



EUROFINS PRODUCT SERVICE GMBH

RADIO TEST - REPORT

**EUROPEAN STANDARD EN 301 839
FCC RULES PARTS 95 Subpart I
IC RADIO STANDARDS RSS-243**

**FCC ID : QRIRENAMIC
IC : 4708A-RENAMIC**

ICS Neo

Renamic

TEST REPORT NUMBER : G0M21004-3144-T-47

TABLE OF CONTENT

1	General information	3
1.1	Notes	3
1.2	Testing laboratory	4
1.3	Details of approval holder	5
1.4	Application details	5
1.5	Test item	5
1.6	Test standards	6
2	Technical test	7
2.1	Summary of test results	7
2.2	Test environment	7
2.3	Test Information	8
2.4	Test equipment utilized	9
2.5	Test results	10
3	Transmitter parameter	11
3.1	Frequency error	11
3.2	Emission bandwidth	12
3.3	Effective radiated power (e.r.p.)	13
3.4	Spurious emissions	14
3.5	Frequency stability under low voltage conditions	15
3.6	Unwanted radiation	16
3.7	Conducted Measurements AC power line	19
4	Receiver parameter	20
4.1	Spurious radiation	20
4.2	Monitoring system threshold power level	21
4.3	Monitoring system bandwidth	22
4.4	Scan cycle time	23
4.5	Minimum channel monitoring period	24
4.6	Channel access	25
4.7	Discontinuation of MICS session	26
4.8	Use of pre-scanned alternate channel	27
4.9	Radiated emission	28
Annex A	Photos	29
Annex B	Measurement diagrams “20dB Emission bandwidth”	43
Annex C	Measurement diagrams “Occupied bandwidth”	50
Annex D	Measurement diagrams “Radiated power”	57
Annex E	Measurement diagrams “Transmitter spurious emissions, Europe”	62
Annex F	Measurement diagrams “Transmitter spurious emissions, FCC”	75
Annex G	Measurement diagrams “Band edge emissions”	98
Annex H	Measurement diagrams “AC power line conducted emissions”	103
Annex I	Measurement diagrams “Receiver spurious emissions, Europe”	106
Annex J	Measurement diagrams “Receiver spurious emissions, Canada”	119

1 General Information

1.1 Notes

The results of this test report relate exclusively to the item tested as specified in chapter "Description of test item" and are not transferable to any other test items.


Eurofins Product Service GmbH is not responsible for any generalisations and conclusions drawn from this report. Any modification of the test item can lead to invalidity of test results and this test report may therefore be not applicable to the modified test item.

The test report may only be reproduced or published in full. Reproducing or publishing extracts of the report requires the prior written approval of the Eurofins Product Service GmbH.

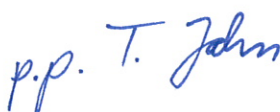
This document is subject to the General Terms and Conditions and the Testing and Certification System of Eurofins Product Service GmbH, available on request or accessible at www.pt.eurofins.com

This report covers both, test results according to EN 301 839-1 (ULP-AMI) and FCC 95.628 ff (MICS) which are similar or the same related to test procedure and limits.

Tester:

02.06.2010	W. Treffke	
<hr/>		
Date	Name	Signature

Technical responsibility for area of testing:

02.06.2010	J. Zimmermann	
<hr/>		
Date	Name	Signature

1.2 Testing laboratory

Eurofins Product Service GmbH
Storkower Strasse 38c
D-15526 Reichenwalde b. Berlin
Germany

Telefon : +49 33631 888 00
Telefax : +49 33631 888 66

DAR ACCREDITED TESTING LABORATORY
DAR-REGISTRATION NUMBER: DAT-P-268/08

RECOGNIZED NOTIFIED BODY EMC
REGISTRATION NUMBER: BNetzA-bS EMV-07/61

RECOGNIZED NOTIFIED BODY R&TTE
REGISTRATION NUMBER: BNetzA-bS-02/51-53

FCC FILED TEST LABORATORY
REG.-No. 96970

A2LA ACCREDITED TESTING LABORATORY
CERTIFICATE No. 1983.01

BLUETOOTH QUALIFICATION TEST FACILITY (BQTF)
ACCREDITED BY BLUETOOTH QUALIFICATION REVIEW BOARD

INDUSTRY CANADA FILED TEST LABORATORY
REG. NO. IC 3470

Test location, where different from Eurofins

Name: ./.
Street: ./.
Town: ./.
Country: ./.
Telephone: ./.
Fax: ./.

1.3 Details of approval holder

Name: BIOTRONIK SE & Co. KG
Street: Woermannkehre 1
Town: 12359 Berlin
Country: Germany
Telephone: +49 (0)30 68905 1213
Fax: +49 (0)30 68905 5409

Contact: Herr Gunnar Börsch
Telephone: +49 (0)30 68905 1213

1.4 Application details

Date of receipt of application: 29.04.2010
Date of receipt of test item: 29.04.2010
Date of test: 29.04.2010 – 05.05.2007

1.5 Test item

Description of test item: ICS Neo
Type identification: Renamic
Hardware Version: QM Plan 370108, 28.04.2010
Software Version: Build B1004211005
Frequency range: 402MHz – 405MHz
Antenna: internal simple wire antenna (1/4 wave antenna)
Antenna gain: 0dBi
Photos: see Annex

Manufacturer:

Name: BIOTRONIK SE & Co. KG
Street: Woermannkehre 1
Town: 12359 Berlin
Country: Germany

1.6 Test standards

Technical standard : **EN 301 839-1 V1.2.1:2007-07**
EN 301 839-2 V1.2.1:2007-07
FCC Part 95 Subpart I - Medical Implant Communications (MICS) :2009-10
RSS-243 Issue 2 (Active Medical Implants):2005-11
FCC Part 15:2009-10

All test performed are also checked for compliance with the non harmonized version 1.3.1 of the EN 301 839 standard. Therefore it can be stated that the device also fulfils the requirements of:

EN 301 839-1 V1.3.1:2009-10
EN 301 839-2 V1.3.1:2009-10

2 Technical Test

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed.

or

The deviations as specified in 2.4 were ascertained in the course of the tests performed.

2.2 Test Environment

Temperature: 18 ... 25°C

Relative humidity content 20 ... 75%

Air pressure: 860 ... 1030hPa

Details of power supply: **100 - 240VAC / 50-60Hz**

Extrem conditions parameters:

Voltage EN	V_{nom}	:230VAC
	V_{min}	:-
	V_{max}	:-
Voltage FCC/IC	V_{nom}	:120VAC
	V_{min}	:-
	V_{max}	:-
Temperature	T_{nom}	:25°C
	T_{min}	:10°C
	T_{max}	:40°C

2.3 Test Information

Test monitoring test's are performed using out-of-operation region disturbances. These Out-of-operation – region disturbances are generated by:

a.) RF disturbing signals or fields	<input type="checkbox"/>
b.) Simulation by frequency administration commands	<input checked="" type="checkbox"/>

The manufacturer declares that the device ICS Neo Renamic uses transceiver diversity operation. The EUT contains two sperated transceivers and antennas. Each transceiver uses one antenna exclusively. Therefore all RF-Parameters are measured for both transceivers. The monitoring parameters are primarily determined by firmware settings of the device and are only verified for one of the transceivers.

The manufactuer declares that a supply voltage variation up to $\pm 10\%$ on the AC side only results in a non significant voltage variation less than $\pm 1\%$ for the voltages internally used by the device. To that end only temperature variation has been tested.

All the tests acc. EN 301 839 and the monitoring tests acc. EN and FCC/IC are done only at an operating frequency of 403,65 MHz (app. middle of band).

2.4 Test Equipment utilized

No.	Test equipment	Type	Manufacturer
ETS 0012	Biconical Antenna	HK 116	Rohde & Schwarz
ETS 0013	LPD Antenna	HL 223	Rohde & Schwarz
ETS 0014	Log Periodical Antenna	HL 025	Rohde & Schwarz
ETS 0018	Horn Antenna	BBHA 9120 D	Schwarzbeck
ETS 0087	Climatic cell	HC 4033	Heraeus
ETS 0271	Spectrum Analyzer	FSEK30	Rohde & Schwarz
ETS 0412	Spectrum Analyzer	FSU 3	Rohde & Schwarz
ETS 0365	Notch 2.4GHz	WRCT2.40/248	Wain Wrioth
ETS 0259	Power Meter	NRVD	Rohde & Schwarz
ETS 0275	Thermal Power Sensor	NRV-Z51	Rohde & Schwarz
ETS 0309	Anechoic chamber	AC 2	Frankonia
ETS 0086	Semi-anechoic chamber	AC 1	Frankonia
ETS 0432	Amplifier Matrix	RSU-ETS-BT	ETS
ETS 0406	Signal Generator	SML 02	Rohde & Schwarz
ETS 0288	LISN	ESH2-Z5	Rohde & Schwarz

2.5 Test Results

 1st test

 test after modification

 production test

Test case	Sub-clause EN	Sub-clause FCC	Test re- quested	Testresults		Remarks
				passed	failed	
TRANSMITTER PARAMETERS						
Frequency error	8.1	95.628 (e)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Emission bandwidth	8.2	95.633 (e)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Effective radiated power	8.3	95.639(f)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Spurious emissions acc. EN 301 839	8.4		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Frequency stability under low voltage conditions	8.5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unwanted radiation acc. FCC		95.635 (d)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Conducted emission (AC_power_line)		15.207	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
RECEIVER PARAMETERS						
Spurious radiation acc. EN 301 839	9.1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Monitoring system threshold power level	10.1	95.628 (a)(3)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Monitoring system bandwidth	10.2	95.628 (a)(1)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Scan cycle time	10.3.1.1 10.3.3.1	95.628 (a)(2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Minimum channel monitoring period	10.3.1.2 10.3.3.2	95.628 (a)(2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Channel access	10.4	95.628 (a)(4)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Discontinuation of MICS session	10.5	95.628 (a)(4)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Use of pre-scanned alternate channel	10.6	95.628 (a)(5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3 Transmitter Parameter

3.1 Frequency error

EN 301 839- 8.1
FCC 95.628(e)

The frequency error is the difference between the frequency of the device under normal and extrem test conditions.

Transmitter 1

Test conditions		Frequency 402.450MHz	Frequency 403,65MHz	Frequency 404.85MHz
T_{nom}	V_{nom}	402.450343MHz <i>1.07ppm</i>	403.650433MHz <i>1.07ppm</i>	404,850514MHz <i>1.27ppm</i>
T_{min}	V_{nom}	402.451661MHz <i>4.13ppm</i>	403.651750MHz <i>4.33ppm</i>	404,851828MHz <i>4.52ppm</i>
T_{max}	V_{nom}	402.450025MHz <i>0.06ppm</i>	403,650124MHz <i>0.31ppm</i>	404,850217MHz <i>0.54ppm</i>
Maximum frequency drift (ppm)		4.52ppm		
Measurement uncertainty		$< 10^{-7}$ Hz		

Transmitter 2

Test conditions		Frequency 402.450MHz	Frequency 403,65MHz	Frequency 404.85
T_{nom}	V_{nom}	402.450285MHz <i>0.70 ppm</i>	403.650378MHz <i>0.93 ppm</i>	404,850457MHz <i>1.13 ppm</i>
T_{min}	V_{nom}	402.451264MHz <i>3.14 ppm</i>	403.651350MHz <i>3.34 ppm</i>	404,851424MHz <i>3.50 ppm</i>
T_{max}	V_{nom}	402.450013MHz <i>0.03 ppm</i>	403,650102MHz <i>0.25 ppm</i>	404,850197MHz <i>0.49 ppm</i>
Maximum frequency drift (ppm)		3.50 ppm		
Measurement uncertainty		$< 10^{-7}$ Hz		

Comment: none.

Limits acc. EN 301 839, FCC 95.628(e)	Frequency error shall not exceed ± 100ppm ($\pm 40,36$ kHz)
--	--

Test equipment used: ETS 0412, ETS 0087

Test Report No.: G0M21004-3144-T-47

3.2 Emission bandwidth

**EN 301 839- 8.2
FCC 95.633(e)**

The emission bandwidth of the device under test is measured as the width of the signal between the points on either side of carrier centre frequency that are 20 dB down relate to the maximum level of the modulated carrier

Transmitter 1

	Channel 402.450MHz	Channel 403,65MHz	Channel 404.85MHz
Bandwidth [kHz]	199	195	196
f_{LOW} [MHz]	402.352	403.554	404.753
f_{HIGH} [MHz]	402.551	403.749	404.949
Measurement uncertainty	$\pm 1 \times 10^{-7}$		

Transmitter 2

	Channel 402.450MHz	Channel 403,65MHz	Channel 404.85MHz
Bandwidth [kHz]	195	194	198
f_{LOW} [MHz]	402.548	403.554	404.752
f_{HIGH} [MHz]	402.353	403.748	404.950
Measurement uncertainty	$\pm 1 \times 10^{-7}$		

Comment: See attached measurement diagram, „ 20dB Emission bandwidth“.

Limits acc. EN 301 839, FCC 95.633(e)	Maximum permitted emission bandwidth shall be 300 kHz
--	--

Test equipment used:

ETS 0412

3.3 Effective radiated power

**EN 301 839- 8.3
FCC 95.639(f)**

The effective radiated power is the power radiated within the emission bandwidth of the EUT in the direction of the maximum level under specified conditions of measurements in the Presence of modulation or without modulation as appropriate.

These tests are performed in a fully anechoic chamber equipped with suitable antennas, turn table, spectrum analyzer and control computer. All antenna gains, cable loss and applicable correction factors are calculated for final results.

Test instruction:

The EUT was adjusted so, that it transmits continuous unmodulated.

Test conditions	Effective radiated power	
	Transmitter A	Transmitter B
Channel 402.450MHz	-17.04dBm E.I.R.P.	-17.14dBm E.I.R.P.
Channel 403.650MHz	-17.02dBm E.I.R.P. -19.17dBm E.R.P.	-17.00dBm E.I.R.P. -19.51dBm E.R.P.
Channel 404.850MHz	-16.95dBm E.I.R.P.	-16.96dBm E.I.R.P.
Measurement uncertainty	± 3 dB	

Comment: See attached measurement diagrams, „Radiated Power under normal conditions“.

Limits acc. EN 301 839, FCC 95.639(f)	ETSI: Radiated Power ≤ 25μW E.R.P. (-16dBm) FCC: Radiated Power ≤ 25μW E.I.R.P. (-16dBm)
--	---

Test equipment used: ETS 0309, ETS 0432, ETS 0271, ETS 0013

3.4 Spurious emissions

EN 301 839- 8.4

Spurious emissions are emissions at frequencies other than those of the carrier and sidebands associated with normal test modulation.

Active medical implants shall have the effective radiated power (ERP) of their spurious emissions using the specified test fixture (simulated man). These tests are performed in a fully anechoic chamber equipped with suitable antennas, turn table, spectrum analyzer and control computer. All antenna gains, cable loss and applicable correction factors are calculated for final results.

Test instruction:

The EUT was adjusted so, that it transmits continuous modulated.

TX mode	Frequency [MHz]	Limit [dBm]	Spurious emission level [dBm]
Transceiver 1 Channel 0	47	-54	-59.10
Transceiver 2 Channel 0	96	-54	-65.86
standby	< 1GHz	2 nW	--
	> 1 GHz	20 nW	--
Measurement uncertainty		±6dB	

Limits acc. EN 301 839

State	47 MHz to 74 MHz 87,5 MHz to 118 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	Other frequencies below 1GHz	Frequencies above 1 GHz
operating	4 nW (-54dBm)	250 nW (-36dBm)	1 μW (-30dBm)
standby	2 nW (-57dBm)	2 nW (-57dBm)	20 nW (-47dBm)

Comment: See attached diagrams.

Test equipment used: ETS 0309, ETS 0432, ETS 0271, ETS 0012, ETS 0013, ETS 0018

3.5 Frequency stability under low voltage conditions

EN 301 839- 8.5
Applicable for battery operating equipment only

The frequency stability under low voltage conditions is the ability of the equipment to remain within its permitted frequency limits when the battery voltage falls below the lower extreme voltage level.

Test instruction:

The EUT must be adjusted so, that it transmits continuous unmodulated.

Test conditions		Center frequency 403,65MHz
T_{nom}	V_{nom}	--
Frequency drift [ppm]		--
Measurement uncertainty		$< 10^{-7}$ Hz

Comment: not required, EUT not battery powered

Limits acc. EN 301 839	<p>Transmit with a carrier frequency within the limits of ± 100 ppm whilst the radiated or conducted power is below the spurious emission limits; or</p> <p>Automatically cease to function below the provider's declared operating voltage</p>
-------------------------------	--

3.6 Unwanted radiation

FCC 95.635 (d)

The intention of these tests is to prove whether the sample meets the requirements to save the spectrum against unwanted radiations.

The radiated test under this sub-clause are performed according to ANSI 63.4 in a semianechoic chamber

Such factors like antenna correction, cable loss, external attenuation etc. are already included in the provided measurement results. This is done by using validated test software and calibrated test system according the accreditation requirements.

Out-of-band emissions

FCC 95.635(d)(1)

Emissions from a MedRadio transmitter more than 250 kHz outside of the 402–405 MHz band shall be attenuated to a level no greater than the following field strength limits:

Limits acc. FCC 95.635 (d)(1)

Frequency [MHz]	Field strength [$\mu\text{V}/\text{m}$]	Measurement distance [m]
30 - 88	100	3
88 -216	150	3
216 - 960	200	3
960 and above	500	3

The sample complies with the requirements

Comment: See attached diagrams, all other noted test plots do not contain significant test results in relation to the limits, no spurious was found after the limit. The EUT does meet the FCC requirements.

The unwanted radiation measurements shall be performed with usual test modulation.

Test equipment used: ETS 0086, ETS 0271, ETS 0012, ETS 0013, ETS 0018

In-band emissions**FCC 95.635(d)(4)**

Emissions within the MICS band (402 – 405 MHz) more than 150 kHz away from the center frequency of the spectrum the transmission is intended to occupy, will be attenuated below the transmitter output power by at least 20 dB.

The sample complies with the requirements

Measured with Transceiver (1)

max. measured power = 74,61 dB μ V/m

74,61dB μ V/m – 20dB = **54,61 μ V/m** \triangle limit line

Measured with Transceiver (2)

max. measured power = 75,03 dB μ V/m

75,03 dB μ V/m – 20dB = **55,03 μ V/m** \triangle limit line

The unwanted radiation measurements shall be performed with usual test modulation.

Comment: See attached diagrams, all other noted test plots do not contain significant test results in relation to the limits. The EUT does meet the FCC requirements.

Test equipment used: ETS 0086, ETS 0271, ETS 0012, ETS 0013, ETS 0018

Band-edge emissions

FCC 95.635(d)(5)

Emissions 250 kHz or less that are above and below the MICS band (402 – 405 MHz) will be attenuated below the maximum permitted output power (-16 dBm e.i.r.p.) by at least 20 dB.

The sample complies with the requirements

Band edge: 20dB under allowed radiated power 25μW

$$25\mu W \triangleq 9100\mu V/m \triangleq 78,17 \text{ dB}\mu V/m$$

$$78,17 \text{ dB}\mu V/m - 20\text{dB} = \mathbf{58,17 \mu V/m} \triangleq \text{limit line}$$

The unwanted radiation measurements shall be performed with usual test modulation.

Comment: See attached diagrams, all other noted test plots do not contain significant test results in relation to the limits. The EUT does meet the FCC requirements.

Test equipment used: ETS 0086, ETS 0271, ETS 0012, ETS 0013, ETS 0018

3.7 AC power line conducted emissions

FCC Part 15

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the table below. Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

This measurement was transact first with instrumentation using an average and peak detector and a 10 kHz bandwidth. If the peak detector achieves a calculated level, the measurement is repeated by an instrumentation using a quasi-peak detector.

Frequency	Level	
	quasi-peak	average
150kHz	upper limit line	lower limit line

Comment: See attached measurement diagrams in the Annex.

Limits:

Frequency of Emission (MHz)	Conducted Limit [dB μ V]	
	Quasi Peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Test equipment used: ETS 0288

4 Receiver Parameter

4.1 Spurious radiation

EN 301 839-9.1

Spurious radiations from the receiver are components at any frequency, generated and radiated by active receiver circuitry and antenna.

Test instruction:

The EUT is adjusted to receive but does not transmit.

Frequency range	Maximum spurious radiation level [dBm]	
	Receiver 1	Receiver 2
25 MHz - 200MHz	-65.36	-65.23
200 MHz - 1GHz	-63.70	-63.96
1 GHz - 4GHz	-54.80	-54.69
Measurement uncertainty	±6dB	

Limits acc. EN 301 839	The spurious emission shall not exceed 2nW (-57 dBm) below 1GHz 20nW (-47 dBm) above 1GHz
------------------------	---

Comment: See attached diagrams

Test equipment used: ETS 0309, ETS 0432, ETS 0271, ETS 0012, ETS 0013, ETS 0018

4.2 Monitoring system threshold power level

EN 301 839-10.1
FCC 95.628 (a) (3)

The monitoring system threshold power level, Th_p shall not be greater than the calculated level given by the equation:

$$10\log B(\text{Hz}) - 150 (\text{dBm/Hz}) + G (\text{dB}_i)$$

Measured emission bandwidth : $B = 220.0 \text{ kHz}$ Gain: $G = 0\text{dB}_i$ (worst case)

$$Th_p = 10\log(220000\text{Hz}) - 150\text{dBm/Hz}$$
$$Th_p = \mathbf{-96,6\text{dBm}}$$

It is not necessary to measure the actual threshold power level of a MICS system, however, it shall determined that the system uses the LIC selection process if no channel is available with an ambient power level at or below the calculated threshold power level.

4.3 Monitoring system bandwidth

EN 301 839-10.2
FCC 95.628 (a) (1)

The intent of this requirement is to insure that the EUT measures the power in a bandwidth that is equal to or greater than the emission bandwidth of the transmitter with the widest emission that it will participate with in a MICS communications session.

Measure of bandwidth where a channel is occupied, the bandwidth should be at least so big as the emission bandwidth.

f_{center} : (± 0 kHz) Interferer = -94.6 dBm

f_{low} : (-110.0 kHz) Interferer = -80.6 dBm **(+14dB)** *passed*

f_{low} : (+110.0 kHz) Interferer = -80.6 dBm **(+14dB)** *passed*

Limit acc. EN 301 839 FCC 95.628	The monitoring system bandwidth measured at its 20dB down points shall be \leq than the emission bandwidth of the intended transmission.
---	--

Test equipment used: ETS 0406, ETS 0412

4.4 Scan cycle time

**EN 301 839-10.3.1.1
FCC 95.628 (a) (2)**

The intent of this requirement is to ensure that the monitoring system updates the detected power levels by scanning the ULP-AMI band at a rate less 5s. Within 5s prior to initiating a communication session, circuitry associated with medical implant programmer/control transmitter shall monitor the channels.

Measure the time up to find a free channel.

System scan cycle time:

Measure the time between dropping the disturbance signal on the dedicated channel and the start of transmission of EUT.

Test conditions		Center frequency 403,65MHz Measured scan cycle time [s]
T_{nom}	V_{nom}	0.54
Measurement uncertainty		<1 μ s

Limit acc. EN 301 839 FCC 95.628	The scan cycle time shall be ≤ 5 s
-------------------------------------	---

Test equipment used: ETS 0412

4.5 Minimum channel monitoring period

**EN 301 839-10.3.1.2
FCC 95.628 (a) (2)**

The intent of this requirement is to ensure that the monitoring period on each channel is 10ms or longer to detect transmissions that may have silent periods between data that are less than 10ms in duration.

Minimum channel monitoring period:

all channels occupied, except one dedicated test channel → Level shall be 3dB higher than Threshold Power Level

Test channel with pulsed Interferer → Pulse 100µs on, 9,9ms off

Result: no Tx on Ch0 → EUT passed the test

Limit acc. EN 301 839 FCC 95.628	Each MICS channel shall be monitored for a minimum of 10ms during each scan cycle of 5s or less duration.
---	--

Test equipment used: ETS 0406, ETS 0412

4.6 Channel access

**EN 301 839-10.4
FCC 95.628 (a) (4)**

MICS programmer/control transmitters are permitted to initiate a connection to an implant transmitter if the ambient signal level is below the maximum permitted threshold. If no channel is available with an ambient power level at or below the maximum permitted threshold, spectrum access is permitted based on the channel with the lowest ambient power level referred to as the LIC or "Least interfered channel".

Check, whether the channel disturbed least is selected if all channels are occupied.

All channels are occupied except channel 0. Channel 7 shall be 3dB above the Threshold Power Level and all other channels shall be 10dB above the Threshold Power Level.

Level of continuous Interferer adjust on channel 0, 3dB below the Threshold Power Level;

Level of continuous Interferer increases at 9dB;

Communication must be installed at channel 7

Interferer level: -99,6 dBm → connection on channel 0

Interferer level: -90,6 dBm → channel 0 has changed to channel 5

Limit acc. EN 301 839 FCC 95.628	The EUT shall access and transmit on the Least Interfered Channel (LIC) after the CW signal at frequency, f_c , has been increased by 9 dB from its initial level of 3dB below the calculated access threshold.
---	---

Test equipment used: ETS 0406, ETS 0412

4.7 Discontinuation of MICS session
**EN 301 839-10.5
FCC 95.628 (a) (4)**

MICS system shall cease transmission in the event that the communication session is interrupted for a period of 5s or more.

Check, whether communication switching off, after 5s break

All channels are occupied, except channel 0.

Measure time between communication interruption and cease of transmission.

Test conditions		Center frequency 403,65MHz Measured time [ms]
T_{nom}	V_{nom}	200
Measurement uncertainty		< 1 μ s

Limit acc. EN 301 839 FCC 95.628	Time up to communication switching off must be $\leq 5s$.
---	---

Test equipment used: ETS 0406, ETS 0412

4.8 Use of pre-scanned alternate channel

EN 301 839-10.6
FCC 95.628 (a) (5)

At the time a channel for operation is initially selected and accessed, it is permissible for the monitoring system to select one additional channel for alternate operation for use if the initially selected channel becomes unavailable due to blockage of the channel from unknown disturbing ambient signals. The procedures in this clause determine if the system use this feature and, if so, if it complies with the requirements for alternate channel selection. MICS programmer/controllers that do not use the alternate channel provision are required to meet the other provisions of the access protocol.

Comment: Test not required. This feature is not supported.

4.9 Radiated emissions

Reference

FCC	Part 95.628
IC	RSS-Gen

Method of measurement

The compliance of the EUT Receiver with the Limits of spurious emissions was performed according to the radiated measurement method.

The spectrum analyzer RBW was set to 100 kHz for measurements below 100 kHz and 1.0 MHz above 1.0 GHz. The measurement results are evaluated according to the procedure described in section 2.4 of this test report.

Limits

	Spurious frequency	Field strength
	MHz	microvolt/m at 3 meter
FCC & IC	30 - 88	100
	88 - 216	150
	216 - 960	200
	above 960	500

Test Results

Device Frequency	Frequency marker indication [MHz]	Antenna polarization	Worst case emission level [$\mu\text{V}/\text{m}$]	Compliance limit [$\mu\text{V}/\text{m}$]	Results [$\mu\text{V}/\text{m}$]
403,65 MHz	48	V	50,82	100	<u>-49,18</u>
	324	H	43.00	200	<u>-157.00</u>
	324	V	30.27	200	<u>-160.05</u>
	721	V	30.27	200	<u>-169.73</u>
	793	H	32.36	200	<u>-167.64</u>
	1030	V	169.04	500	<u>-330.96</u>

Comment: See attached measurement diagrams.

Test equipment used: ETS 0086, ETS 0271, ETS 0012, ETS 0013, ETS 0018

Appendix A

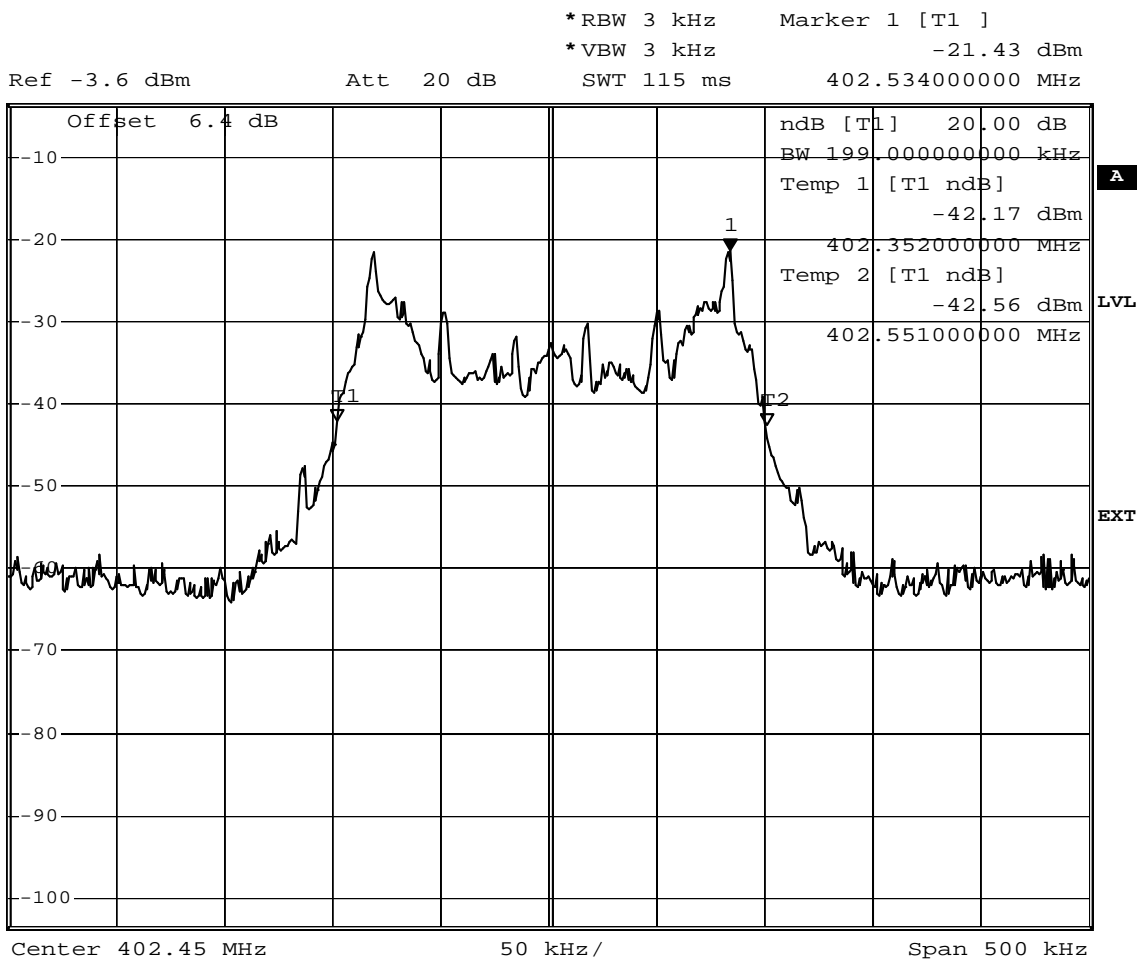
Photos

Appendix B

Measurement diagrams “20dB emission bandwidth”

Emission bandwidth / Maximum radiation bandwidth

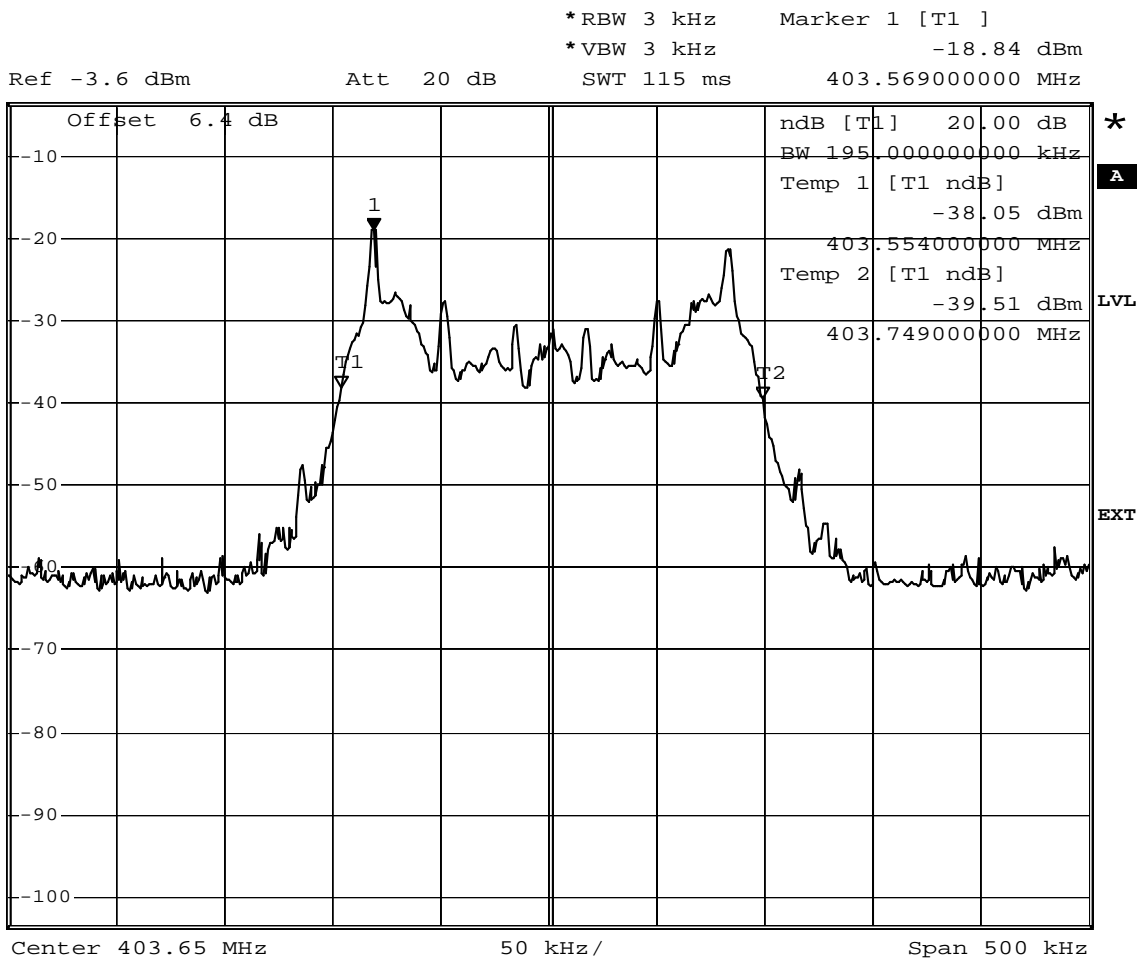
EUT	ICS Neo
Model	Renamic
Approval Holder	Biotronik SE & Co KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH
Test Specification	FCC Part 95.633 e / EN 301 839-1 8.2
Comment 1	20 dB Emission bandwidth / 402.45 MHz / Transmitter 1
Comment 2	fhigh-flow Bandwidth: 199 kHz
Comment 3	Limit 300kHz



Date: 4.MAY.2010 09:16:53

Emission bandwidth / Maximum radiation bandwidth

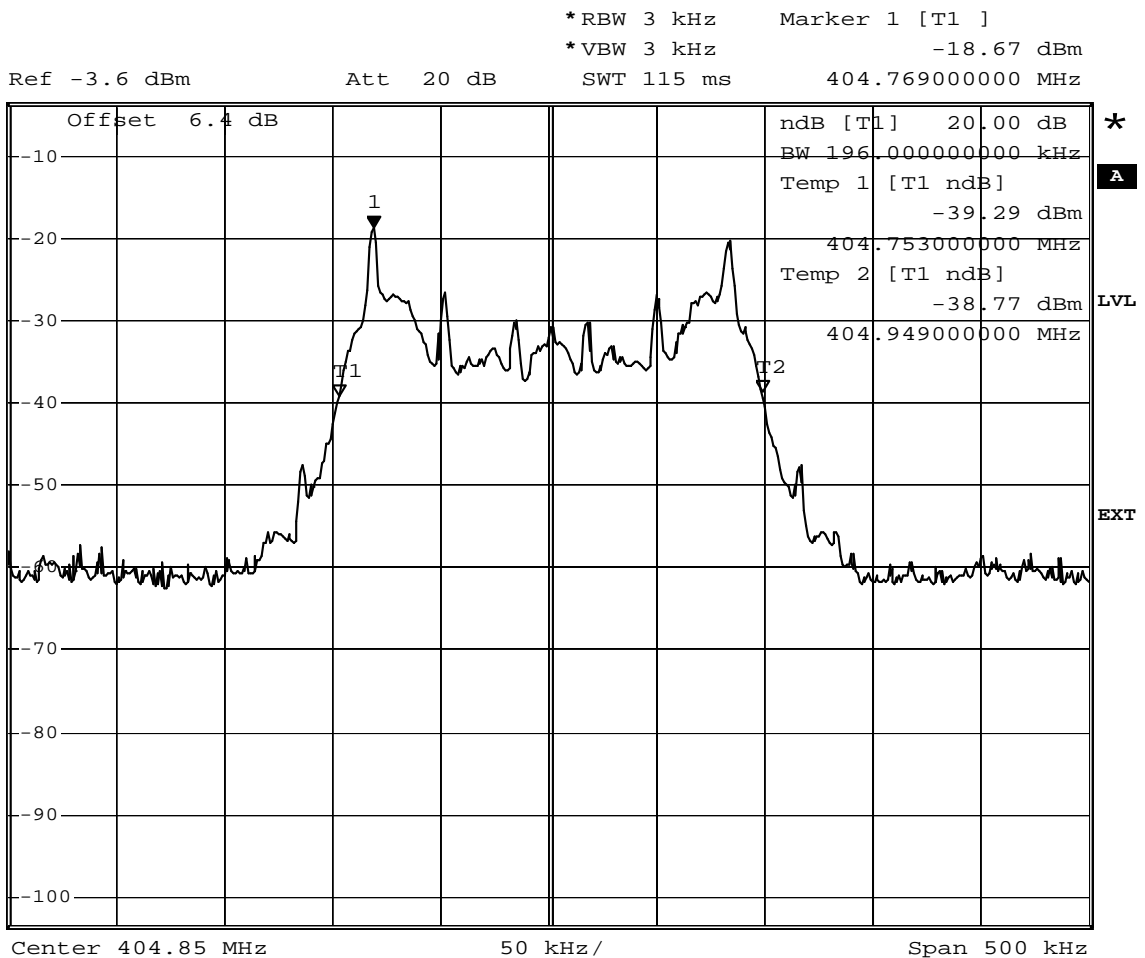
EUT	ICS Neo
Model	Renamic
Approval Holder	Biotronik SE & Co KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH
Test Specification	FCC Part 95.633 e / EN 301 839-1 8.2
Comment 1	20 dB Emission bandwidth / 403.65 MHz / Transmitter 1
Comment 2	fhigh-flow Bandwidth: 195 kHz
Comment 3	Limit 300kHz



Date: 4.MAY.2010 09:20:06

Emission bandwidth / Maximum radiation bandwidth

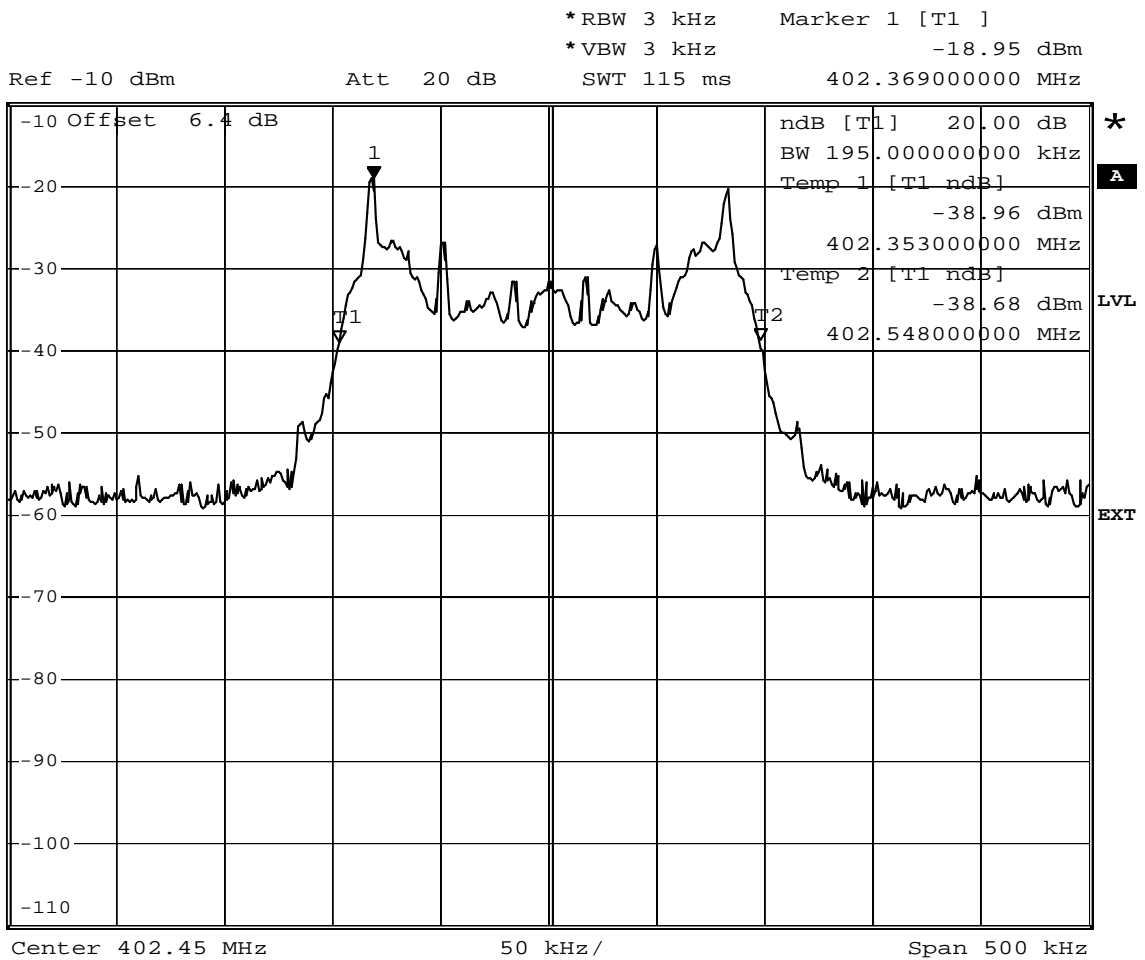
EUT	ICS Neo
Model	Renamic
Approval Holder	Biotronik SE & Co KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH
Test Specification	FCC Part 95.633 e / EN 301 839-1 8.2
Comment 1	20 dB Emission bandwidth / 404.85 MHz / Transmitter 1
Comment 2	fhigh-flow Bandwidth: 196 kHz
Comment 3	Limit 300kHz



Date: 4.MAY.2010 09:23:54

Emission bandwidth / Maximum radiation bandwidth

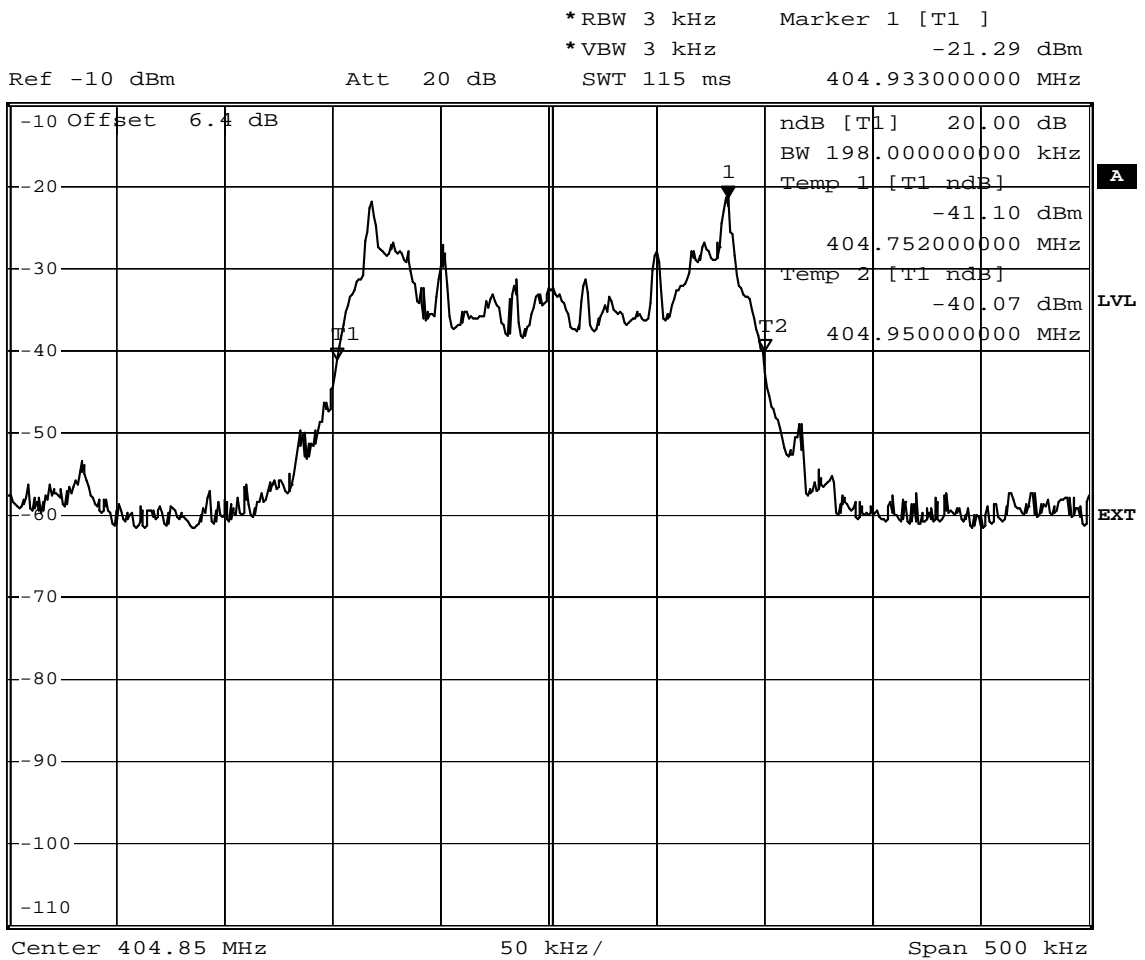
EUT	ICS Neo
Model	Renamic
Approval Holder	Biotronik SE & Co KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH
Test Specification	FCC Part 95.633 e / EN 301 839-1 8.2
Comment 1	20 dB Emission bandwidth / 402.45 MHz / Transmitter 2
Comment 2	fhigh-flow Bandwidth: 195 kHz
Comment 3	Limit 300kHz



Date: 29.APR.2010 12:45:22

Emission bandwidth / Maximum radiation bandwidth

EUT	ICS Neo
Model	Renamic
Approval Holder	Biotronik SE & Co KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH
Test Specification	FCC Part 95.633 e / EN 301 839-1 8.2
Comment 1	20 dB Emission bandwidth / 404.85 MHz / Transmitter 2
Comment 2	fhigh-flow Bandwidth: 198 kHz
Comment 3	Limit 300kHz



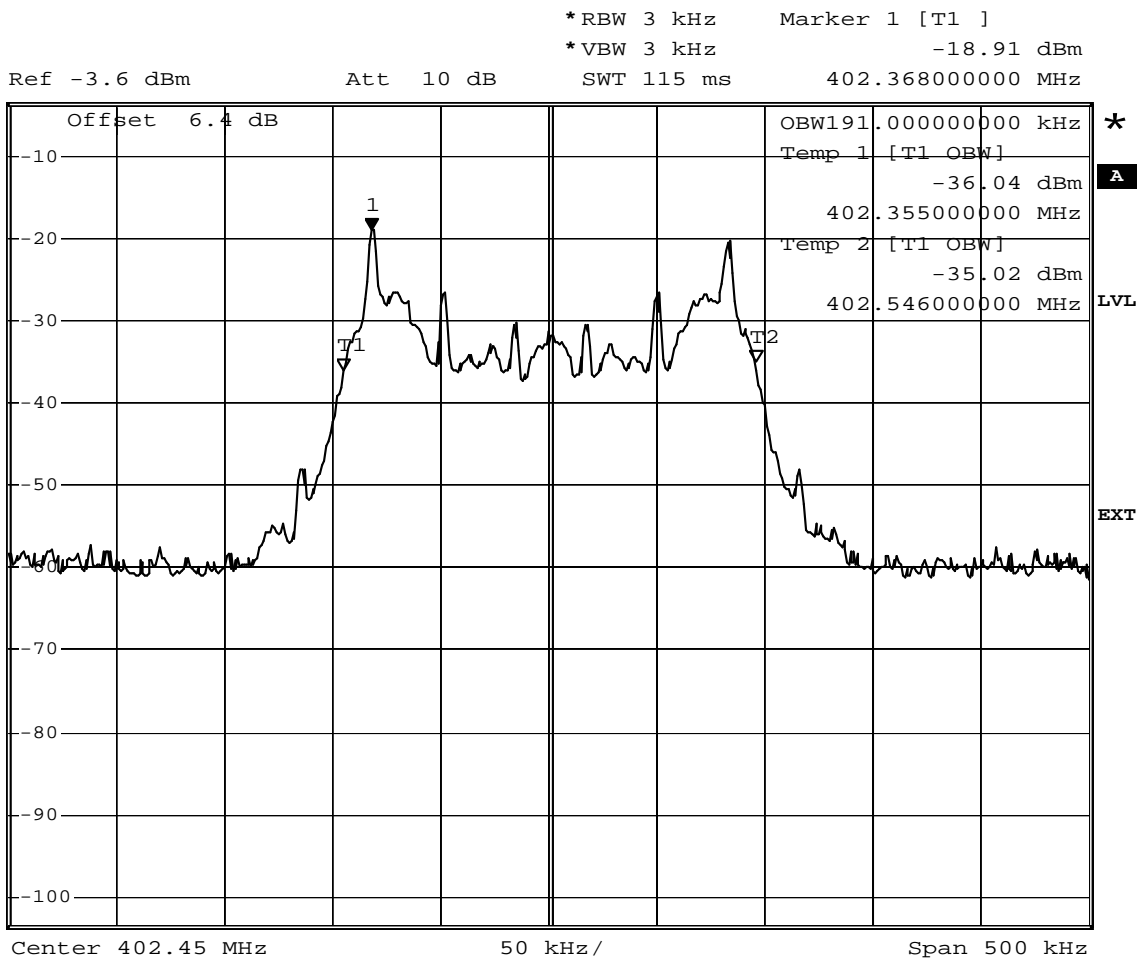
Date: 29.APR.2010 12:50:36

Appendix C

Measurement diagrams “Occupied bandwidth”

Occupied frequency bandwidth

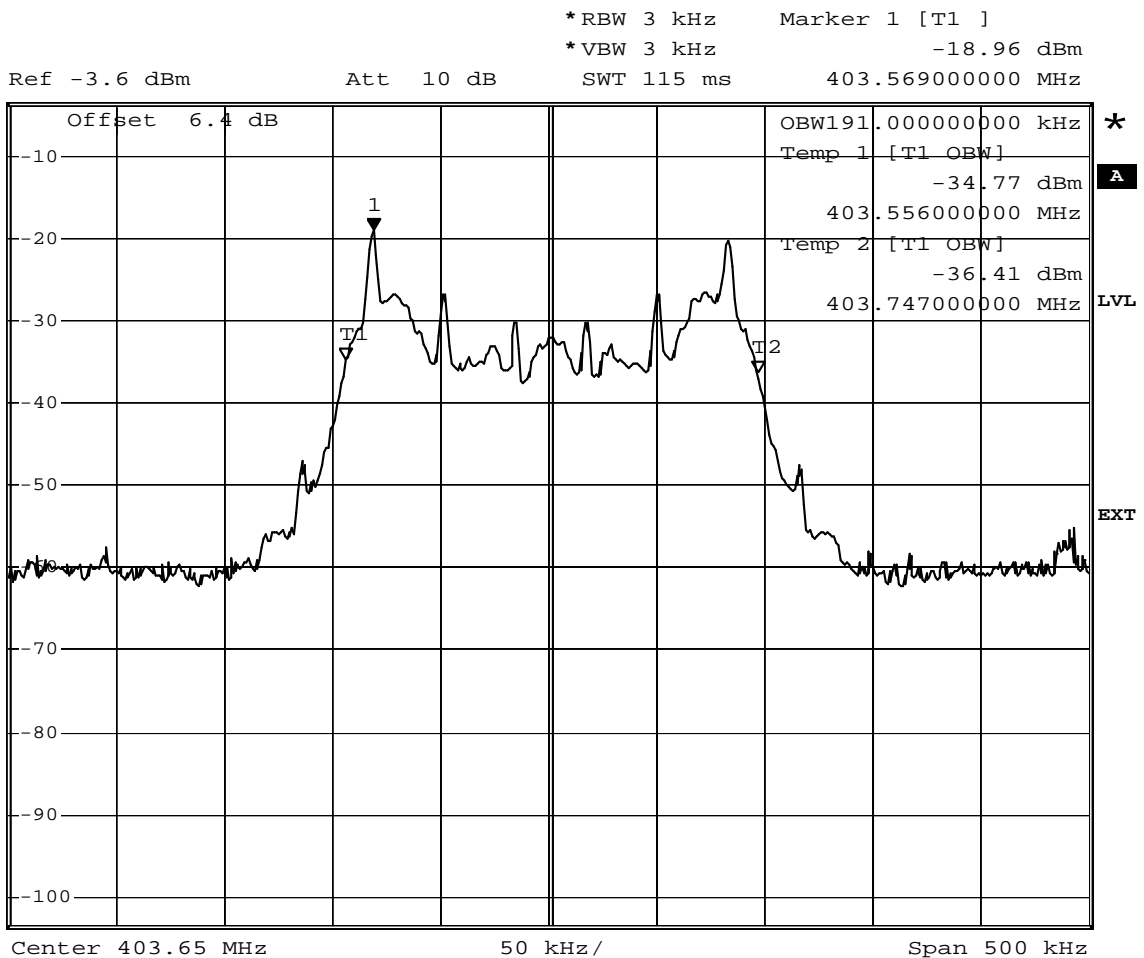
EUT	ICS Neo
Model	Renamic
Approval Holder	Biotronik SE & Co KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH
Test Specification	Occupied frequency bandwidth and maximum radiation bandwidth
Comment 1	A spectrum analyzer with an integrated 99% power bandwidth function is used
Comment 2	Occupied frequency bandwidth: 191 kHz / transmitter 1 / 402.45 MHz
Comment 3	



Date: 4.MAY.2010 09:34:05

Occupied frequency bandwidth

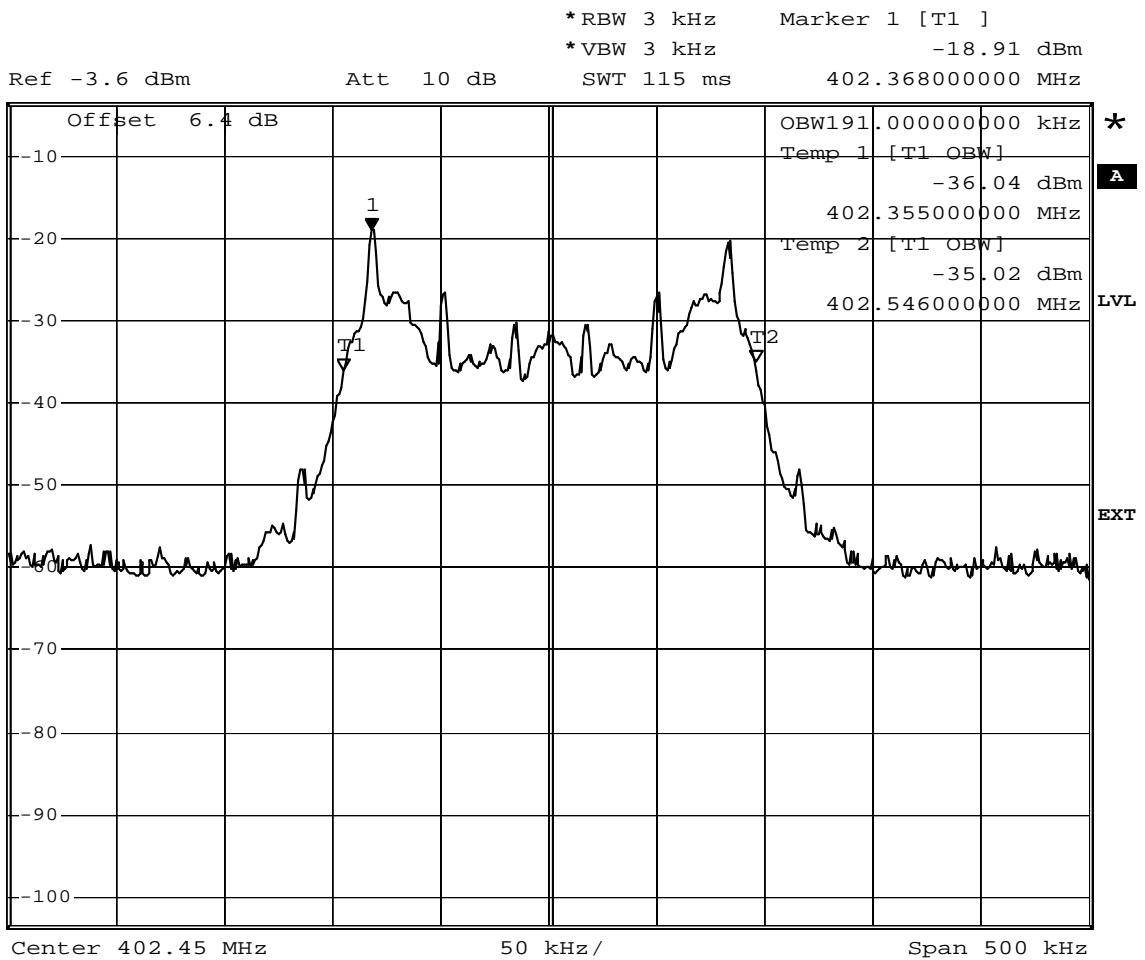
EUT	ICS Neo
Model	Renamic
Approval Holder	Biotronik SE & Co KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH
Test Specification	Occupied frequency bandwidth and maximum radiation bandwidth
Comment 1	A spectrum analyzer with an integrated 99% power bandwidth function is used
Comment 2	Occupied frequency bandwidth: 191 kHz / transmitter 1 / 403.65 MHz
Comment 3	



Date: 4.MAY.2010 09:30:20

Occupied frequency bandwidth

EUT	ICS Neo
Model	Renamic
Approval Holder	Biotronik SE & Co KG
Temperature / Voltage	25°C / Vnom
Test Site / Operator	Eurofins Product Service GmbH
Test Specification	Occupied frequency bandwidth and maximum radiation bandwidth
Comment 1	A spectrum analyzer with an integrated 99% power bandwidth function is used
Comment 2	Occupied frequency bandwidth: 191 kHz / transmitter 1 / 404.85MHz
Comment 3	



Date: 4.MAY.2010 09:34:05

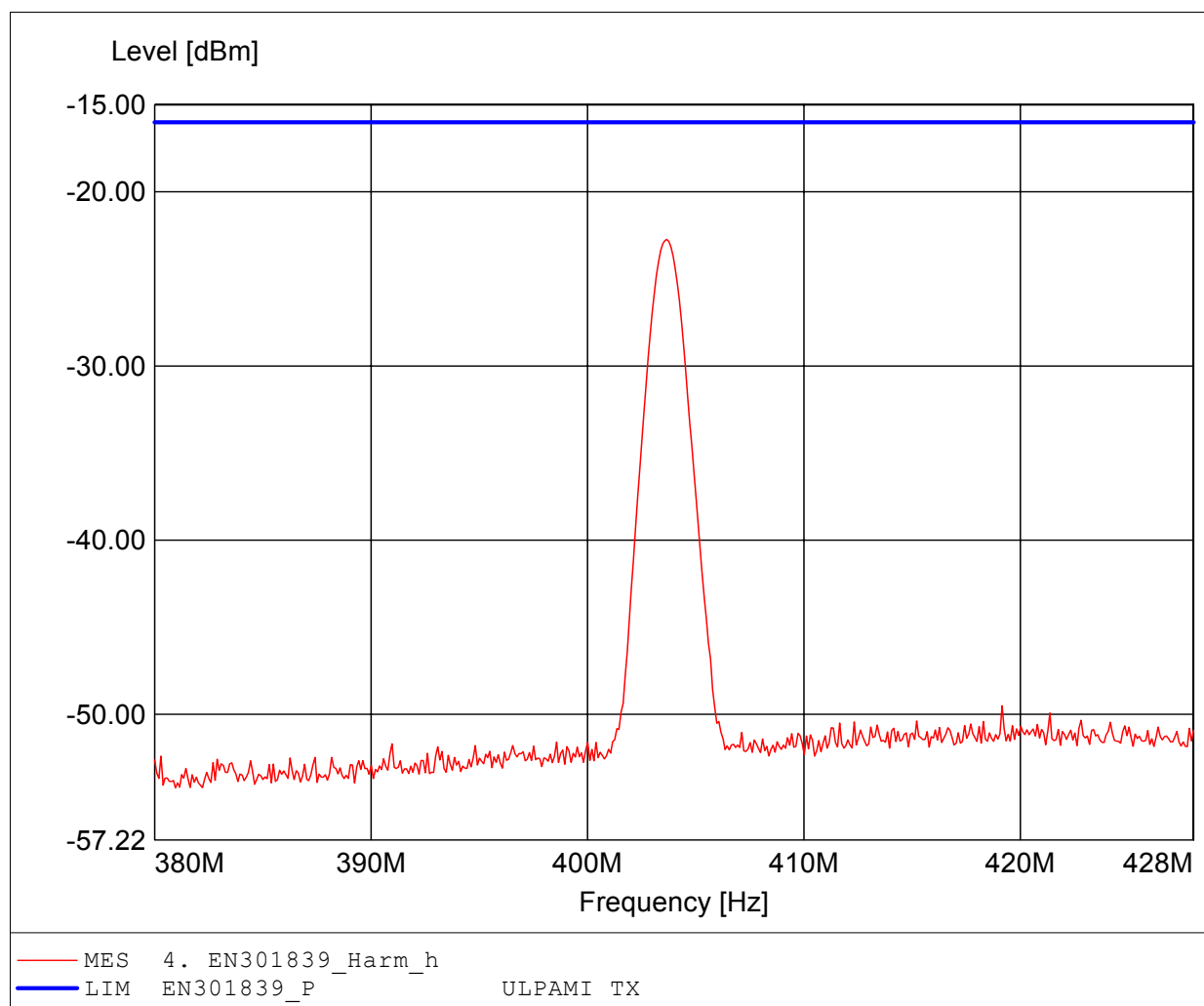
Appendix D

Measurement diagrams “Radiated power”

Radiated power under normal conditions

ULPAMI in accordance to the EN 301 839

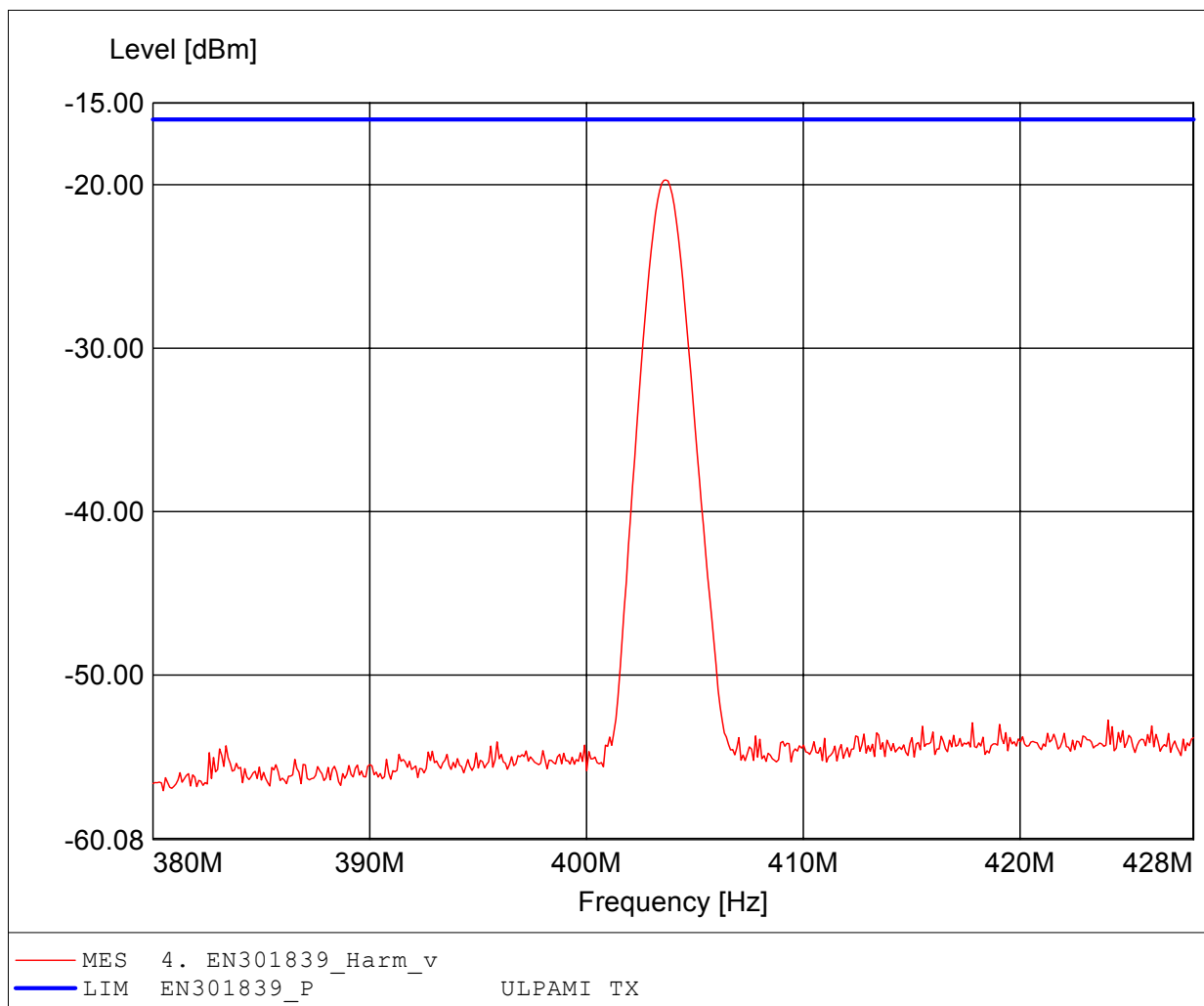
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx
Comment 1: Dist.: 3m, Ant.: HL 025,
Comment 2: Freq:403.663MHz Pmax:-22.74dBm RBW: 10 MHz



Radiated power under normal conditions

ULPAMI in accordance to the EN 301 839

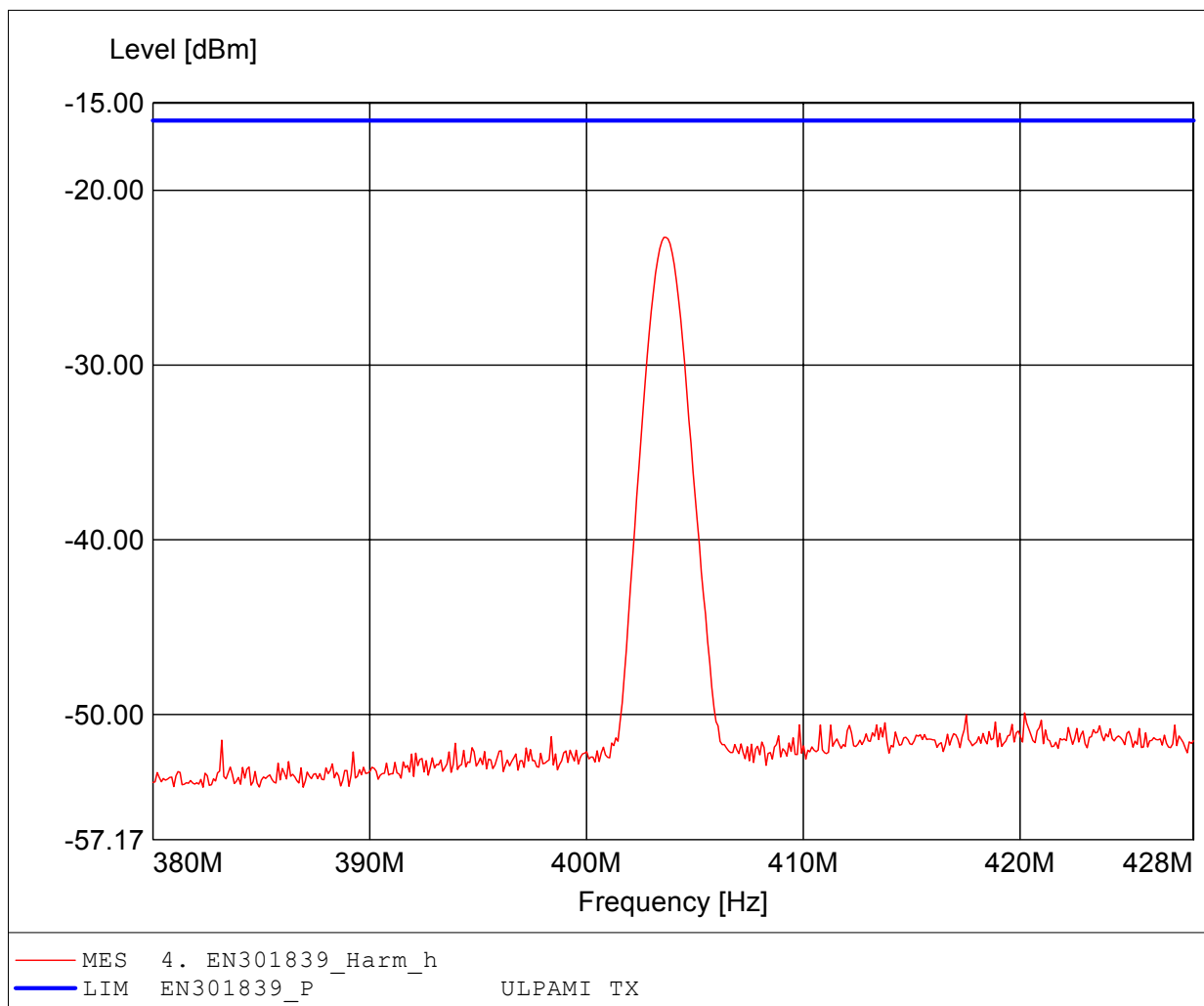
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx
Comment 1: Dist.: 3m, Ant.: HL 025,
Comment 2: Freq:403.663MHz Pmax:-19.71dBm RBW: 10 MHz



Radiated power under normal conditions

ULPAMI in accordance to the EN 301 839

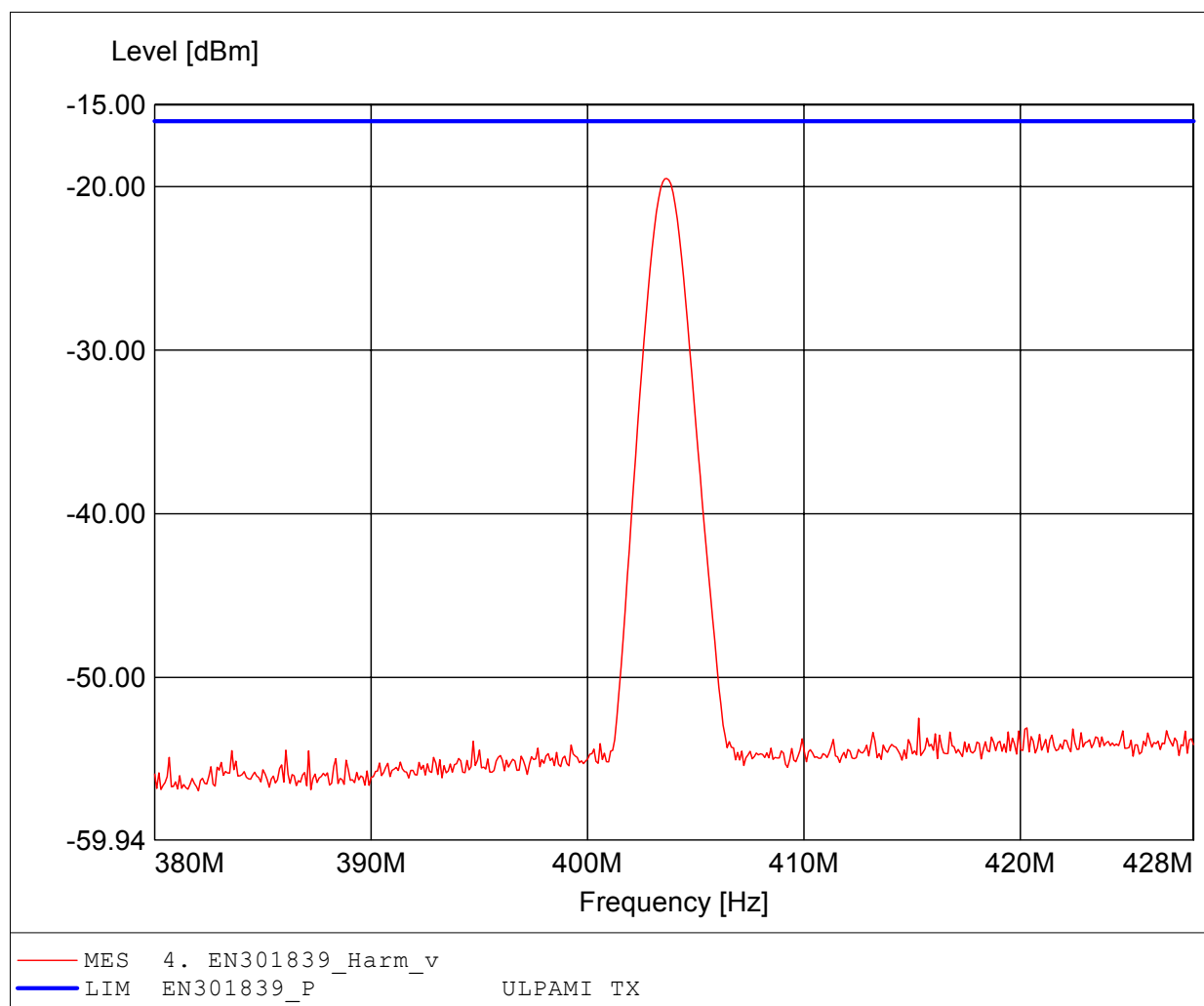
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx
Comment 1: Dist.: 3m, Ant.: HL 025,
Comment 2: Freq:403.663MHz Pmax:-22.68dBm RBW: 10 MHz



Radiated power under normal conditions

ULPAMI in accordance to the EN 301 839

Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx
Comment 1: Dist.: 3m, Ant.: HL 025,
Comment 2: Freq:403.663MHz Pmax:-19.51dBm RBW: 10 MHz



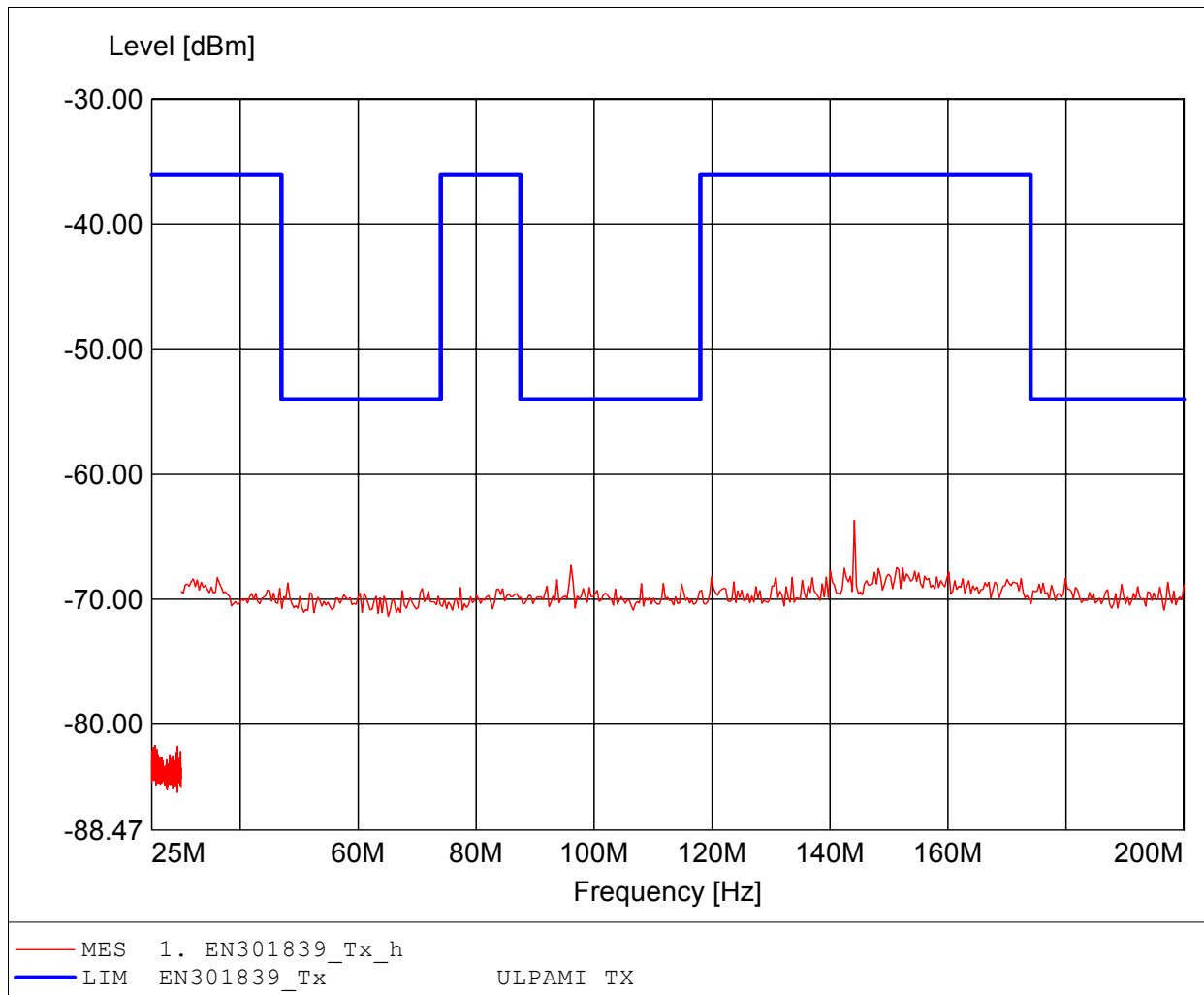
Appendix E

Measurement diagrams “Transmitter spurious emissions, Europe”

Spurious radiation

ULPAMI in accordance to the EN 301 839

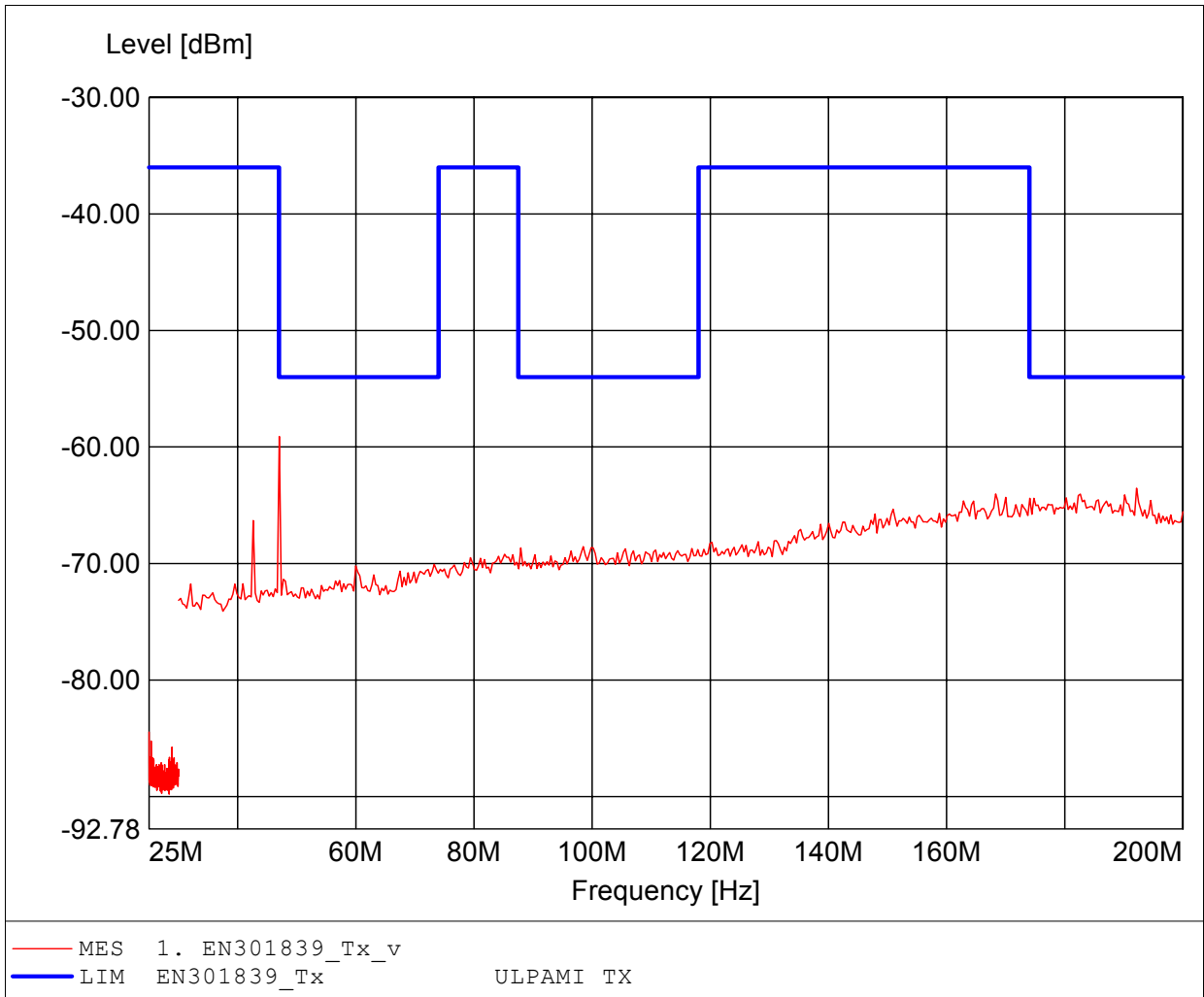
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq:144.128MHz Pmax:-63.68dBm RBW: 10/100 kHz



Spurious radiation

ULPAMI in accordance to the EN 301 839

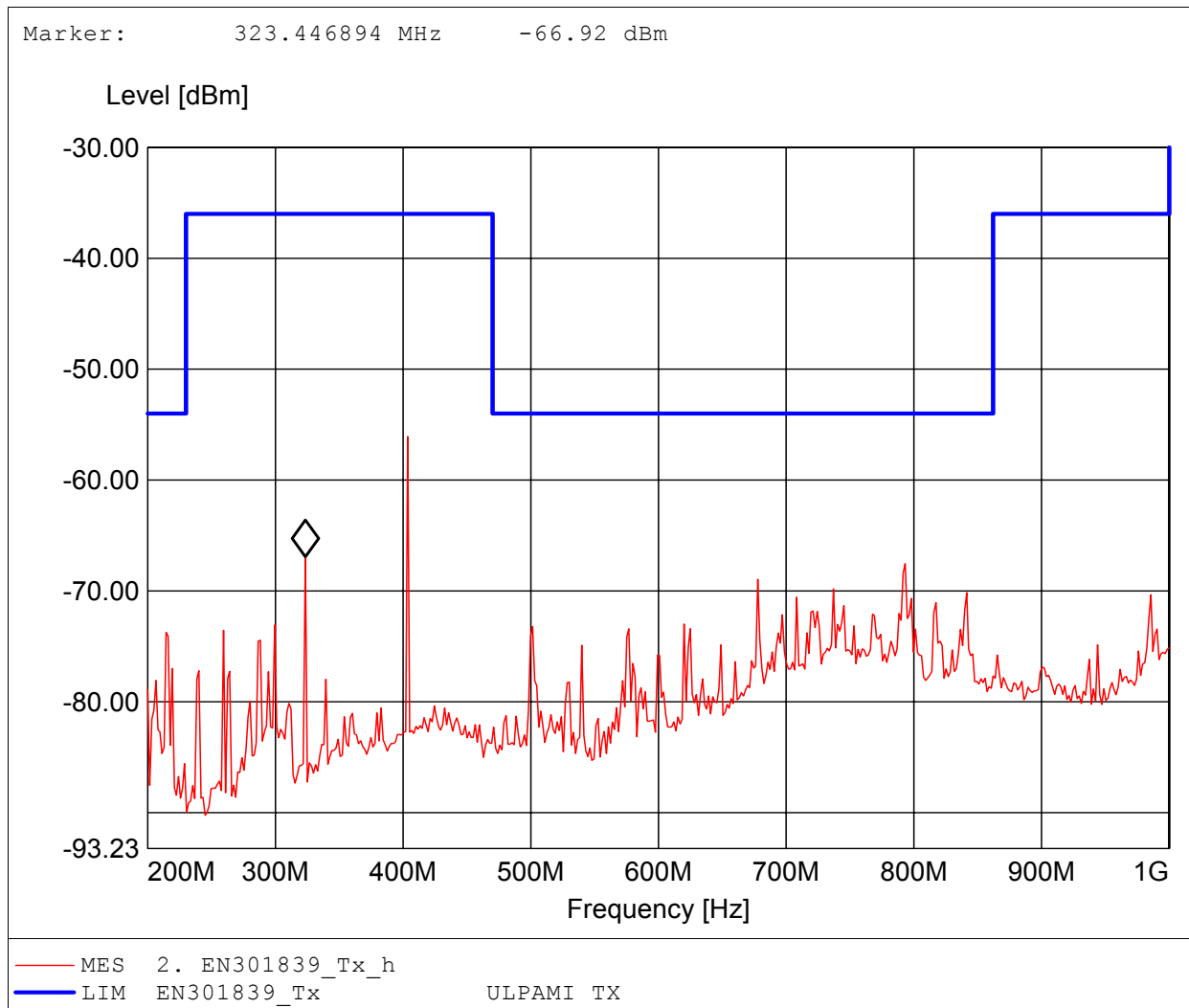
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq:47.034MHz Pmax:-59.10dBm RBW: 10/100 kHz



Spurious radiation

ULPAMI in accordance to the EN 301 839

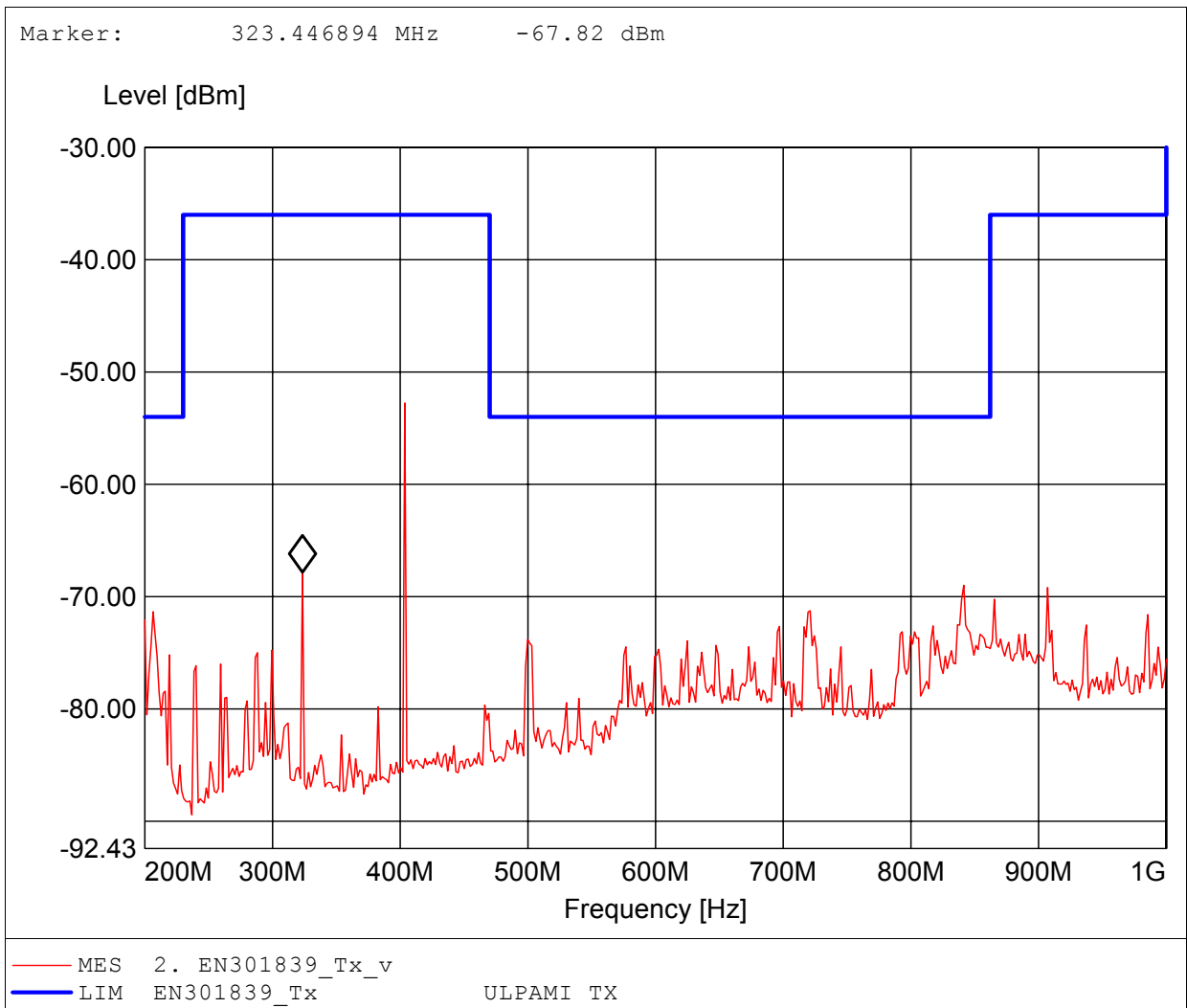
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx / notch filter
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.: 0.2-1 GHz
Comment 2: Freq:403.607MHz Pmax:-56.07dBm RBW: 100 kHz



Spurious radiation

ULPAMI in accordance to the EN 301 839

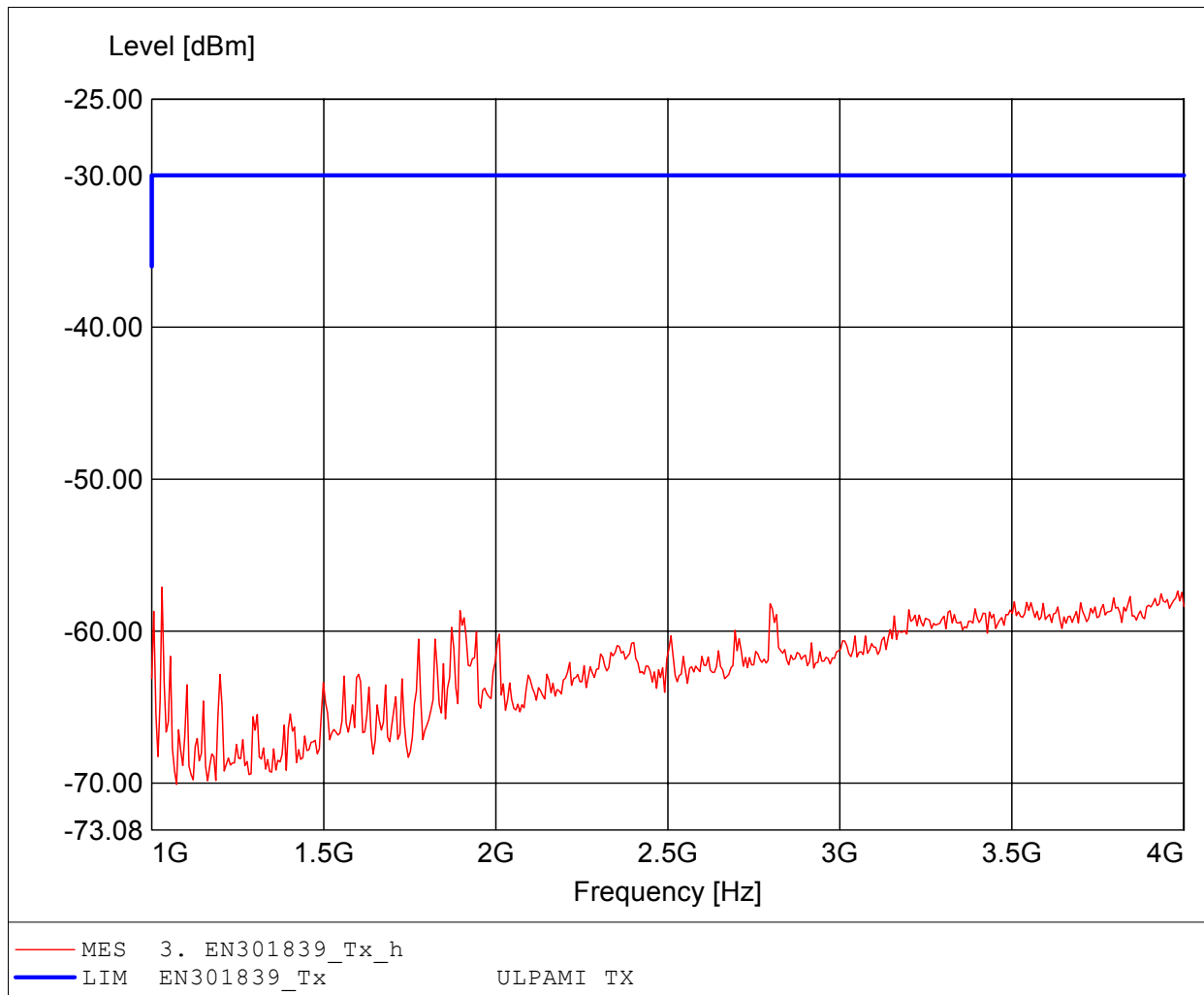
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx / notch filter
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.: 0.2-1 GHz
Comment 2: Freq:403.607MHz Pmax:-52.76dBm RBW: 100 kHz



Spurious radiation

ULPAMI in accordance to the EN 301 839

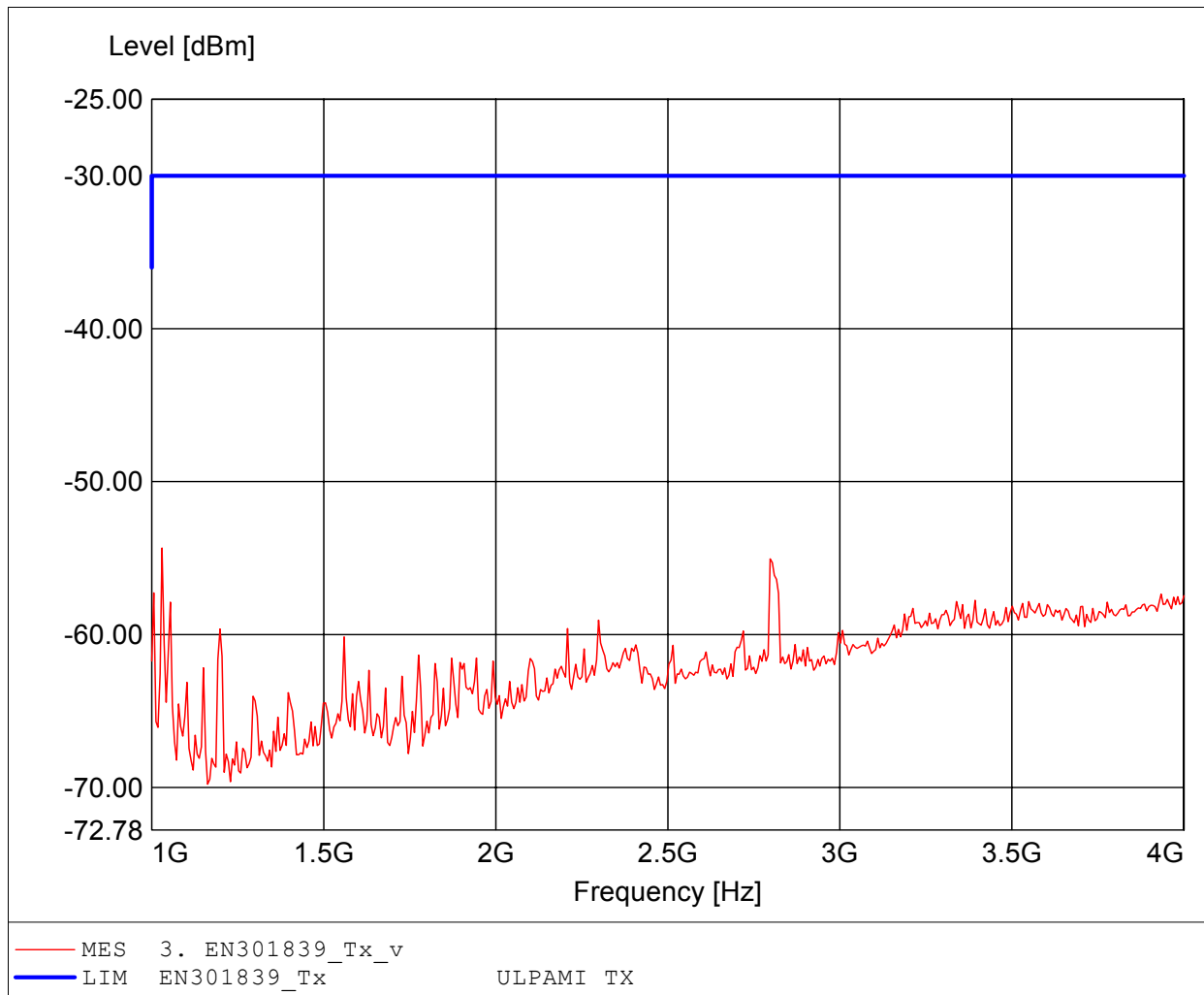
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4 GHz
Comment 2: Freq:1.030GHz Pmax:-57.09dBm RBW: 1 MHz



Spurious radiation

ULPAMI in accordance to the EN 301 839

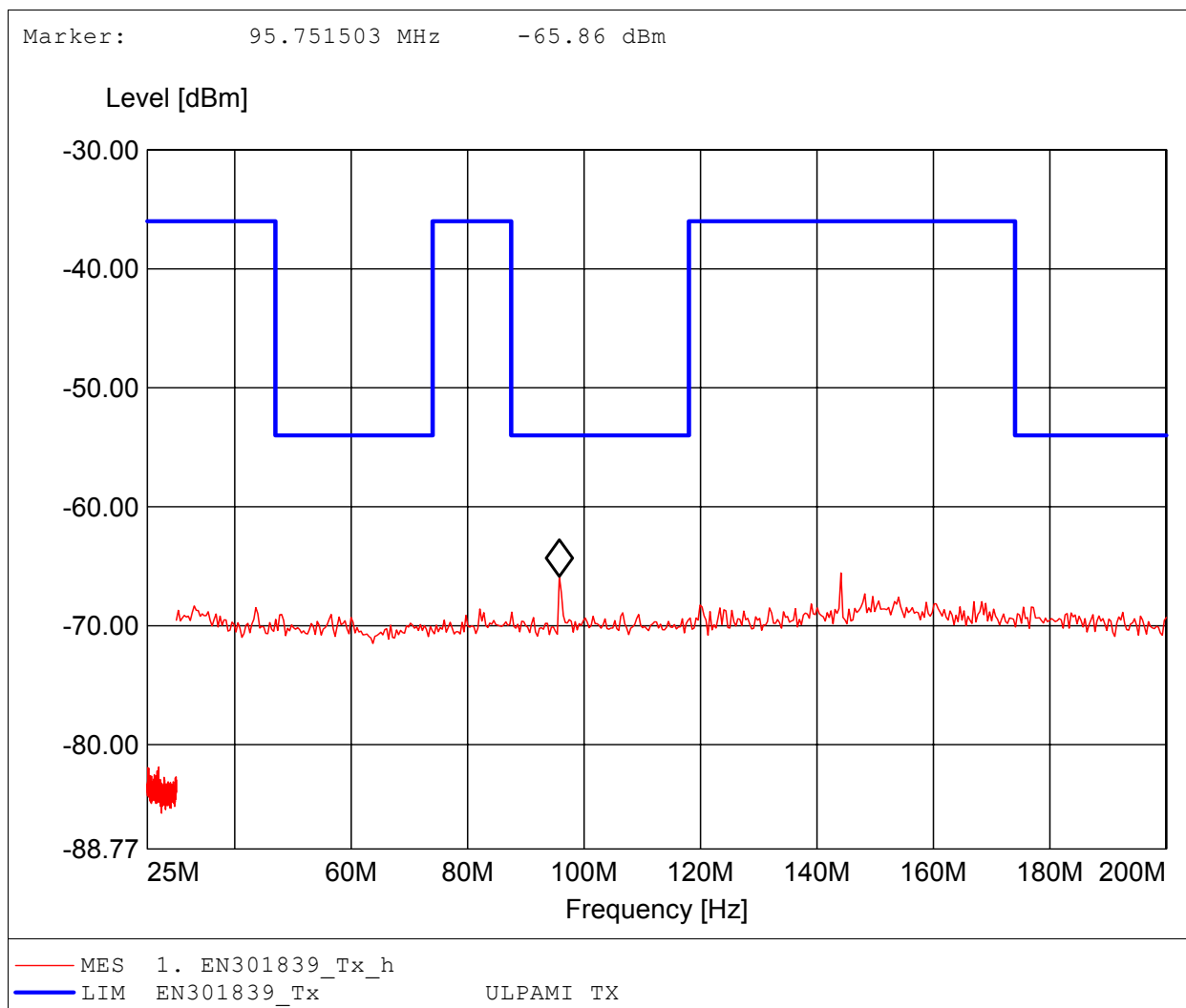
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4 GHz
Comment 2: Freq:1.030GHz Pmax:-54.34dBm RBW: 1 MHz



Spurious radiation

ULPAMI in accordance to the EN 301 839

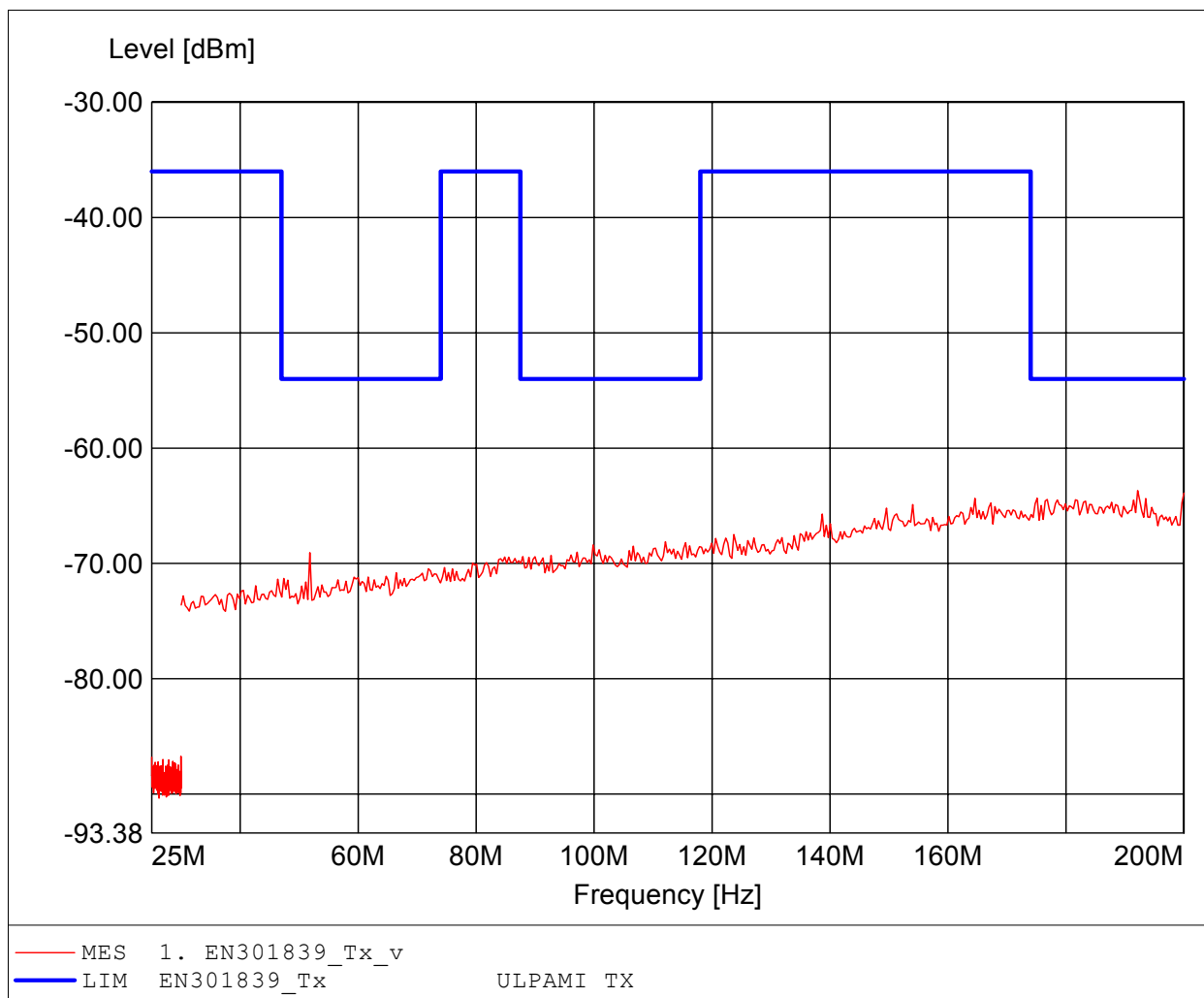
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq:144.128MHz Pmax:-65.57dBm RBW: 10/100 kHz



Spurious radiation

ULPAMI in accordance to the EN 301 839

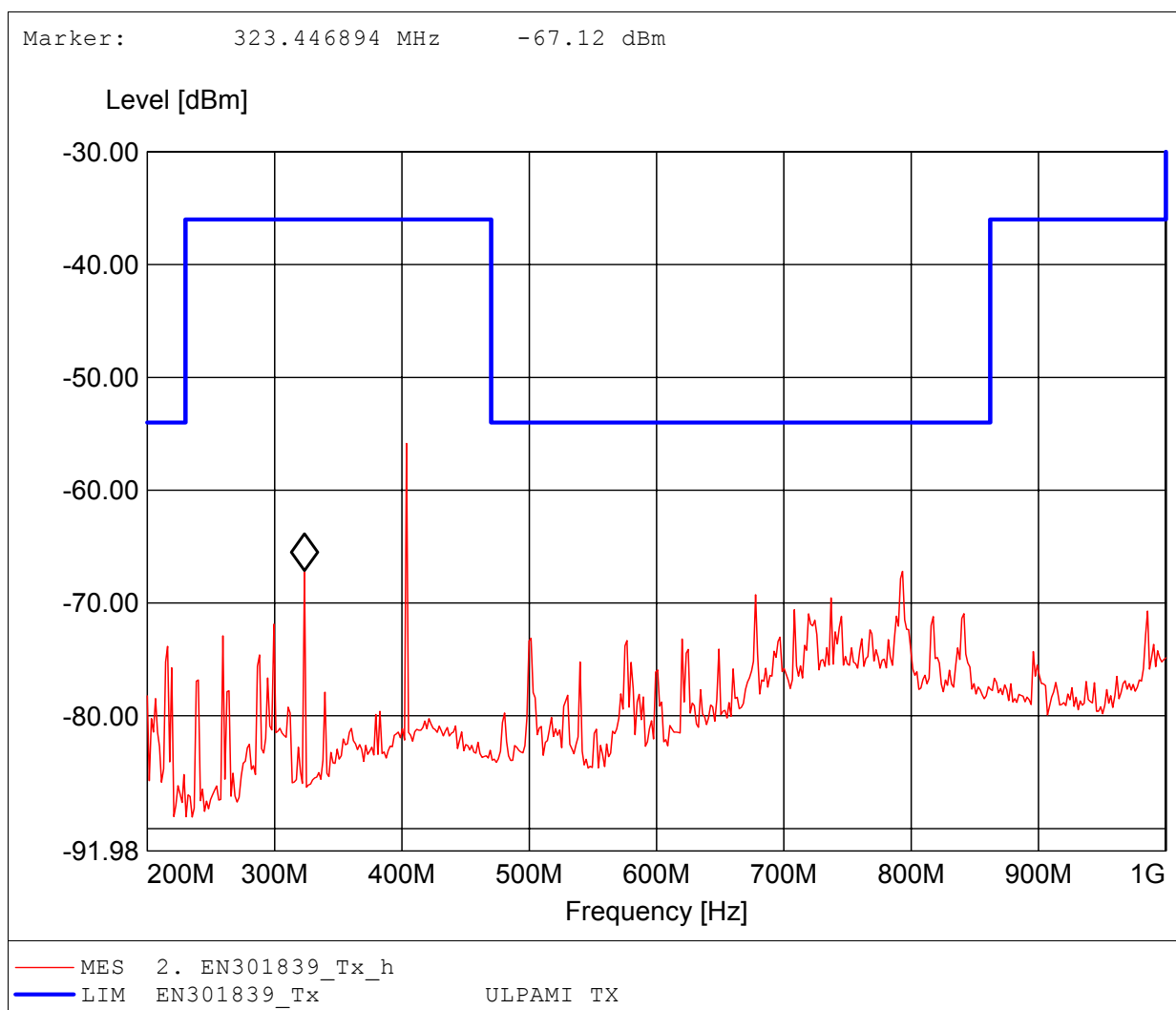
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq:192.164MHz Pmax:-63.68dBm RBW: 10/100 kHz



Spurious radiation

ULPAMI in accordance to the EN 301 839

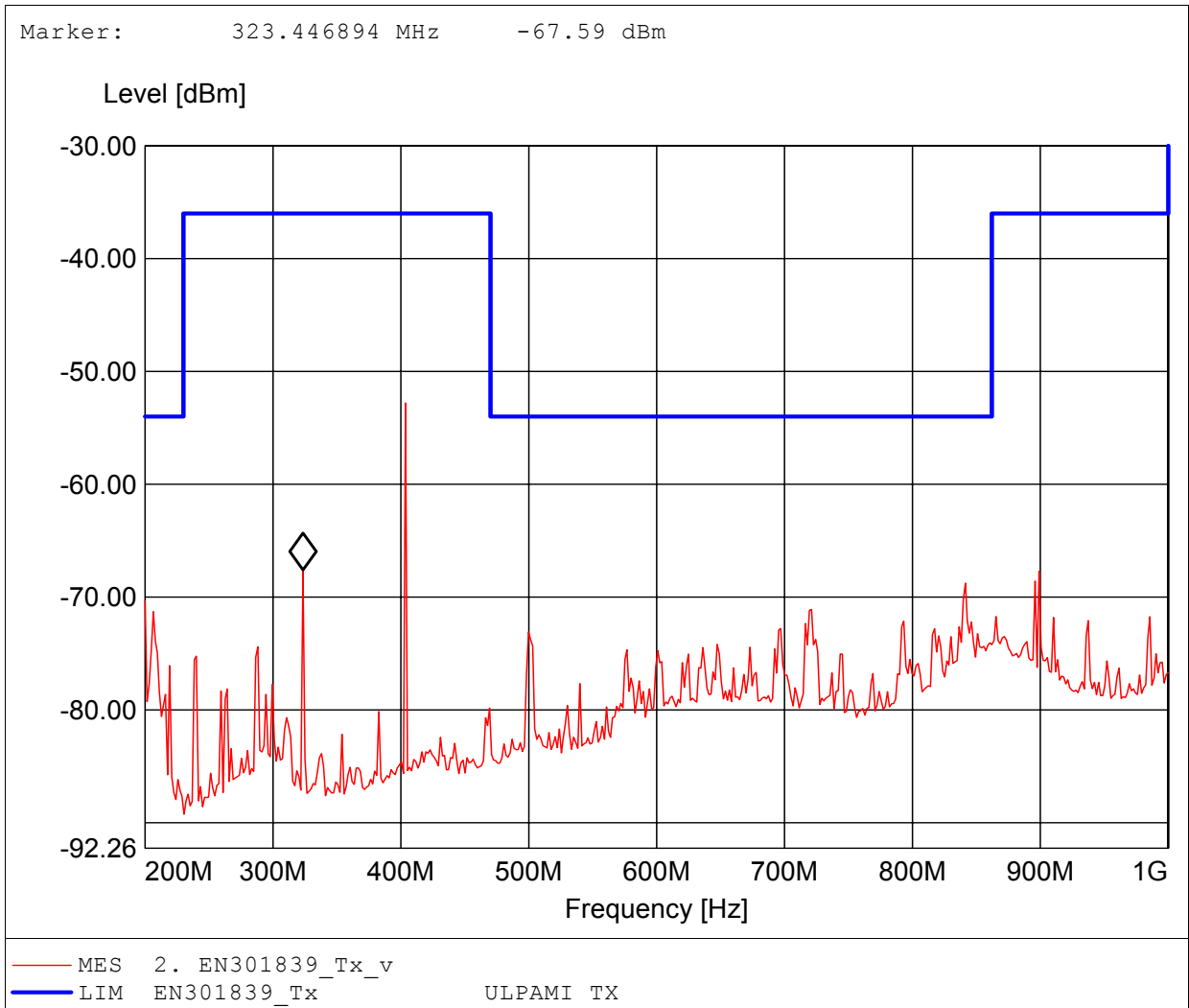
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx / notch filter
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.: 0.2-1 GHz
Comment 2: Freq:403.607MHz Pmax:-55.86dBm RBW: 100 kHz



Spurious radiation

ULPAMI in accordance to the EN 301 839

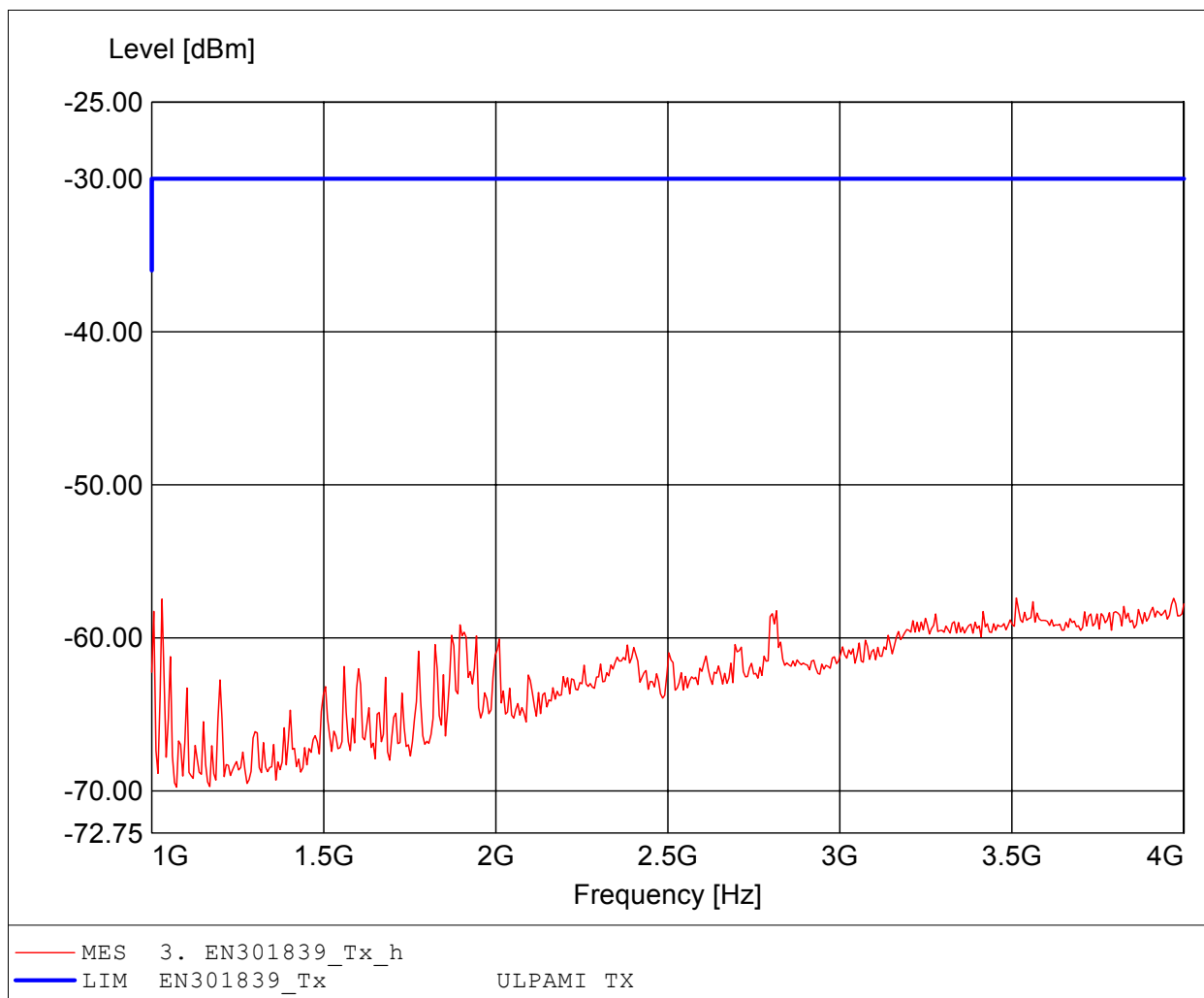
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx / notch filter
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.: 0.2-1 GHz
Comment 2: Freq:403.607MHz Pmax:-52.79dBm RBW: 100 kHz



Spurious radiation

ULPAMI in accordance to the EN 301 839

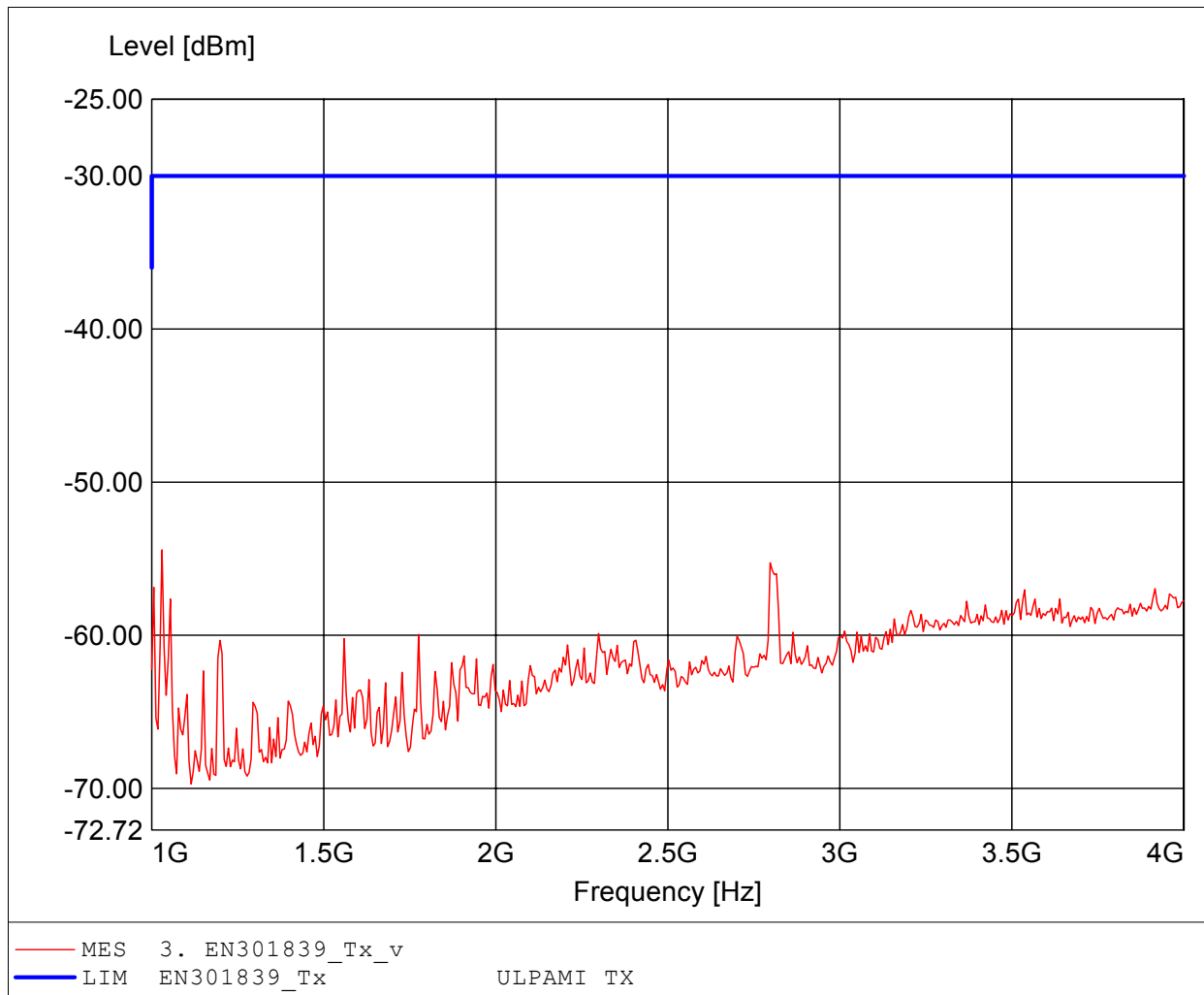
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4 GHz
Comment 2: Freq:3.513GHz Pmax:-57.39dBm RBW: 1 MHz



Spurious radiation

ULPAMI in accordance to the EN 301 839

Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: Tx
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4 GHz
Comment 2: Freq:1.030GHz Pmax:-54.43dBm RBW: 1 MHz



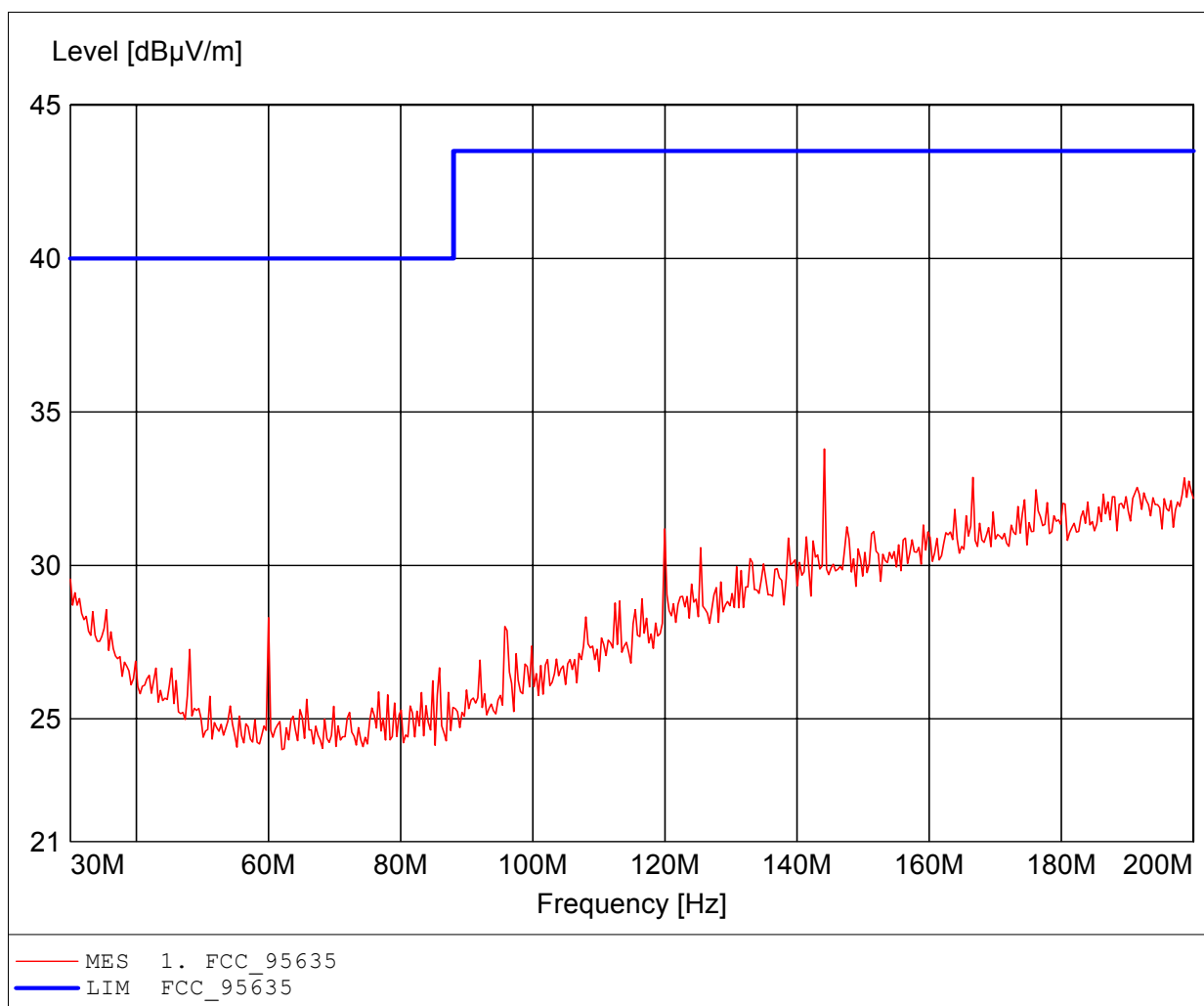
Appendix F

Measurement diagrams “Transmitter spurious emissions, FCC”

Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

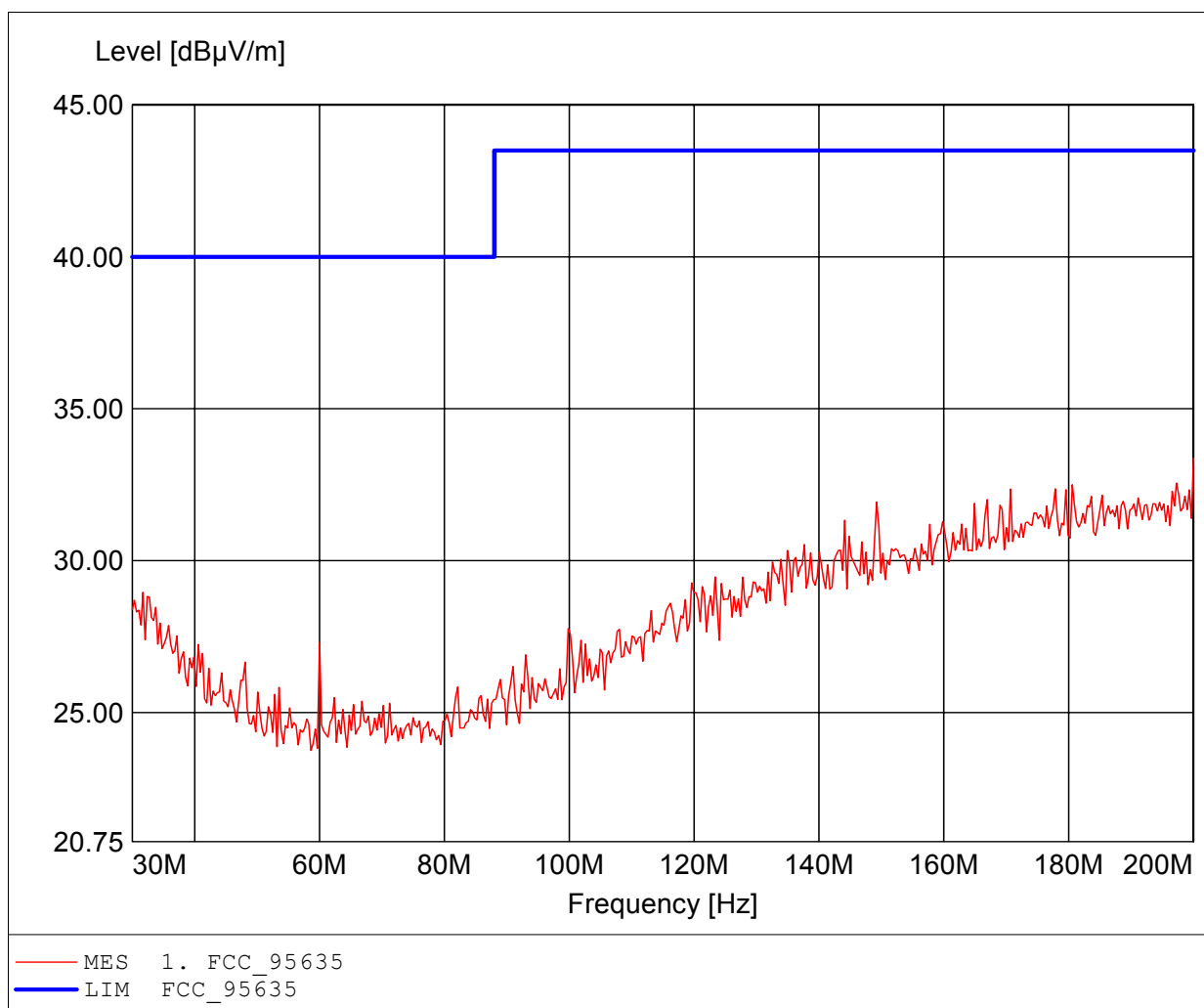
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 144.128MHz, Emax: 33.80dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

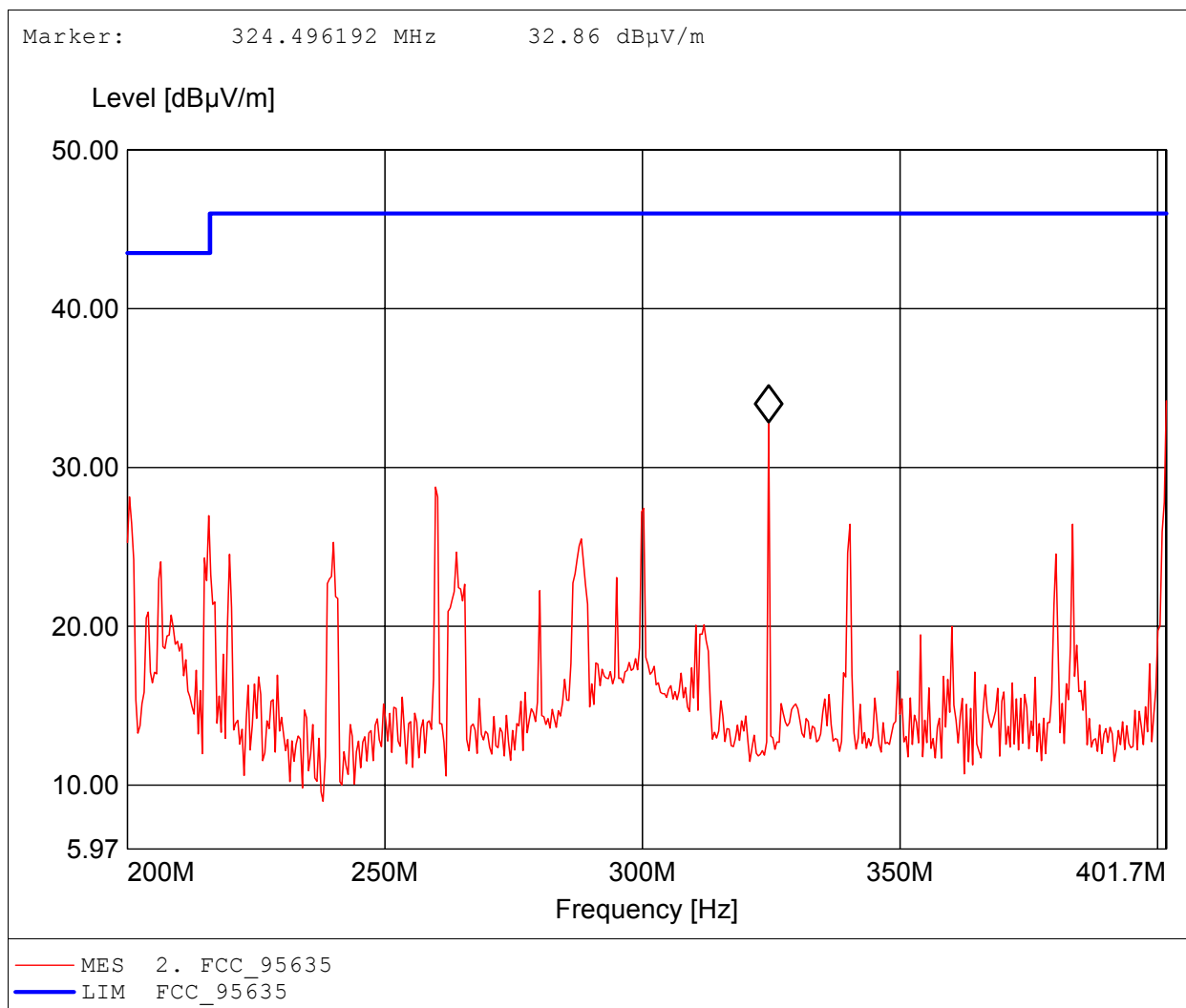
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 200.000MHz, Emax: 33.38dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

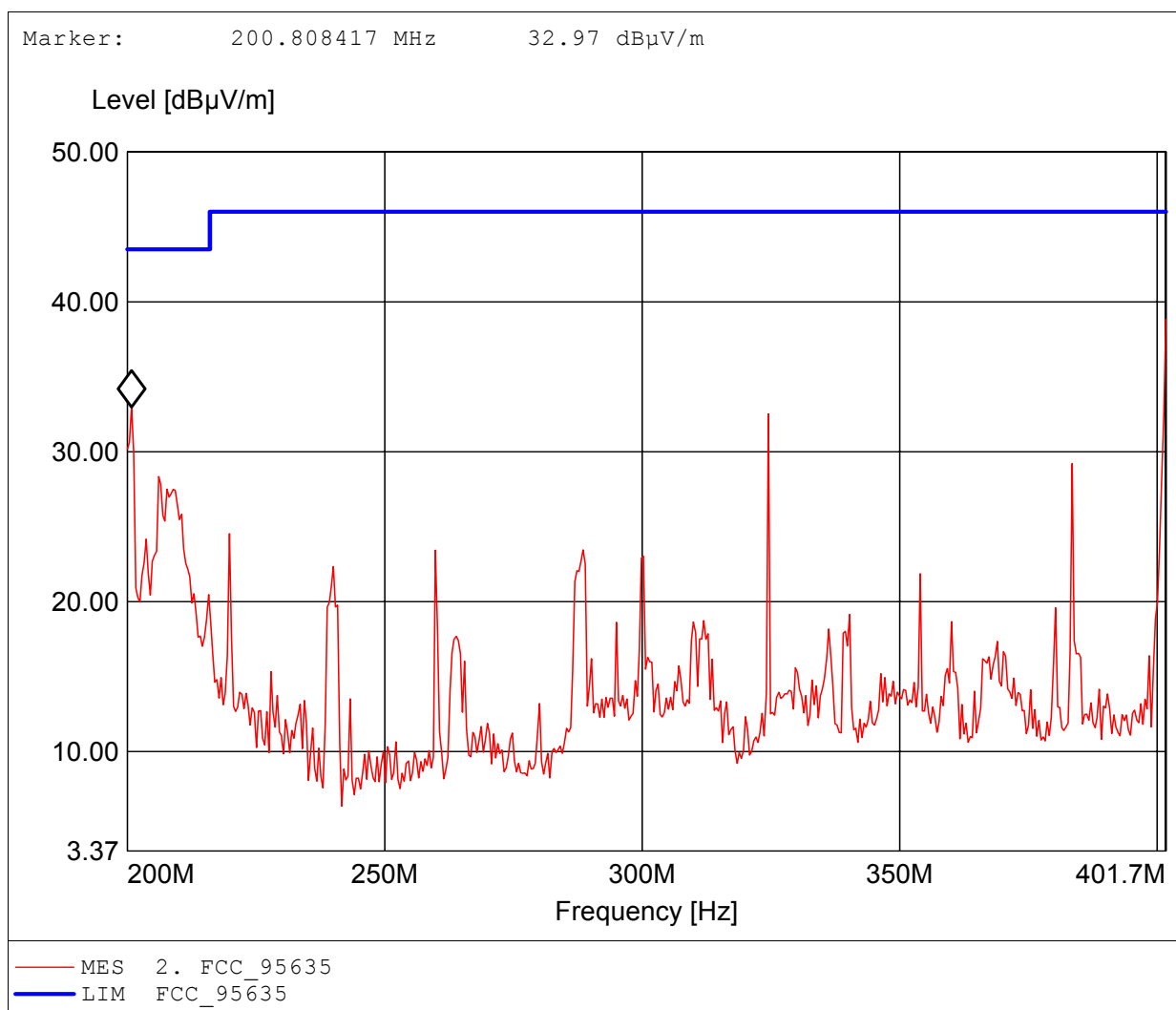
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 8
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 401.700MHz, Emax: 34.20dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

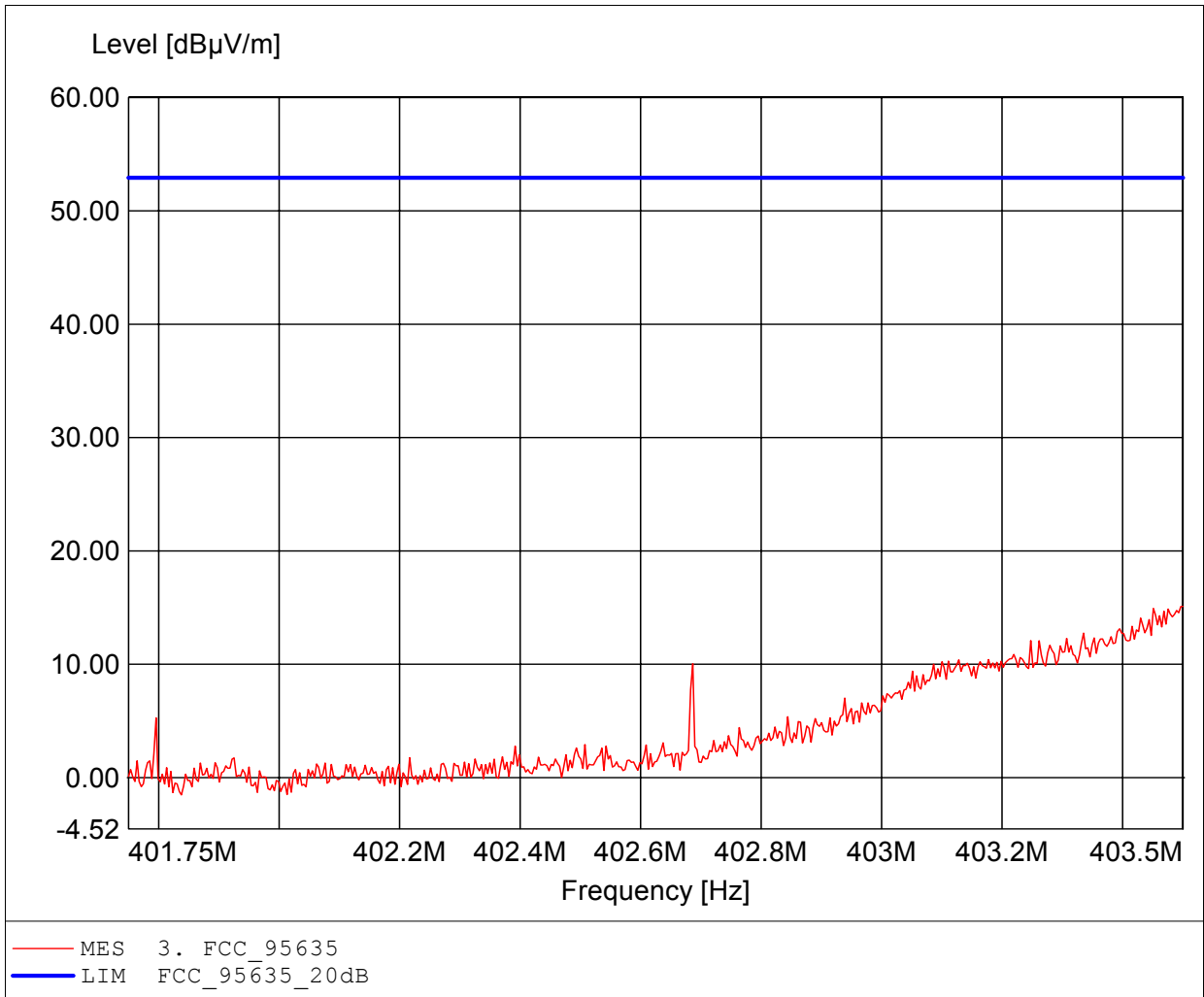
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 8
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 401.700MHz, Emax: 38.85dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

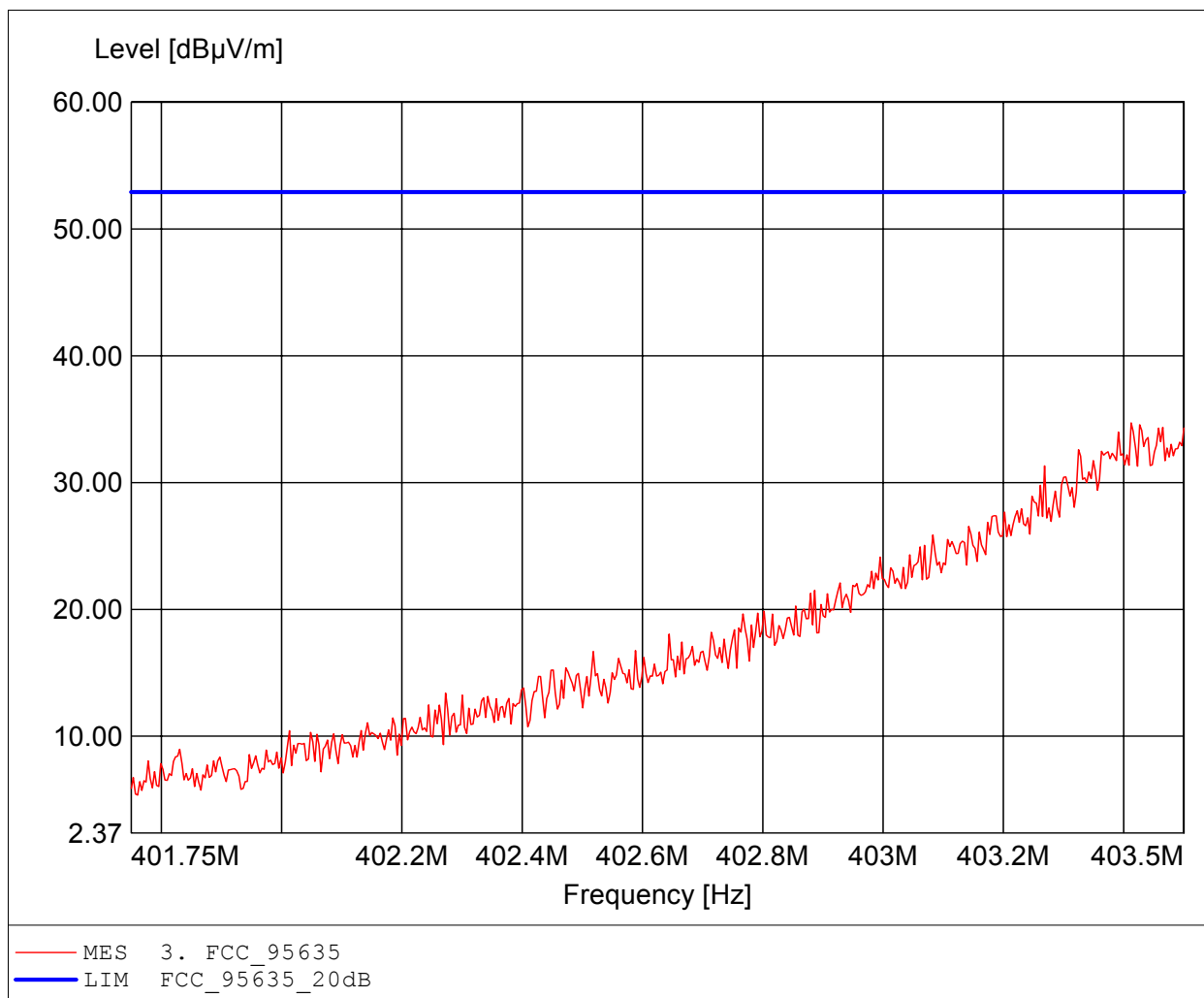
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 403.496MHz, Emax: 15.12dBµV/m, RBW: 1% of EBW



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

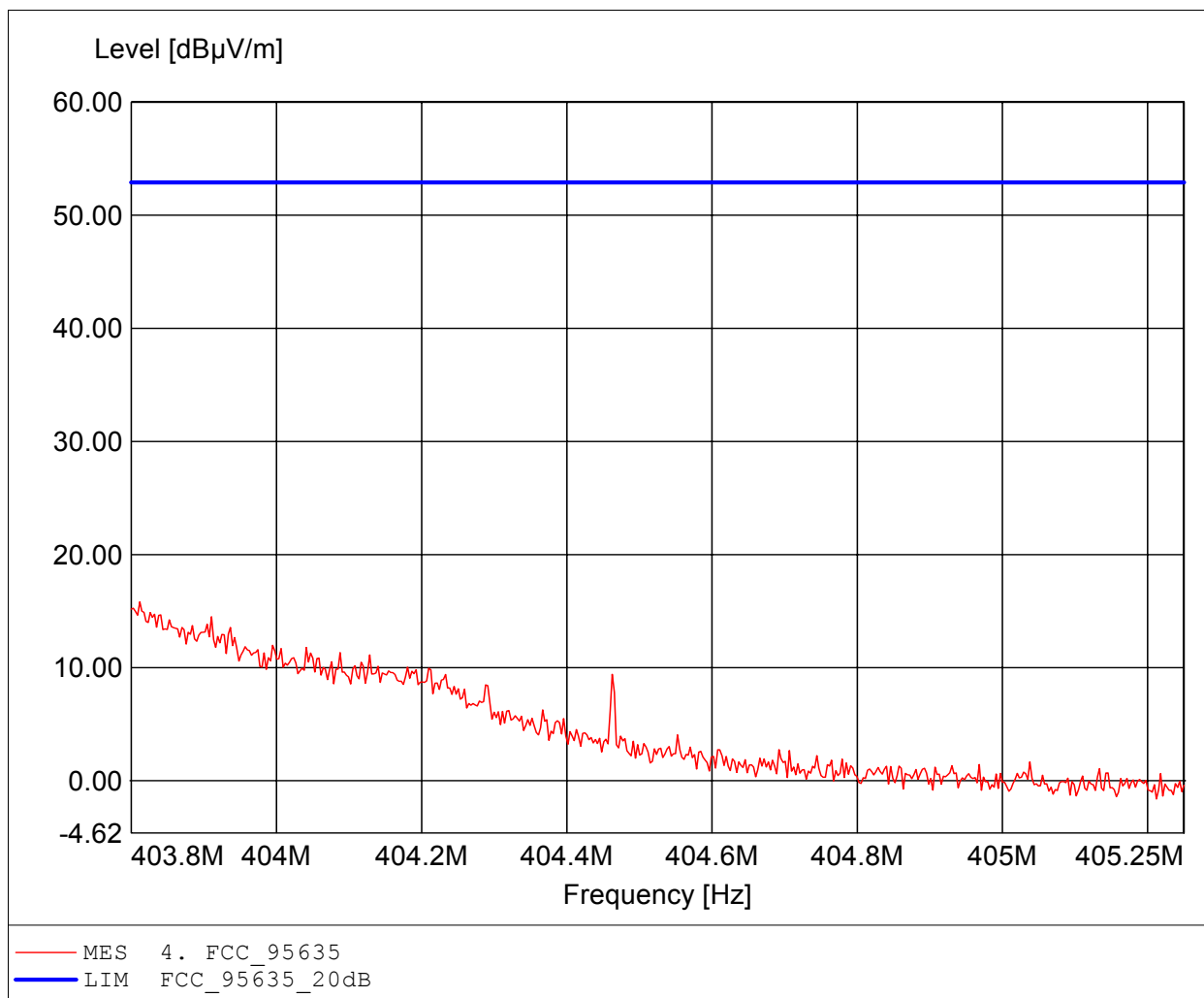
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 403.412MHz, Emax: 34.72dBµV/m, RBW: 1% of EBW



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

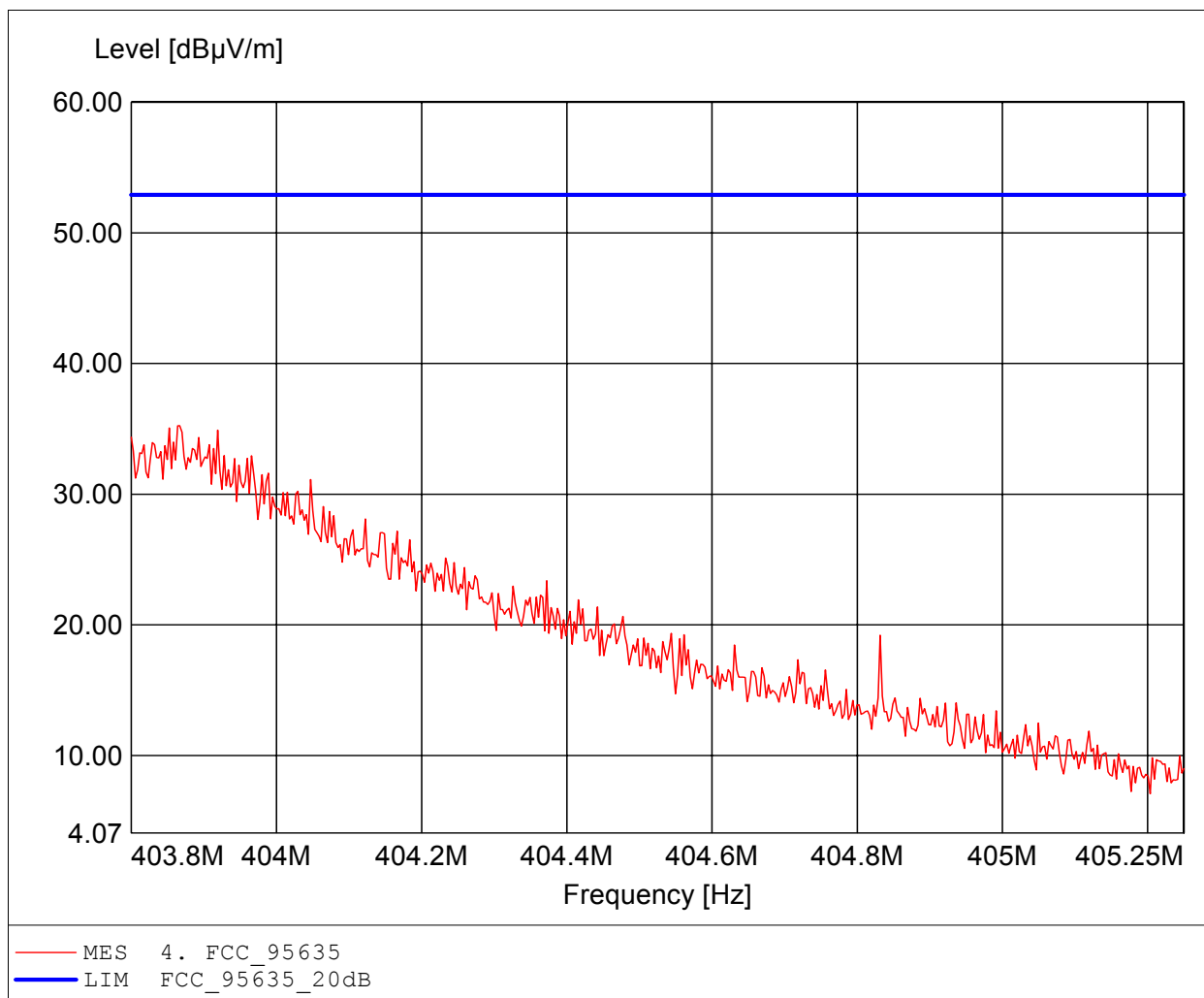
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 403.812MHz, Emax: 15.82dBµV/m, RBW: 1% of EBW



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

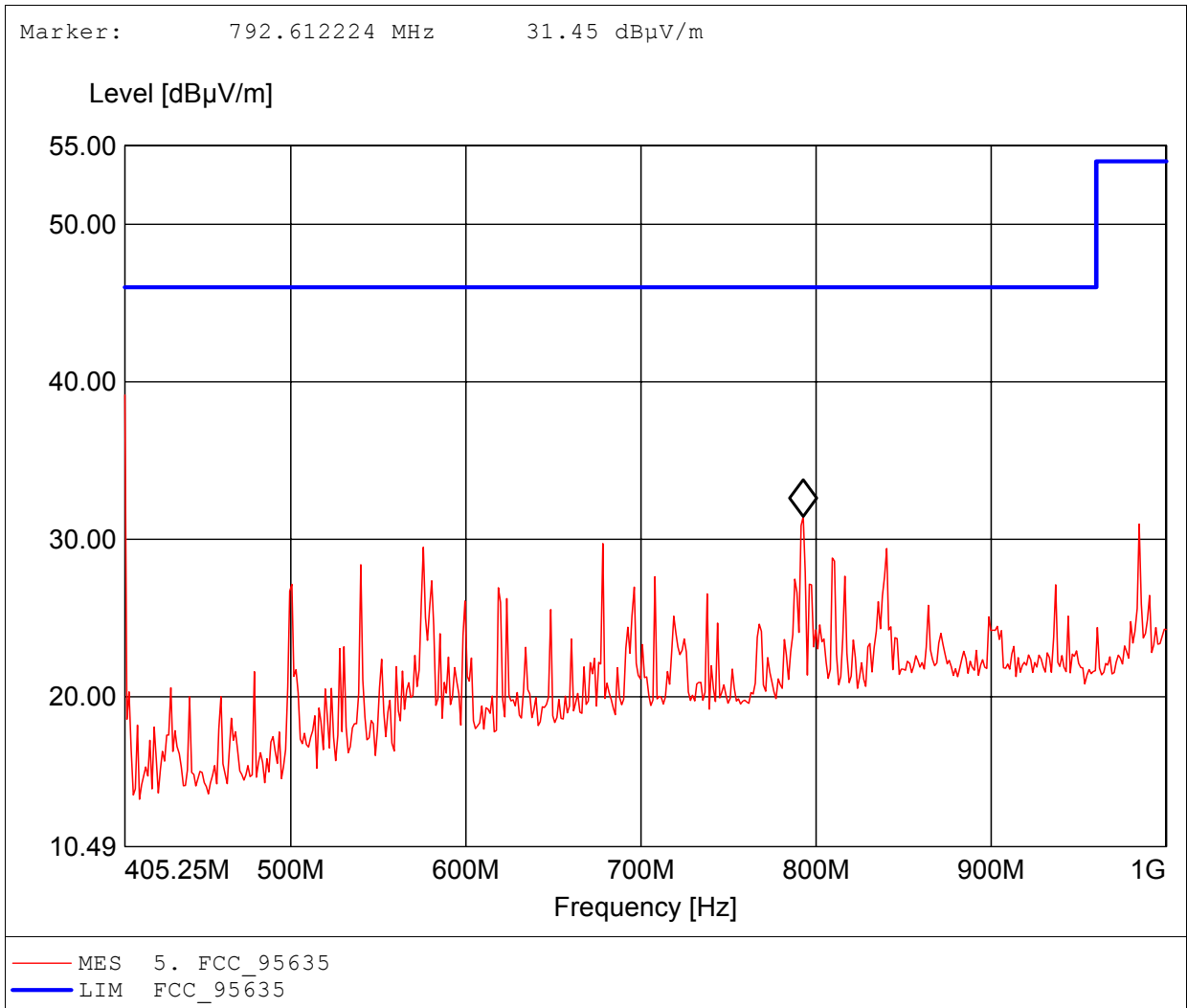
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 403.867MHz, Emax: 35.24dBµV/m, RBW: 1% of EBW



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

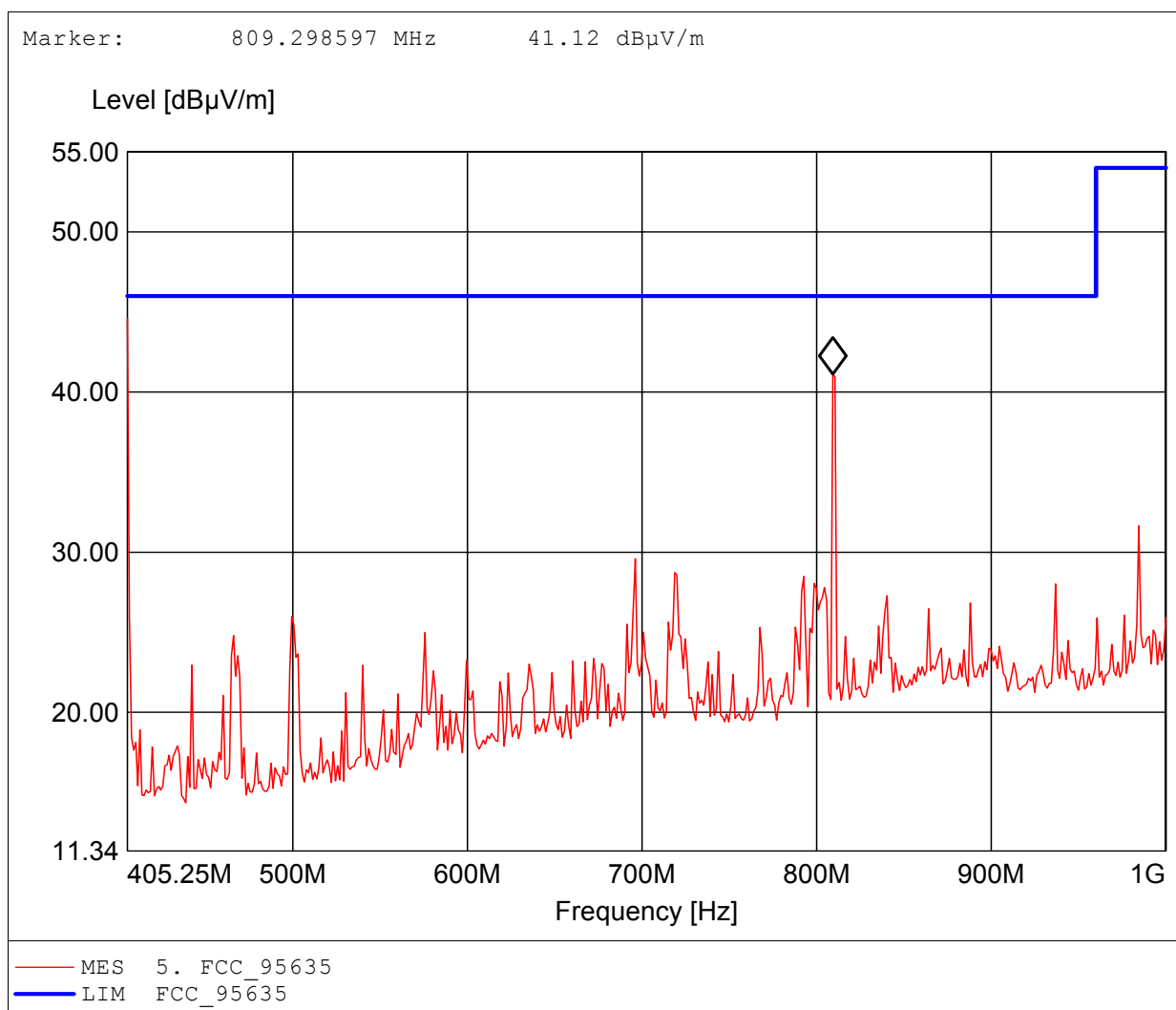
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 7
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 405.250MHz, Emax: 39.16dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

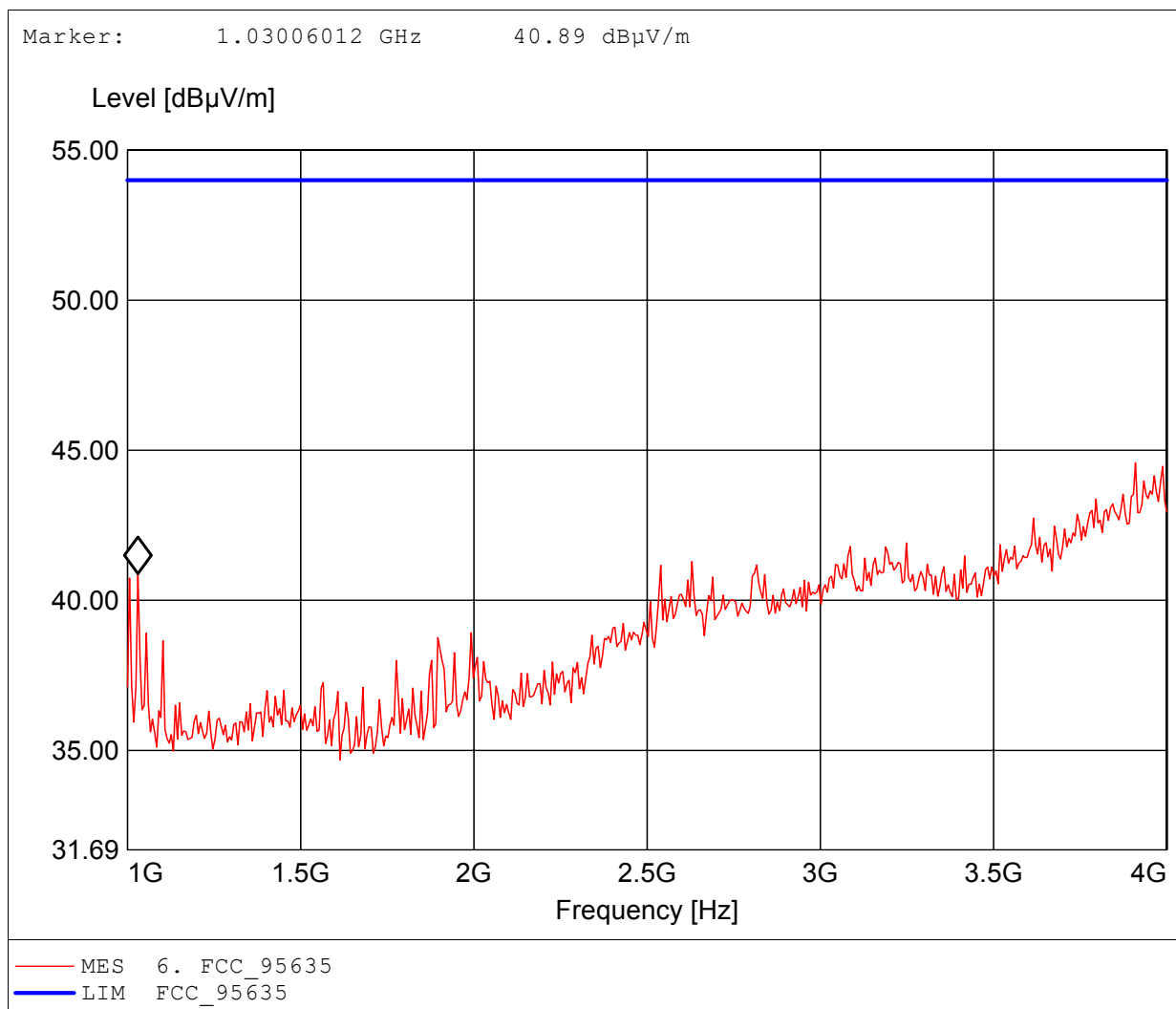
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 7
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 405.250MHz, Emax: 44.59dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

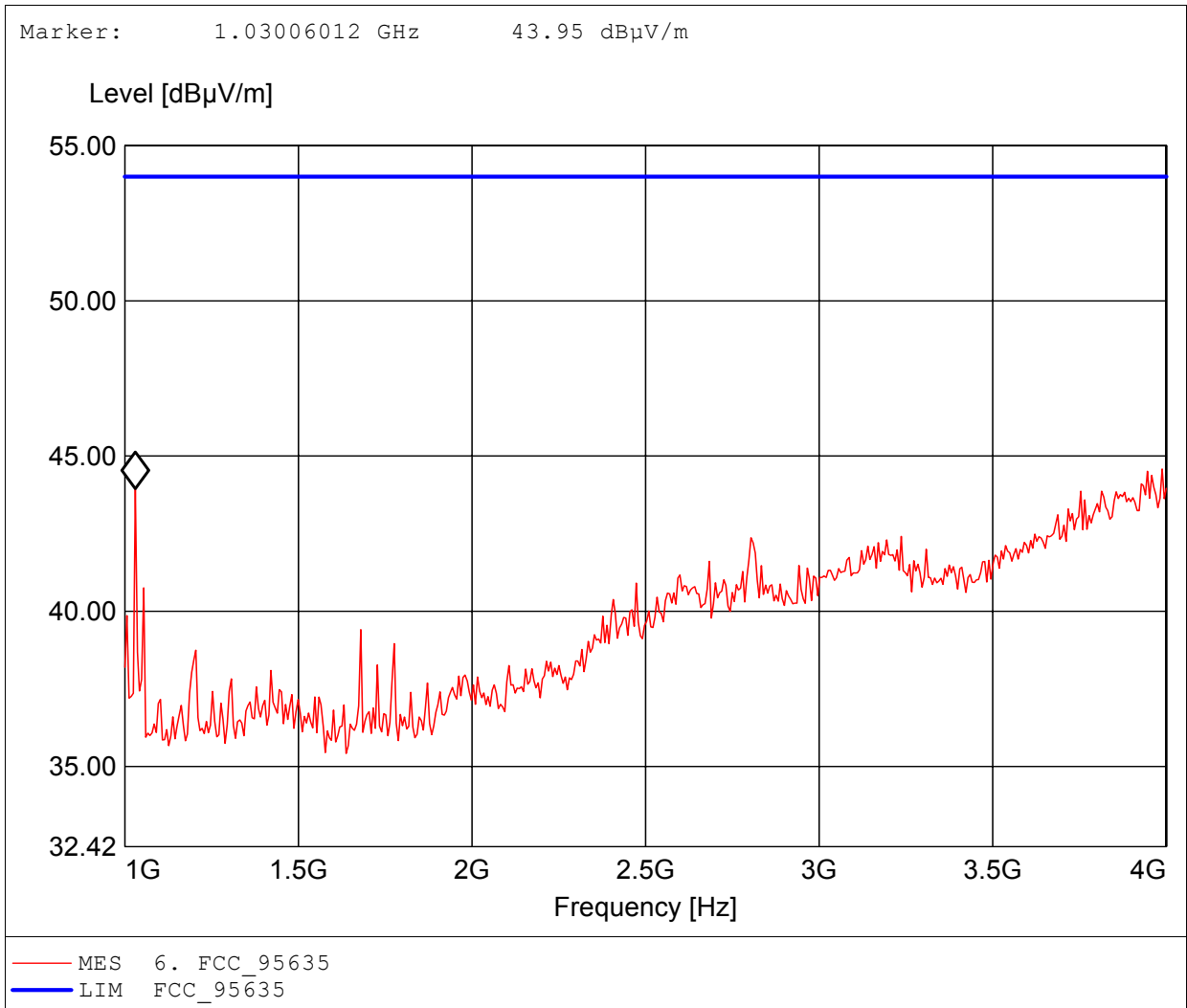
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 3.910GHz, Emax: 44.58dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

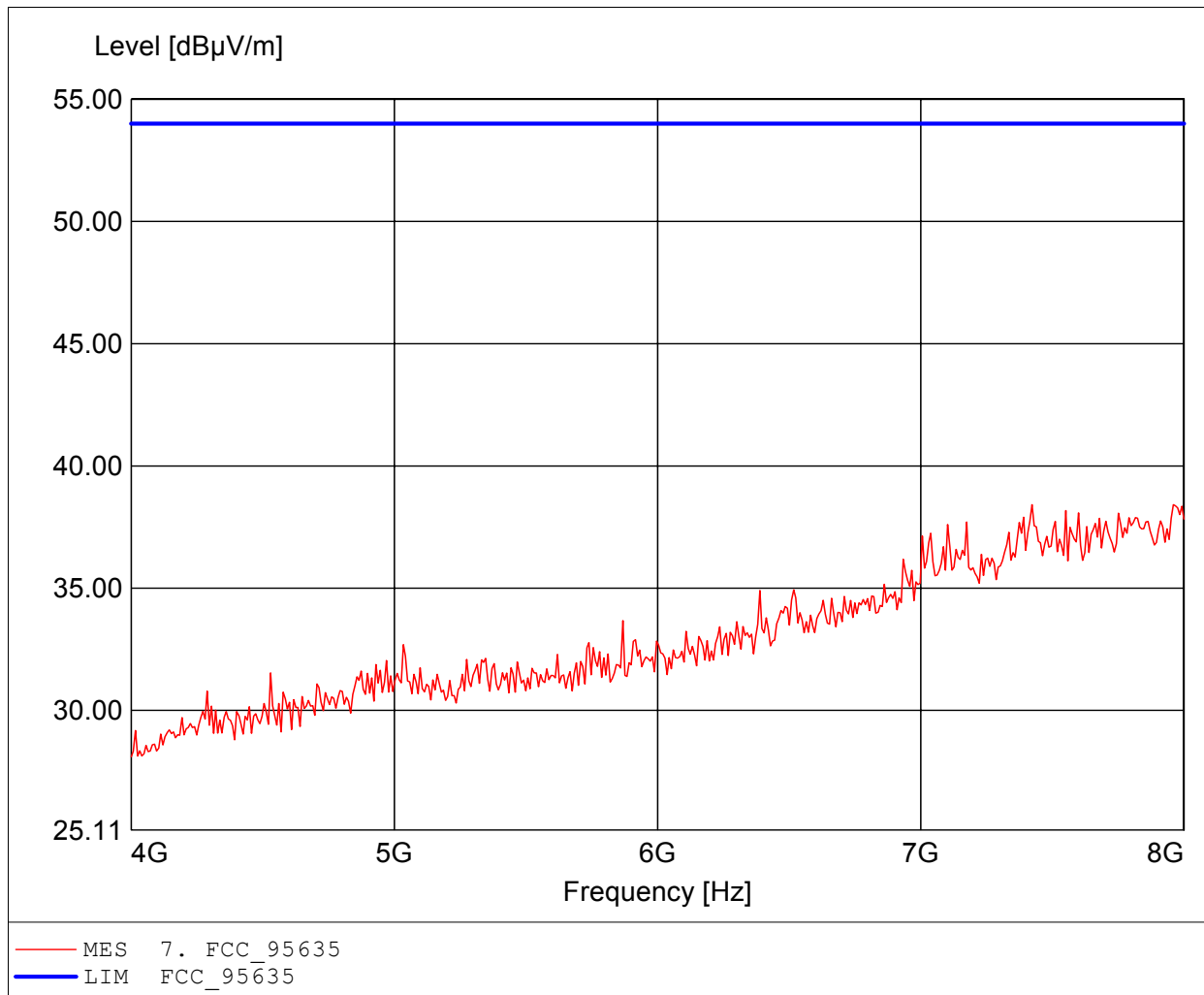
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 3.988GHz, Emax: 44.59dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

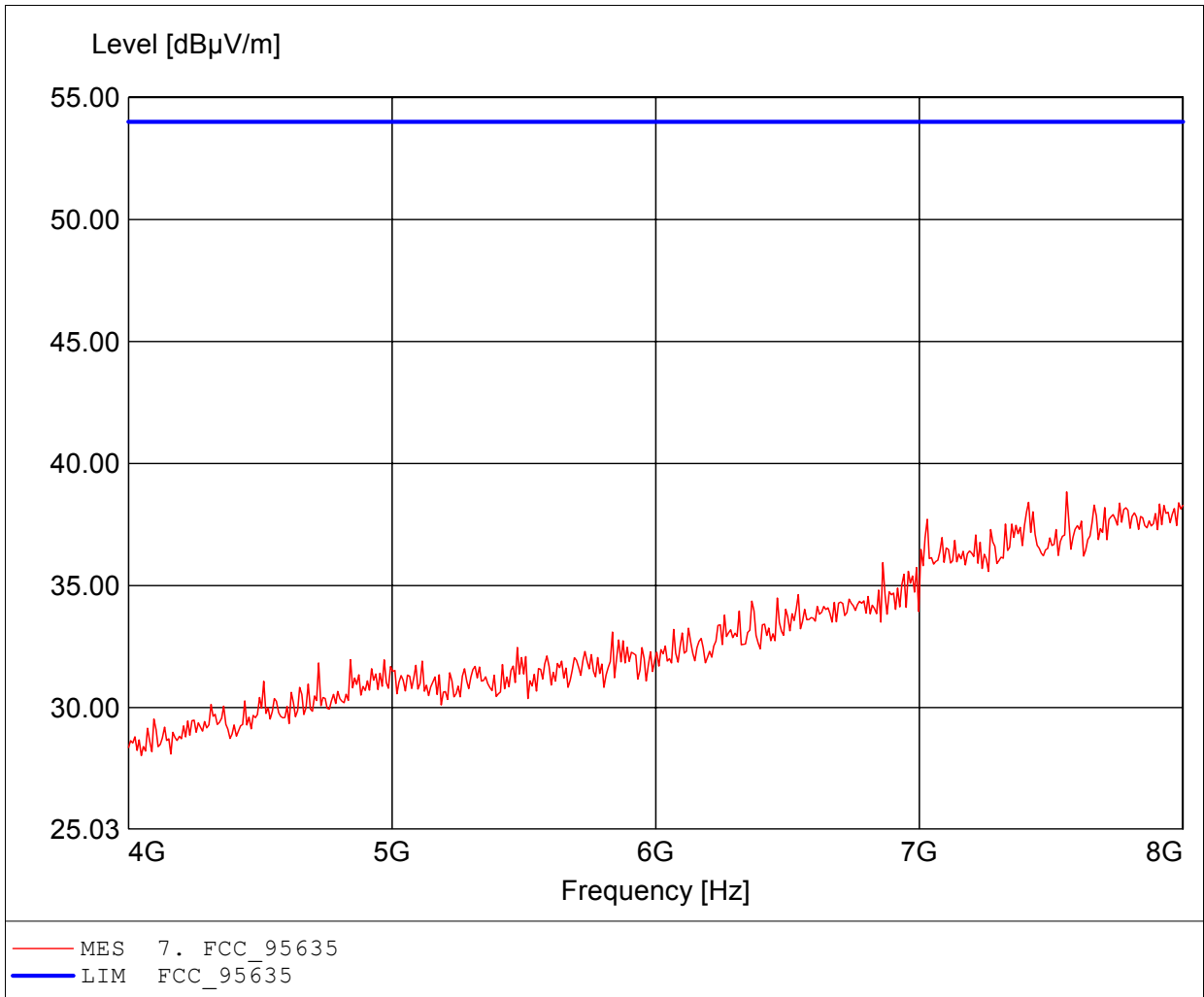
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.
Comment 2: Freq: 7.960GHz, Emax: 38.42dBuV/m, RBW: 1MHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

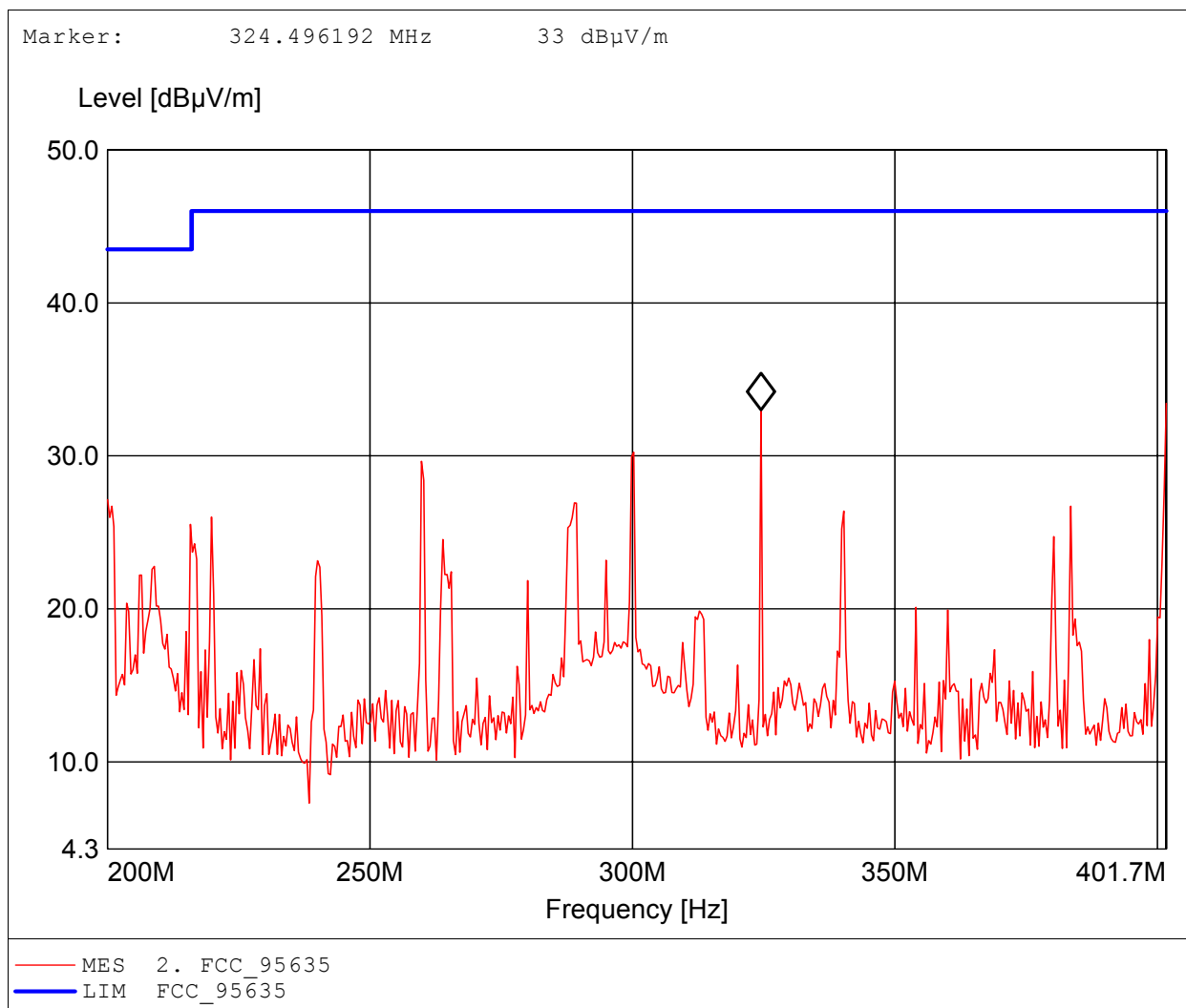
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.
Comment 2: Freq: 7.559GHz, Emax: 38.84dBuV/m, RBW: 1MHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

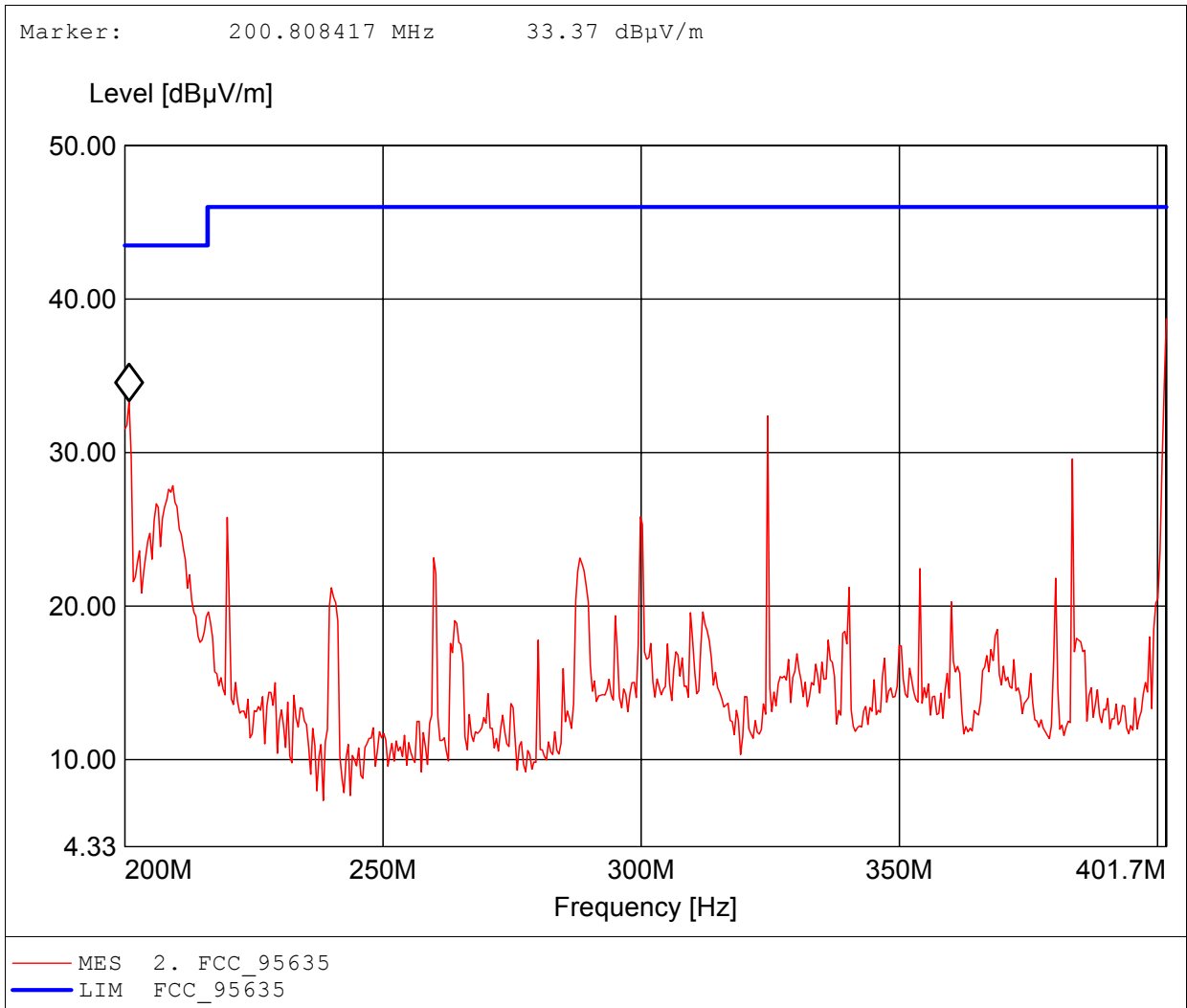
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 8
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 401.700MHz, Emax: 33.43dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

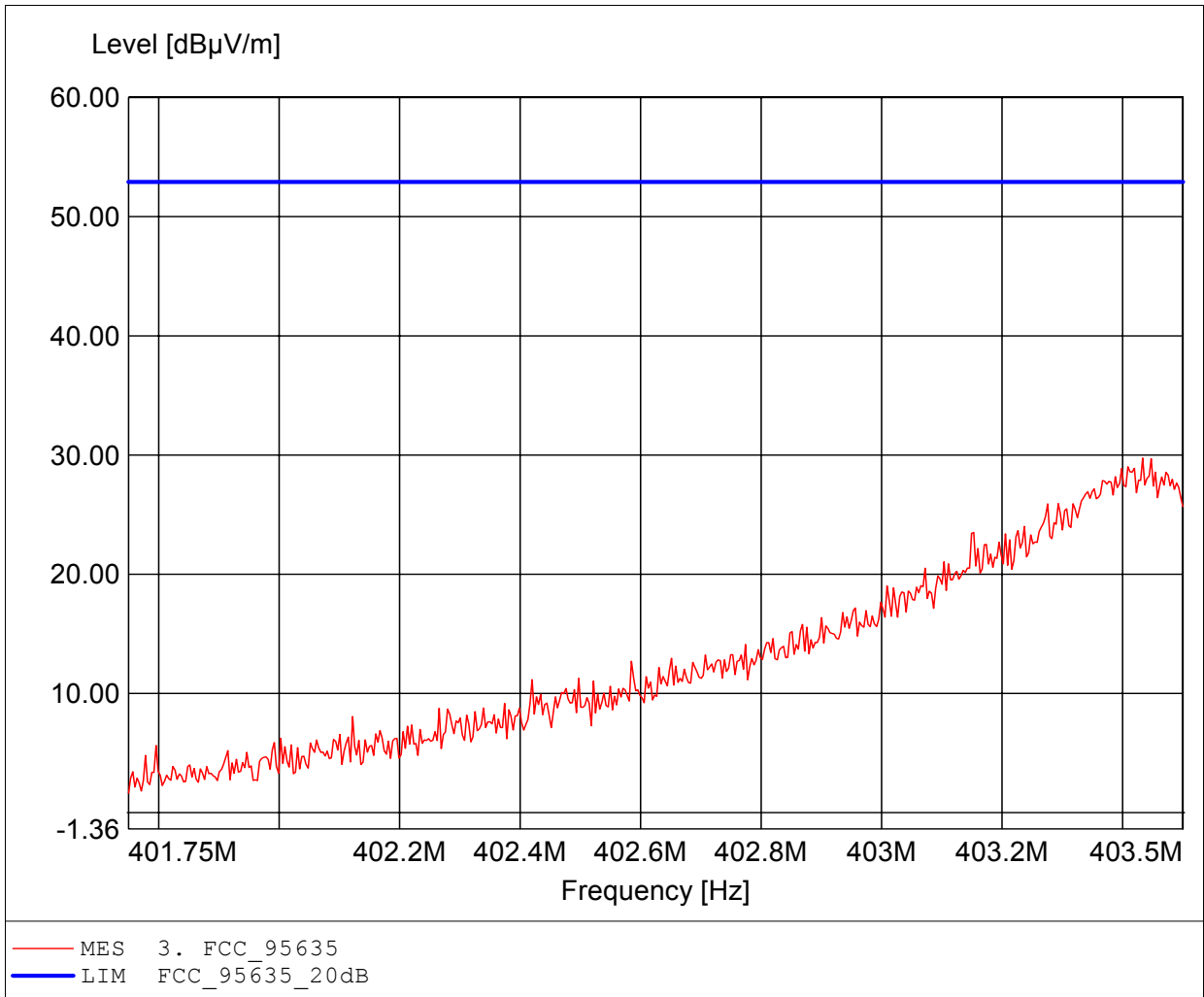
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 8
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 401.700MHz, Emax: 38.73dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

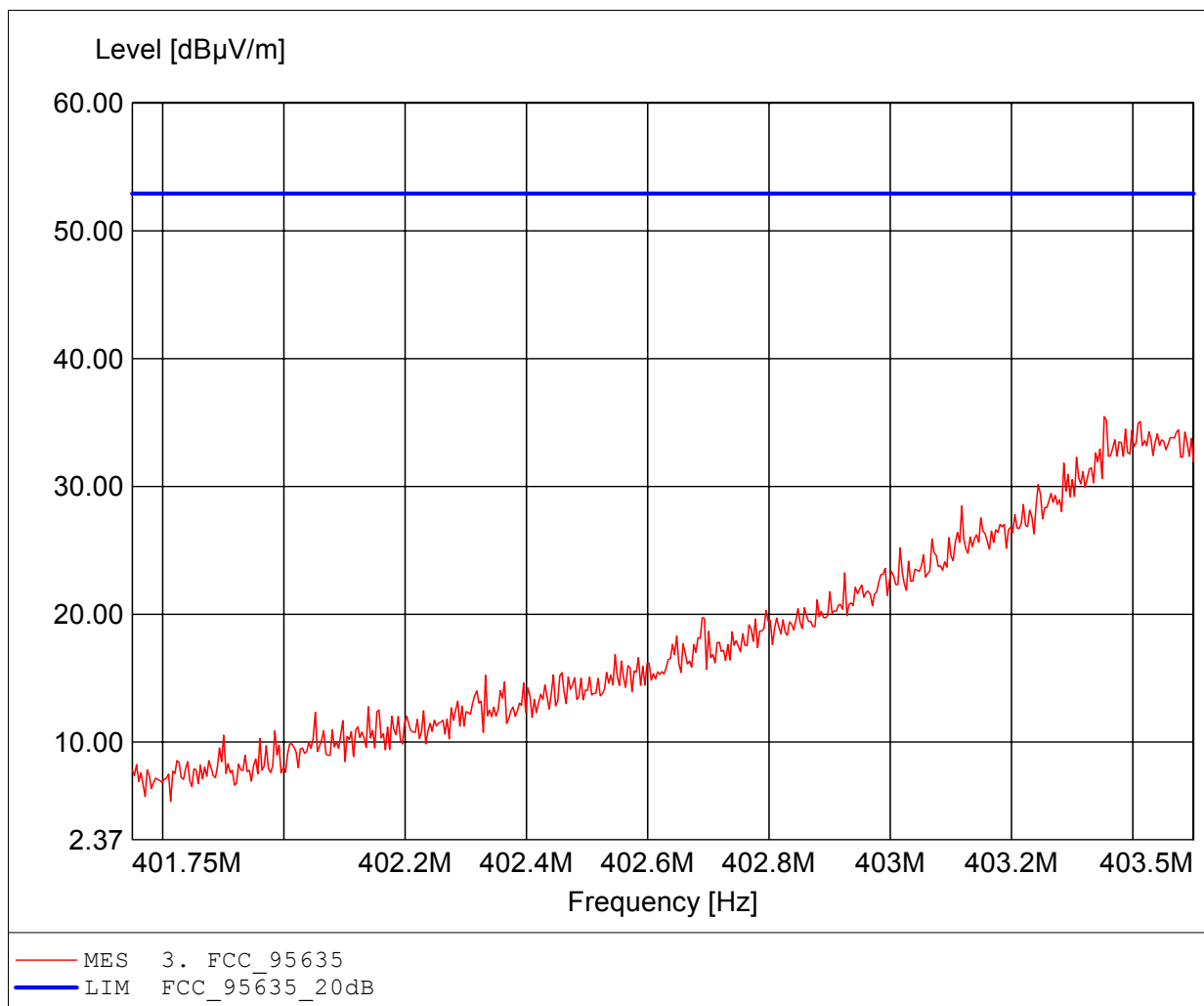
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 403.433MHz, Emax: 29.74dBµV/m, RBW: 1% of EBW



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

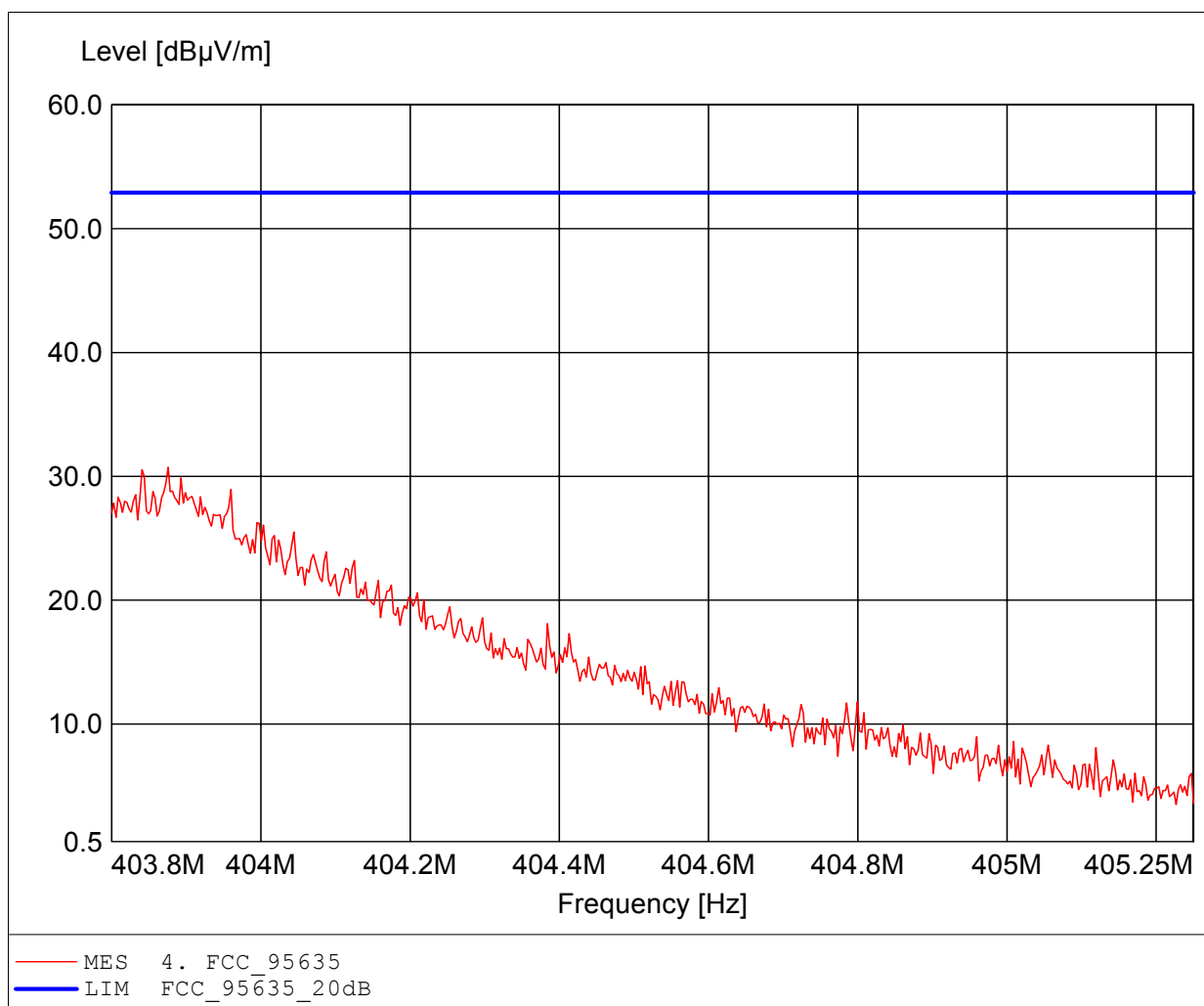
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 403.353MHz, Emax: 35.46dBµV/m, RBW: 1% of EBW



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

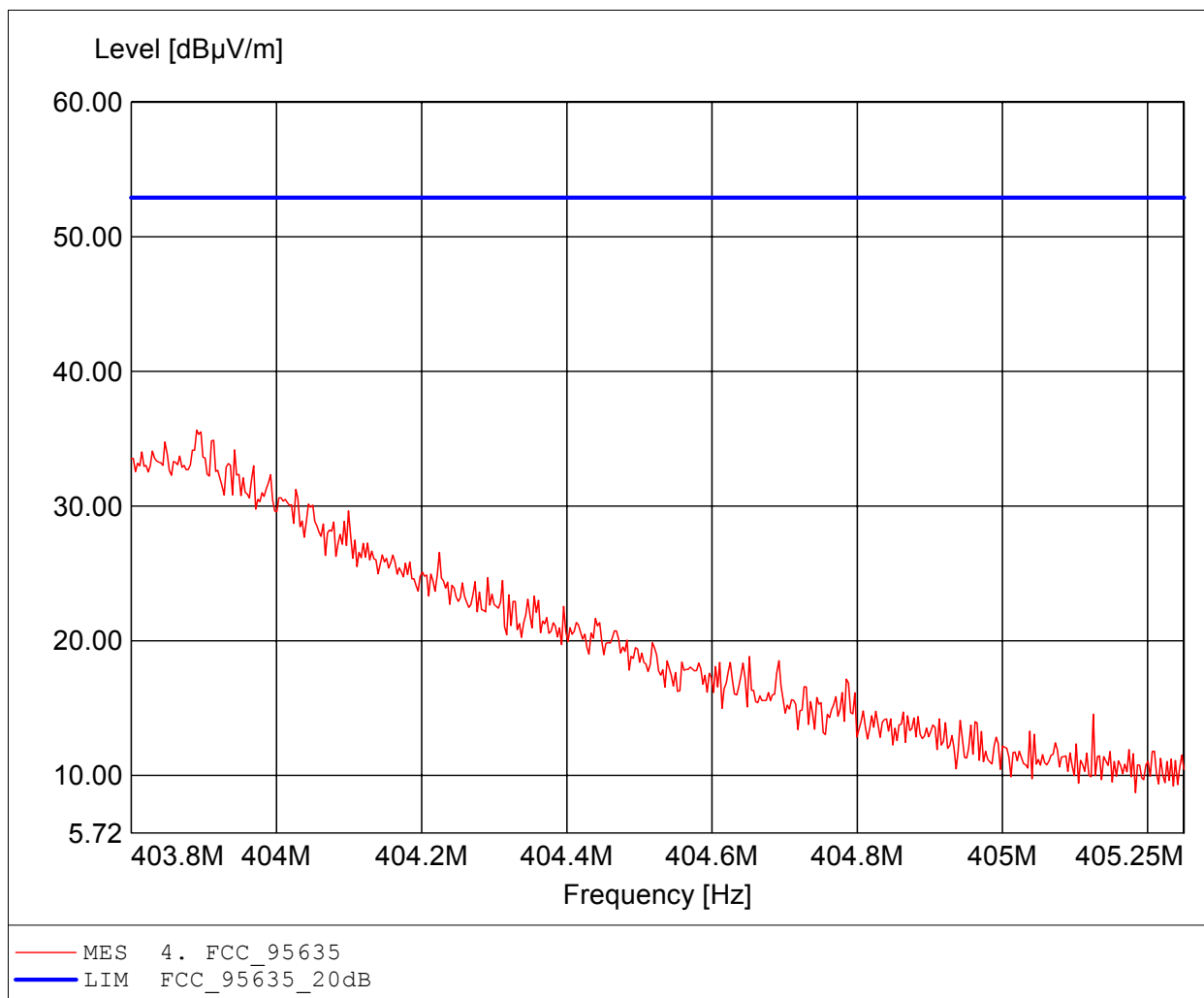
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 403.876MHz, Emax: 30.74dBµV/m, RBW: 1% of EBW



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

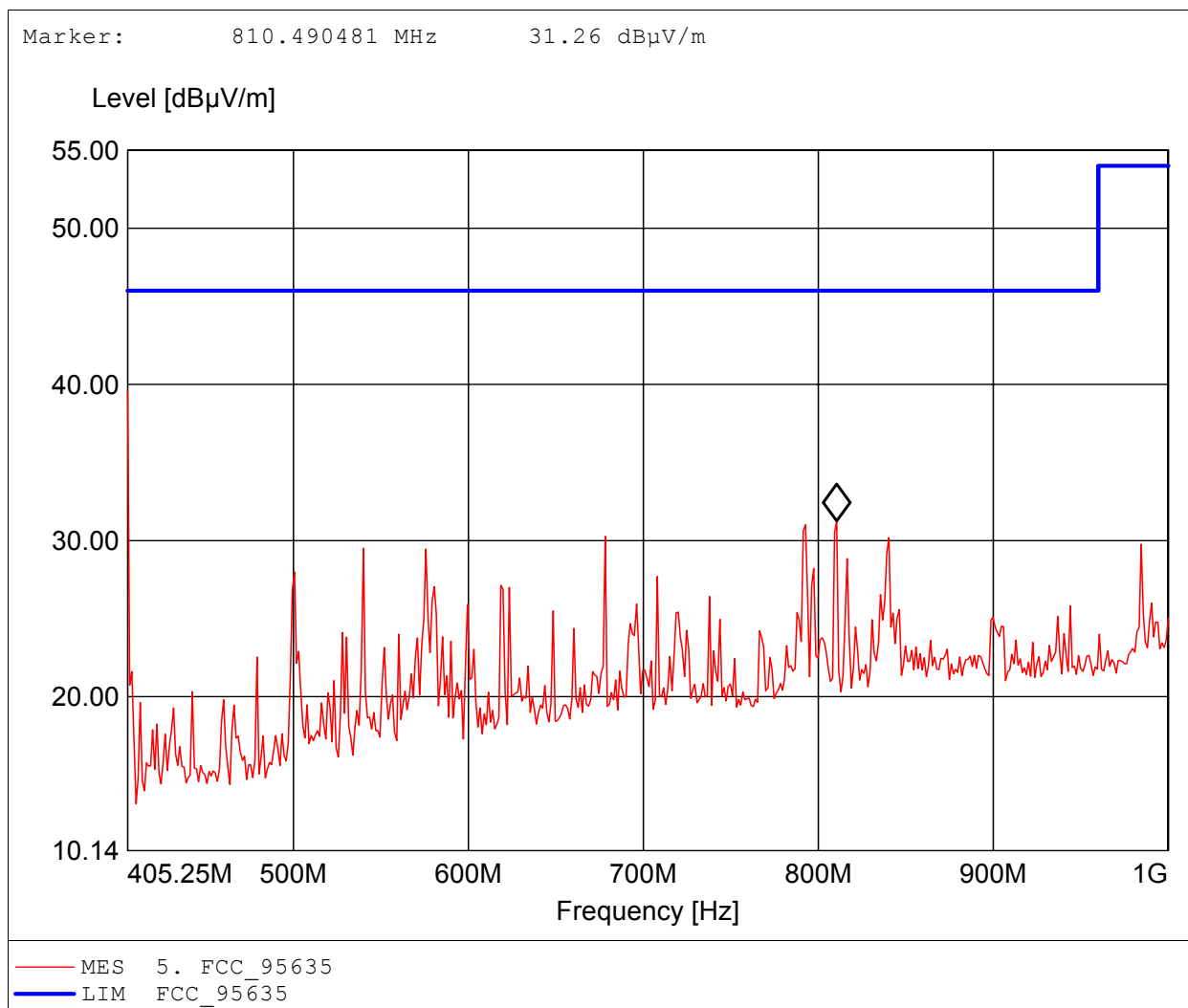
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 403.890MHz, Emax: 35.64dBµV/m, RBW: 1% of EBW



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

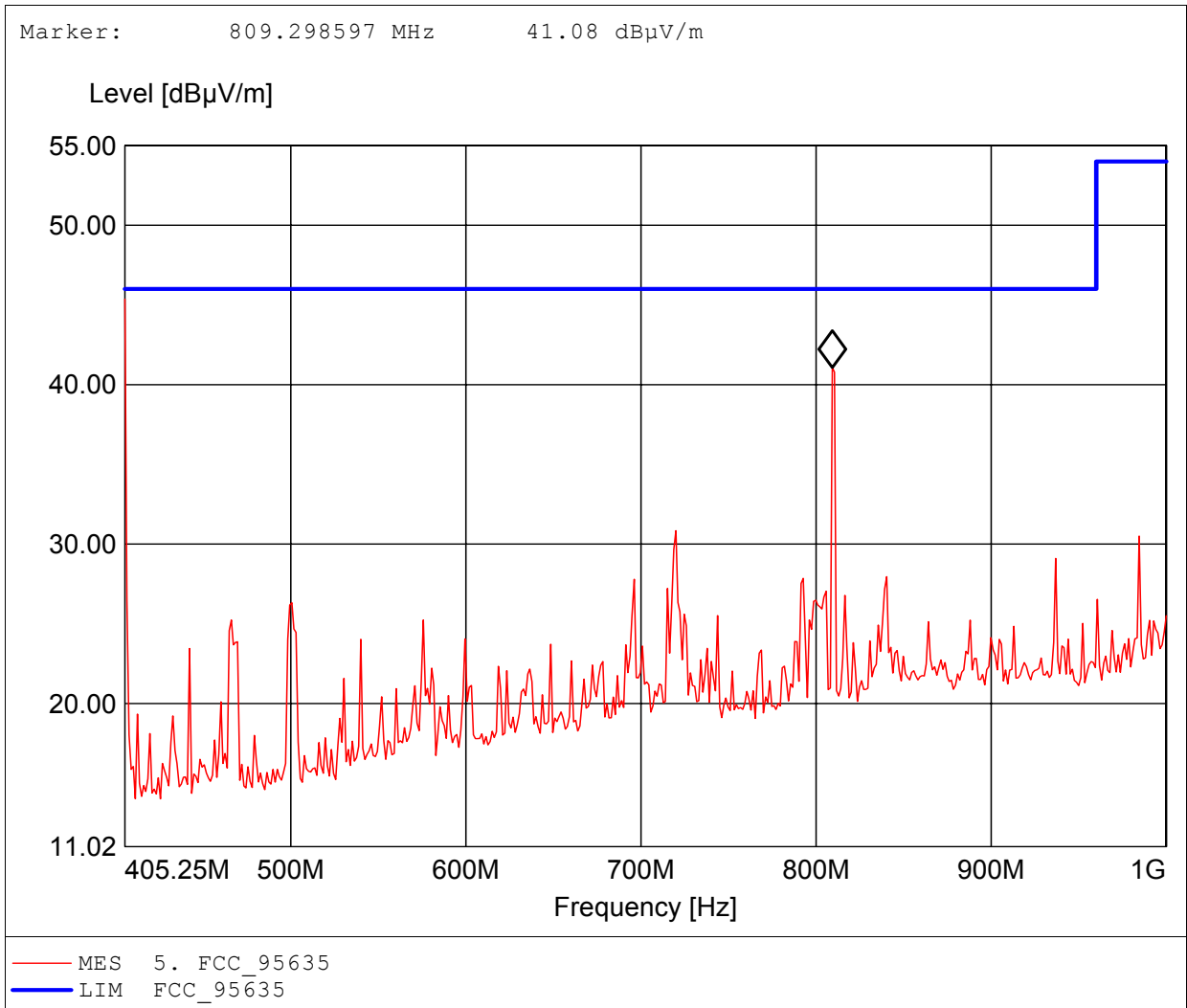
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 7
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 405.250MHz, Emax: 39.55dBµV/m, RBW: 100kHz



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 7
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635, peak detector
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 405.250MHz, Emax: 45.37dBµV/m, RBW: 100kHz



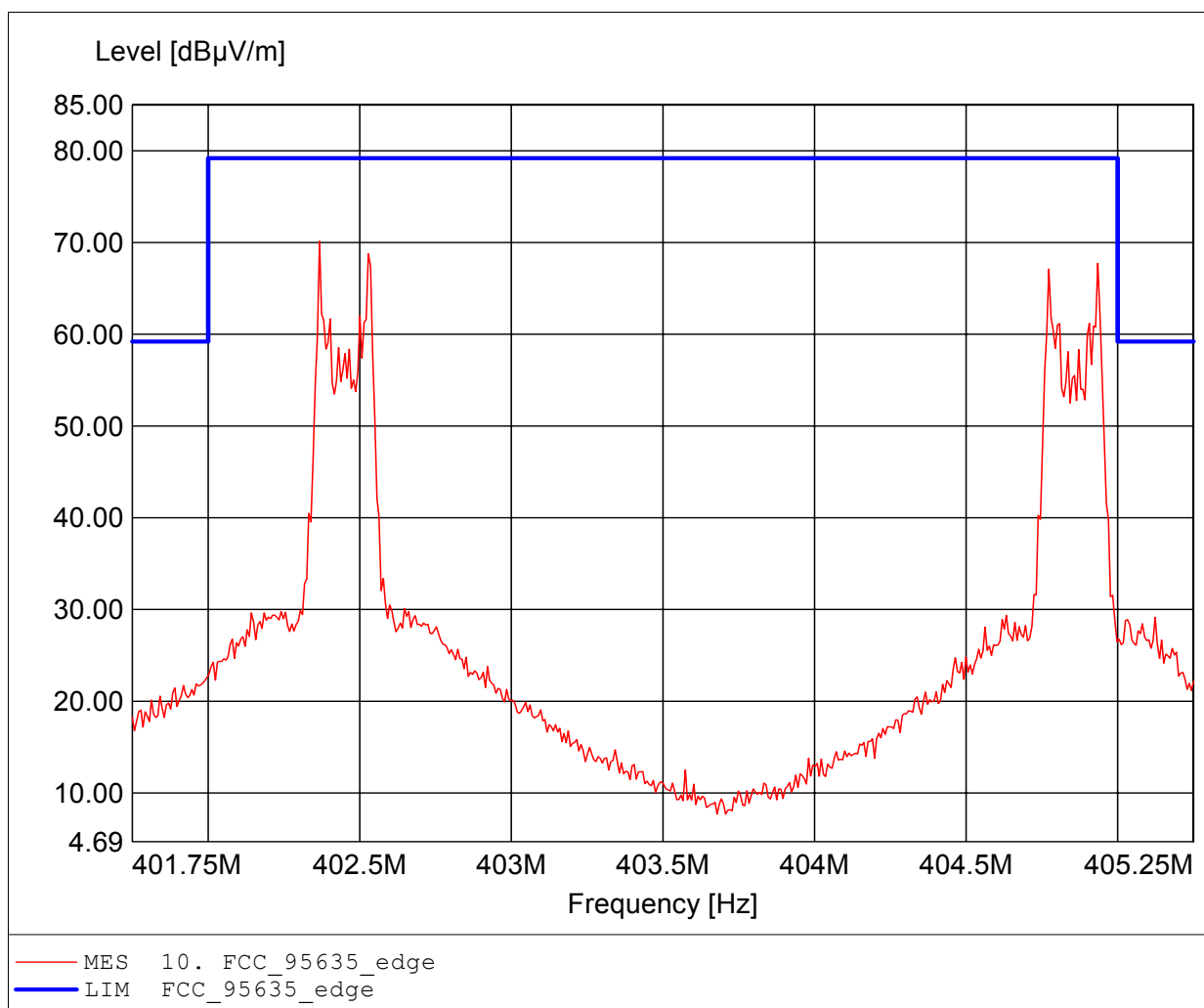
Appendix G

Measurement diagrams “Band edge emissions”

Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

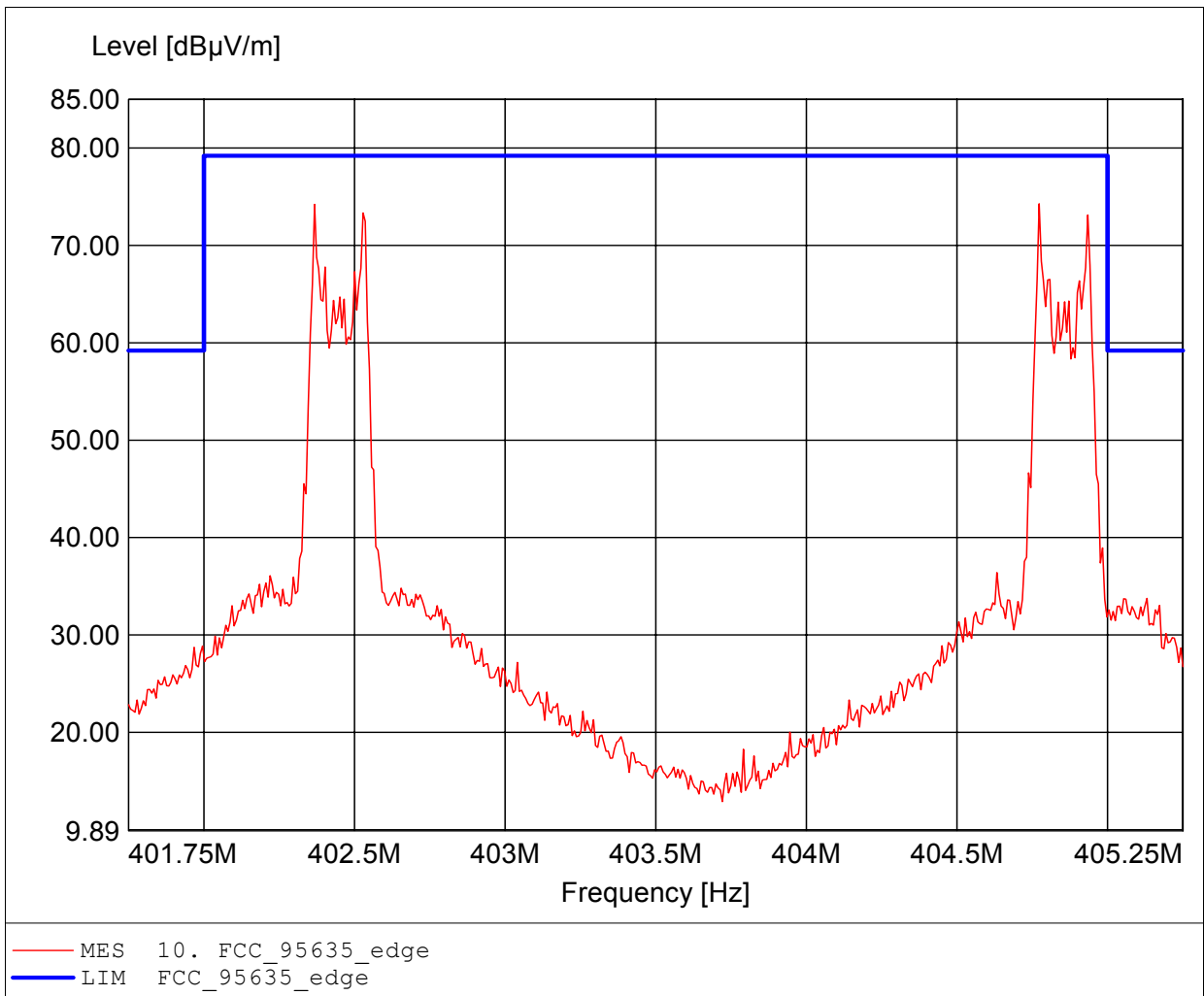
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 8; 7
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635 (d) (5), peak detector
Comment 1: Dist.: 3m, Ant.: HL 223
Comment 2: Freq: 402.367MHz, Emax: 70.14dBµV/m, RBW: 1% of EBW



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

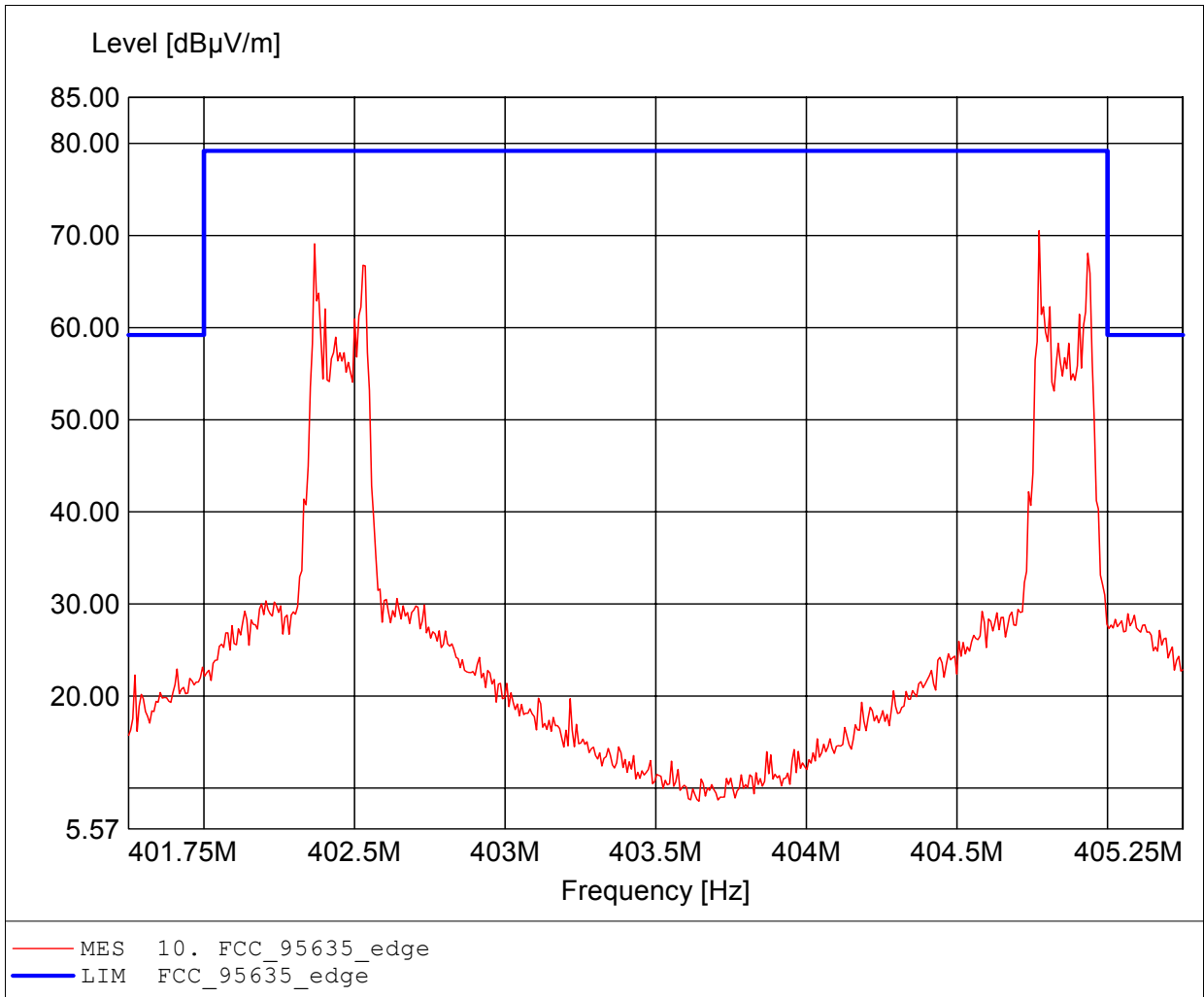
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 8; 7
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635 (d) (5), peak detector
Comment 1: Dist.: 3m, Ant.: HL 223
Comment 2: Freq: 404.773MHz, Emax: 74.28dBµV/m, RBW: 1% of EBW



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

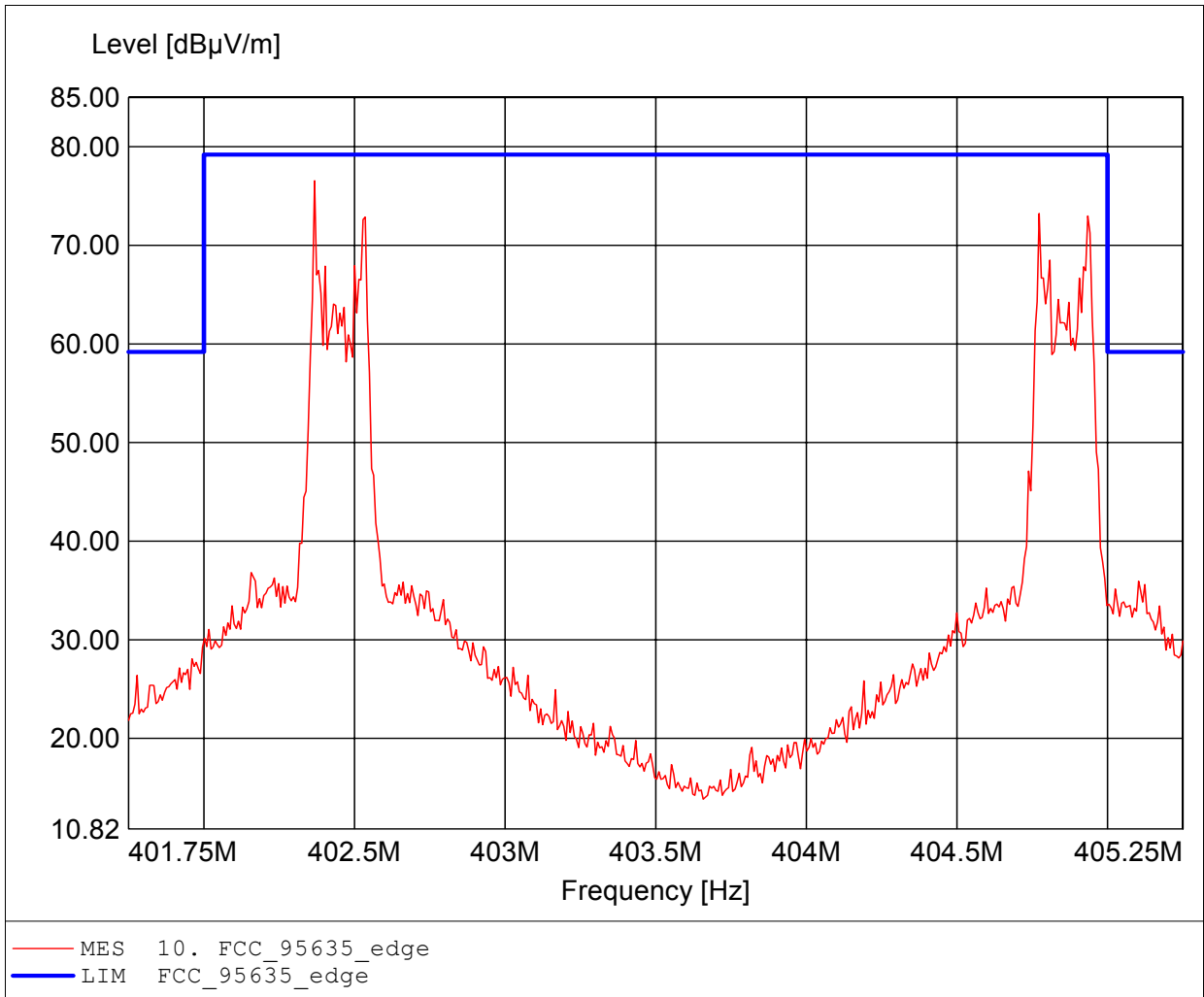
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 8; 7
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635 (d) (5), peak detector
Comment 1: Dist.: 3m, Ant.: HL 223
Comment 2: Freq: 404.773MHz, Emax: 70.55dBµV/m, RBW: 1% of EBW



Spurious emissions Field Strength Tx

FCC RULES PART 95, SUBPART D

Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 8; 7
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: according to §95.635 (d) (5), peak detector
Comment 1: Dist.: 3m, Ant.: HL 223
Comment 2: Freq: 402.367MHz, Emax: 76.55dBµV/m, RBW: 1% of EBW



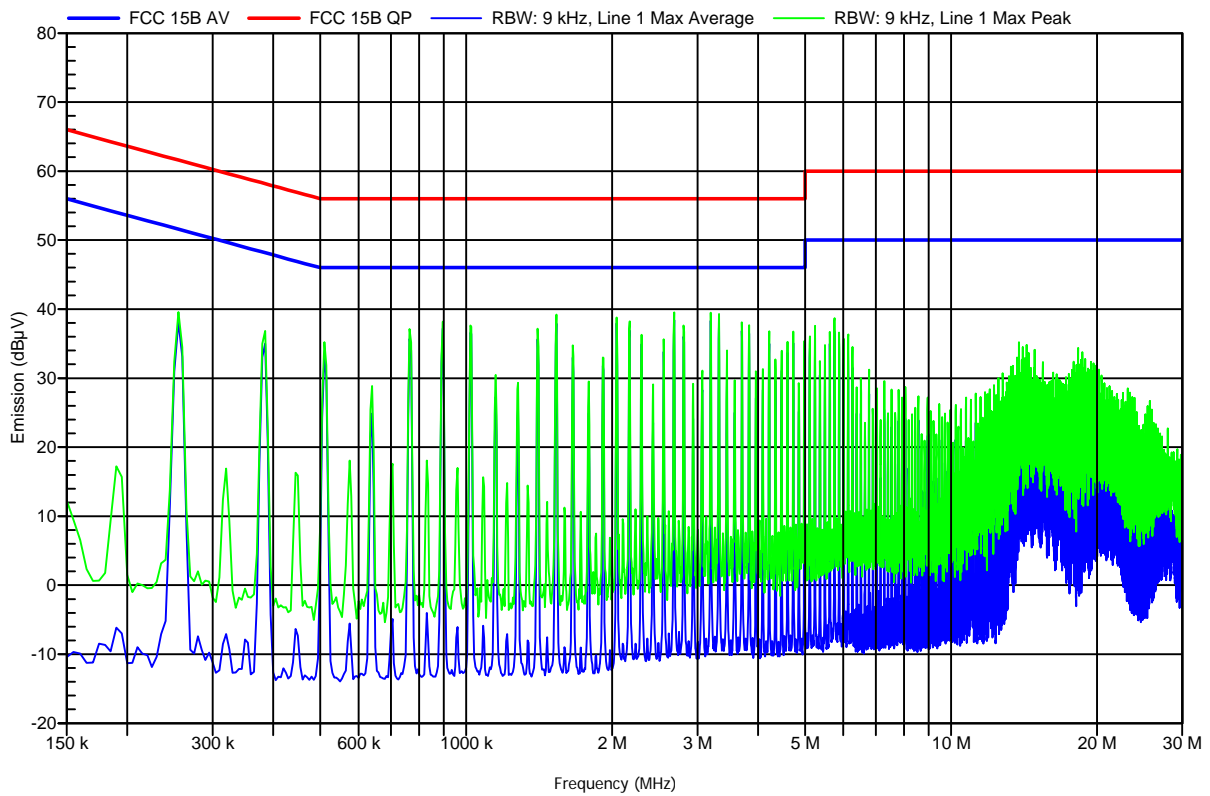
Appendix H

Measurement diagrams "AC power line conducted emissions"

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

Order number: G0M21004-3144

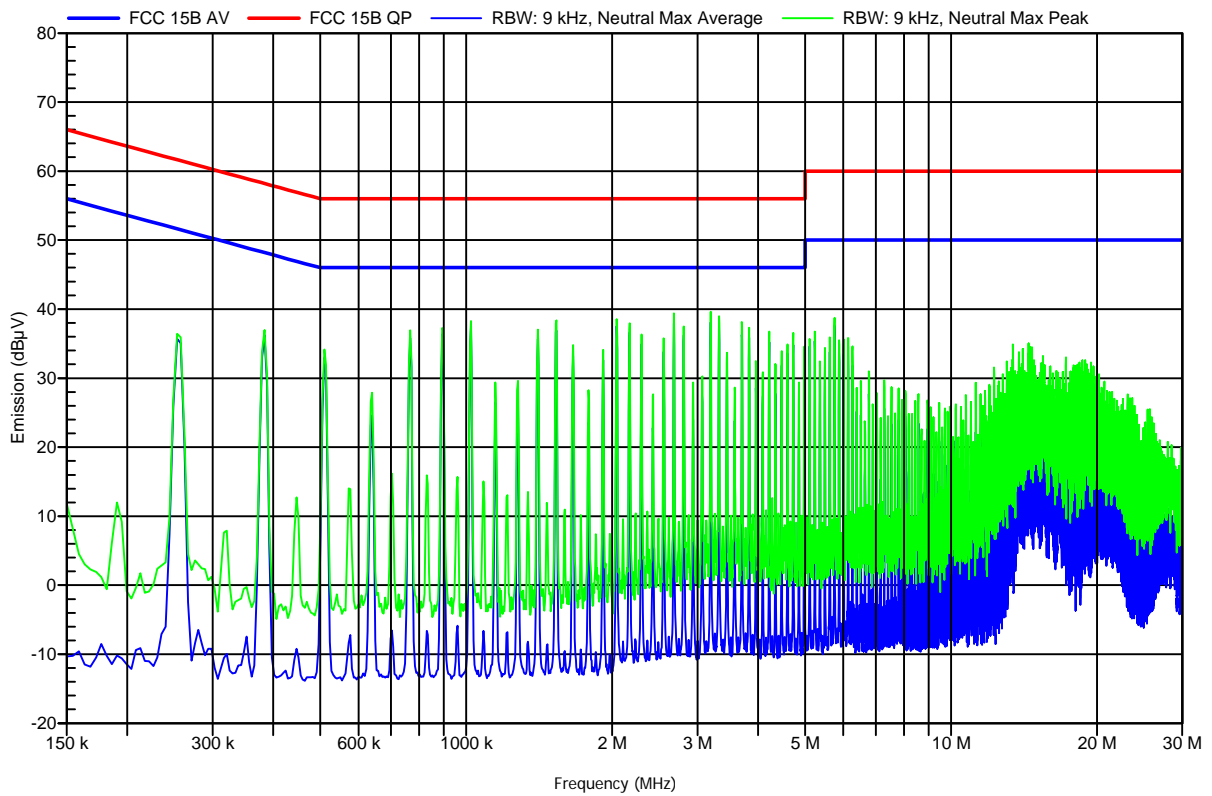
Manufacturer: Biotronik SE & Co. KG
 EUT Name: ICS Neo
 Model: Renamic
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Klein
 Test Conditions: Tnom: 23°C, Unom: 120VAC
 LISN: ESH2-Z5 L
 Mode: measuring
 Test Date: 29.04.2010



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

Order number: G0M21004-3144

Manufacturer: Biotronik SE & Co. KG
EUT Name: ICS Neo
Model: Renamic
Test Site: Eurofins Product Service GmbH
Operator: Mr. Klein
Test Conditions: Tnom: 23°C, Unom: 120VAC
LISN: ESH2-Z5 N
Mode: measuring
Test Date: 29.04.2010



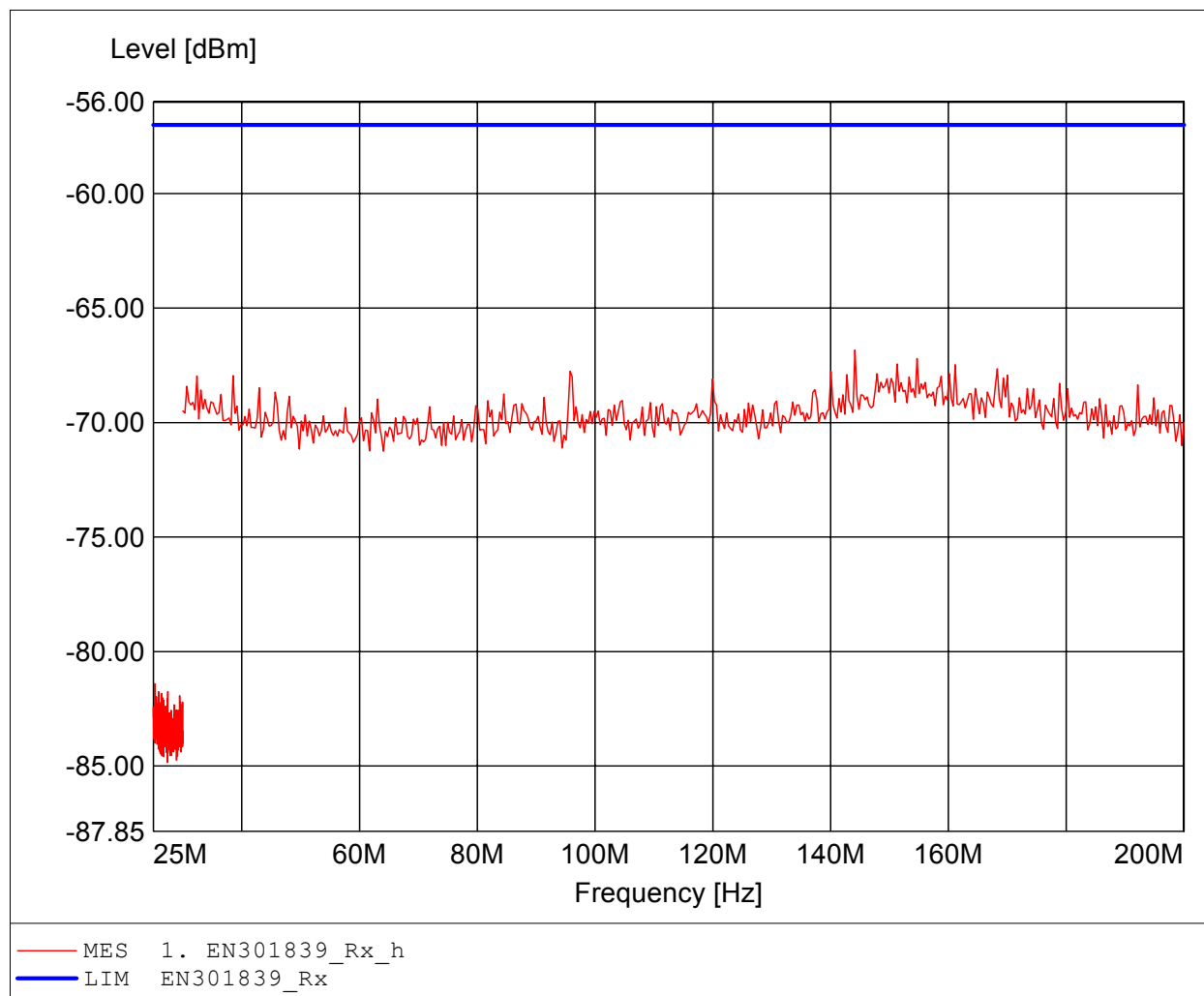
Appendix I

Measurement diagrams “Receiver spurious emissions, Europe”

Receiver spurious emissions

in accordance to the EN 301 839

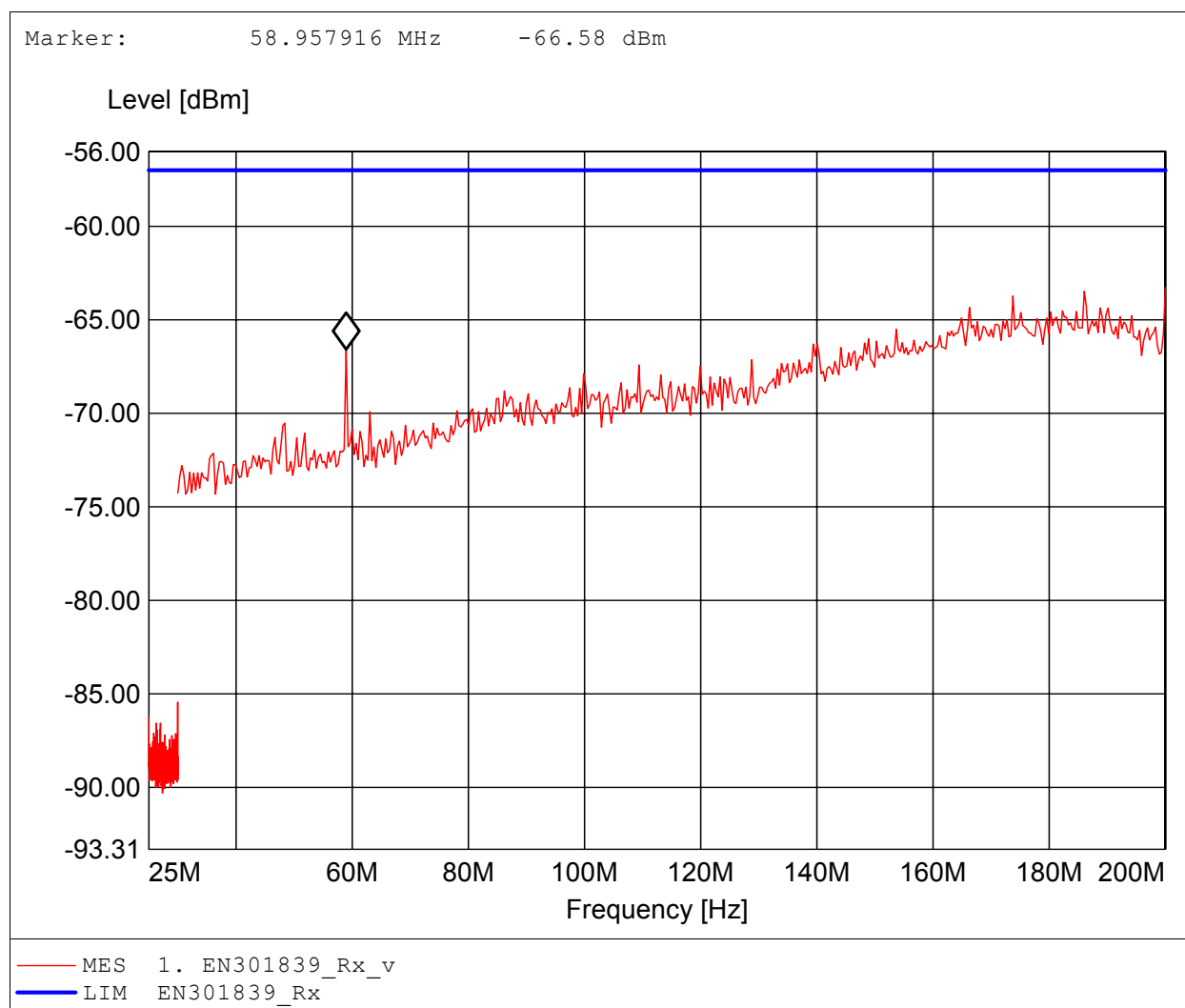
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: RX
Comment 1: Dist.: 3m, Ant.: HK 116, ampl.: None
Comment 2: Freq:144.128MHz Pmax:-66.83dBm RBW: 10/100 kHz



Receiver spurious emissions

in accordance to the EN 301 839

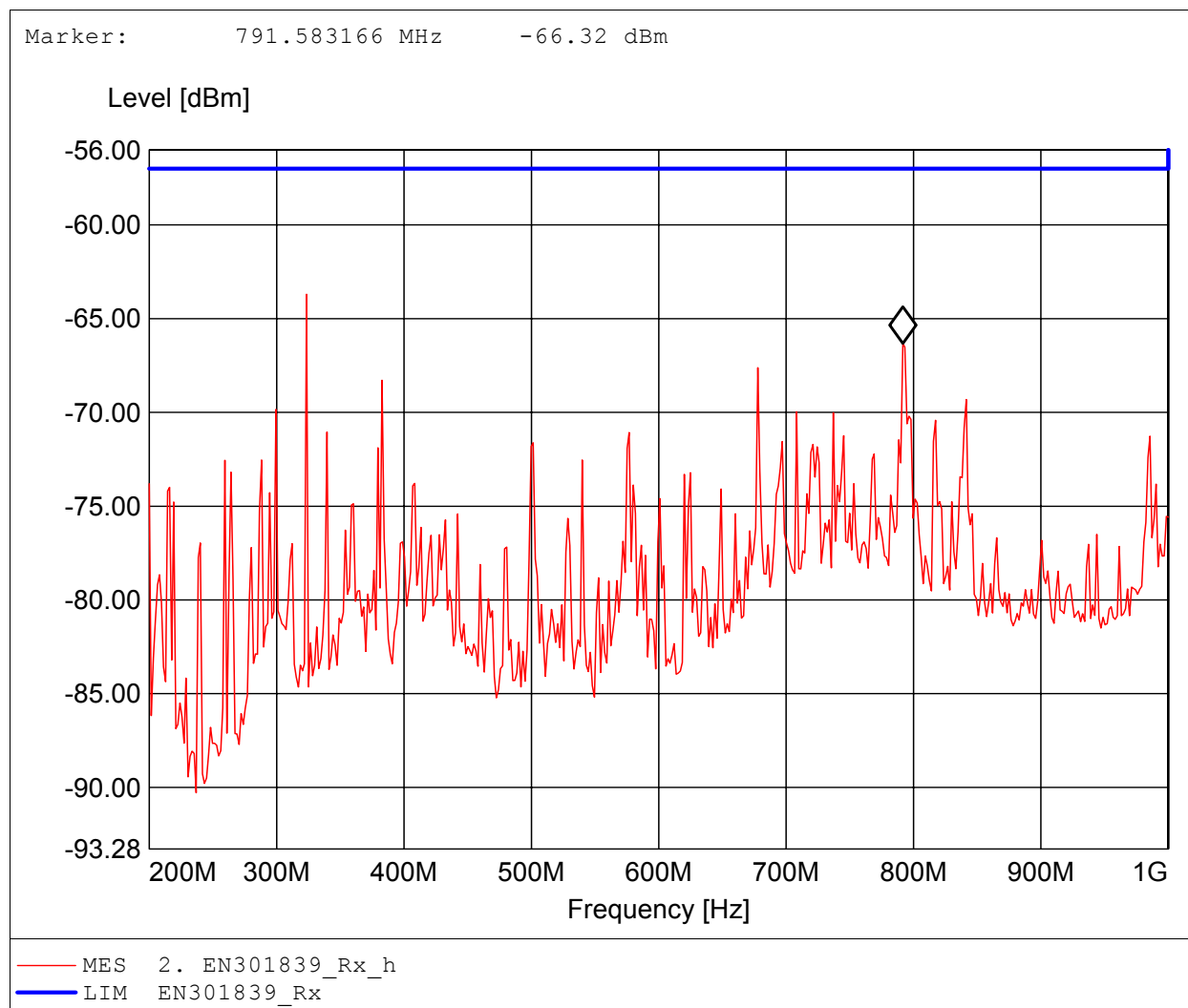
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: RX
Comment 1: Dist.: 3m, Ant.: HK 116, ampl.: None
Comment 2: Freq:200.000MHz Pmax:-63.28dBm RBW: 10/100 kHz



Receiver spurious emissions

in accordance to the EN 301 839

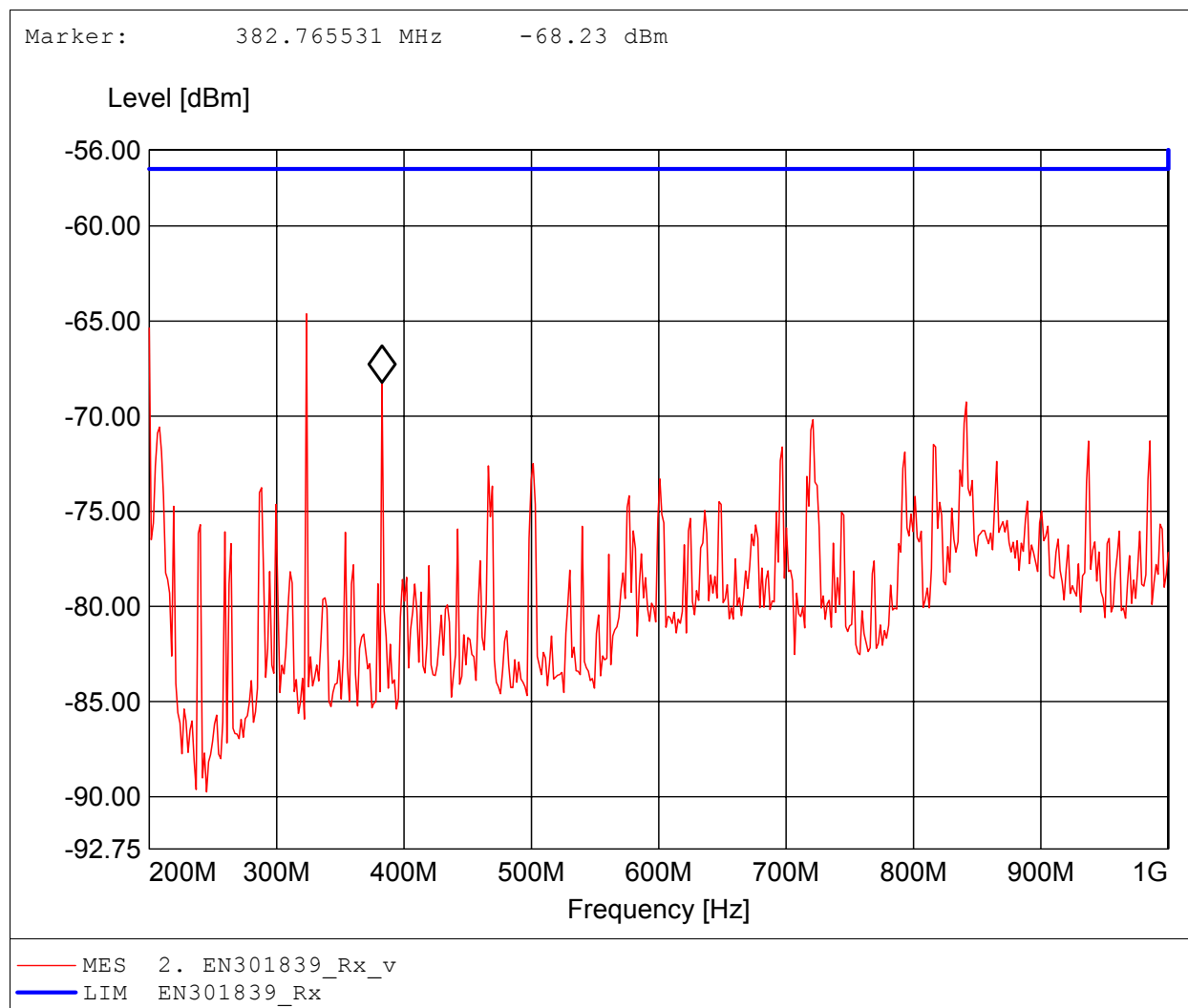
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: RX
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.: 0.1-1GHz
Comment 2: Freq:323.447MHz Pmax:-63.70dBm RBW: 100 kHz



Receiver spurious emissions

in accordance to the EN 301 839

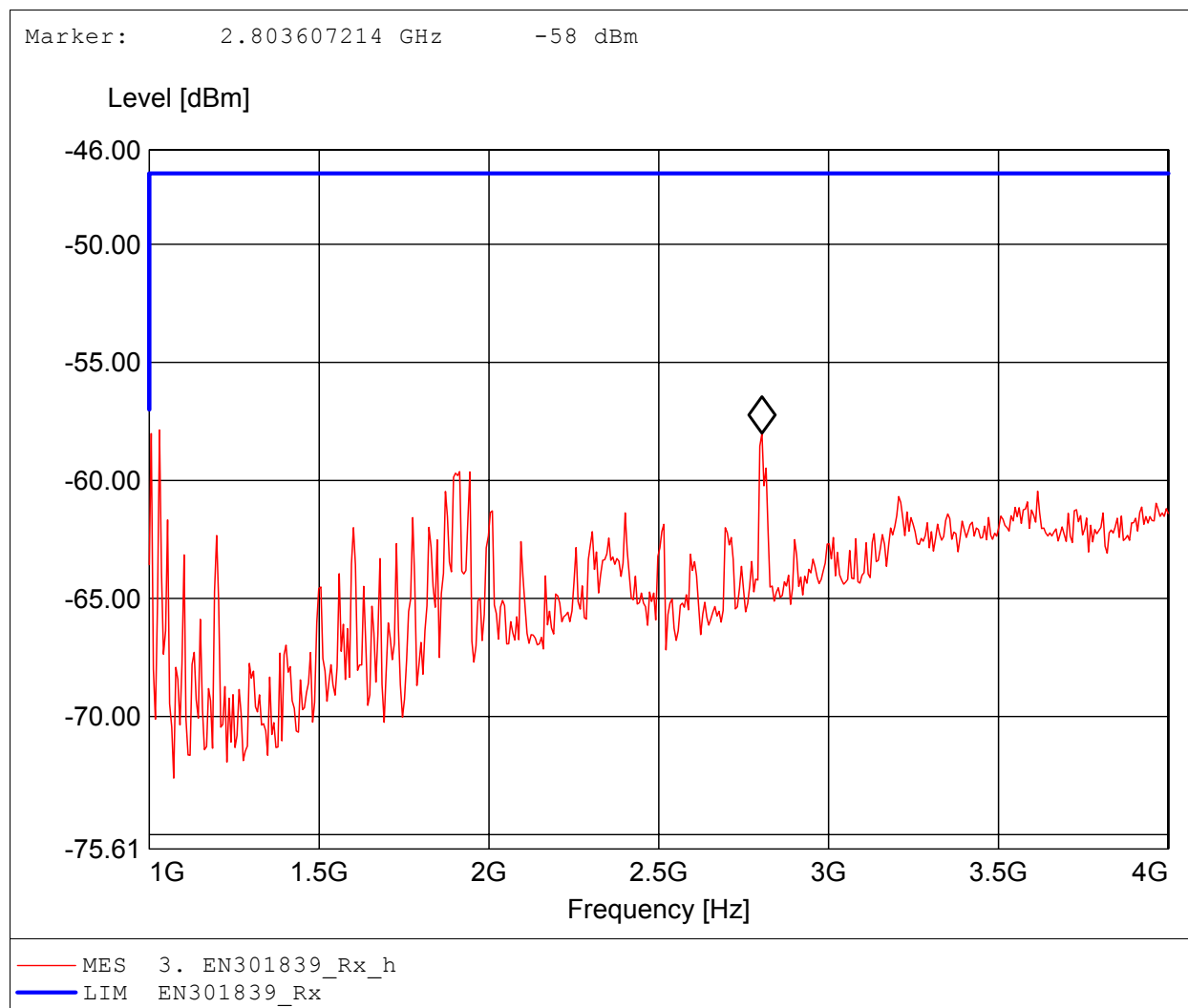
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: RX
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.: 0.1-1GHz
Comment 2: Freq:323.447MHz Pmax:-64.62dBm RBW: 100 kHz



Receiver spurious emissions

in accordance to the EN 301 839

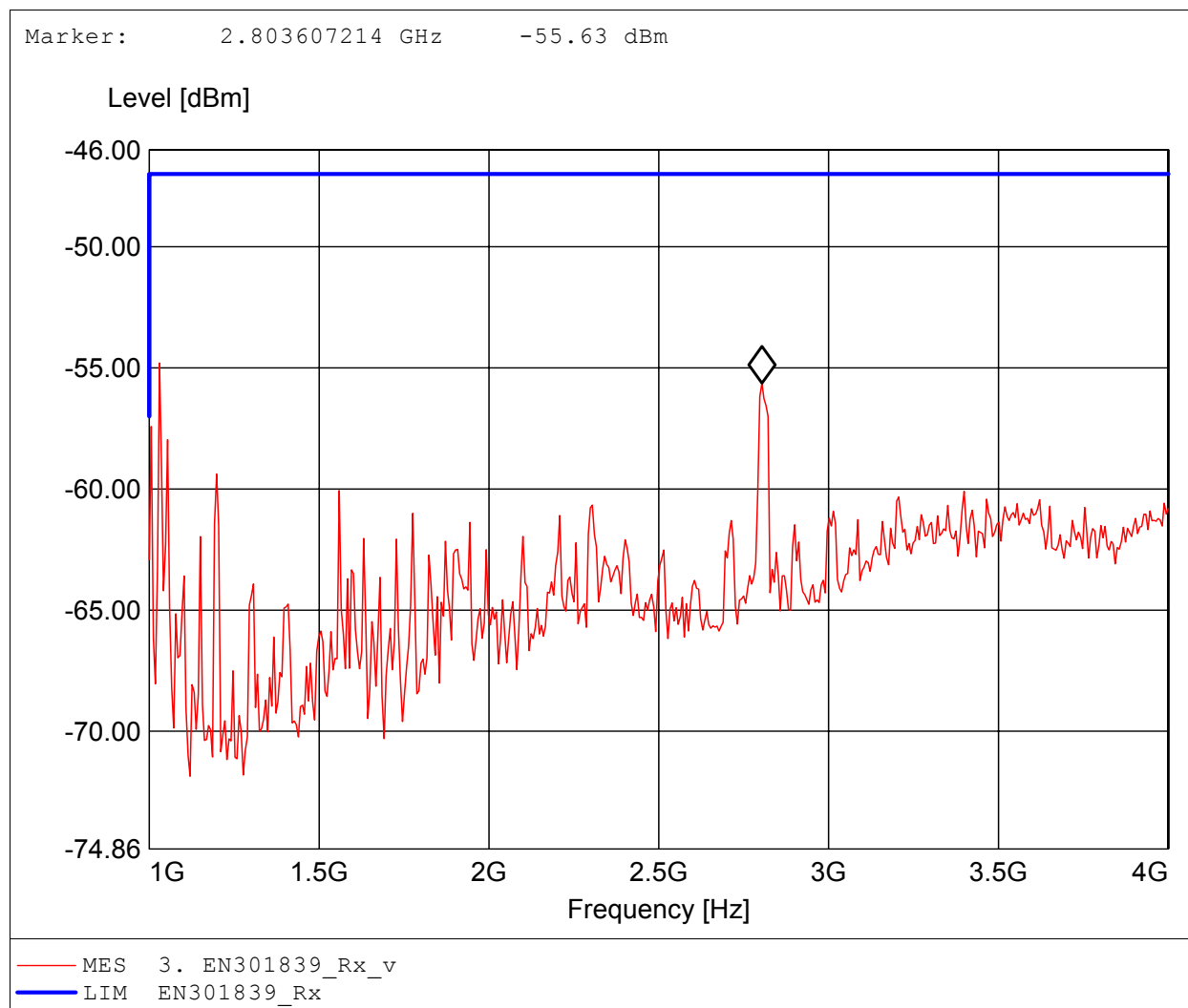
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: RX
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4GHz
Comment 2: Freq:1.030GHz Pmax:-57.86dBm RBW: 1 MHz



Receiver spurious emissions

in accordance to the EN 301 839

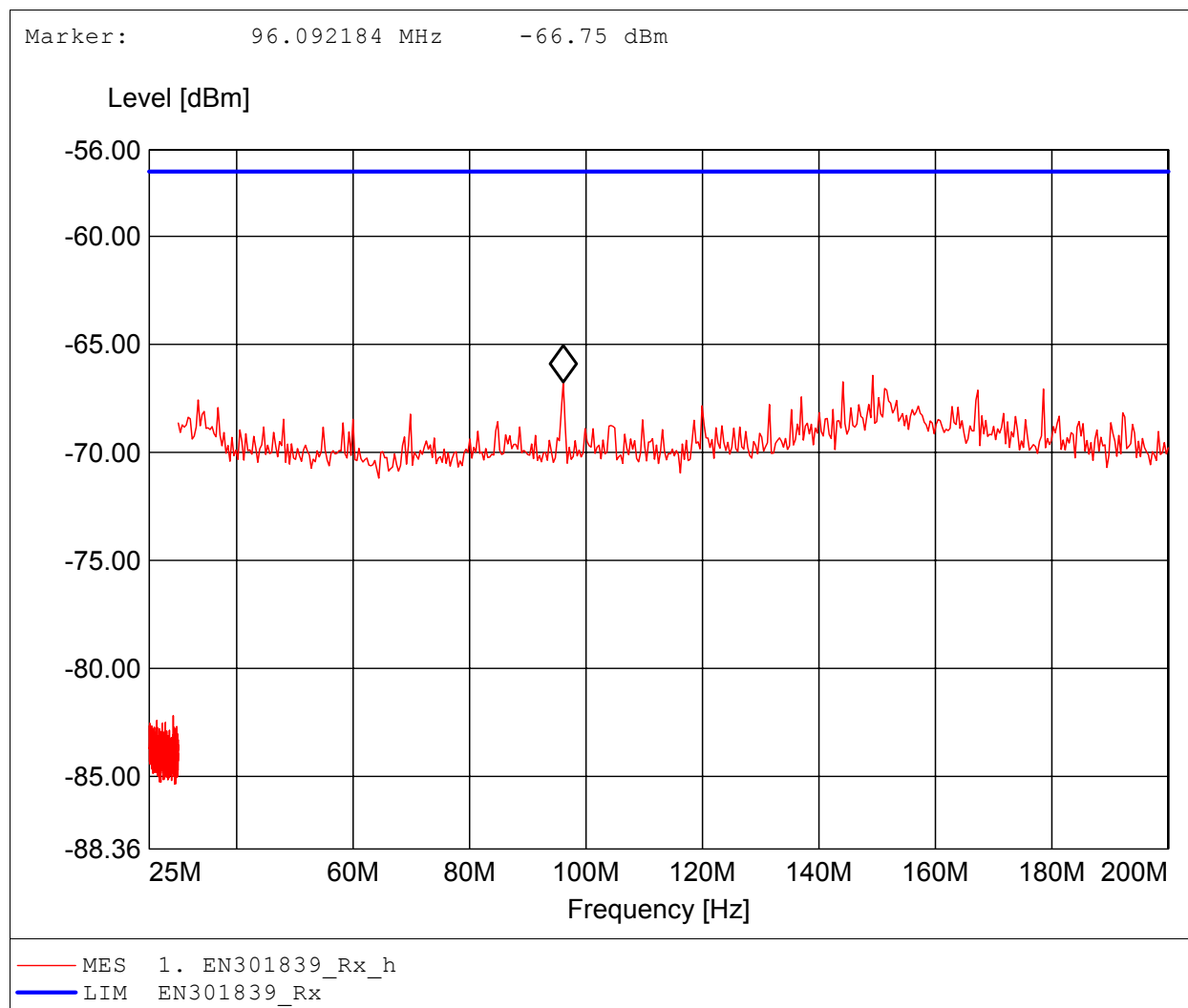
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 1; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: RX
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4GHz
Comment 2: Freq:1.030GHz Pmax:-54.80dBm RBW: 1 MHz



Receiver spurious emissions

in accordance to the EN 301 839

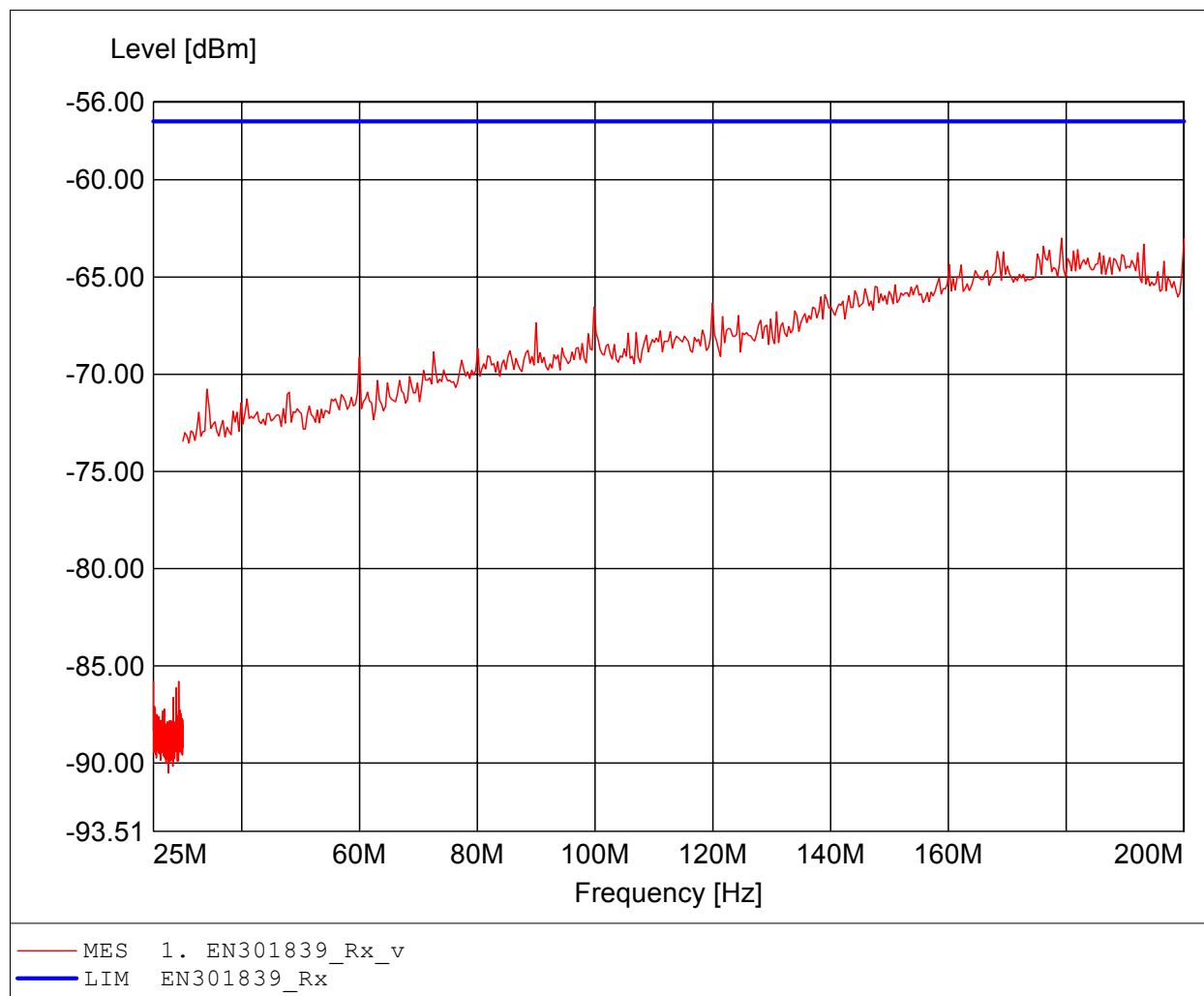
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: RX
Comment 1: Dist.: 3m, Ant.: HK 116, ampl.: None
Comment 2: Freq:149.238MHz Pmax:-66.44dBm RBW: 10/100 kHz



Receiver spurious emissions

in accordance to the EN 301 839

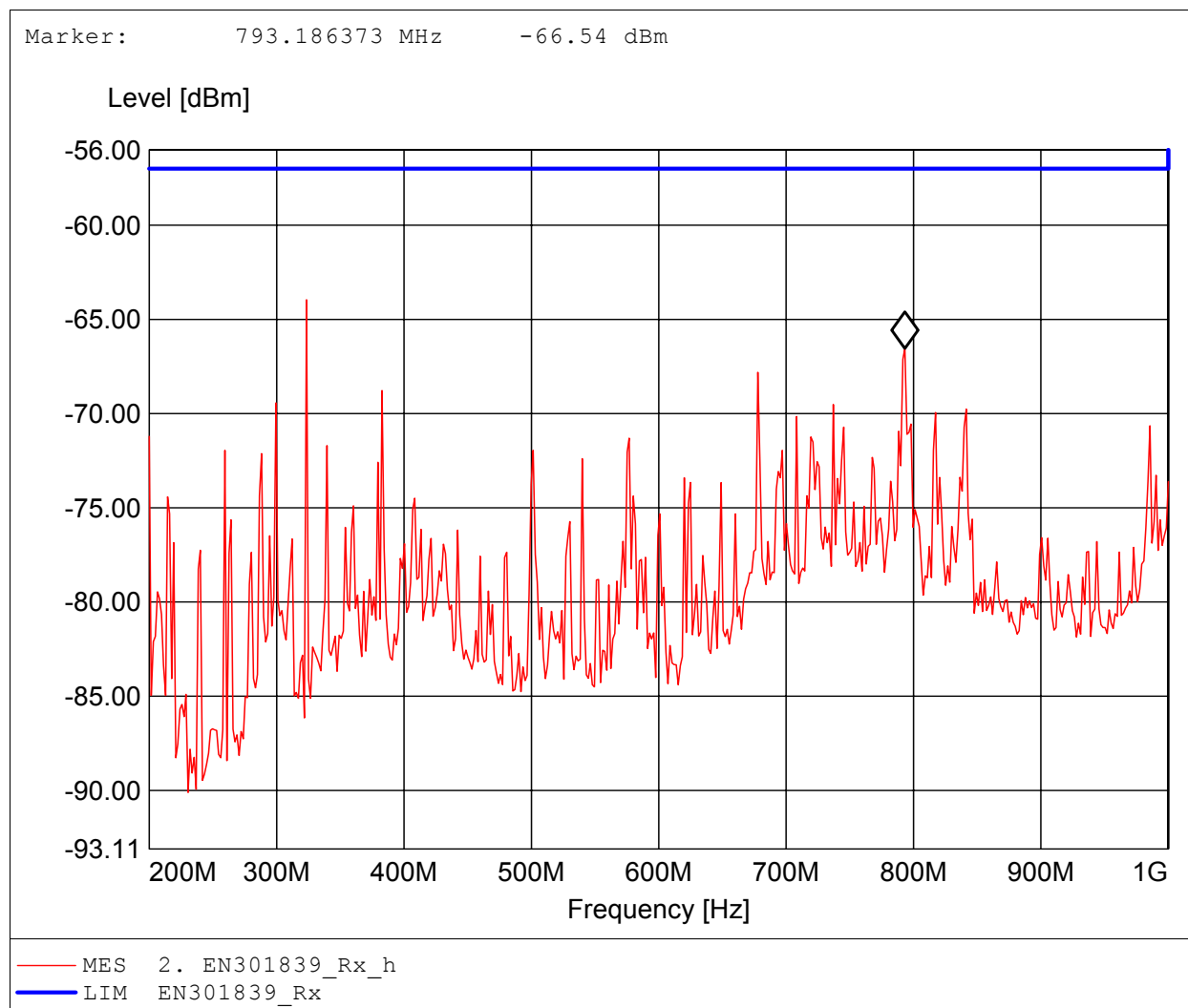
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: RX
Comment 1: Dist.: 3m, Ant.: HK 116, ampl.: None
Comment 2: Freq:179.218MHz Pmax:-63.00dBm RBW: 10/100 kHz



Receiver spurious emissions

in accordance to the EN 301 839

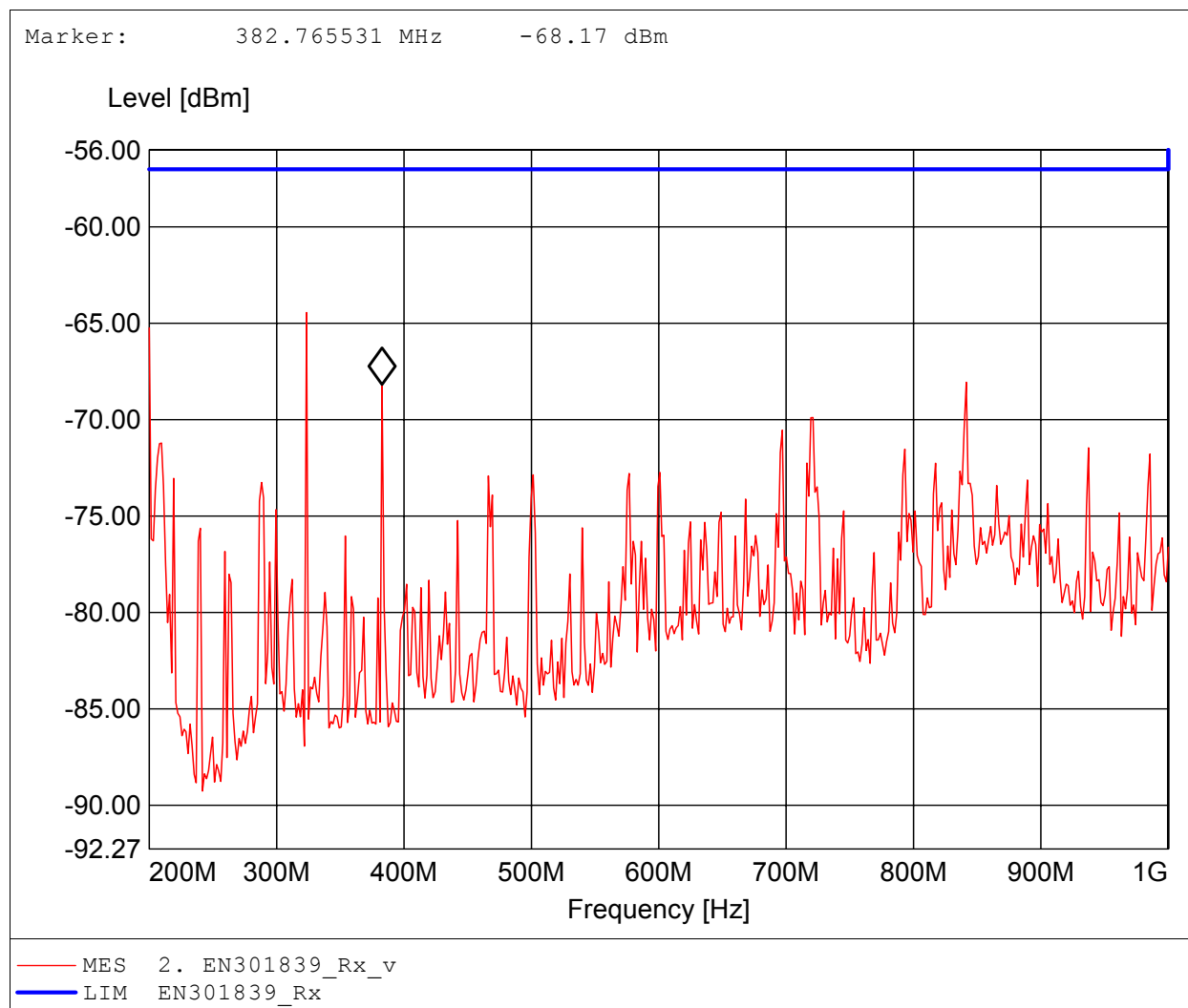
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: RX
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.: 0.1-1GHz
Comment 2: Freq:323.447MHz Pmax:-63.96dBm RBW: 100 kHz



Receiver spurious emissions

in accordance to the EN 301 839

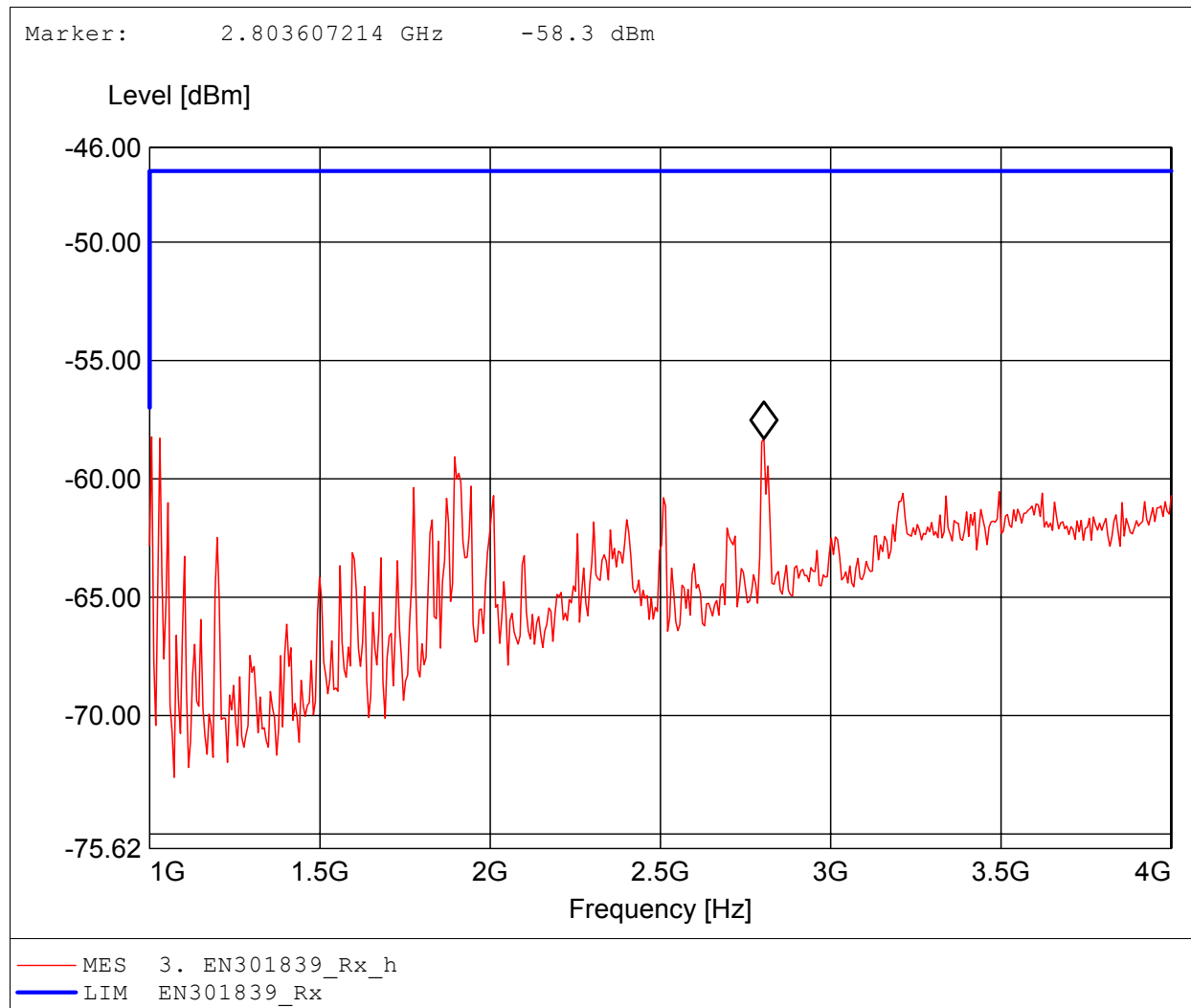
Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: RX
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.: 0.1-1GHz
Comment 2: Freq:323.447MHz Pmax:-64.44dBm RBW: 100 kHz



Receiver spurious emissions

in accordance to the EN 301 839

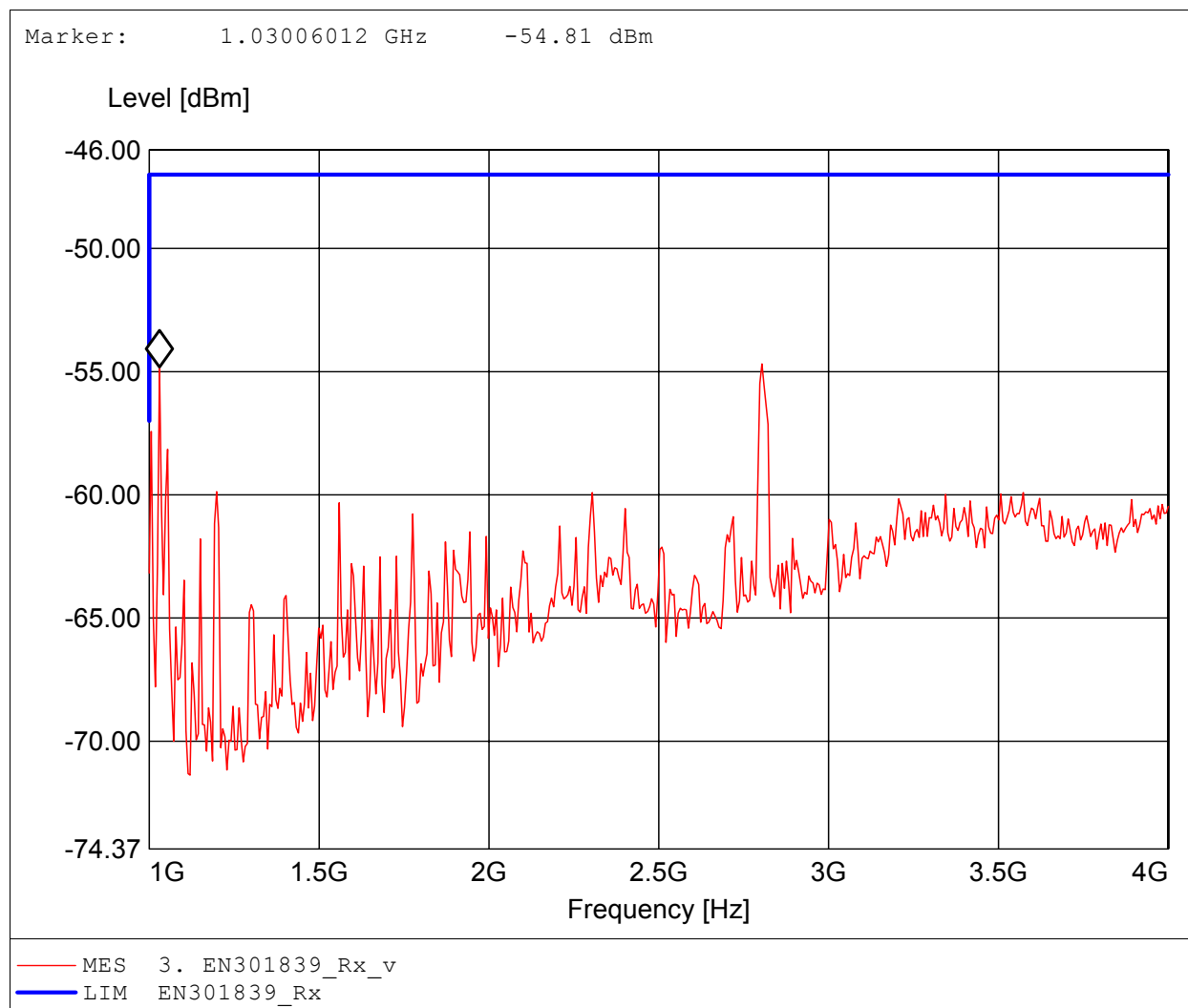
Approval Holder: Biotronik SE & Co KG / Ord.: G0M21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: RX
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4GHz
Comment 2: Freq:1.006GHz Pmax:-58.23dBm RBW: 1 MHz



Receiver spurious emissions

in accordance to the EN 301 839

Approval Holder: Biotronik SE & Co KG / Ord.: GOM21004-3144
EUT: ICS Neo
Model: Renamic / Transceiver: 2; Ch.: 0
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 230V AC
Test Specification: Fully anechoic chamber / mode: RX
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4GHz
Comment 2: Freq:2.804GHz Pmax:-54.69dBm RBW: 1 MHz



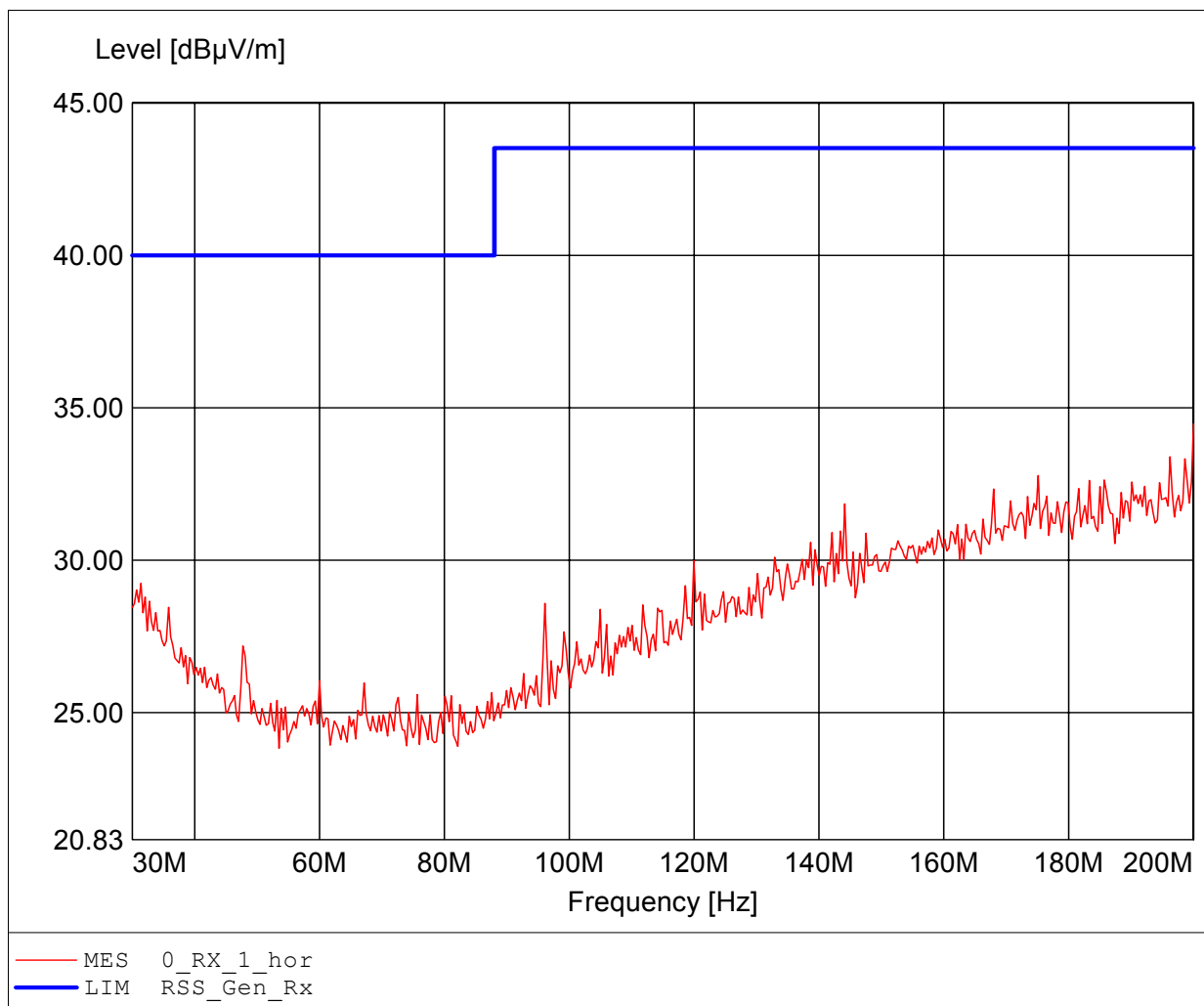
Appendix J

Measurement diagrams “Receiver spurious emissions, Canada”

Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

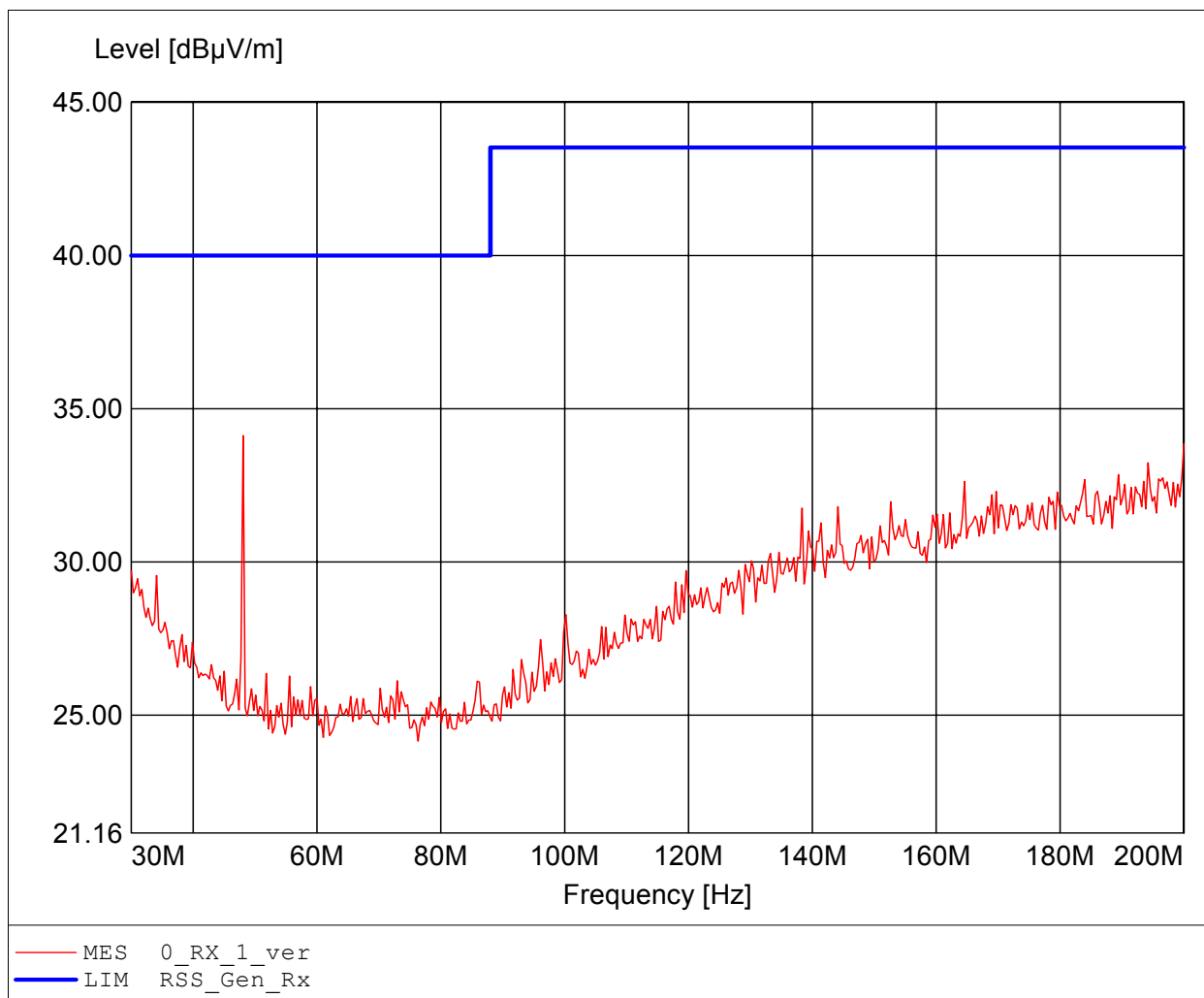
Approval Holder: Biotronik SE & Co KG
EUT: ICS Neo
Model: Renamic / Transceiver: 1
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: CH: 0
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq:200.000MHz Emax:34.47dBuV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

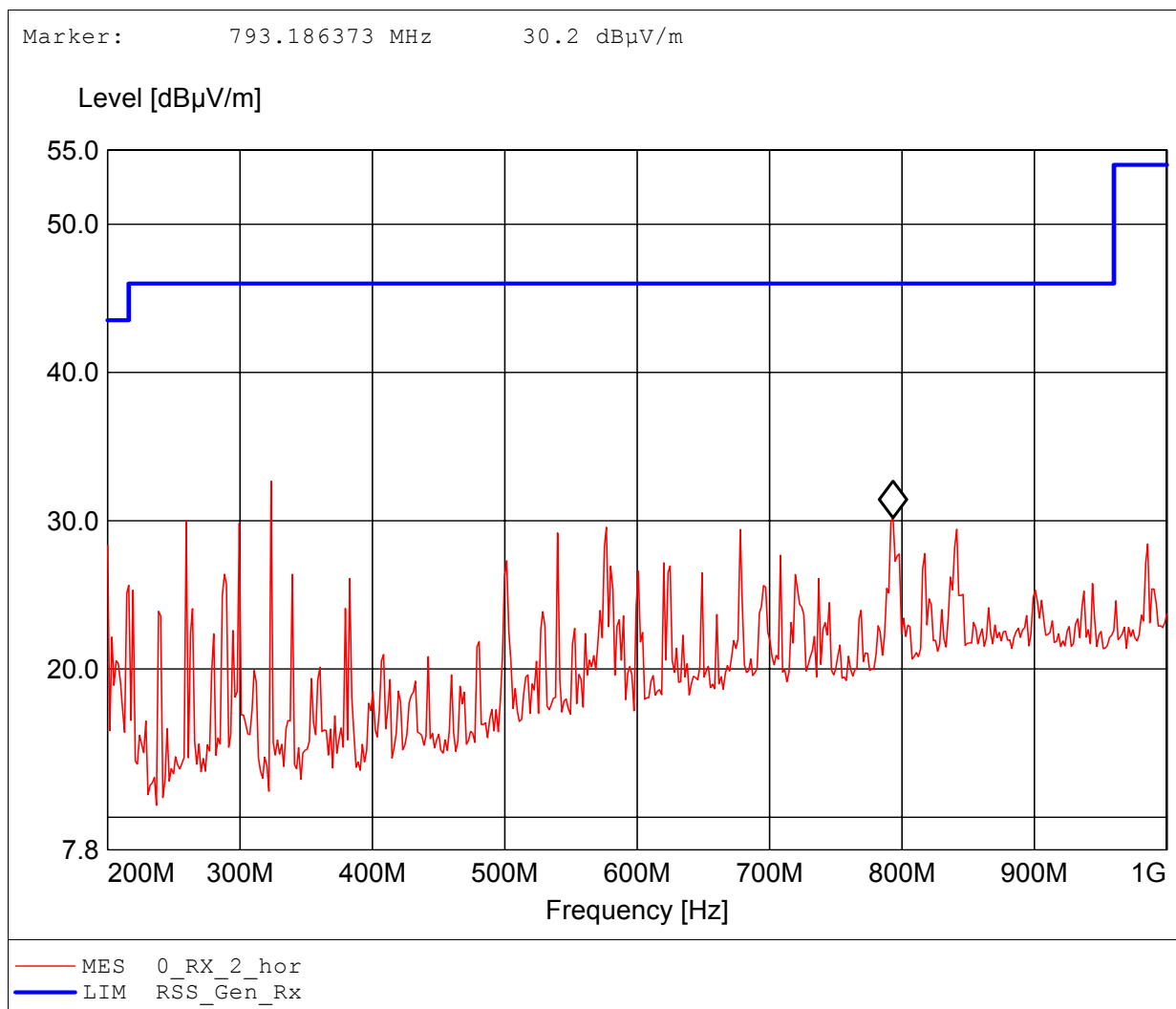
Approval Holder: Biotronik SE & Co KG
EUT: ICS Neo
Model: Renamic / Transceiver: 1
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: CH: 0
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq:48.056MHz Emax:34.12dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

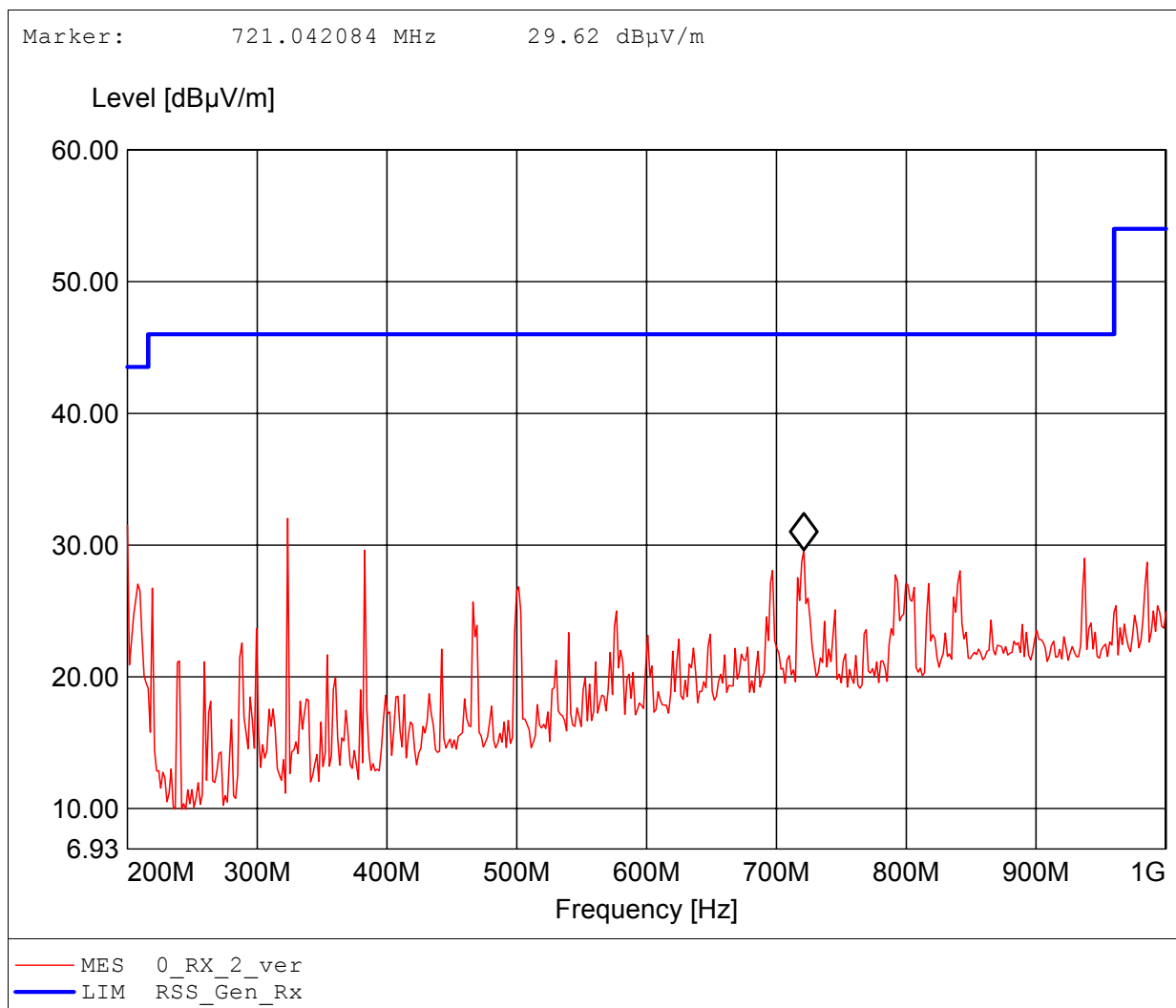
Approval Holder: Biotronik SE & Co KG
EUT: ICS Neo
Model: Renamic / Transceiver: 1
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: CH: 0
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.
Comment 2: Freq:323.447MHz Emax:32.67dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

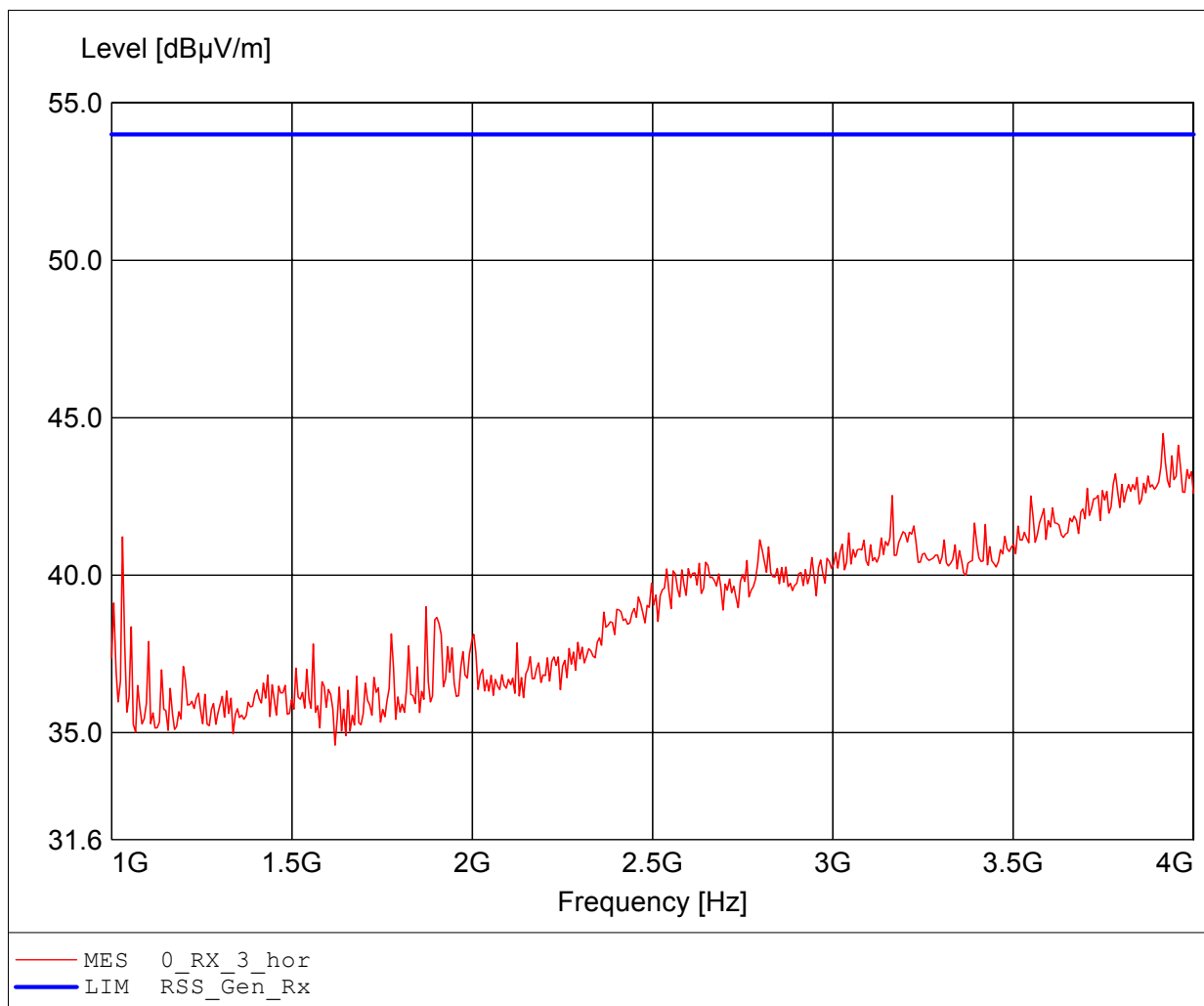
Approval Holder: Biotronik SE & Co KG
EUT: ICS Neo
Model: Renamic / Transceiver: 1
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: CH: 0
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.
Comment 2: Freq:323.447MHz Emax:32.03dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

Approval Holder: Biotronik SE & Co KG
EUT: ICS Neo
Model: Renamic / Transceiver: 1
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: Freq. / CH: 0
Comment 1: Dist.: 3m, Ant.: HL025, ampl.
Comment 2: Freq:3.916GHz Emax:44.50dBµV/m RBW: 1 MHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

Approval Holder: Biotronik SE & Co KG
EUT: ICS Neo
Model: Renamic / Transceiver: 1
Test Site / Operator: Eurofins Product Service GmbH / Mr. Handrik
Test Condition: Tnom: 23°C / Unom.: 120V AC
Test Specification: CH: 0
Comment 1: Dist.: 3m, Ant.: HL025, ampl.
Comment 2: Freq:1.030GHz Emax:44.56dBµV/m RBW: 1 MHz

