EMC TEST REPORT

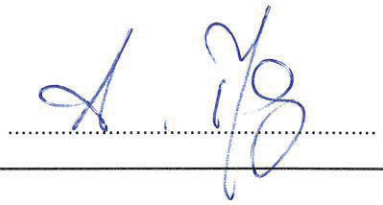
FCC CFR Title 47 / Chapter I / Subchapter A / Part 15 / Subpart B

ISED ICES-003 Issue 7

Report Reference No	G0M-2206-1512-EF0115B-V01
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	A2LA - Registration number: 1983.01 (ISED) ISED wireless device testing laboratory: CN 3470A DAkkS - Registration number : D-PL-12092-01-04 (FCC) FCC Filed Test Laboratory, Reg.-No.: 96970
Applicant	BIOTRONIK SE & Co. KG
Address	Woermannkehre 1 12359 Berlin GERMANY
Test Specification Standard(s)	FCC CFR Title 47 / Chapter I / Subchapter A / Part 15 / Subpart B ISED ICES-Gen Issue 1; Amendment 1 (February 2021) ISED ICES-003 Issue 7 ANSI C63.4:2014+A1:2017
Non-Standard Test Method	None
Equipment under Test (EUT):	
Product Description	Data Gateway for Electrophysiology Lab
Model(s)	Qubic Connect
Additional Model(s)	None
Brand Name(s)	BIOTRONIK
Hardware Version(s)	A.A
Software Version(s)	Wi-Fi Driver Version: 22.70.0.6, LTE Modem Firmware: 24.01.514
FCC-ID	QRI-QCONNECT
IC	4708A-QCONNECT
Test Result	**PASSED**

Possible 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	2022-06-15	

Report:		
Compiled by	Stefan Dose	
Tested by (+ signature) (Responsible for Test)	Stefan Dose	
Approved by (+ signature) (Test Lab Engineer)	Andreas Pflug	
Date of Issue	2022-10-26	
Total number of pages	91	

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.

Statement concerning the uncertainty of the measurement systems used for decisions on conformity (decision rule):

The Decision Rule is applied on the basis of CISPR16-4-2 and/or IEC61000-4-x (TR61000-1-6) and their national publications. These standards provide guidance on how to calculate and apply measurement uncertainty whilst providing maximum uncertainties allowance. In all cases due consideration will be given to ILAC-G8:09/2019.

Compliance or non-compliance with a disturbance limit is determined in the following manner.

- **If Ulab is less than or equal to Ucispr, then: compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit; non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.**
- **If Ulab is greater than Ucispr, then: compliance is deemed to occur if no measured disturbance level, increased by (Ulab – Ucispr), exceeds the disturbance limit; non-compliance is deemed to occur if any measured disturbance level, increased by (Ulab – Ucispr), exceeds the disturbance limit.**

Where appropriate for the test, for example for EMC pulsed immunity tests, the laboratory has demonstrated, by calibrating its equipment and facilities, that it complies with the above requirements and therefore no allowance of uncertainties has been given to the tolerances.

Additional Comments:

None

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	2022-10-26	Initial Release	-

REPORT INDEX

1 Equipment (Test Item) Under Test

Description	Data Gateway for Electrophysiology Lab		
Intended Use	Qubic Connect is a data gateway for an electrophysiology lab that supports transmission over Wi-Fi, LTE and Ethernet.		
Model	Qubic Connect		
Additional Model(s)	None		
Brand Name(s)	BIOTRONIK		
Hardware Version(s)	A.A		
Software Version(s)	Wi-Fi Driver Version: 22.70.0.6, LTE Modem Firmware: 24.01.514		
Number of tested samples	1		
Sample Identification	EUT #	Sample-ID	Serial Number
	EUT 1	40191	Prototype (#47)
EUT Dimensions in (WxHxD) [cm]	30 x 22.5 x 4.6		
FCC-ID	QRI-QCONNECT		
IC	4708A-QCONNECT		
Class	Class B		
Equipment type	Table top		
Highest internal frequency [MHz]	5825 (WLAN Channel 165)		
Protection class	I		
Radio Module 1	Type	Mobile Communication Module (LTE)	
	Model	LM940	
	Manufacturer	Telit	
	FCC-ID	RI7LM940	
	IC	5131A-LM940	
Radio Module 2	Type	IEEE 802.11 radio module	
	Model	AX210NGW	
	Manufacturer	Intel	
	FCC-ID	PD9AX210NG	
	IC	1000M-AX210NG	
Supply Voltage	V_{NOM}	12 VDC (via dedicated AC/DC adaptor)	
AC/DC-Adaptor	Model	AKM65US12	
	Vendor	XP Power	
	Input	100-240VAC, 50-60Hz	
	Output	12VDC	
Antenna 1 / 2	Model	88977	
	Manufacturer	Delock	
Manufacturer	BIOTRONIK SE & Co. KG Woermannkehre 1 12359 Berlin GERMANY		

1.1 Equipment Ports

Name	Type	Attributes		Comment
Power	AC	Count: Cable length [m]: Direction: Service only: Shielded:	1 1 IN No No	1m from AC-plug to ac/dc adapter and 1m from ac/dc-adaptor to EUT housing
Ethernet	IO	Count: Cable length [m]: Direction: Service only: Shielded:	5 various[*1] IO No No	1 port “LAN” for LAN connection 4 ports “DEVICE” for connection of other network compatible devices [*1] further information in chapter 1.6 “EUT Configuration” and specific test case
USB	IO	Count: Cable length [m]: Direction: Service only: Shielded:	1 0 IO Yes Yes	During the tests, this port was not used.
Antenna	IO	Count:	2	

Description:	
AC	AC mains power input/output port
DC	DC power input/output port
BAT	DC power input port connected to external battery
IO	Input/Output port
TP	Telecommunication port
NE	Non-electrical port

1.4 Support Equipment

Product Type	Device	Manufacturer	Model	Comment
AE	Notebook	Dell Inc.	Latitude E6420	provided by customer
AE	single-board computer	Raspberry Pi Foundation	Raspberry Pi 4 Model B (2GB RAM)	provided by customer (4 pieces)
AE	WLAN Router	AVM	FRITZ!Box 4040	provided by customer
CBL	Ethernet cable	unspecified	unspecified	provided by customer
AE	SIM Card	Comprion	form factor 2FF	provided by Eurofins
SIM	Radio Communication Tester	R&S	CMW290	provided by Eurofins EF01367
Description: -				
AE	Auxiliary Equipment			
SIM	Simulator			
MON	Monitoring Equipment			
CBL	Connecting Cable			
Comment: -				

1.5 Operational Modes

Mode #	Description
1	LTE Tx (FDD 25, channel 26365)
2	WLAN 2.4GHz Tx (channel 11 - 2462 MHz)
3	WLAN 5GHz Tx (channel 48 - 5240 MHz)
4	WLAN 5GHz Tx (channel 64 - 5320 MHz)
5	WLAN 5GHz Tx (channel 116 - 5580 MHz)
Comment: -LTE band 25 worst case	

1.6 EUT Configuration

Configuration #	Description
1	EUT is powered via dedicated AC/DC-adaptor (120VAC/60Hz). 4x Raspberry Pi 4 are connected via Ethernet cable (4x shielded Cat5.E, each with a length of 3m) to the Ethernet ports called “DEVICE”. The Notebook (Ethernet port is shielded) is connected to EUT’s Ethernet port "LAN", a shielded Cat6 cable is used for this purpose. The length is specified in the result table of the corresponding test case. Antenna ports connected to PE via AC/DC-adapter. Depending on the operating mode, the RF connection is realised via a WLAN router or via a radio communication tester. Both technologies do not work simultaneously, the unused technology must be deactivated via the windows interface of the EUT. The respective WLAN channels are selected via the Fritz!Box interface. Using a remote desktop connection from the notebook, 5 ping commands are executed on the EUT desktop (each with 32 bytes of data): one ping command to each of the raspberry pi 4 (for traffic on the LAN connection) and another to the Fritz!Box (for traffic via the WLAN connection). In the case of operating mode 1, there is no ping to the Fritz!Box.
Comment: LED board on the front of the EUT did not have full functionality (only "BIOCLOUD" LED flashing, all other LEDs not active).	

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 analyser in dBµV. Any external preamplifiers used are taken into account through internal analyser 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 analyser. 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 Analyser (dBµV) + A.F. (dB/m) = 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/m	= 47.5 dBµV/m	:	47.5 dBµV/m - 57.0 dBµV/m	= -9.5 dB

2 Result Summary

Title 47 CFR Part 15B, ISED ICES-003 Issue 7				
Reference	**Requirement**	**Reference Method**	**Result**	**Remarks**
Emission				
FCC 15.109 ICES-003, 3.2.2	Radiated emissions	ANSI C63.4:2014 +A1:2017	PASS	-
FCC 15.107 ICES-003, 3.2.1	AC power line conducted emissions	ANSI C63.4:2014 +A1:2017	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

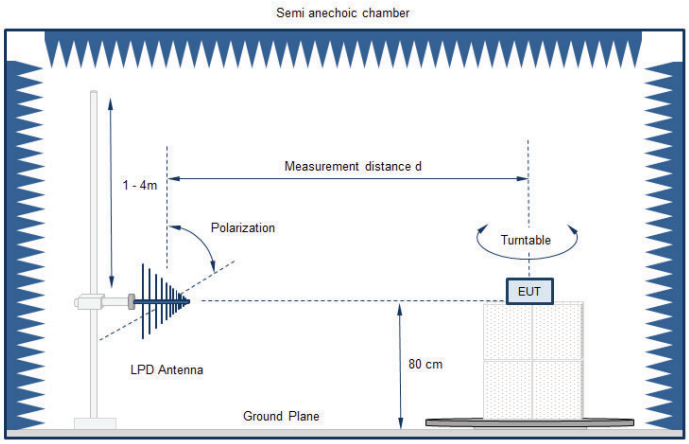
2.1 Test Conditions and Results - Radiated emissions acc. to ANSI C63.4

2.1.1 Information

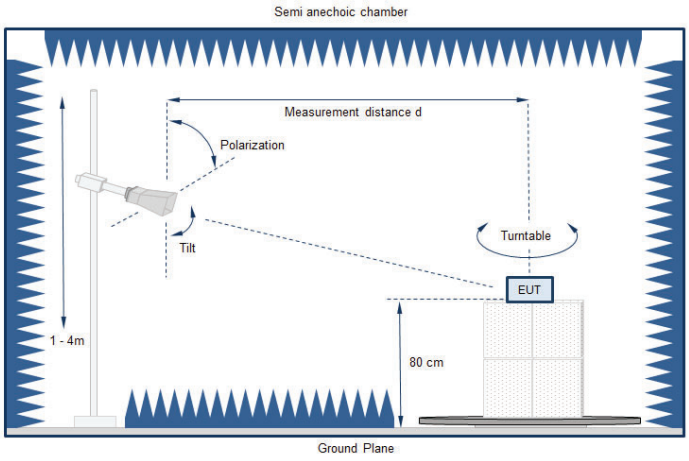
Test Information	
Reference	FCC 15.109, ICES-003, 3.2.2
Reference method	ANSI C63.4:2014+A1:2017 Section 8
Equipment class	Class B
Equipment type	Table top
Highest internal frequency [MHz]	5825 (WLAN Channel 165)
Measurement range	30 MHz to 30 GHz
Temperature [°C]	21±2
Humidity [%]	55±10
Operator	Stefan Dose
Date	2022-09-12 and 2022-09-16

2.1.2 Setup

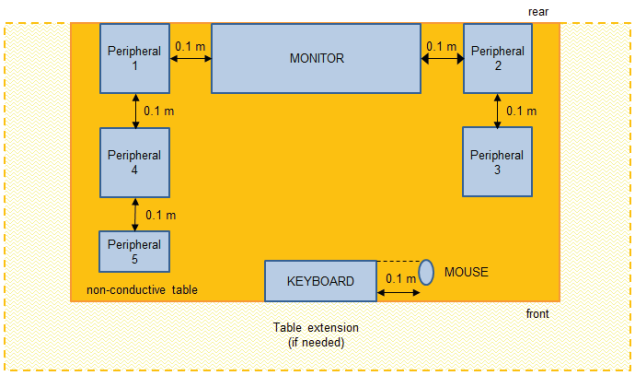
Measurement up to 1 GHz



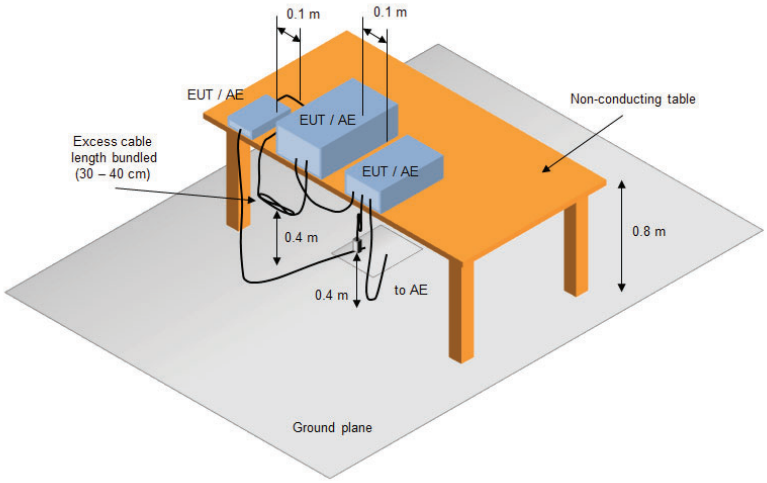
Measurement above 1 GHz



Equipment placement - Table top



Test Setup



2.1.3 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	Radimation	2020.1.8

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic chamber (NSA)	Frankonia	AC1	EF00062	2021-02	2024-02
Anechoic chamber (SVSWR)	Frankonia	AC 1	EF01011	2022-06	2025-06
Programmable AC Source	Chroma ATE Inc.	61604	EF01068	2021-07	2023-07
EMI Test Receiver	Keysight	N9038A-526/WXP	EF01070	2021-07	2023-01
EMI Test Receiver	R&S	ESR7	EF00943	2022-07	2023-07
Spectrum analyser	R&S	FSU43	EF01631	2022-08	2023-08
Biconical Antenna	R&S	HK 116	EF00030	2021-05	2024-05
LPD Antenna	R&S	HL 223	EF00187	2022-06	2025-06
Horn Antenna	Schwarzbeck	BBHA9120D	EF00018	2019-10	2022-10
40GHz High Gain Antenna	Amplifier Research	AT4560	EF00302	2021-06	2023-06
40GHz Standard Gain Horn Antenna with Amplifier	Flann Microwave Ltd	22240-25 Amp. CBL26402075	EF00301	2019-12	2022-12
Climatic Sensor	Embedded Data Systems, LLC.	2800100000254 17E	EF01054	2022-04	2023-04
Comment: -					

Use of the measurement device in which operation mode and frequency range

	mode 1	mode 2	mode 3	mode 4	mode 5
30 – 200 MHz	a	a	b	a	a
200 – 1000 MHz	a	a	b	a	a
1 – 17 GHz	c	c	c	c	c
17 – 26.5 GHz	c	c	c	c	c
26.5 – 30 GHz	c	c	c	c	c

a) EMI Test Receiver N9038A-526/WXP (EF01070)
b) EMI Test Receiver ESR7 (EF00943)
c) Spectrum analyser FSU43 (EF01631)

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 2.1.2

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

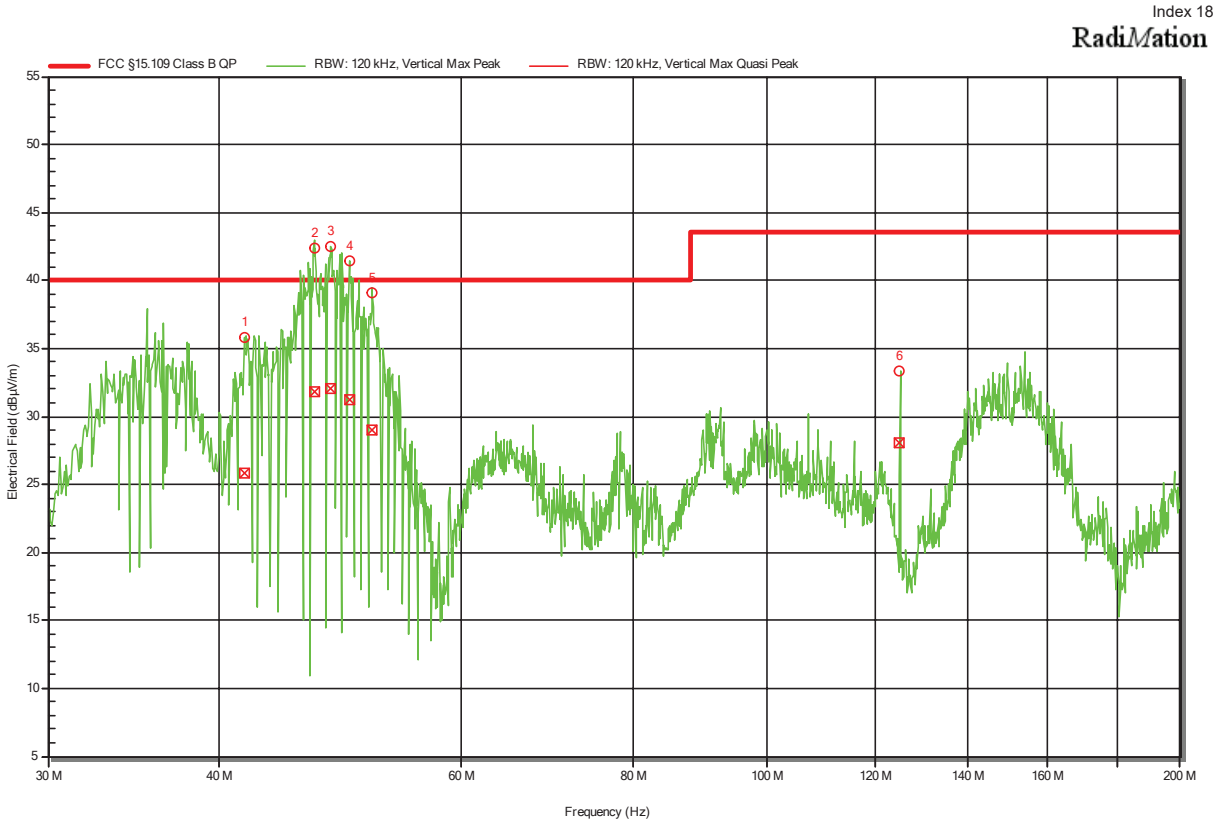
2.1.6 Results

Test Results			
Operational mode	EUT Configuration	Verdict	Remark
1	1	PASS	-
2	1	PASS	-
3	1	PASS	-
4	1	PASS	-
5	1	PASS	-
Comment: A 20m long Ethernet cable connected to “LAN”-Port was used. This cable was routed under the table on the ground plane to the wall of the chamber, where it was routed directly outside to the notebook (without being grounded at any further point).			

2.1.8 Records

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-12
Operating Conditions:	ambient temperature: 20 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement Distance:	3m
Operational Mode:	1
EUT Configuration:	1
Note 1:	



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	41.701 MHz	25.84 dBµV/m	40 dBµV/m	-14.16 dB	Pass	-165 degrees	1 m
2	46.922 MHz	31.8 dBµV/m	40 dBµV/m	-8.2 dB	Pass	-165 degrees	1 m
3	48.188 MHz	32.1 dBµV/m	40 dBµV/m	-7.9 dB	Pass	-165 degrees	1 m
4	49.682 MHz	31.27 dBµV/m	40 dBµV/m	-8.73 dB	Pass	-165 degrees	1 m
5	51.651 MHz	29.02 dBµV/m	40 dBµV/m	-10.98 dB	Pass	-165 degrees	1 m
6	124.997 MHz	28.04 dBµV/m	43.52 dBµV/m	-15.48 dB	Pass	-165 degrees	1 m

Radiated emissions
according to FCC part 15B

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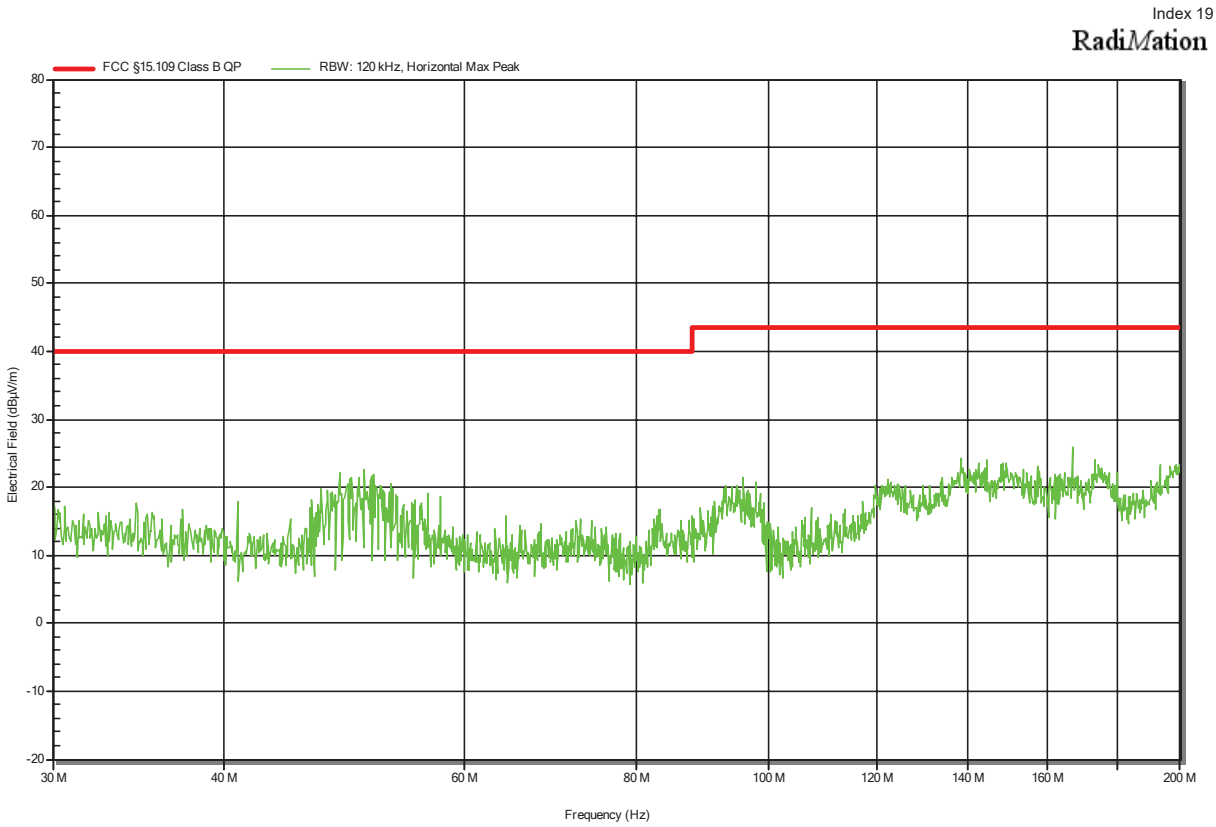
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-12
Operating Conditions:	ambient temperature: 20 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement Distance:	3m
Operational Mode:	1
EUT Configuration:	1
Note 1:	angle -50°, high 1m



Radiated emissions
according to FCC part 15B

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Operator:	Mr. Dose
Test Date:	2022-09-12
Operating Conditions:	ambient temperature: 20 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement Distance:	3m
Operational Mode:	1
EUT Configuration:	1
Note 1:	

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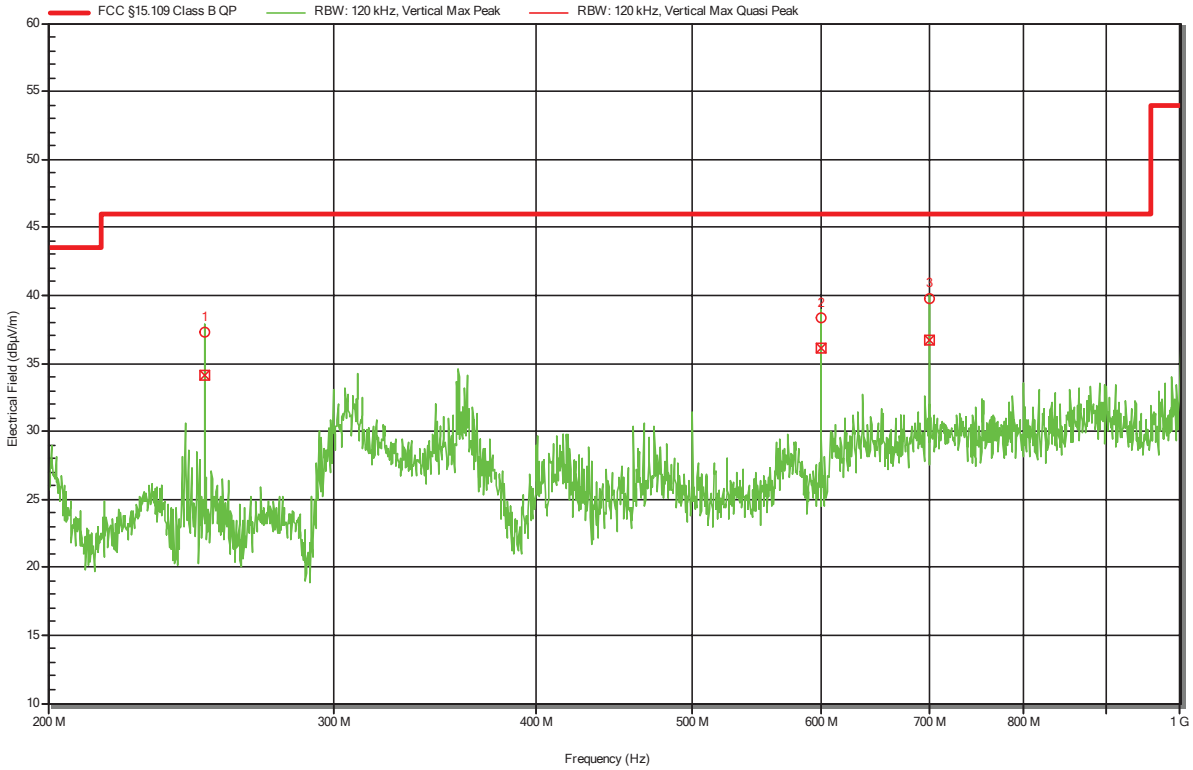
RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	249.993 MHz	34.08 dBµV/m	46.02 dBµV/m	-11.94 dB	Pass	-145 degrees	1 m
2	600.006 MHz	36.17 dBµV/m	46.02 dBµV/m	-9.85 dB	Pass	-145 degrees	1 m
3	700.011 MHz	36.65 dBµV/m	46.02 dBµV/m	-9.37 dB	Pass	-145 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
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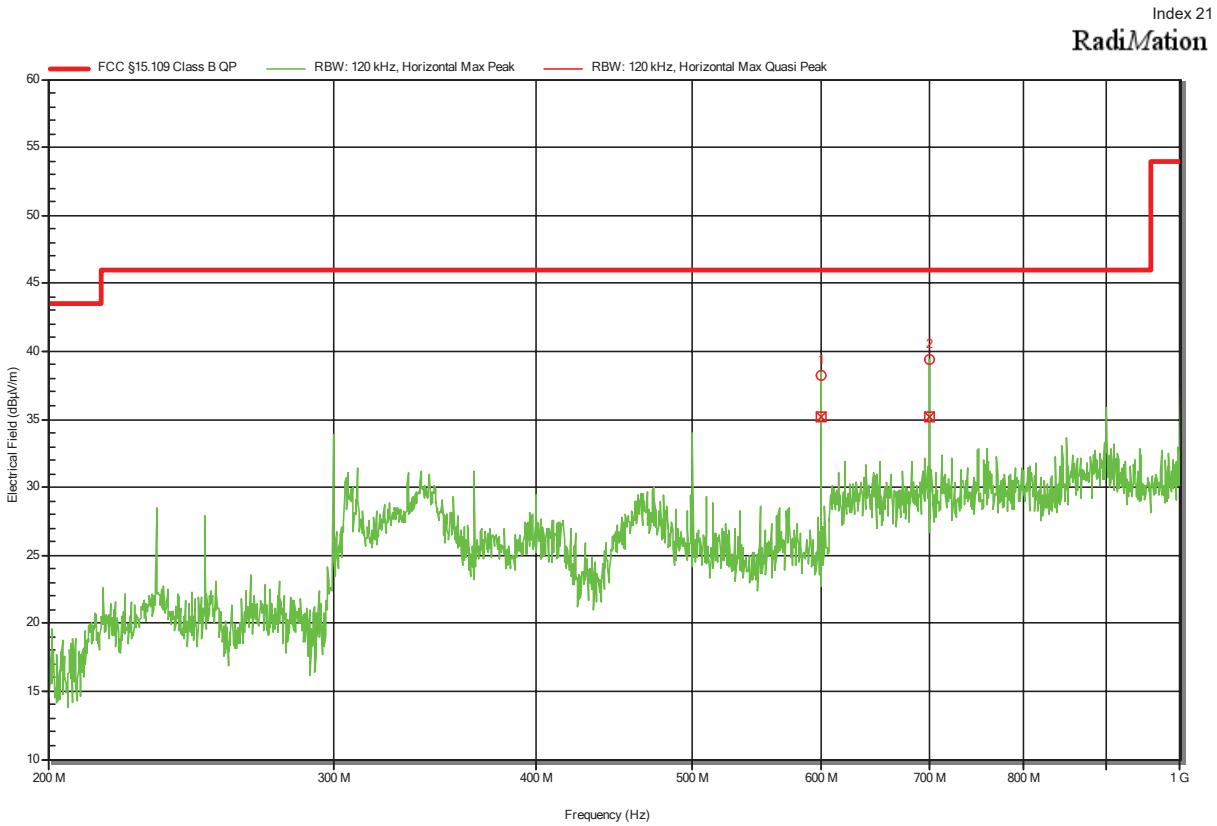
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-12
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement Distance:	3m
Operational Mode:	1
EUT Configuration:	1
Note 1:	



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	600.006 MHz	35.22 dBµV/m	46.02 dBµV/m	-10.8 dB	Pass	-165 degrees	1 m
2	700.017 MHz	35.15 dBµV/m	46.02 dBµV/m	-10.87 dB	Pass	-165 degrees	1 m

Radiated emissions
according to FCC part 15B

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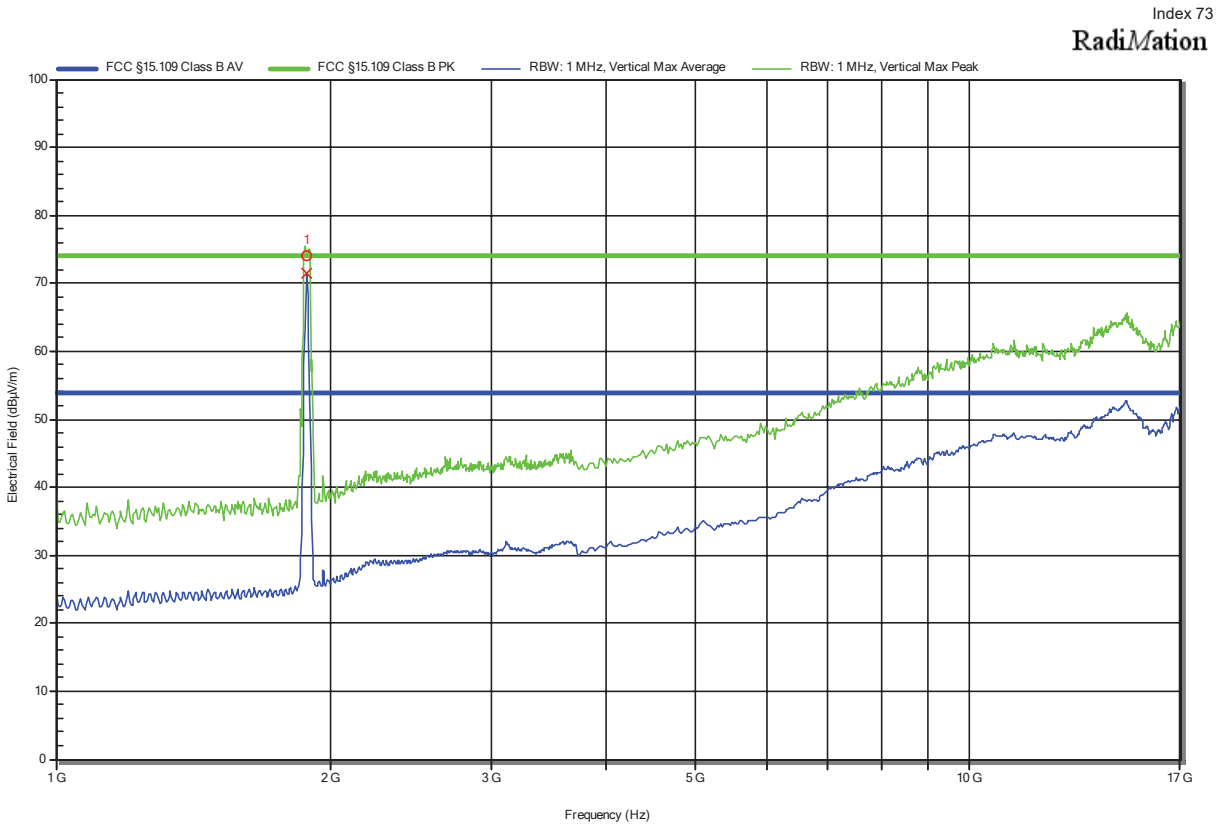
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 20 °Celsius power input: 120VAC/60Hz
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement Distance:	3m
Operational Mode:	1
EUT Configuration:	1
Note 1:	



Peak Number	Frequency		Angle	Height
1	1.883 GHz	LTE carrier	0 degrees	1 m

Radiated emissions
according to FCC part 15B

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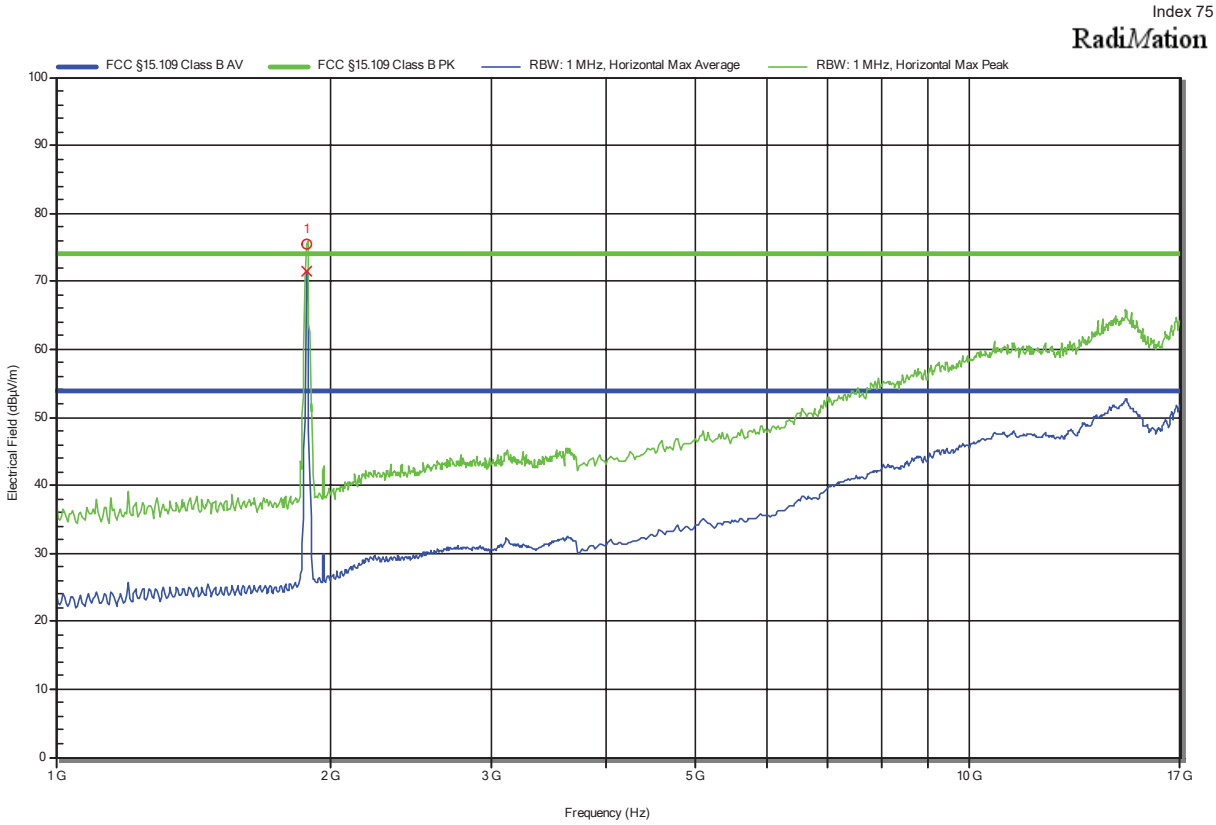
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 20 °Celsius power input: 120VAC/60Hz
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement Distance:	3m
Operational Mode:	1
EUT Configuration:	1
Note 1:	



Peak Number	Frequency		Angle	Height
1	1.883 GHz	LTE carrier	0 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
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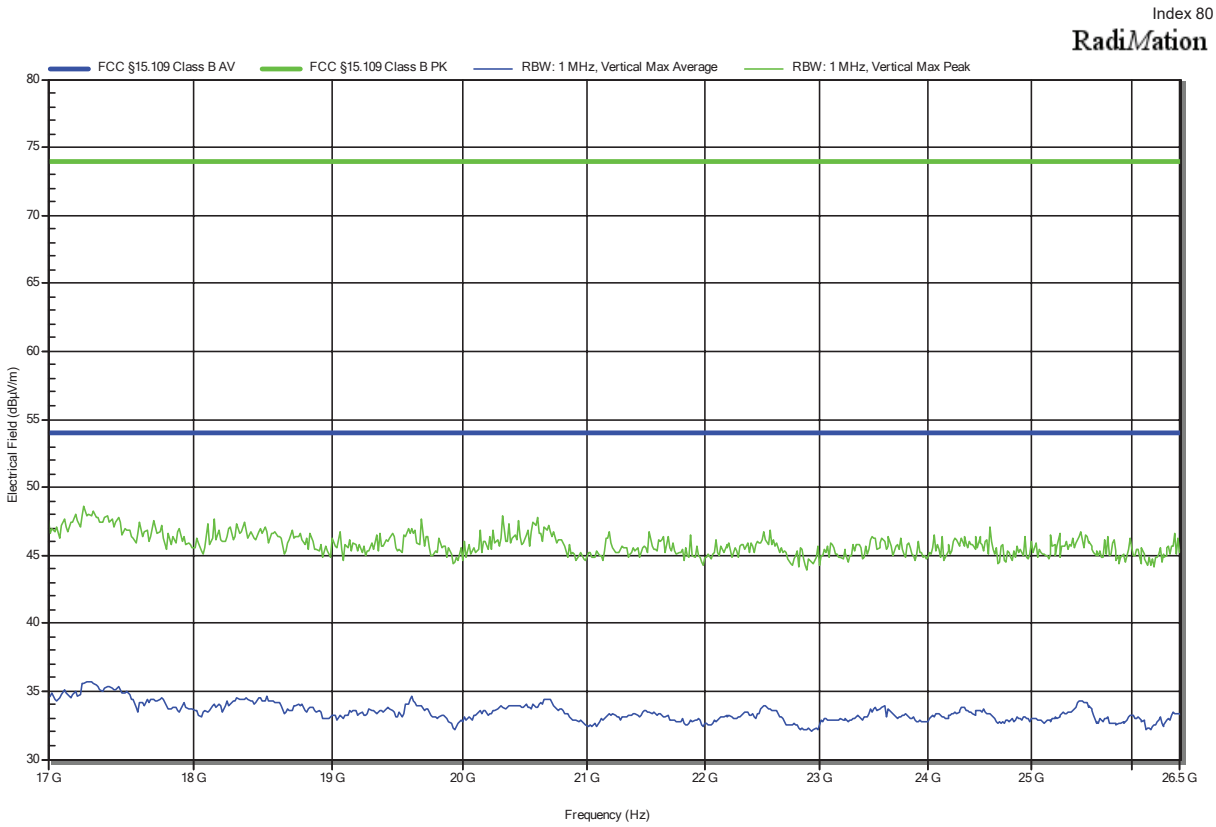
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Amplifier Research AT4560, Vertical
Measurement Distance:	3m
Operational Mode:	1
EUT Configuration:	1
Note 1:	angle 0°, high 1m



Radiated emissions
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Operator:	Mr. Dose
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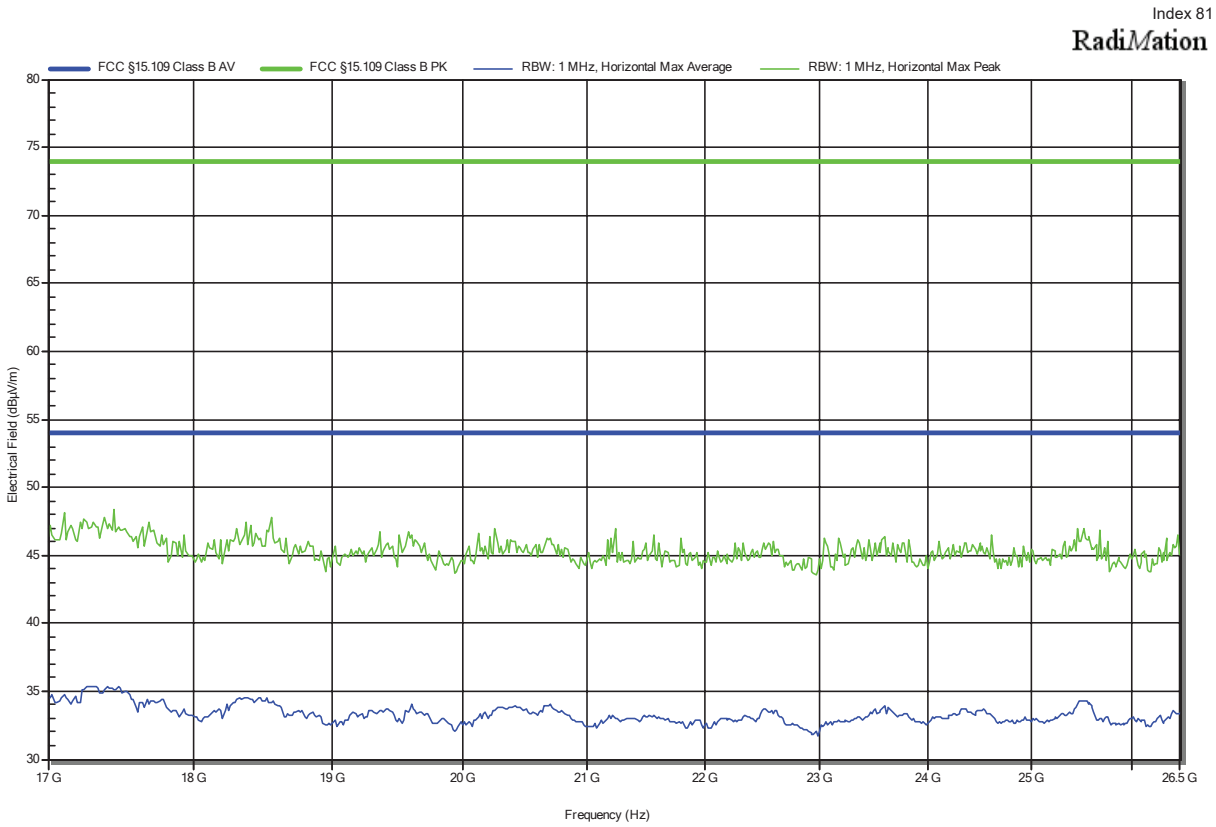
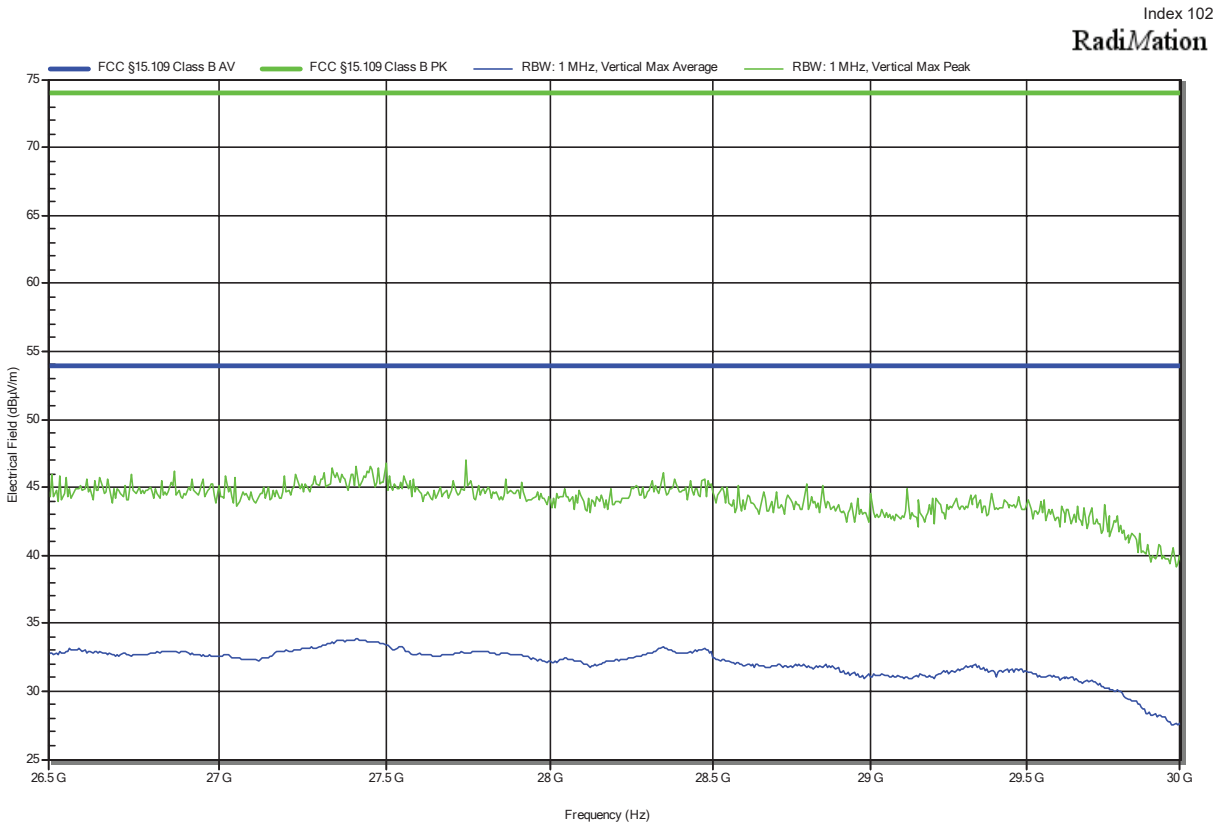
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Amplifier Research AT4560, Horizontal
Measurement Distance:	3m
Operational Mode:	1
EUT Configuration:	1
Note 1:	angle 0°, high 1m



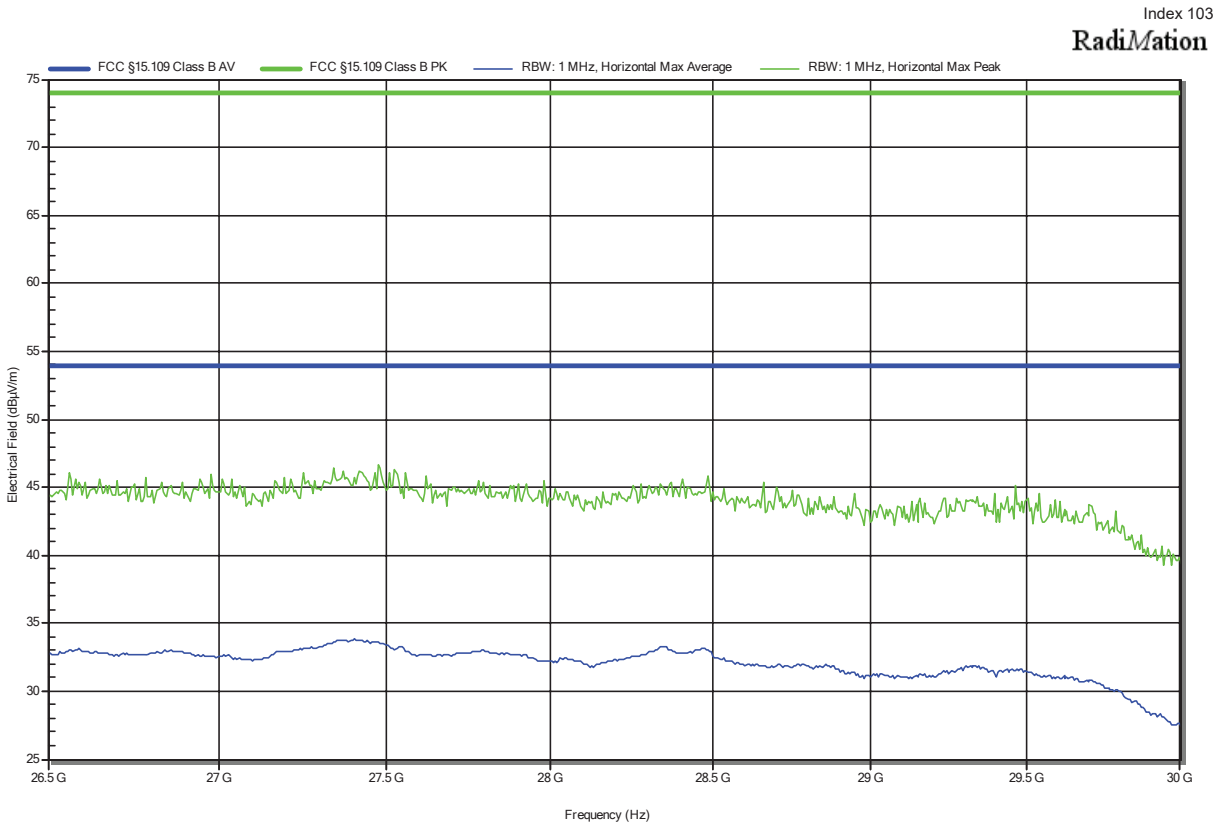
Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
Antenna:	Configurable Antenna, Vertical
Measurement Distance:	3m
Operational Mode:	1
EUT Configuration:	1
Note 1:	angle 0°, high 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
Antenna:	Configurable Antenna, Horizontal
Measurement Distance:	3m
Operational Mode:	1
EUT Configuration:	1
Note 1:	angle 0°, high 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-12
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement Distance:	3m
Operational Mode:	2
EUT Configuration:	1
Note 1:	

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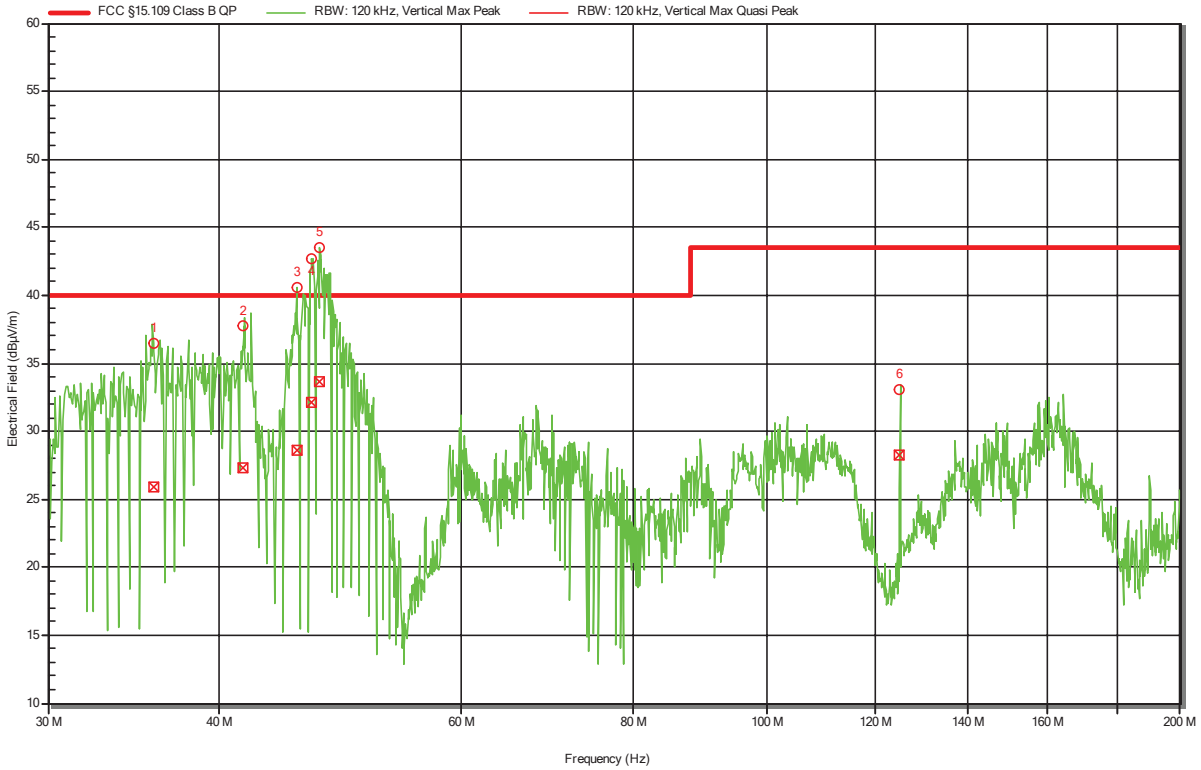
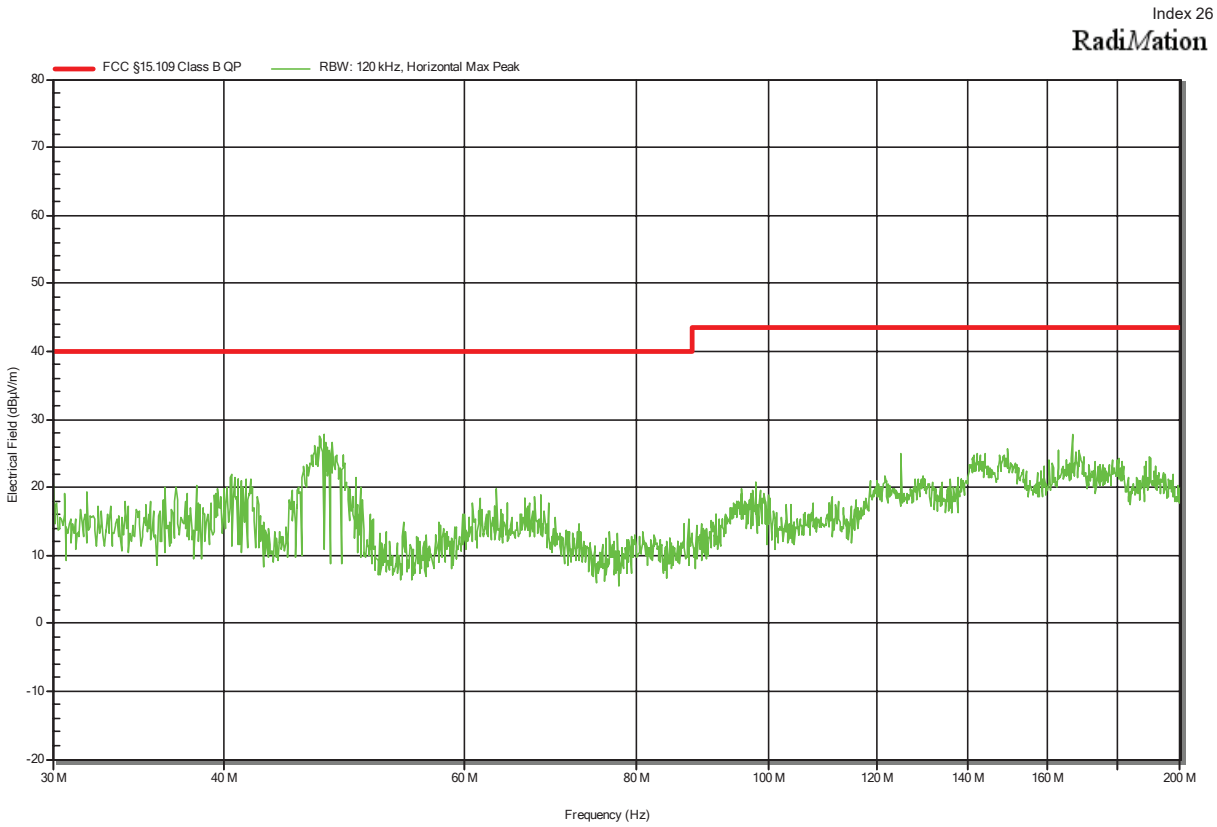
RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	35.791 MHz	25.92 dBµV/m	40 dBµV/m	-14.08 dB	Pass	-180 degrees	1 m
2	41.647 MHz	27.26 dBµV/m	40 dBµV/m	-12.74 dB	Pass	-180 degrees	1 m
3	45.518 MHz	28.58 dBµV/m	40 dBµV/m	-11.42 dB	Pass	-180 degrees	1 m
4	46.7 MHz	32.13 dBµV/m	40 dBµV/m	-7.87 dB	Pass	-180 degrees	1 m
5	47.306 MHz	33.68 dBµV/m	40 dBµV/m	-6.32 dB	Pass	-180 degrees	1 m
6	124.997 MHz	28.22 dBµV/m	43.52 dBµV/m	-15.3 dB	Pass	-180 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-12
Operating Conditions:	ambient temperature: 23 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement Distance:	3m
Operational Mode:	2
EUT Configuration:	1
Note 1:	angle -155°, height 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-12
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement Distance:	3m
Operational Mode:	2
EUT Configuration:	1
Note 1:	

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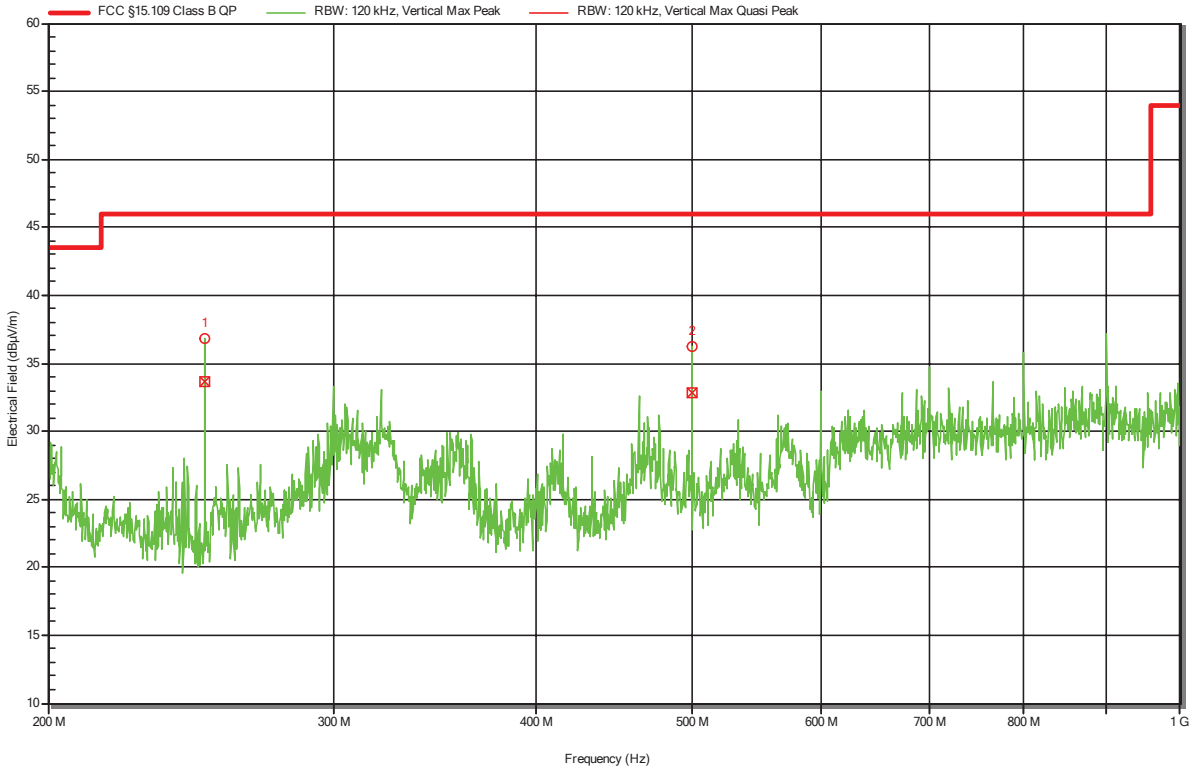
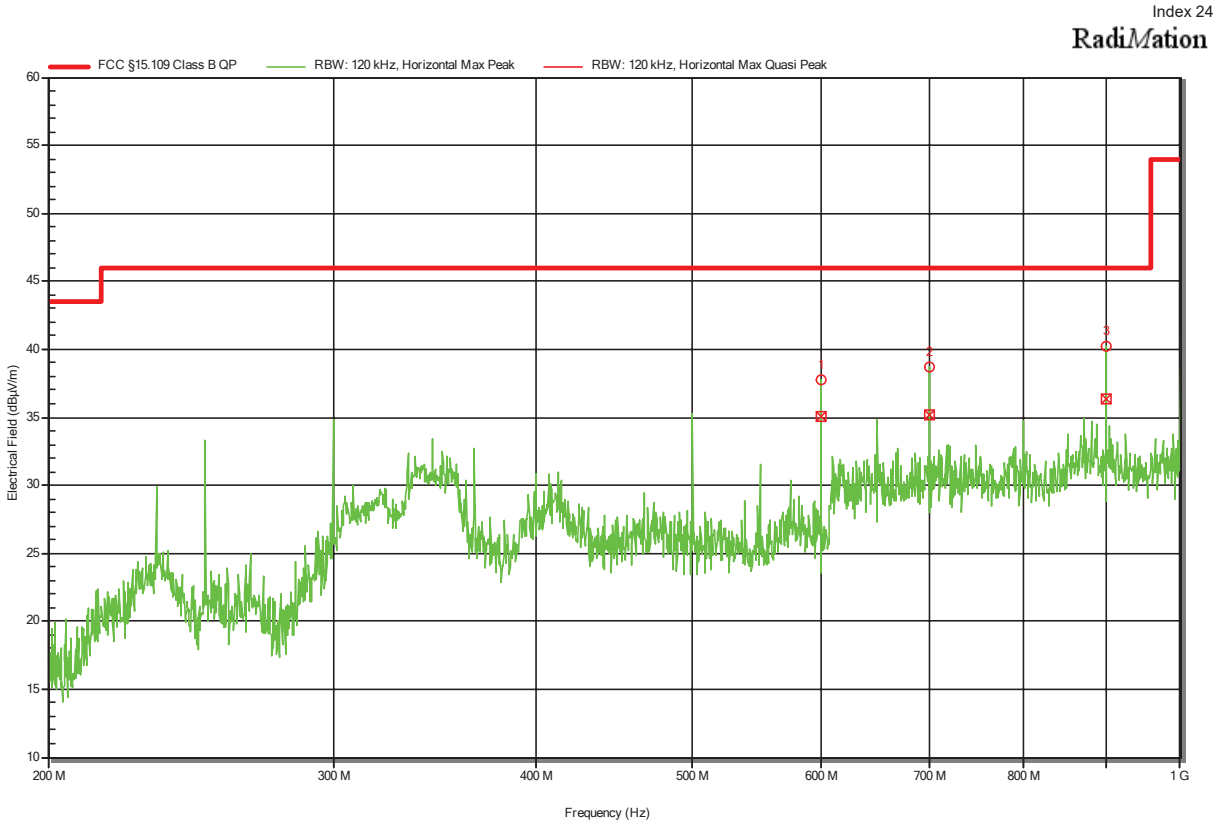
RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	249.993 MHz	33.69 dBµV/m	46.02 dBµV/m	-12.33 dB	Pass	-140 degrees	1 m
2	499.995 MHz	32.87 dBµV/m	46.02 dBµV/m	-13.16 dB	Pass	-140 degrees	1 m

Radiated emissions
according to FCC part 15B

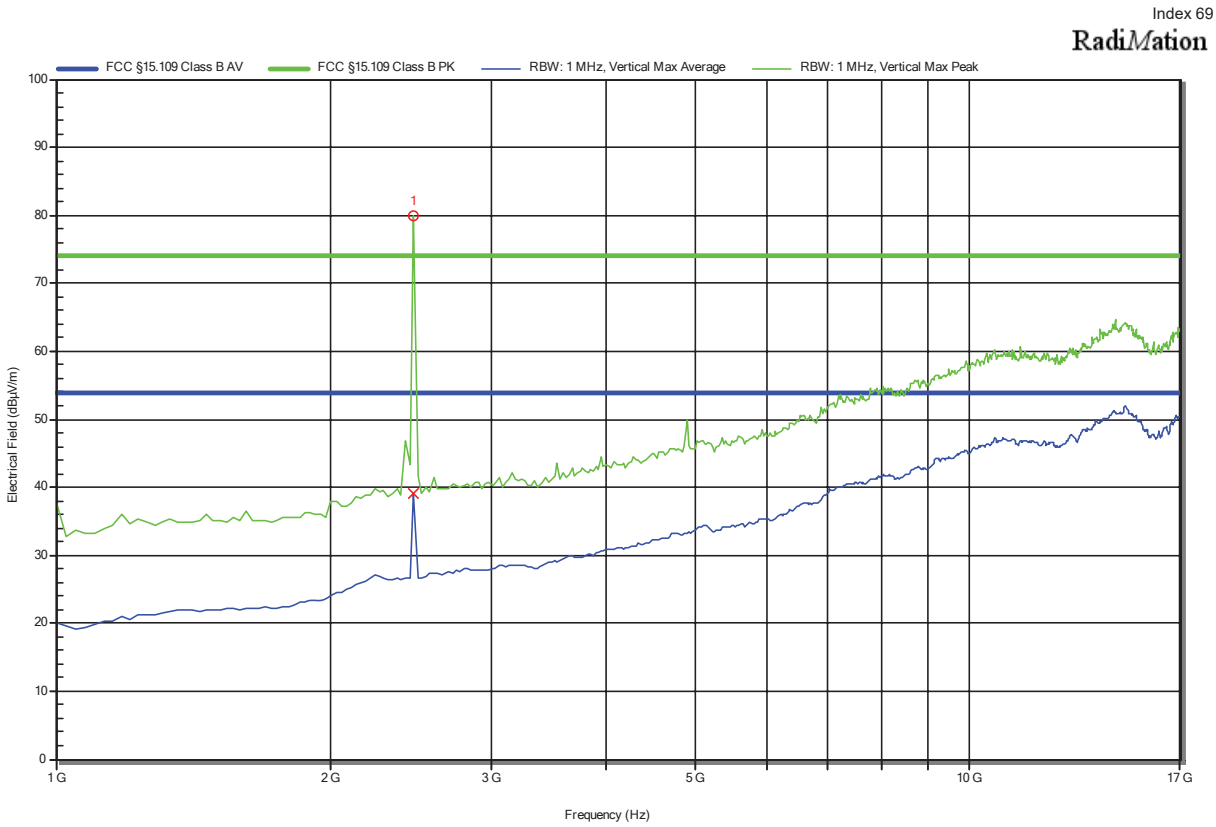
Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-12
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement Distance:	3m
Operational Mode:	2
EUT Configuration:	1
Note 1:	



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	600.006 MHz	35.05 dBµV/m	46.02 dBµV/m	-10.97 dB	Pass	-170 degrees	1 m
2	700.017 MHz	35.15 dBµV/m	46.02 dBµV/m	-10.87 dB	Pass	-170 degrees	1 m
3	900.014 MHz	36.33 dBµV/m	46.02 dBµV/m	-9.69 dB	Pass	-170 degrees	1 m

Radiated emissions
according to FCC part 15B

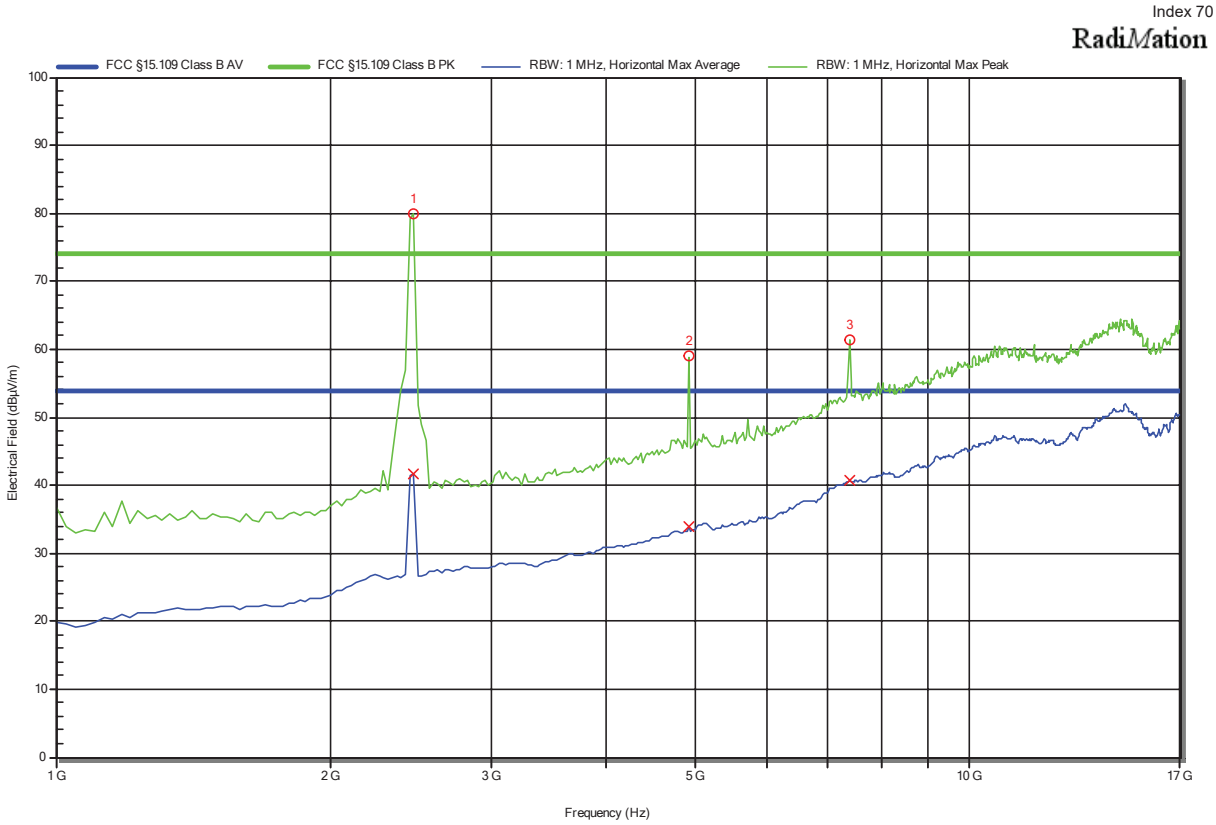
Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 20 °Celsius power input: 120VAC/60Hz
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement Distance:	3m
Operational Mode:	2
EUT Configuration:	1
Note 1:	



Peak Number	Frequency		Angle	Height
1	2.462 GHz	WLAN carrier	0 degrees	1 m

Radiated emissions
according to FCC part 15B

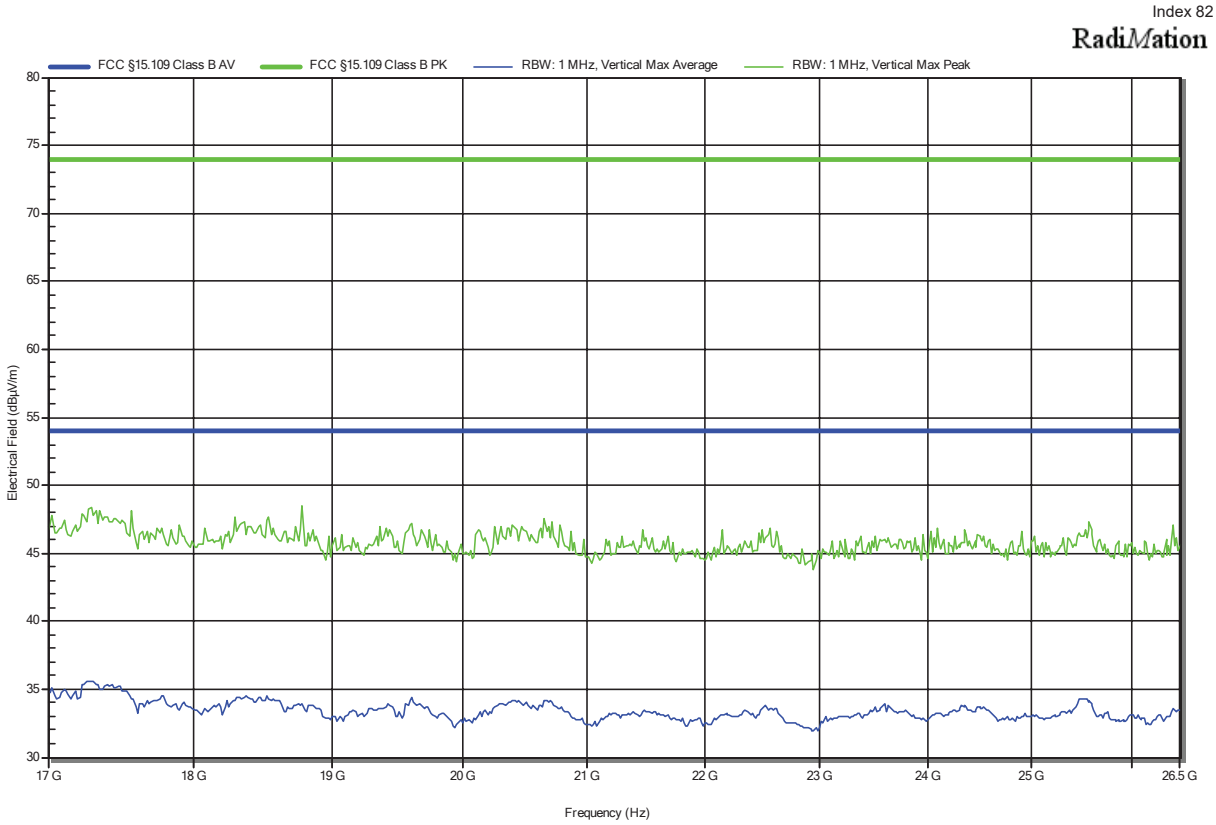
Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 20 °Celsius power input: 120VAC/60Hz
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement Distance:	3m
Operational Mode:	2
EUT Configuration:	1
Note 1:	



Peak Number	Frequency		Angle	Height
1	2.462 GHz	WLAN 2.4GHz carrier	0 degrees	1 m
2	4.923 GHz	WLAN 2.4 GHz carrier 2nd harmonic	0 degrees	1 m
3	7.385 GHz	WLAN 2.4GHz carrier 3rd harmonic	0 degrees	1 m

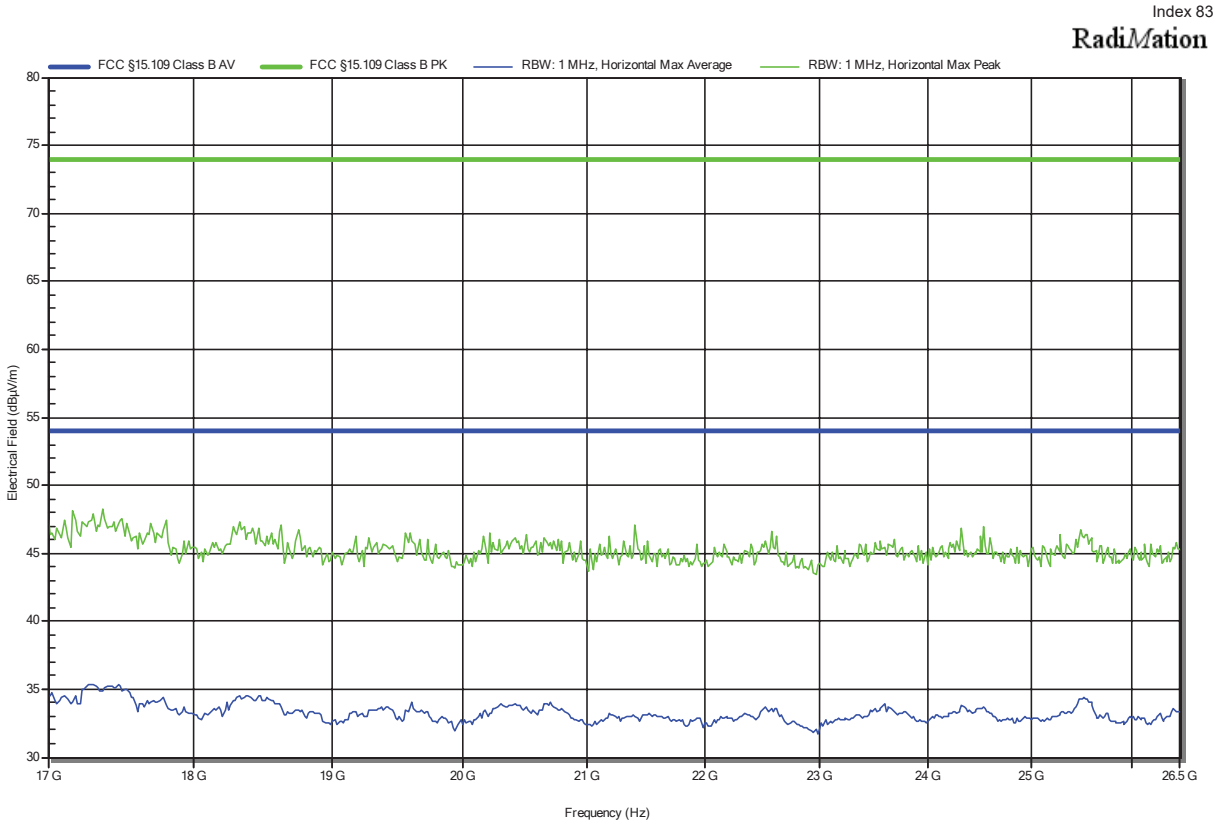
Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Amplifier Research AT4560, Vertical
Measurement Distance:	3m
Operational Mode:	2
EUT Configuration:	1
Note 1:	angle 0°, height 1m



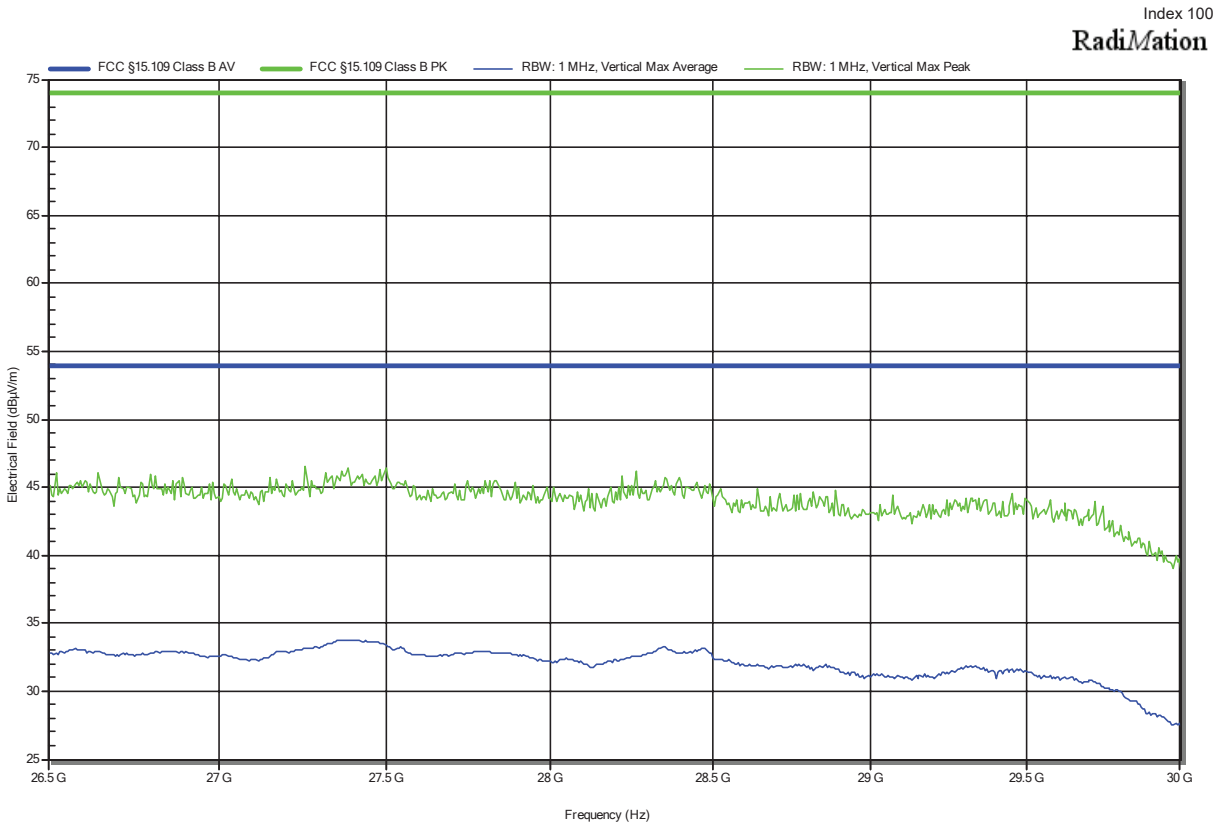
Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Amplifier Research AT4560, Horizontal
Measurement Distance:	3m
Operational Mode:	2
EUT Configuration:	1
Note 1:	angle 0°, height 1m



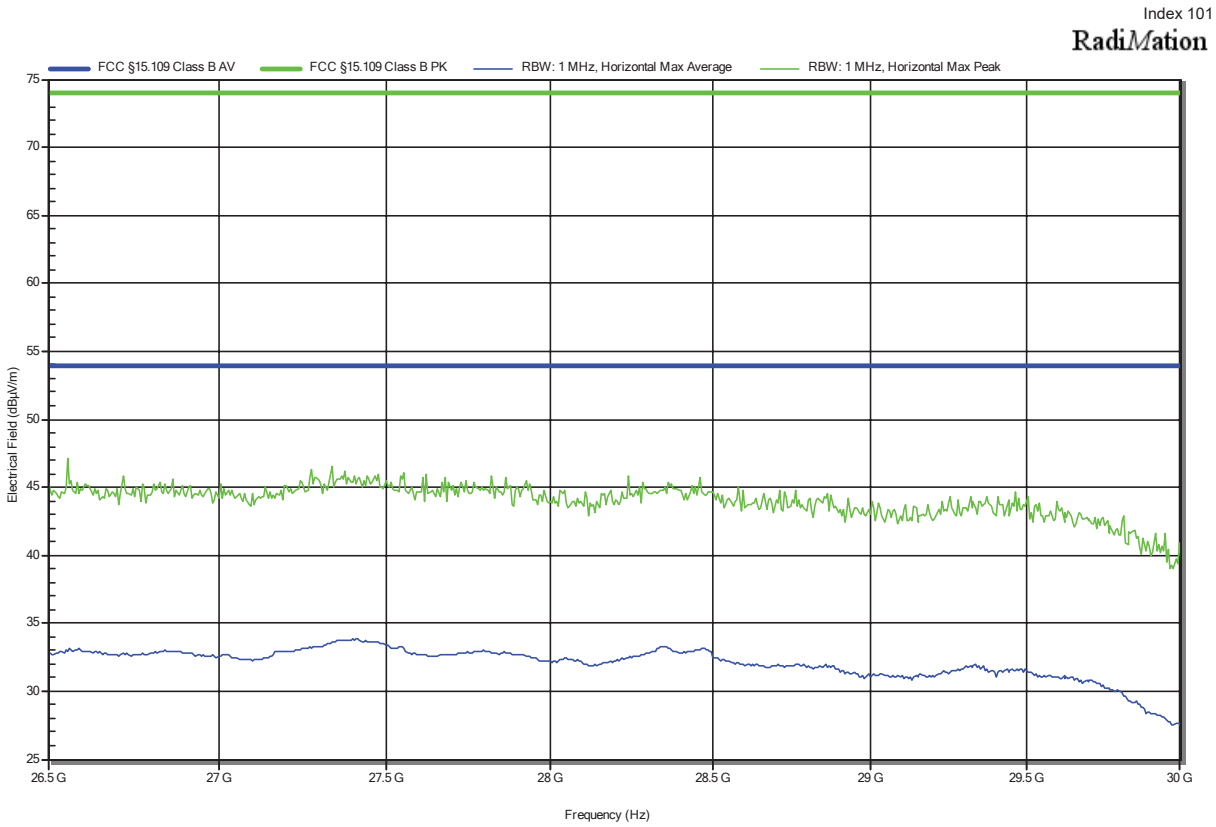
Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
Antenna:	Configurable Antenna, Vertical
Measurement Distance:	3m
Operational Mode:	2
EUT Configuration:	1
Note 1:	angle 0°, height 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
Antenna:	Configurable Antenna, Horizontal
Measurement Distance:	3m
Operational Mode:	2
EUT Configuration:	1
Note 1:	angle 0°, height 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-13
Operating Conditions:	ambient temperature: 23 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement Distance:	3m
Operational Mode:	3
EUT Configuration:	1
Note 1:	

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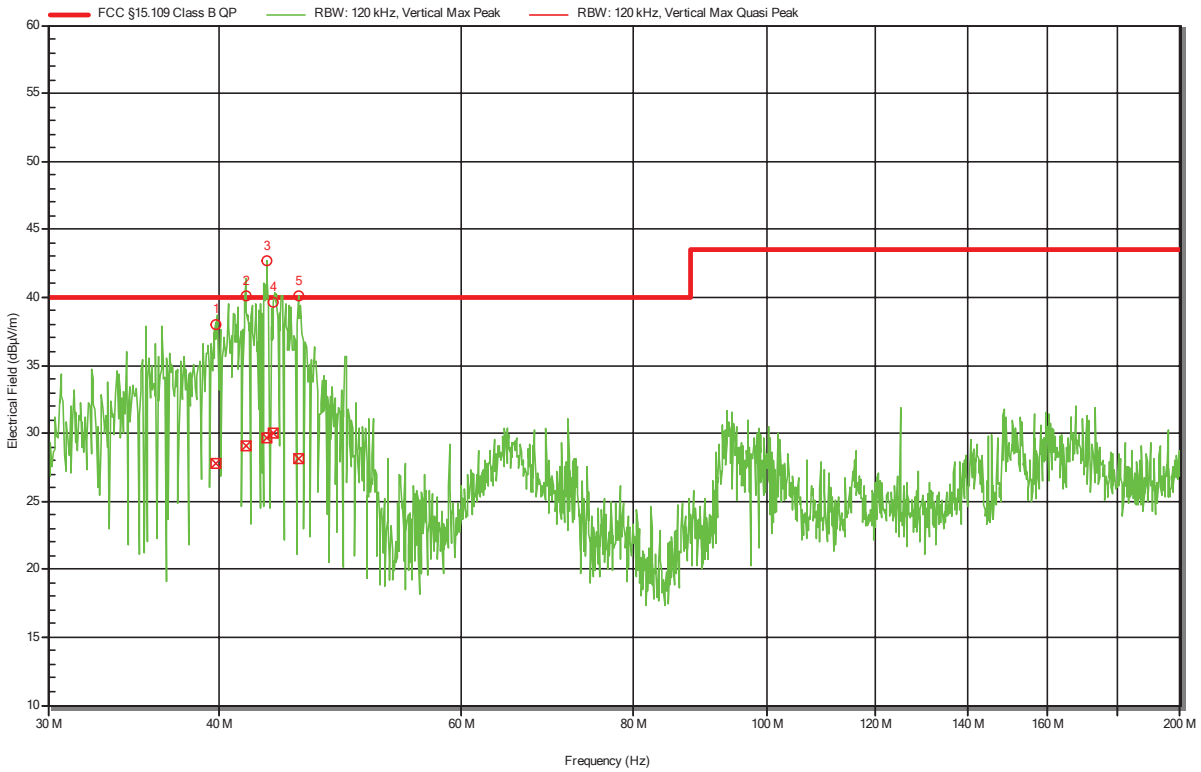
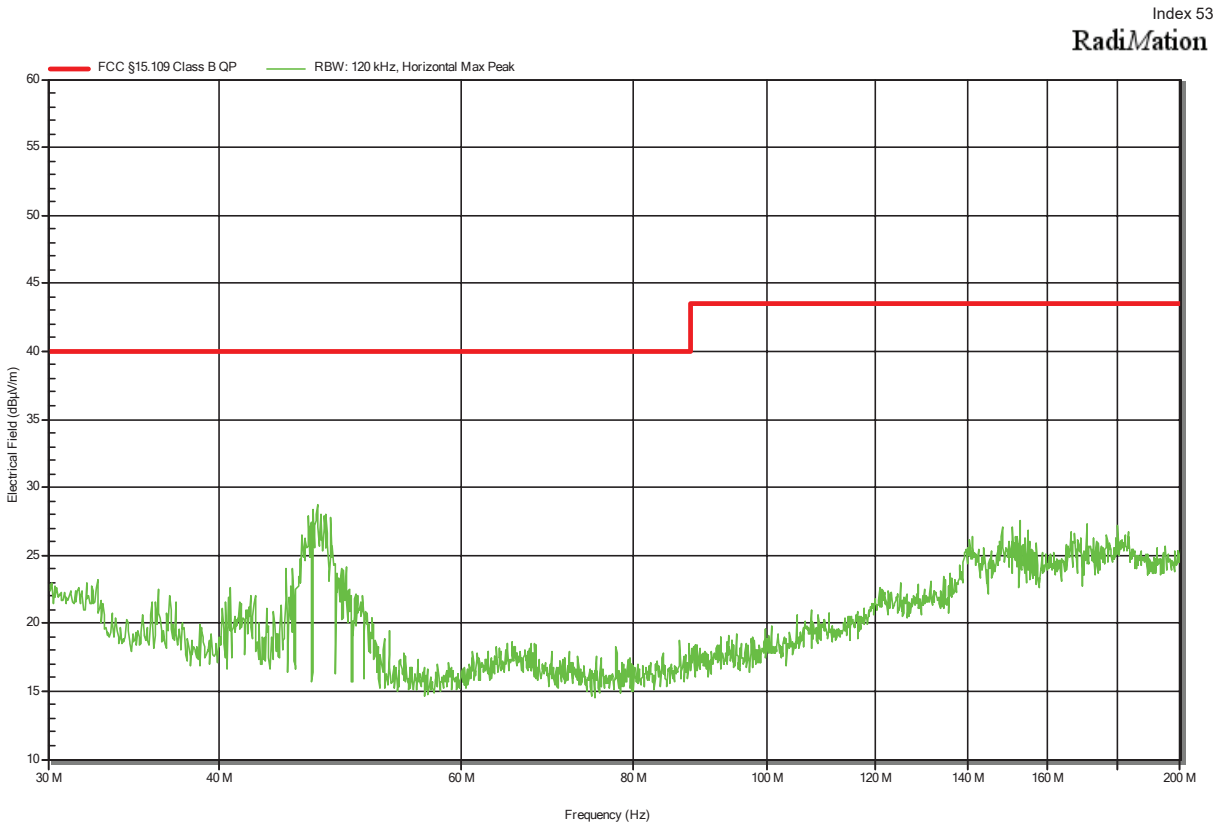
RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	39.781 MHz	27.76 dBµV/m	40 dBµV/m	-12.24 dB	Pass	-160 degrees	1 m
2	41.767 MHz	29.08 dBµV/m	40 dBµV/m	-10.92 dB	Pass	-160 degrees	1 m
3	43.292 MHz	29.63 dBµV/m	40 dBµV/m	-10.37 dB	Pass	-160 degrees	1 m
4	43.772 MHz	29.98 dBµV/m	40 dBµV/m	-10.02 dB	Pass	-160 degrees	1 m
5	45.632 MHz	28.12 dBµV/m	40 dBµV/m	-11.88 dB	Pass	-160 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-15
Operating Conditions:	ambient temperature: 23 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement Distance:	3m
Operational Mode:	3
EUT Configuration:	1
Note 1:	angle -140°, height 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-15
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement Distance:	3m
Operational Mode:	3
EUT Configuration:	1
Note 1:	

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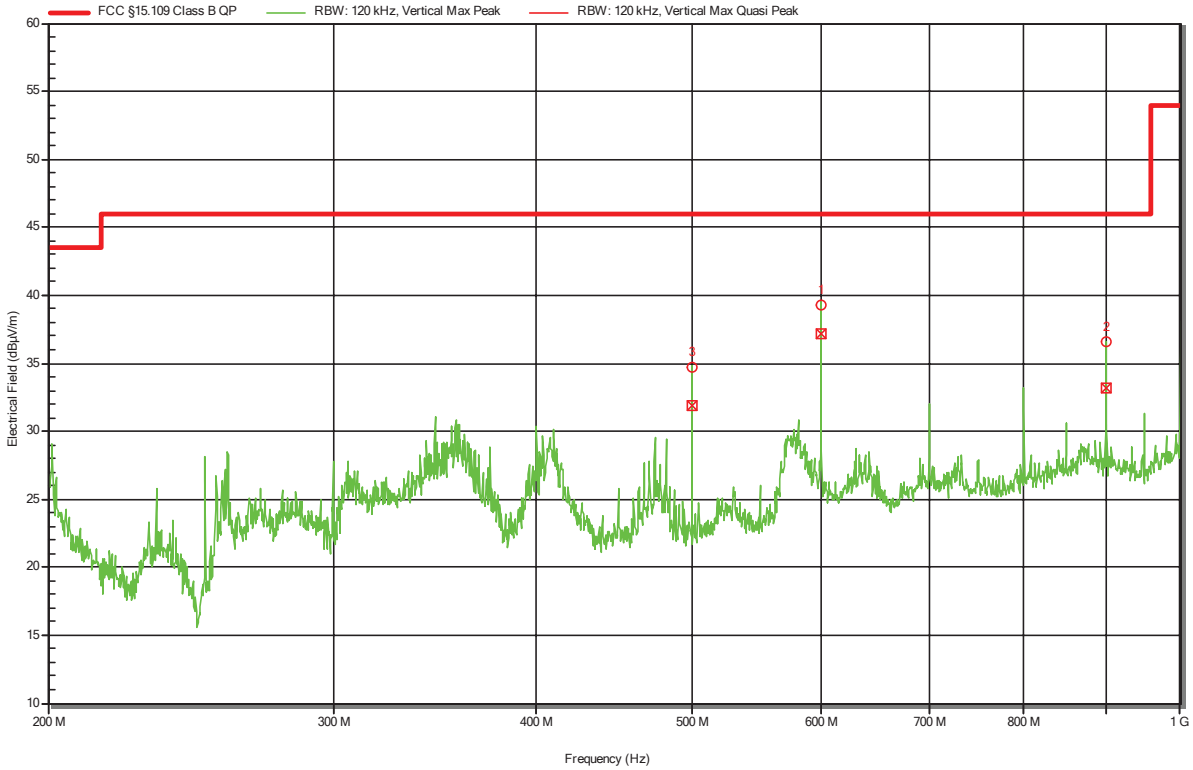
RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	600.008 MHz	37.17 dBµV/m	46.02 dBµV/m	-8.85 dB	Pass	-135 degrees	1 m
2	900.014 MHz	33.21 dBµV/m	46.02 dBµV/m	-12.81 dB	Pass	-135 degrees	1 m
3	500.006 MHz	31.9 dBµV/m	46.02 dBµV/m	-14.12 dB	Pass	-135 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-15
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement Distance:	3m
Operational Mode:	3
EUT Configuration:	1
Note 1:	

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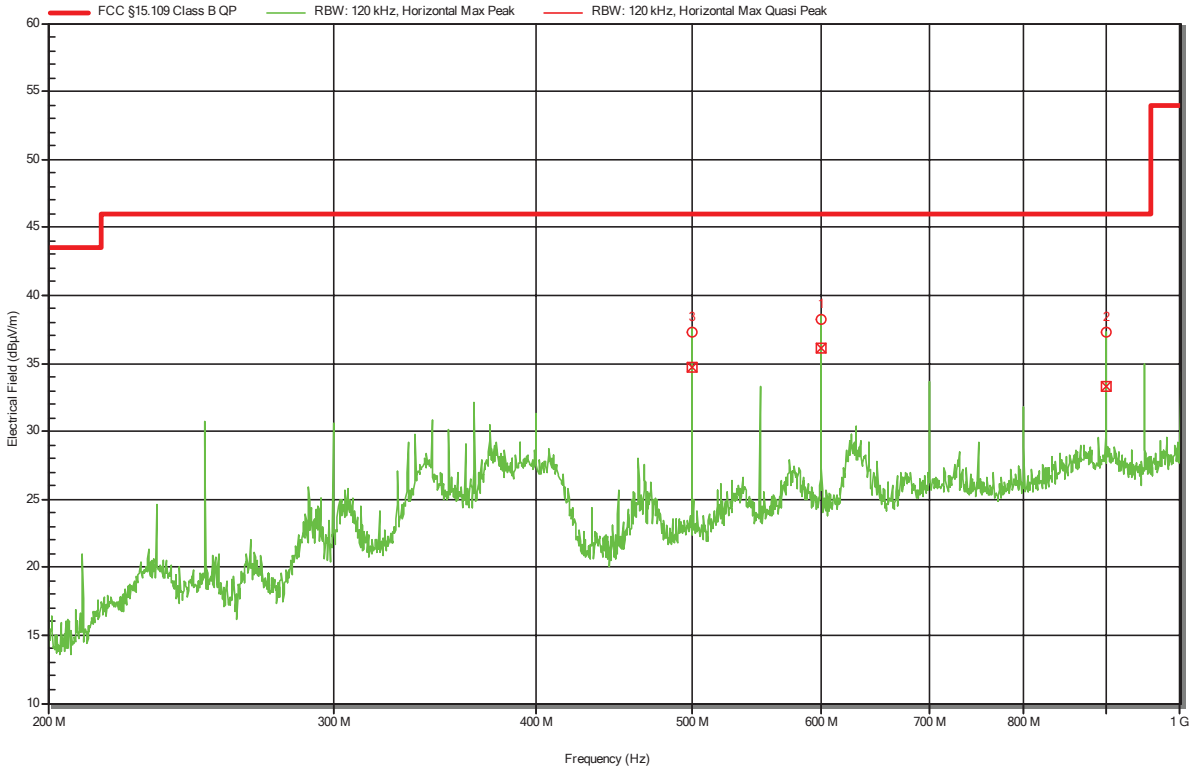
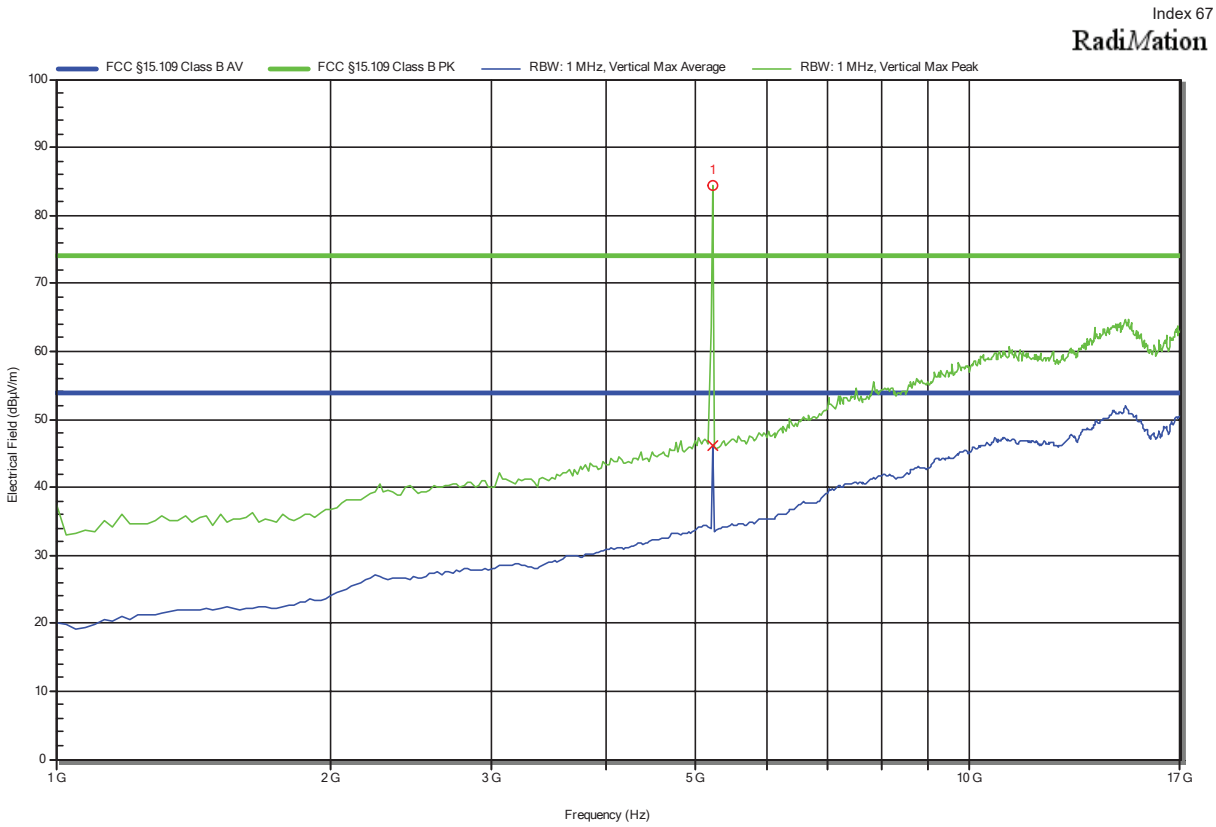
RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	600.014 MHz	36.17 dBµV/m	46.02 dBµV/m	-9.85 dB	Pass	-160 degrees	1 m
2	900.014 MHz	33.31 dBµV/m	46.02 dBµV/m	-12.71 dB	Pass	-160 degrees	1 m
3	500.006 MHz	34.71 dBµV/m	46.02 dBµV/m	-11.31 dB	Pass	-160 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 20 °Celsius power input: 120VAC/60Hz
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement Distance:	3m
Operational Mode:	3
EUT Configuration:	1
Note 1:	



Peak Number	Frequency		Angle	Height
1	5.231 GHz	WLAN 5GHz carrier	0 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 20 °Celsius power input: 120VAC/60Hz
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement Distance:	3m
Operational Mode:	3
EUT Configuration:	1
Note 1:	

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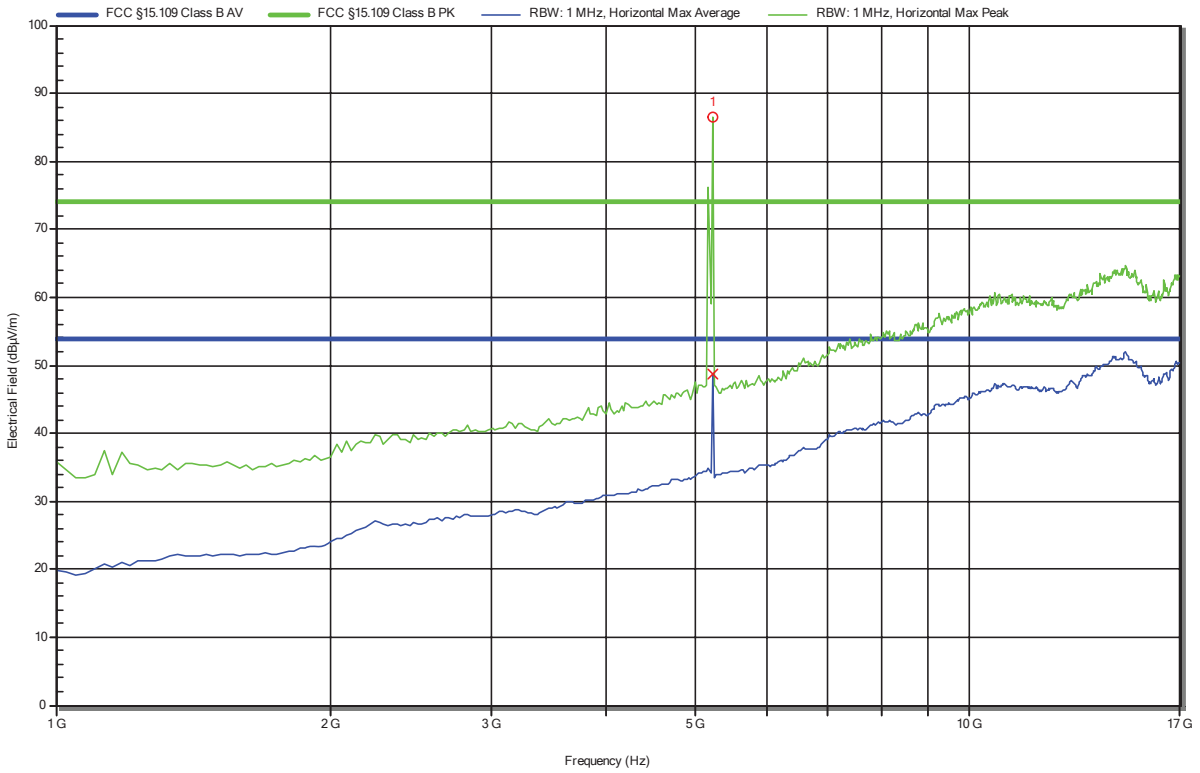
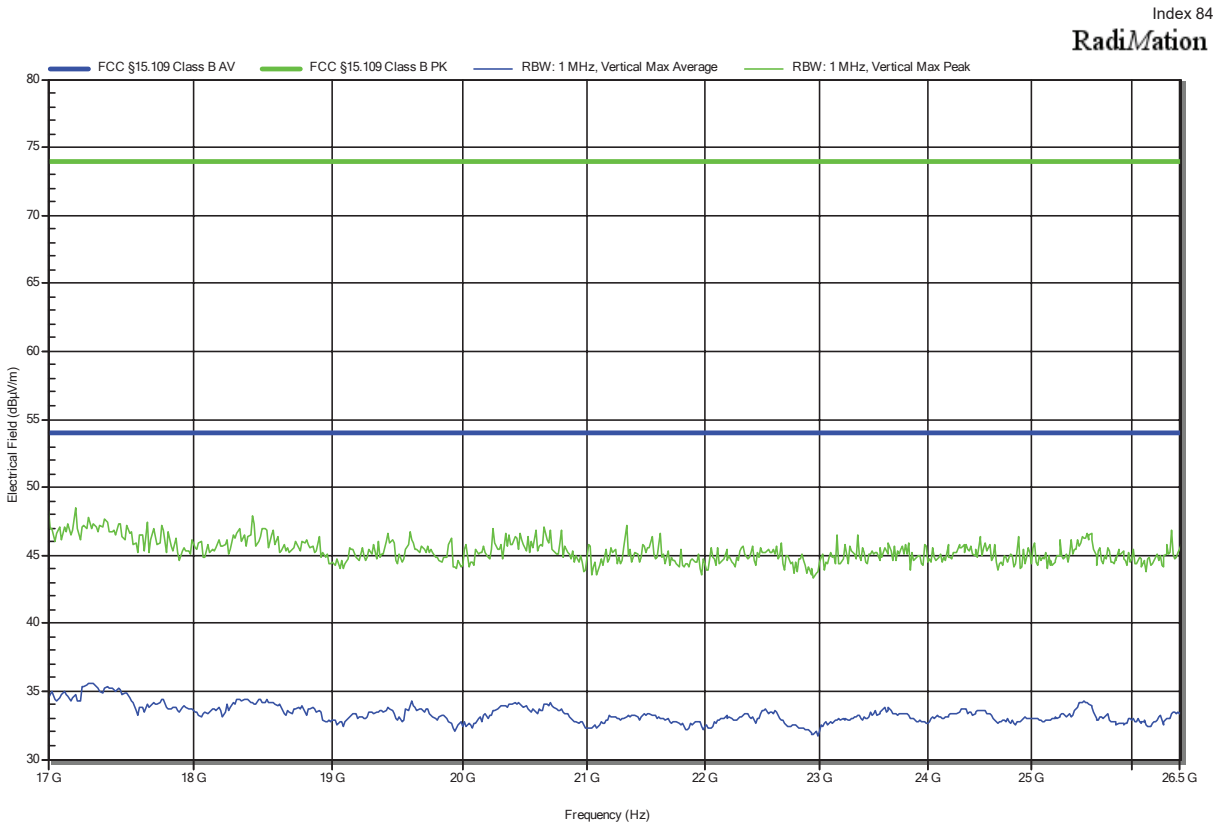


Peak Number	Frequency		Angle	Height
1	5.231 GHz	WLAN 5GHz carrier	0 degrees	1 m

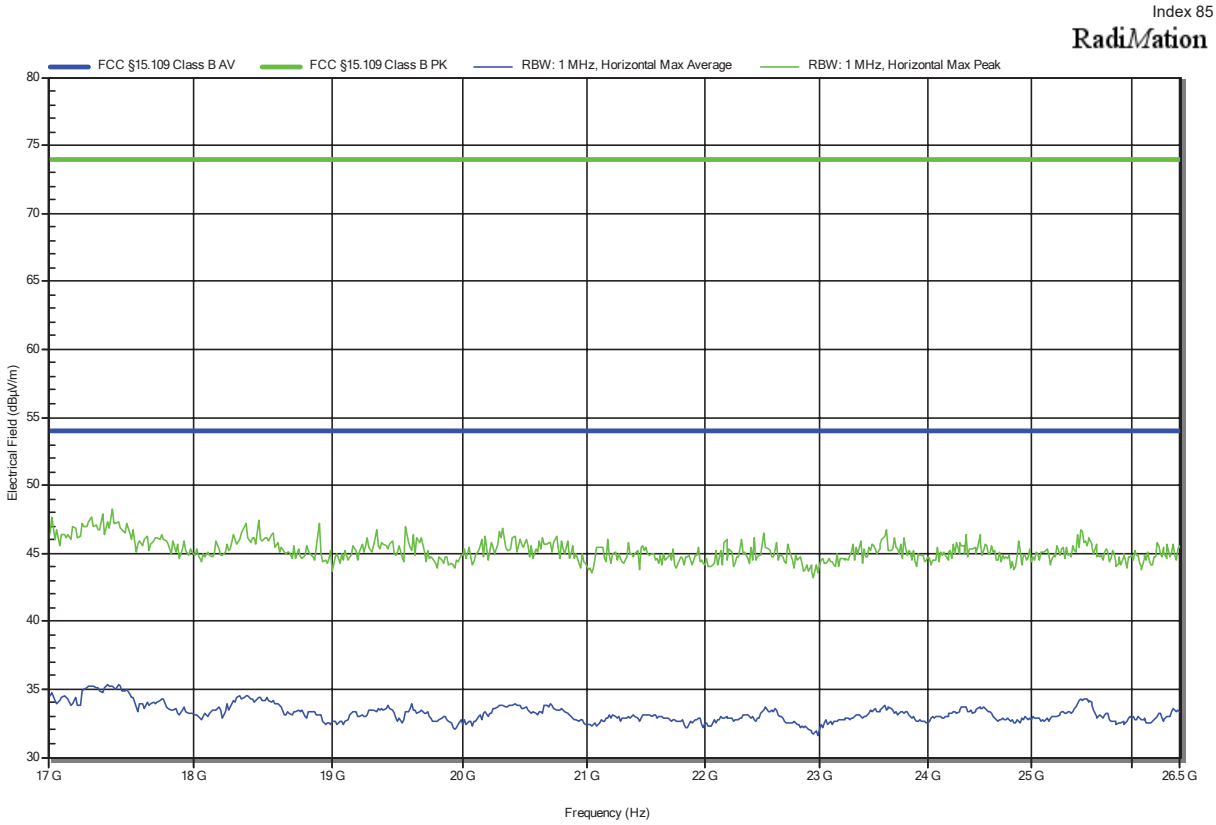
Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Amplifier Research AT4560, Vertical
Measurement Distance:	3m
Operational Mode:	3
EUT Configuration:	1
Note 1:	angle 0°, height 1m



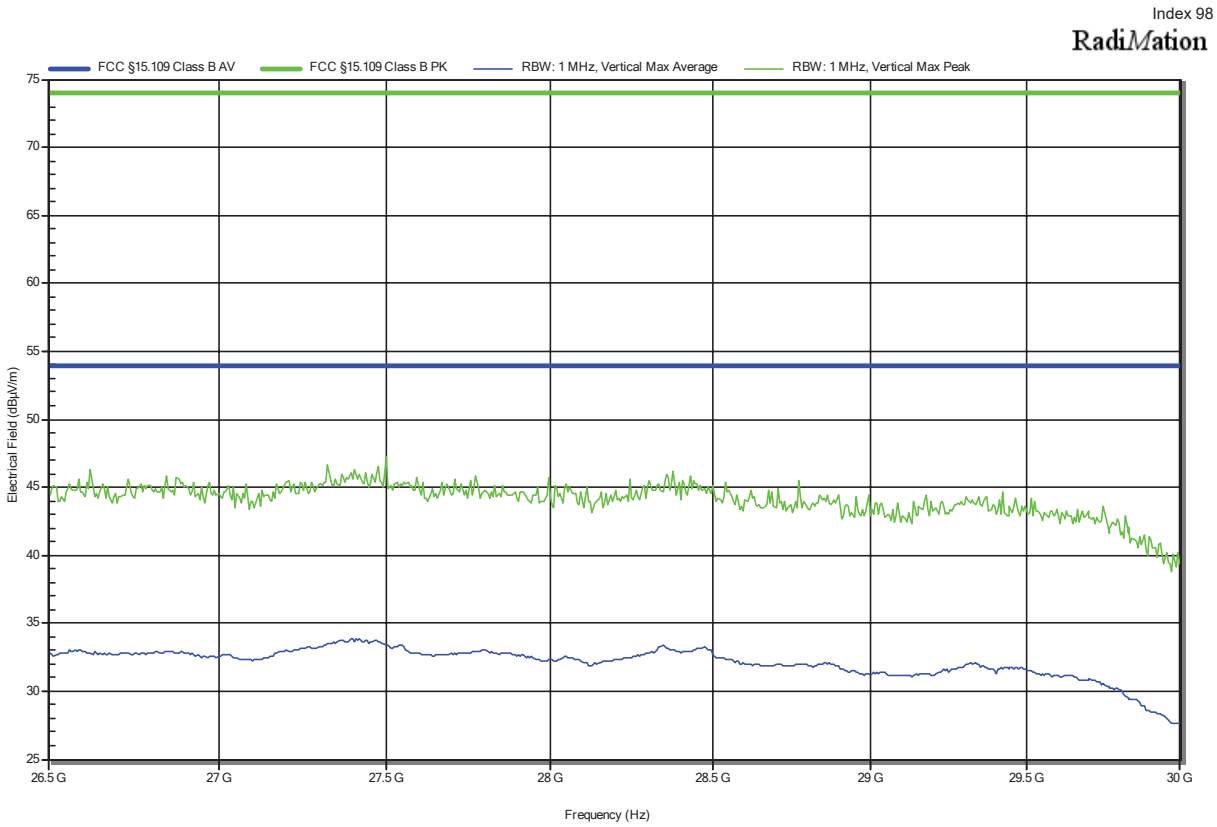
Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Amplifier Research AT4560, Horizontal
Measurement Distance:	3m
Operational Mode:	3
EUT Configuration:	1
Note 1:	angle 0°, height 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Configurable Antenna, Vertical
Measurement Distance:	3m
Operational Mode:	3
EUT Configuration:	1
Note 1:	angle 0°, height 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
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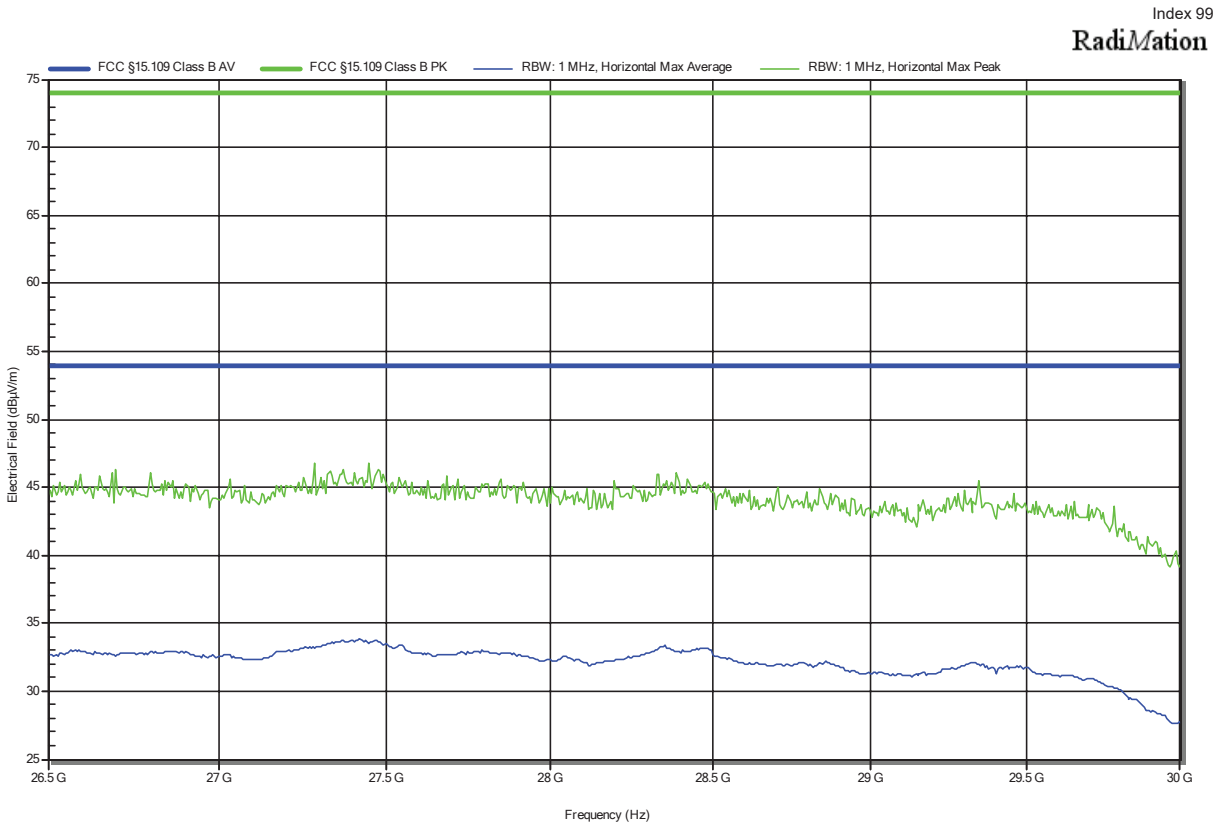
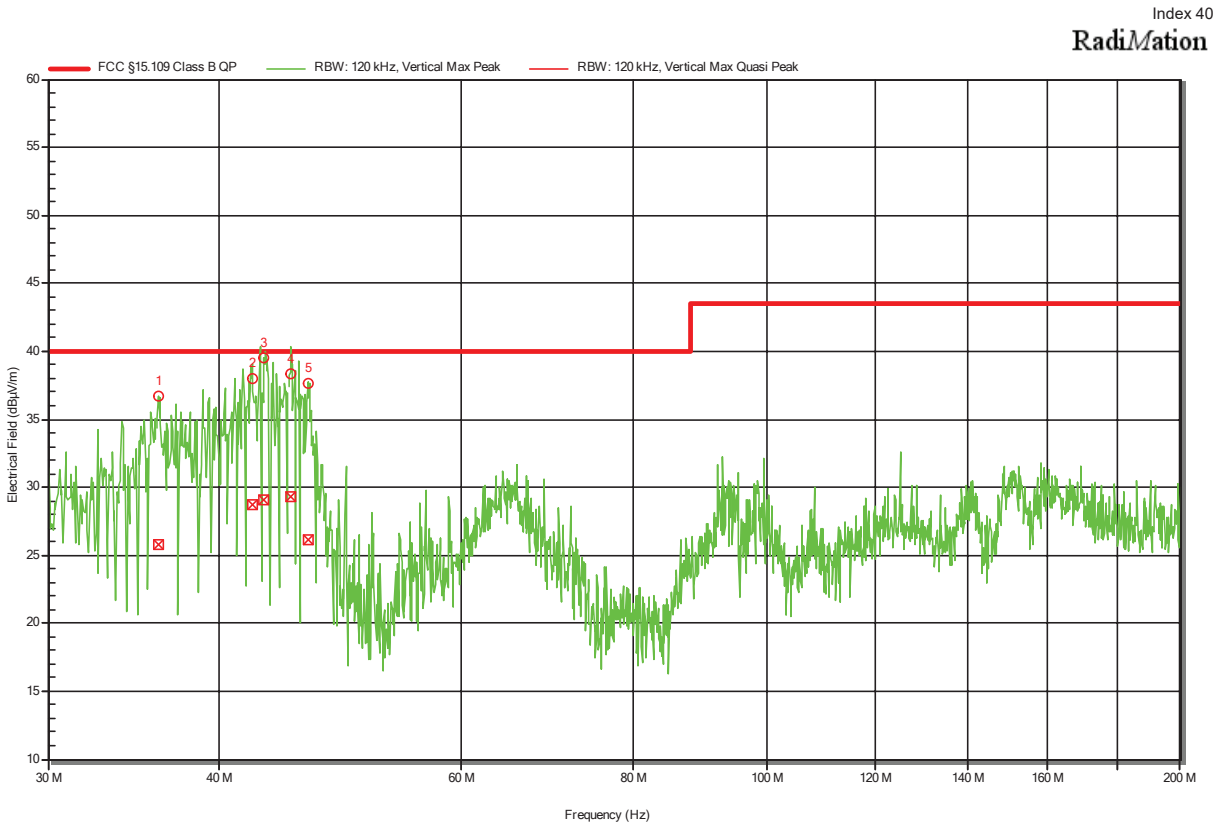
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Configurable Antenna, Horizontal
Measurement Distance:	3m
Operational Mode:	3
EUT Configuration:	1
Note 1:	angle 0°, height 1m



Radiated emissions
according to FCC part 15B

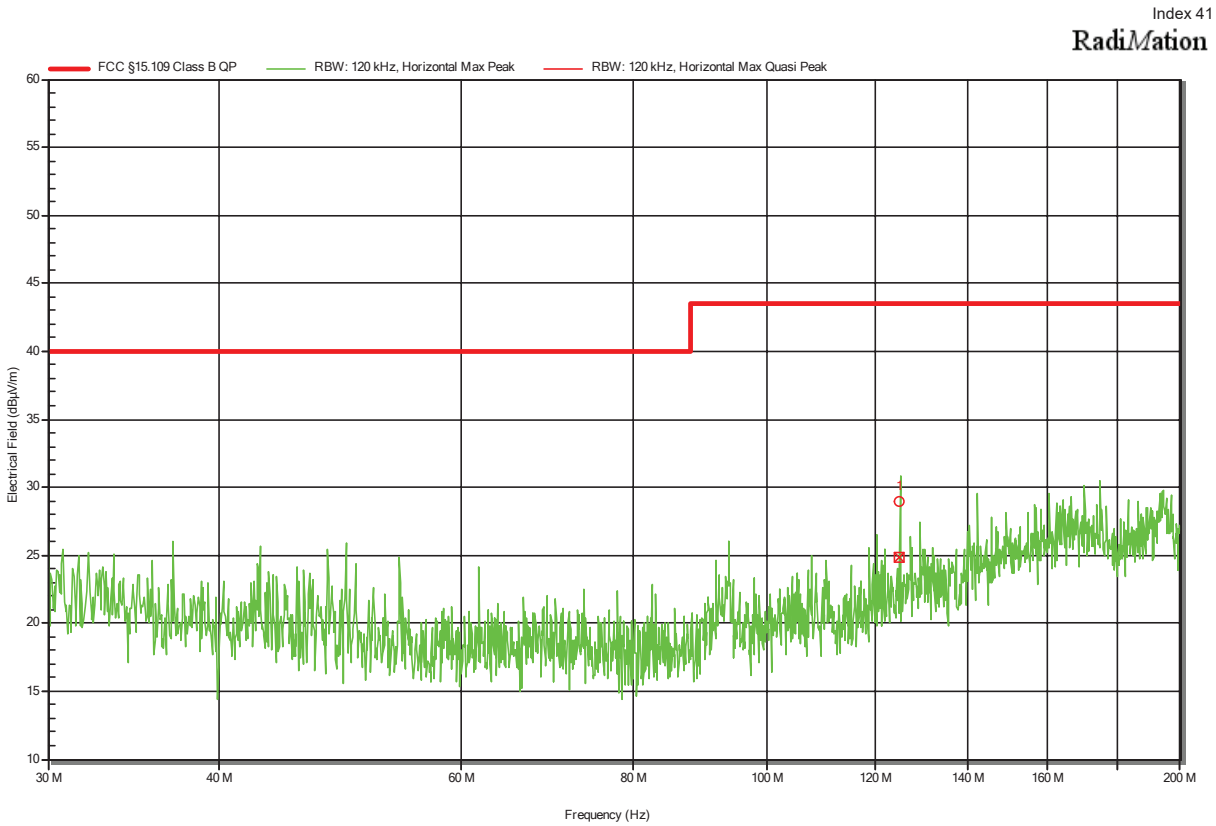
Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-13
Operating Conditions:	ambient temperature: 23 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement Distance:	3m
Operational Mode:	4
EUT Configuration:	1
Note 1:	



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	36.067 MHz	25.76 dBµV/m	40 dBµV/m	-14.24 dB	Pass	-155 degrees	1 m
2	42.229 MHz	28.68 dBµV/m	40 dBµV/m	-11.32 dB	Pass	-155 degrees	1 m
3	43.082 MHz	29.13 dBµV/m	40 dBµV/m	-10.87 dB	Pass	-155 degrees	1 m
4	45.074 MHz	29.26 dBµV/m	40 dBµV/m	-10.74 dB	Pass	-155 degrees	1 m
5	46.454 MHz	26.14 dBµV/m	40 dBµV/m	-13.86 dB	Pass	-155 degrees	1 m

Radiated emissions
according to FCC part 15B

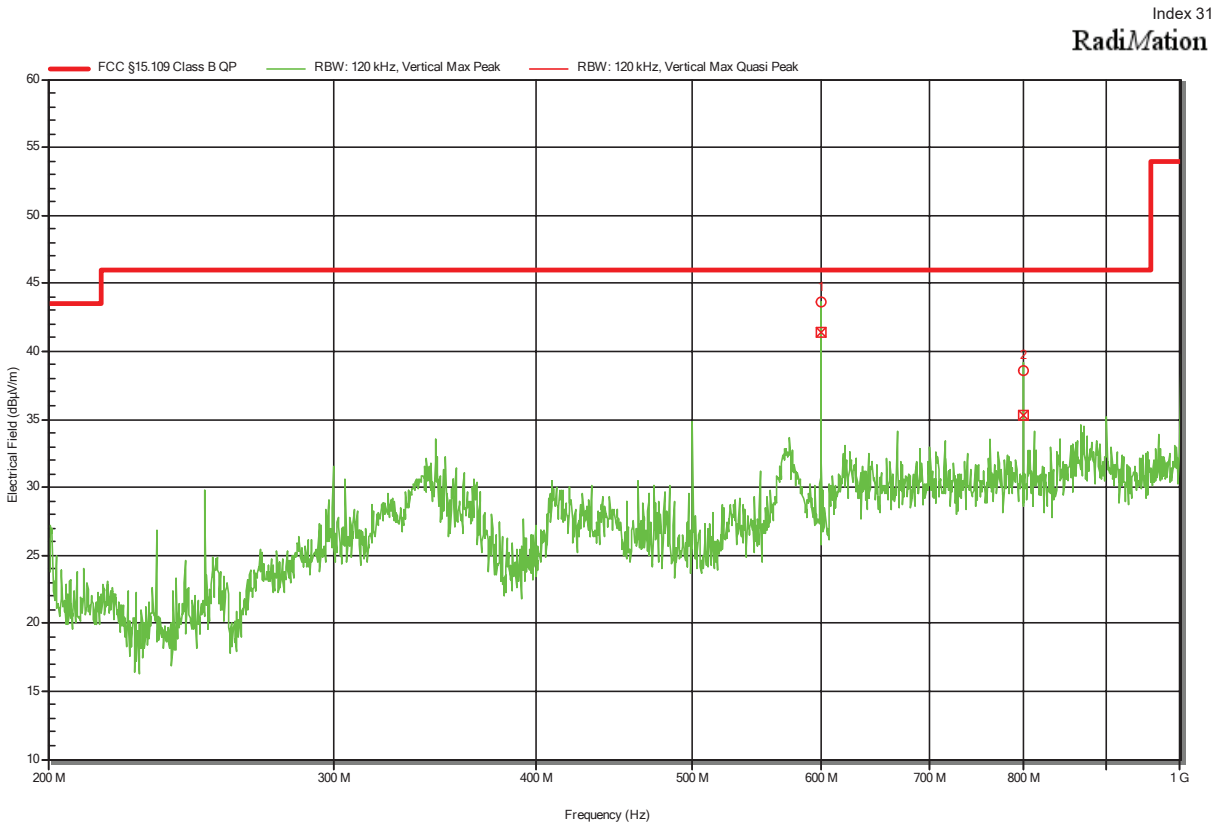
Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-13
Operating Conditions:	ambient temperature: 23 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement Distance:	3m
Operational Mode:	4
EUT Configuration:	1
Note 1:	



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	124.997 MHz	24.83 dBµV/m	43.52 dBµV/m	-18.69 dB	Pass	-125 degrees	1 m

Radiated emissions
according to FCC part 15B

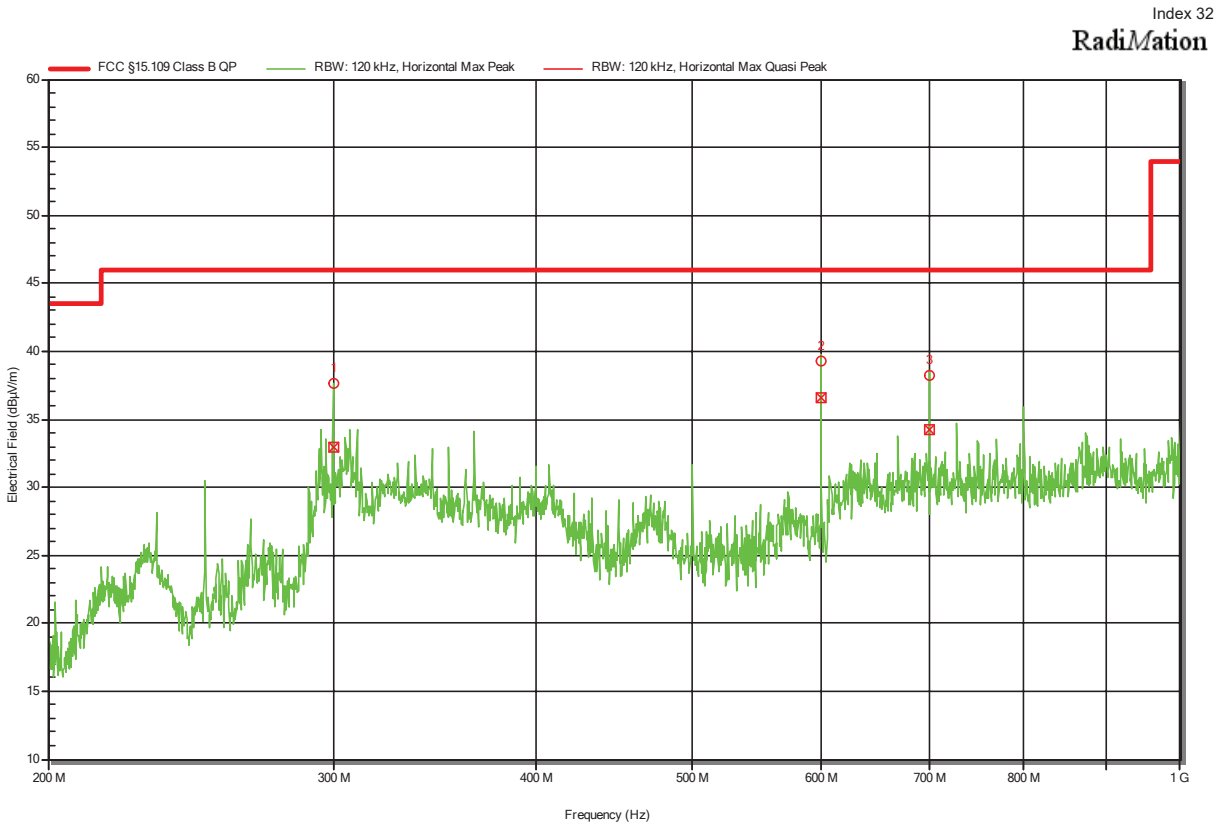
Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-13
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement Distance:	3m
Operational Mode:	4
EUT Configuration:	1
Note 1:	



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	600.006 MHz	41.38 dBµV/m	46.02 dBµV/m	-4.65 dB	Pass	-140 degrees	1 m
2	800.009 MHz	35.29 dBµV/m	46.02 dBµV/m	-10.73 dB	Pass	-140 degrees	1 m

Radiated emissions
according to FCC part 15B

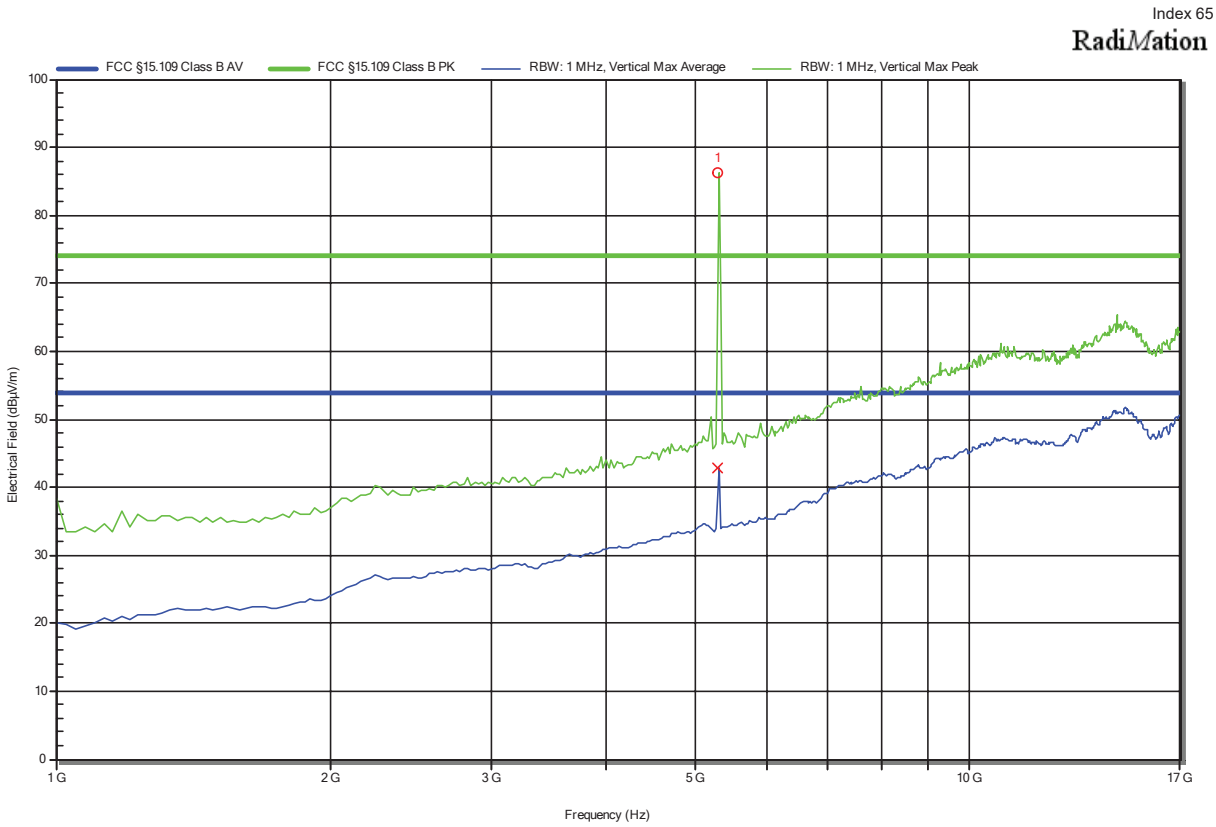
Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-13
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement Distance:	3m
Operational Mode:	4
EUT Configuration:	1
Note 1:	



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	299.986 MHz	32.99 dBµV/m	46.02 dBµV/m	-13.03 dB	Pass	-165 degrees	1 m
2	600.012 MHz	36.61 dBµV/m	46.02 dBµV/m	-9.41 dB	Pass	-165 degrees	1 m
3	700.011 MHz	34.29 dBµV/m	46.02 dBµV/m	-11.73 dB	Pass	-165 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 19 °Celsius power input: 120VAC/60Hz
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement Distance:	3m
Operational Mode:	4
EUT Configuration:	1
Note 1:	



Peak Number	Frequency		Angle	Height
1	5.308 GHz	WLAN 5GHz carrier	0 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 20 °Celsius power input: 120VAC/60Hz
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement Distance:	3m
Operational Mode:	4
EUT Configuration:	1
Note 1:	

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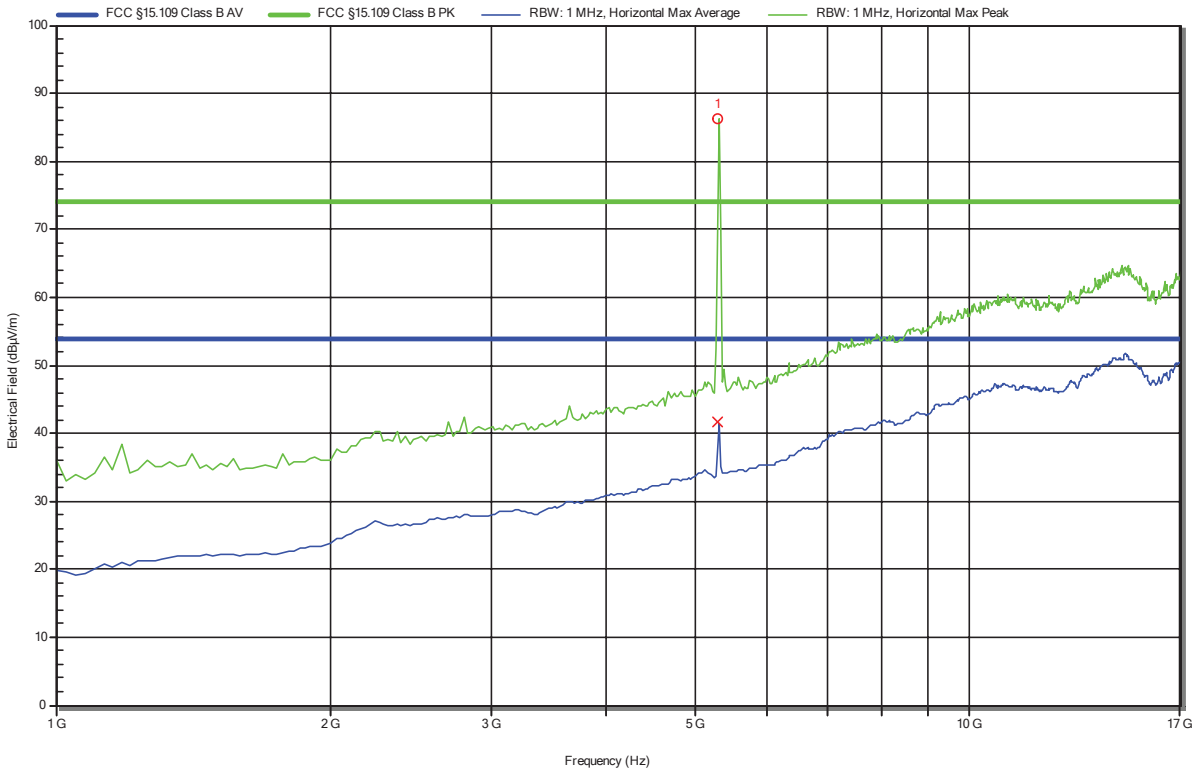

Peak Number	Frequency		Angle	Height
1	5.308 GHz	WLAN 5GHz carrier	0 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Amplifier Research AT4560, Vertical
Measurement Distance:	3m
Operational Mode:	4
EUT Configuration:	1
Note 1:	angle 0°, height 1m

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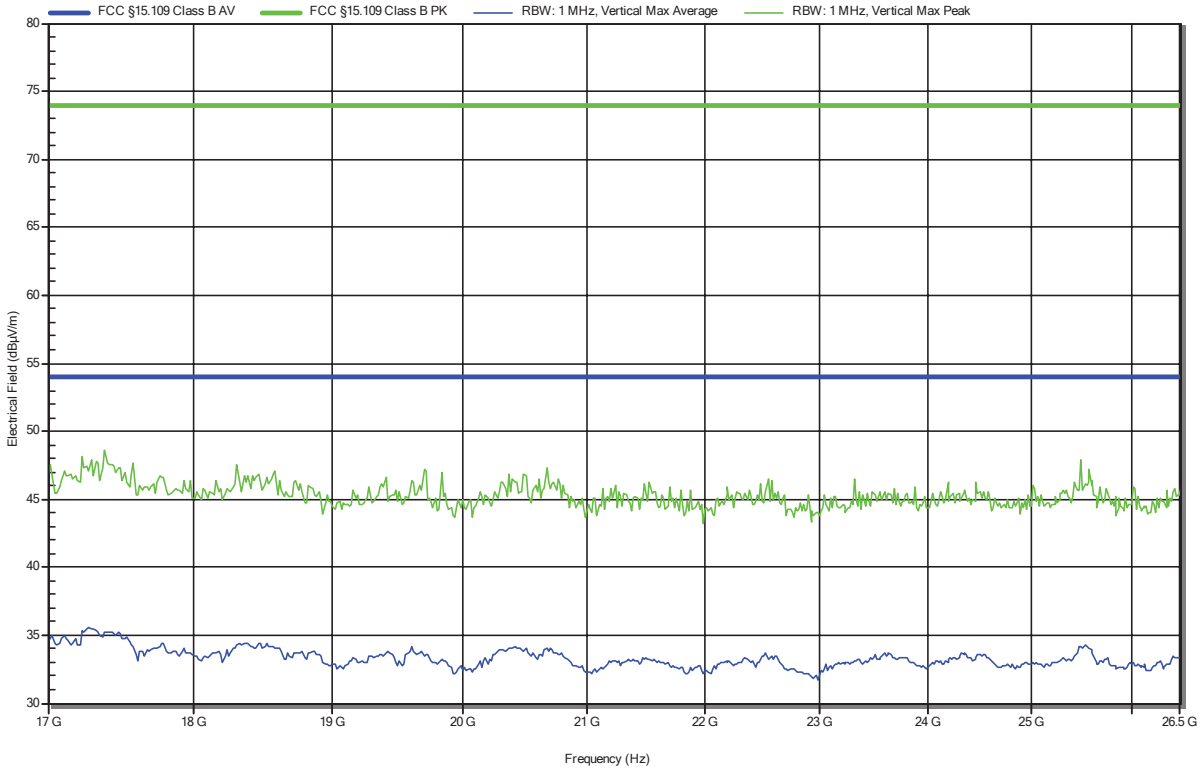
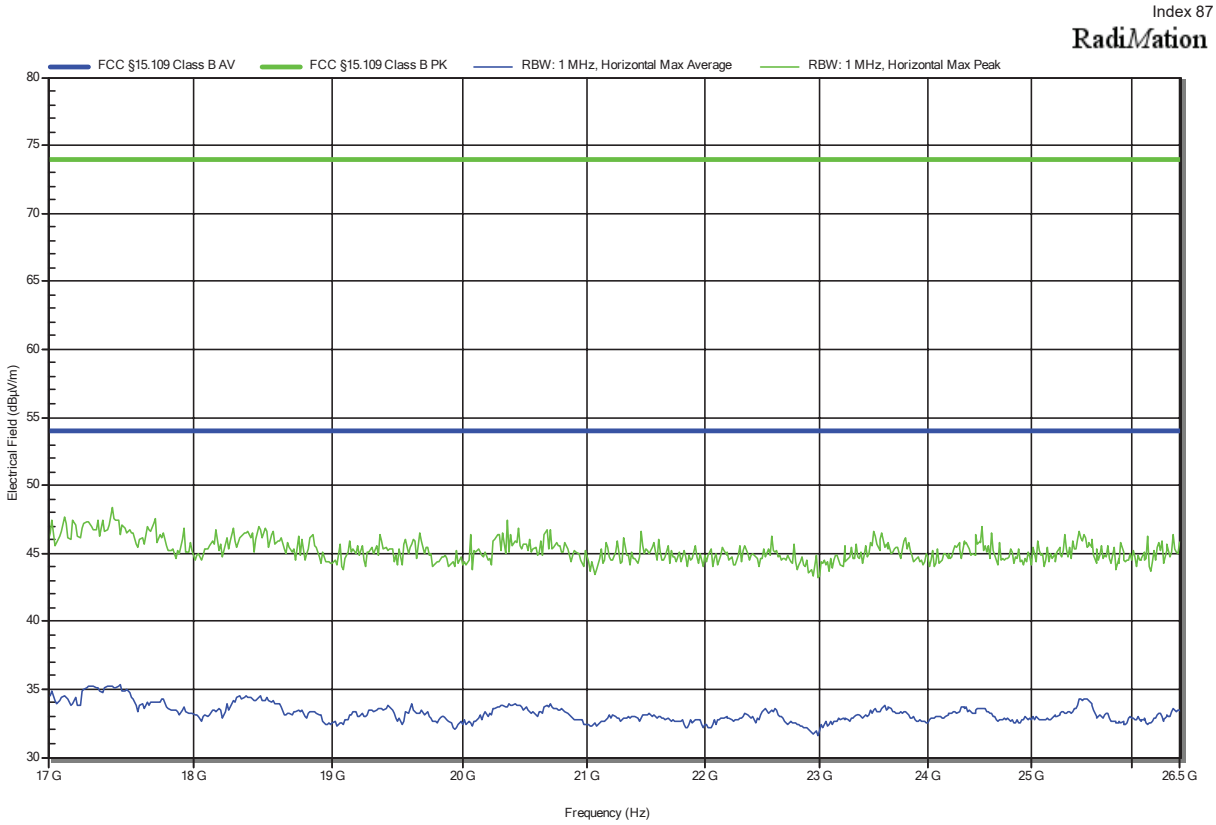
RadiMation



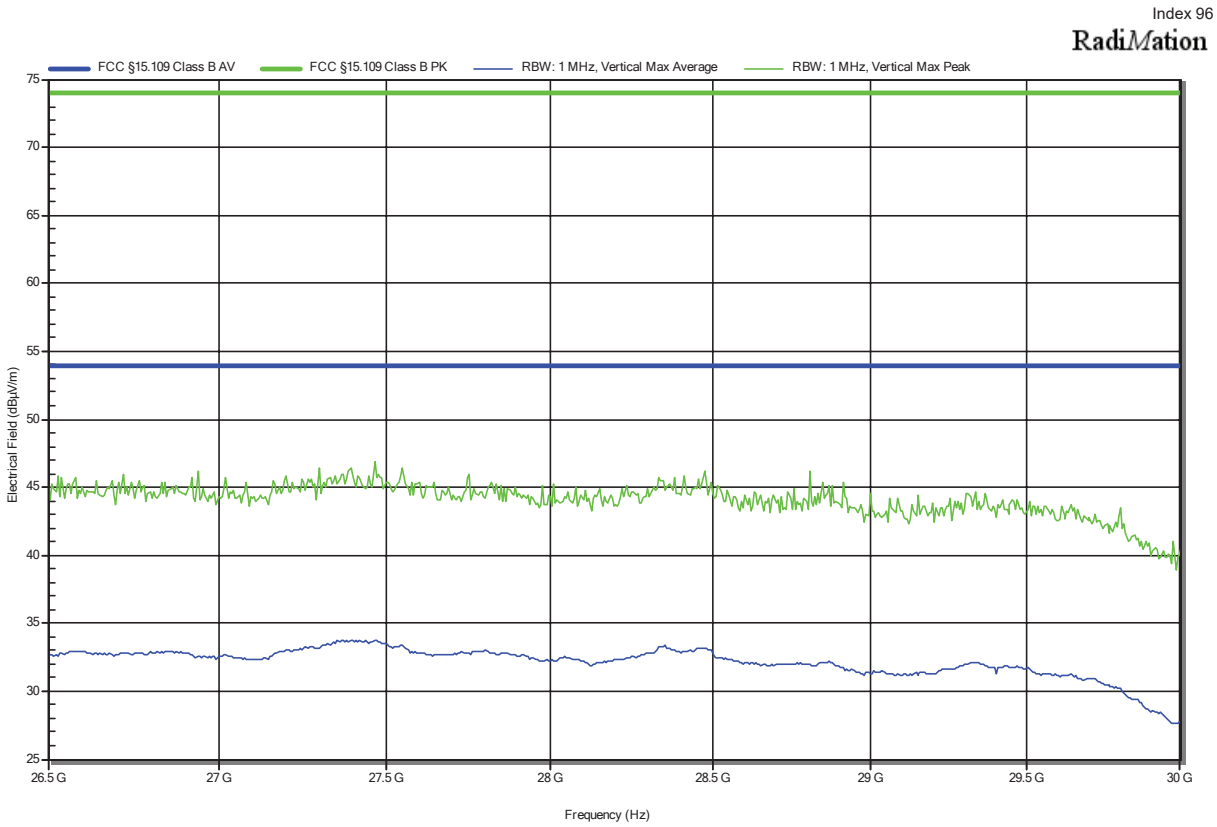
Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Amplifier Research AT4560, Horizontal
Measurement Distance:	3m
Operational Mode:	4
EUT Configuration:	1
Note 1:	angle 0°, height 1m



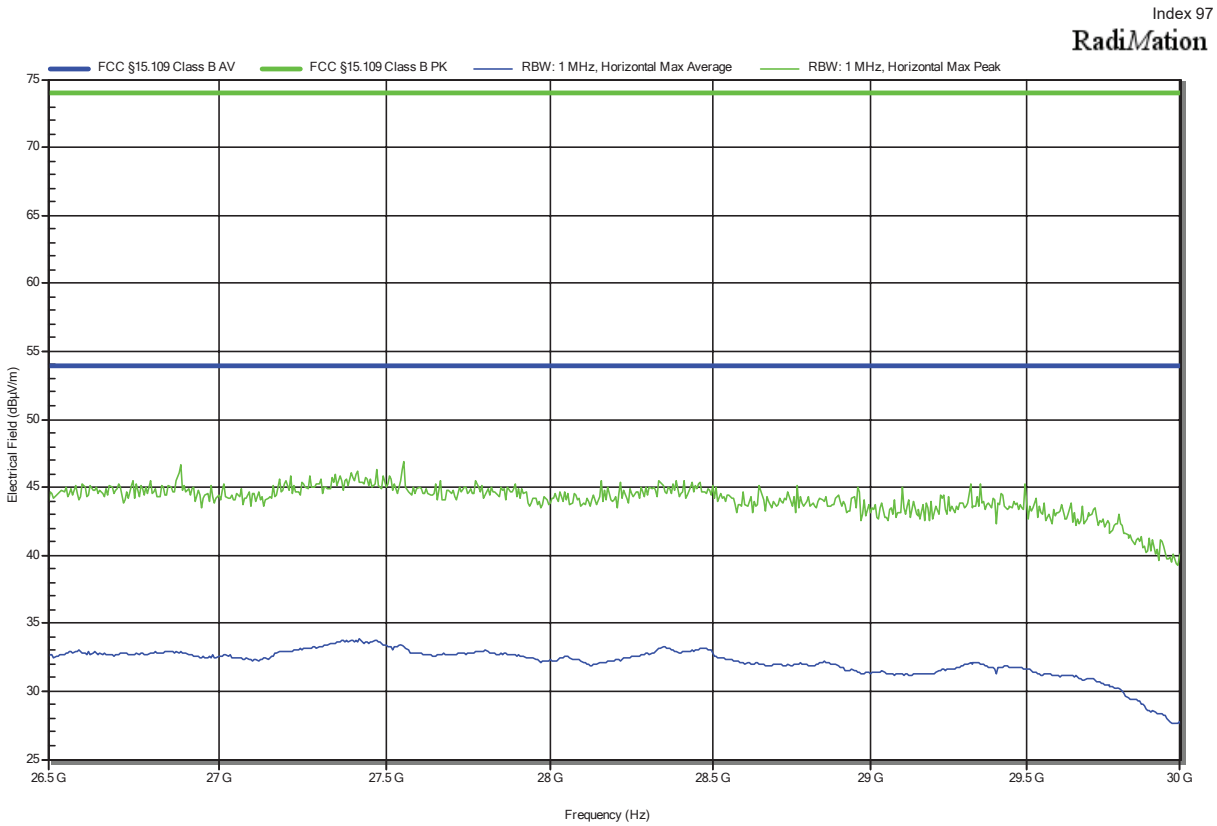
Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Configurable Antenna, Vertical
Measurement Distance:	3m
Operational Mode:	4
EUT Configuration:	1
Note 1:	angle 0°, height 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Configurable Antenna, Horizontal
Measurement Distance:	3m
Operational Mode:	4
EUT Configuration:	1
Note 1:	angle 0°, height 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-12
Operating Conditions:	ambient temperature: 23 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement Distance:	3m
Operational Mode:	5
EUT Configuration:	1
Note 1:	

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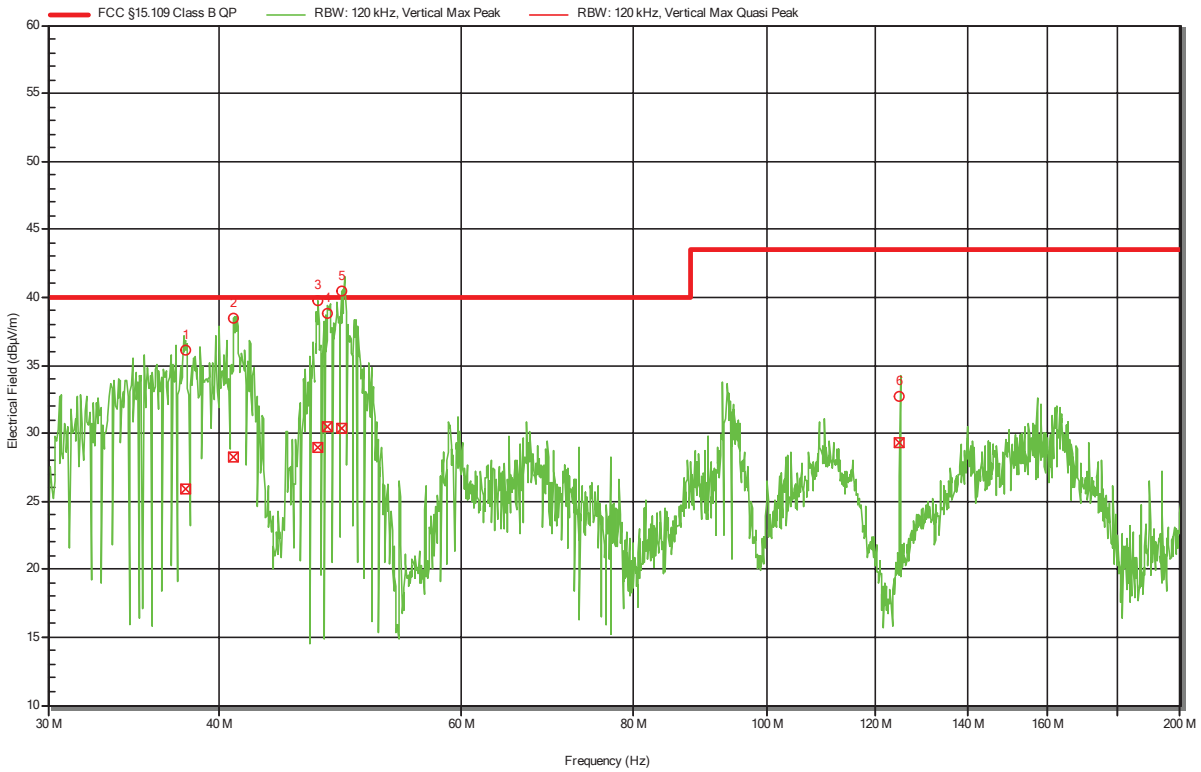
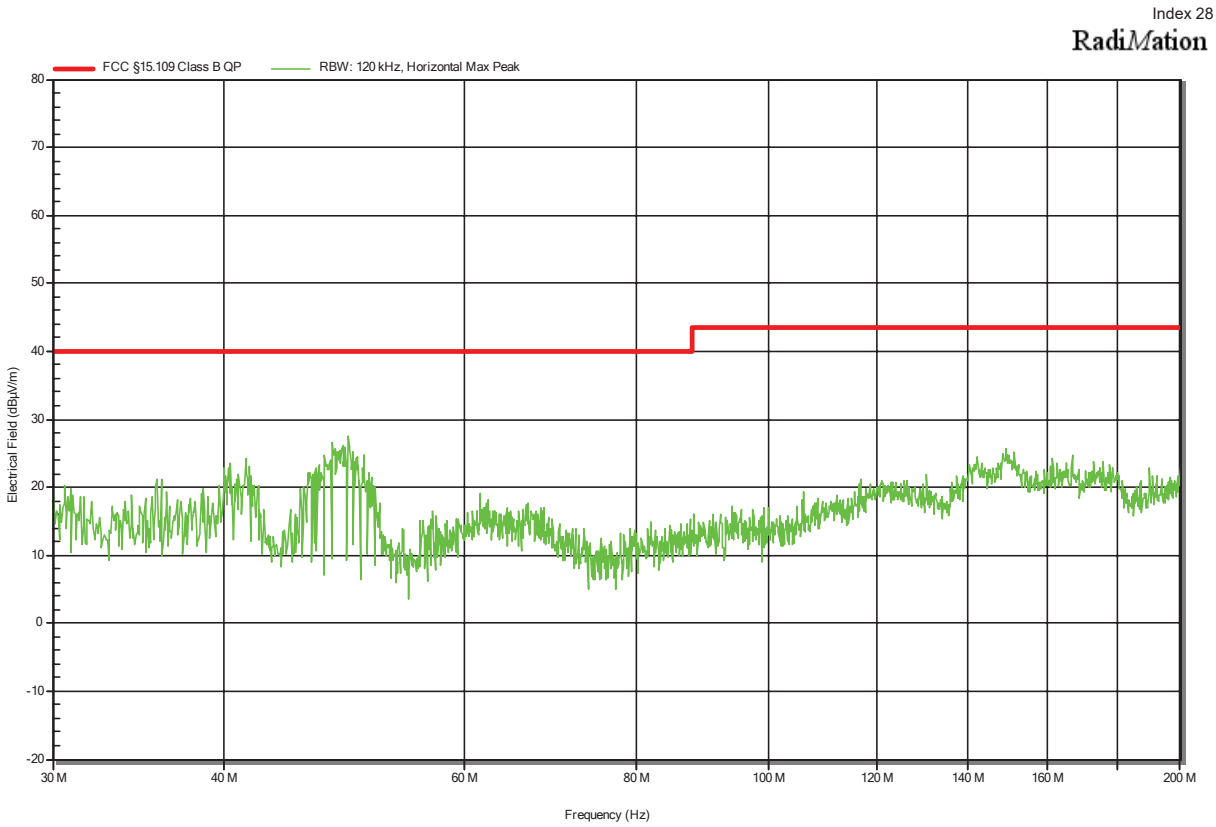
RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	37.759 MHz	25.86 dBµV/m	40 dBµV/m	-14.14 dB	Pass	-180 degrees	1 m
2	40.981 MHz	28.24 dBµV/m	40 dBµV/m	-11.76 dB	Pass	-180 degrees	1 m
3	47.162 MHz	28.95 dBµV/m	40 dBµV/m	-11.05 dB	Pass	-180 degrees	1 m
4	47.888 MHz	30.5 dBµV/m	40 dBµV/m	-9.5 dB	Pass	-180 degrees	1 m
5	49.106 MHz	30.33 dBµV/m	40 dBµV/m	-9.67 dB	Pass	-180 degrees	1 m
6	124.991 MHz	29.33 dBµV/m	43.52 dBµV/m	-14.19 dB	Pass	-180 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-12
Operating Conditions:	ambient temperature: 23 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement Distance:	3m
Operational Mode:	5
EUT Configuration:	1
Note 1:	angle -165°, height 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-12
Operating Conditions:	ambient temperature: 23 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement Distance:	3m
Operational Mode:	5
EUT Configuration:	1
Note 1:	

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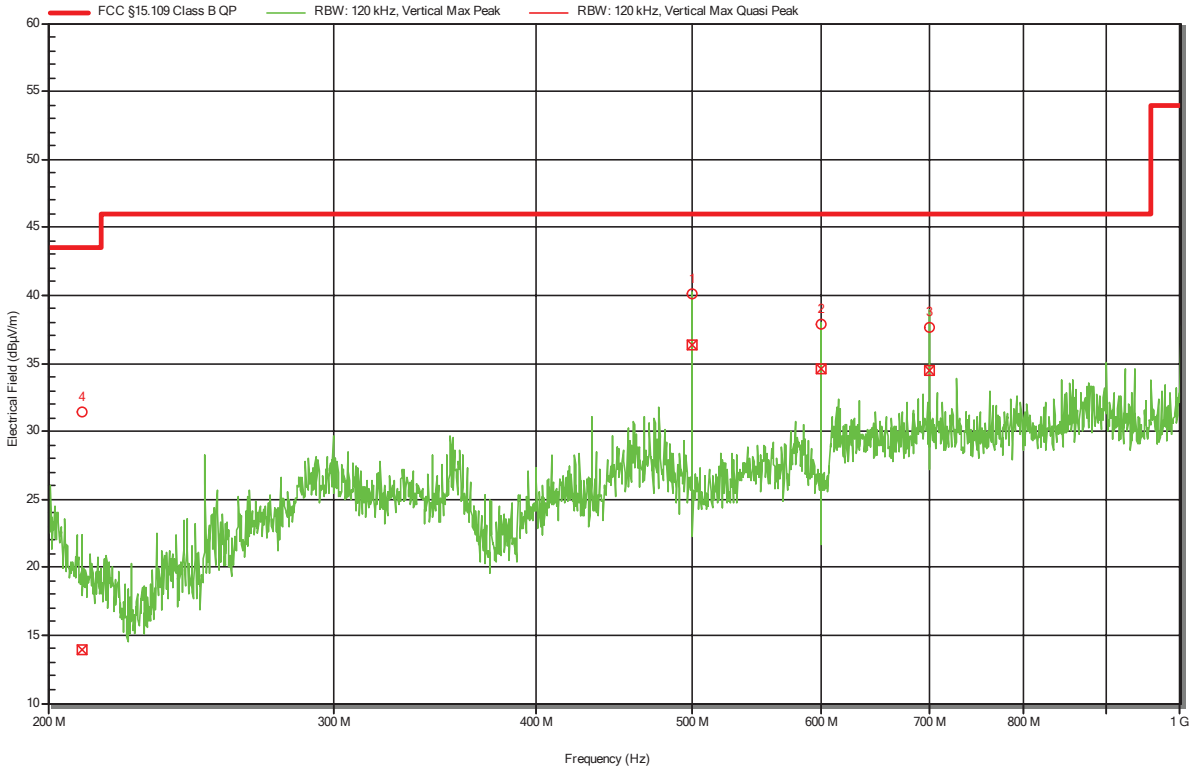
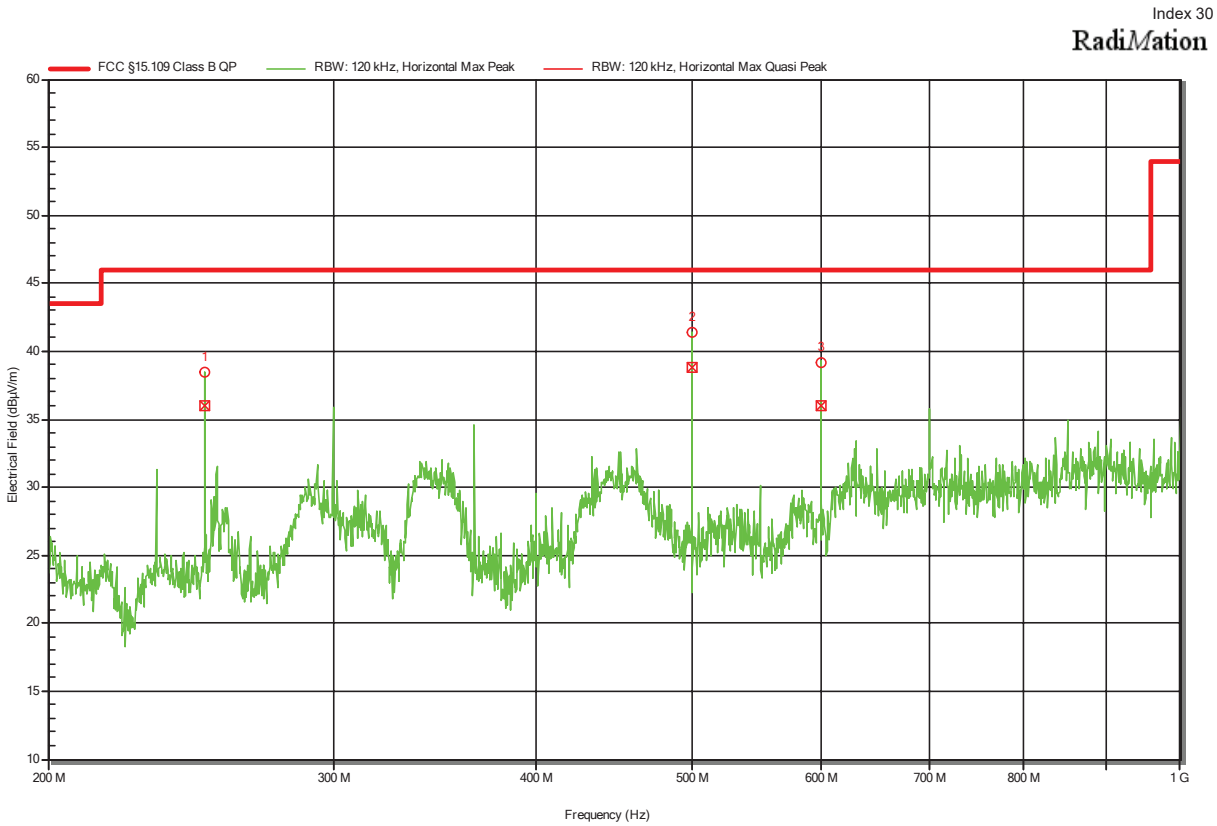
RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	499.983 MHz	36.31 dBµV/m	46.02 dBµV/m	-9.71 dB	Pass	125 degrees	1 m
2	600.006 MHz	34.55 dBµV/m	46.02 dBµV/m	-11.47 dB	Pass	125 degrees	1 m
3	699.998 MHz	34.49 dBµV/m	46.02 dBµV/m	-11.53 dB	Pass	125 degrees	1 m
4	209.96 MHz	13.89 dBµV/m	43.52 dBµV/m	-29.63 dB	Pass	125 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-12
Operating Conditions:	ambient temperature: 23 °Celsius power input: 120VAC/60Hz
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement Distance:	3m
Operational Mode:	5
EUT Configuration:	1
Note 1:	



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	250.005 MHz	35.98 dBµV/m	46.02 dBµV/m	-10.04 dB	Pass	155 degrees	1 m
2	500.008 MHz	38.81 dBµV/m	46.02 dBµV/m	-7.21 dB	Pass	155 degrees	1 m
3	600.006 MHz	35.96 dBµV/m	46.02 dBµV/m	-10.06 dB	Pass	155 degrees	1 m

Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 18 °Celsius power input: 120VAC/60Hz
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement Distance:	3m
Operational Mode:	5
EUT Configuration:	1
Note 1:	

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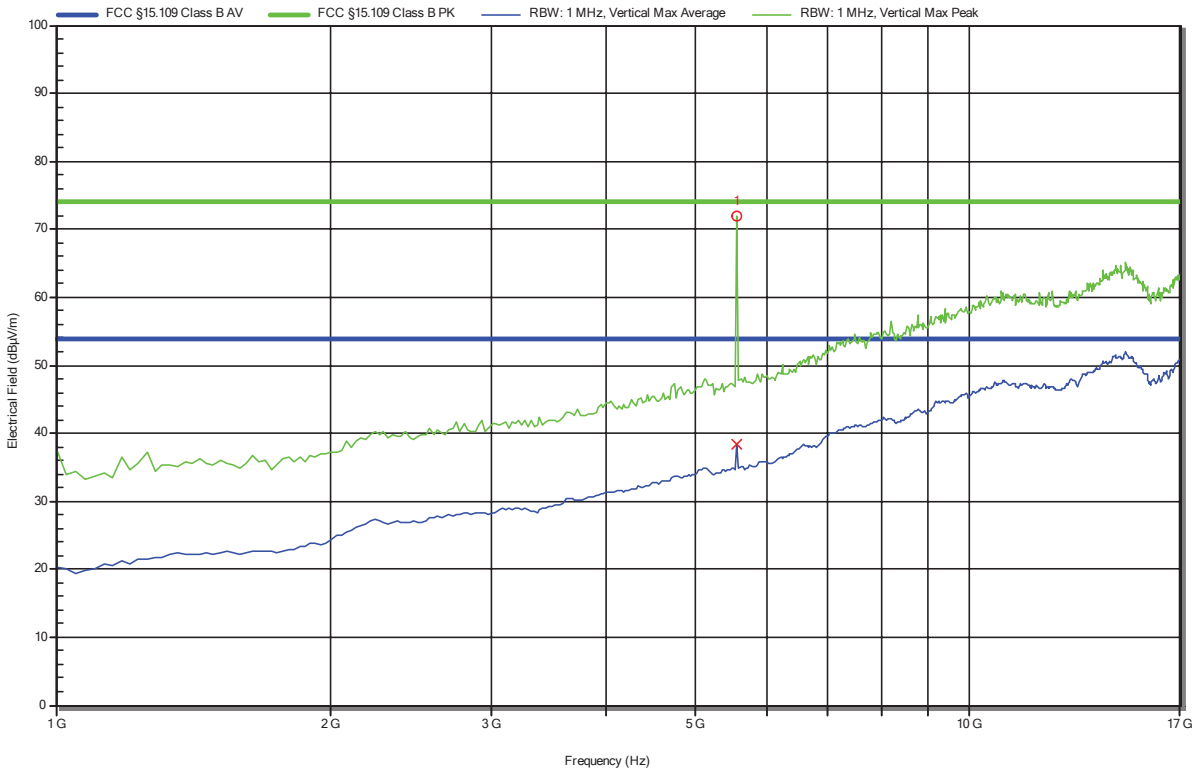
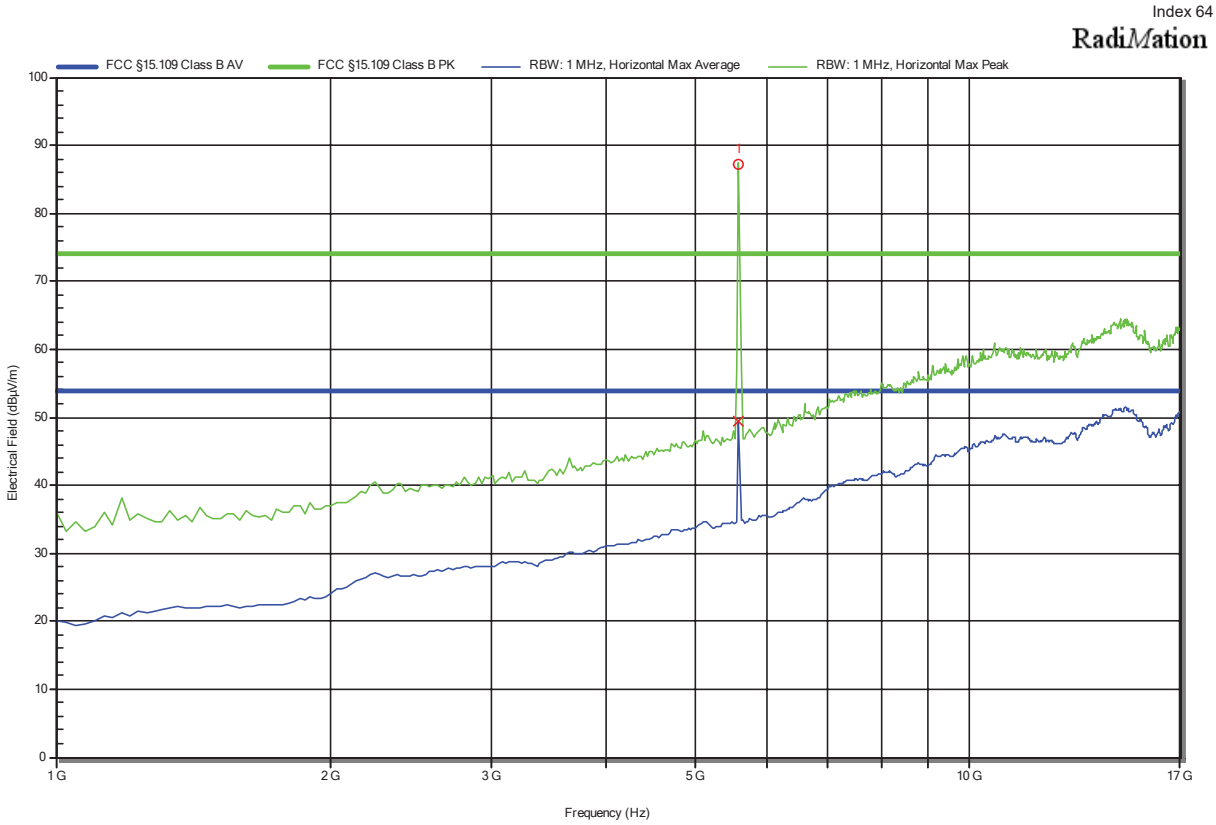
RadiMation



Peak Number	Frequency		Angle	Height
1	5.564 GHz	WLAN 5GHz carrier	0 degrees	1 m

Radiated emissions
according to FCC part 15B

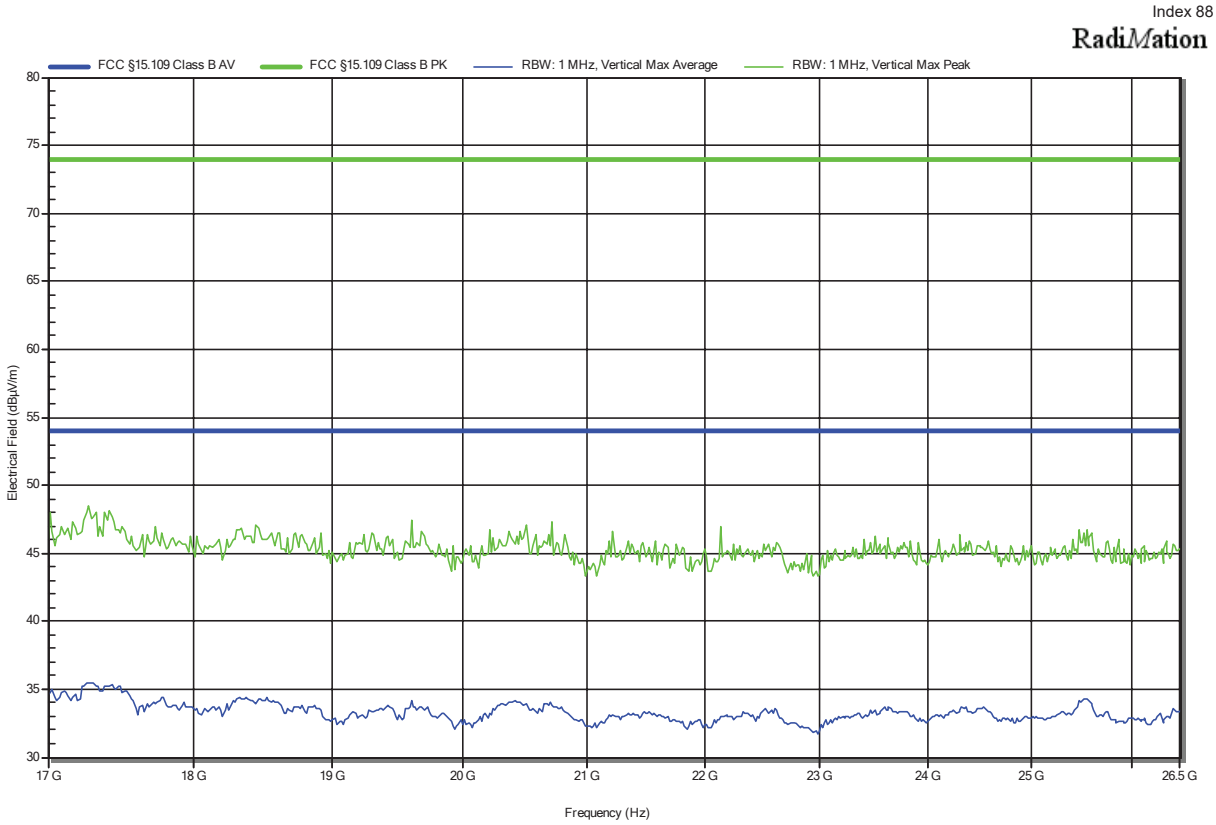
Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 19 °Celsius power input: 120VAC/60Hz
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement Distance:	3m
Operational Mode:	5
EUT Configuration:	1
Note 1:	



Peak Number	Frequency		Angle	Height
1	5.59 GHz	WLAN 5GHz carrier	0 degrees	1 m

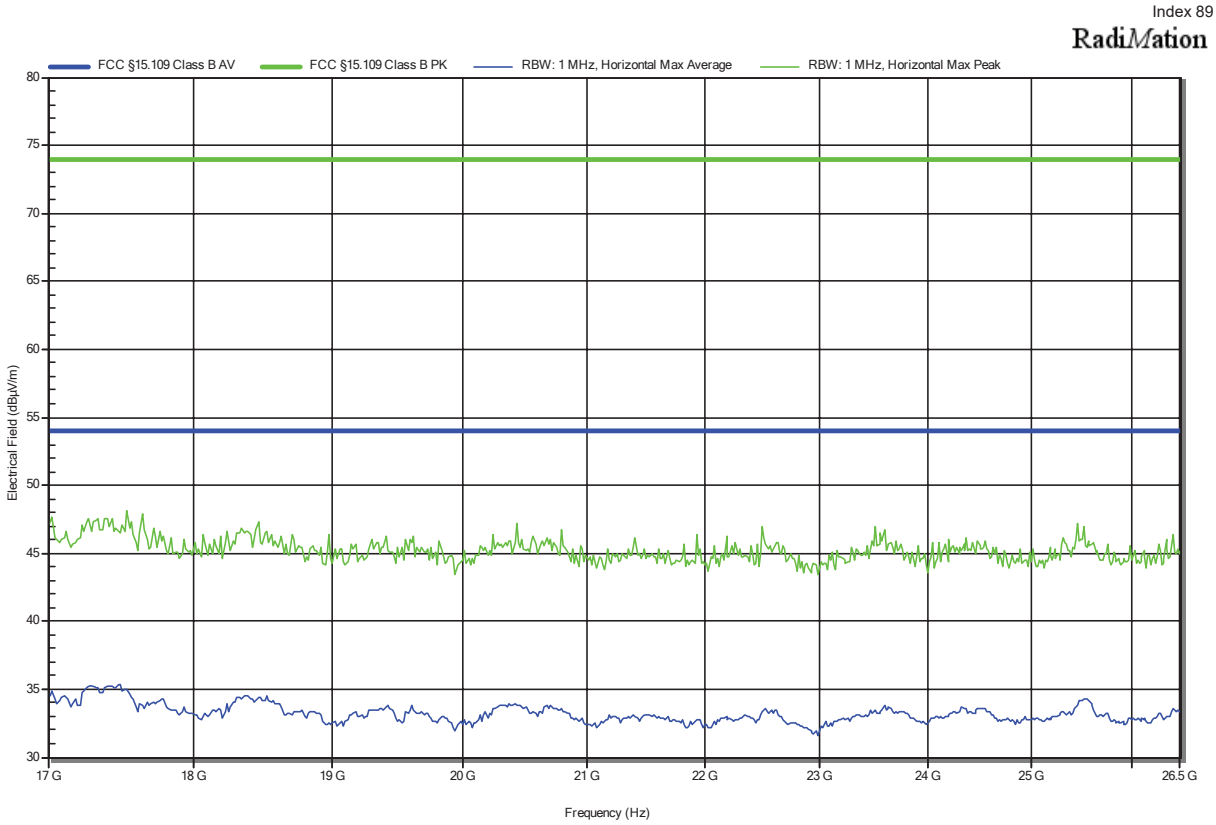
Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Amplifier Research AT4560, Vertical
Measurement Distance:	3m
Operational Mode:	5
EUT Configuration:	1
Note 1:	angle 0°, height 1m



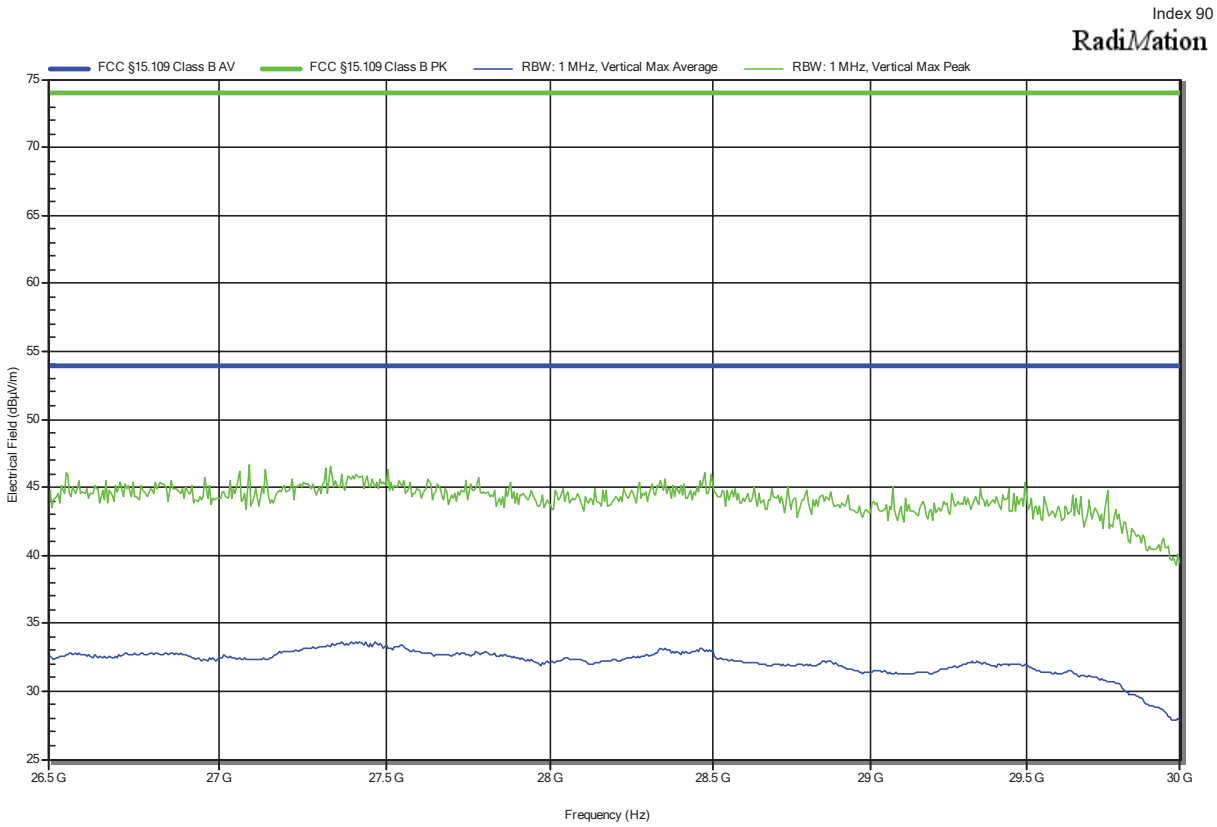
Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Amplifier Research AT4560, Horizontal
Measurement Distance:	3m
Operational Mode:	5
EUT Configuration:	1
Note 1:	angle 0°, height 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Configurable Antenna, Vertical
Measurement Distance:	3m
Operational Mode:	5
EUT Configuration:	1
Note 1:	angle 0°, height 1m



Radiated emissions
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 21 °Celsius power input: 120VAC/60Hz
Antenna:	Configurable Antenna, Horizontal
Measurement Distance:	3m
Operational Mode:	5
EUT Configuration:	1
Note 1:	angle 0°, height 1m

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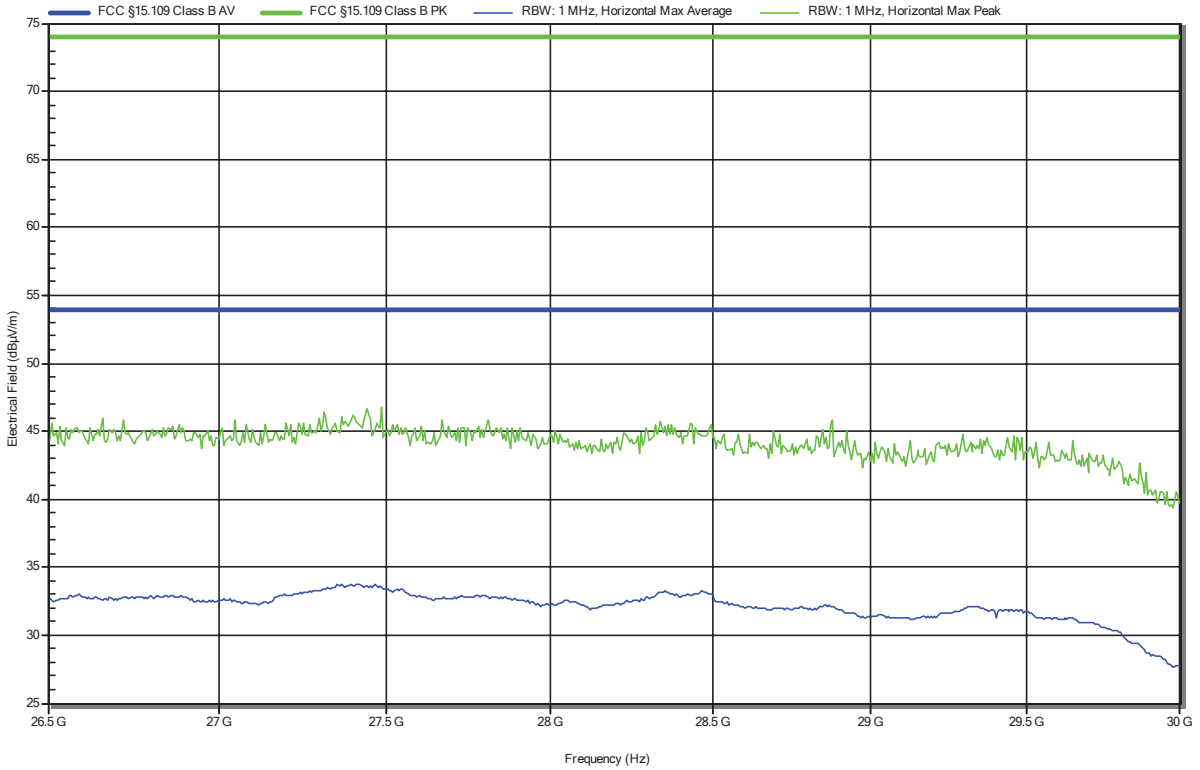


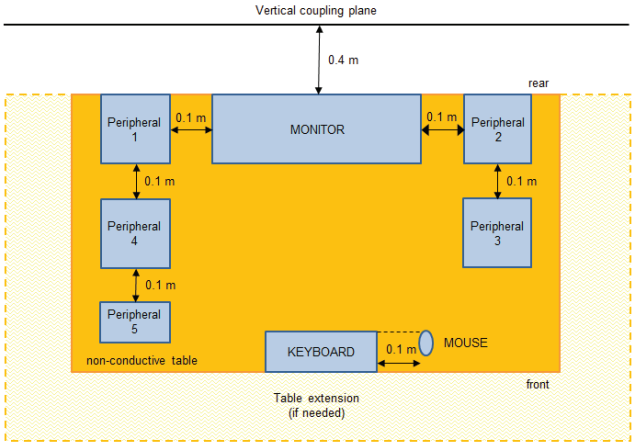
2.2 Test Conditions and Results - Conducted emissions acc. to ANSI C63.4

2.2.1 Information

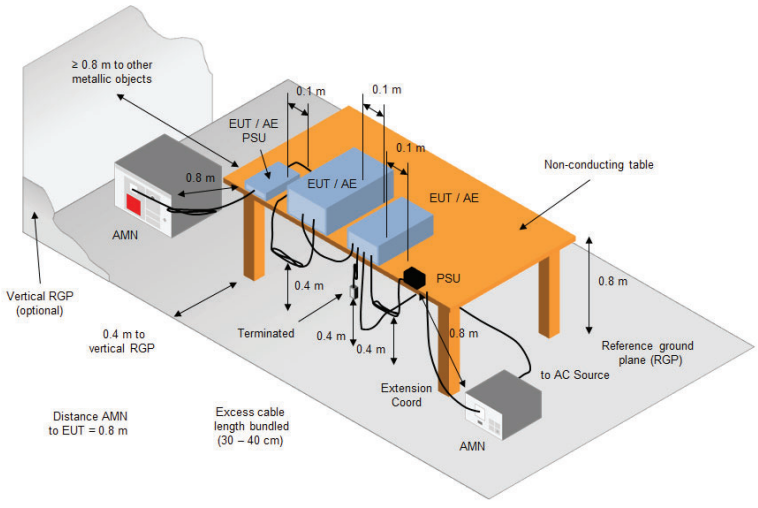
Test Information	
Reference	FCC 15.107, ICES-003, 3.2.1
Reference method	ANSI C63.4:2014+A1:2017 Section 12
Measurement range	150 kHz to 30 MHz
Equipment class	Class B
Equipment type	Table top
Temperature [°C]	22±1
Humidity [%]	40±2
Operator	Stefan Dose
Date	2022-09-16

2.2.2 Setup

Equipment placement



Test Setup



2.2.3 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	Radimation	2020.1.8

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
AMN	Schwarzbeck	NSLK 8127	EF01592	2021-07	2023-07
AMN	R&S	ESH3-Z5	EF00036	2021-08	2023-08
Pulse Limiter	R&S	ESH3-Z2	EF01063	2021-07	2023-07
EMI Test Receiver	R&S	ESR 7	EF00943	2022-07	2023-07
Climatic Sensor	Embedded Data Systems, LLC.	2800100000254 17E	EF01054	2022-04	2023-04

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 2.2.2

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		

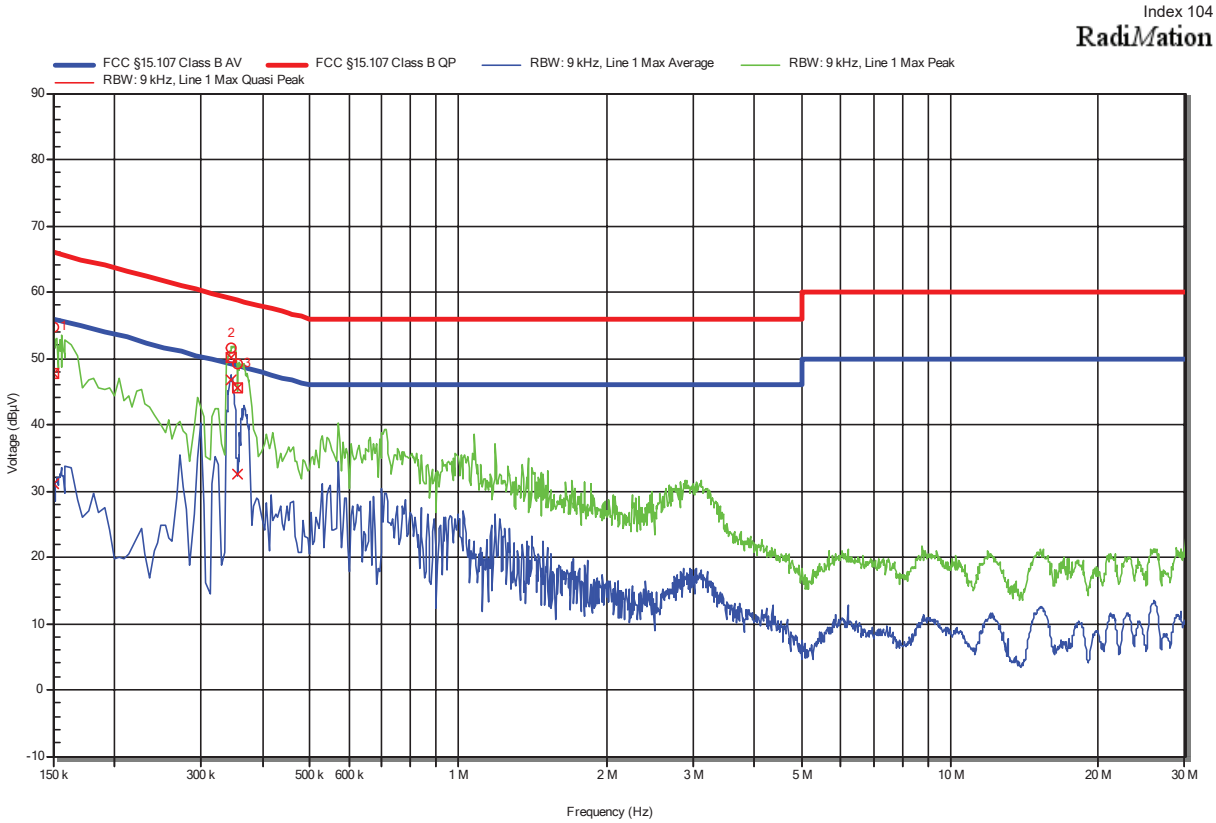
2.2.6 Results

AC power line conducted emissions					
Port	Coupling	Operational mode	EUT Configuration	Verdict	Remark
Power	AMN	1	1	PASS	-
Power	AMN	2	1	PASS	-
Power	AMN	3	1	PASS	-
Power	AMN	4	1	PASS	-
Power	AMN	5	1	PASS	-
Comment: A 3m long Ethernet cable connected to “LAN”-Port was used.					

2.2.8 Records

Conducted emissions at the mains power port according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
LISN:	Schwarzbeck NSLK 8127 RC L
Operational Mode:	1
EUT Configuration:	1
Applied to Port:	Power
Note 1:	



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	150 kHz	47.69 dBµV	66 dBµV	-18.31 dB	Pass	Line 1
2	344.85 kHz	50 dBµV	59.09 dBµV	-9.08 dB	Pass	Line 1
3	357 kHz	45.44 dBµV	58.8 dBµV	-13.36 dB	Pass	Line 1

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	150 kHz	31.09 dBµV	56 dBµV	-24.91 dB	Pass	Line 1
2	344.85 kHz	46.72 dBµV	49.09 dBµV	-2.37 dB	Pass	Line 1
3	357 kHz	32.44 dBµV	48.8 dBµV	-16.36 dB	Pass	Line 1

Conducted emissions at the mains power port
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
LISN:	Schwarzbeck NSLK 8127 N
Operational Mode:	1
EUT Configuration:	1
Applied to Port:	Power
Note 1:	

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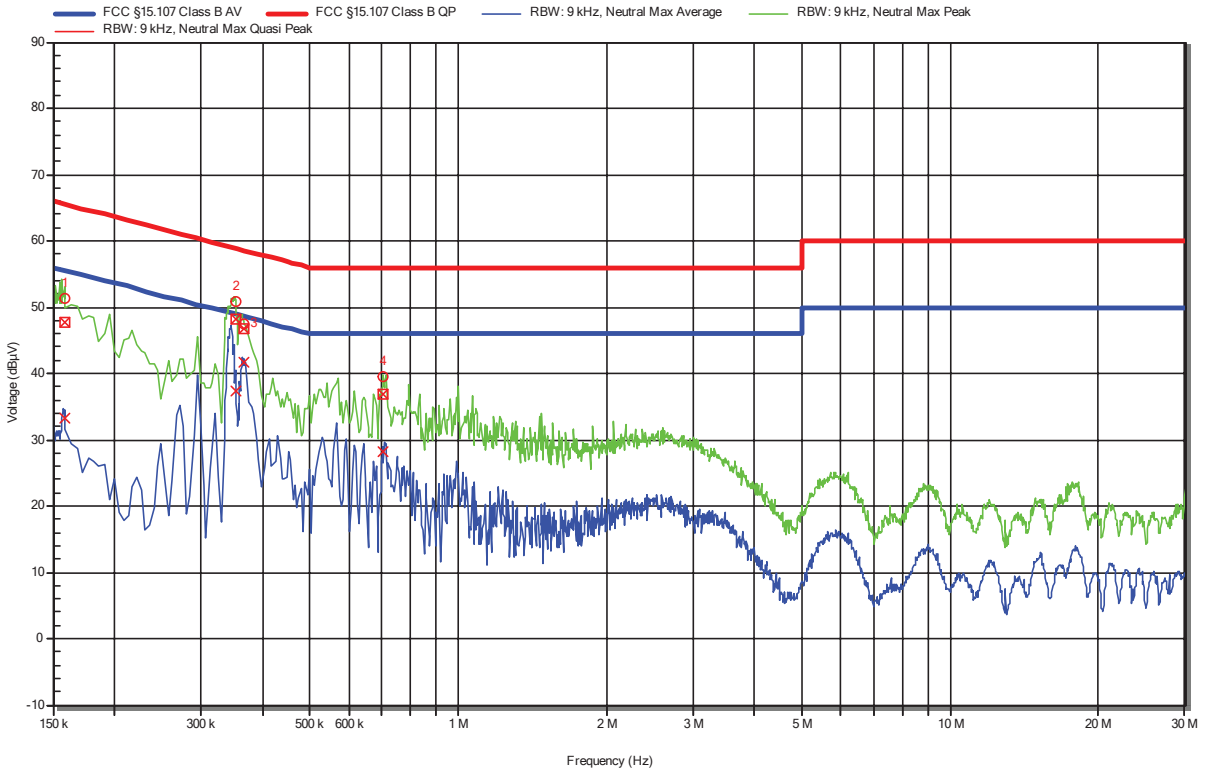

Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	158.1 kHz	47.82 dBµV	65.56 dBµV	-17.74 dB	Pass	Neutral
2	352.5 kHz	48.29 dBµV	58.9 dBµV	-10.62 dB	Pass	Neutral
3	367.35 kHz	46.71 dBµV	58.56 dBµV	-11.85 dB	Pass	Neutral
4	704.85 kHz	36.75 dBµV	56 dBµV	-19.25 dB	Pass	Neutral

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	158.1 kHz	33.22 dBµV	55.56 dBµV	-22.34 dB	Pass	Neutral
2	352.5 kHz	37.46 dBµV	48.9 dBµV	-11.44 dB	Pass	Neutral
3	367.35 kHz	41.59 dBµV	48.56 dBµV	-6.97 dB	Pass	Neutral
4	704.85 kHz	28.25 dBµV	46 dBµV	-17.75 dB	Pass	Neutral

Conducted emissions at the mains power port
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
LISN:	Schwarzbeck NSLK 8127 RC L
Operational Mode:	2
EUT Configuration:	1
Applied to Port:	Power
Note 1:	

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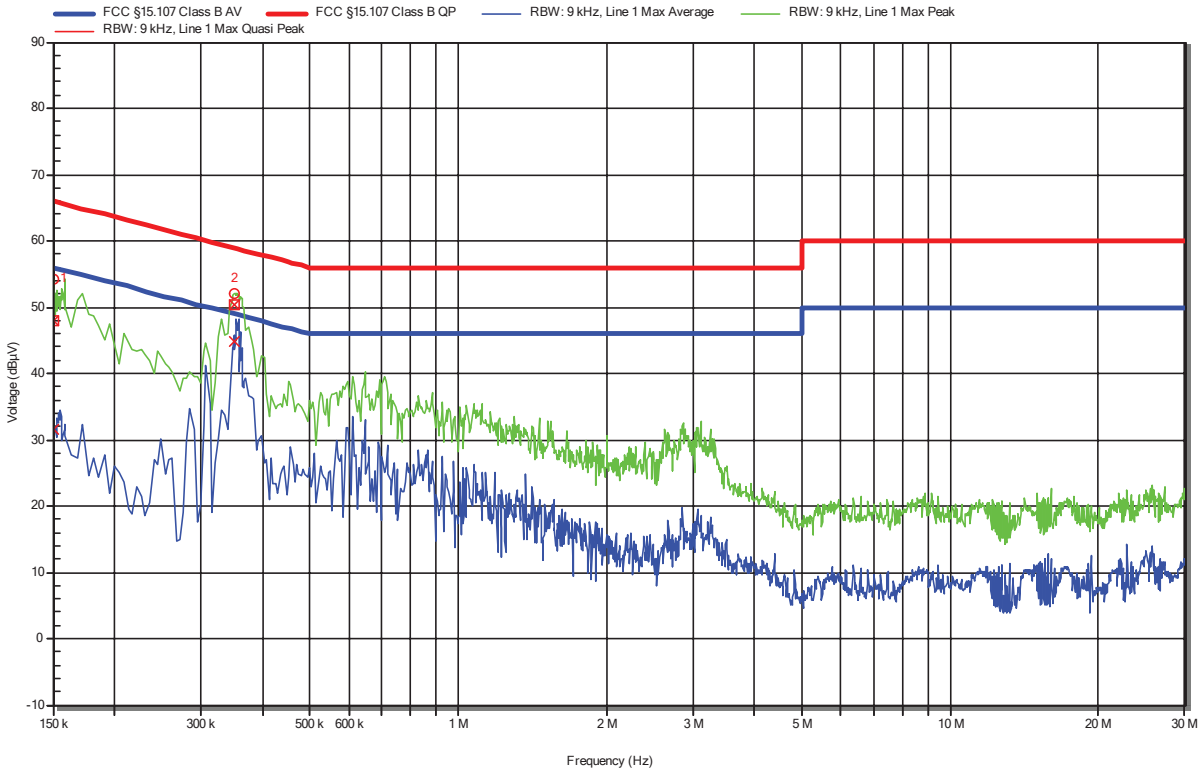
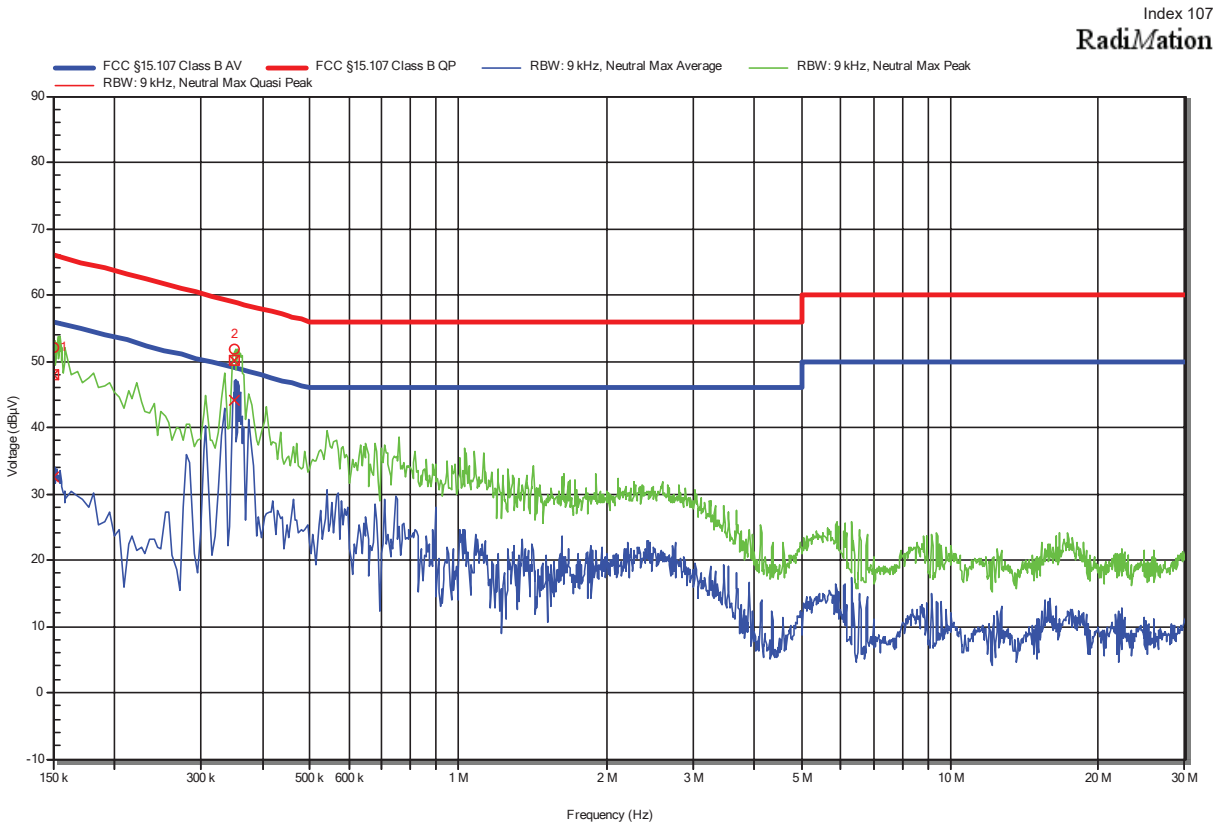


Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	150 kHz	48.04 dBµV	66 dBµV	-17.96 dB	Pass	Line 1
2	350.7 kHz	50.43 dBµV	58.95 dBµV	-8.52 dB	Pass	Line 1

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	150 kHz	31.55 dBµV	56 dBµV	-24.45 dB	Pass	Line 1
2	350.7 kHz	44.81 dBµV	48.95 dBµV	-4.14 dB	Pass	Line 1

Conducted emissions at the mains power port
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
LISN:	Schwarzbeck NSLK 8127 N
Operational Mode:	2
EUT Configuration:	1
Applied to Port:	Power
Note 1:	



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	150.9 kHz	48.01 dBµV	65.95 dBµV	-17.94 dB	Pass	Neutral
2	351.15 kHz	50.03 dBµV	58.94 dBµV	-8.91 dB	Pass	Neutral

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	150.9 kHz	32.62 dBµV	55.95 dBµV	-23.33 dB	Pass	Neutral
2	351.15 kHz	44.15 dBµV	48.94 dBµV	-4.78 dB	Pass	Neutral

Conducted emissions at the mains power port
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
LISN:	Schwarzbeck NSLK 8127 RC L
Operational Mode:	3
EUT Configuration:	1
Applied to Port:	Power
Note 1:	

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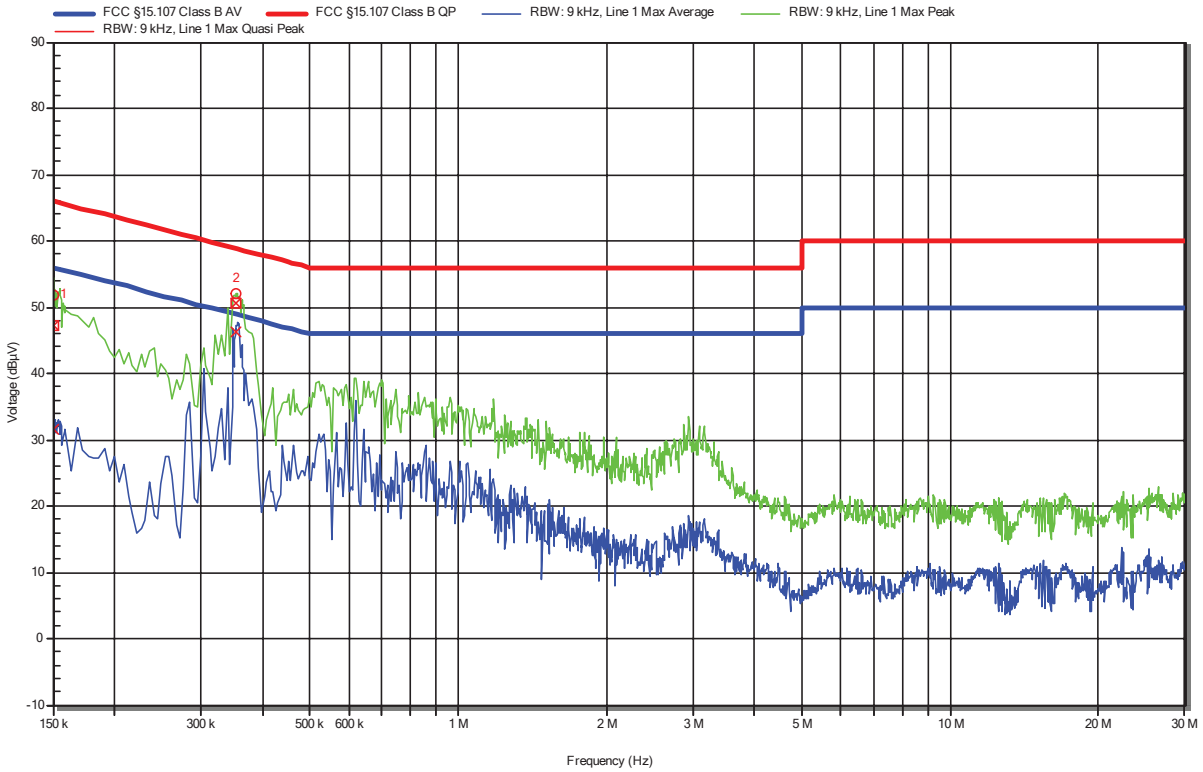

Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	150 kHz	47.29 dBµV	66 dBµV	-18.71 dB	Pass	Line 1
2	353.4 kHz	50.65 dBµV	58.88 dBµV	-8.23 dB	Pass	Line 1

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	150 kHz	31.58 dBµV	56 dBµV	-24.42 dB	Pass	Line 1
2	353.4 kHz	46.2 dBµV	48.88 dBµV	-2.68 dB	Pass	Line 1

Conducted emissions at the mains power port
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
LISN:	Schwarzbeck NSLK 8127 N
Operational Mode:	3
EUT Configuration:	1
Applied to Port:	Power
Note 1:	

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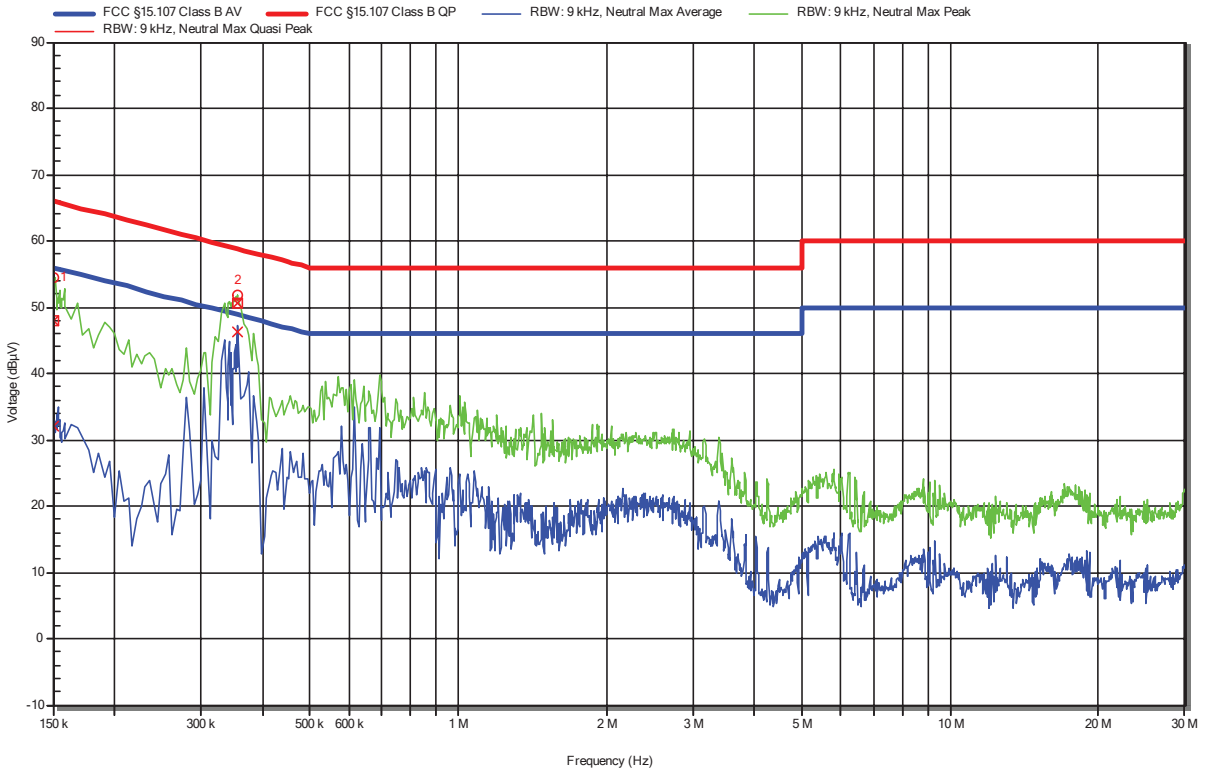

Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	150.9 kHz	47.89 dBµV	65.95 dBµV	-18.06 dB	Pass	Neutral
2	355.2 kHz	50.56 dBµV	58.84 dBµV	-8.28 dB	Pass	Neutral

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	150.9 kHz	31.97 dBµV	55.95 dBµV	-23.98 dB	Pass	Neutral
2	355.2 kHz	46.2 dBµV	48.84 dBµV	-2.64 dB	Pass	Neutral

Conducted emissions at the mains power port
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
LISN:	Schwarzbeck NSLK 8127 RC L
Operational Mode:	4
EUT Configuration:	1
Applied to Port:	Power
Note 1:	

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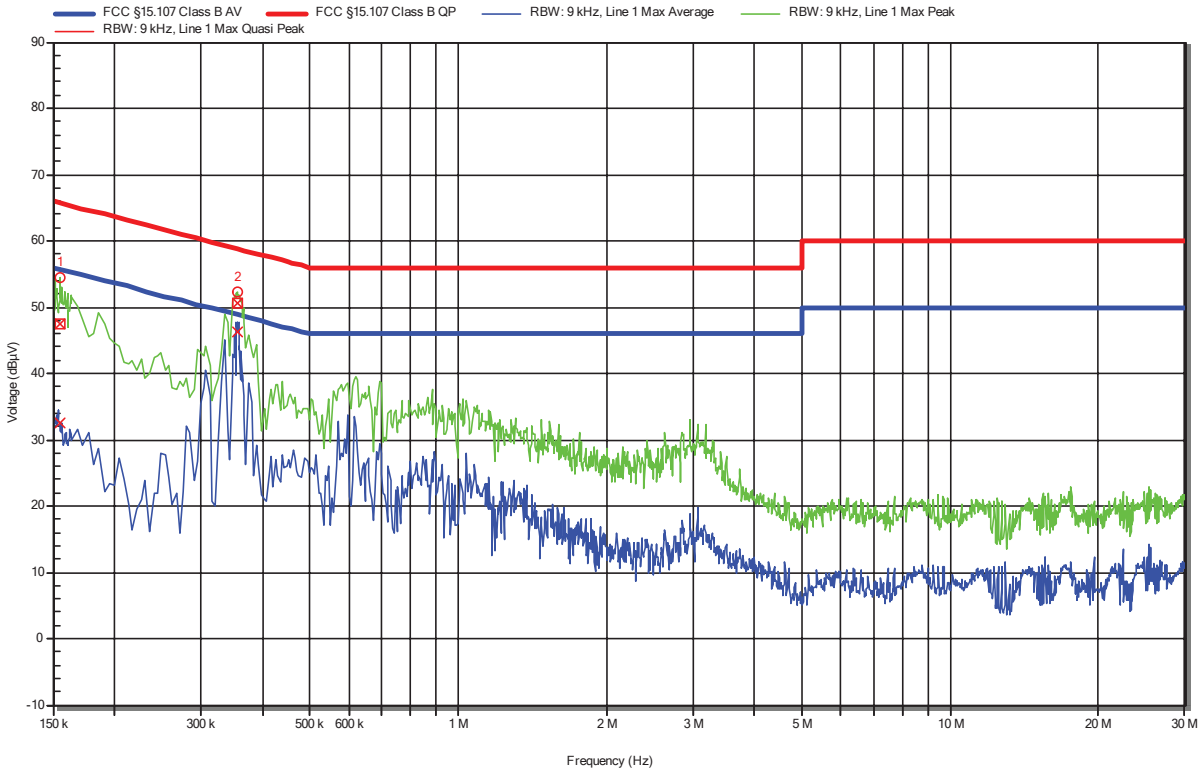

Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	154.95 kHz	47.58 dBµV	65.73 dBµV	-18.15 dB	Pass	Line 1
2	354.75 kHz	50.7 dBµV	58.85 dBµV	-8.15 dB	Pass	Line 1

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	154.95 kHz	32.46 dBµV	55.73 dBµV	-23.27 dB	Pass	Line 1
2	354.75 kHz	46.21 dBµV	48.85 dBµV	-2.64 dB	Pass	Line 1

Conducted emissions at the mains power port
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
LISN:	Schwarzbeck NSLK 8127 N
Operational Mode:	4
EUT Configuration:	1
Applied to Port:	Power
Note 1:	

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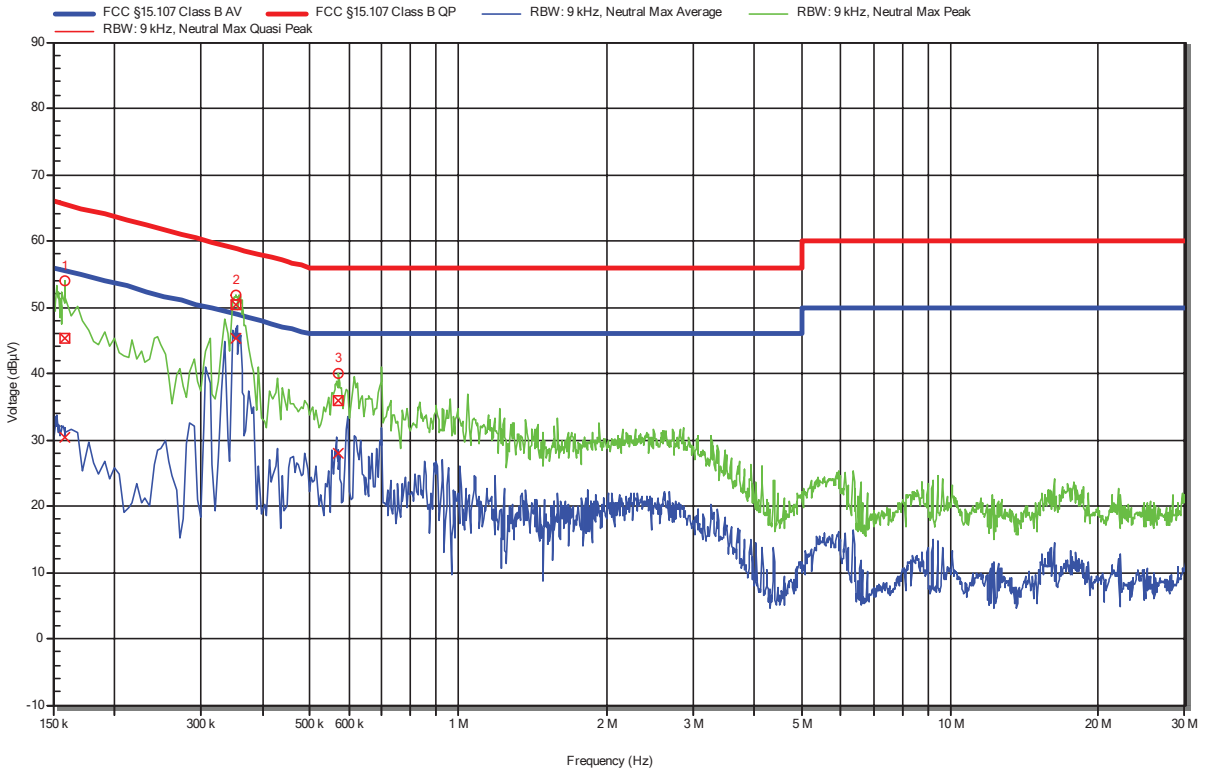

Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	158.55 kHz	45.39 dBµV	65.54 dBµV	-20.15 dB	Pass	Neutral
2	352.5 kHz	50.4 dBµV	58.9 dBµV	-8.5 dB	Pass	Neutral
3	571.2 kHz	35.9 dBµV	56 dBµV	-20.1 dB	Pass	Neutral

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	158.55 kHz	30.35 dBµV	55.54 dBµV	-25.19 dB	Pass	Neutral
2	352.5 kHz	45.26 dBµV	48.9 dBµV	-3.64 dB	Pass	Neutral
3	571.2 kHz	27.99 dBµV	46 dBµV	-18.01 dB	Pass	Neutral

Conducted emissions at the mains power port
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
LISN:	Schwarzbeck NSLK 8127 RC L
Operational Mode:	5
EUT Configuration:	1
Applied to Port:	Power
Note 1:	

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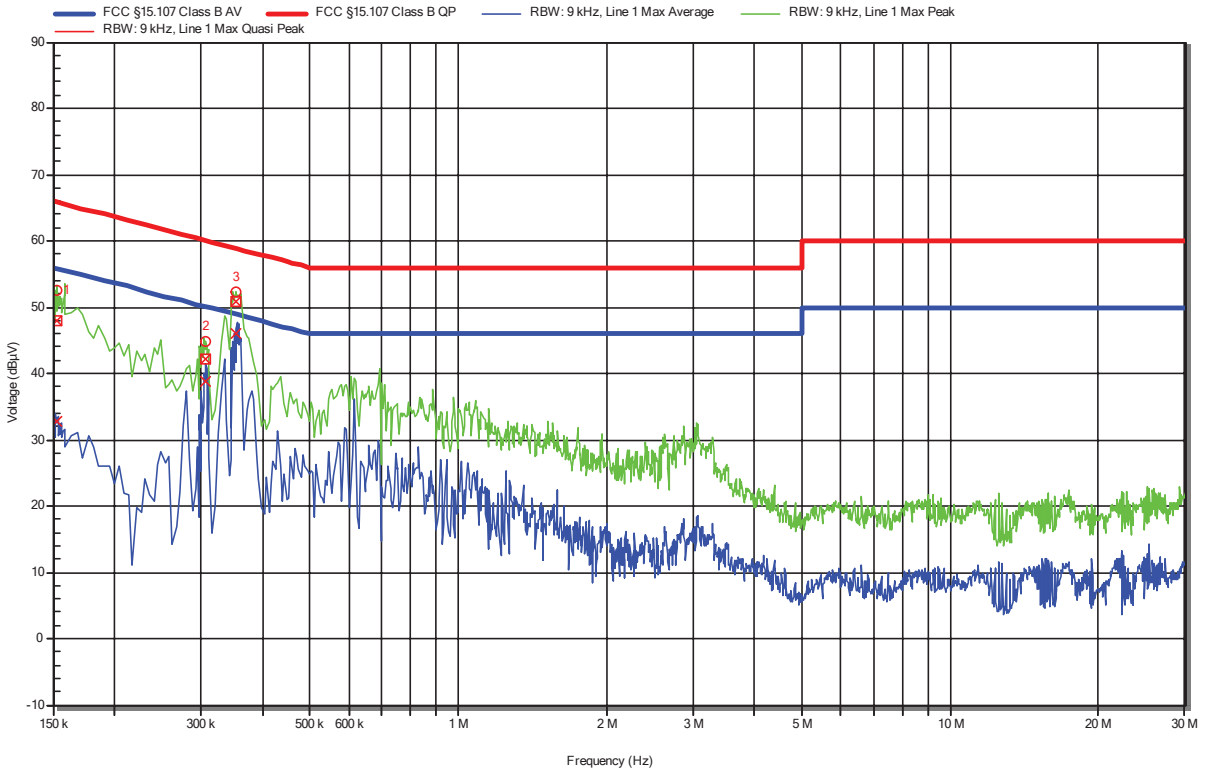
RadiMation



Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	153.15 kHz	47.94 dBµV	65.83 dBµV	-17.89 dB	Pass	Line 1
2	306.15 kHz	42.13 dBµV	60.07 dBµV	-17.94 dB	Pass	Line 1
3	352.95 kHz	50.79 dBµV	58.89 dBµV	-8.1 dB	Pass	Line 1

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	153.15 kHz	32.73 dBµV	55.83 dBµV	-23.09 dB	Pass	Line 1
2	306.15 kHz	38.85 dBµV	50.07 dBµV	-11.23 dB	Pass	Line 1
3	352.95 kHz	46.09 dBµV	48.89 dBµV	-2.8 dB	Pass	Line 1

Conducted emissions at the mains power port
according to FCC part 15B

Project Number:	G0M-2206-1512
Applicant:	BIOTRONIK SE & Co. KG
Model Description:	Data Gateway for Electrophysiology Lab
Model:	Qubic Connect
Test Sample ID:	40191
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Dose
Test Date:	2022-09-16
Operating Conditions:	ambient temperature: 22 °Celsius power input: 120VAC/60Hz
LISN:	Schwarzbeck NSLK 8127 N
Operational Mode:	5
EUT Configuration:	1
Applied to Port:	Power
Note 1:	

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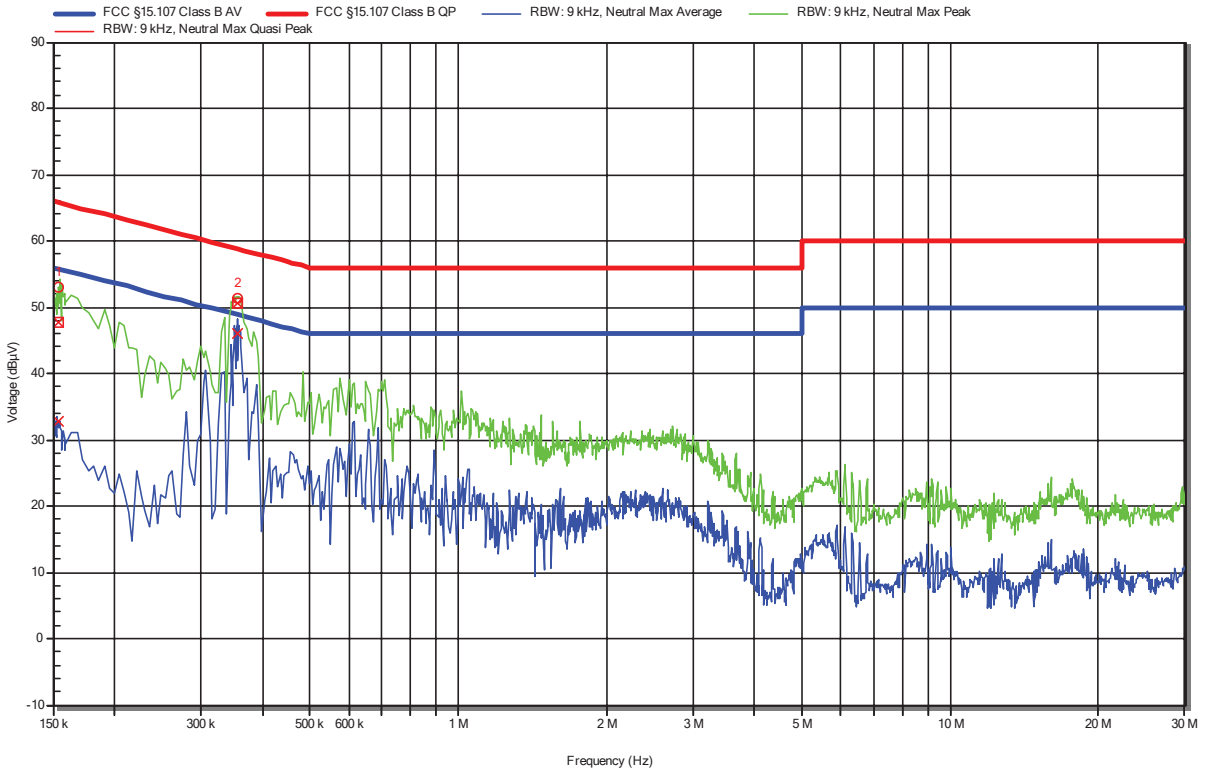

Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	LISN
1	154.05 kHz	47.71 dBµV	65.78 dBµV	-18.07 dB	Pass	Neutral
2	355.65 kHz	50.48 dBµV	58.83 dBµV	-8.35 dB	Pass	Neutral

Peak Number	Frequency	Average	Average Limit	Average Difference	Average Status	LISN
1	154.05 kHz	32.81 dBµV	55.78 dBµV	-22.97 dB	Pass	Neutral
2	355.65 kHz	46.03 dBµV	48.83 dBµV	-2.8 dB	Pass	Neutral

3 Measurement Uncertainty

All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95%, with a coverage factor of 2.

Test Name	Measurement Uncertainty
Conducted emissions at the mains power port	150kHz to 30MHz, 3.35dB
Radiated Emission	30MHz to 200MHz @ 3m, 5.1dB 200MHz to 1GHz @ 3m, 5.3dB >1GHz to 6GHz @3m, 5.95dB