



EUROFINS PRODUCT SERVICE GMBH



TEST-REPORT

**FCC 47 CFR PART 15 SUBPART C
IC RSS 210 ISSUE 8**

Base Station2

OMB2 09024

**FCC ID: A9COMB2-09024
IC: 10102A-OMB209024**

TEST REPORT NUMBER: G0M-1112-1618-TFC249L-V01



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1 General Information

1.1 Notes

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

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

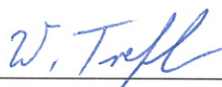
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Operator:

2012-02-21

W. Treffke



Date

Eurofins-Lab.

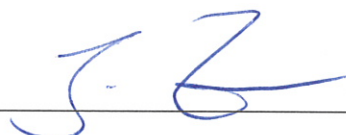
Name

Signature

Technical responsibility for area of testing:

2012-02-21

J. Zimmermann



Date

Eurofins

Name

Signature

1.2 Testing laboratory

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

DAKKS ACCREDITED TESTING LABORATORY
DAKKS-REGISTRATION NUMBER: D-PL-12092-01-01

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 3470A

Test location, where different:

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

1.3 Details of approval holder

Name : Orderman GmbH
Street : Bachstrasse 59
Town : 5023 Salzburg
Country : AUSTRIA
Telephone : +43 662 650561 36
Fax : +43 662 650561 20

Contact : Herr Christian Schlossberger
E-Mail : christian.schlossberger@orderman.com

Manufacturer:
(if applicable)

Name : Orderman GmbH
Street : Bachstrasse 59
Town : 5023 Salzburg
Country : AUSTRIA

1.4 Application details

Date of receipt of test item : 2011-12-15
Date of test : 2011-12-15

1.5 Acronyms and abbreviations

EUT : Equipment under Test
TX : Transmission
RX : Reception
RBW : Measurement Resolution Bandwidth
Pol : Measurement Polarization
e.i.r.p. : Equivalent isotropic radiated power
 T_{nom} : Nominal Temperature
 T_{min} : Minimum Temperature
 T_{max} : Maximum Temperature
 V_{nom} : Nominal Supply Voltage
 V_{min} : Minimum Supply Voltage
 V_{max} : Maximum Supply Voltage
VDC : DC voltage
N/A : Not applicable
IC : Industry Canada

1.6 Test standards

Technical standard : ☒ FCC 47 CFR PART 15 SUBPART C
☒ IC RSS 210 ISSUE 8

1.7 Test item

Description of test item : Base Station2
Type identification : OMB2 09024
Serial number : None
Hardware version : V4.x
Software version : None
Equipment type : End product

Technical data

Radio type : Transceiver
Radio technology : non specific
Frequency range : 902.45 - 905.45MHz
Assigned frequency band : 902 - 928MHz
Tested frequencies : F₁ 902.45MHz
F₂ 903.95MHz
F₃ 905.45MHz
Modulation(s) : frequency
Operating mode(s) : semi duplex
Duty cycle(s) : 100%
Number of antennas : 1
Antenna type(s) : integrated
Antenna model(s) : monopole road antenna with unique antenna connector
Antenna manufacturer(s) : unspecified
Antenna gain(s) : 5.16dBi (customer declaration)
Power supply : 15VDC / 120VAC/DC Adapter
Device classification : Mobile Device (Human Body distance > 20 cm)

1.8 Additional information

None

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 : 22 ... 26°C

Relative humidity content : 20 ... 75%

Air pressure : 86 ... 103kPa

Extreme conditions parameters:

V_{nom} : 15.00VDC
 V_{min} : N/A
 V_{max} : N/A

T_{nom} : 25°C

Other parameter: None

2.3 Test equipment utilized

Measurement Equipment List					
No.:	Measurement device:	Type:	Manufacturer:	Last Cal.	Next Cal.
ETS 0086	Semi-anechoic chamber	AC1	Frankonia	2010-12	2012-12
ETS 0253	Spectrum Analyzer	FSIQ26	Rohde & Schwarz	2011-11	2012-11
ETS 0030	Biconical Antenna	HK 116	Rohde & Schwarz	2011-02	2014-02
ETS 0295	LPD Antenna	HL 223	Rohde & Schwarz	2011-02	2014-02
ETS 0018	Horn Antenna	BBHA 9120D	Schwarzbeck	2010-08	2013-08
ETS 0432	Amplifier-Matrix			2010-06	2012-06
ETS 0496	Spectrum Analyzer	FSP30	Rohde & Schwarz	2011-12	2012-12
ETS 0288	LISN	ESH2-Z5	Rohde & Schwarz	2010-09	2012-09

2.4 Sample emission level calculation

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

Reading:

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

A.F.:

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

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

Net:

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

Limit:

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

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

Margin:

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

Example only:

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

2.5 Test results

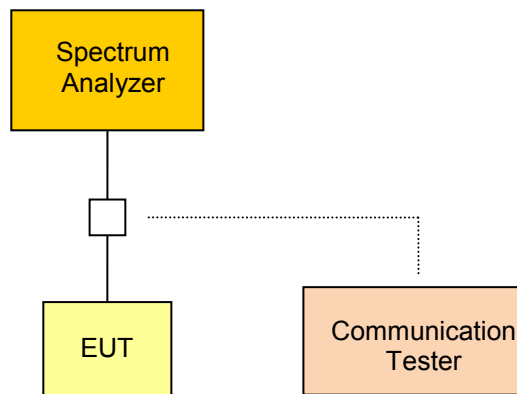
Test case	Clause	Required	Result	Remarks
INFORMATIONAL TRANSMITTER PARAMETERS				
Occupied Bandwidth	IC RSS-Gen. 4.6.1	☒	N/A	
TRANSMITTER PARAMETERS				
Fundamental field strength emissions	FCC § 15.249(a) IC RSS-210 A2.9(a)	☒	PASS	
Emission radiated outside the specified frequency band	FCC § 15.249(d) FCC § 15.209 IC RSS-210 A2.9(b)	☒	PASS	
RECEIVER PARAMETERS				
Radiated spurious emissions	IC RSS-Gen § 4.10 IC RSS-Gen § 6.1	☒	PASS	
POWER LINE PARAMETERS				
AC power line conducted emissions	FCC § 15.207 IC RSS-Gen. 7.2.4	☒	PASS	

3 Informational Transmitter parameters

3.1 Occupied Bandwidth

According RSS-Gen Section 4.6.1 the 99% emission bandwidth occupied by the modulated transmitted signal has to be reported as calculated or measured.

3.1.1 Measurement procedure



The EUT is connected to a spectrum analyzer and set to transmission mode (using a communication tester if needed) with maximum power under normal test conditions. The span of the analyzer is set wide enough to capture all significant emissions of the modulation spectrum. The resolutions bandwidth is set as close as possible to 1% of the selected span without being below 1%. The occupied bandwidth is then measured evaluated by an internal measurement procedure of the analyzer.

3.1.2 Results

Transmitter occupied bandwidth			
Measurement Conditions			
Power occupation		99%	
Channel [MHz]	Lower edge frequency [MHz]	Upper edge frequency [MHz]	Occupied Bandwidth [kHz]
902.45	902.44	902.47	32.00
903.95	903.94	903.97	32.00
905.45	905.44	905.47	32.00
See attached diagram in Annex			
Verdict			PASS

4 Transmitter parameters

4.1 Fundamental field strength emissions

According FCC rules 47 CFR 15.249(a)(1) and RSS-210 Section A2.9(a) the maximum emitted field strength at 3 meters is limited and has be verified.

4.1.1 Limits

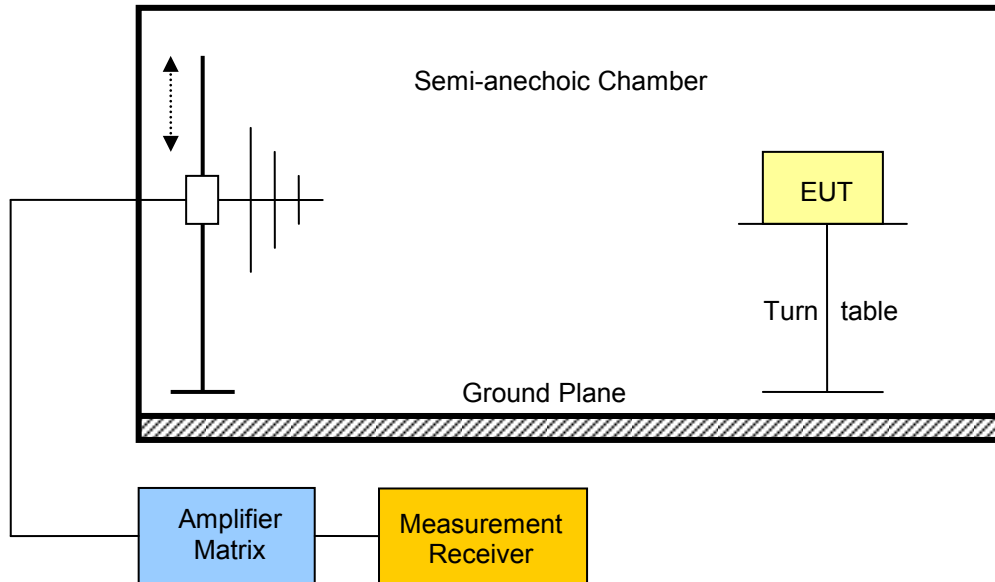
The field strength measured at 3 metres shall not exceed the limits in the following table:

Maximum emitted field strength	
Frequency range	Fundamental field strength @ 3m
902 – 928MHz	50mV/m 94dBµV/m quasi-peak
2400 – 2483.5MHz	50mV/m 94dBµV/m average 114dBµV/m peak
5725 – 5875MHz	50mV/m 94dBµV/m average 114dBµV/m peak

According to FCC rules the limits given in the table are average limits for frequencies above 1GHz. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

According to RSS-210 the limits shown in the above table are based on measurements using an average detector, except for the fundamental emission in the frequency band 902-928 MHz, which is based on measurements using a CISPR quasi-peak detector.

4.1.2 Measurement procedure



The EUT is placed on a table in a semi-anechoic chamber. The EUT is activated with the transmission modes stated in the test report. The emission level of all emission up to the 10th harmonic is scanned. In the frequency range below 1GHz a resolution bandwidth of 100kHz is used and above 1GHz a resolution bandwidth of 1MHz is used. To obtain the peak emission level the EUT is rotated through 360° and the height of the measurement antenna changed.

4.1.3 Results

Fundamental maximum field strength emissions @ 3m				
Emission [MHz]	Max. field strength [dB μ V/m]	Detector	Limit [dB μ V/m]	Margin [dB]
902.44	93.44	peak	94	-00.56
903.96	93.08	peak	94	-00.92
905.46	92.84	peak	94	-01.16
See attached diagrams in Annex				
Measurement uncertainty				4.22dB
Verdict				PASS

Comment: Due to the fact that the peak emission field-strength is below the average/quasi-peak emission limit, the corresponding average/quasi-peak measurement has been omitted and compliance with the limits is shown for the peak emissions.

The emission levels of higher order harmonics are verified in the following section.

4.2 Emission radiated outside the specified frequency band

According FCC rules 47 CFR 15.209, 15.249(d) and RSS-210 Section A2.9(b) unwanted emissions in the spurious domain are power limited and has to be validated.

4.2.1 Limits

The field strength measured at 3 metres shall not exceed the limits in the following table:

Maximum emitted field strength	
Frequency range	Field strength of harmonics
902 – 928MHz	500µV/m 54dBµV/m quasi-peak
2400 – 2483.5MHz	500µV/m 54dBµV/m average 74dBµV/m peak
5725 – 5875MHz	500µV/m 54dBµV/m average 74dBµV/m peak

According to FCC rules the limits given in the table are average limits for frequencies above 1GHz. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

According to RSS-210 the limits shown in the above table are based on measurements using an average detector, except for the fundamental emission in the frequency band 902-928 MHz, which is based on measurements using a CISPR quasi-peak detector.

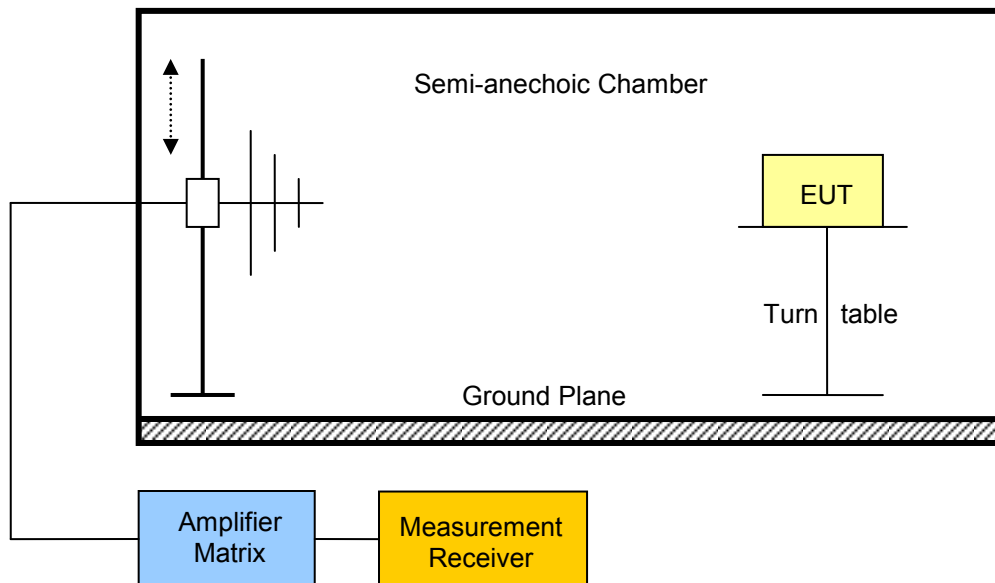
Except the higher order harmonics, emission radiated outside the specified frequency band shall be attenuated by at least 50 dB below the level of the fundamental or to the general field strength limits listed in 15.209 / RSS-Gen, whichever is less stringent.

General spurious emission limits				
Frequency range [MHz]	Detector	Limit [µV/m]	Limit [dBµV/m]	Limit distance [m]
30 – 88	Quasi-Peak	100	40	3
88 – 216	Quasi-Peak	150	43.5	3
216 – 960	Quasi-Peak	200	46	3
960 – 1000	Quasi-Peak	500	54	3
> 1000	Average	500	54	3

When average radiated emission measurements are specified, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.

Measurement procedure

The spurious emission measurement is performed on 3m a semi-anechoic test site.



The EUT is placed on a non-metallic table. Any emission is received by the measurement antenna and measured via a measurement receiver connected to the antenna. To obtain the maximum emission the EUT is rotated through 360°.

Due to practical reasons the spurious emission level check is first performed with a peak detector and the quasi-peak and average limits.

If any emission is detected that gets close to the emission limit the detector is changed and the quasi-peak or average detector is used. Which detector is used is determined by the emission frequency. If pulsed transmission is used, averaging over the pulse train is used.

The measurement values are also corrected to obtain the field strength values at the defined measurement distances of the emission limits.

The measurement is performed over the frequency range of 30MHz up to the tenth harmonic.

4.2.2 Results

Transmitter radiated spurious emissions							
Measurement Conditions							
Measurement distance *		3m					
Modulated		☒ Yes ☐ No					
Channel [MHz]	Emission Frequency [MHz]	Pol.	Measured Field Strength [dBμV/m]	Limit [dBμV/m]	Limit distance [m]	Det.	Margin [dB]
902.45	1.805	ver	42.3	54	3	pk	-11.70
902.45	1.805	hor	41.7	54	3	pk	-12.30
903.95	1.808	ver	42.7	54	3	pk	-11.30
905.45	1.811	ver	41.7	54	3	pk	-12.30
905.45	1.811	hor	41.0	54	3	pk	-13.00
See attached diagrams in Annex							
Verdict					PASS		

* **Note:** Physical distance between EUT and measurement antenna.

5 Receiver parameters

5.1 Receiver spurious emissions

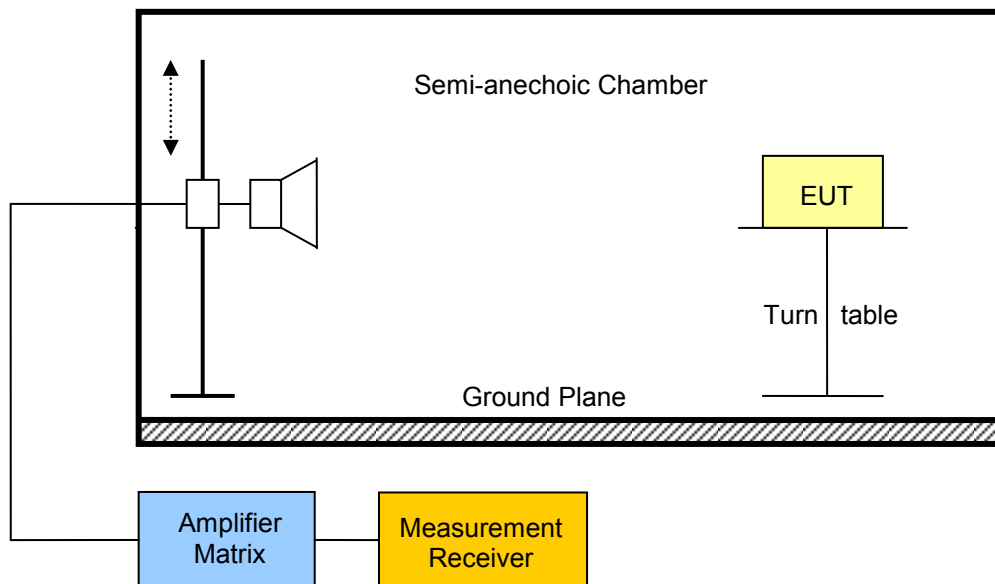
According RSS-Gen Section 4.9 the emissions of unintentional radiators have to comply with limits stated in the rules.

5.1.1 Limits

Receiver spurious emission limits				
Frequency range [MHz]	Detector	Limit@3m [$\mu\text{V/m}$]	Limit [dB $\mu\text{V/m}$]	Limit Distance [m]
30 – 88	Quasi-Peak	100	40	3
88 – 216	Quasi-Peak	150	43.5	3
216 – 960	Quasi-Peak	200	46	3
960 – 1000	Quasi-Peak	500	54	3
> 1000	Average	500	54	3

5.1.2 Measurement procedure

The spurious emission measurement is performed on a 3m test site.



The EUT is placed on a non-metallic table. Any emission is received by a loop antenna and measured via a measurement receiver connected to the loop antenna. To obtain the maximum emission the EUT is rotated through 360°.

Due to practical reasons the spurious emission level check is first performed with a peak detector and the quasi-peak and average limits.

If any emission is detected that gets close to the emission limit the detector is changed and the quasi-peak or average detector is used. Which detector is used is determined by the emission frequency. If pulsed transmission is used, averaging over the pulse train is used.

The measurement values are also corrected to obtain the field strength values at the defined measurement distances of the emission limits.

The measurement is performed over the frequency range of 30MHz up to the 3rd harmonic.

5.1.3 Results

Receiver spurious Emissions							
Measurement Conditions							
Measurement distance *			3m				
Channel [MHz]	Emission Frequency [MHz]	Pol.	Measured Field Strength [$\mu\text{V/m}$] **	Limit [$\mu\text{V/m}$]	Limit distance [m]	Det.	Margin [$\mu\text{V/m}$]
903.95	3832	ver	149.62	500	3	pk	-350.38
903.95	3988	hor	147.06	500	3	pk	-352.94
See attached diagrams in Annex							
Verdict						PASS	

* **Note:** Physical distance between EUT and measurement antenna.

** **Note:** Due to the fact that the peak emission field-strength is below the average/quasi-peak emission limit, the corresponding average/quasi-peak measurement has been omitted and compliance with the limits is shown for the peak emissions.

6 Power Line parameters

6.1 AC power line conducted emissions

According FCC rules 47 CFR 15.207 and RSS-Gen Section 7.2.2 for any intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits given below.

6.1.1 Limits

AC power line emission limits		
Frequency [MHz]	Conducted Limit [dBμV]	
	Quasi-Peak	Average
0.15 – 0.5	66 to 56	56 to 46
0.5 - 5	56	46
5 - 30	60	50

6.1.2 Measurement procedure

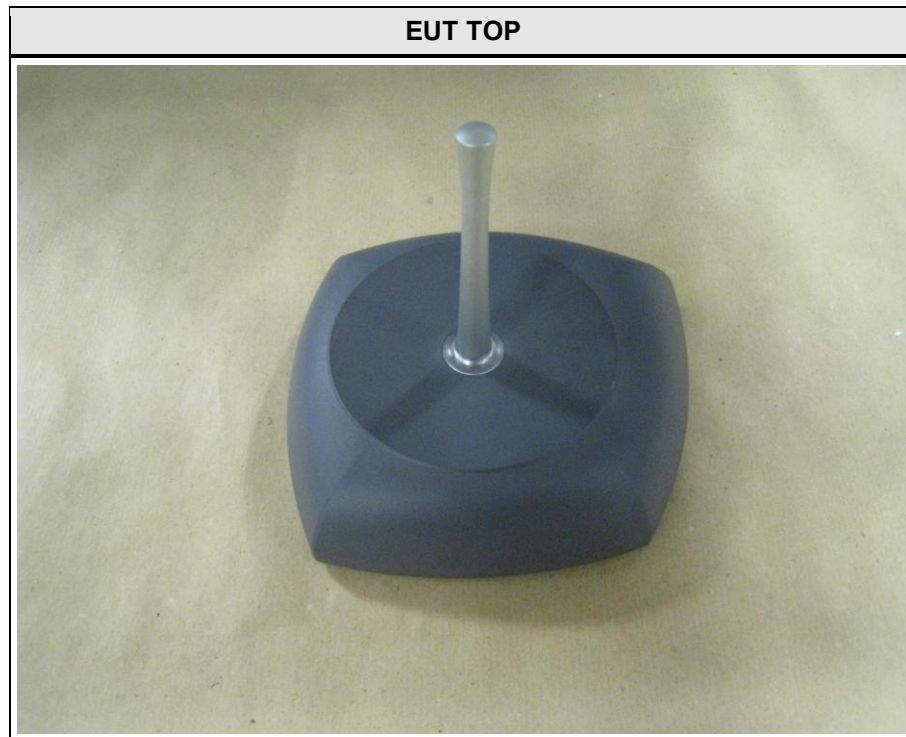
The ac power line emissions are measured using a 50μH / 50Ω line impedance stabilization network (LINS). The radio frequency voltage between each power line and ground at the power terminal is measured.

6.1.3 Results

AC power line emissions	
Conducted emission level	
See attached Diagram	
Verdict	PASS

Annex A Photos

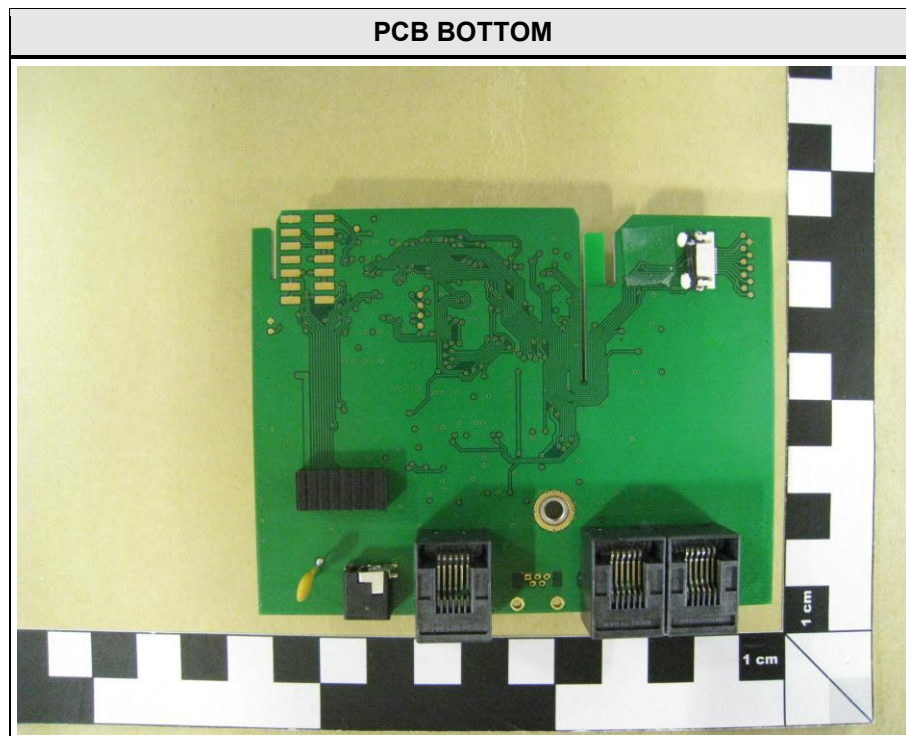
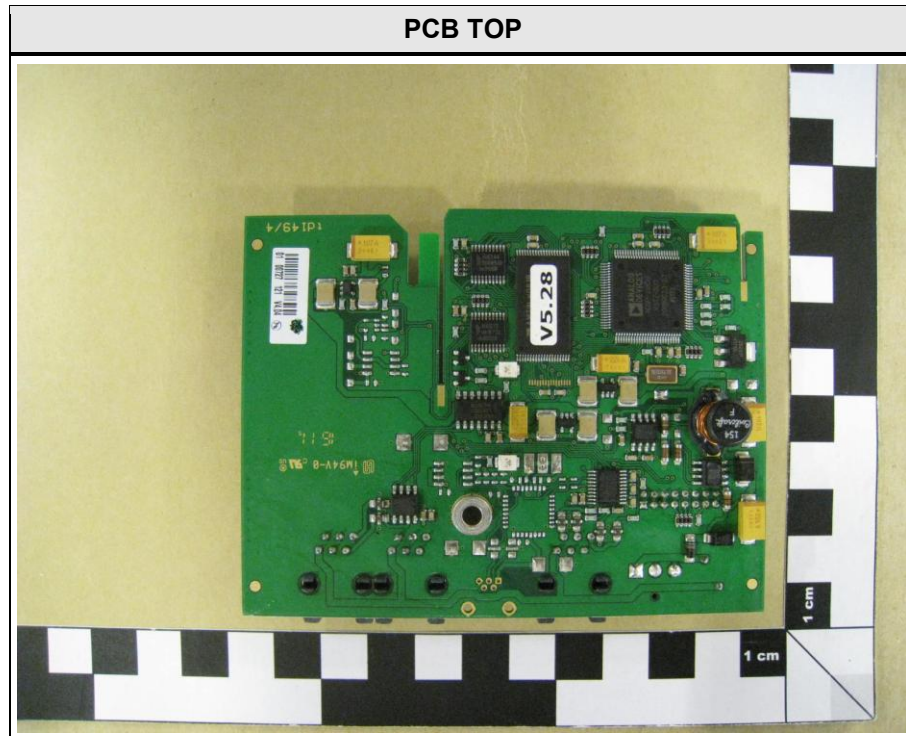
Equipment External



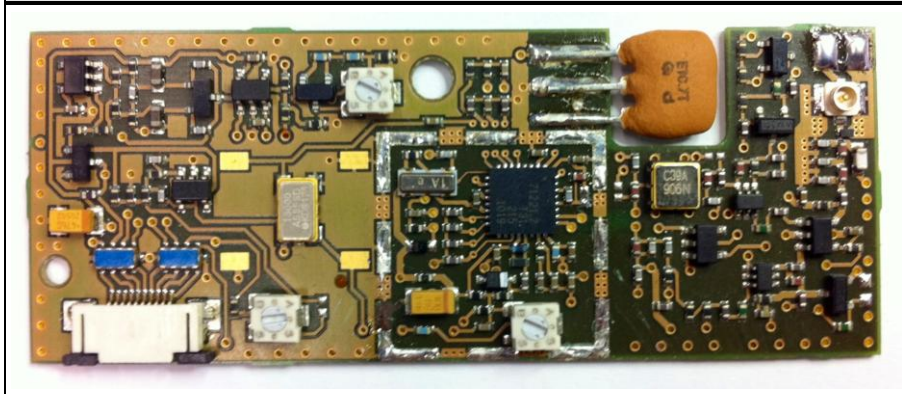
Test Report No.: G0M-1112-1618-TFC249L-V01

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

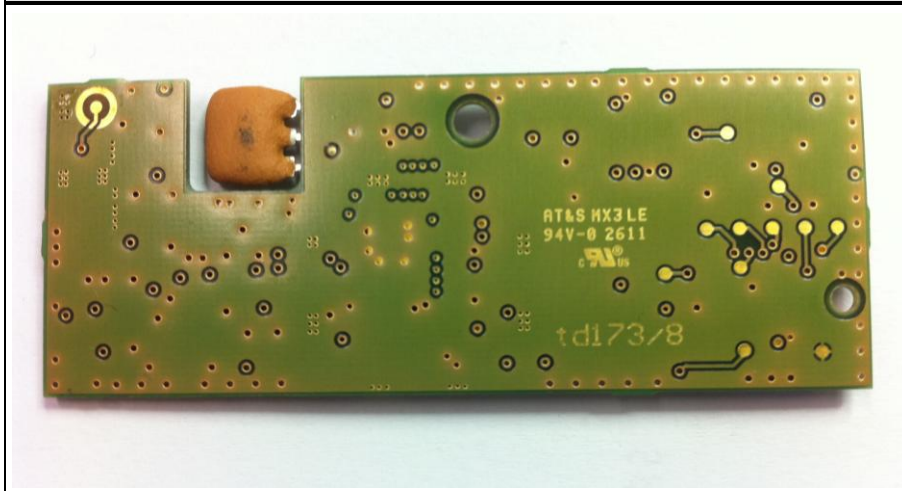
Equipment internal



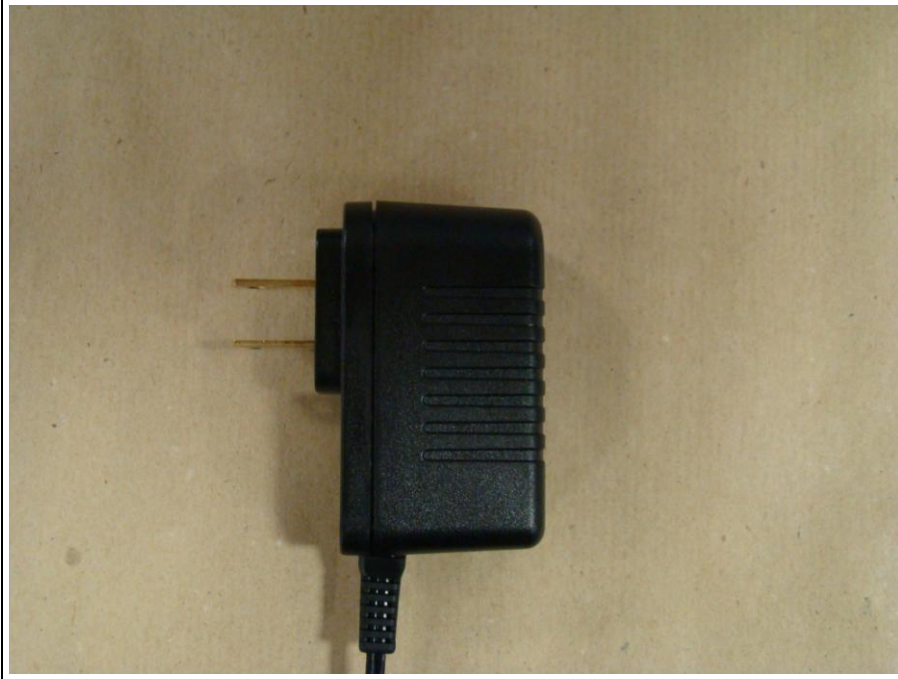
RADIO MODULE TOP



RADIO MODULE BOTTOM



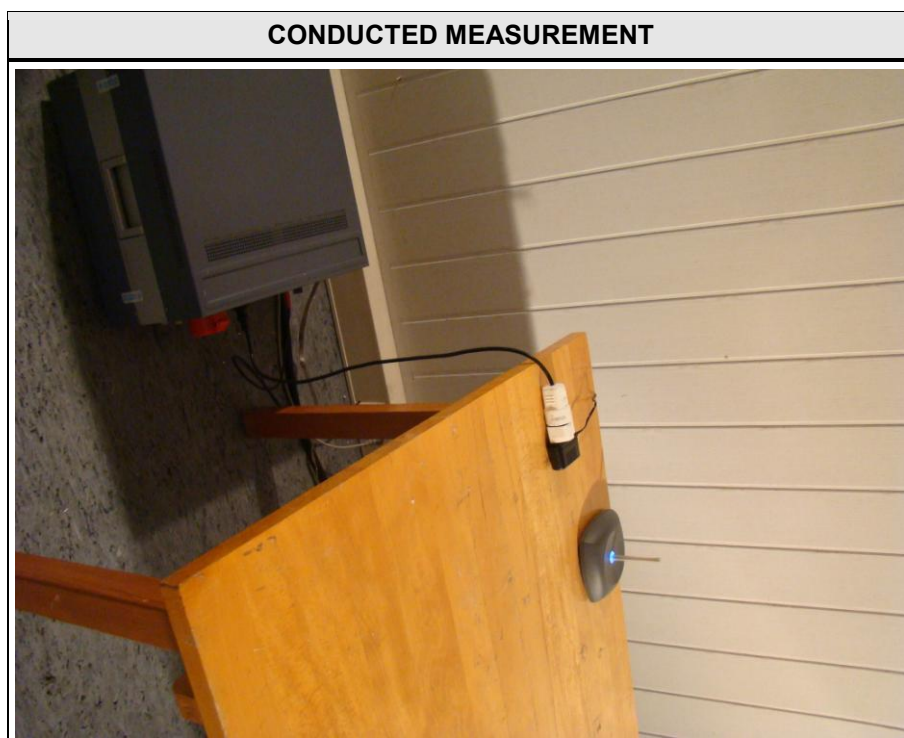
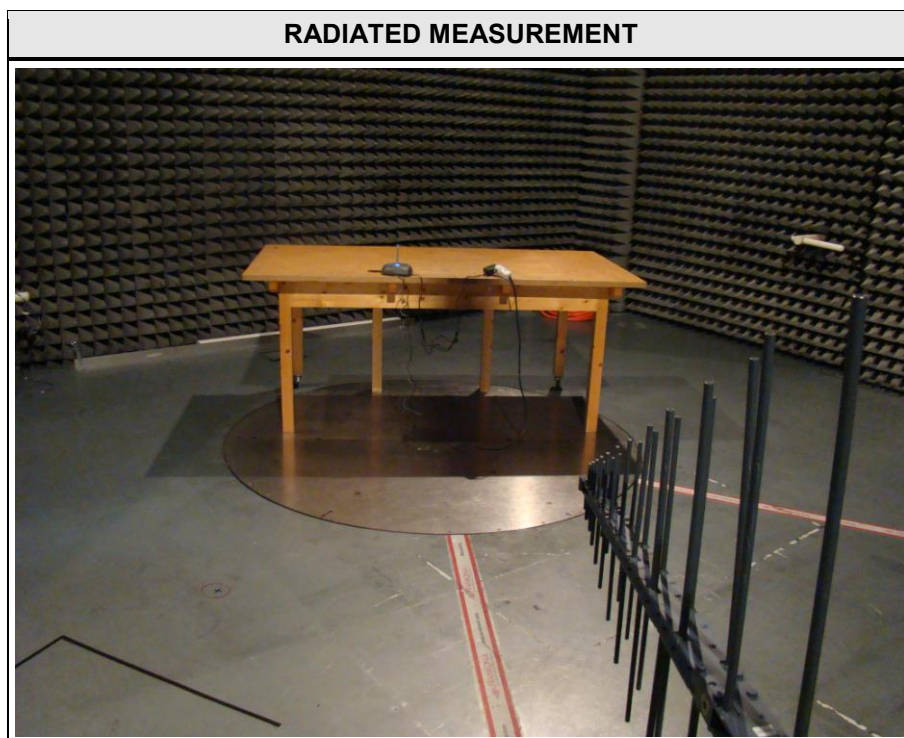
DEDICATED AC/DC ADAPTER



DEDICATED AC/DC ADAPTER



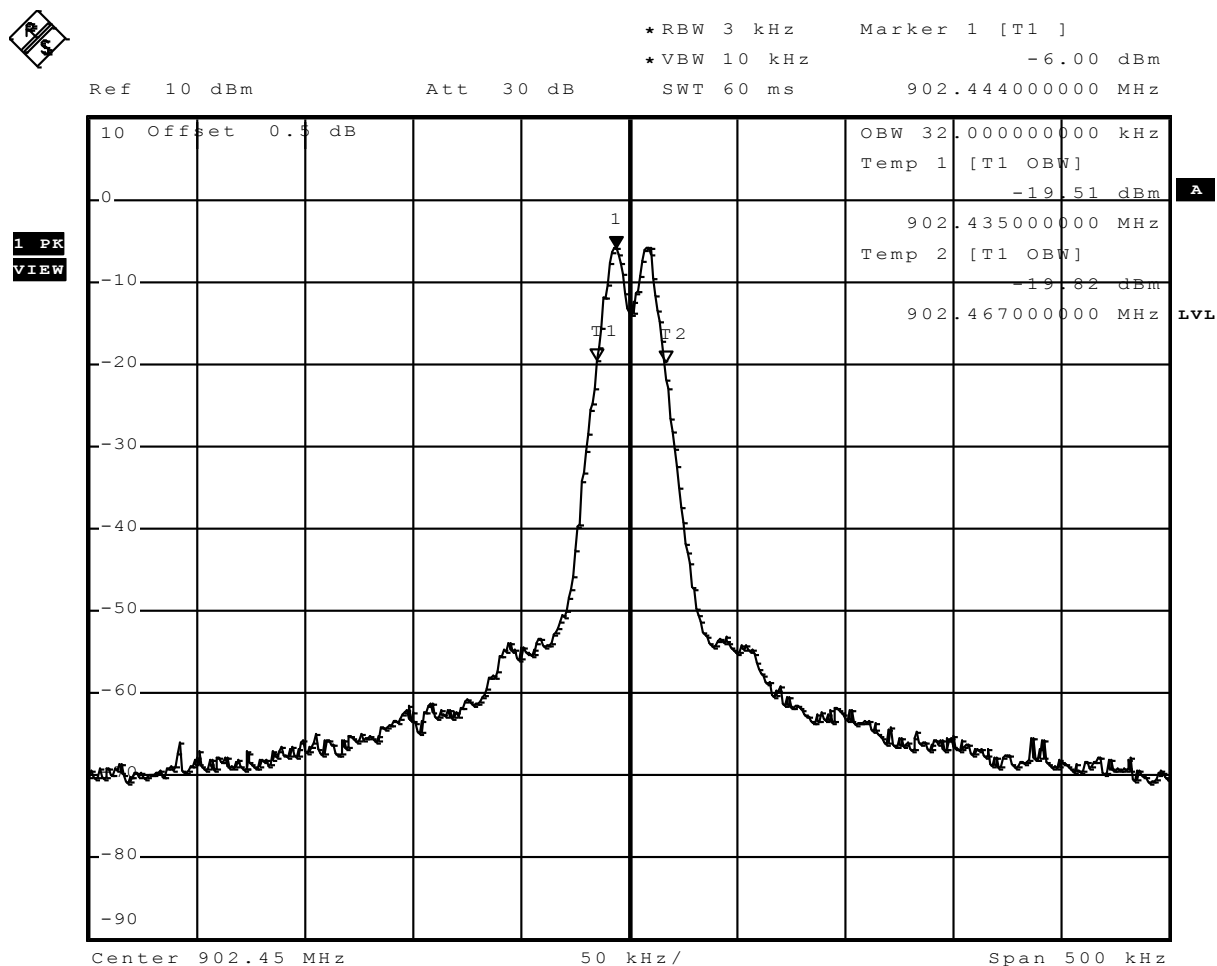
Test setup



Annex B Transmitter occupied bandwidth

RSS Gen Occupied Bandwidth

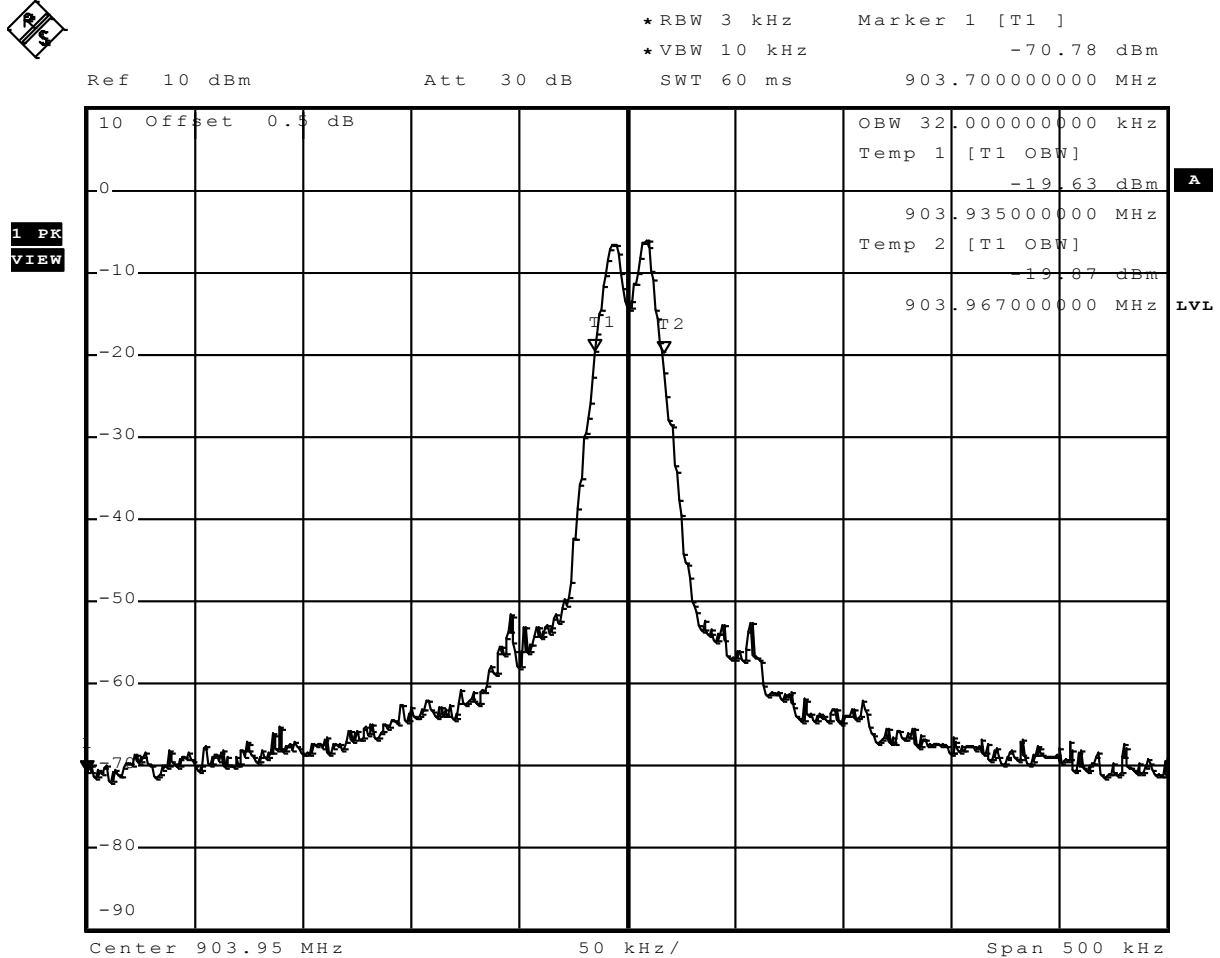
EUT	Base Station2
Model	OMB2 09024
Approval Holder	Ordermann GmbH / Ord.: G0M-1112-1618
Temperature / Voltage	tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	4.4.1 Occupied Bandwidth
Comment 1	Channel.: 10 / 902.45 MHz
Comment 2	A spectrum analyzer with an integrated 99% power bandwidth function is used



Comment: Occupied bandwidth: 32 KHz
 Date: 15.DEC.2011 14:19:13

**RSS Gen
Occupied Bandwidth**

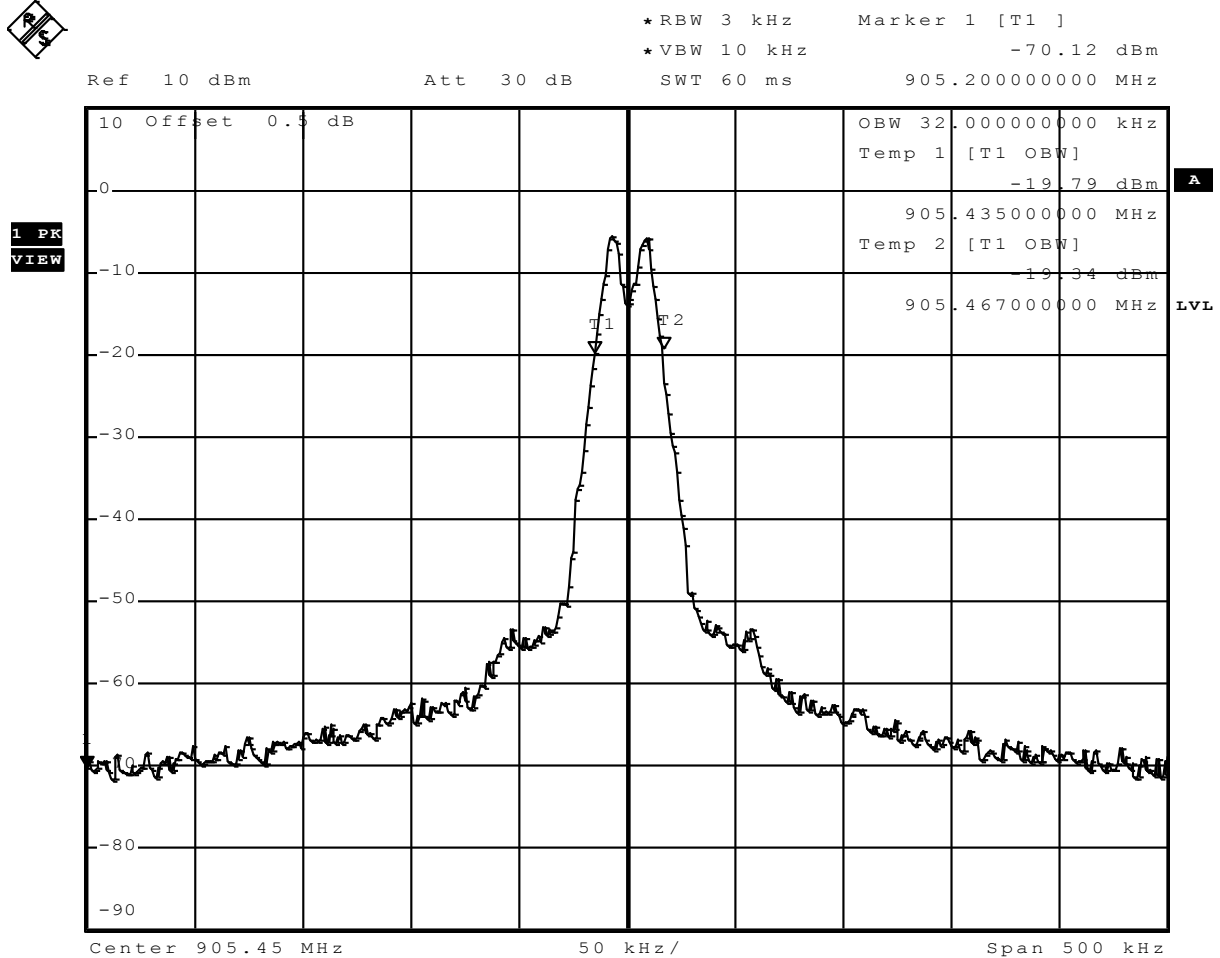
EUT	Base Station2
Model	OMB2 09024
Approval Holder	Ordermann GmbH / Ord.: G0M-1112-1618
Temperature / Voltage	tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	4.4.1 Occupied Bandwidth
Comment 1	Channel.: 40 / 903.95 MHz
Comment 2	A spectrum analyzer with an integrated 99% power bandwidth function is used



Comment: Occupied bandwidth: 32 KHz
 Date: 15.DEC.2011 14:25:53

**RSS Gen
Occupied Bandwidth**

EUT	Base Station2
Model	OMB2 09024
Approval Holder	Ordermann GmbH / Ord.: G0M-1112-1618
Temperature / Voltage	tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	4.4.1 Occupied Bandwidth
Comment 1	Channel.: 70 / 905.45 MHz
Comment 2	A spectrum analyzer with an integrated 99% power bandwidth function is used



Comment: Occupied bandwidth: 32 KHz
 Date: 15.DEC.2011 14:27:54

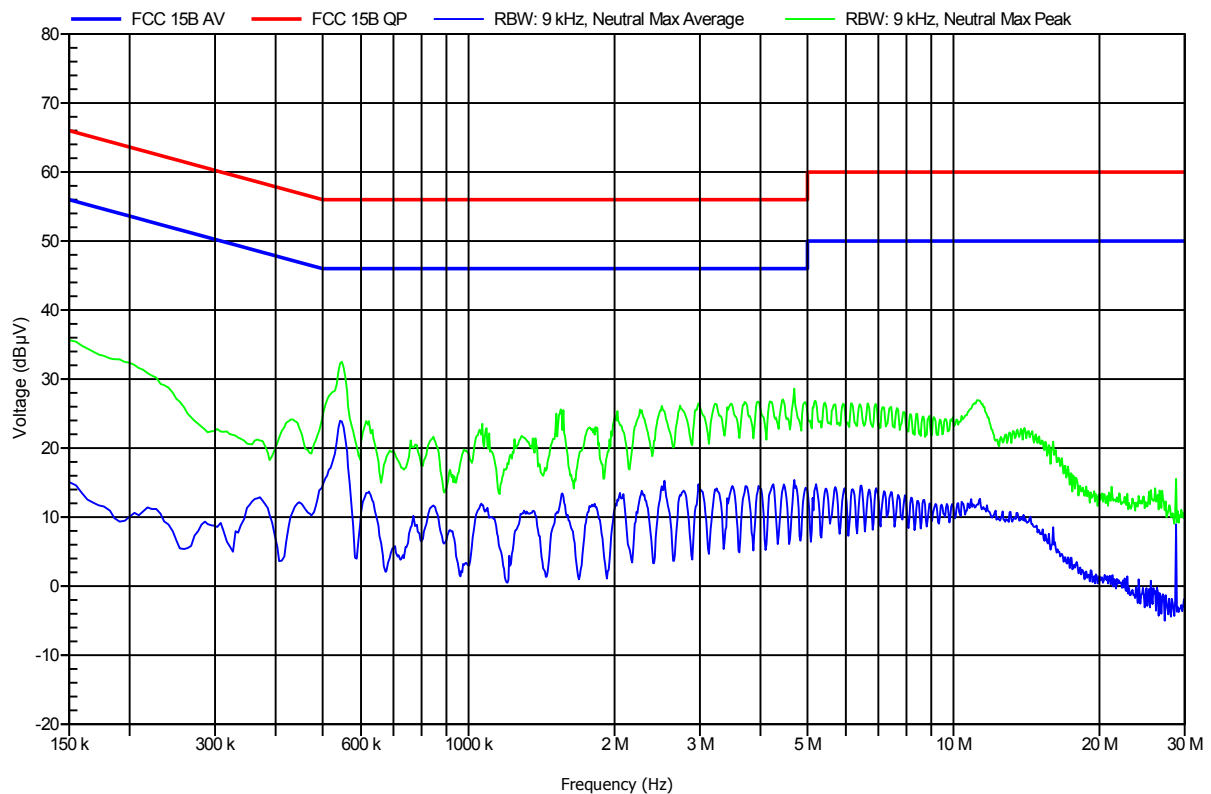
Annex C AC Power line Conducted Emissions

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

Project number: G0M-1112-1861

Manufacturer:	Orderman GmbH
EUT Name:	Base Station 2
Model:	OMB2
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Klein
Test Conditions:	Tnom: 23°C, Unom: 120VAC
LISN:	ESH2-Z5 N
Mode:	normal operation
Test Date:	16.12.2011
Note:	

Index 1

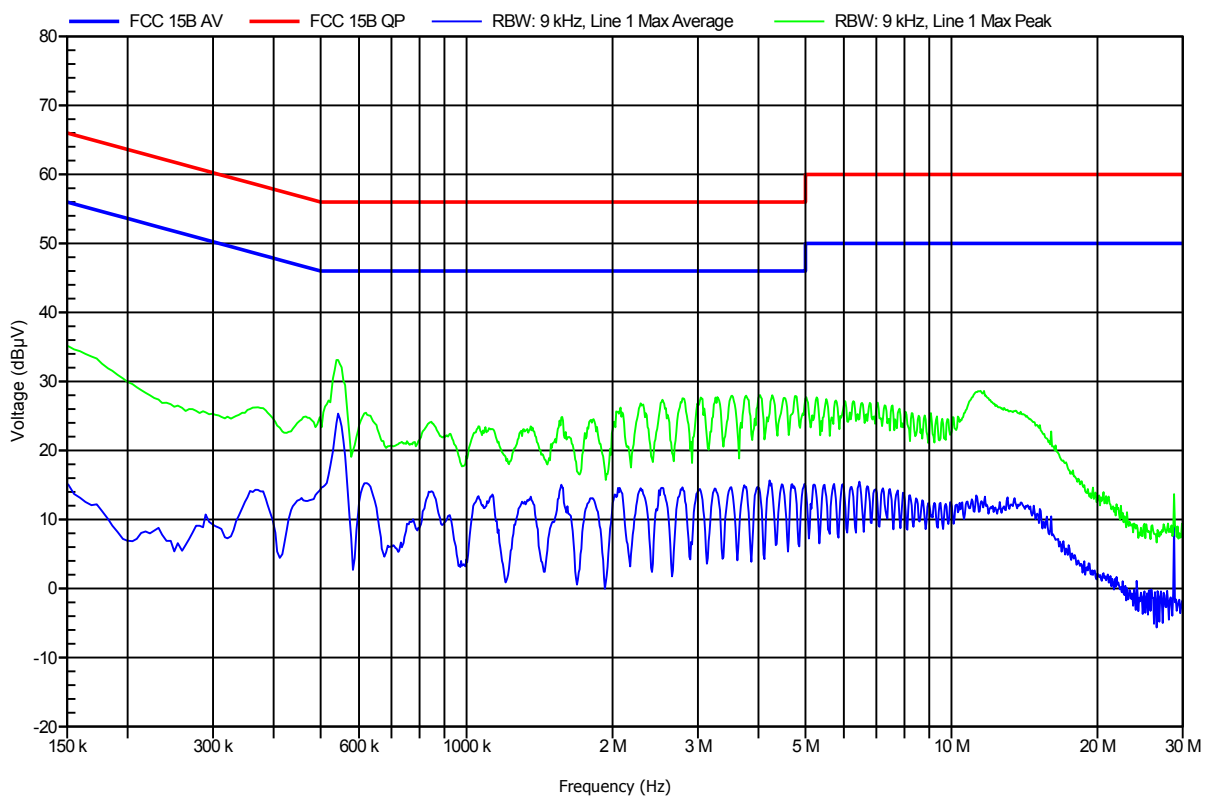


EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1112-1861

Manufacturer:	Orderman GmbH
EUT Name:	Base Station 2
Model:	OMB2
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Klein
Test Conditions:	Tnom: 23°C, Unom: 120VAC
LISN:	ESH2-Z5 L
Mode:	normal operation
Test Date:	16.12.2011
Note:	

Index 2

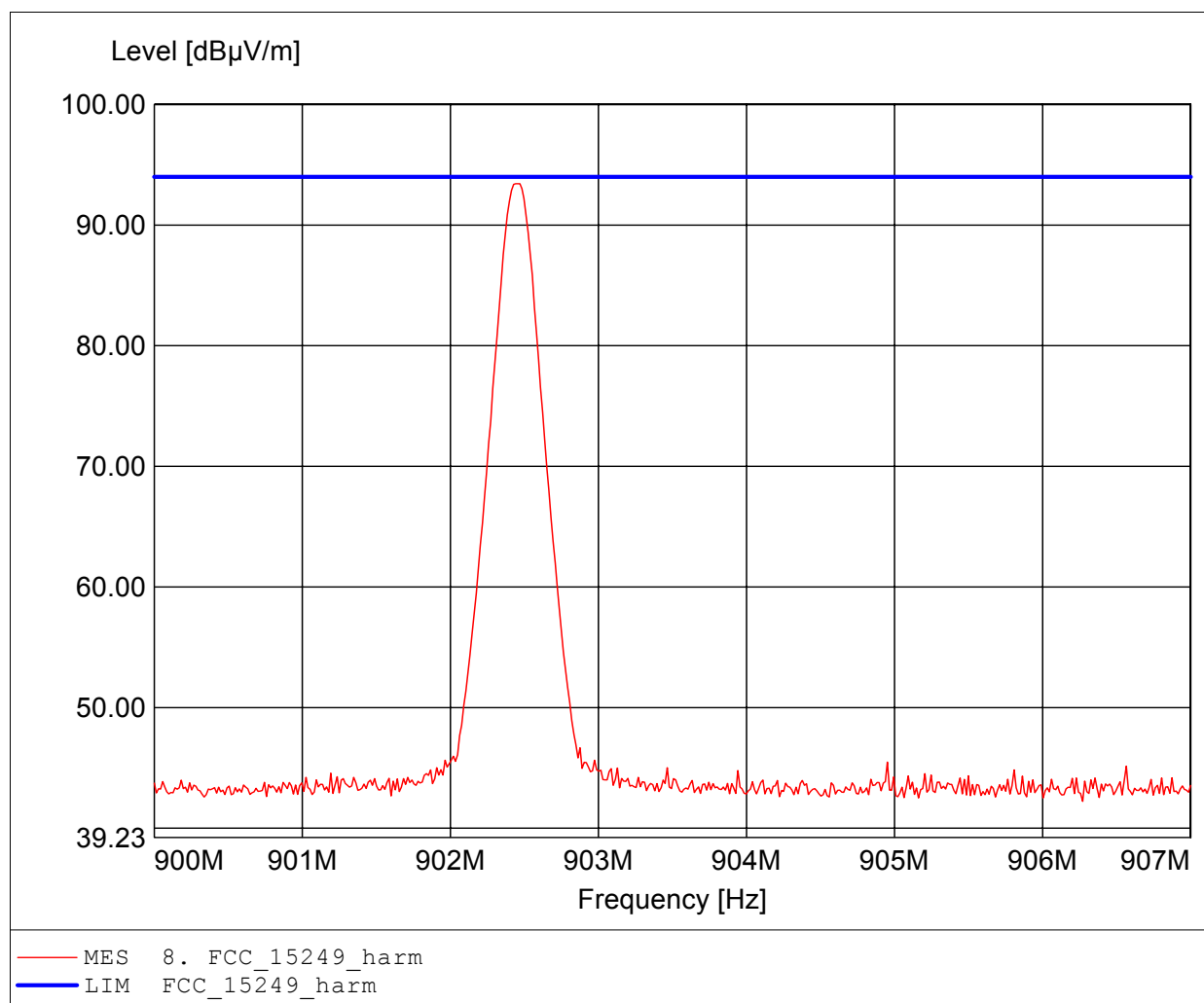


Annex D Fundamental field strength emissions

Carrier power (Field Strength)

FCC RULES PART 15, SUBPART C

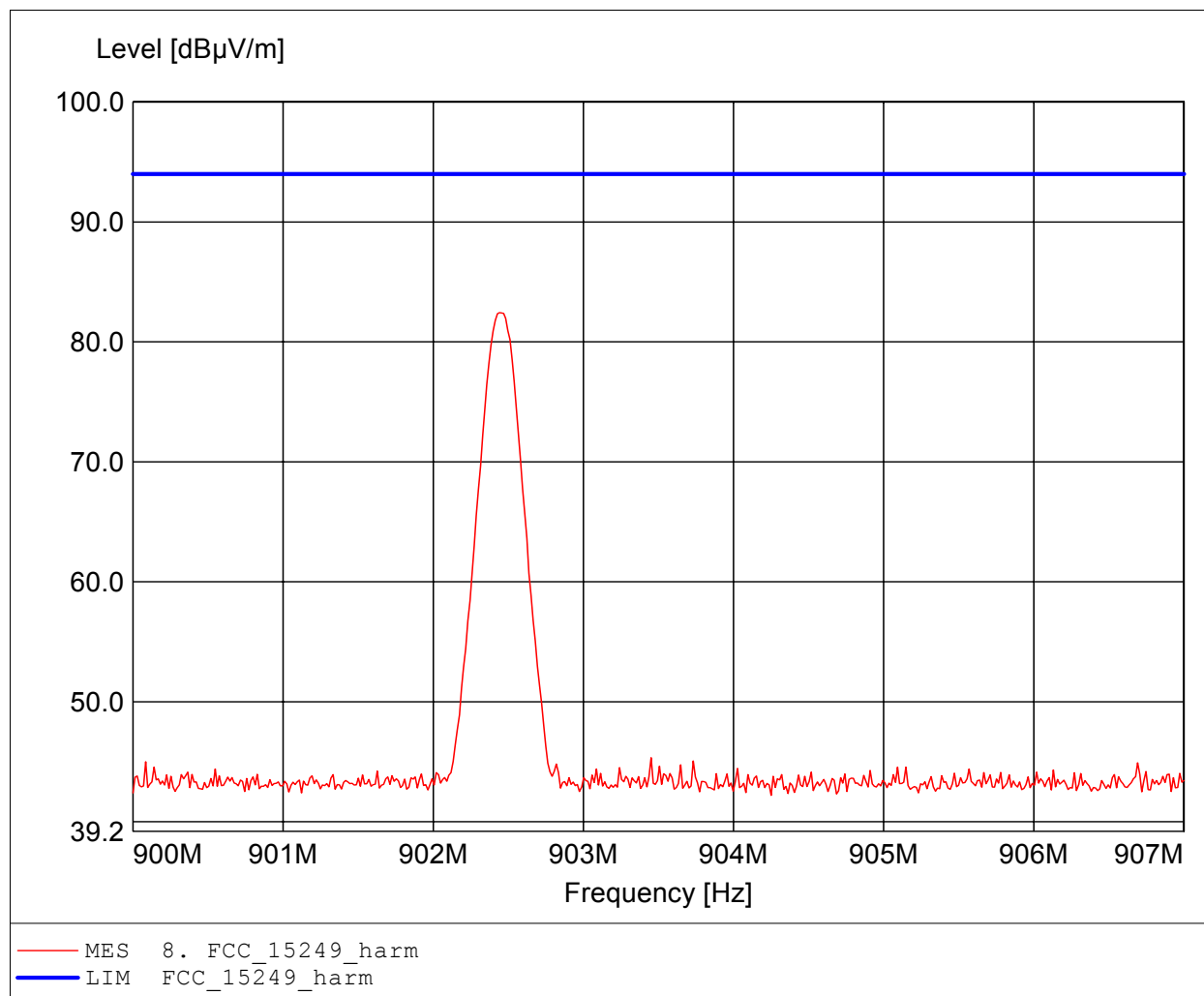
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 10
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D
Comment 2: Freq: 902.441MHz, Emax: 93.44dBµV/m, RBW: 1MHz



Carrier power (Field Strength)

FCC RULES PART 15, SUBPART C

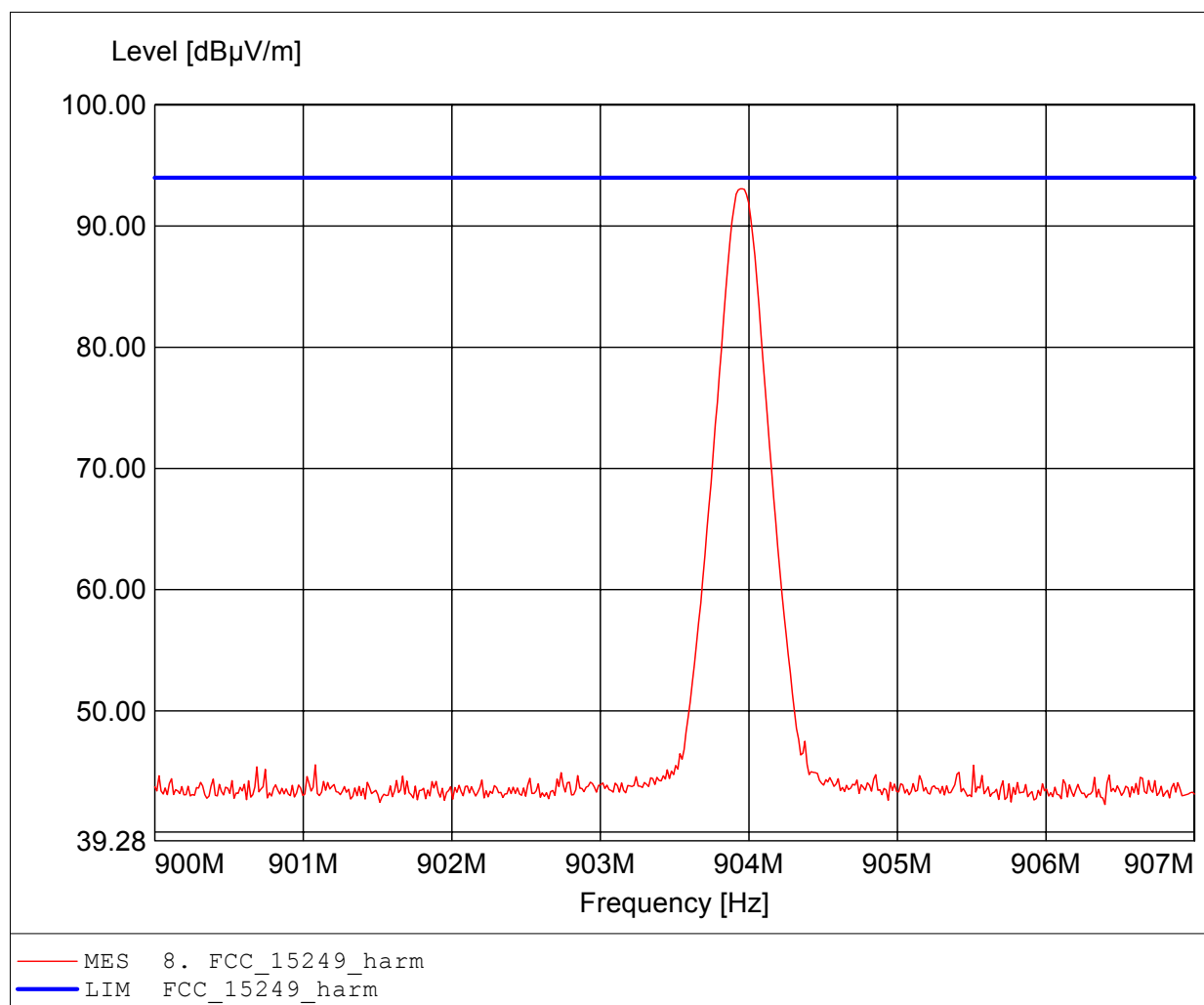
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 10
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D
Comment 2: Freq: 902.441MHz, Emax: 82.43dBµV/m, RBW: 1MHz



Carrier power (Field Strength)

FCC RULES PART 15, SUBPART C

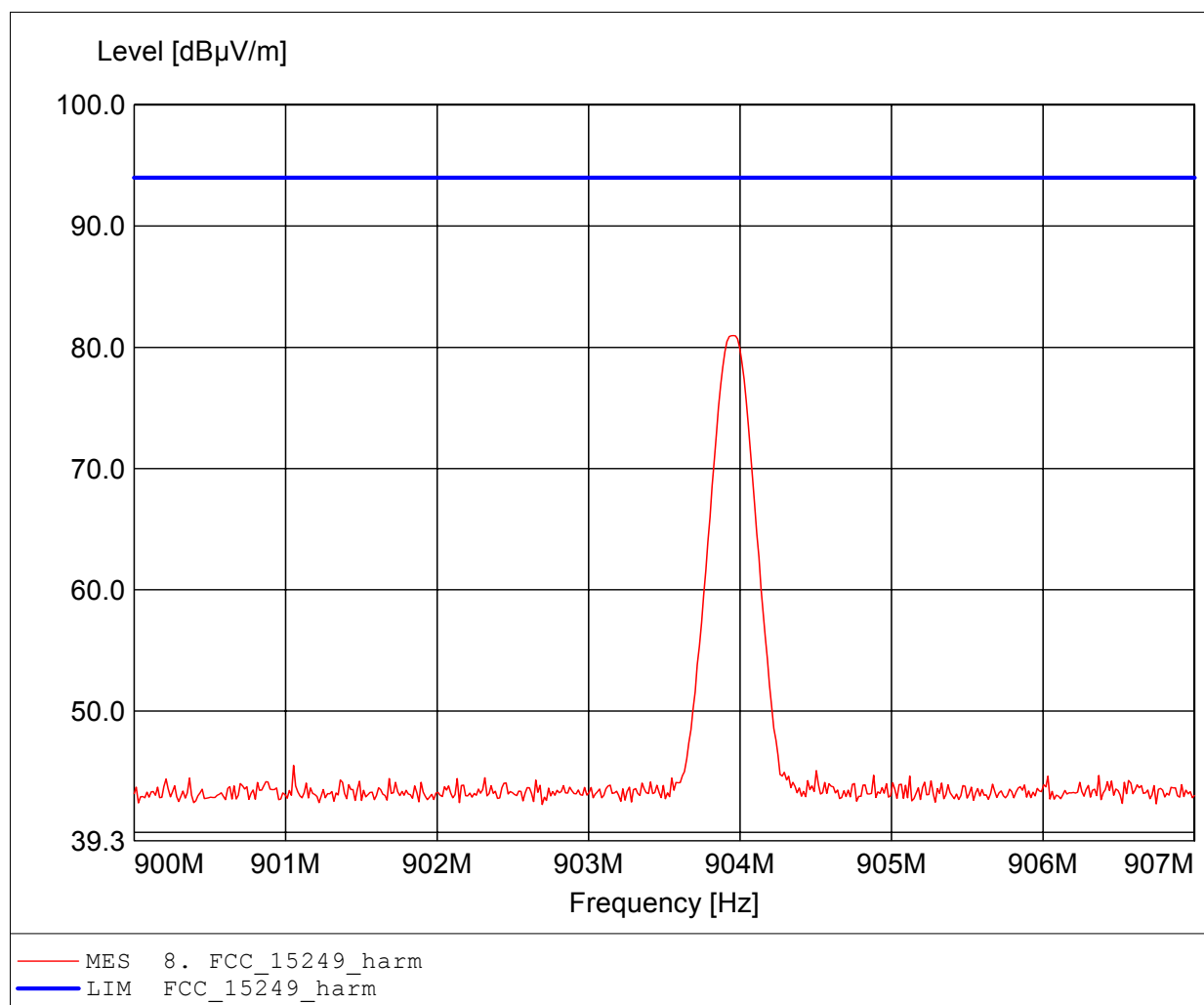
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D
Comment 2: Freq: 903.956MHz, Emax: 93.08dBµV/m, RBW: 1MHz



Carrier power (Field Strength)

FCC RULES PART 15, SUBPART C

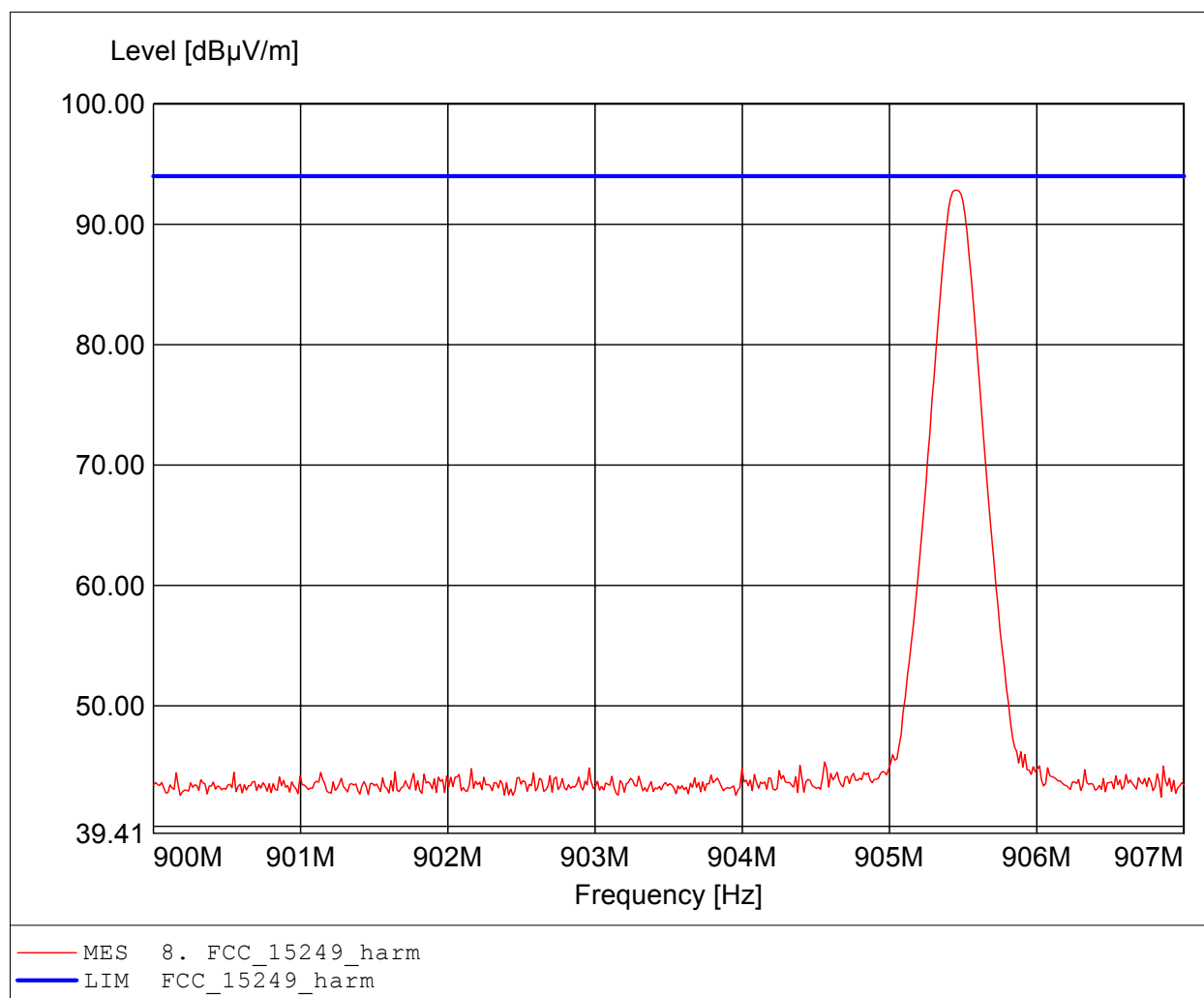
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D
Comment 2: Freq: 903.956MHz, Emax: 80.97dBµV/m, RBW: 1MHz



Carrier power (Field Strength)

FCC RULES PART 15, SUBPART C

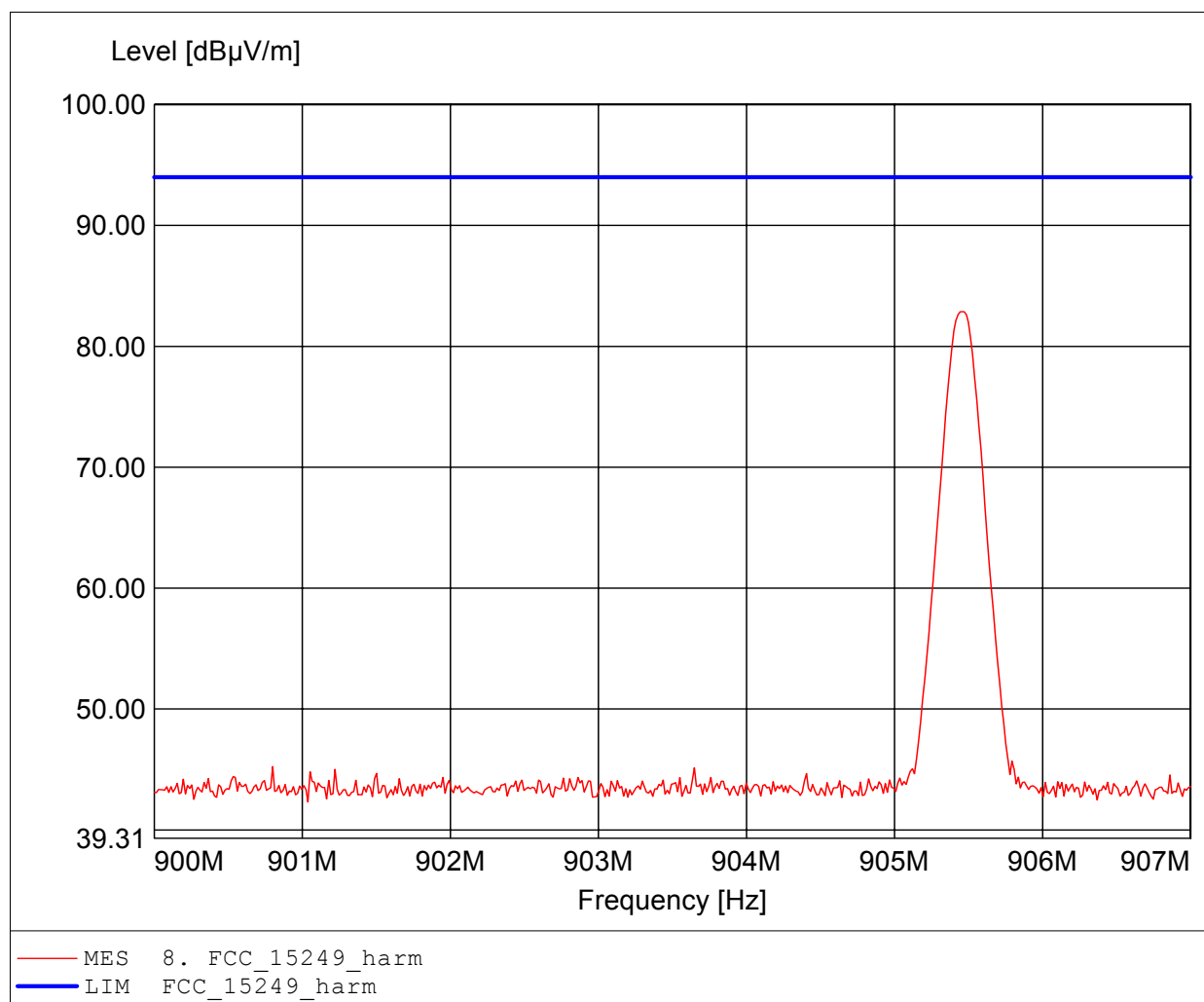
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 70
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D
Comment 2: Freq: 905.457MHz, Emax: 92.84dBµV/m, RBW: 1MHz



Carrier power (Field Strength)

FCC RULES PART 15, SUBPART C

Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 70
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D
Comment 2: Freq: 905.457MHz, Emax: 82.87dBµV/m, RBW: 1MHz

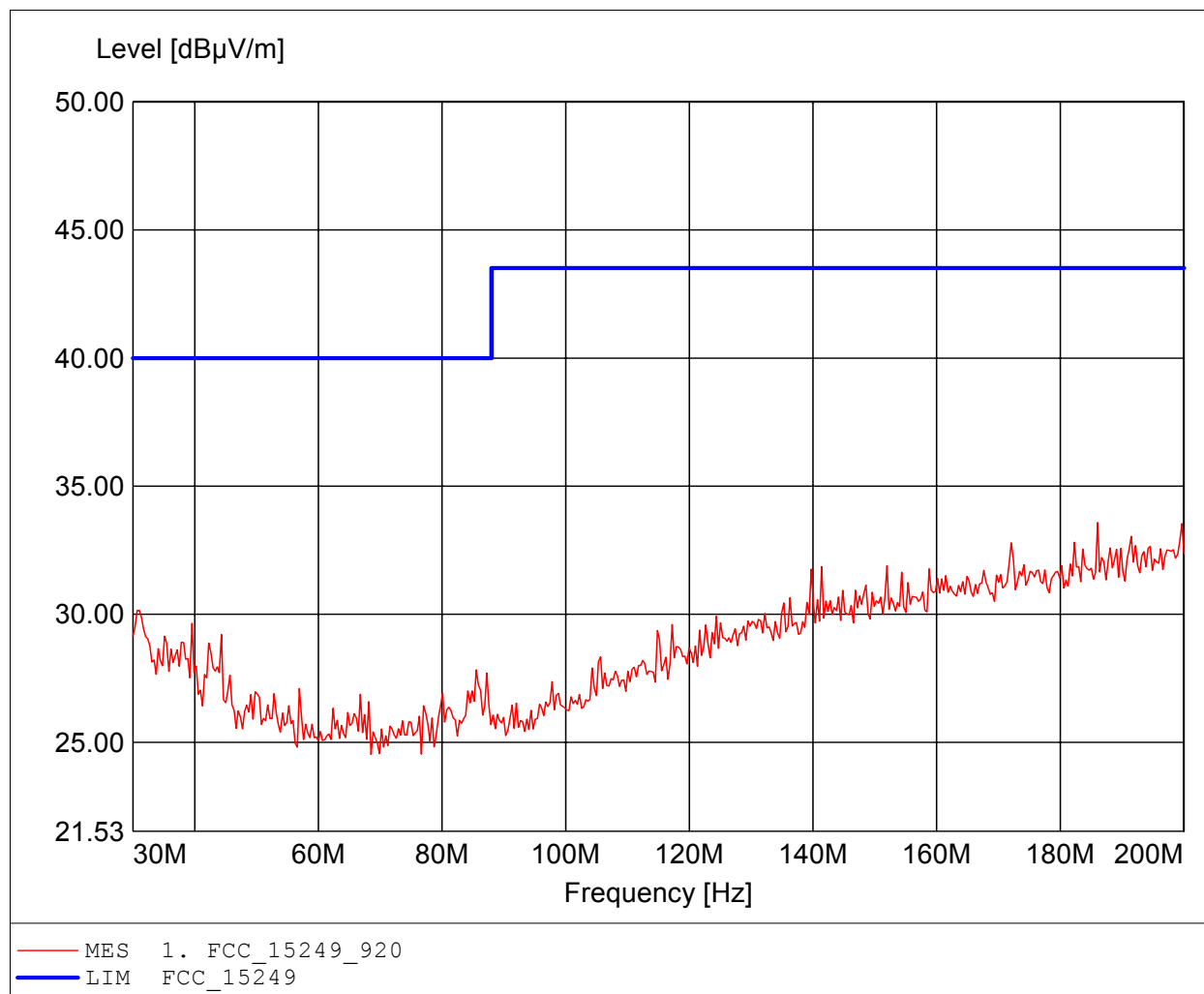


Annex E Transmitter radiated spurious emissions

Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

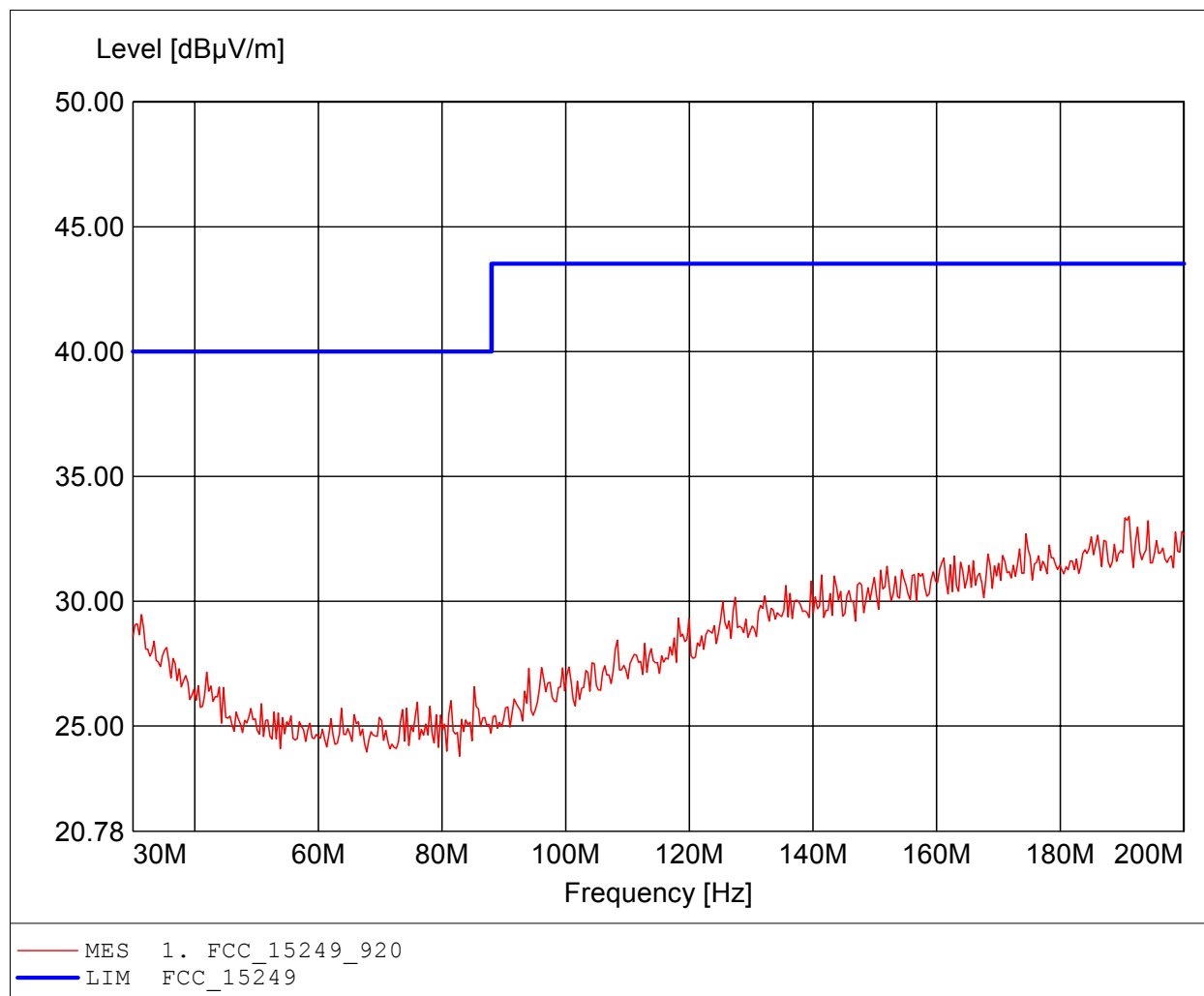
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 10
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 186.032MHz, Emax: 33.58dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

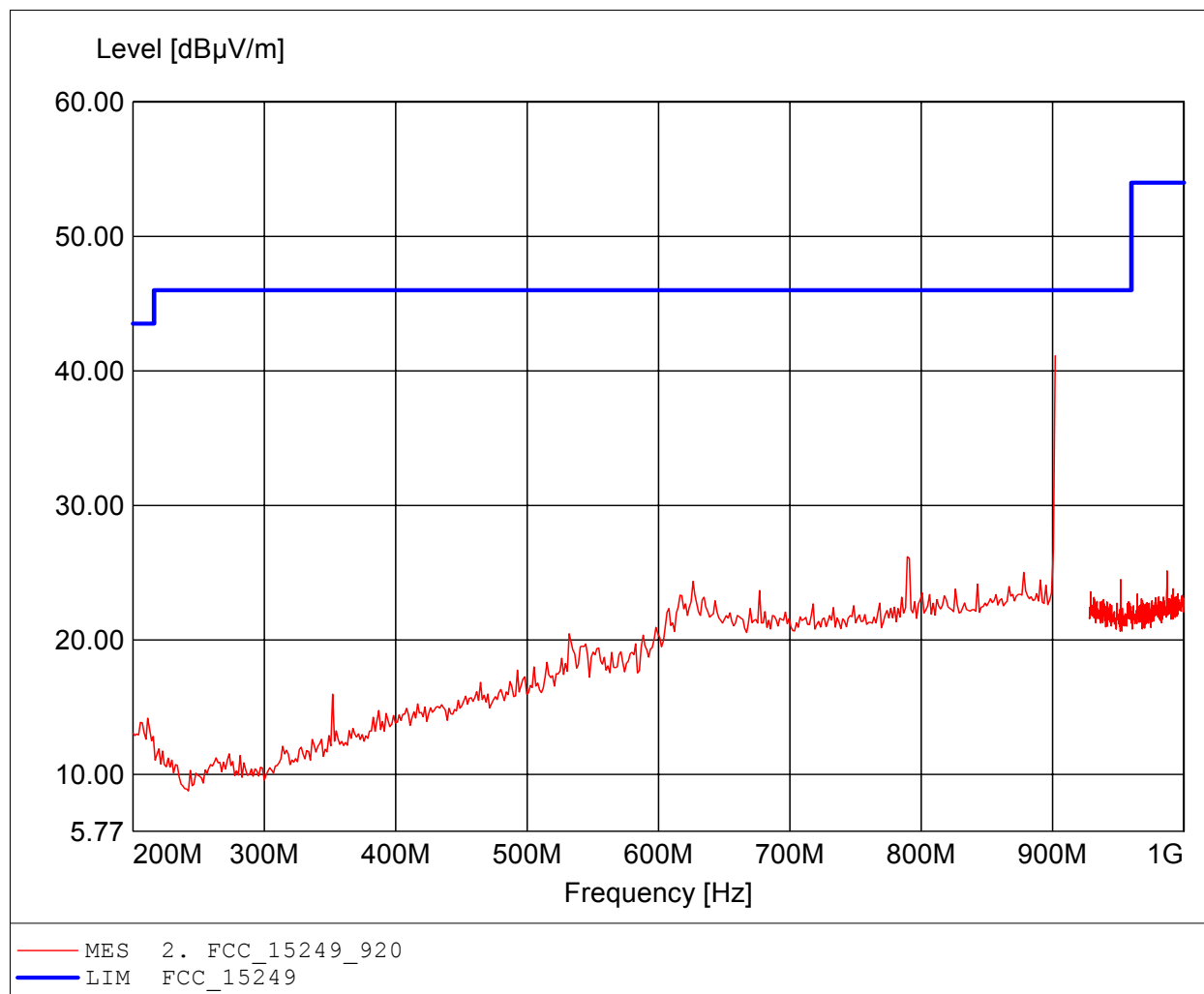
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 10
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 191.142MHz, Emax: 33.40dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

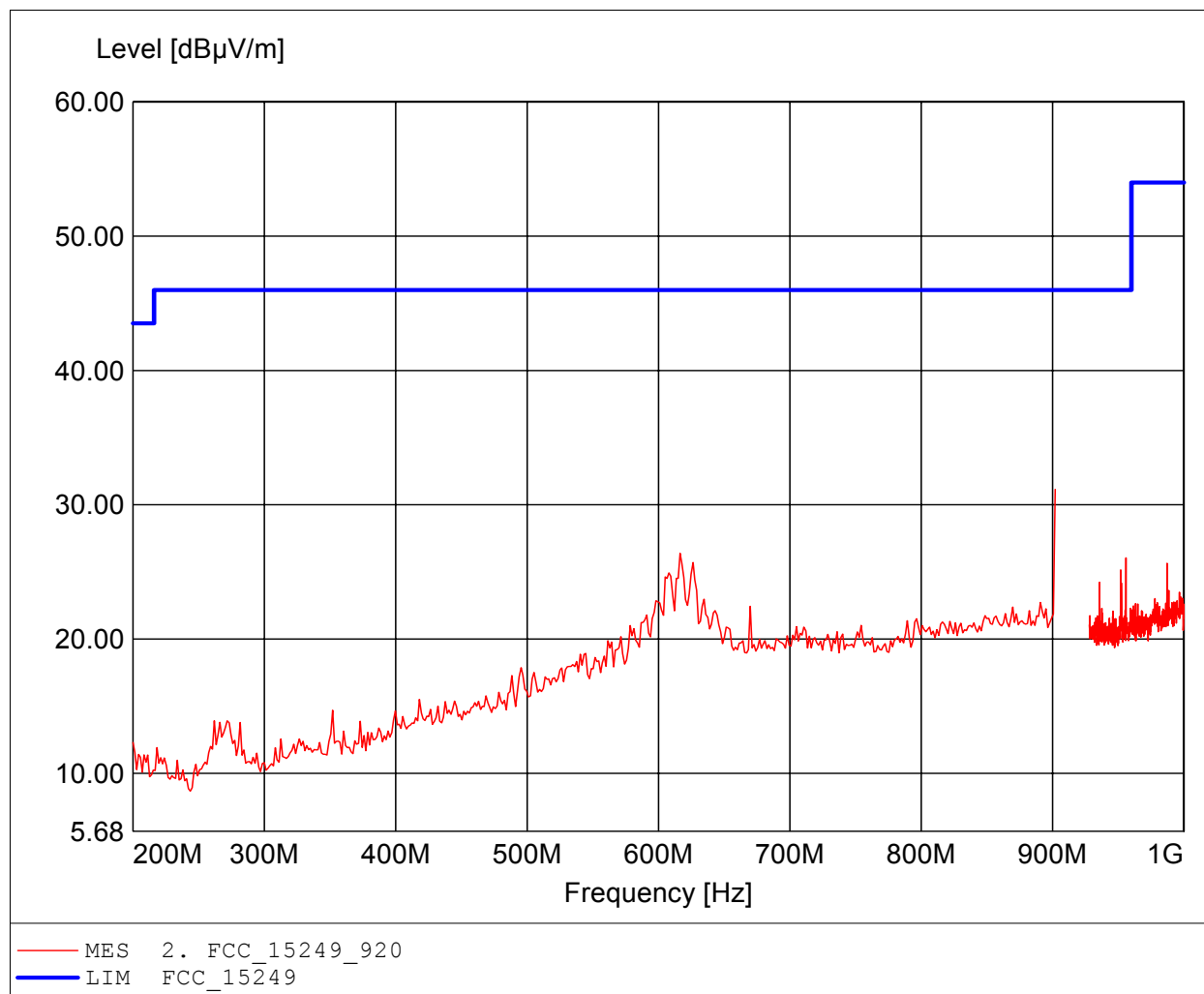
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 10
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 902.000MHz, Emax: 41.13dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

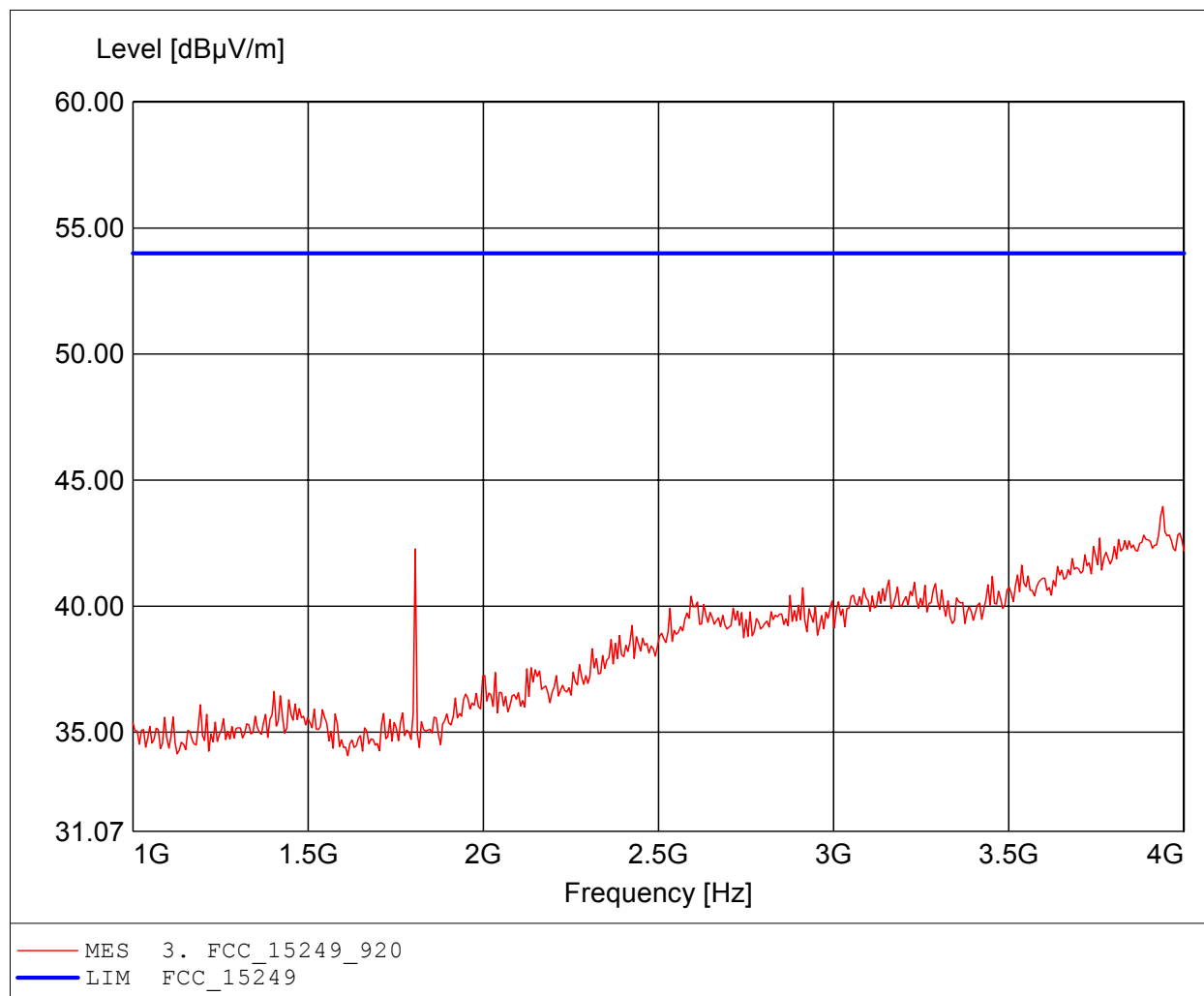
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 10
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 902.000MHz, Emax: 31.14dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

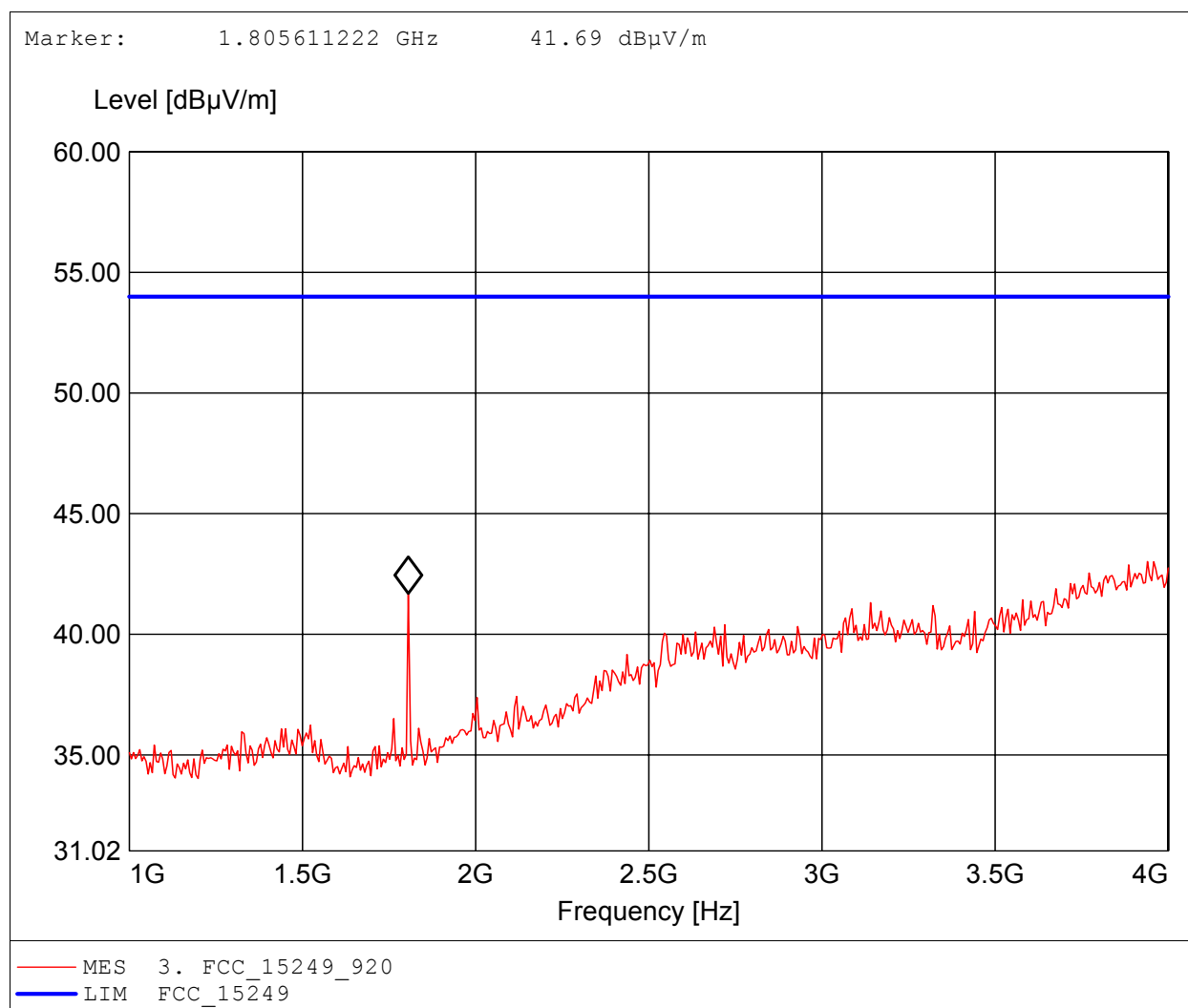
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 10
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 3.940GHz, Emax: 43.96dBuV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

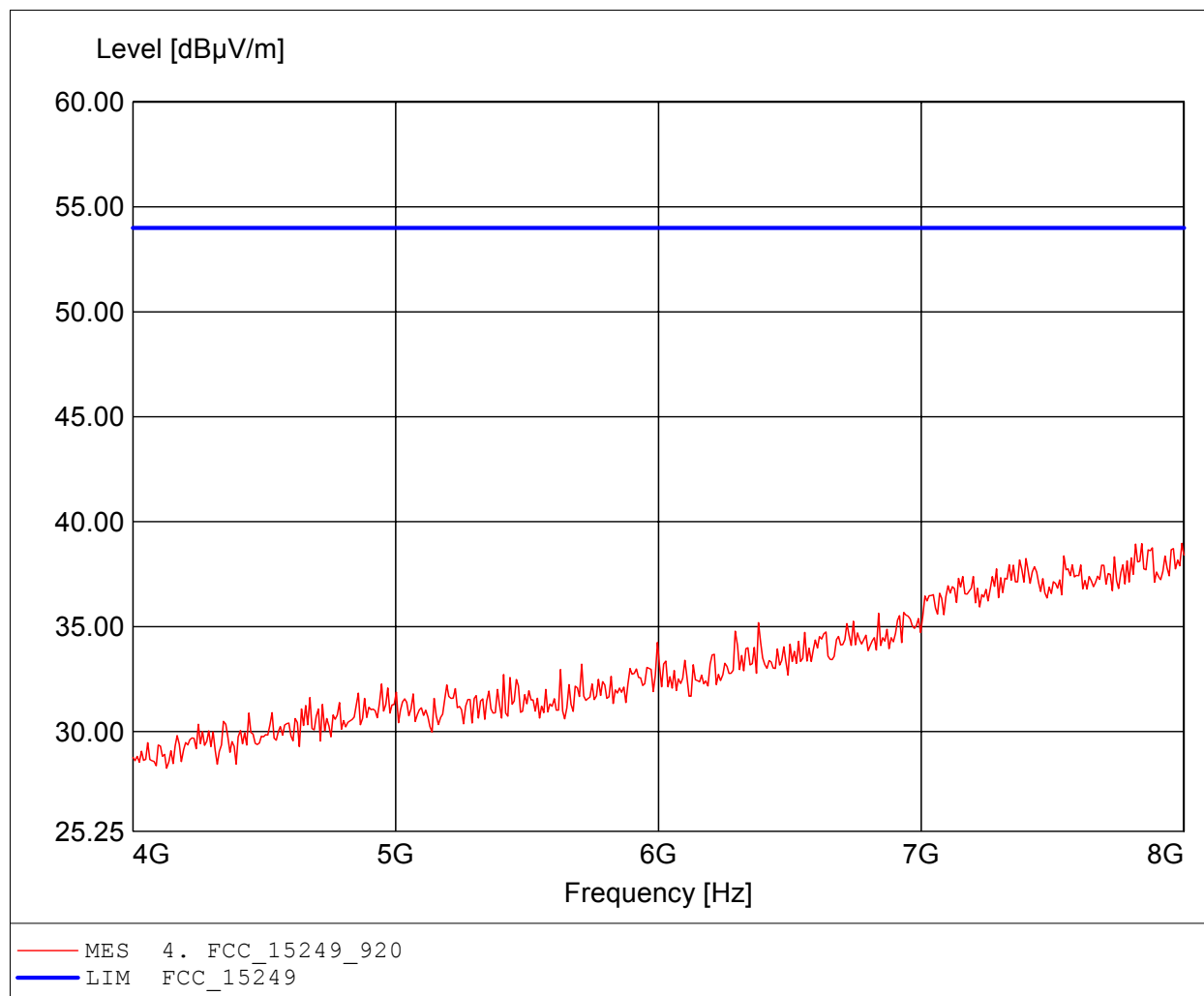
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 10
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 3.940GHz, Emax: 43.01dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

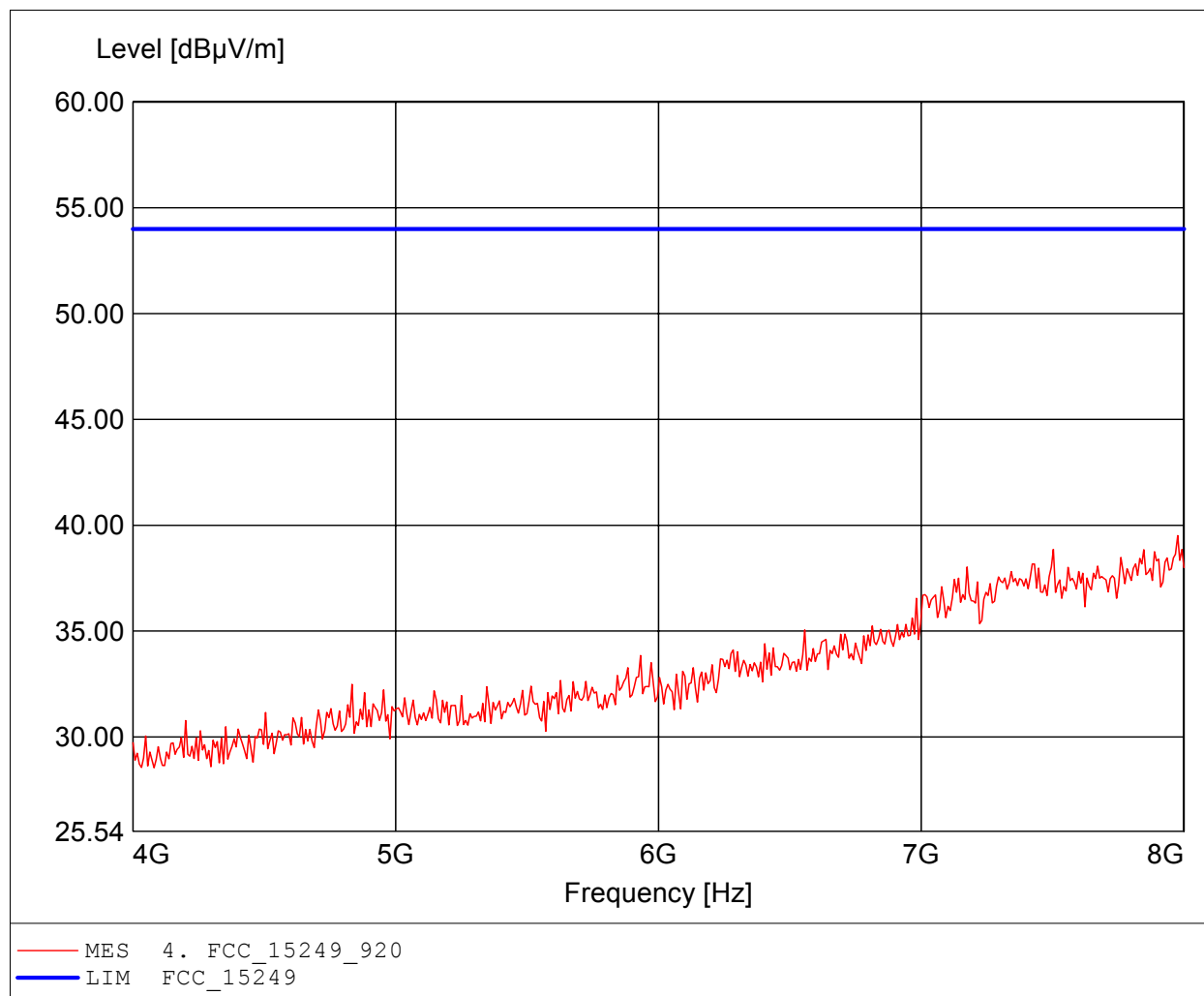
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 10
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 7.992GHz, Emax: 38.97dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

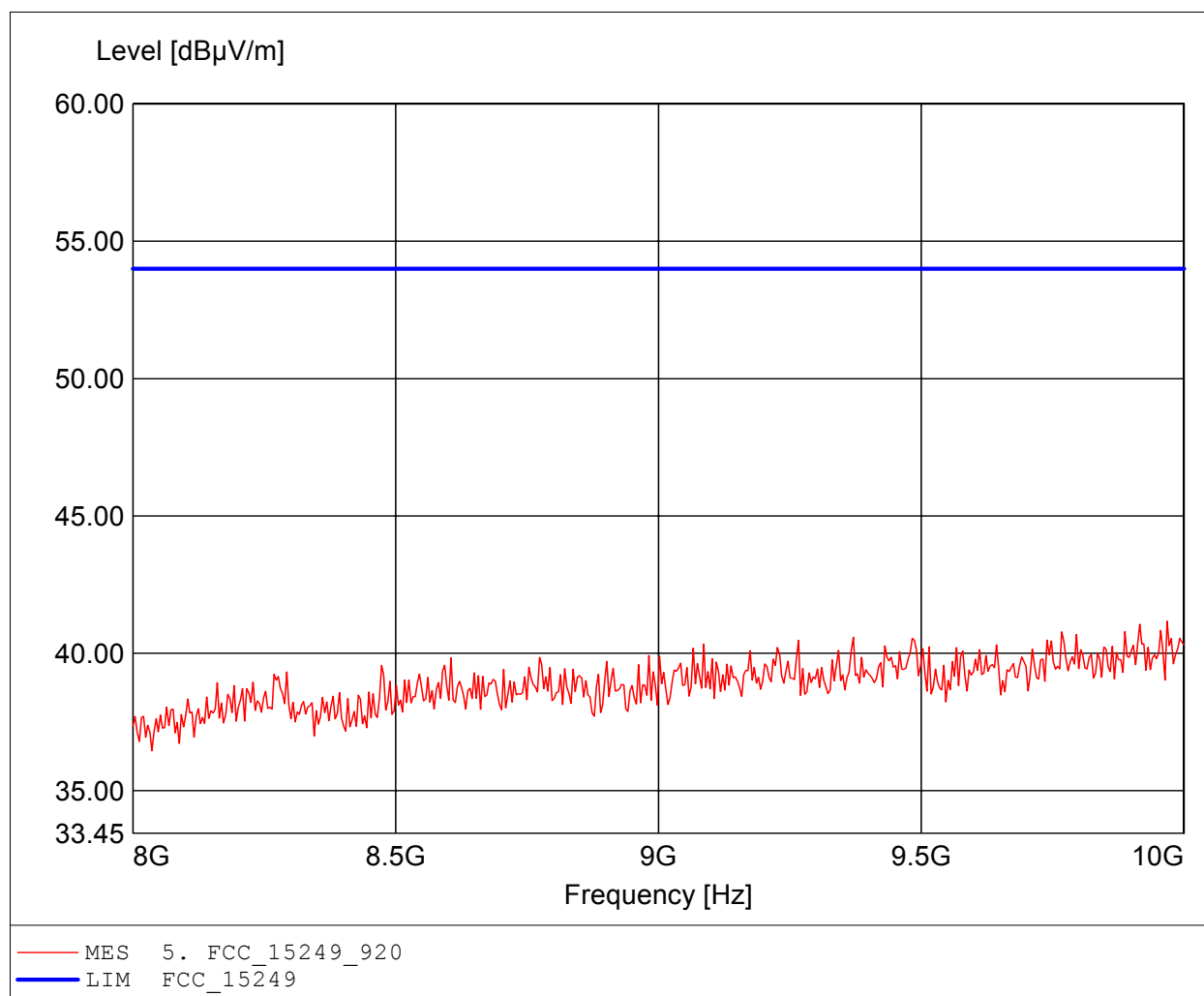
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 10
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 7.976GHz, Emax: 39.51dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

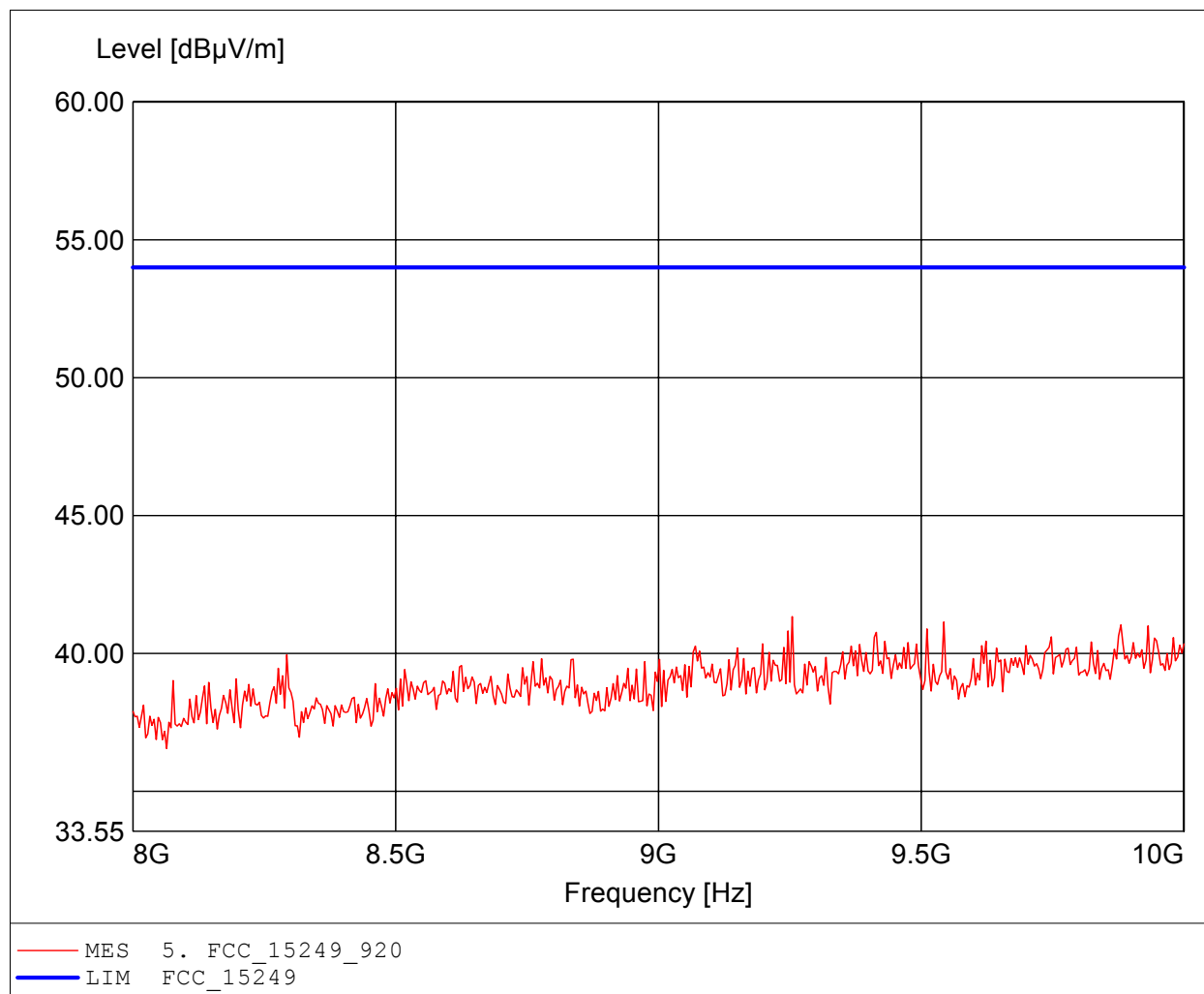
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 10
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 9.968GHz, Emax: 41.17dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

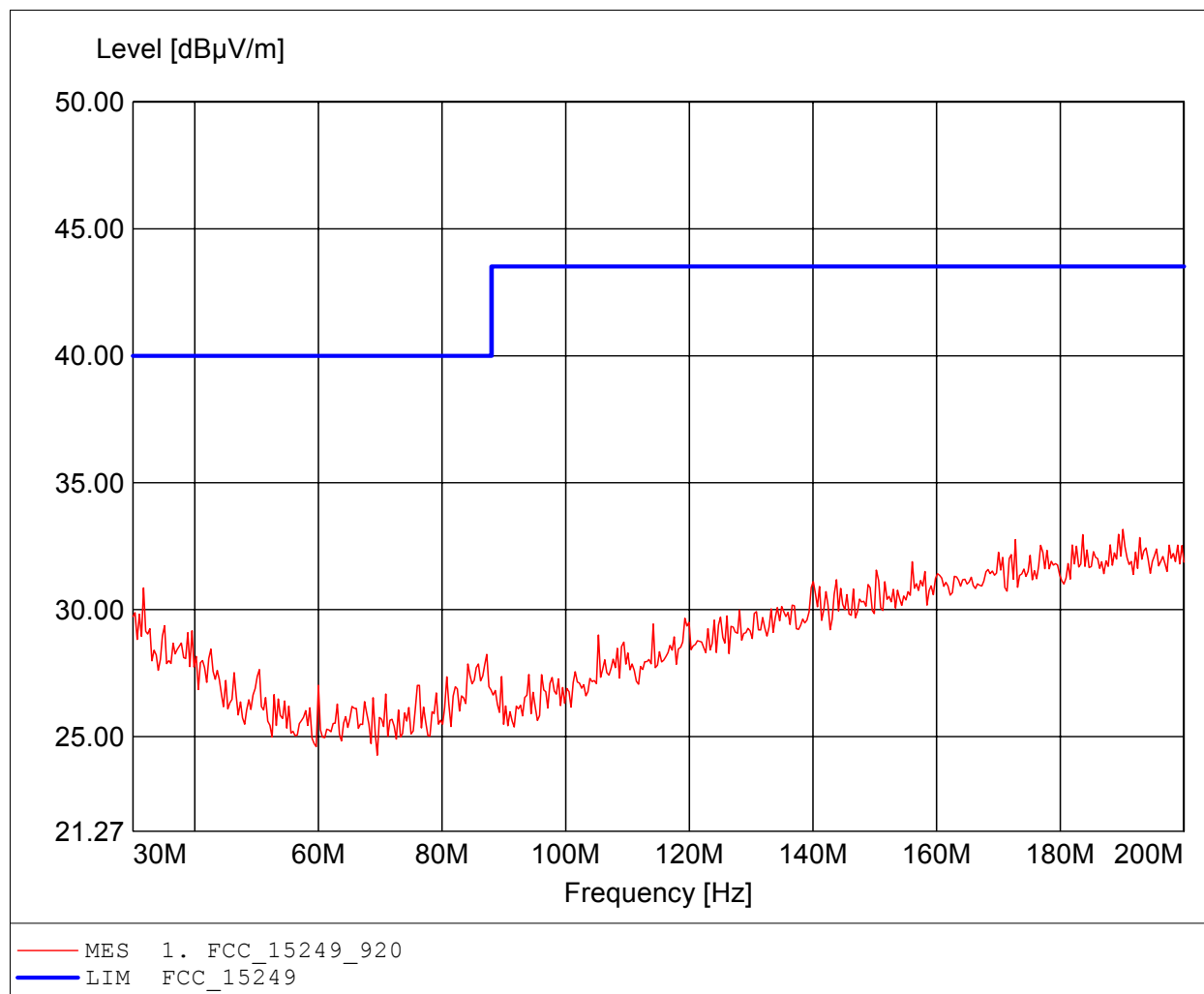
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 10
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 9.255GHz, Emax: 41.34dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

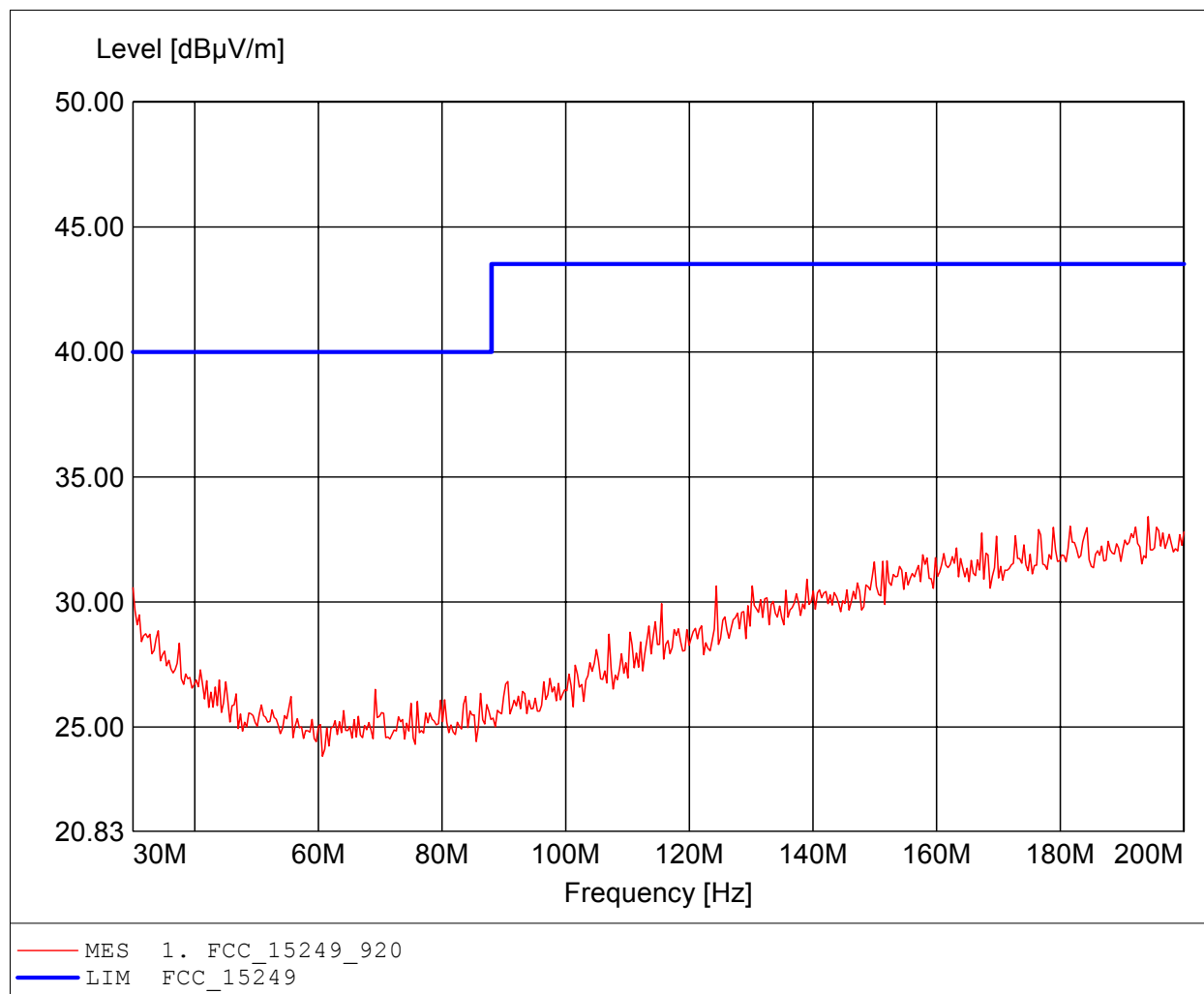
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 190.120MHz, Emax: 33.17dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

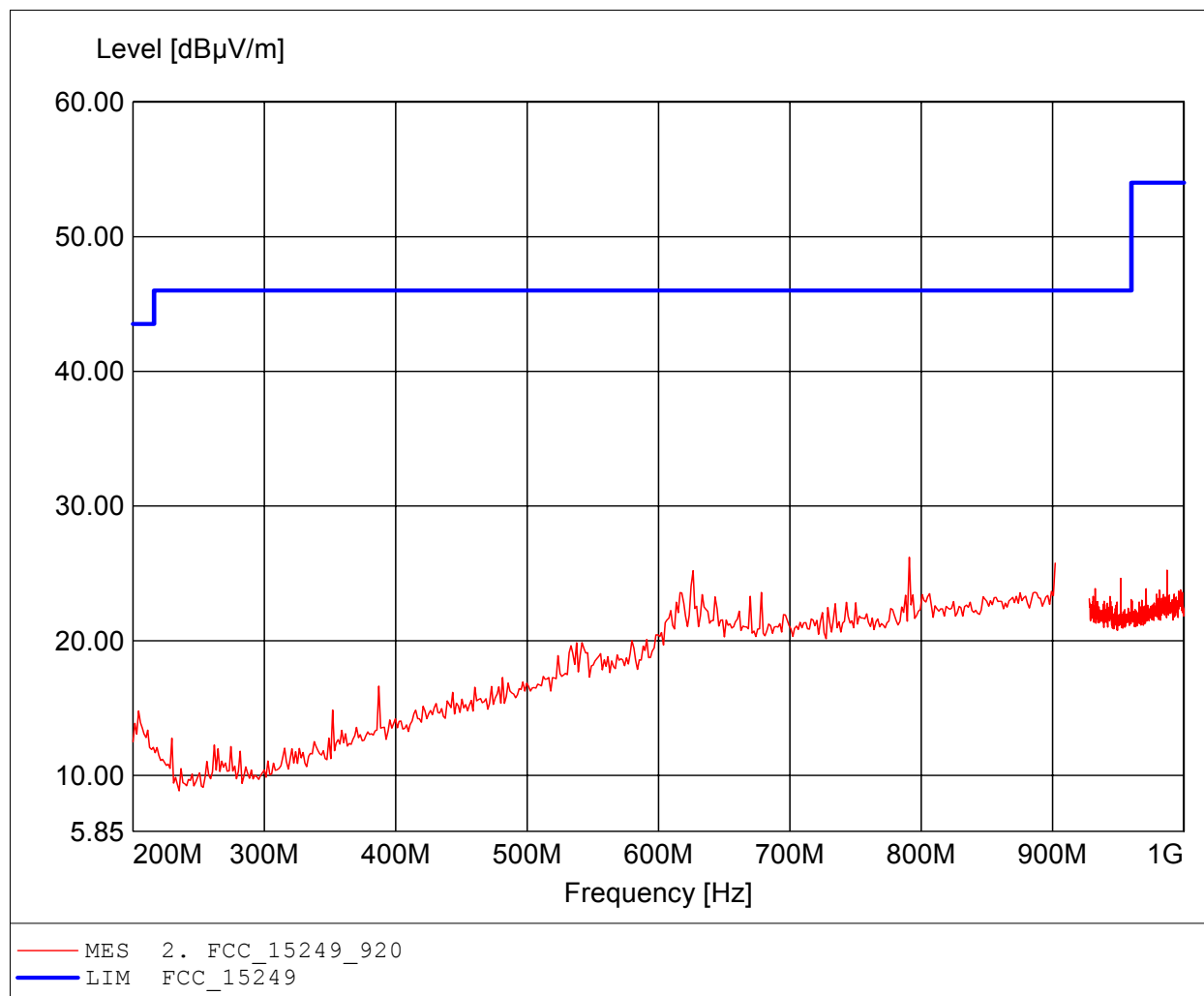
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 194.208MHz, Emax: 33.42dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

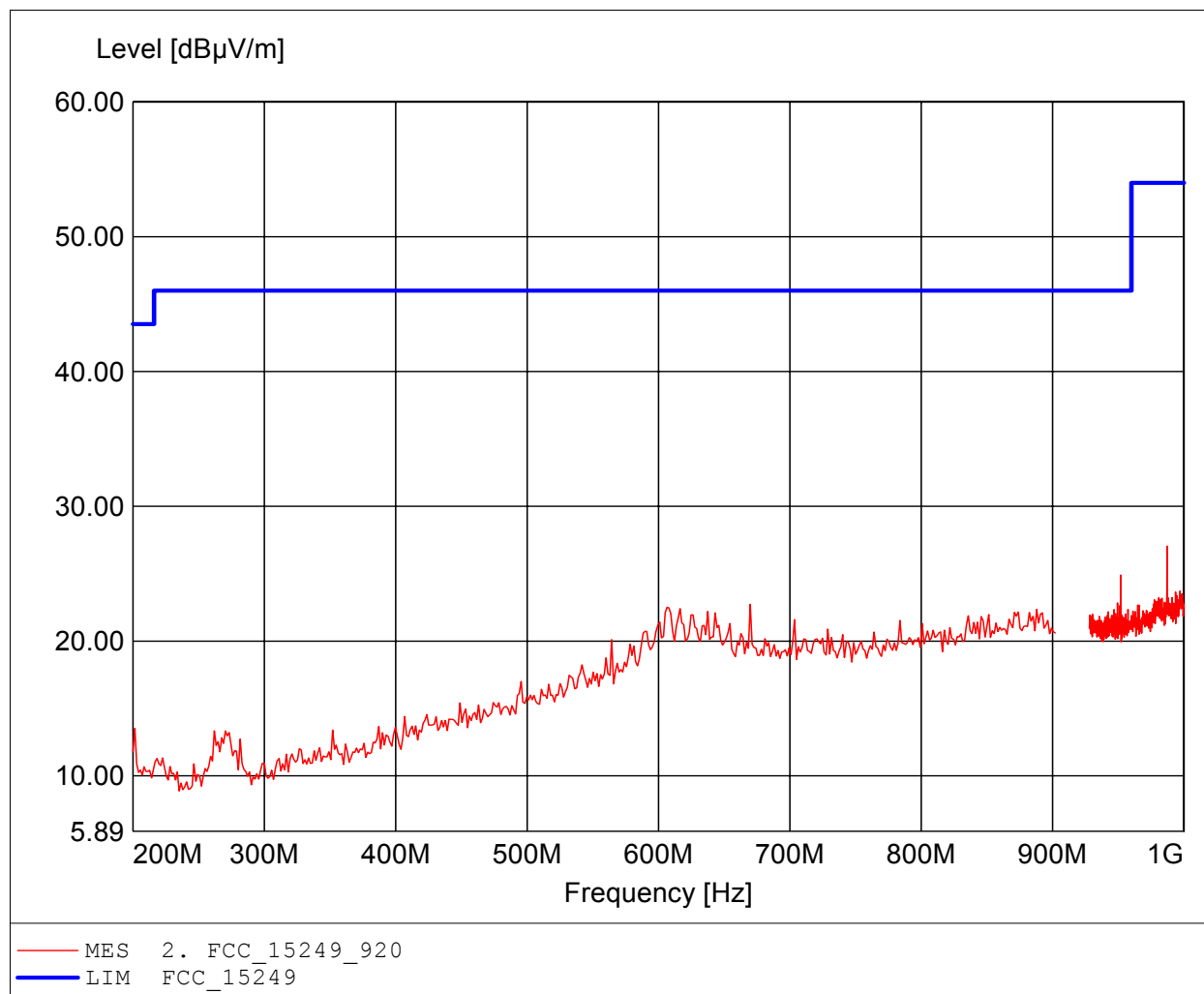
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 790.862MHz, Emax: 26.19dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

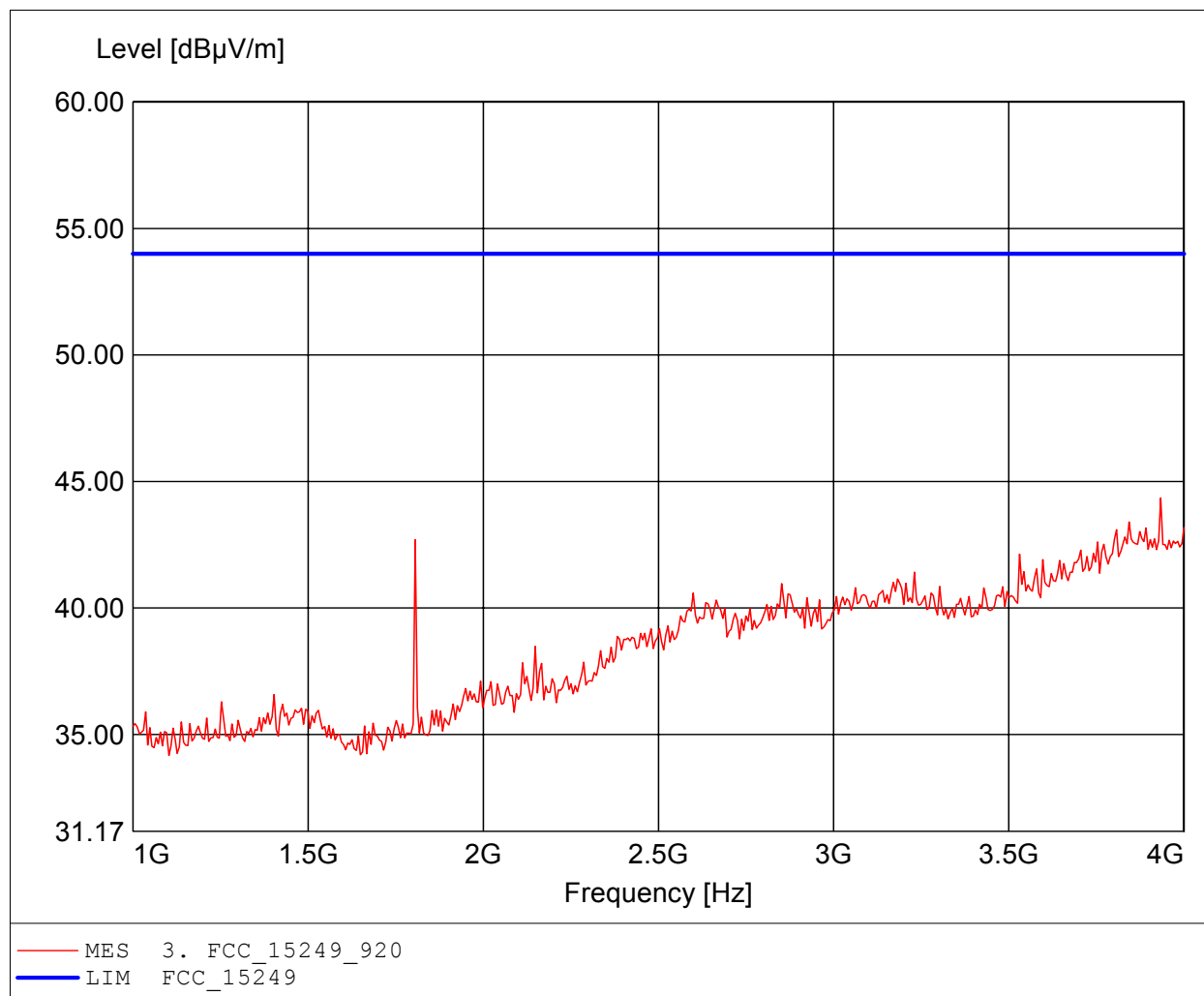
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 987.158MHz, Emax: 27.05dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

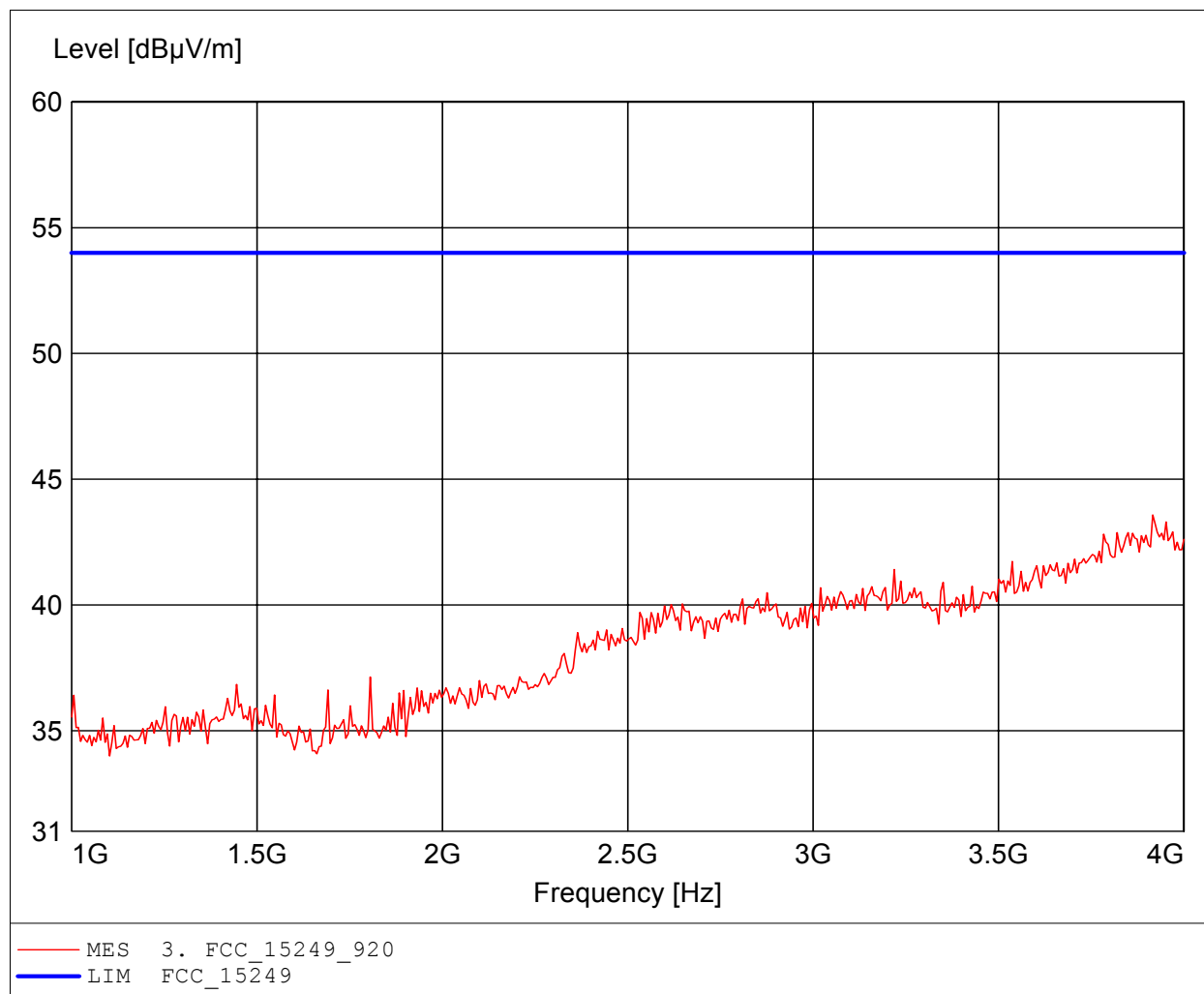
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 3.934GHz, Emax: 44.35dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

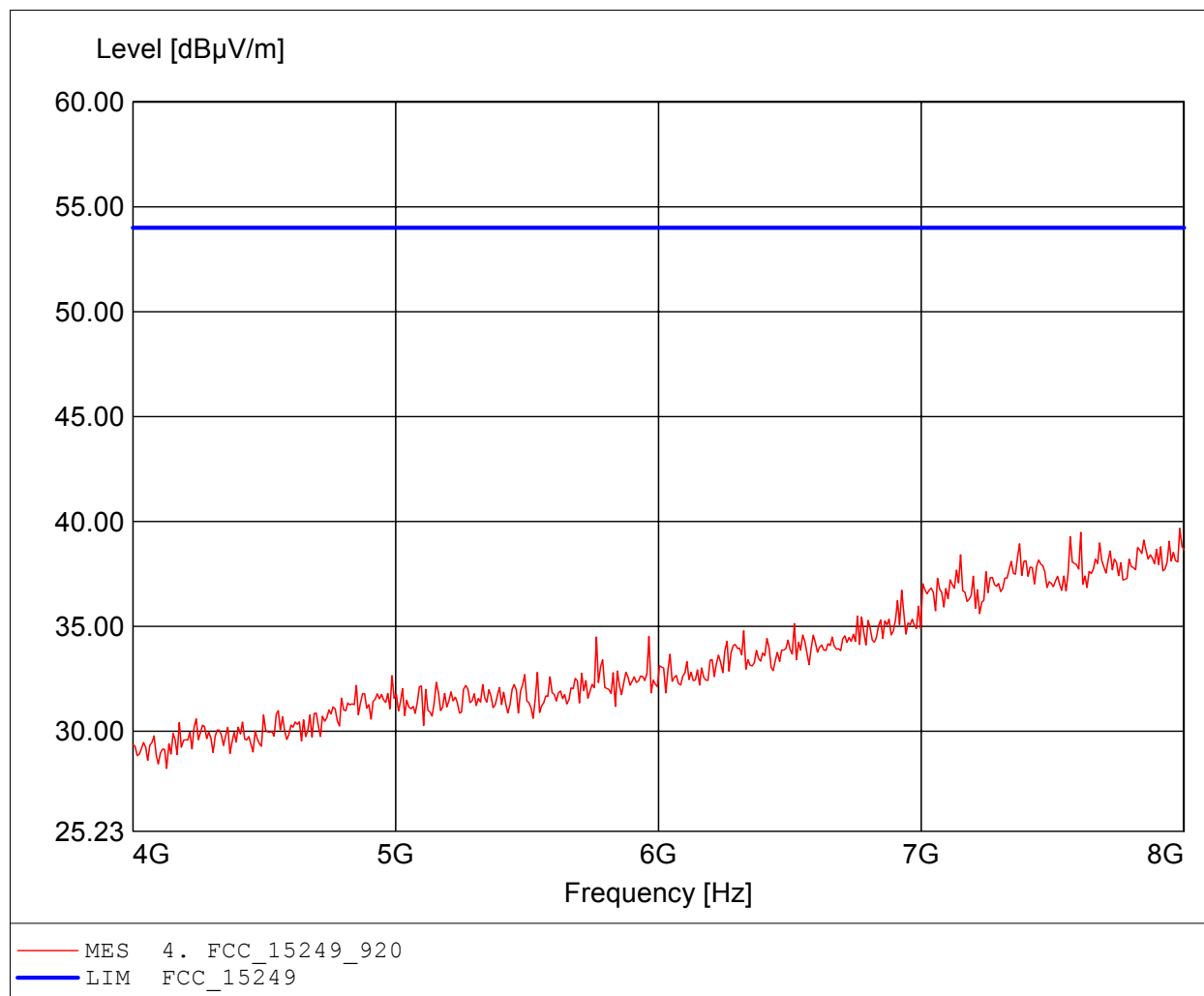
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 3.916GHz, Emax: 43.58dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

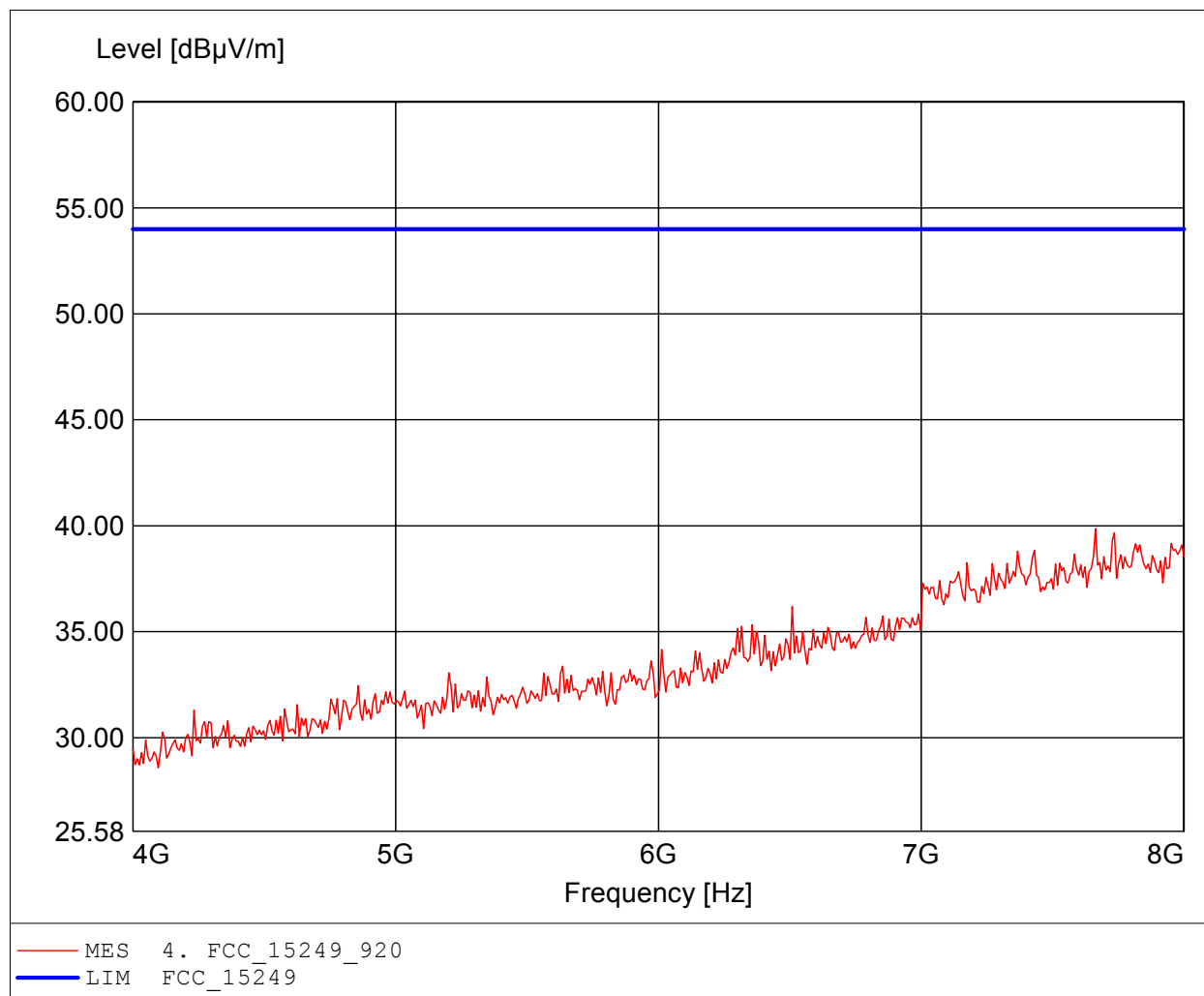
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 7.984GHz, Emax: 39.67dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

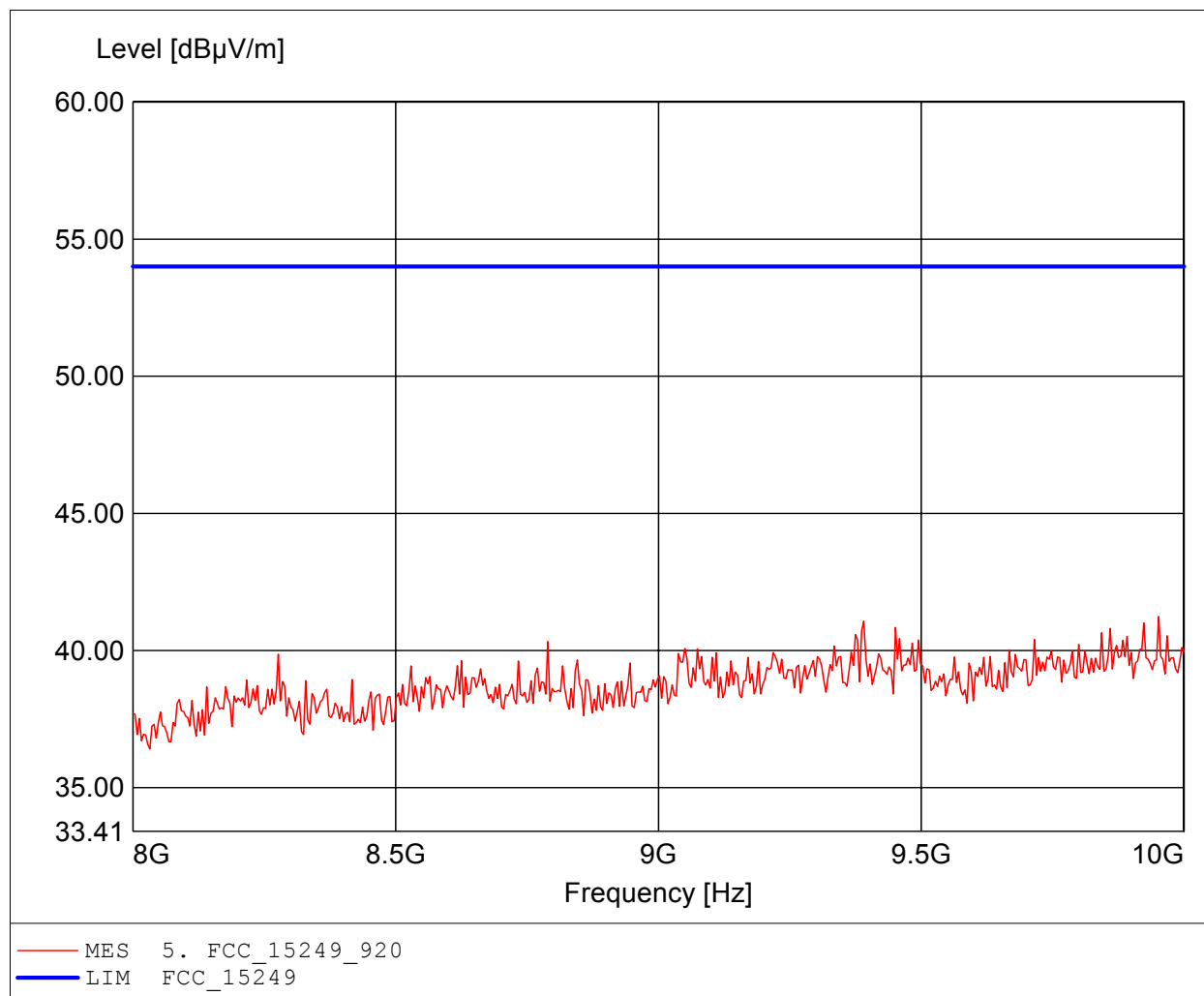
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 7.663GHz, Emax: 39.87dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

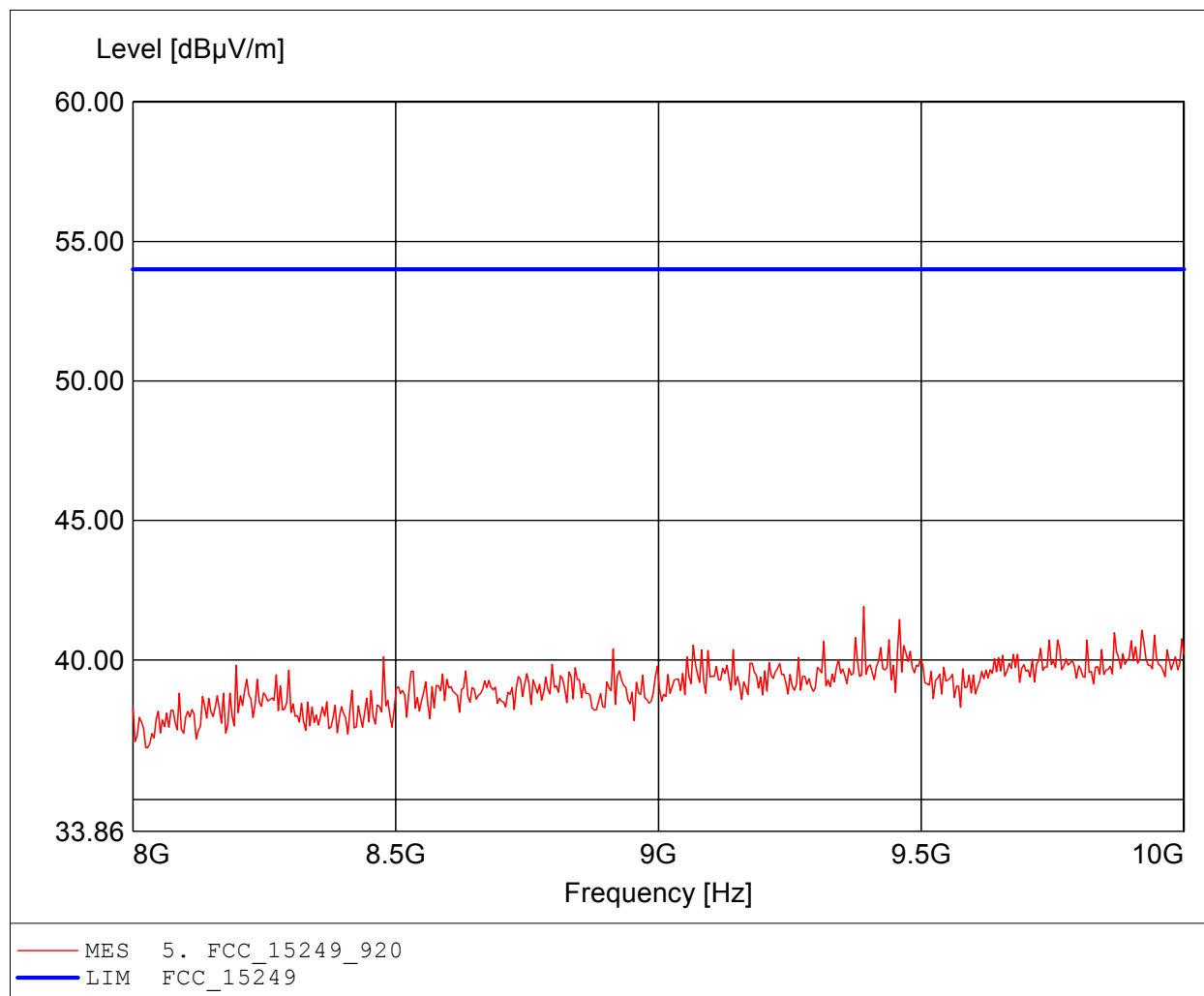
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 9.952GHz, Emax: 41.24dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

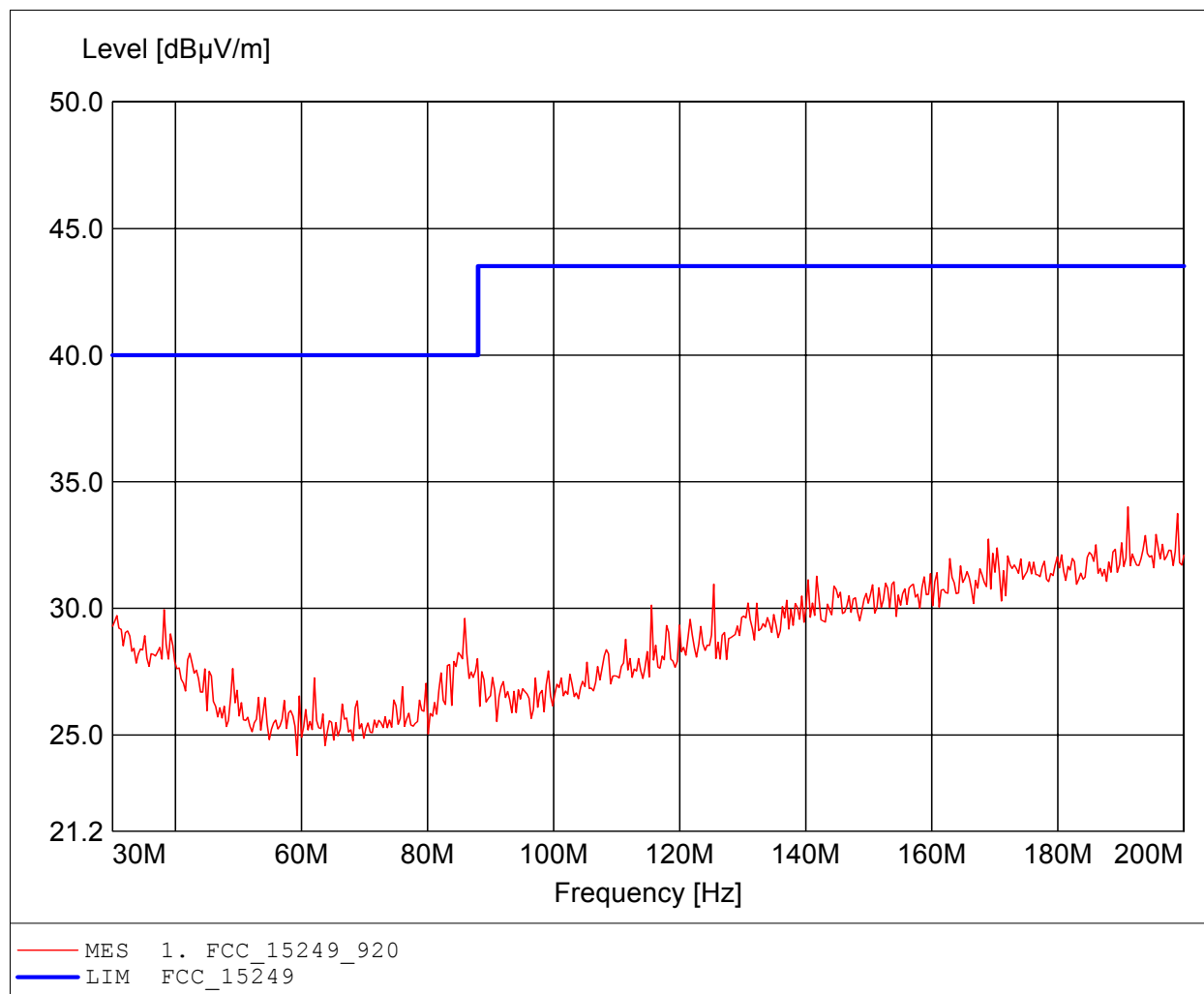
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 9.391GHz, Emax: 41.91dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

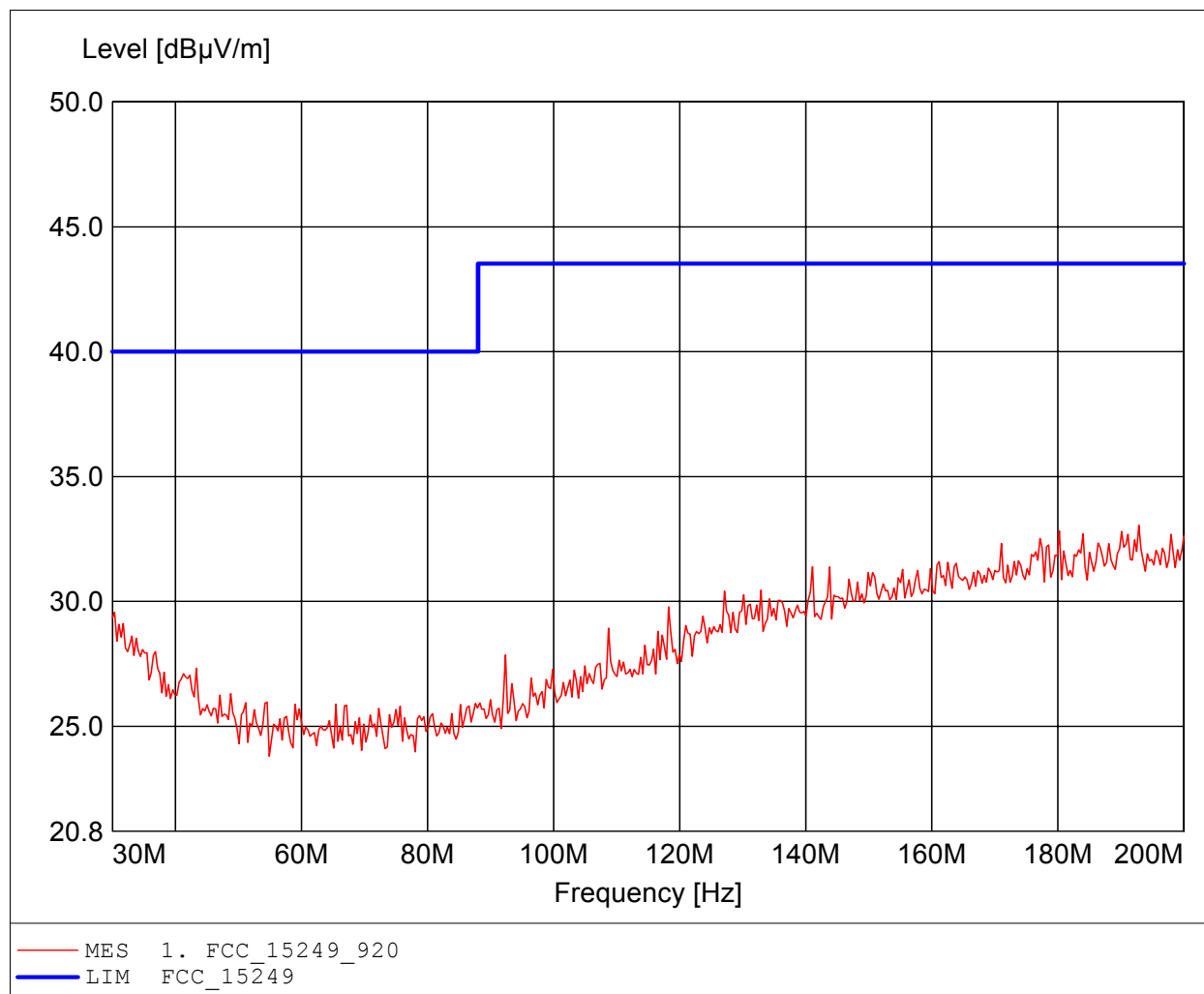
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 70
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 191.142MHz, Emax: 34.01dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

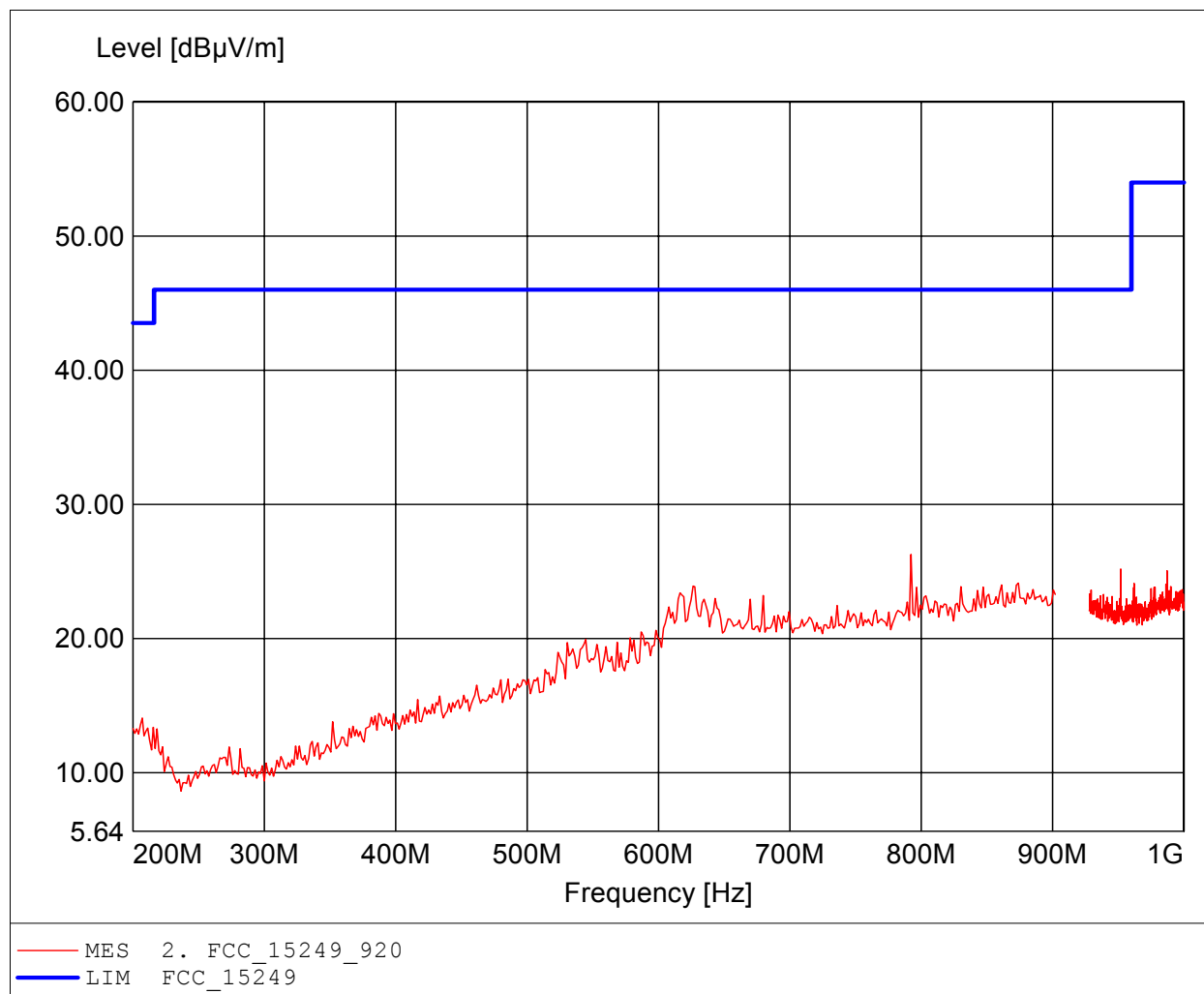
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 70
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 192.846MHz, Emax: 33.06dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

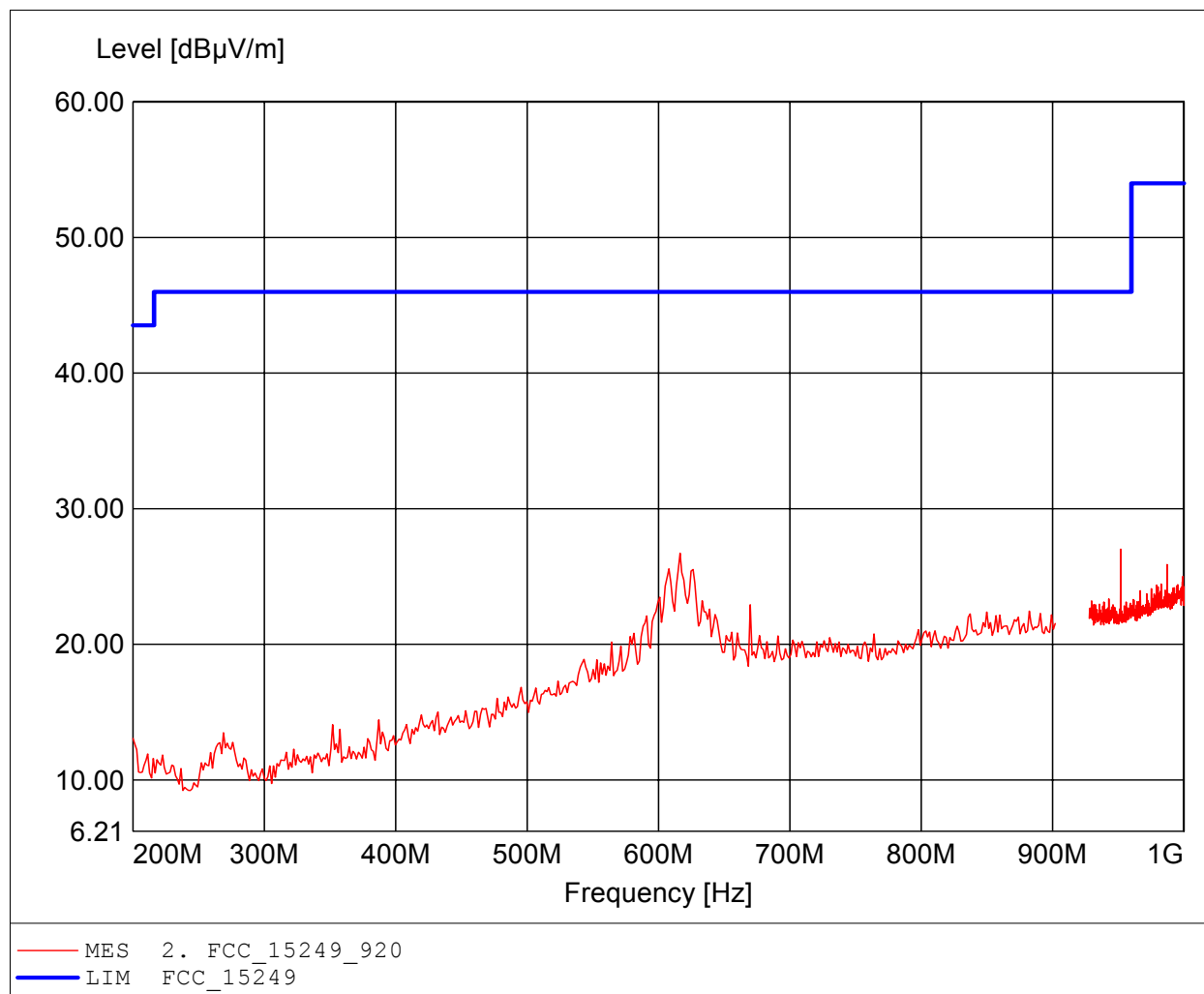
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 70
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 792.269MHz, Emax: 26.27dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

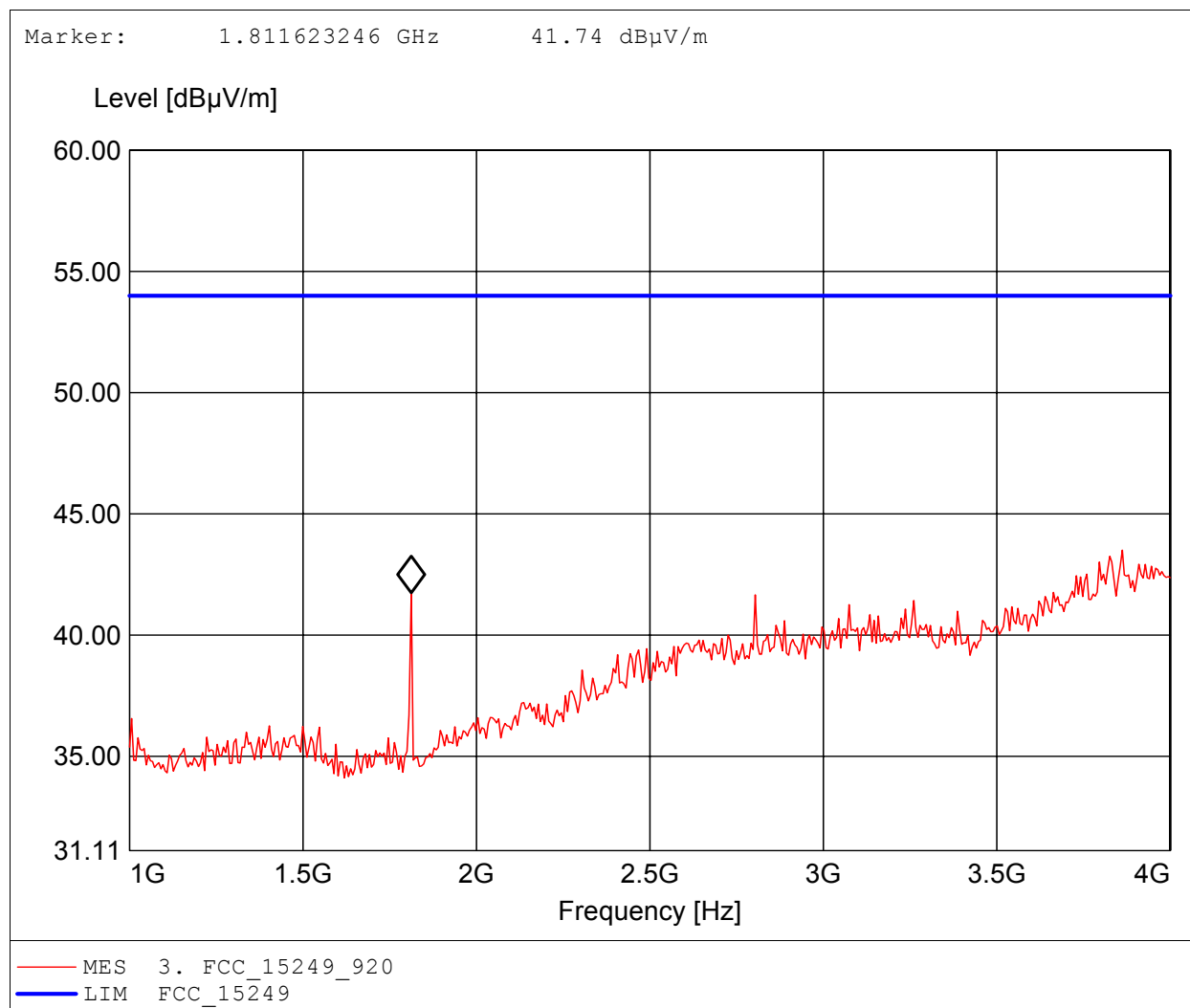
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 70
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 951.808MHz, Emax: 27.02dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

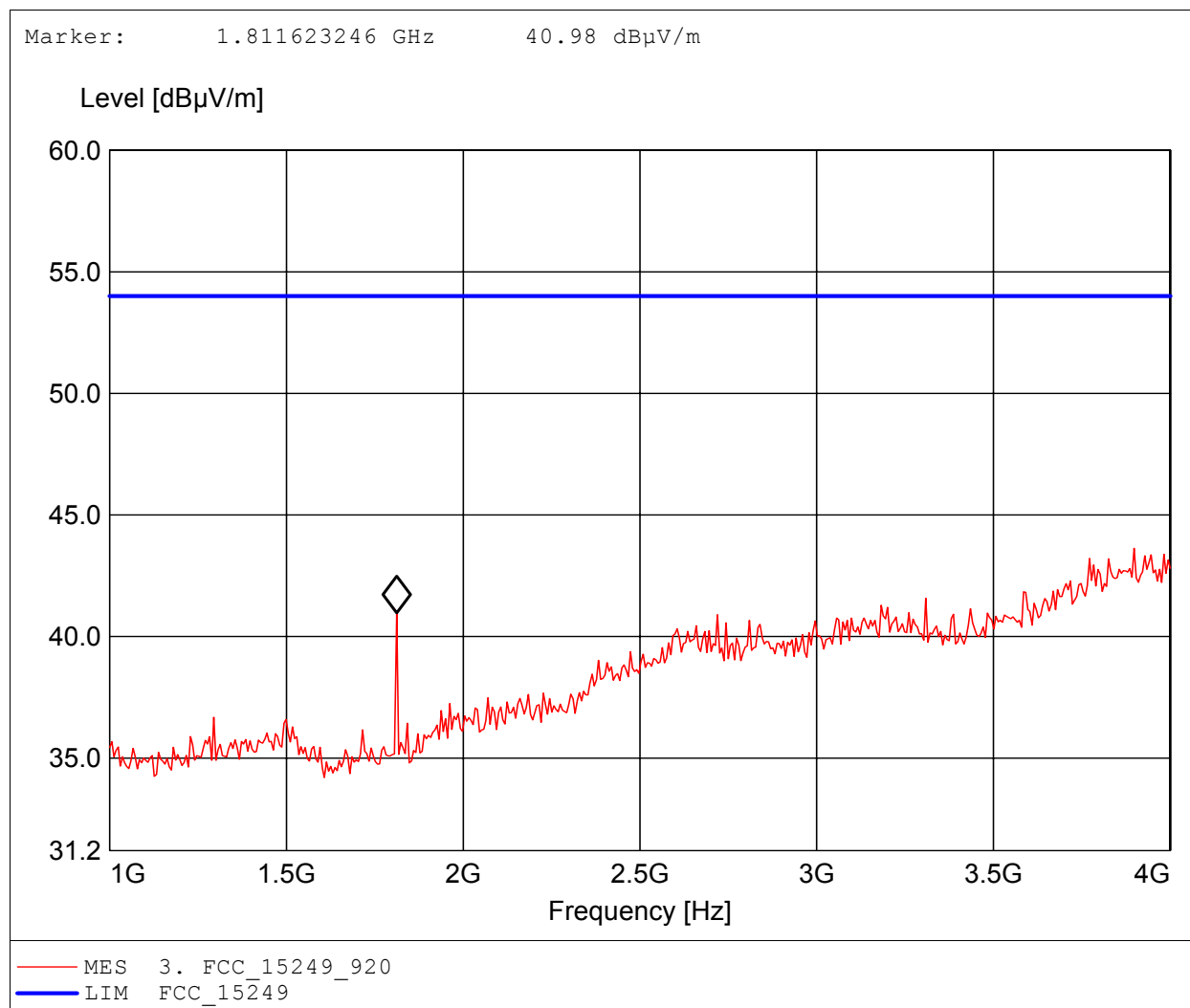
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 70
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 3.862GHz, Emax: 43.51dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

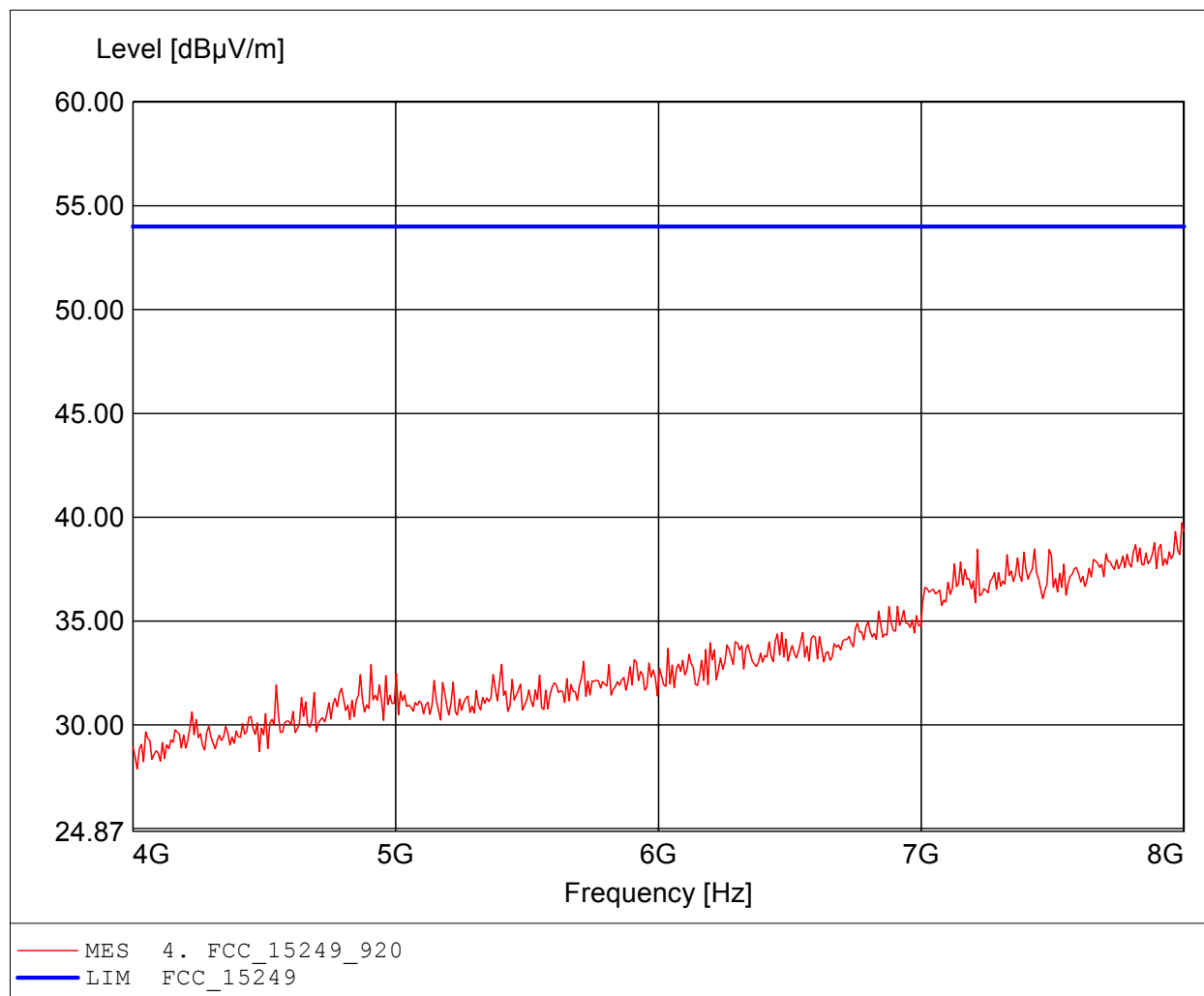
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 70
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 3.898GHz, Emax: 43.62dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

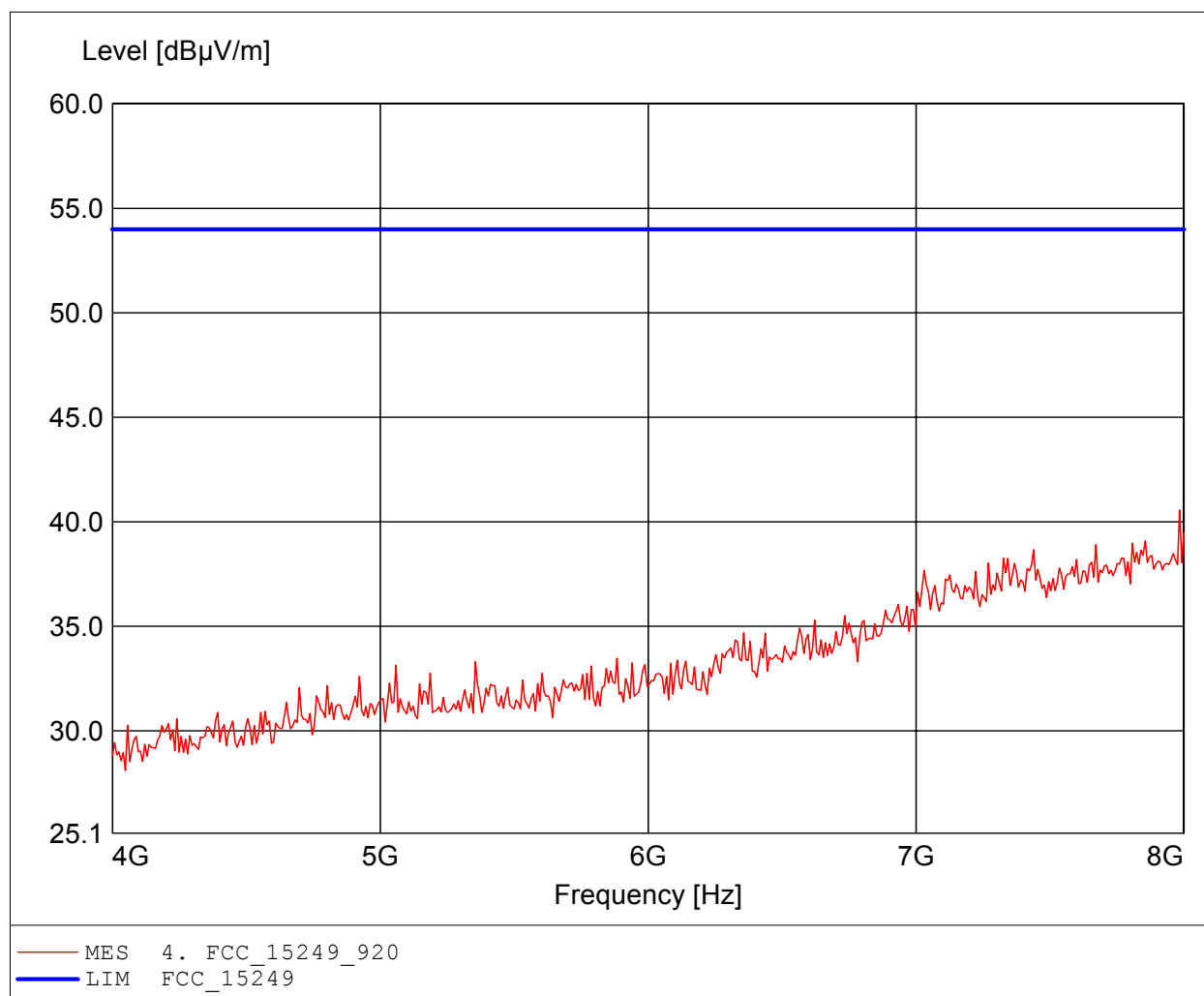
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 70
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 7.992GHz, Emax: 39.73dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

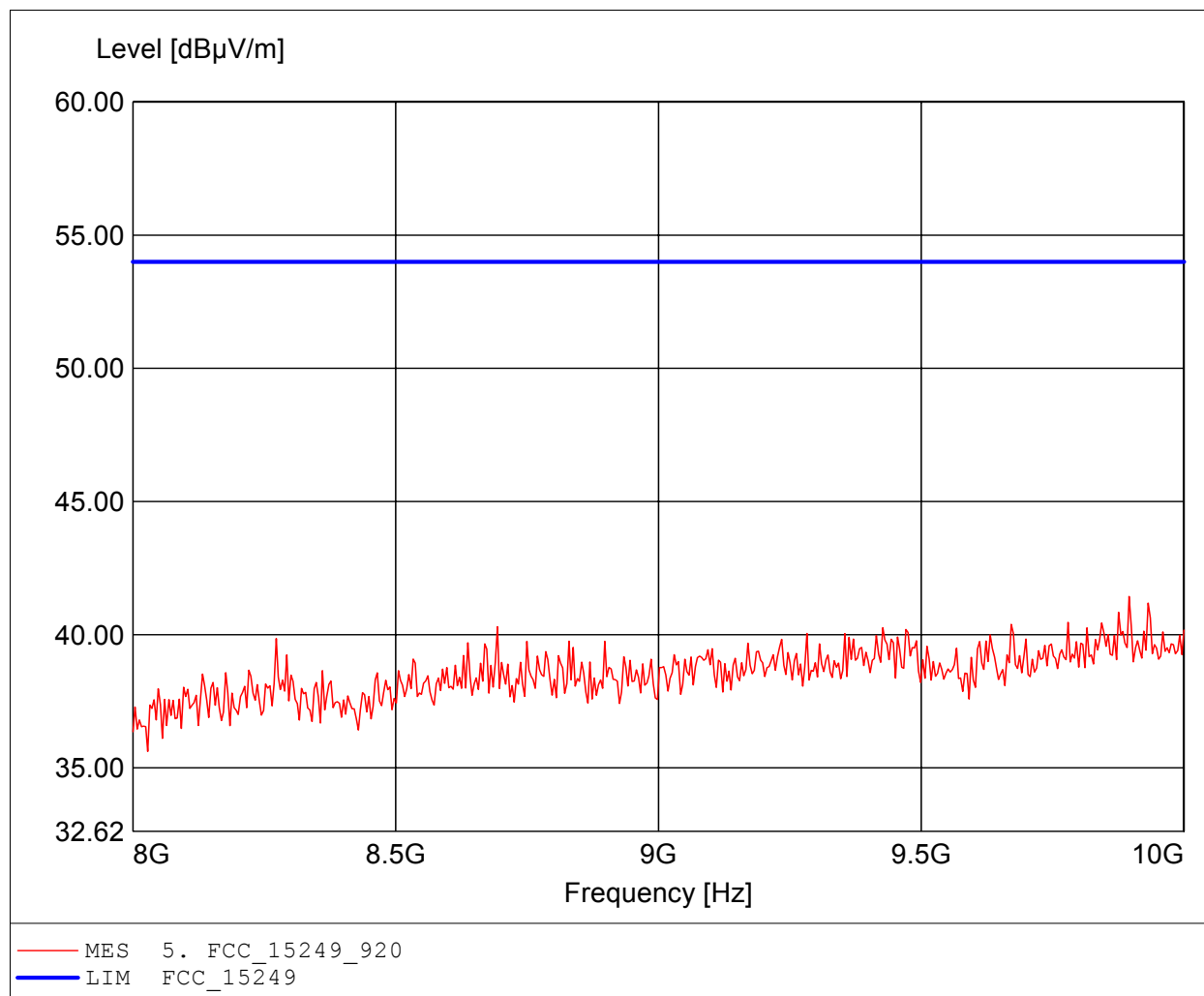
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 70
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 7.984GHz, Emax: 40.57dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

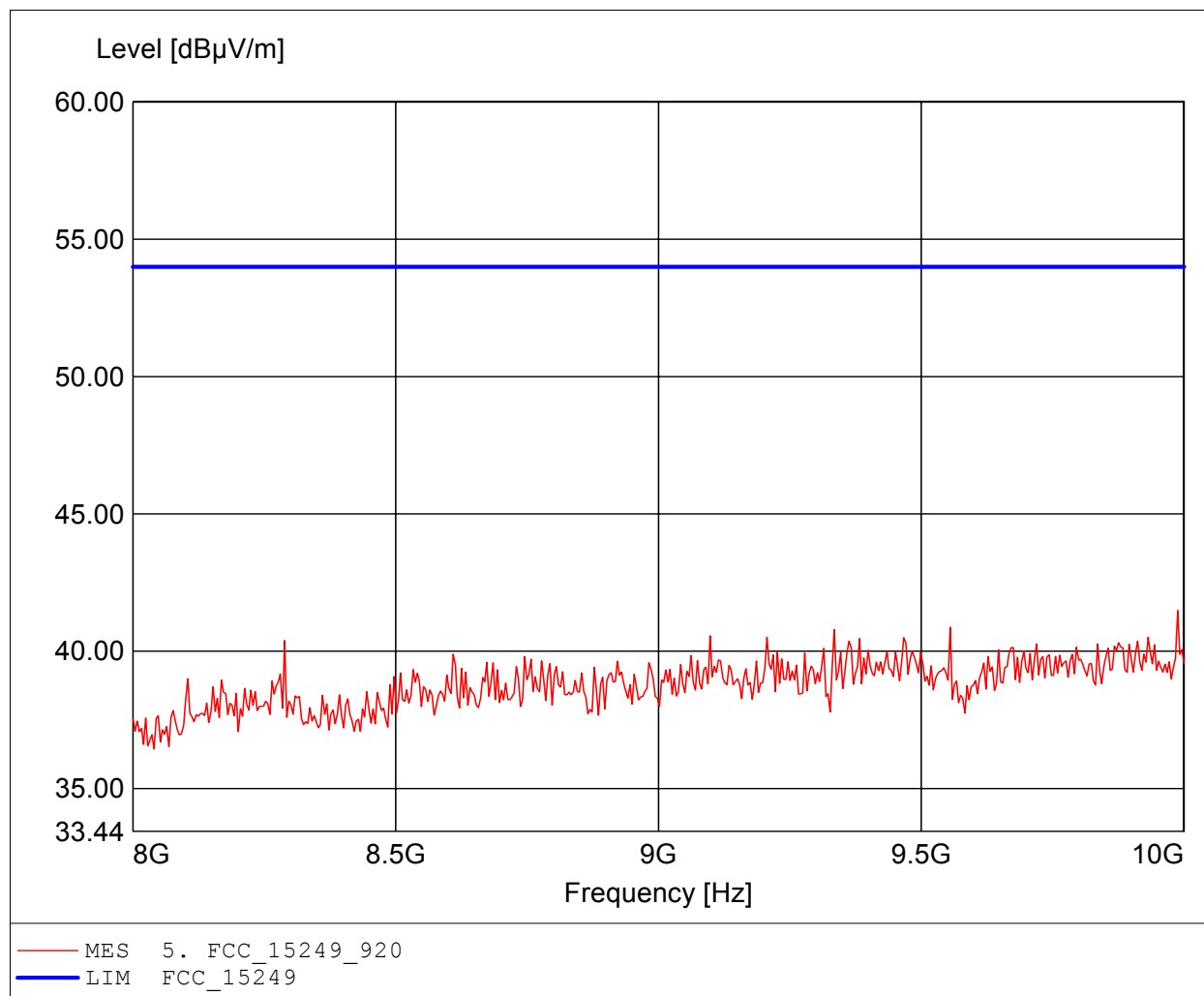
Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 70
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 9.896GHz, Emax: 41.44dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

Approval Holder: Ordermann GmbH / GOM-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Tx ch. 70
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: according to §15.249, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 9.988GHz, Emax: 41.48dBµV/m, RBW: 1MHz

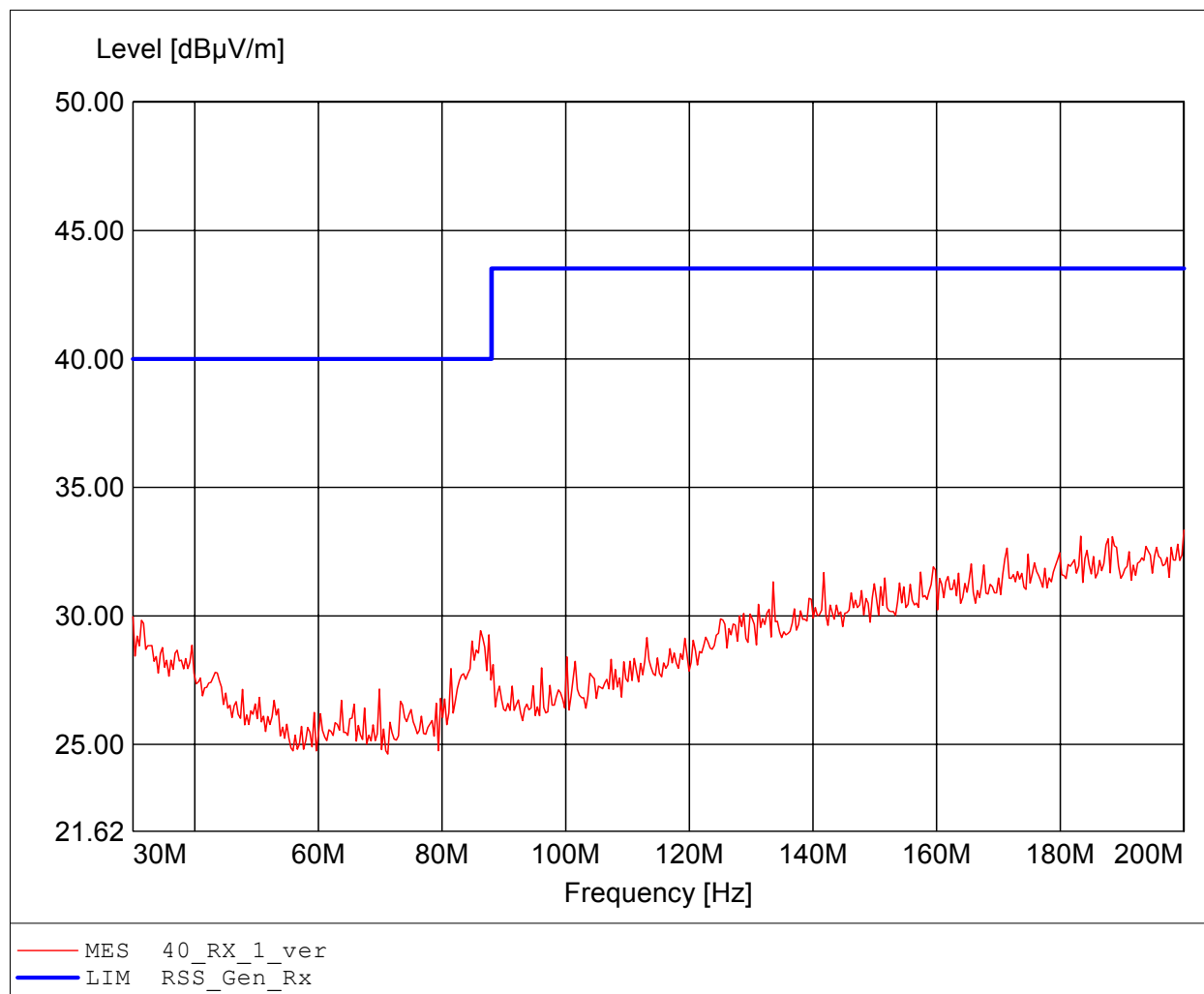


Annex F Receiver radiated spurious emissions

Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

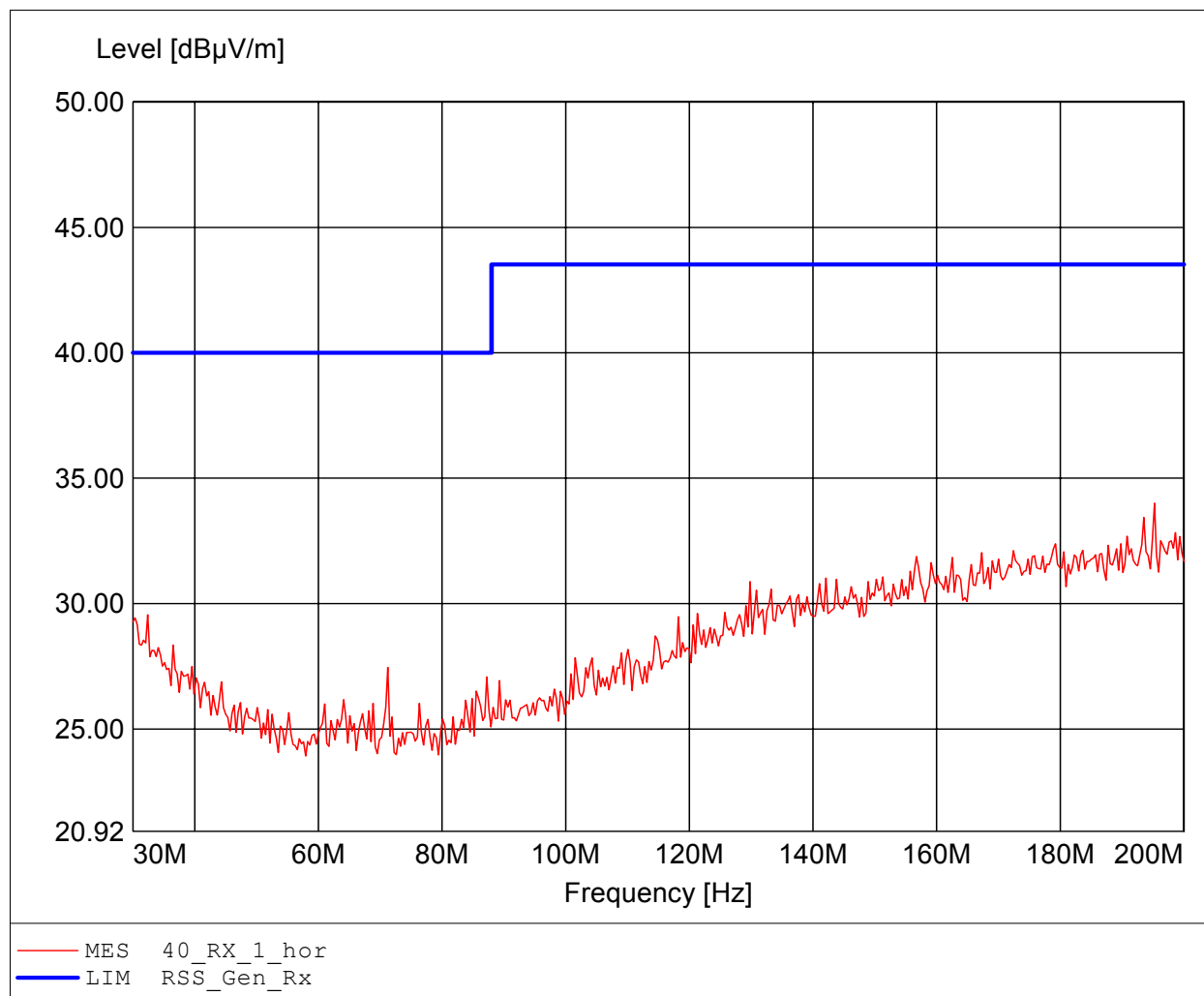
Approval Holder: Ordermann GmbH / G0M-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Rx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: Freq. / CH: 40
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq:200.000MHz Emax:33.34dBuV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

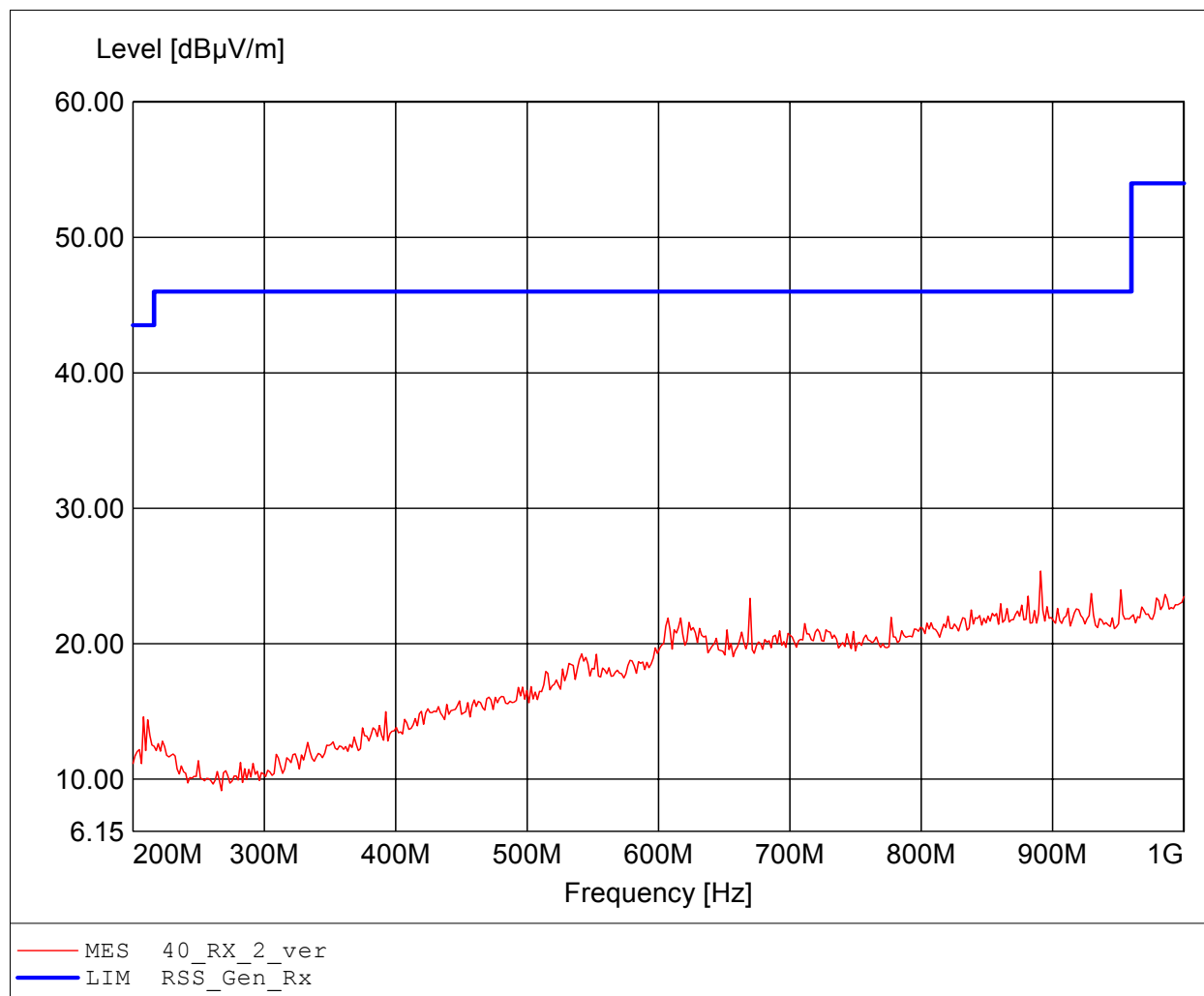
Approval Holder: Ordermann GmbH / G0M-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Rx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: Freq. / CH: 40
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq:195.230MHz Emax:34.00dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

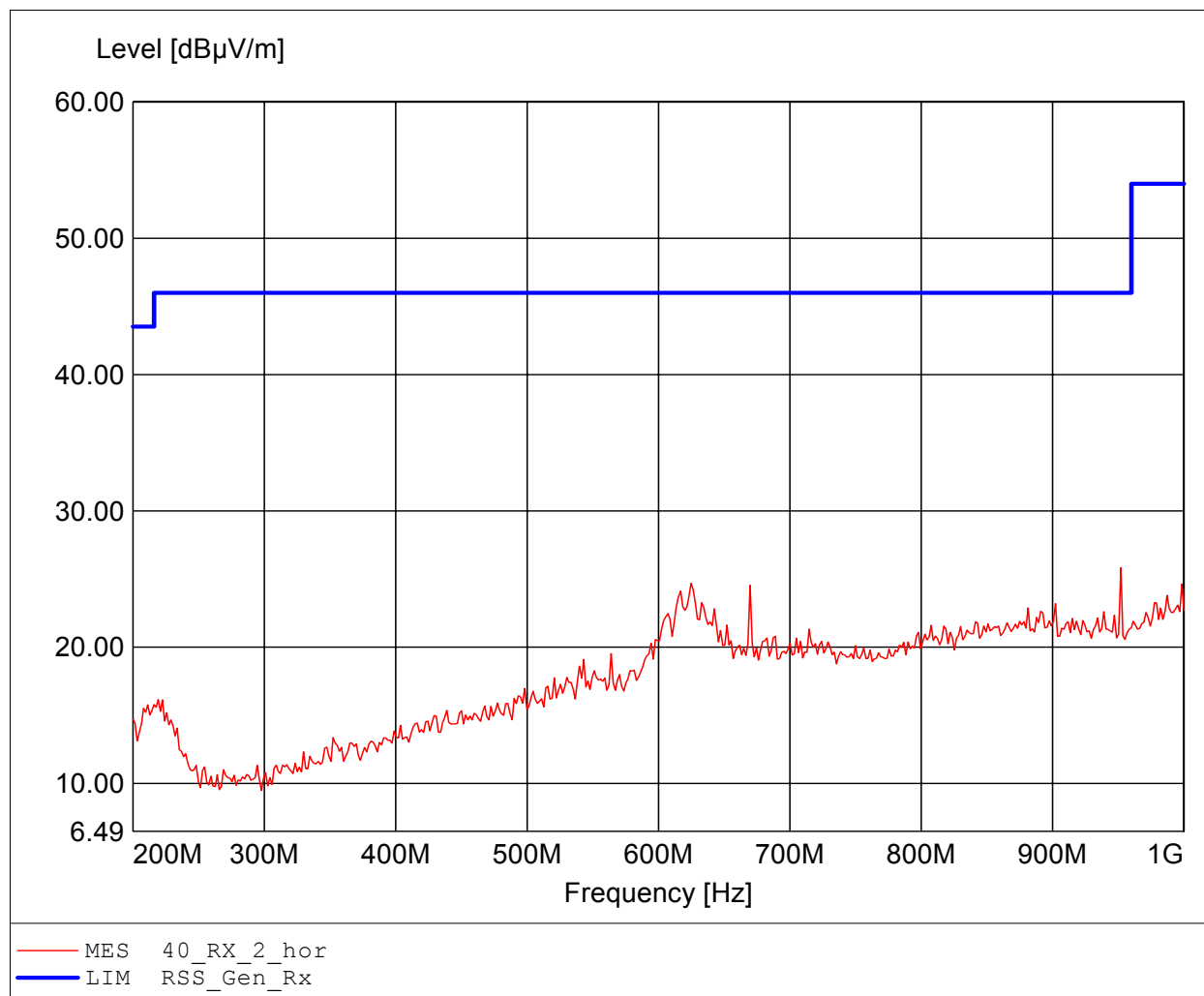
Approval Holder: Ordermann GmbH / G0M-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Rx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: Freq. / CH: 40
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.
Comment 2: Freq:890.982MHz Emax:25.37dBuV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

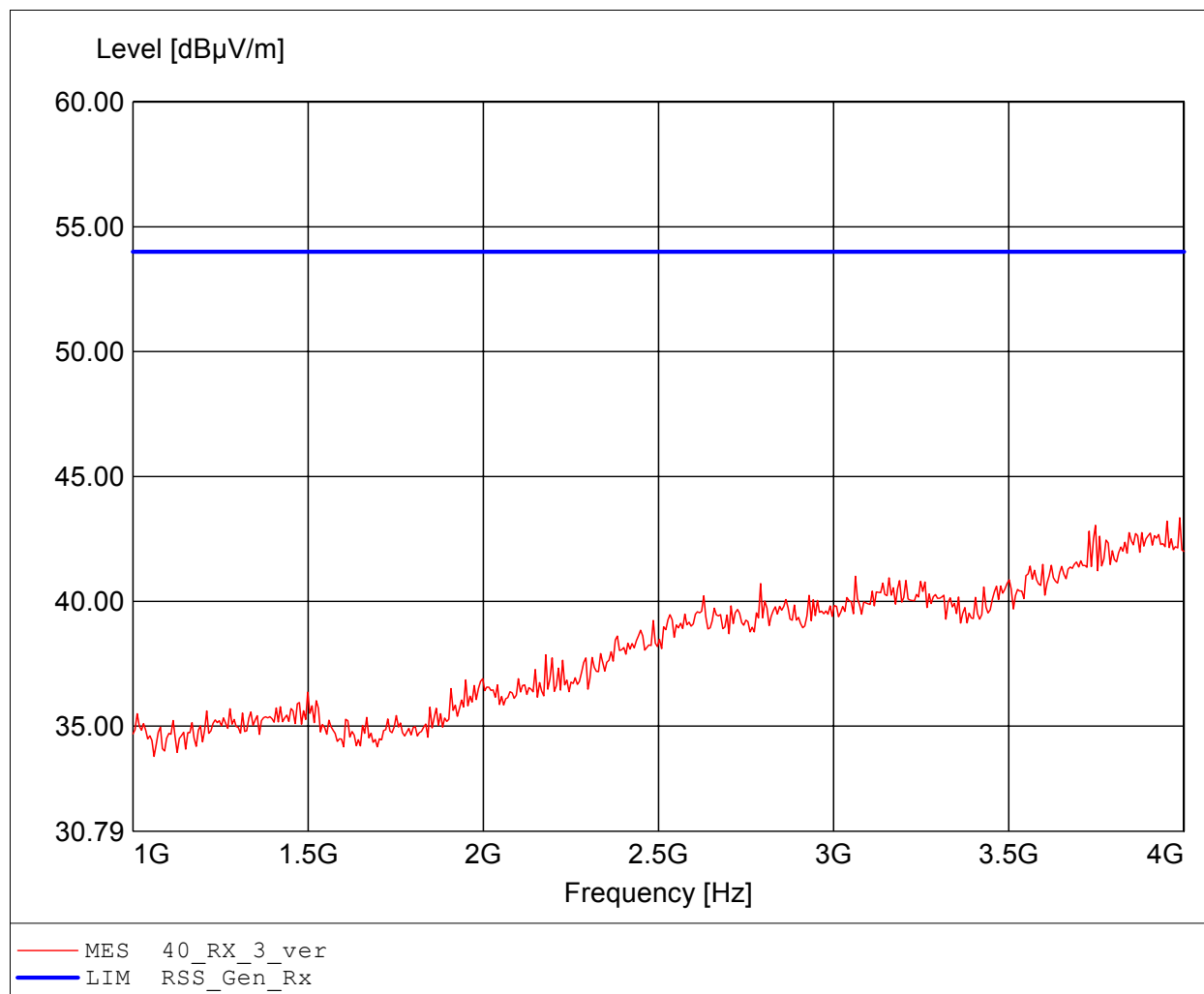
Approval Holder: Ordermann GmbH / G0M-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Rx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: Freq. / CH: 40
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.
Comment 2: Freq: 951.904MHz Emax: 25.82dBuV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

Approval Holder: Ordermann GmbH / G0M-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Rx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: Freq. / CH: 40
Comment 1: Dist.: 3m, Ant.: HL025, ampl.
Comment 2: Freq:3.988GHz Emax:43.35dBµV/m RBW: 1 MHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

Approval Holder: Ordermann GmbH / G0M-1112-1618
EUT: Base Station 2
Model: OMB2 09024 / setup: Rx ch. 40
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom.: 24°C / Vnom: 15 VDC
Test Specification: Freq. / CH: 40
Comment 1: Dist.: 3m, Ant.: HL025, ampl.
Comment 2: Freq:3.832GHz Emax:43.50dBμV/m RBW: 1 MHz

