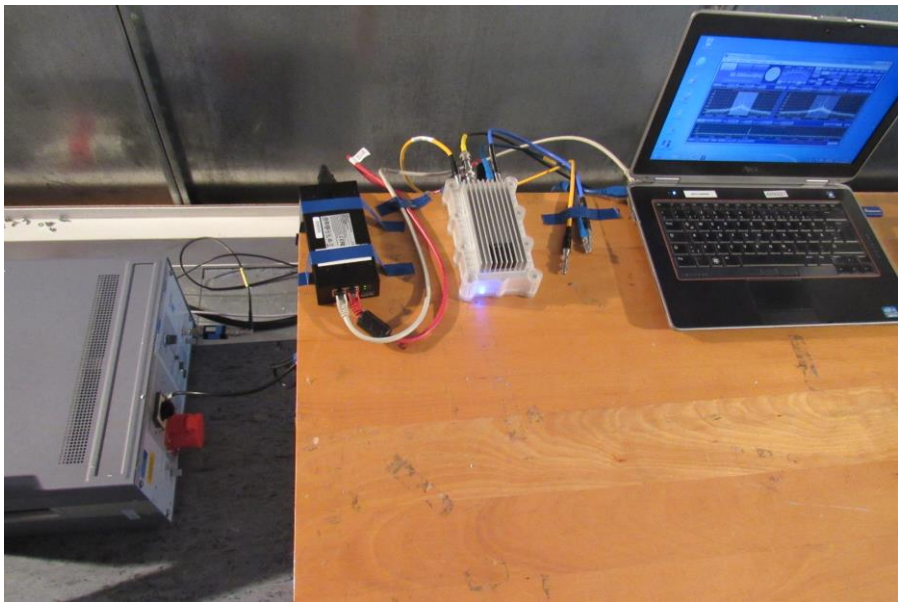
Class B		
Frequency [MHz]	Quasi-peak Limit [dBµV]	Average Limit [dBµV]
0.15 - 0.5	66 - 56 *	56 - 46 *
0.5 - 5	56	46
5 - 30	60	50
* Decreases with the logarithm of the frequency		

2.2.6 Results

AC power line conducted emissions					
Port	Coupling	Operational mode	EUT Configuration	Verdict	Remark
Power	AMN	1	1,2	PASS	

2.2.7 Setup Photos

Test setup configuration 1


Test setup configuration 2


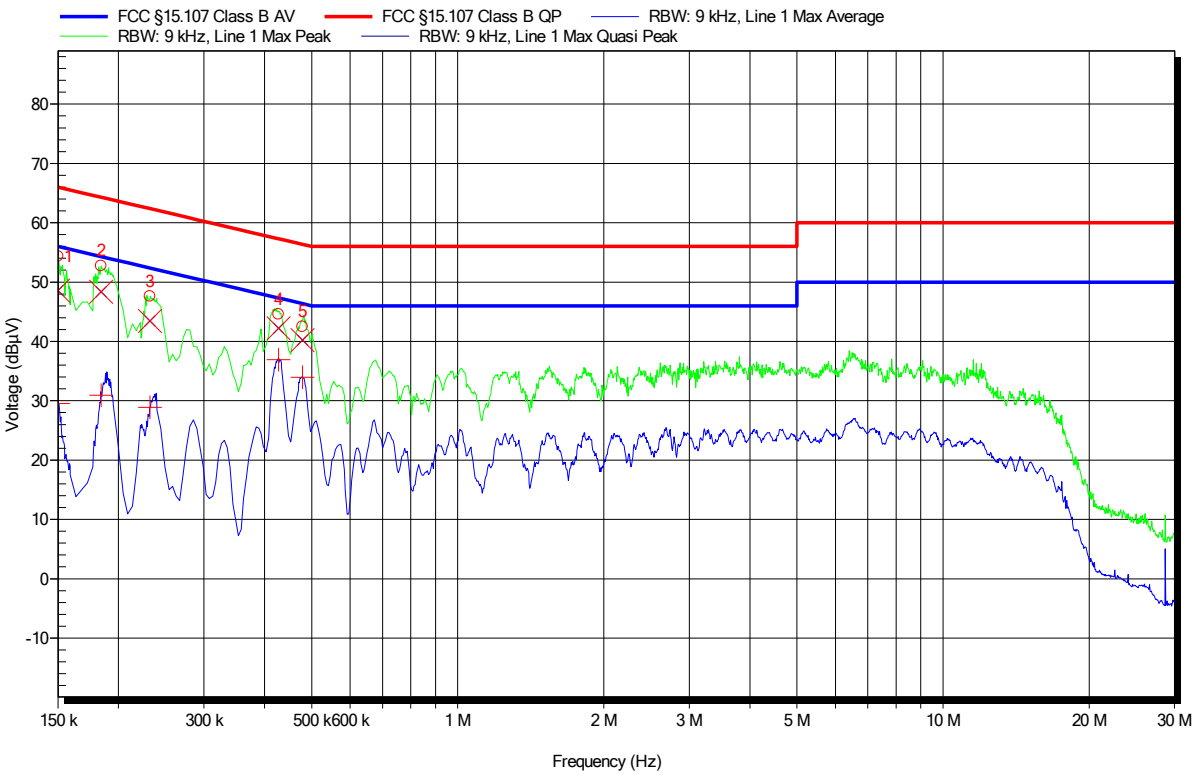
2.2.8 Records

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

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC
LISN:	ESH2-Z5 L
Mode:	Configuration 1
Test Date:	2018-09-07
Note:	

Index 1



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	150 kHz	48.58 dBµV	66 dBµV	-17.42 dB	Pass
2	184.2 kHz	48.35 dBµV	64.29 dBµV	-15.95 dB	Pass
3	232.35 kHz	43.46 dBµV	62.37 dBµV	-18.91 dB	Pass
4	427.2 kHz	42.21 dBµV	57.31 dBµV	-15.1 dB	Pass
5	478.5 kHz	40.19 dBµV	56.37 dBµV	-16.17 dB	Pass

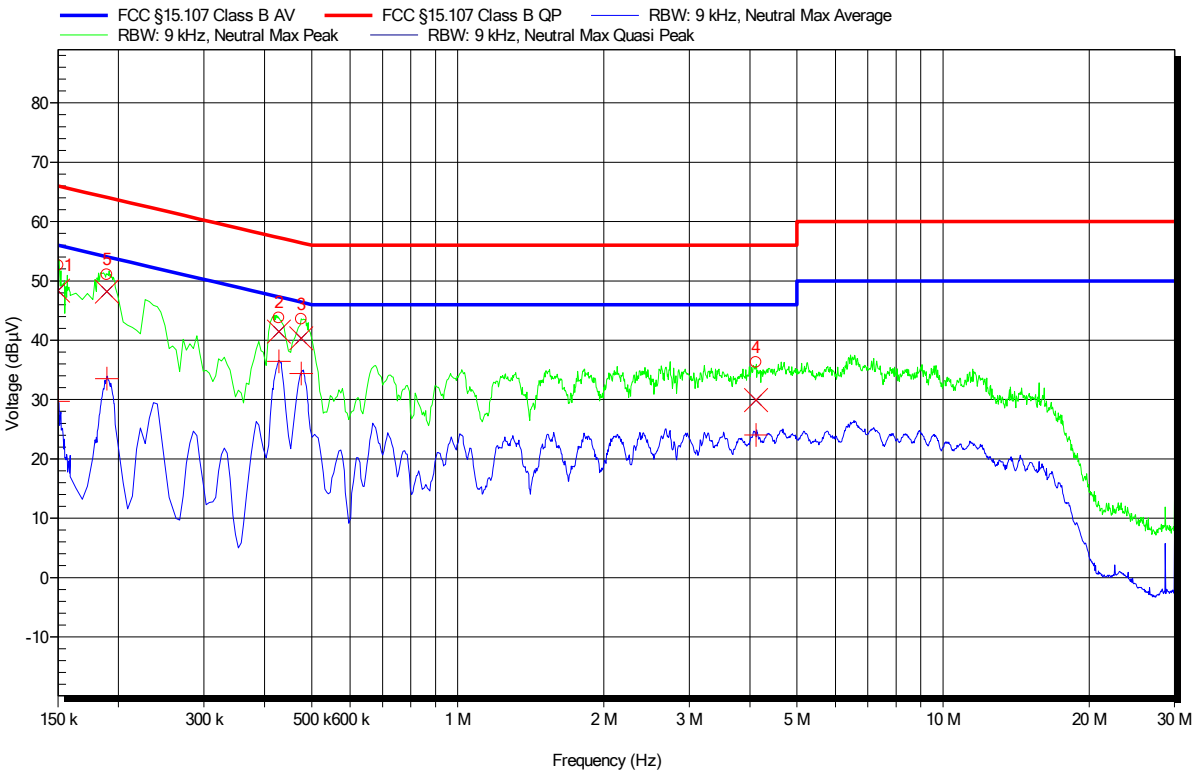
Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	150 kHz	29.52 dBµV	56 dBµV	-26.48 dB	Pass
2	184.2 kHz	30.92 dBµV	54.29 dBµV	-23.38 dB	Pass
3	232.35 kHz	28.88 dBµV	52.37 dBµV	-23.49 dB	Pass
4	427.2 kHz	36.9 dBµV	47.31 dBµV	-10.41 dB	Pass
5	478.5 kHz	33.93 dBµV	46.37 dBµV	-12.43 dB	Pass

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

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC
LISN:	ESH2-Z5 N
Mode:	Configuration 1
Test Date:	2018-09-07
Note:	

Index 2



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	150 kHz	48.37 dBµV	66 dBµV	-17.63 dB	Pass
2	428.1 kHz	41.43 dBµV	57.29 dBµV	-15.86 dB	Pass
3	475.8 kHz	40.33 dBµV	56.41 dBµV	-16.08 dB	Pass
4	4.119 MHz	29.93 dBµV	56 dBµV	-26.07 dB	Pass
5	189.3 kHz	48.19 dBµV	64.07 dBµV	-15.88 dB	Pass

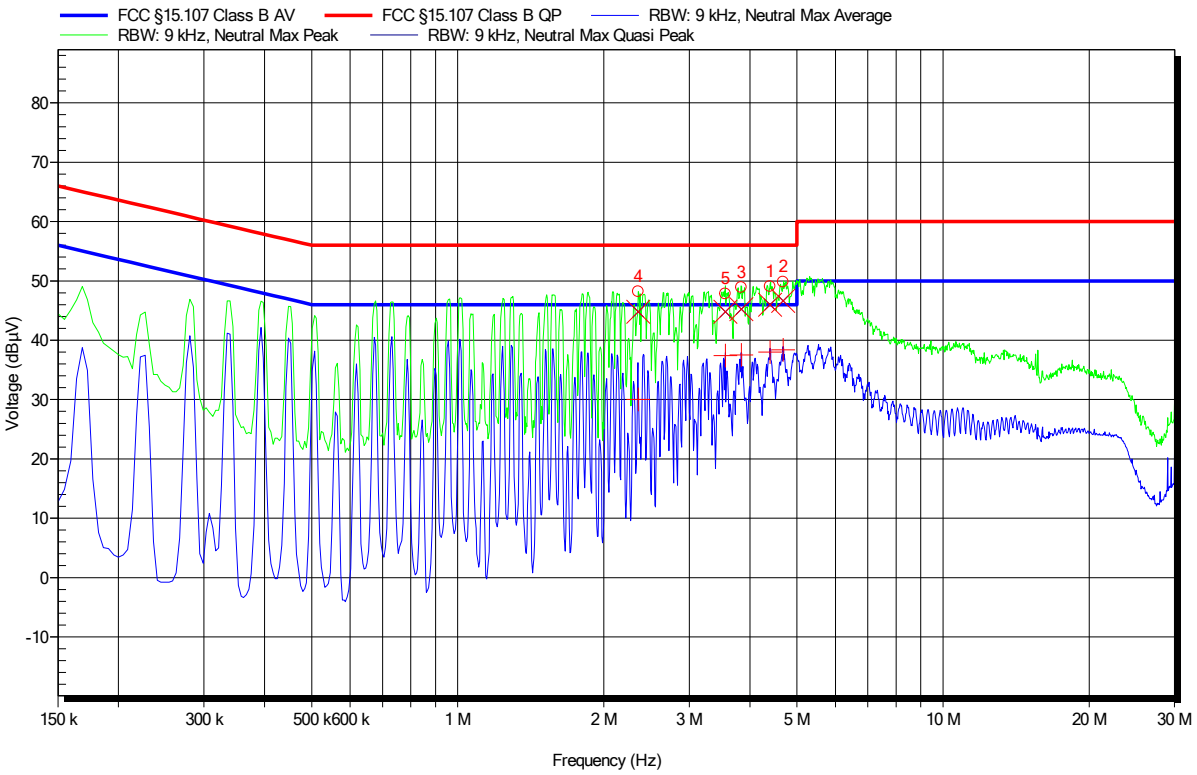
Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	150 kHz	29.71 dBµV	56 dBµV	-26.29 dB	Pass
2	428.1 kHz	36.45 dBµV	47.29 dBµV	-10.84 dB	Pass
3	475.8 kHz	34.4 dBµV	46.41 dBµV	-12.01 dB	Pass
4	4.119 MHz	24.04 dBµV	46 dBµV	-21.96 dB	Pass
5	189.3 kHz	33.51 dBµV	54.07 dBµV	-20.56 dB	Pass

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

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC
LISN:	ESH2-Z5 N
Mode:	Configuration 2
Test Date:	2018-09-07
Note:	

Index 3



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	4.403 MHz	46.01 dBµV	56 dBµV	-9.99 dB	Pass
2	4.686 MHz	46.63 dBµV	56 dBµV	-9.37 dB	Pass
3	3.84 MHz	45.21 dBµV	56 dBµV	-10.79 dB	Pass
4	2.355 MHz	44.77 dBµV	56 dBµV	-11.23 dB	Pass
5	3.561 MHz	44.8 dBµV	56 dBµV	-11.2 dB	Pass

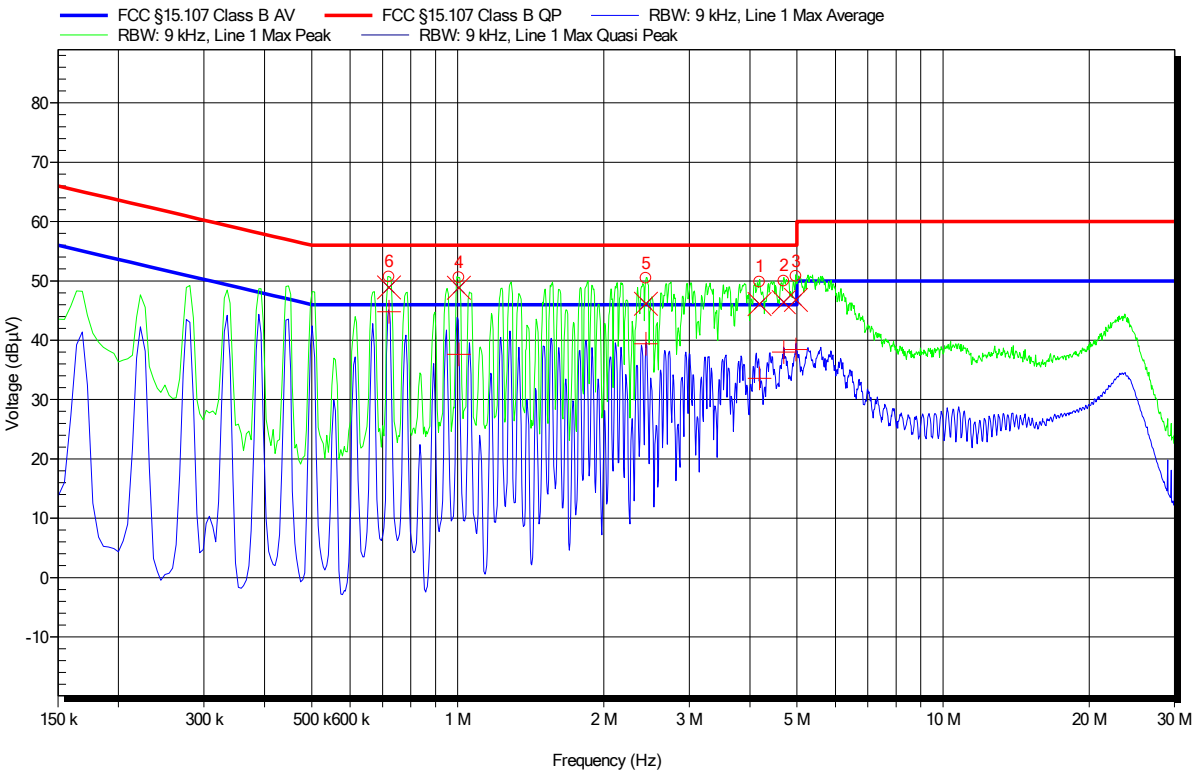
Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	4.403 MHz	38.02 dBµV	46 dBµV	-7.98 dB	Pass
2	4.686 MHz	38.38 dBµV	46 dBµV	-7.62 dB	Pass
3	3.84 MHz	37.54 dBµV	46 dBµV	-8.46 dB	Pass
4	2.355 MHz	30.01 dBµV	46 dBµV	-15.99 dB	Pass
5	3.561 MHz	37.43 dBµV	46 dBµV	-8.57 dB	Pass

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

Project number: G0M-1807-7565

Applicant:	RADIXON s.r.o.
EUT Name:	G6 External direct sampling receiver/digitizer
Model:	G6 external direct sampling receiver/digitizer up to 190 MHz
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Engel
Test Conditions:	Tnom: 24°C, Unom: 120 V AC
LISN:	ESH2-Z5 L
Mode:	Configuration 2
Test Date:	2018-09-07
Note:	

Index 4



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
1	4.187 MHz	46.08 dBµV	56 dBµV	-9.92 dB	Pass
2	4.7 MHz	46.43 dBµV	56 dBµV	-9.57 dB	Pass
3	4.974 MHz	46.8 dBµV	56 dBµV	-9.2 dB	Pass
4	1.005 MHz	48.84 dBµV	56 dBµV	-7.16 dB	Pass
5	2.441 MHz	46.14 dBµV	56 dBµV	-9.86 dB	Pass
6	721.58 kHz	48.91 dBµV	56 dBµV	-7.09 dB	Pass

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status
1	4.187 MHz	33.58 dBµV	46 dBµV	-12.42 dB	Pass
2	4.7 MHz	37.99 dBµV	46 dBµV	-8.01 dB	Pass
3	4.974 MHz	38.43 dBµV	46 dBµV	-7.57 dB	Pass
4	1.005 MHz	37.64 dBµV	46 dBµV	-8.36 dB	Pass
5	2.441 MHz	39.43 dBµV	46 dBµV	-6.57 dB	Pass
6	721.58 kHz	44.78 dBµV	46 dBµV	-1.22 dB	Pass