

RADIO REPORT FCC 47 CFR Part 15E Unlicensed National Information Infrastructure Devices in the 5 GHz Bands	
Report Reference No	G0M-2404-2553-TFC407WF-V01
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	 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	47 CFR Part 15E
Non-Standard Test Method	None
Equipment under Test (EUT):	
Product Description	Status interrogation system for implantable pacemakers, defibrillators and monitors
Model(s)	BIOexpress
Additional Model(s)	None
Brand Name(s)	BIOTRONIK
Hardware Version(s)	A
Software Version(s)	LTE: M0C.200006, Wi-Fi: 47.00.003, Coil: PGH_FW_DSP 00_01_08_04
FCC-ID	QRI-BEXWW1
Test Result	PASSED

Possible test case verdicts:		
required by standard but not tested	N/T	
not required by standard	N/R	
not applicable to EUT	N/A	
test object does meet the requirement	P(PASS)	
test object does not meet the requirement	F(FAIL)	
Testing:		
Test Lab Temperature	20 - 23 °C	
Test Lab Humidity	32 – 38 %	
Date of receipt of test item	2024-07-04	
Report:		
Compiled by	Md Abu Bakar Siddique	
Tested by (+ signature) (Responsible for Test)	Md Abu Bakar Siddique	
Approved by (+ signature) (Test Lab Engineer)	Florian Voigt	
Date of Issue	2025-04-02	
Total number of pages	57	
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:		
None		

VERSION HISTORY

Version History			
Version	Issue Date	Remarks	Revised By
01	2025-04-02	Initial Release	--

ABBREVIATIONS AND ACRONYMS

Acronyms	
Acronym	Description
BPSK	Binary Phase Shift Keying
EIRP	Equivalent Isotropic Radiated Power
EUT	Equipment Under Test
FCC	Federal Communications Commission
HT	High Throughput
IEEE 802.11	MAC and PHY Layer for WiFi
OFDM	Orthogonal Frequency Division Multiplexing
QAM	Quadrature Amplitude Modulation
QPSK	Quadrature Phase Shift Keying
RBW	Resolution bandwidth
RMS	Root mean square
TPC	Transmit Power Control
VBW	Video bandwidth
VHT	Very High Throughput

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1 Equipment (Test Item) Under Test

Description	Status interrogation system for implantable pacemakers, defibrillators and monitors			
Model	BIOexpress			
Additional Model(s)	None			
Brand Name(s)	BIOTRONIK			
Sample Identification	EUT #	Sample-ID	Serial Number	Date of receipt
	EUT 1	49276	79900000	2024-07-04
Hardware Version(s)	A			
Software Version(s)	LTE: M0C.200006, Wi-Fi: 47.00.003, Coil: PGH_FW_DSP 00_01_08_04			
FCC-ID	QRI-BEXWW1			
Equipment type	End Product			
Radio type	Transceiver			
Assigned frequency bands	5150 - 5250 MHz 5250 - 5350 MHz 5470 - 5725 MHz 5725 - 5850 MHz			
Radio technology	IEEE 802.11a IEEE 802.11n (HT20) IEEE 802.11n (HT40)			
Modulation	BPSK, QPSK, 16-QAM, 64-QAM			
Number of antenna ports	1			
Radio Module	Type	802.11 a/b/g/n WiFi Module+BT combo module		
	Model	WE310G4-P		
	Manufacturer	Telit Cinterion		
	HW version	Not specified		
	SW version	47.00.003		
	FCC-ID	RI7WE310G4		
Antenna	Type	Integrated antenna		
	Model	M830520		
	Manufacturer	Kyocera AVX		
	Gain (Customer declaration)	2.6 dBi (U-NII-1) 2.6 dBi (U-NII-2A)	2.6 dBi (U-NII-2C) 2.6 dBi (U-NII-3)	
Supply Voltage	V _{NOM}	5 V DC via external AC/DC adaptor 3.7 V DC via internal rechargeable lithium battery		
Operating Temperature	T _{NOM}	21°C		
AC/DC-Adaptor	Model	GTM96180-1507-2.0		
	Vendor	Glob Tek		
	Input	100-240V~		
	Output	5 V DC		
Manufacturer	BIOTRONIK SE & Co. KG Woermannkehre 1 12359 Berlin GERMANY			

1.3 Support Equipment

Product Type	Device	Manufacturer	Model	Comment
AE	Laptop	Lenovo	T440	Lab laptop
SFT	AmebaD_mptool_2V2	Realtek	2V2	Test software
AE	USB to serial adapter	--	WE310G4	--
CBL	Micro USB cable	--	--	--
Description:				
AE	Auxiliary Equipment			
SIM	Simulator			
CBL	Connecting Cable			
SFT	Software			
Comment: The EUT used a test software.				

1.4 Test Modes

Mode	Description
OFDM (IEEE 802.11a)	Mode = Transmit Modulation = BPSK Bandwidth = 20 MHz Duty cycle = 94% Power setting = Default setting by manufacturer Data rate = 6 Mbps
HT20 (IEEE 802.11n)	Mode = Transmit Modulation = BPSK Bandwidth = 40 MHz Duty cycle = 95% Power setting = Default setting by manufacturer Data rate = 6.5 Mbps MCS index = 0
HT40 (IEEE 802.11n)	Mode = Transmit Modulation = BPSK Bandwidth = 40 MHz Duty cycle = 87% Power setting = Default setting by manufacturer Data rate = 13.5 Mbps MCS index = 0
Comment: The above settings are found as worst case during evaluation of the original modular test report FR261411AN, issued on 2022-11-11 by „SPORTON INTERNATIONAL INC. Hsinhua Laboratory“. Conducted peak/average output power was evaluated to determine the worst-case settings.	

1.5 Test Frequencies

Designator	Mode	Channel	Frequency [MHz]
F1	Tx / Rx	36	5180
F2	Tx / Rx	40	5200
F3	Tx / Rx	64	5320
F4	Tx / Rx	60+64	5310
F5	Tx / Rx	100+104	5510
F6	Tx / Rx	149	5745
F7	Tx / Rx	165	5825

1.6 Sample emission level calculation

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

Reading:

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

A.F.:

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

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

Net:

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

Limit:

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

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

Margin:

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

Example only:

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

2 Result Summary

FCC 47 CFR Part 15E				
Product Standard Reference	Requirement	Reference Method	Result	Remarks
FCC 15.407(e)	6 dB bandwidth	KDB 789033 C.2	N/T	Note 1
FCC 15.407(a)(2), (a)(5), (h)(2)	26 dB bandwidth	KDB 789033 C.1	N/T	Note 1
FCC 15.407(a)	Maximum output power	KDB 789033 E	N/T	Note 1
FCC 15.407(h)	Transmit power control	KDB 789033 E	N/T	Note 1
FCC 15.407(a)	Power spectral density	KDB 789033 F	N/T	Note 1
FCC 15.407(g)	Frequency stability	ANSI C63.10 6.8	N/T	Note 1
FCC 15.207	AC power line conducted emissions	ANSI C63.10 6.2	PASS	--
FCC 15.407(b)	Transmitter radiated emissions	KDB 789033 G	PASS	--
FCC 15.407(a)	Radiation pattern	KDB 789033 H	N/R	5250-5350 MHz band only with EIRP > 23 dBm
Note 1: Tests were not carried out because of module integration of a pre-certified radio module. See module reports: FR261411AN issue date 2022-11-11 by „SPORTON INTERNATIONAL INC.(Hsinhua Laboratory)“.				
Comment: The Decision Rule is applied on the basis of ETSI TR 102 273 and ETSI TR 100 028. 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. Where a result is considered conditional in respect of its proximity to the limit line, the customer would be made aware of situation so that they can make an informed decision on how to proceed.				

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

3 Test Conditions and Results

3.1 Test Conditions and Results - Transmitter radiated emissions

3.1.1 Information

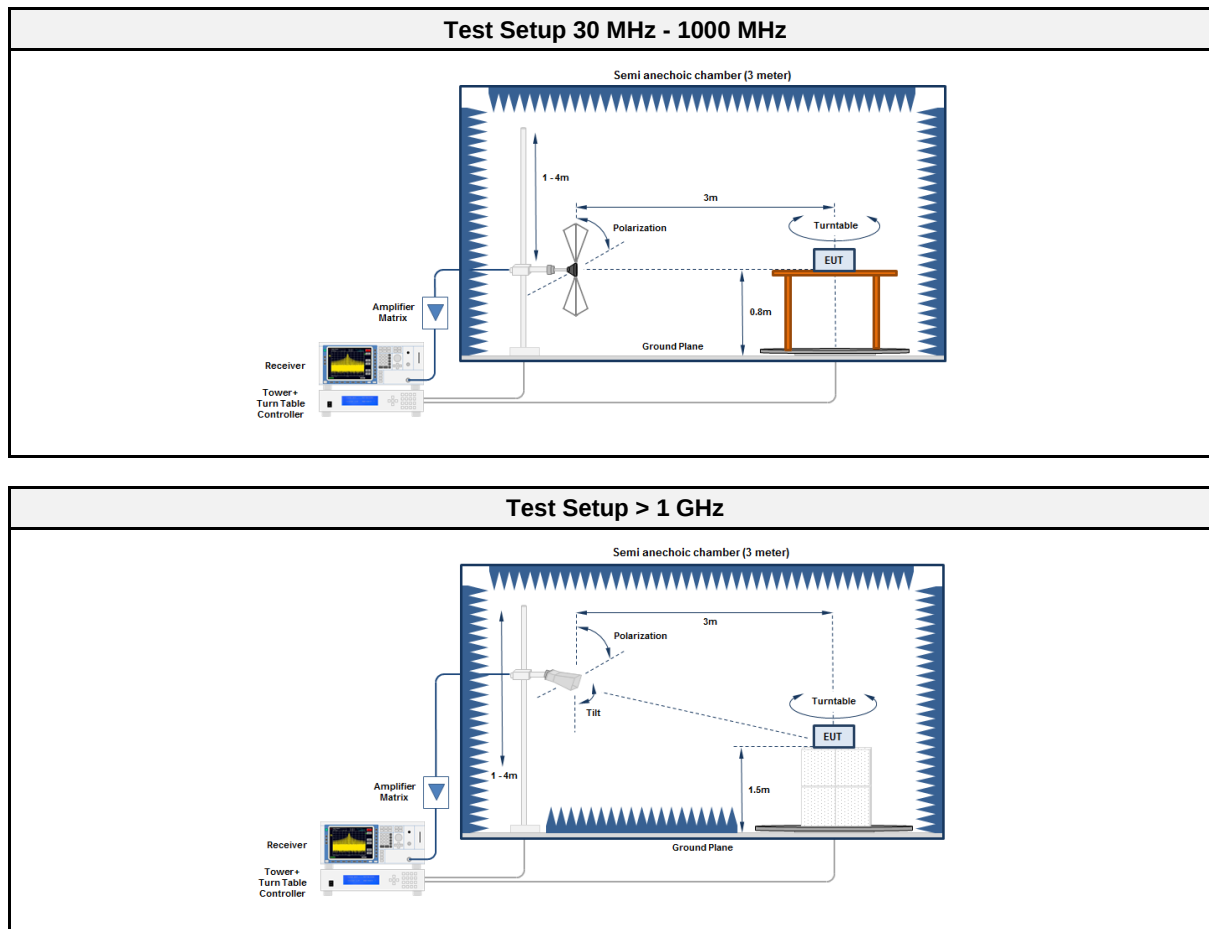
Test Information	
Reference	FCC 15.407(b)
Measurement Method	KDB 789033 G
Operator	Md Abu Bakar Siddique
Date	2024-07-05 to 2024-07-08
Measurement uncertainty	±5.95 %

3.1.2 Limits

Limits - Restricted frequency bands and below 1 GHz			
Frequency [MHz]	Detector	Field strength [μV/m]	Measurement distance [m]
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

Limits - Outside restricted frequency bands above 1 GHz			
Frequency band [MHz]	Power limit [dBm EIRP]	Field strength limit [dBμV/m]	Measurement distance [m]
5150 - 5250	-27 dBm/MHz	68.2	3
5250 - 5350	-27 dBm/MHz	68.2	3
5470 - 5725	-27 dBm/MHz	68.2	3
5725 - 5850	-27 dBm/MHz @ ±75 MHz from band edge	68.2	3
5725 - 5850	10 to -27 dBm/MHz @ ±25 to ±75 MHz from band edge	105.2 to 68.2	3
5725 - 5850	15.6 to 10 dBm/MHz @ ±5 to ±25 MHz from band edge	110.8 to 105.2	3
5725 - 5850	27 to 15.6 dBm/MHz @ ±0 to ±5 MHz from band edge	122.2 to 110.8	3

3.1.3 Setup



3.1.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2023.2.6

Test Equipment 30 MHz - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2022-11	2025-11
Antenna	Schwarzbeck	VULB 9168	EF01824	2022-10	2025-10
Test Receiver	Rohde & Schwarz	ESW44	EF01856	2024-04	2025-04

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC2	EF01616	2023-12	2024-12
Spectrum analyzer	Rohde & Schwarz	FSW43	EF00896	2023-08	2024-08
Antenna	Schwarzbeck	BBHA 9120B	EF01678	2024-05	2027-05
Horn Antenna	Schwarzbeck	HWRD 650	EF01679	2024-05	2027-05
Antenna	Amplifier Research	AT4560	EF00302	2023-09	2025-09
Antenna	Flann Microwave Ltd	22240-25 Amp CBL26402075	EF00301	2023-01	2026-01

3.1.5 Procedure

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

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

3.1.6 Results

Test Results							
Mode	Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
OFDM	5200	43.6908	23.8	qpk	ver	68.2	-44.41
OFDM	5200	115.6879	20.7	qpk	ver	43.5	-22.84
OFDM	5200	1440.4	38.15	pk	hor	74	-35.85
OFDM	5200	5081.777	45.03	pk	ver	74	-28.97
OFDM	5200	5405.027	44.87	pk	ver	74	-29.13
OFDM	5200	17753	42.97	pk	hor	74	-31.03
OFDM	5200	31404.1	45.44	pk	ver	74	-28.56
OFDM	5200	31404.1	34.18	RMS	ver	54	-19.82
OFDM	5200	36477.4	46.81	pk	ver	74	-27.19
OFDM	5200	36477.4	37.14	RMS	ver	54	-16.86
OFDM	5200	39884.35	50.51	pk	ver	74	-23.49
OFDM	5200	39884.35	41.51	RMS	ver	54	-12.49
OFDM	5180	5105.03	56.8	pk	hor	74	-17.2
OFDM	5180	5105.03	38.96	RMS	hor	54	-15.04
OFDM	5320	5352.323	50.63	pk	ver	74	-23.37
OFDM	5320	5352.323	37.86	RMS	ver	54	-16.14
HT40	5510	37.76	23.9	pk	ver	40	-16.15
HT40	5510	113.7433	22.5	pk	ver	43.5	-20.98
HT40	5510	1440.5	37.85	pk	hor	74	-36.15
HT40	5510	5389.139	45.45	pk	ver	74	-28.55
HT40	5510	5430.088	45.92	pk	ver	74	-28.08
HT40	5510	5430.088	40.41	RMS	ver	54	-13.59
HT40	5510	31384.75	45.99	pk	hor	74	-28.01
HT40	5510	31384.75	34.99	RMS	hor	54	-19.01
HT40	5510	36449.95	46.78	pk	ver	74	-27.22
HT40	5510	36449.95	37.07	RMS	ver	54	-16.93
HT40	5510	39915.85	50.81	pk	hor	74	-23.19
HT40	5510	39915.85	40.34	RMS	hor	54	-13.66
HT20	5700	5725.422	56.14	pk	hor	68.2	-12.06
HT20	5700	5725.422	43.4	RMS	hor	68.2	-24.8
HT20	5745	37.76	21.5	pk	ver	40	-18.55
HT20	5745	127.6467	24.5	pk	ver	43.5	-18.99
HT20	5745	1440.1	36.59	pk	ver	74	-37.41
HT20	5745	5446.139	42.57	pk	ver	74	-31.43
HT20	5745	5927.51	43.6	pk	hor	68.2	-24.6
HT20	5745	11491	41.81	pk	ver	74	-32.19
HT20	5745	17756.333	43.23	pk	ver	74	-30.77
HT20	5745	31261	45.53	pk	ver	74	-28.47
HT20	5745	31261	33.89	RMS	ver	54	-20.11
HT20	5745	36468.85	47.14	pk	hor	74	-26.86
HT20	5745	36468.85	37.25	RMS	hor	54	-16.75
HT20	5745	39887.95	49.77	pk	ver	74	-24.23
HT20	5745	39887.95	39.7	RMS	ver	54	-14.3

3.2 Test Conditions and Results - AC powerline conducted emissions

3.2.1 Information

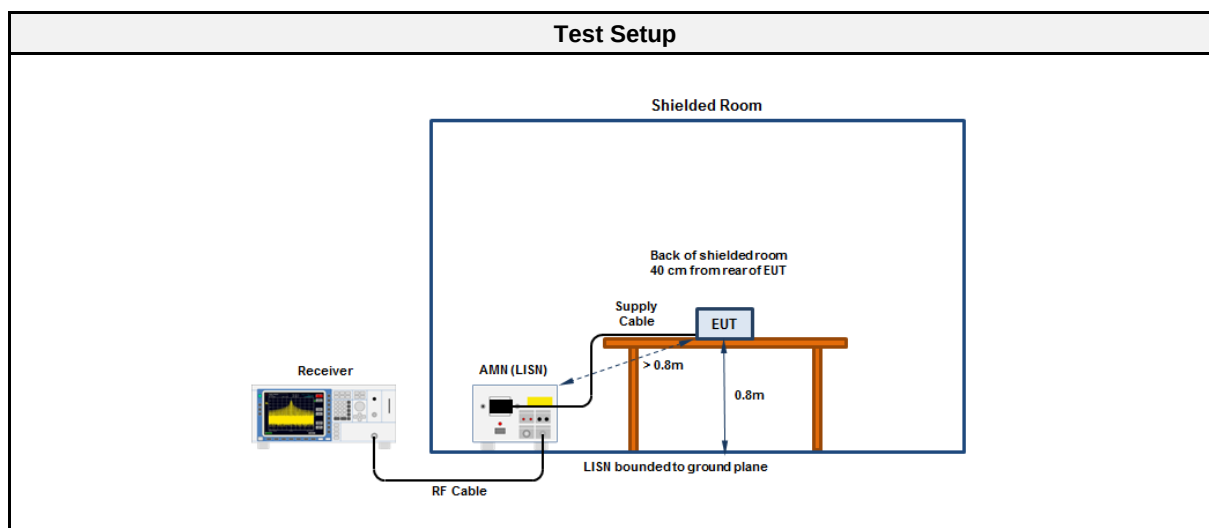
Test Information	
Reference	FCC § 15.207
Measurement Method	ANSI C63.10 6.2
Measurement Uncertainty	± 3.82 dB
Operator	Md Abu Bakar Siddique
Date	2024-07-09

3.2.2 Limits

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

* Limit decreases linearly with the logarithm of the frequency

3.2.3 Setup



3.2.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2023.2.6

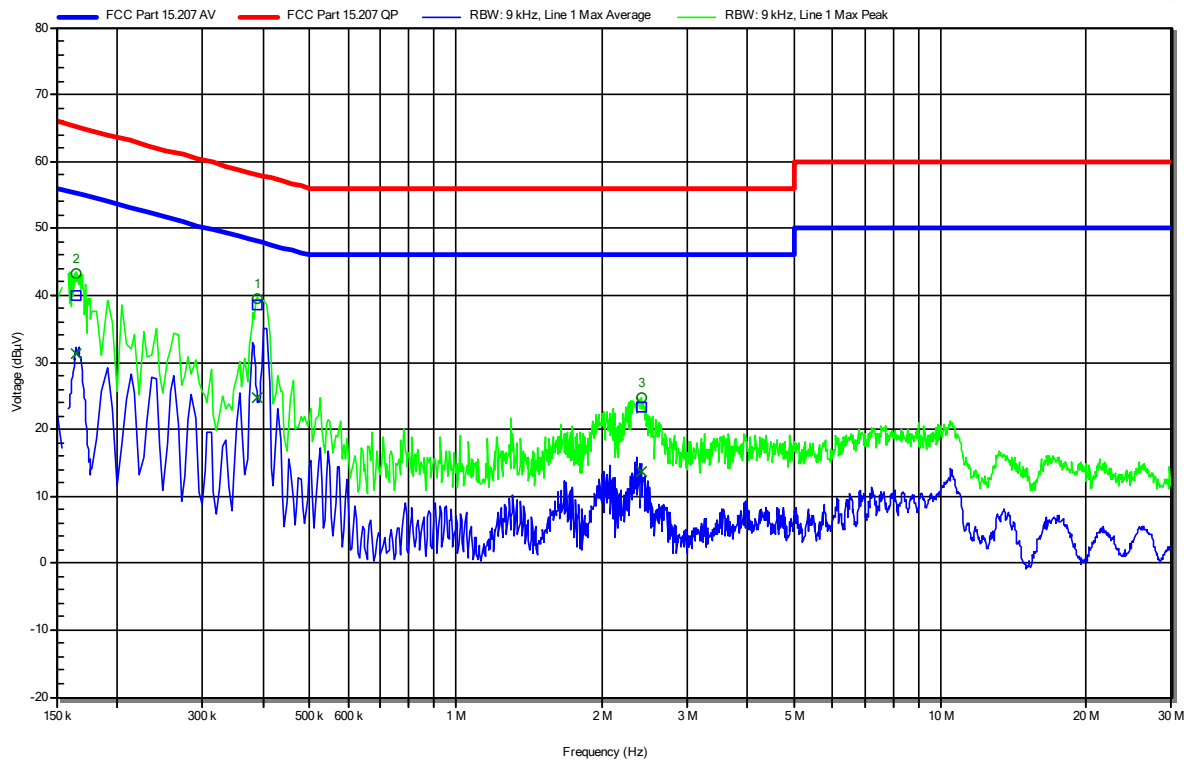
Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Test Receiver	R&S	ESU26	EF00887	2024-01	2025-01
Pulse Limiter	R&S	ESH3-Z2	EF01222	2023-08	2025-08
LISN	Schwarzbeck	NSLK 8127 RC	EF01592	2023-06	2025-06

3.2.5 Results

Conducted emissions at the mains power port according to FCC 15.207

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Test Date & Time: 2024-07-09
 Operating Conditions: ambient temperature: 23 °Celsius
 power input: 120 V AC, 60 Hz
 AMN: Schwarzbeck NSLK 8127 RC L1
 Operational Mode: IEEE 802.11a, 6 Mbps, BW20 MHz, 5200 MHz
 DUT Configuration:
 Applied to Port: Mains

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RadiMation



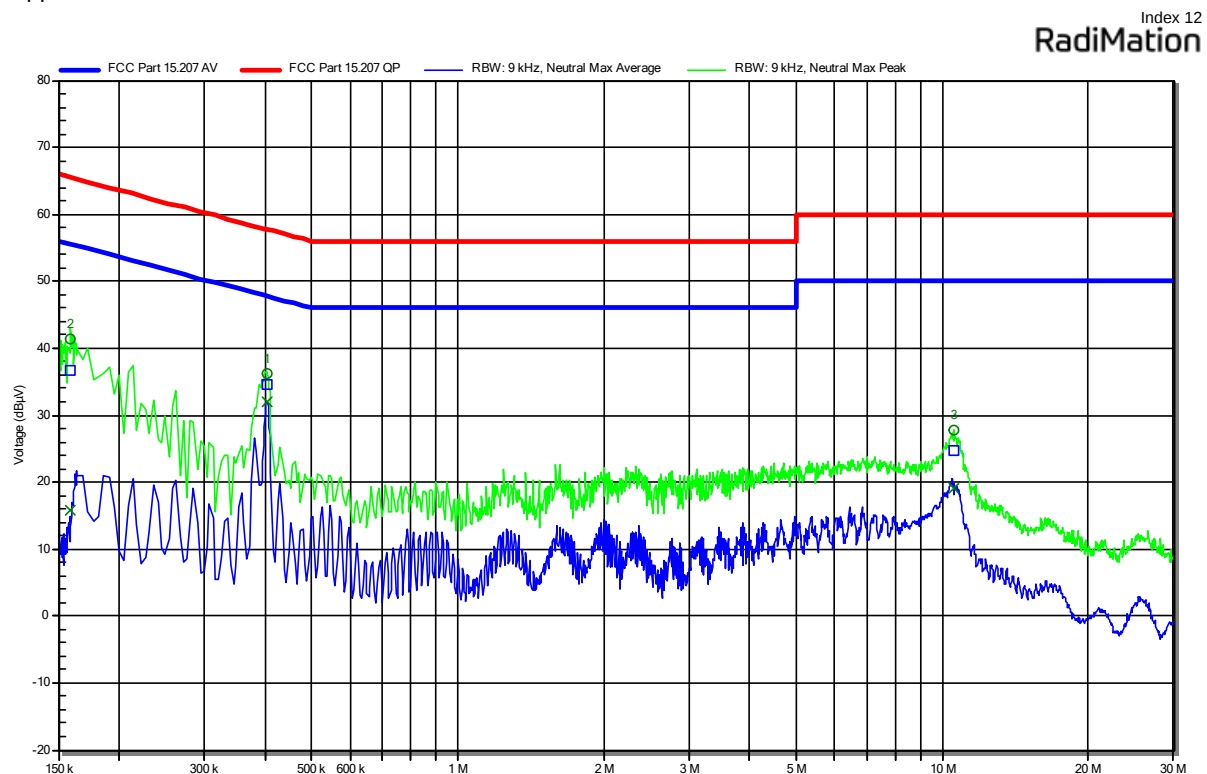
Start Frequency	Stop Frequency	Frequency Step	Measure Time	RBW		
150 kHz	30 MHz	Linear: 4.5 kHz steps	10 ms	9 kHz		
Peak Number	Frequency (MHz)	Quasi-Peak (dBμV)	Quasi-Peak Limit (dBμV)	Quasi-Peak Difference (dB)	Quasi-Peak Status	LISN
1	0.389	38.55	58.09	-19.53	Pass	Line 1
2	0.164	39.99	65.24	-25.25	Pass	Line 1
3	2.412	23.39	56	-32.61	Pass	Line 1
Peak Number	Frequency (MHz)	Average (dBμV)	Average Limit (dBμV)	Average Difference (dB)	Average Status	LISN
1	0.389	24.63	48.09	-23.45	Pass	Line 1
2	0.164	31.36	55.24	-23.88	Pass	Line 1
3	2.412	13.78	46	-32.22	Pass	Line 1

Test Report No.: G0M-2404-2553-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted emissions at the mains power port according to FCC 15.207

Project Number: GOM-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
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 Operator: Mr. Siddique
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 Operating Conditions: ambient temperature: 23 °Celsius
 power input: 120 V AC, 60 Hz
 AMN: Schwarzbeck NSLK 8127
 Operational Mode: IEEE 802.11a, 6 Mbps, BW20 MHz, 5200 MHz
 DUT Configuration:
 Applied to Port: Mains



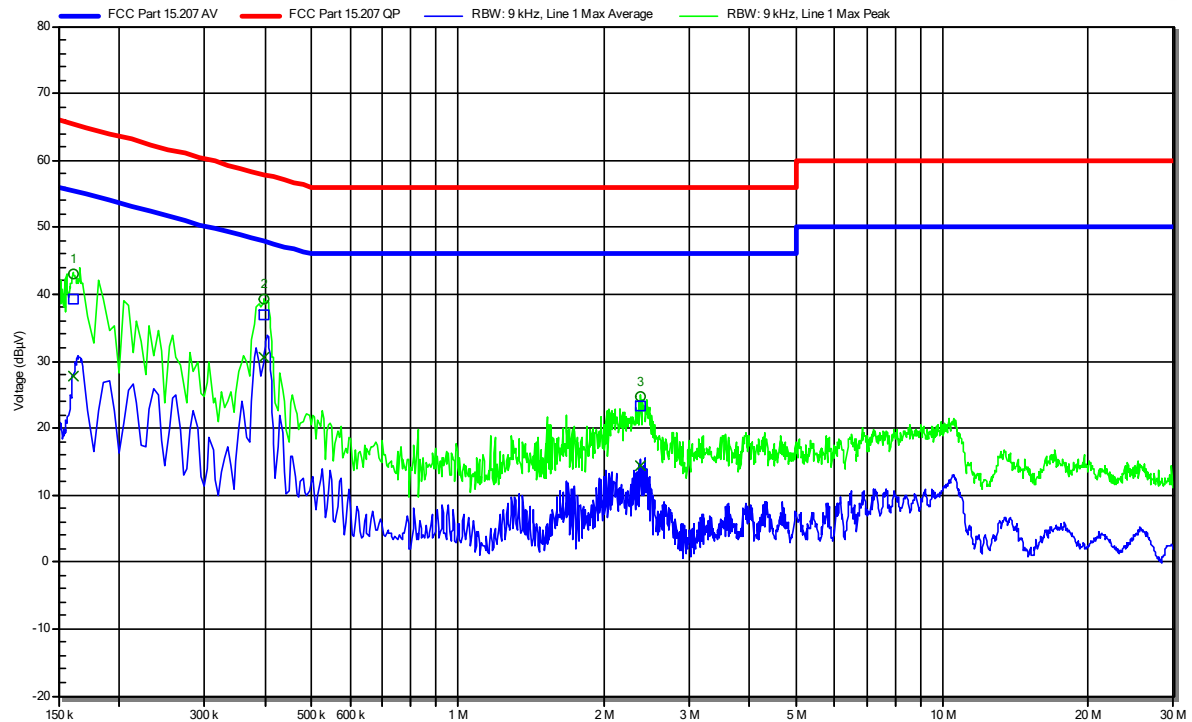
Frequency (Hz)						
Start Frequency 150 kHz	Stop Frequency 30 MHz	Frequency Step Linear: 4.5 kHz steps	Measure Time 10 ms	RBW 9 kHz		
Peak Number	Frequency (MHz)	Quasi-Peak (dBμV)	Quasi-Peak Limit (dBμV)	Quasi-Peak Difference (dB)	Quasi-Peak Status	LISN
1	0.403	34.65	57.79	-23.15	Pass	Neutral
2	0.159	36.61	65.52	-28.91	Pass	Neutral
3	10.532	24.78	60	-35.22	Pass	Neutral
Peak Number	Frequency (MHz)	Average (dBμV)	Average Limit (dBμV)	Average Difference (dB)	Average Status	LISN
1	0.403	32	47.79	-15.79	Pass	Neutral
2	0.159	15.68	55.52	-39.83	Pass	Neutral
3	10.532	19.11	50	-30.89	Pass	Neutral

Conducted emissions at the mains power port according to FCC 15.207

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 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Test Date & Time: 2024-07-09
 Operating Conditions: ambient temperature: 23 °Celsius
 power input: 120 V AC, 60 Hz
 AMN: Schwarzbeck NSLK 8127 RC L1
 Operational Mode: IEEE 802.11n, MCS0, BW40 MHz, 5510 MHz
 DUT Configuration:
 Applied to Port: Mains

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RadiMation



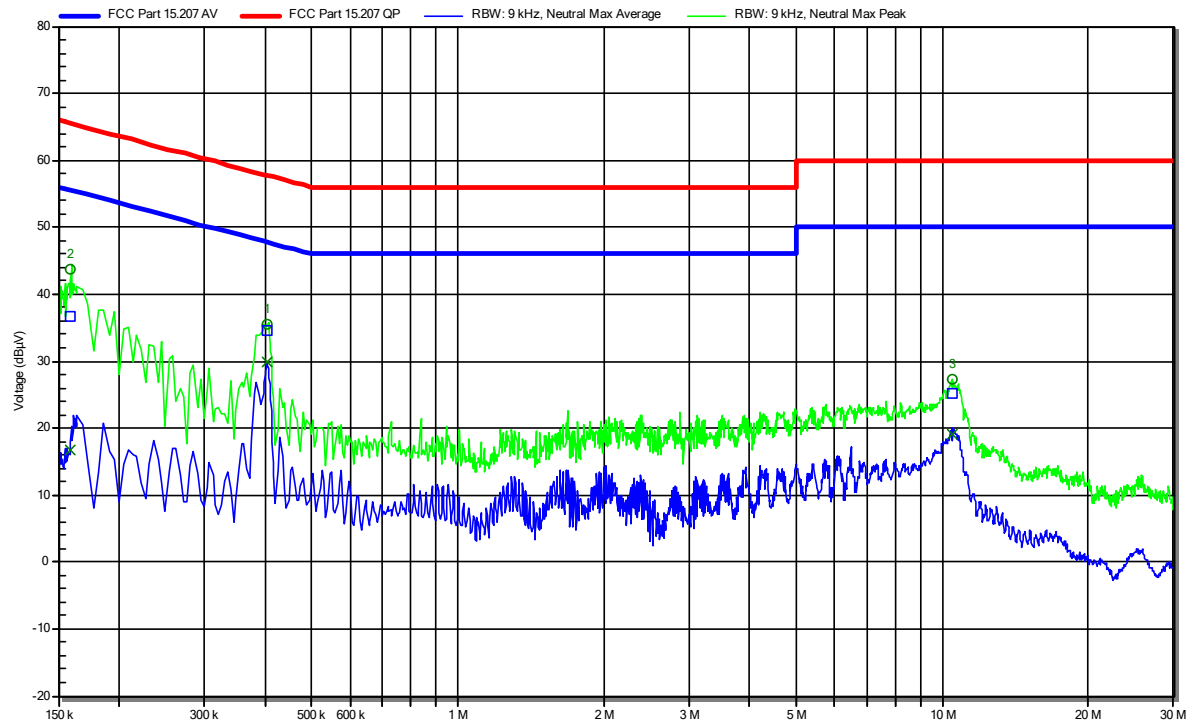
Frequency (Hz)						
Start Frequency 150 kHz	Stop Frequency 30 MHz	Frequency Step Linear: 4.5 kHz steps	Measure Time 10 ms	RBW 9 kHz		
Peak Number	Frequency (MHz)	Quasi-Peak (dBμV)	Quasi-Peak Limit (dBμV)	Quasi-Peak Difference (dB)	Quasi-Peak Status	LISN
1	0.161	39.22	65.42	-26.2	Pass	Line 1
2	0.398	37.04	57.89	-20.85	Pass	Line 1
3	2.382	23.4	56	-32.6	Pass	Line 1
Peak Number	Frequency (MHz)	Average (dBμV)	Average Limit (dBμV)	Average Difference (dB)	Average Status	LISN
1	0.161	27.76	55.42	-27.66	Pass	Line 1
2	0.398	30.68	47.89	-17.21	Pass	Line 1
3	2.382	14.48	46	-31.52	Pass	Line 1

Conducted emissions at the mains power port according to FCC 15.207

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 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
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 AMN: Schwarzbeck NSLK 8127
 Operational Mode: IEEE 802.11n, MCS0, BW40 MHz, 5510 MHz
 DUT Configuration:
 Applied to Port: Mains

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RadiMation



Frequency (Hz)						
Start Frequency 150 kHz	Stop Frequency 30 MHz	Frequency Step Linear: 4.5 kHz steps	Measure Time 10 ms	RBW 9 kHz		
Peak Number	Frequency (MHz)	Quasi-Peak (dBμV)	Quasi-Peak Limit (dBμV)	Quasi-Peak Difference (dB)	Quasi-Peak Status	LISN
1	0.405	34.64	57.75	-23.11	Pass	Neutral
2	0.159	36.74	65.52	-28.77	Pass	Neutral
3	10.446	25.3	60	-34.7	Pass	Neutral
Peak Number	Frequency (MHz)	Average (dBμV)	Average Limit (dBμV)	Average Difference (dB)	Average Status	LISN
1	0.405	29.99	47.75	-17.76	Pass	Neutral
2	0.159	16.67	55.52	-38.85	Pass	Neutral
3	10.446	19.09	50	-30.91	Pass	Neutral

Test Report No.: GOM-2404-2553-TFC407WF-V01

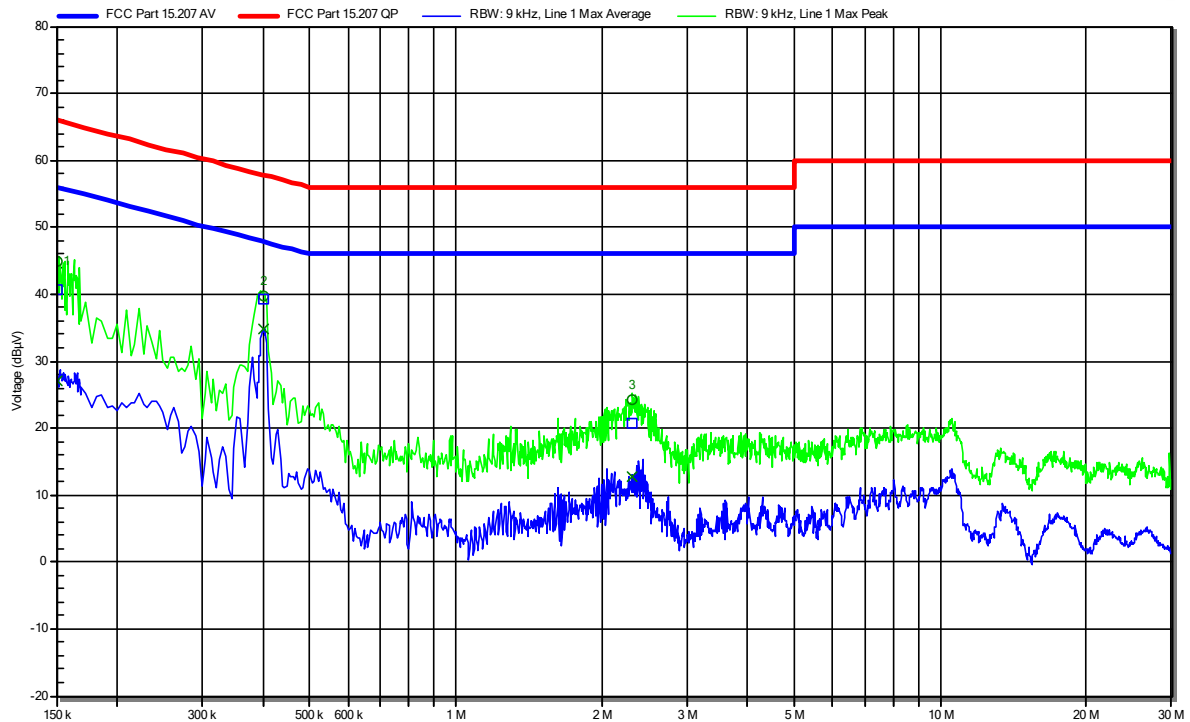
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted emissions at the mains power port according to FCC 15.207

Project Number: GOM-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Test Date & Time: 2024-07-09
 Operating Conditions: ambient temperature: 23 °Celsius
 power input: 120 V AC, 60 Hz
 AMN: Schwarzbeck NSLK 8127 RC L1
 Operational Mode: IEEE 802.11n, MCS0, BW20 MHz, 5745 MHz
 DUT Configuration:
 Applied to Port: Mains

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RadiMation



Frequency (Hz)						
Start Frequency	Stop Frequency	Frequency Step	Measure Time	RBW		
150 kHz	30 MHz	Linear: 4.5 kHz steps	10 ms	9 kHz		
Peak Number	Frequency (MHz)	Quasi-Peak (dBμV)	Quasi-Peak Limit (dBμV)	Quasi-Peak Difference (dB)	Quasi-Peak Status	LISN
1	0.15	40.6	66	-25.4	Pass	Line 1
2	0.401	39.24	57.83	-18.59	Pass	Line 1
3	2.313	20.65	56	-35.35	Pass	Line 1
Peak Number	Frequency (MHz)	Average (dBμV)	Average Limit (dBμV)	Average Difference (dB)	Average Status	LISN
1	0.15	27	56	-29	Pass	Line 1
2	0.401	34.82	47.83	-13.01	Pass	Line 1
3	2.313	12.66	46	-33.34	Pass	Line 1

Test Report No.: GOM-2404-2553-TFC407WF-V01

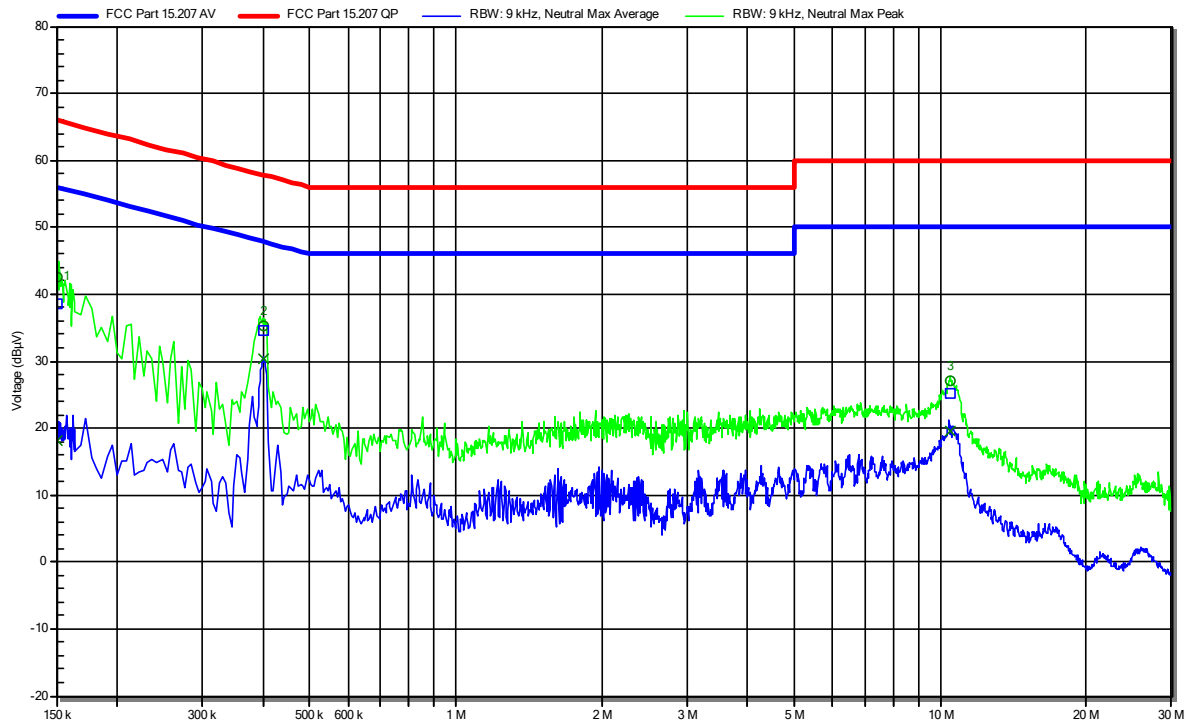
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted emissions at the mains power port according to FCC 15.207

Project Number: GOM-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Test Date & Time: 2024-07-09
 Operating Conditions: ambient temperature: 23 °Celsius
 power input: 120 V AC, 60 Hz
 AMN: Schwarzbeck NSLK 8127
 Operational Mode: IEEE 802.11n, MCS0, BW20 MHz, 5745 MHz
 DUT Configuration:
 Applied to Port: Mains

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RadiMation



Frequency (Hz)						
Start Frequency 150 kHz	Stop Frequency 30 MHz	Frequency Step Linear: 4.5 kHz steps	Measure Time 10 ms	RBW 9 kHz		
Peak Number	Frequency (MHz)	Quasi-Peak (dBμV)	Quasi-Peak Limit (dBμV)	Quasi-Peak Difference (dB)	Quasi-Peak Status	LISN
1	0.15	38.55	66	-27.45	Pass	Neutral
2	0.402	34.66	57.82	-23.16	Pass	Neutral
3	10.509	25.14	60	-34.86	Pass	Neutral
Peak Number	Frequency (MHz)	Average (dBμV)	Average Limit (dBμV)	Average Difference (dB)	Average Status	LISN
1	0.15	18.25	56	-37.75	Pass	Neutral
2	0.402	30.35	47.82	-17.47	Pass	Neutral
3	10.509	19.59	50	-30.41	Pass	Neutral

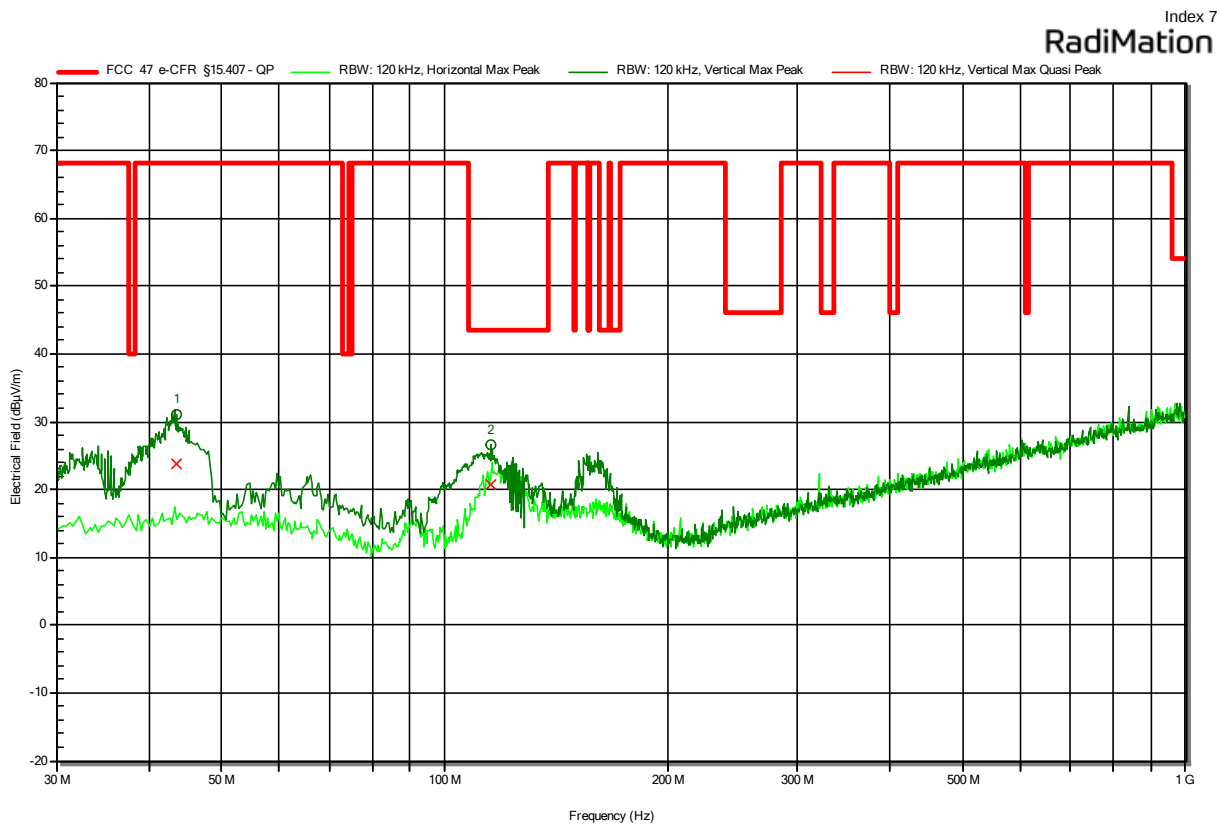
Test Report No.: GOM-2404-2553-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

ANNEX A Transmitter spurious emissions

Radiated Spurious Emissions according to 47 CFR § 15.407

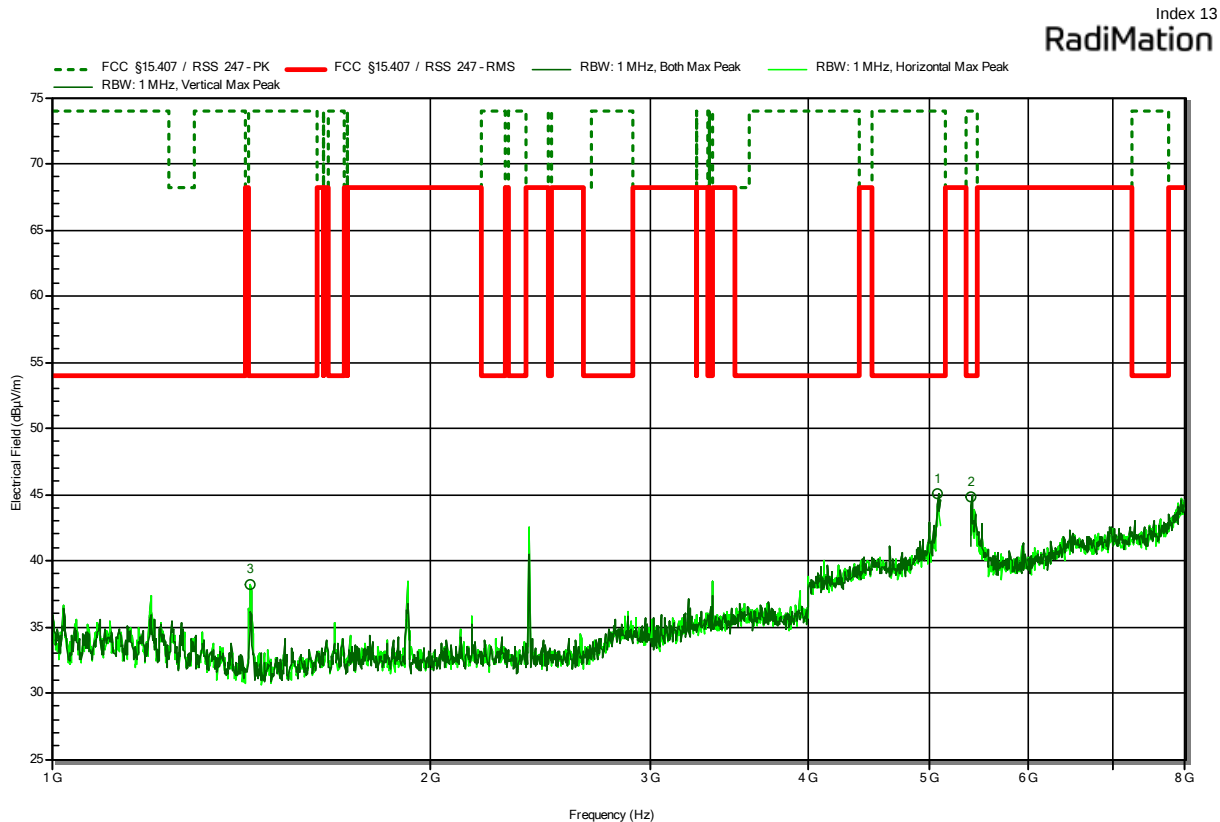
Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 23 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck VULB 9168
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11a, 6 Mbps, BW20 MHz, 5200 MHz
 Test Date: 2024-07-05



Peak Number	Frequency (MHz)	Quasi-Peak (dBμV/m)	Quasi-Peak Limit (dBμV/m)	Quasi-Peak Difference (dB)	Quasi-Peak Status	Polarization
1	43.6908	23.8	68.2	-44.41	Pass	Vertical
2	115.6879	20.7	43.5	-22.84	Pass	Vertical

Radiated Spurious Emissions according to 47 CFR § 15.407

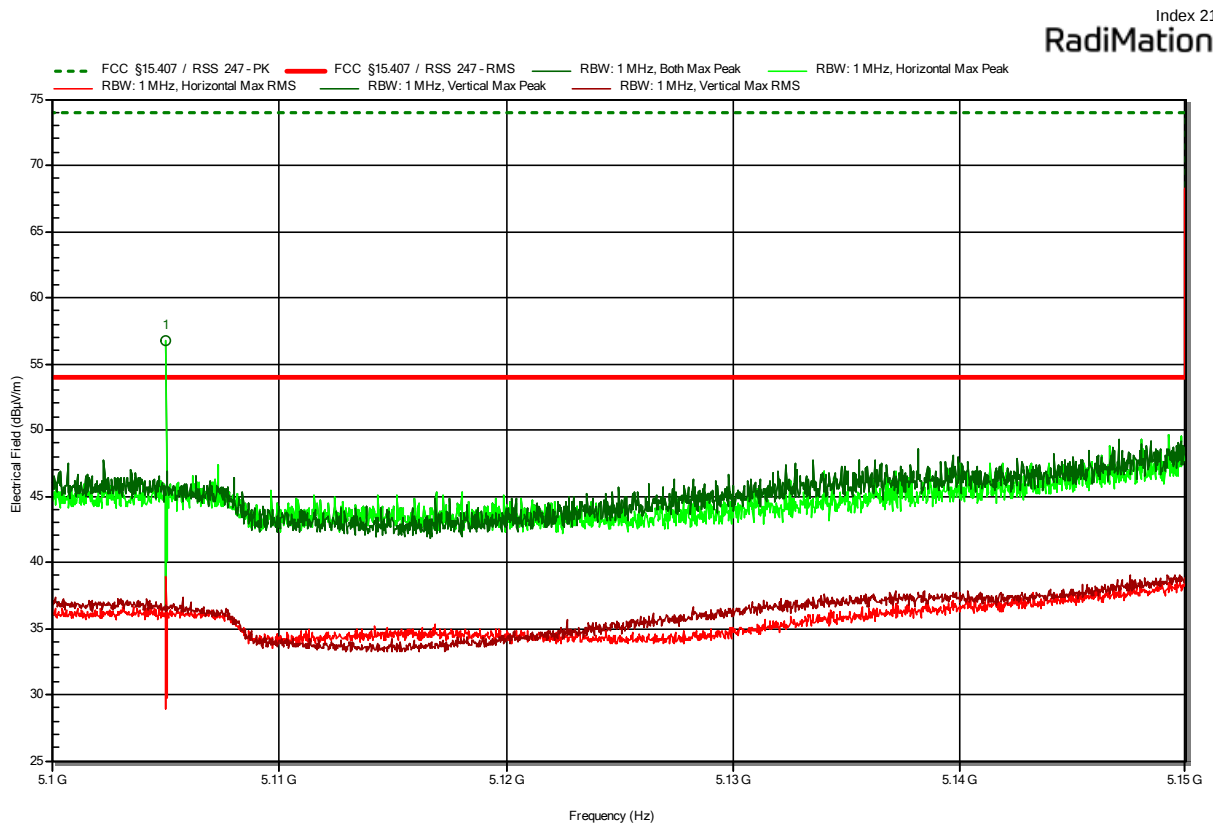
Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11a, 6 Mbps, BW20 MHz, 5200 MHz
 Test Date: 2024-07-08



Peak Number	Frequency (MHz)	Peak (dBμV/m)	Peak (dBμV/m)	Limit	Peak Difference (dB)	Peak Status	Polarization
1	5081.777	45.03	74		-28.97	Pass	Vertical
2	5405.027	44.87	74		-29.13	Pass	Vertical
3	1440.4	38.15	74		-35.85	Pass	Horizontal

Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11a, 6 Mbps, BW20 MHz, 5180 MHz
 Test Date: 2024-07-08
 Note: lower band area



Peak Number	Frequency (MHz)	Peak (dBµV/m)	Peak (dBµV/m)	Limit (dB)	Peak Difference (dB)	Peak Status	Polarization
1	5105.03	56.8	74	-17.2		Pass	Horizontal

Peak Number	Frequency (MHz)	RMS (dBµV/m)	RMS (dBµV/m)	Limit (dB)	RMS Difference (dB)	RMS Status	Polarization
1	5105.03	38.96	54	-15.04		Pass	Horizontal

Test Report No.: G0M-2404-2553-TFC407WF-V01

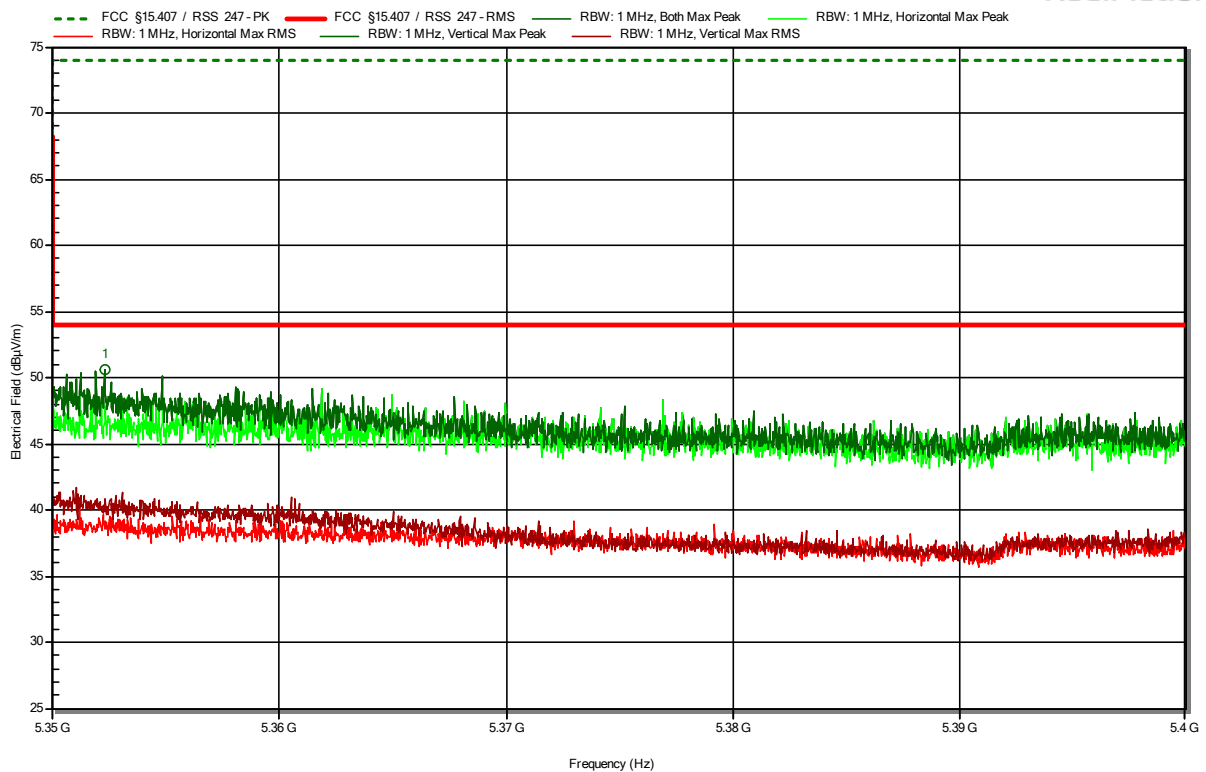
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11a, 6 Mbps, BW20 MHz, 5320 MHz
 Test Date: 2024-07-08
 Note: upper bandedge

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RadiMation



Peak Number	Frequency (MHz)	Peak (dBμV/m)	Peak (dBμV/m)	Limit	Peak Difference (dB)	Peak Status	Polarization
1	5352.323	50.63	74		-23.37	Pass	Vertical

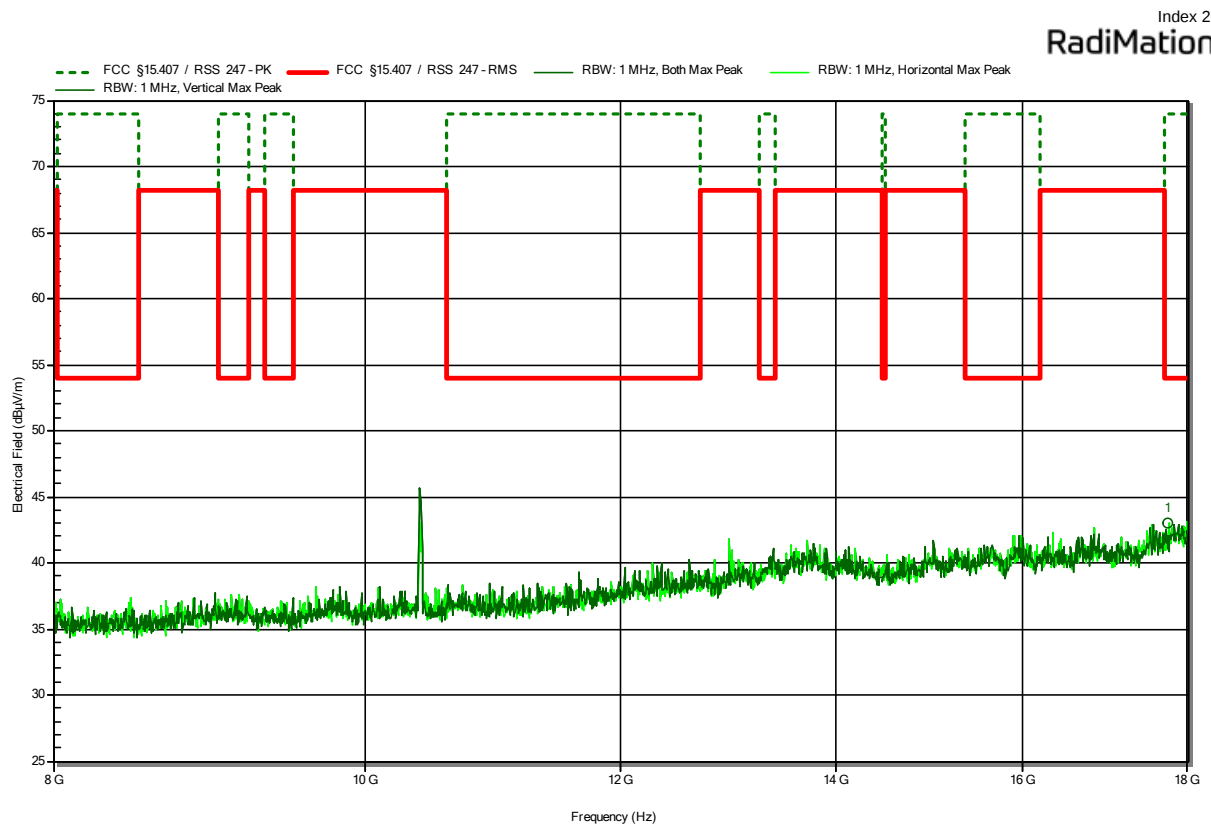
Peak Number	Frequency (MHz)	RMS (dBμV/m)	RMS (dBμV/m)	Limit	RMS Difference (dB)	RMS Status	Polarization
1	5352.323	37.86	54		-16.14	Pass	Vertical

Test Report No.: G0M-2404-2553-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to 47 CFR § 15.407

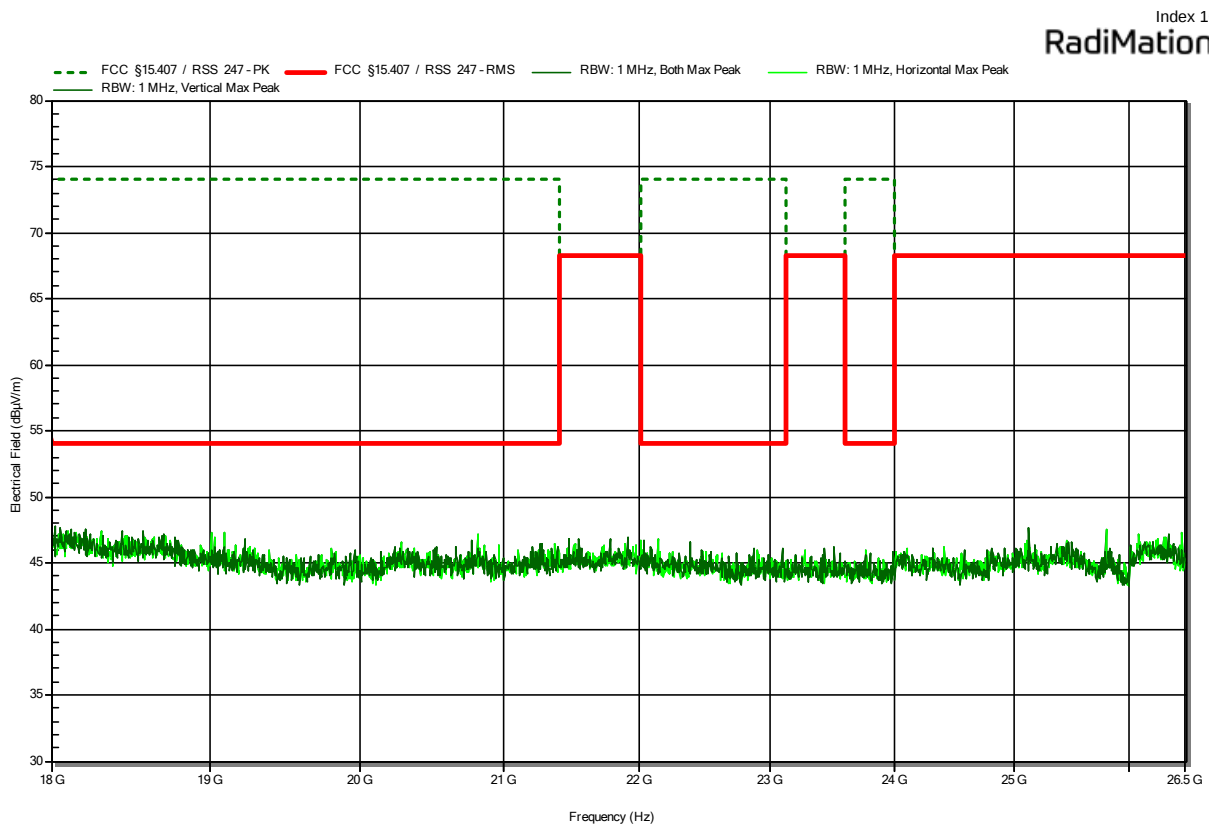
Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck HWRD 650
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11a, 6 Mbps, BW20 MHz, 5200 MHz
 Test Date: 2024-07-08



Peak Number	Frequency (MHz)	Peak (dBµV/m)	Peak (dBµV/m)	Limit (dB)	Peak Difference (dB)	Peak Status	Polarization
1	17753	42.97	74	-31.03		Pass	Horizontal

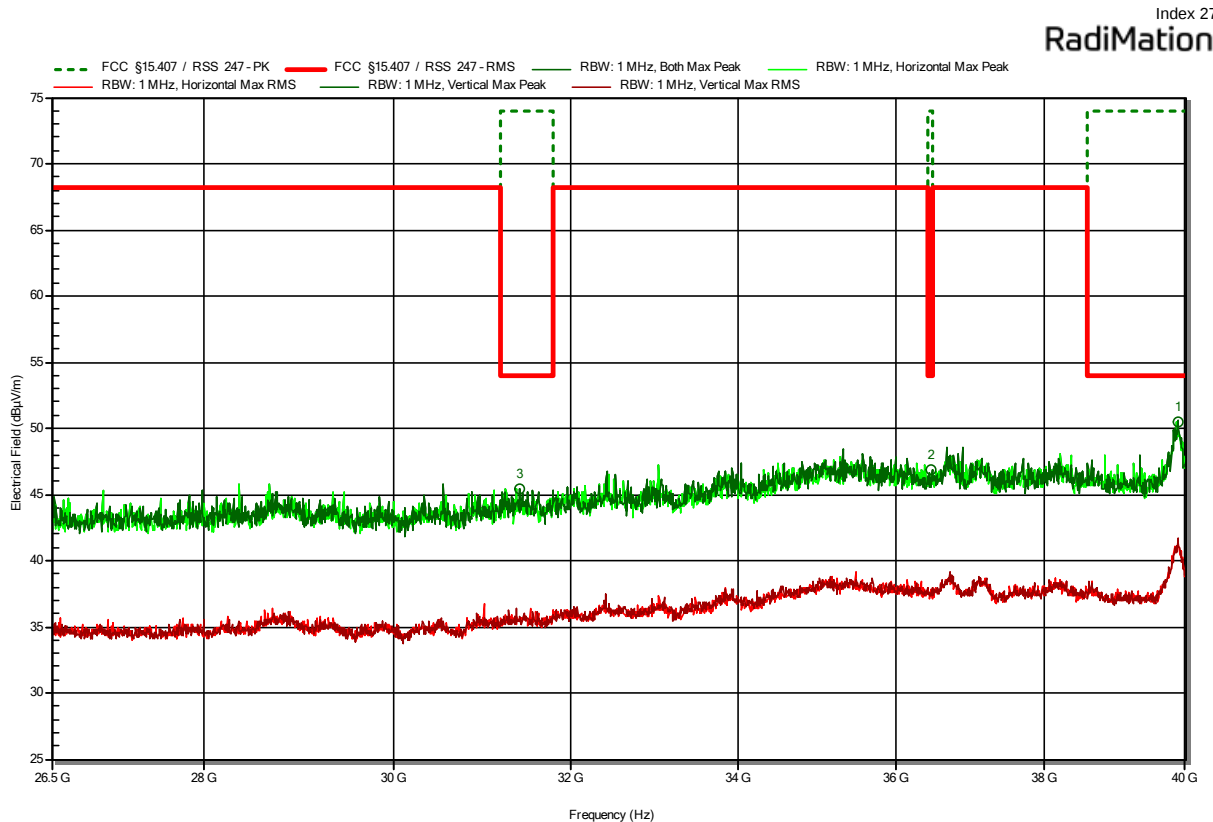
Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Amplifier Research AT4560
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11a, 6 Mbps, BW20 MHz, 5200 MHz
 Test Date: 2024-07-08



Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Flann 22240-25
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11a, 6 Mbps, BW20 MHz, 5200 MHz
 Test Date: 2024-07-08



Peak Number	Frequency (MHz)	Peak (dBμV/m)	Peak (dBμV/m)	Limit	Peak Difference (dB)	Peak Status	Polarization
1	39884.35	50.51	74		-23.49	Pass	Vertical
2	36477.4	46.81	74		-27.19	Pass	Vertical
3	31404.1	45.44	74		-28.56	Pass	Vertical

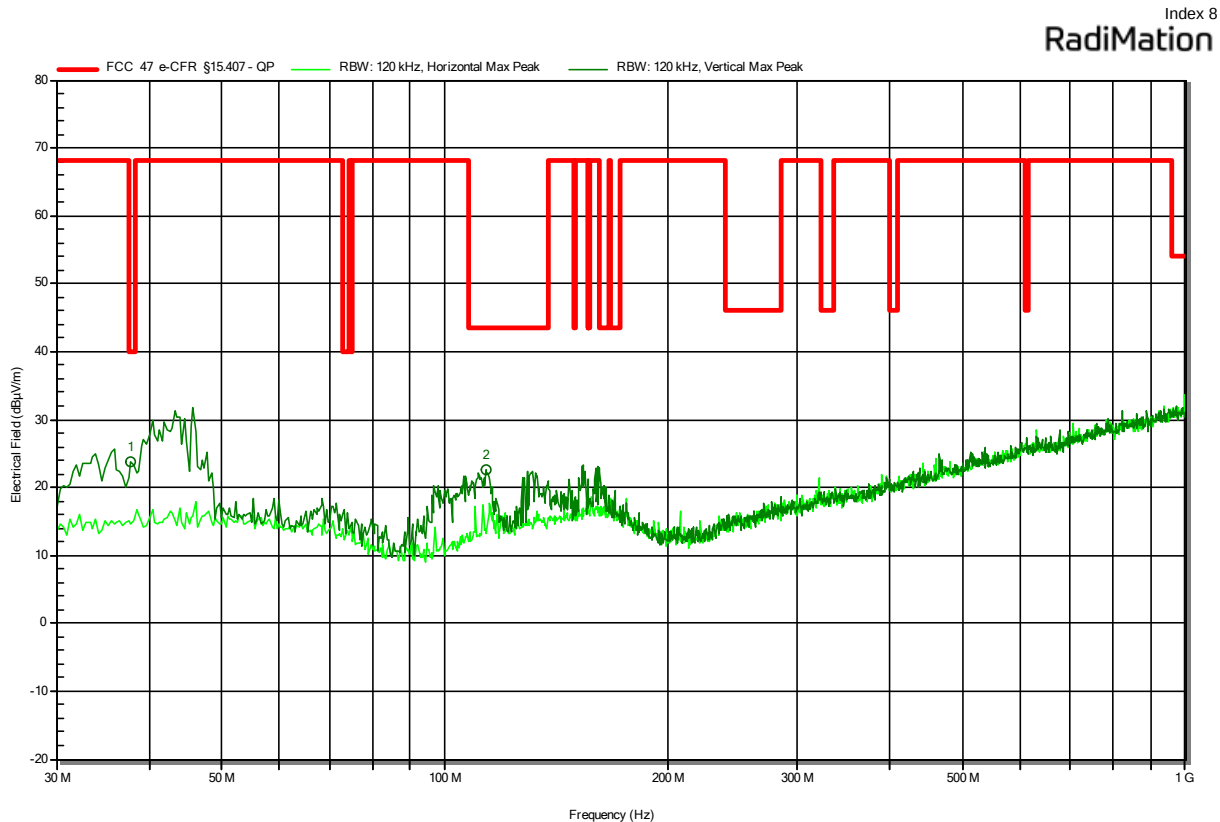
Peak Number	Frequency (MHz)	RMS (dBμV/m)	RMS (dBμV/m)	Limit	RMS Difference (dB)	RMS Status	Polarization
1	39884.35	41.51	54		-12.49	Pass	Vertical
2	36477.4	37.14	54		-16.86	Pass	Vertical
3	31404.1	34.18	54		-19.82	Pass	Vertical

Test Report No.: G0M-2404-2553-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to 47 CFR § 15.407

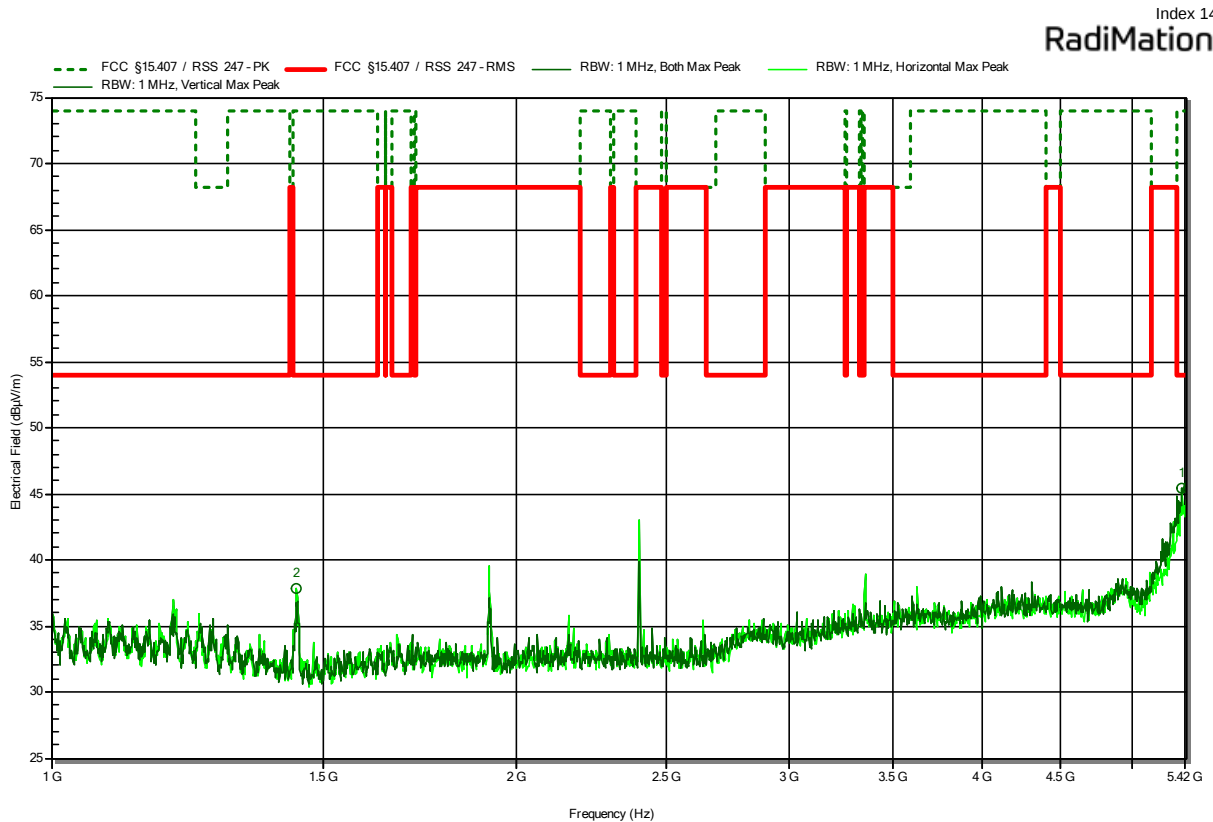
Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 23 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck VULB 9168
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT40, MCS0, BW40 MHz, 5510 MHz
 Test Date: 2024-07-05



Peak Number	Frequency (MHz)	Peak (dBμV/m)	Peak (dBμV/m)	Limit (dB)	Peak Difference	Peak Status	Polarization
1	37.76	23.9	40	-16.15		Pass	Vertical
2	113.7433	22.5	43.5	-20.98		Pass	Vertical

Radiated Spurious Emissions according to 47 CFR § 15.407

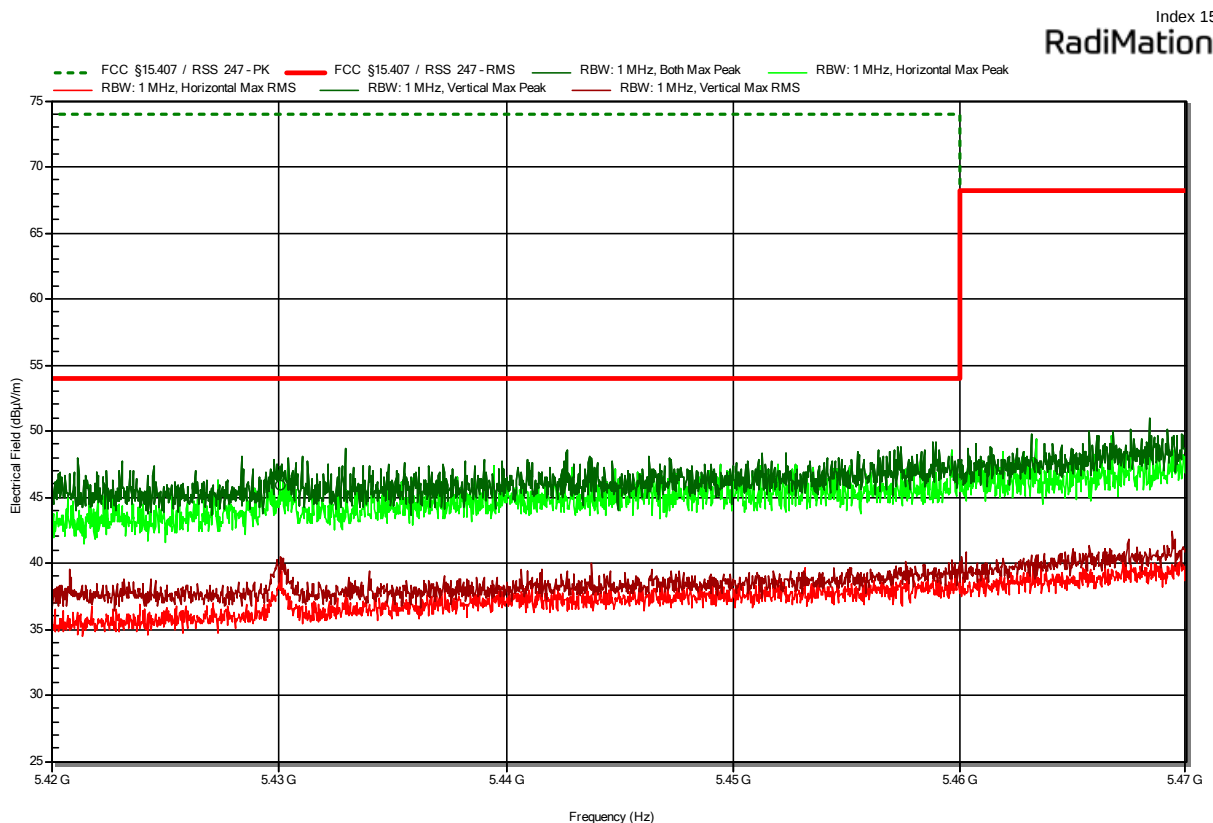
Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT40, MCS0, BW40 MHz, 5510 MHz
 Test Date: 2024-07-08



Peak Number	Frequency (MHz)	Peak (dBμV/m)	Peak (dBμV/m)	Limit (dB)	Peak Difference (dB)	Peak Status	Polarization
1	5389.139	45.45	74	-28.55		Pass	Vertical
2	1440.5	37.85	74	-36.15		Pass	Horizontal

Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT40, MCS0, BW40 MHz, 5510 MHz
 Test Date: 2024-07-08
 Note: lower band area



Peak Number	Frequency (MHz)	Peak (dBµV/m)	Peak (dBµV/m)	Limit (dB)	Peak Difference (dB)	Peak Status	Polarization
1	5430.088	45.92	74	-28.08		Pass	Vertical
Peak Number	Frequency (MHz)	RMS (dBµV/m)	RMS (dBµV/m)	Limit (dB)	RMS Difference (dB)	RMS Status	Polarization
1	5430.088	40.41	54	-13.59		Pass	Vertical

Test Report No.: G0M-2404-2553-TFC407WF-V01

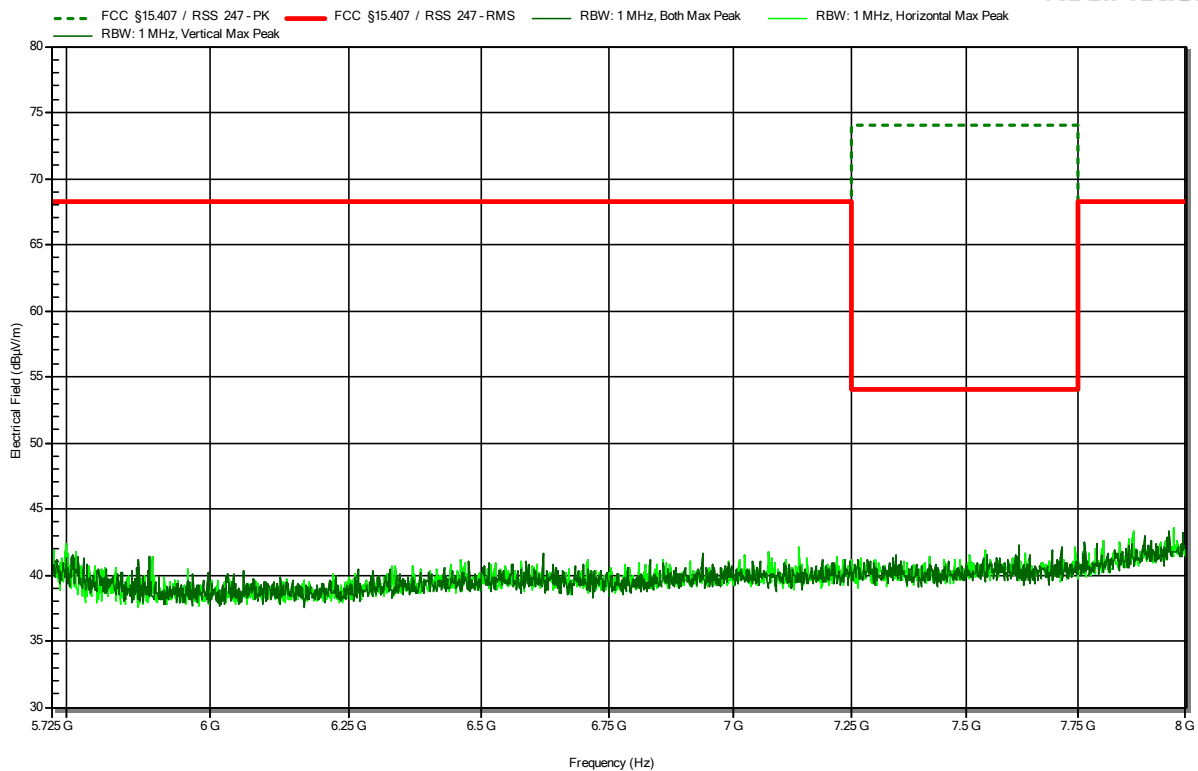
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT40, MCS0, BW40 MHz, 5510 MHz
 Test Date: 2024-07-08

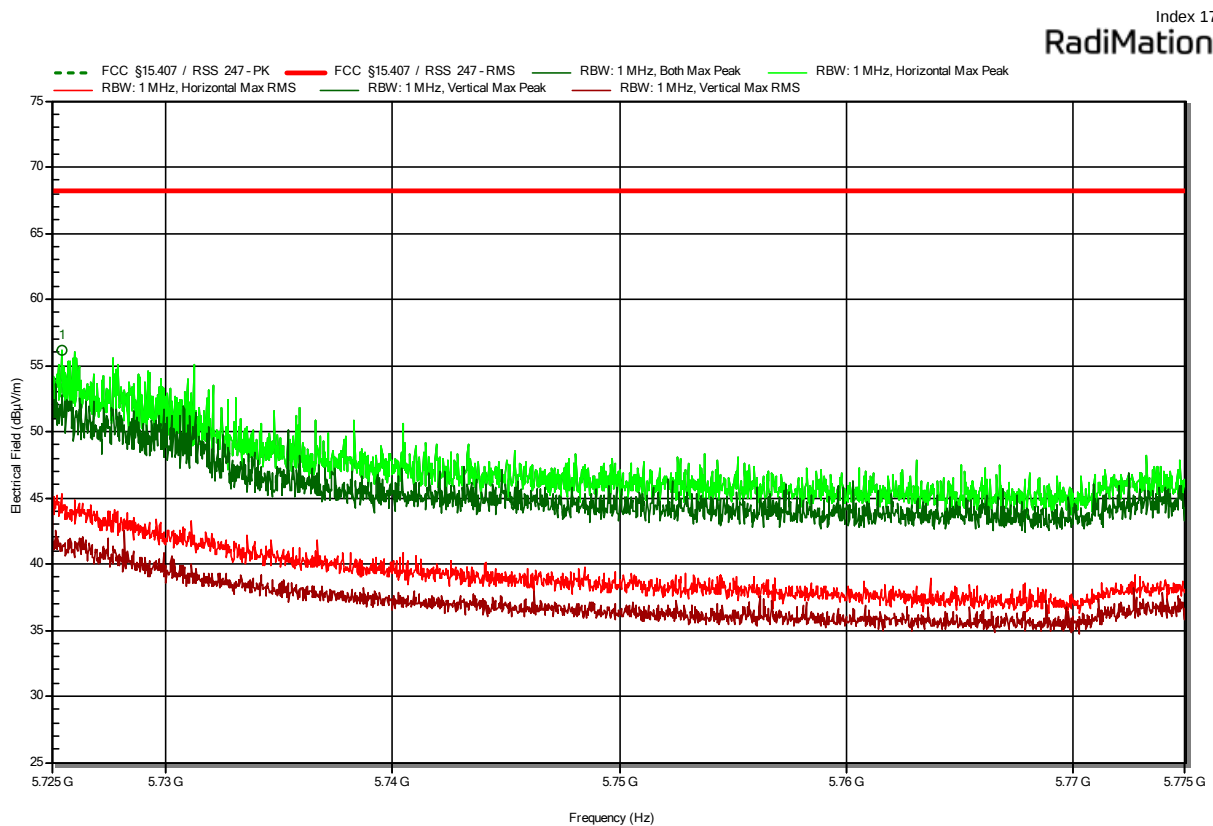
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RadiMation



Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT20, MCS0, BW20 MHz, 5700 MHz
 Test Date: 2024-07-08
 Note: upper band area



Peak Number	Frequency (MHz)	Peak (dBμV/m)	Peak (dBμV/m)	Limit	Peak Difference (dB)	Peak Status	Polarization
1	5725.422	56.14	68.2		-12.06	Pass	Horizontal

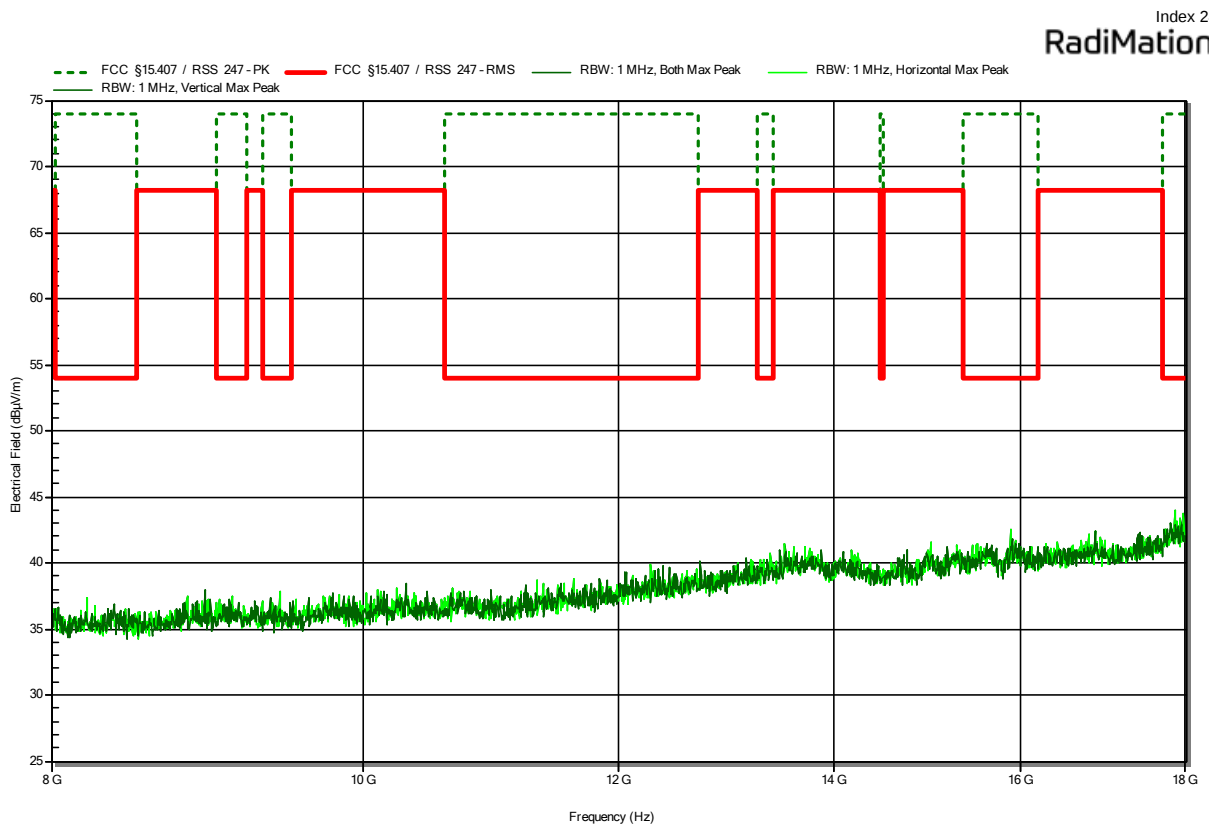
Peak Number	Frequency (MHz)	RMS (dBμV/m)	RMS (dBμV/m)	Limit	RMS Difference (dB)	RMS Status	Polarization
1	5725.422	43.4	68.2		-24.8	Pass	Horizontal

Test Report No.: G0M-2404-2553-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck HWRD 650
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT40, MCS0, BW40 MHz, 5510 MHz
 Test Date: 2024-07-08

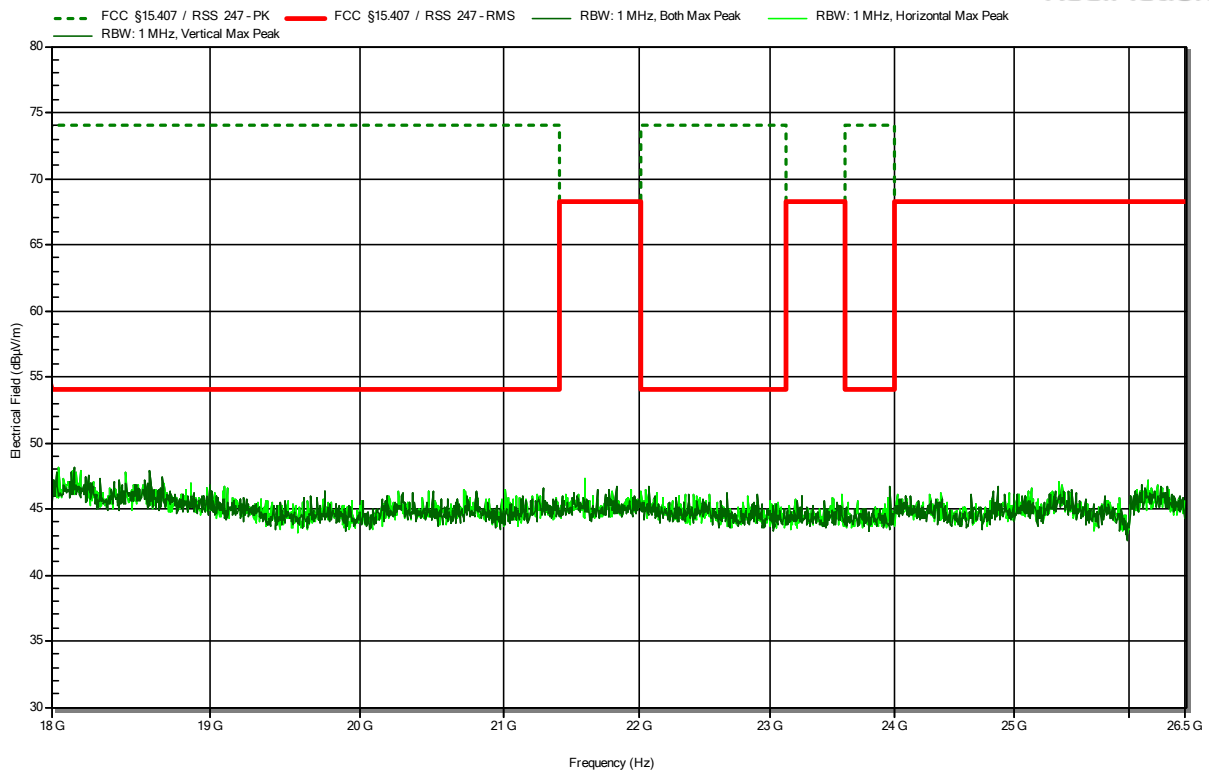


Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Amplifier Research AT4560
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT40, MCS0, BW40 MHz, 5510 MHz
 Test Date: 2024-07-08

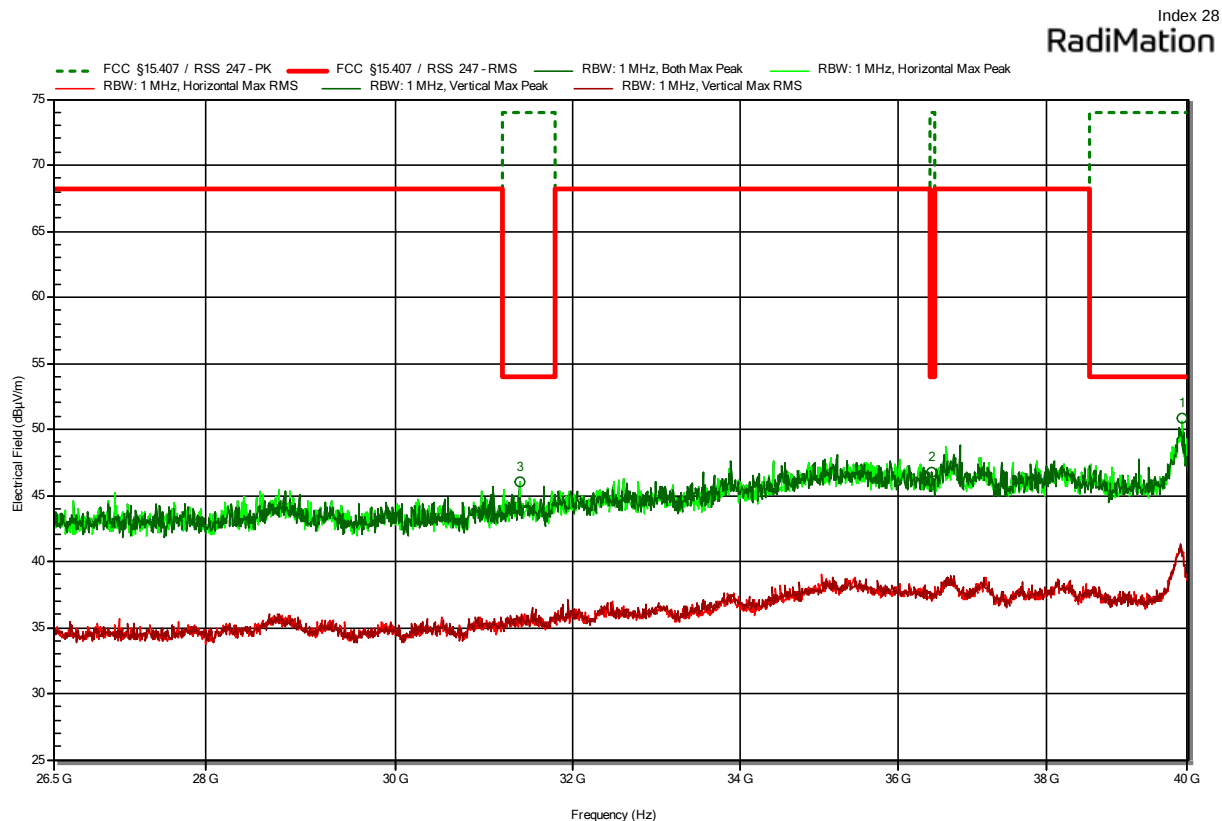
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RadiMation



Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Flann 22240-25
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11n, HT40, MCS0, BW40 MHz, 5510 MHz
 Test Date: 2024-07-08
 Note: EUT horizontal

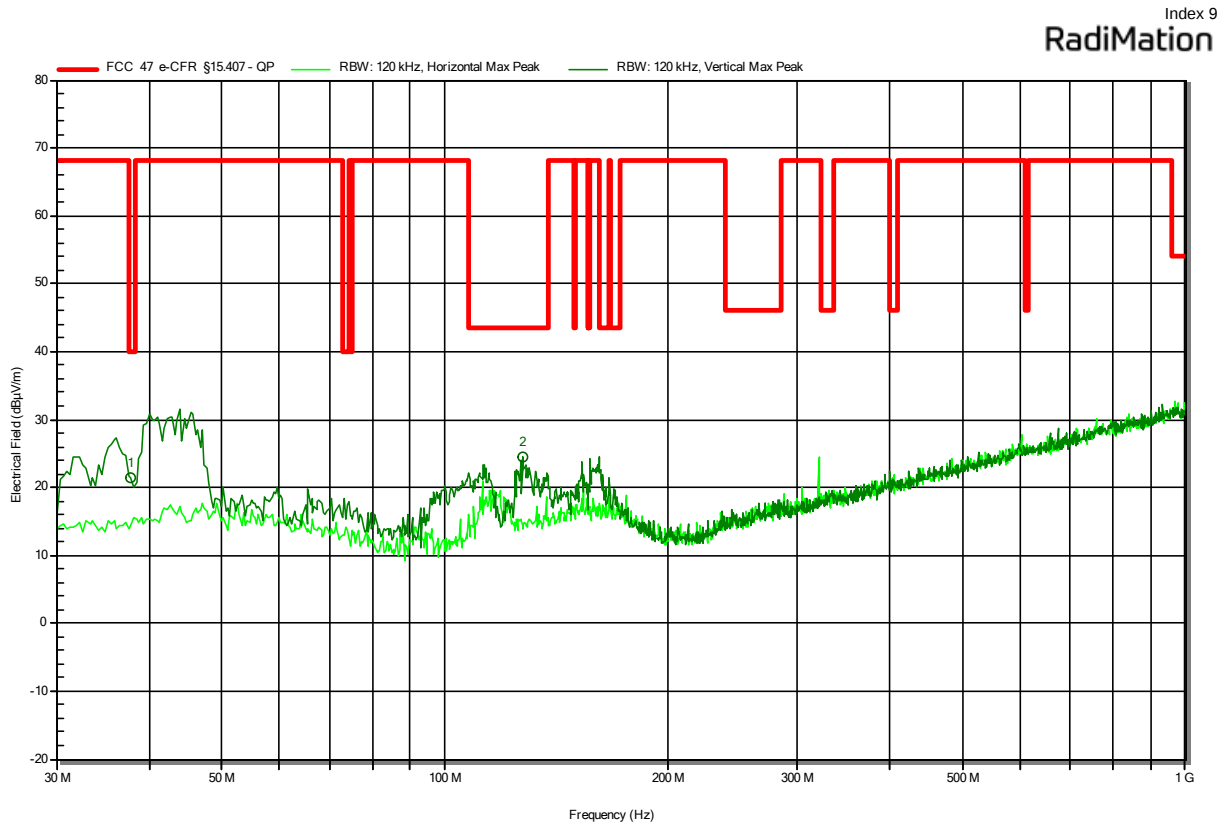


		Frequency (Hz)					
Peak Number	Frequency (MHz)	Peak (dBμV/m)	Peak (dBμV/m)	Limit	Peak Difference (dB)	Peak Status	Polarization
1	39915.85	50.81	74		-23.19	Pass	Horizontal
2	36449.95	46.78	74		-27.22	Pass	Vertical
3	31384.75	45.99	74		-28.01	Pass	Horizontal

Peak Number	Frequency (MHz)	RMS (dBμV/m)	RMS (dBμV/m)	Limit	RMS Difference (dB)	RMS Status	Polarization
1	39915.85	40.34	54		-13.66	Pass	Horizontal
2	36449.95	37.07	54		-16.93	Pass	Vertical
3	31384.75	34.99	54		-19.01	Pass	Horizontal

Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 23 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck VULB 9168
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT20, MCS0, BW20 MHz, 5745 MHz
 Test Date: 2024-07-05



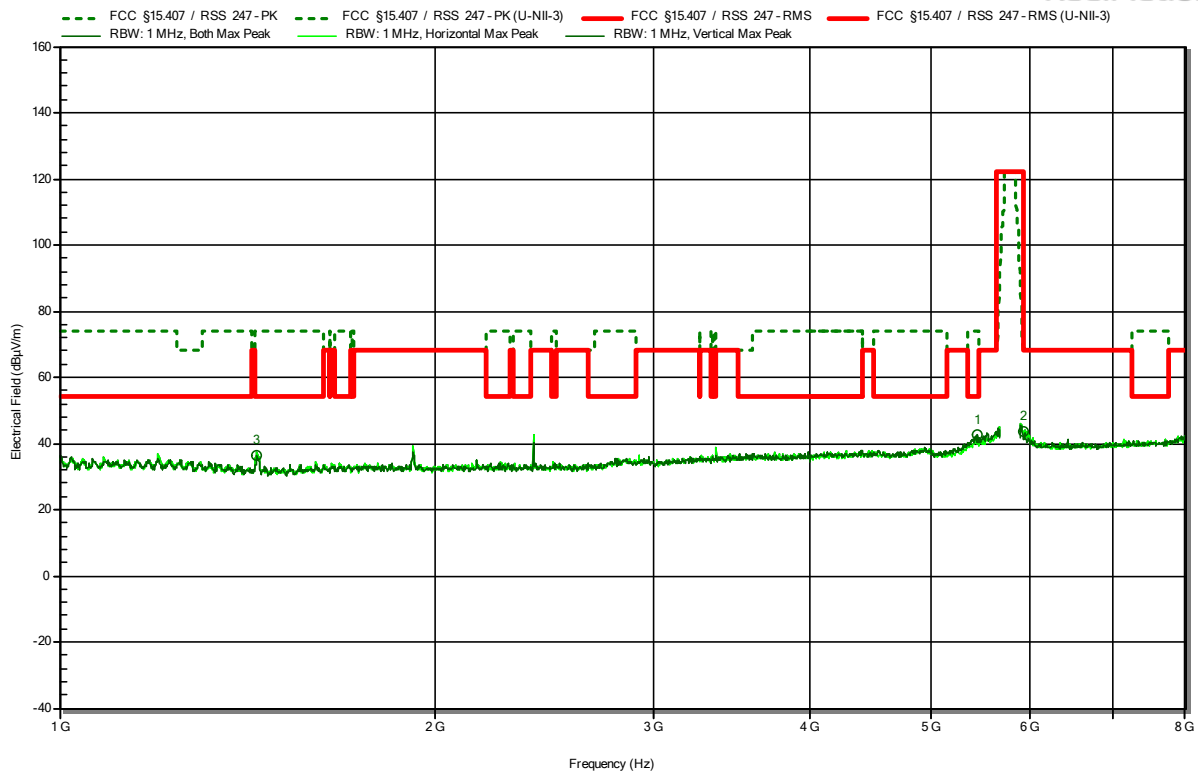
Peak Number	Frequency (MHz)	Peak (dBμV/m)	Peak (dBμV/m)	Limit (dB)	Peak Difference	Peak Status	Polarization
1	37.76	21.5	40	-18.55		Pass	Vertical
2	127.6467	24.5	43.5	-18.99		Pass	Vertical

Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT20, MCS0, BW20 MHz, 5745 MHz
 Test Date: 2024-07-08

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RadiMation



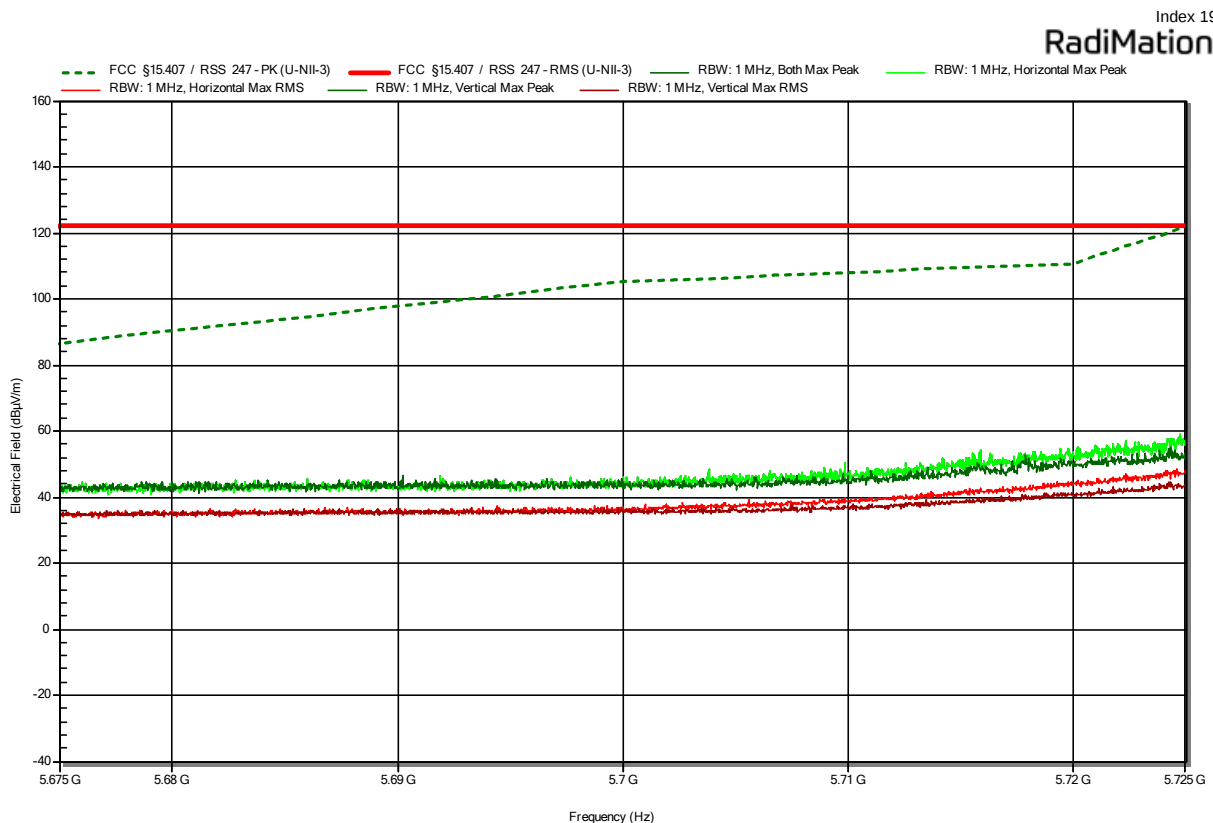
Peak Number	Frequency (MHz)	Peak (dBμV/m)	Peak (dBμV/m)	Limit (dB)	Peak Difference	Peak Status	Polarization
1	5446.139	42.57	74	-31.43		Pass	Vertical
2	5927.51	43.6	68.2	-24.6		Pass	Horizontal
3	1440.1	36.59	74	-37.41		Pass	Vertical

Test Report No.: G0M-2404-2553-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

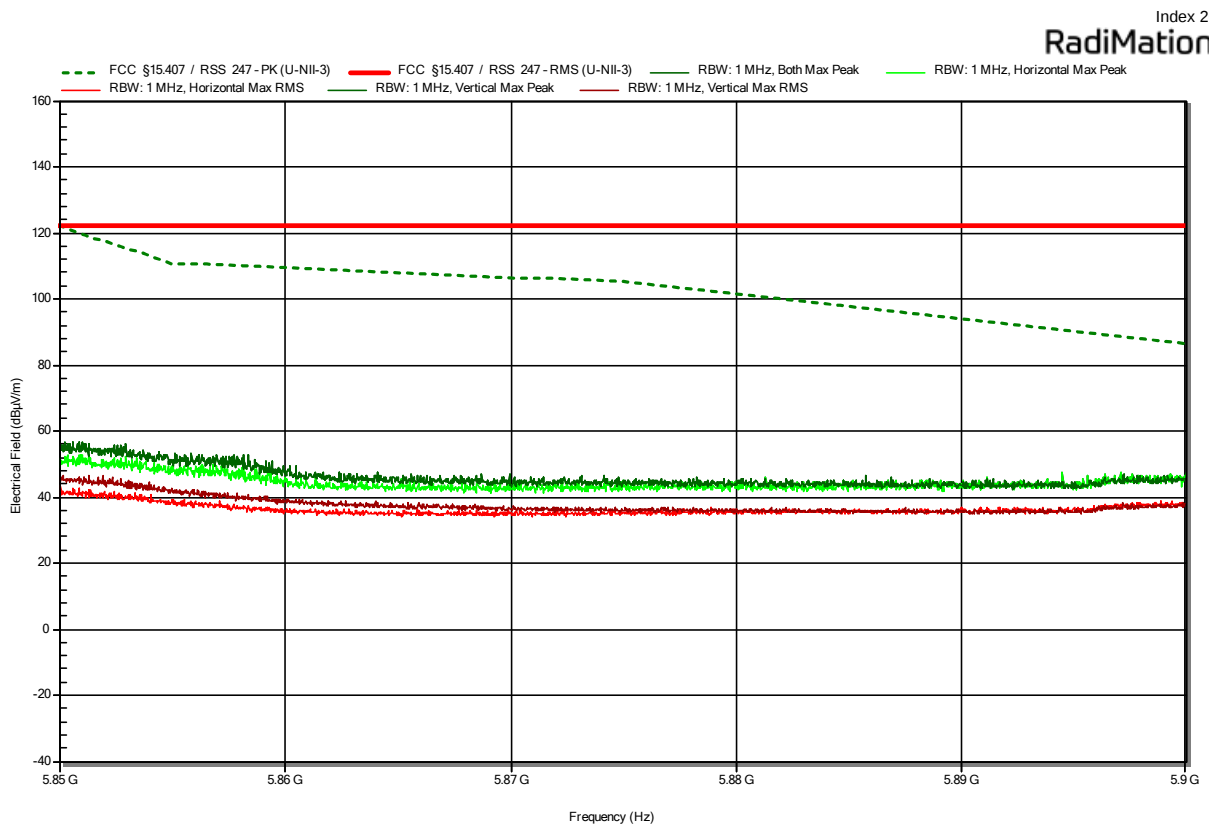
Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT20, MCS0, BW20 MHz, 5745 MHz
 Test Date: 2024-07-08
 Note: lower band area



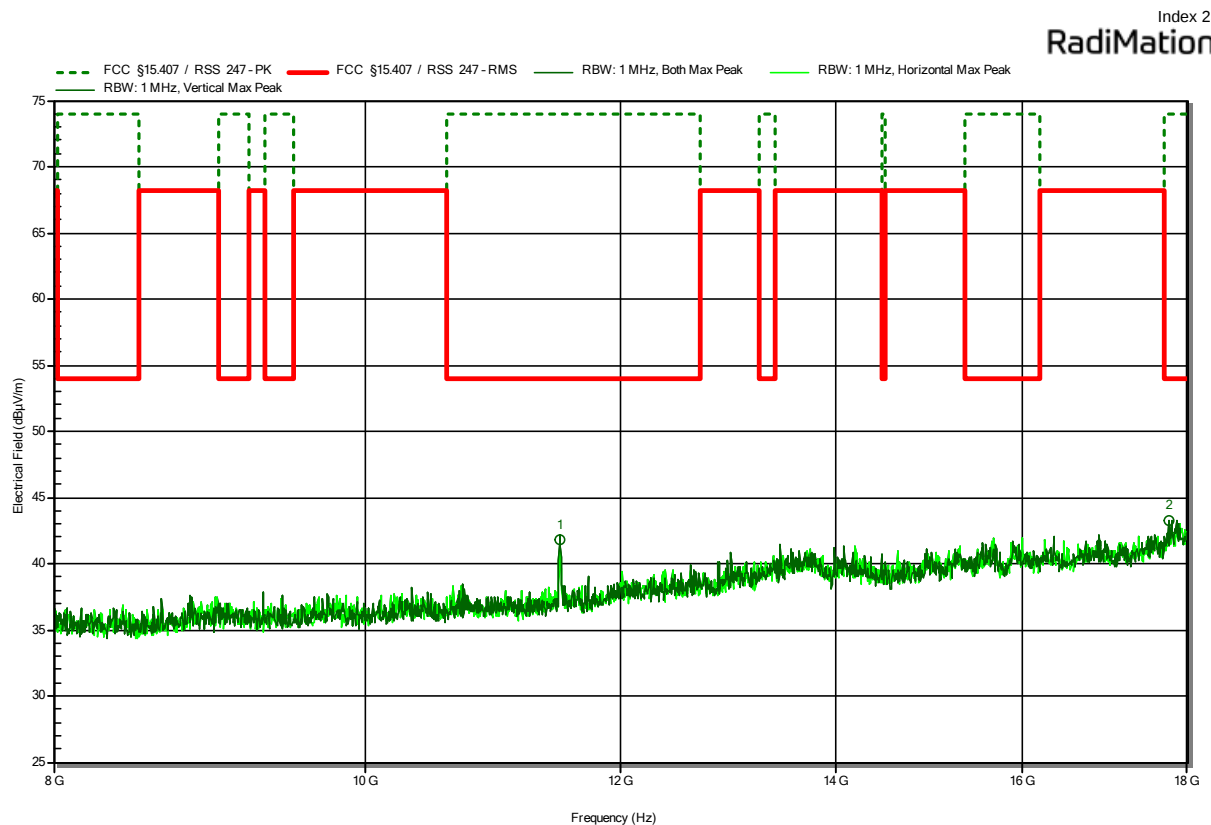
Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT20, MCS0, BW20 MHz, 5825 MHz
 Test Date: 2024-07-08
 Note: upper band area



Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Schwarzbeck HWRD 650
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT20, MCS0, BW20 MHz, 5745 MHz
 Test Date: 2024-07-08



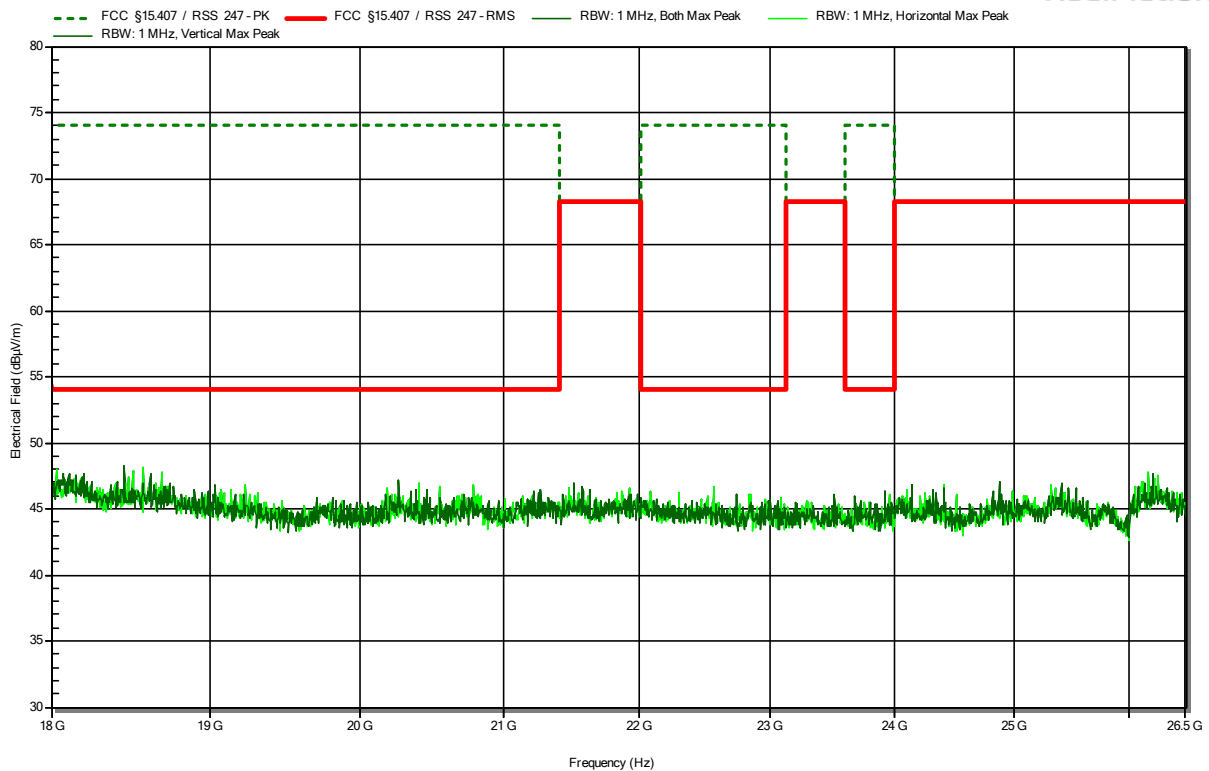
Peak Number	Frequency (MHz)	Peak (dBμV/m)	Peak (dBμV/m)	Limit (dB)	Peak Difference	Peak Status	Polarization
1	11491	41.81	74	-32.19		Pass	Vertical
2	17756.333	43.23	74	-30.77		Pass	Vertical

Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Amplifier Research AT4560
 Measurement distance: 3 m
 Mode: Tx; IEEE 802.11n, HT20, MCS0, BW20 MHz, 5745 MHz
 Test Date: 2024-07-08

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RadiMation

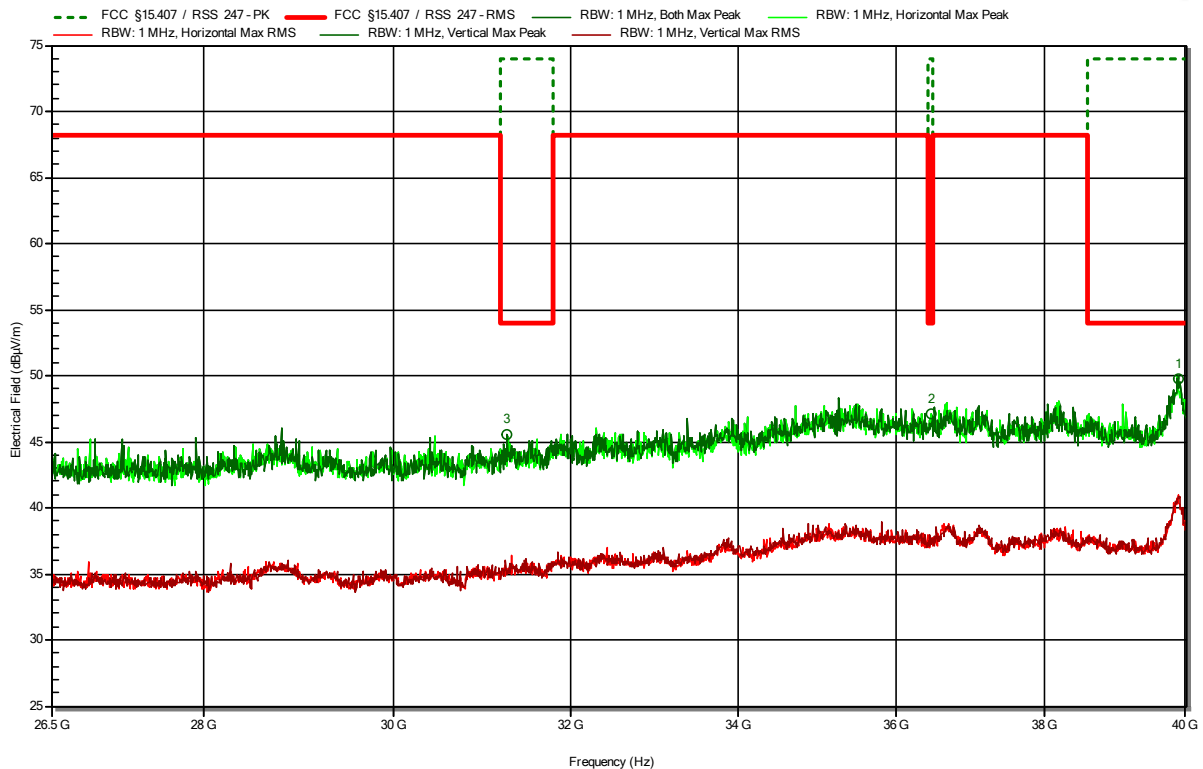


Radiated Spurious Emissions according to 47 CFR § 15.407

Project Number: G0M-2404-2553
 Applicant: BIOTRONIK SE & Co. KG
 Model Description: BIOexpress
 Model: Status interrogation system for implantable pacemakers, defibrillators and monitors
 Test Sample ID: 49276
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Siddique
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 24 °Celsius, Vnom: 5 V DC
 Antenna: Flann 22240-25
 Measurement distance: 1 m
 Mode: Tx; IEEE 802.11n, HT20, MCS0, BW20 MHz, 5745 MHz
 Test Date: 2024-07-08
 Note: EUT horizontal

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RadiMation



Peak Number	Frequency (MHz)	Peak (dBμV/m)	Peak (dBμV/m)	Limit	Peak Difference (dB)	Peak Status	Polarization
1	39887.95	49.77	74		-24.23	Pass	Vertical
2	36468.85	47.14	74		-26.86	Pass	Horizontal
3	31261	45.53	74		-28.47	Pass	Vertical

Peak Number	Frequency (MHz)	RMS (dBμV/m)	RMS (dBμV/m)	Limit	RMS Difference (dB)	RMS Status	Polarization
1	39887.95	39.7	54		-14.3	Pass	Vertical
2	36468.85	37.25	54		-16.75	Pass	Horizontal
3	31261	33.89	54		-20.11	Pass	Vertical

== END OF TEST REPORT ==

Test Report No.: G0M-2404-2553-TFC407WF-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany