



**EUROFINS PRODUCT SERVICE GMBH**



**Testing Cert #1983.01**

# **TEST - REPORT**

**FCC RULES PARTS 15.247  
IC RADIO STANDARDS RSS-210 Issue 7**

**FCC ID: T7VEBMU  
IC: 216Q-EBMU**

**Bluetooth module  
PAN1310 / PAN1311**

**Test report no.: G0M20908-2524-P-15**



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

Phone +49-33631-888 0  
Fax +49-33631-888 660

## TABLE OF CONTENTS

<b>1</b>	<b>General information</b>	<b>3</b>
1.1	Notes	3
1.2	Testing laboratory	4
1.3	Details of approval holder	4
1.4	Application details	5
1.5	Test item	5
1.6	Test standards	7
<b>2</b>	<b>Technical test</b>	<b>7</b>
2.1	Summary of test results	7
2.2	Test environment	7
2.3	Test equipment utilized	8
2.4	General test procedure	9
2.5	Test results	10
<b>3</b>	<b>Transmitter parameters</b>	<b>11</b>
3.1	20 dB bandwidth	11
3.2	Spurious emission radiated	12
<b>4</b>	<b>Receiver parameters</b>	<b>15</b>
4.1	Radiated emission	15
<b>ANNEX</b>		<b>16</b>

# 1 General information

## 1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification.

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.

The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in 1.5.

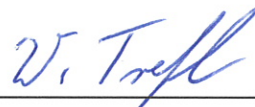
The test report may only be reproduced or published in full.

Reproduction or publication of extracts from the report requires the prior written approval of the Eurofins Product Service GmbH.

### Operator:

07.09.2009

W. Treffke



Date

Eurofins-Lab.

Name

Signature

### Technical responsibility for area of testing:

07.09.2009

J. Zimmermann



Date

Eurofins-Lab

Name

Signature

## 1.2 Testing laboratory

### 1.2.1 Location

EUROFINS PRODUCT SERVICE GMBH  
Storkower Straße 38c  
D-15526 Reichenwalde b. Berlin  
Germany  
Telephone : +49 33631 888 00  
Telefax : +49 33631 888 660

### 1.2.2 Details of accreditation status

**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

## 1.3 Details of approval holder

Name	: Panasonic Electronic Devices Europe GmbH
Street	: Zeppelinstr. 19
Town	: 21337 Lueneburg
Country	: Germany
Telephone	: +49.4131 899-304
Contact	: Herr Heino Kaehler
E-Mail	: Heino.Kaehler@eu.panasonic.com

## 1.4 Application details

Date of receipt of application : 25.08.2009  
Date of receipt of test item : 25.08.2009  
Date of test : 03.09.2009

## 1.5 Test item

Description of test item : Bluetooth module  
Type identification : PAN1310 / PAN1311  
Serial number : without  
Photos : See annex A.

## Technical data

Frequency band : 2.4 - 2.4835 GHz  
Frequency Ch A : 2402 MHz  
Frequency Ch B : 2441 MHz  
Frequency Ch C : 2480 MHz

Antenna Type : external antenna BST-2450  
Antenna Gain : 2 dBi  
Power supply : 5VDC  
Operating mode : duplex / Tx testmode with R&S CBT tester  
Type of modulation : GFSK  
Host device : none

Classification :

Fixed Device	<input type="checkbox"/>
Mobile Device (Human Body distance > 20 cm)	<input checked="" type="checkbox"/>
Portable Device (Human Body distance < 20 cm)	<input type="checkbox"/>

**Manufacturer:**  
(if applicable)

Name : Leica Geosystems AG  
Street : Heinrich Wild Strasse 1  
Town : CH-9435 Heerbrugg  
Country : Switzerland

## Additional information:

The test sample is designed as Bluetooth device. Its pseudorandom hopping scheme, authentication, receiver parameters, synchronization procedure and other parameters are determined by Bluetooth Core Specification.

The manufacturer declares that the device Bluetooth module PAN1310 / PAN1311 is structurally identical to the Bluetooth module HCI, tested and certificated with test report number 24838RET.101 and 28679RET.101 by AT4 Wireless

Reported changes to preview hardware version:

- new external antenna

Therefore a shortened test plan was created in confirmation with the manufacturer.

## 1.6 Test standards

Technical standard: FCC Parts: 15.247  
IC Standards: RSS 210 Issue 7

## 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 2.5 were ascertained in the course of the tests performed.

### 2.2 Test environment

Temperature : 24°C  
Relative humidity content : 20 ... 75%  
Air pressure : 86 ... 103kPa  
Details of power supply : 5VDC

Extreme conditions parameters: : test voltage - extreme min.: --  
max: --

### 2.3 Test equipment utilized

No.	Test equipment	Type	Manufacturer
ETS 0012	Biconical Antenna	HK 116	R & S
ETS 0013	LPD Antenna	HL 223	R & S
ETS 0015	Log Periodical Antenna	HL 025	R & S
ETS 0018	Horn antenna	BBHA 9120 D	Schwarzbeck
ETS 0253	Spectrum Analyzer	FSIQ 26	R & S
ETS 0271	Spectrum Analyzer	FSEK 30	R & S
ETS 0288	Artificial mains	ESH2-Z5	R & S
ETS 0086	Anechoic chamber	AC 1	Frankonia
ETS 0474	EMI Test Receiver	ESCS 30	R&S



## 2.4 General test procedure

**POWER LINE CONDUCTED INTERFERENCE:** The procedure used was ANSI STANDARD C63.4-2003 5.2 using a 50  $\mu$ H LISN (if necessary). Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

**RADIATION INTERFERENCE:** The test procedure used was ANSI STANDARD C63.4-2003 6.4 using a spectrum analyzer. The resolution bandwidth of the spectrum analyzer was 100 kHz for measurements below 1 GHz and RBW 1 MHz was used above 1 GHz. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

**FORMULA OF CONVERSION FACTORS for Field strength:** The Field Strength at 3 m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dB $\mu$ V) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB.

Example:

Freq. (MHz)	METER READING + ACF + CABLE LOSS (to the receiver) = FS
33	20 dB $\mu$ V + 10.36 dB + 6 dB = 36.36 dB $\mu$ V/m @ 3 m

**ANSI STANDARD C63.4-2003 6.2.1 MEASUREMENT PROCEDURES:** The UUT was placed on a table 80 cm high and with dimensions of 1 m by 1.5 m (non metallic table). The UUT was placed in the center of the table. The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to at least 10<sup>th</sup> harmonic of the fundamental.

Peak readings were taken in three (3) orthogonal planes and the highest readings. Measurements were made by Eurofins Product Service GmbH at the registered open field test site located at Storkower Str. 38c, 15526 Reichenwalde, Germany.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1 m to 4 m. The antenna was placed in both the horizontal and vertical planes.

### RF Exposure Compliance Requirements

According to FCC OET Bulletin 65 Edition 97-01 Supplement C and RSS-102 § 2.5, this spread spectrum transmitter is categorically excluded from routine environmental evaluation because of the low power level, where there is a high likelihood of compliance with RF exposure standards.

The antenna used for this transceiver must not be co-located or operating in conjunction with any other antenna or transmitter.

### ANTENNA & GROUND:

This unit uses external antenna.

## 2.5 Test results

 1<sup>st</sup> test

 test after modification

 production test

SECT.	TEST CASE	FCC 47CFR PART	IC RSS-	Required	Test passed	Test failed
<i>TRANSMITTER PARAMETERS</i>						
3.1	20dB bandwidth, Occupied bandwidth	15.247 (a)(1)	210 A8.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.2	Spurious emission radiated	15.247 (d)	210 A8.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	<i>RECEIVER PARAMETERS</i>					
4.1	Radiated emissions	15.107	Gen 7.2.3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3 Transmitter parameters

#### 3.1 20 dB bandwidth, Occupied bandwidth

##### Reference

<b>FCC</b>	CFR part 15.247 (a)(1)
<b>IC</b>	RSS-210 A8.1

##### Method of measurement

The 20 dB bandwidth is measured on the lowest, middle and highest hopping channel. Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400 - 2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

##### Limits

Frequency band	FCC and IC
5725 - 5850 MHz	$\leq 1$ MHz
2400 - 2483.5 MHz	$\leq$ carrier frequencies separation for hopping systems with max cond. power of 1 Watt $\leq 1.5$ of the carrier frequencies separation for hopping systems with max cond. power of 0.125 Watt
902 - 928 MHz	$< 250$ kHz for systems with $\geq 50$ hopping channels $250$ kHz $\leq 500$ kHz for all other hopping systems

##### Test results

Test conditions	Channel A	Channel B	Channel C
	MHz	MHz	MHz
$T_{nom} = \text{ }^\circ\text{C}$ $V_{nom} =$	--	--	--
Measurement uncertainty	$< 10$ Hz		

##### System receiver input bandwidth:

The manufacturer declares that the receiver input bandwidth matches to the bandwidth of the transmitter signal.

##### Occupied Bandwidth (99%) – RSS Gen

Test conditions	Channel A	Channel B	Channel C
	MHz	MHz	MHz
$T_{nom} = 23^\circ\text{C}$ $V_{nom} = 5\text{V}$	0.883	0.884	0.902
Measurement uncertainty	$< 10$ Hz		

See attached diagrams in Annex.

**Test equipment:** ETS 0271

Test Report No.: G0M20908-2524-P-15

## 3.2 Spurious emission radiated

### Reference

<b>FCC</b>	CFR part 15.247(d), 15.205, 15.209, 15.35
<b>IC</b>	RSS-210 A8.5, RSS-210 2.7

### Method of measurement

According to 47 CFR 15, Part 15.247 (d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required.

In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

### Calculation of Limit:

All results are updated by an automatic measuring system in accordance to point 2.3

### GFSK

Limit = max. reading (because peak detector is used)

99.39 dB $\mu$ V/m

Limit = Max. reading - 20 dB (because average detector is used)

99.39 dB $\mu$ V/m - 20 dB = 79.39 dB $\mu$ V/m

**Limits for restricted bands**

<b>FCC &amp; IC</b>	20 dB below peak output power, emissions which fall in the restricted bands (15.205(a)) / (RSS-210 2.7) must comply the following limits: Frequencies below 1GHz:		
	Frequency of emission	Field strength	Field strength
	[MHz]	[ $\mu$ V / m]	[dB $\mu$ V / m]
	30 - 88	100	40.0
	88 - 216	150	43.5
	216 - 960	200	46.0
	Above 960	500	54.0
For frequencies above 1 GHz (Avg measurements): 54.0 dB $\mu$ V / m For frequencies above 1 GHz (Pk measurements): Limit + 20 dB = 54.0 dB $\mu$ V / m + 20 dB = 74 dB $\mu$ V / m			

Calculation of test results:

Such factors like antenna correction, cable loss, external attenuation etc. are already included in the provided measurement results.

The peak and average spurious emission plots was measured with the average limits. In the Table being listed the critical peak and average value an exhibit the compliance with the above calculated Limits.

If in the column's correction factor states a value then the max. Field strength in the same row is corrected by a value gained from the "Marker-Delta-Method" or the „Duty-Cycle Correction Factor“.

**15.35 (c) Duty cycle correction average value**

When the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds.

Duty cycle correction = 20 log (dwell time / 100 ms or less)

**DA 00-705 Duty cycle correction peak value**

The analyzer setting was as following:

Frequency range	RES bandwidth		Video bandwidth	
	Pk	Avg	Pk	Avg
f < 1GHz	100 kHz	100 kHz	10 Hz	10 Hz
f > 1GHz	1 MHz	1 MHz	10 Hz	10 Hz

Set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a "duty cycle correction factor", derived from 20 log (dwell time / 100 ms), in an effort to demonstrate compliance with the 15.209 limit. Submit this data.

If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

**Test results**
**Summary table with radiated data of the test plots**

Freq.	Used Ch.	Frequency Marker [GHz]	Polarization	$\Delta$ corrections dB	Max. Field Strength [dB $\mu$ V/m]	Compliance Limit [dB $\mu$ V/m]	Detector	BW [MHz]	Margin [dB]
3	H	2.483	V		56.9	74	P	1	<u>-17.1</u>
3	H	2.483	V		45.7	54	AV	1	<u>-8.3</u>
3	0	2.390	V		55.5	74	P	1	<u>-18.5</u>
3	0	2.390	V		28.4	54	AV	1	<u>-25.6</u>
3	H	2.4835	H		60.8	74	P	1	<u>-13.2</u>
3	H	2.4835	H		32.9	54	AV	1	<u>-21.1</u>

**Freq. - Frequency Range:**

1:	30	–	200 MHz
2:	200	–	1000 MHz
3:	1	–	4 GHz
4:	4	–	8 GHz
5:	8	–	12 GHz
6:	12	–	17 GHz
7:	17	–	26,5 GHz

All other not noted test plots do not contain significant test results in relation to the limits.

See attached diagrams in Annex.

**Test equipment:** ETS 0012, ETS 0013, ETS 0015, ETS 0018, ETS 0271, ETS 0253, ETS 0311

## 4 Receiver parameters

### 4.1 Radiated emissions

#### Reference

<b>FCC</b>	Part 15.109
<b>IC</b>	RSS-Gen 7.2.3

#### 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
<b>FCC &amp; IC</b>	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 [ $\mu\text{V}/\text{M}$ ]
2441 MHz	185,691	V	50,06	150	<u>-99,94</u>
	185,691	H	52,06	150	<u>-97,94</u>
	996,794	V	17,06	500	<u>-482,94</u>
	995,190	H	15,83	500	<u>-484,17</u>
	3892,000	V	177,01	500	<u>-322,99</u>
	3928,000	H	167,49	500	<u>-332,51</u>
	7952,000	V	285,76	500	<u>-214,24</u>
	7968,000	H	277,97	500	<u>-222,03</u>

See attached diagrams in Annex.

**Test equipment:** ETS 0014, ETS 0294, ETS 0295, ETS 0310, ETS 0416, ETS 0484

## Annex

A	Pictures	17
G	Spurious emission radiated	20
J	Receiver spurious emissions	32



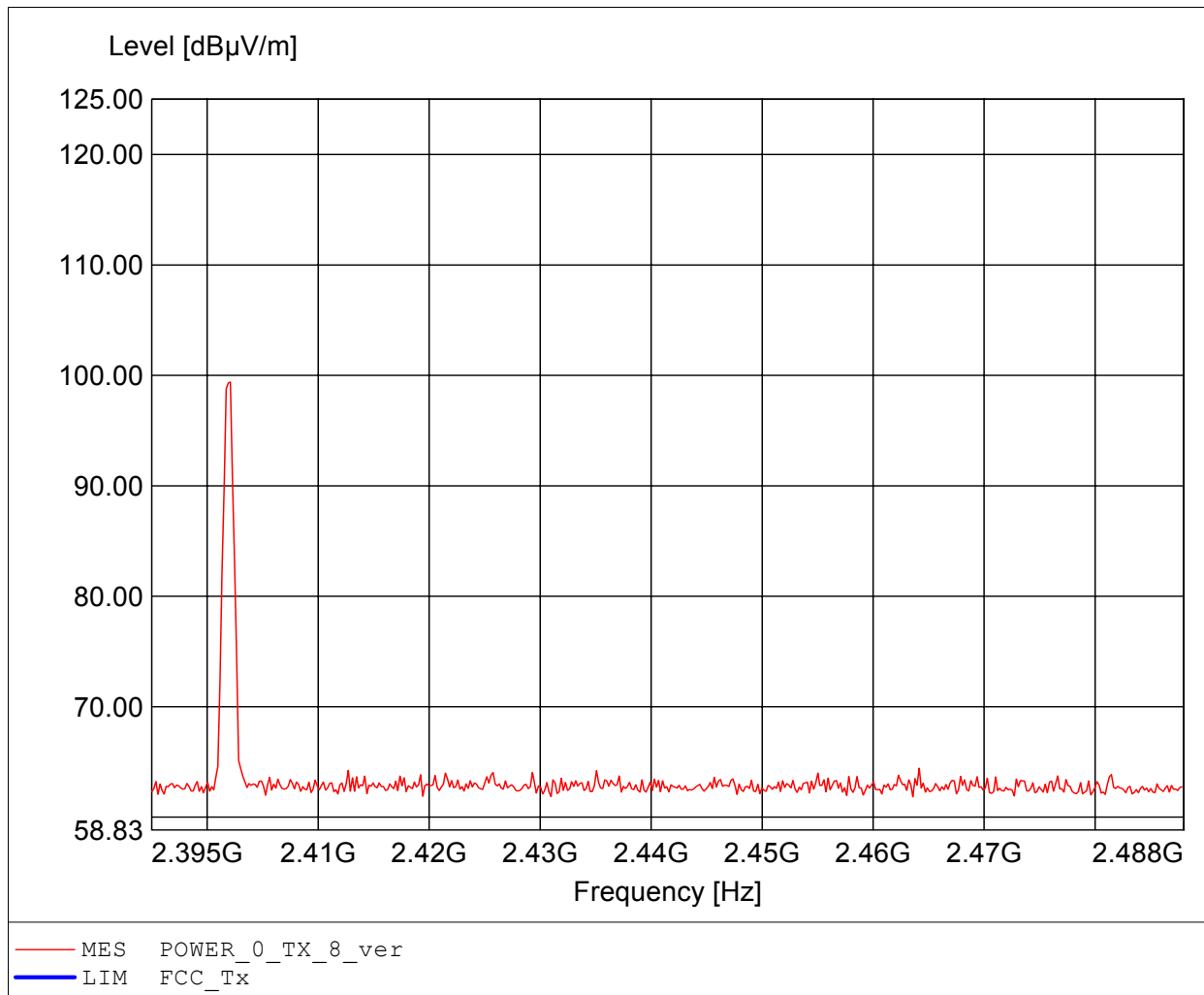
## **Annex B**

Spurious emission radiated

**Carrier power (Field Strength)**

**FCC RULES PART 15, SUBPART C**

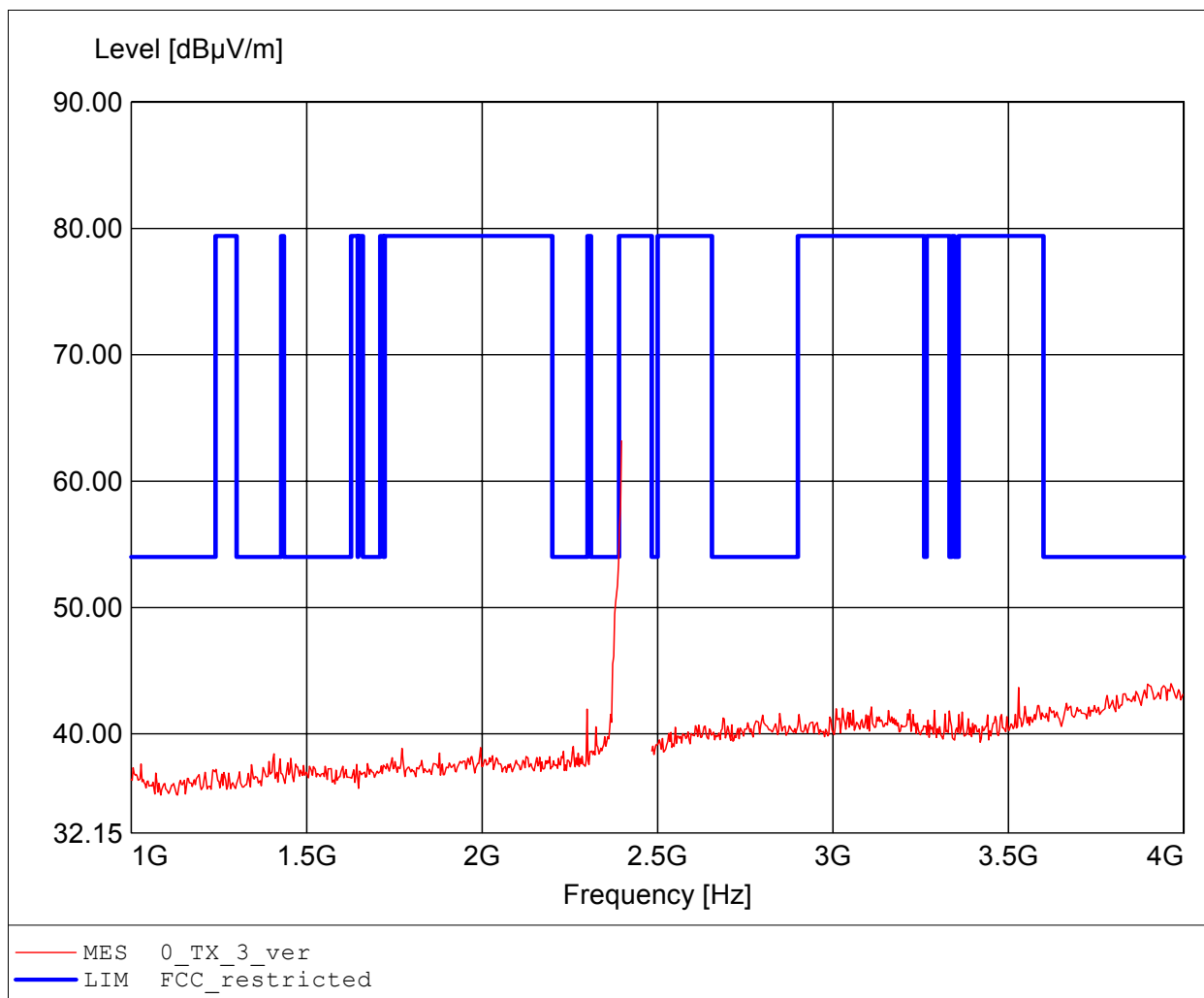
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.0  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 0  
Comment 1: Dist.: 3m, Ant.: HL 025  
Comment 2: Freq: 2.402GHz, Emax: 99.39dBuV/m, RBW: 100kHz



# Spurious emissions Field Strength

## FCC RULES PART 15, SUBPART C

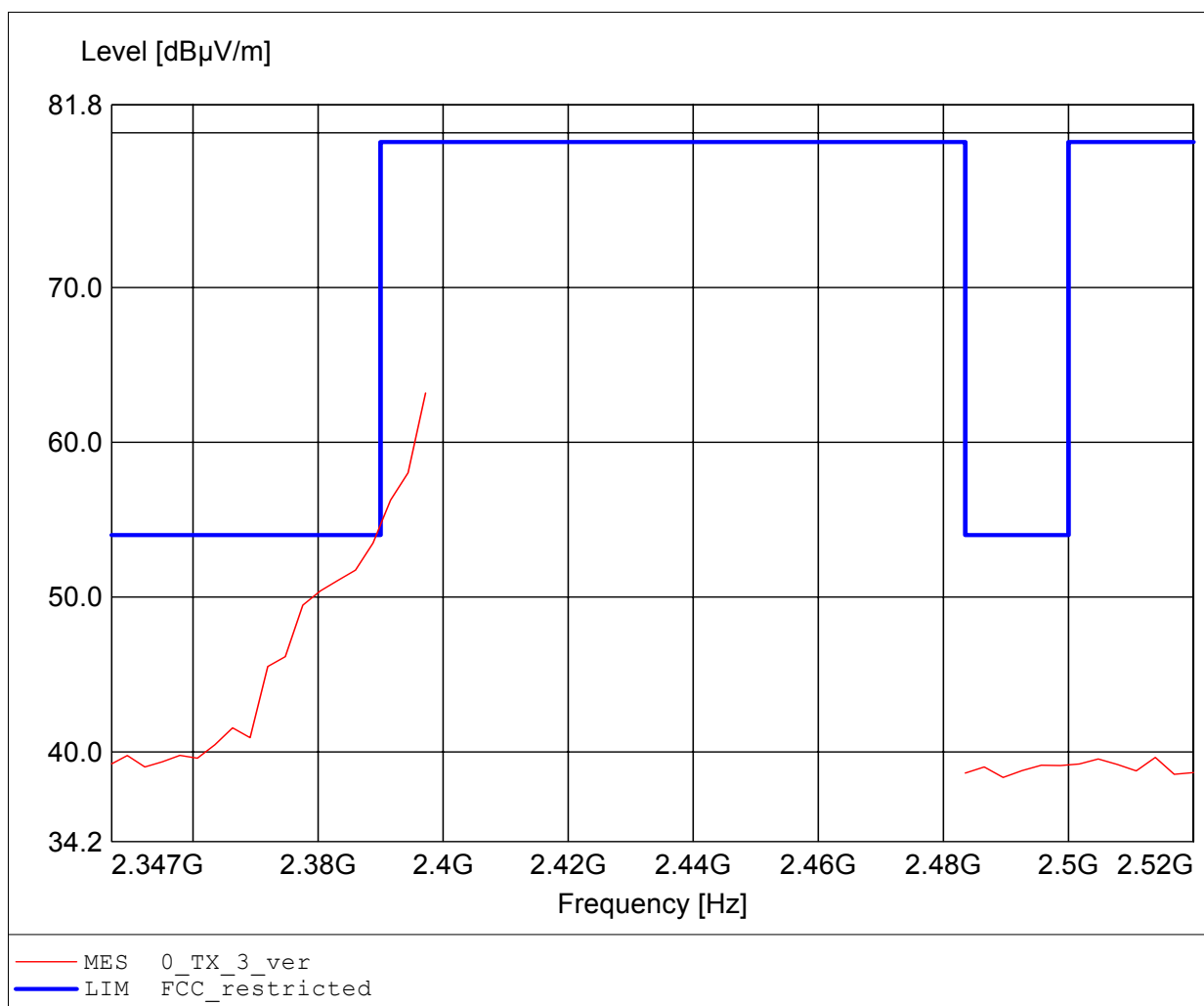
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.0  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 0  
Comment 1: Dist.: 3m, Ant.: HL 025, amplif.  
Comment 2: Freq: 2.397GHz, Emax: 63.18dBuV/m, RBW: 1MHz



# Spurious emissions Field Strength

## FCC RULES PART 15, SUBPART C

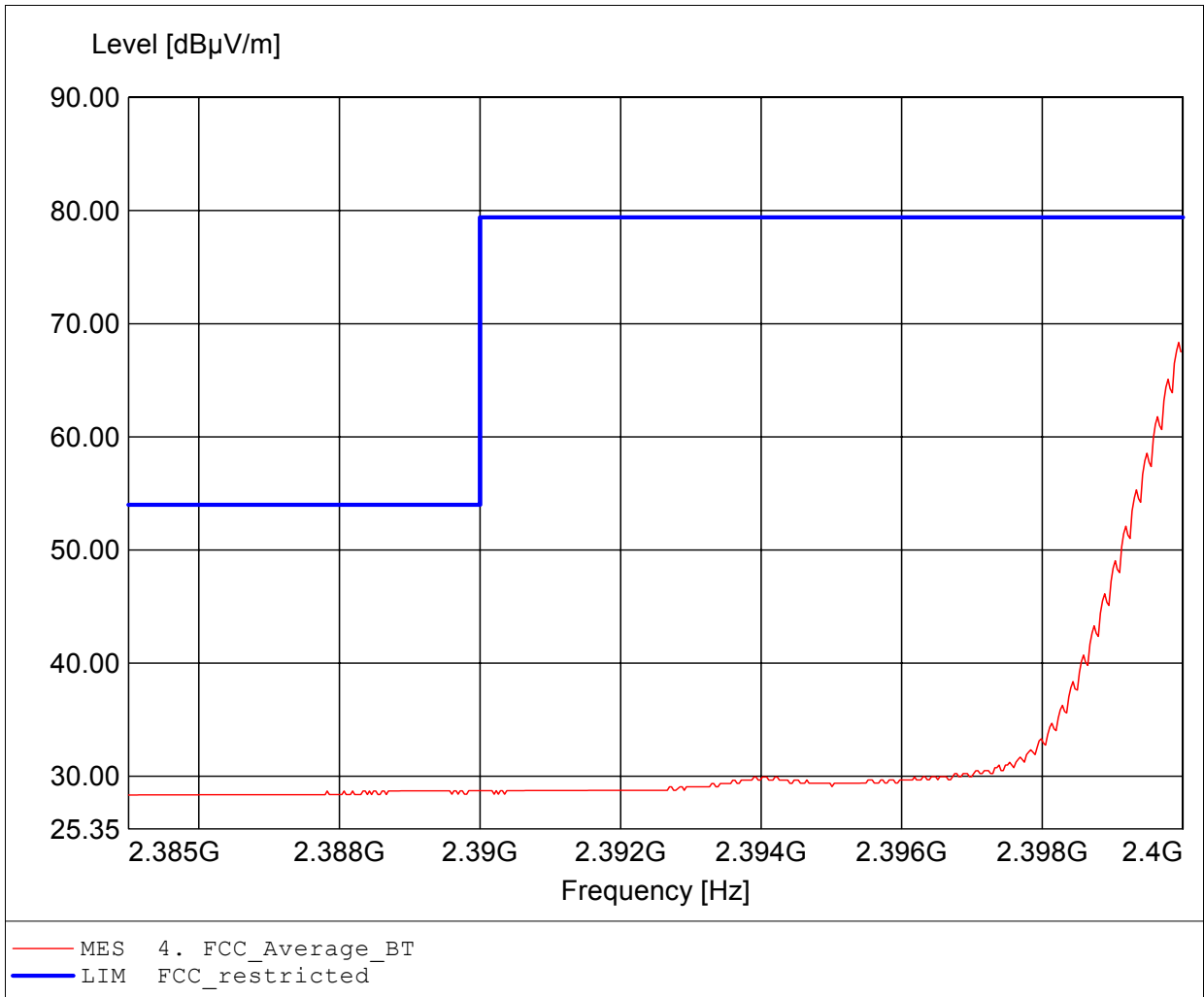
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.0  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 0  
Comment 1: Dist.: 3m, Ant.: HL 025, amplif.  
Comment 2: Freq: 2.397GHz, Emax: 63.18dBµV/m, RBW: 1MHz



**Spurious emissions Field Strength**

**FCC RULES PART 15, SUBPART C**

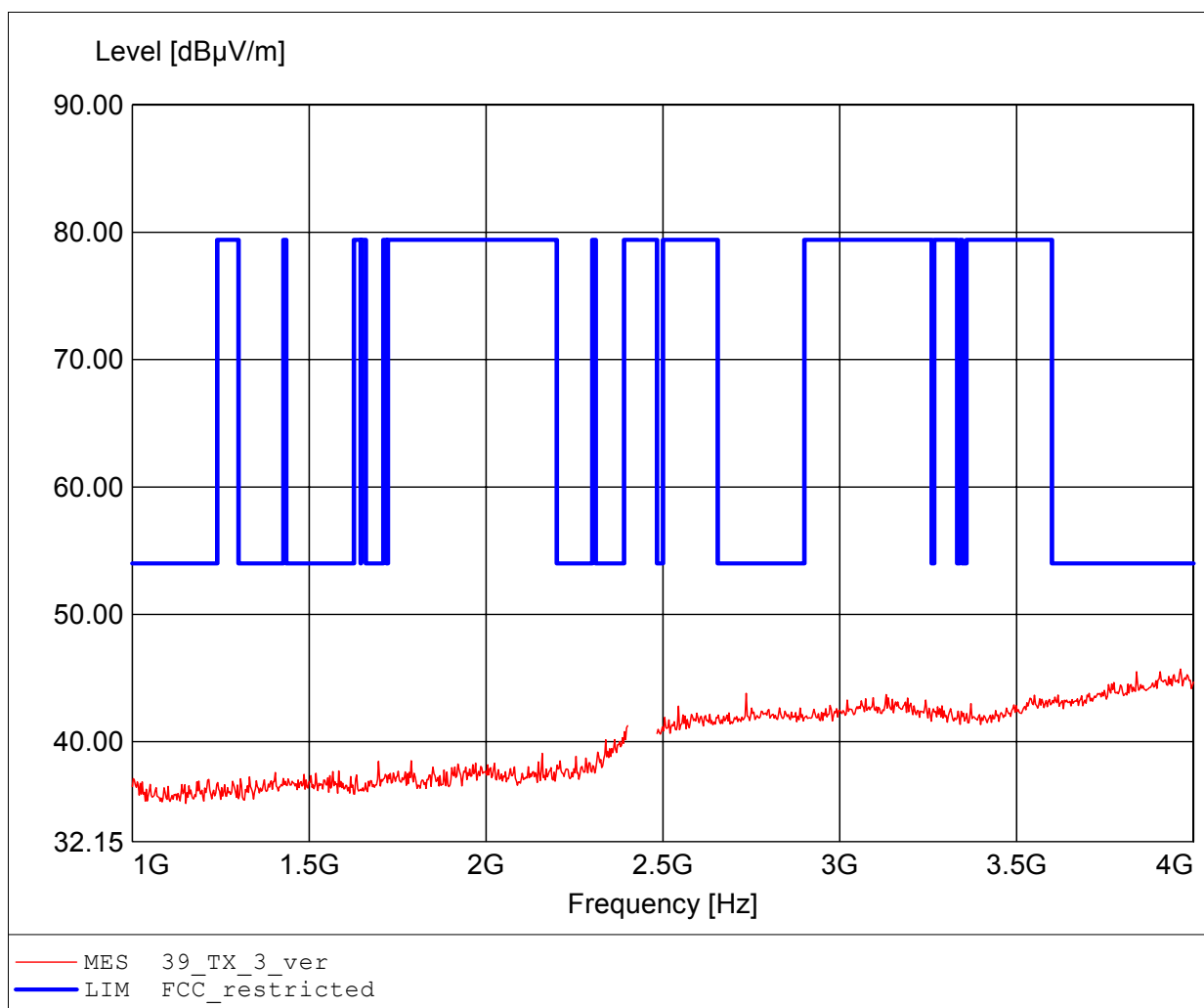
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.0  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: according to §15.247, average detector  
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.  
Comment 2: Freq: 2.400GHz, Emax: 68.34dBuV/m, RBW: 1MHz



# Spurious emissions Field Strength

## FCC RULES PART 15, SUBPART C

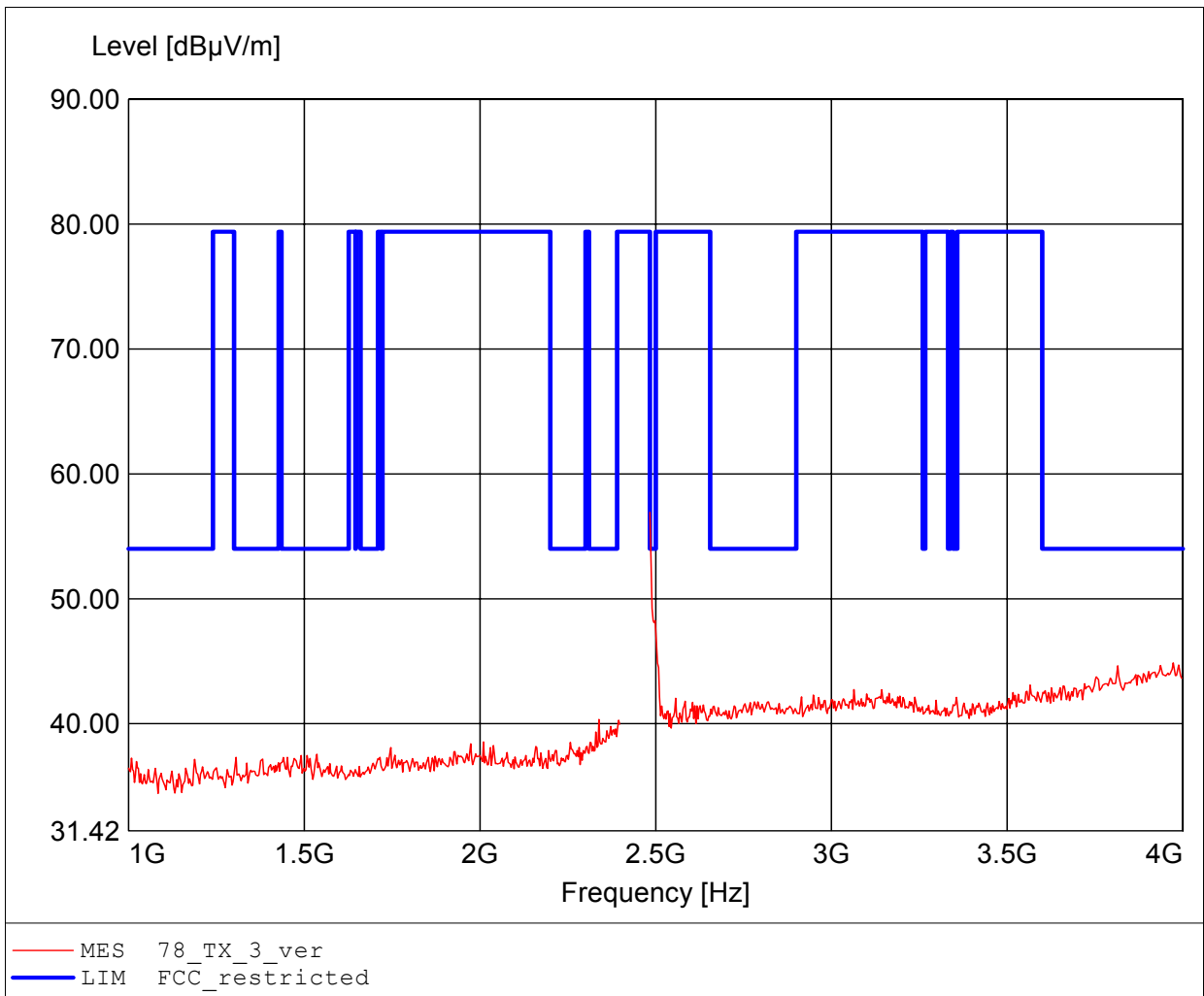
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.39  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 39  
Comment 1: Dist.: 3m, Ant.: HL 025, amplif.  
Comment 2: Freq: 3.964GHz, Emax: 45.70dBuV/m, RBW: 1MHz



**Spurious emissions Field Strength**

**FCC RULES PART 15, SUBPART C**

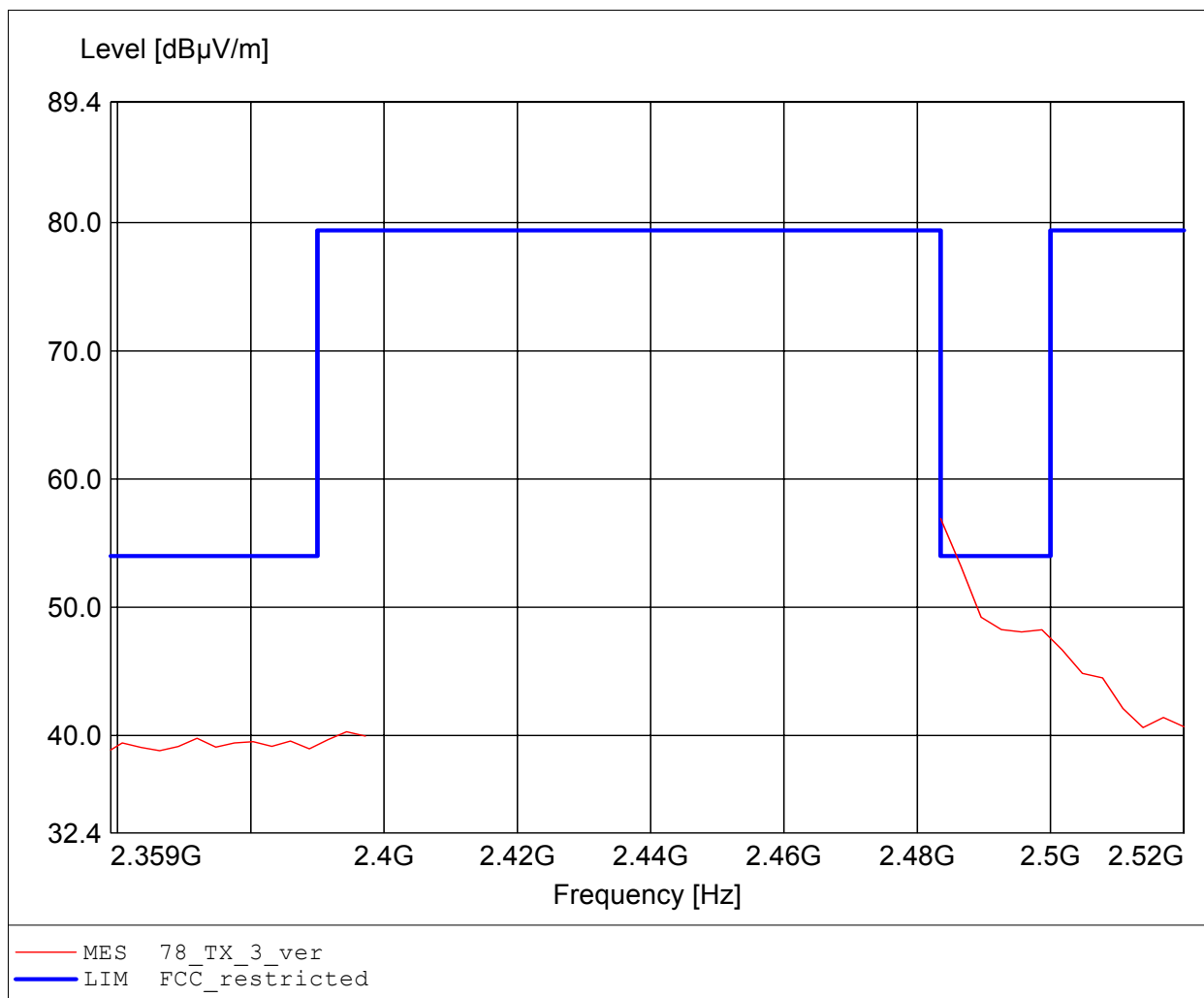
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.78  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 78  
Comment 1: Dist.: 3m, Ant.: HL 025, amplif.  
Comment 2: Freq: 2.484GHz, Emax: 56.93dBuV/m, RBW: 1MHz



# Spurious emissions Field Strength

## FCC RULES PART 15, SUBPART C

Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.78  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 78  
Comment 1: Dist.: 3m, Ant.: HL 025, amplif.  
Comment 2: Freq: 2.484GHz, Emax: 56.93dBµV/m, RBW: 1MHz

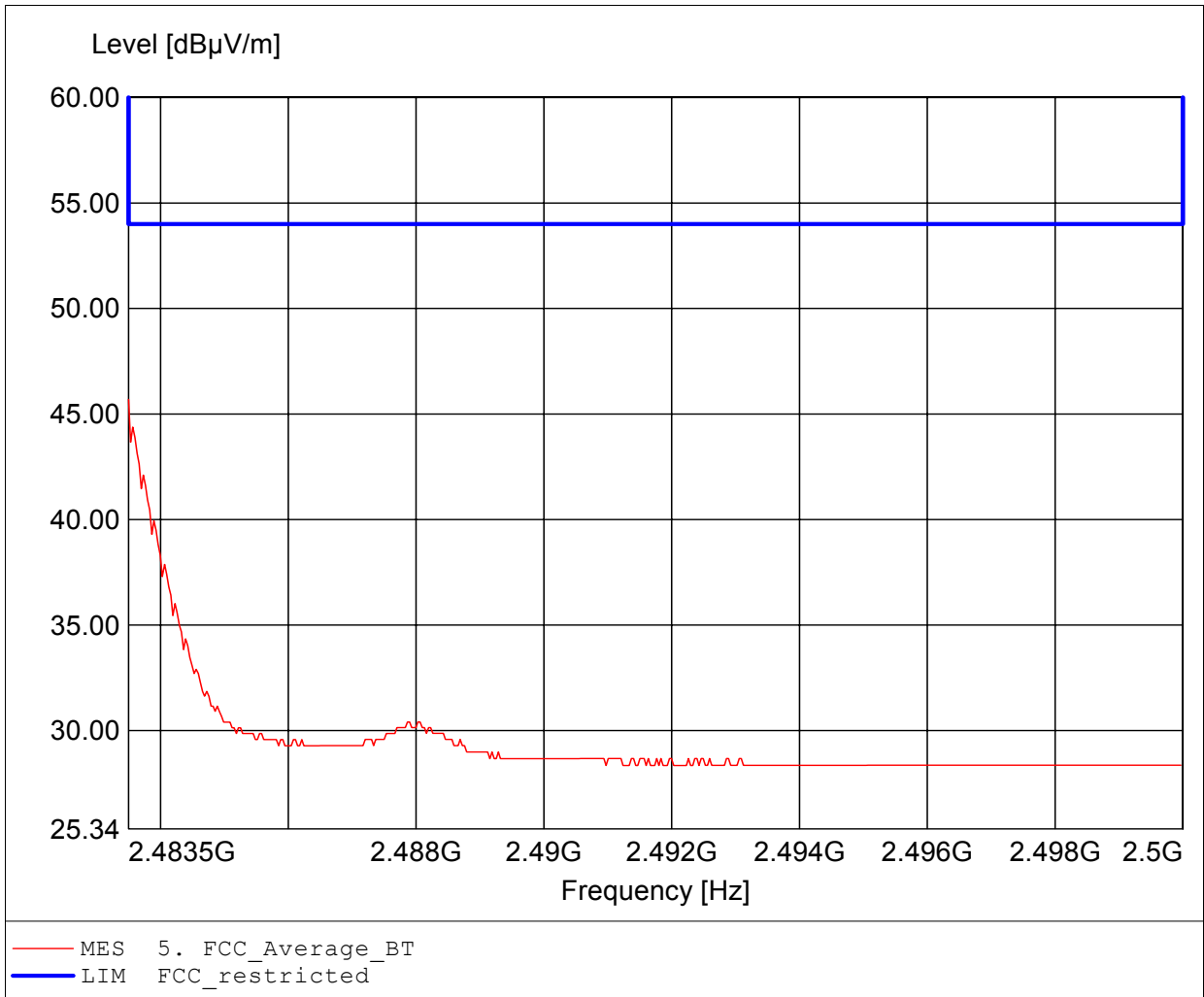




**Spurious emissions Field Strength**

**FCC RULES PART 15, SUBPART C**

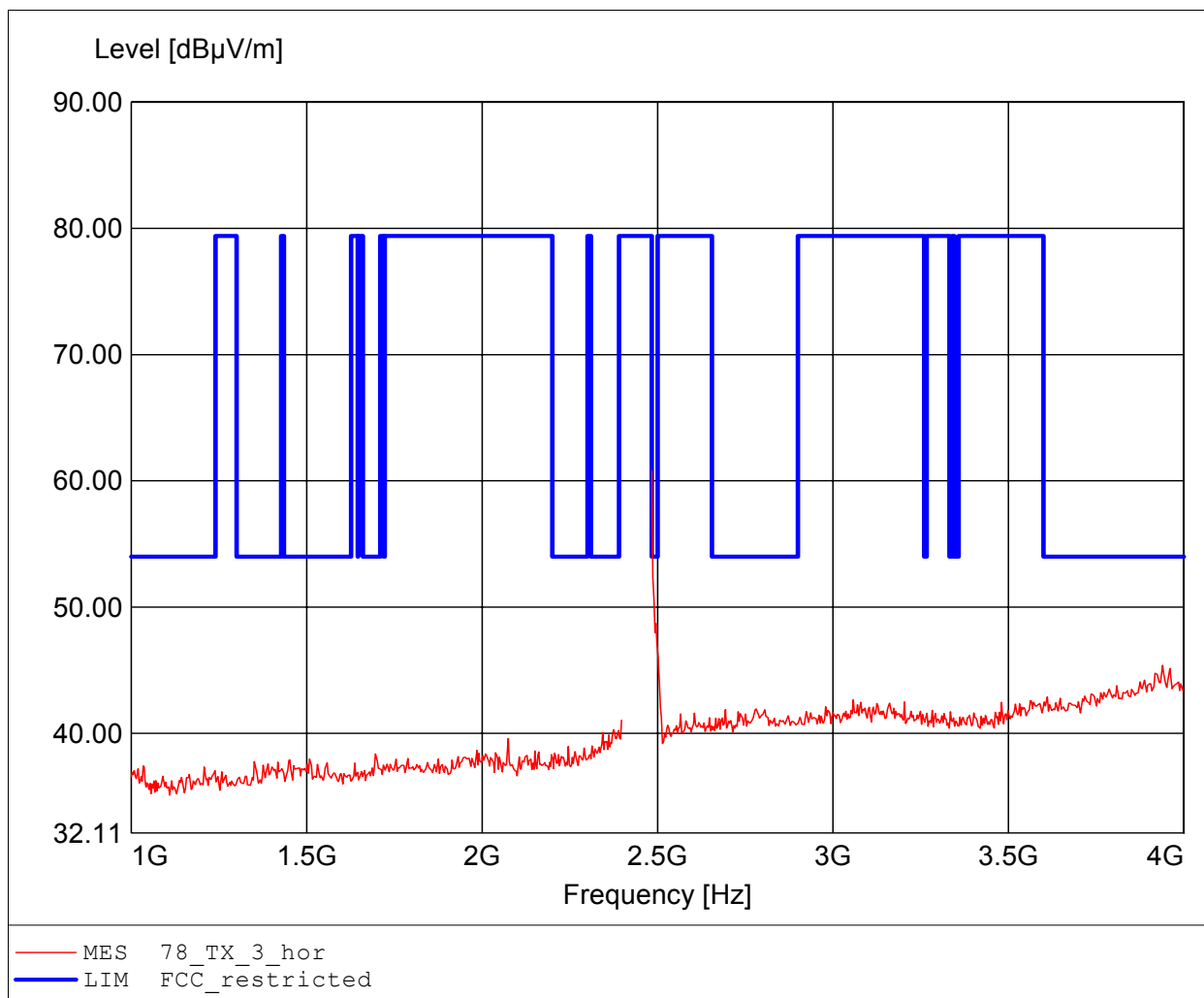
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.78  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: according to §15.247, average detector  
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.  
Comment 2: Freq: 2.484GHz, Emax: 45.69dBuV/m, RBW: 1MHz



# Spurious emissions Field Strength

## FCC RULES PART 15, SUBPART C

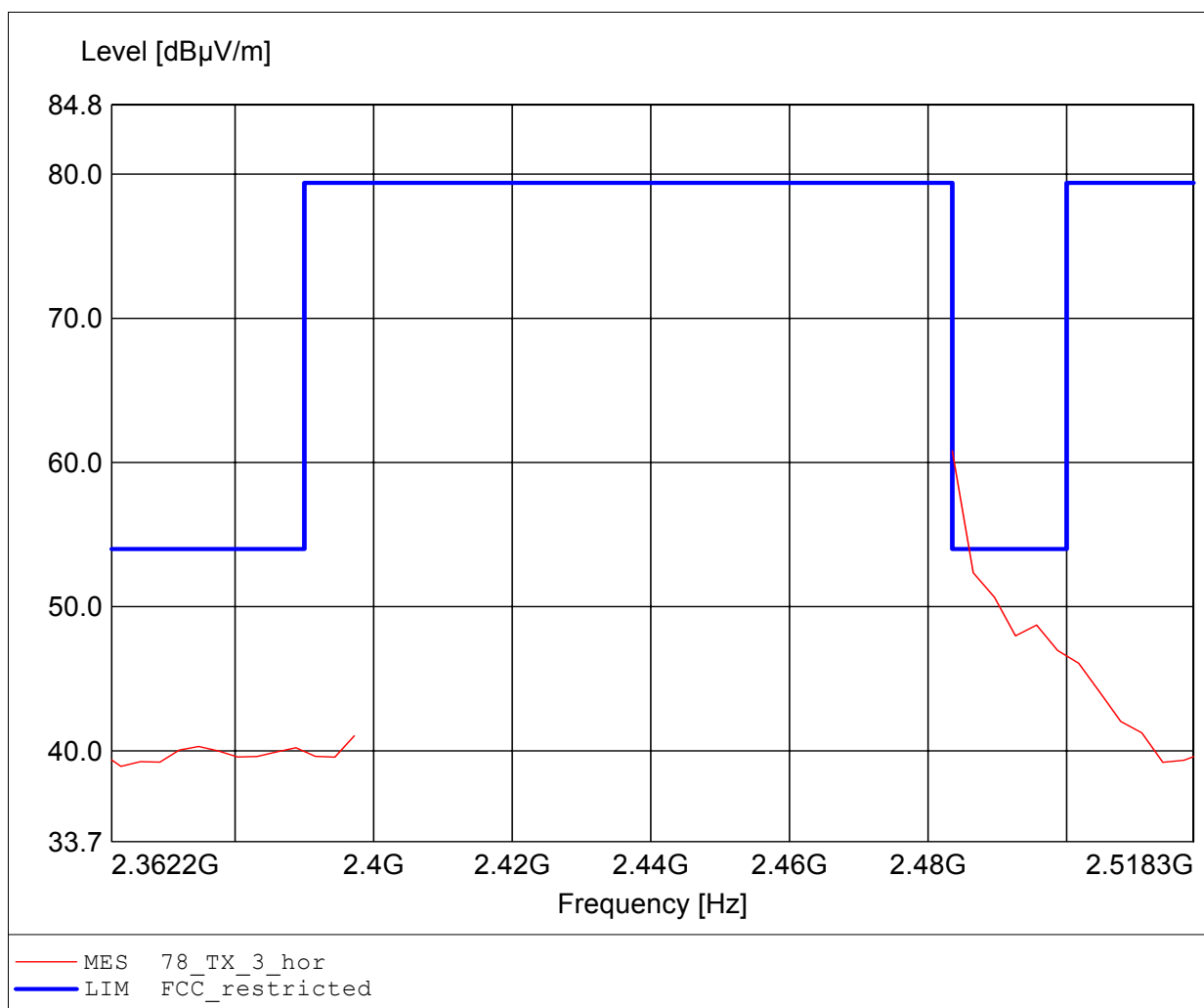
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.78  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 78  
Comment 1: Dist.: 3m, Ant.: HL 025, amplif.  
Comment 2: Freq: 2.484GHz, Emax: 60.79dBuV/m, RBW: 1MHz



# Spurious emissions Field Strength

## FCC RULES PART 15, SUBPART C

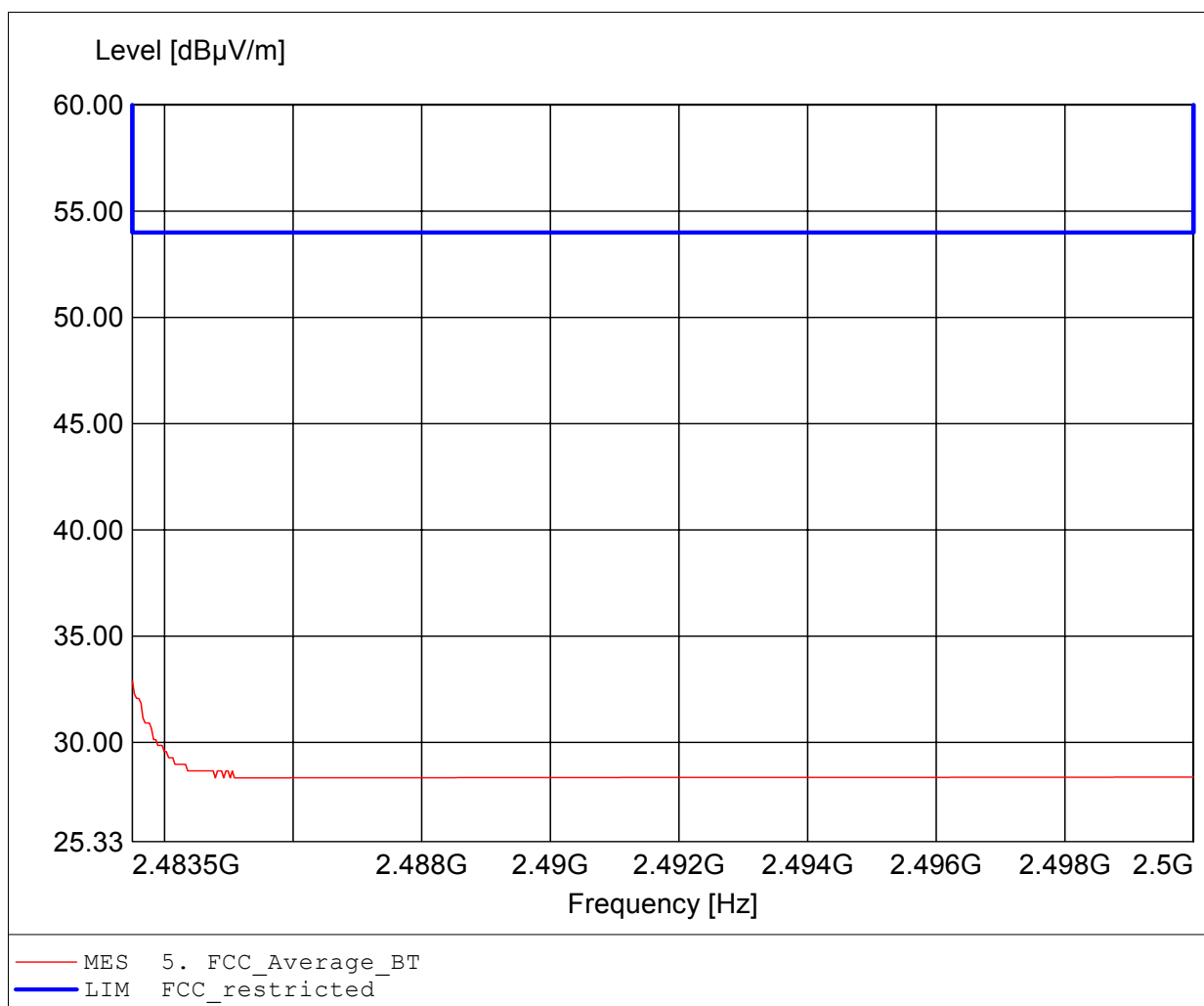
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.78  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 78  
Comment 1: Dist.: 3m, Ant.: HL 025, amplif.  
Comment 2: Freq: 2.484GHz, Emax: 60.79dBµV/m, RBW: 1MHz



# Spurious emissions Field Strength

## FCC RULES PART 15, SUBPART C

Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.78  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: according to §15.247, average detector  
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.  
Comment 2: Freq: 2.484GHz, Emax: 32.90dBµV/m, RBW: 1MHz



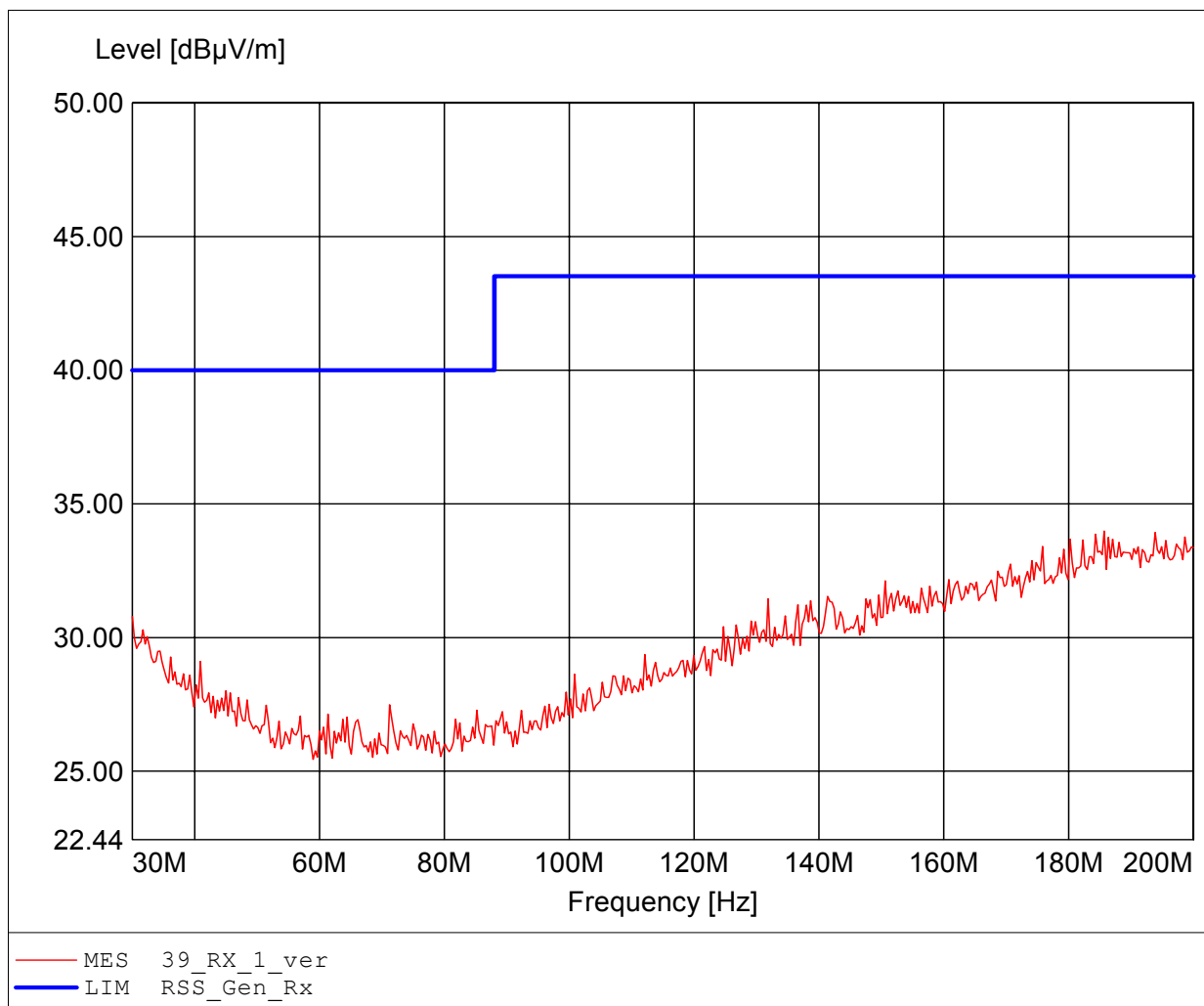
## **Annex C**

Receiver spurious emission

**Field Strength under normal conditions**

**Standards Industry Canada, RSS-GEN**

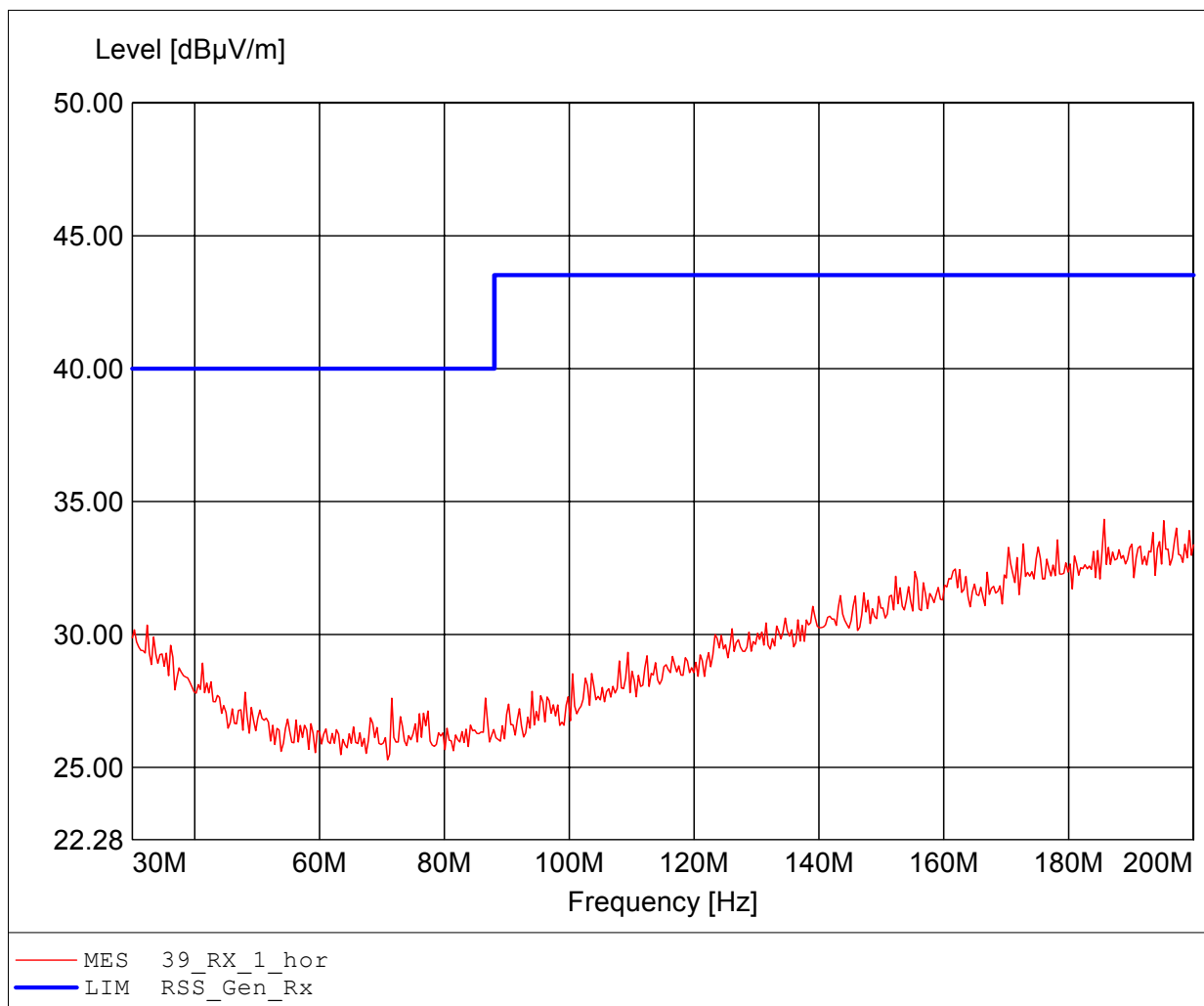
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.39  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 39  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq:185.691MHz Emax:33.99dBuV/m RBW: 100 kHz



**Field Strength under normal conditions**

**Standards Industry Canada, RSS-GEN**

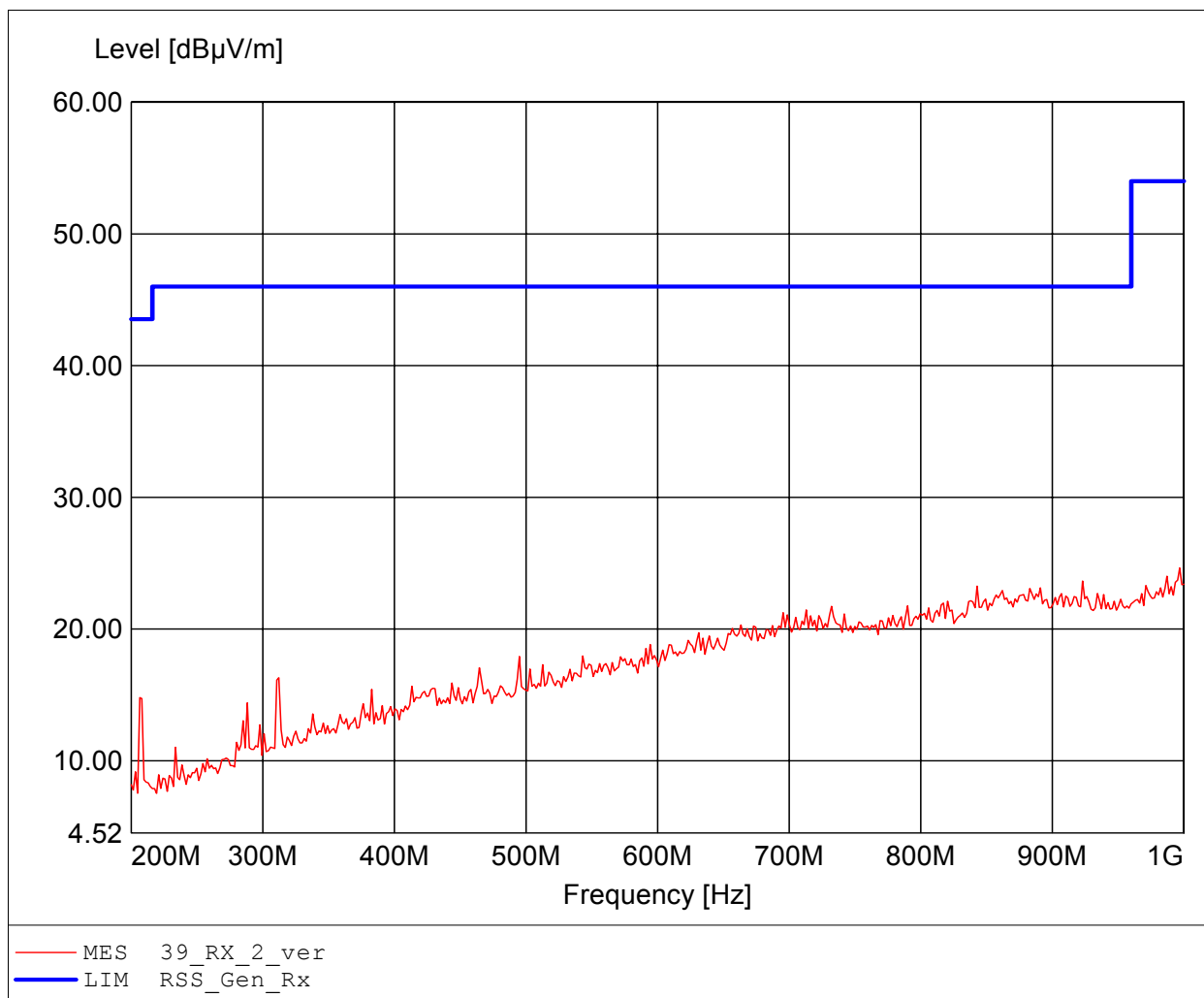
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.39  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 39  
Comment 1: Dist.: 3m, Ant.: HK 116  
Comment 2: Freq:185.691MHz Emax:34.33dBuV/m RBW: 100 kHz



**Field Strength under normal conditions**

**Standards Industry Canada, RSS-GEN**

Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.39  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 39  
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.  
Comment 2: Freq:996.794MHz Emax:24.64dBuV/m RBW: 100 kHz

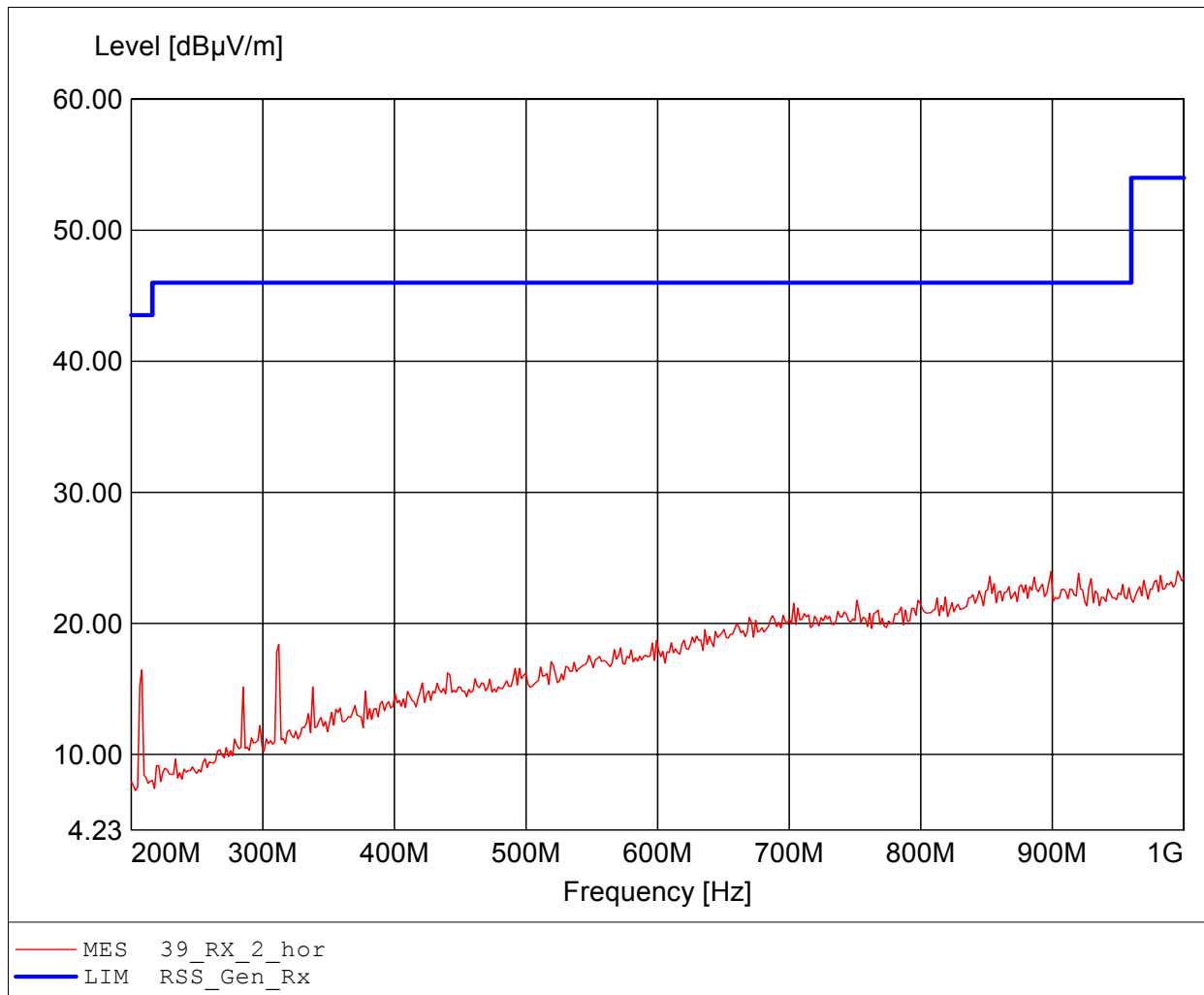




# Field Strength under normal conditions

## Standards Industry Canada, RSS-GEN

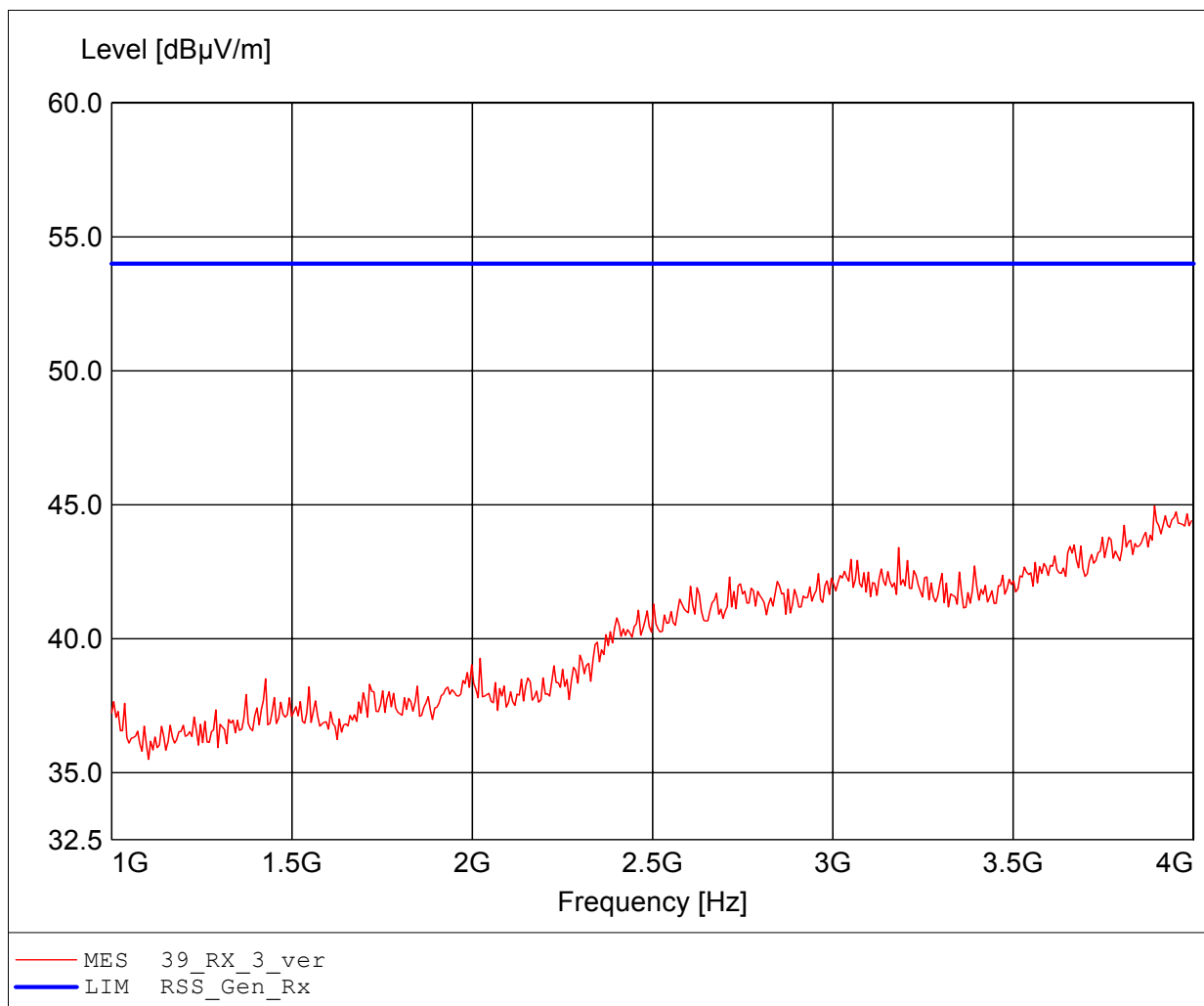
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.39  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 39  
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.  
Comment 2: Freq:995.190MHz Emax:23.99dBµV/m RBW: 100 kHz



**Field Strength under normal conditions**

**Standards Industry Canada, RSS-GEN**

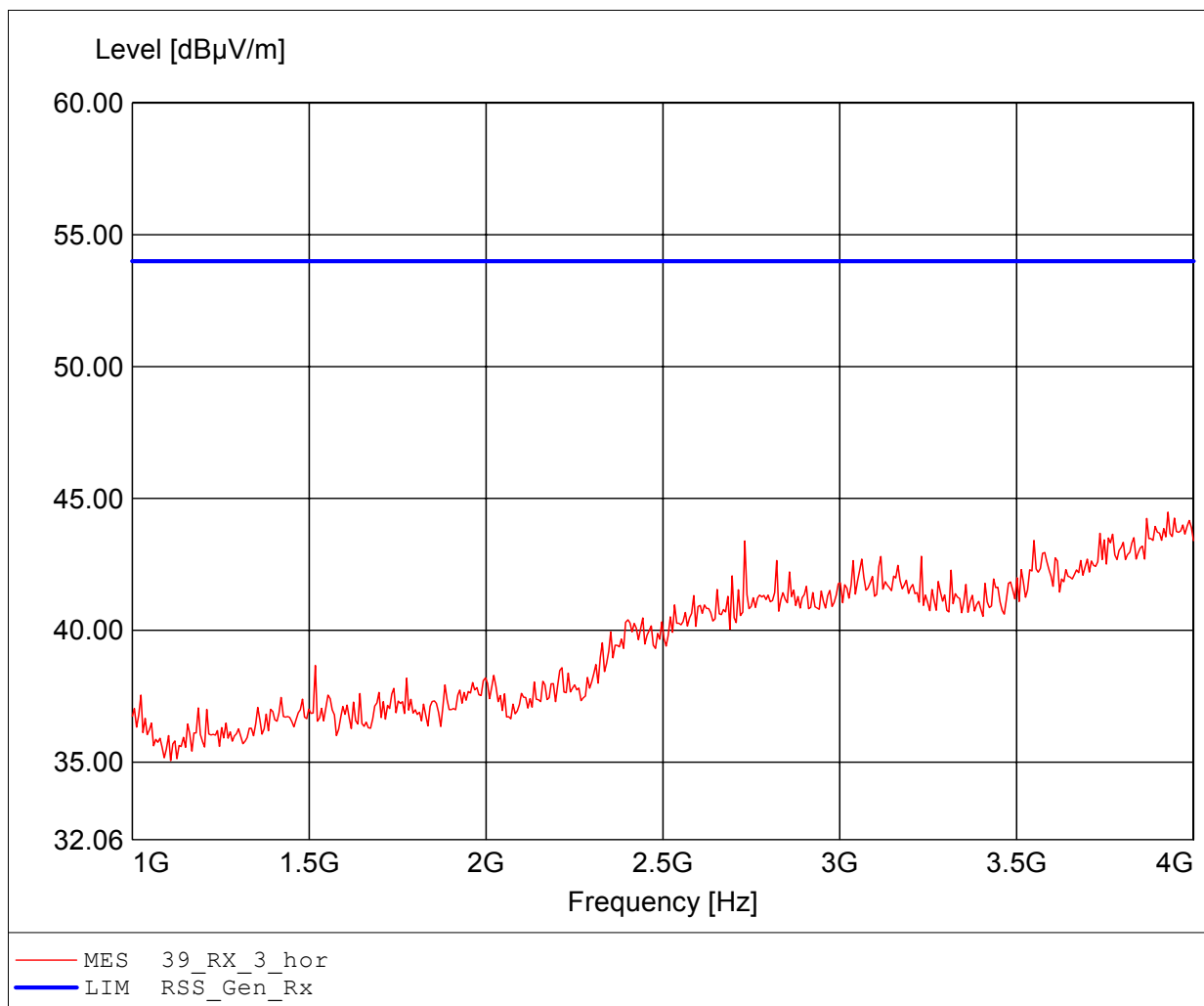
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.39  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 39  
Comment 1: Dist.: 3m, Ant.: HL025, ampl.  
Comment 2: Freq:3.892GHz Emax:44.96dBµV/m RBW: 1 MHz



**Field Strength under normal conditions**

**Standards Industry Canada, RSS-GEN**

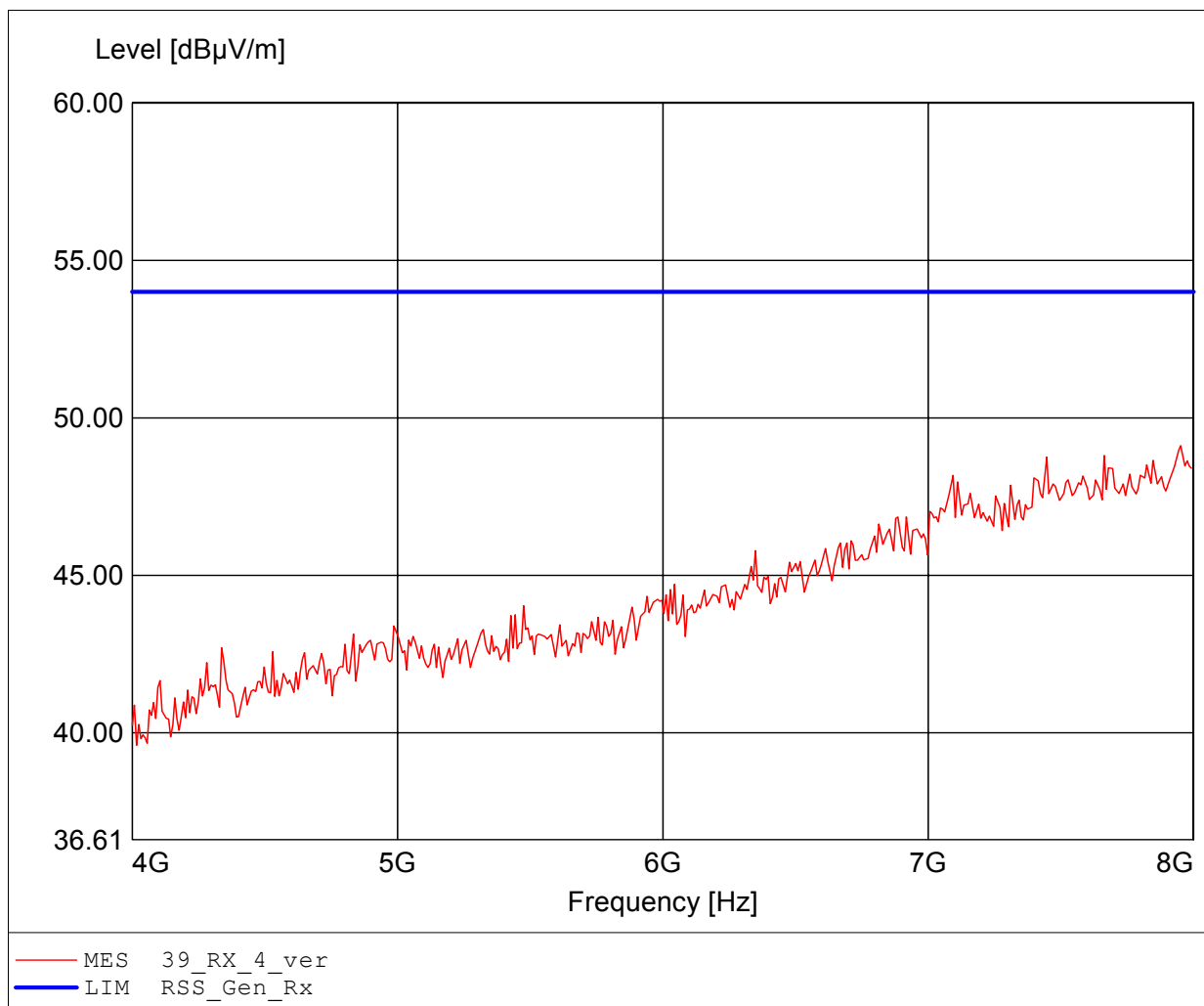
Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.39  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 39  
Comment 1: Dist.: 3m, Ant.: HL025, ampl.  
Comment 2: Freq:3.928GHz Emax:44.48dBµV/m RBW: 1 MHz



**Field Strength under normal conditions**

**Standards Industry Canada, RSS-GEN**

Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.39  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 39  
Comment 1: Dist.: 3m, Ant.: HL025, ampl.  
Comment 2: Freq:7.952GHz Emax:49.12dBµV/m RBW: 1 MHz



**Field Strength under normal conditions**

**Standards Industry Canada, RSS-GEN**

Approval Holder: Panasonic Electronic Devices Europe GmbH  
EUT: Bluetooth devices / Ch.39  
Model: Enterprise CSC mit PAN1310 with Antenna BST-2450  
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke  
Test Condition: 24°C / Unom: 5 VDC  
Test Specification: Freq. / CH: 39  
Comment 1: Dist.: 3m, Ant.: HL025, ampl.  
Comment 2: Freq:7.968GHz Emax:48.88dBµV/m RBW: 1 MHz

