



EUROFINS PRODUCT SERVICE GMBH



Testing Cert #1983.01

RADIO TEST- REPORT

Compliance Test Report

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

**FCC ID: ZCQTCA
IC: 9570A-TCA**

Measuring Probe

P03.6000 TC60/TC63

Wireless LAN Radio

TEST REPORT NUMBER: G0M21007-3432-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

| | | |
|----------------|---|-----------|
| 1 | General Information | 4 |
| 1.1 | Notes | 4 |
| 1.2 | Testing laboratory | 5 |
| 1.3 | Details of approval holder | 6 |
| 1.4 | Application details | 6 |
| 1.5 | Test item | 6 |
| 1.6 | Test standards | 7 |
| 1.7 | Additional information | 7 |
| 1.8 | Acronyms and abbreviations | 7 |
| 2 | Technical test | 8 |
| 2.1 | Summary of test results | 8 |
| 2.2 | Test environment | 8 |
| 2.3 | Test equipment utilized | 9 |
| 2.4 | Sample emission level calculation | 10 |
| 2.5 | Test results | 11 |
| 3 | Informational Transmitter parameters | 12 |
| 3.1 | Transmitter Modes for conformance testing | 12 |
| 3.2 | Occupied Bandwidth | 13 |
| 4 | Transmitter parameters | 14 |
| 4.1 | 6dB Bandwidth | 14 |
| 4.2 | Power spectral density | 16 |
| 4.3 | Maximum peak conducted output power | 18 |
| 4.4 | Transmitter band-edge compliance | 20 |
| 4.5 | Transmitter conducted spurious emissions | 22 |
| 4.6 | Transmitter radiated spurious emissions | 24 |
| 5 | Receiver parameters | 26 |
| 5.1 | Receiver spurious emissions | 26 |
| Annex A | Photos | 29 |
| Annex B | Transmitter Occupied Bandwidth | 32 |

| | | |
|----------------|---|-----------|
| Annex C | Transmitter 6dB bandwidth | 35 |
| Annex D | Transmitter conducted spurious emissions | 38 |
| Annex E | Band edge compliance | 47 |
| Annex F | Transmitter radiated spurious emissions | 49 |
| Annex G | Receiver radiated spurious emissions | 76 |

1 General Information

1.1 Notes

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

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

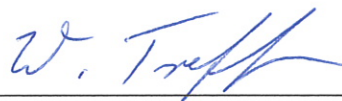
The test report may only be reproduced or published in full. Reproducing or publishing extracts of the report requires the prior written approval of the Eurofins Product Service GmbH.

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

Operator:

24.05.2011

W. Treffke



Date

Eurofins-Lab.

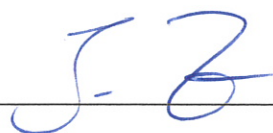
Name

Signature

Technical responsibility for area of testing:

24.05.2011

J. Zimmermann



Date

Eurofins

Name

Signature

1.2 Testing laboratory

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

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

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

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

FCC FILED TEST LABORATORY
REG.-No. 96970

A2LA ACCREDITED TESTING LABORATORY
CERTIFICATE No. 1983.01

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

INDUSTRY CANADA FILED TEST LABORATORY
REG. NO. IC 3470

Test location, where different:

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

1.3 Details of approval holder

| | |
|-----------|---------------------------------------|
| Name | : Blum-Novotest GmbH |
| Street | : Gewerbegebiet Gullen Kaufstrasse 14 |
| Town | : 88287 Grünkraut |
| Country | : Germany |
| Telephone | : +49 751 6008 136 |
| Fax | : +49 751 6008 6136 |
| | |
| Contact | : Herr Stefan Häfele |
| Telephone | : +49 751 6008 136 |

1.4 Application details

Date of receipt of application : 29.09.2010
Date of receipt of test item : 29.09.2010
Date of test : 30.09.2010 – 03.03.2011

1.5 Test item

| | |
|--------------------------|------------------------|
| Description of test item | : Measuring Probe |
| Type identification | : P03.6000 TC60/TC63 |
| Brand Name | : Unspecified |
| Serial number | : S-No.: 201010404 |
| Hardware version | : PCB: 800.100d 04/05 |
| Software version | : V1.12 |
| Equipment type | : End consumer product |

Technical data

| | |
|---------------------|---|
| Frequency range | : 2400 - 2483.5MHz |
| Number of channels | : 3 |
| Channels | : 2401 - 2423MHz, 1 chirp channel 2426 - 2448MHz, 1 chirp channel 2451 - 2473MHz, 1 chirp channel |
| Antenna type | : internal |
| Antenna model | : slot antenna |
| Number of antennas | : 1 |
| Antenna gain | : -0.5dBi (Determined by conducted and radiated measurements) |
| Power supply | : 9.0VDC (Battery powered) |
| Duty cycle | : 98% |
| Operating mode | : semi duplex |
| Spreading technique | : CCS (Chirp spread spectrum) |

Modulations : None
Device classification : Fixed Device

Manufacturer:
(if applicable)

Name : Blum-Novotest GmbH
Street : Gewerbegebiet Gullen Kaufstrasse 14
Town : 88287 Grünkraut
Country : Germany

1.6 Test standards

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

1.7 Additional information

None

1.8 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 |
| FHSS | : | Frequency hopping spread spectrum |
| DSSS | : | Direct Sequence Spread Spectrum |
| OFDM | : | Orthogonal frequency division multiplexing |
| CCK | : | Complementary code keying |
| GFSK | : | Gaussian frequency shift keying |
| DBPSK | : | Differential binary phase shift keying |
| DQPSK | : | Differential quadrature phase shift keying |
| PSK | : | Phase shift keying |
| T _{nom} | : | Nominal 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 |

2 Technical test

2.1 Summary of test results

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



or

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



2.2 Test environment

Temperature : 22 ... 26°C

Relative humidity content : 20 ... 75%

Air pressure : 86 ... 103kPa

Extreme conditions parameters:

V_{nom} : 9.0VDC

$V_{min} (V_{nom}-15\%)$: N/A

$V_{max} (V_{nom}+15\%)$: 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 | 12.03.2010 | 12.03.2011 |
| ETS 0271 | Spectrum Analyzer | FSEK30 | Rohde & Schwarz | 19.03.2009 | 19.03.2011 |
| ETS 0012 | Biconical Antenna | HK 116 | Rohde & Schwarz | 29.01.2010 | 29.01.2013 |
| ETS 0336 | LPD Antenna | HL 223 | Rohde & Schwarz | 28.01.2010 | 28.01.2013 |
| ETS 0018 | Horn Antenna | BBHA 9120D | Schwarzbeck | 26.08.2010 | 26.08.2011 |
| ETS 0432 | Amplifier-Matrix | | | 02.06.2010 | 02.06.2012 |
| ETS 0259 | Power Meter | NRVD | Rohde & Schwarz | 26.03.2010 | 26.03.2011 |
| ETS 0278 | Power Sensor | NRV-Z31 | Rohde & Schwarz | 25.11.2010 | 25.11.2012 |
| ETS 0496 | Spectrum Analyzer | FSP30 | Rohde & Schwarz | 26.08.2010 | 26.08.2011 |
| ETS 0086 | Semi-anechoic chamber | AC1 | Frankonia | 12.03.2010 | 12.03.2011 |

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 dB μ V. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

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

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

Net:

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

Limit:

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

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

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 dB μ V | + | 26 dB | = | 47.5 dB μ V/m | : | 47.5 dB μ V/m - 57.0 dB μ V/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 | <input checked="" type="checkbox"/> | | |
| TRANSMITTER PARAMETERS | | | | |
| 6dB Bandwidth | FCC § 15.247(a)(2) IC RSS-210 § A8.2 | <input checked="" type="checkbox"/> | PASS | |
| Spectral Density | FCC § 15.247(e) IC RSS-210 § A8.2 | <input checked="" type="checkbox"/> | PASS | |
| Maximum peak conducted output power | FCC § 15.247(b) IC RSS-210 § A8.4 | <input checked="" type="checkbox"/> | PASS | |
| Band-edge Compliance | FCC § 15.247(d) IC RSS-210 § A8.5 | <input checked="" type="checkbox"/> | PASS | |
| Conducted spurious emissions | FCC § 15.247(d) IC RSS-210 § A8.5 | <input checked="" type="checkbox"/> | PASS | |
| Radiated spurious emissions | FCC § 15.209 IC RSS-210 § A8.5 IC RSS-Gen § 7.2.2 | <input checked="" type="checkbox"/> | PASS | |
| RECEIVER PARAMETERS | | | | |
| Radiated spurious emissions | FCC § 15.109 IC RSS-Gen § 4.10 IC RSS-Gen § 6.1 | <input checked="" type="checkbox"/> | N/A | |
| POWER LINE PARAMETERS | | | | |
| AC power line conducted emissions | FCC § 15.207 IC RSS-Gen. 7.2.4 | <input type="checkbox"/> | N/A | EUT battery powered |

3 Informational Transmitter parameters

3.1 Transmitter Modes for conformance testing

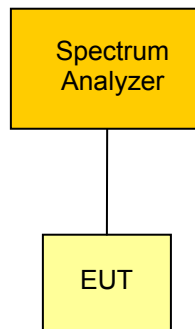
The following transmission modes are elected for compliance testing.

| TEST MODE CSS | |
|-----------------------|---|
| Conditions | |
| Spread Spectrum : | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Spreading Technique : | CSS |
| Modulation : | NONE |
| Bandwidth : | 22MHz |
| Data rate : | 250kbps |
| Duty Cycle : | 98% |
| Power level : | Maximum |

3.2 Occupied Bandwidth

According FCC rules 47 CFR 2.1049 and RSS-Gen Section 4.6.1 the 99% emission bandwidth occupied by the digital modulated transmitted signal has to be reported.

3.2.1 Measurement procedure



The eut is connected to a spectrum analyzer and set to transmission mode 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 than measured evaluated by an internal measurement procedure of the analyzer.

3.2.2 Results

| Transmitter occupied bandwidth | | | |
|--------------------------------|----------------------------|----------------------------|--------------------------|
| Measurement Conditions | | | |
| Power occupation : | | 99% | |
| Channel [MHz] | Lower edge frequency [MHz] | Upper edge frequency [MHz] | Occupied Bandwidth [MHz] |
| Test mode CSS | | | |
| 2412 | 2403.8 | 2420.2 | 16.4 |
| 2442 | 2433.7 | 2450.2 | 16.5 |
| 2462 | 2453.7 | 2470.1 | 16.4 |
| See attached diagram in Annex | | | |
| Verdict | | | PASS |

4 Transmitter parameters

4.1 6dB Bandwidth

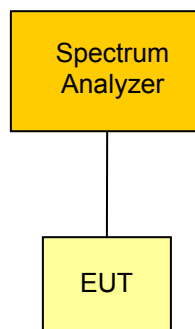
According FCC rules 47 CFR 15.247(a)(2) and RSS-210 Section A8.2 the minimum 6dB Bandwidth has to be validated.

4.1.1 Limits

According FCC and IC rules the minimum 6 dB bandwidth shall be at least 500 kHz.

| 6dB bandwidth limit |
|----------------------|
| $\geq 500\text{kHz}$ |

4.1.2 Measurement procedure



The eut is connected to a spectrum analyzer and set to transmission mode with maximum power under normal test conditions. The resolution bandwidth is set to 100kHz (VBW \geq RBW). The center frequency is set to the channel center frequency. The span of the analyzer is set to 2 -3 times the 6dB bandwidth. The bandwidth is determined using markers with peak detector and max hold.

4.1.3 Results

| Transmitter 6dB bandwidth | |
|-------------------------------|---------------------|
| Channel [MHz] | 6dB Bandwidth [MHz] |
| Test mode CSS | |
| 2412 | 14.3 |
| 2442 | 14.3 |
| 2462 | 14.3 |
| See attached diagram in Annex | |
| Verdict | PASS |

4.2 Power spectral density

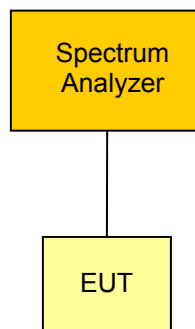
According FCC rules 47 CFR 15.247(e) and RSS-210 Section A8.2 the maximum power density in any 3kHz bandwidth is limited and has to be validated.

4.2.1 Limits

According FCC and IC rules the transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission or over 1.0 second if the transmission exceeds 1.0-second duration.

| Spectral density limit |
|--------------------------------|
| $\leq 8\text{dBm}/3\text{kHz}$ |

4.2.2 Measurement procedure



The eut is connected to a spectrum analyzer and set to transmission mode with maximum power under normal test conditions. The resolution bandwidth is set to 3kHz ($\text{VBW} \geq \text{RBW}$). The center frequency is set to the channel center frequency. The span of the analyzer is set to 1.5MHz. The sweep time is set to SPAN/RBW . The spectral density is determined using peak detector and max hold.

According to 47 CFR 15.31 battery power equipment is measured using new batteries and equipment using external power supply is measured with 85%, 100% and 115% of the nominal rated supply voltage.

4.2.3 Results

| Power spectral density | | |
|-------------------------------|-------------------------------|-----------------------------|
| Channel [MHz] | Max. emission frequency [MHz] | Spectral density [dBm/3kHz] |
| Test mode CSS | | |
| 2412 | 2405.3 | -18.1 |
| 2442 | 2440.4 | -14.7 |
| 2462 | 2460.4 | -14.7 |
| See attached diagram in Annex | | |
| Verdict | | PASS |

4.3 Maximum peak conducted output power

According FCC rules 47 CFR 15.247(b)(3) and RSS-210 Section A8.4 the maximum peak conducted output power is limited and has be verified.

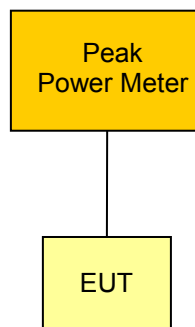
4.3.1 Limits

For systems employing digital modulation techniques operating in the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz, the maximum peak conducted output power shall not exceed 1 W.

| Maximum peak conducted power limit |
|------------------------------------|
| 1W / 30dBm |

*) The conducted output power limit specified above is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in the table, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.3.2 Measurement procedure



The eut is connected to a peak power sensor of a power meter and activated with the maximum power level. The peak power is measured and recorded.

According to 47 CFR 15.31(e) battery power equipment is measured using new batteries and equipment using external power supply is measured with 85%, 100% and 115% of the nominal rated supply voltage.

4.3.3 Results

| Maximum peak conducted output power | | |
|-------------------------------------|------------------------------|-------------------|
| Measurement Conditions | | |
| Antenna gain : | -0.5dBi | |
| Power correction : | 0dB | |
| Channel [MHz] | Conducted output power [dBm] | Power Limit [dBm] |
| Test mode CSS | | |
| 2412 | -0.4 | 30 |
| 2442 | -0.1 | 30 |
| 2462 | -0.1 | 30 |
| See attached diagrams in Annex | | |
| Measurement uncertainty | | 4.22dB |
| Verdict | | PASS |

4.4 Transmitter band-edge compliance

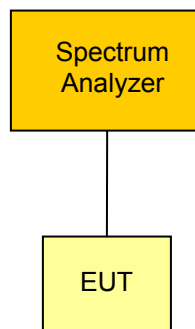
According FCC rules 47 CFR 15.209, 15.247(d) and RSS-210 Section A8.5 the emission level of out-of-band emissions are limited and has to be validated.

4.4.1 Limits

The emission limit of out of band emission in any 100kHz bandwidth outside the frequency band in which the spread spectrum device is operating, the radio frequency power that is produced 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 the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits (see "Transmitter spurious emissions"-measurement) is not required.

| Transmitter band-edge emission limits | |
|---------------------------------------|-------------------------|
| TX-Power Detector | Out of band attenuation |
| Peak | -20dBc/100kHz |
| RMS | -30dBc/100kHz |

4.4.2 Measurement procedure



The eut is connected to a spectrum analyzer and set to transmission mode without hopping with maximum power under normal test conditions. The span of the analyzer is set large enough to capture the maximum emission within the emission band as well as any modulation product which fall outside the authorized band of operation. The resolution bandwidth is set to 1% of the span ($VBW \geq RBW$). The

A marker is set on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Using the delta-marker function the highest peak of the in-band emission is measured.

4.4.3 Results

| Transmitter band-edge emissions | | |
|---------------------------------|---------------------------|---------------------------|
| Measurement Conditions | | |
| Power mode : | Peak | |
| Test mode | Lower edge emission [dBc] | Upper edge emission [dBc] |
| CSS | -30.77 | -37.67 |
| See attached diagram in Annex | | |
| Verdict | | PASS |

4.5 Transmitter conducted spurious emissions

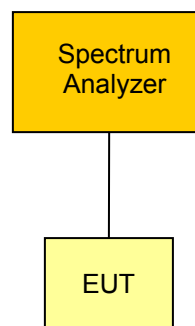
According FCC rules 47 CFR 15.247(d) and RSS-210 Section A8.5 unwanted emissions in the spurious domain are power limited and has to be validated.

4.5.1 Limits

The emission limit of out of band emission in any 100kHz bandwidth outside the frequency band in which the spread spectrum device is operating, the radio frequency power that is produced 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 the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits (see "Transmitter radiated spurious emissions"-measurement) is not required.

| Transmitter conducted spurious emission limits | |
|--|-------------------------|
| TX-Power Detector | Out of band attenuation |
| Peak | -20dBc/100kHz |
| RMS | -30dBc/100kHz |

4.5.2 Measurement procedure



The eut is connected to a spectrum analyzer and set to transmission mode with maximum power under normal test conditions. The span of the analyzer is set large enough to capture the maximum emission within the emission band as well as any spurious emission outside the authorized band of operation. The resolution bandwidth is set to 100kHz (VBW≥RBW). The emissions are measured using peak detector and max hold.

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

4.5.3 Results

| Transmitter conducted spurious emissions | | | | | |
|--|--------------------------|---|---------------------|-------------|-------------|
| Measurement Conditions | | | | | |
| Power detector : | | Peak | | | |
| Modulated : | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| Channel Frequency [MHz] | Emission Frequency [MHz] | Measured Field Strength * [dBm] | Channel Power [dBm] | Limit [dBm] | Margin [dB] |
| Test mode CSS | | | | | |
| 2412 | 10220 | -62.53 | -15.39 | -35.39 | -27.14 |
| 2442 | 11620 | -61.63 | -14.17 | -34.17 | -27.46 |
| 2462 | 12060 | -61.94 | -14.12 | -34.12 | -27.82 |
| See attached diagrams in Annex | | | | | |
| Verdict | | | | PASS | |

4.6 Transmitter radiated spurious emissions

According FCC rules 47 CFR 15.209 unwanted emissions in the spurious domain are power limited and has to be validated.

4.6.1 Limits

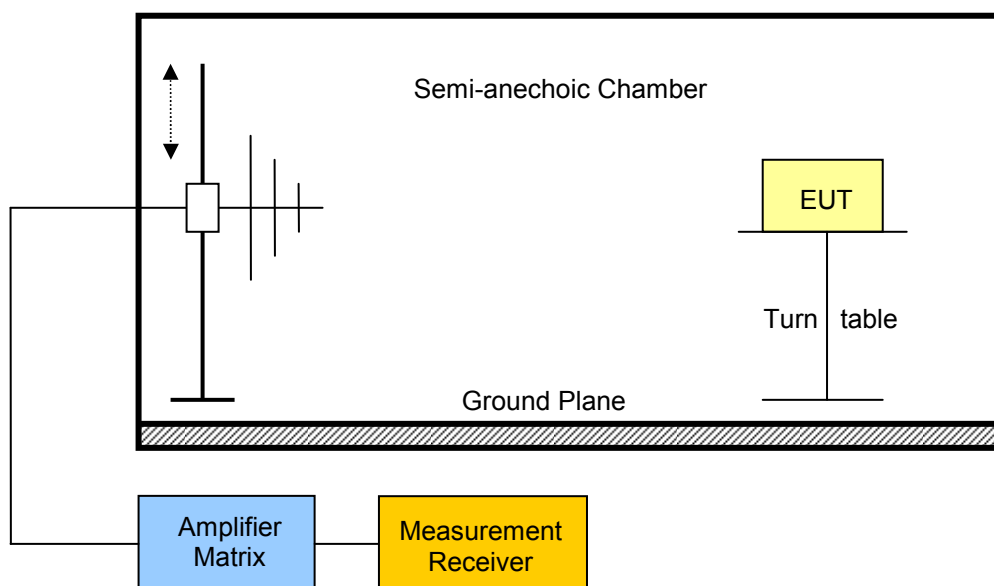
Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

| Tranmitter restricted band spurious emission limits | | | | |
|---|------------|---------------------------|---|--------------------------|
| Frequency range [MHz] | Detector | Limit [$\mu\text{V/m}$] | Calculated Limit 3m [dB $\mu\text{V/m}$] | Measurement 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.

4.6.2 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.

4.6.3 Results

| Transmitter radiated spurious emissions | | | | | | |
|---|--------------------------|---|------------------------------------|-------------------|----------|-------------|
| Measurement Conditions | | | | | | |
| Test mode : | | CSS | | | | |
| Measurement distance : | | 3m | | | | |
| Modulated : | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Channel Frequency [MHz] | Emission Frequency [MHz] | Polarization | Measured Field Strength * [dBμV/m] | Limit@3m [dBμV/m] | Detector | Margin [dB] |
| 2412 | 2.390 | vertical | 50.3 | 74 | peak | -23.7 |
| 2412 | 4.826 | vertical | 58.7 | 74 | peak | -15.3 |
| 2412 | 4.824 | vertical | 47.1 | 54 | average | -6.9 |
| 2442 | 4.882 | vertical | 58.1 | 74 | peak | -15.9 |
| 2442 | 4.884 | vertical | 43.9 | 54 | average | -10.1 |
| 2462 | 2.4835 | vertical | 53.0 | 74 | peak | -21 |
| 2462 | 2.4835 | vertical | 39.9 | 54 | average | -14.1 |
| 2462 | 4.922 | vertical | 57.7 | 74 | peak | -16.3 |
| 2462 | 4.942 | vertical | 43.9 | 54 | average | -10.1 |
| See attached diagrams in Annex | | | | | | |
| Verdict | | | | | PASS | |

* **Note** : If necessary the measured field strength values are corrected to reflect the field strength values at the measurement distance stated in the table. Correction acc. $20 \cdot \log_{10}(\text{measurement distance/limit distance})$.

5 Receiver parameters

5.1 Receiver spurious emissions

According FCC rules 47 CFR 15.109 and RSS-Gen Section 4.9 the emission of unintentional radiators have to comply with limits stated in the rules.

5.1.1 Limits

According § 15.109 of the FCC rules, the field strength of radiated emissions from a Class A digital device (*a digital device that is marketed for use in a commercial, industrial or business environment, exclusive of a device which is marketed for use by the general public or is intended to be used in the home.*), as determined at a distance of 10 meters, shall not exceed the following:

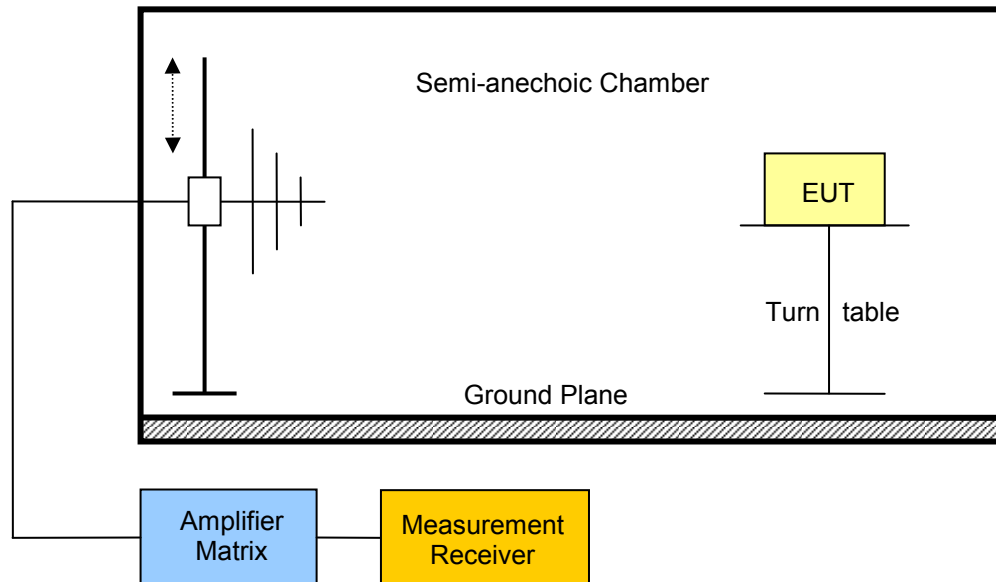
| Class A receiver spurious emission limits @ 10m | | | | |
|---|------------|---------------------------|--|--------------------------|
| Frequency range [MHz] | Detector | Limit [$\mu\text{V/m}$] | Calculated Limit [dB $\mu\text{V/m}$] | Measurement Distance [m] |
| 30 – 88 | Quasi-Peak | 90 | 39.1 | 10 |
| 88 – 216 | Quasi-Peak | 150 | 43.5 | 10 |
| 216 – 960 | Quasi-Peak | 210 | 46.4 | 10 |
| 960 – 1000 | Quasi-Peak | 300 | 49.5 | 10 |
| > 1000 | Average | 300 | 49.5 | 10 |

Except for Class A digital devices (*Class B, a digital device that is marketed for use in a residential environment notwithstanding use in commercial, business and industrial environments. Examples of such devices include, but are not limited to, personal computers, calculators, and similar electronic devices that are marketed for use by the general public.*), the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

| Class B receiver spurious emission limits @ 3m | | | | |
|--|------------|---------------------------|--|--------------------------|
| Frequency range [MHz] | Detector | Limit [$\mu\text{V/m}$] | Calculated Limit [dB $\mu\text{V/m}$] | Measurement 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 10m open area 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 fifth harmonic.

5.1.3 Results

| Receiver spurious emissions | | | | | | |
|--------------------------------|--------------------------|--------------|----------------------------------|-----------------|----------|---------------|
| Measurement Conditions | | | | | | |
| Test mode : | | OFDM | | | | |
| Measurement distance : | | 3m | | | | |
| Device class : | | B | | | | |
| Channel Frequency [MHz] | Emission Frequency [MHz] | Polarization | Measured Field Strength * [μV/m] | Limit@3m [μV/m] | Detector | Margin [μV/m] |
| 2442 | 7992 | vertical | 324.71** | 500.00 | peak | -175.29 |
| See attached diagrams in Annex | | | | | | |
| Verdict | | | | PASS | | |

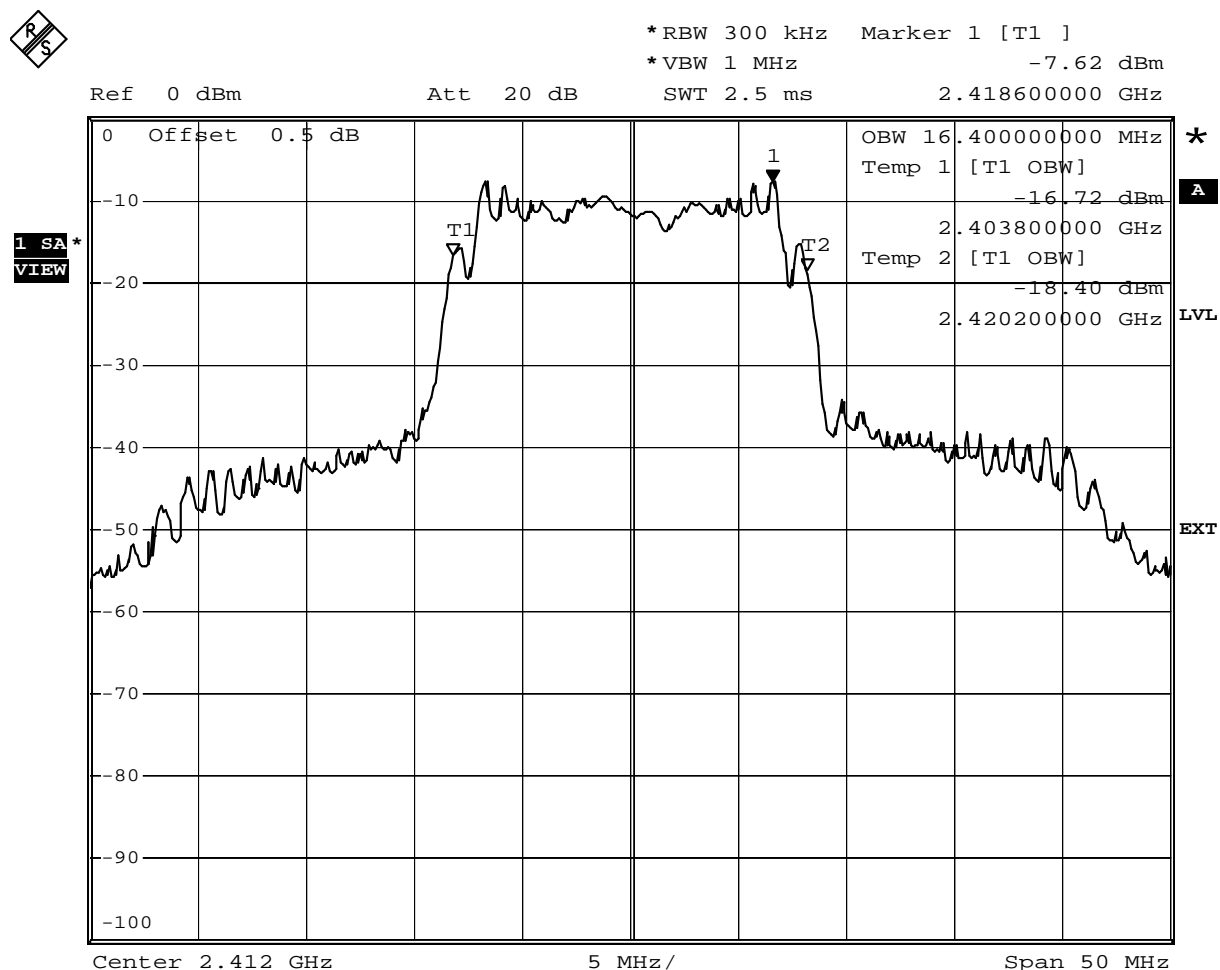
* **Note** : If necessary the measured field strength values are corrected to reflect the field strength values at the measurement distance stated in the table. Correction acc. $20 \cdot \log_{10}(\text{measurement distance}/\text{limit distance})$.

** **Note** : This maximum emission value corresponds to noise floor. No spurious emissions found.

Annex B Transmitter Occupied Bandwidth

RSS Gen Occupied Bandwidth

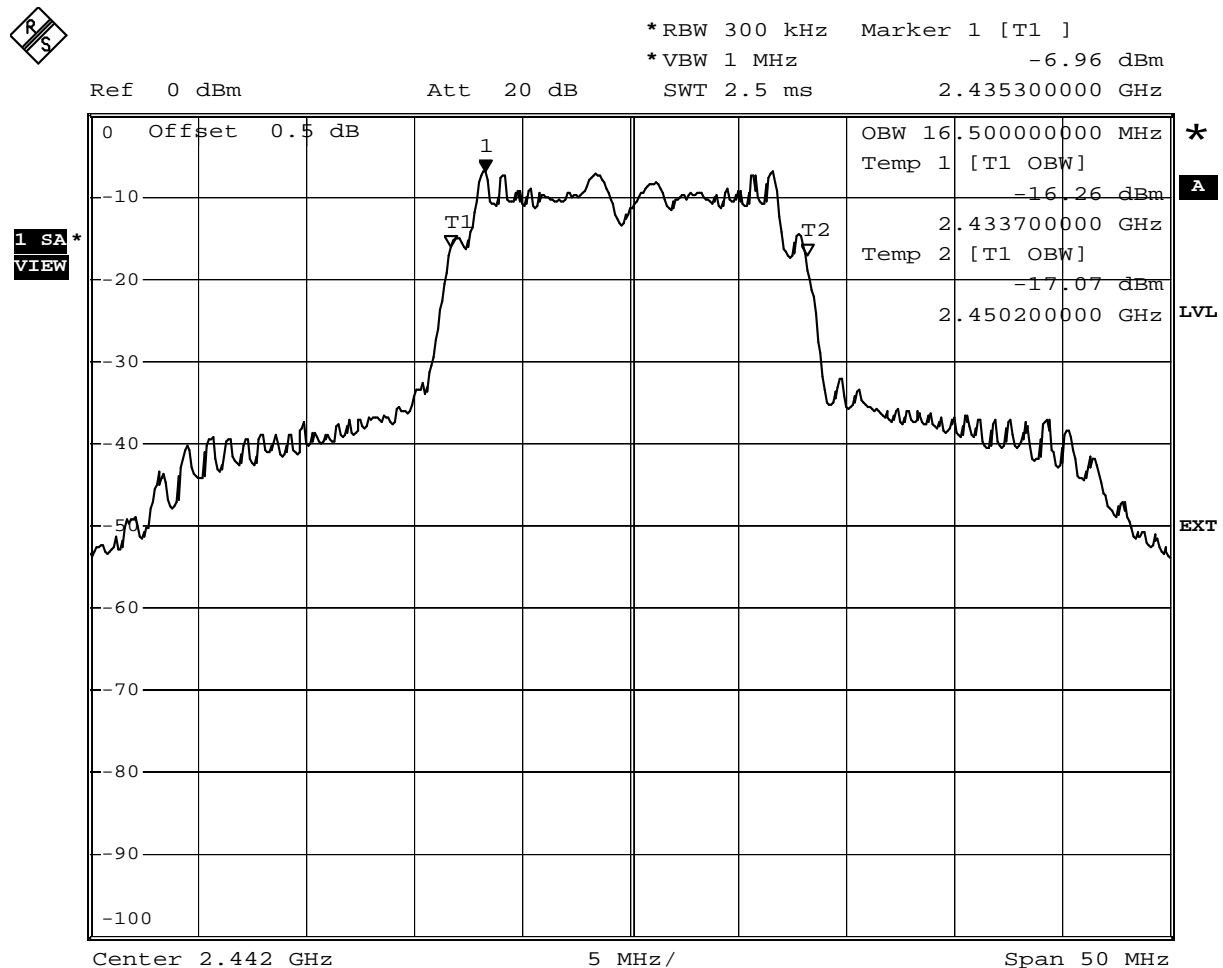
| | |
|-----------------------|---|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | 4.4.1 Occupied Bandwidth |
| Comment 1 | Channel.: 2412 MHz |
| Comment 2 | A spectrum analyzer with an integrated 99% power bandwidth function is used |
| Comment 3 | CSS, power level max, 250 kbit/s |



Comment: Occupied bandwidth: 16400 KHz
 Date: 3.MAR.2011 13:42:26

**RSS Gen
Occupied Bandwidth**

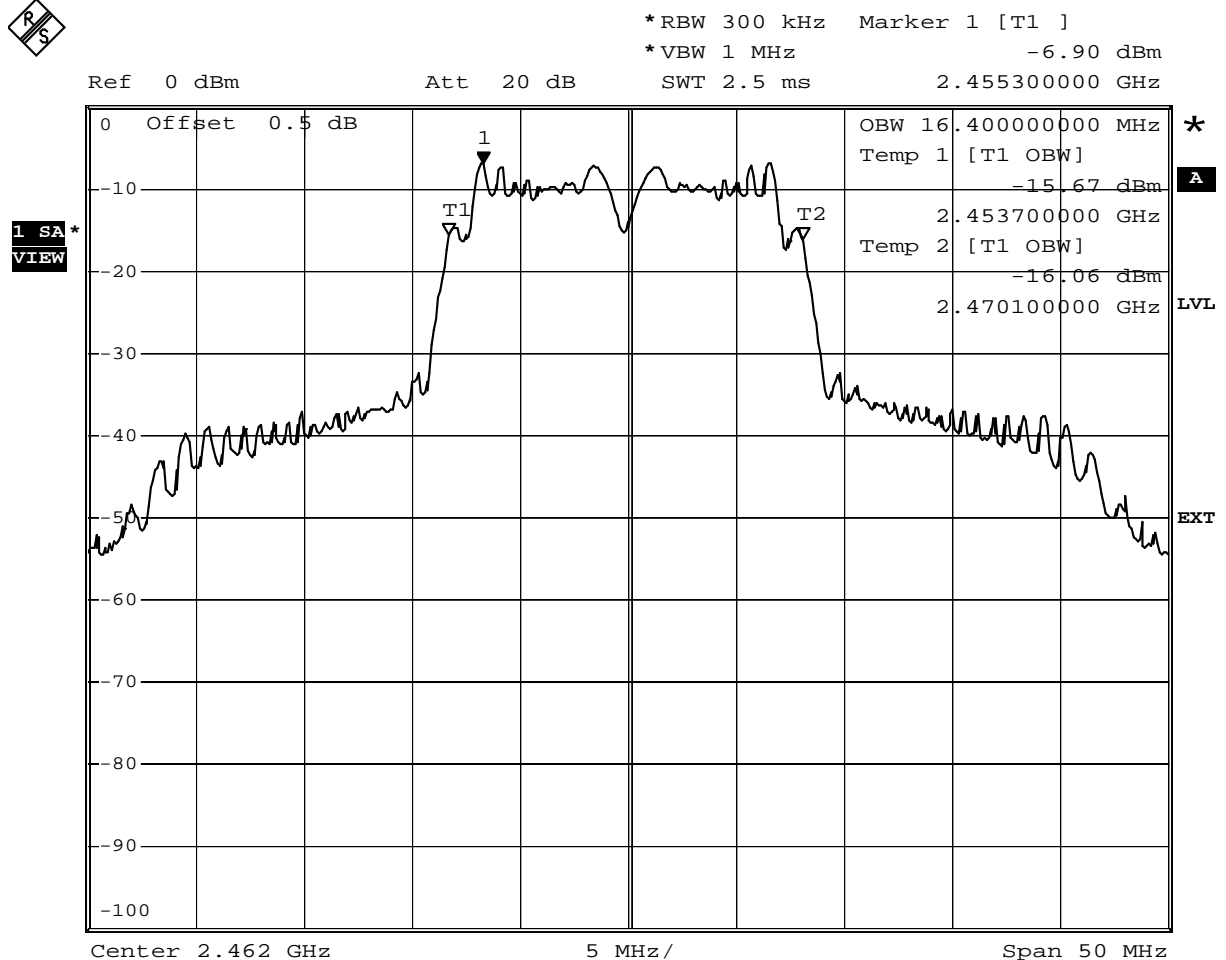
| | |
|-----------------------|---|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | 4.4.1 Occupied Bandwidth |
| Comment 1 | Channel.:2442 MHz |
| Comment 2 | A spectrum analyzer with an integrated 99% power bandwidth function is used |
| Comment 3 | CSS, power level max, 250 kbit/s |



Comment: Occupied bandwidth: 16500 KHz
Date: 3.MAR.2011 14:08:08

RSS Gen Occupied Bandwidth

| | |
|-----------------------|---|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | 4.4.1 Occupied Bandwidth |
| Comment 1 | Channel.: 2462 MHz |
| Comment 2 | A spectrum analyzer with an integrated 99% power bandwidth function is used |
| Comment 3 | CSS, power level max, 250 kbit/s |



Comment: Occupied bandwidth: 16400 KHz
Date: 3.MAR.2011 14:48:46

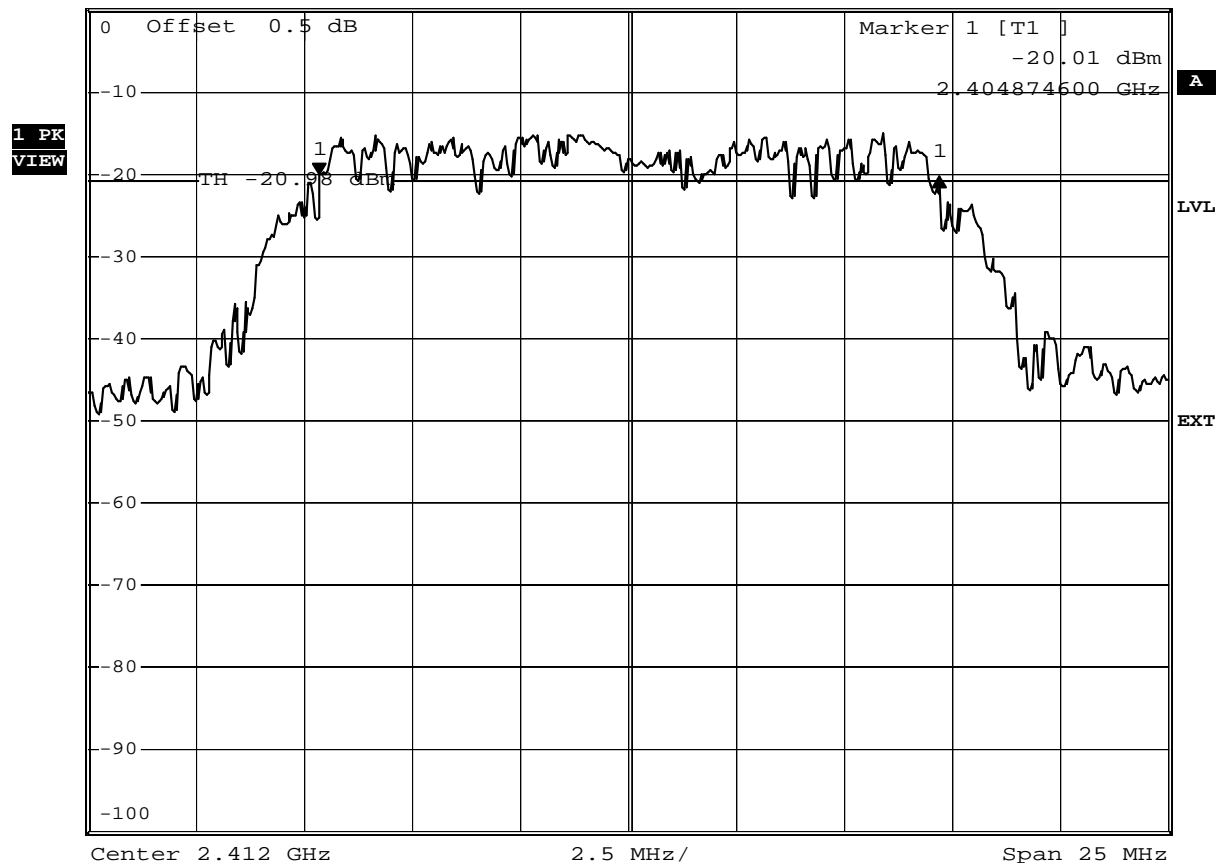
Annex C Transmitter 6dB bandwidth

FCC part 15.247 (a)2 Minimum 6 dB Bandwidth

| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15.247 (a)2 |
| Comment 1 | Minimum 6 dB Bandwidth |
| Comment 2 | Channel : 2412 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



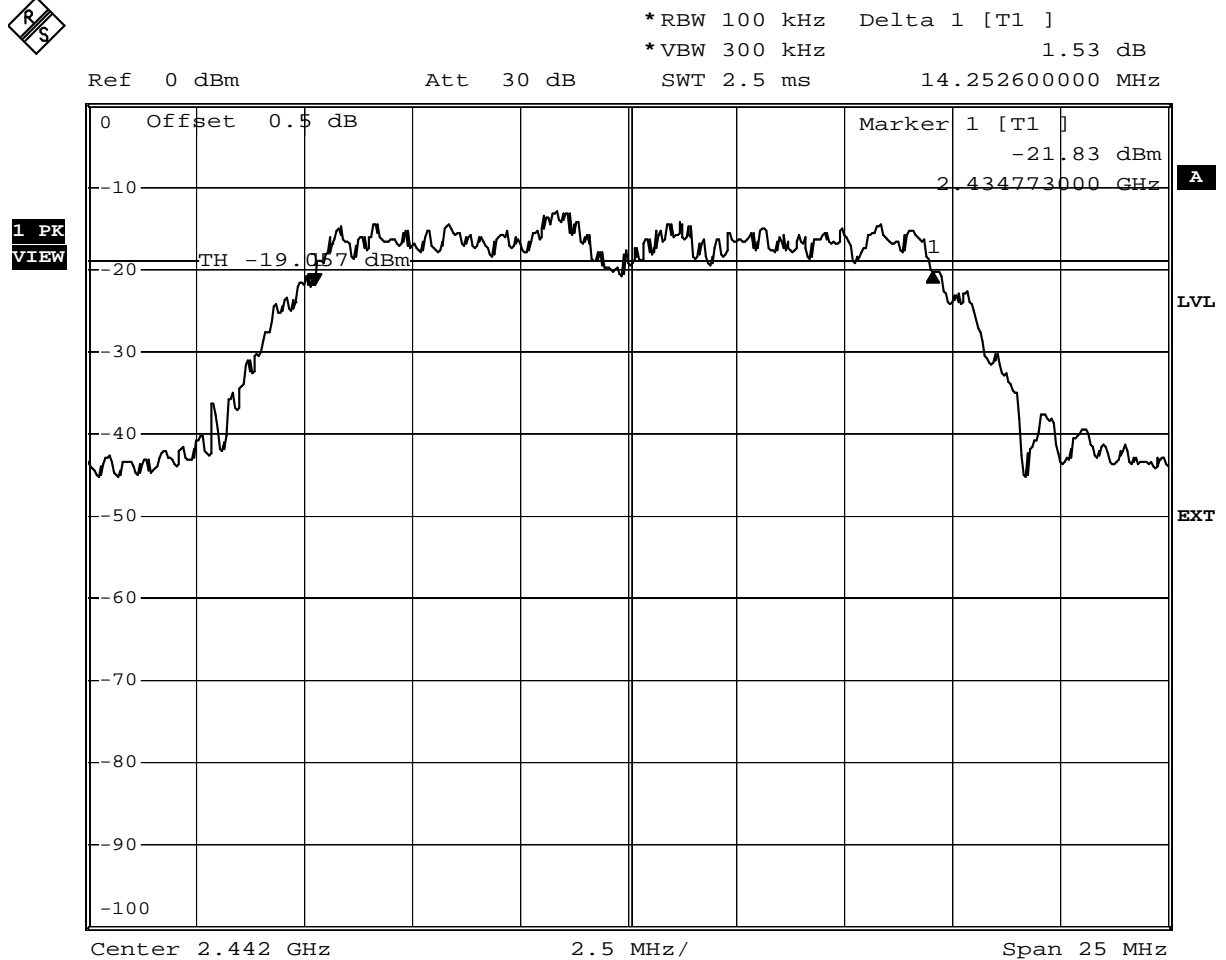
*RBW 100 kHz Delta 1 [T1]
*VBW 300 kHz -0.43 dB
Ref 0 dBm Att 30 dB SWT 2.5 ms 14.30240000 MHz



Comment: 6 dB bandwidth: 14302.4 KHz > 500 KHz; verdict: PASS
Date: 3.MAR.2011 13:34:38

FCC part 15.247 (a)2
Minimum 6 dB Bandwidth

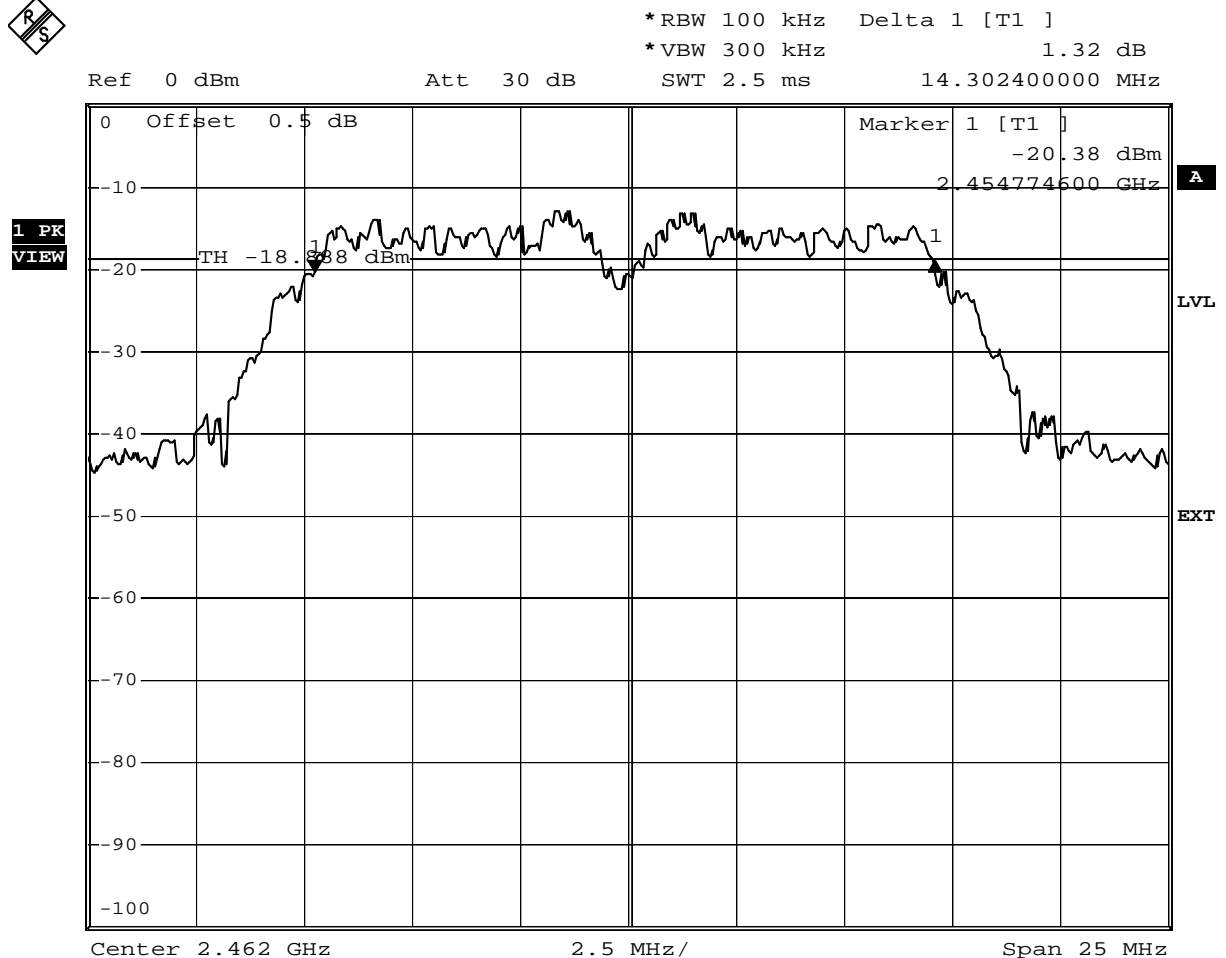
| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15.247 (a)2 |
| Comment 1 | Minimum 6 dB Bandwidth |
| Comment 2 | Channel : 2442 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



Comment: 6 dB bandwidth: 14252.6 KHz > 500 KHz; verdict: PASS
Date: 3.MAR.2011 13:55:54

FCC part 15.247 (a)2
Minimum 6 dB Bandwidth

| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15.247 (a)2 |
| Comment 1 | Minimum 6 dB Bandwidth |
| Comment 2 | Channel : 2462 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |

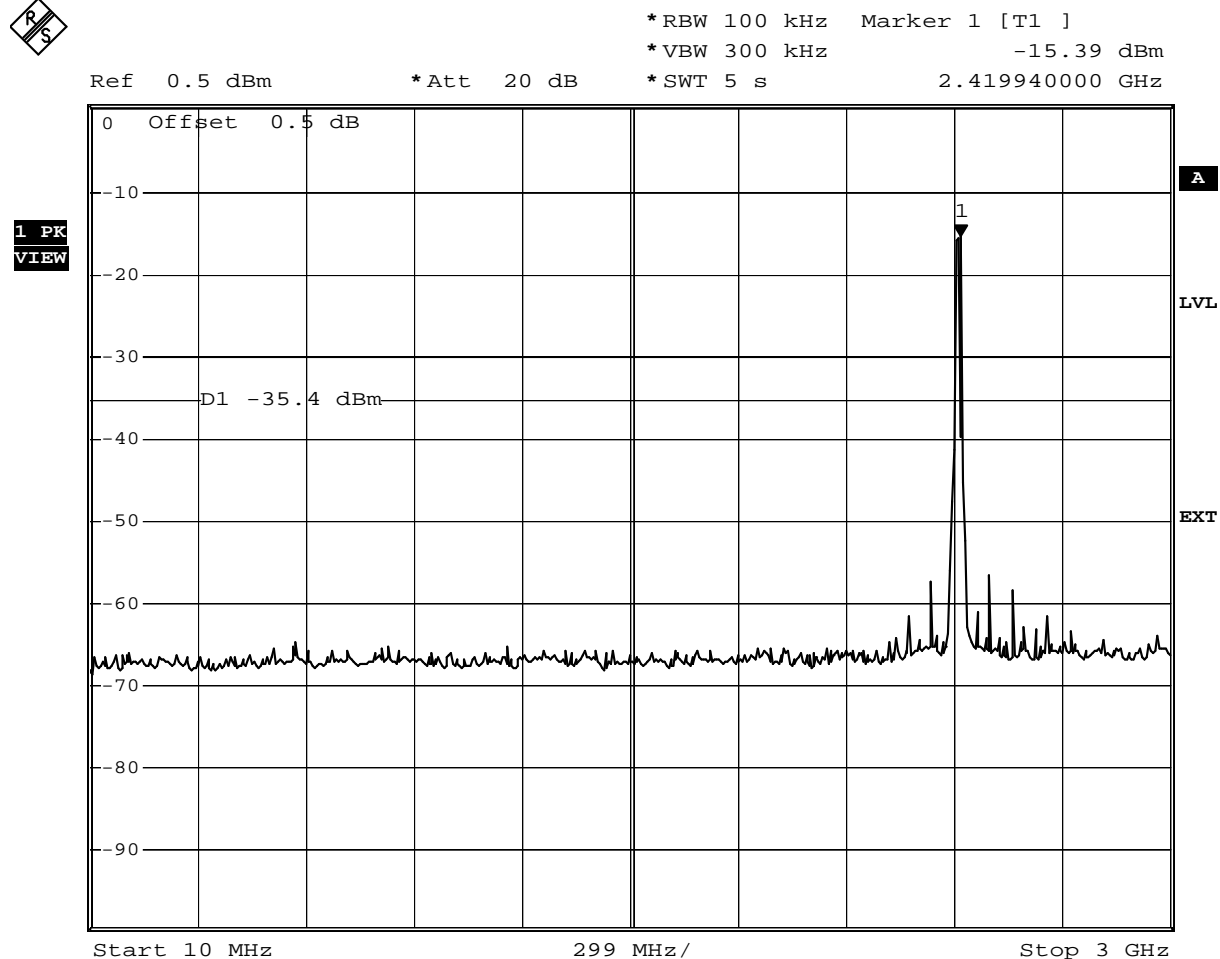


Comment: 6 dB bandwidth: 14302.4 KHz > 500 KHz; verdict: PASS
Date: 3.MAR.2011 14:40:12

Annex D Transmitter conducted spurious emissions

FCC part 15.247 (d) Spurious Emissions

| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15.247 (d) |
| Comment 1 | Spurious Emissions conducted |
| Comment 2 | Channel : 2412 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



Date: 3.MAR.2011 13:38:25

Test Report No.: G0M21007-3432-P-15

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

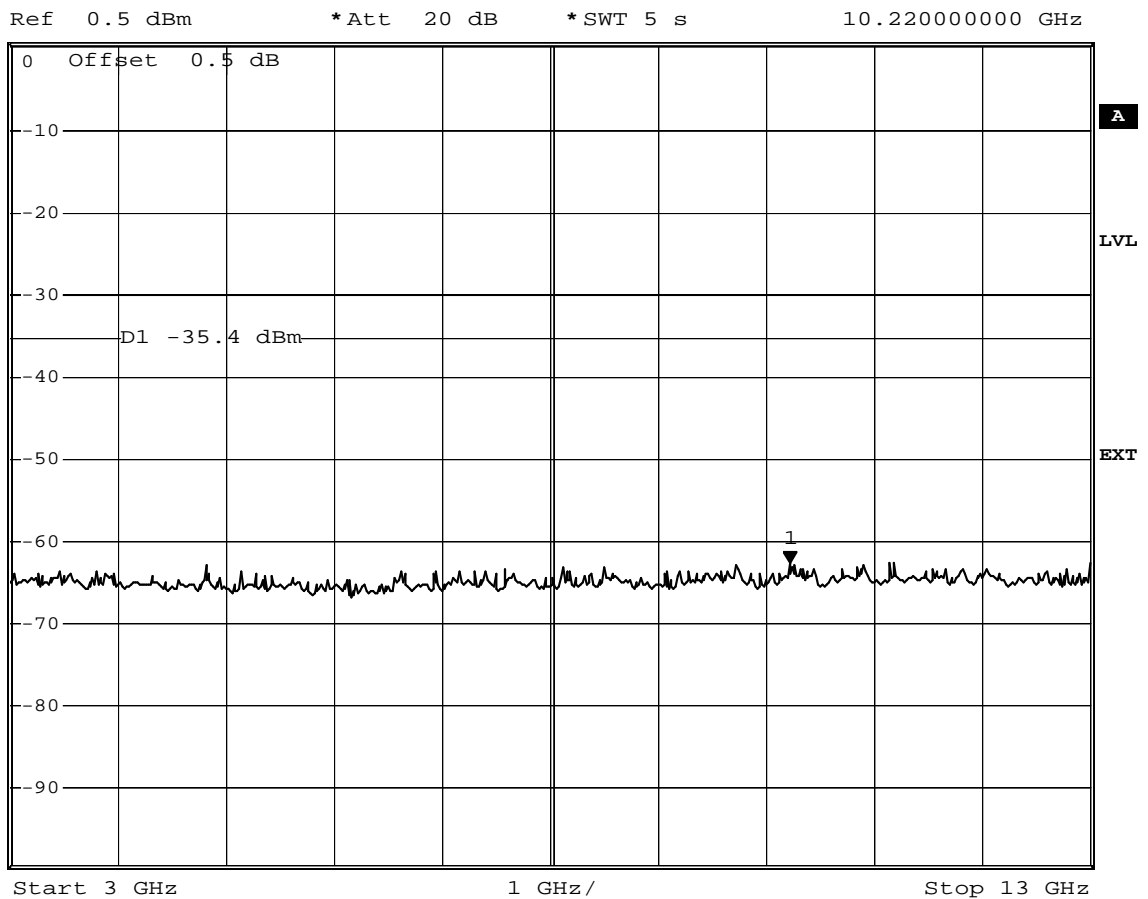
Page 38 of 84

FCC part 15.247 (d) Spurious Emissions

| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15.247 (d) |
| Comment 1 | Spurious Emissions conducted |
| Comment 2 | Channel : 2412 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



*RBW 100 kHz Marker 1 [T1]
 *VBW 300 kHz -62.53 dBm
 *SWT 5 s 10.22000000 GHz



Date: 3.MAR.2011 13:39:33

FCC part 15.247 (d) Spurious Emissions

| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15.247 (d) |
| Comment 1 | Spurious Emissions conducted |
| Comment 2 | Channel : 2412 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



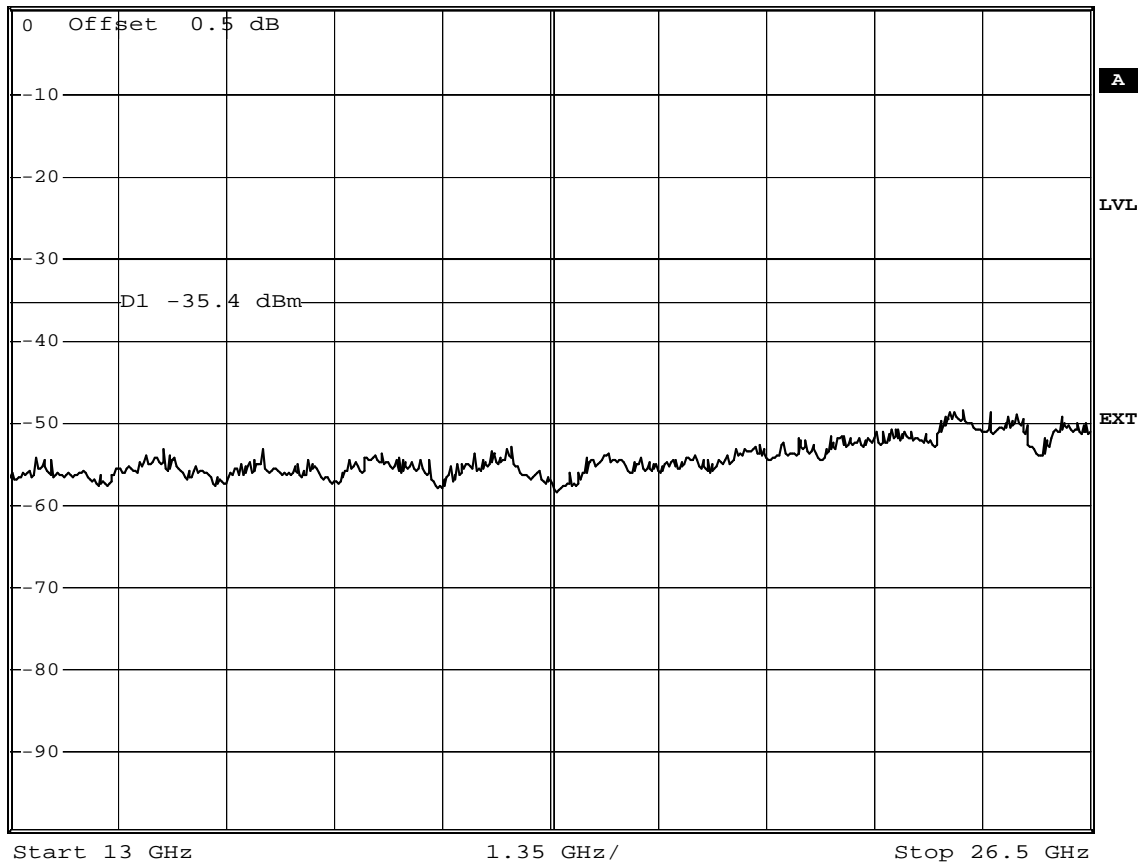
*RBW 100 kHz

*VBW 300 kHz

*SWT 5 s

Ref 0.5 dBm

*Att 20 dB

1 PK
VIEW


Date: 3.MAR.2011 13:40:29

FCC part 15.247 (d) Spurious Emissions

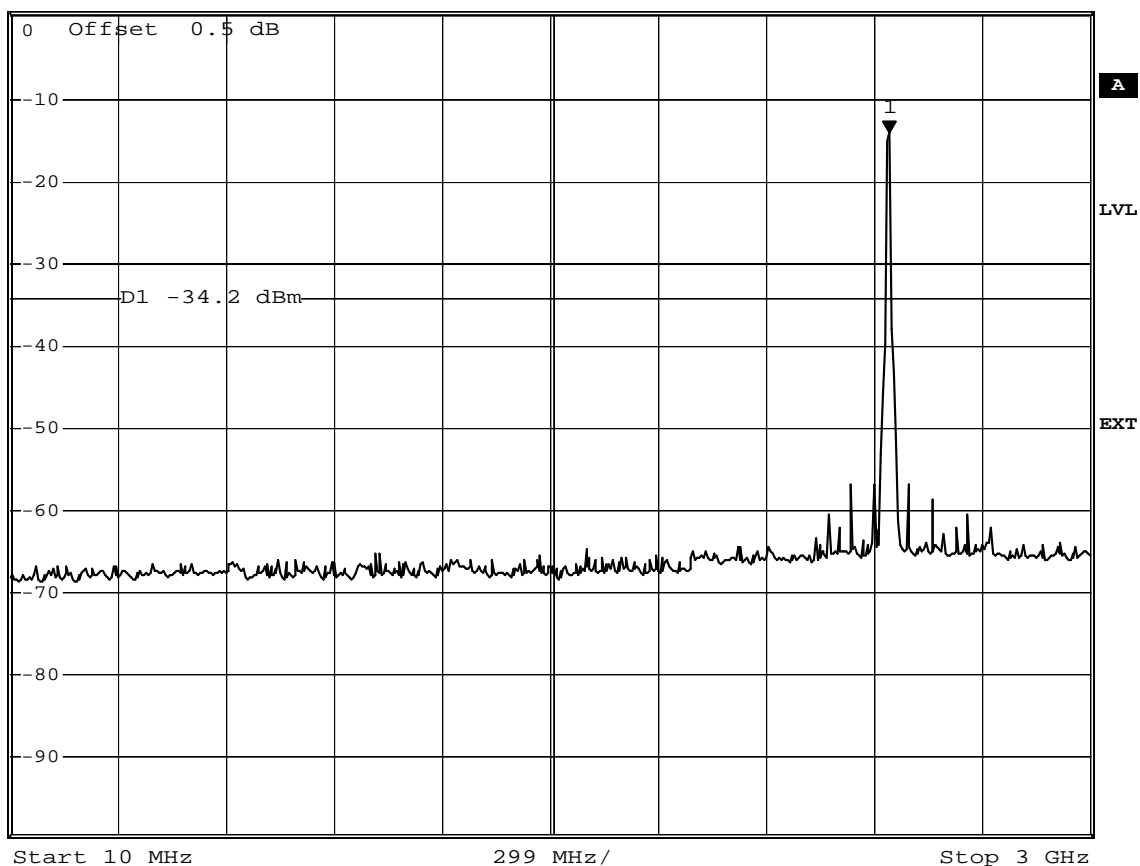
| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15.247 (d) |
| Comment 1 | Spurious Emissions conducted |
| Comment 2 | Channel : 2442 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



*RBW 100 kHz Marker 1 [T1]
*VBW 300 kHz -14.17 dBm
*SWT 5 s 2.443860000 GHz

Ref 0.5 dBm

*Att 20 dB

1 PK
VIEW


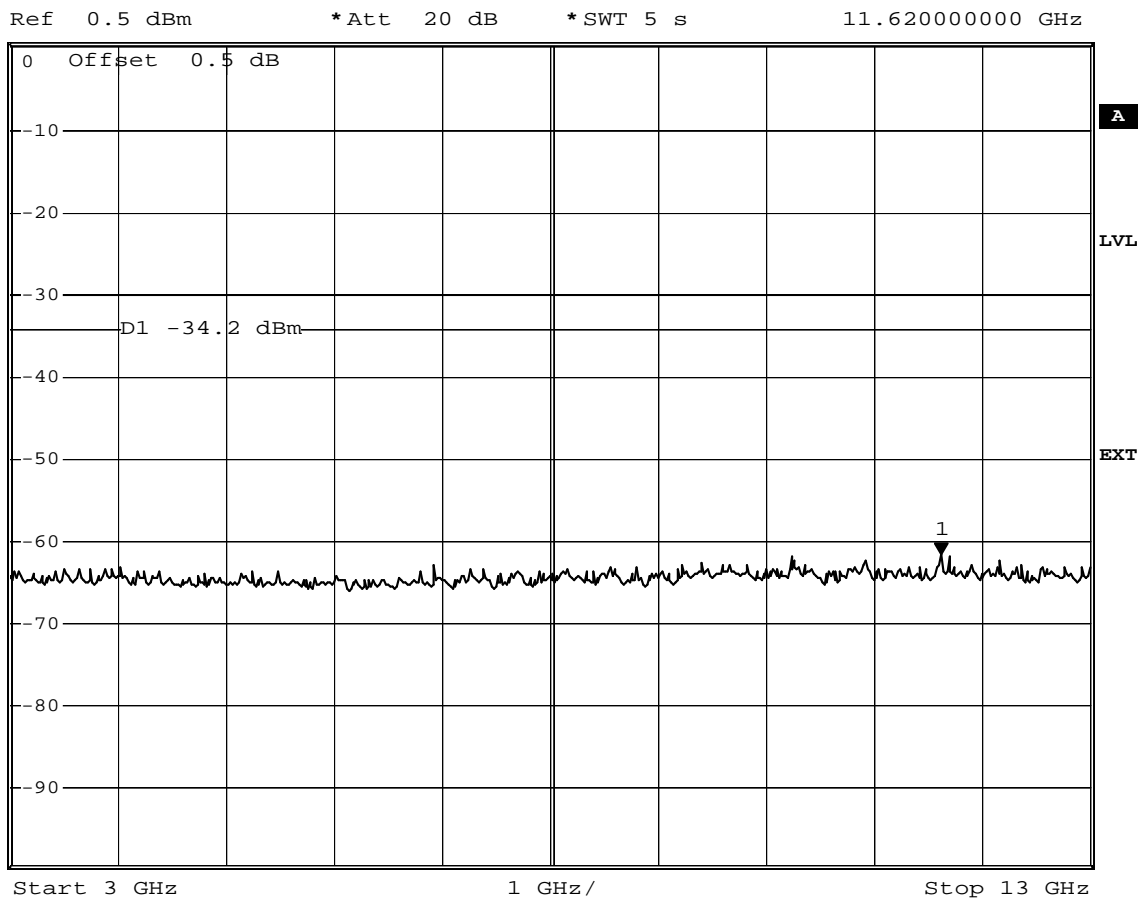
Date: 3.MAR.2011 13:58:49

FCC part 15.247 (d) Spurious Emissions

| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15.247 (d) |
| Comment 1 | Spurious Emissions conducted |
| Comment 2 | Channel : 2442 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



*RBW 100 kHz Marker 1 [T1]
 *VBW 300 kHz -61.63 dBm
 *SWT 5 s 11.62000000 GHz



Date: 3.MAR.2011 14:00:26

FCC part 15.247 (d) Spurious Emissions

| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15.247 (d) |
| Comment 1 | Spurious Emissions conducted |
| Comment 2 | Channel : 2442 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



*RBW 100 kHz

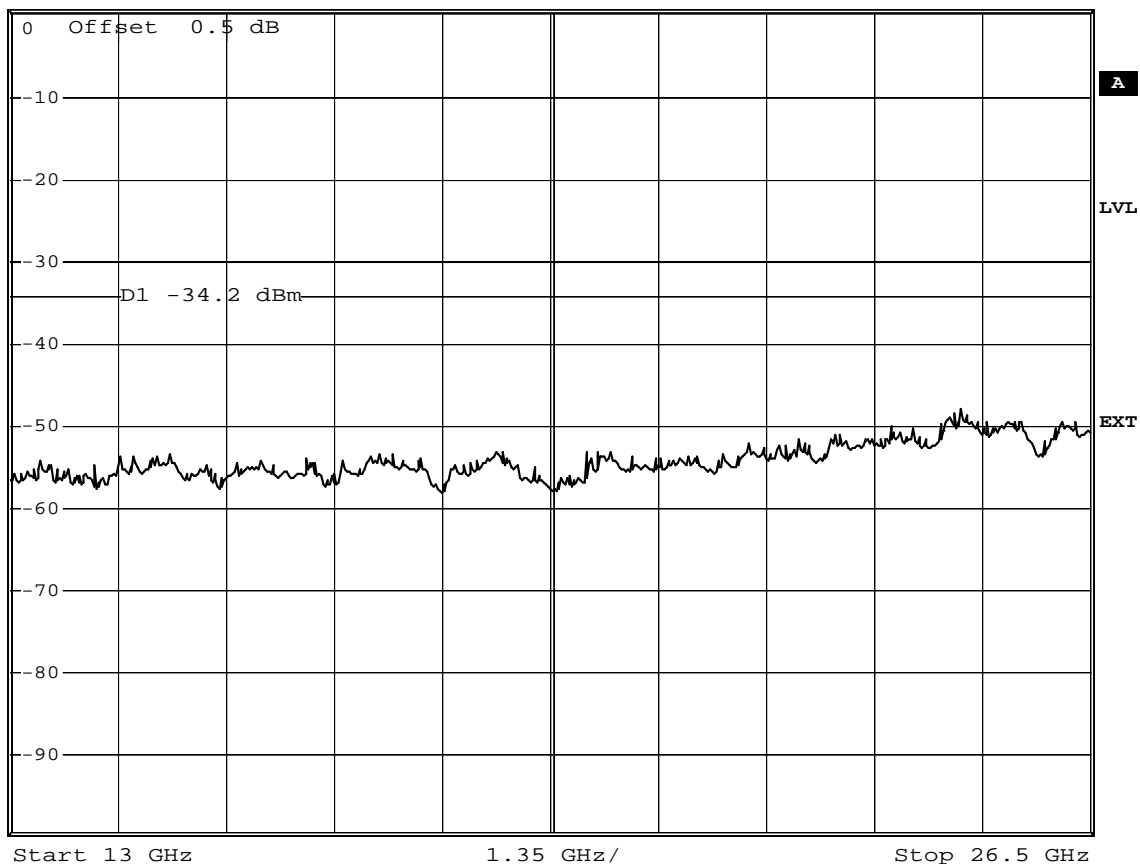
*VBW 300 kHz

*SWT 5 s

Ref 0.5 dBm

*Att 20 dB

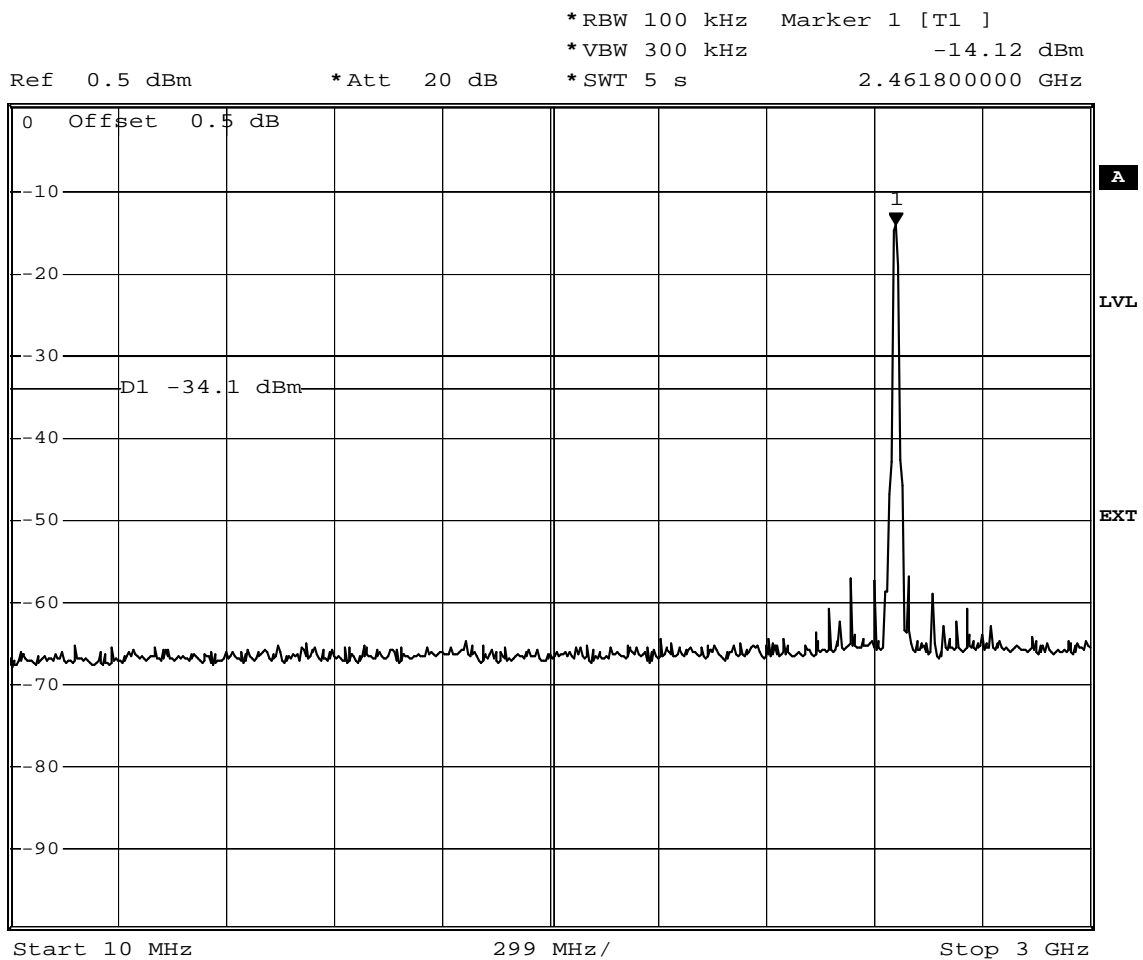
1 PK
VIEW



Date: 3.MAR.2011 14:01:25

FCC part 15.247 (d) Spurious Emissions

| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15.247 (d) |
| Comment 1 | Spurious Emissions conducted |
| Comment 2 | Channel : 2462 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



Date: 3.MAR.2011 14:41:50

**FCC part 15.247 (d)
Spurious Emissions**

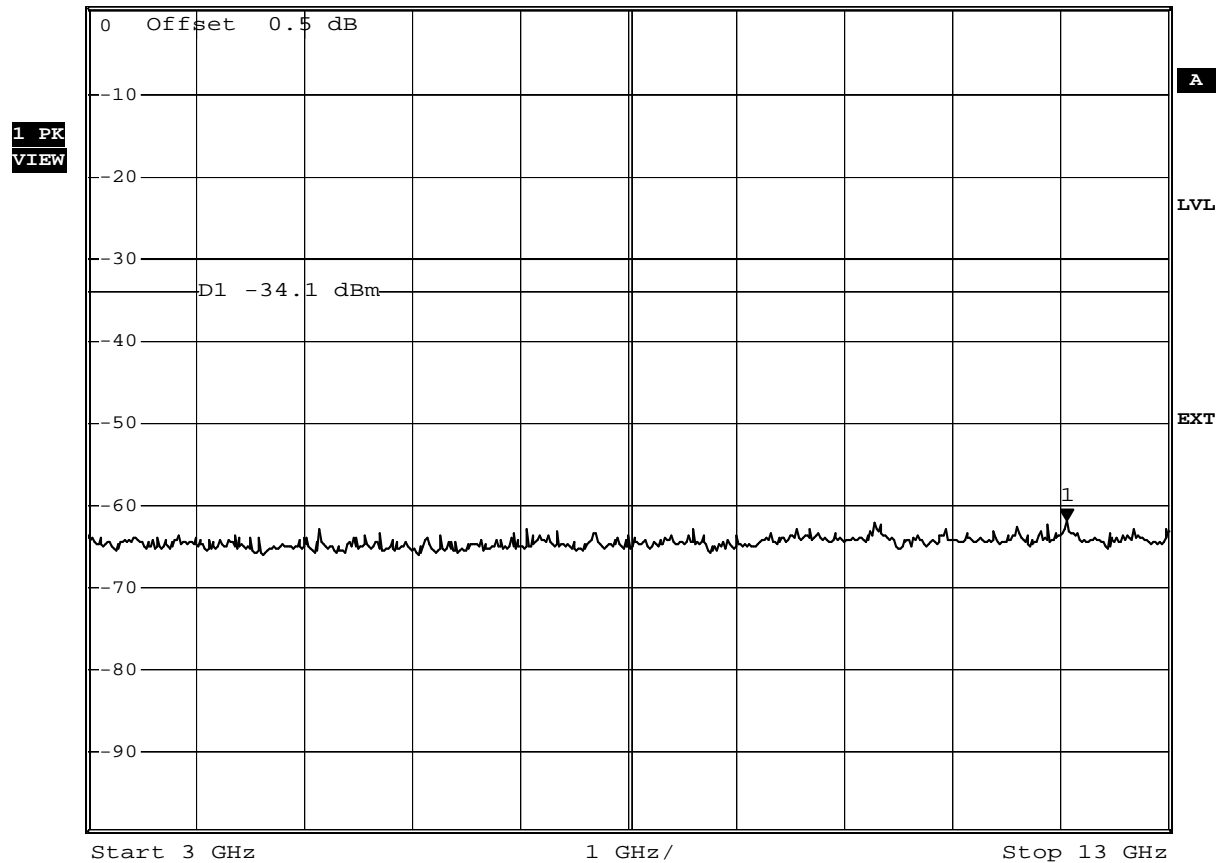
| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15.247 (d) |
| Comment 1 | Spurious Emissions conducted |
| Comment 2 | Channel : 2462 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



*RBW 100 kHz Marker 1 [T1]
 *VBW 300 kHz -61.94 dBm
 *SWT 5 s 12.060000000 GHz

Ref 0.5 dBm

*Att 20 dB



Date: 3.MAR.2011 14:45:02

**FCC part 15.247 (d)
Spurious Emissions**

| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15.247 (d) |
| Comment 1 | Spurious Emissions conducted |
| Comment 2 | Channel : 2462 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



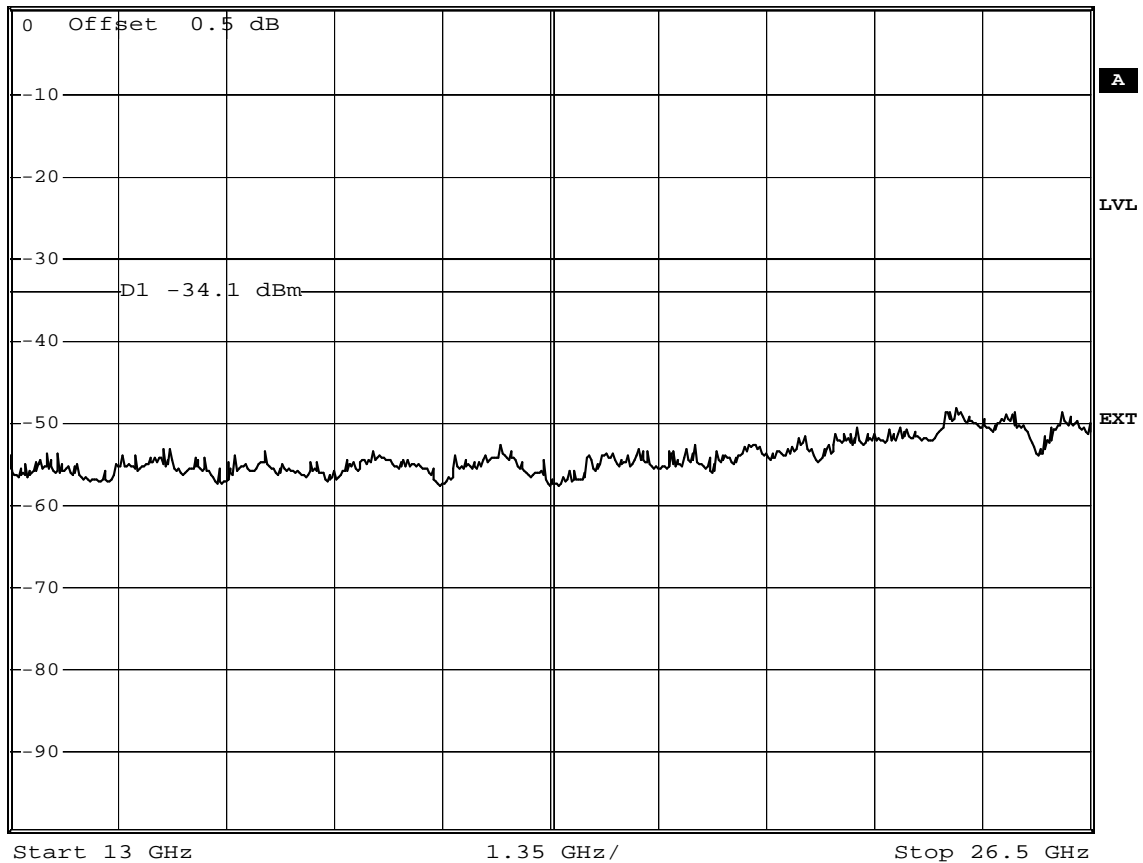
*RBW 100 kHz

*VBW 300 kHz

*SWT 5 s

Ref 0.5 dBm

*Att 20 dB

**1 PK
VIEW**


Date: 3.MAR.2011 14:46:25

Annex E Band edge compliance

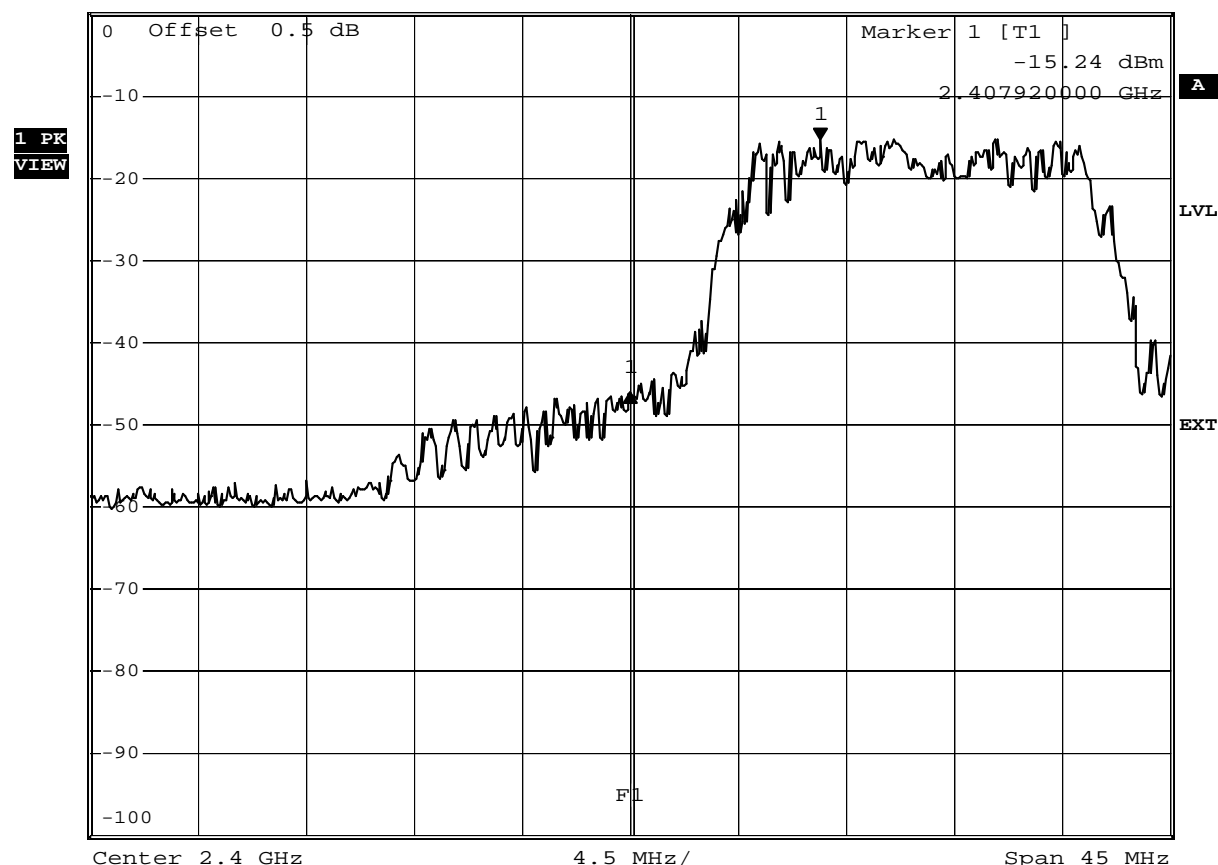
FCC part 15.247

Band-edge compliance of RF conducted emissions

| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15 section 247(c) |
| Comment 1 | Band-edge compliance |
| Comment 2 | Channel.: 2412 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



*RBW 100 kHz Delta 1 [T1]
 *VBW 100 kHz -30.77 dB
 Ref 0 dBm Att 30 dB SWT 10 ms -7.920000000 MHz



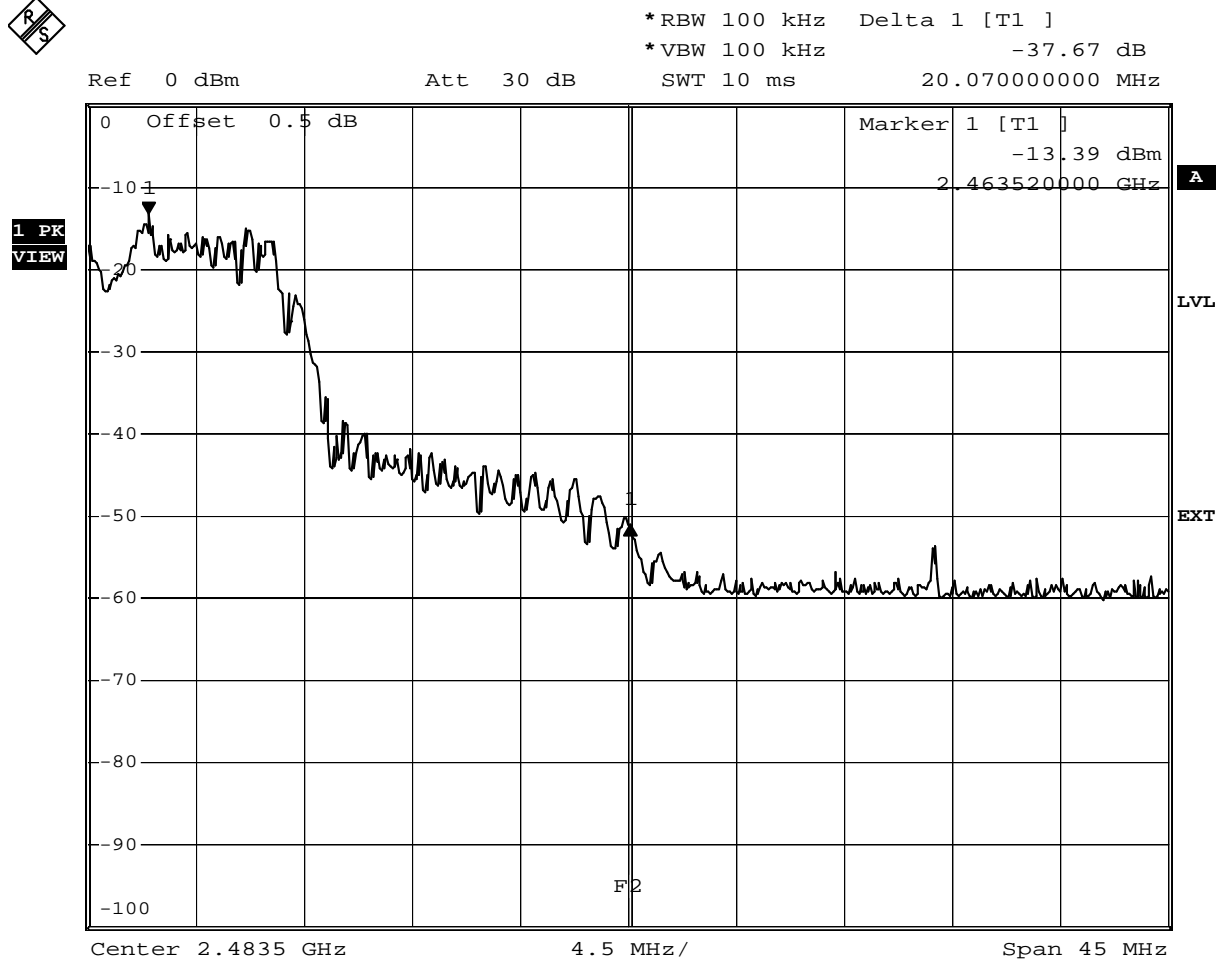
Comment: Limit: Marker Delta value >20 dB; Result: PASS

Date: 3.MAR.2011 13:44:50

FCC part 15.247

Band-edge compliance of RF conducted emissions

| | |
|-----------------------|--|
| EUT | Measuring Probe |
| Model | P03.6000 TC60 |
| Approval Holder | BLUM Novotest / Ord.: G0M21007-3432 |
| Temperature / Voltage | 25°C, Vnom |
| Test Site / Operator | Eurofins Product Service GmbH, Mr. Treffke |
| Test Specification | FCC part 15 section 247(c) |
| Comment 1 | Band-edge compliance |
| Comment 2 | Channel.: 2462 MHz |
| Comment 3 | CSS, power level max, 250 kbit/s |



Comment: Limit: Marker Delta value >20 dB; Result: PASS

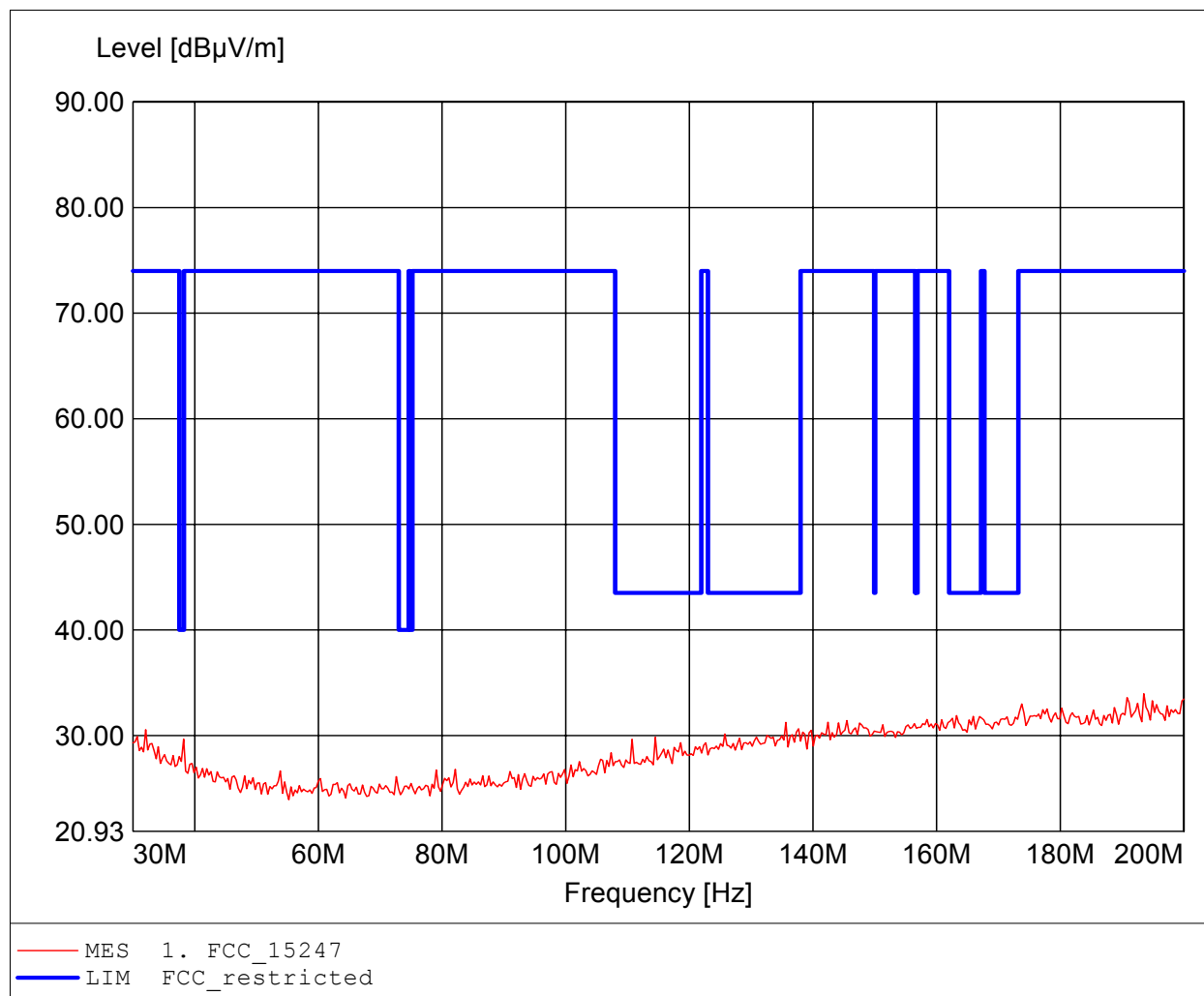
Date: 3.MAR.2011 14:50:32

Annex F Transmitter radiated spurious emissions

Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

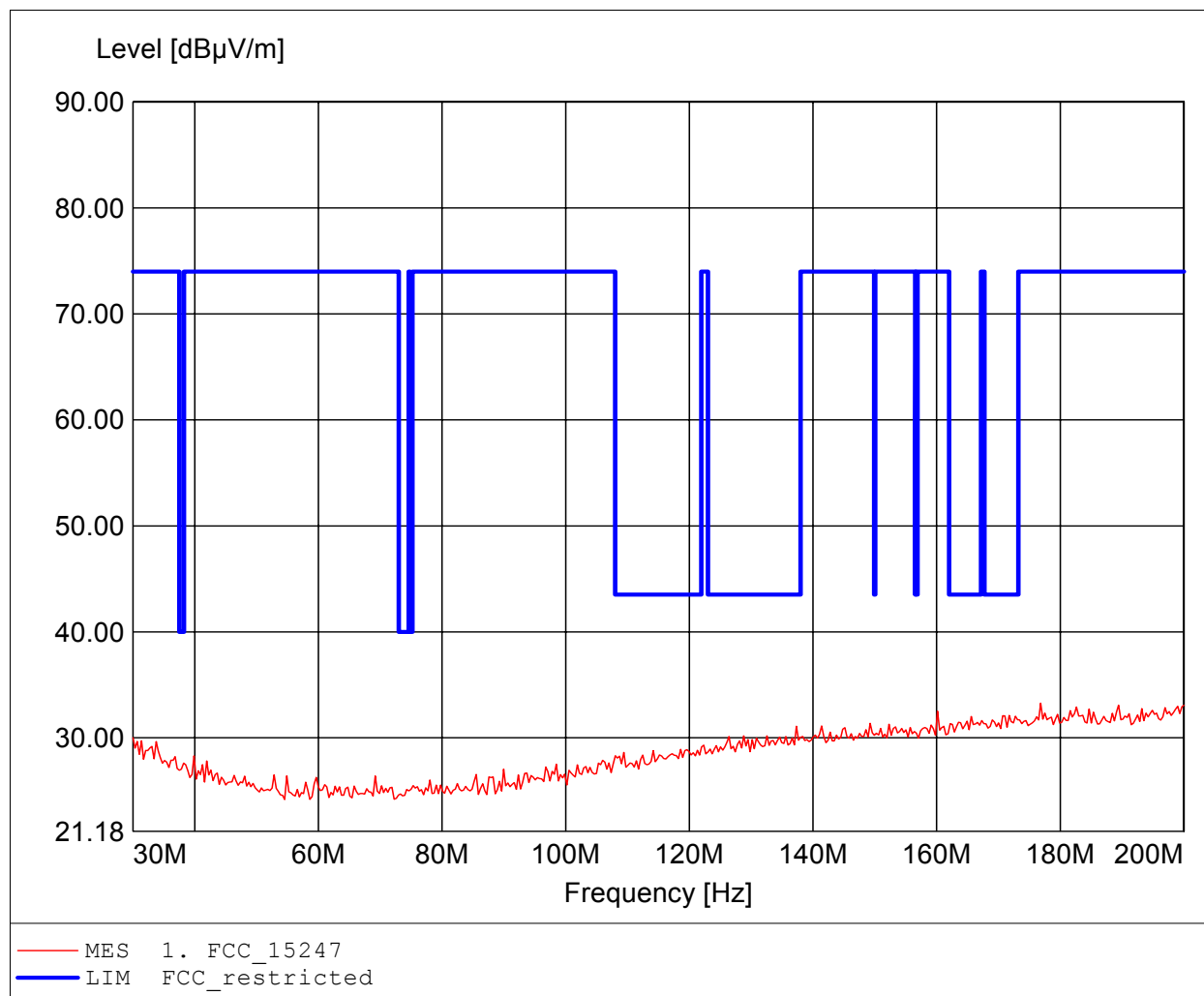
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2412 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 193.527MHz, Emax: 33.96dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

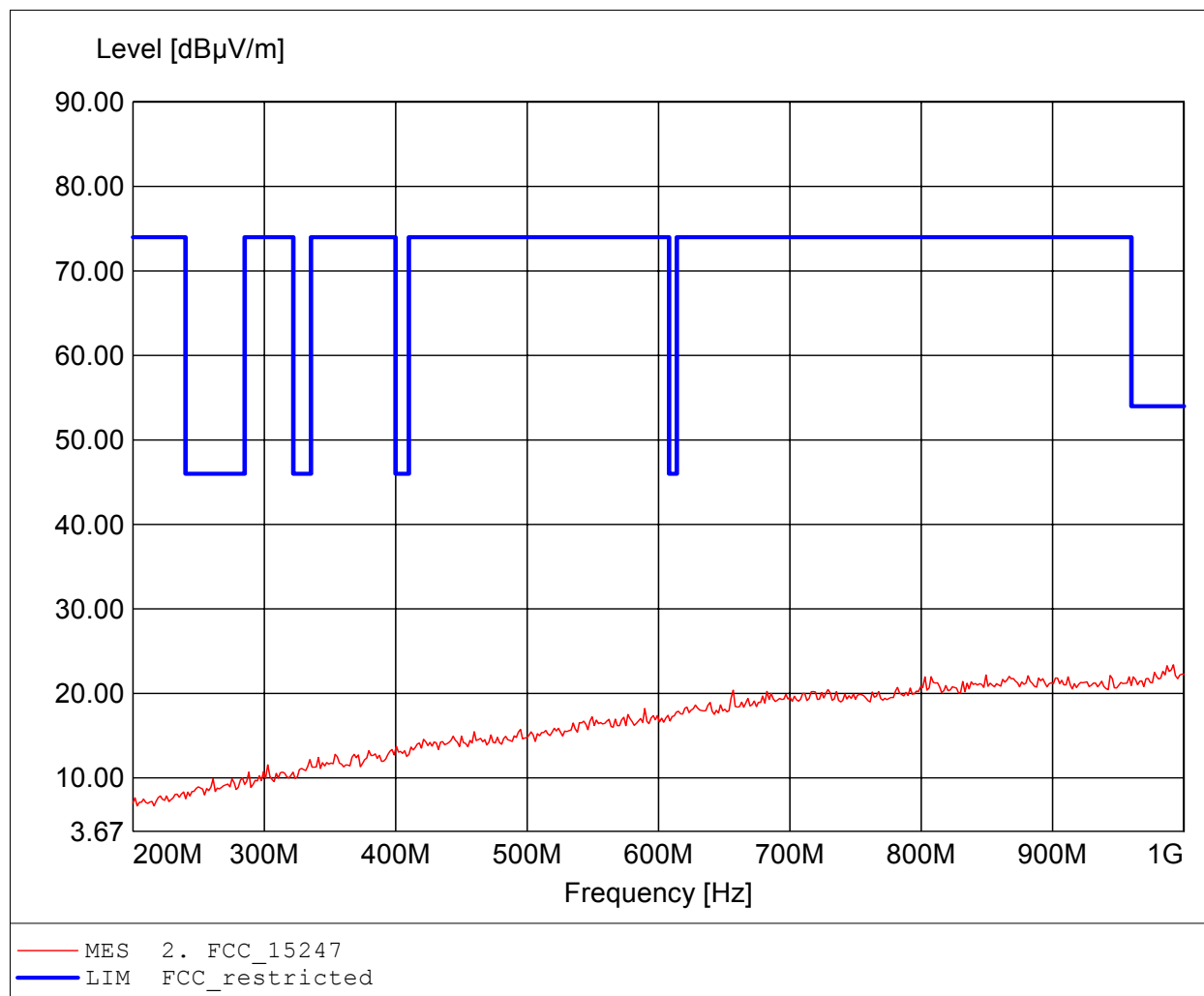
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2412 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq: 176.834MHz, Emax: 33.27dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

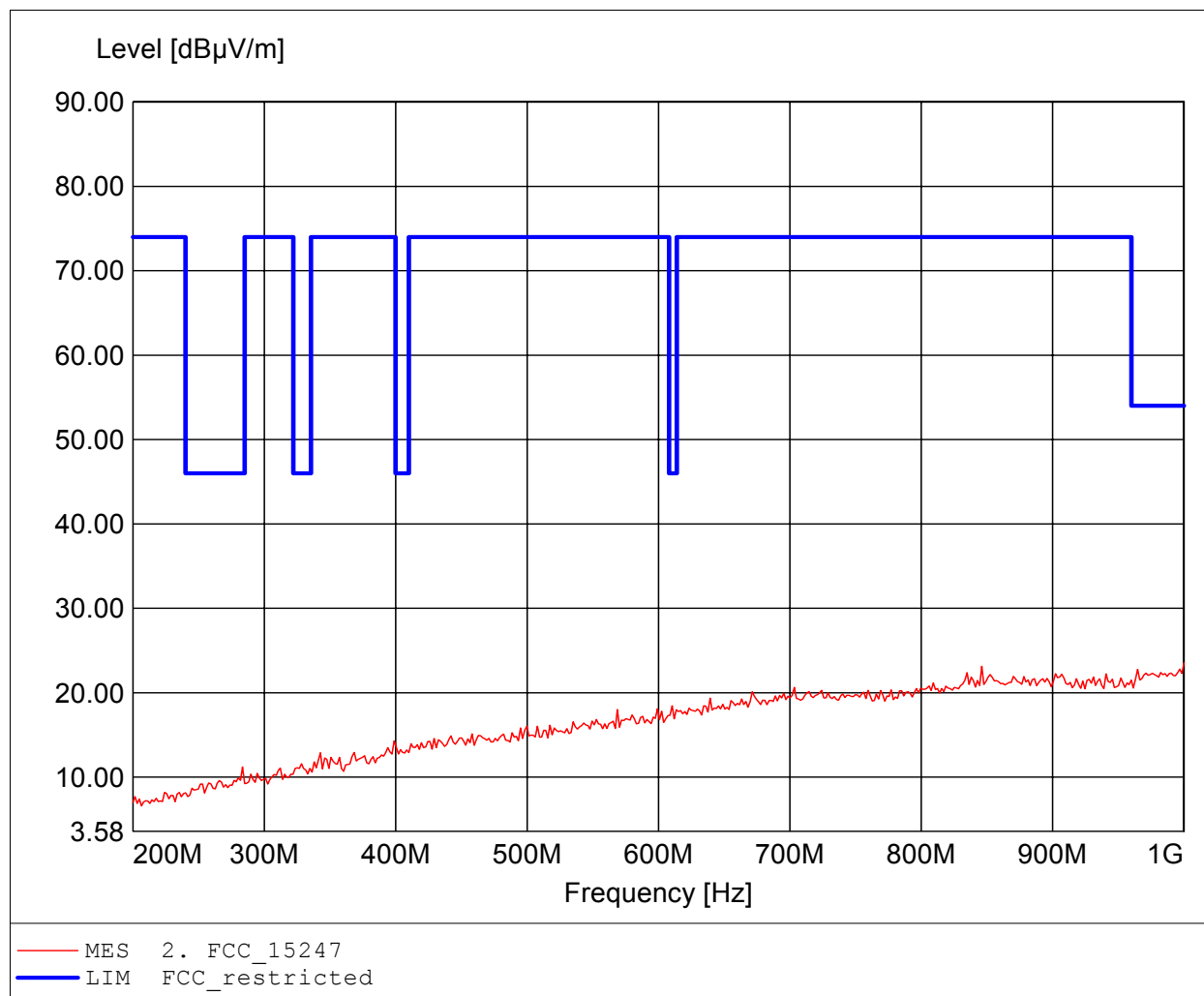
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2412 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 991.984MHz, Emax: 23.38dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

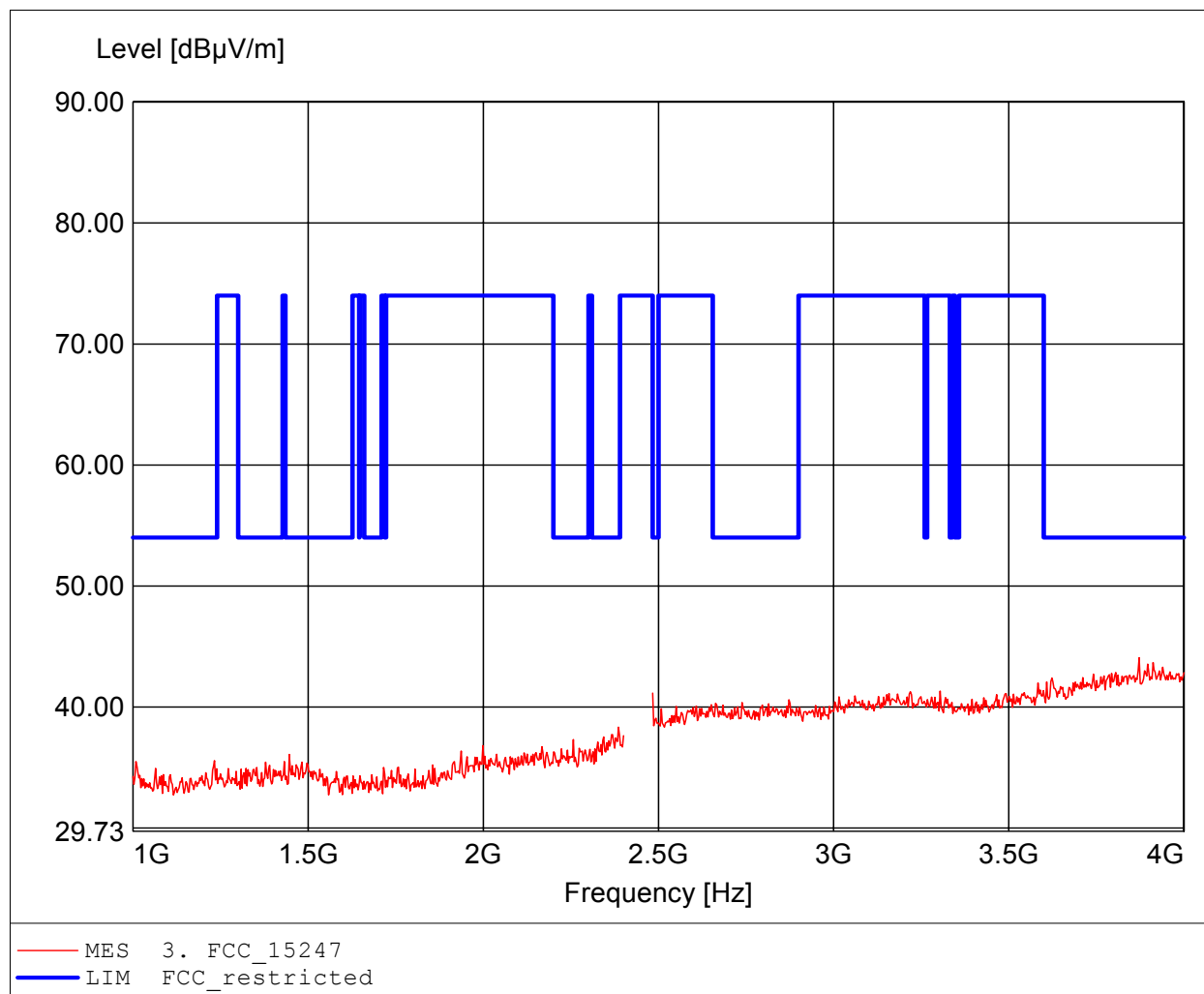
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2412 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247
Comment 1: Dist.: 3m, Ant.: HL 223, amplif.
Comment 2: Freq: 1.000GHz, Emax: 23.53dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

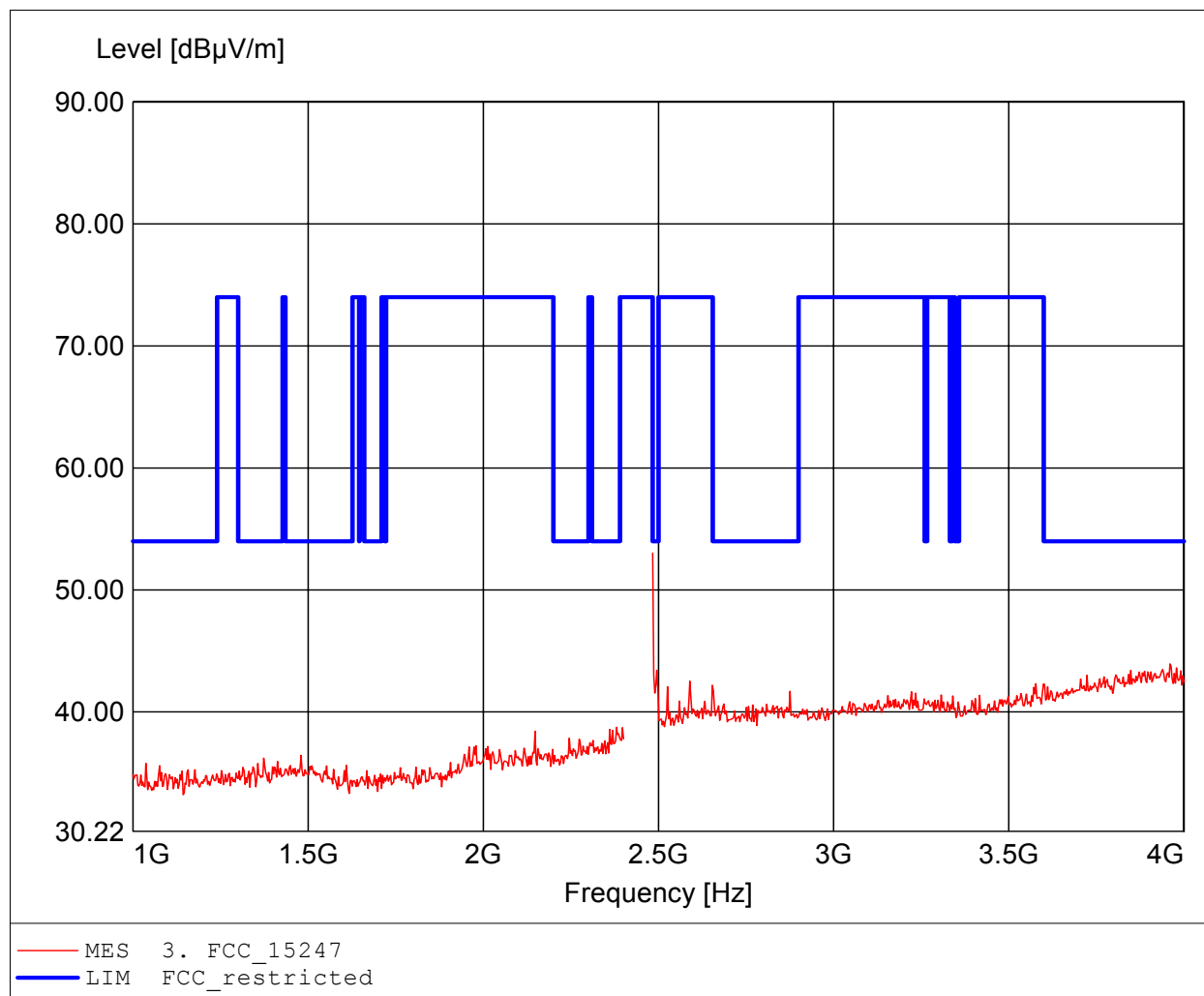
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3433
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2462 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 3.872GHz, Emax: 44.07dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

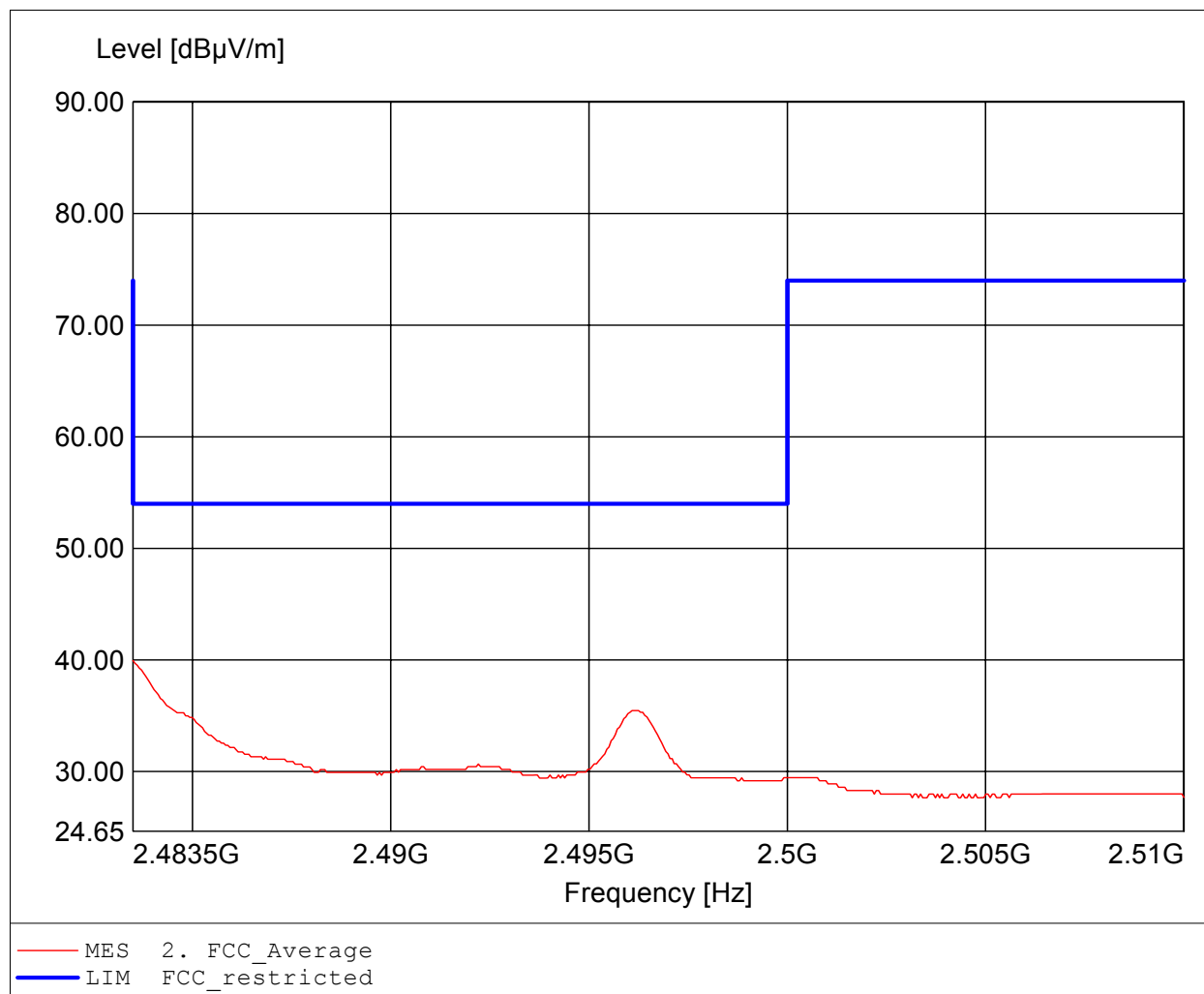
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3433
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2462 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 2.484GHz, Emax: 53.02dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

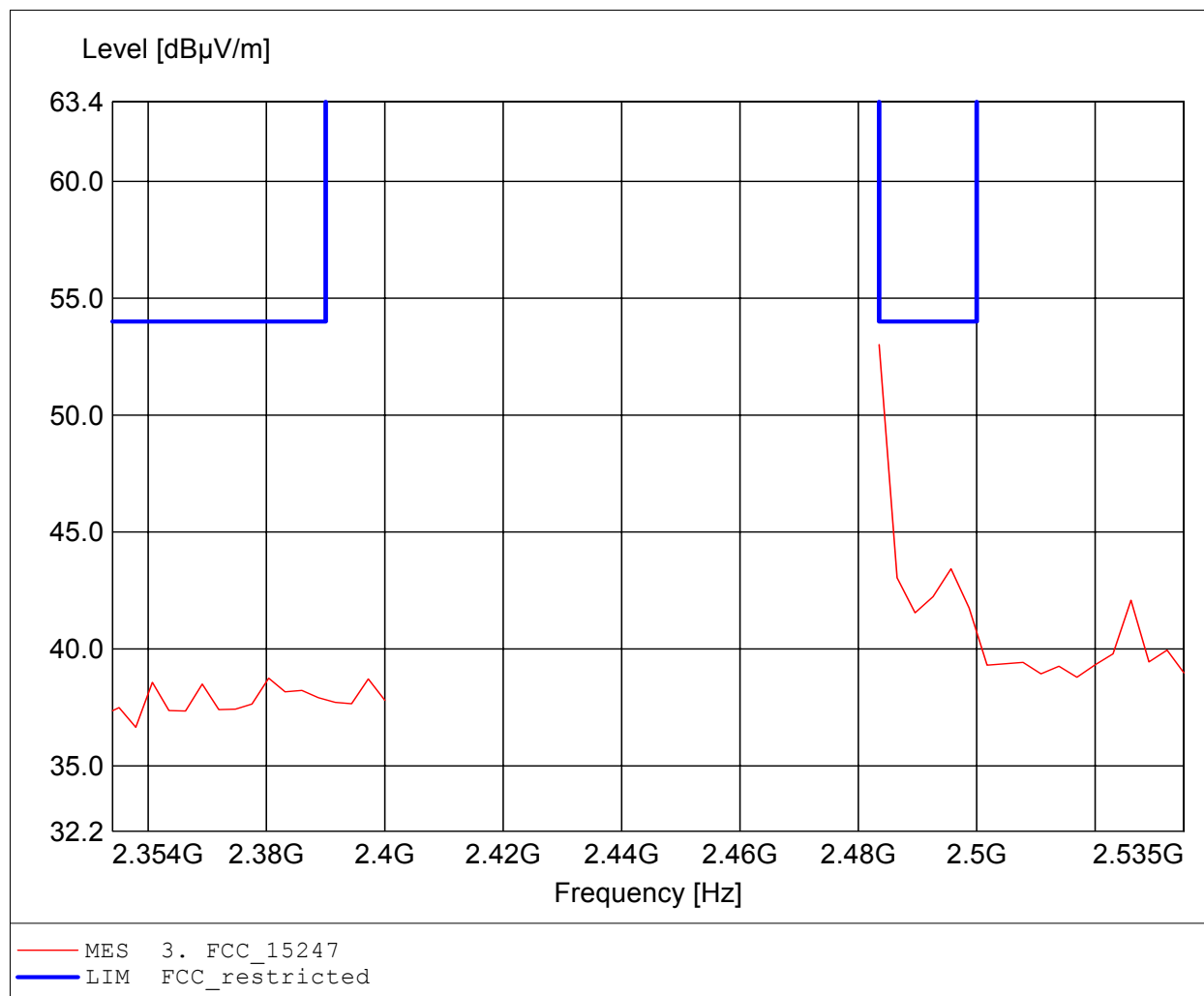
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2462 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, average detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 2.484GHz, Emax: 39.94dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

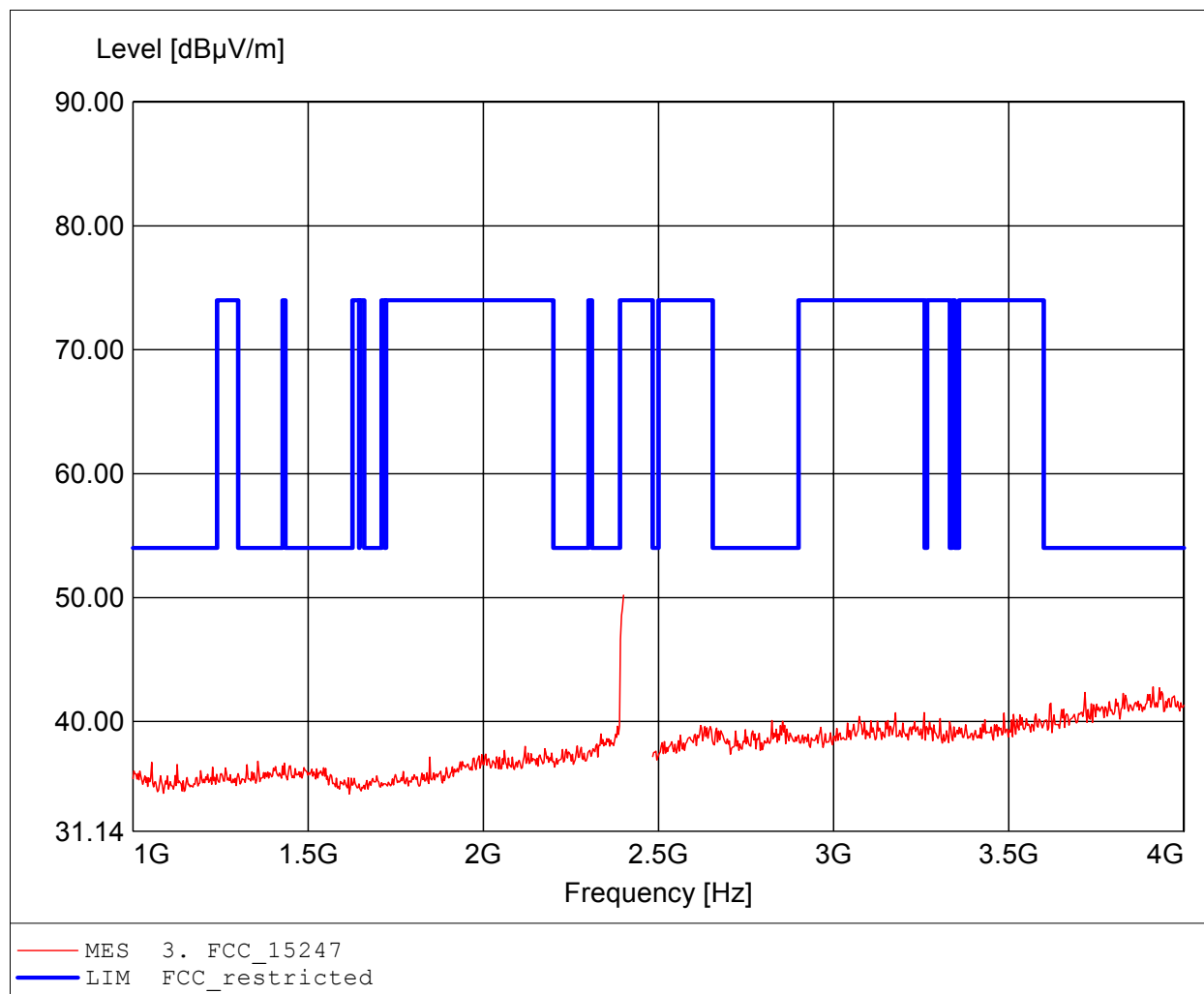
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2462 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 2.484GHz, Emax: 53.02dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

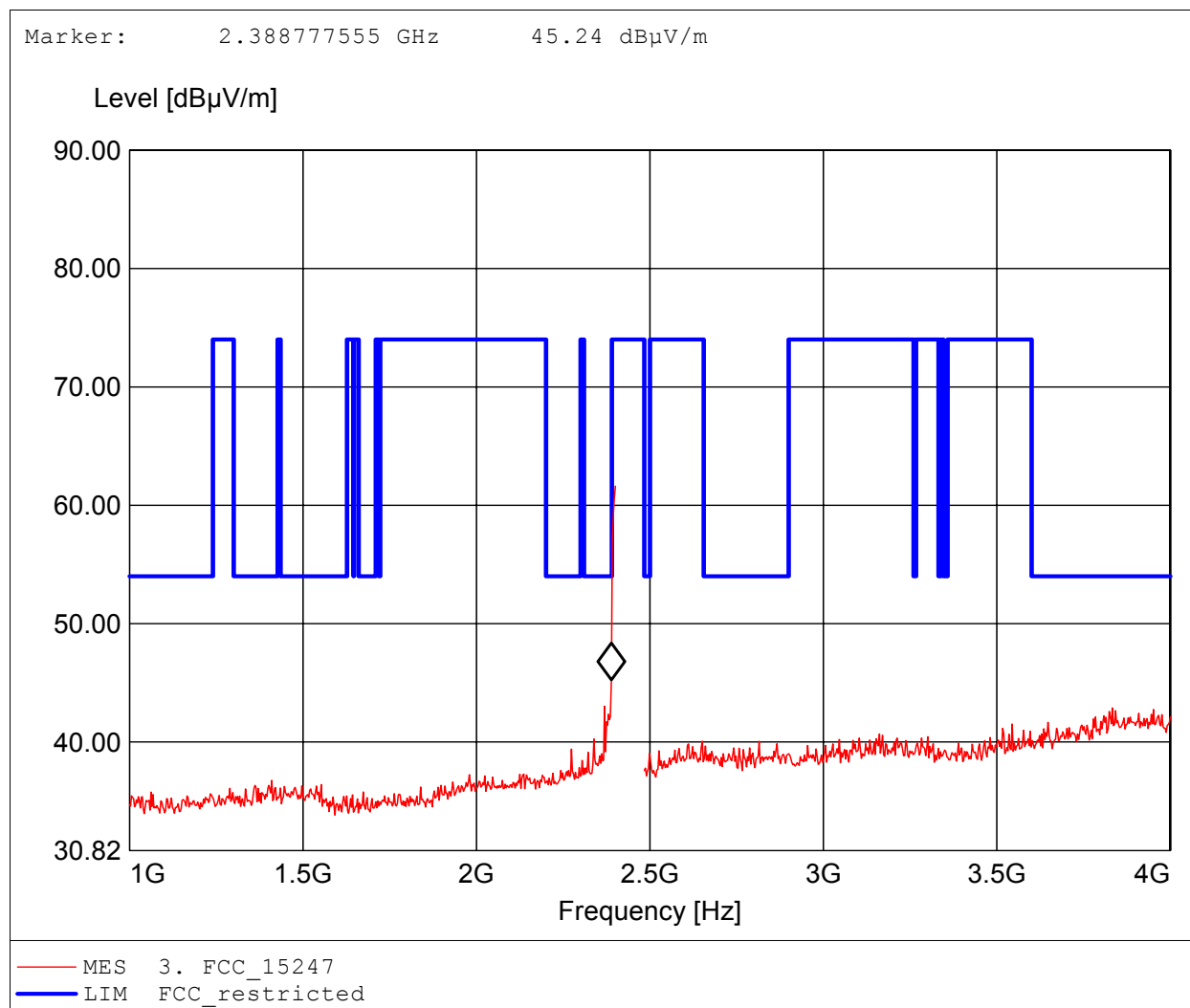
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2412 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 2.400GHz, Emax: 50.20dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

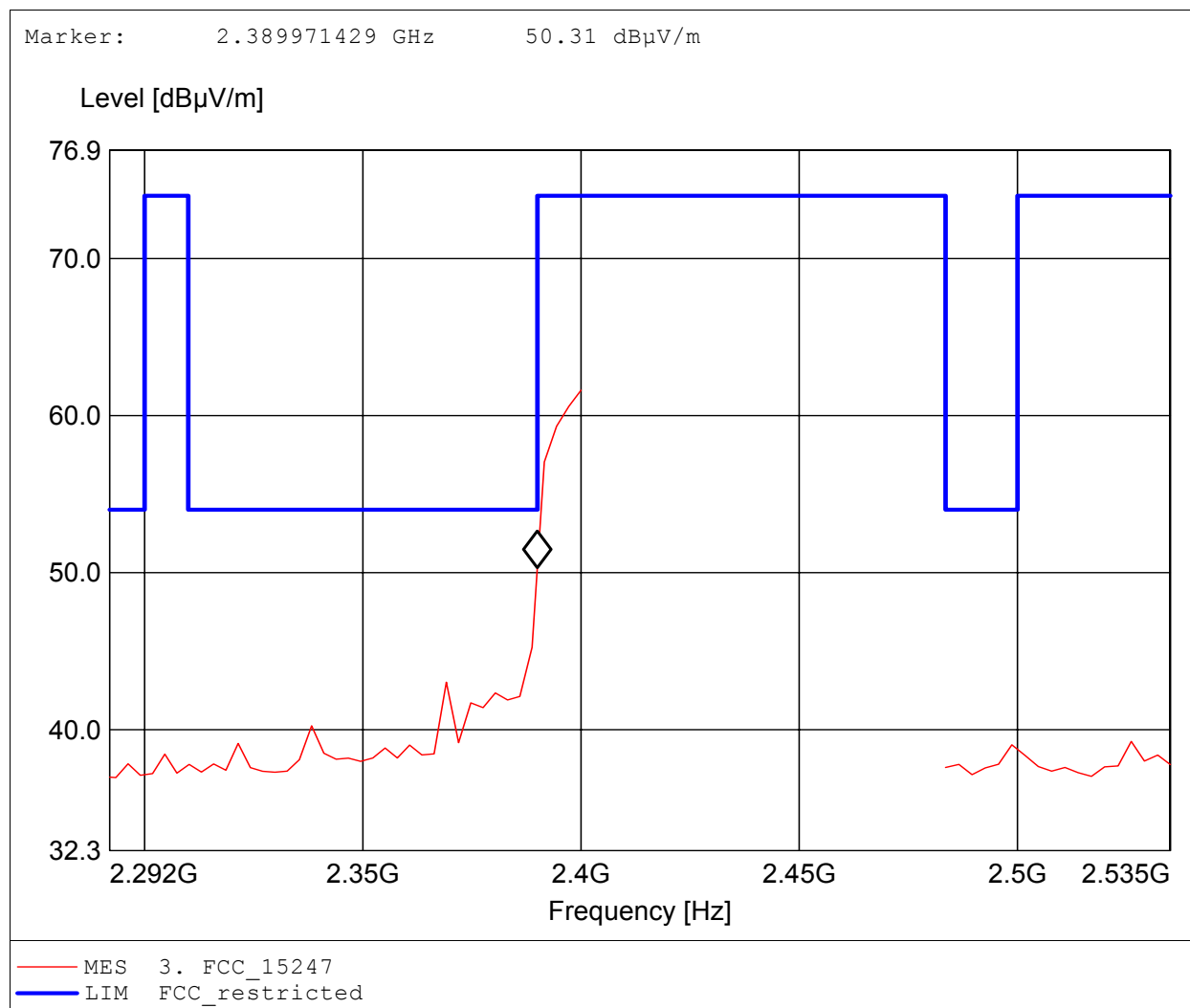
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2412 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 2.400GHz, Emax: 61.62dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

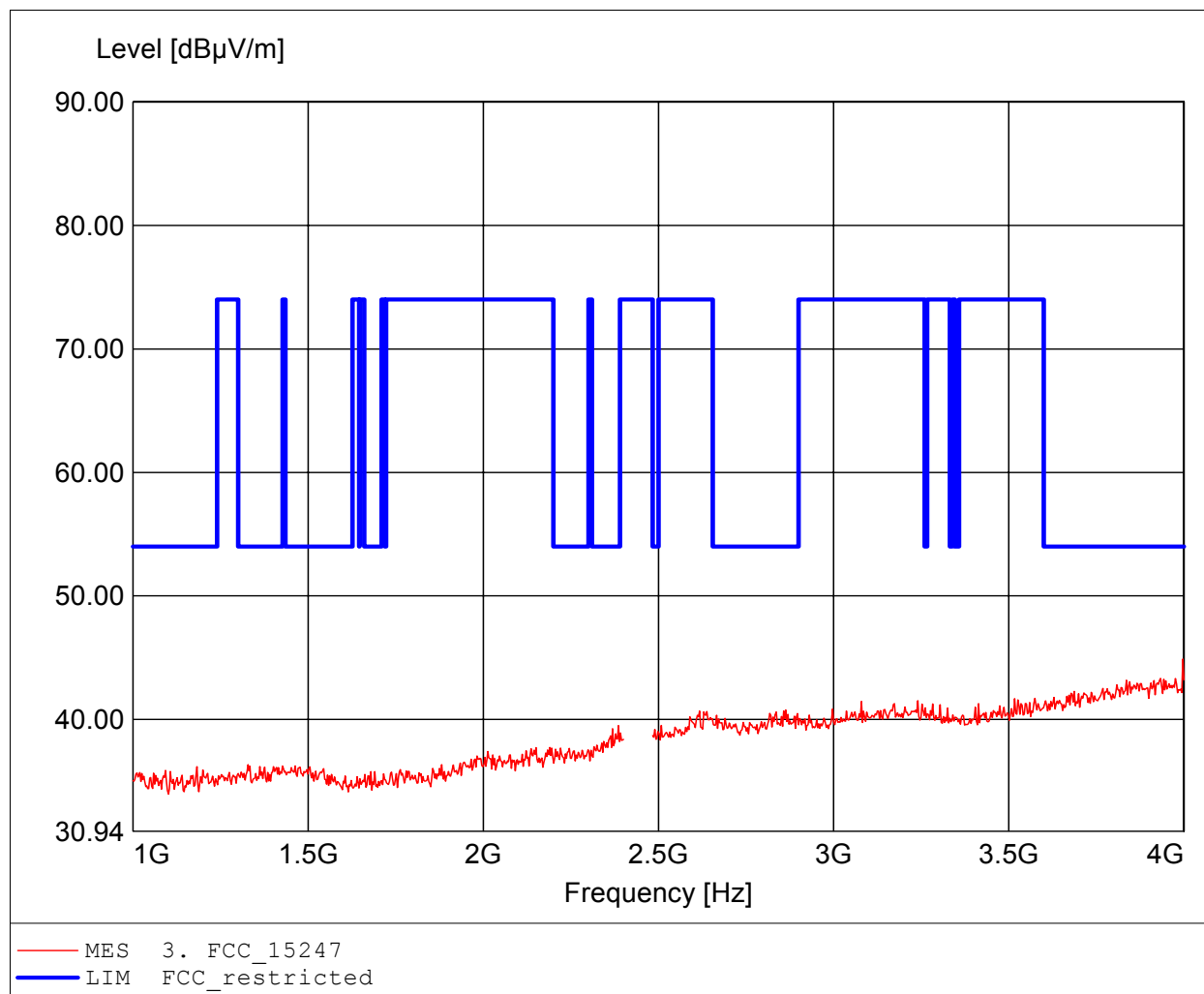
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2412 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 2.400GHz, Emax: 61.62dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

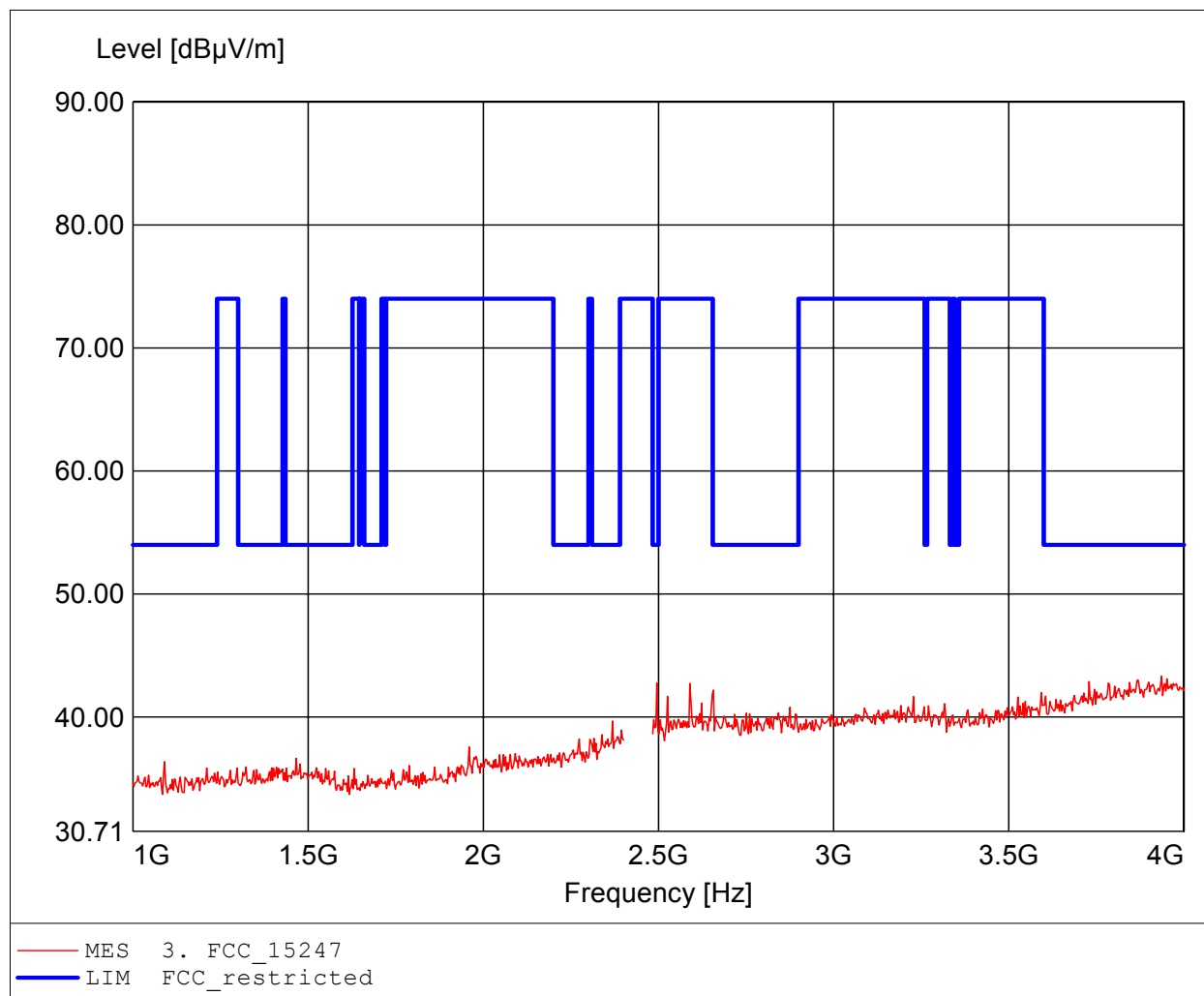
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2442 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 3.997GHz, Emax: 44.89dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

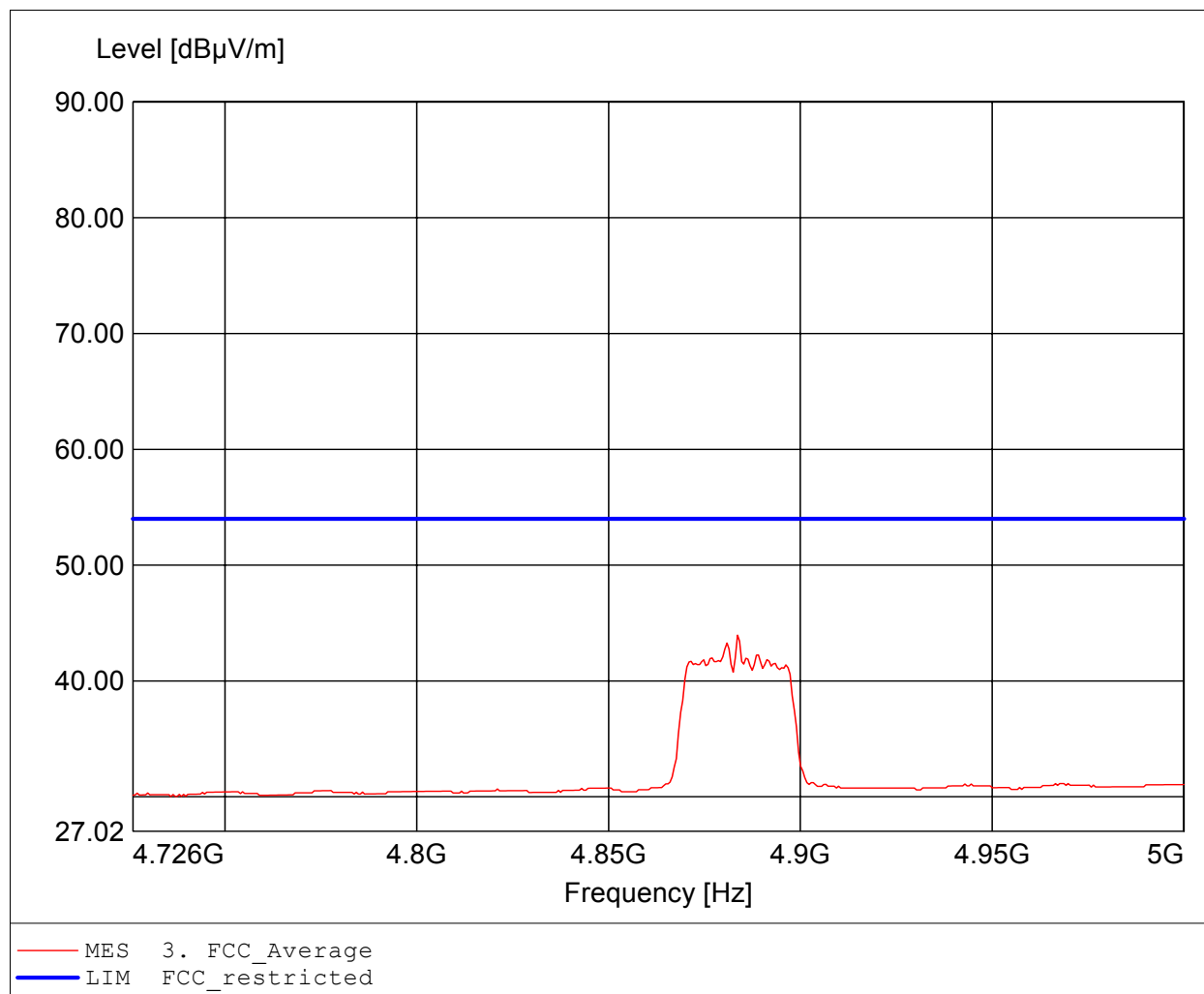
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2442 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 3.936GHz, Emax: 43.33dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

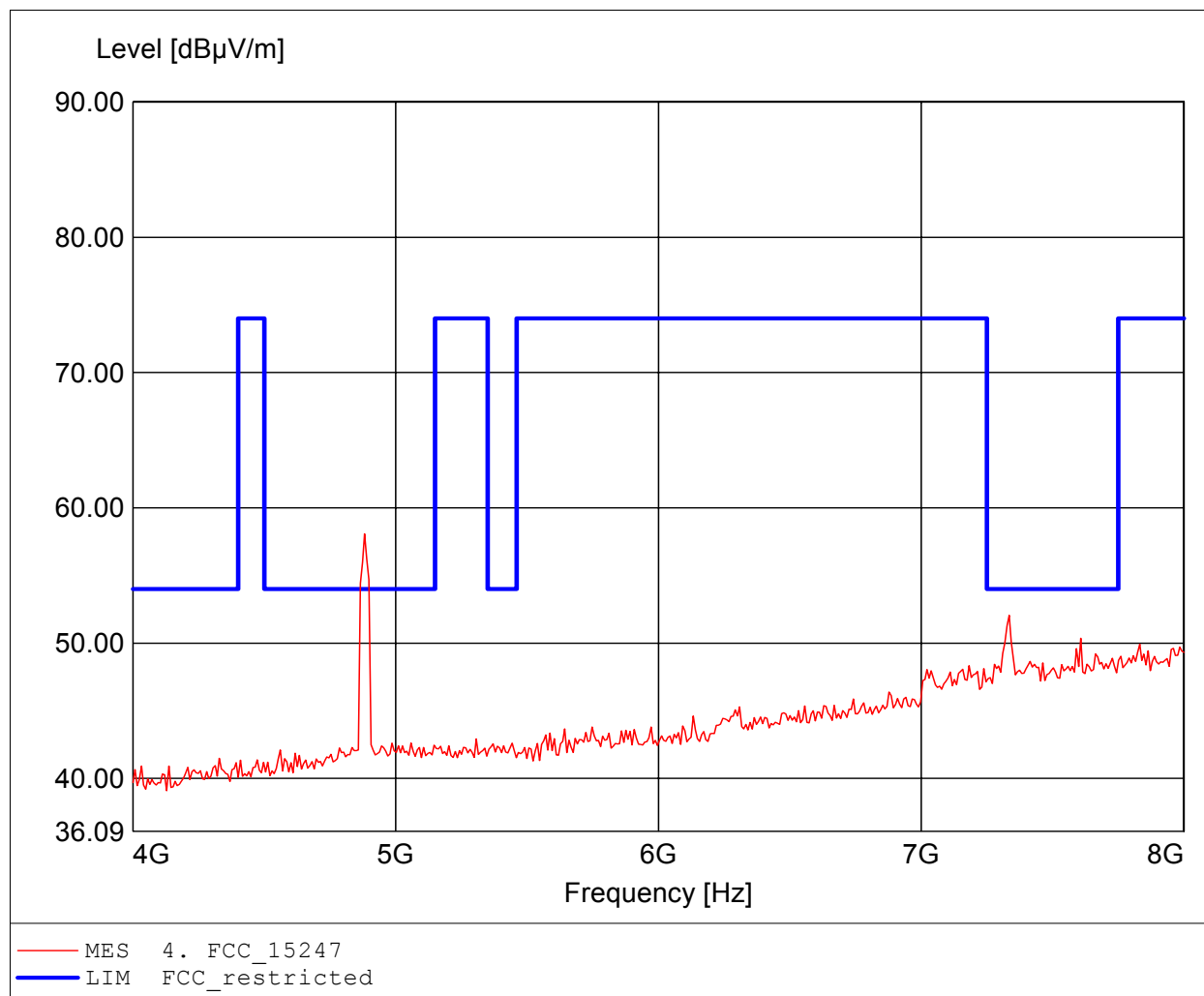
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2442 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, average detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 4.884GHz, Emax: 43.95dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

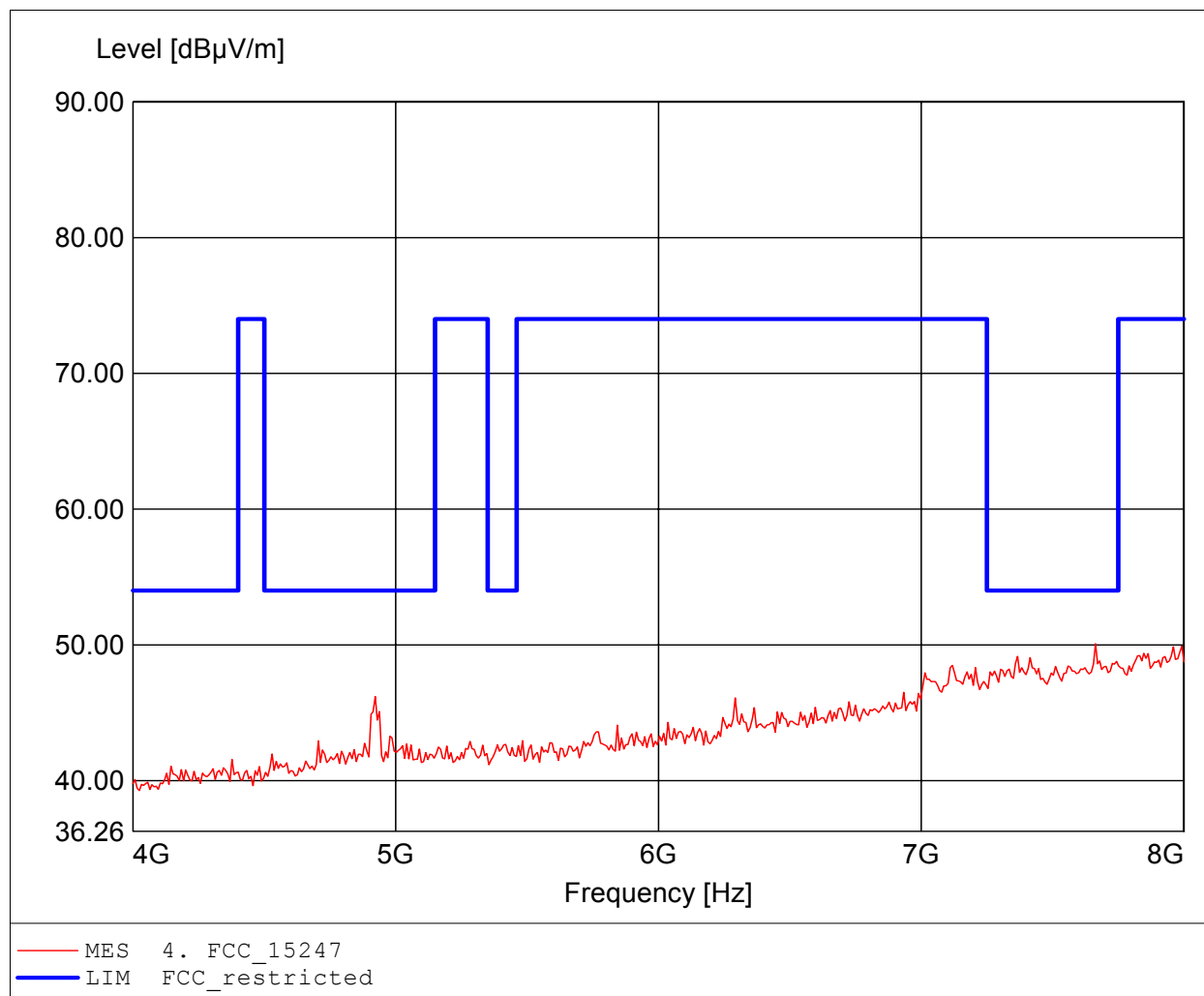
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2442 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 4.882GHz, Emax: 58.08dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

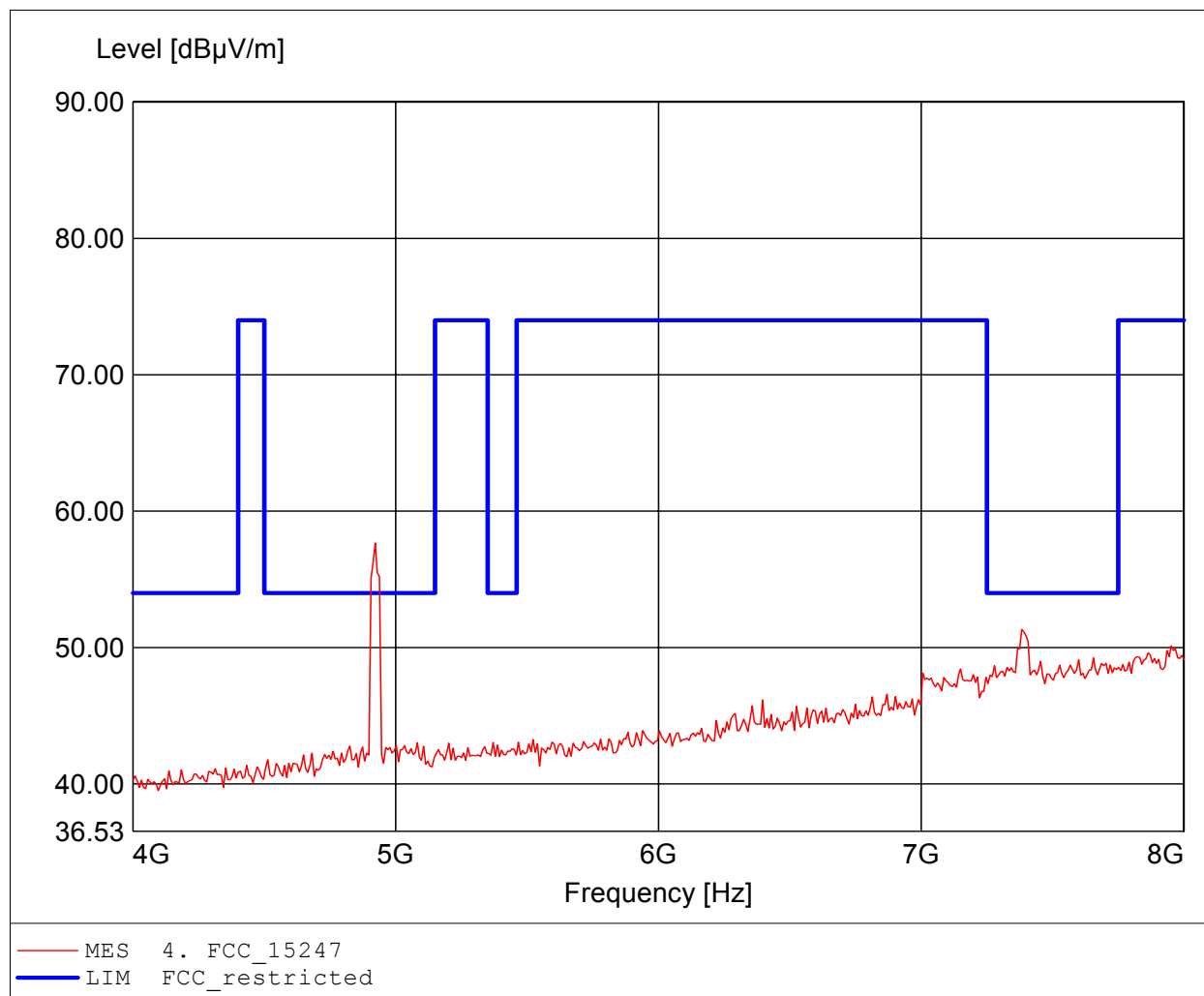
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2462 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 7.663GHz, Emax: 50.08dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

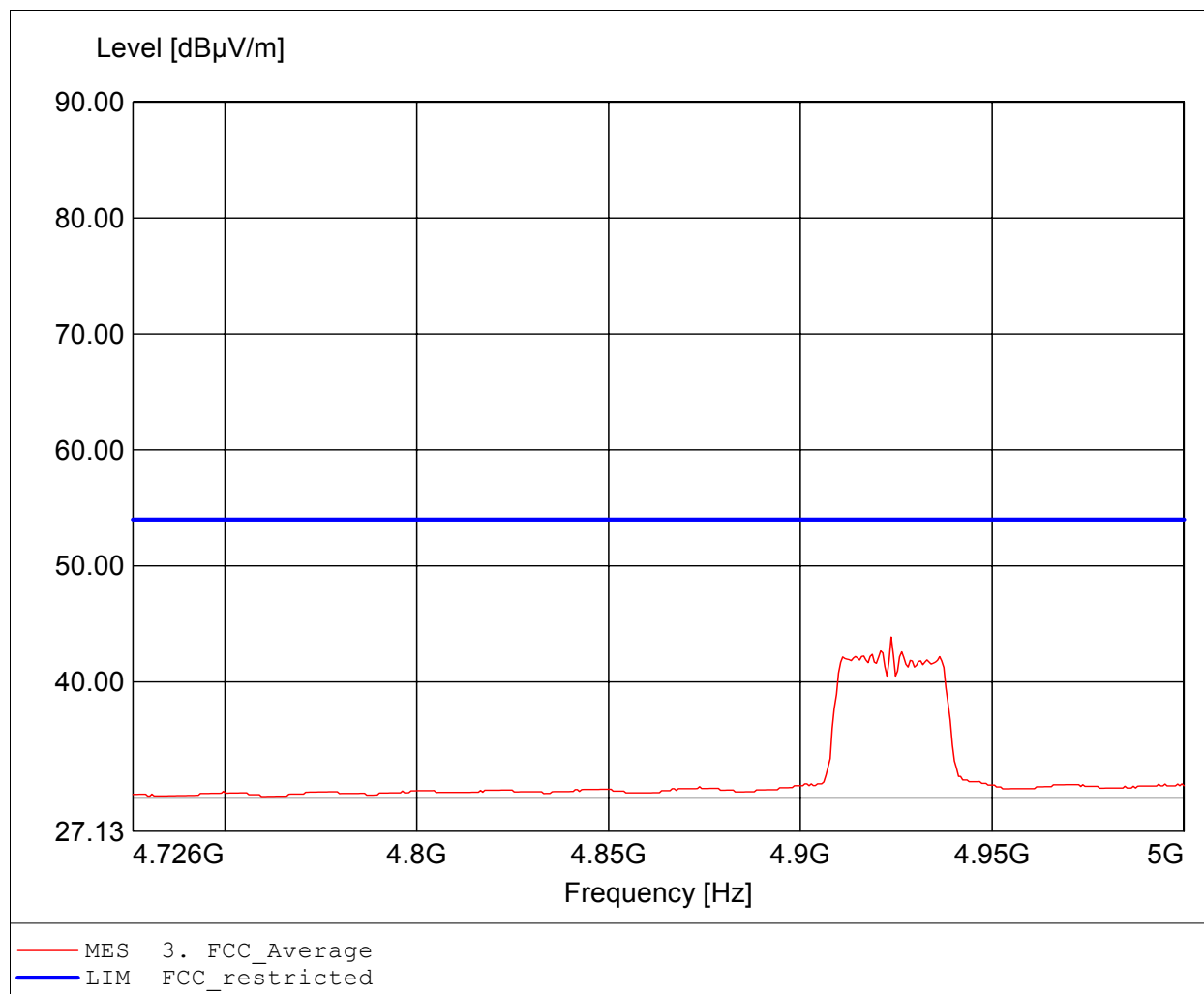
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2462 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 4.922GHz, Emax: 57.67dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

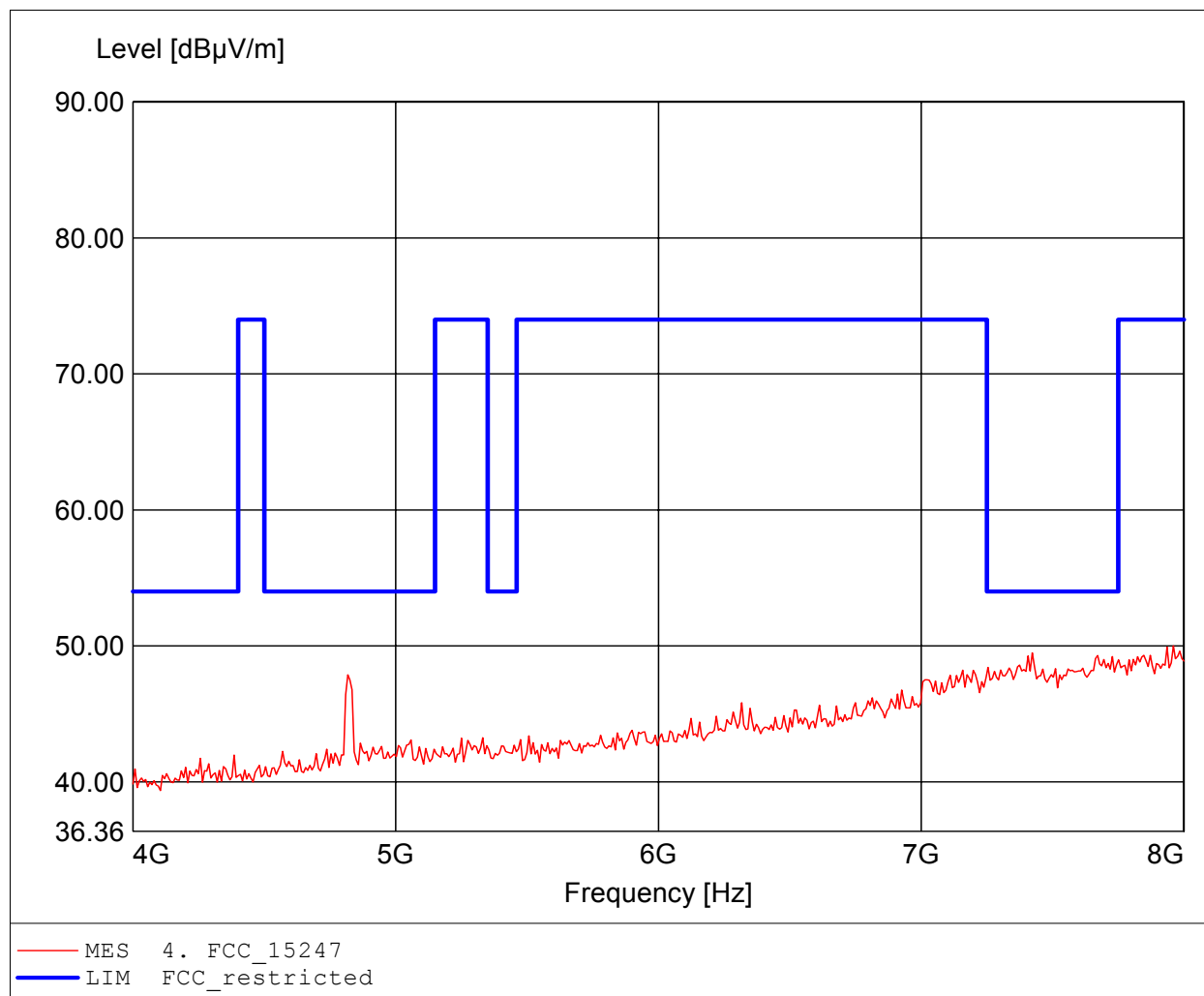
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2462 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, average detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 4.924GHz, Emax: 43.88dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

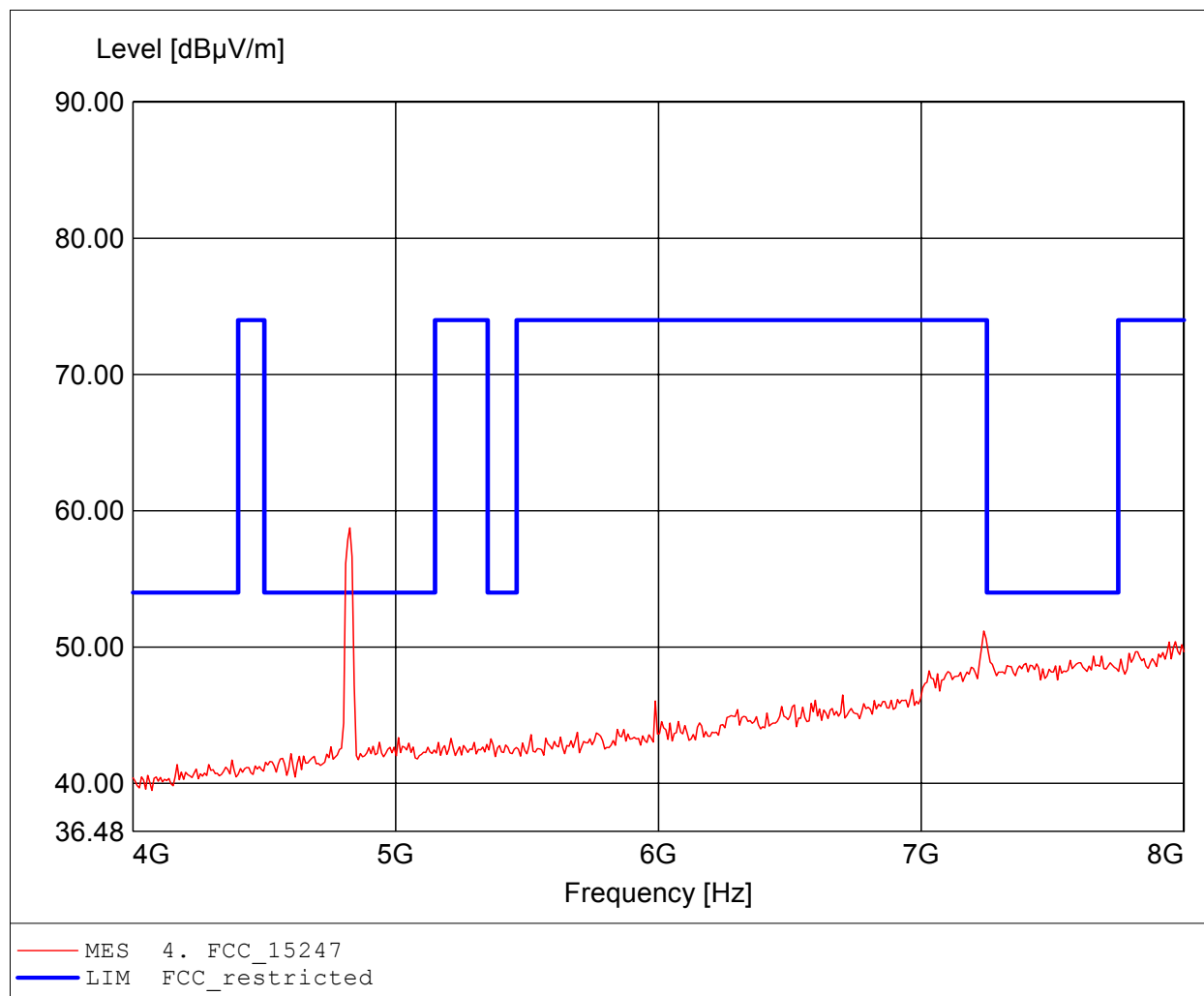
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2412 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 7.960GHz, Emax: 50.00dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

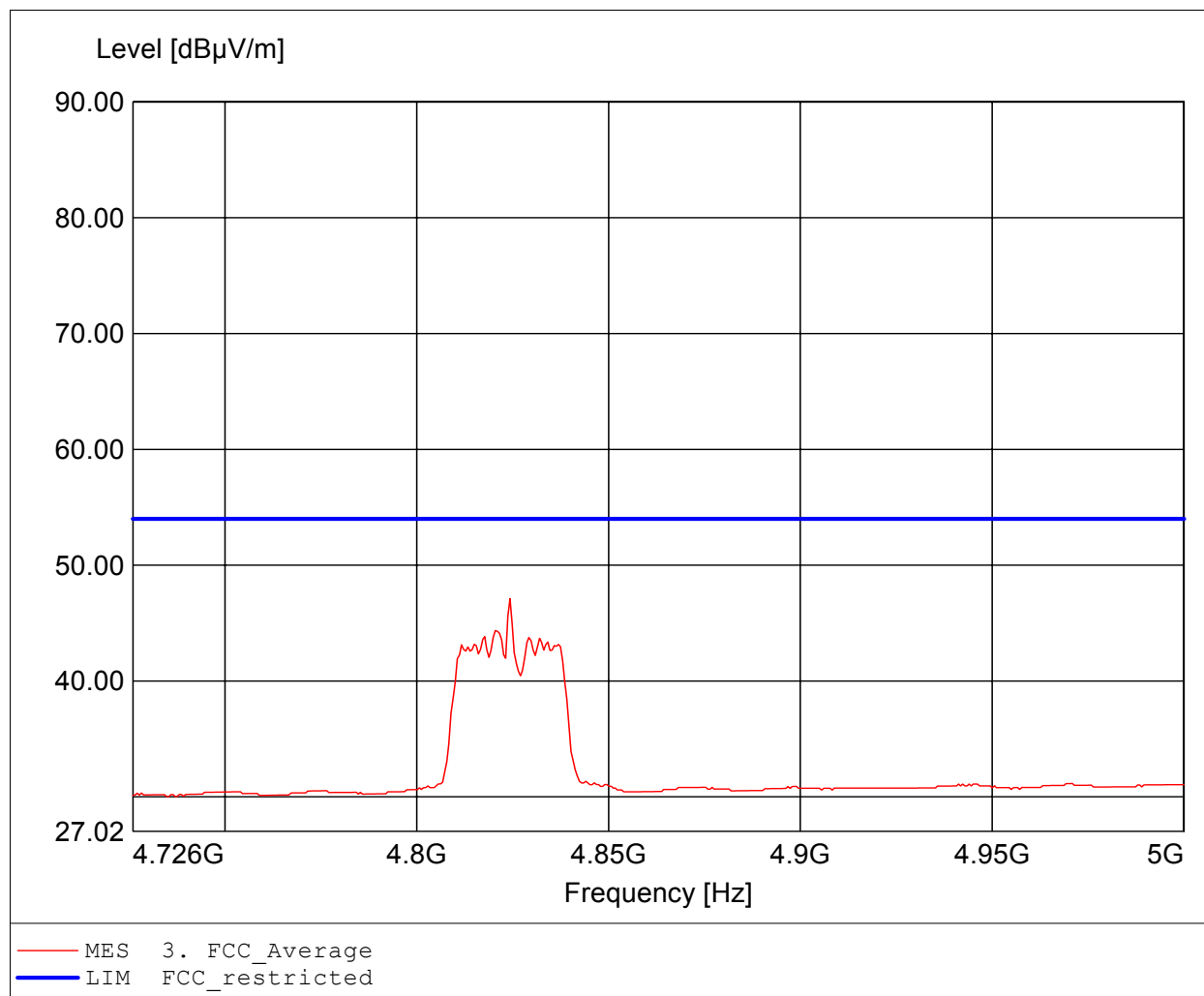
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2412 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 4.826GHz, Emax: 58.74dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

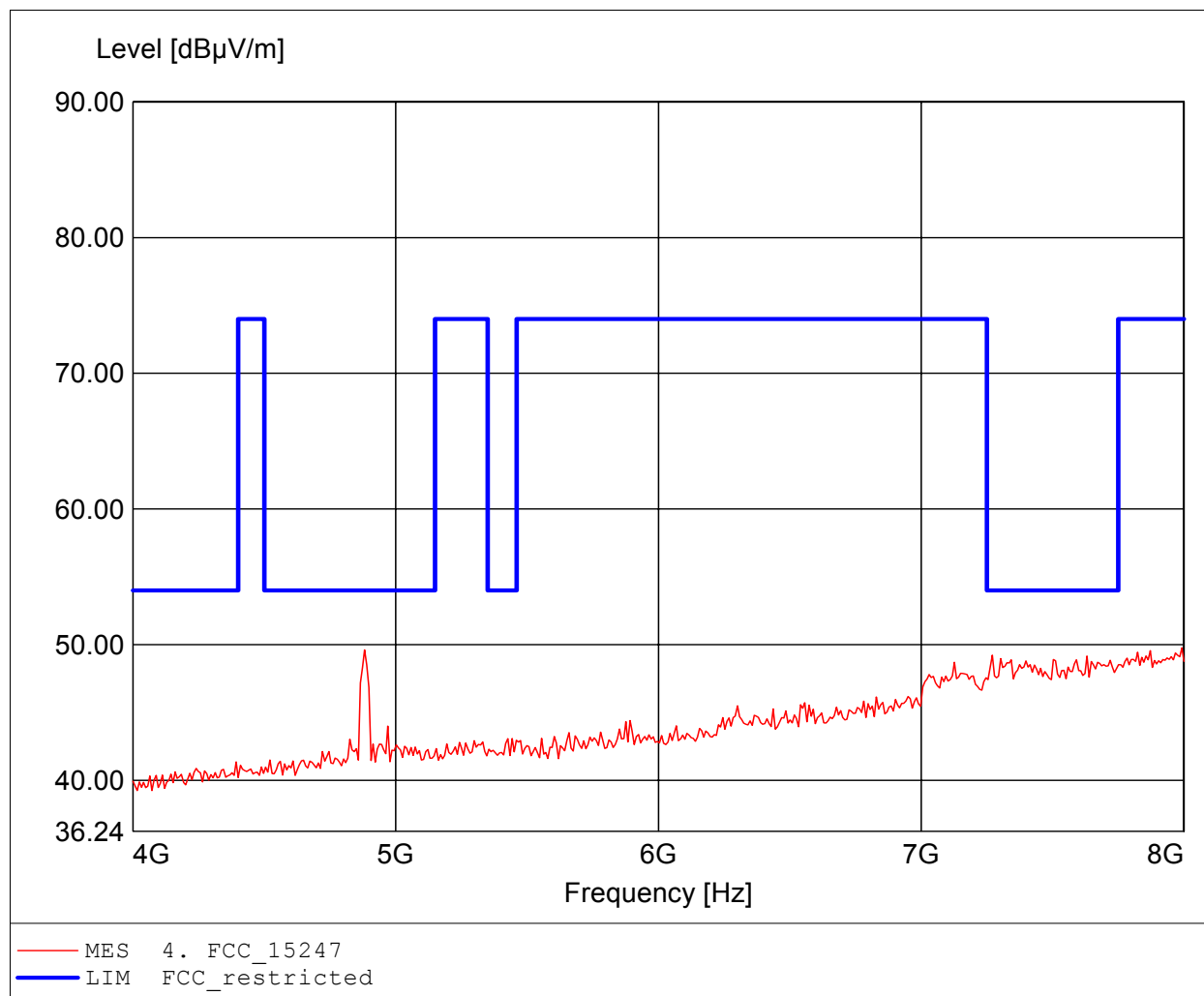
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2412 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, average detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2: Freq: 4.824GHz, Emax: 47.11dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

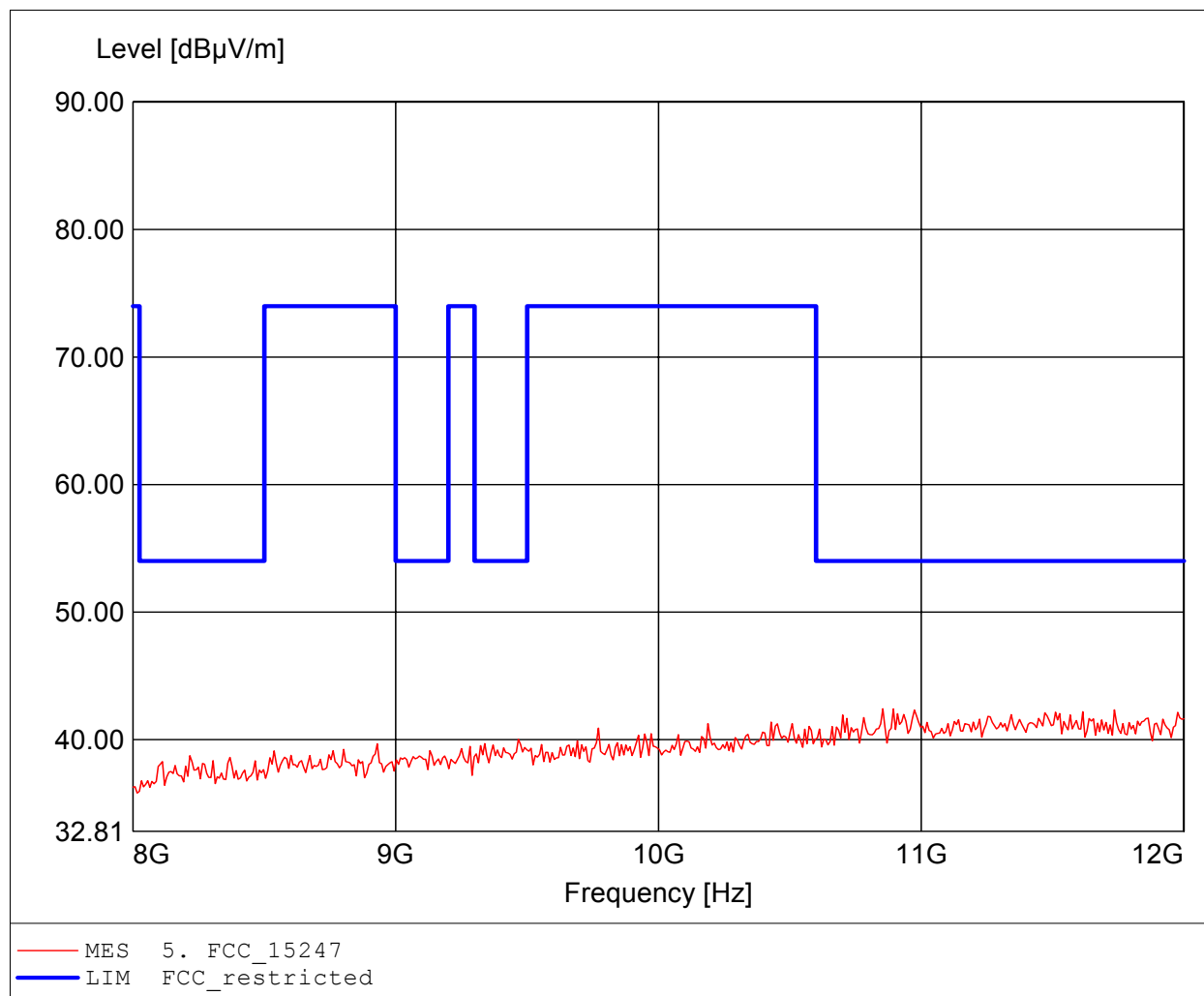
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2442 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 7.992GHz, Emax: 49.77dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

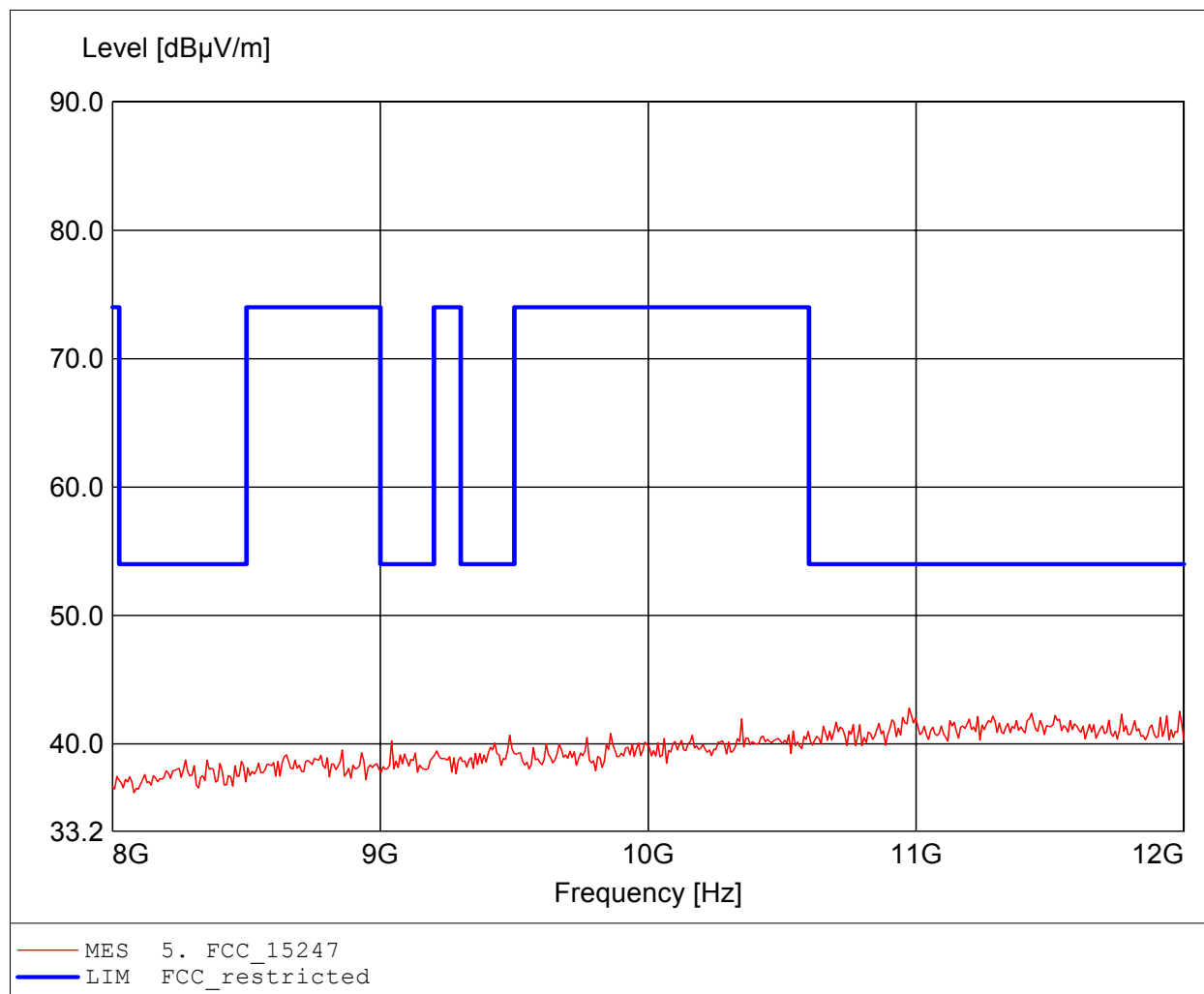
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2412 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 10.854GHz, Emax: 42.43dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

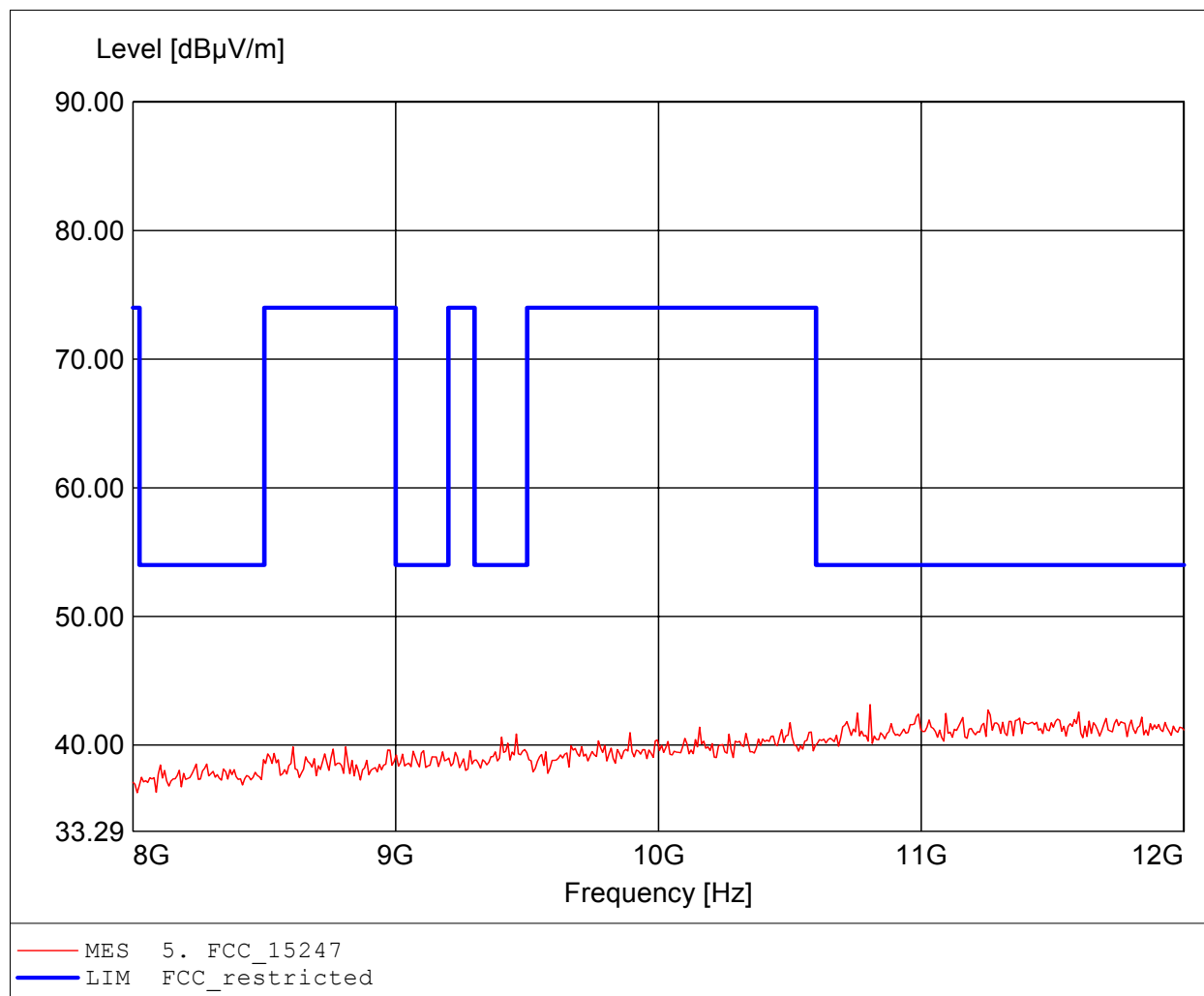
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2442 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 10.974GHz, Emax: 42.79dBμV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

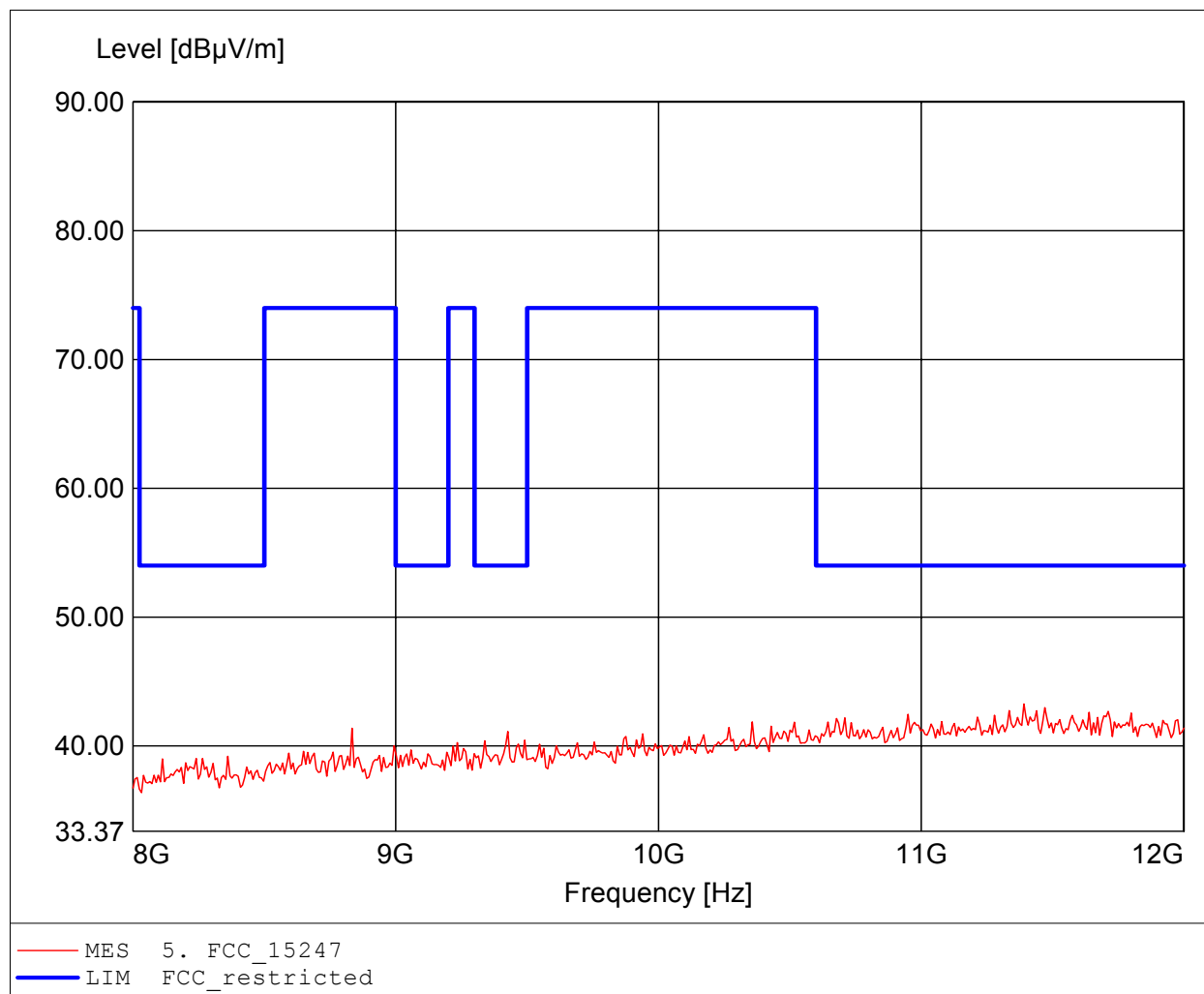
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2442 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 10.806GHz, Emax: 43.15dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / 2412 MHz
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC
Test Specification: according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2: Freq: 11.391GHz, Emax: 43.25dBµV/m, RBW: 1MHz

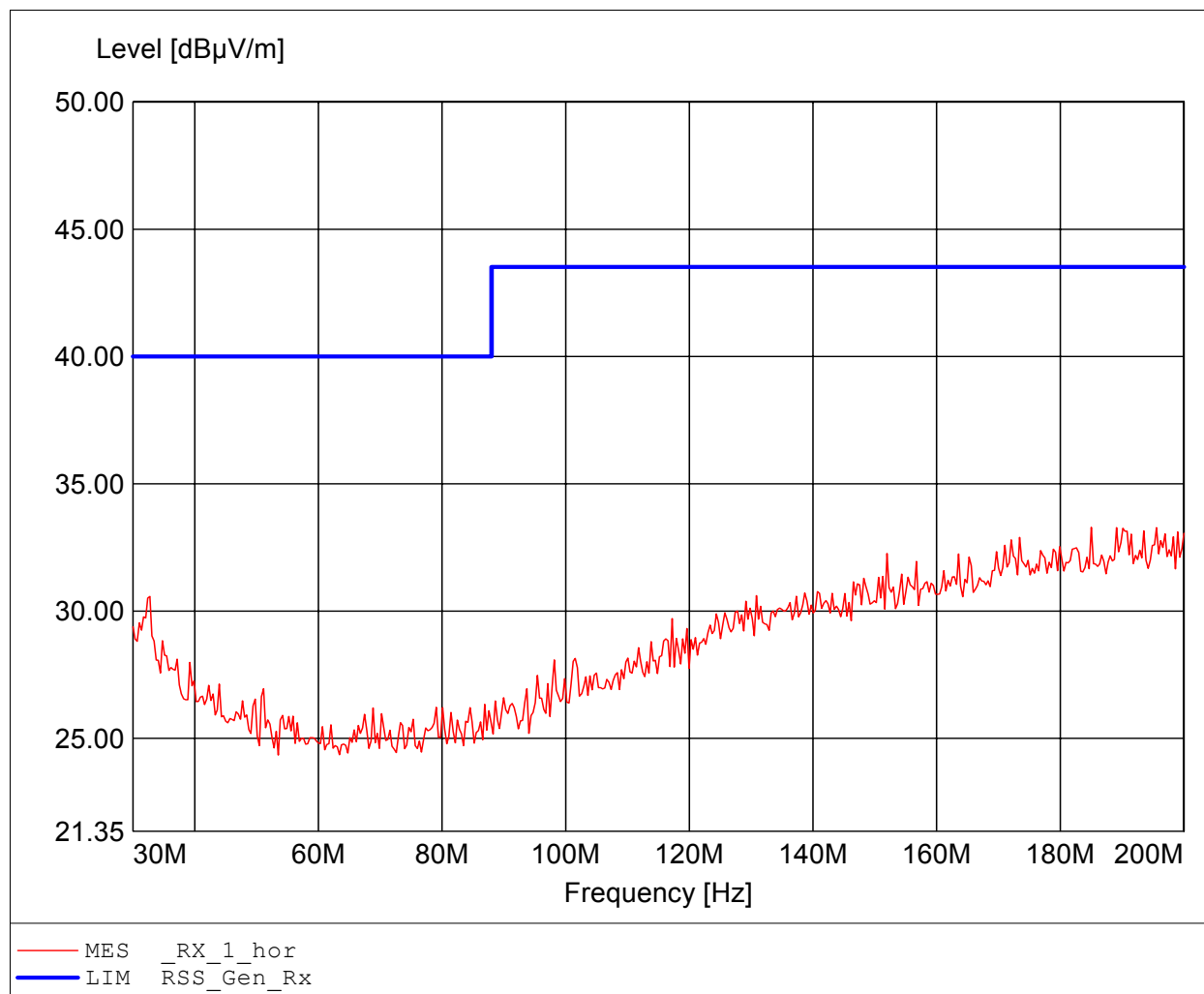


Annex G Receiver radiated spurious emissions

Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

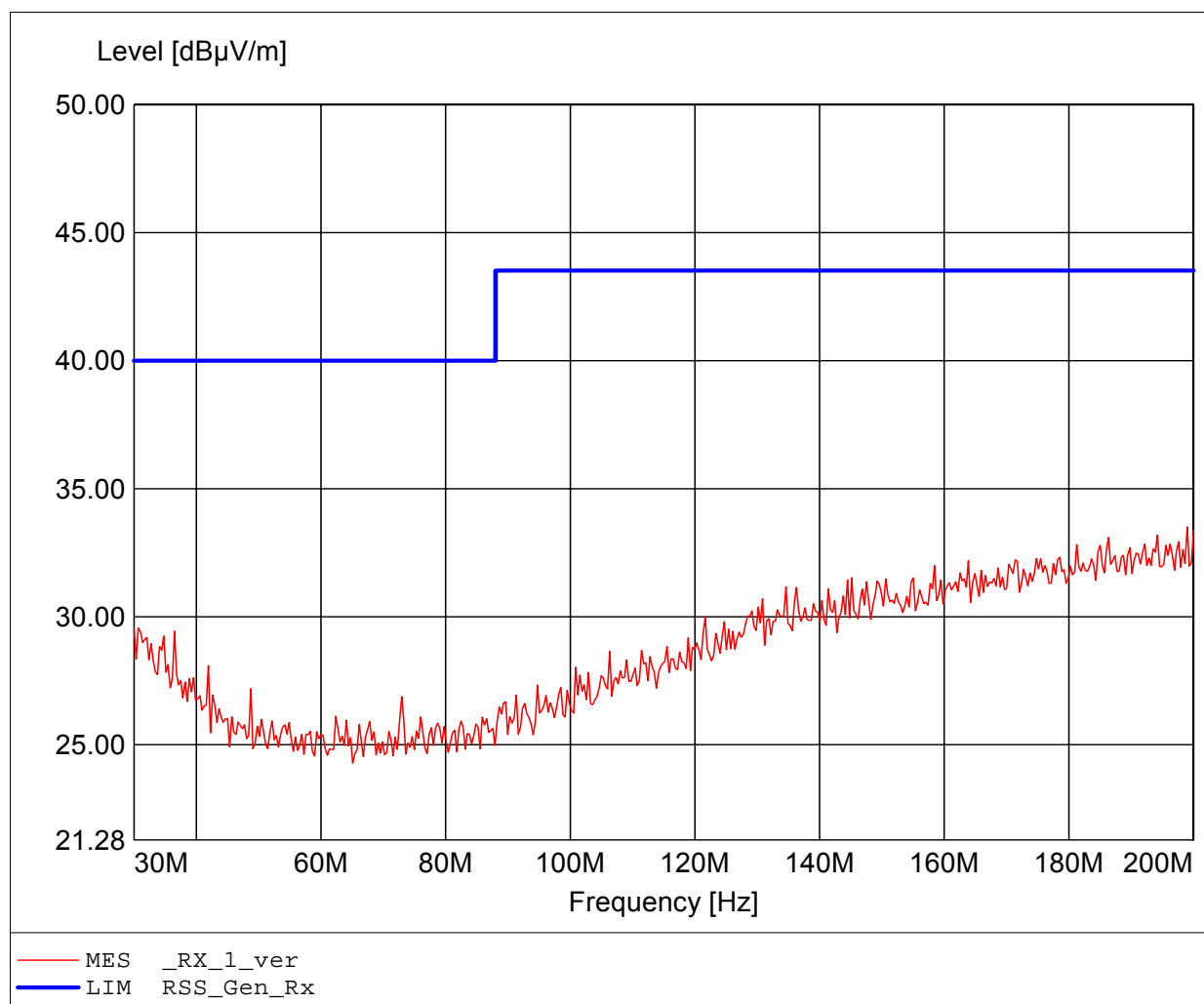
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / Rx mode
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC battery
Test Specification: Freq. / CH:
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq:185.010MHz Emax:33.29dBuV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

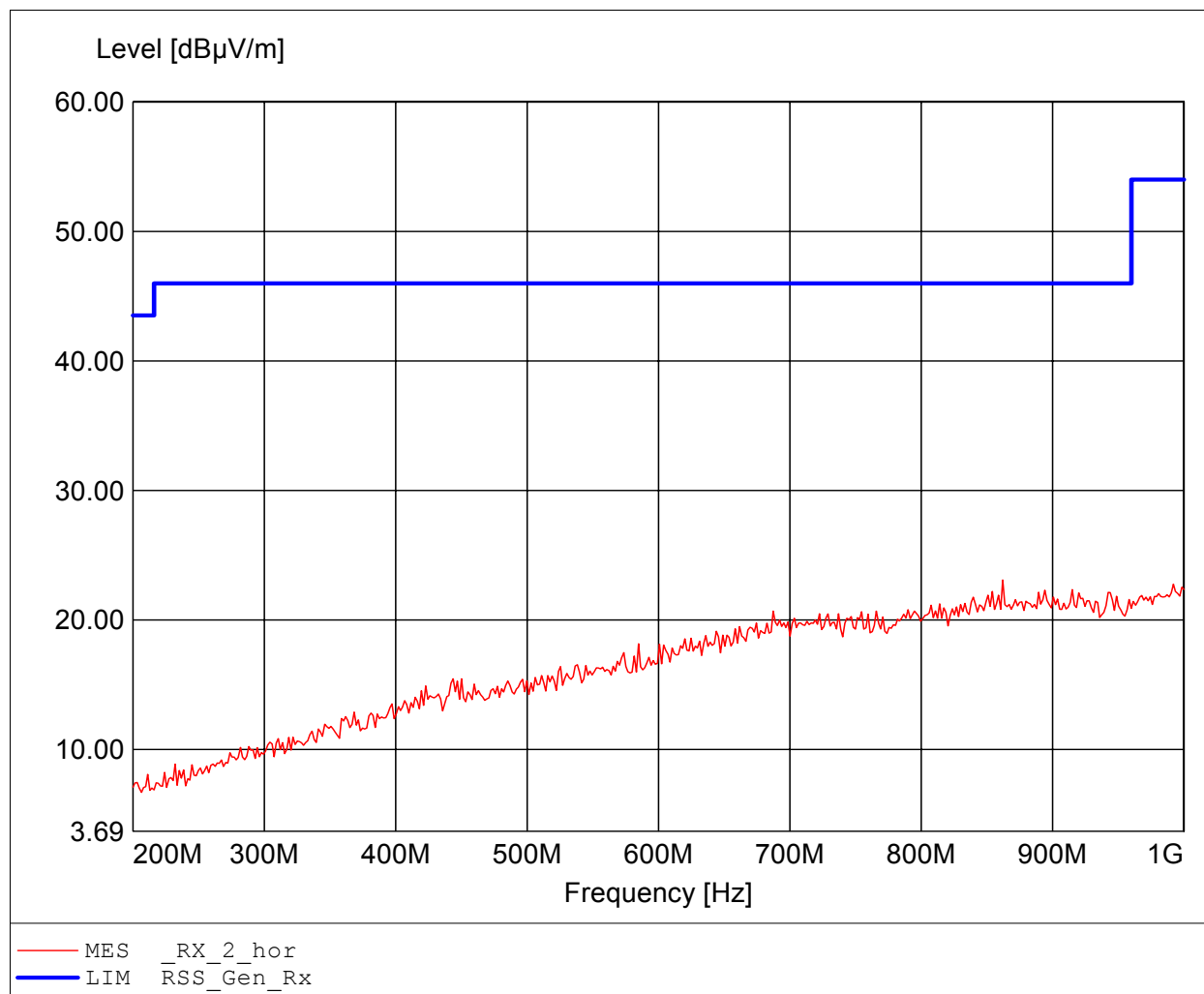
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / Rx mode
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC battery
Test Specification: Freq. / CH:
Comment 1: Dist.: 3m, Ant.: HK 116
Comment 2: Freq:198.978MHz Emax:33.51dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

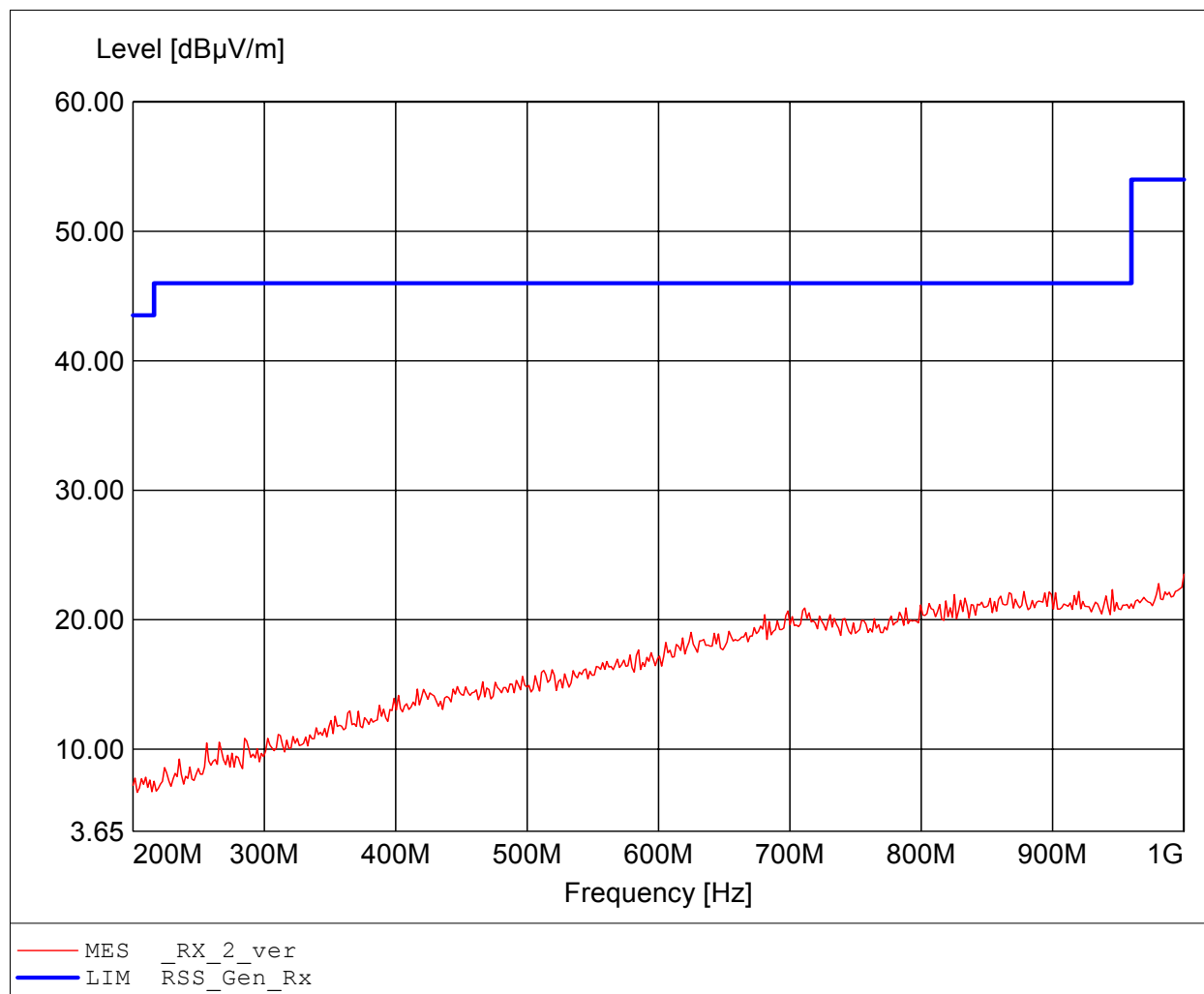
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / Rx mode
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC battery
Test Specification: Freq. / CH:
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.
Comment 2: Freq:862.124MHz Emax:23.09dBuV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

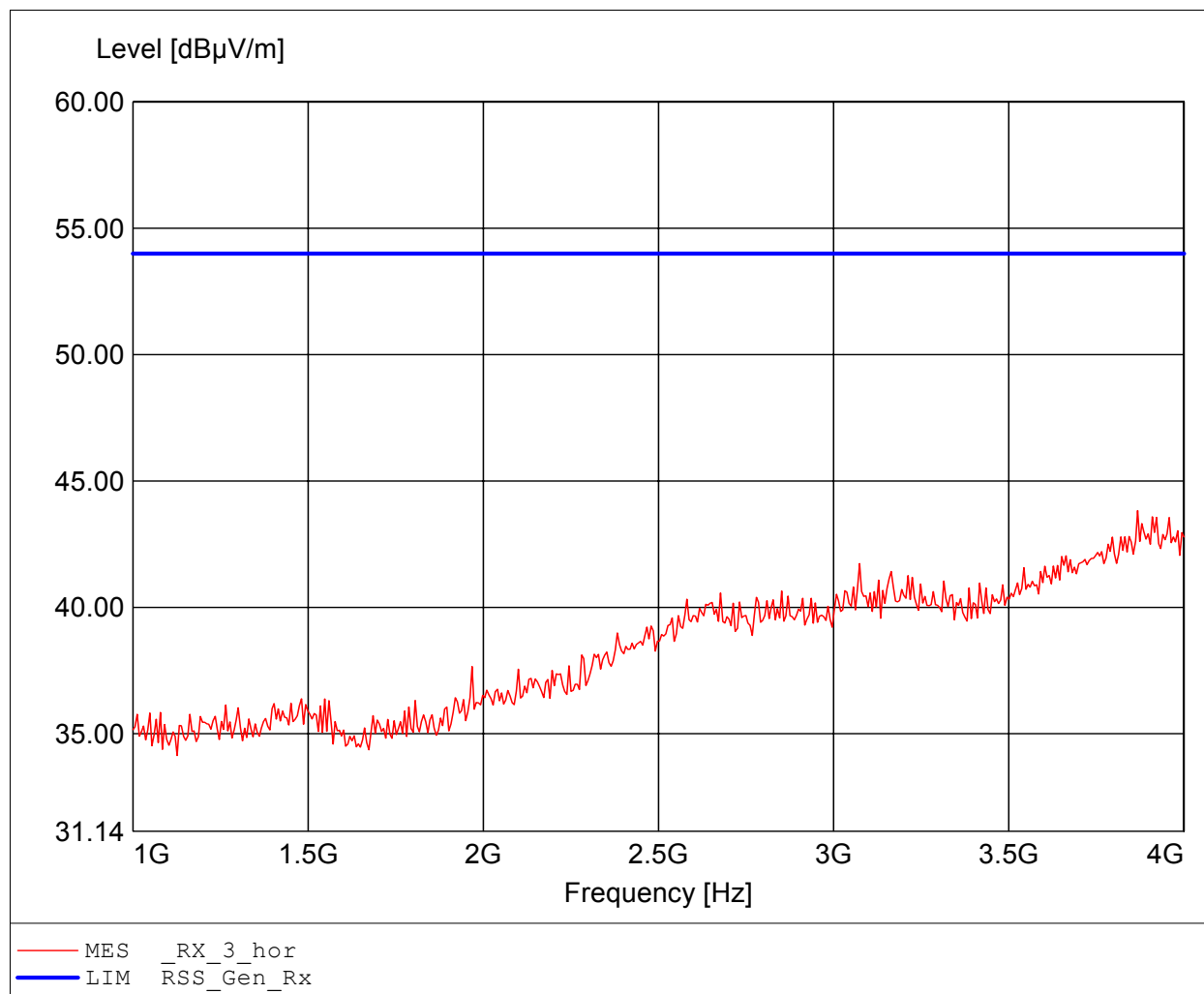
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / Rx mode
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC battery
Test Specification: Freq. / CH:
Comment 1: Dist.: 3m, Ant.: HL 223, ampl.
Comment 2: Freq:1.000GHz Emax:23.52dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

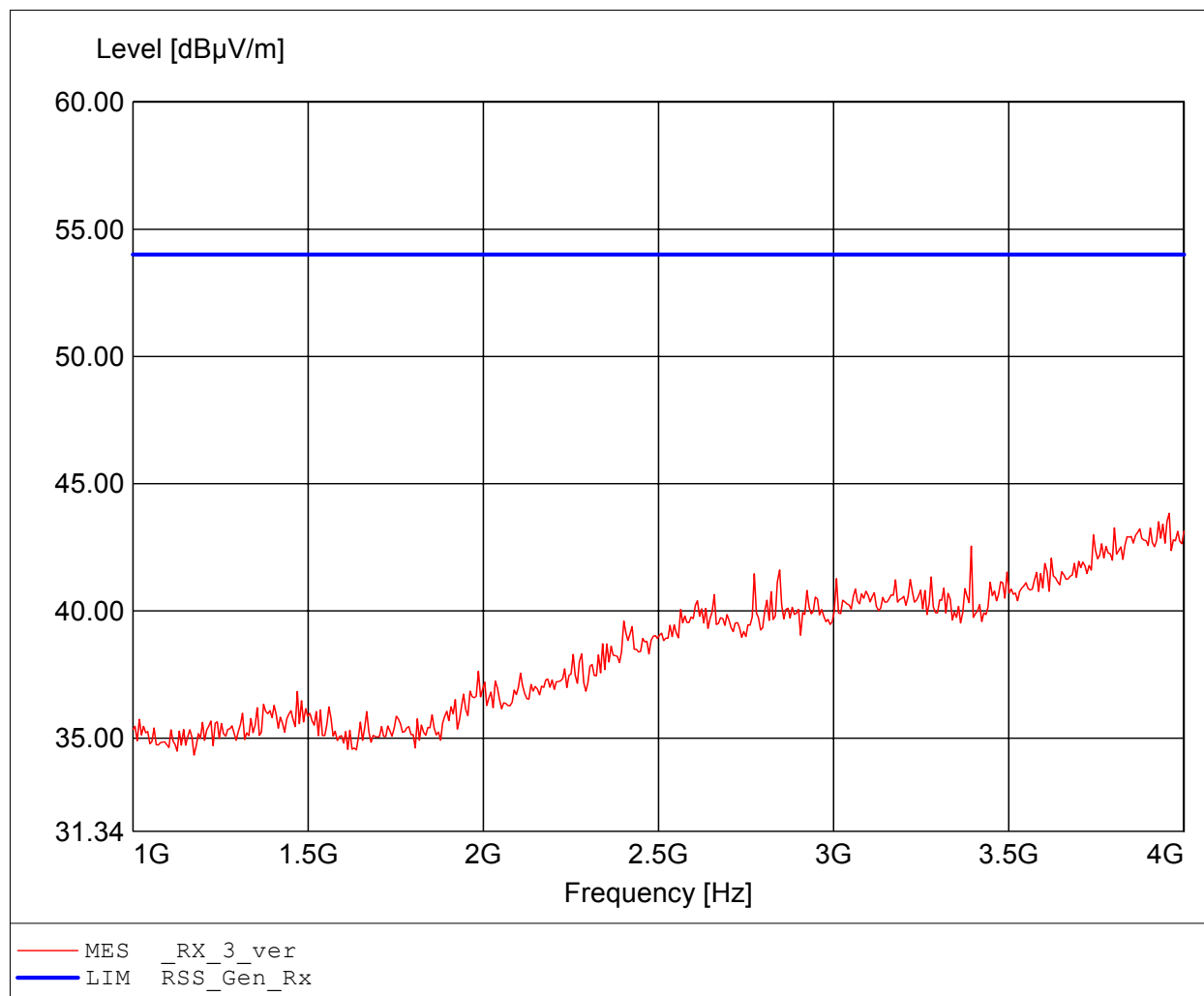
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / Rx mode
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC battery
Test Specification: Freq. / CH:
Comment 1: Dist.: 3m, Ant.: HL025, ampl.
Comment 2: Freq:3.868GHz Emax:43.83dBµV/m RBW: 1 MHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

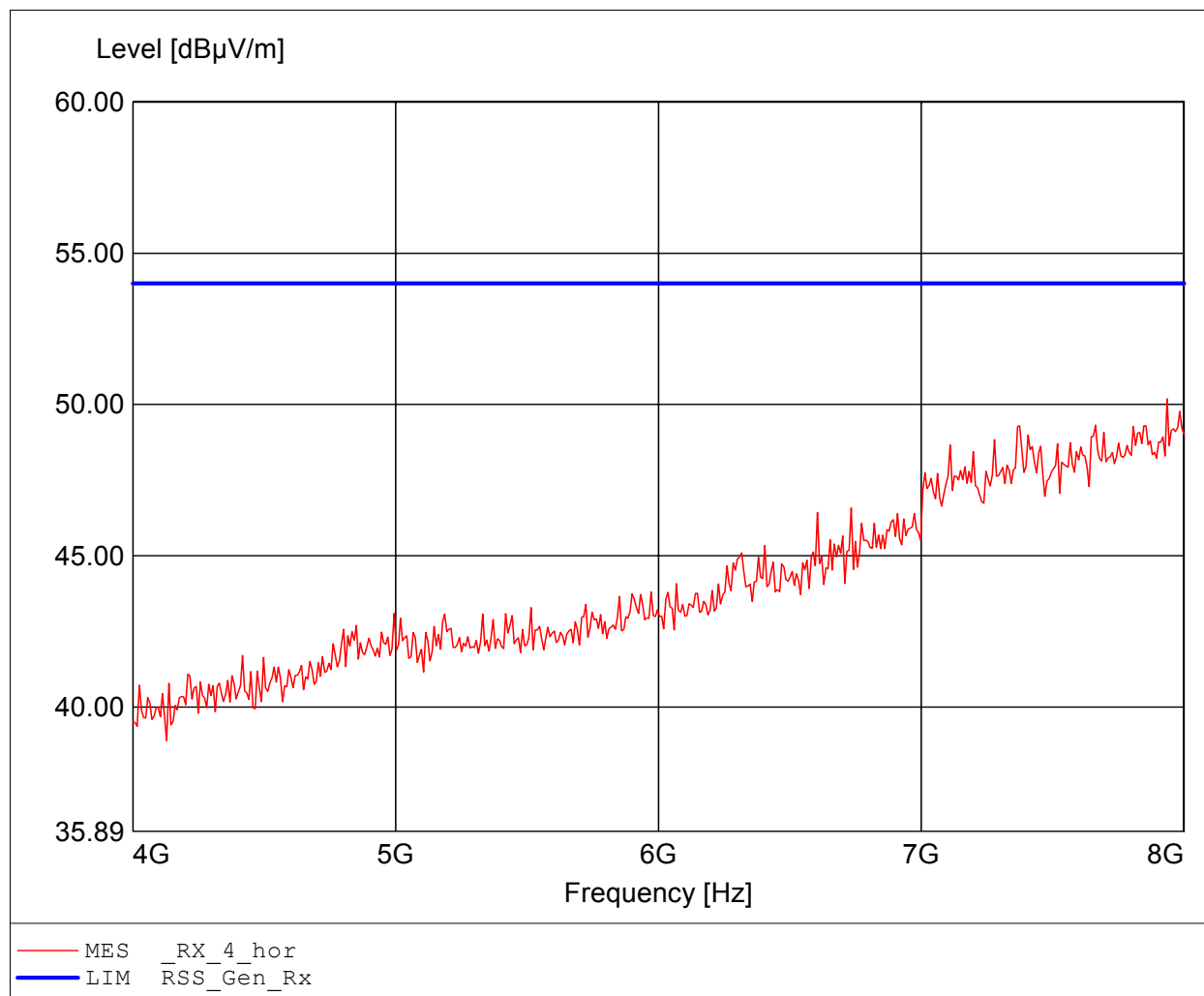
Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / Rx mode
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC battery
Test Specification: Freq. / CH:
Comment 1: Dist.: 3m, Ant.: HL025, ampl.
Comment 2: Freq:3.958GHz Emax:43.84dBµV/m RBW: 1 MHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / Rx mode
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC battery
Test Specification: Freq. / CH:
Comment 1: Dist.: 3m, Ant.: HL025, ampl.
Comment 2: Freq:7.936GHz Emax:50.19dBµV/m RBW: 1 MHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

Approval Holder: BLUM Novotest GmbH / Ord.: G0M21007-3432
EUT: Measuring Probe
Model: P03.6000 TC60 / CSS / Rx mode
Test Site / Operator: Eurofins Product Service GmbH / Mr. Treffke
Test Condition: Tnom: 24°C / Unom.: 9.0V DC battery
Test Specification: Freq. / CH:
Comment 1: Dist.: 3m, Ant.: HL025, ampl.
Comment 2: Freq:7.992GHz Emax:50.23dBµV/m RBW: 1 MHz

