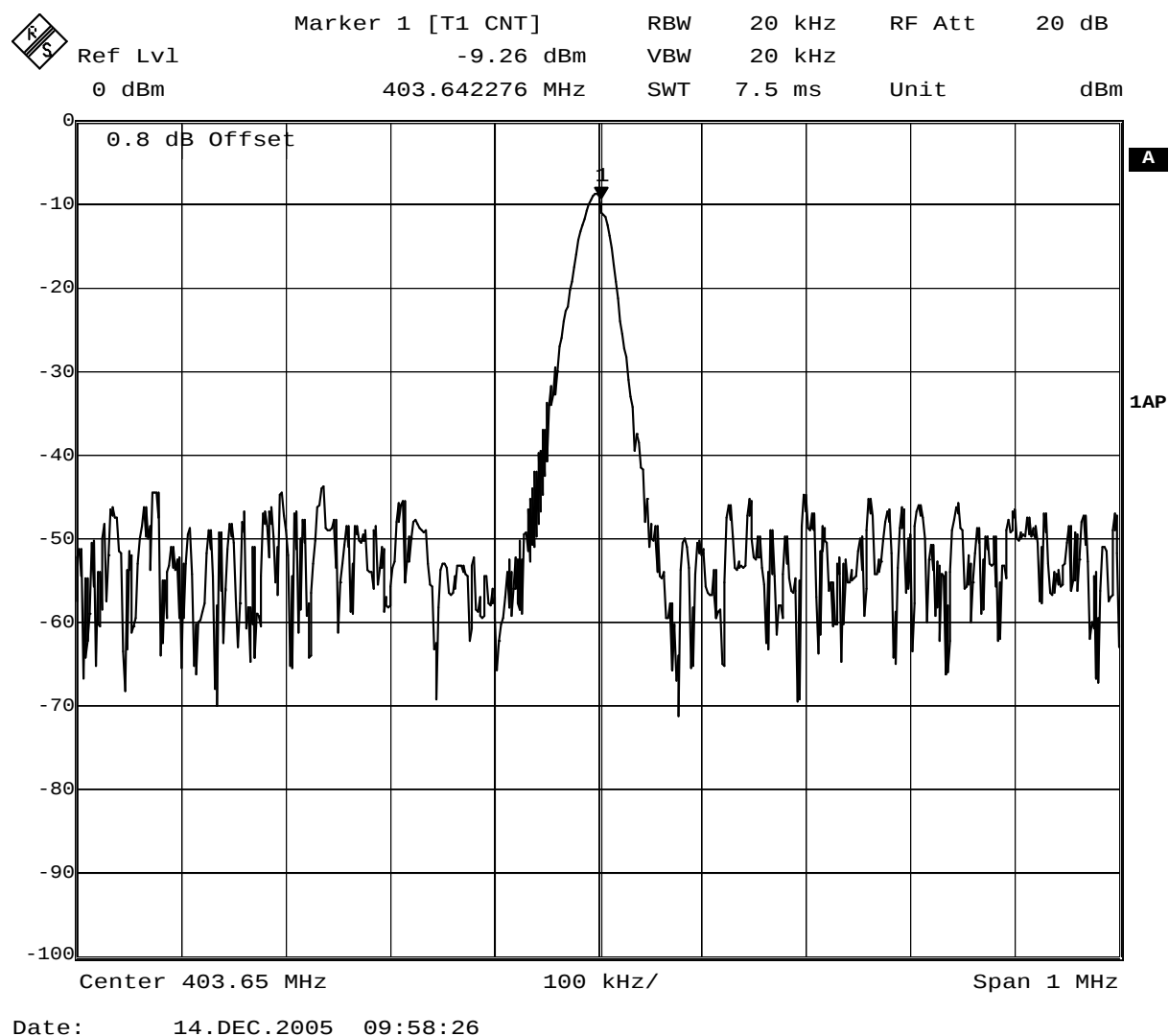


## **Annex**

Measurement diagrams "Frequency Error"

**FCC Part 95.628 (09.12.2005) / EN 301 839 v1.1.1 (2002-06)**  
**Frequency Error**

|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| EUT                   | Cardiomessenger II                                  |
| Model                 | Telex III                                           |
| Approval Holder       | Biotronik GmbH                                      |
| Temperature / Voltage | 25°C / Unom: 3.7 V DC                               |
| Test Site / Operator  | ETS                                                 |
| Test Specification    | FCC Part 95.628 e / EN 301 839-1 8.1                |
| Test Case             | Frequency Error (signal count function of analyzer) |
| Comment 1             | f: 403.642276 MHz                                   |
| Comment 2             | reference @ normal condition                        |

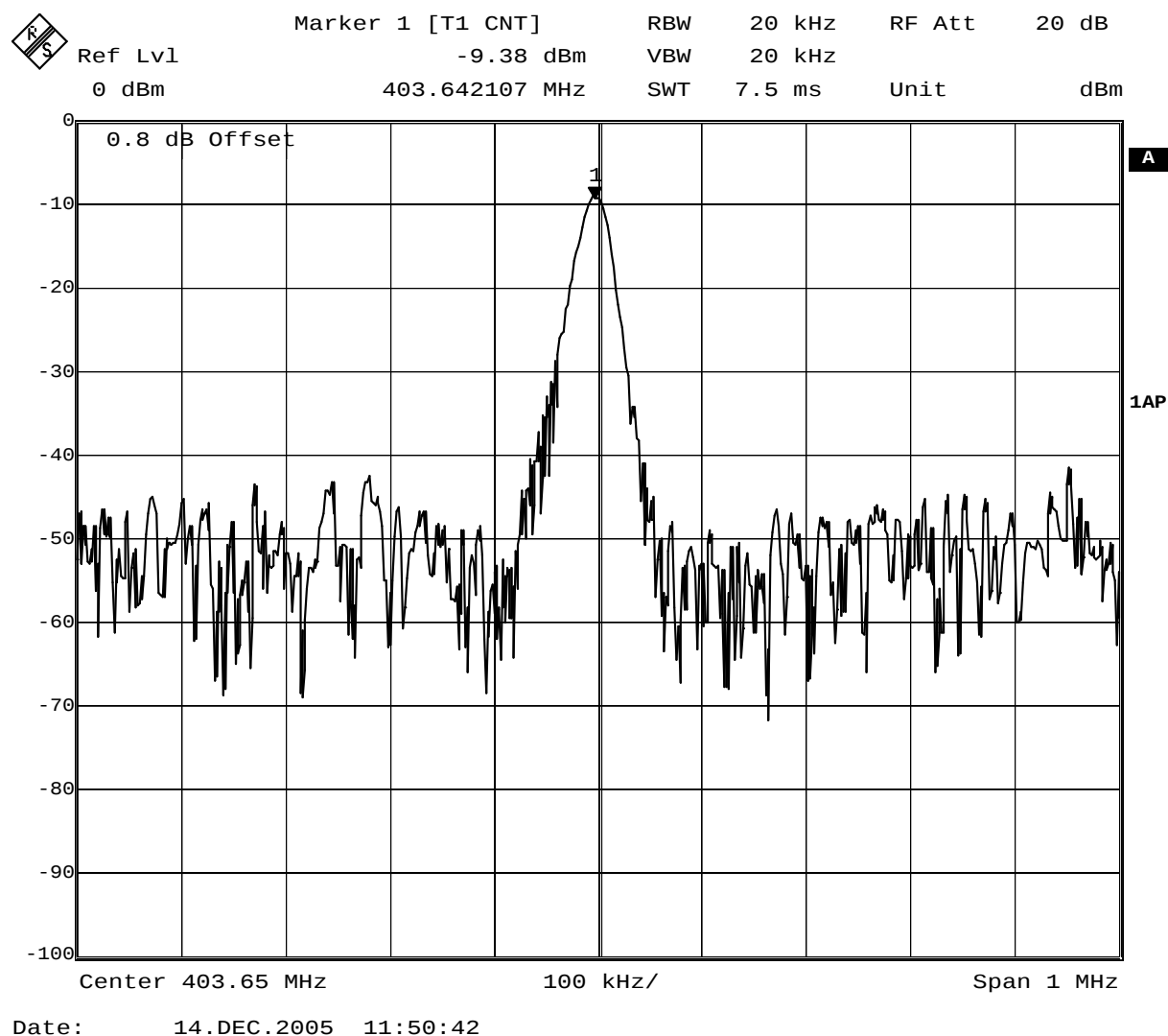


Measurement diagram

FCC Part 95.628 (09.12.2005) / EN 301 839 v1.1.1 (2002-06)

## Frequency Error

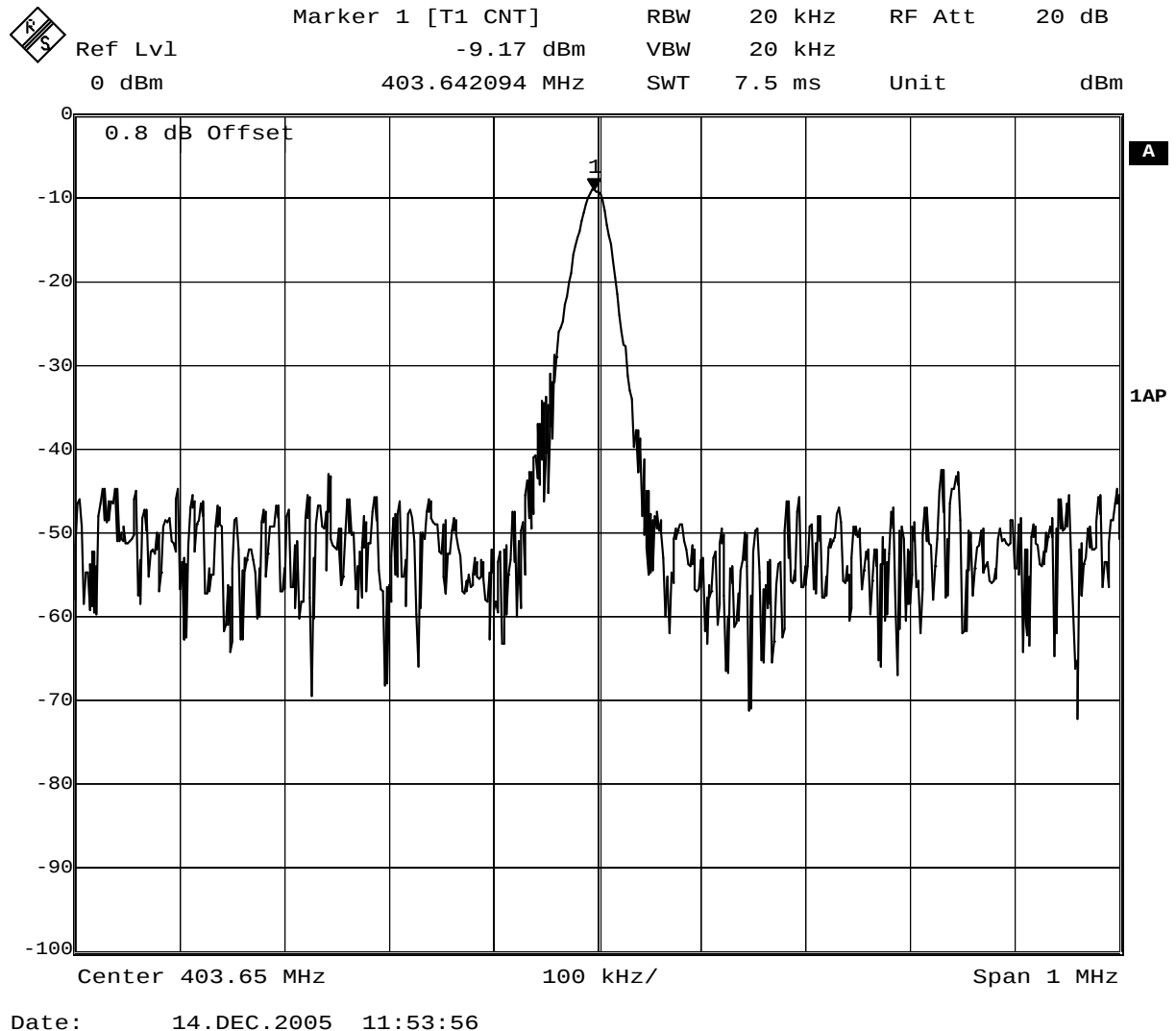
|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| EUT                   | Cardiomessenger II                                  |
| Model                 | Telex III                                           |
| Approval Holder       | Biotronik GmbH                                      |
| Temperature / Voltage | -10°C / Umin: 3.15 V DC                             |
| Test Site / Operator  | ETS                                                 |
| Test Specification    | FCC Part 95.628 e / EN 301 839-1 8.1                |
| Test Case             | Frequency Error (signal count function of analyzer) |
| Comment 1             | f: 403.642107 MHz                                   |
| Comment 2             | Limit +/-100 ppm (+/-40.36KHz)                      |



Measurement diagram

**FCC Part 95.628 (09.12.2005) / EN 301 839 v1.1.1 (2002-06)**  
**Frequency Error**

|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| EUT                   | Cardiomessenger II                                  |
| Model                 | Telex III                                           |
| Approval Holder       | Biotronik GmbH                                      |
| Temperature / Voltage | -10°C / Umax: 3.7 V DC                              |
| Test Site / Operator  | ETS                                                 |
| Test Specification    | FCC Part 95.628 e / EN 301 839-1 8.1                |
| Test Case             | Frequency Error (signal count function of analyzer) |
| Comment 1             | f: 403.642094 MHz                                   |
| Comment 2             | Limit +/-100 ppm (+/-40.36KHz)                      |

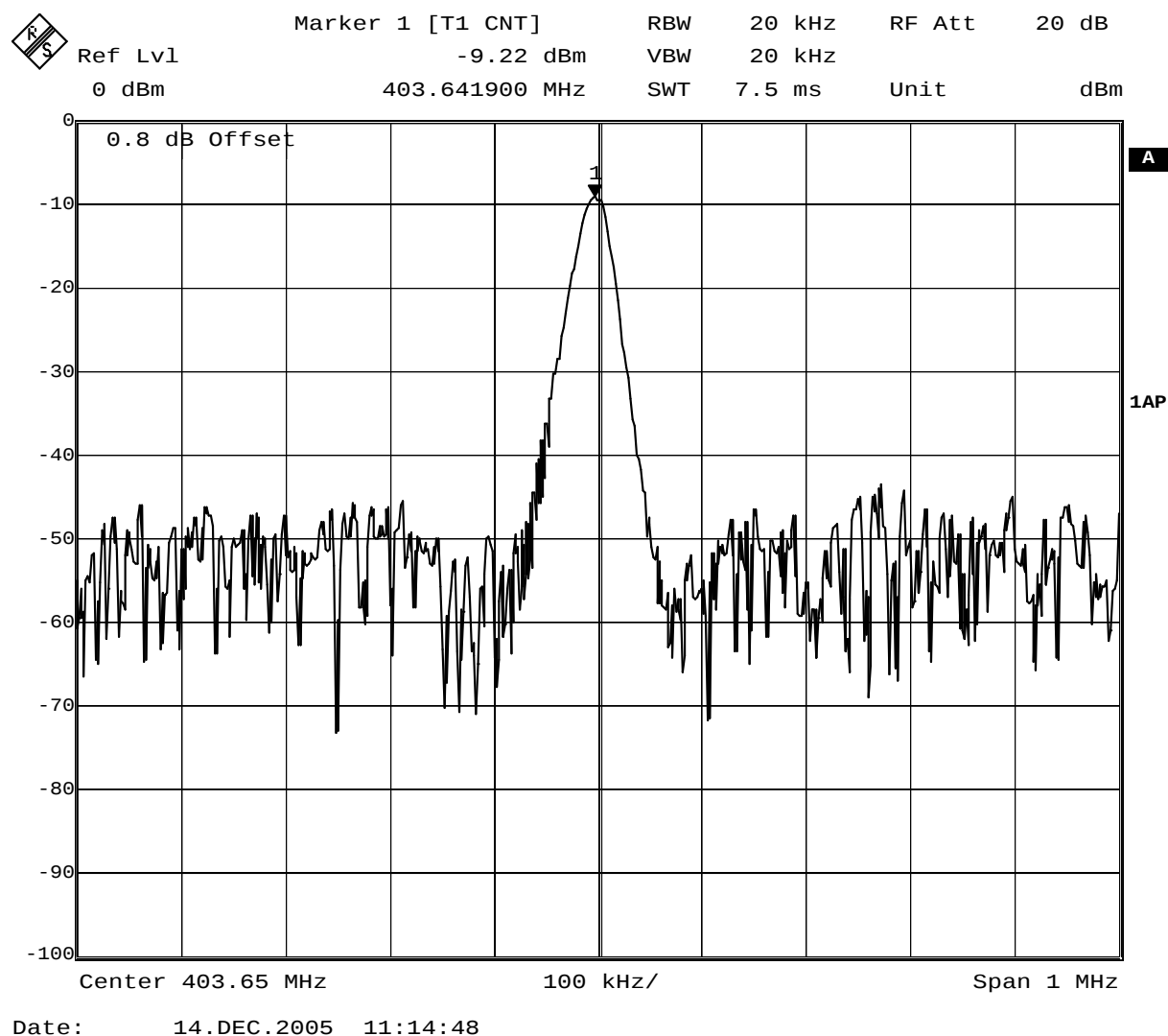


Measurement diagram

FCC Part 95.628 (09.12.2005) / EN 301 839 v1.1.1 (2002-06)

## Frequency Error

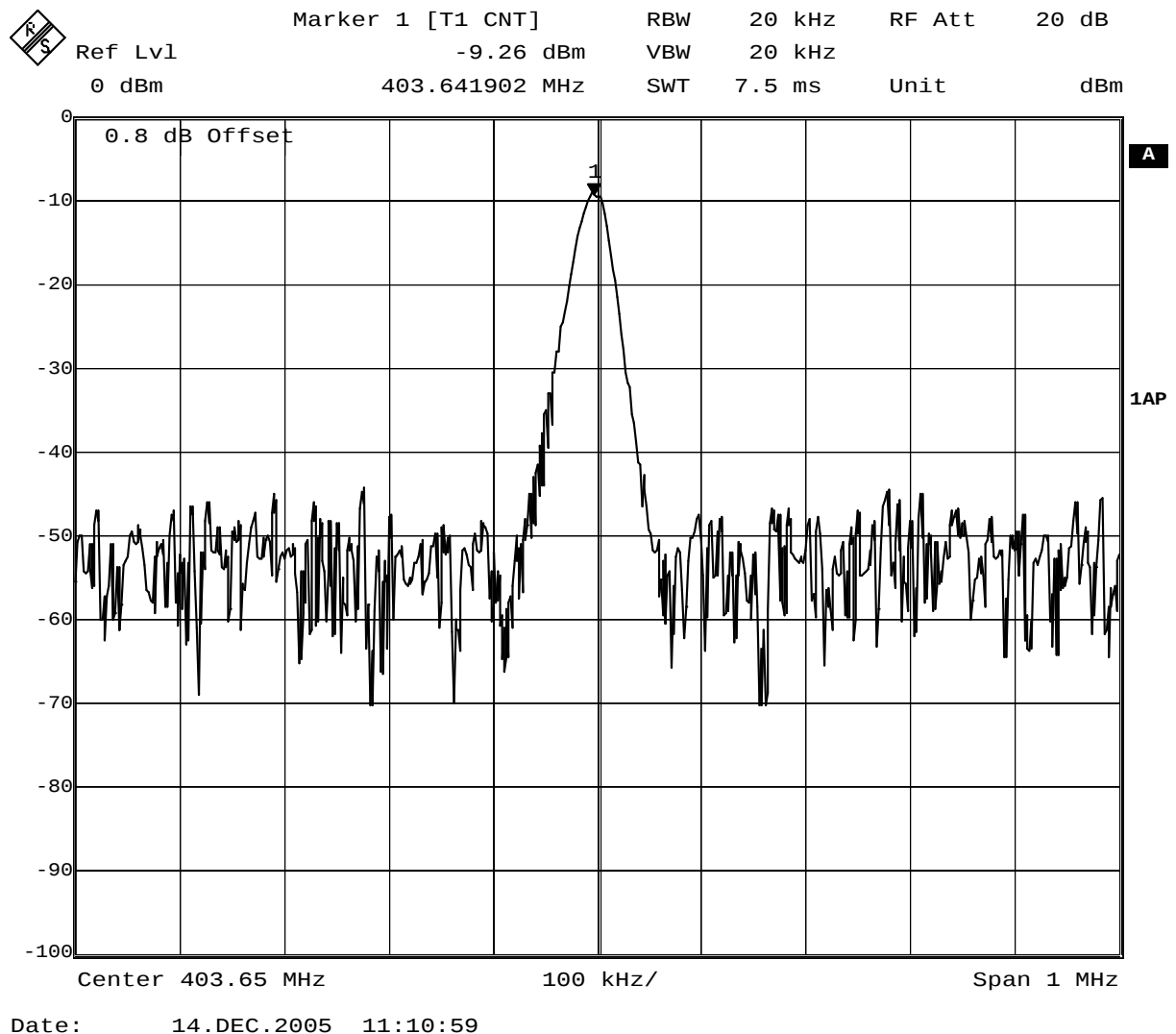
|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| EUT                   | Cardiomessenger II                                  |
| Model                 | Telex III                                           |
| Approval Holder       | Biotronik GmbH                                      |
| Temperature / Voltage | 55°C / Umin: 3.15 V DC                              |
| Test Site / Operator  | ETS                                                 |
| Test Specification    | FCC Part 95.628 e / EN 301 839-1 8.1                |
| Test Case             | Frequency Error (signal count function of analyzer) |
| Comment 1             | f: 403.641900 MHz                                   |
| Comment 2             | Limit +/-100 ppm (+/-40.36KHz)                      |



Measurement diagram

**FCC Part 95.628 (09.12.2005) / EN 301 839 v1.1.1 (2002-06)**  
**Frequency Error**

|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| EUT                   | Cardiomessenger II                                  |
| Model                 | Telex III                                           |
| Approval Holder       | Biotronik GmbH                                      |
| Temperature / Voltage | 55°C / Umax: 3.7 V DC                               |
| Test Site / Operator  | ETS                                                 |
| Test Specification    | FCC Part 95.628 e / EN 301 839-1 8.1                |
| Test Case             | Frequency Error (signal count function of analyzer) |
| Comment 1             | f: 403.641902 MHz                                   |
| Comment 2             | Limit +/-100 ppm (+/-40.36KHz)                      |



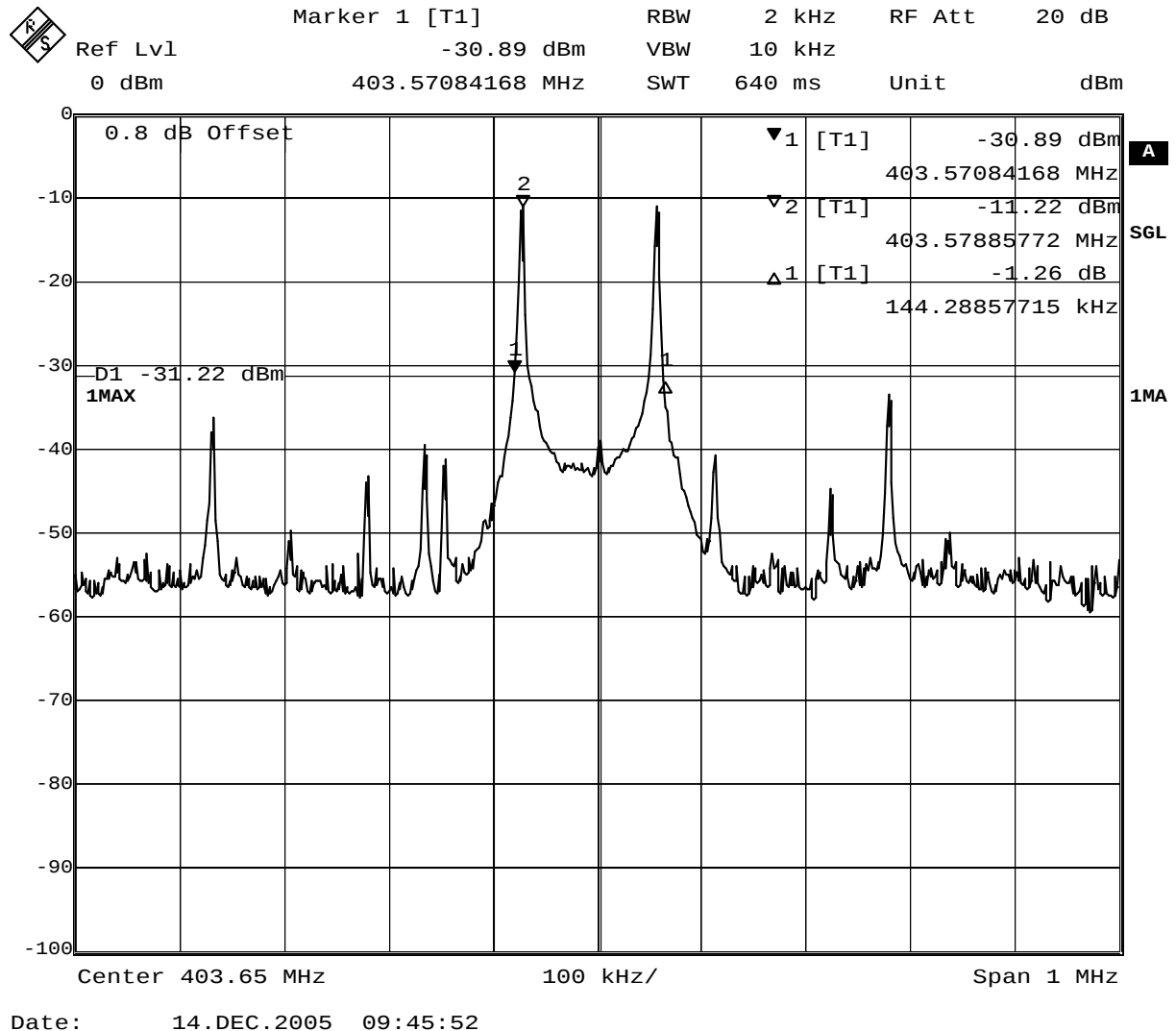
Measurement diagram

## Annex

Measurement diagrams “20dB Emission bandwidth”

**FCC Part 95.633 (09.12.2005) / EN 301 839 v1.1.1 (2002-06)**  
**Emission bandwidth**

|                       |                                      |
|-----------------------|--------------------------------------|
| EUT                   | Cardiomessenger II                   |
| Model                 | Telex III                            |
| Approval Holder       | Biotronik GmbH                       |
| Temperature / Voltage | 24°C / Unom: 3.7 V Dc                |
| Test Site / Operator  | ETS                                  |
| Test Specification    | FCC Part 95.633 e / EN 301 839-1 8.2 |
| Test Case             | 20 dB Emission bandwidth             |
| Comment 1             | f high-flow Bandwidth: 144.29 KHz    |
| Comment 2             | Limit 300KHz                         |



Measurement diagram

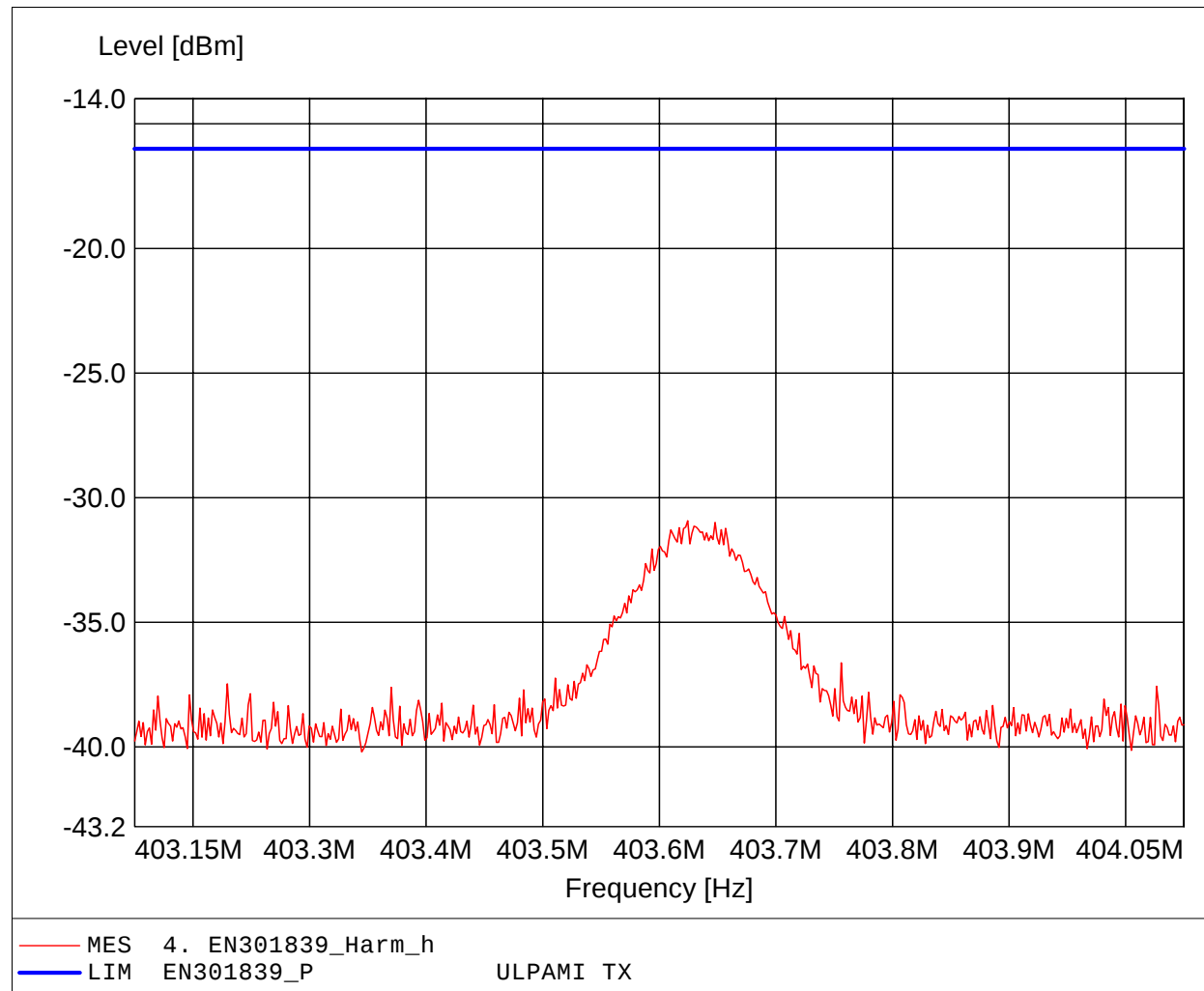
## **Annex**

Measurement diagrams “Radiated Power under normal conditions”

## Radiated power under normal conditions

### ULPAMI in accordance to the EN 301 839

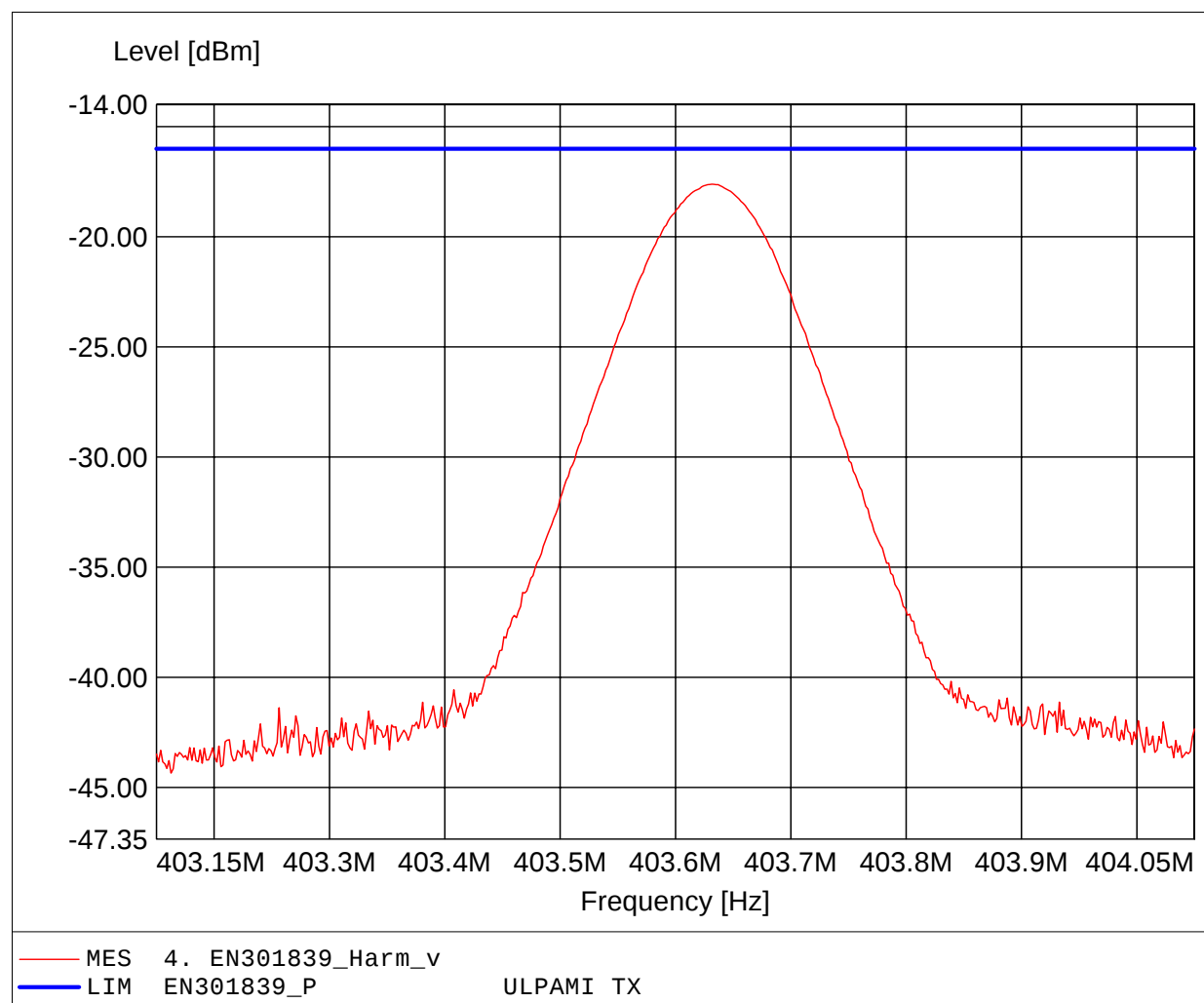
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna top, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 3m, Ant.: HL 223  
Comment 2: Freq:403.624MHz Pmax:-30.92dBm RBW: 10 MHz



## ***Radiated power under normal conditions***

### ***ULPAMI in accordance to the EN 301 839***

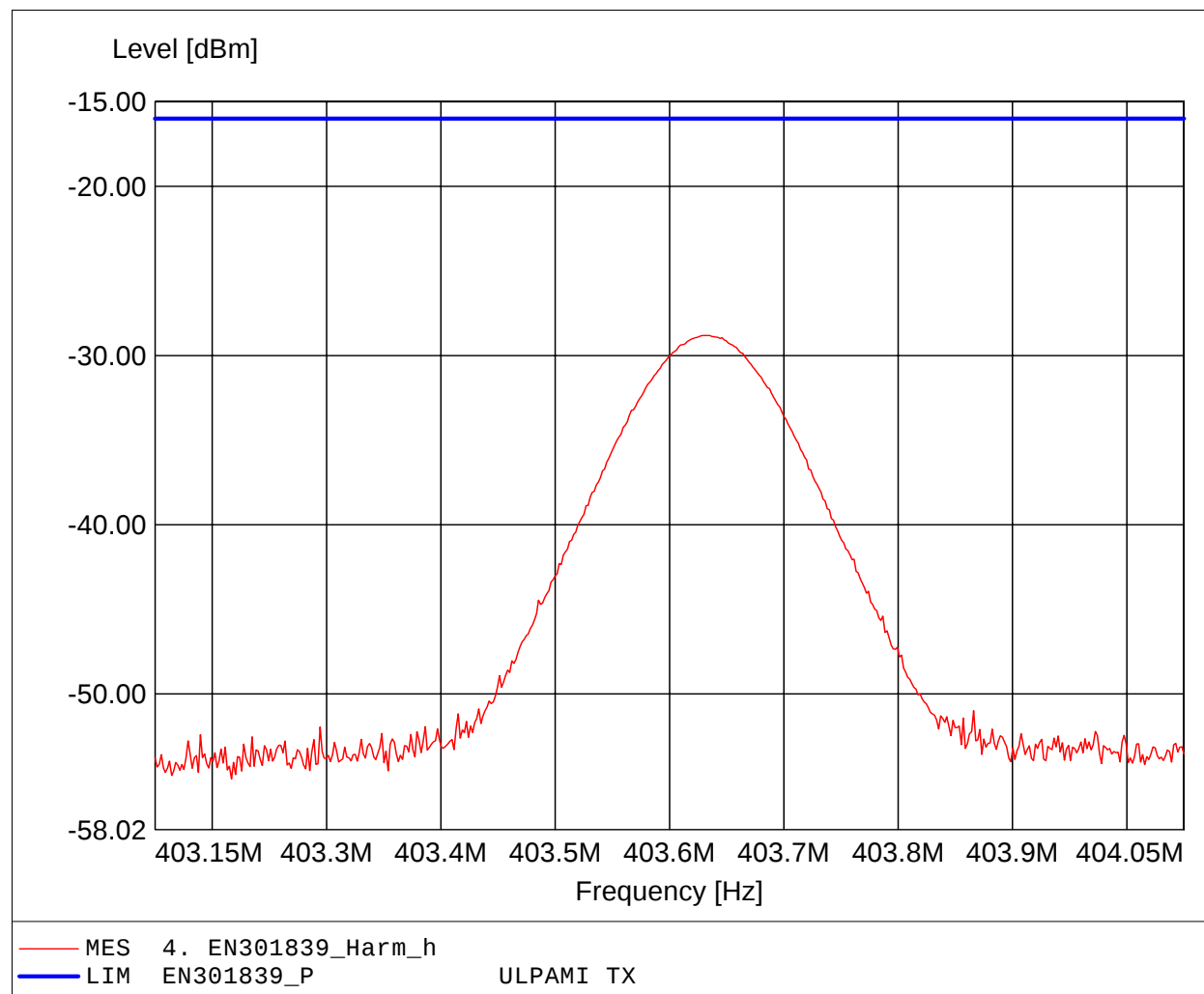
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna top, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 3m, Ant.: HL 223  
Comment 2: Freq:403.632MHz Pmax:-17.61dBm RBW: 10 MHz



## Radiated power under normal conditions

### ULPAMI in accordance to the EN 301 839

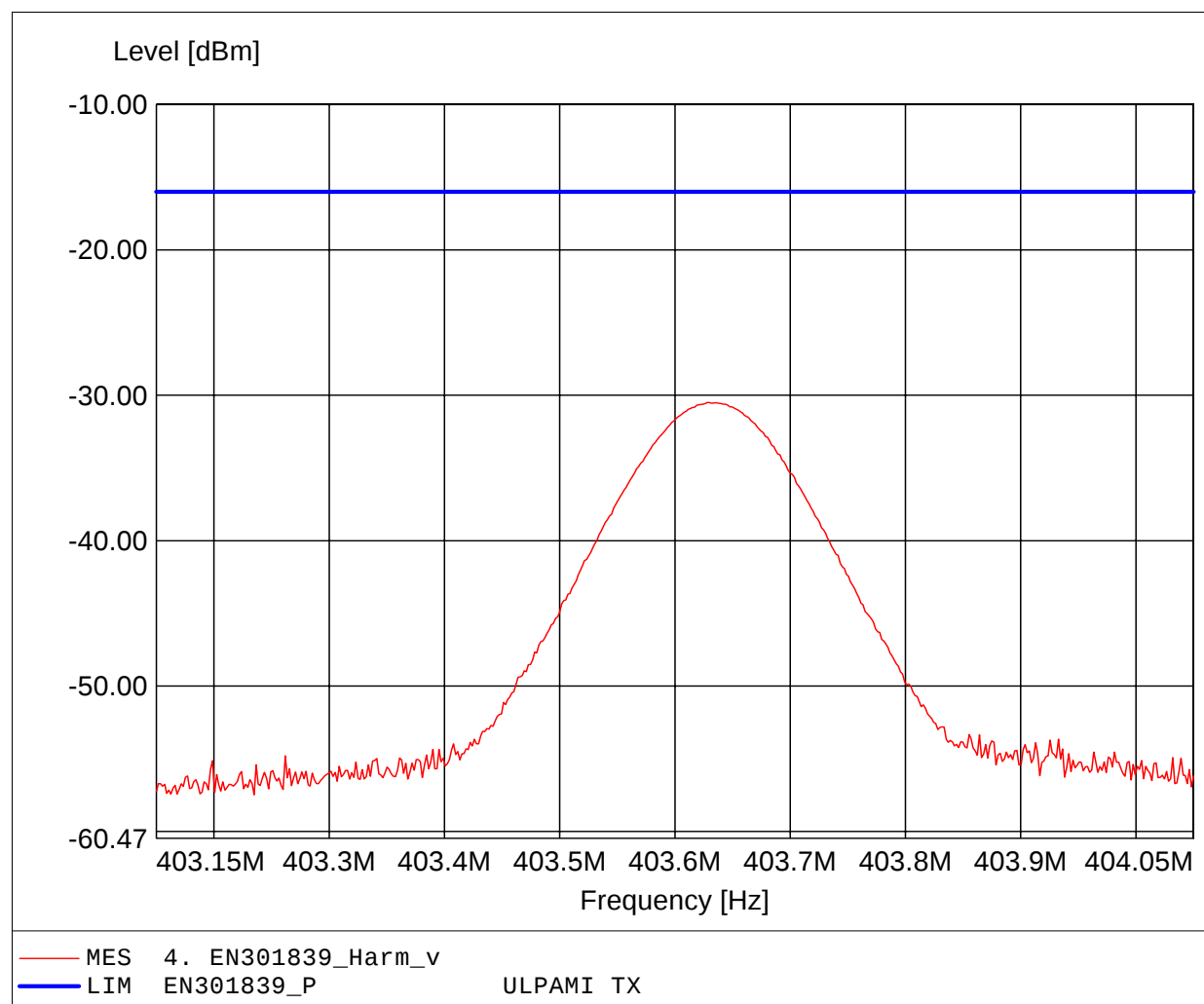
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna bottom, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 3m, Ant.: HL 025,  
Comment 2: Freq:403.632MHz Pmax:-28.82dBm RBW: 10 MHz



## Radiated power under normal conditions

### ULPAMI in accordance to the EN 301 839

Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna bottom, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 3m, Ant.: HL 025,  
Comment 2: Freq:403.628MHz Pmax:-30.49dBm RBW: 10 MHz



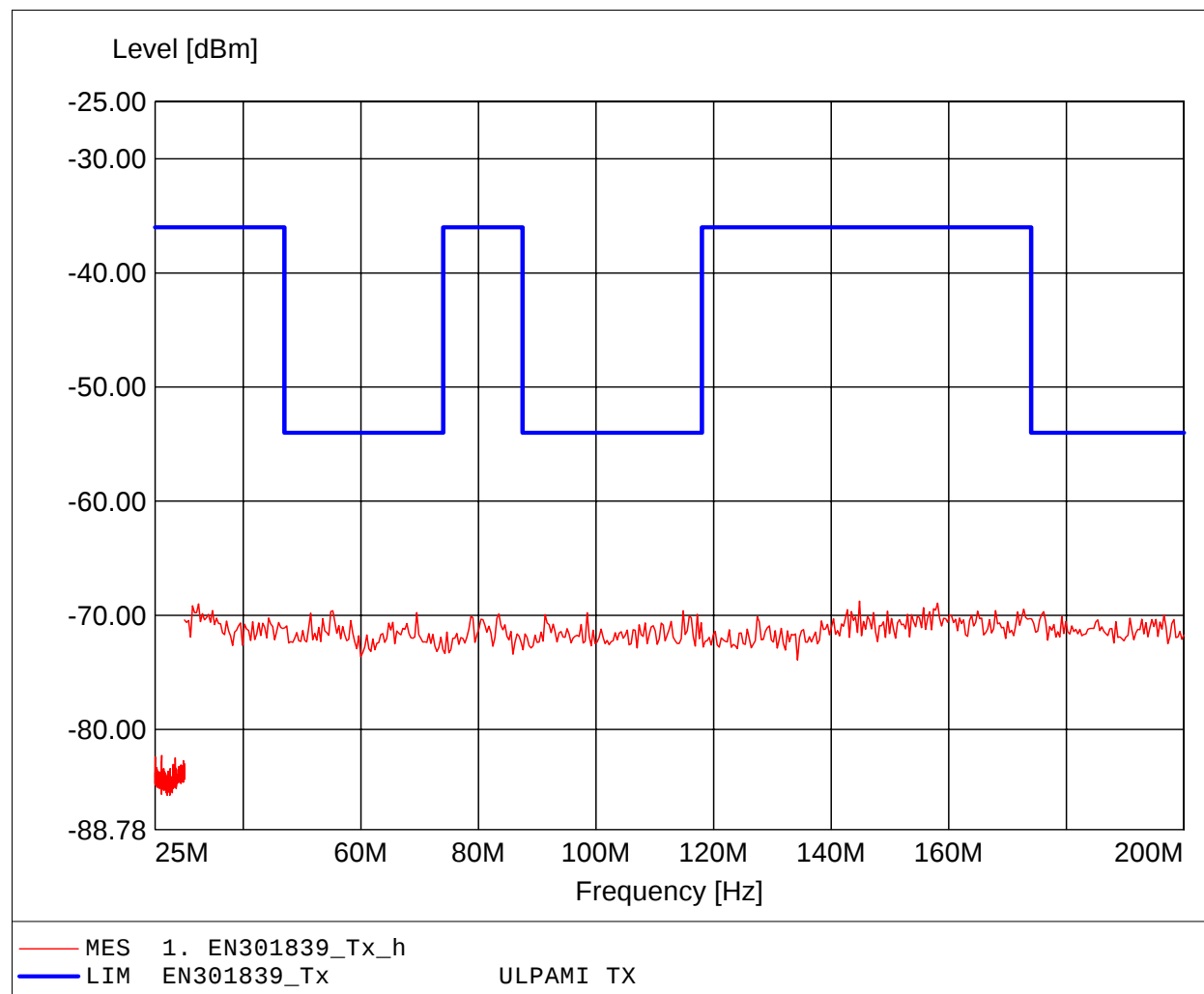
## **Annex**

Measurement diagrams “Spurious Radiation mode: TX

## Spurious radiation

### ULPAMI in accordance to the EN 301 839

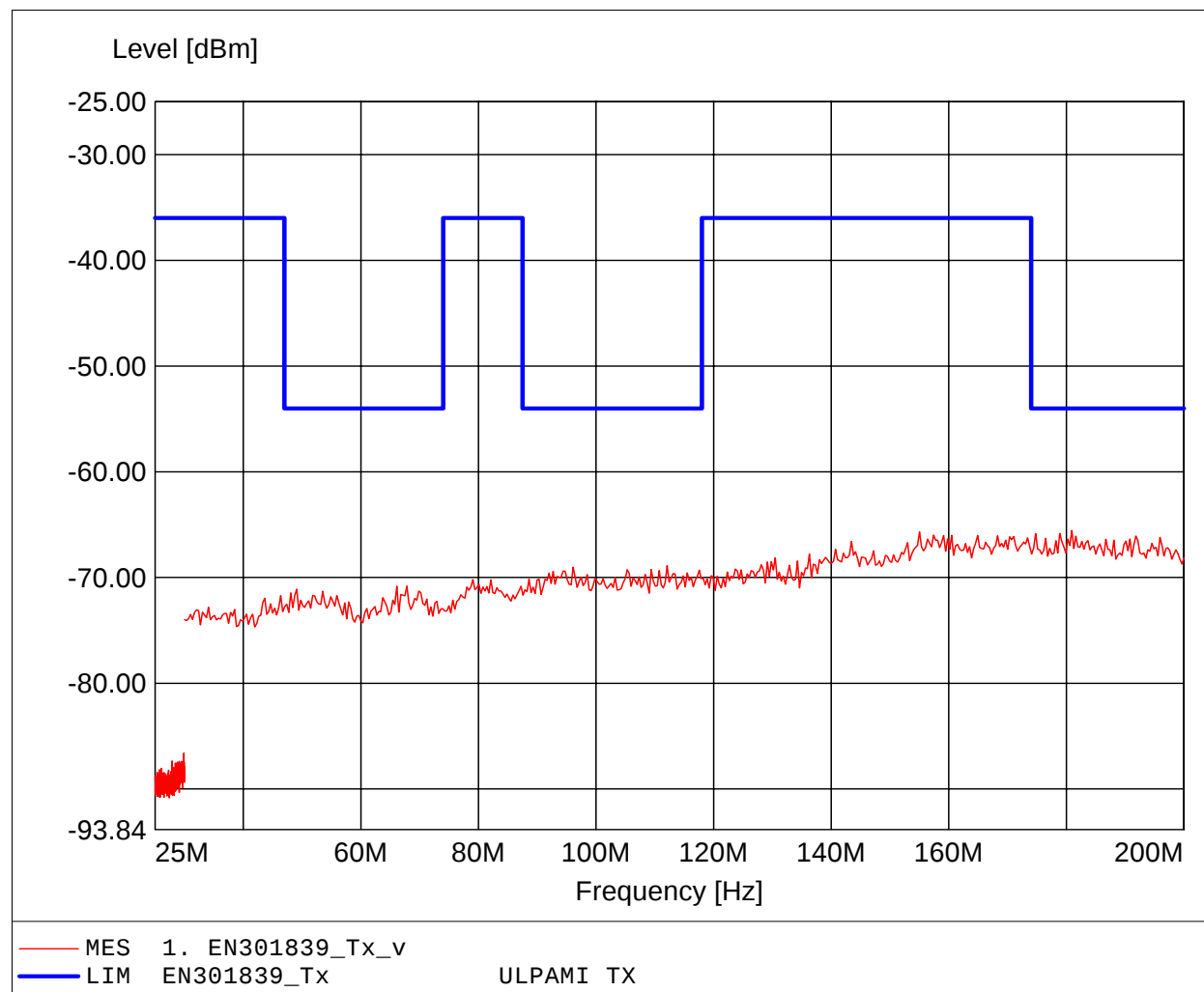
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna top, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq:144.810MHz Pmax:-68.76dBm RBW: 10/100 kHz



## Spurious radiation

### ULPAMI in accordance to the EN 301 839

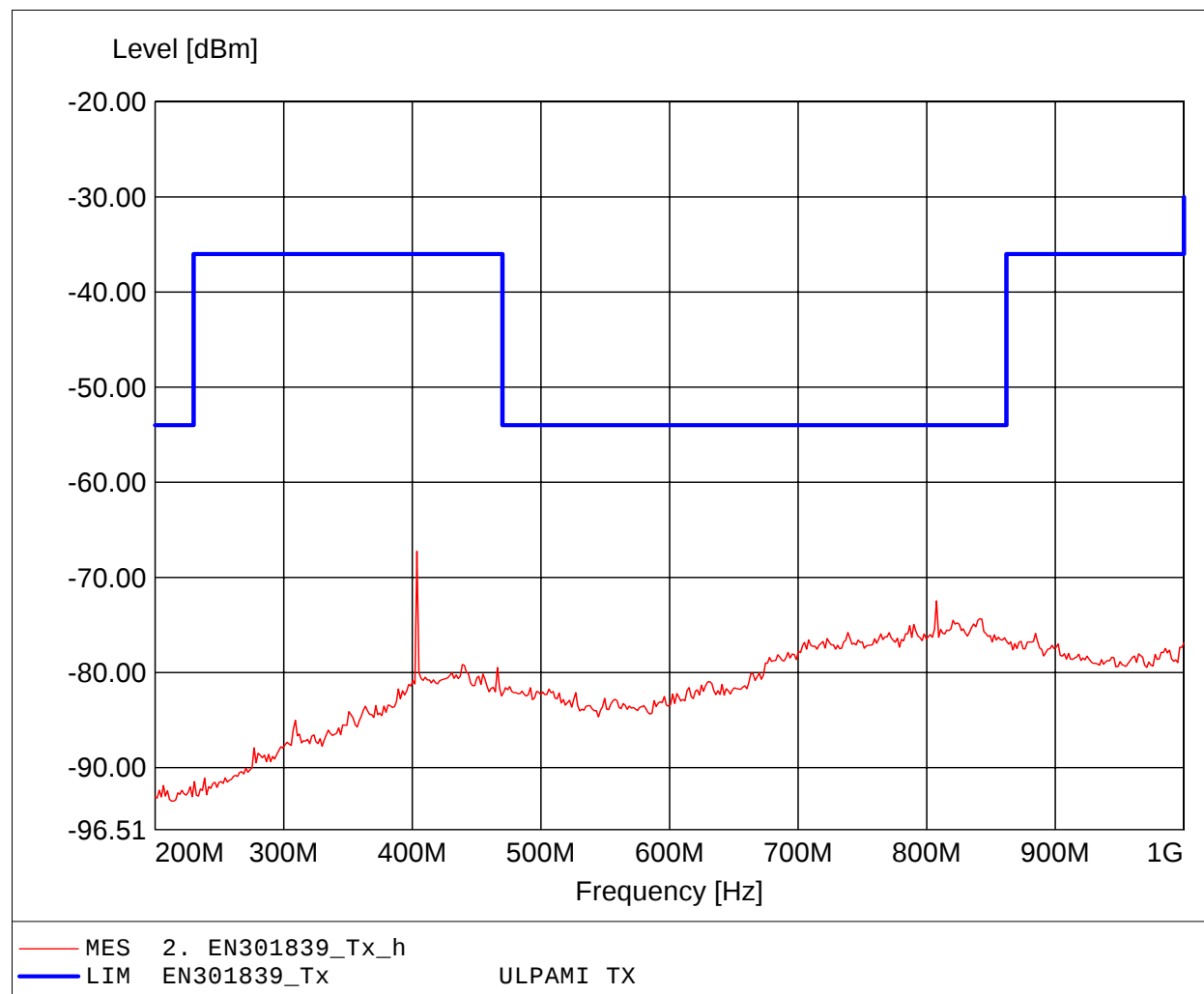
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna top, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq:180.922MHz Pmax:-65.54dBm RBW: 10/100 kHz



## Spurious radiation

### ULPAMI in accordance to the EN 301 839

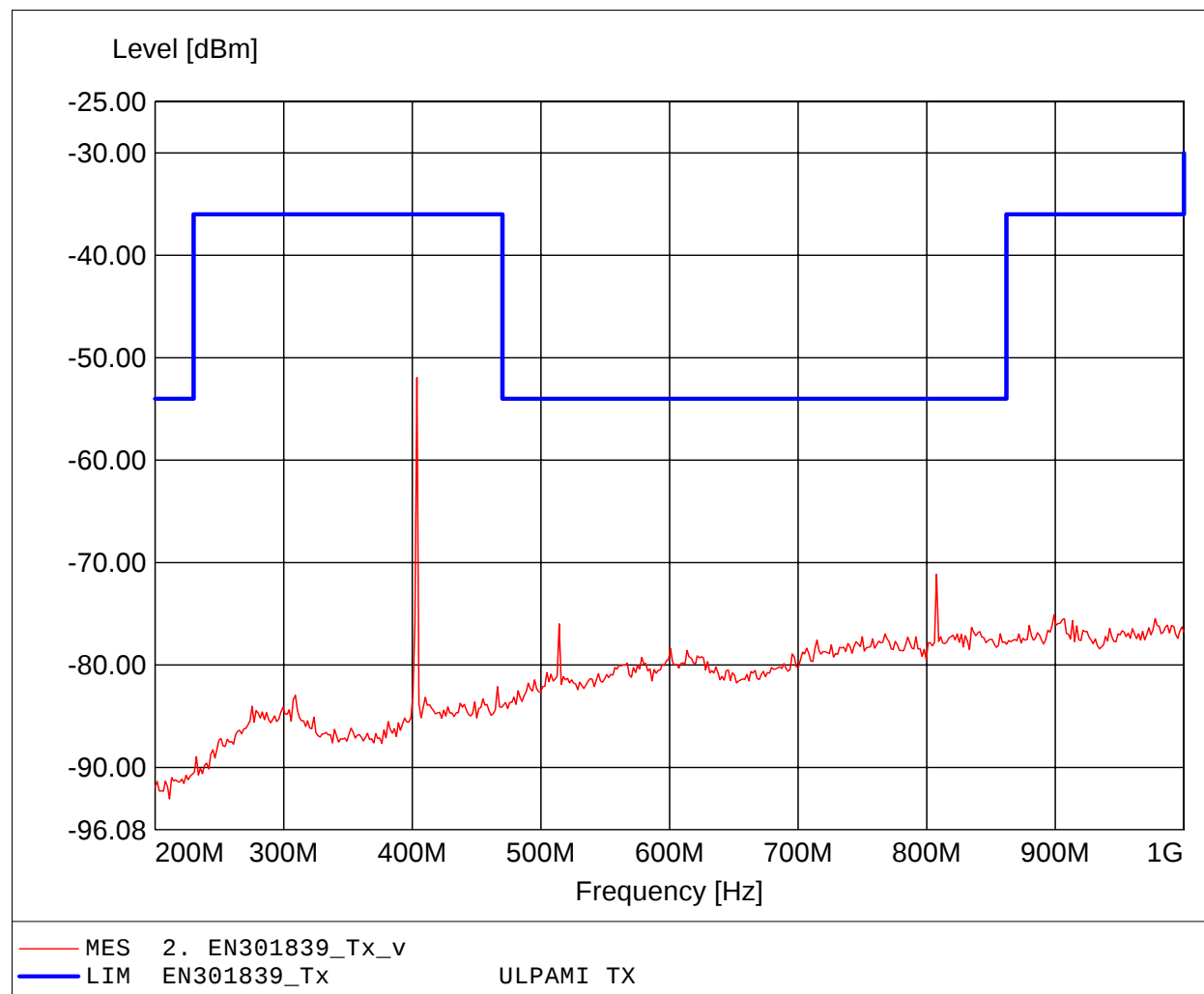
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna top, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 3m, Ant.: HL 223, notch-filter, ampl.: 0.2-1 GHz  
Comment 2: Freq:403.607MHz Pmax:-67.26dBm RBW: 100 kHz



## Spurious radiation

### ULPAMI in accordance to the EN 301 839

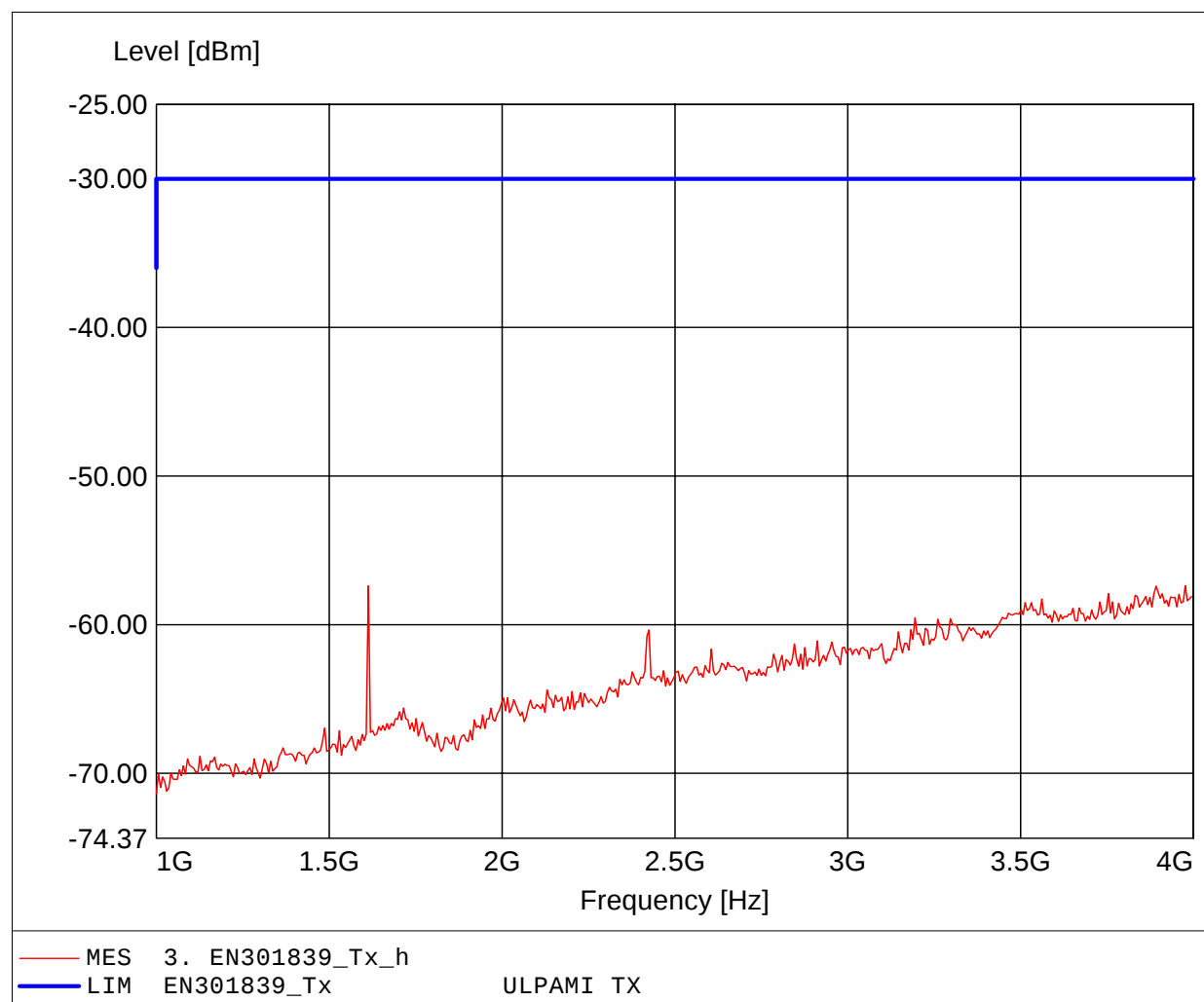
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna top, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 3m, Ant.: HL 223, notch-filter, ampl.: 0.2-1 GHz  
Comment 2: Freq:403.607MHz Pmax:-51.93dBm RBW: 100 kHz



## Spurious radiation

### ULPAMI in accordance to the EN 301 839

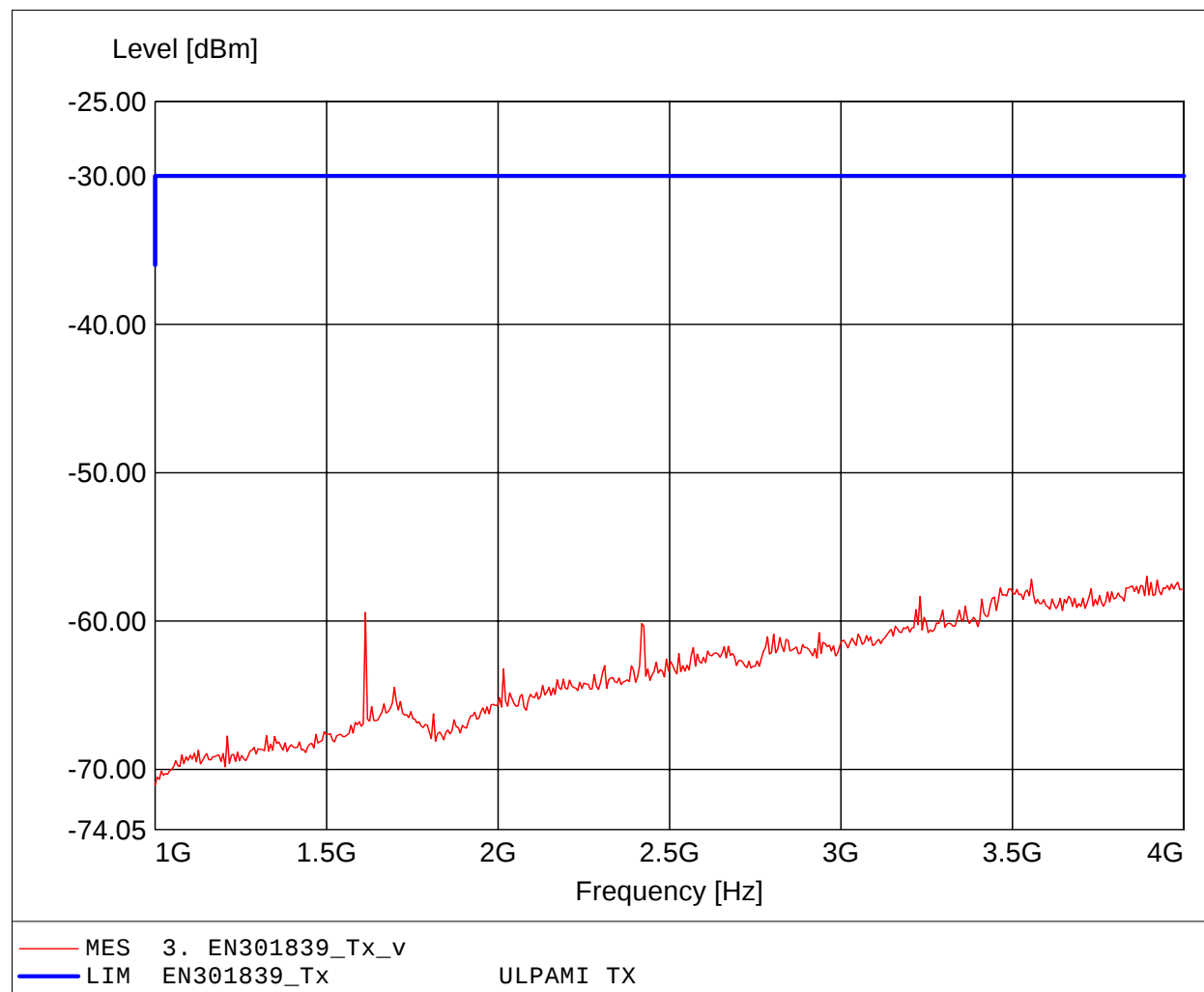
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna top, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4 GHz  
Comment 2: Freq:3.976GHz Pmax:-57.37dBm RBW: 1 MHz



## Spurious radiation

### ULPAMI in accordance to the EN 301 839

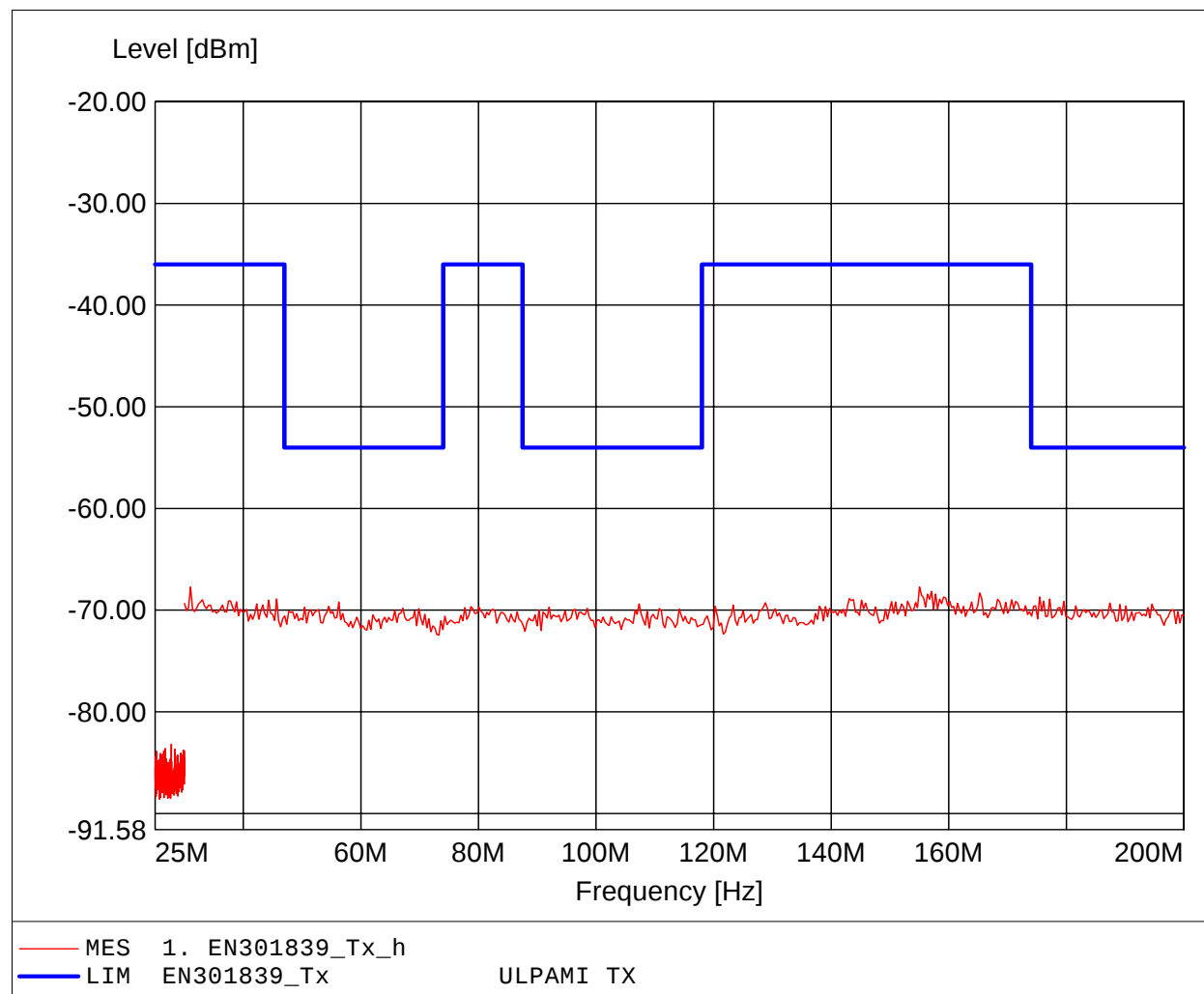
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna top, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4 GHz  
Comment 2: Freq:3.892GHz Pmax:-56.99dBm RBW: 1 MHz



## Spurious radiation

### ULPAMI in accordance to the EN 301 839

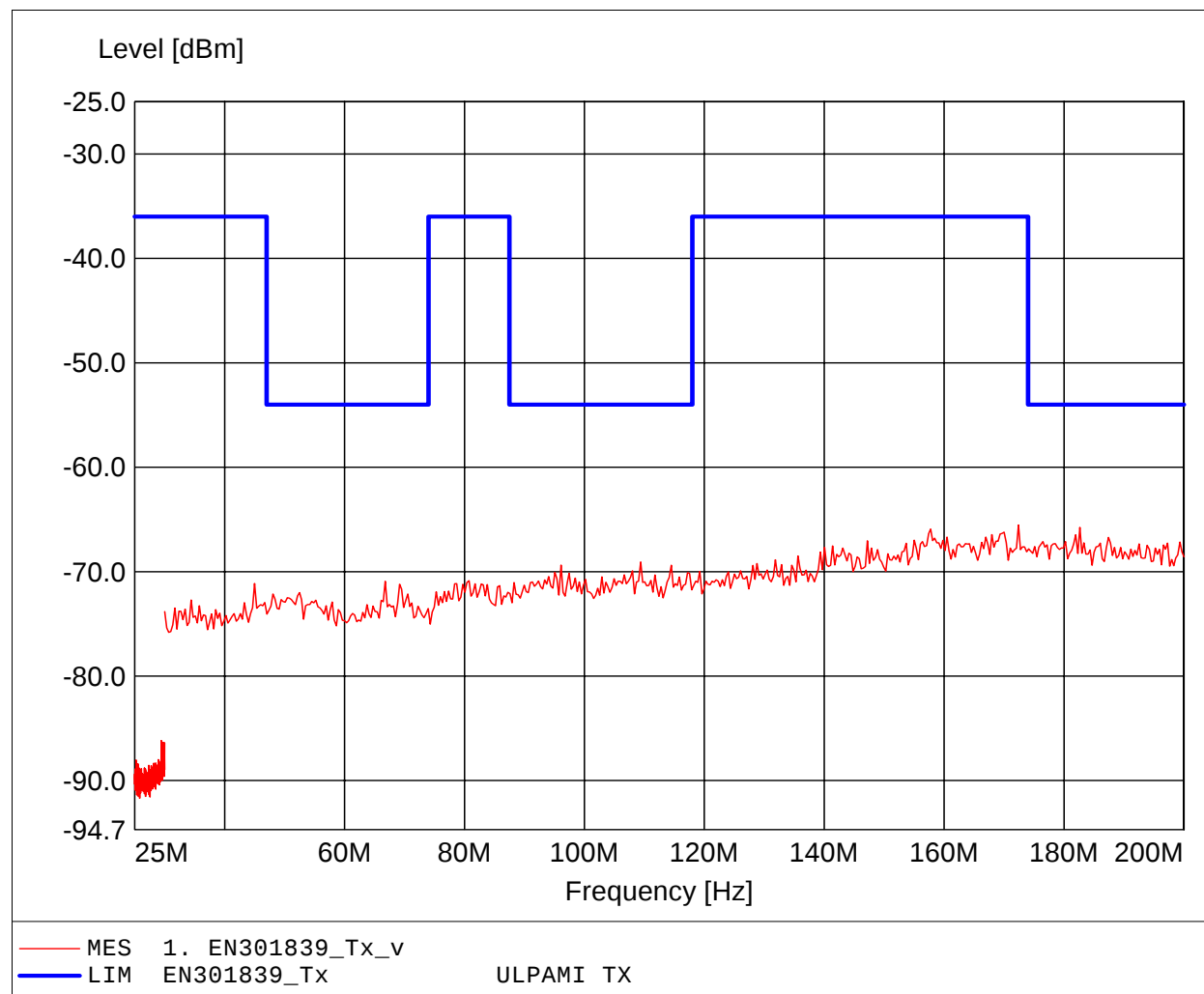
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna bottom, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq:155.030MHz Pmax:-67.71dBm RBW: 10/100 kHz



## Spurious radiation

### ULPAMI in accordance to the EN 301 839

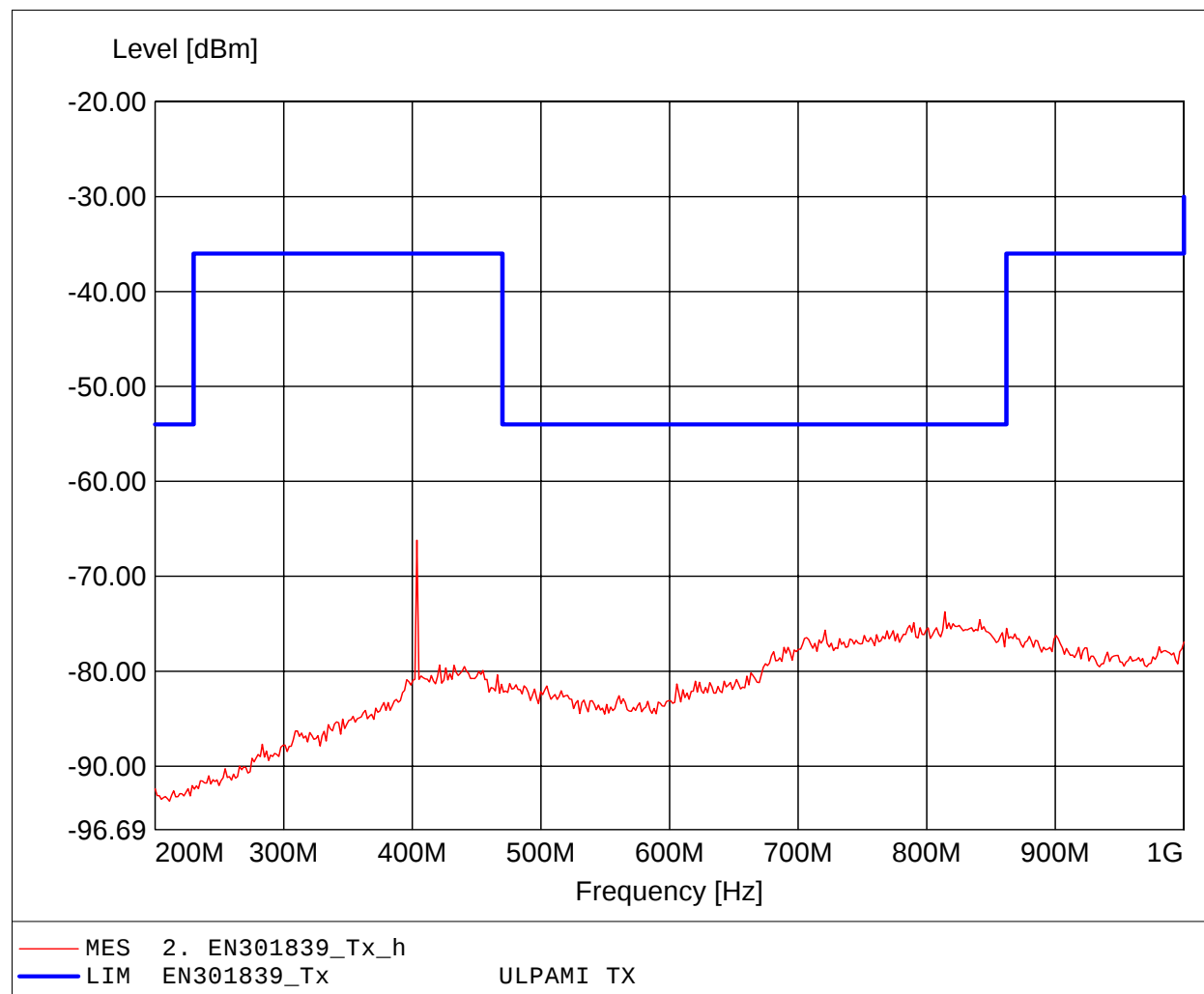
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna bottom, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq:172.405MHz Pmax:-65.54dBm RBW: 10/100 kHz



## Spurious radiation

### ULPAMI in accordance to the EN 301 839

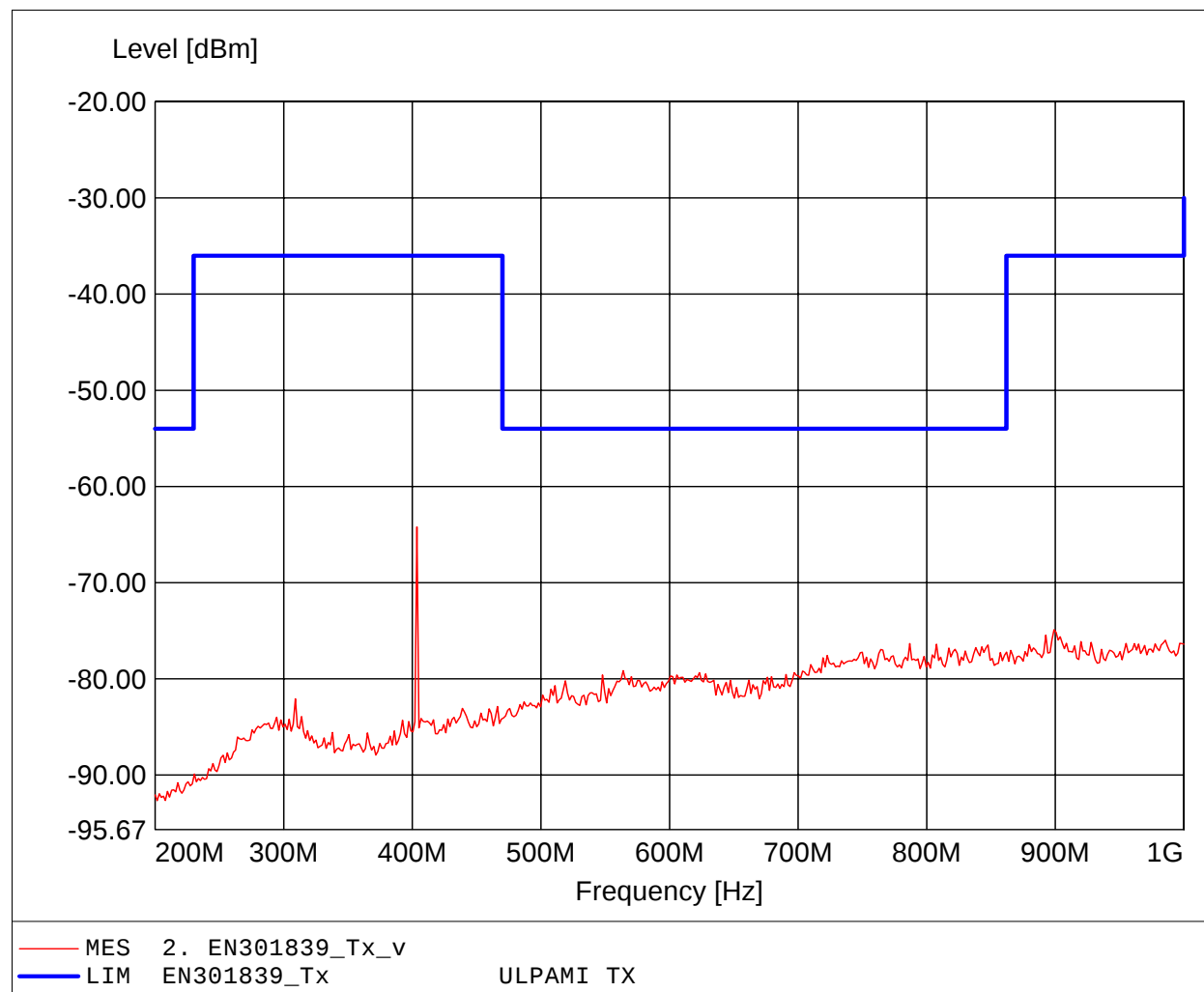
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna bottom, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 3m, Ant.: HL 223, notch-filter, ampl.: 0.2-1 GHz  
Comment 2: Freq:403.607MHz Pmax:-66.19dBm RBW: 100 kHz



## Spurious radiation

### ULPAMI in accordance to the EN 301 839

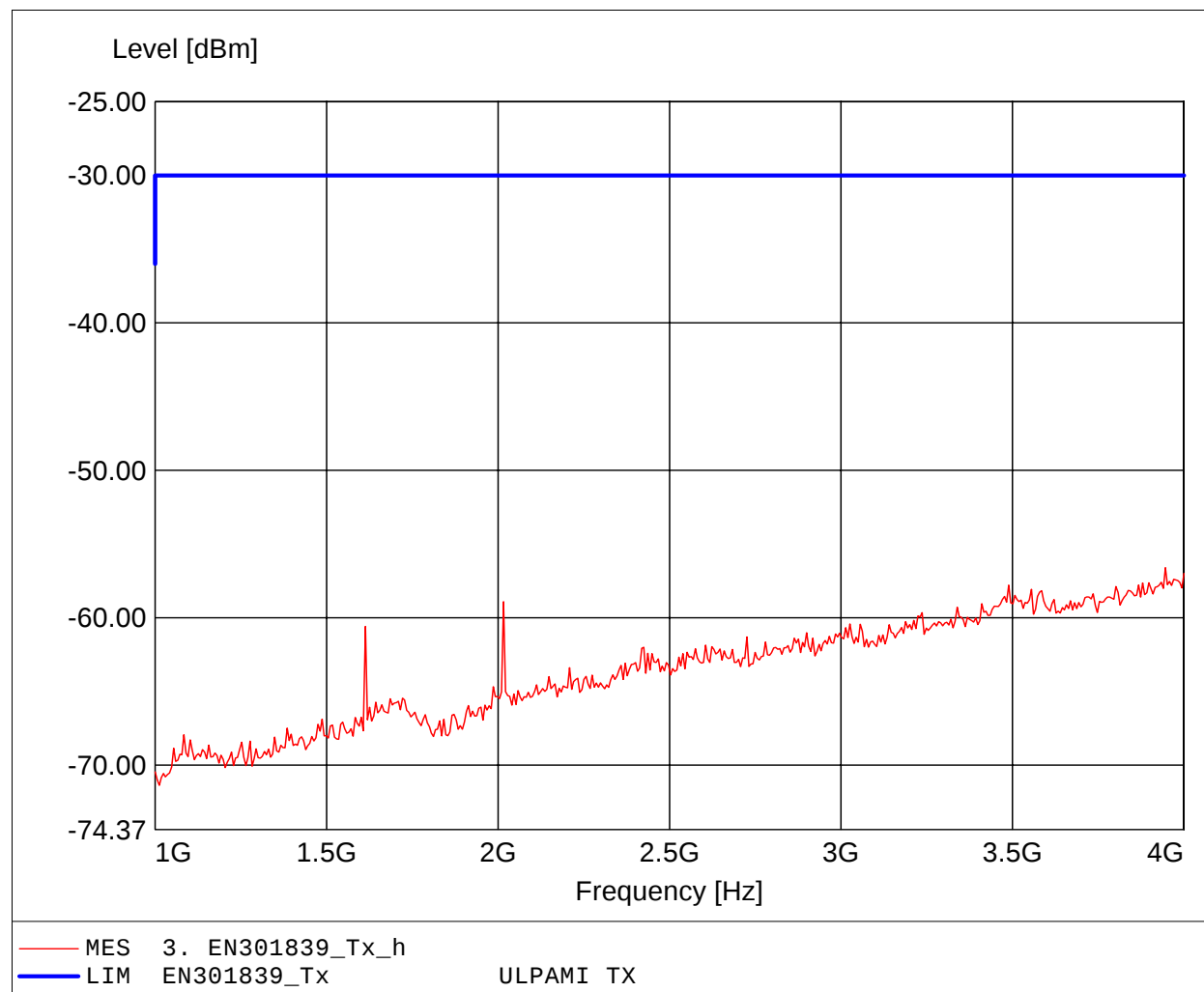
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna bottom, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 3m, Ant.: HL 223, notch-filter, ampl.: 0.2-1 GHz  
Comment 2: Freq: 403.607MHz Pmax: -64.21dBm RBW: 100 kHz



## Spurious radiation

### ULPAMI in accordance to the EN 301 839

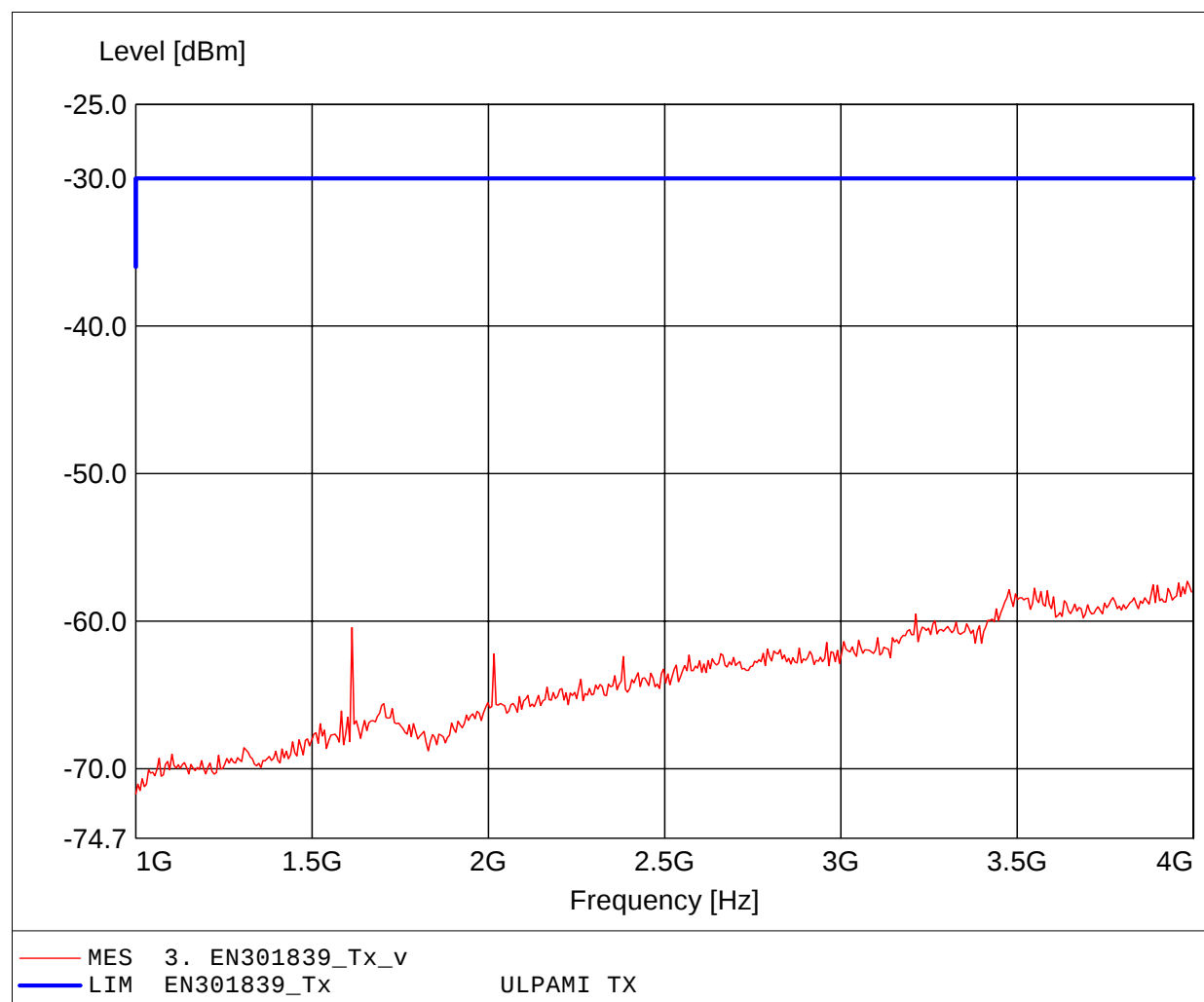
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna bottom, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4 GHz  
Comment 2: Freq:3.946GHz Pmax:-56.61dBm RBW: 1 MHz



## Spurious radiation

### ULPAMI in accordance to the EN 301 839

Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna bottom, Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: Tx  
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4 GHz  
Comment 2: Freq:3.982GHz Pmax:-57.29dBm RBW: 1 MHz



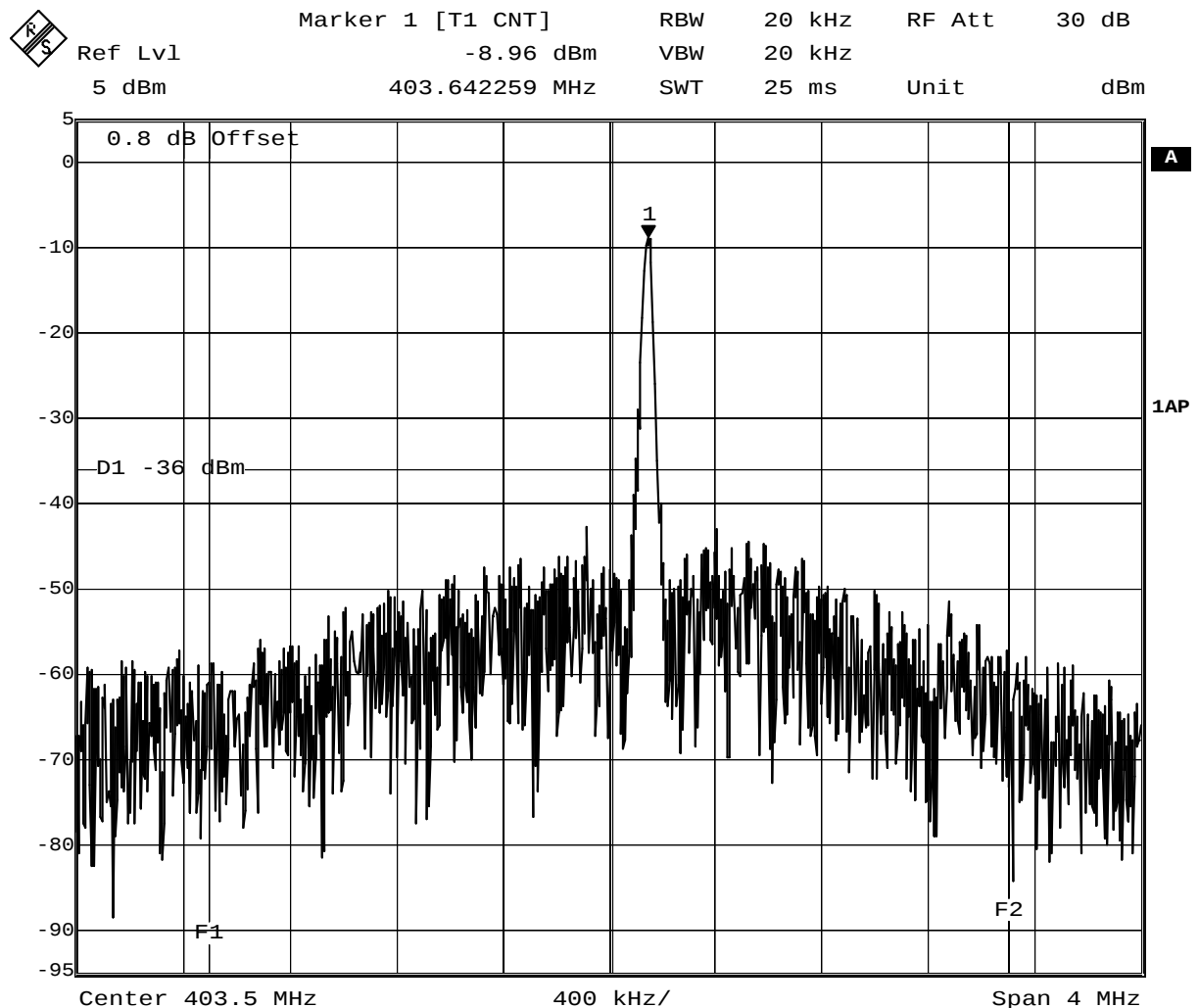
## **Annex**

Measurement diagram “ Frequency stability under low voltage condition”

## EN 301 839 v1.1.1 (2002-06)

## Frequency stability under low voltage conditions

|                       |                                                                 |
|-----------------------|-----------------------------------------------------------------|
| EUT                   | Cardiomessenger II                                              |
| Model                 | Telex III                                                       |
| Approval Holder       | Biotronik GmbH                                                  |
| Temperature / Voltage | 25°C / Unom: 3.0 V Dc                                           |
| Test Site / Operator  | ETS                                                             |
| Test Specification    | EN 301 839-1 8.2                                                |
| Test Case             | EN 301 839 8.5 Frequency stability under low voltage conditions |
| Comment 1             | f: 403.642259                                                   |
| Comment 2             | Limit: +/- 100 ppm above -36 dBm (lower 3.0V Tx switch off)     |



Date: 14.DEC.2005 10:16:29

Measurement diagram

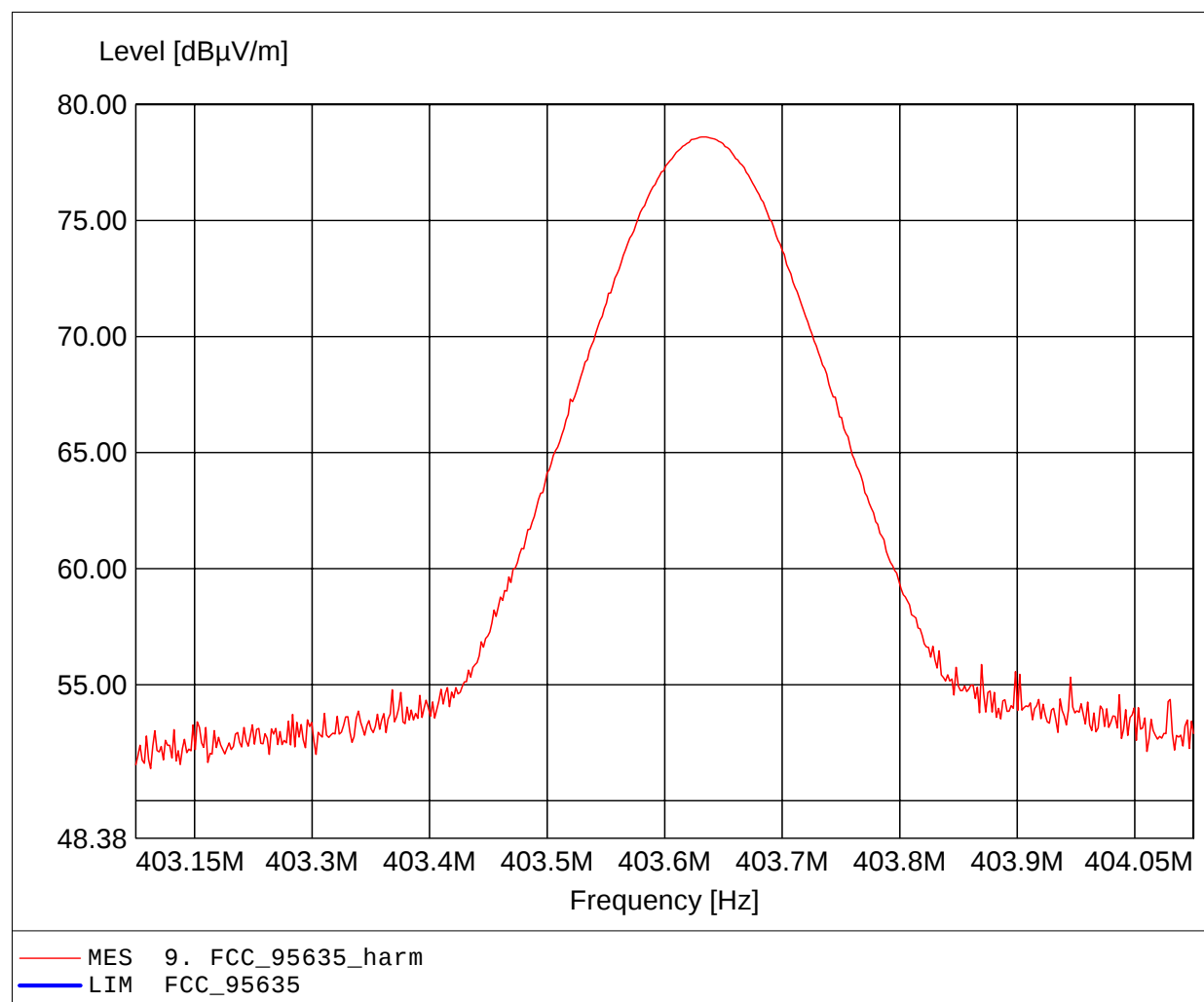
## **Annex**

Measurement diagrams “ Unwanted radiations FCC RULES Part 95”

## Carrier power (dBµV/m)

### FCC RULES PART 95, SUBPART I

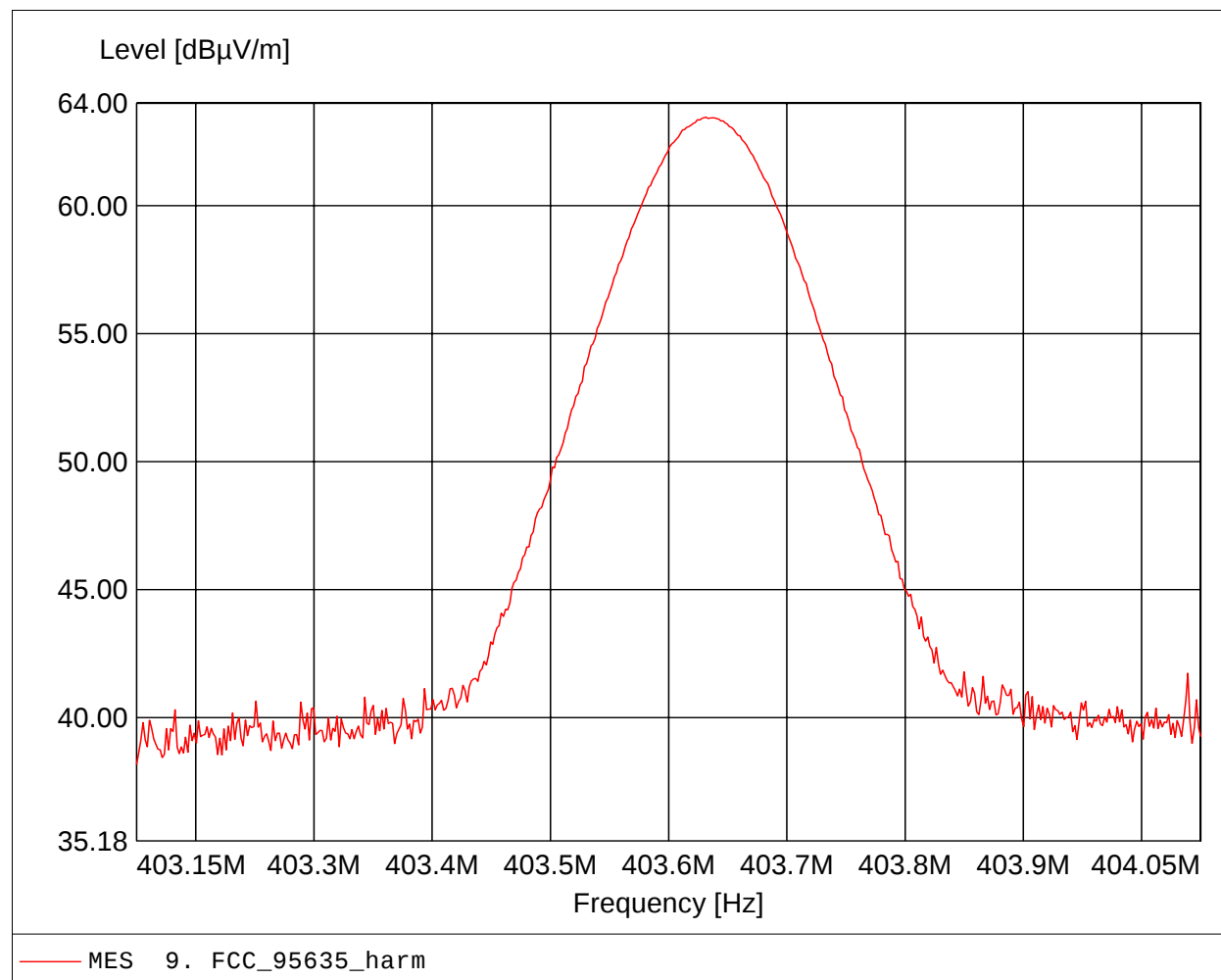
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223  
Comment 2: Freq: 403.635MHz, Emax: 78.61dBµV/m, RBW: 100kHz



## Carrier power (dBµV/m)

### FCC RULES PART 95, SUBPART I

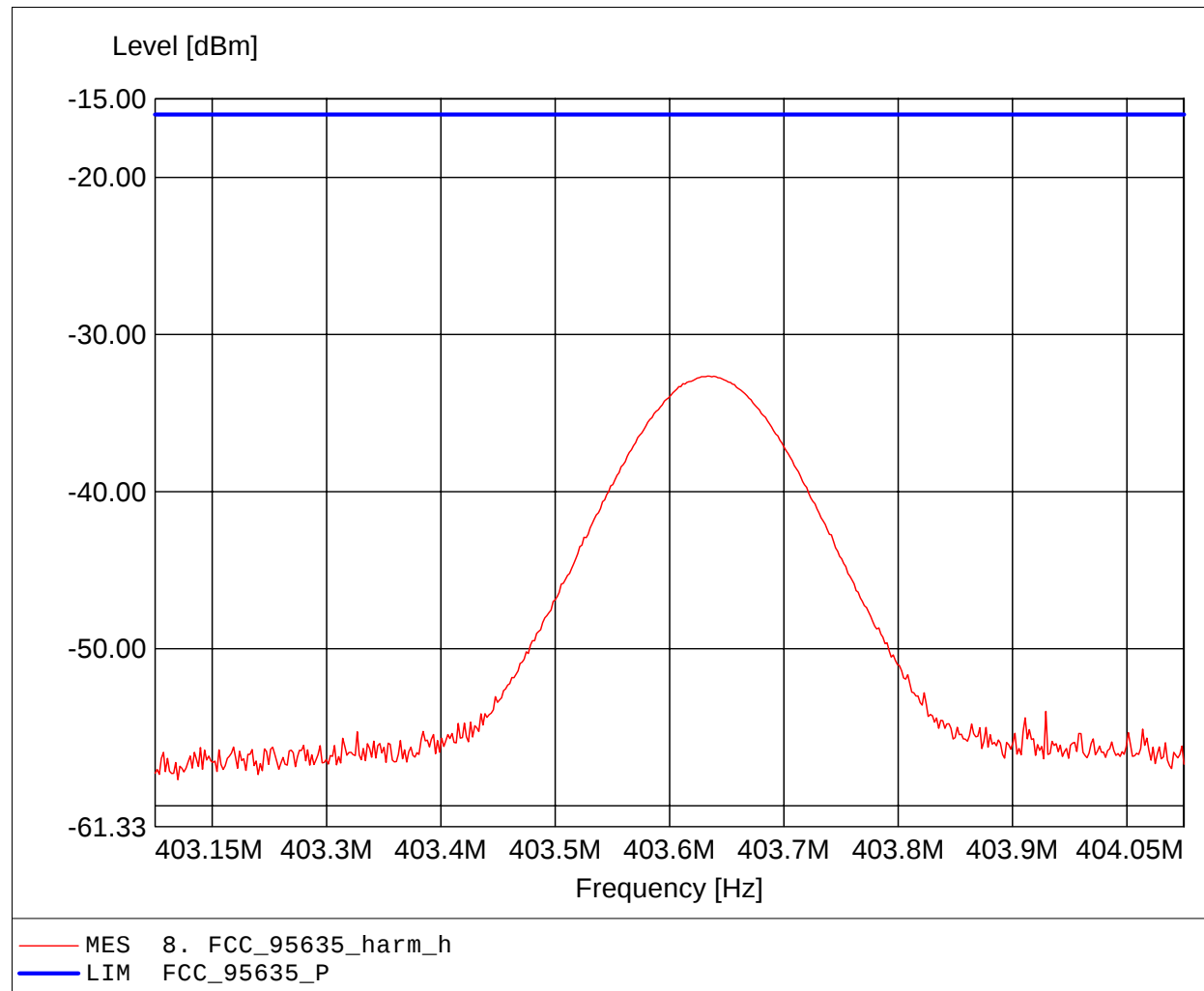
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223  
Comment 2: Freq: 403.632MHz, Emax: 63.46dBµV/m, RBW: 100kHz



## Carrier power (dBm)

### FCC RULES PART 95, SUBPART I

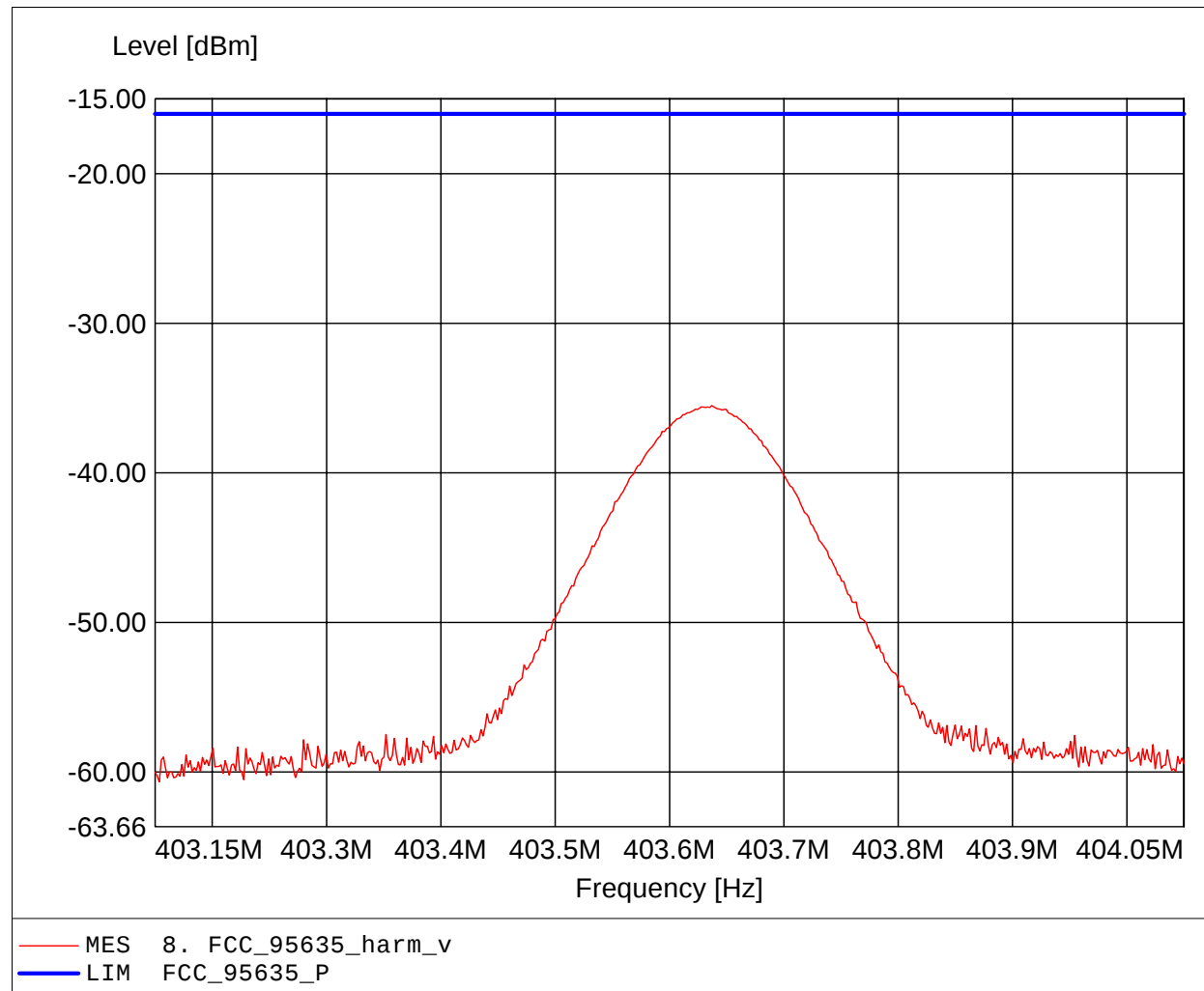
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.639, peak detector  
Comment 1: Dist.: 3m, Ant.: HL223  
Comment 2: Freq: 403.633MHz, Pmax: -32.65dBm, RBW: 100KHz



## Carrier power (dBm)

### FCC RULES PART 95, SUBPART I

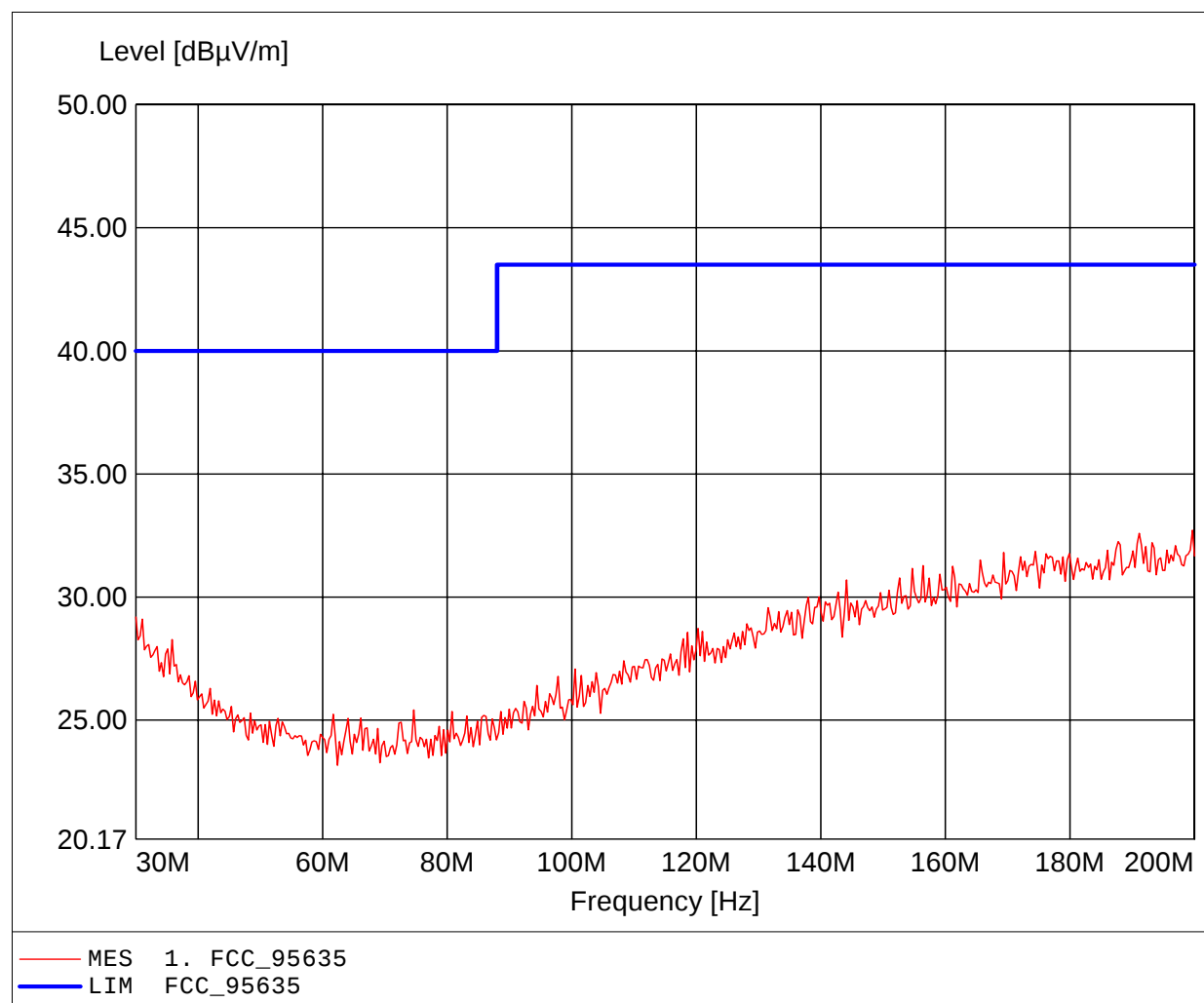
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.639, peak detector  
Comment 1: Dist.: 3m, Ant.: HL223  
Comment 2: Freq: 403.637MHz, Pmax: -35.51dBm, RBW: 100KHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

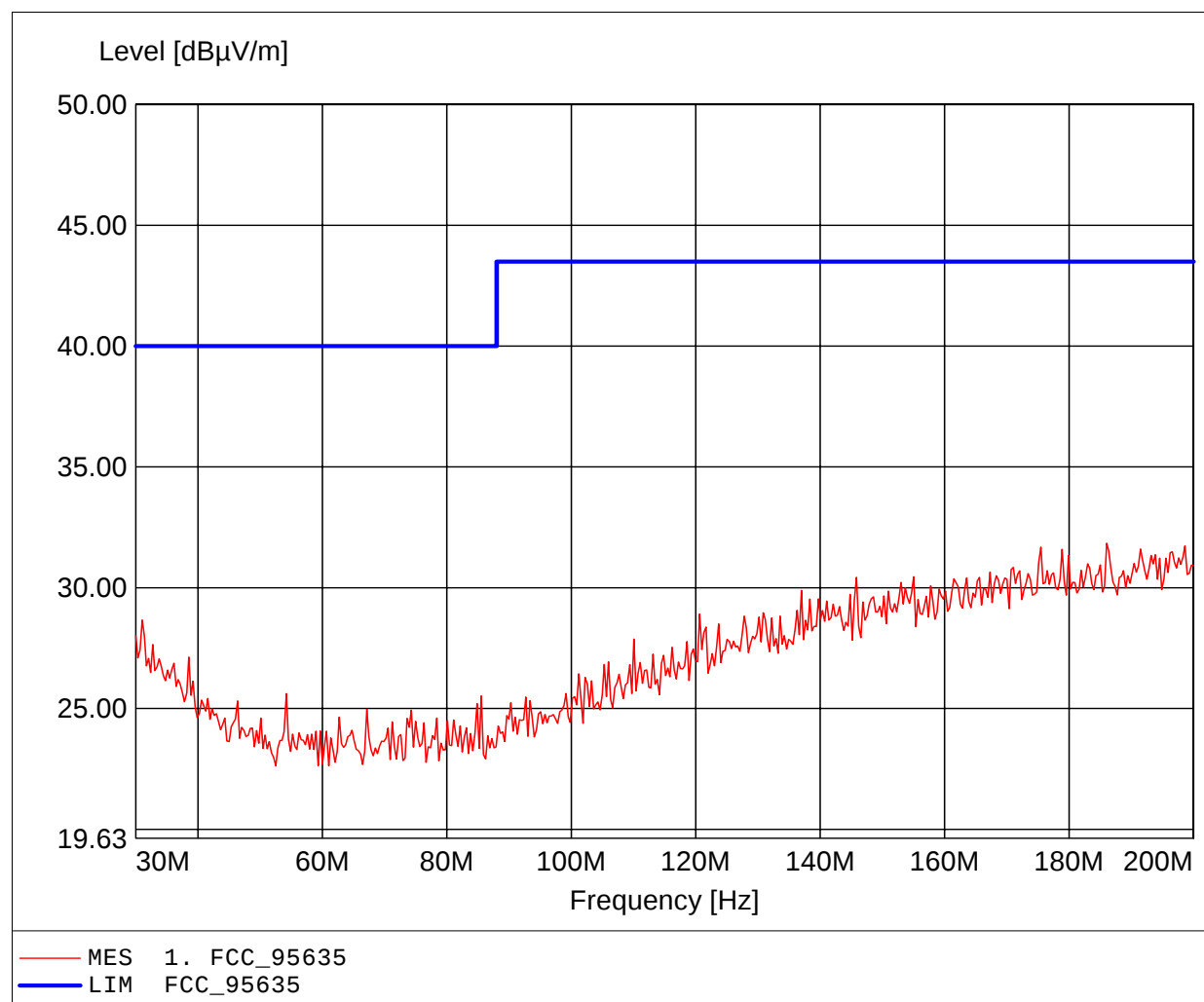
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq: 199.659MHz, Emax: 32.72dBµV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

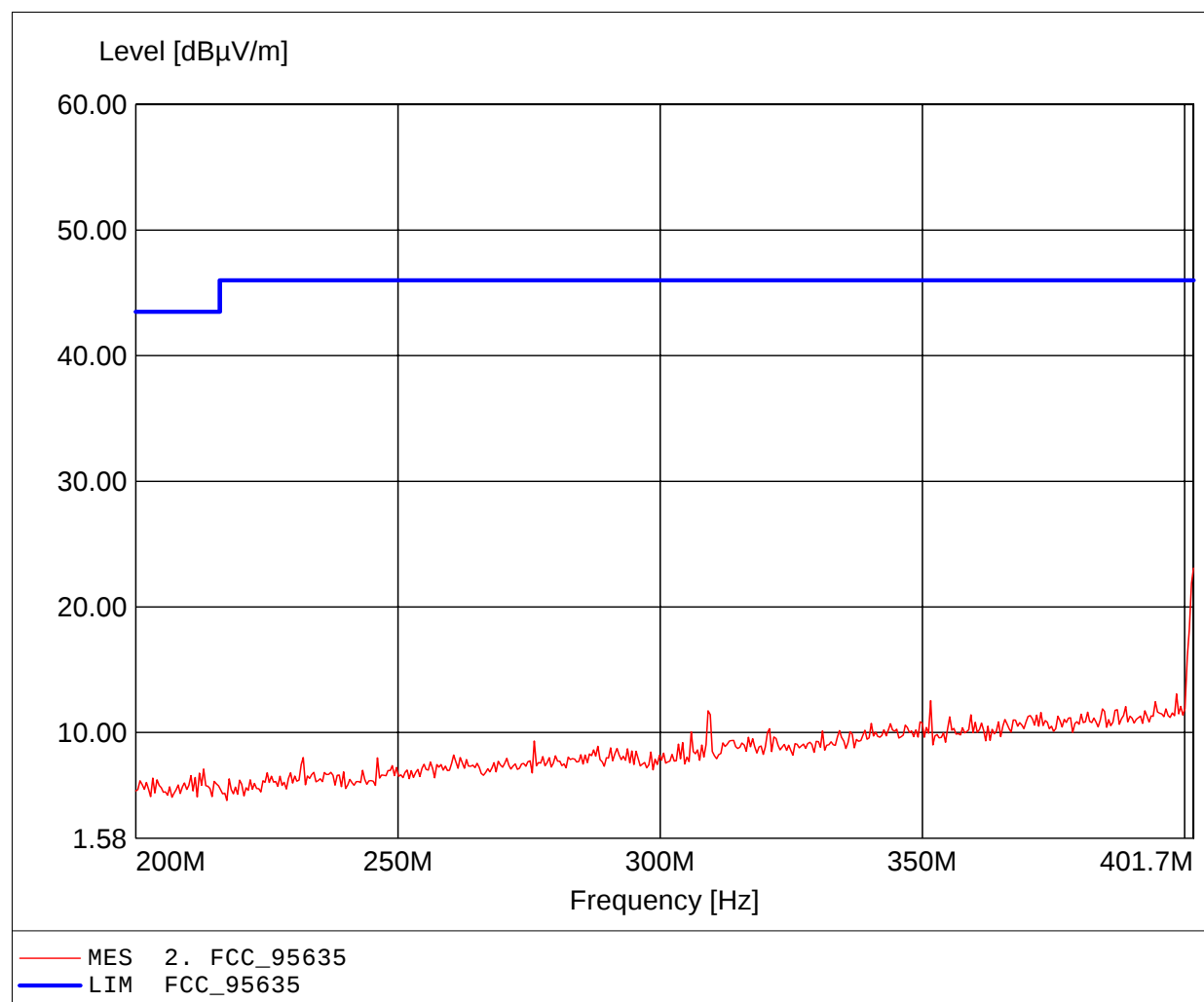
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq: 186.032MHz, Emax: 31.84dBµV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

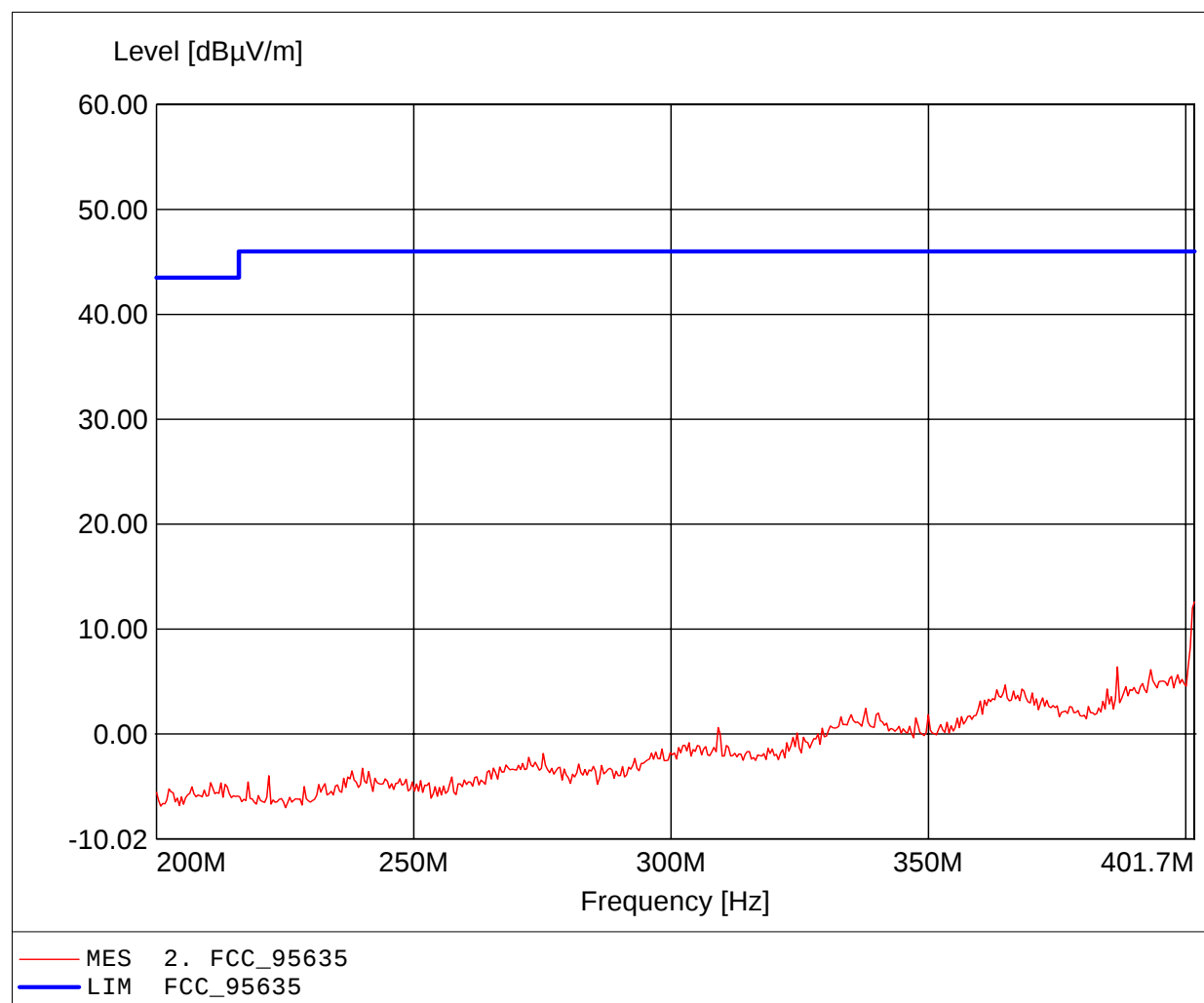
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 401.700MHz, Emax: 23.09dBμV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

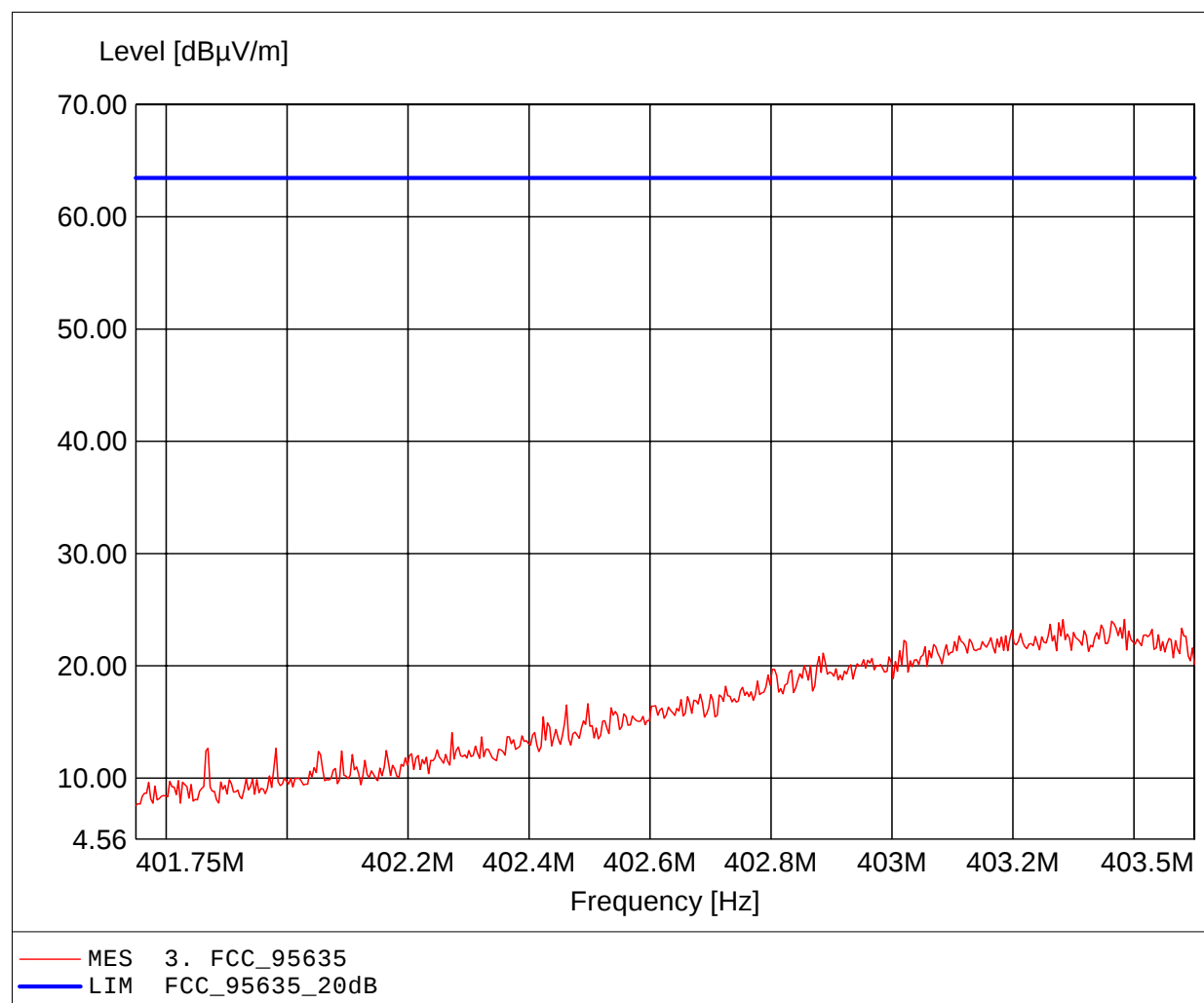
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 401.700MHz, Emax: 12.60dBμV/m, RBW: 100kHz



# Spurious emissions Field Strength Tx

## FCC RULES PART 95, SUBPART D

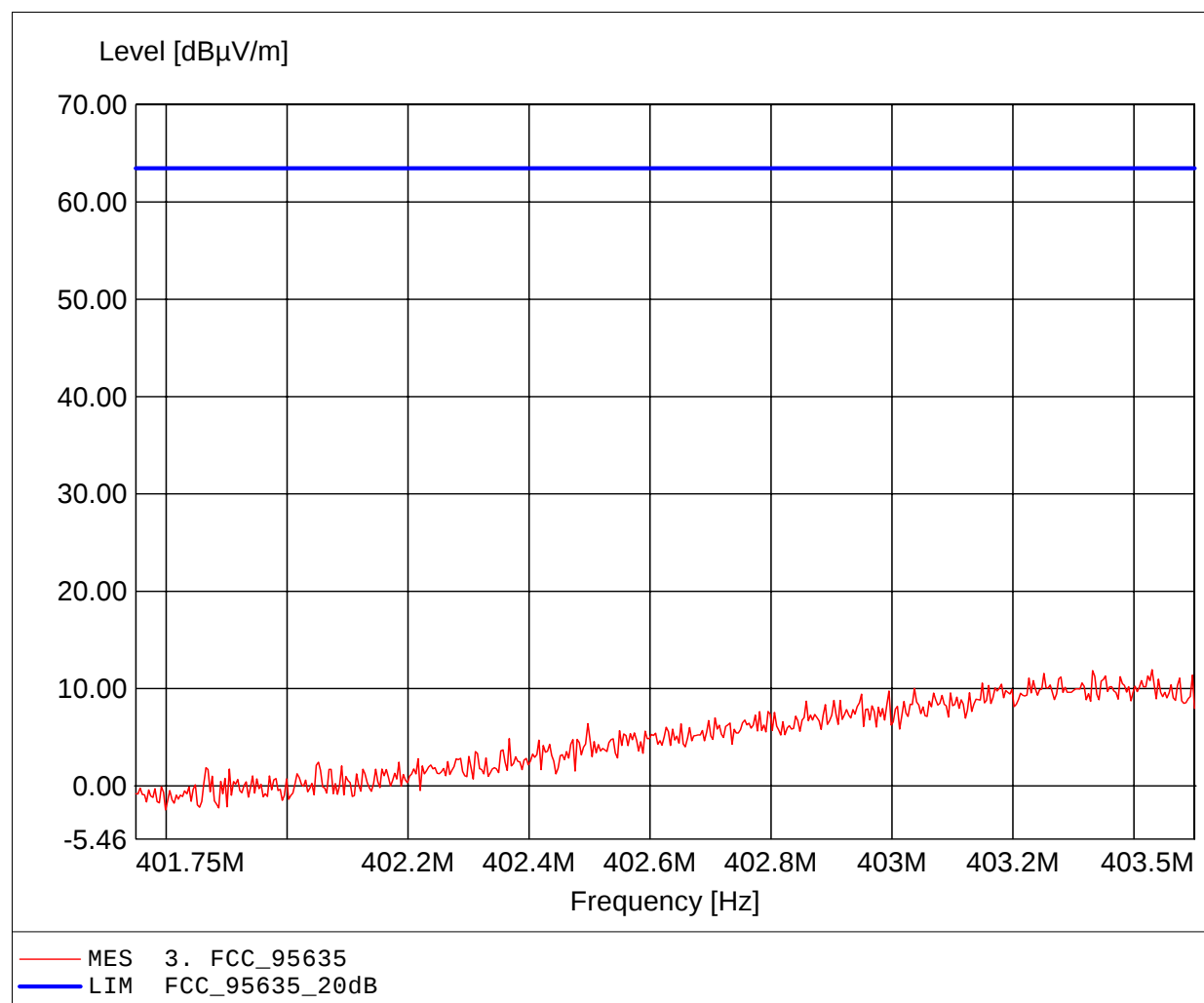
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.384MHz, Emax: 24.13dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

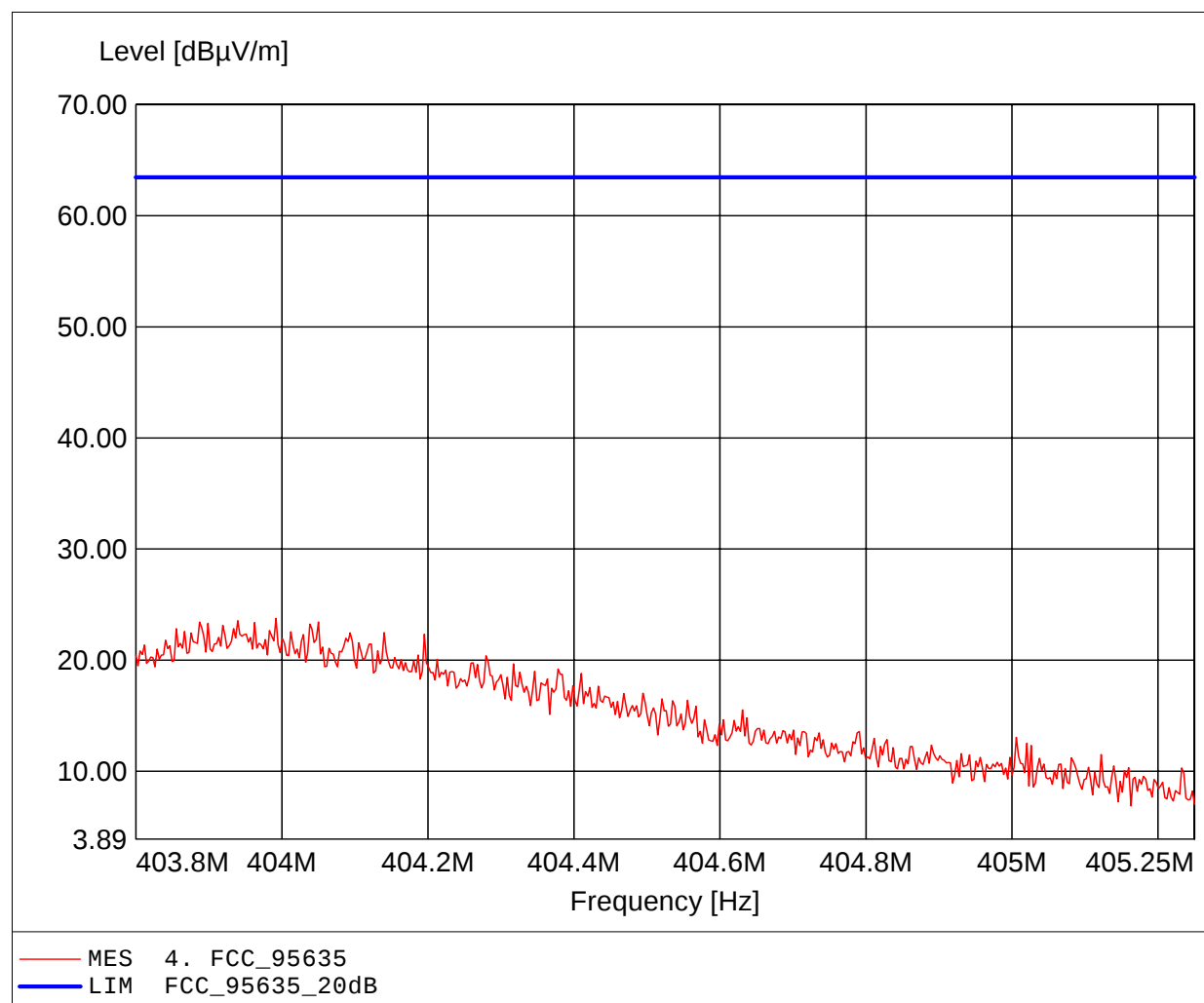
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.430MHz, Emax: 11.95dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

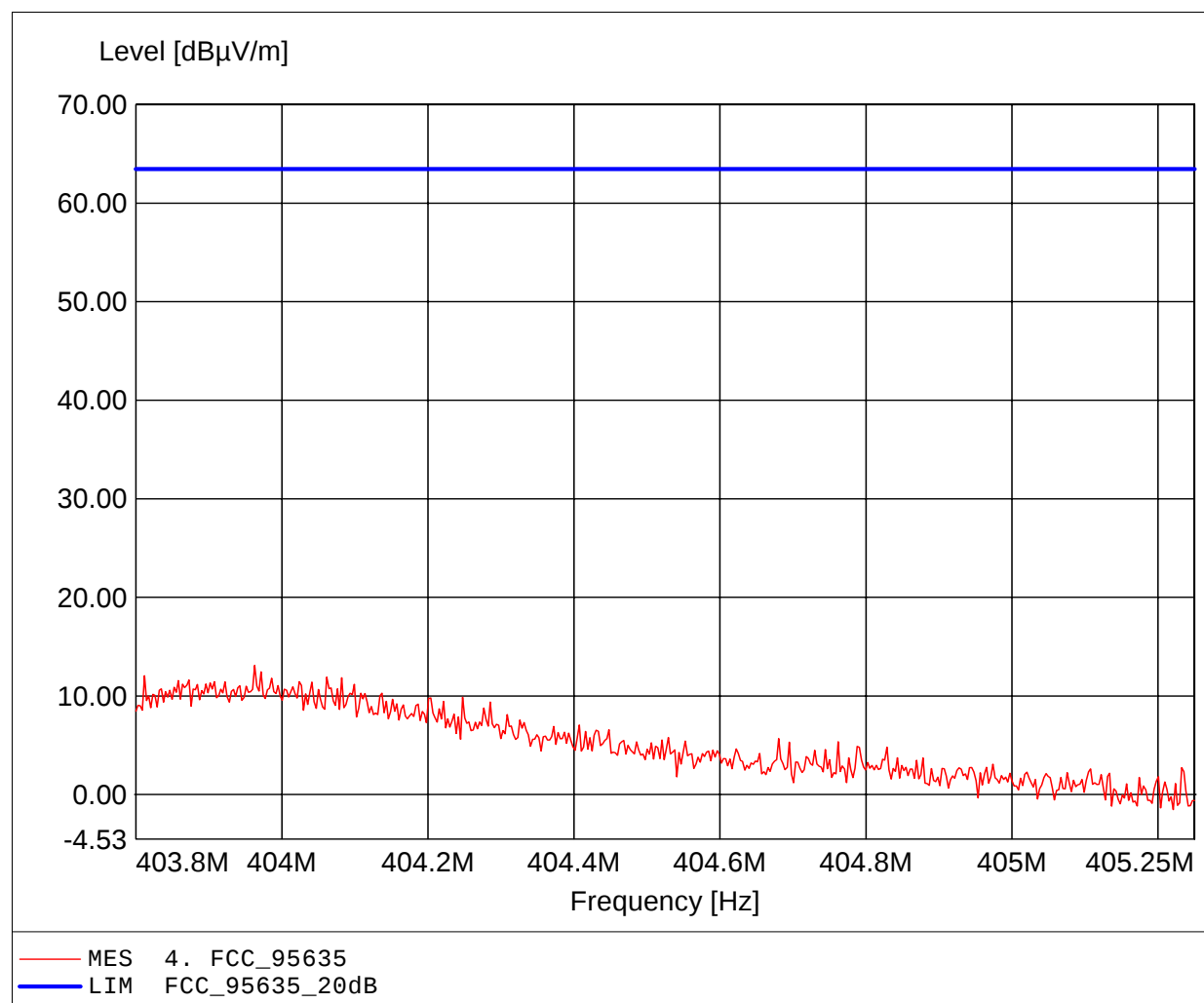
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.992MHz, Emax: 23.76dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

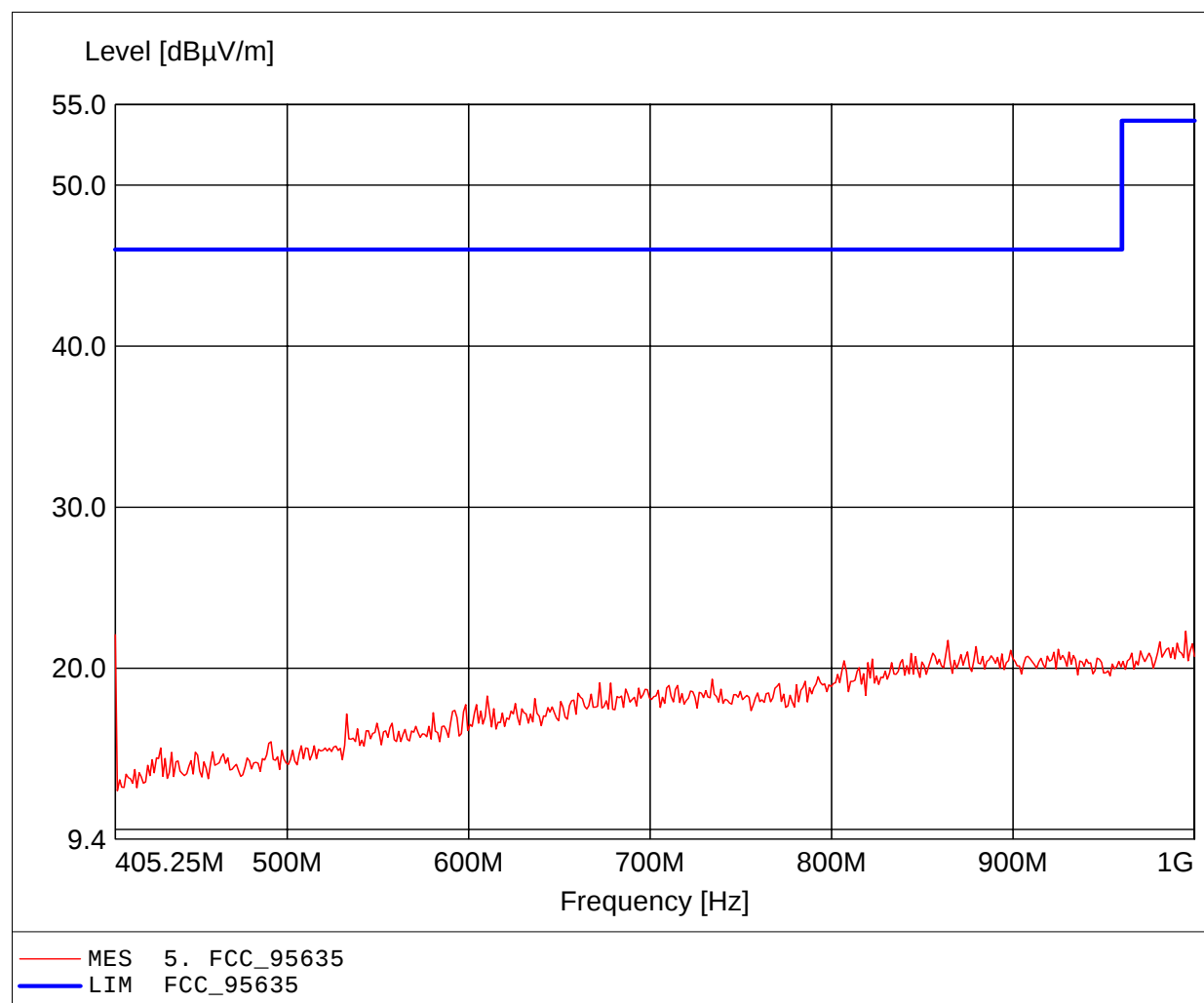
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.963MHz, Emax: 13.09dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

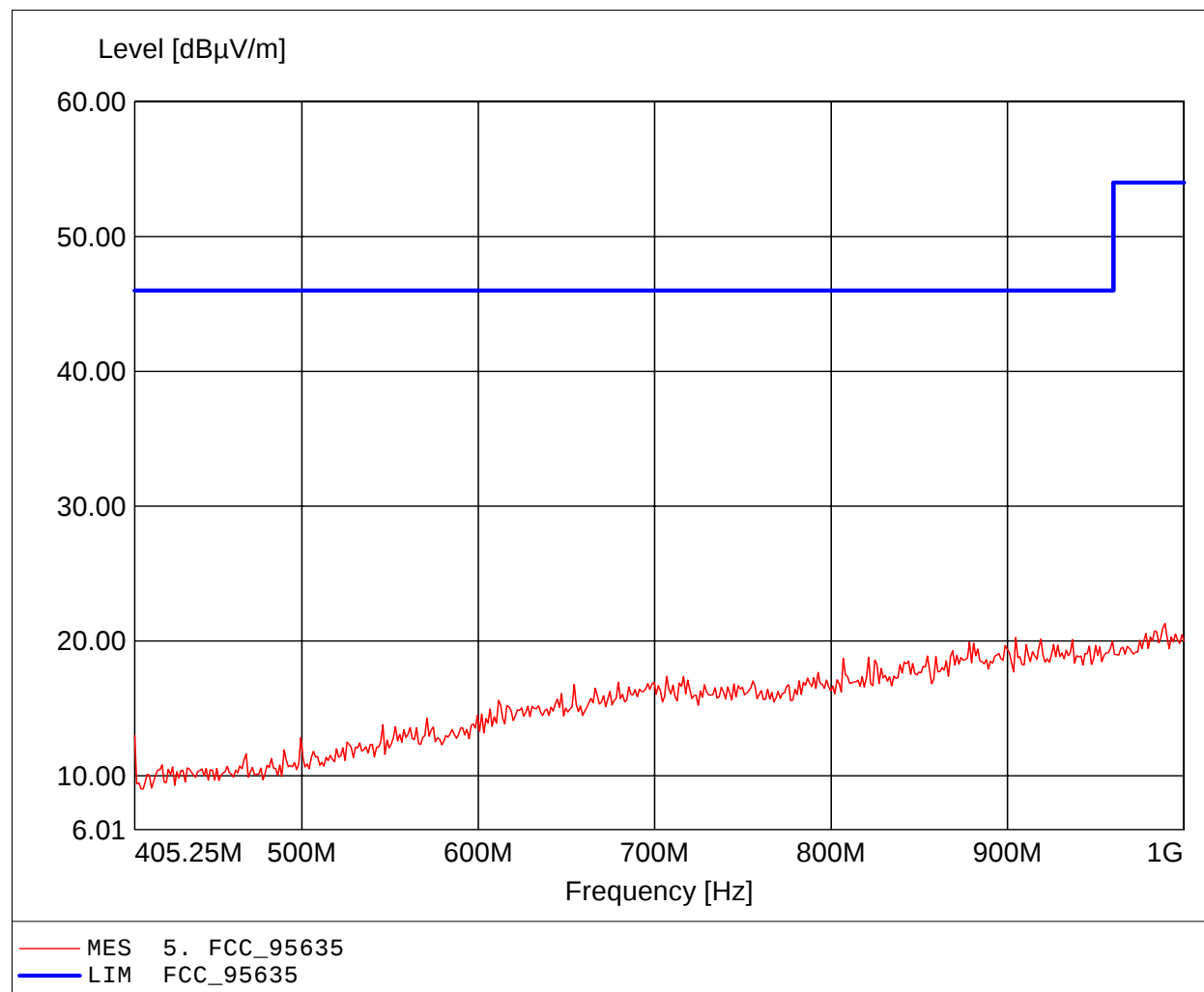
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 995.232MHz, Emax: 22.32dBµV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

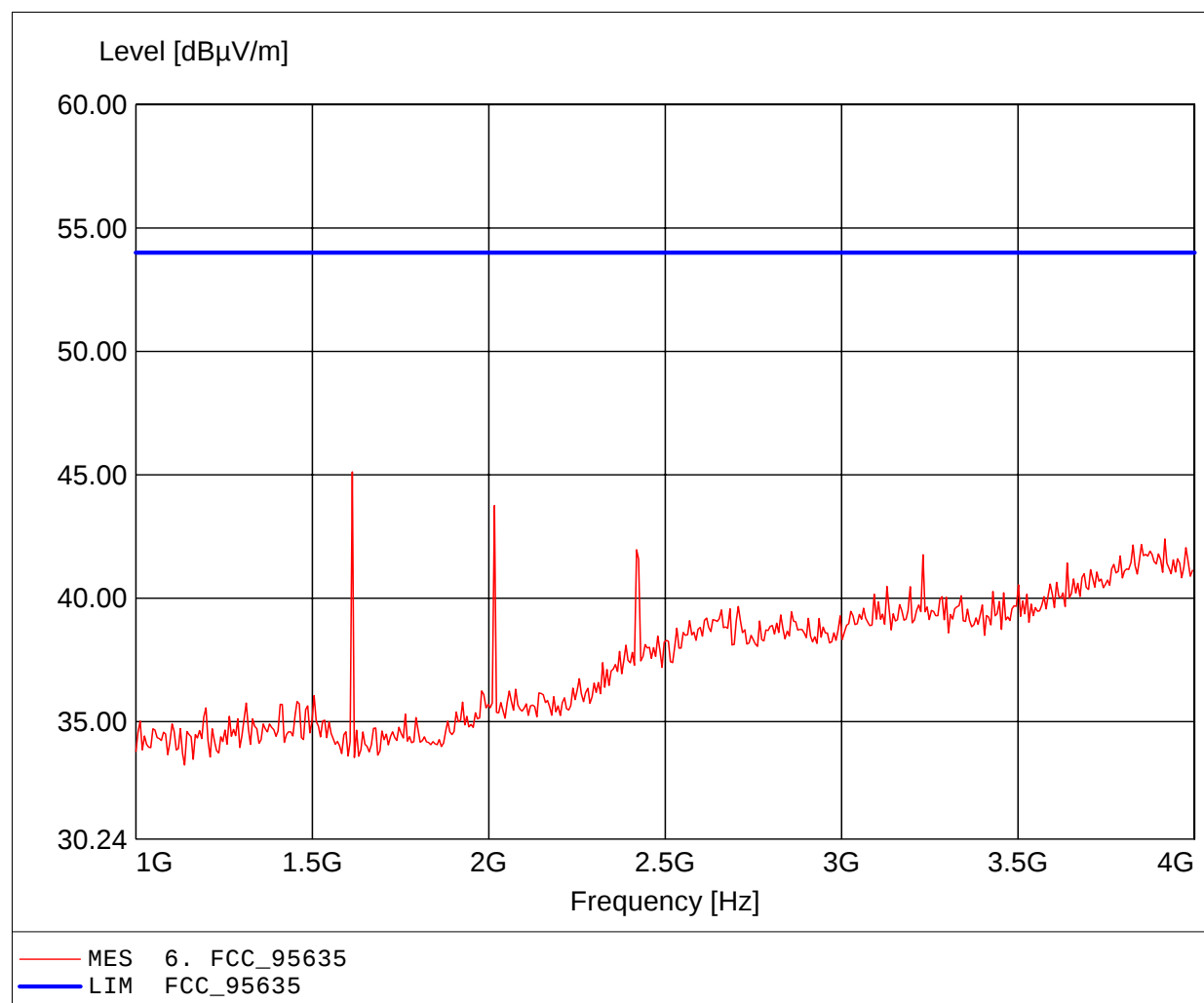
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 989.273MHz, Emax: 21.29dBµV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

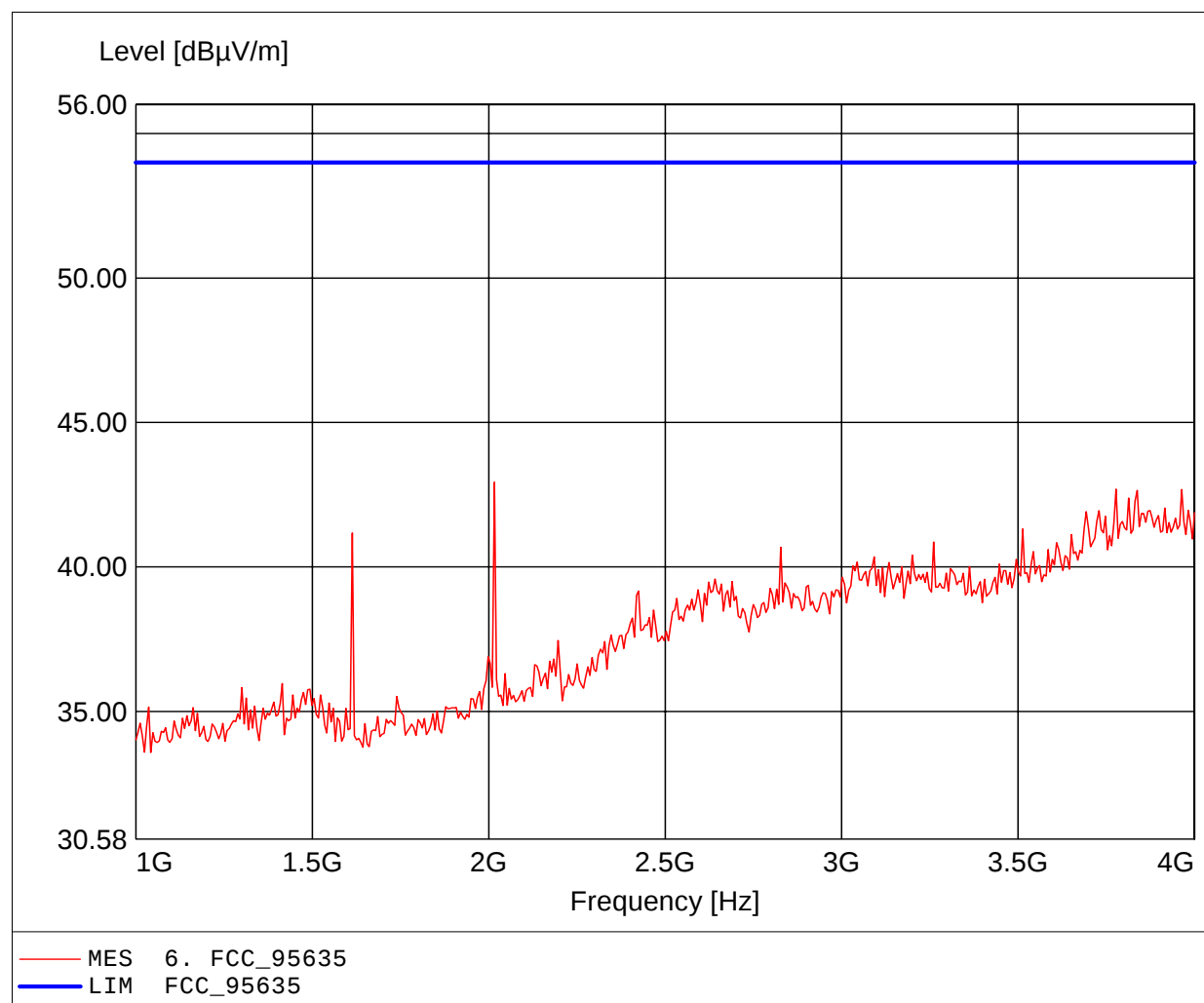
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 1.613GHz, Emax: 45.12dBµV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

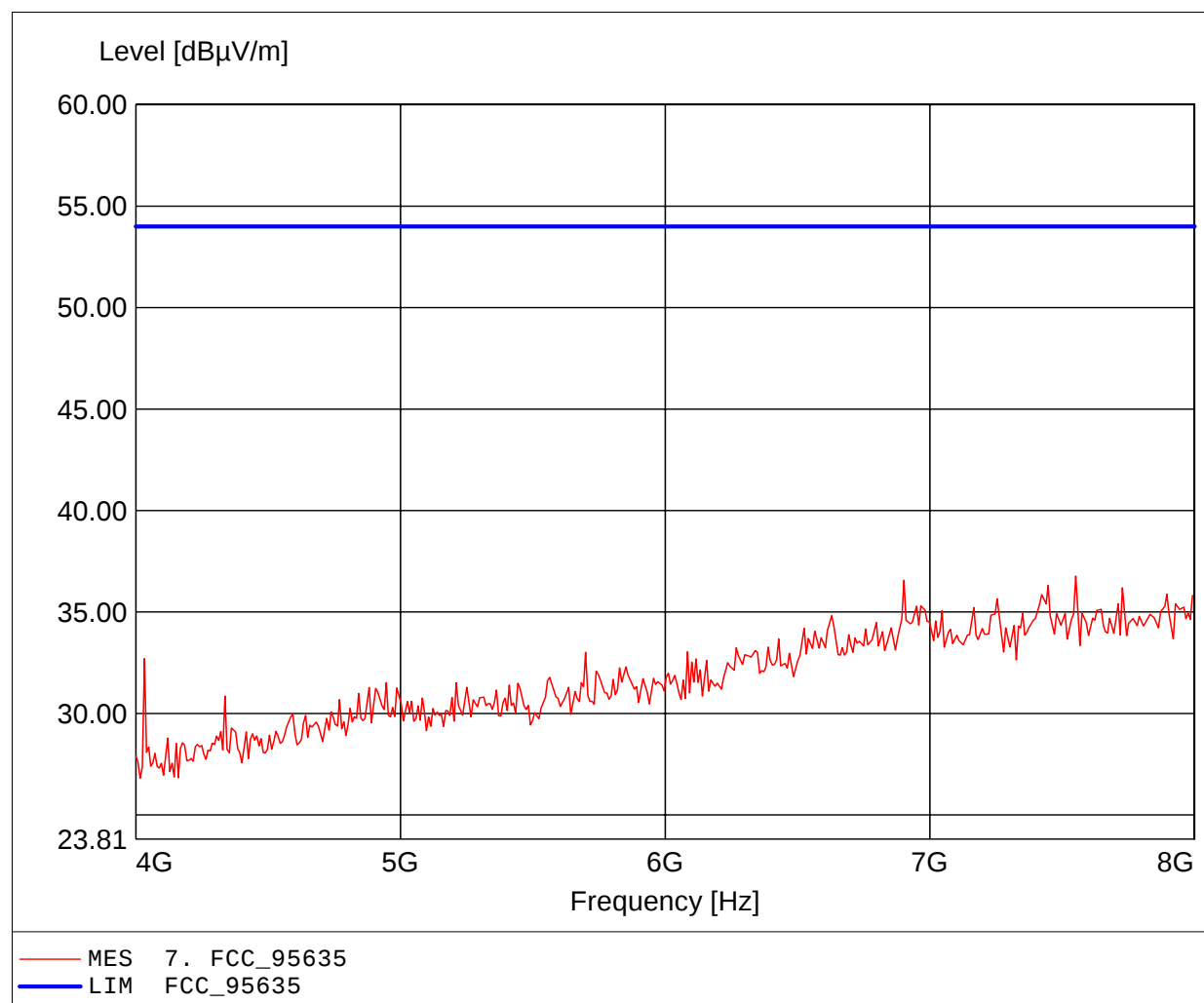
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 2.016GHz, Emax: 42.94dBμV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

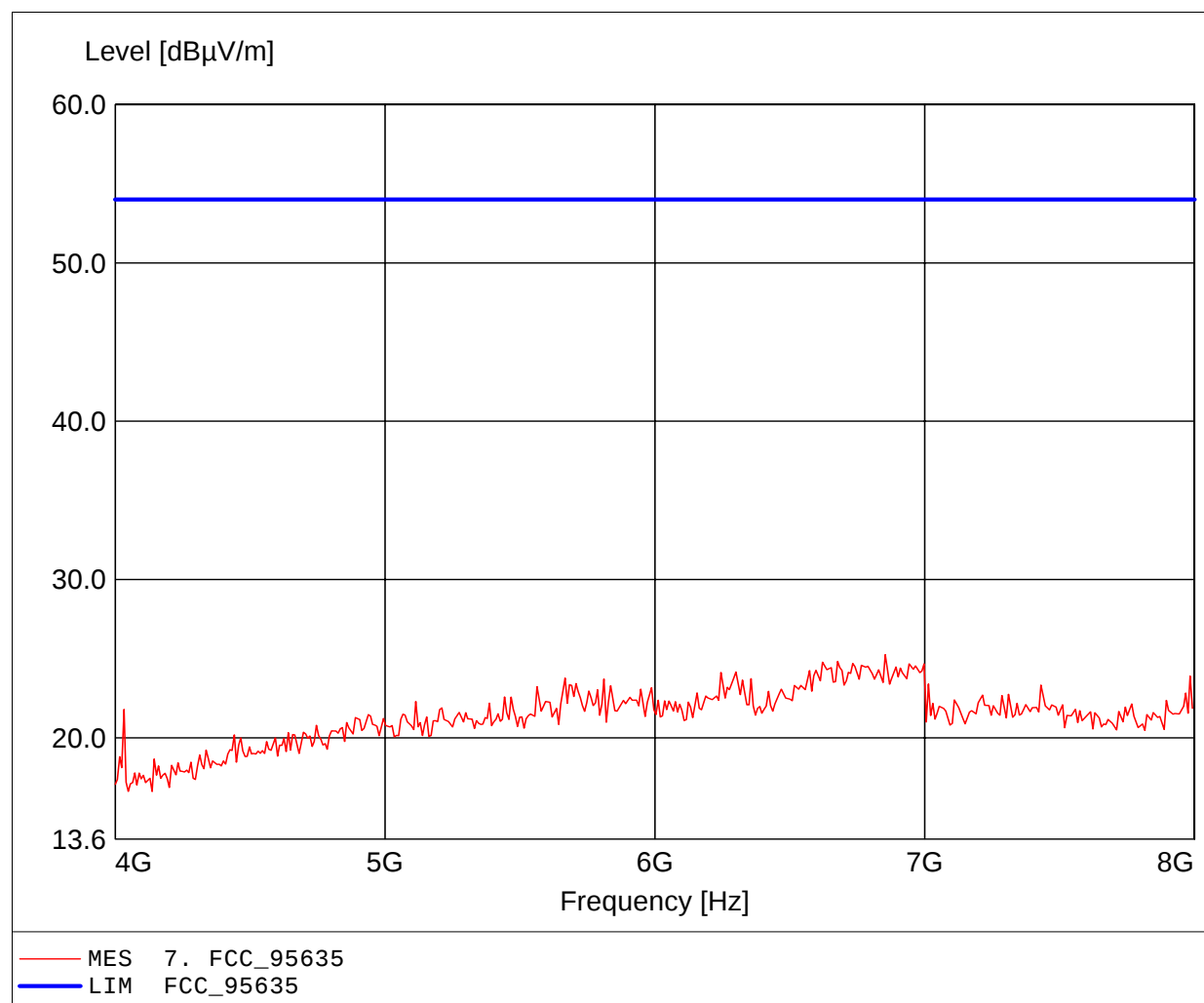
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq: 7.551GHz, Emax: 36.77dBµV/m, RBW: 1MHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

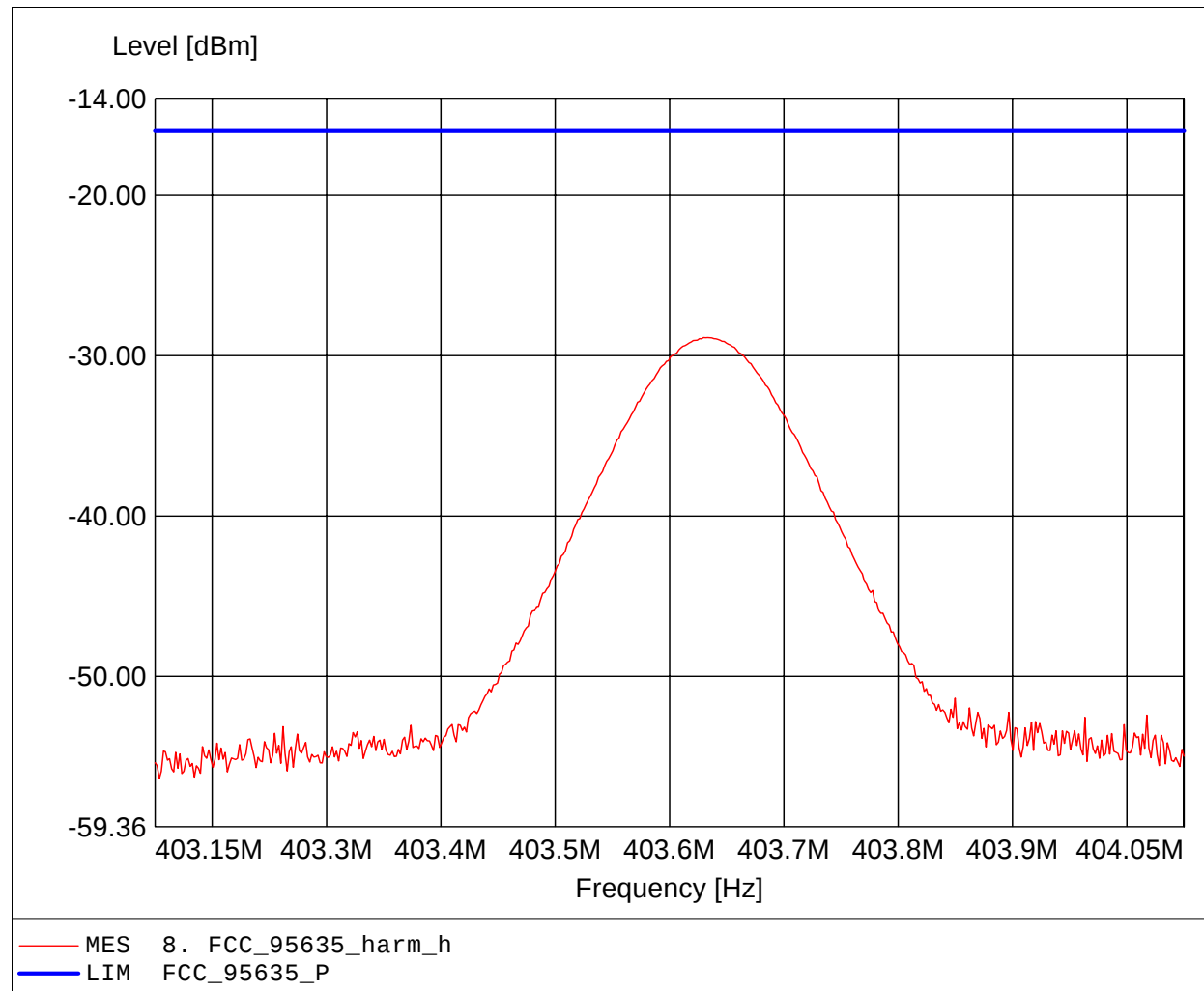
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq: 6.854GHz, Emax: 25.25dBµV/m, RBW: 1MHz



## Carrier power (dBm)

### FCC RULES PART 95, SUBPART I

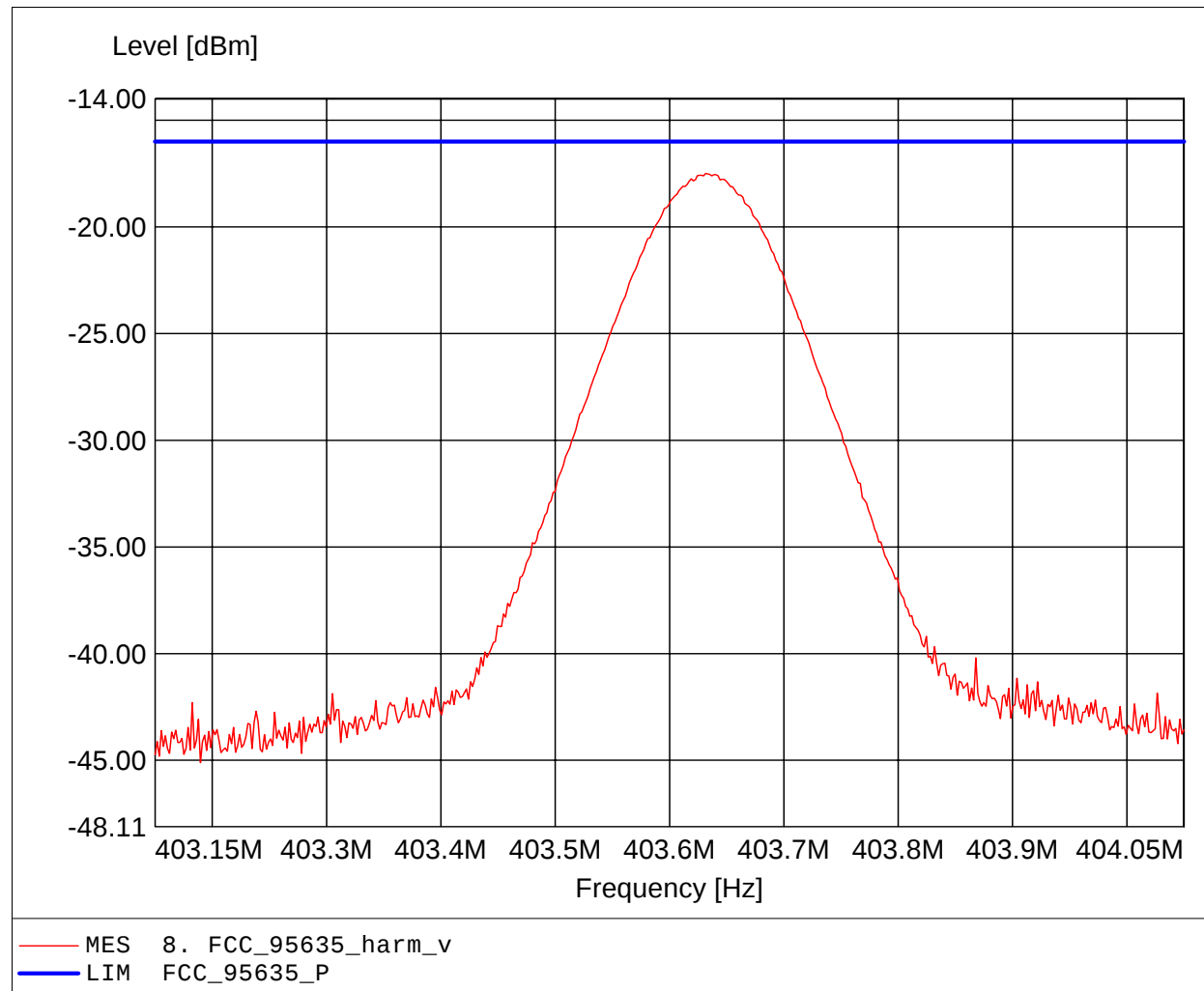
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.639, peak detector  
Comment 1: Dist.: 3m, Ant.: HL223  
Comment 2: Freq: 403.633MHz, Pmax: -28.87dBm, RBW: 100KHz



## Carrier power (dBm)

### FCC RULES PART 95, SUBPART I

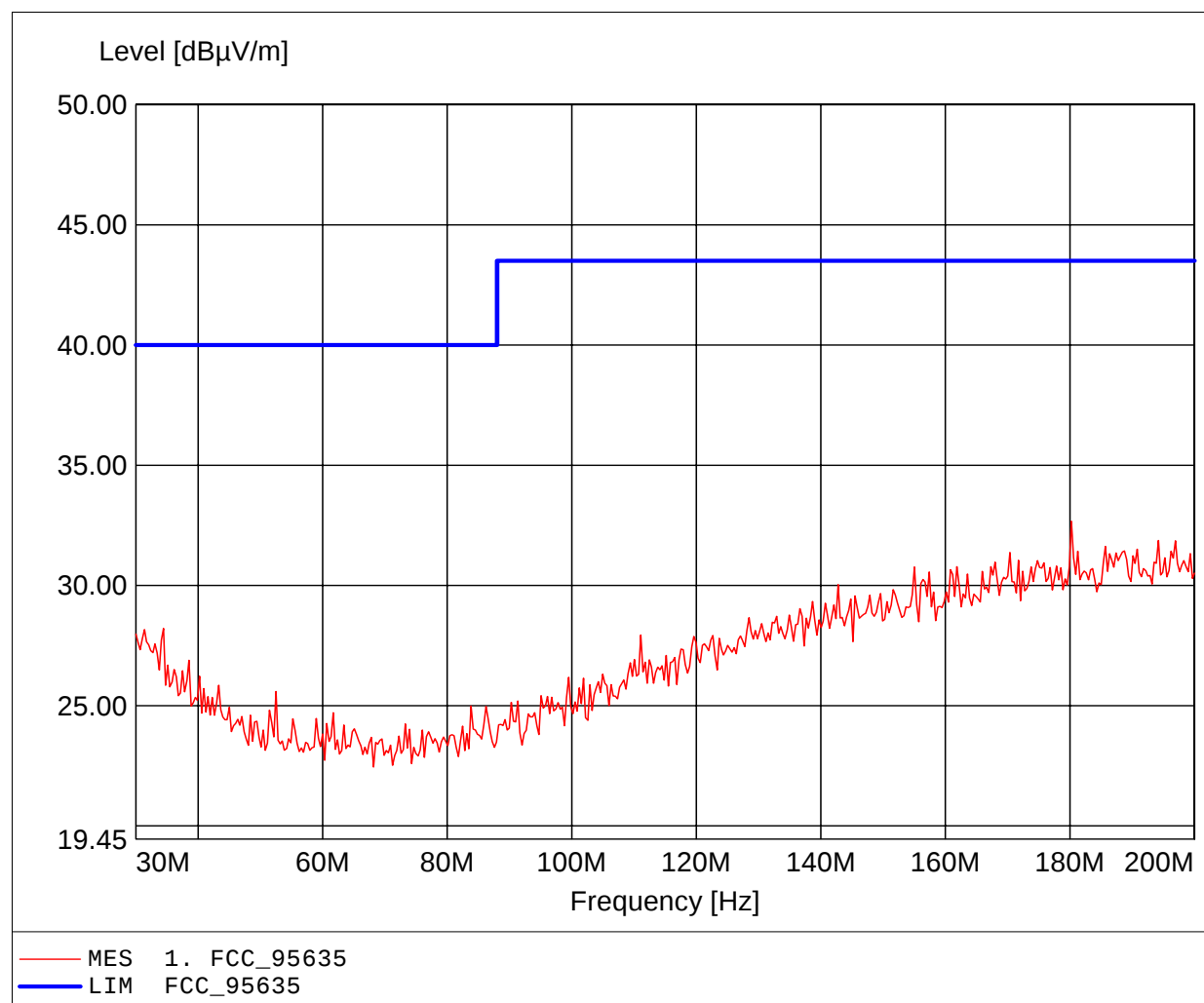
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.639, peak detector  
Comment 1: Dist.: 3m, Ant.: HL223  
Comment 2: Freq: 403.632MHz, Pmax: -17.50dBm, RBW: 100KHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

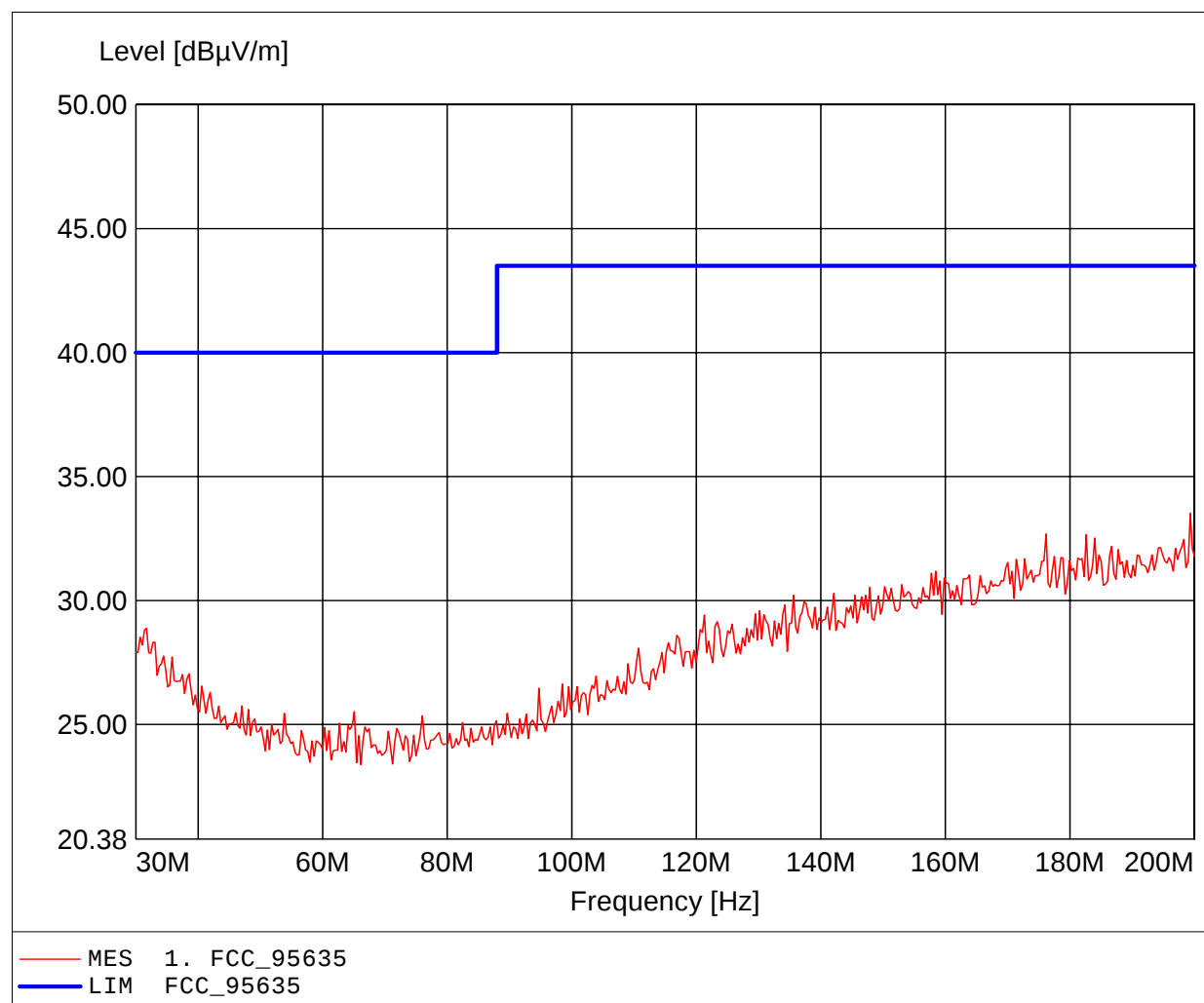
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq: 180.240MHz, Emax: 32.67dBµV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

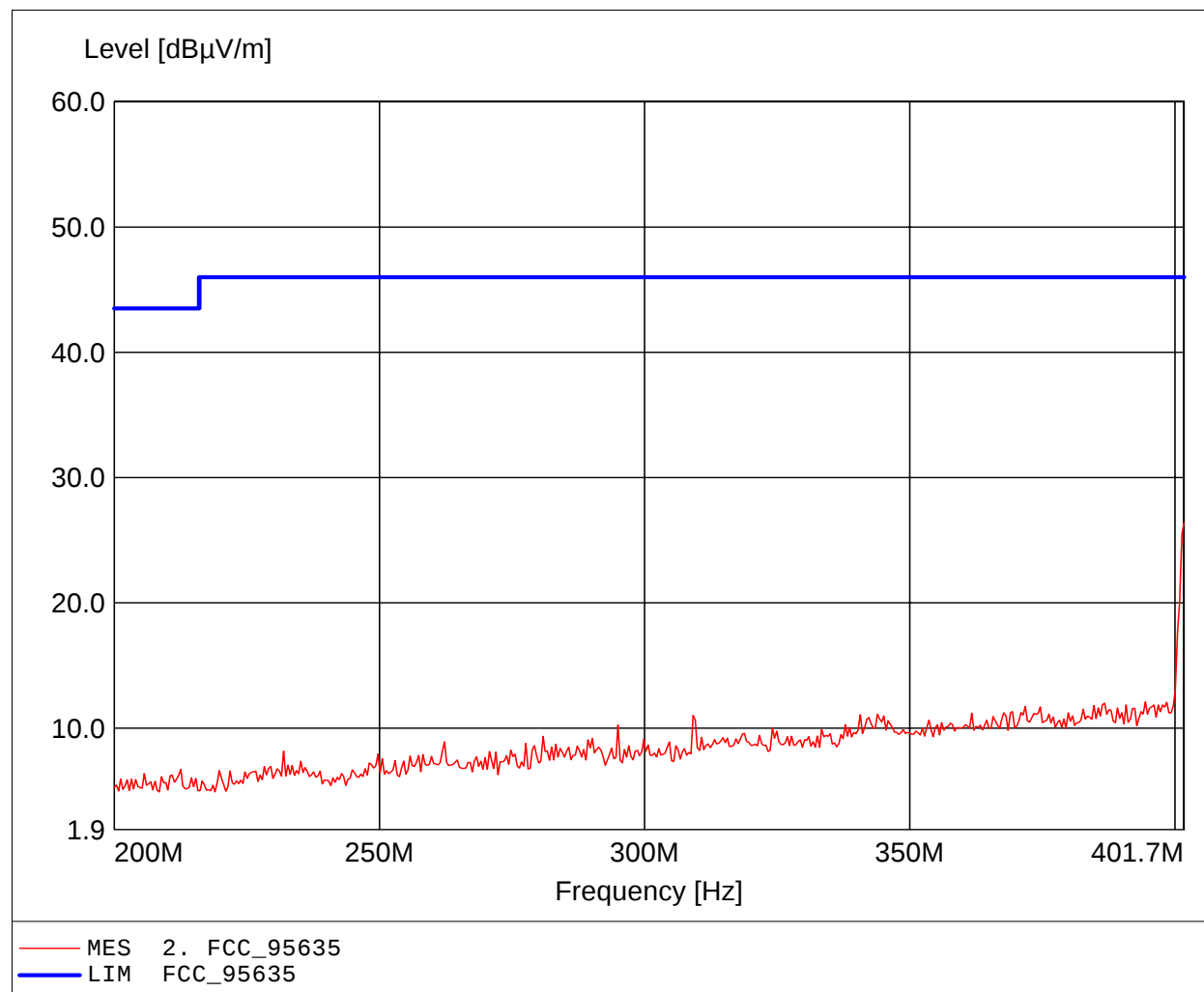
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq: 199.319MHz, Emax: 33.52dBµV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

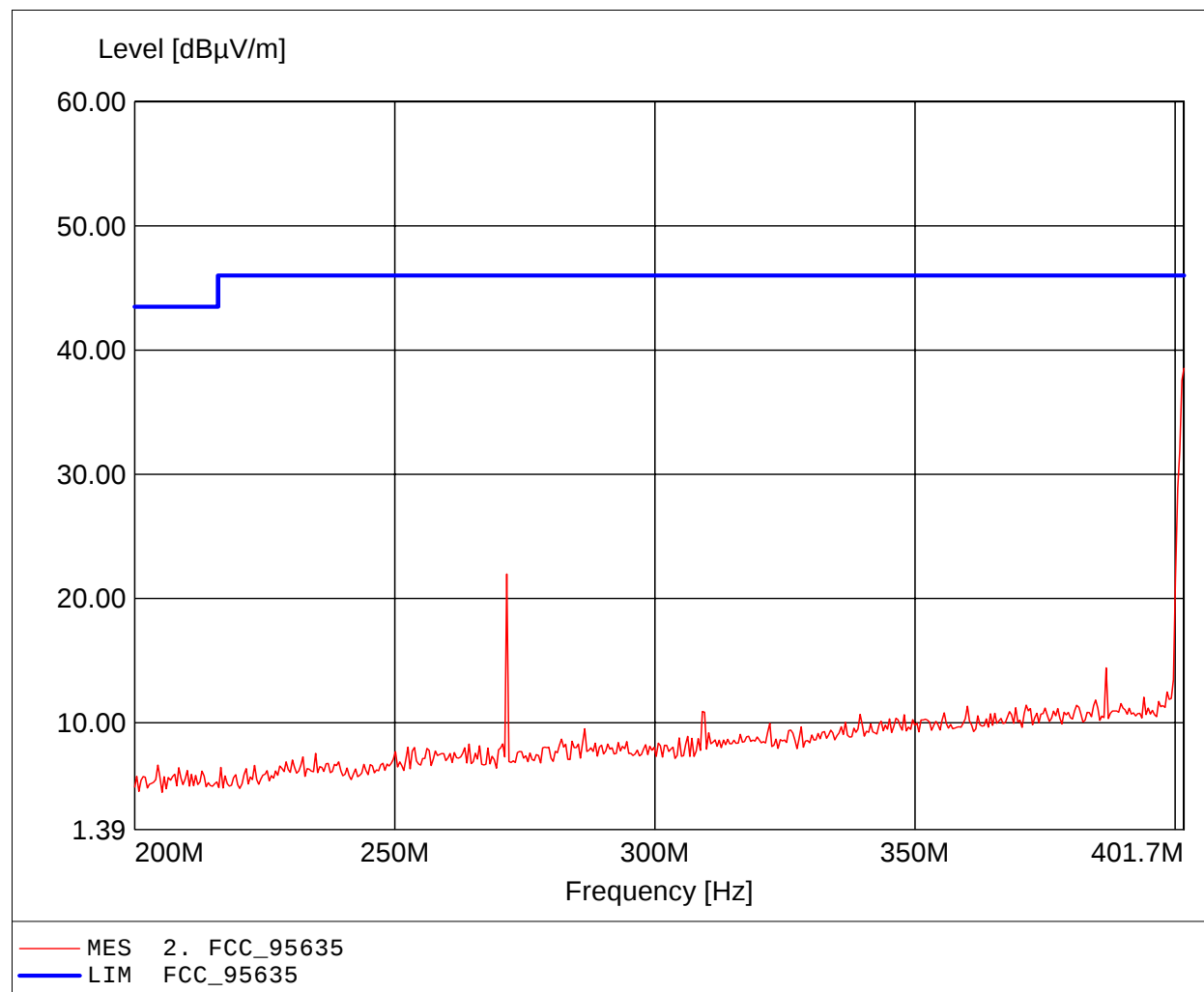
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 401.700MHz, Emax: 26.39dBµV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

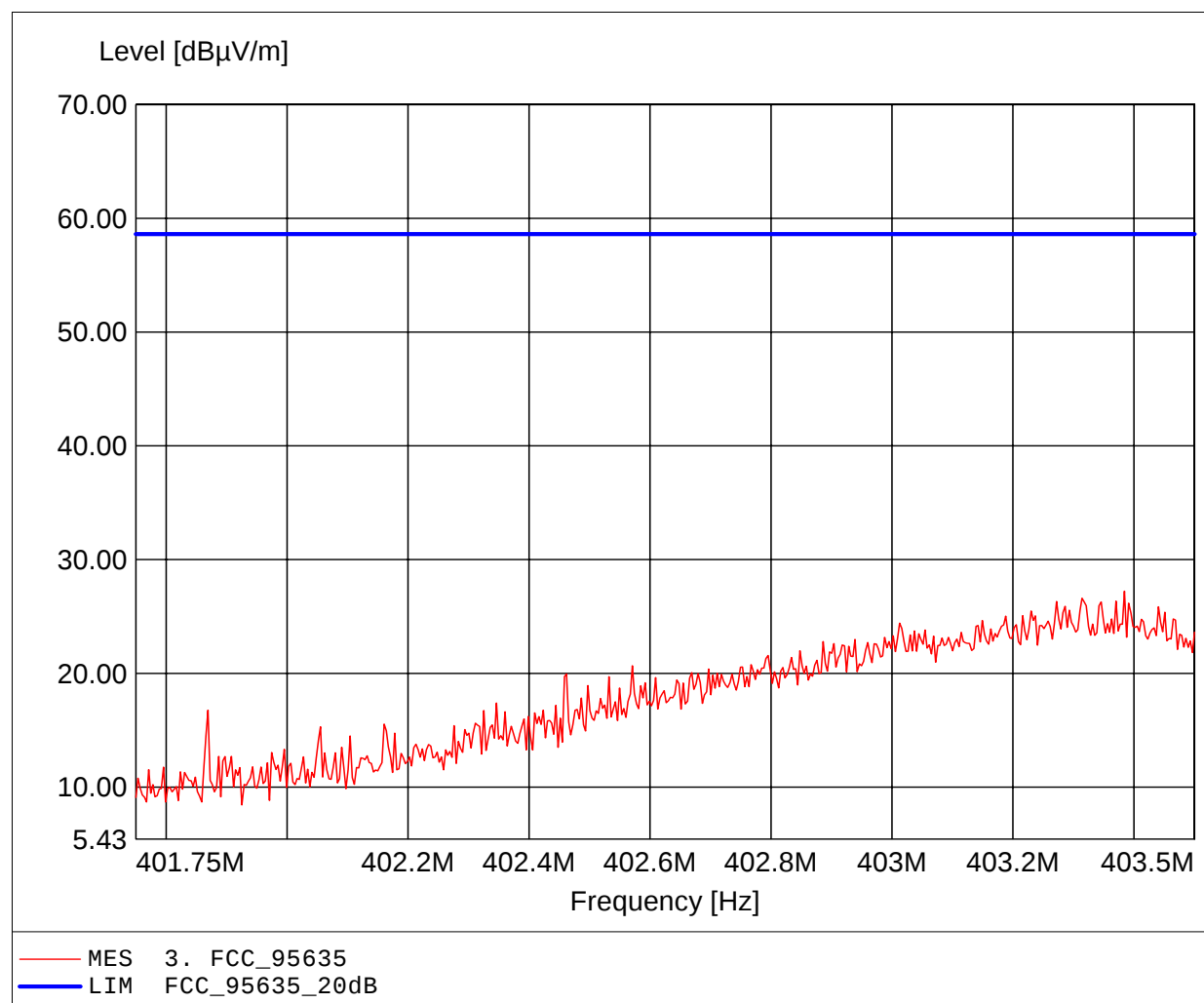
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 401.700MHz, Emax: 38.54dBμV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

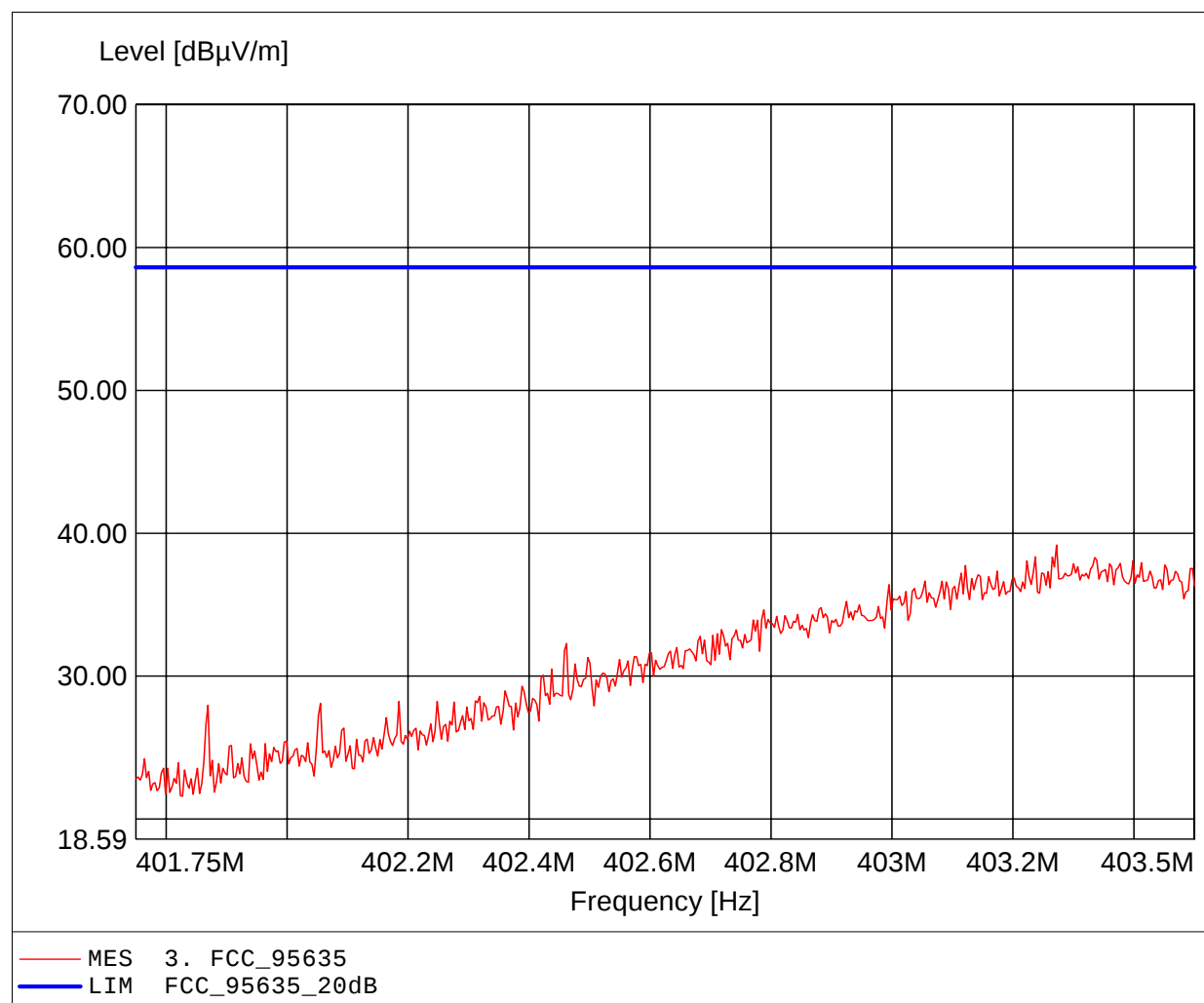
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.384MHz, Emax: 27.22dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

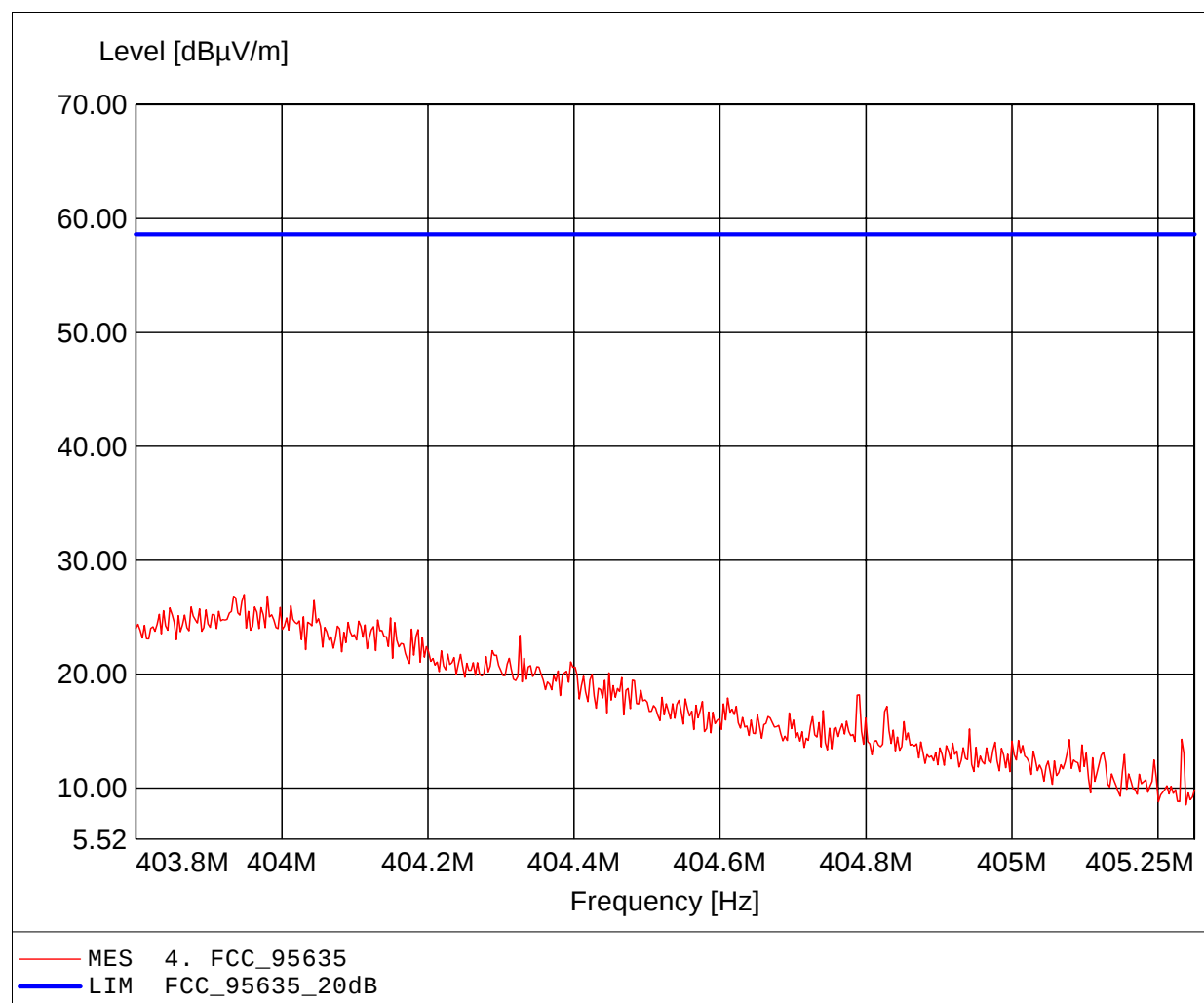
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.272MHz, Emax: 39.17dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

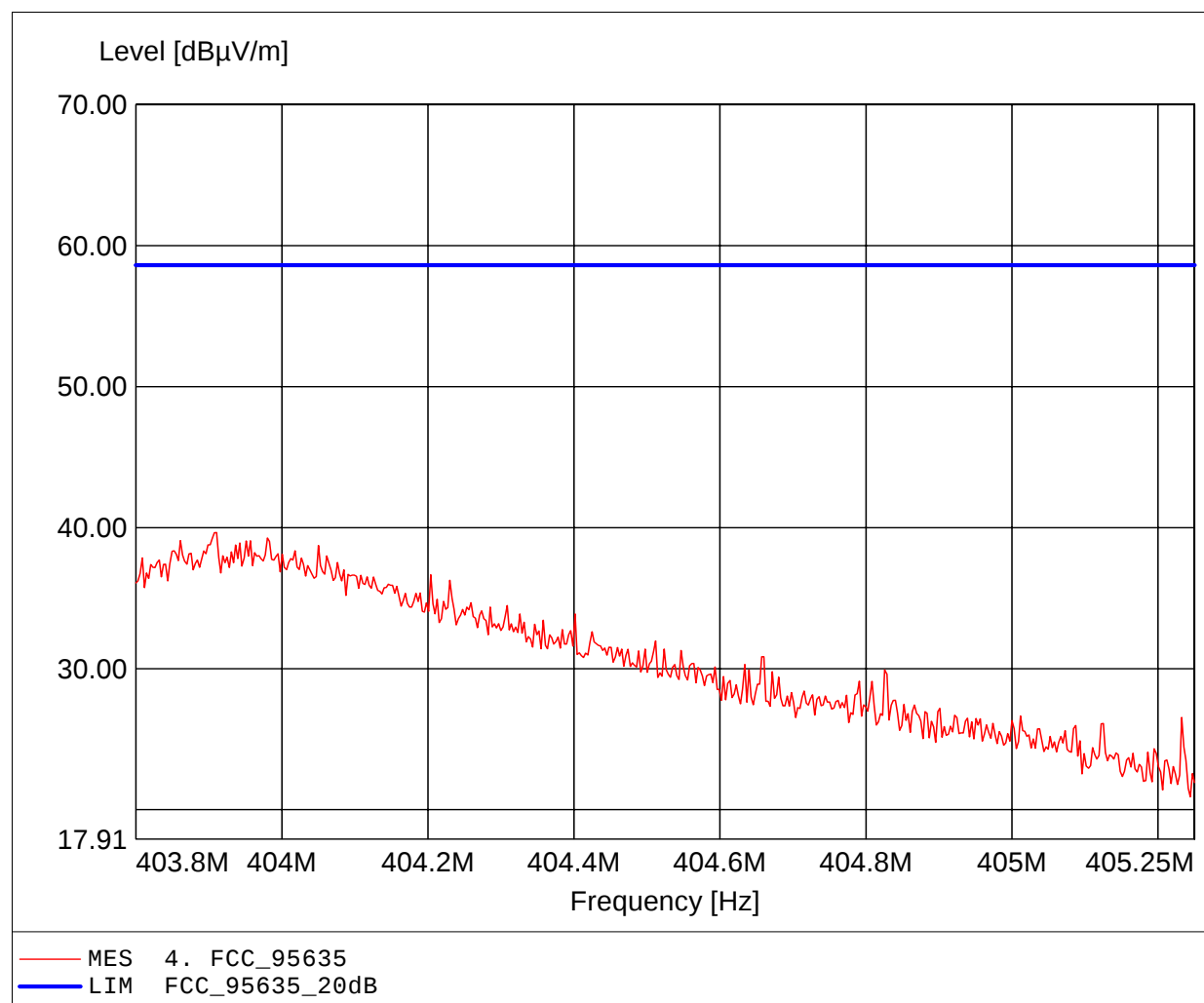
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.948MHz, Emax: 27.00dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

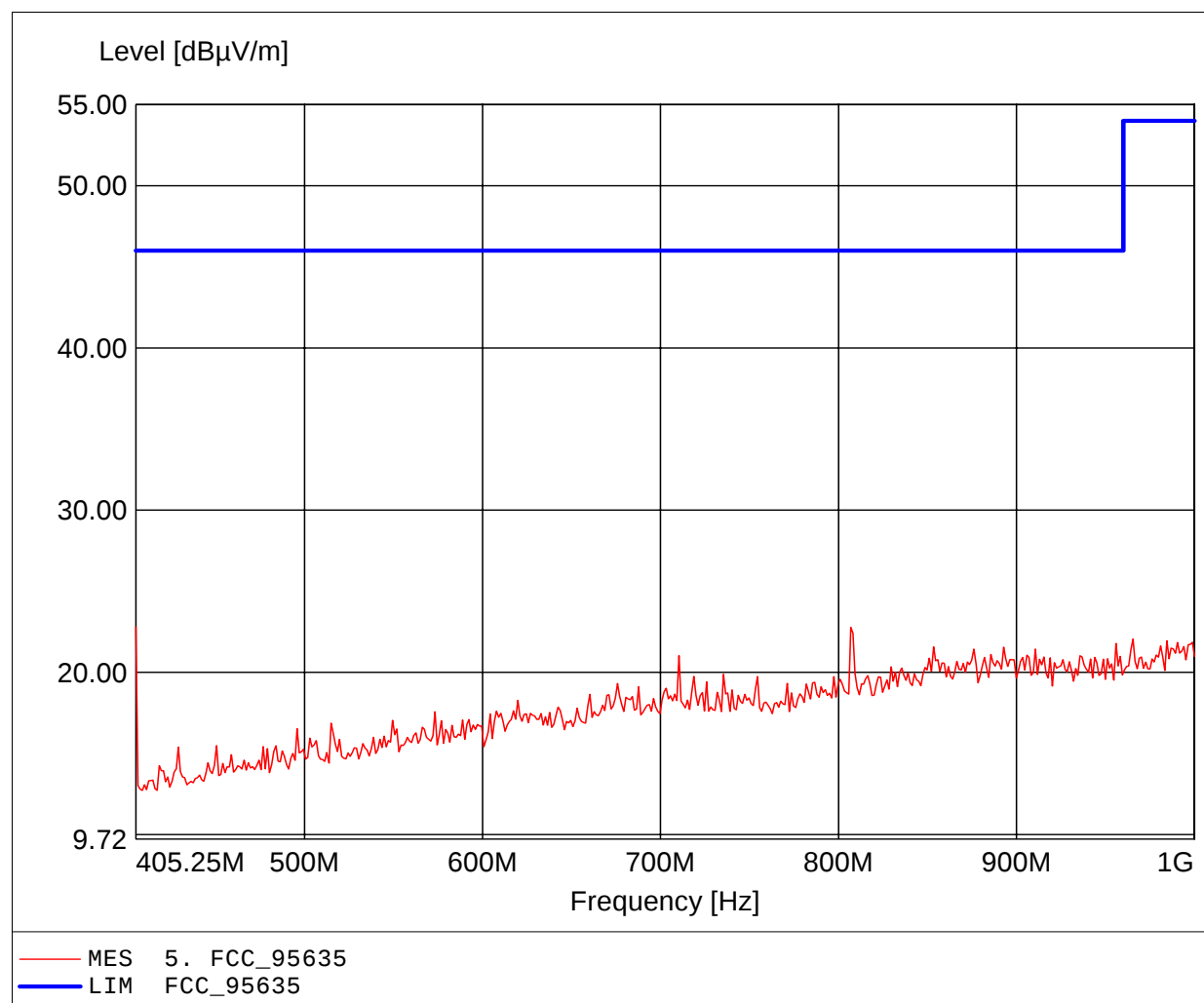
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.910MHz, Emax: 39.65dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

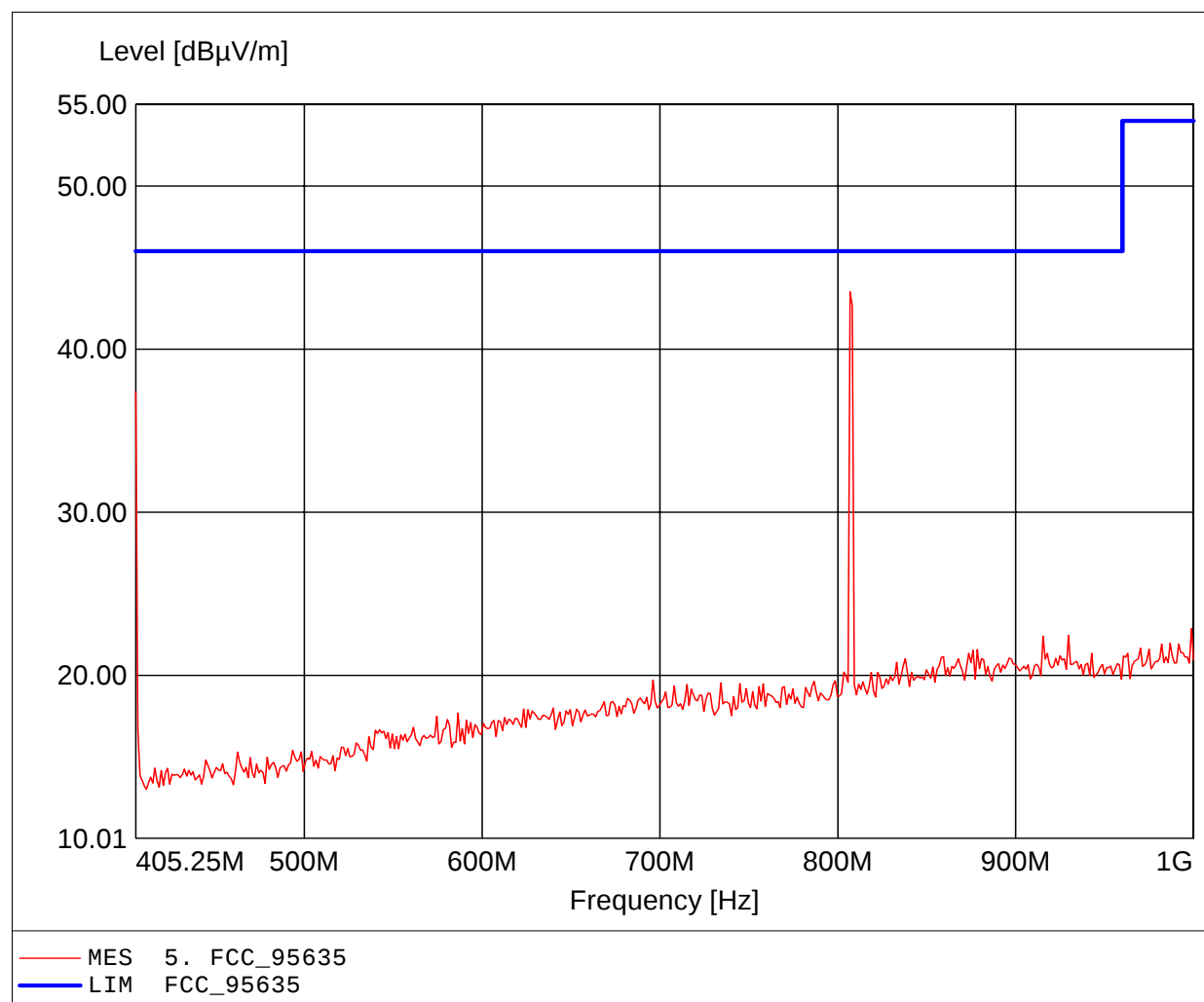
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 405.250MHz, Emax: 22.79dBµV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

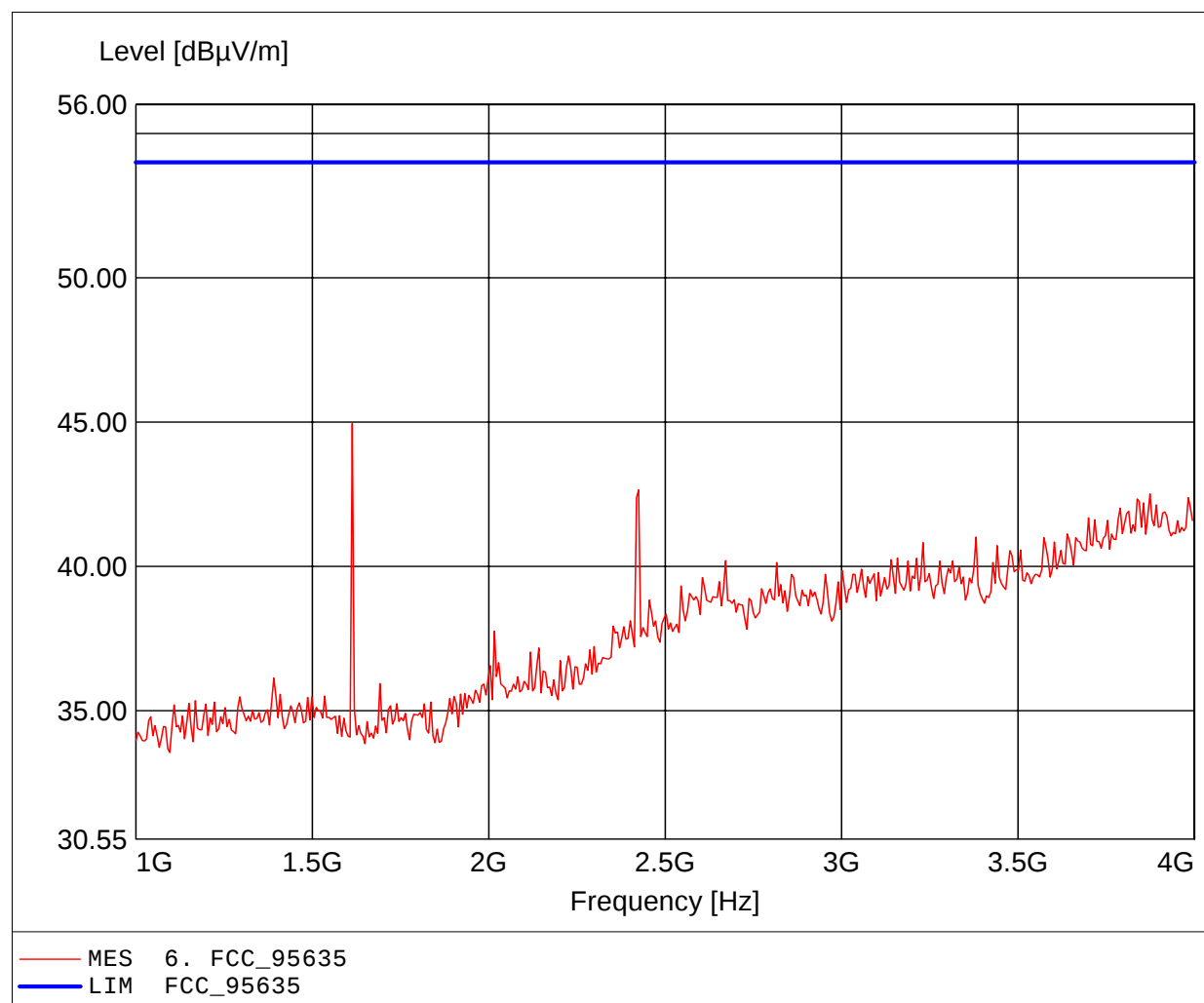
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 806.915MHz, Emax: 43.51dBμV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

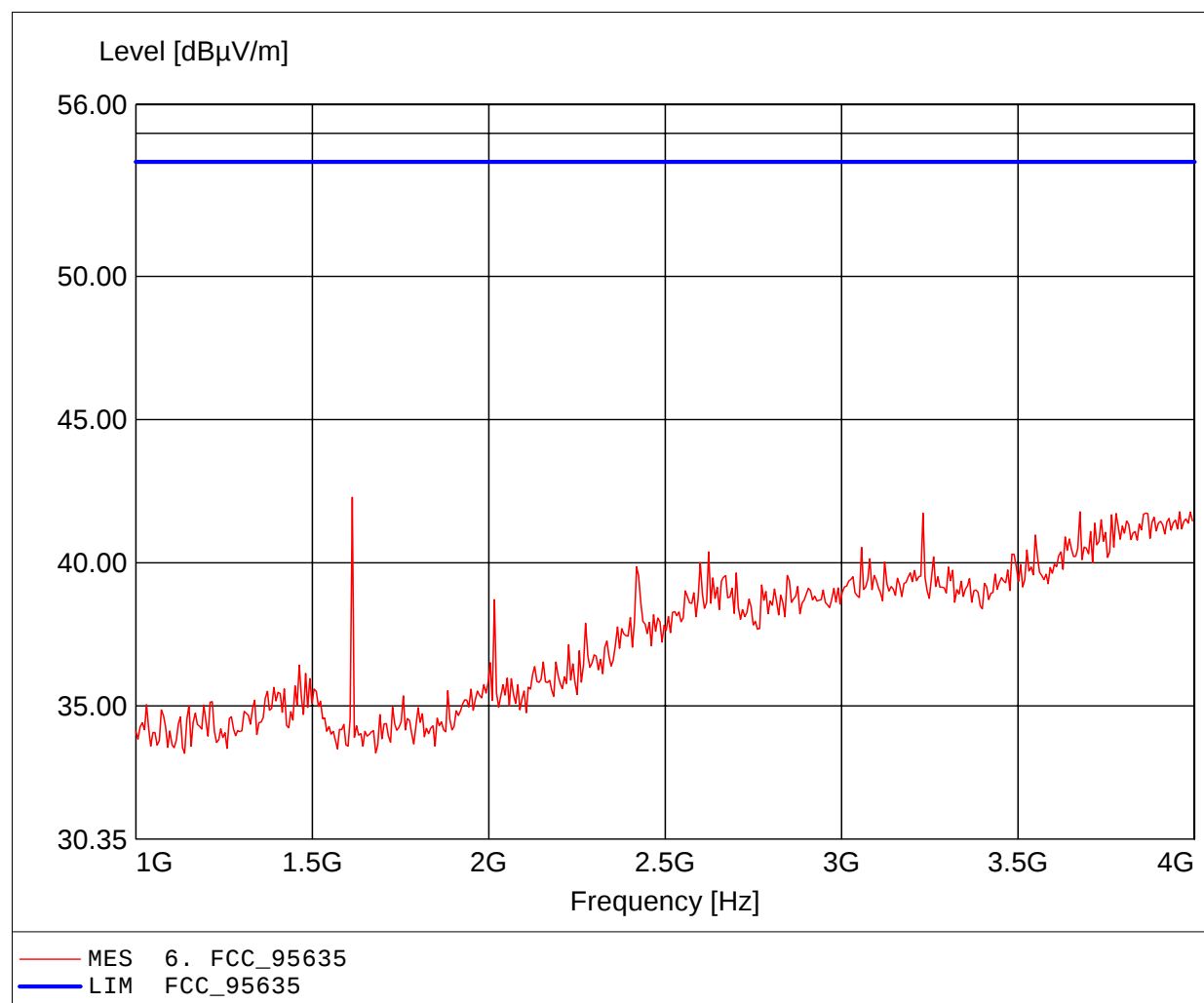
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 1.613GHz, Emax: 44.95dBµV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

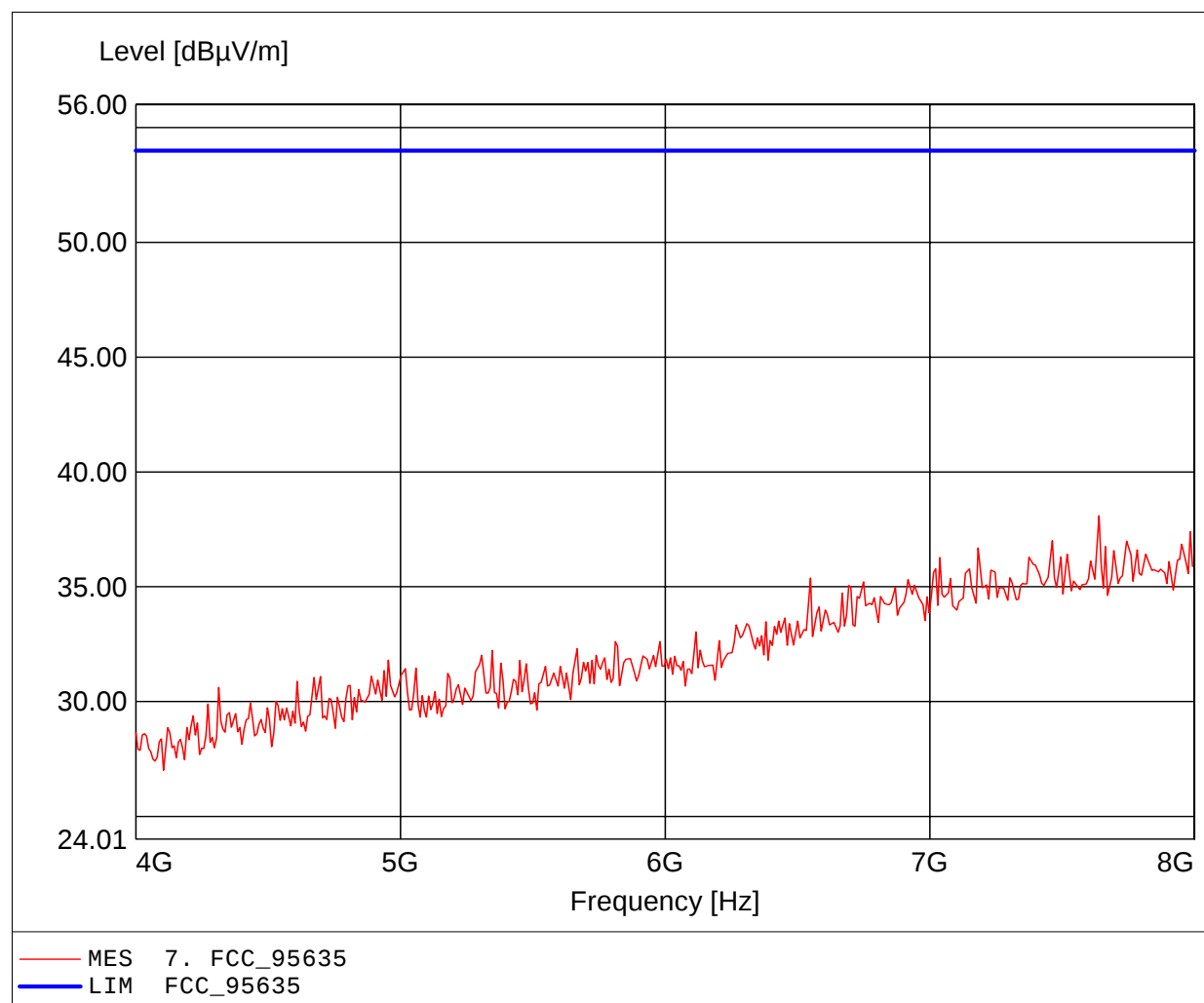
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 1.613GHz, Emax: 42.29dBµV/m, RBW: 100kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

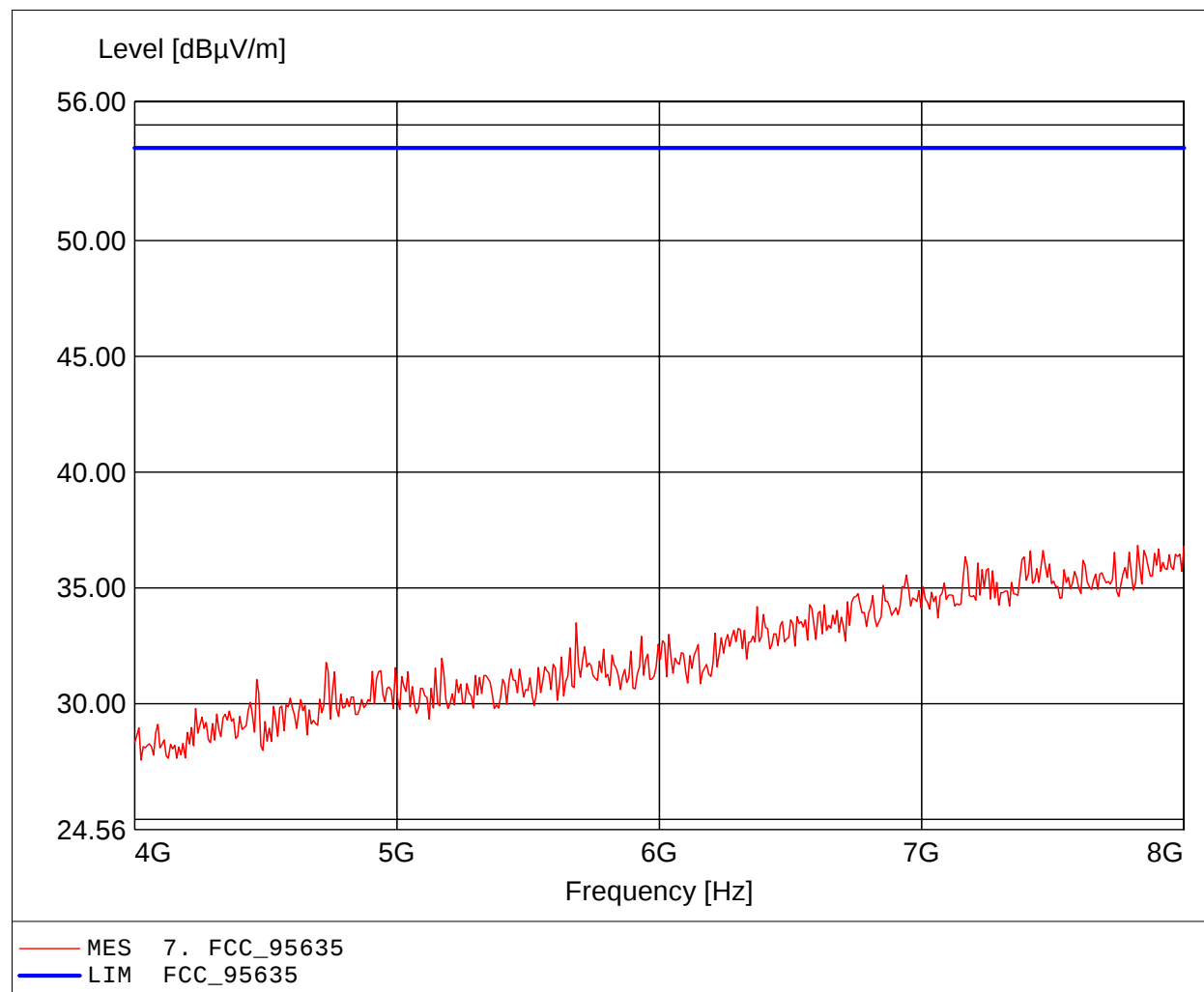
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq: 7.639GHz, Emax: 38.09dBµV/m, RBW: 1MHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635, peak detector  
Comment 1: Dist.: 3m, Ant.: BBHA2190D, amplif.  
Comment 2: Freq: 7.824GHz, Emax: 36.83dBµV/m, RBW: 1MHz



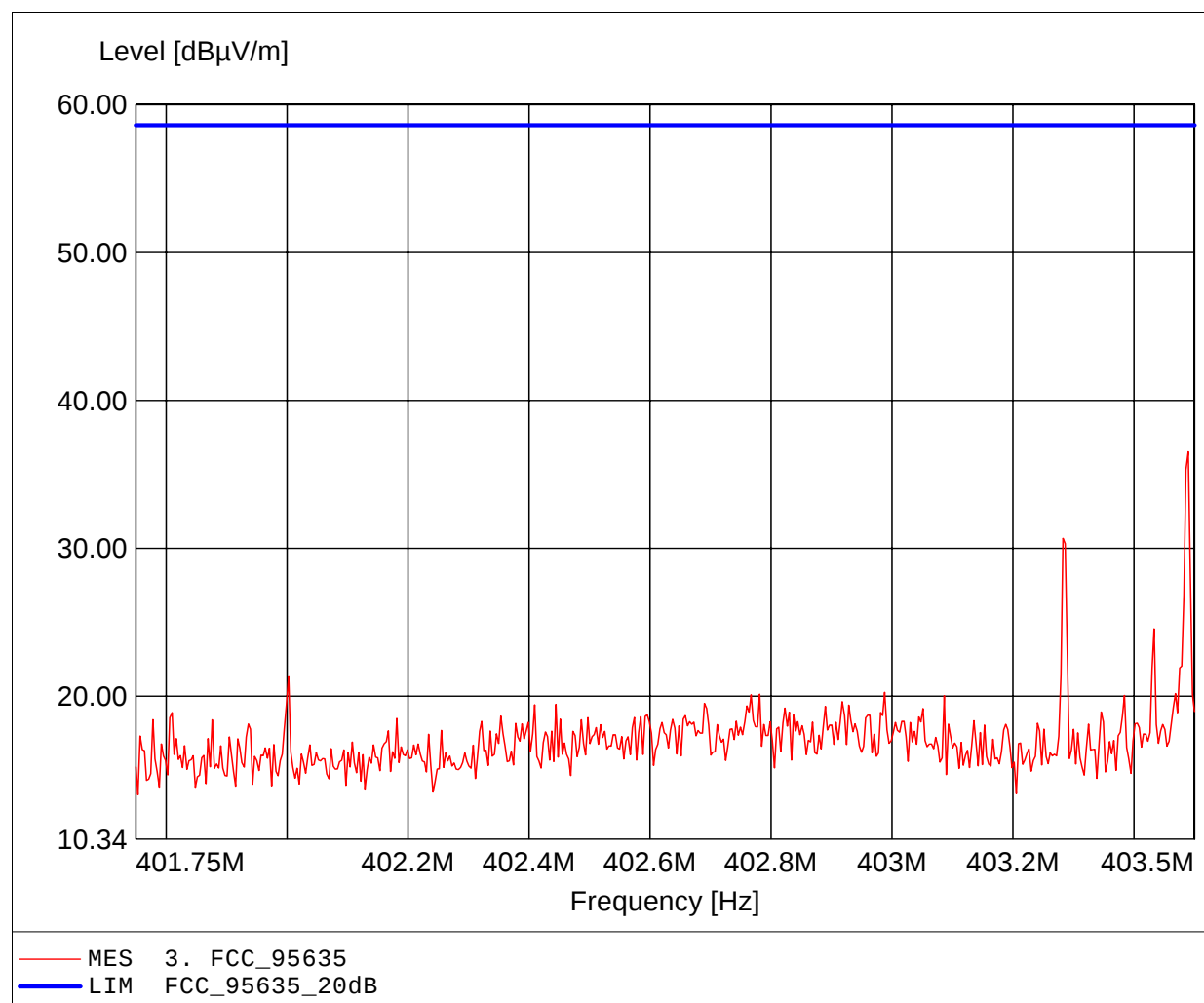
## **Annex**

Measurement diagrams FCC RULES §95.635 (d) (4) “In-Band Emissions”

## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

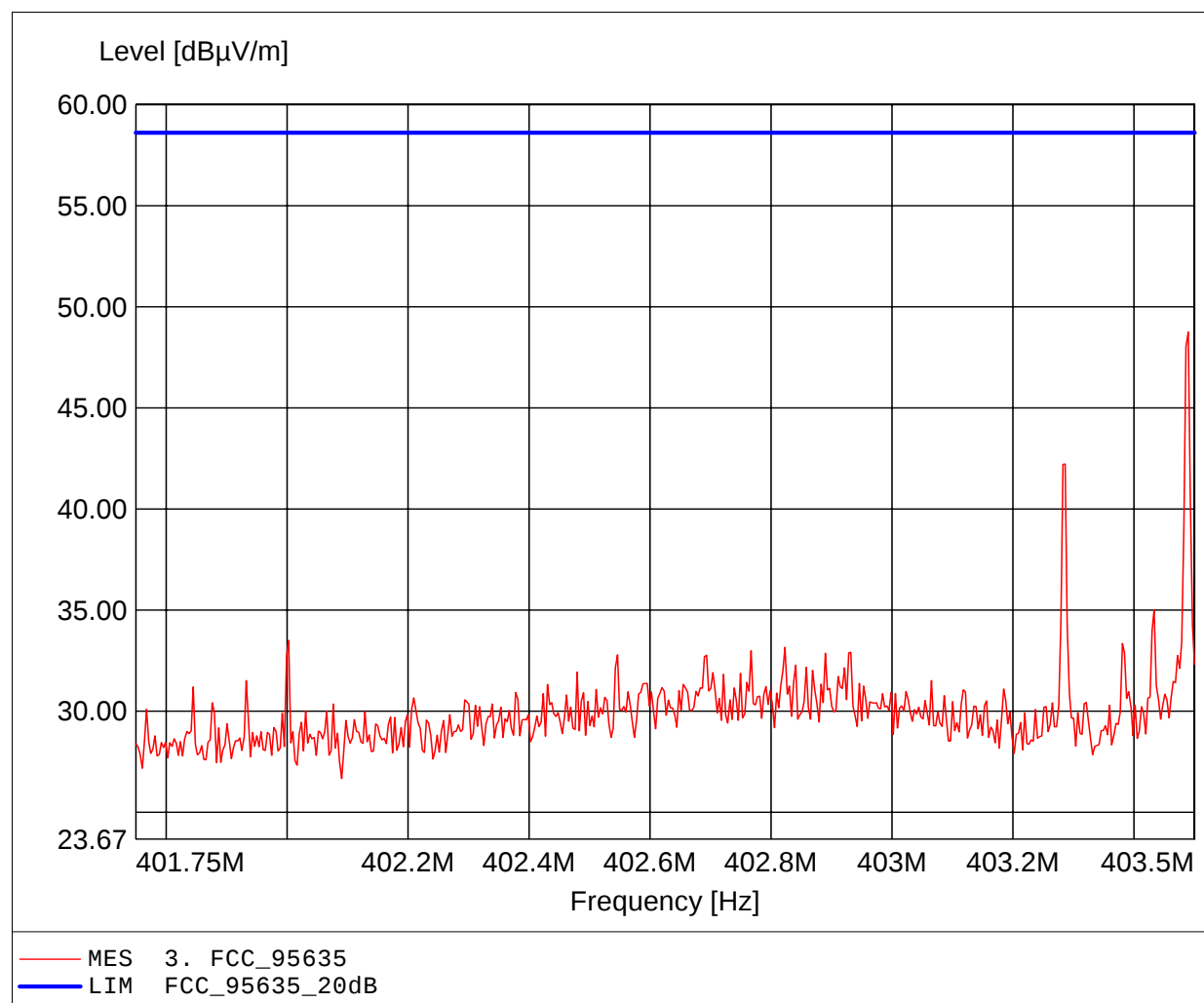
Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 (d) (4), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.489MHz, Emax: 36.54dBμV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

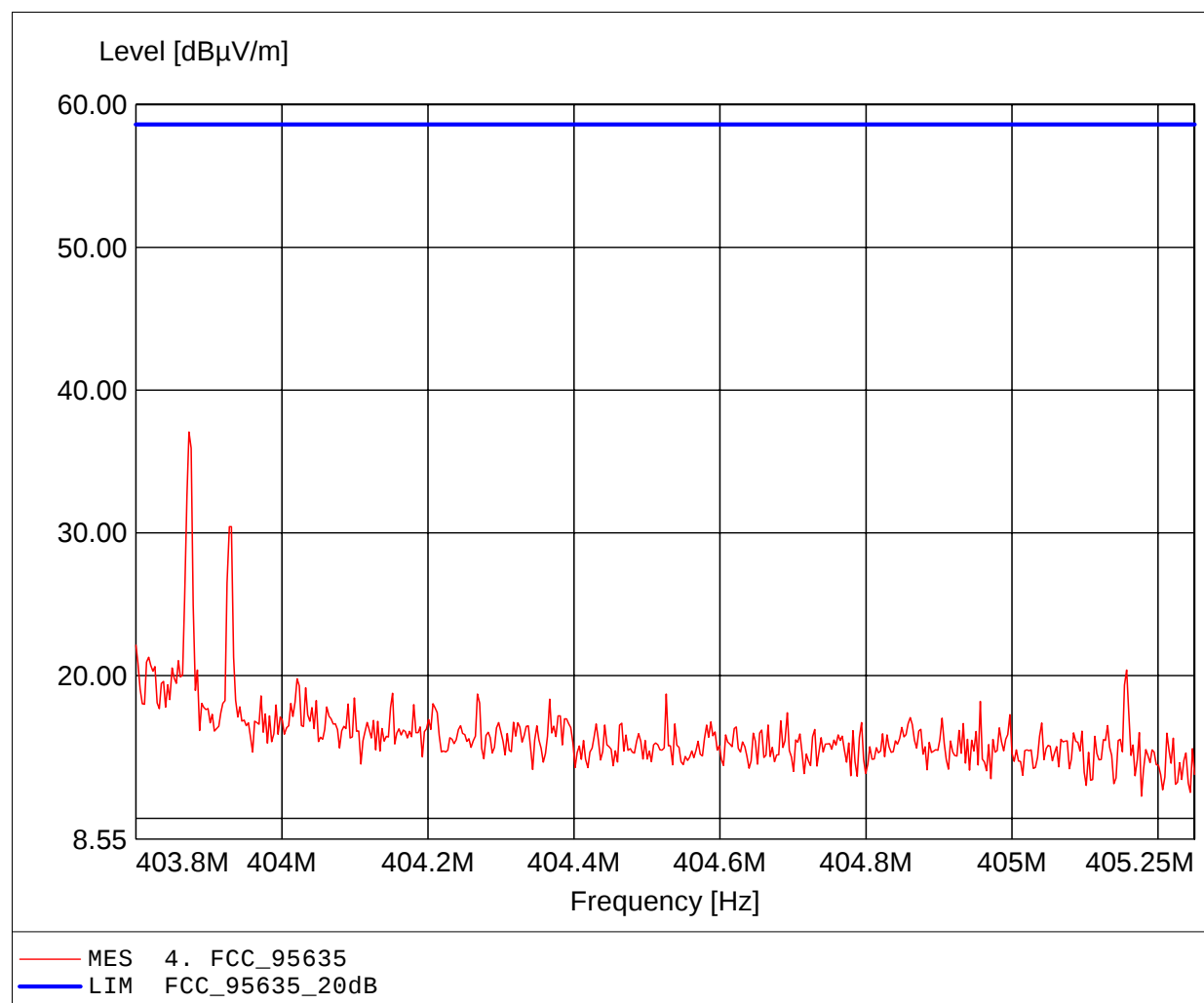
Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 (d) (4), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.489MHz, Emax: 48.75dBμV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

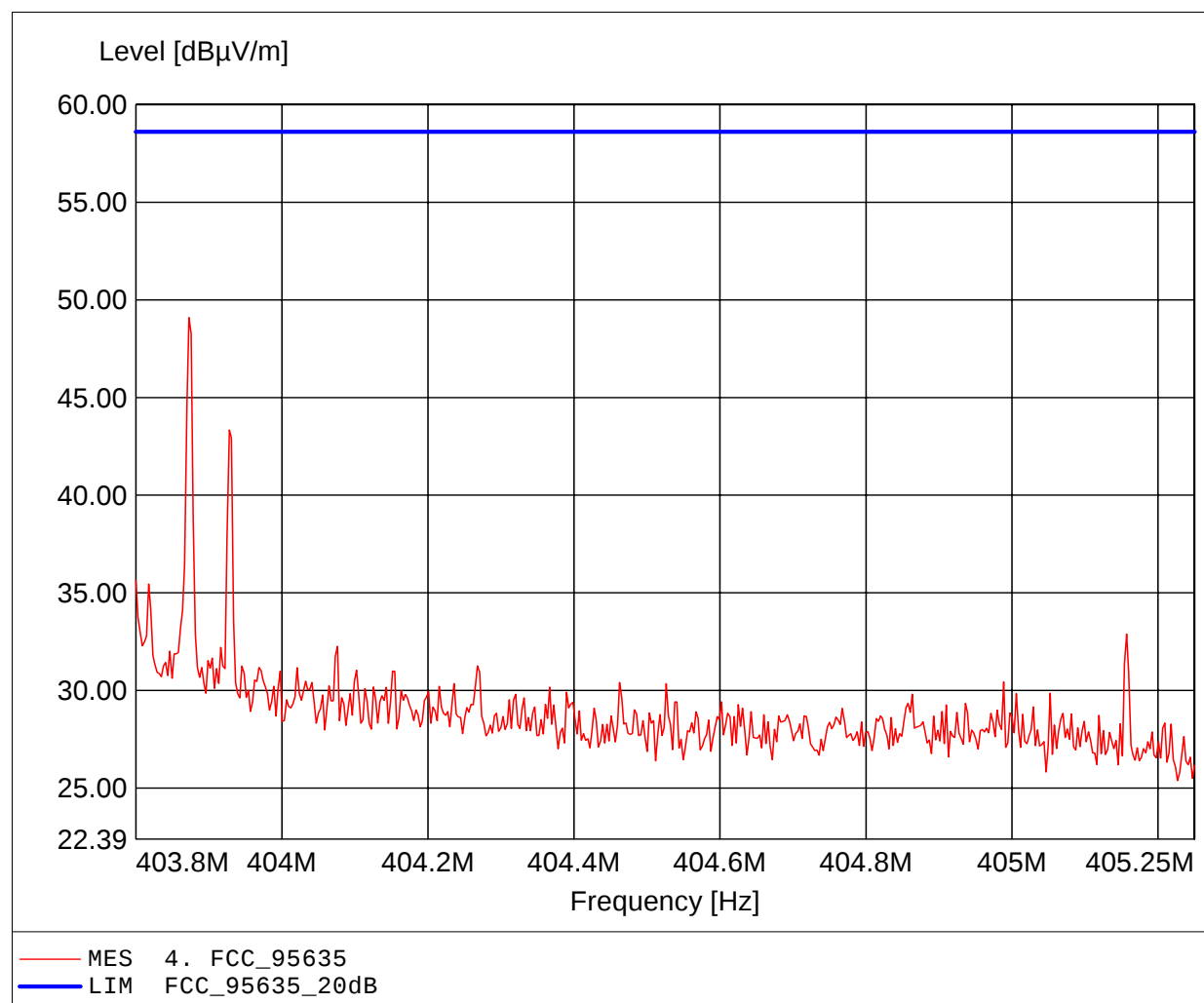
Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 (d) (4), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.873MHz, Emax: 37.08dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

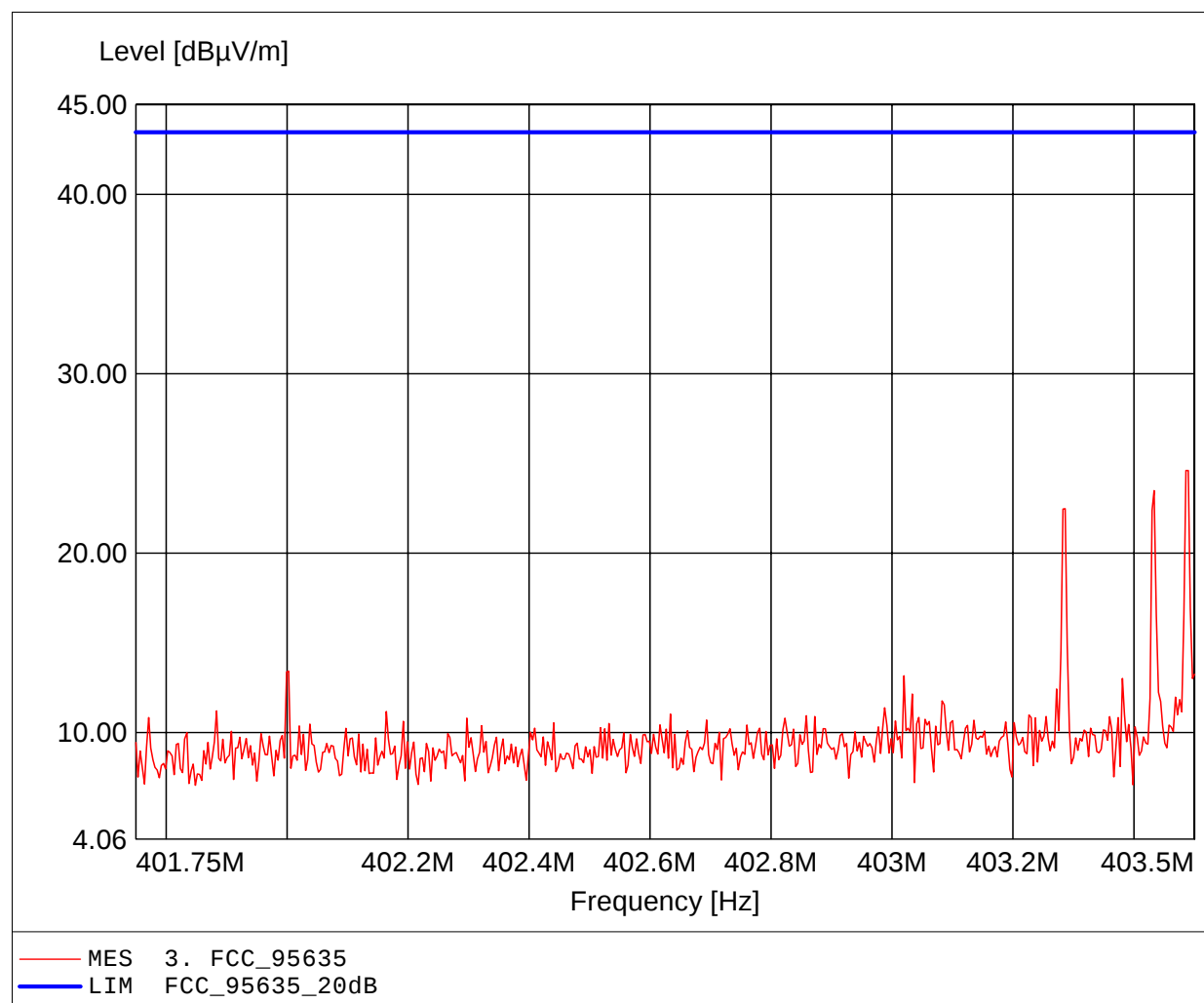
Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 0  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 (d) (4), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.873MHz, Emax: 49.09dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

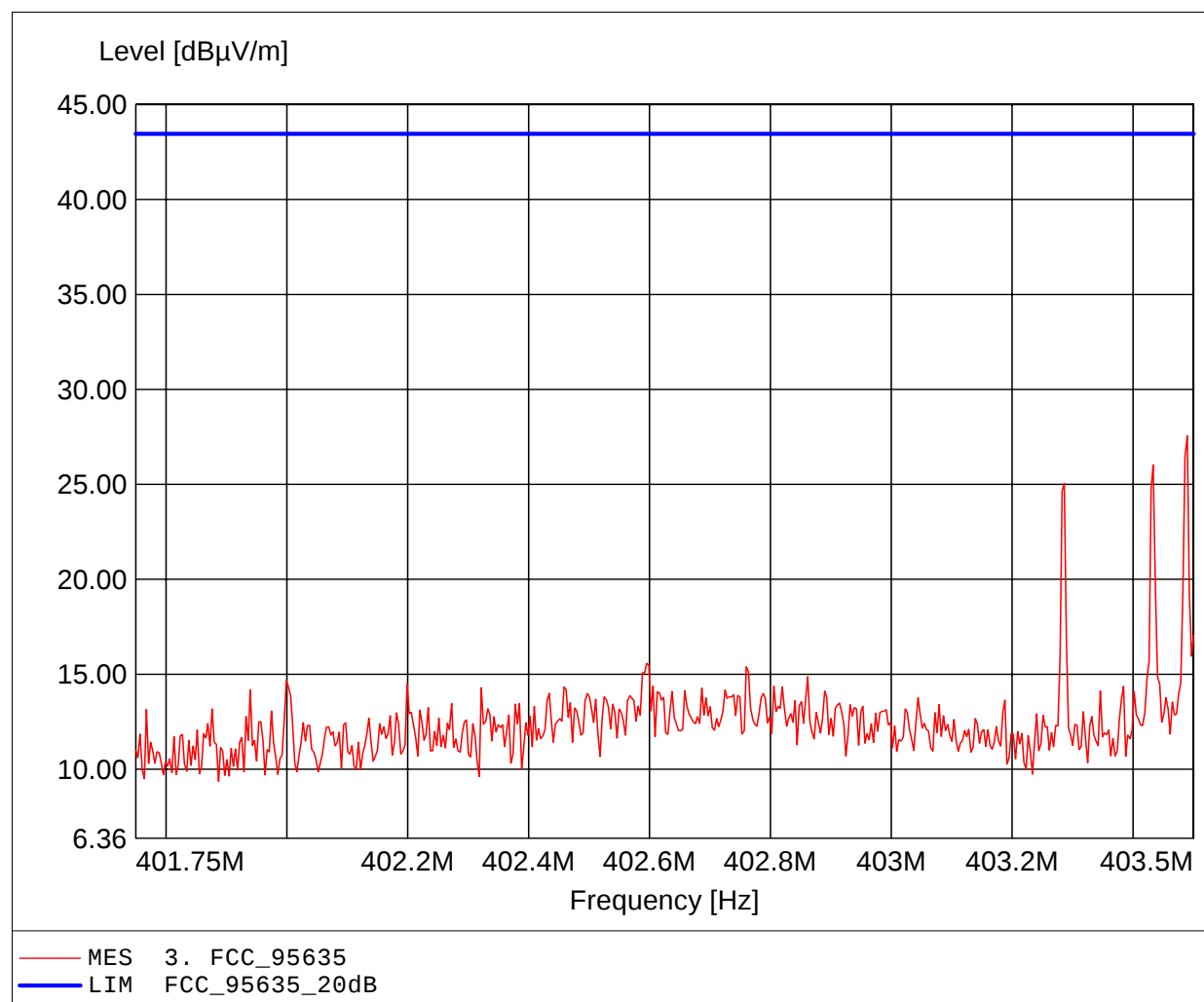
Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 (d) (4), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.489MHz, Emax: 24.61dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

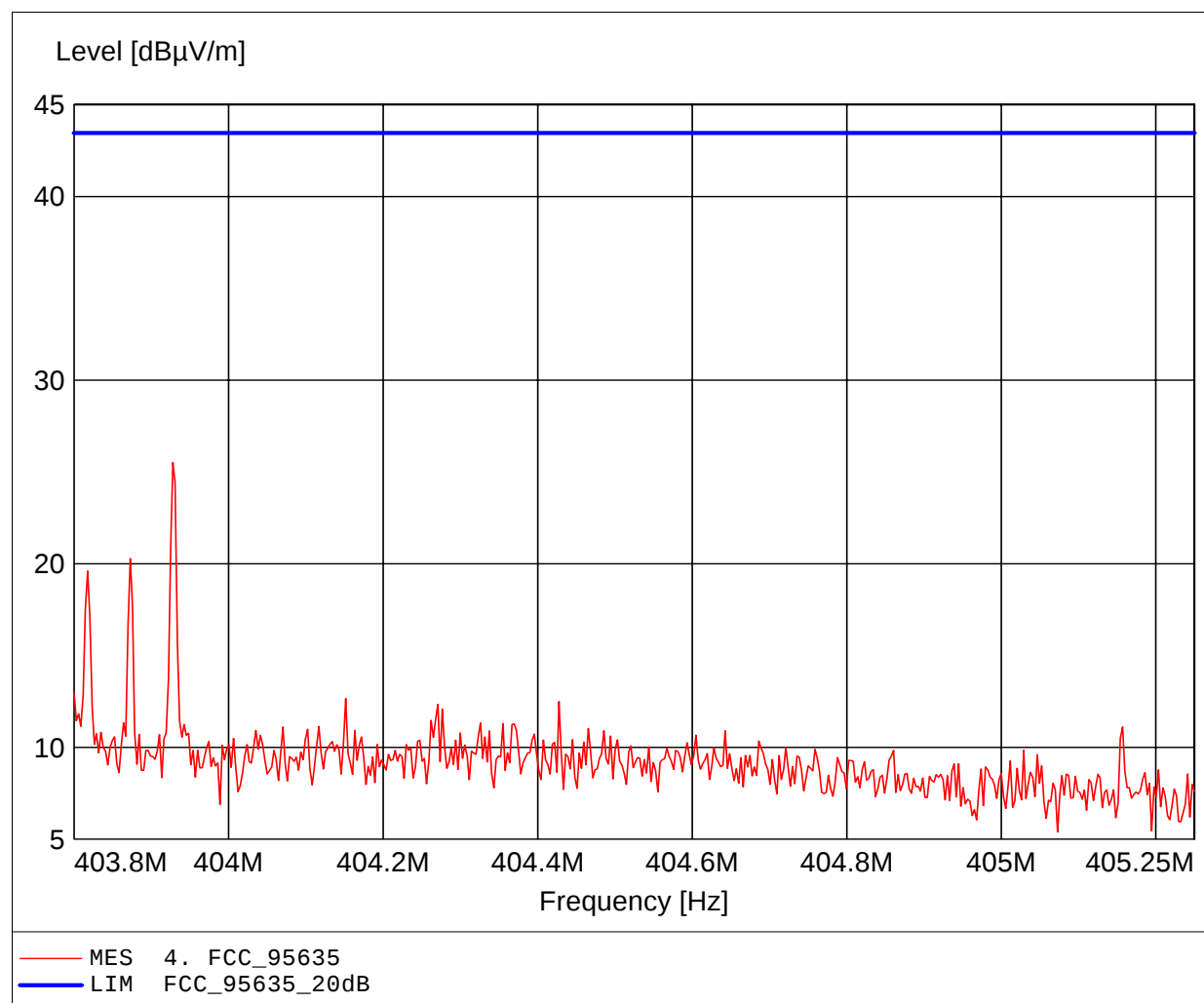
Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 d) (4), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.489MHz, Emax: 27.55dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

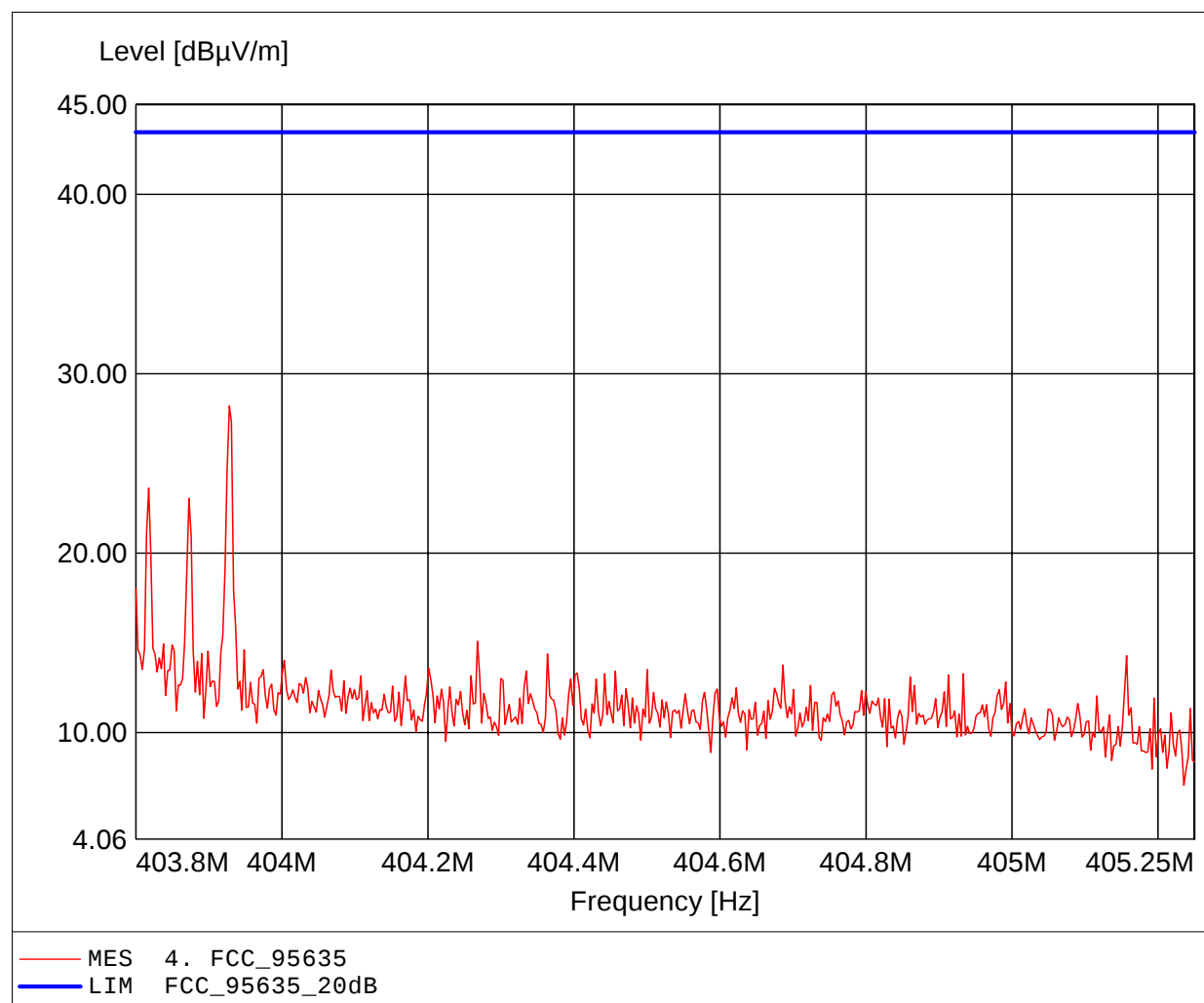
Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 (d) (4), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.928MHz, Emax: 25.51dBµV/m, RBW: 3kHz



# Spurious emissions Field Strength Tx

## FCC RULES PART 95, SUBPART D

Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 0  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 (d) (4), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.  
Comment 2: Freq: 403.928MHz, Emax: 28.21dBµV/m, RBW: 3kHz



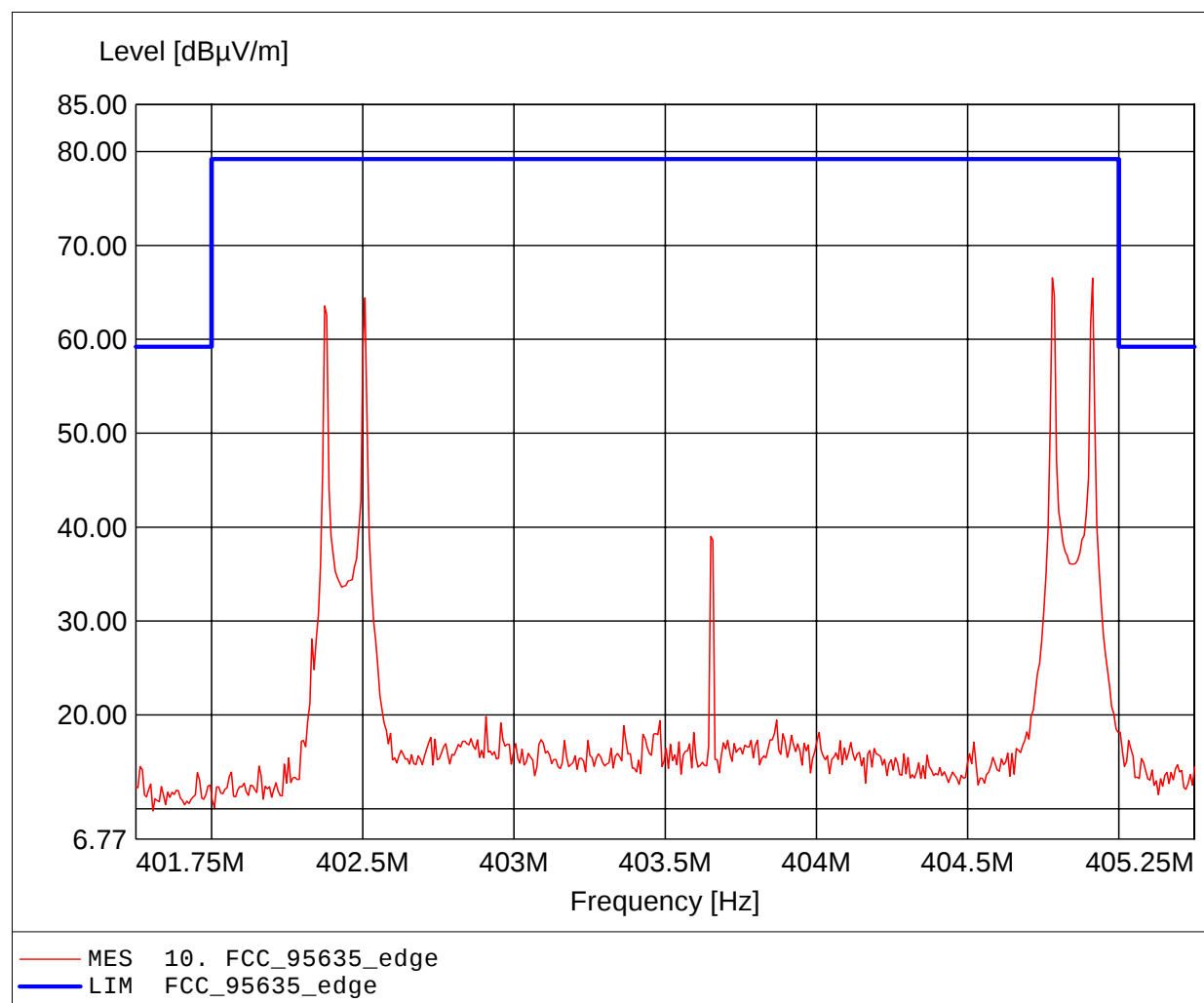
## **Annex**

Measurement diagrams FCC RULES §95.635 (d) (5) “Band Edge Emissions”

## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

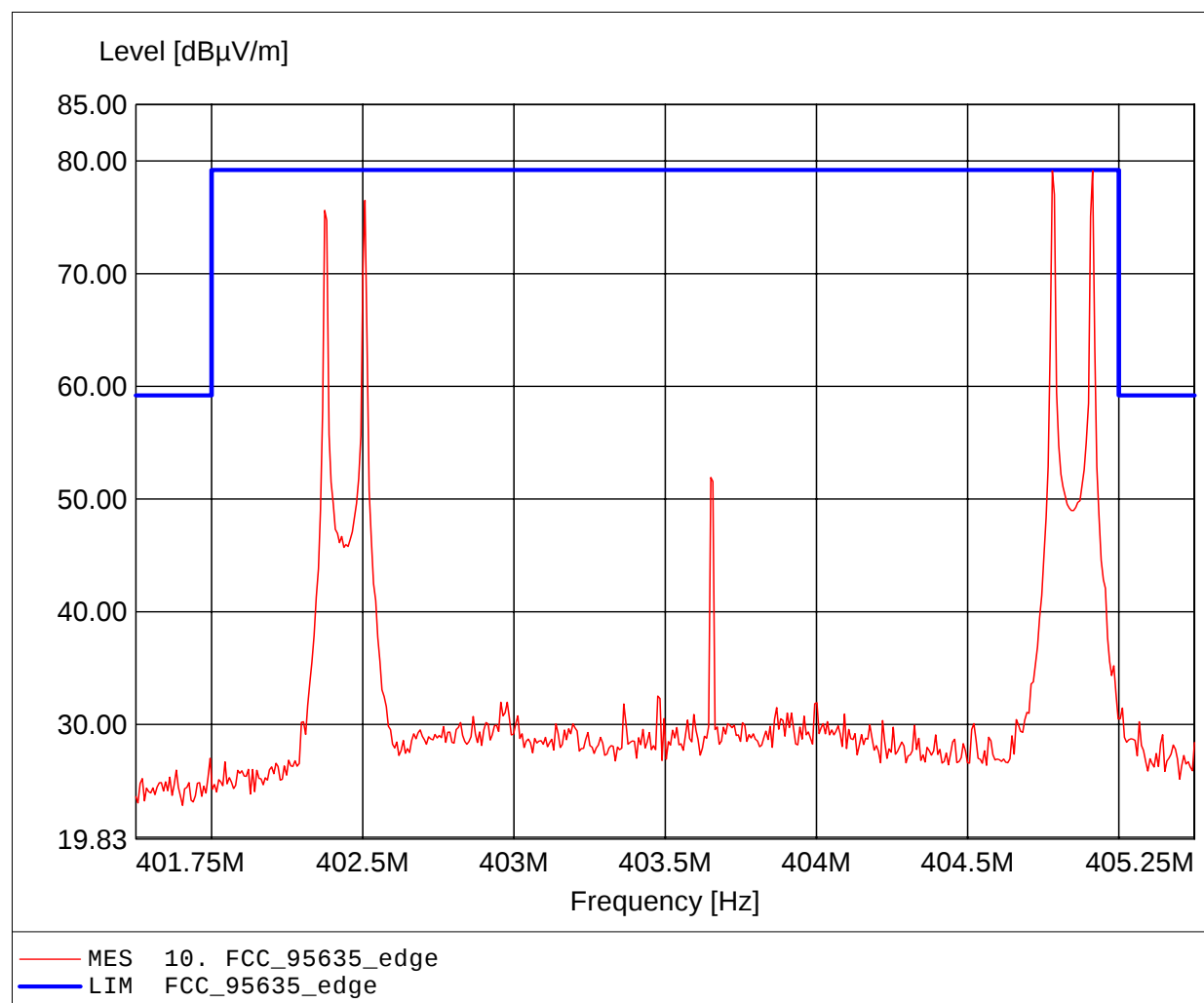
Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 8 / 7  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 (d)(5), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223  
Comment 2: Freq: 404.780MHz, Emax: 66.56dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

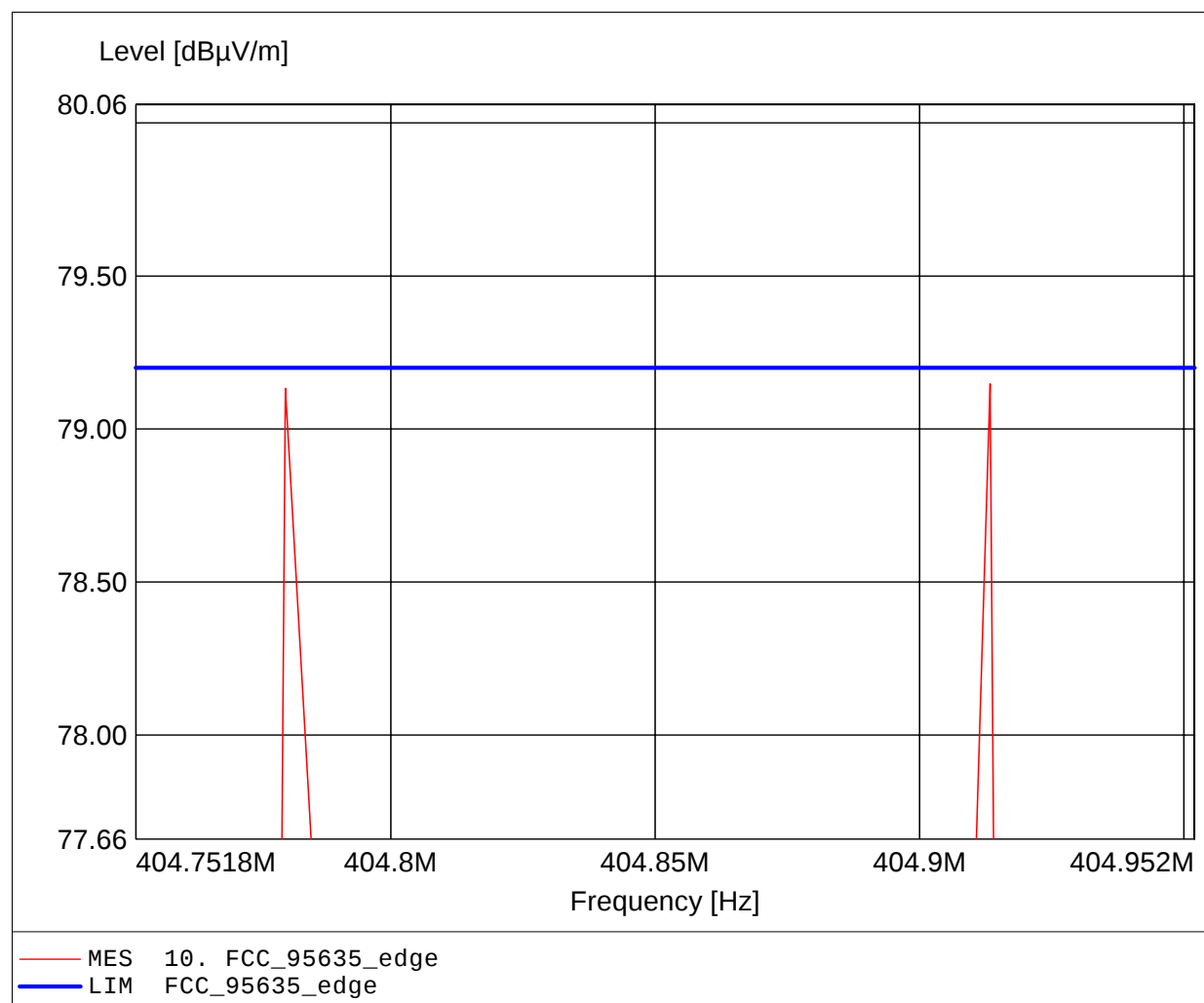
Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 8 / 7  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 (d)(5), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223  
Comment 2: Freq: 404.913MHz, Emax: 79.15dBµV/m, RBW: 3kHz



# Spurious emissions Field Strength Tx

## FCC RULES PART 95, SUBPART D

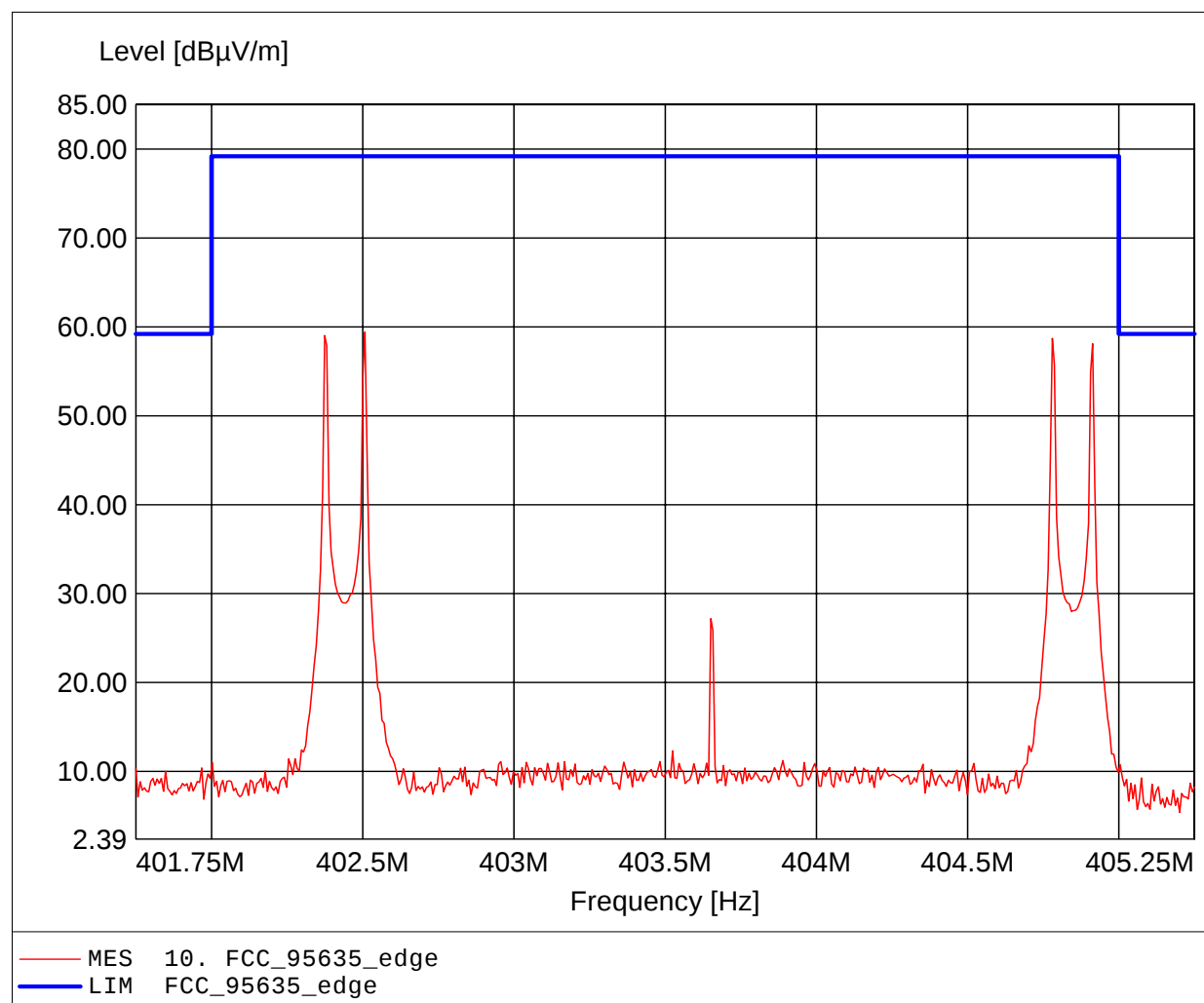
Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (top), Ch.: 8 / 7  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 (d)(5), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223  
Comment 2: Freq: 404.913MHz, Emax: 79.15dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

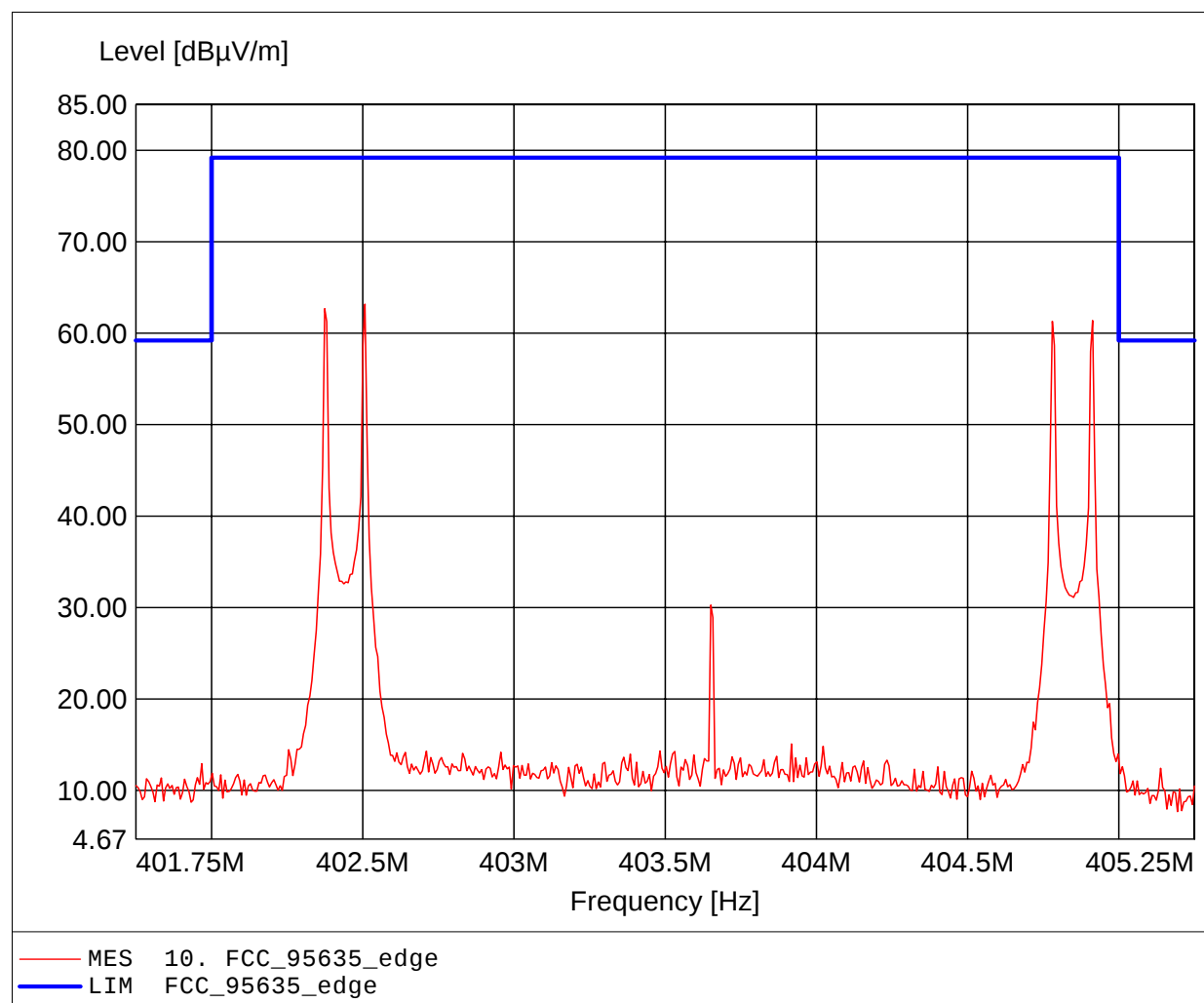
Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 8/7  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 (d)(5), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223  
Comment 2: Freq: 402.508MHz, Emax: 59.42dBµV/m, RBW: 3kHz



## Spurious emissions Field Strength Tx

### FCC RULES PART 95, SUBPART D

Approval Holder: Biotronik GmbH  
EUT : Cardio messenger II  
Model: Telex III / antenna (bottom), Ch.: 8/7  
Test Site / Operator: ETS / Mr. Handrik  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: according to §95.635 (d)(5), peak detector  
Comment 1: Dist.: 3m, Ant.: HL 223  
Comment 2: Freq: 402.508MHz, Emax: 63.17dBµV/m, RBW: 3kHz

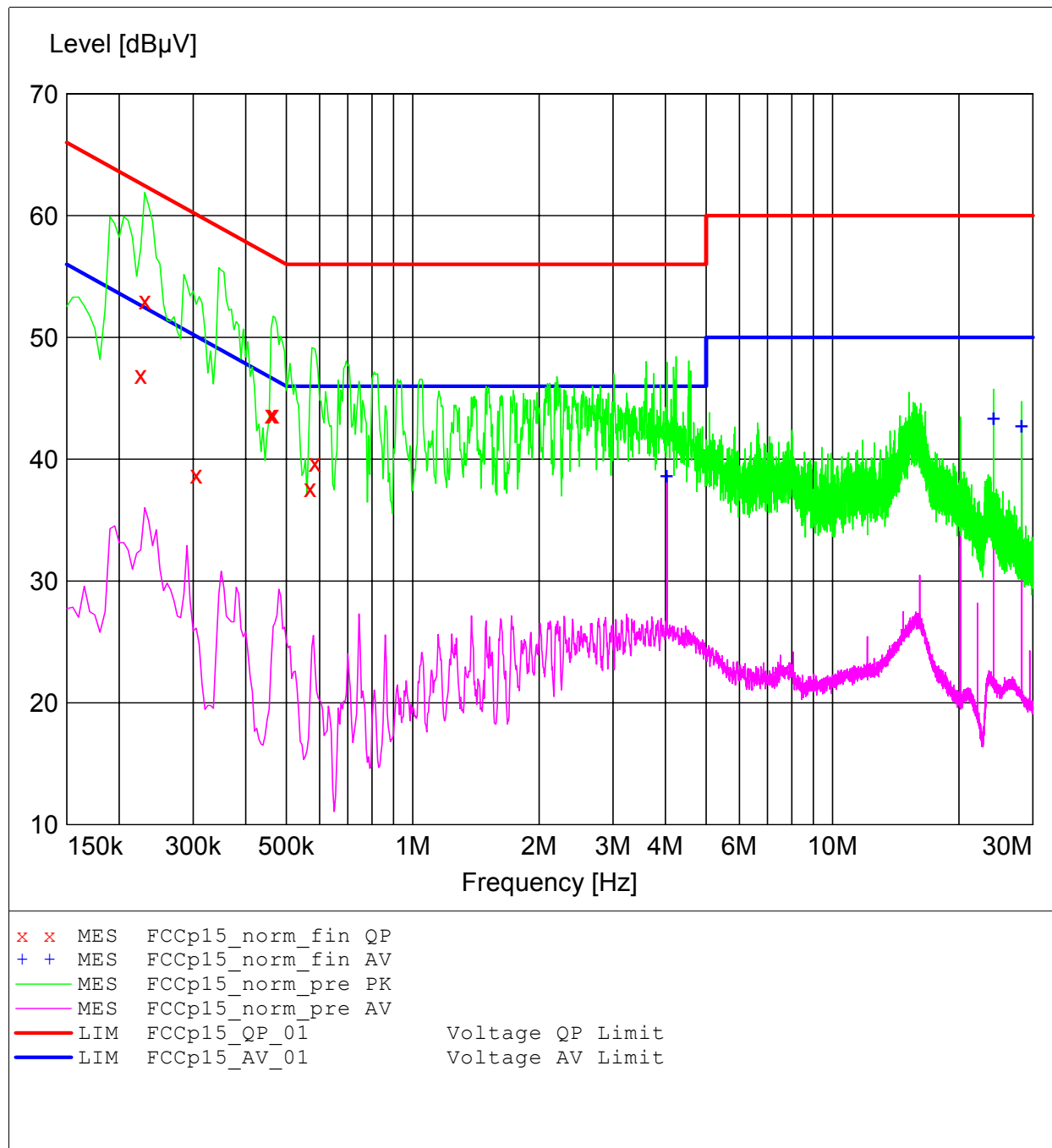


## **Annex**

Measurement diagrams FCC Part 15.207

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

EUT: CARDIOMESSENGER II  
Manufacturer: BIOTRONIK GmbH  
Operating Condition: Unom: 120 V AC (AC/DC-ADAPTOR) , Tnom: 23°C  
Test Site: ETS  
Operator: Mr. Pflug  
Test Specification: V-Network: ESH2-Z5 (L1)  
Comment: model: TELEX mode: GSM, PSTN, CHARGING



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

EUT: CARDIOMESSENGER II  
Manufacturer: BIOTRONIK GmbH  
Operating Condition: Unom: 120 V AC (AC/DC-ADAPTOR) , Tnom: 23°C  
Test Site: ETS  
Operator: Mr. Pflug  
Test Specification: V-Network: ESH2-Z5 (L1)  
Comment: model: TELEX mode: GSM, PSTN, CHARGING

## **MEASUREMENT RESULT: "FCCp15\_norm\_fin QP"**

15.12.2005 14:44

| Frequency<br>MHz | Level<br>dBµV | Transd<br>dB | Limit<br>dBµV | Margin<br>dB | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|------|-----|
| 0.225000         | 46.90         | 10.0         | 63            | 15.7         | ---  | --- |
| 0.230000         | 53.00         | 10.0         | 62            | 9.5          | ---  | --- |
| 0.305000         | 38.70         | 10.0         | 60            | 21.4         | ---  | --- |
| 0.460000         | 43.70         | 10.0         | 57            | 13.0         | ---  | --- |
| 0.465000         | 43.70         | 10.0         | 57            | 12.9         | ---  | --- |
| 0.570000         | 37.60         | 10.1         | 56            | 18.4         | ---  | --- |
| 0.585000         | 39.70         | 10.1         | 56            | 16.3         | ---  | --- |

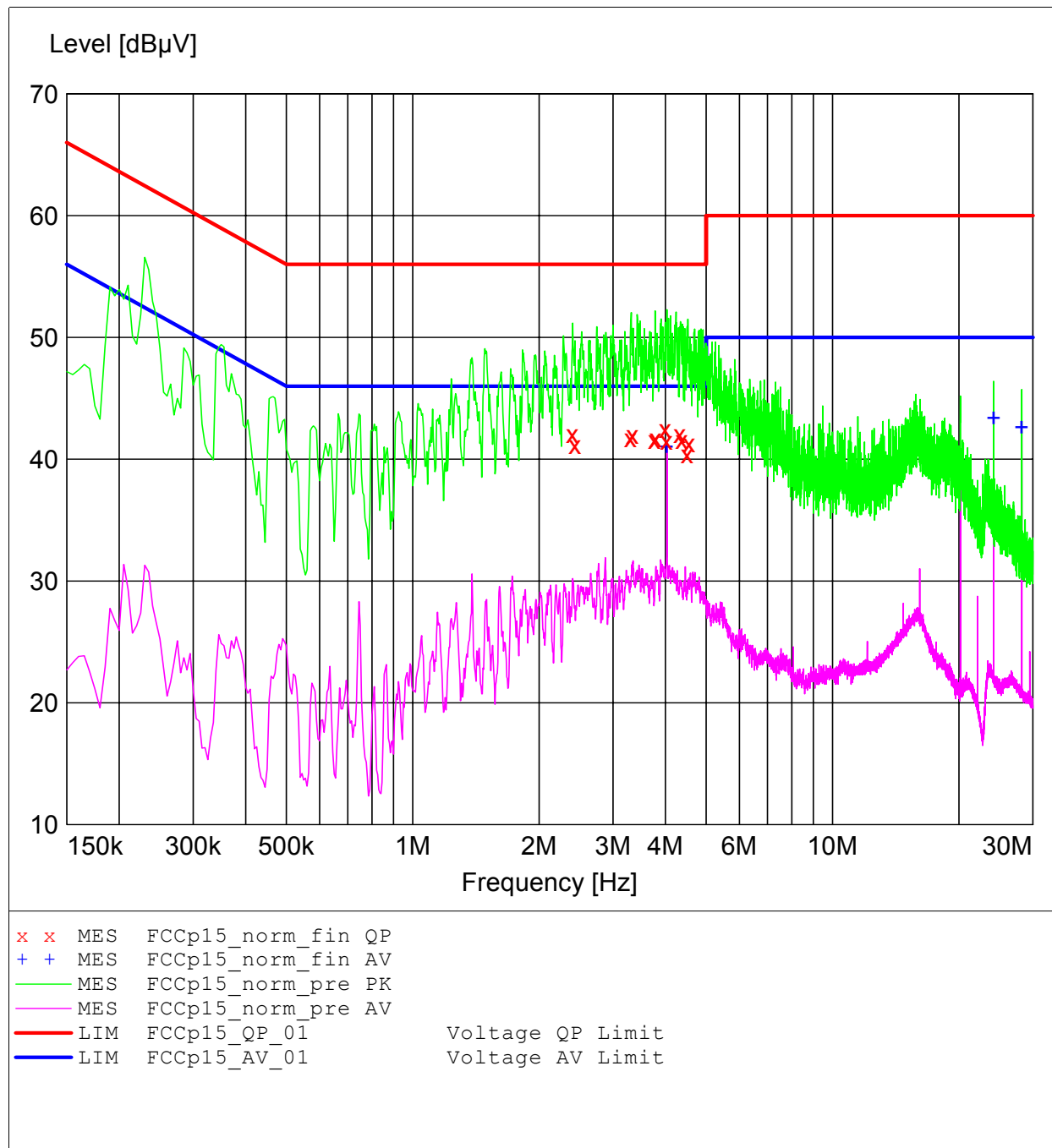
## **MEASUREMENT RESULT: "FCCp15\_norm\_fin AV"**

15.12.2005 14:44

| Frequency<br>MHz | Level<br>dBµV | Transd<br>dB | Limit<br>dBµV | Margin<br>dB | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|------|-----|
| 4.030000         | 38.60         | 10.4         | 46            | 7.4          | ---  | --- |
| 24.190000        | 43.30         | 11.2         | 50            | 6.7          | ---  | --- |
| 28.225000        | 42.70         | 11.3         | 50            | 7.3          | ---  | --- |

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

EUT: CARDIOMESSENGER II  
Manufacturer: BIOTRONIK GmbH  
Operating Condition: Unom: 120 V AC (AC/DC-ADAPTOR) , Tnom: 23°C  
Test Site: ETS  
Operator: Mr. Pflug  
Test Specification: V-Network: ESH2-Z5 (N)  
Comment: model: TELEX mode: GSM, PSTN, CHARGING



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

EUT: CARDIOMESSENGER II  
Manufacturer: BIOTRONIK GmbH  
Operating Condition: Unom: 120 V AC (AC/DC-ADAPTOR) , Tnom: 23°C  
Test Site: ETS  
Operator: Mr. Pflug  
Test Specification: V-Network: ESH2-Z5 (N)  
Comment: model: TELEX mode: GSM, PSTN, CHARGING

## **MEASUREMENT RESULT: "FCCp15\_norm\_fin AV"**

15.12.2005 14:58

| Frequency<br>MHz | Level<br>dBµV | Transd<br>dB | Limit<br>dBµV | Margin<br>dB | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|------|-----|
| 4.030000         | 41.00         | 10.4         | 46            | 5.0          | ---  | --- |
| 24.190000        | 43.40         | 11.2         | 50            | 6.6          | ---  | --- |
| 28.225000        | 42.60         | 11.3         | 50            | 7.4          | ---  | --- |

## **MEASUREMENT RESULT: "FCCp15\_norm\_fin QP"**

15.12.2005 14:58

| Frequency<br>MHz | Level<br>dBµV | Transd<br>dB | Limit<br>dBµV | Margin<br>dB | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|------|-----|
| 2.400000         | 42.10         | 10.3         | 56            | 13.9         | ---  | --- |
| 2.435000         | 41.20         | 10.3         | 56            | 14.8         | ---  | --- |
| 3.300000         | 41.70         | 10.3         | 56            | 14.3         | ---  | --- |
| 3.335000         | 42.00         | 10.3         | 56            | 14.0         | ---  | --- |
| 3.760000         | 41.60         | 10.3         | 56            | 14.4         | ---  | --- |
| 3.785000         | 41.70         | 10.3         | 56            | 14.3         | ---  | --- |
| 3.990000         | 42.50         | 10.4         | 56            | 13.5         | ---  | --- |
| 4.020000         | 41.50         | 10.4         | 56            | 14.5         | ---  | --- |
| 4.325000         | 42.10         | 10.4         | 56            | 13.9         | ---  | --- |
| 4.370000         | 41.60         | 10.4         | 56            | 14.4         | ---  | --- |
| 4.505000         | 40.40         | 10.4         | 56            | 15.6         | ---  | --- |
| 4.555000         | 41.30         | 10.4         | 56            | 14.7         | ---  | --- |

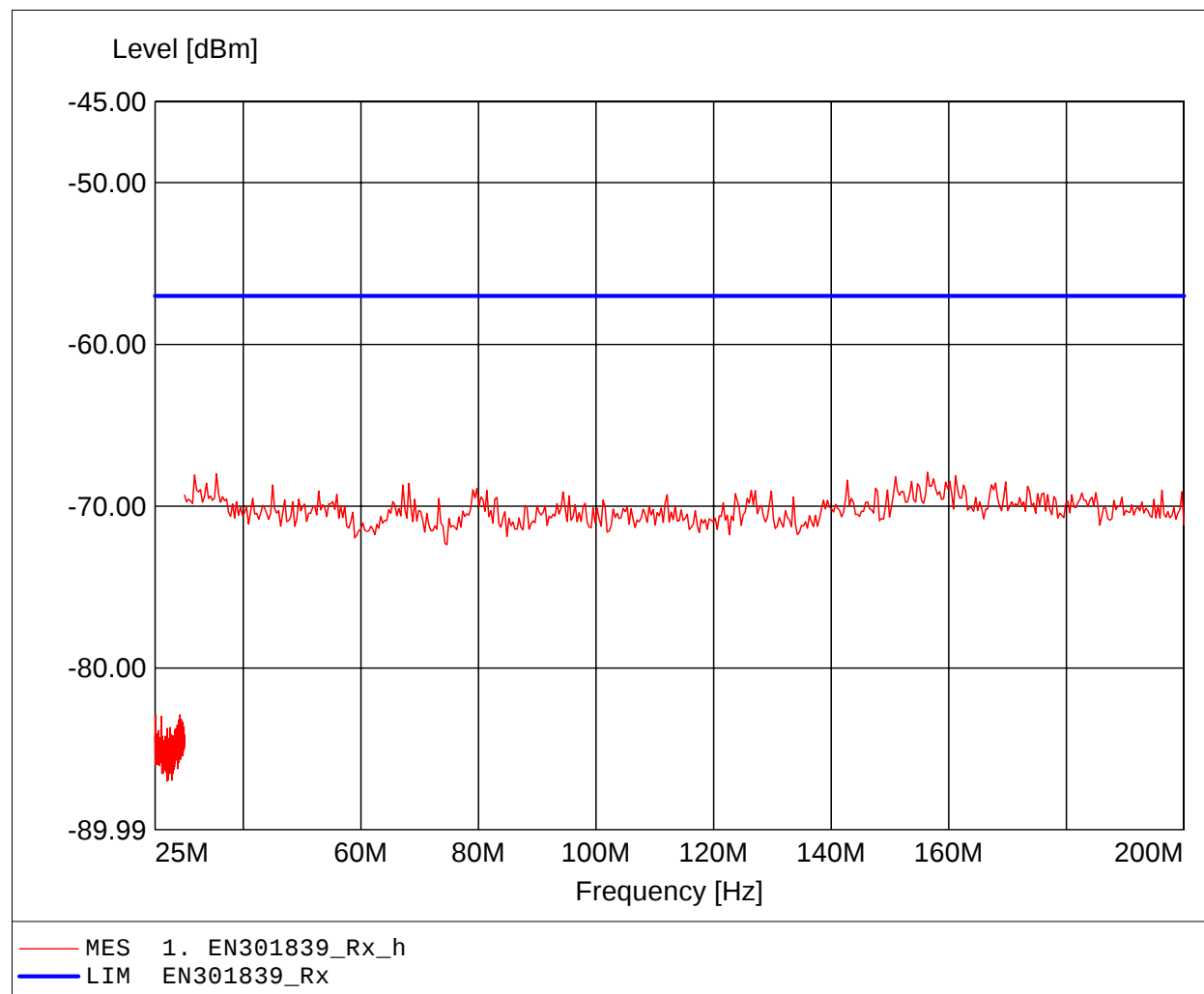
## **Annex**

Measurement diagrams “Receiver Spurious Emissions”

## Receiver spurious emissions

in accordance to the EN 301 839

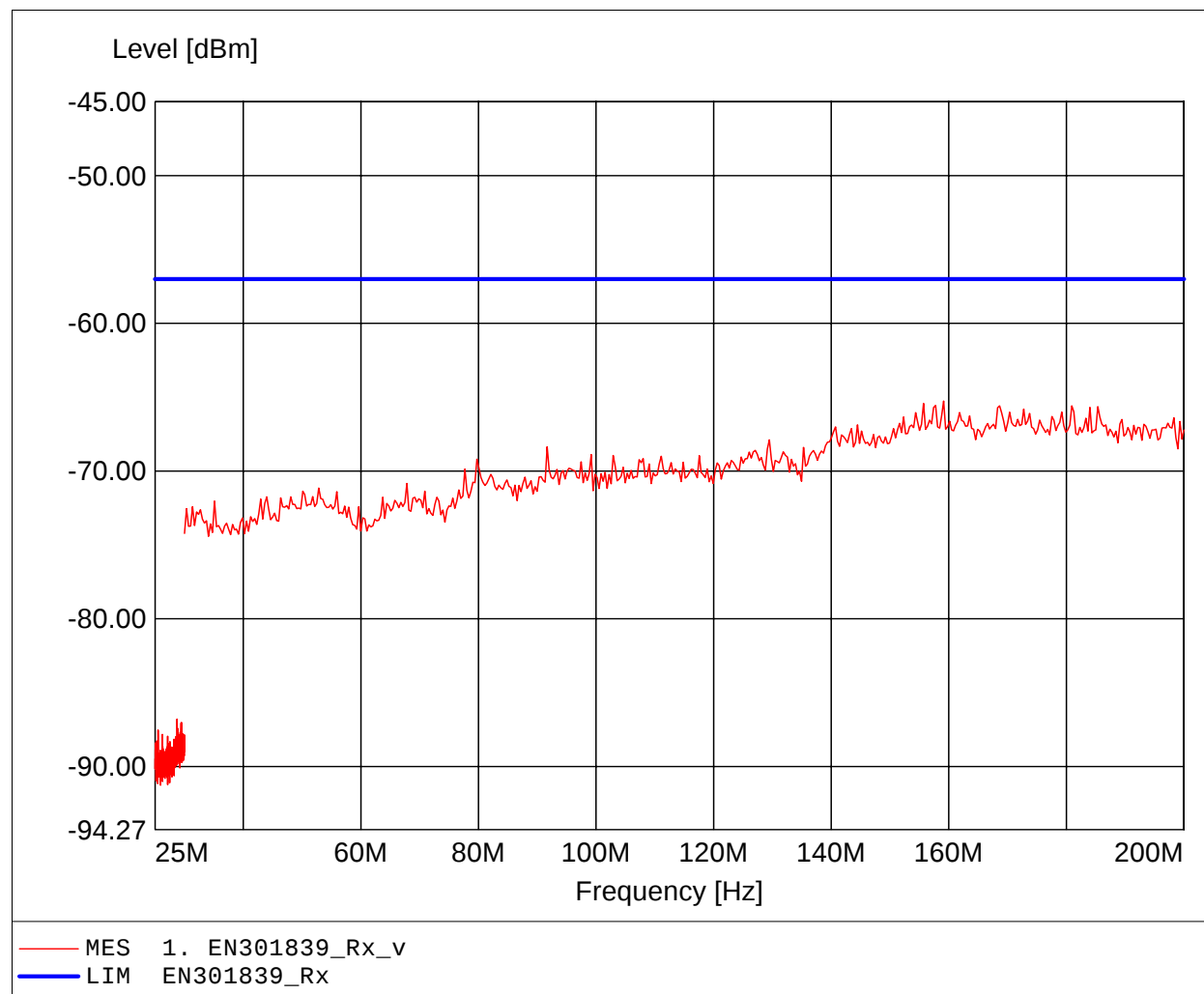
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (both, worst case), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: RX  
Comment 1: Dist.: 3m, Ant.: HK 116, ampl.: None  
Comment 2: Freq:156.393MHz Pmax:-67.90dBm RBW: 10/100 kHz



## Receiver spurious emissions

### in accordance to the EN 301 839

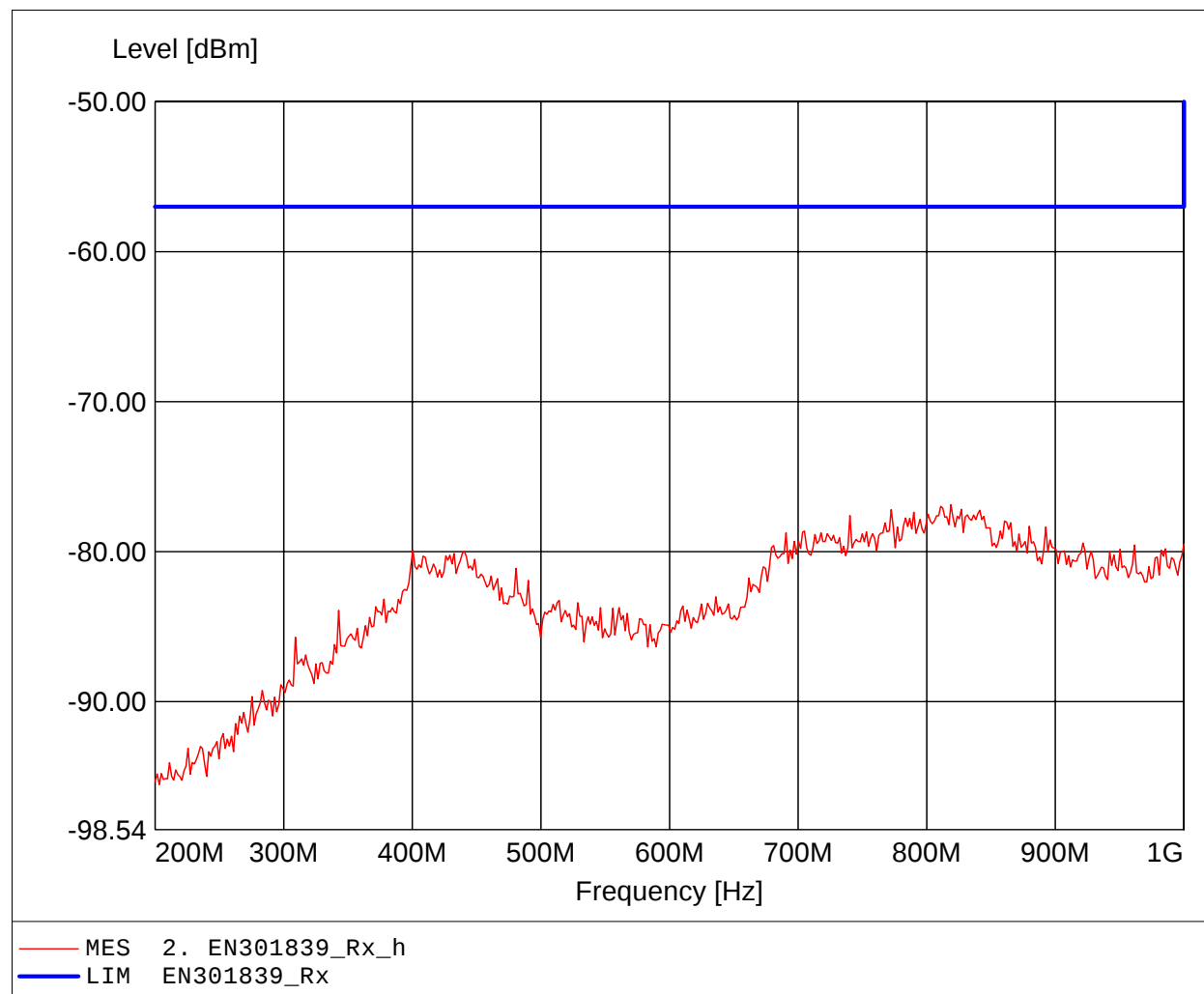
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (both, worst case), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: RX  
Comment 1: Dist.: 3m, Ant.: HK 116, ampl.: None  
Comment 2: Freq:159.118MHz Pmax:-65.26dBm RBW: 10/100 kHz



## Receiver spurious emissions

in accordance to the EN 301 839

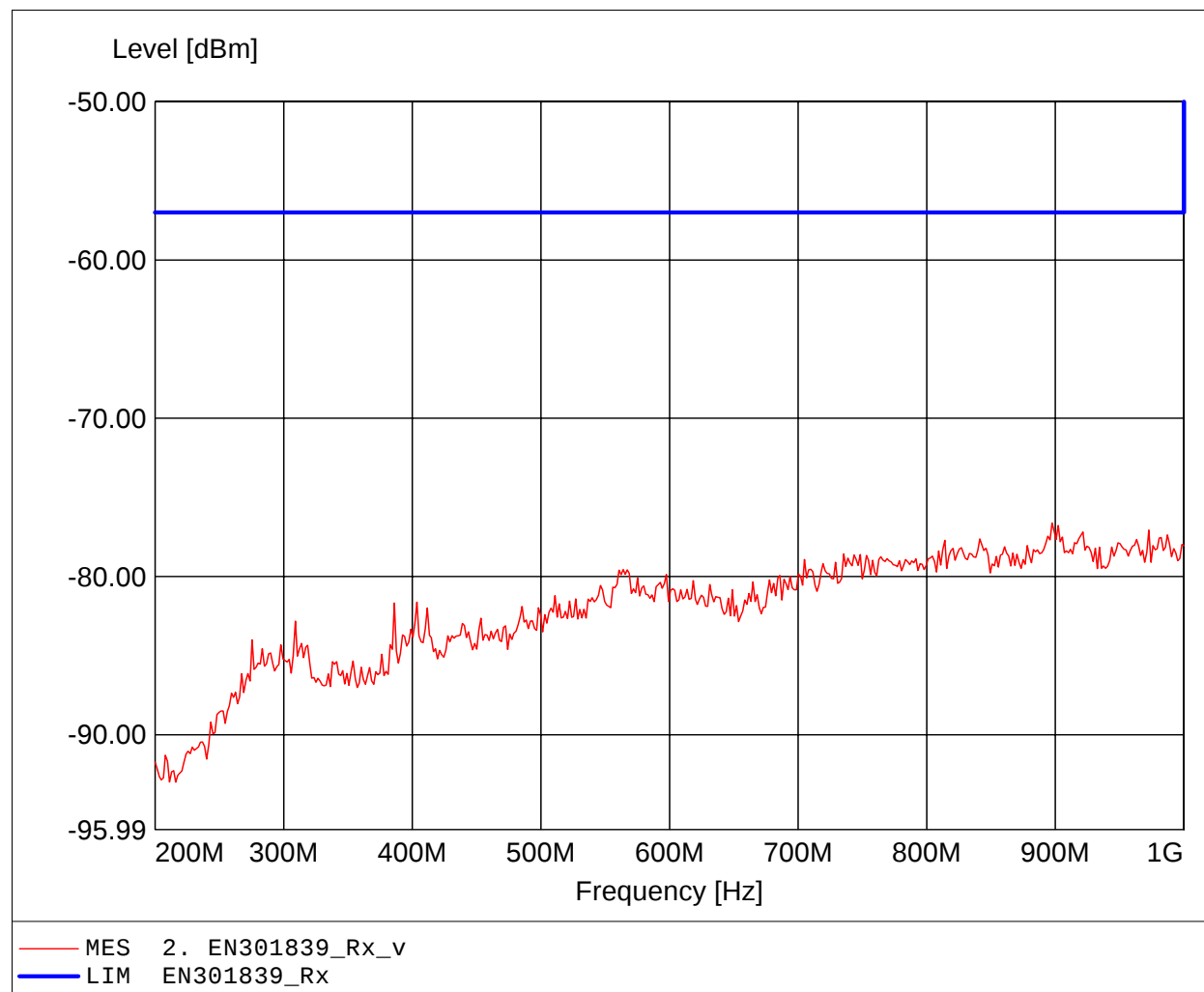
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (both, worst case), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: RX  
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.: 0.1-1GHz  
Comment 2: Freq:818.838MHz Pmax:-76.86dBm RBW: 100 kHz



## Receiver spurious emissions

in accordance to the EN 301 839

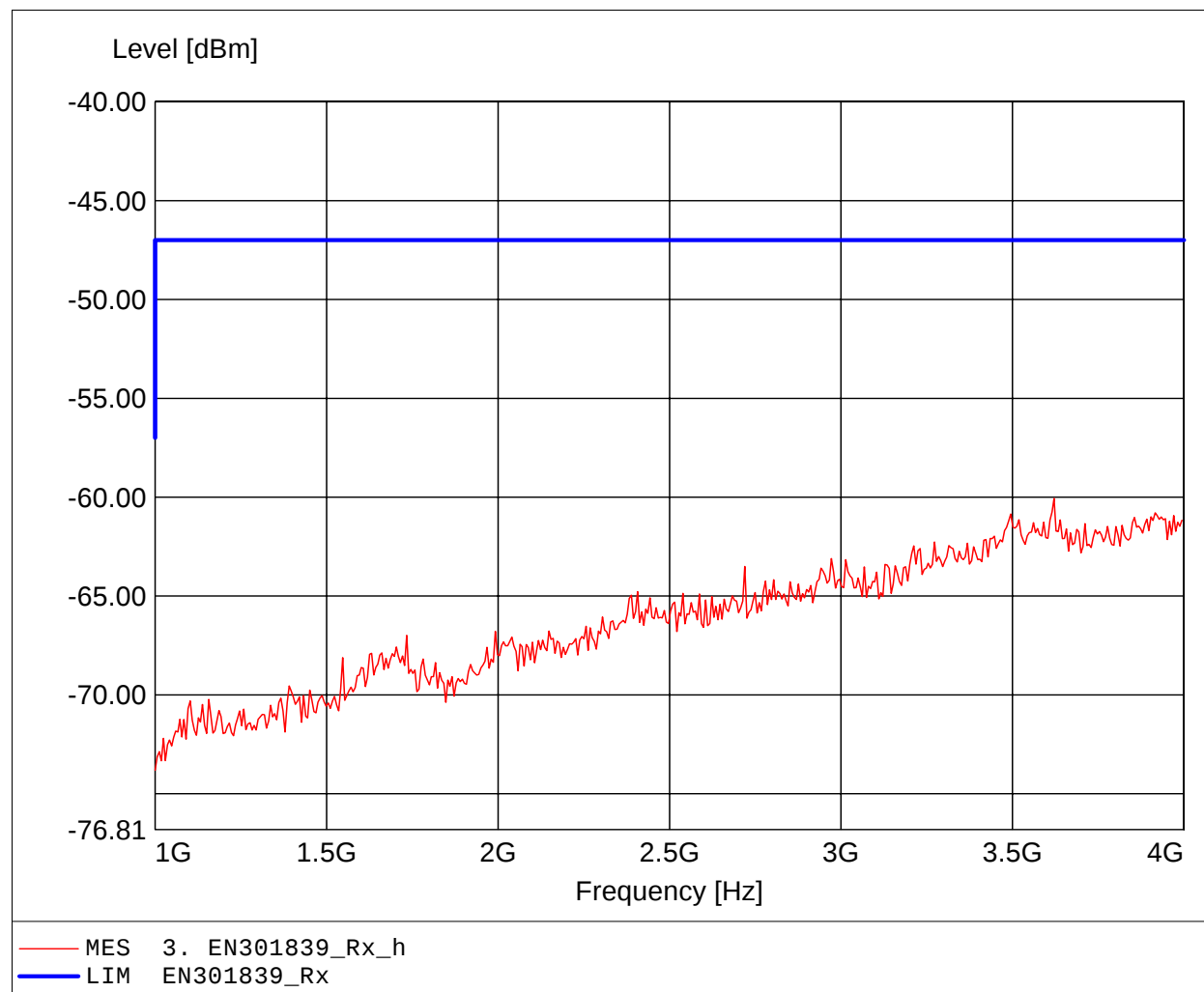
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (both, worst case), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: RX  
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.: 0.1-1GHz  
Comment 2: Freq:897.395MHz Pmax:-76.62dBm RBW: 100 kHz



## Receiver spurious emissions

in accordance to the EN 301 839

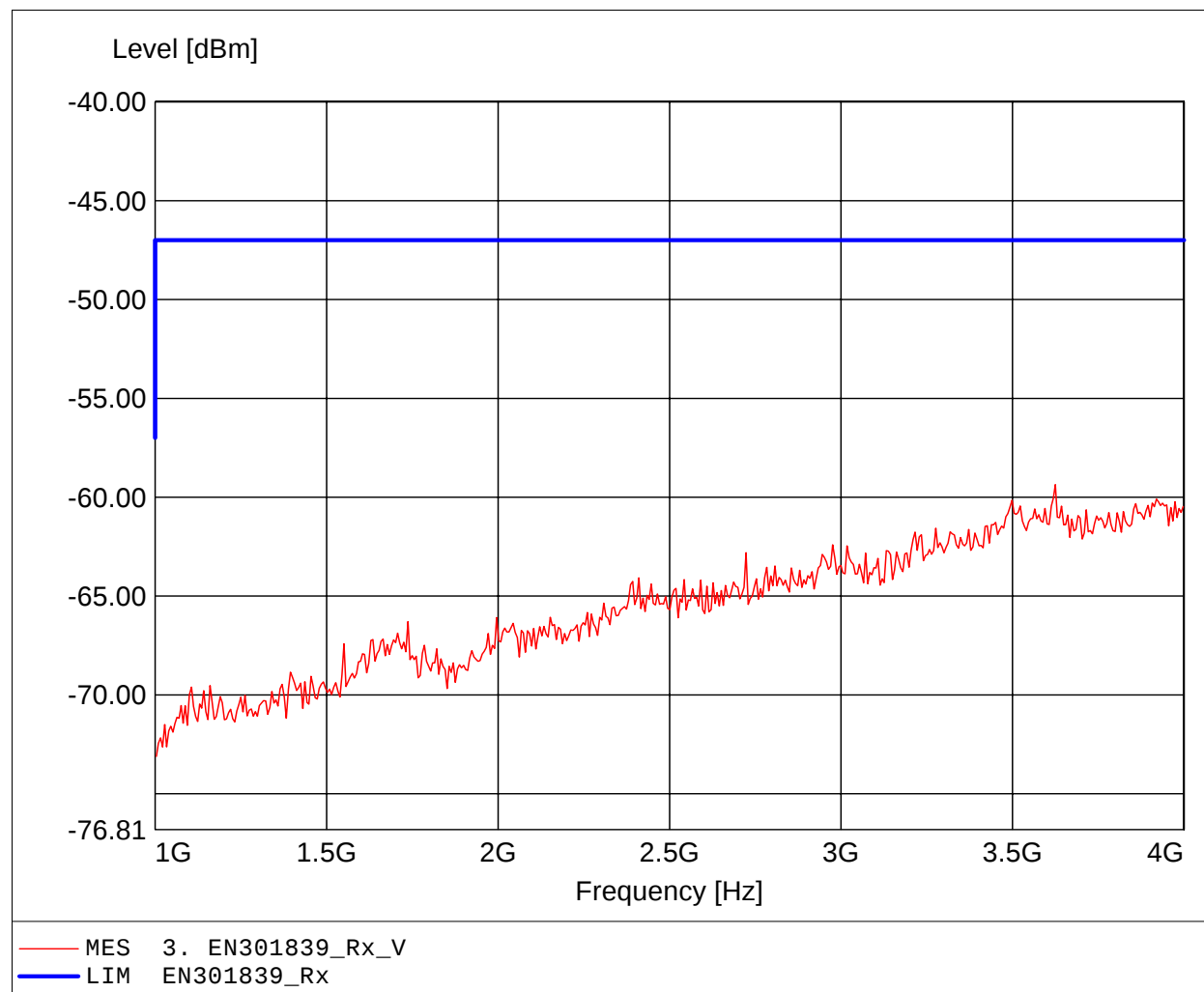
Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (both, worst case), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: RX  
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4GHz  
Comment 2: Freq:3.621GHz Pmax:-60.07dBm RBW: 1 MHz



## Receiver spurious emissions

in accordance to the EN 301 839

Approval Holder: Biotronik GmbH  
EUT: Cardio messenger II  
Model: Telex III / antenna (both, worst case), Ch.: 0  
Test Site / Operator: ETS / Mr. Treffke  
Temperature/ Voltage: 25°C / Unom: 3.7 V DC (lithium accu)  
Test Specification: Fully anechoic chamber / mode: RX  
Comment 1: Dist.: 1m, Ant.: HL 025, ampl.: 1-4GHz  
Comment 2: Freq:3.621GHz Pmax:-59.14dBm RBW: 1 MHz

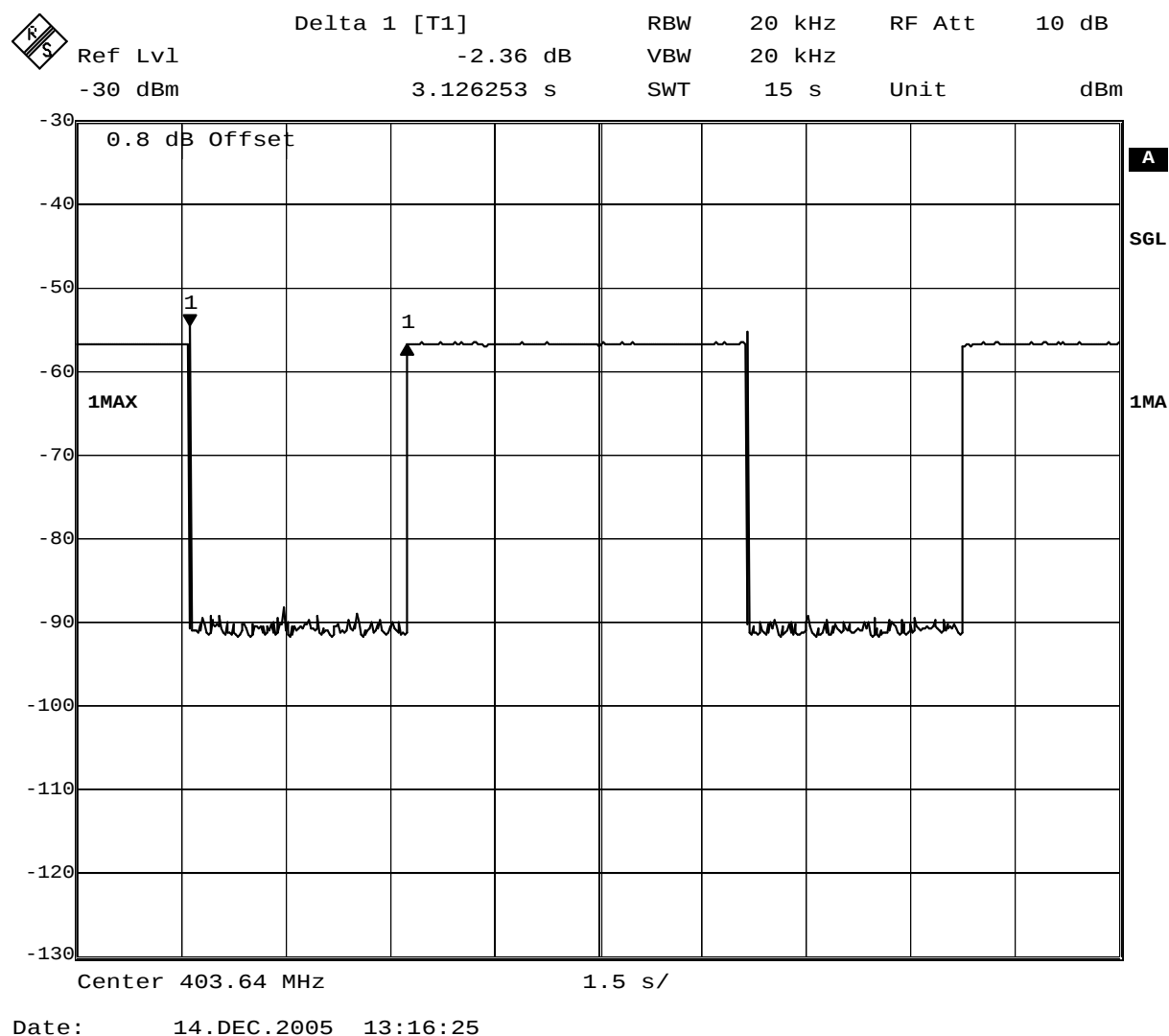


## **Annex**

Measurement diagrams “Monitoring scan cycle time and minimum channel monitoring period”

**FCC Part 95.628 (09.12.2005) / EN 301 839 v1.1.1 (2002-06)**  
**Monitoring system scan cycle time and minimum channel monitoring period**

|                       |                                         |
|-----------------------|-----------------------------------------|
| EUT                   | Cardiomessenger II                      |
| Model                 | Telex III                               |
| Approval Holder       | Biotronik GmbH                          |
| Temperature / Voltage | 25°C / Unom: 3.7 V DC                   |
| Test Site / Operator  | ETS                                     |
| Test Specification    | FCC Part 95.628 a.2 / EN 301 839-1 10.3 |
| Test Case             | Monitoring system scan cycle time       |
| Comment 1             | Result < 5 sec                          |
| Comment 2             | Limit < 5 sec                           |



Measurement diagram

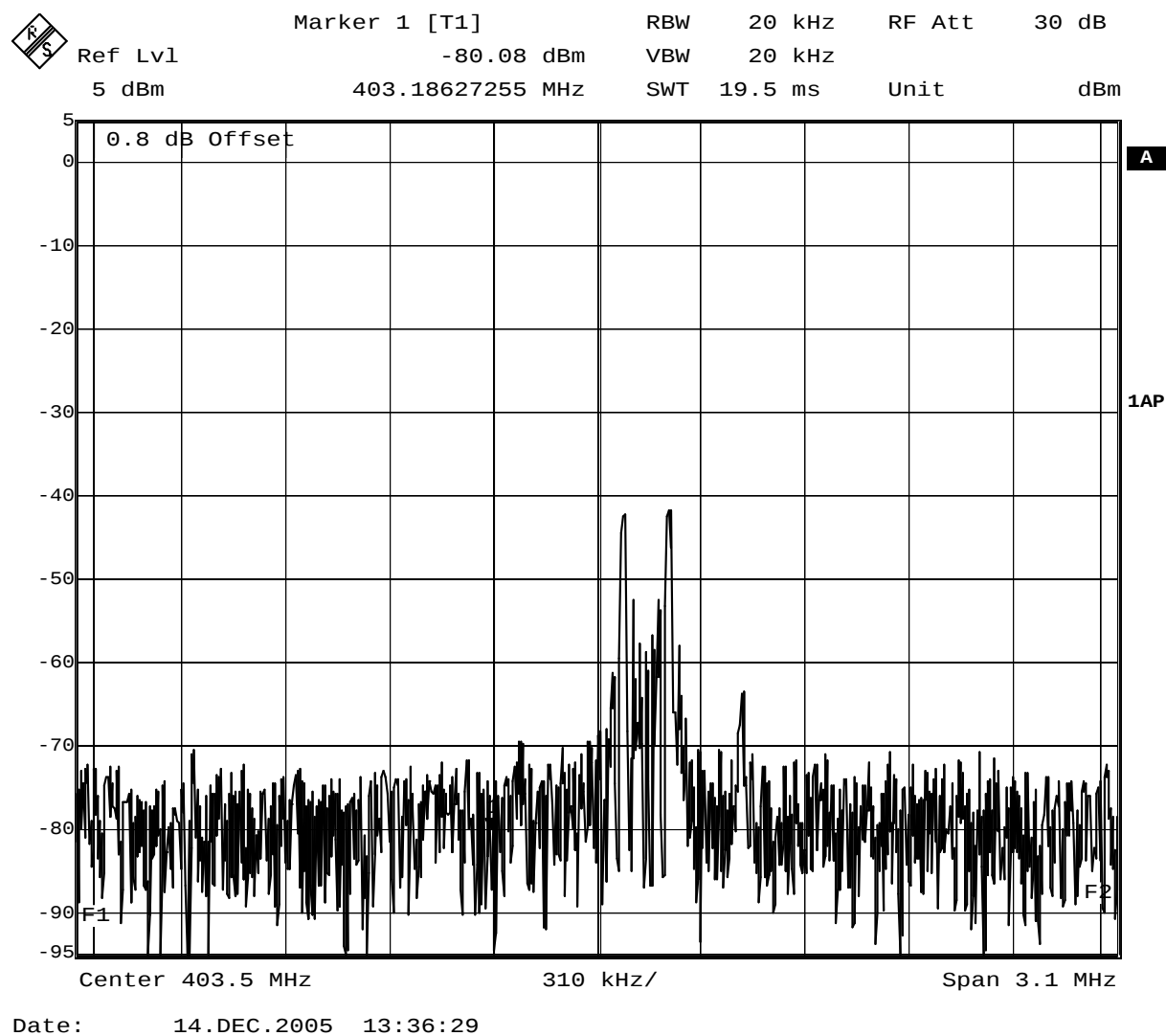
## **Annex**

Measurement diagrams “Channel access based on ambient levels relative to the calculated access threshold level”

FCC Part 95.628 (09.12.2005) / EN 301 839 v1.1.1 (2002-06)

Channel access based on ambient levels relative to the calculated access threshold level

|                       |                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------|
| EUT                   | Cardiomessenger II                                                                       |
| Model                 | Telex III                                                                                |
| Approval Holder       | Biotronik GmbH                                                                           |
| Temperature / Voltage | 25°C / Unom: 3.7 V DC                                                                    |
| Test Site / Operator  | ETS                                                                                      |
| Test Specification    | FCC Part 95.628 a.4 / EN 301 839-1 10.4                                                  |
| Test Case             | Channel access based on ambient levels relative to the calculated access threshold level |
| Comment 1             | Interferer level: -98 dBm                                                                |
| Comment 2             | Connection on channel 0                                                                  |

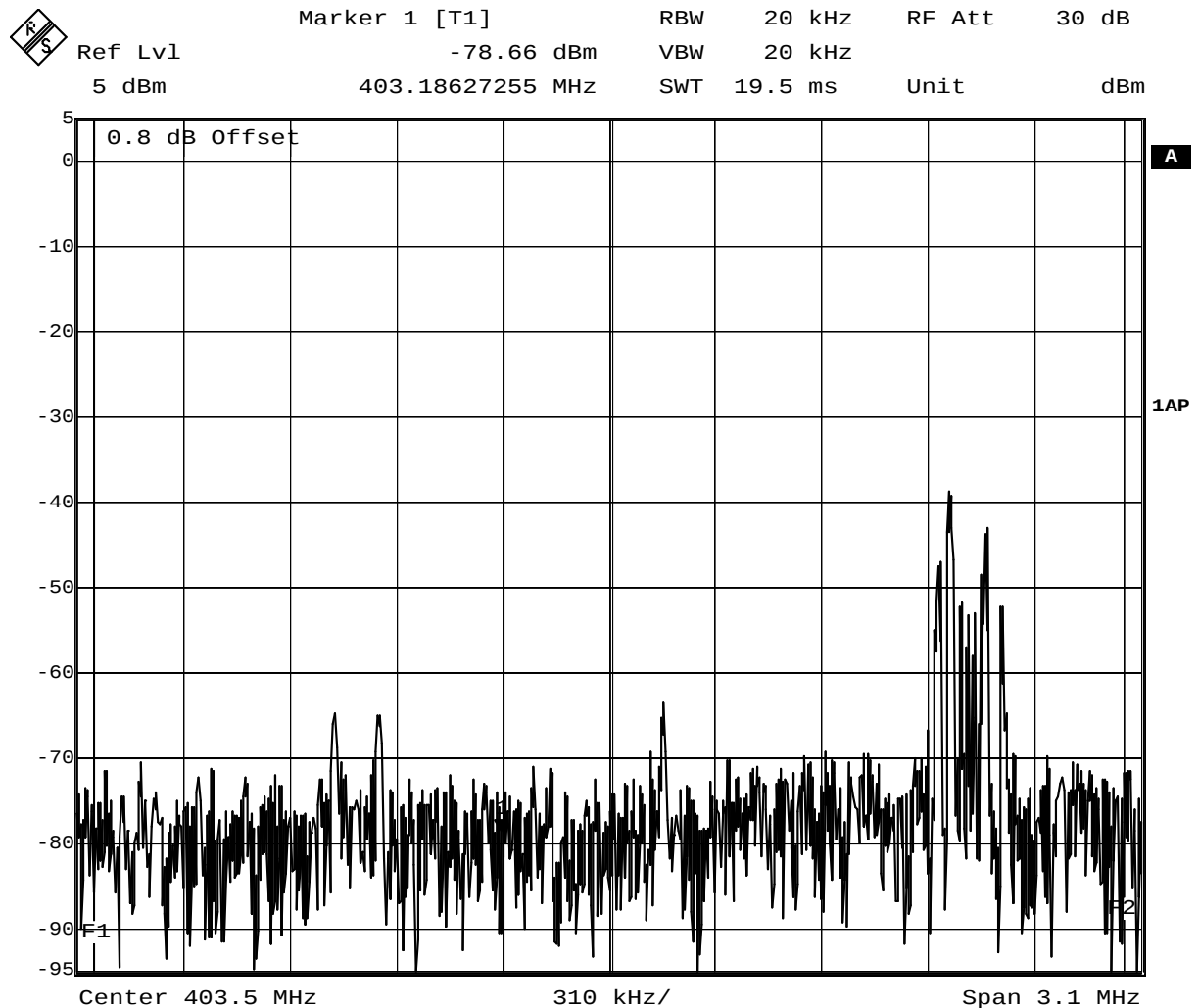


Measurement diagram

FCC Part 95.628 (09.12.2005) / EN 301 839 v1.1.1 (2002-06)

Channel access based on ambient levels relative to the calculated access threshold level

|                       |                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------|
| EUT                   | Cardiomessenger II                                                                       |
| Model                 | Telex III                                                                                |
| Approval Holder       | Biotronik GmbH                                                                           |
| Temperature / Voltage | 25°C / Unom: 3.7 V DC                                                                    |
| Test Site / Operator  | ETS                                                                                      |
| Test Specification    | FCC Part 95.628 a.4 / EN 301 839-1 10.4                                                  |
| Test Case             | Channel access based on ambient levels relative to the calculated access threshold level |
| Comment 1             | Interferer level: -92 dBm                                                                |
| Comment 2             | Channel 0 has changed to Ch 5                                                            |



Date: 14.DEC.2005 13:44:15

Measurement diagram

## **Annex**

Measurement diagrams “ Discontinuation of MICS session if a silent period greater then or equal 5s occurs”

FCC Part 95.628 (09.12.2005) / EN 301 839 v1.1.1 (2002-06)

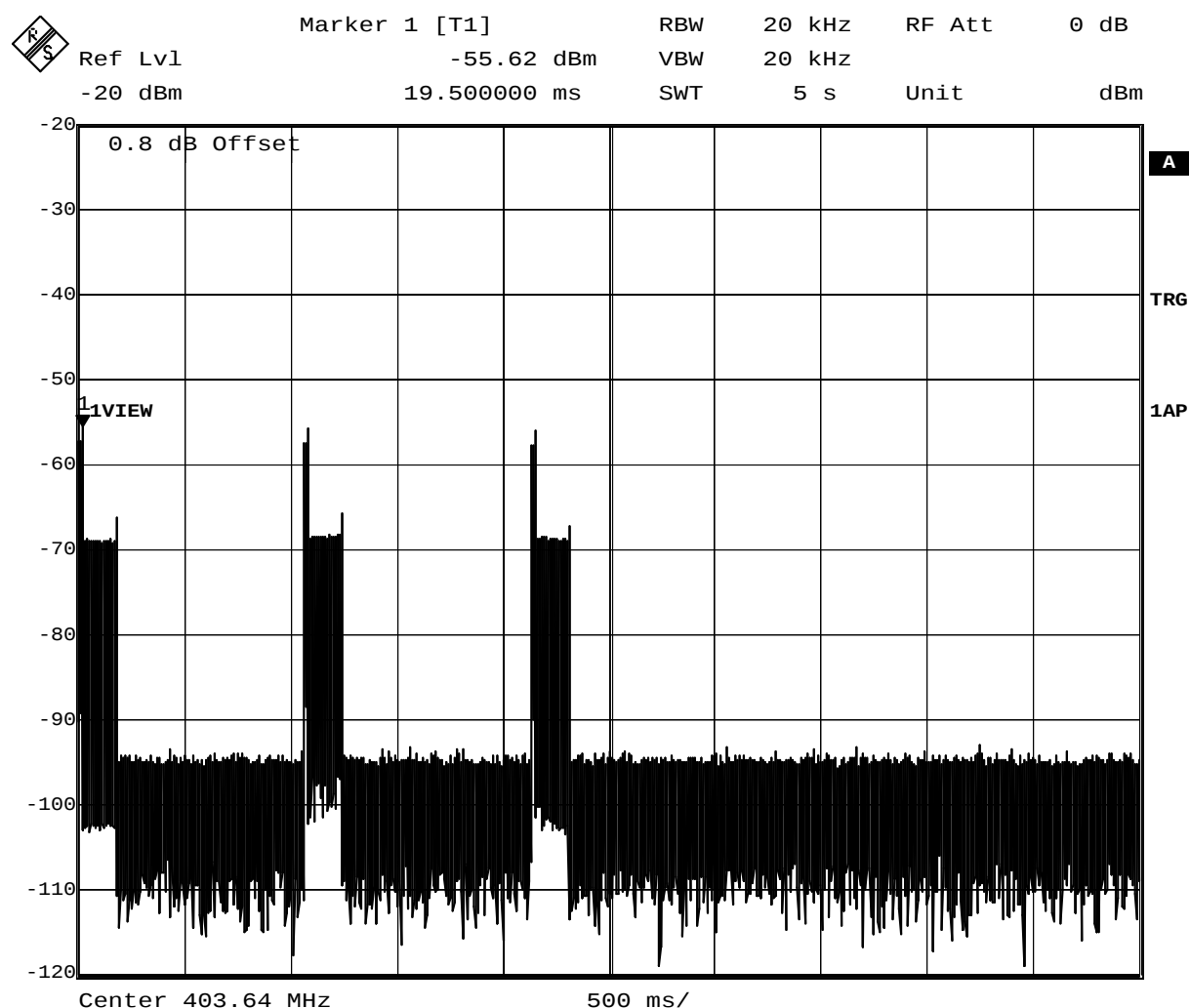
Discontinuation of MICS session if a silent period greather then or equal 5s occurs

|                       |                                                                              |
|-----------------------|------------------------------------------------------------------------------|
| EUT                   | Cardiomessenger II                                                           |
| Model                 | Telex III                                                                    |
| Approval Holder       | Biotronik GmbH                                                               |
| Temperature / Voltage | 25°C / Unom: 3.7 V DC                                                        |
| Test Site / Operator  | ETS                                                                          |
| Test Specification    | FCC Part 95.628 a.4 / EN 301 839-1 10.5                                      |
| Test Case             | Discontinuation of MICS session if a silent period greather then or equal 5s |

occurs

Comment 1 No communication after 5 sec silent period

Comment 2



Date: 14.DEC.2005 14:05:15

Measurement diagram