


FCC TEST REPORT FCC 47 CFR Part 95I Medical Device Radiocommunication Service (MedRadio) Industry Canada RSS-243 Medical Devices Operating in the 401 – 406 MHz Frequency Band	
Report Reference No.	G0M-1207-2110-TFC95IM-V01
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	 <p>A2LA Accredited Testing Laboratory, Certificate No.: 1983.01 FCC Filed Test Laboratory, Reg.-No.: 96970 IC OATS Filing assigned code: 3470A</p>
Applicant's name	BIOTRONIK SE & Co. KG
Address	Woermannkehre 1 12359 Berlin GERMANY
Test specification:	Standard..... : 47 CFR Part 95E : 47 CFR Part 95I : 47 CFR Part 15C : RSS-243, Issue 3, 2010-02 : RSS-Gen, Issue 3, 2010-12 : ANSI C63.4:2009 : EN 301 839-1 V1.3.1:2009-10
Equipment under test (EUT):	
Product description	ICD / Implantable Cardioverter Defibrillator
Model No.	Ilesto 7 HF-T
Hardware version	Rev.: 0B
Firmware / Software version	ROM: 2.3 / RAM: 2.0
	FCC-ID: QRITACHNXT IC: 4708A-TACHNXT
Test result	Passed

Test Report No.: G0M-1207-2110-TFC95IM-V01

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

Possible test case verdicts:


- neither assessed nor tested : N/N
- required by standard but not appl. to test object..... : N/A
- required by standard but not tested..... : N/T
- not required by standard for the test object : N/R
- test object does meet the requirement..... : P (Pass)
- test object does not meet the requirement..... : F (Fail)


Testing:

Date of receipt of test item : 2012-07-18

Date (s) of performance of tests : 2010-07-18 - 2010-07-20

Compiled by : Christian Weber

Tested by (+ signature)..... : Wilfried Treffke 
 (Testing Manager)

Approved by (+ signature) : Jens Zimmermann 
 (Test Lab Manager)

Date of issue..... : 2013-01-09

Total number of pages..... : 82

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:

The report applies to all model stated in the “TACH NXT Family Listing” issued by the Manufacturer 2012-09-19.

	Model Name	Connector	no. of chambers	max. stored energy for shock therapy
1	Ilesto 7 HF-T	DF-1/DF-4	3	40 J
2	Ilesto 7 DR-T	DF-1/DF-4	2	40 J
3	Ilesto 7 VR-T DX	DF-1	1*	40 J
4	Ilesto 7 VR-T	DF-1/DF-4	1	40 J
5	Iforia 7 HF-T	DF-1/DF-4	3	40 J
6	Iforia 7 DR-T	DF-1/DF-4	2	40 J
7	Iforia 7 VR-T DX	DF-1	1*	40 J
8	Iforia 7 VR-T	DF-1/DF-4	1	40 J
9	Ilesto 5 HF-T	DF-1/DF-4	3	40 J
10	Ilesto 5 DR-T	DF-1/DF-4	2	40 J
11	Ilesto 5 VR-T DX	DF-1	1*	40 J
12	Ilesto 5 VR-T	DF-1/DF-4	1	40 J
13	Iforia 5 HF-T	DF-1/DF-4	3	40 J
14	Iforia 5 DR-T	DF-1/DF-4	2	40 J
15	Iforia 5 VR-T DX	DF-1	1*	40 J
16	Iforia 5 VR-T	DF-1/DF-4	1	40 J
17	Iforia 3 HF-T	DF-1/DF-4	3	40 J
18	Iforia 3 DR-T	DF-1/DF-4	2	40 J
19	Iforia 3 VR-T	DF-1/DF-4	1	40 J
20	Idova 7 HF-T	DF-1/DF-4	3	45 J
21	Idova 7 DR-T	DF-1/DF-4	2	45 J
22	Idova 7 VR-T DX	DF-1	1*	45 J
23	Idova 7 VR-T	DF-1/DF-4	1	45 J
24	Innotix 7 HF-T	DF-1/DF-4	3	45 J
25	Innotix 7 DR-T	DF-1/DF-4	2	45 J
26	Innotix 7 VR-T DX	DF-1	1*	45 J
27	Innotix 7 VR-T	DF-1/DF-4	1	45 J

The ulp-ami antenna is built into the headers (DF-1 or DF-4). The antenna of header model DF-1 is slightly different from the antenna built into header DF-4. Evaluation measurements were performed for worst case antenna selection and header DF-1 was selected. Besides the DF-1 header, model ILESTO 7 HF-T, as the most complex model, was selected for the measurements. Hence, the measurements were performed with the following model: “ILESTO 7 HF-T DF-1”.

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1 Equipment (Test item) Description

Description	ICD / Implantable Cardioverter Defibrillator	
Model	Ilesto 7 HF-T	
Serial number	None	
Hardware version	Rev.: 0B	
Software / Firmware version	ROM: 2.3 / RAM: 2.0	
FCC-ID	QRITACHNXT	
IC	4708A-TACHNXT	
Equipment type	End product	
Radio type	Transceiver	
Number of Radios	1	
Radio technology	MedRadio (MICS) active medical implant	
Operating frequency range	402.45 - 404.85 MHz	
Assigned frequency band	402 - 405 MHz	
Main test frequencies	F _{LOW}	402.45 MHz
	F _{MID}	403.65 MHz
	F _{HIGH}	404.85 MHz
Modulations	2FSK	
Emission designator	F1D	
Number of channels	9	
Channel spacing	300 kHz	
Spectrum access	Listen before transmit (channel access controlled by ULP-AMI-P device outside the human body)	
Number of antennas	1	
Antenna 1	Type	integrated
	Model	loop antenna
	Manufacturer	Biotronik SE & Co. KG
	Gain	-32.2 dBi
Manufacturer	BIOTRONIK SE & Co. KG Woermannkehre 1 12359 Berlin GERMANY	
Power supply	V _{NOM}	3.0 VDC
	V _{MIN}	2.5 VDC
	V _{MAX}	3.2 VDC
Temperature	T _{NOM}	37 °C
	T _{MIN}	25 °C
	T _{MAX}	45 °C

Test Report No.: G0M-1207-2110-TFC95IM-V01

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

1.3 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments
None				
<p>*Note: Use the following abbreviations:</p> <p style="padding-left: 40px;">AE : Auxiliary/Associated Equipment, or</p> <p style="padding-left: 40px;">SIM : Simulator (Not Subjected to Test)</p> <p style="padding-left: 40px;">CABL : Connecting cables</p>				

1.4 Test Modes:

Mode #	Description	
Unmodulated	General conditions:	EUT powered by battery
	Radio conditions:	Mode = standalone transmit Spreading = None Modulation = None Duty cycle = 100 % Power level = Maximum
Modulated	General conditions:	EUT powered by battery
	Radio conditions:	Mode = standalone transmit Modulation = FSK Duty cycle = 100 % Power level = Maximum
Receive	General conditions:	EUT powered by battery
	Radio conditions:	Mode = standalone receive Modulation = FSK

1.5 Test Equipment Used During Testing

Occupied Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSIQ26	EF00242	2012-05	2013-05

Emission Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSIQ26	EF00242	2012-05	2013-05

Frequency Stability					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSIQ26	EF00242	2012-05	2013-05

Effective radiated power					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Fully-anechoic chamber	Frankonia	AC 4	EF00200	2008-09	2013-09
Spectrum Analyzer	R&S	FSEK30	EF00168	2011-07	2013-03
LPD Antenna	R&S	HL 223	EF00212	2010-01	2013-01

Radiated spurious emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Semi-anechoic chamber	Frankonia	AC 5	EF00395	-	-
Spectrum Analyzer	R&S	FSIQ26	EF00242	2012-05	2013-05
Biconical Antenna	R&S	HK 116	EF00012	2010-01	2013-01
LPD Antenna	R&S	HL 223	EF00187	2011-02	2014-02
LPD Antenna	R&S	HL 025	EF00327	2010-02	2013-02

Discontinuation of MICS session					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSIQ26	EF00242	2012-05	2013-05
Signal Generator	R&S	SMP 02	EF00165	2011-03	2013-03

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 dB μ V. 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:

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

Net:

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

Limit:

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

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

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:

$$\begin{array}{rclcl} \text{Reading} & + & \text{AF} & = & \text{Net Reading} & : & \text{Net reading - FCC limit} & = & \text{Margin} \\ 21.5 \text{ dB}\mu\text{V} & + & 26 \text{ dB} & = & 47.5 \text{ dB}\mu\text{V/m} & : & 47.5 \text{ dB}\mu\text{V/m} - 57.0 \text{ dB}\mu\text{V/m} & = & -9.5 \text{ dB} \end{array}$$

1.7 Simulated human body

For radiated tests the implant was placed in a simulated human body.

Liquid components	
Component	percentage per weight
Deionized water	52.4
Bactericide	0.08
Hydroxy ethyl cellulose (HCE)	1.0
Sodium chloride	1.4
Sucrose	45.0

Measured tissue parameters:


Tissue parameters – 403.5MHz			
Component	Target	Measured	Tolerance [%]
Dielectric constant ϵ	62.5	63.08	0.93
Conductivity σ [ms/cm]	9.0	8.8	-2.22

2 Result Summary

FCC 47 CFR Part 95E, 95I, 15C, IC RSS-243, IC RSS-Gen				
Product Specific Standard Section	Requirement – Test	Reference Method	Result	Remarks
IC RSS-243 3.2 IC RSS-Gen 4.6	Occupied bandwidth	RSS-Gen 4.6.1	PASS	Informational only
FCC 95.627(d) FCC § 95.633(e)(1) IC RSS-243 3.6, 5.1	Emission bandwidth	FCC § 95.627(a)(6)(i) FCC § 95.633(e)(3)	PASS	
FCC 95.627(e) IC RSS-243 3.3, 5.3 RSS-Gen 4.7	Frequency stability	EN 301 839-1 8.1	PASS	
FCC § 95.639(f)(1) IC RSS-243 § 5.4	Transmitter output power	EN 301 839-1 8.3	PASS	
FCC § 95.635(d) IC RSS-243 § 3.4, 5.5	Band edge compliance	FCC § 95.635(d) ANSI C63.4	PASS	
FCC § 95.635(d) IC RSS-243 § 3.4, 5.5 RSS-Gen 4.9	Transmitter unwanted emissions	FCC § 95.635(d) ANSI C63.4	PASS	
IC RSS-243 3.5, 5.6 IC RSS-Gen 4.10 6.1	Receiver spurious emissions	ANSI C63.4	PASS	
FCC § 15.207 IC RSS-Gen 7.2.4	AC power line conducted emissions	ANSI C63.4	N/R	EUT battery powered
FCC § 95.627(a)(3) IC RSS-243 3.6, 5.7.1	System threshold power levels	EN 301 839-1 10.1	N/R	Applies only to equipment by which LBT is performed
FCC § 95.627(a)(1) IC RSS-243 3.6, 5.7.2	Monitoring system bandwidth	EN 301 839-1 10.2	N/R	Applies only to equipment by which LBT is performed
FCC § 95.627(a)(2) IC RSS-243 3.6, 5.7.3	Scan cycle time	EN 301 839-1 10.3	N/R	Applies only to equipment by which LBT is performed
FCC § 95.627(a)(2) IC RSS-243 3.6, 5.7.4	Minimum channel monitoring period	EN 301 839-1 10.3	N/R	Applies only to equipment by which LBT is performed
FCC § 95.627(a)(4) IC RSS-243 3.6, 5.7.5	Channel Access	EN 301 839-1 10.4	N/R	Applies only to equipment by which LBT is performed
FCC § 95.627(a)(4) IC RSS-243 3.6, 5.7.6	Discontinuation of MICS or MEDS session	EN 301 839-1 10.5	N/R	Applies only to equipment by which LBT is performed
FCC § 95.627(a)(5) IC RSS-243 3.6, 5.7.7	Use of the pre-scanned alternate channel	EN 301 839-1 10.6	N/R	Not used
Remarks:				

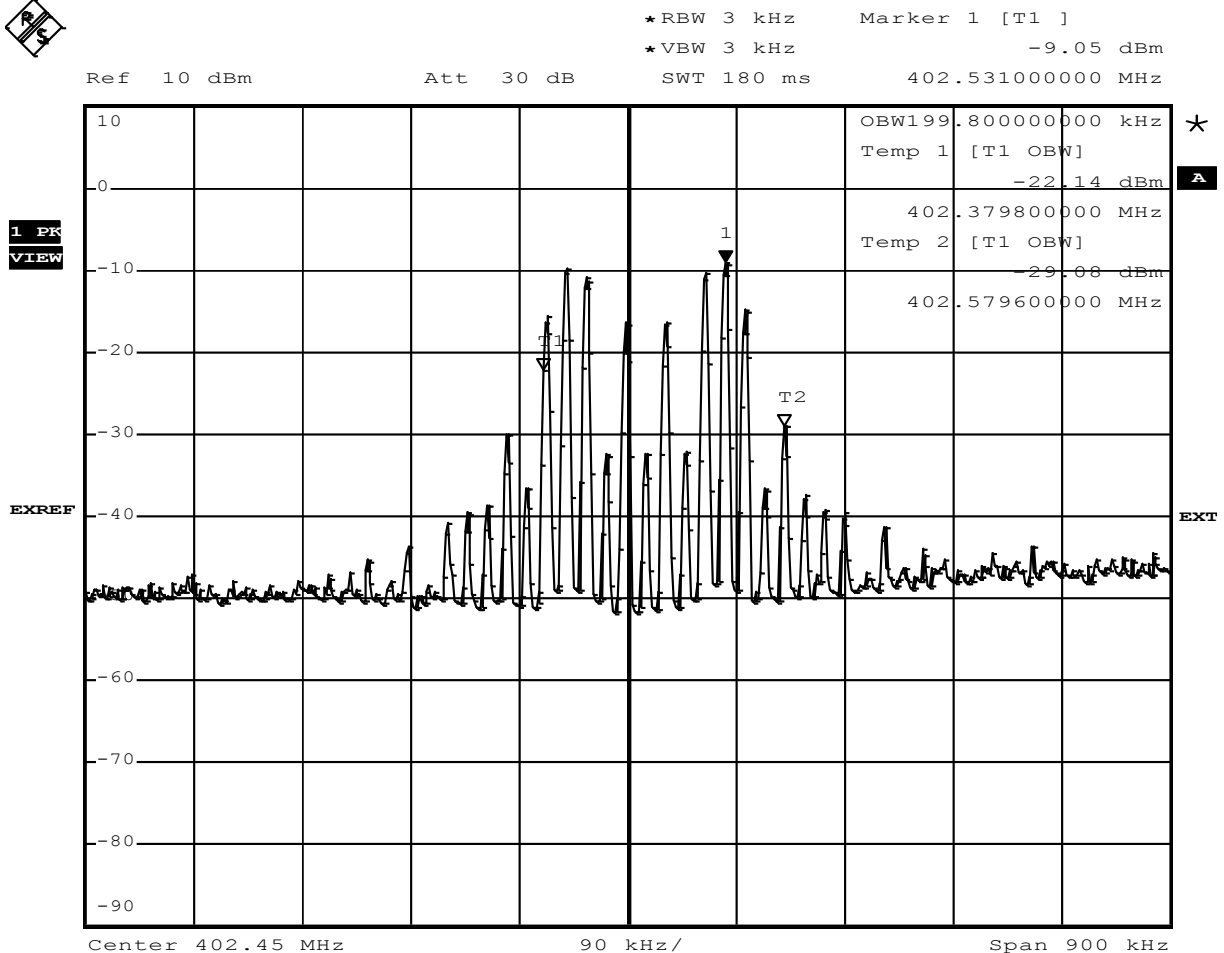
3 Test Conditions and Results

3.1 Test Conditions and Results – Occupied Bandwidth

Occupied Bandwidth acc. IC RSS-243		Verdict: PASS
Test according to measurement reference	Reference Method	
	RSS-Gen 4.6.1	
Test frequency range	Tested frequencies	
	$F_{LOW} / F_{MID} / F_{HIGH}$	
EUT test mode	Modulated	
Limits		
None (Informational only)		
Test setup		
 <pre> graph LR SA[Spectrum Analyzer] --- EUT[EUT] </pre>		
Test procedure		
<ol style="list-style-type: none"> 1. EUT set to test mode (Communication tester is used if needed) 2. Span set to at least twice the emission spectrum 3. Resolution bandwidth set to 1 % of span 4. Occupied Bandwidth (99 %) measurement with spectrum analyzer built in measurement function 		
Test results		
Channel	Frequency [MHz]	Occupied Bandwidth [kHz]
F_{LOW}	402.45	199.8
F_{MID}	403.65	228.6
F_{HIGH}	404.85	214.2
Comments:		

Occupied Bandwidth – F_{Low}
RSS-Gen
Occupied frequency bandwidth

EUT	ICD / Implantable Cardioverter Defibrillator
Model	TACHNXT / llesto HF-T / G0M-1207-1210
Approval Holder	Biotronik SE & Co. KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr Treffke
Test Specification	Occupied frequency bandwidth
Comment 1	A spectrum analyzer with an integrated 99% power bandwidth function is used
Comment 2	Carrier channel: 402.45 MHz
Comment 3	



Comment: Occupied bandwidth: 199.8 KHz
 Date: 20.JUL.2012 13:36:46

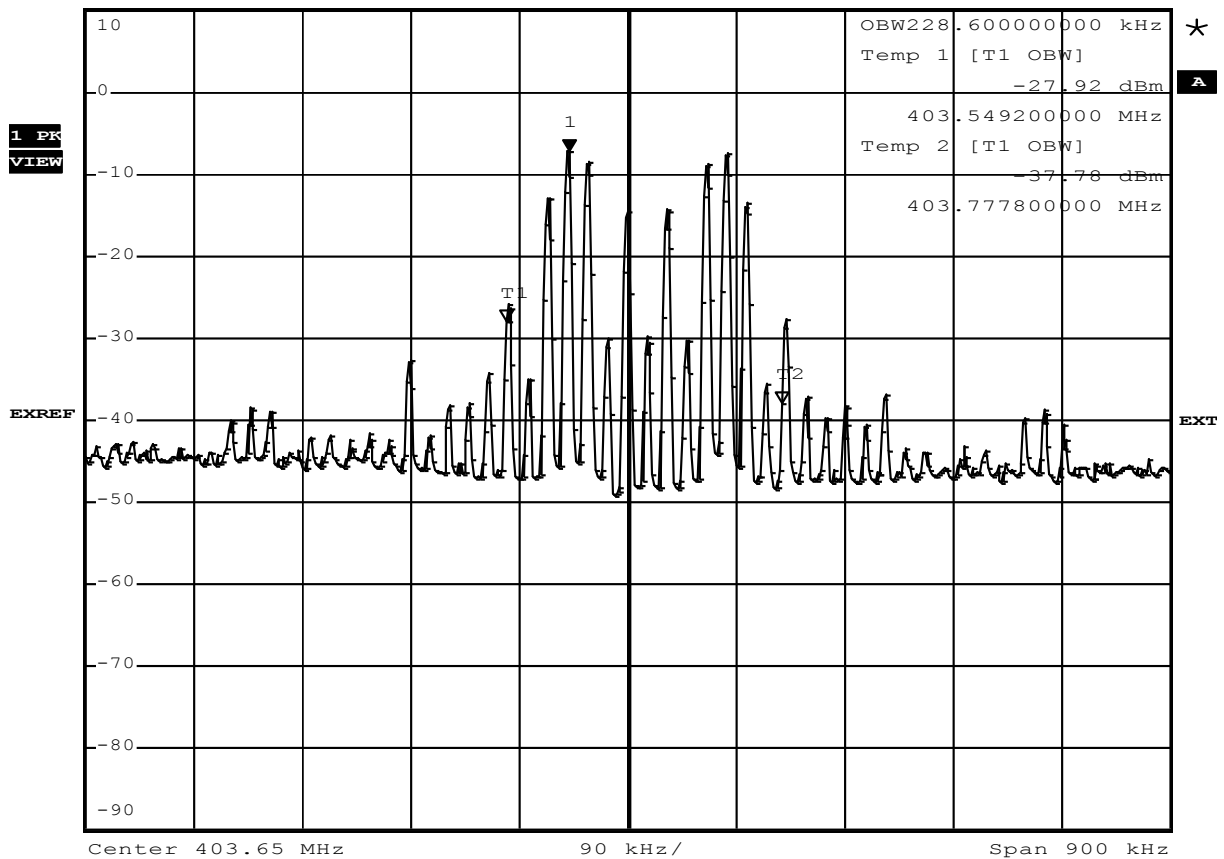
Occupied Bandwidth - F_{MID}
RSS-Gen
Occupied frequency bandwidth

EUT	ICD / Implantable Cardioverter Defibrillator
Model	TACHNXT / llesto HF-T / G0M-1207-1210
Approval Holder	Biotronik SE & Co. KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr Treffke
Test Specification	Occupied frequency bandwidth
Comment 1	A spectrum analyzer with an integrated 99% power bandwidth function is used
Comment 2	Carrier channel: 403.65 MHz
Comment 3	



*RBW 3 kHz Marker 1 [T1]
 *VBW 3 kHz -7.23 dBm

Ref 10 dBm Att 30 dB SWT 180 ms 403.601400000 MHz



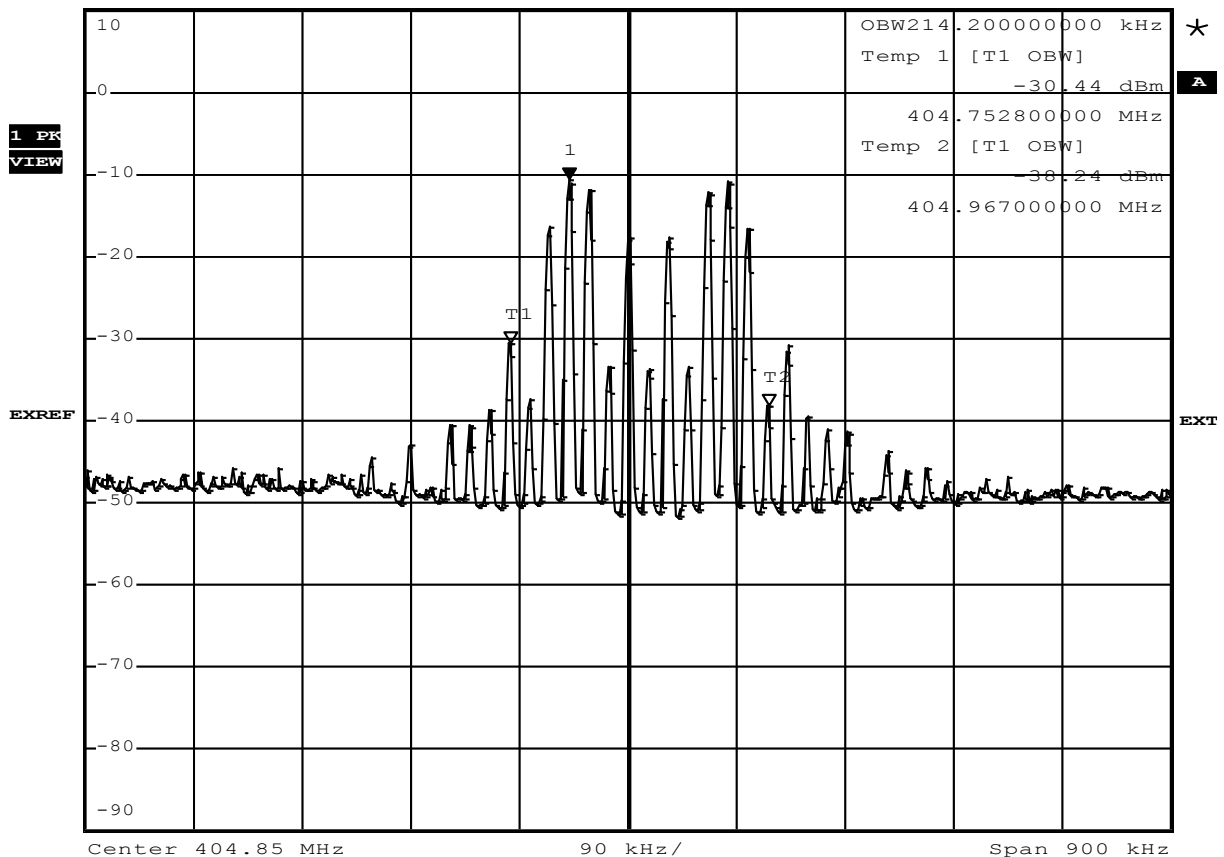
Comment: Occupied bandwidth: 228.6 KHz
 Date: 20.JUL.2012 13:44:26

Occupied Bandwidth - F_{HIGH}
**RSS-Gen
Occupied frequency bandwidth**

EUT	ICD / Implantable Cardioverter Defibrillator
Model	TACHNXT / Ilesio HF-T / G0M-1207-1210
Approval Holder	Biotronik SE & Co. KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr Treffke
Test Specification	Occupied frequency bandwidth
Comment 1	A spectrum analyzer with an integrated 99% power bandwidth function is used
Comment 2	Carrier channel: 404.85 MHz

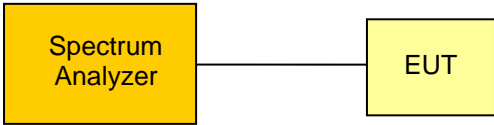


Ref 10 dBm Att 30 dB SWT 180 ms 404.801400000 MHz
 *RBW 3 kHz Marker 1 [T1]
 *VBW 3 kHz -10.55 dBm



Comment: Occupied bandwidth: 214.2 KHz
 Date: 20.JUL.2012 13:27:39

3.2 Test Conditions and Results – Emission Bandwidth

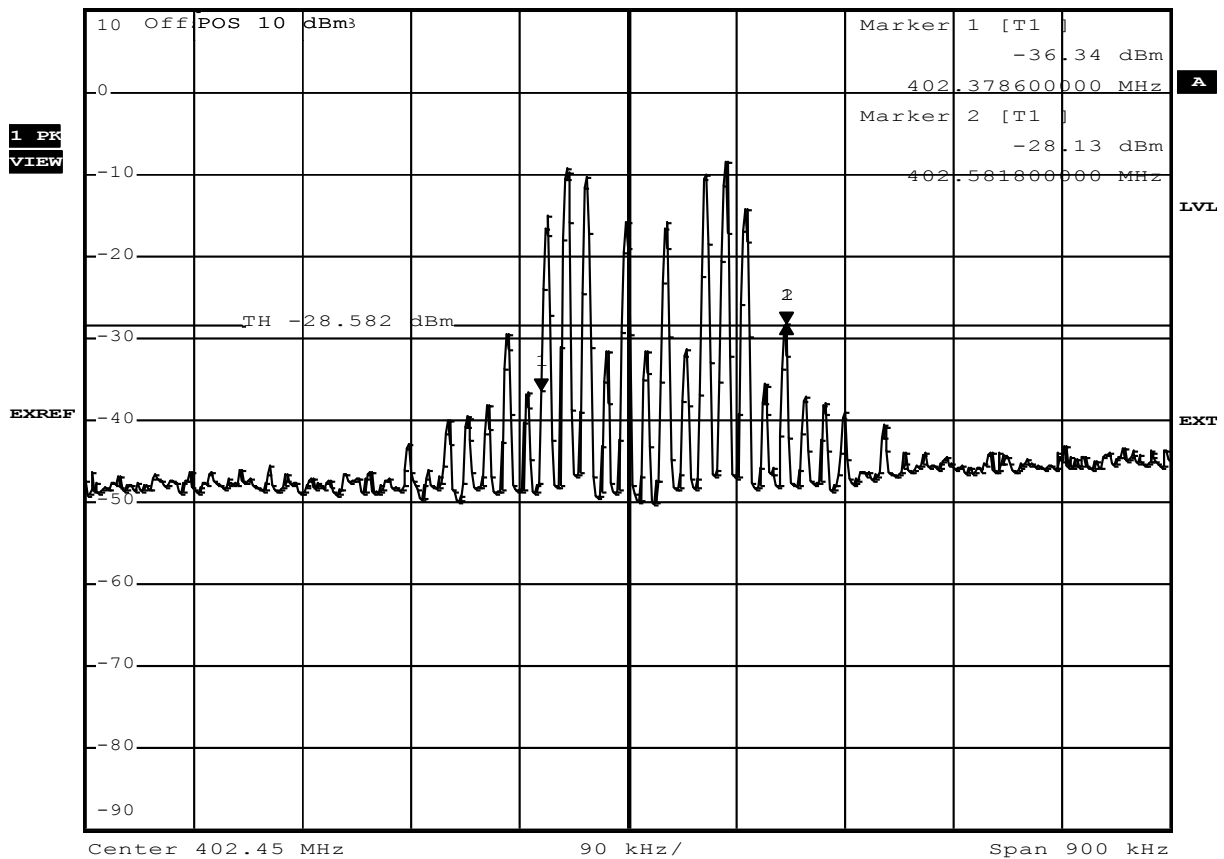
Emission Bandwidth acc. FCC Part 95 / IC RSS-243				Verdict: PASS
EUT requirement rule parts and clause	Reference			
	FCC 95.628(d) / FCC 95.633(e) / IC RSS-243 3.3 5.1			
Test according to measurement reference	Reference Method			
	FCC 95.628(a)(6)(i) / FCC 95.633(e)(3)			
Test frequency range	Tested frequencies			
	$F_{LOW} / F_{MID} / F_{HIGH}$			
EUT test mode	Modulated			
Limits				
≤ 300 kHz				
Test setup				
				
Test procedure				
<ol style="list-style-type: none"> 1. EUT set to test mode 2. Span set to at least twice the emission spectrum 3. Detector set to peak and max hold 4. Envelope peak value of emission spectrum is selected 5. Marker on envelope of spectrum is set to level of -20 dB to the left of the peak 6. Marker on envelope of spectrum is set to level of -20 dB to the right of the peak 7. 20 dB Emission Bandwidth is determined by marker frequency separation 				
Test results				
Channel	Frequency [MHz]	Emission Bandwidth [kHz]	Limit [kHz]	Result
F_{LOW}	402.45	203.2	≤ 300	PASS
F_{MID}	403.65	203.2	≤ 300	PASS
F_{HIGH}	404.85	174.8	≤ 300	PASS
Comments:				

Emission Bandwidth – F_{Low}
**FCC Part 95.633
Emission bandwidth**

EUT	ICD / Implantable Cardioverter Defibrillator
Model	TACHNXT / llesto HF-T / G0M-1207-1210
Approval Holder	Biotronik SE & Co. KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr Treffke
Test Specification	FCC Part 95.633
Comment 1	20 dB Emission bandwidth
Comment 2	Channel: 402.45 MHz
Comment 3	Pass



*RBW 3 kHz Delta 1 [T1]
 *VBW 10 kHz 8.21 dB
 Ref 10 dBm Att 40 dB SWT 100 ms 203.20000000 kHz



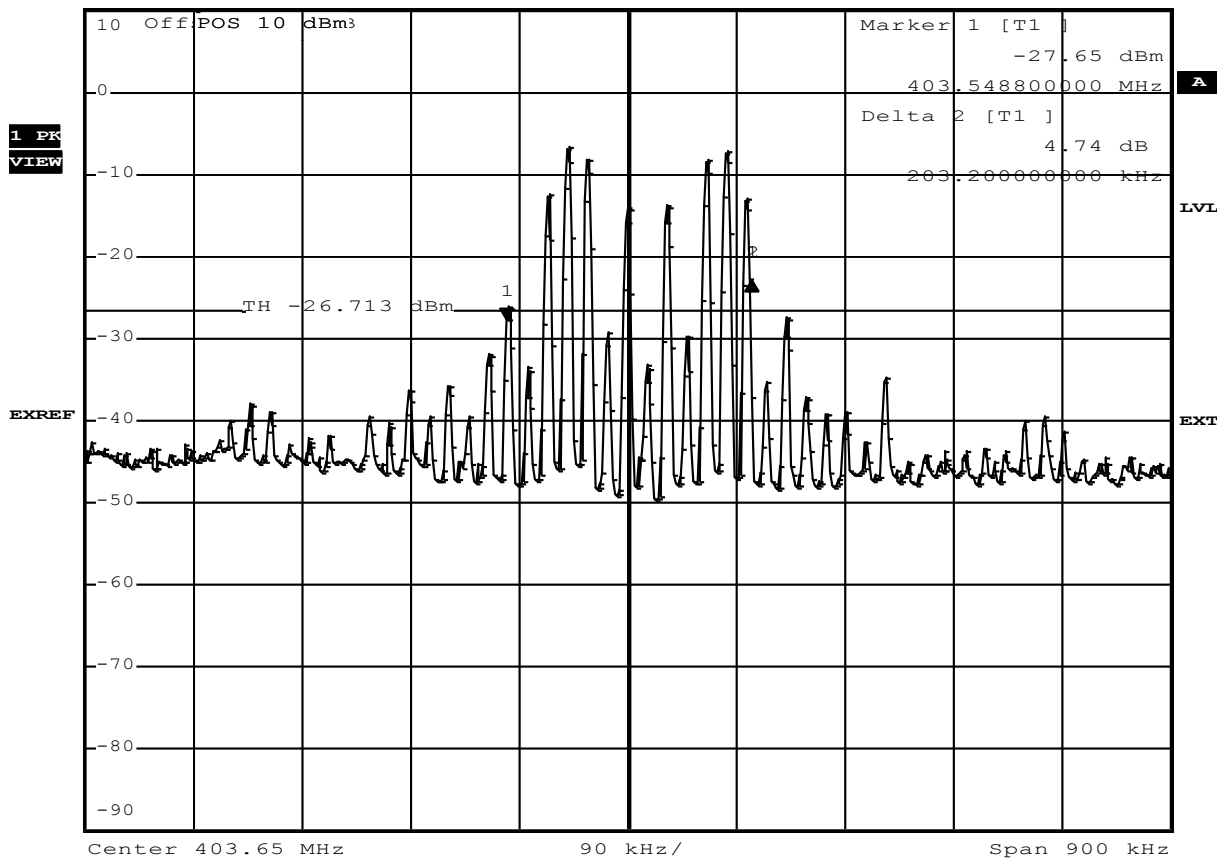
Comment: 20 dB bandwidth: 203.2 KHz
 Date: 20.JUL.2012 13:54:27

Emission Bandwidth – F_{MID}
**FCC Part 95.633
Emission bandwidth**

EUT	ICD / Implantable Cardioverter Defibrillator
Model	TACHNXT / Ilesto HF-T / G0M-1207-1210
Approval Holder	Biotronik SE & Co. KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr Treffke
Test Specification	FCC Part 95.633
Comment 1	20 dB Emission bandwidth
Comment 2	Channel: 403.65 MHz
Comment 3	Pass



*RBW 3 kHz Delta 1 [T1]
 *VBW 10 kHz 4.74 dB
 Ref 10 dBm Att 40 dB SWT 100 ms 203.200000000 kHz



Comment: 20 dB bandwidth: 203.2 KHz
 Date: 20.JUL.2012 14:04:16

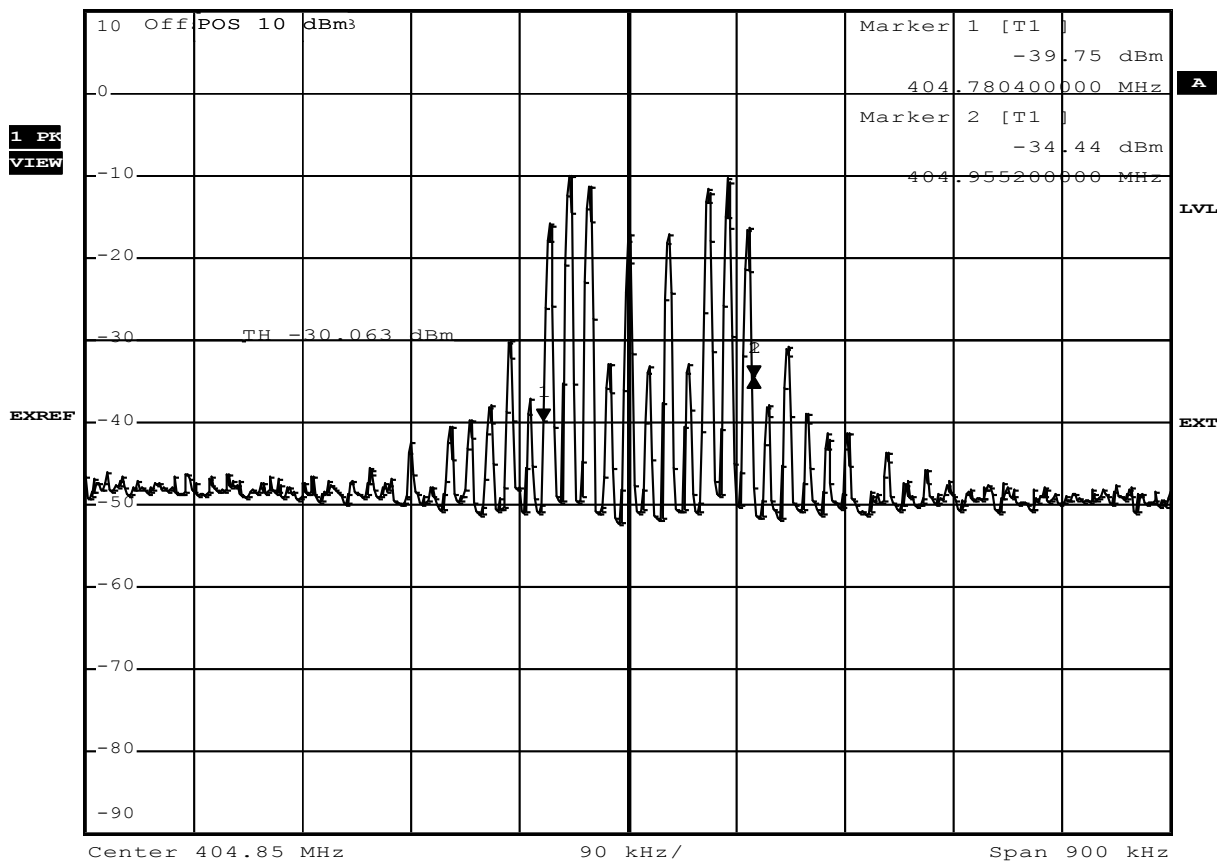
Emission Bandwidth – F_{HIGH}
**FCC Part 95.633
Emission bandwidth**

EUT	ICD / Implantable Cardioverter Defibrillator
Model	TACHNXT / llesto HF-T / G0M-1207-1210
Approval Holder	Biotronik SE & Co. KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr Treffke
Test Specification	FCC Part 95.633
Comment 1	20 dB Emission bandwidth
Comment 2	Channel: 404.85 MHz
Comment 3	Pass



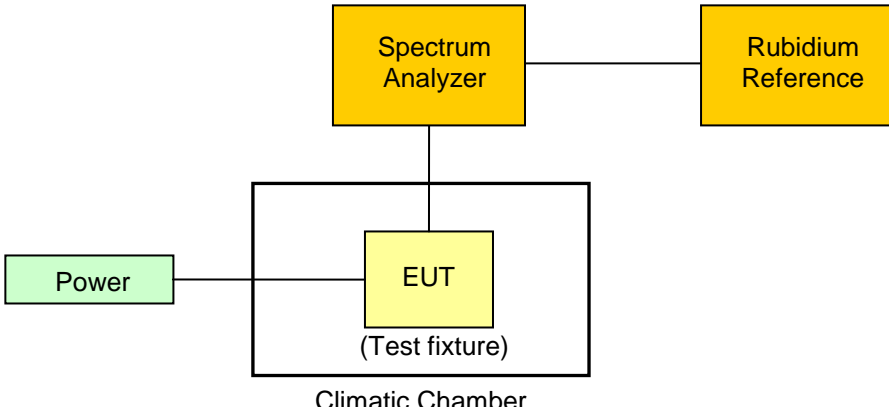
*RBW 3 kHz Delta 1 [T1]
 *VBW 10 kHz 5.31 dB

Ref 10 dBm Att 40 dB SWT 100 ms 174.80000000 kHz



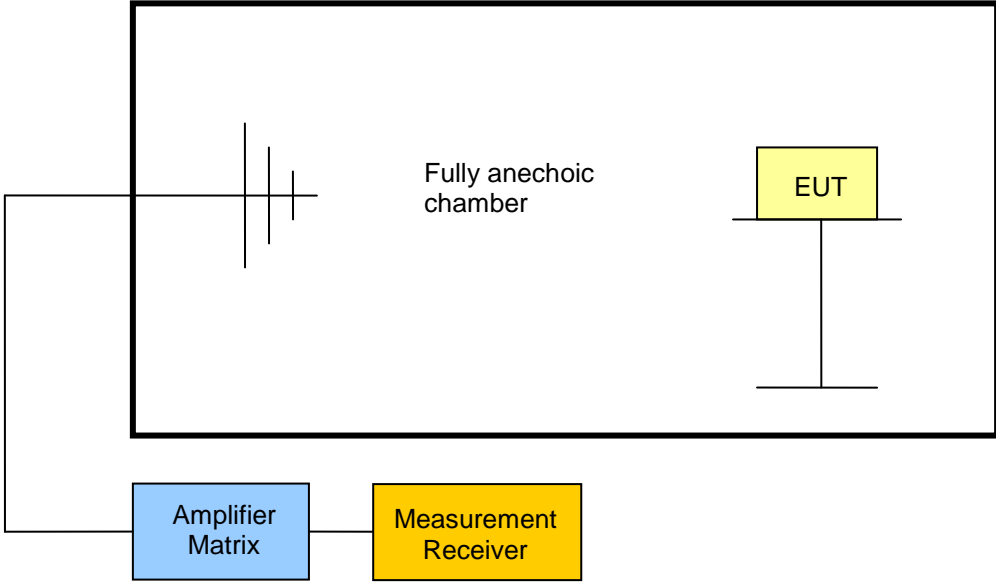
Date: 20.JUL.2012 14:09:56

3.3 Test Conditions and Results – Frequency stability

Frequency stability acc. FCC Part 95 / IC RSS-243		Verdict: PASS
EUT requirement rule parts and clause	Reference	
	FCC 95.628(e) / IC RSS-243 3.3 5.3 / RSS-Gen 4.7	
Test according to measurement reference	Reference Method	
	EN 301 839-1 8.1	
Test frequency range	Tested frequencies	
	$F_{LOW} / F_{MID} / F_{HIGH}$	
EUT test mode	Unmodulated	
Limits		
$\leq \pm 100$ ppm		
Test setup		
 <pre> graph TD Power[Power] --- EUT[EUT (Test fixture)] subgraph Climatic Chamber EUT end EUT --- SA[Spectrum Analyzer] SA --- RR[Rubidium Reference] </pre>		
Test procedure		
<ol style="list-style-type: none"> 1. EUT set to test mode with supply voltage and temperature set to nominal conditions 2. EUT transmits without modulation 3. Detector set to peak and max hold 4. Peak of emission is measured using a frequency counter 5. The frequency error is determined as the deviation of the emission frequency from the nominal frequency stated by the customer. 		

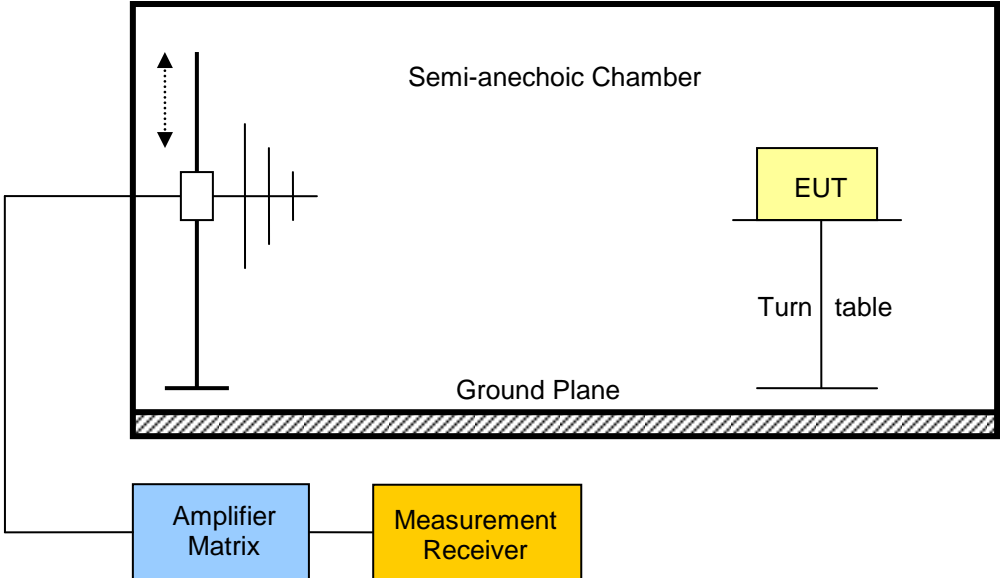
Test results					
Channel	Nominal Frequency [MHz]	Temperature	Supply voltage	Frequency [MHz]	Drift [ppm]
F _{LOW}	402.45	T _{NOM} = 37 °C	V _{NOM} = 3.0 VDC	402.451484	03.69
F _{LOW}	402.45	T _{MIN} = 25 °C	V _{NOM} = 3.0 VDC	402.451643	04.08
F _{LOW}	402.45	T _{MAX} = 45 °C	V _{NOM} = 3.0 VDC	402.451493	03.71
F _{MID}	403.65	T _{NOM} = 37 °C	V _{NOM} = 3.0 VDC	403.652538	06.29
F _{MID}	403.65	T _{MIN} = 25 °C	V _{NOM} = 3.0 VDC	403.652694	06.67
F _{MID}	403.65	T _{MAX} = 45 °C	V _{NOM} = 3.0 VDC	403.652555	06.33
F _{HIGH}	404.85	T _{NOM} = 37 °C	V _{NOM} = 3.0 VDC	404.853587	08.86
F _{HIGH}	404.85	T _{MIN} = 25 °C	V _{NOM} = 3.0 VDC	404.853762	09.29
F _{HIGH}	404.85	T _{MAX} = 45 °C	V _{NOM} = 3.0 VDC	404.853592	08.87
Comments:					

3.4 Test Conditions and Results – Transmitter output power

Transmitter output power acc. FCC Part 95 / IC RSS-243		Verdict: PASS
EUT requirement rule parts and clause	Reference	
	FCC 95.639(f) / IC RSS-243 5.4	
Test according to measurement reference	Reference Method	
	EN 301 839-1 8.3	
Test frequency range	Tested frequencies	
	$F_{LOW} / F_{MID} / F_{HIGH}$	
EUT test mode	Modulated	
Limits		
$\leq 25 \mu W$ (-16 dBm) e.i.r.p.		
Test setup		
 <p>The diagram illustrates the test setup. An Amplifier Matrix (blue box) is connected to a Fully anechoic chamber (black box). Inside the chamber, an EUT (yellow box) is mounted on a stand. The chamber is connected to a Measurement Receiver (yellow box) outside the chamber.</p>		
Test procedure		
<ol style="list-style-type: none"> 1. EUT set to test frequency with modulation 2. Measurement polarization is set to vertical 3. Span is set according to measurement range and detector is set to peak and max hold 4. Resolution bandwidth is set to be at least twice the emission bandwidth 5. During the sweep the EUT is rotated to obtain maximum emission level 6. Measurement is repeated with horizontal measurement polarization 		

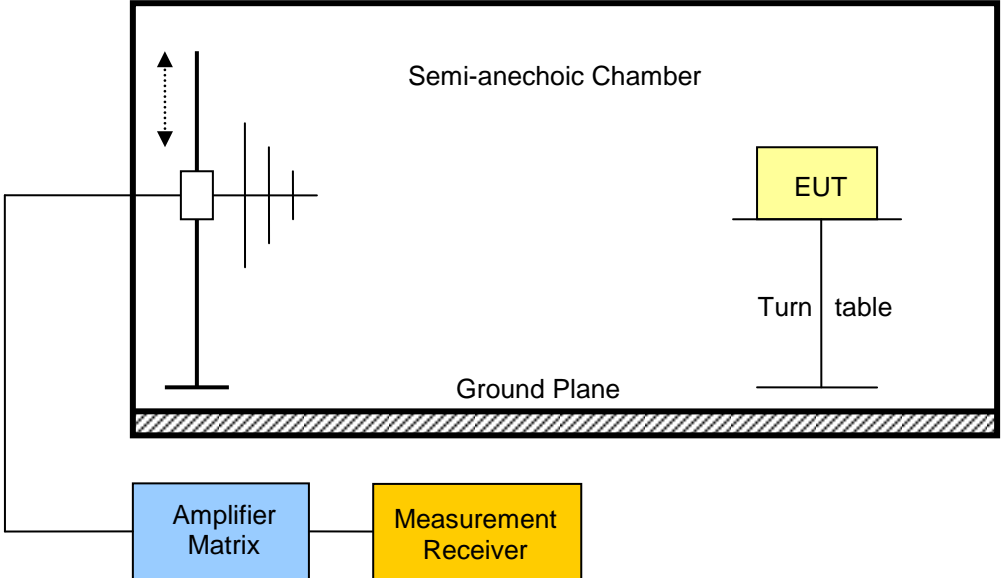
Test results					
Channel	Frequency [MHz]	Emission Level [dbm e.i.r.p.]	Detector	Limit [dbm e.i.r.p.]	Margin [dB]
F _{LOW}	402.45	-33.78	pk	-16	-17.78
F _{MID}	403.65	-32.24	pk	-16	-16.24
F _{HIGH}	404.85	-34.90	pk	-16	-18.90
Comments:					

3.5 Test Conditions and Results – Band-edge compliance

Band-edge compliance acc. FCC Part 95 / IC RSS-243		Verdict: PASS
EUT requirement rule parts and clause	Reference	
	FCC 95.635(d) / IC RSS-243 3.5 5.5 / RSS-Gen 4.9	
Test according to measurement reference	Reference Method	
	FCC 95.635(d) / ANSI C 63.4	
Test frequency range	Tested frequencies	
	$F_{LOW} / F_{MID} / F_{HIGH}$	
EUT test mode	Modulated	
Limits - FCC		
Frequency range	Limit	
$402 \text{ MHz} - 250 \text{ kHz} \leq f \leq 402 \text{ MHz}$	20 dB below maximum permitted output power	
$402 \text{ MHz} < f < 150 \text{ kHz} - f_c$	20 dB below transmitter output power	
$150 \text{ kHz} + f_c < f < 405 \text{ MHz}$	20 dB below transmitter output power	
$405 \text{ MHz} \leq f \leq 405 \text{ MHz} + 250 \text{ kHz}$	20 dB below maximum permitted output power	
Limits - IC		
Frequency range	Limit	
$402 \text{ MHz} - 250 \text{ kHz} < f < 150 \text{ kHz} - f_c$	20 dB below maximum permitted output power	
$150 \text{ kHz} + f_c < f < 405 \text{ MHz} + 250 \text{ kHz}$	20 dB below maximum permitted output power	
Because the FCC limits are more stringent than the Industry Canada limits, the FCC limits are used to show compliance with the band-edge emission requirements.		
Test setup		
 <p>The diagram illustrates the test setup. A Semi-anechoic Chamber is shown with a Ground Plane at the bottom. Inside the chamber, an Amplifier Matrix is connected to a Measurement Receiver. The EUT (Equipment Under Test) is placed on a Turn table. The chamber is designed to minimize reflections, ensuring accurate measurements of the EUT's emissions.</p>		

Test procedure		
<ol style="list-style-type: none"> 1. EUT set to test frequency with modulation 2. Measurement polarization is set to vertical 3. Span it set according to measurement range 4. Resolution bandwidth is set to 1% of the emission bandwidth and detector is set to peak 5. During the sweep the EUT is rotated to obtain maximum emission level 6. Measurement is repeated with horizontal measurement polarization 		
Test results		
Channel	Frequency [MHz]	Result
F_{LOW}	402.45	PASS
F_{HIGH}	404.85	PASS
Comments: see attached diagrams		

3.6 Test Conditions and Results – Transmitter unwanted emissions

Transmitter unwanted emissions acc. FCC Part 95 / IC RSS-243				Verdict: PASS	
Test according referenced standards		Reference Method			
		FCC 95.635(d) / IC RSS-243 3.4 5.5 / IC RSS-Gen 4.9			
Test according to measurement reference		Reference Method			
		FCC 95.635(d) / ANSI C 63.4			
Test frequency range		Tested frequencies			
		30 MHz – 10 th Harmonic			
Limits					
Frequency range [MHz]	Detector	Limit [μ V/m]	Limit [dB μ V/m]	Limit Distance [m]	
30 – 88	Quasi-Peak	100	40	3	
88 – 216	Quasi-Peak	150	43.5	3	
216 – 960	Quasi-Peak	200	46	3	
960 – 1000	Quasi-Peak	500	54	3	
> 1000	Average	500	54	3	
Test setup					
					

Test procedure

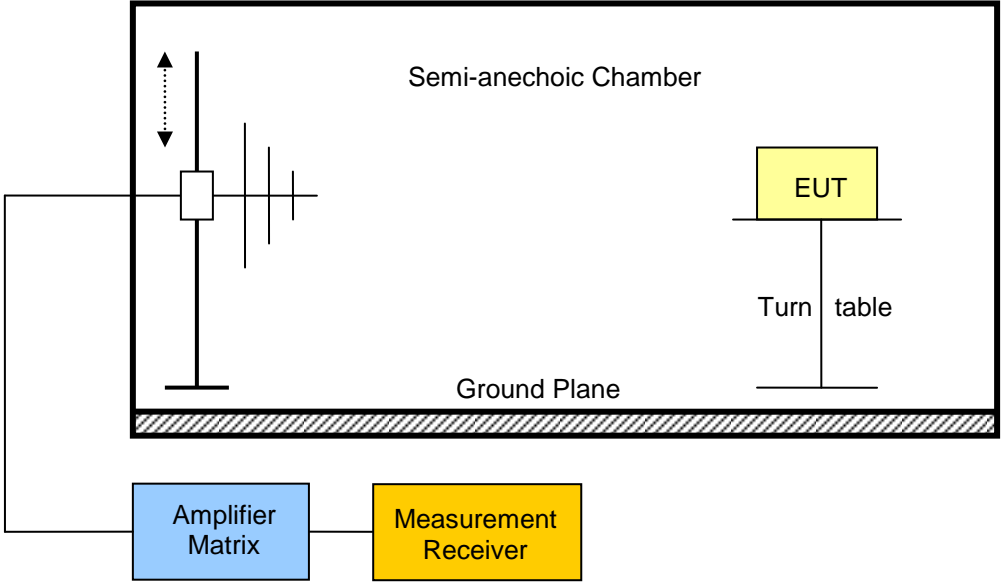
1. EUT set to test mode
2. Span it set according to measurement range
3. Resolution bandwidth below 1 GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1 MHz with peak/average detector is used above 1 GHz
4. Markers are set to peak emission levels within restricted bands

Test results

Channel	Frequency [MHz]	Mode	Emission [MHz]	Level [db μ V/m]	Det.	Pol.	Limit [db μ V/m]	Limit dist. [m]*	Margin [dB]
F _{LOW}	402.45	Modulated	6629	47.7	pk	ver	54	3	-06.30
F _{HIGH}	404.85	Modulated	7976	48.26	pk	ver	54	3	-05.74

Comments: * Physical distance between EUT and measurement antenna.

3.7 Test Conditions and Results – Receiver spurious emissions

Receiver spurious emissions acc. IC RSS-243			Verdict: PASS	
Test according referenced standards	Reference Method			
	IC RSS-243 3.5 5.6 / IC RSS-Gen 4.10 6.1			
Test according to measurement reference	Reference Method			
	ANSI C 63.4			
Test frequency range	Tested frequencies			
	30 MHz – 3 th Harmonic			
EUT test mode	Receive			
Limits				
Frequency range [MHz]	Detector	Limit [μ V/m]	Limit [dB μ V/m]	Limit Distance [m]
30 – 88	Quasi-Peak	100	40	3
88 – 216	Quasi-Peak	150	43.5	3
216 – 960	Quasi-Peak	200	46	3
960 – 1000	Quasi-Peak	500	54	3
> 1000	Average	500	54	3
Test setup				
				

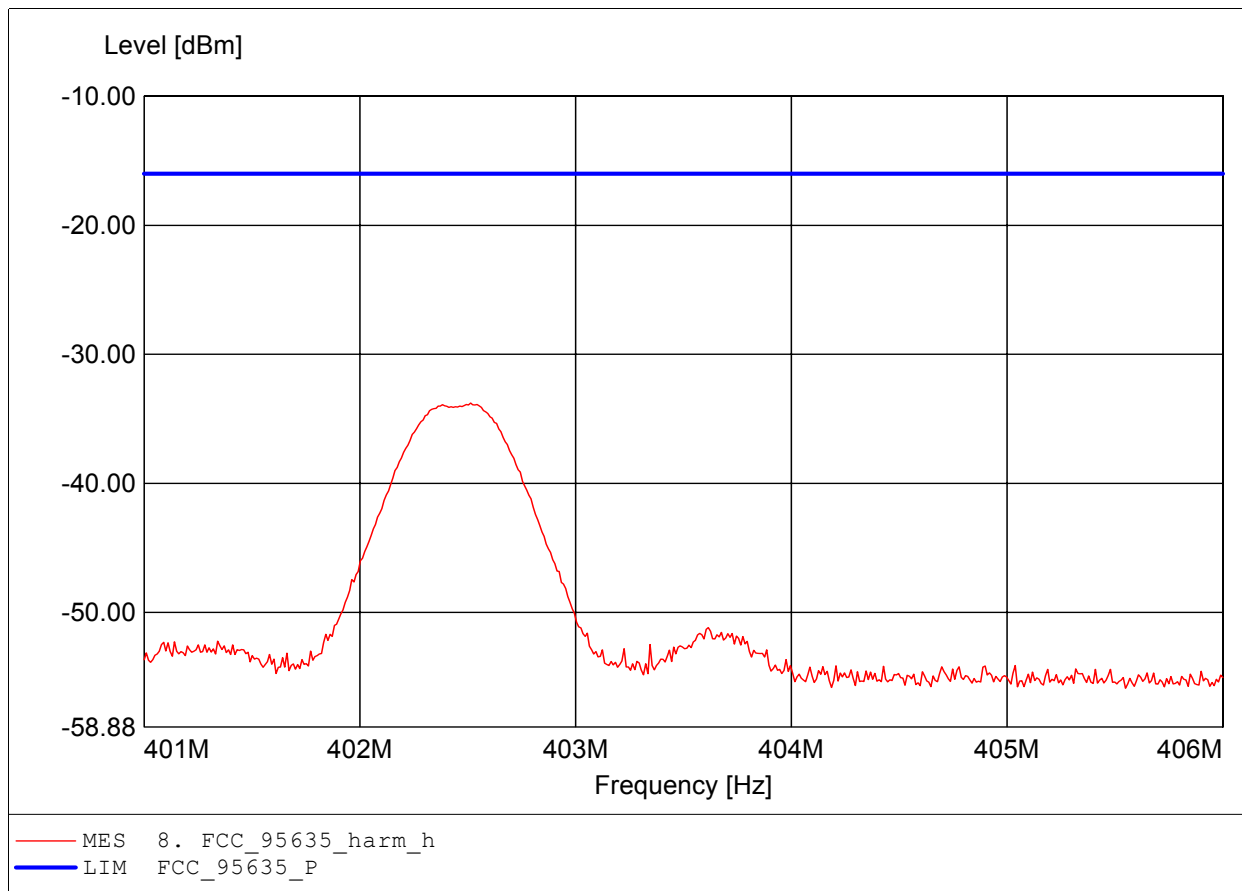
Test procedure								
1. EUT set to receive mode (Communication tester is used if needed) 2. Span it set according to measurement range 3. Resolution bandwidth below 1 GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1 MHz with peak/average detector is used above 1 GHz 4. Markers are set to peak emission levels								
Test results								
Channel	Frequency [MHz]	Emission [MHz]	Emission Level [db μ V/m]	Emission Level [μ V/m]	Det.	Pol.	Limit [μ V/m]	Margin [μ V/m]
F _{MID}	403.65	3928	45.26	183.23	pk	ver	500	-316.77
Comments: * Physical distance between EUT and measurement antenna. ** Emission level corresponds to ambient noise floor								

ANNEX A Transmitter radiated power

Carrier power (dBm)

FCC RULES PART 95, SUBPART i

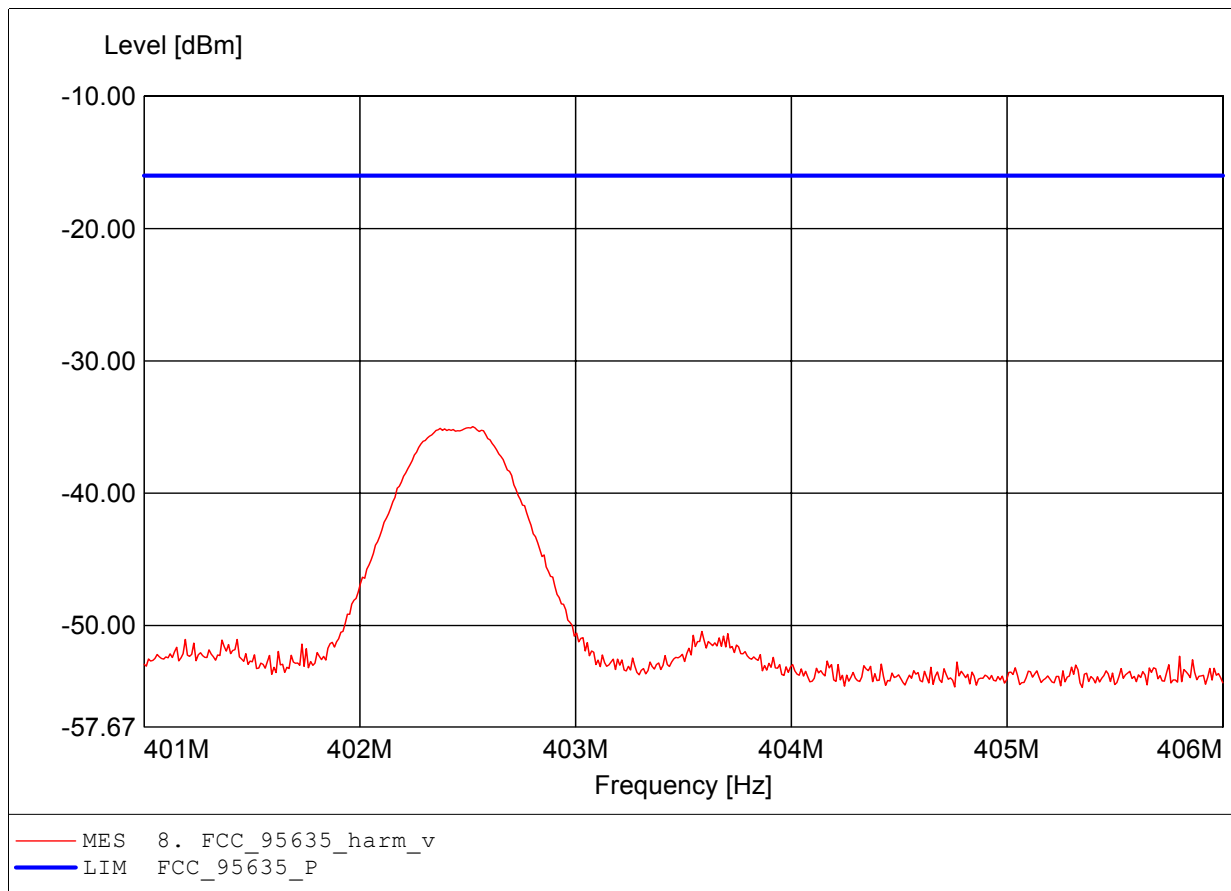
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.639, peak detector
Comment 1: Dist.: 3m, Ant.: HL223
Comment 2: Freq: 402.513MHz, Pmax: -33.78dBm, RBW: 300KHz



Carrier power (dBm)

FCC RULES PART 95, SUBPART i

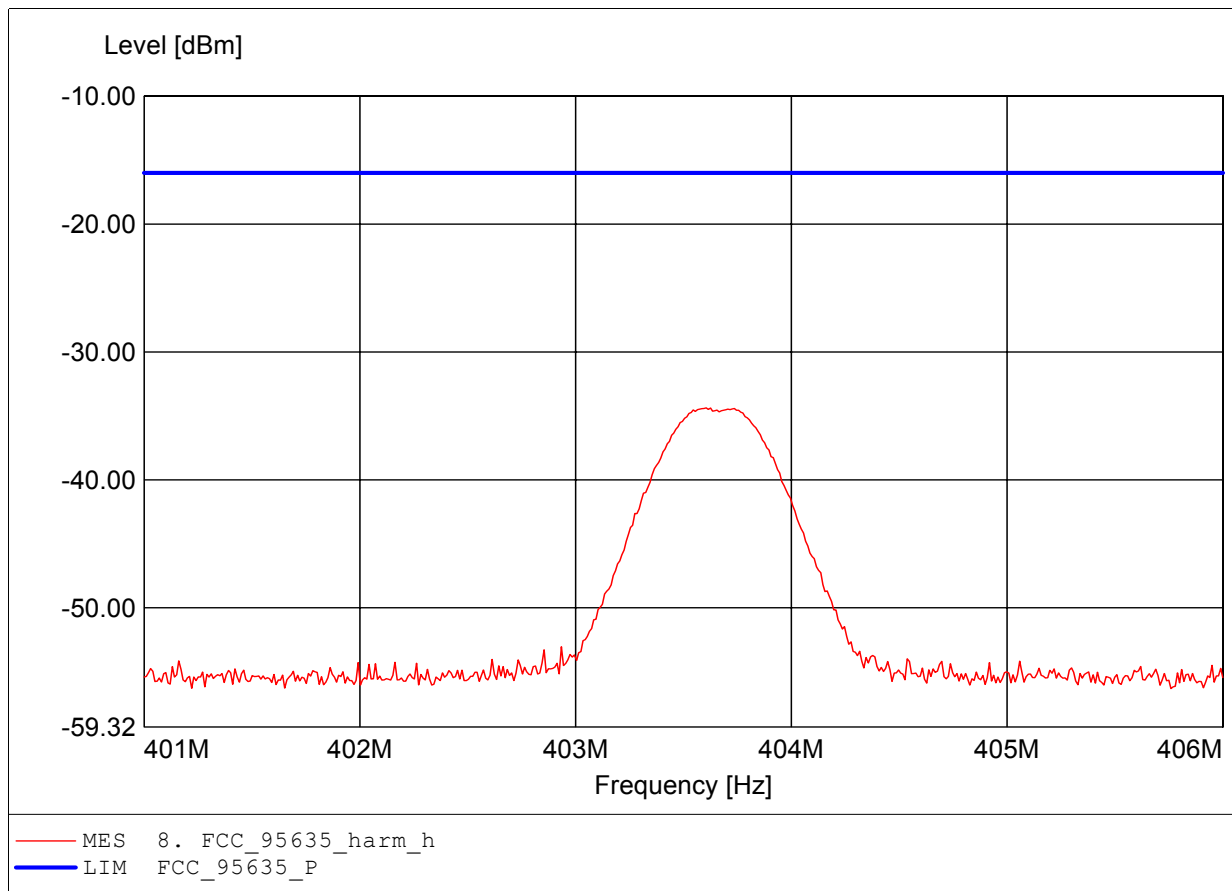
Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.639, peak detector
Comment 1: Dist.: 3m, Ant.: HL223
Comment 2: Freq: 402.523MHz, Pmax: -34.96dBm, RBW: 300KHz



Carrier power (dBm)

FCC RULES PART 95, SUBPART i

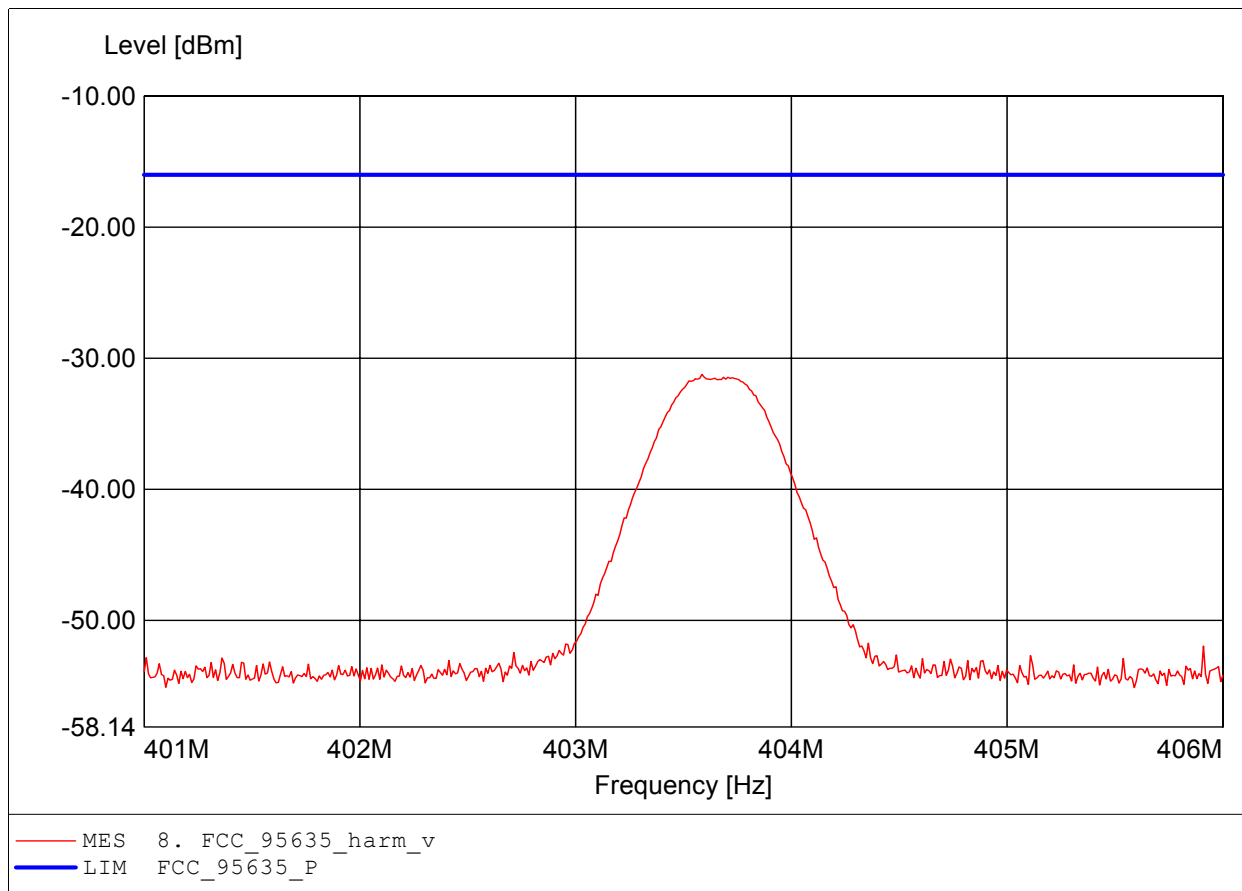
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.639, peak detector
Comment 1: Dist.: 3m, Ant.: HL223
Comment 2: Freq: 403.605MHz, Pmax: -34.37dBm, RBW: 300KHz



Carrier power (dBm)

FCC RULES PART 95, SUBPART i

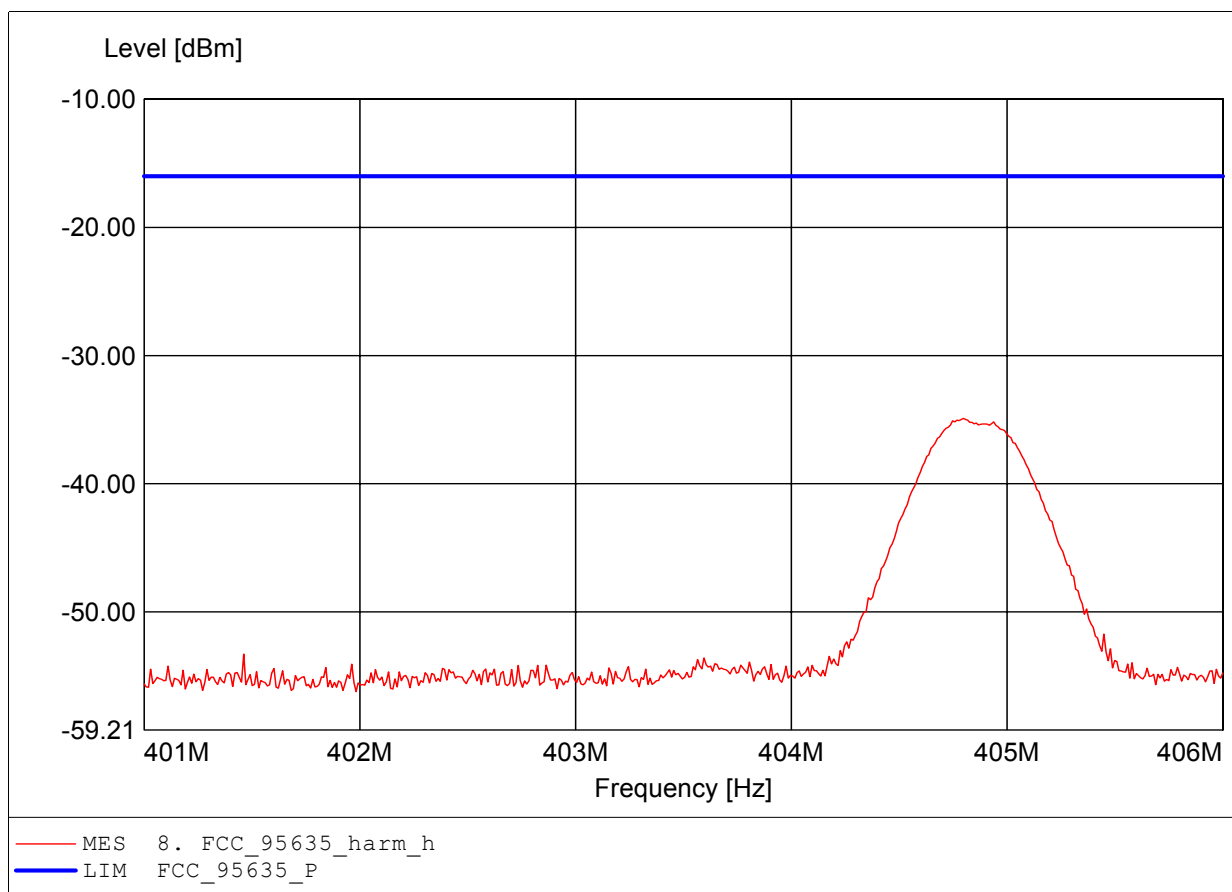
Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.639, peak detector
Comment 1: Dist.: 3m, Ant.: HL223
Comment 2: Freq: 403.585MHz, Pmax: -32.24dBm, RBW: 300KHz



Carrier power (dBm)

FCC RULES PART 95, SUBPART i

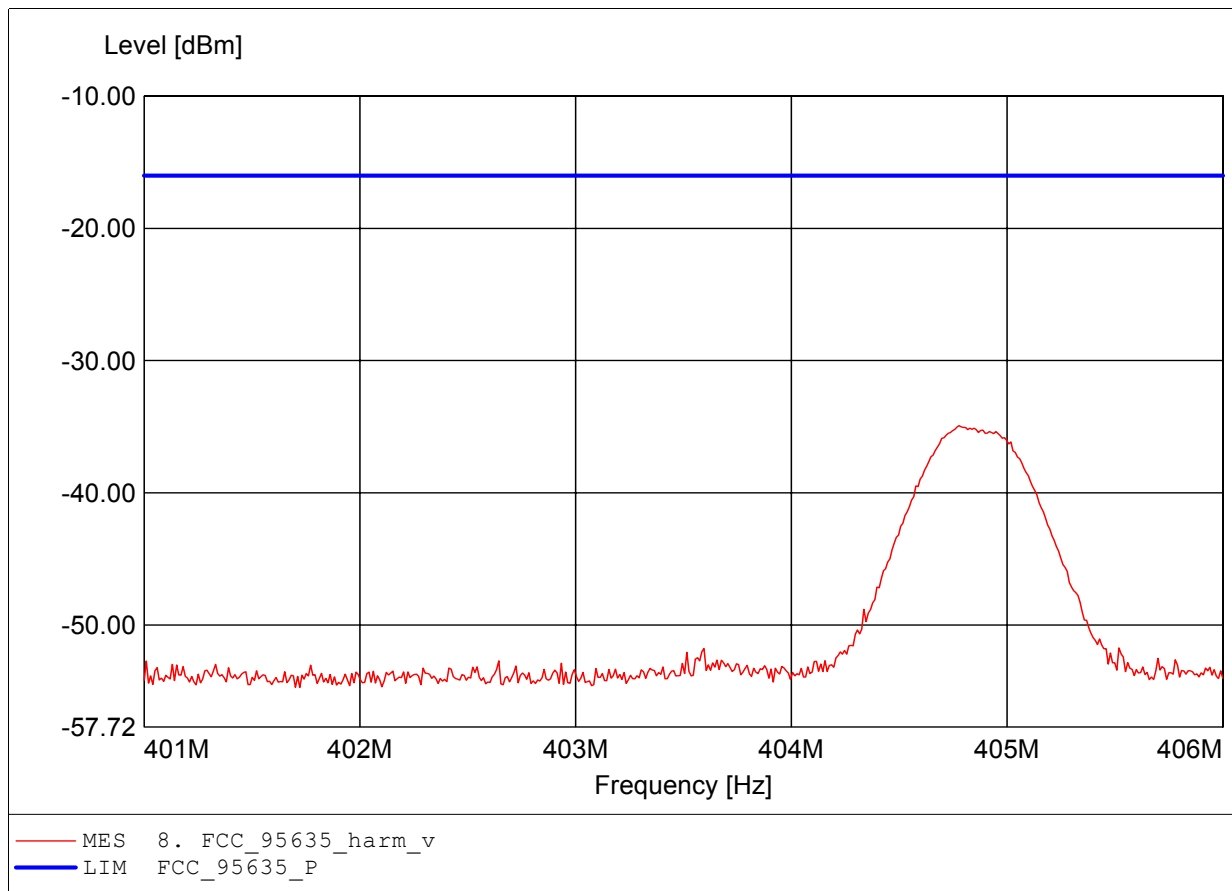
Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.639, peak detector
Comment 1: Dist.: 3m, Ant.: HL223
Comment 2: Freq: 404.798MHz, Pmax: -34.90dBm, RBW: 300KHz



Carrier power (dBm)

FCC RULES PART 95, SUBPART i

Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.639, peak detector
Comment 1: Dist.: 3m, Ant.: HL223
Comment 2: Freq: 404.778MHz, Pmax: -34.92dBm, RBW: 300KHz

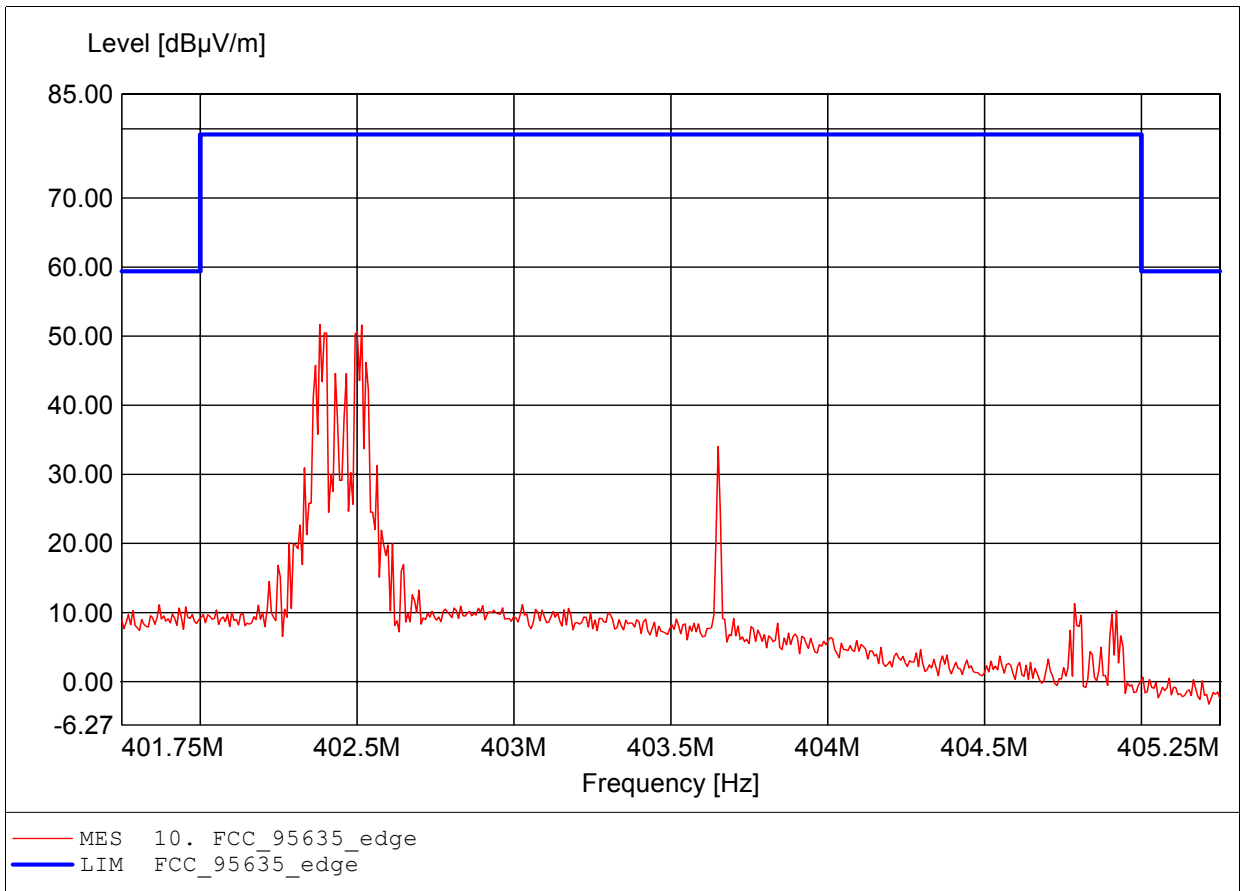


ANNEX B Transmitter band-edge

Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

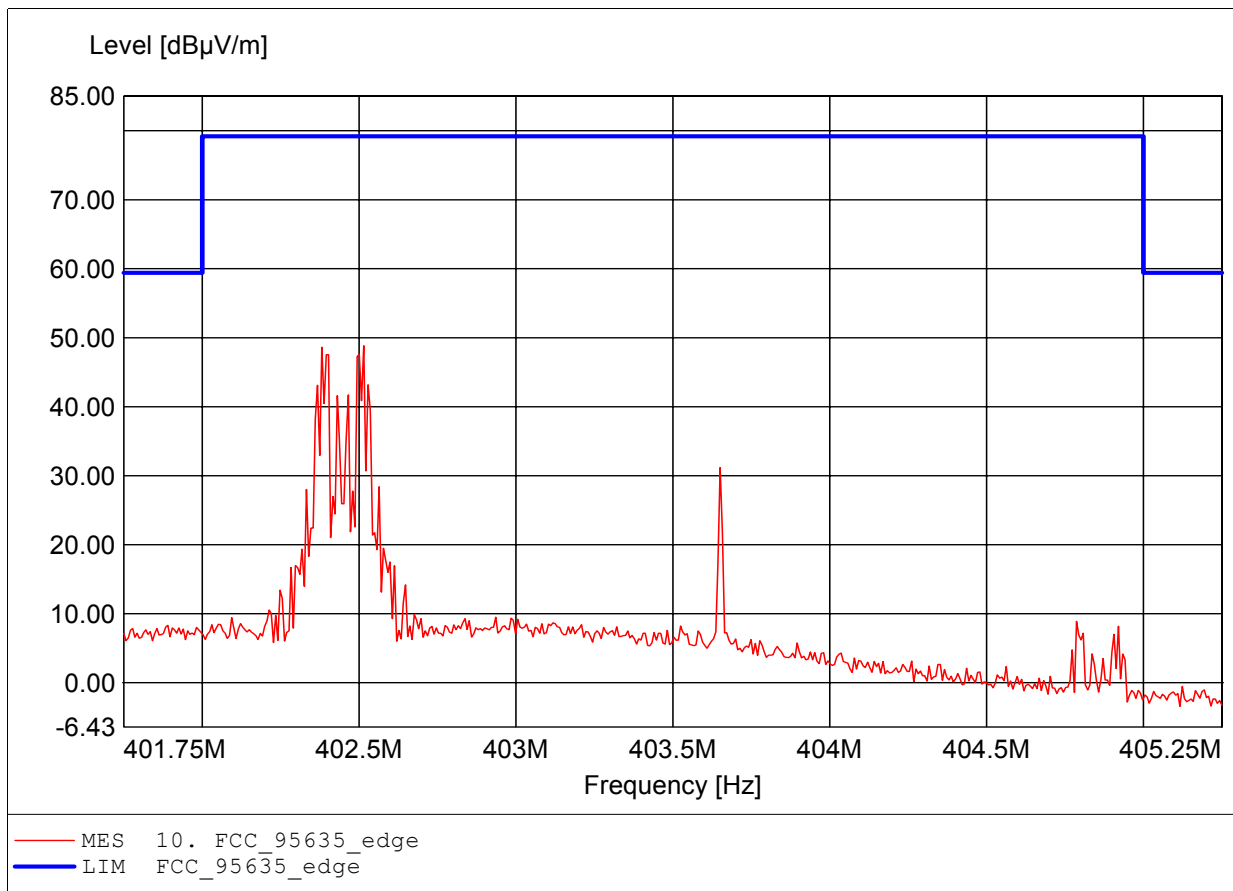
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635 (d)(5), peak detector
Comment 1: Dist.: 3m, Ant.: HL 223
Comment 2: Freq: 402.381MHz, Emax: 51.69dBµV/m, RBW: 3kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

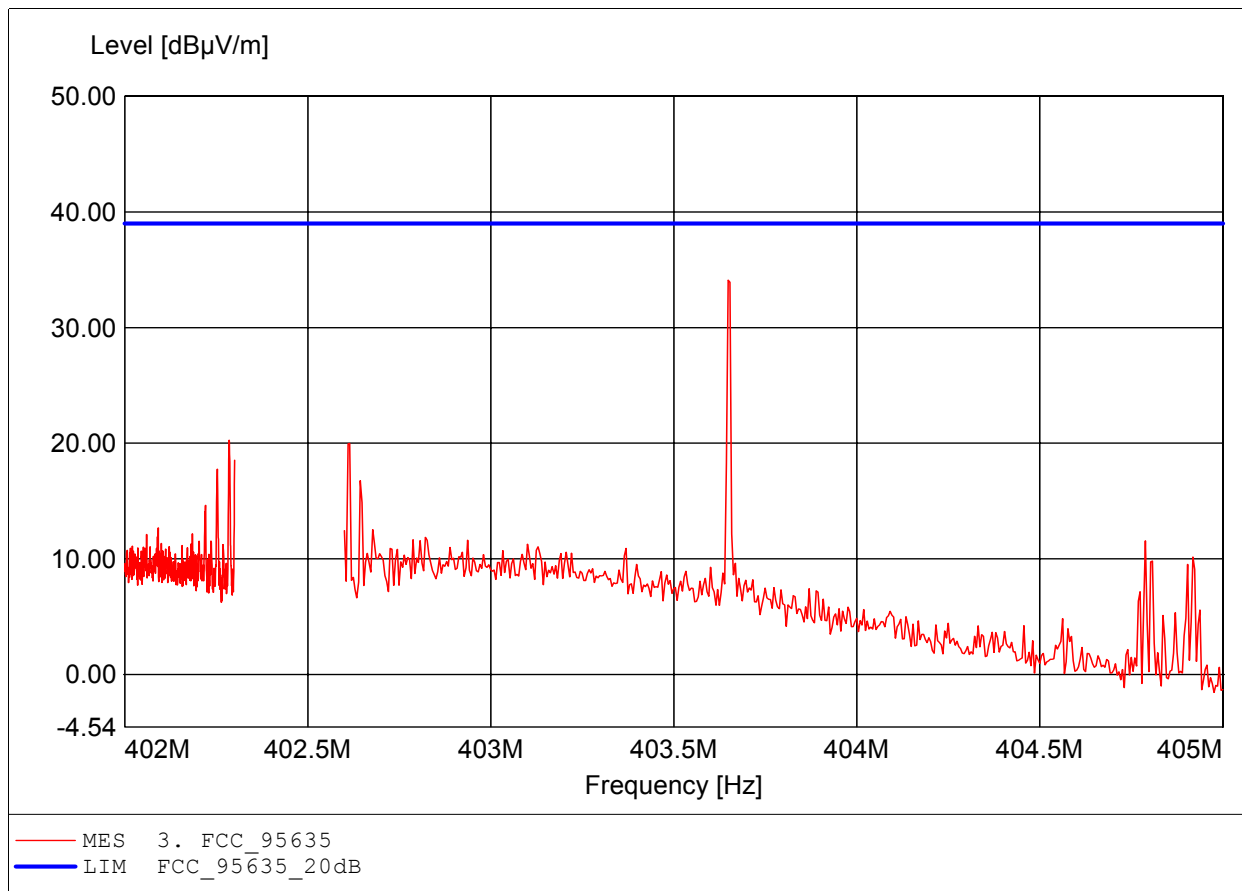
Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635 (d)(5), peak detector
Comment 1: Dist.: 3m, Ant.: HL 223
Comment 2: Freq: 402.515MHz, Emax: 48.83dBµV/m, RBW: 3kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

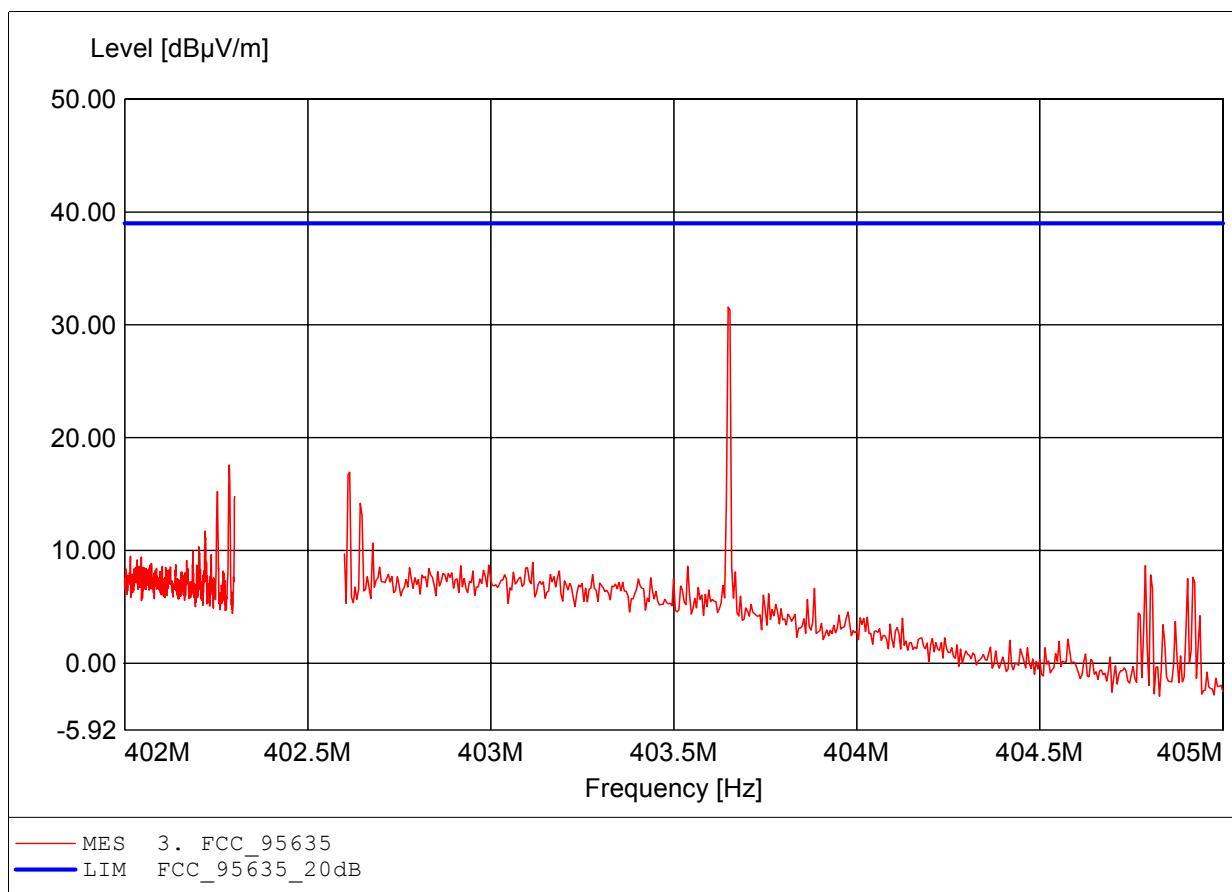
Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 403.648MHz, Emax: 34.10dBµV/m, RBW: 3kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

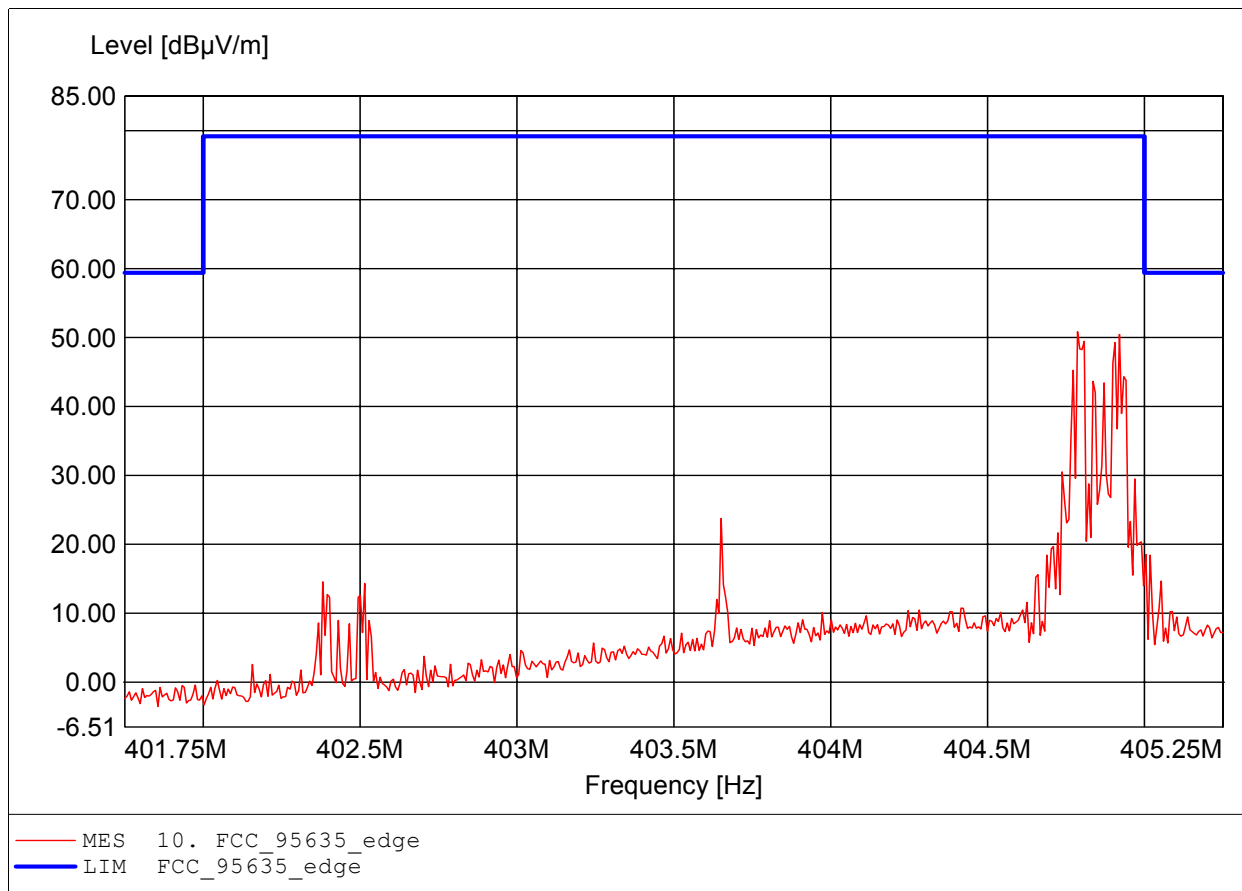
Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 403.648MHz, Emax: 31.58dBµV/m, RBW: 3kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

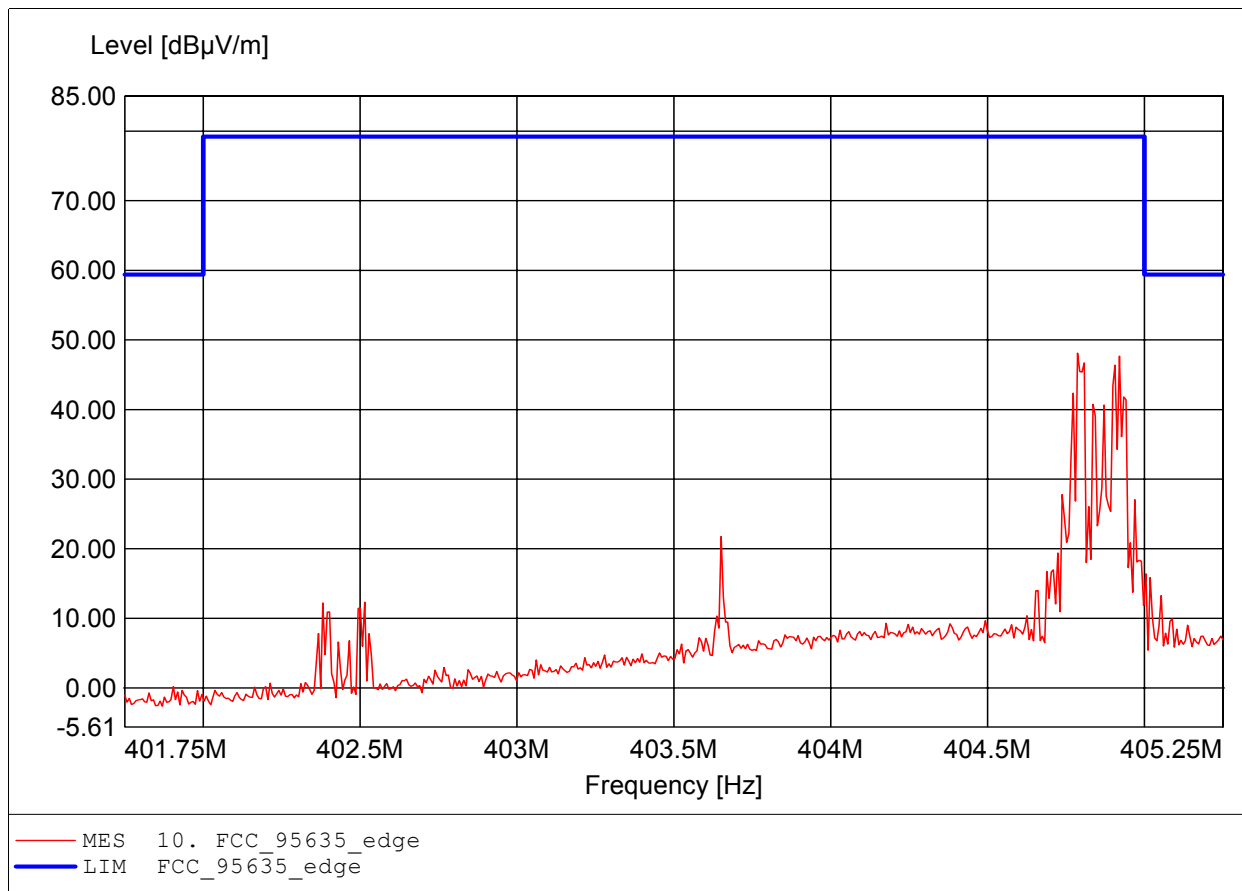
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635 (d)(5), peak detector
Comment 1: Dist.: 3m, Ant.: HL 223
Comment 2: Freq: 404.787MHz, Emax: 50.83dBµV/m, RBW: 3kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

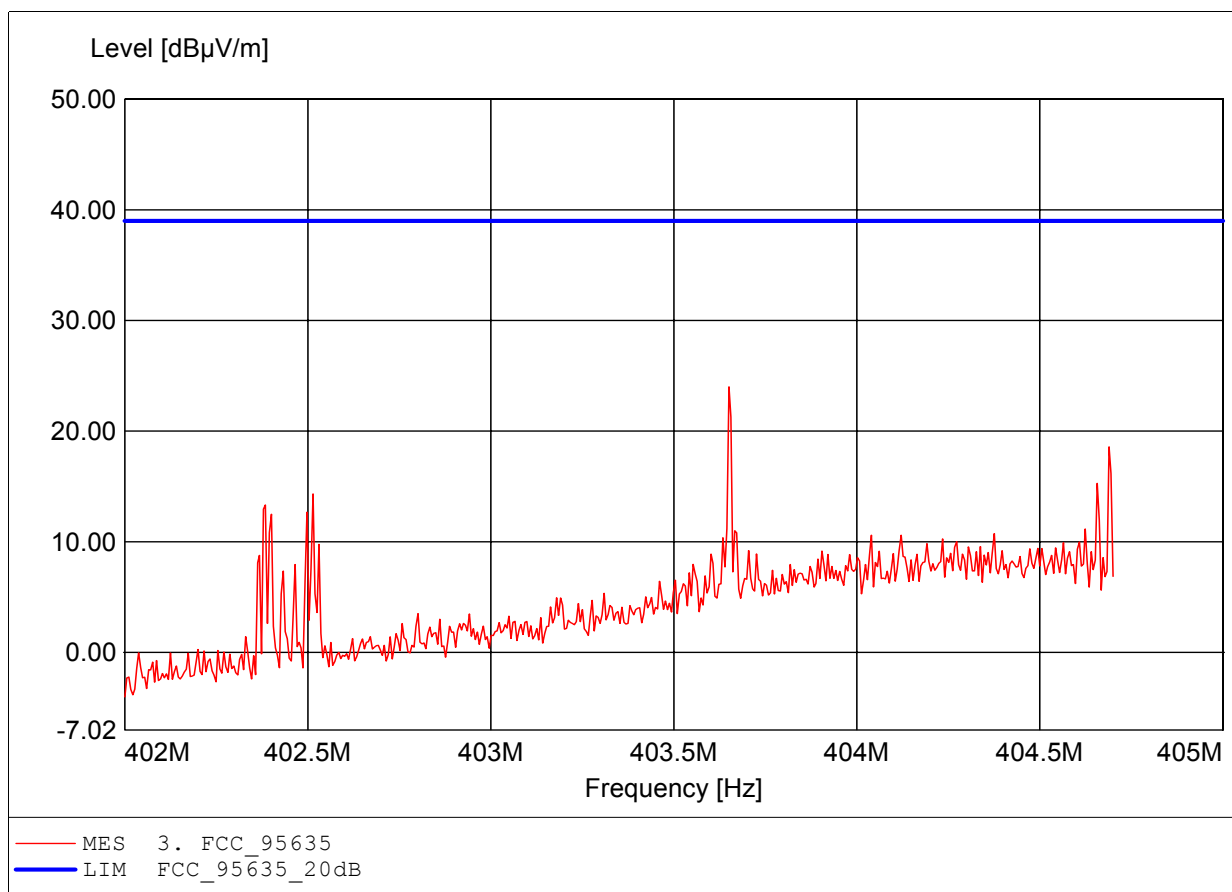
Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635 (d)(5), peak detector
Comment 1: Dist.: 3m, Ant.: HL 223
Comment 2: Freq: 404.787MHz, Emax: 48.10dBµV/m, RBW: 3kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

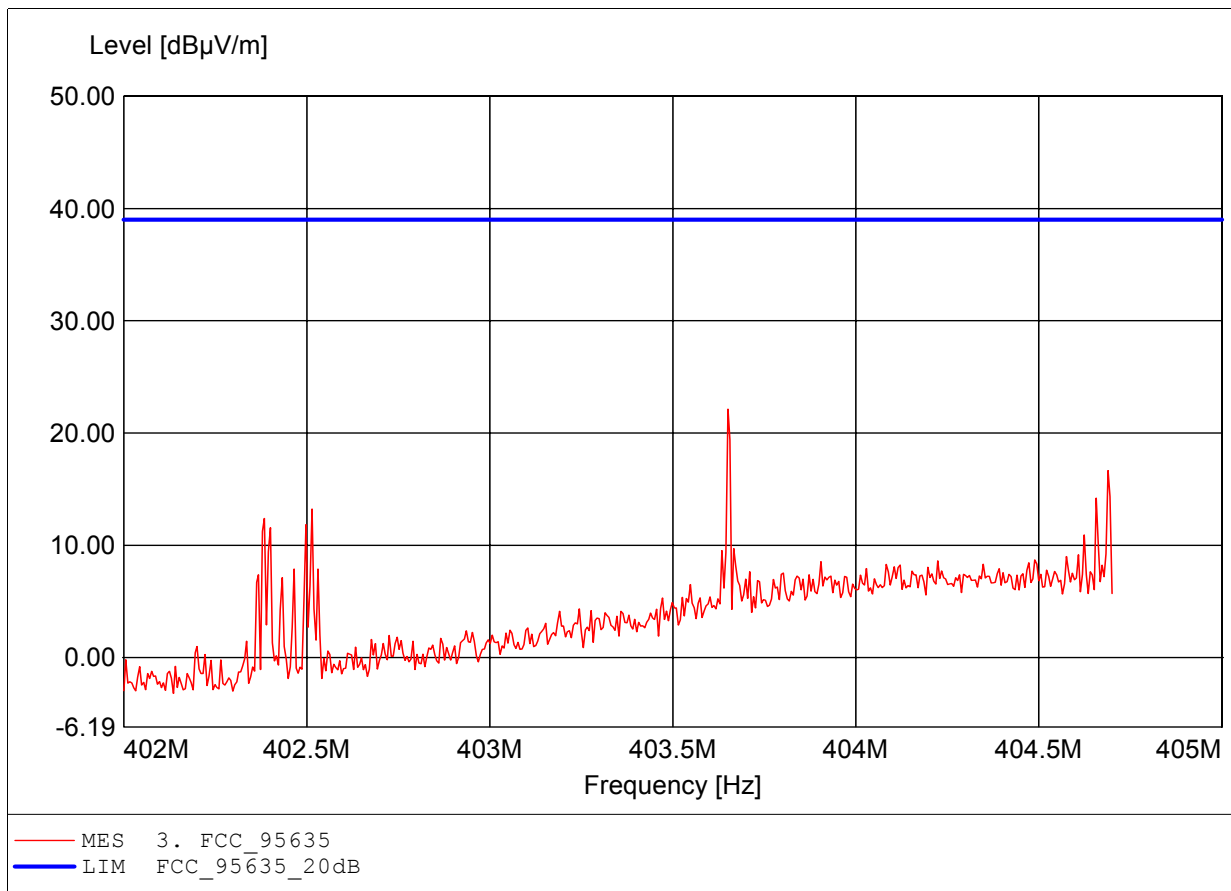
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 403.650MHz, Emax: 23.99dBµV/m, RBW: 3kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 403.650MHz, Emax: 22.12dBµV/m, RBW: 3kHz

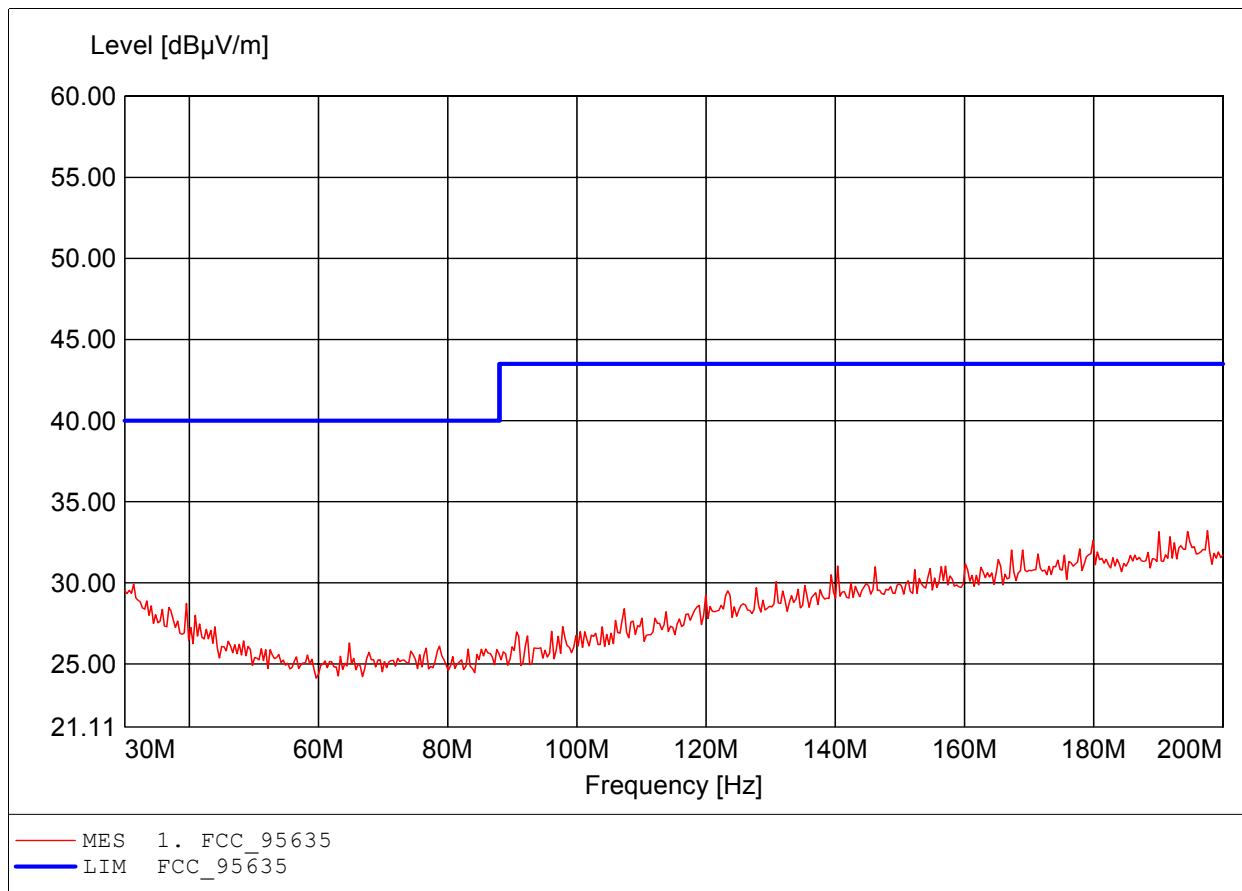


ANNEX C Transmitter radiated spurious emissions

Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

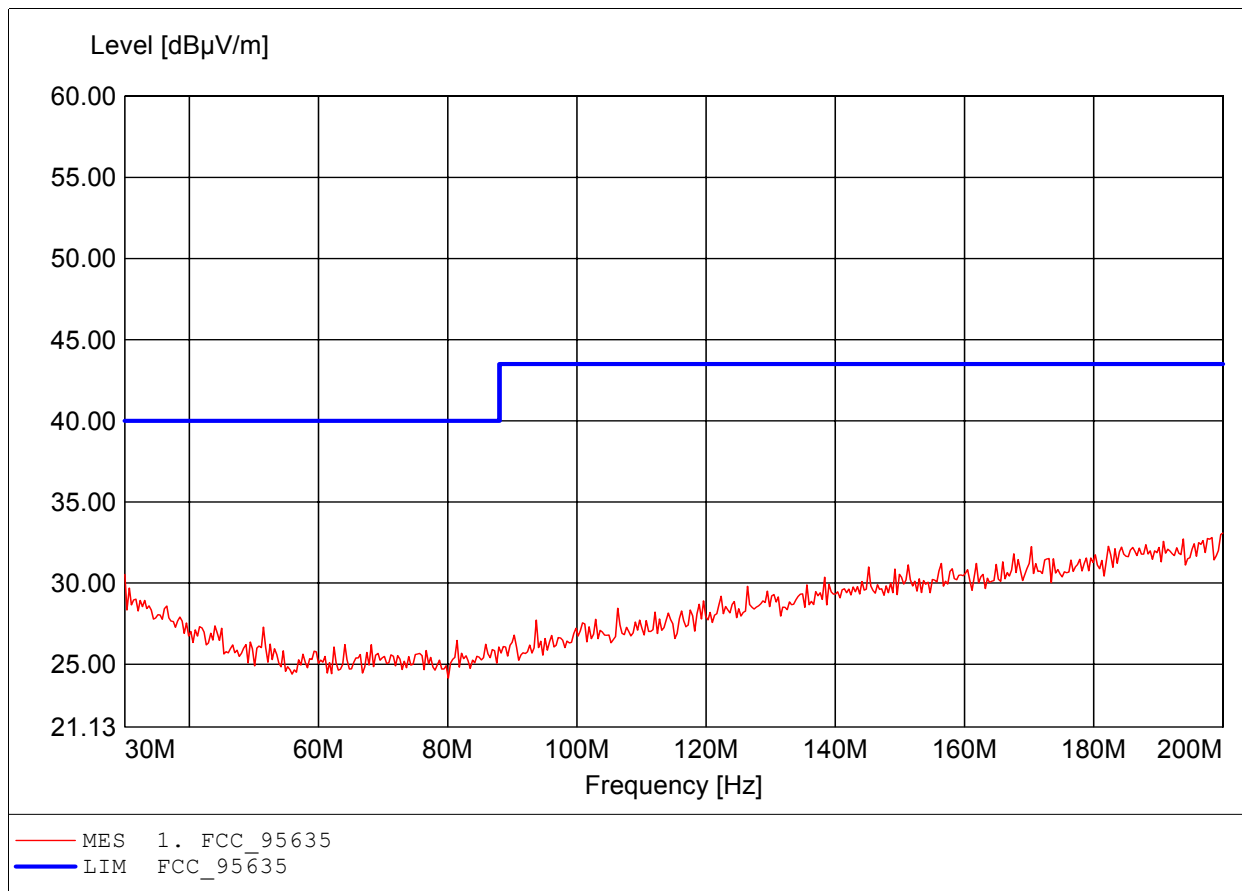
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 197.615MHz, Emax: 33.22dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

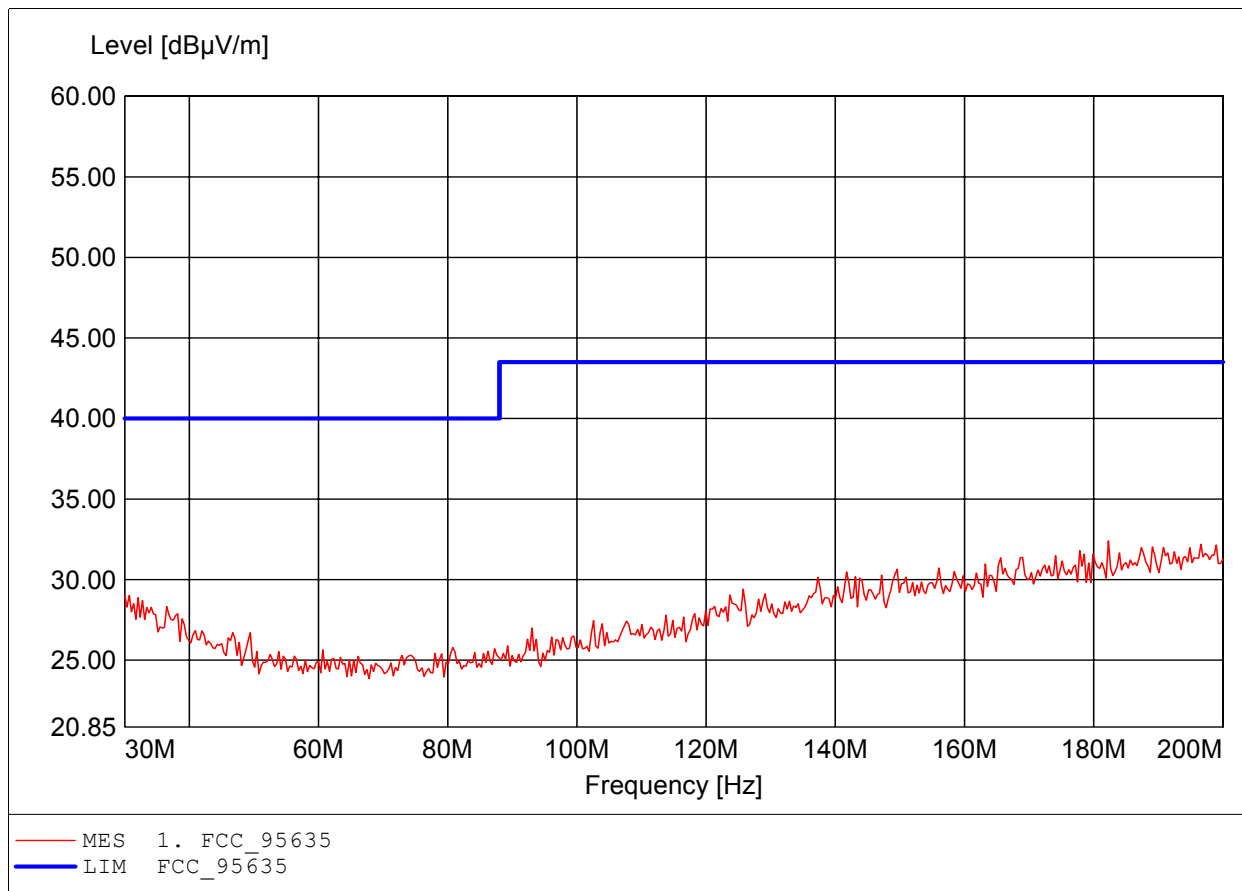
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 200.000MHz, Emax: 33.09dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

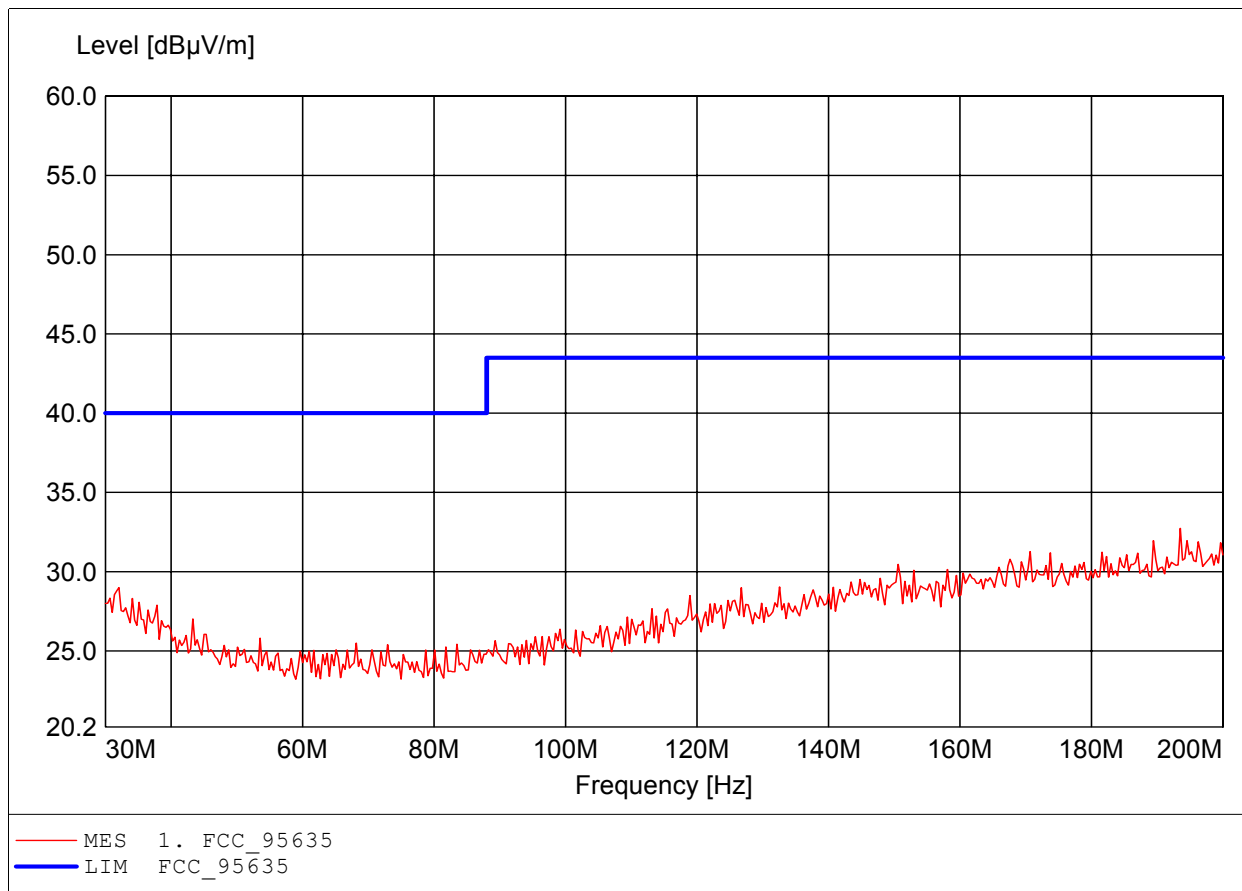
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 182.285MHz, Emax: 32.40dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

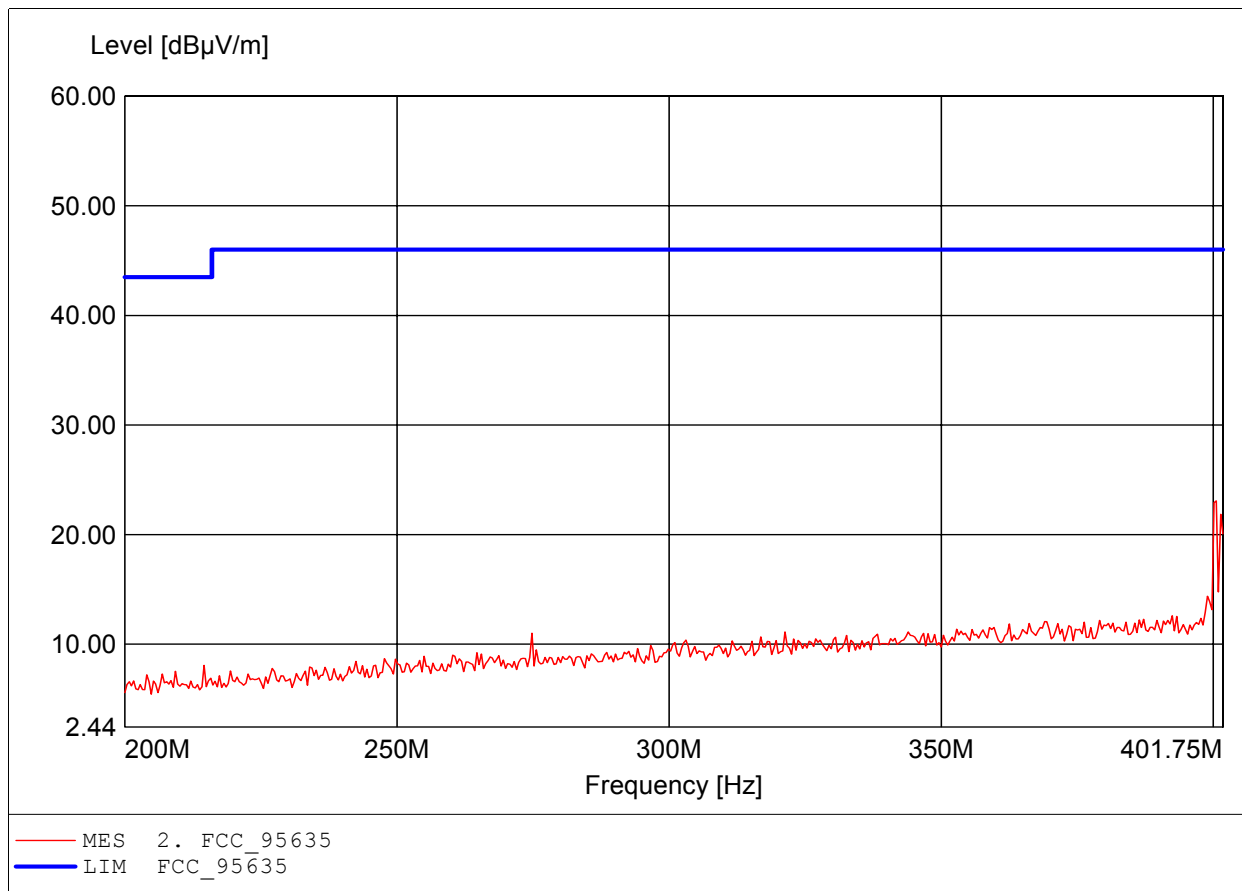
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 193.527MHz, Emax: 32.74dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

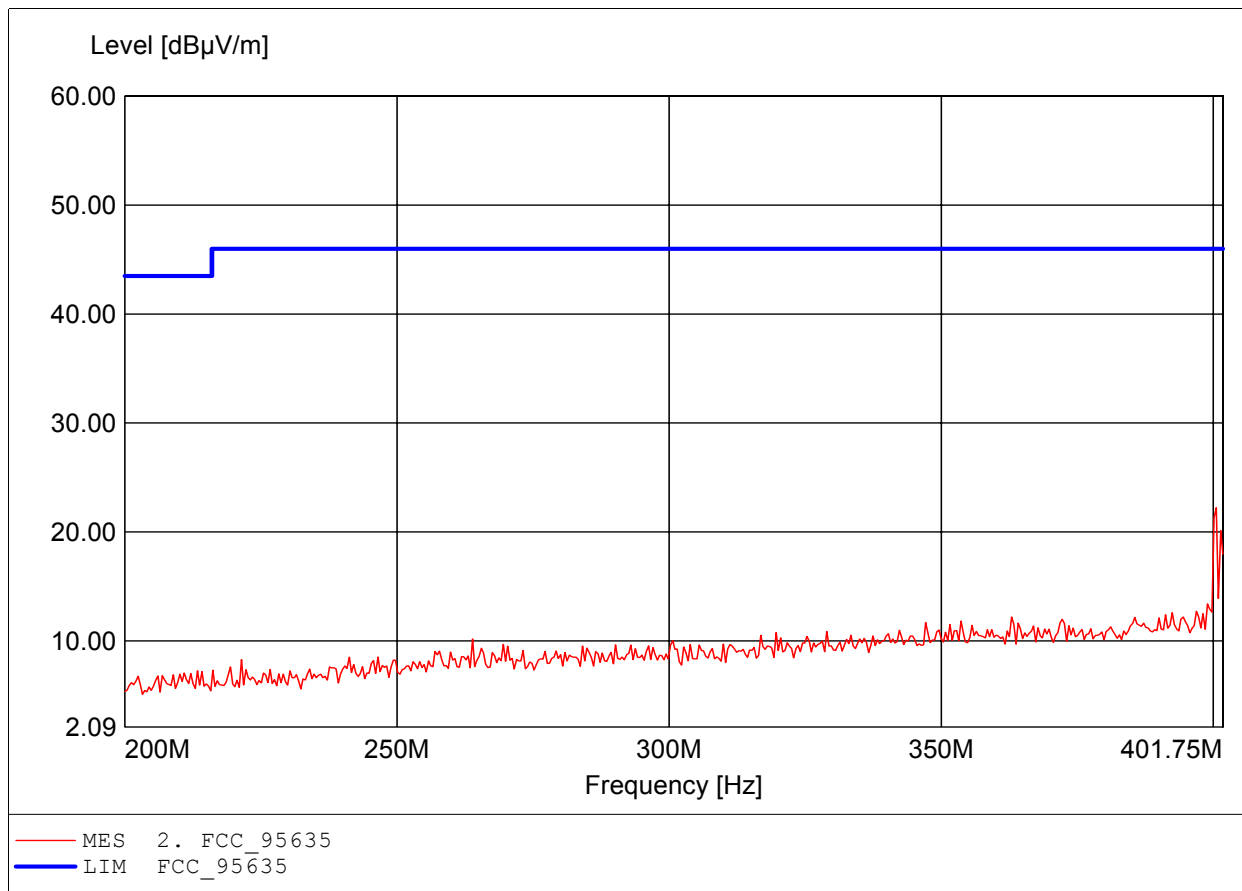
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 400.537MHz, Emax: 23.07dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

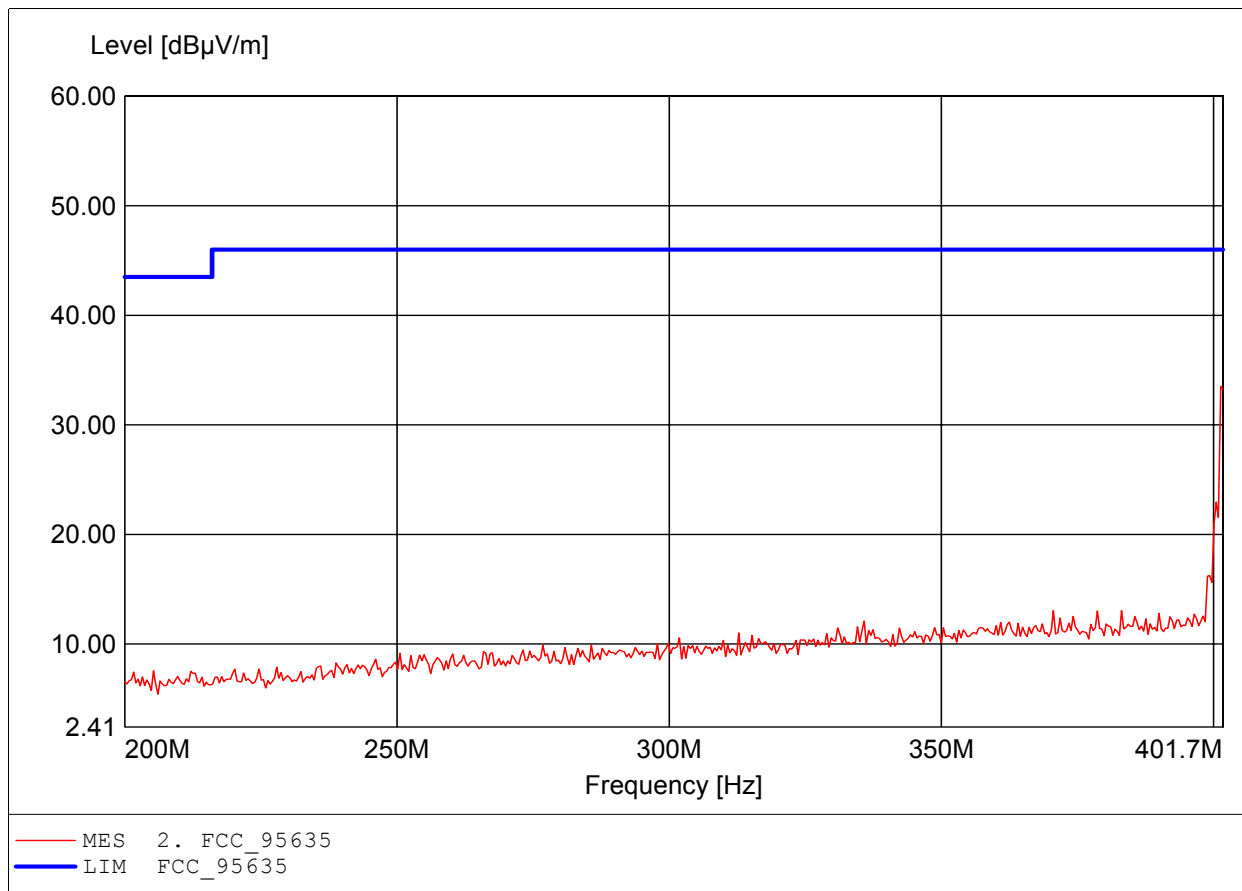
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 400.537MHz, Emax: 22.22dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

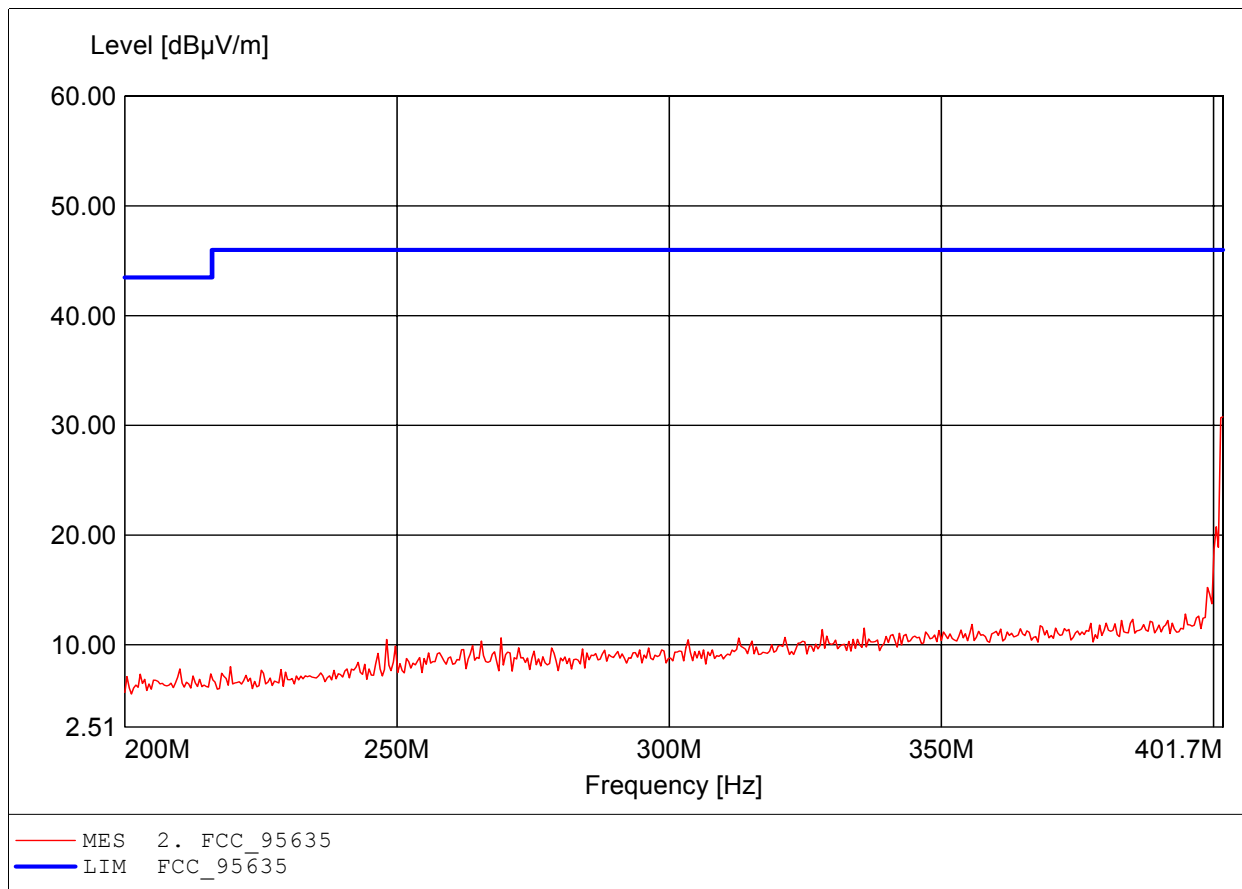
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 401.296MHz, Emax: 33.51dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

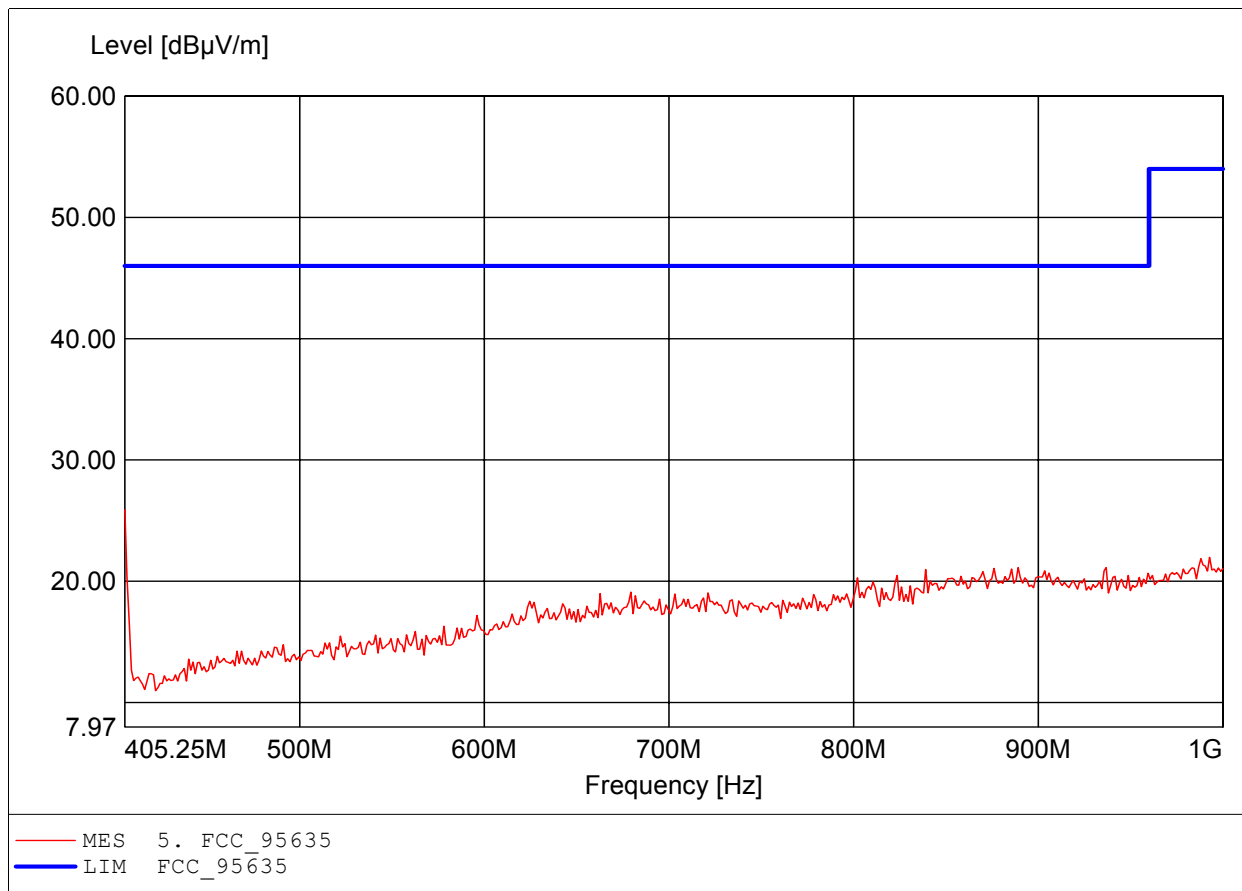
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 401.700MHz, Emax: 30.78dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

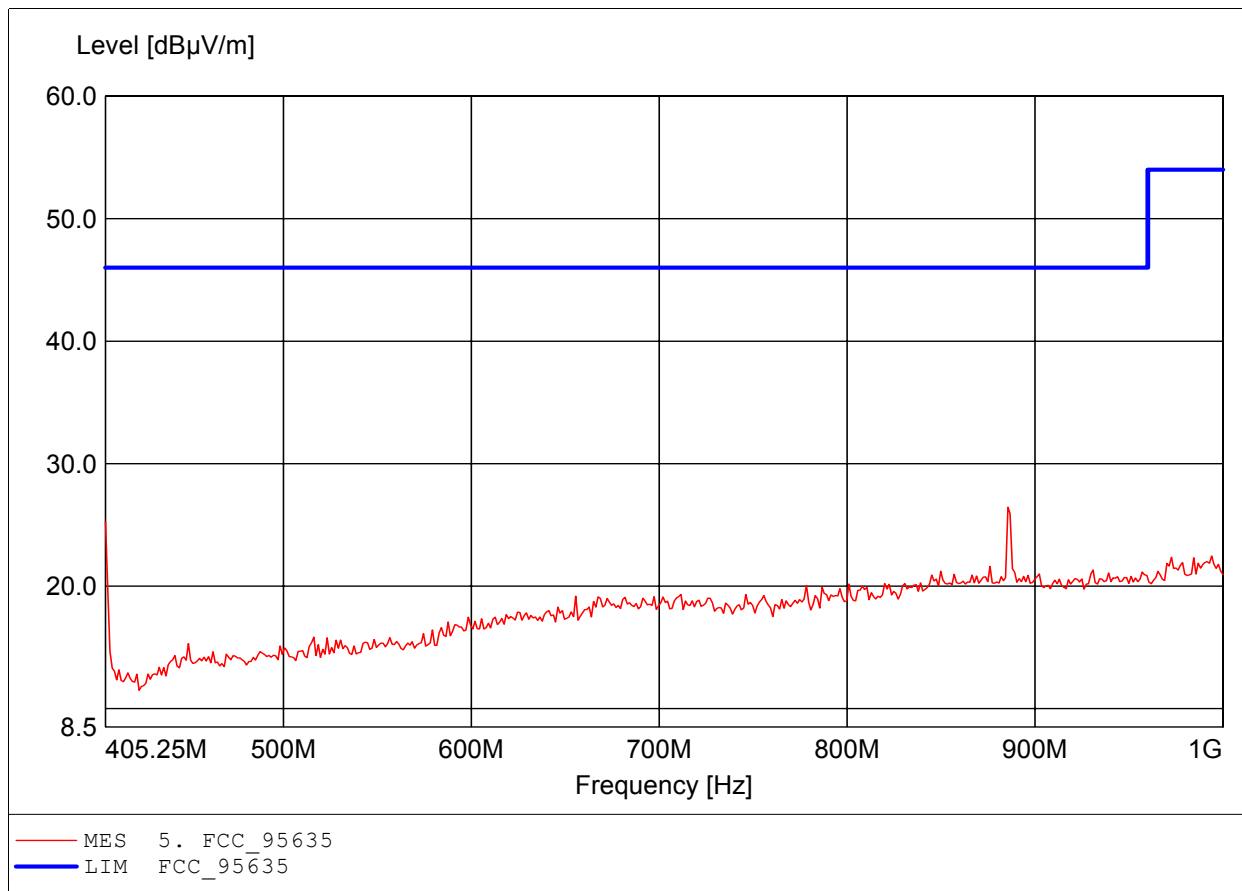
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 405.250MHz, Emax: 25.90dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

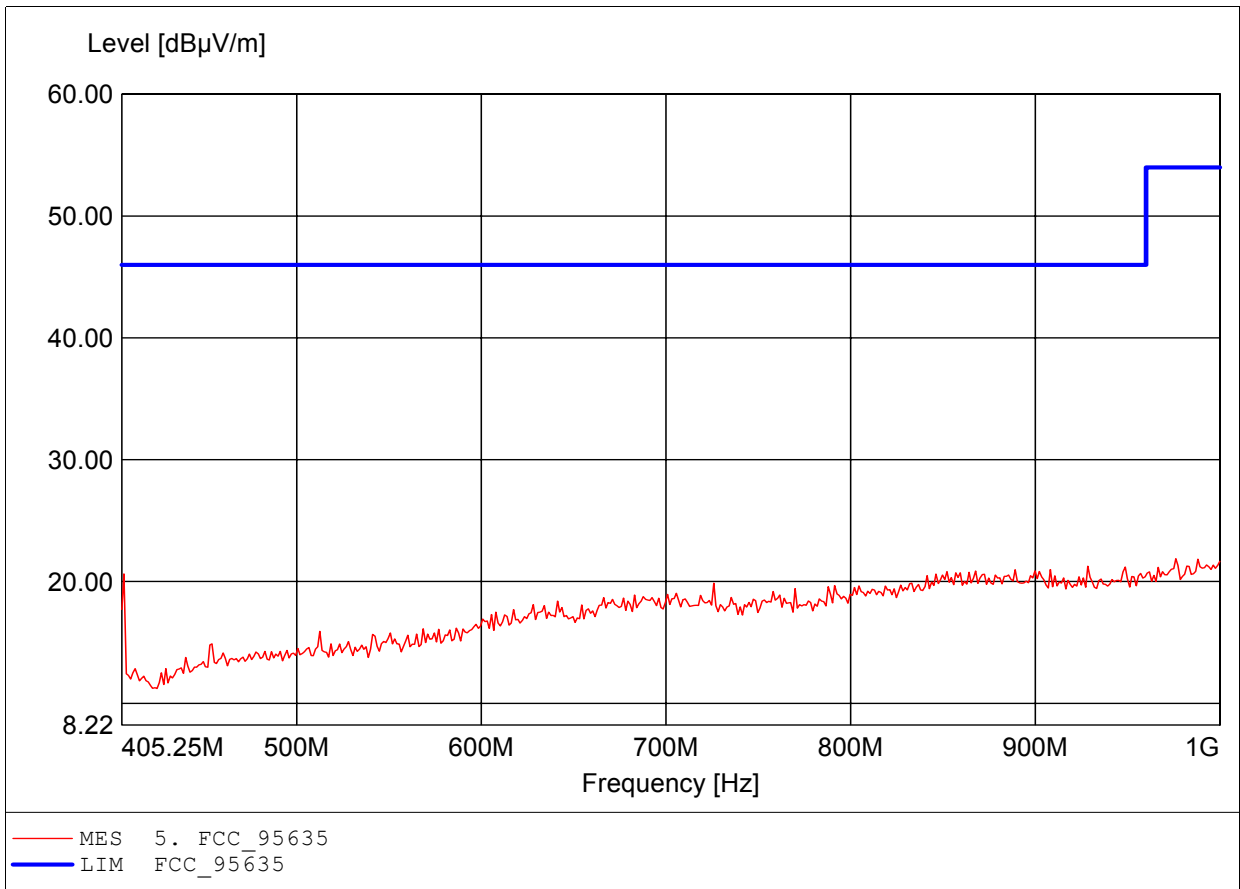
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 885.579MHz, Emax: 26.45dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

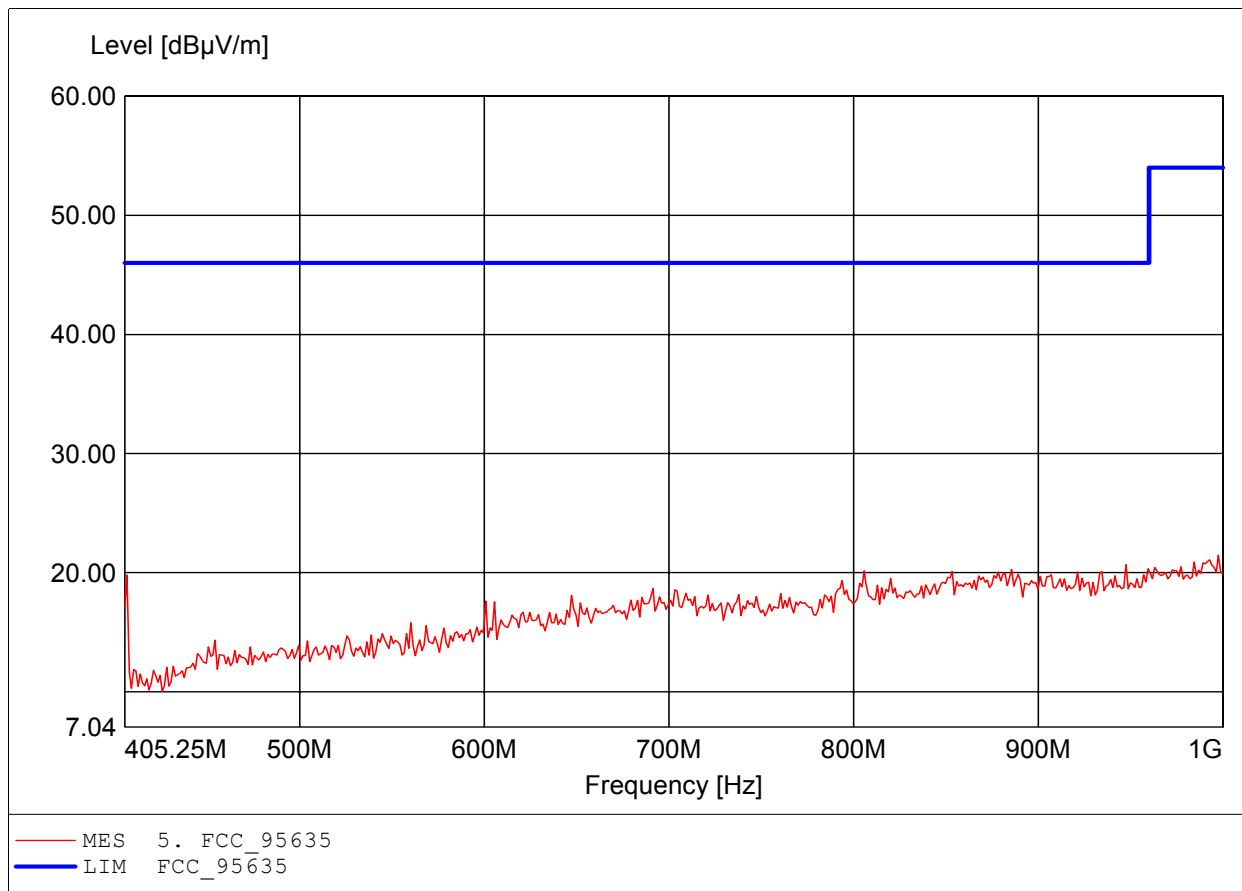
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 976.162MHz, Emax: 21.87dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

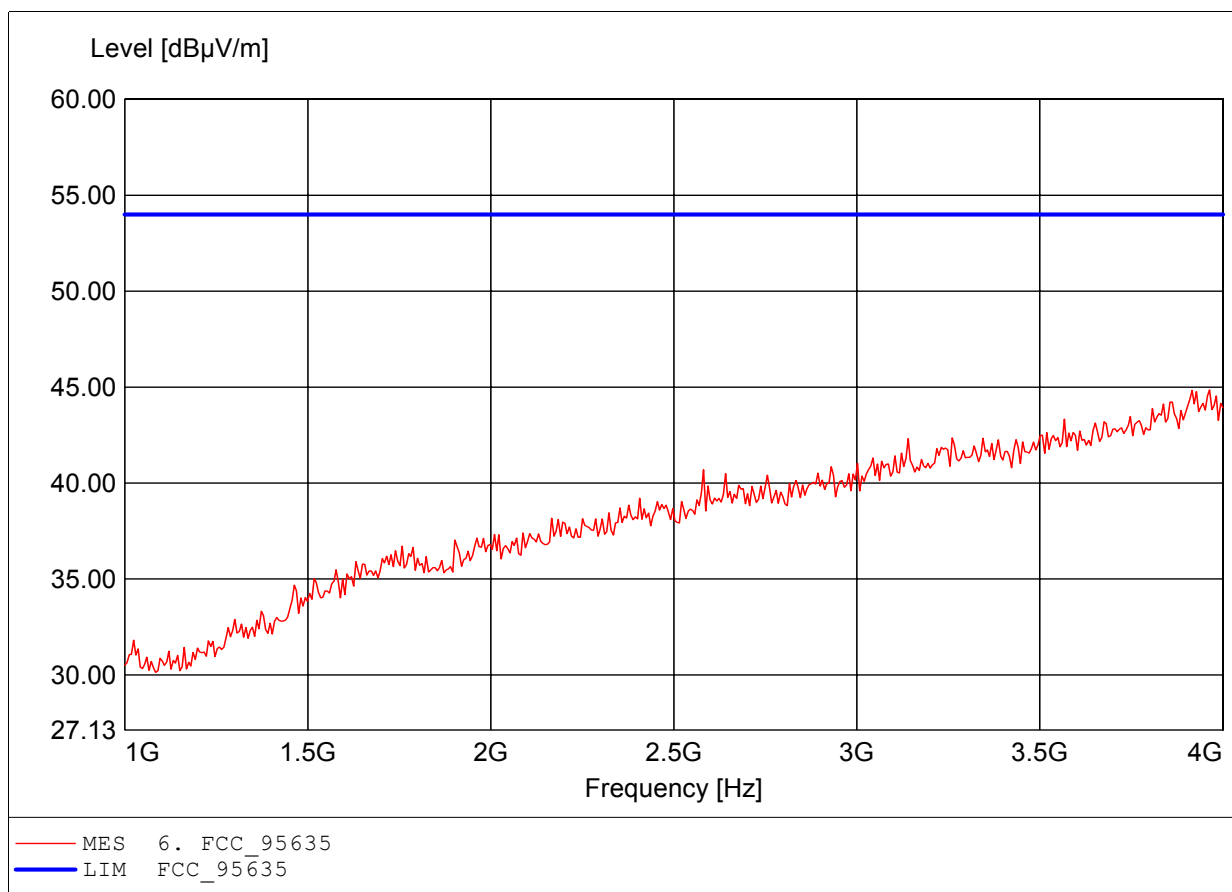
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 997.616MHz, Emax: 21.46dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

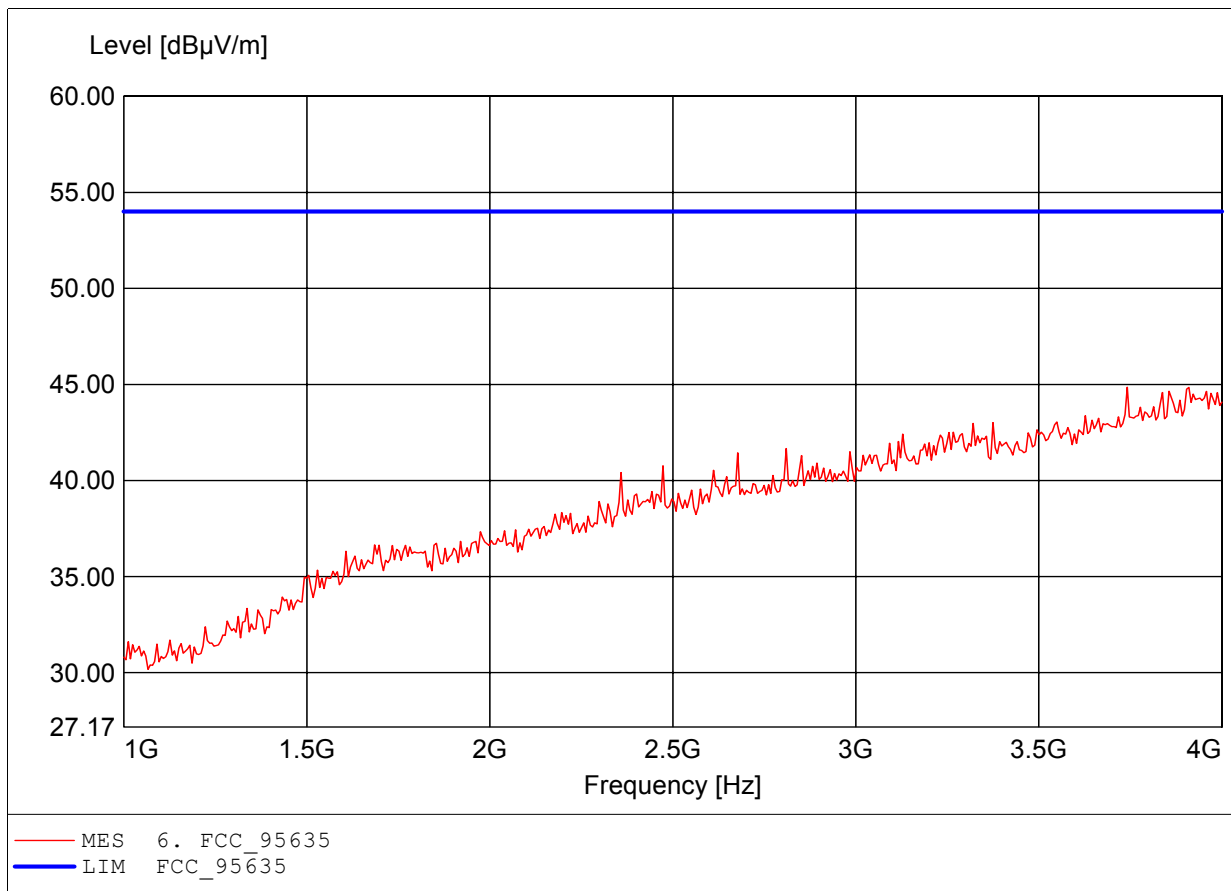
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 3.964GHz, Emax: 44.85dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

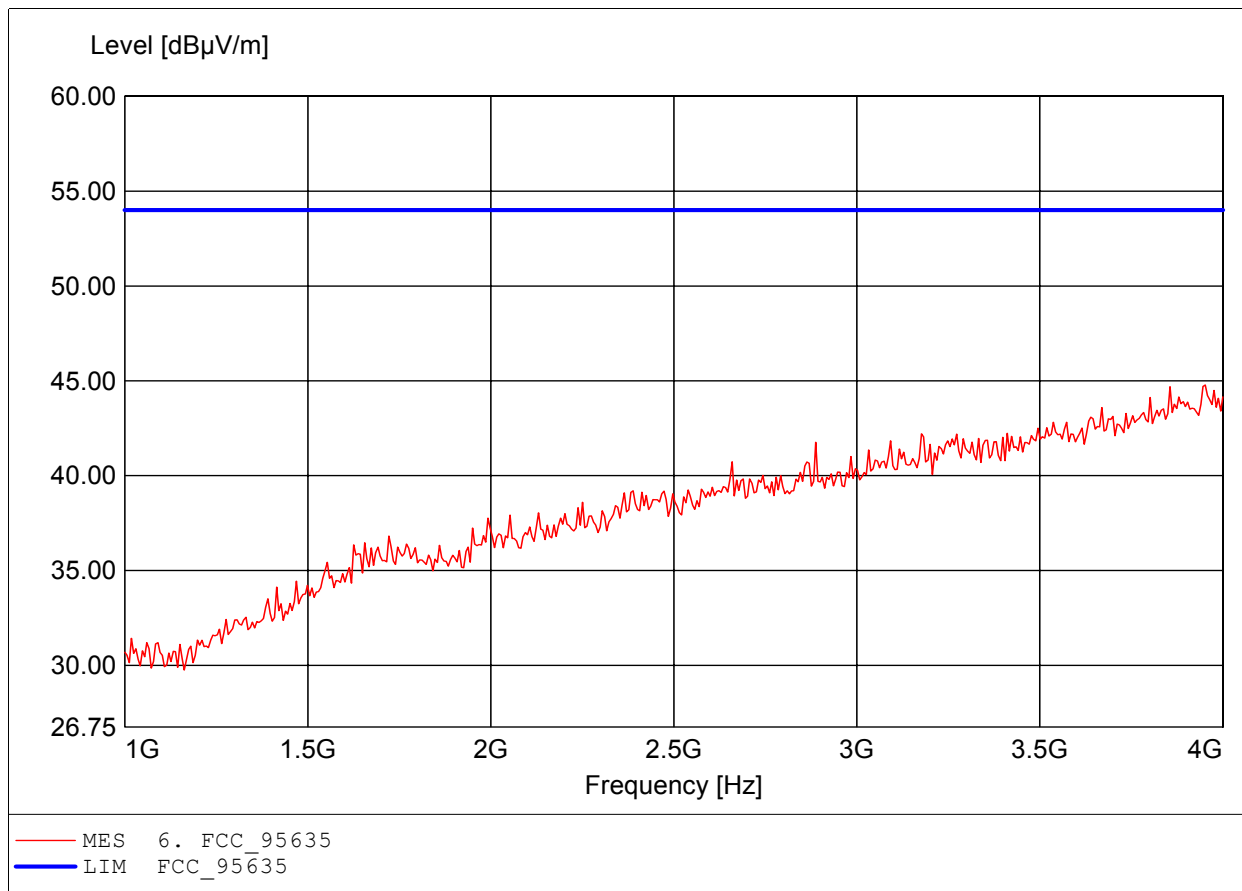
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 3.741GHz, Emax: 44.85dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

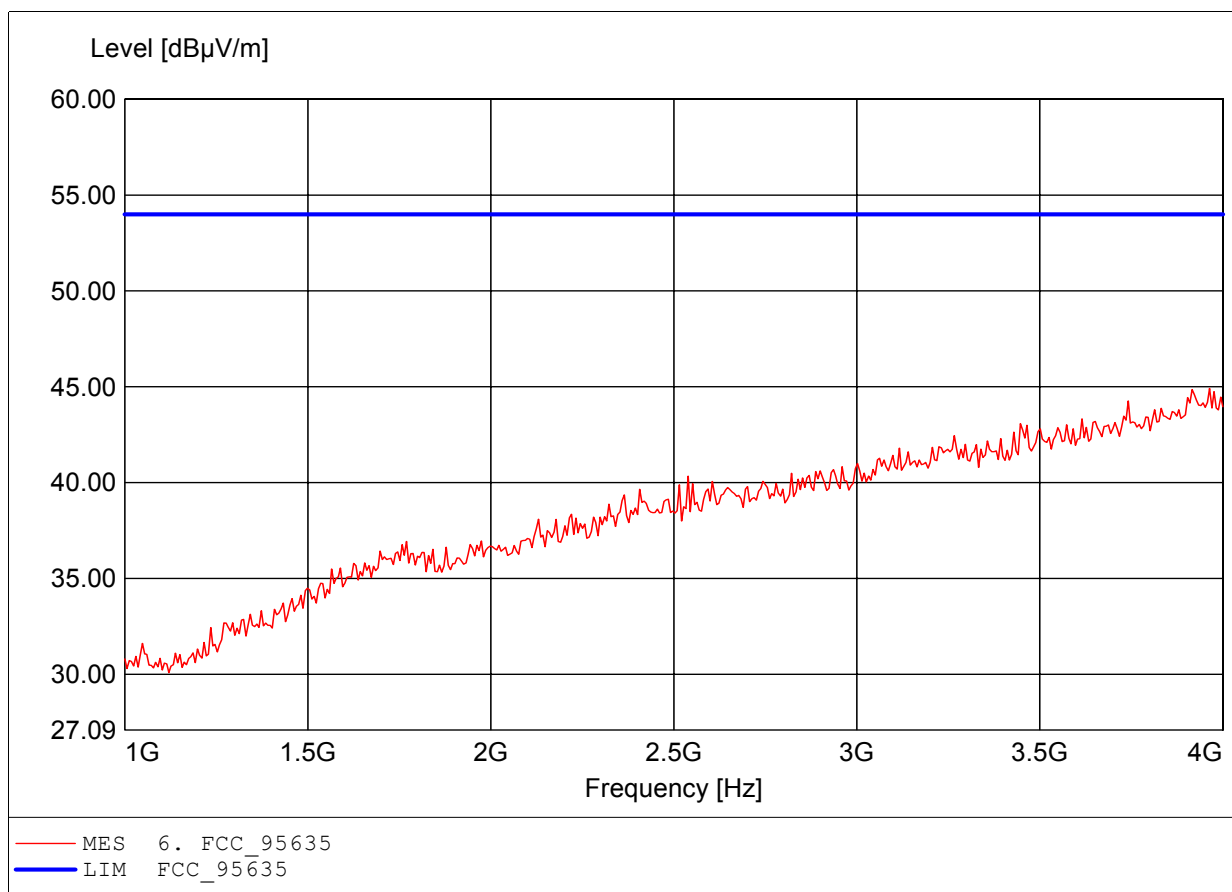
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 3.952GHz, Emax: 44.78dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

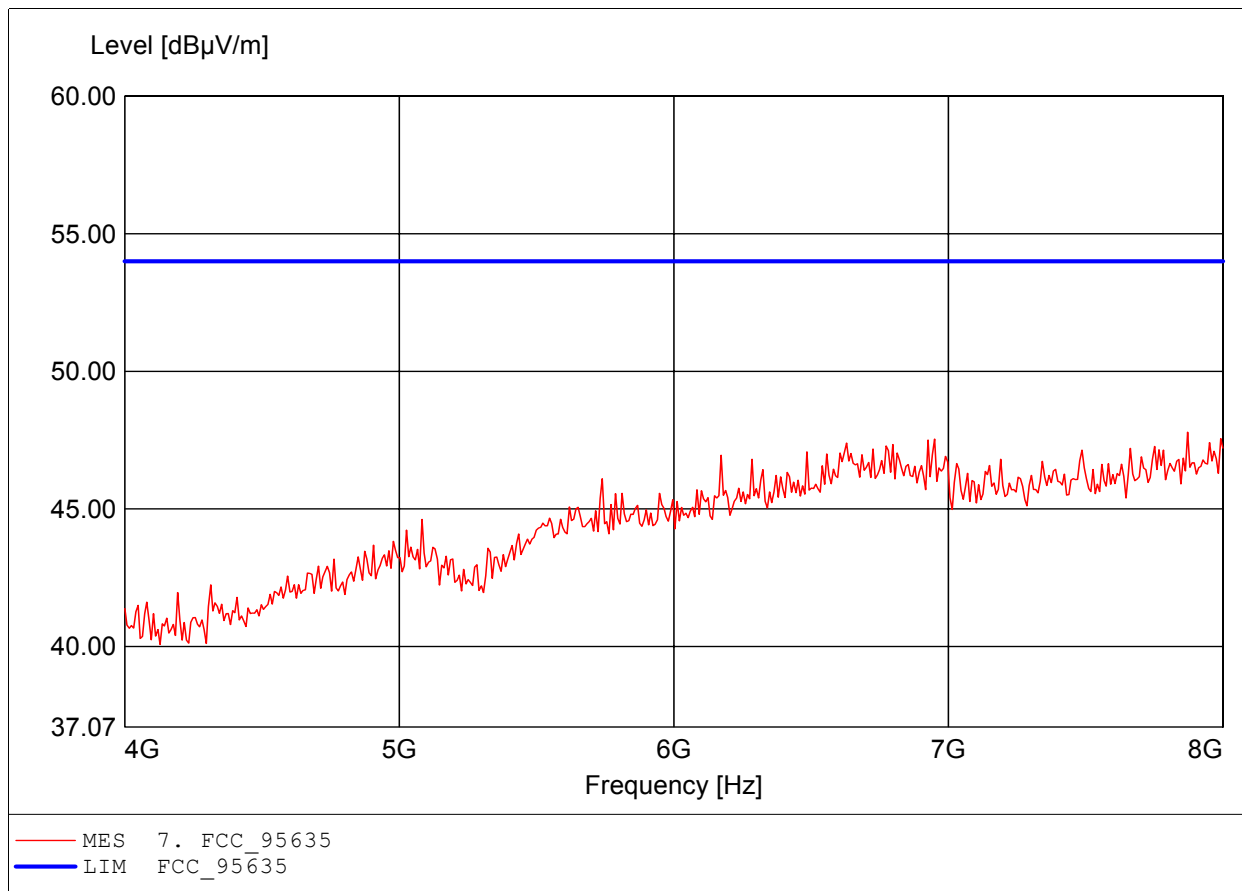
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 3.964GHz, Emax: 44.91dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

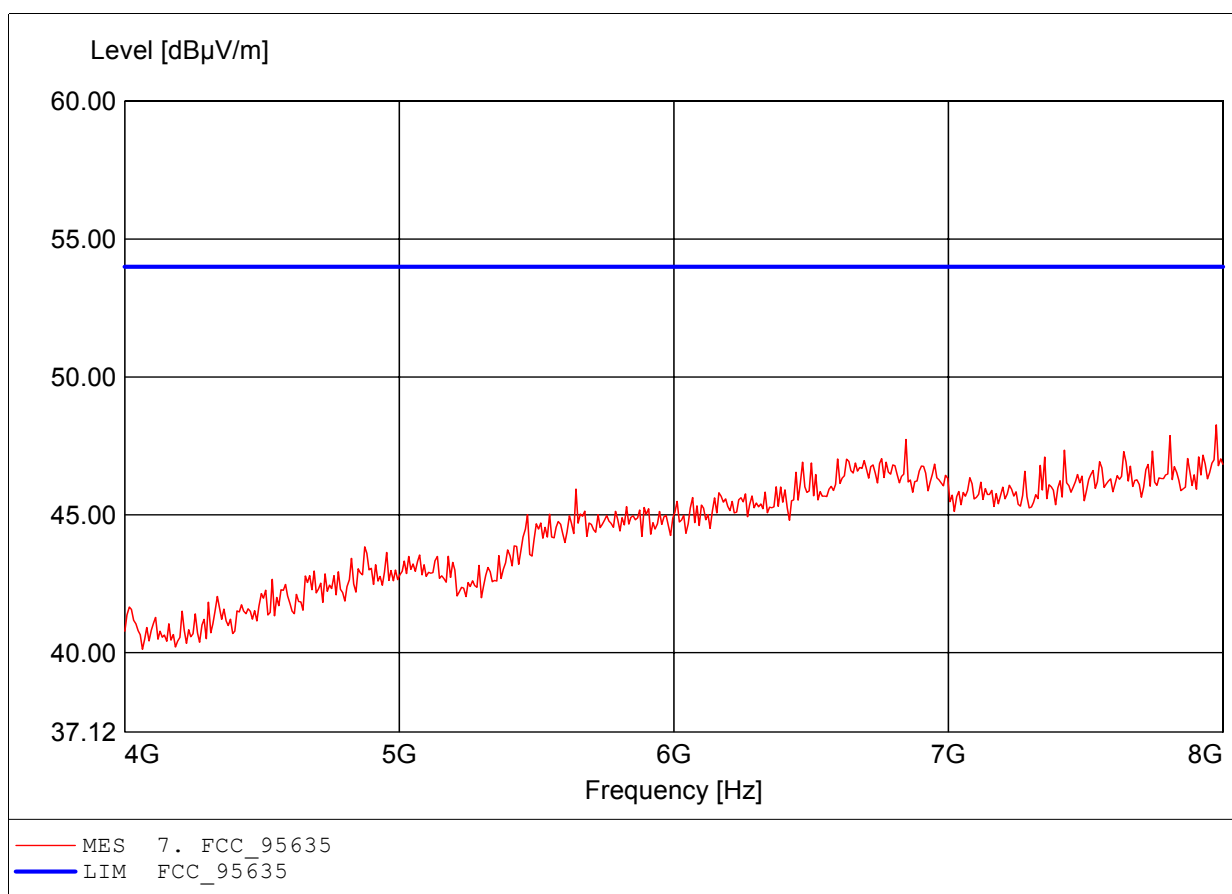
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 025, amplif.
Comment 2: Freq: 7.872GHz, Emax: 47.78dBµV/m, RBW: 1MHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

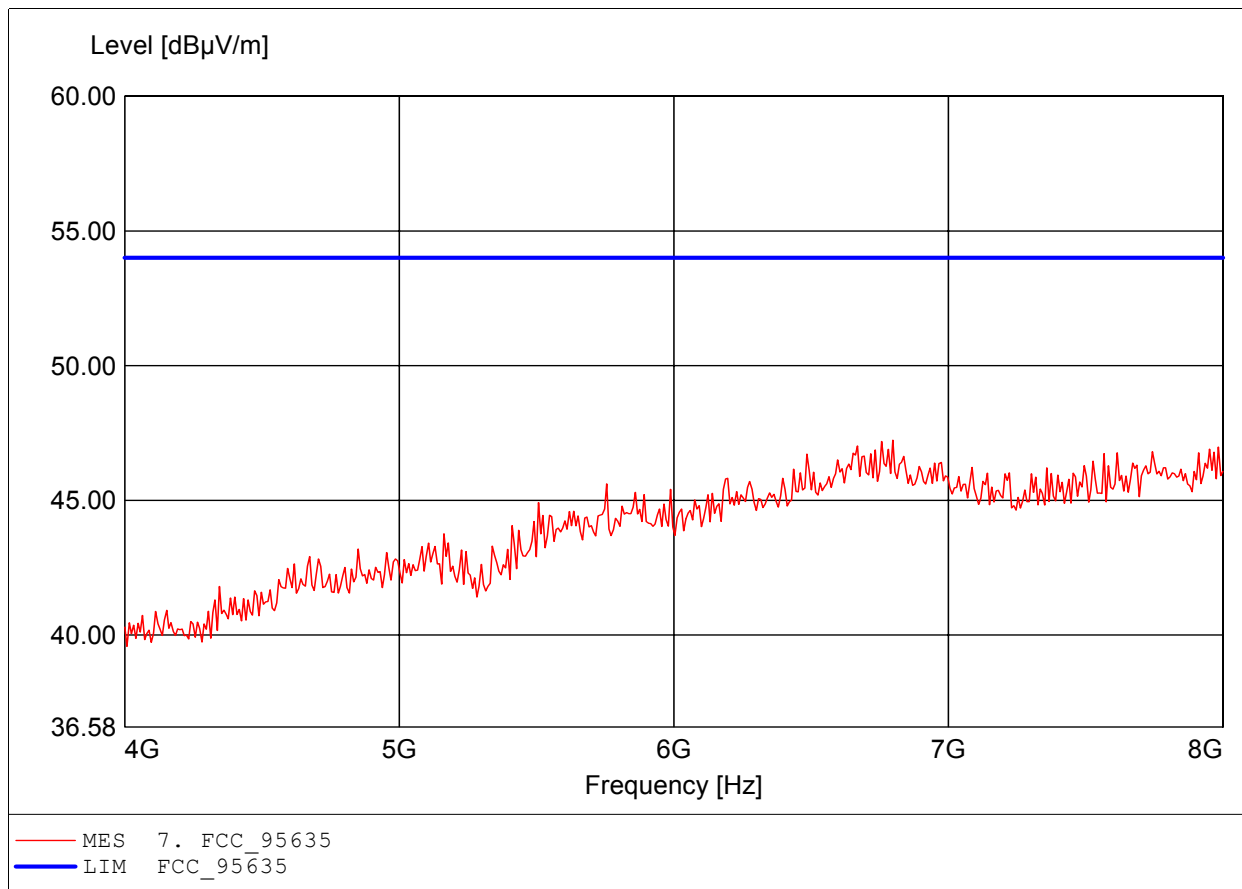
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 404.85MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 025, amplif.
Comment 2: Freq: 7.976GHz, Emax: 48.26dBµV/m, RBW: 1MHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

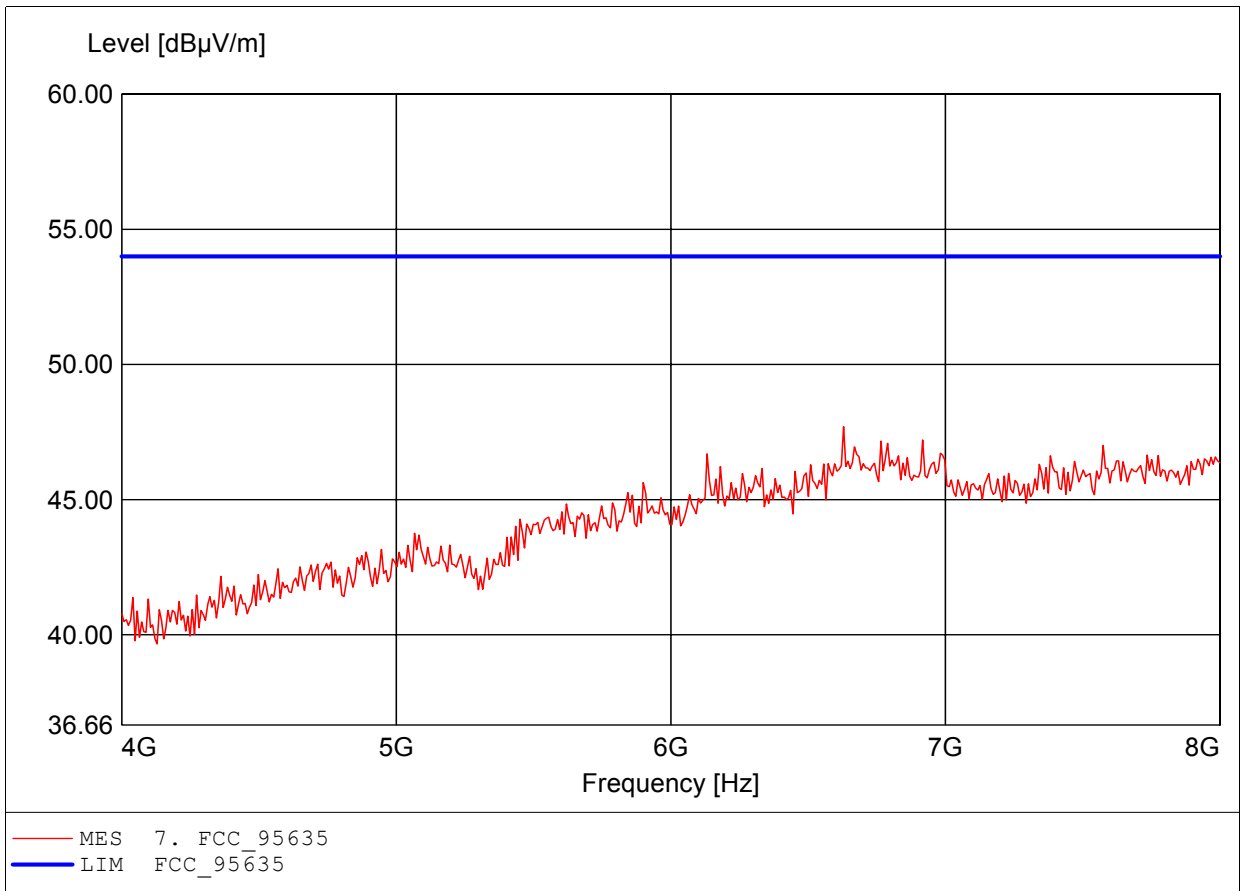
Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 025, amplif.
Comment 2: Freq: 6.798GHz, Emax: 47.23dBµV/m, RBW: 1MHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

Approval Holder: BIOTRONIK SE & Co. KG / GOM-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Tx 402.45MHz
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 025, amplif.
Comment 2: Freq: 6.629GHz, Emax: 47.70dBµV/m, RBW: 1MHz

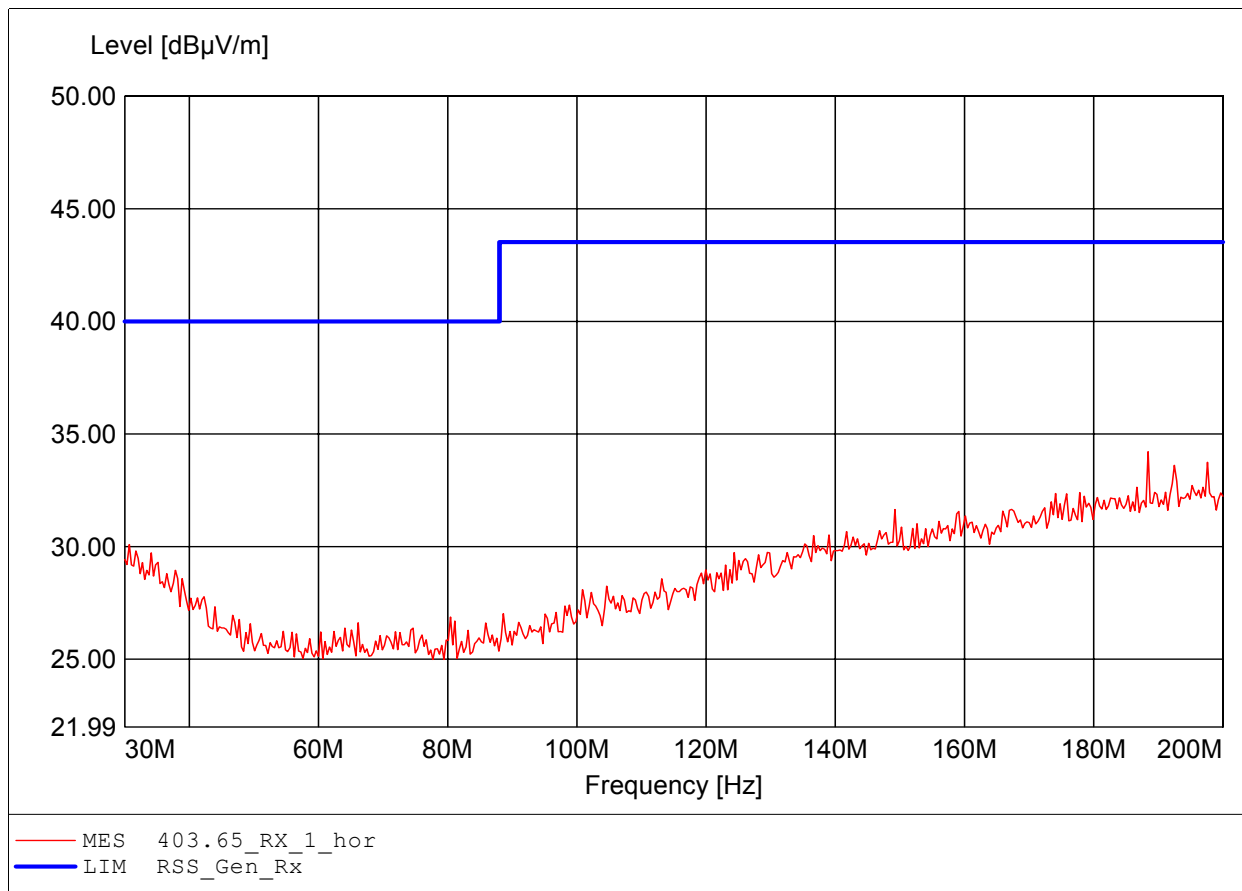


ANNEX D Receiver radiated spurious emissions

Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

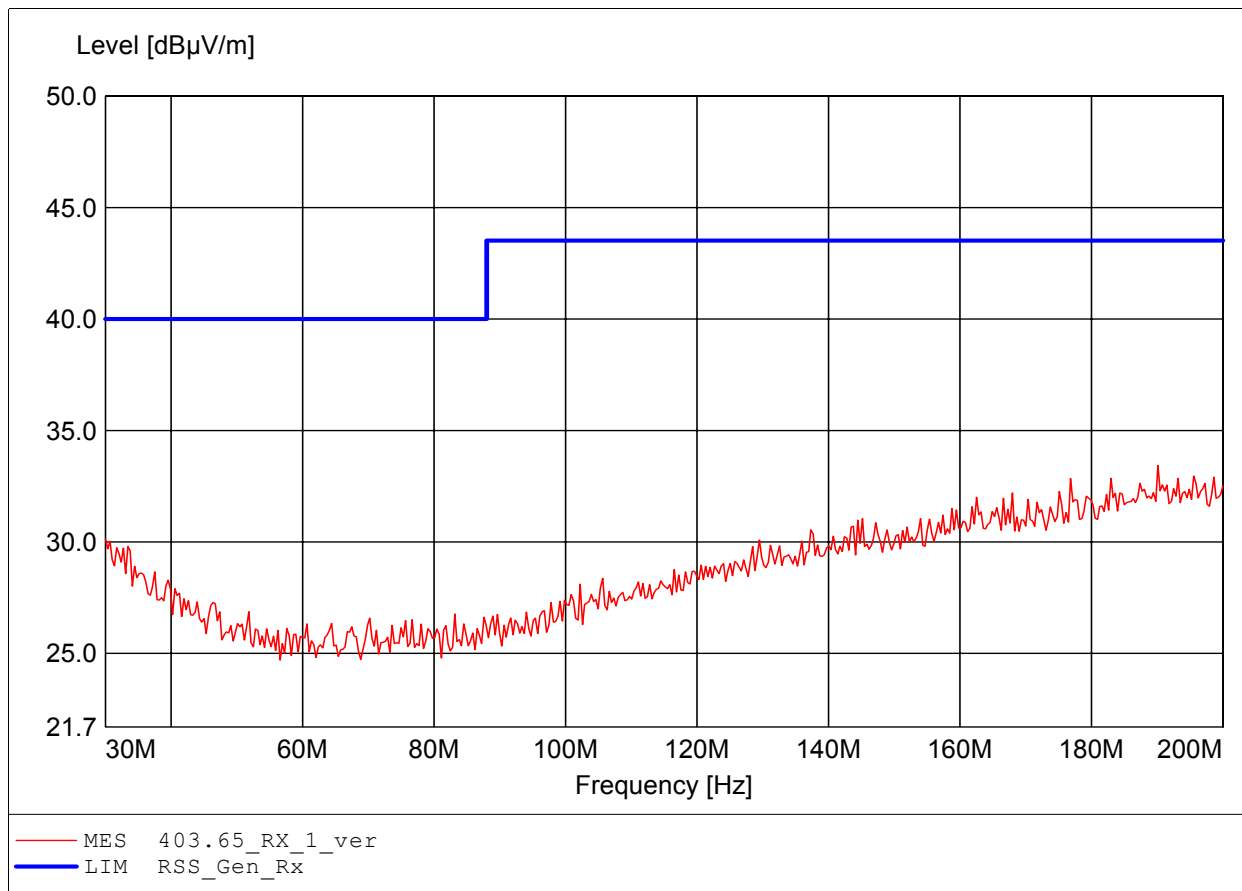
Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Rx
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: Freq. / CH: 403.65
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq:188.417MHz Emax:34.22dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

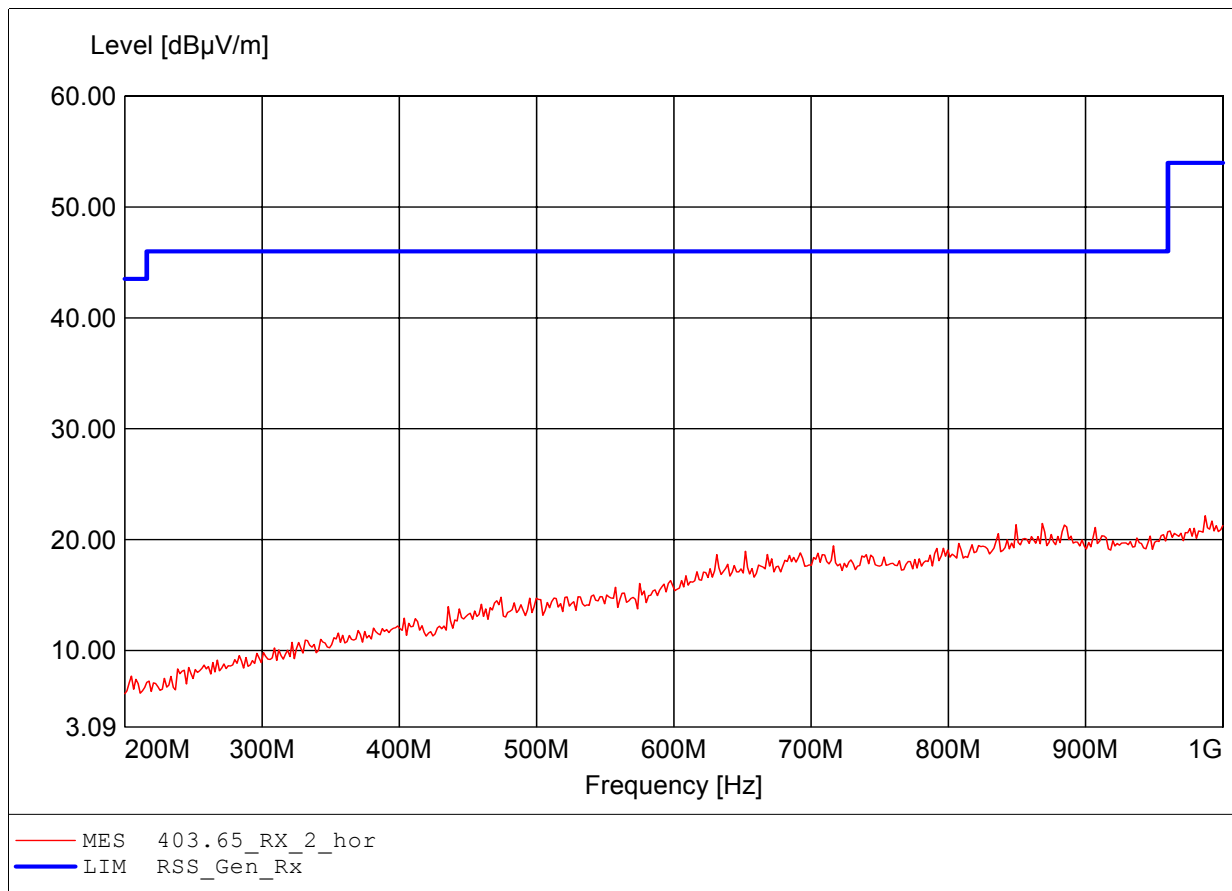
Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Rx
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: Freq. / CH: 403.65
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq:190.120MHz Emax:33.43dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

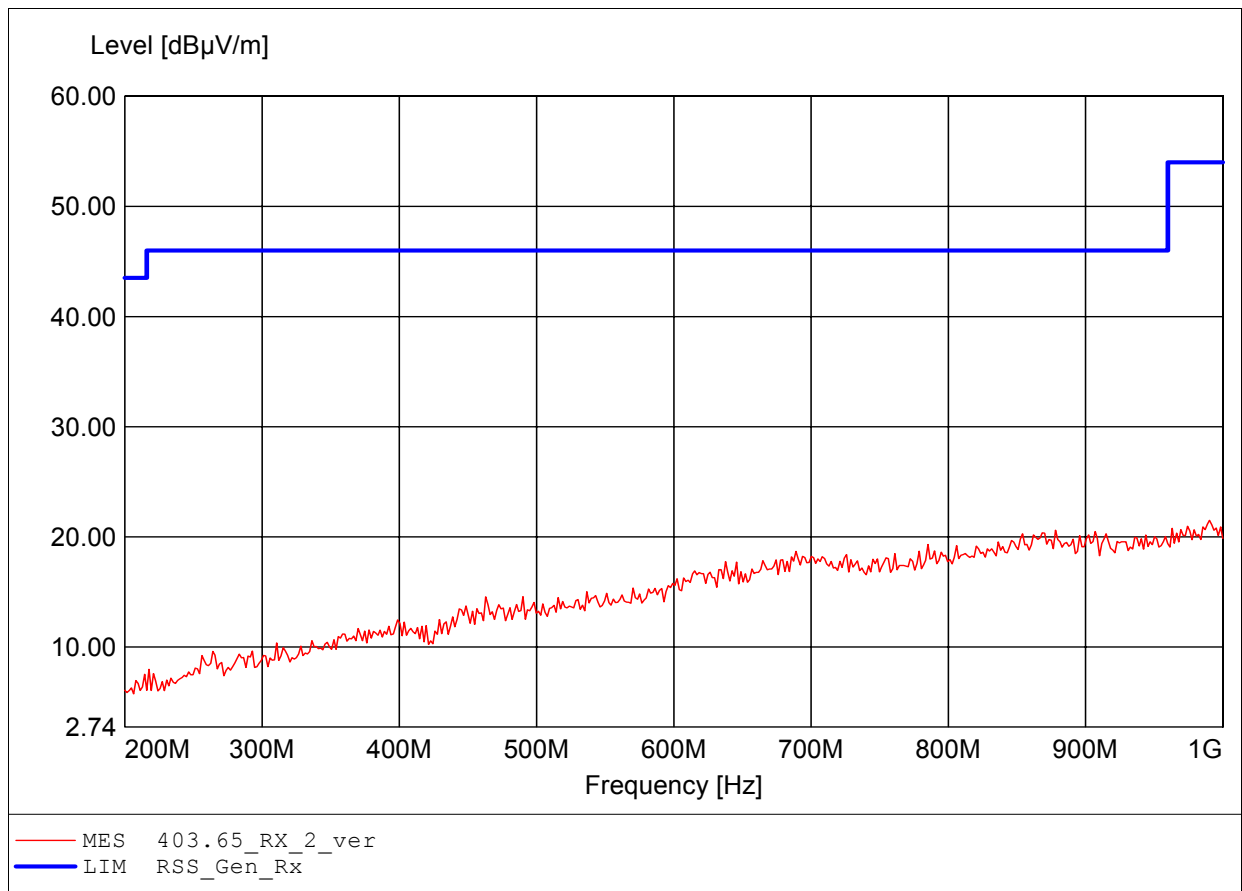
Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Rx
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: Freq. / CH: 403.65
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.
Comment 2: Freq:987.174MHz Emax:22.15dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

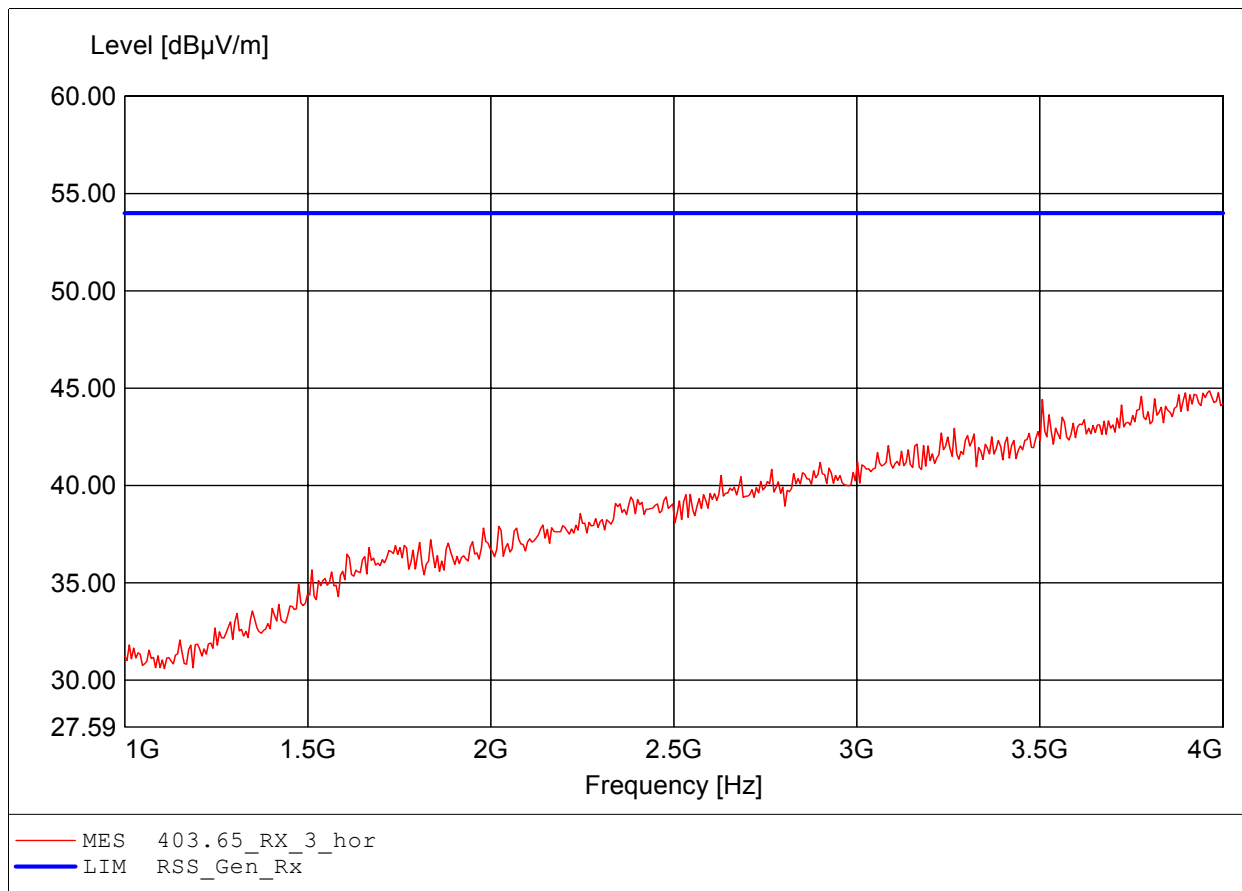
Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Rx
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: Freq. / CH: 403.65
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.
Comment 2: Freq:990.381MHz Emax:21.51dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Rx
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: Freq. / CH: 403.65
Comment 1: Dist.: 3m, Ant.: HL025, ampl.
Comment 2: Freq:3.964GHz Emax:44.87dBµV/m RBW: 1 MHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

Approval Holder: BIOTRONIK SE & Co. KG / G0M-1207-2110
EUT: ICD / Implantable Cardioverter Defibrillator
Model: TACHNXT / Rx
Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Conditions: Tnom: 22°C / Vnom: 3.0VDC lithium battery
Test Specification: Freq. / CH: 403.65
Comment 1: Dist.: 3m, Ant.: HL025, ampl.
Comment 2: Freq:3.928GHz Emax:45.26dBµV/m RBW: 1 MHz

