



Eurofins ETS Product Service (HK) Co., Ltd.

TEST - REPORT

FCC RULES 47CFR PART 15 / SUBPART C (Section 15.231)

Test report no.: H1M20805-6883-P-15

FCC ID: VII-LZ100

Accredited Laboratory by:



Eurofins ETS Product Service (HK) Co., Ltd.
26/F., Tamson Plaza, 161 Wai Yip Street
Kwun Tong, Kowloon, Hong Kong

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TEST REPORT

Summary | FCC RULES 47CFR PART 15 / SUBPART C (Section 15.231)

Test Report No.: H1M20805-6883-P-15

Date of issue: 30.05.2008

Testing Laboratory name: Eurofins ETS Product Service (HK) Co., Ltd.Address: 26/F., Tamson Plaza, 161 Wai Yip Street,
Kwun Tong, Kowloon, Hong Kong**Applicant's name**.....: ELEXA CONSUMER PRODUCTS INC

Address: 6200 N, HIAWATHA AVE, 8TH FLOOR, CHICAGO, IL, USA

Manufacturer's name: REMOTEC TECHNOLOGY LTDAddress: RM 2907 - 2908, SKYLINE TOWER, 39 WANG KWONG ROAD,
KOWLOON BAY, KOWLOON, HONG KONG

Test specification

Standard(s) applied.....: [FCC Rules 47 CFR Part15 Subpart C \(Section 15.231\)](#)

.....:

Test item description: Charging Cradle

Brand Name: La-Z-Boy

Model and/or type reference ...: LZ100

Rating(s).....: 120VAC (9VDC AC/DC adaptor)

Summary of Test Results

Pass

The Summary of Test Results based on a technical opinion belongs to the applied standard(s).

Note: *An independent engineer carried out the valuation of the test results (Opinion) and the opinion might be different to the verification results by a certification body.*

Disclaimer

Further details of testing are provided in particular chapters of this Test Report.

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Emphasized conditions or project related conditions:

Released Test Reports apply only to the specific samples tested under stated test conditions. It is the applicant's responsibility to assure that additional production units of the tested model(s) are manufactured in same construction and with identical electrical and mechanical components to meet the same quality as tested model(s). The applicant/manufacturer/importer is responsible for any modifications made to the production units which result in non-compliance to the applied and/or relevant regulations. Eurofins ETS Product Service (HK) Co., Ltd. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from any kind of issued reports. Reports are confidential property of the client. As a mutual protection to the applicant, the clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval.

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1. General Information

1.1 Tester

Operator:

30.05.2008

Mr. Scott Li



Date

Test Engineer

Signature

Approved by:

30.05.2008

Mr. F. Schulz



Date

Laboratory Manager

Signature

1.2 Testing laboratory

1.2.1 Location

Name : Eurofins ETS Product Service (HK) Co., Ltd.
Street : 26/F., Tamson Plaza, 161 Wai Yip Street
Town : Kwun Tong, Kowloon
Country : Hong Kong
Telephone : +852 2389 2200
Fax : +852 2389 3073

Note: Test environment and test equipment available in accordance to ISO/IEC/EN 17025 requirements. Accreditation certificates for confirmation can be shown on request.

1.2.2 Details of accreditation status

A2LA Accredited Testing Laboratory

Testing Cert# 1983.03

1.2.3 Test location, where different (where different as specified in 1.3.1)

Name : Electromagnetic Compatibility Centre
Street : EMC Centre, LG1, HKPC Building, 78 Tat Chee Avenue,
Town : Kowloon,
Country : Hong Kong

Note: The Test laboratory meets the requirements of ISO/IEC 17025:1999

1.2.4 Details of accreditation status

The Hong Kong Laboratory Accreditation Scheme (HOKLAS)

Reg. No.082

FCC registered measurement facility

Reg. No.90656

1.3 Details of applicant

Name : ELEXA CONSUMER PRODUCTS INC
Street : 6200 N, HIAWATHA AVE, 8TH FLOOR
Town : CHICAGO, IL,
Country : USA

Telephone : 773 - 756 - 5197
Fax : 773 - 794 - 1315

Contact : MR. ANTHONY SOLOMITA
Telephone : 773 - 756 - 5197

1.4 Application details

Date of receipt of application : 28.05.2008
Date of receipt of test item : 28.05.2008
Date of test : 28.05.2008 - 30.05.2008

1.5 Test item

1.5.1 Description of test item

Type of product : Charging Cradle
Type identification : LZ100
Brand name : La-Z-Boy
Details of power supply : 120VAC (9VDC AC/DC adaptor)
Operation frequency : 433.92 MHz
Antenna Type : 1/4 Wavelength Antenna
Operating mode : Simplex
Duty Cycle : <10% (Declared by Customer)
Photos : Please find in Appendix A.

1.6.2 Manufacturer

Name : REMOTEC TECHNOLOGY LTD
Street : RM 2907 - 2908, SKYLINE TOWER, 39 WANG KWONG ROAD,
KOWLOON BAY

Town : KOWLOON,
Country : HONG KONG

Contact : MR. LEE, HON CHEUNG
Phone : +852 2314 1071

1.7 Test standards

FCC RULES 47CFR PART 15 / SUBPART C (Section 15.231)

Radio Frequency Devises

2 Technical test

2.1 Summary of test results

Following conclusion has to be considered as technical opinion belongs to the applied standard(s).

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 : 23 ± 2°C

Relative humidity content : 50 ± 2 %

Air pressure : 990 ± 5 hPa

No.	Test equipment	Type	Manufacturer
ETS G003	Humidity/Temperature Meter	TES-1364	TES
ETS E016	Air pressure meter	Standard	Raumklima

2.3 Test equipment utilized

Test Equipment list (Electromagnetic Compatibility Centre, registration number: 90656)

Test equipment	Type	S/N	Manufacturer	Cal Due Date
Semi-anechoic Chamber	Nil	Nil	Frankonia	28 Mar 09
Test Receiver	ESU 26	100050	Rohde & Schwarz	06 Aug 08
Bi-conical Antenna	HK116	841489/016	Rohde & Schwarz	08 Mar 09
Log.-Periodic Antenna	HL223	841516/020	Rohde & Schwarz	28 Feb 09
Horn Antenna	3115	9002-3351	EMCO	27 Feb 10
Active Loop Antenna	6502	9107-2651	EMCO	20 Dec 09

2.4 Test procedure

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

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD C63.4-2003 6.4 using a spectrum analyzer. The bandwidth of the spectrum analyzer was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was the 100 kHz and the video bandwidth was 300 kHz.

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

Example:

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

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

Peak readings were taken in three (3) orthogonal planes and the highest readings. Measurements were made by Electromagnetic Compatibility Centre at the registered test site located at EMC Centre, LG1, HKPC Building, 78 Tat Chee Avenue, Kowloon, Hong Kong. The registration number is 90656.

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

2.5 Test results Overview

Report-No. : H1M20805-6883-P-15
 Test item : Charging Cradle
 Model No. : LZ100
 Brand Name : La-Z-Boy

1st test
 test after modification
 production test

Standard	Description	Remarks	Verdict
FCC Rules 47CFR PART15			
Section 15.231	Field strength of the Fundamental Wave		P
Section 15.231, 15.209	Radiated spurious emission		P
Section 15.231(c)	Emission bandwidth		P
Section 15.231(a)	Automatically deactivation		P
Section 15.207	Conducted emission		P

Test case verdicts

P - Pass Test item does meet the requirement
F - Fail Test item does not meet the requirement
N.A. - Not Applicable Test case does not apply to the test object

3 Transmitter parameter

3.1 Field Strength of the Fundamental Wave

Test results

Test conditions	Polarization	Frequency [MHz]	Measured result [dB μ V/m]	Detector	Passed
$T_{nom} = 24^{\circ}\text{C}$ $V_{nom} = 9\text{V DC}$	Horizontal	433.814	74.14	Average	<input checked="" type="checkbox"/>
	Vertical	433.822	76.74	Average	<input checked="" type="checkbox"/>
Measurement uncertainty	< 3 dB				

Limit 15.231(b)

Fundamental Frequency [MHz]	Field strength of fundamental limit [μ V/m]
40,66 – 40,70	2.250
70 - 130	1.250
130 - 174	1.250 to 3.750**
174 - 260	3.750
260 - 470	3.750 to 12.000**
Above 470	12.000

Limit 15.231(e)

Fundamental Frequency [MHz]	Field strength of fundamental, limit [μ V/m]
40,66 – 40,70	1,000
70 - 130	500
130 - 174	500 to 1.500**
174 - 260	1.500
260 - 470	1.500 to 5.000**
Above 470	5.000

** Linear interpolation

Remark: The limit is met. For the diagram see appendix B.

3.2 Radiated Spurious Emissions

Spurious emission was measured with modulation (declared by manufacturer).

The limits on the field strength of the spurious emission in the table § 15.231(b) are based on the fundamental frequency of the intentional radiator. Spurious emission shall be attenuated to the average (or alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in § 15.209, whichever limit permits a higher field strength. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

SAMPLE CALCULATION OF LIMIT. All results will be updated by an automatic measuring system in accordance to point 2.3.

Calculation of test results:

Such factors like antenna correction, cable loss and pre-amplifier are already included in the provided measurement results.

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

Test results

(a) Measurement up to 30 MHz

Note: No Relevant emissions are expected in the frequency range 9 kHz to 30 MHz. Nevertheless a check using a near field probe was performed. No relevant emissions have been observed. Consequently no final measurement was performed.

(b) Measurement above 30 MHz

Summary table with critical radiated data of the test plots

Freq. range	Frequency Marker [MHz]	Polarization	Max. Field Strength [dB μ V/m]	Detector	Passed
1	188.076	Horizontal	33.62	Peak	☒
1	197.615	Vertical	33.81	Peak	☒
2	434.068	Horizontal	45.44	Peak	☒
2	434.068	Vertical	48.27	Peak	☒
3	1301	Horizontal	41.39	Average	☒
3	1301	Vertical	42.22	Average	☒

Freq. – Frequency Range:

1: 30 – 200 MHz
 2: 200 – 1000 MHz
 3: 1000 – 4000 MHz

**Remark: The limit is met. The measurement was performed up to the 10th harmonic.
 For the diagram see appendix C.**

Limits: Radiated Emissions in restricted Bands

FCC Rules: 15.231 (b), 15.205, 15.209, 15.35

Radiated emission measurements were performed from 30 MHz to 4000 MHz.

For radiated emission tests, the analyzer setting was as followings:

RES BW VID BW

Frequency <1 GHz 100 kHz 100 kHz (Peak measurements)

Frequency >1 GHz 1 MHz 1 MHz (Peak measurements)

1 MHz 1 MHz (Average measurements)

Limits for restricted Bands

Frequency of Emission [MHz]	Field strength [microvolts/meter]	Field Strength [dB microvolt/meter]
30 – 88	100	40.0
88 – 216	150	43.5
216 – 960	200	46.0
Above 960	500	54.0

3.3 Emission Bandwidth

Limit

The bandwidth of the emission shall be no wider than 0,25% of the centre frequency for devices operating above 70 MHz and below 900MHz. For devices operating above 900 MHz, the emission shall be no wider than 0,5% of the centre frequency. Bandwidth is determined at the points 20dB down from the modulated carrier.

Test result

Measurement of Necessary Bandwidth (BN)

Used Frequency	Measured Bandwidth	Limit	Passed
433.92 MHz	525.05 kHz	1084.8 kHz	☒
Measurement uncertainty	<10Hz		

Remark: The limit is met. For the diagram see appendix D.

3.4 Automatically Deactivation

Limit

A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

Test result

Measured Result (ON time) [seconds]	Limit [seconds]	Passed
0.199	5	<input checked="" type="checkbox"/>

Remark: The limit is met. For the diagram see appendix E.

3.5 Conducted Emissions

FCC Rules: 15.207

Radiated emission measurements were performed from 150 kHz to 30 MHz.

Test results

Test Condition (Normal operating, Input L & N)

Performed under a 120VAC (9VDC AC/DC adaptor)

Frequency	Limit [dB μ V]		Number of rechecks	Passed
	Quasi-peak	Average		
150 kHz – 500 kHz	66 to 56*	56 – 46*	0	<input checked="" type="checkbox"/>
500 kHz – 5 MHz	56	46	0	<input checked="" type="checkbox"/>
150 kHz – 30 MHz	60	50	0	<input checked="" type="checkbox"/>

* Decreases with logarithm of the frequency

Remark: The limit is met. For the diagram see appendix F.

4 Disclaimer

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The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate. The complexity of the technical specifications means that full and thorough testing is impractical for both technical and economic reasons. Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification. Neither is there any guarantee that such a test sample will interact with other genuinely open systems. The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in clause 1.6 of this report. The test report may only be reproduced or published in full.

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Test Report No.: H1M20805-6883-P-15

5 Normative references

- /1/ FCC Rules 47 CFR PART 15: 2007
Radio Frequency Devices
- /2/ CISPR 22:2005
Limits and Methods of Measurement of Radio Interference Characteristics of Information
Technology Equipment
- /3/ ANSI C63.4-2003
Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and
Electronic Equipment in the Range of 9 kHz to 40 GHz

Appendix

- A Pictures
- B Field Strength of the Fundamental Wave
- C Radiated Spurious Emissions
- D Emission Bandwidth
- E Automatically Deactivation
- F Conducted Emissions

Appendix A

Pictures

Test Report No.: H1M20805-6883-P-15

Appendix B

Field Strength of the Fundamental Wave

Test Report No.: H1M20805-6883-P-15

Field Strength of Fundamental

FCC RULES PART 15, SUBPART C

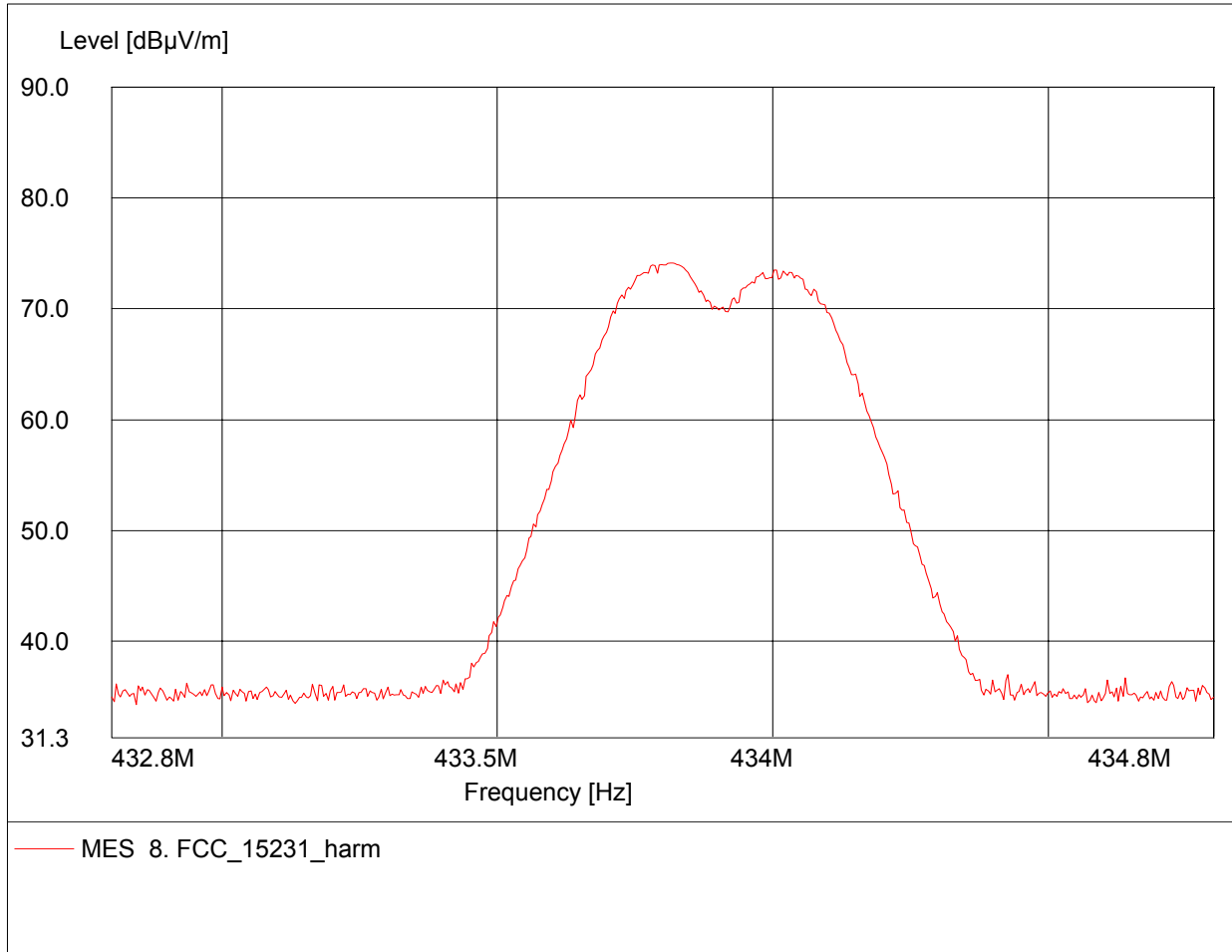
Project number: H1M20805-6883

Temperature/Voltage: Temp.: 23°C/ Unom.:120VAC(9V AC/DC adaptor)

Test Specification: according to Section15.231,average detector

Comment 1: Dist.: 3m, Ant.: HL223

Freq: 433.814MHz, Emax: 74.14dBμV/m, RBW: 100kHz



Field Strength of Fundamental

FCC RULES PART 15, SUBPART C

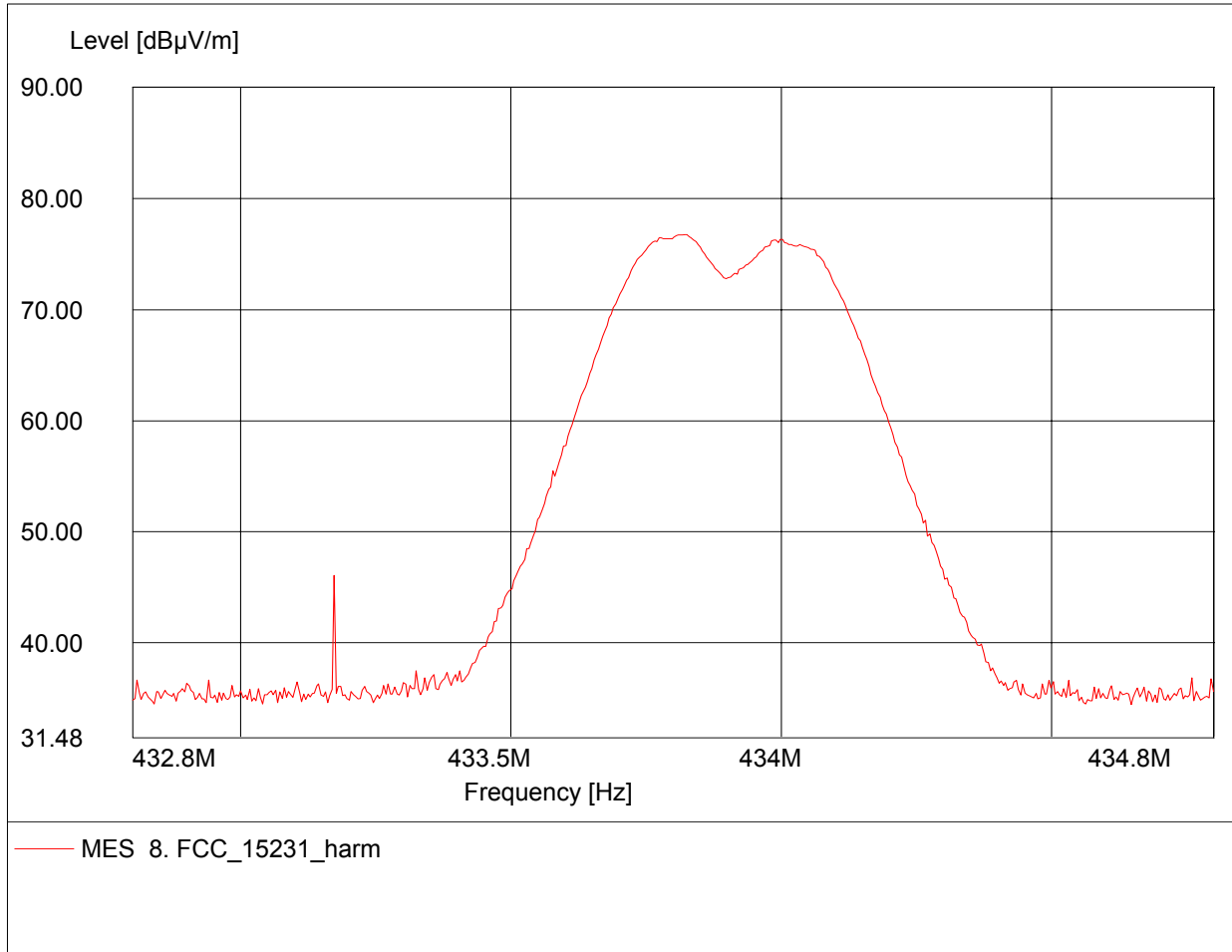
Project number: H1M20805-6883

Temperature/Voltage: Temp.: 23°C/ Unom.:120VAC(9V AC/DC adaptor)

Test Specification: according to Section15.231,average detector

Comment 1: Dist.: 3m, Ant.: HL223

Freq: 433.822MHz, Emax: 76.74dBμV/m, RBW: 100kHz



Appendix C

Radiated Spurious Emissions

Test Report No.: H1M20805-6883-P-15

Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

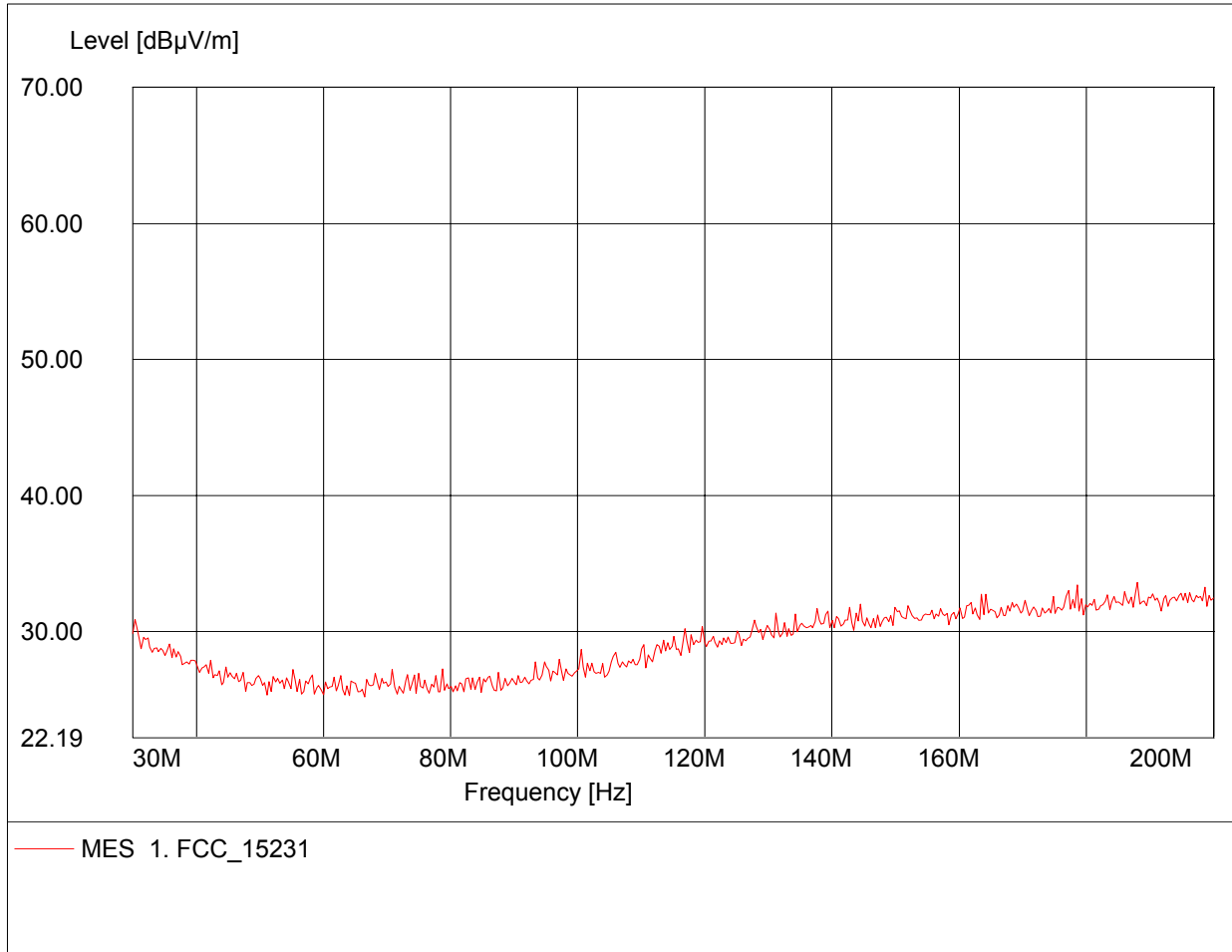
Project number: H1M20805-6883

Temperature/Voltage: Temp.: 23°C/ Unom.:120VAC(9V AC/DC adaptor)

Test Specification: according to Section15.231

Comment 1: Dist.: 3m, Ant.: HK 116

Freq: 188.076MHz, Emax: 33.62dBμV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

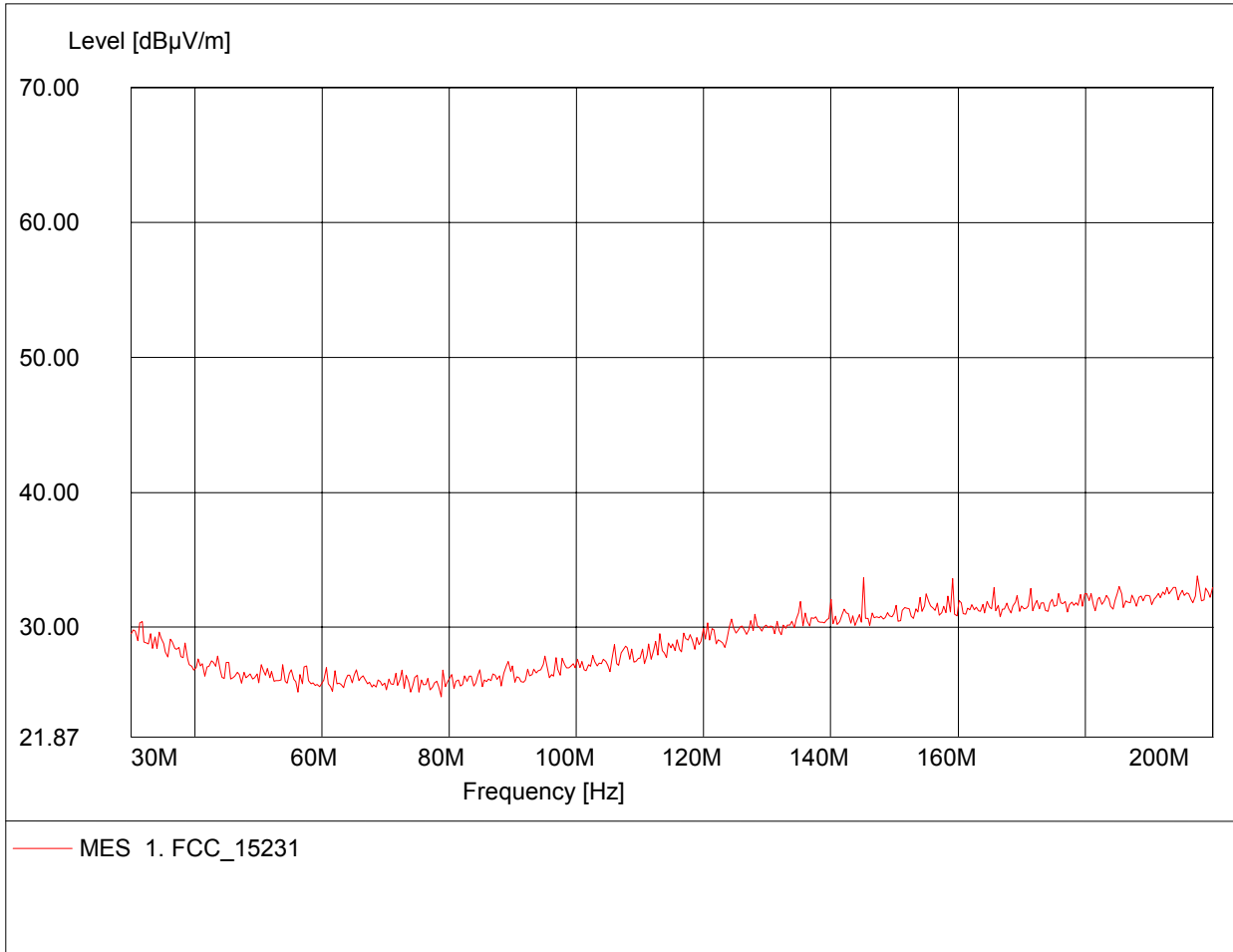
Project number: H1M20805-6883

Temperature/Voltage: Temp.: 23°C/ Unom.:120VAC(9V AC/DC adaptor)

Test Specification: according to Section15.231

Comment 1: Dist.: 3m, Ant.: HK 116

Freq: 197.615MHz, Emax: 33.81dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

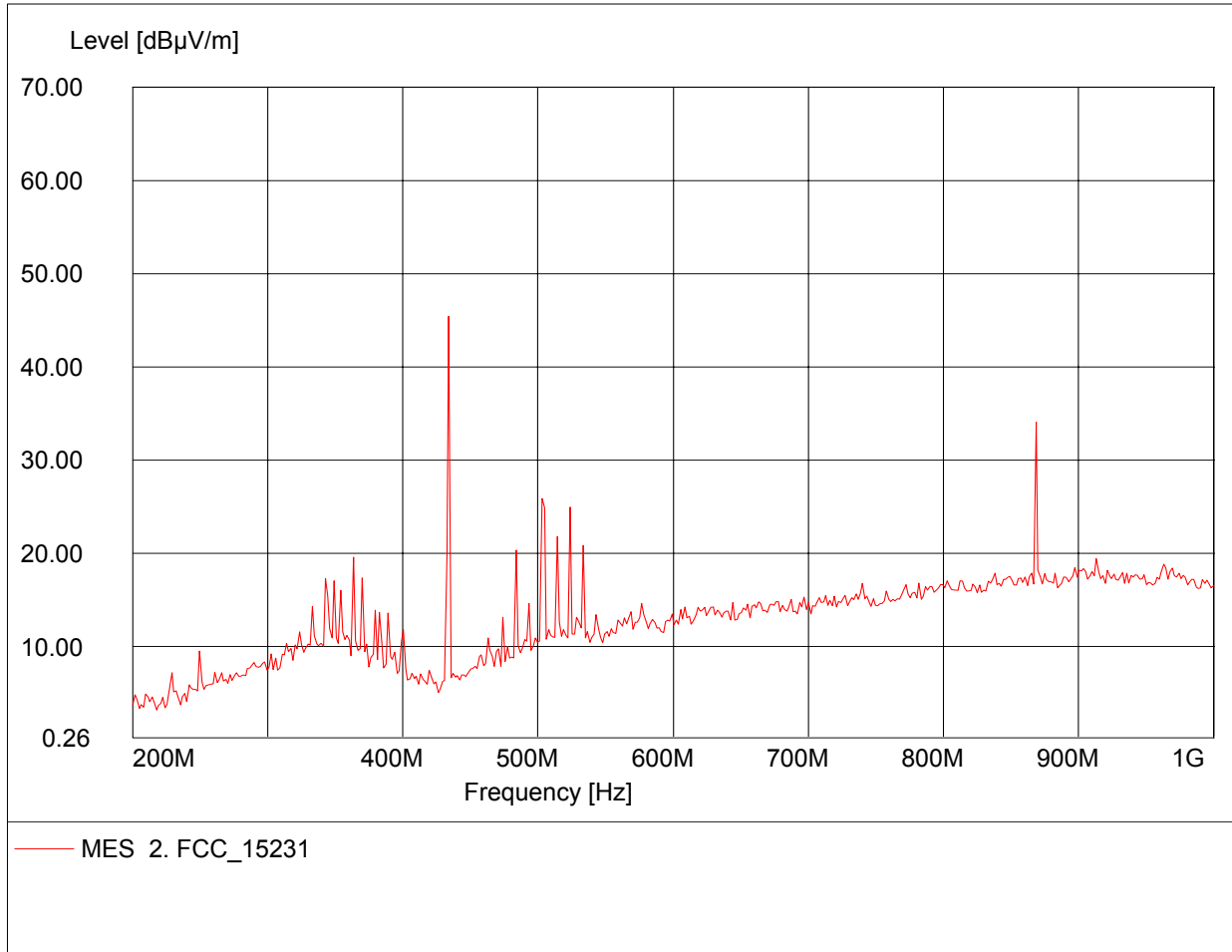
Project number: H1M20805-6883

Temperature/Voltage: Temp.: 23°C/ Unom.:120VAC(9V AC/DC adaptor)

Test Specification: according to Section15.231

Comment 1: Dist.: 3m, Ant.: HL 223, amplif.

Freq: 434.068MHz, Emax: 45.44dBμV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

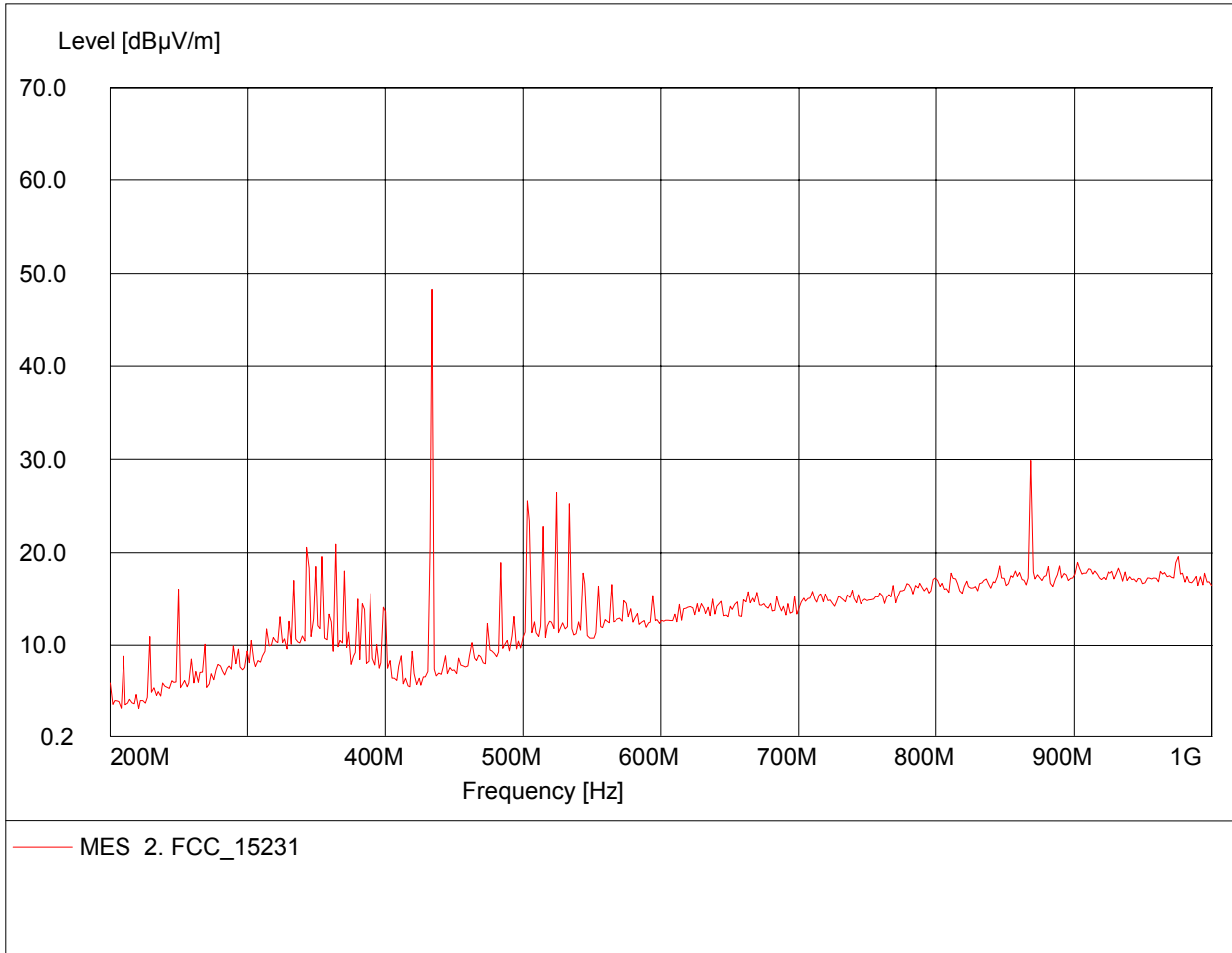
Project number: H1M20805-6883

Temperature/Voltage: Temp.: 23°C/ Unom.:120VAC(9V AC/DC adaptor)

Test Specification: according to Section15.231

Comment 1: Dist.: 3m, Ant.: HL 223, amplif.

Freq: 434.068MHz, Emax: 48.27dBμV/m, RBW: 100kHz

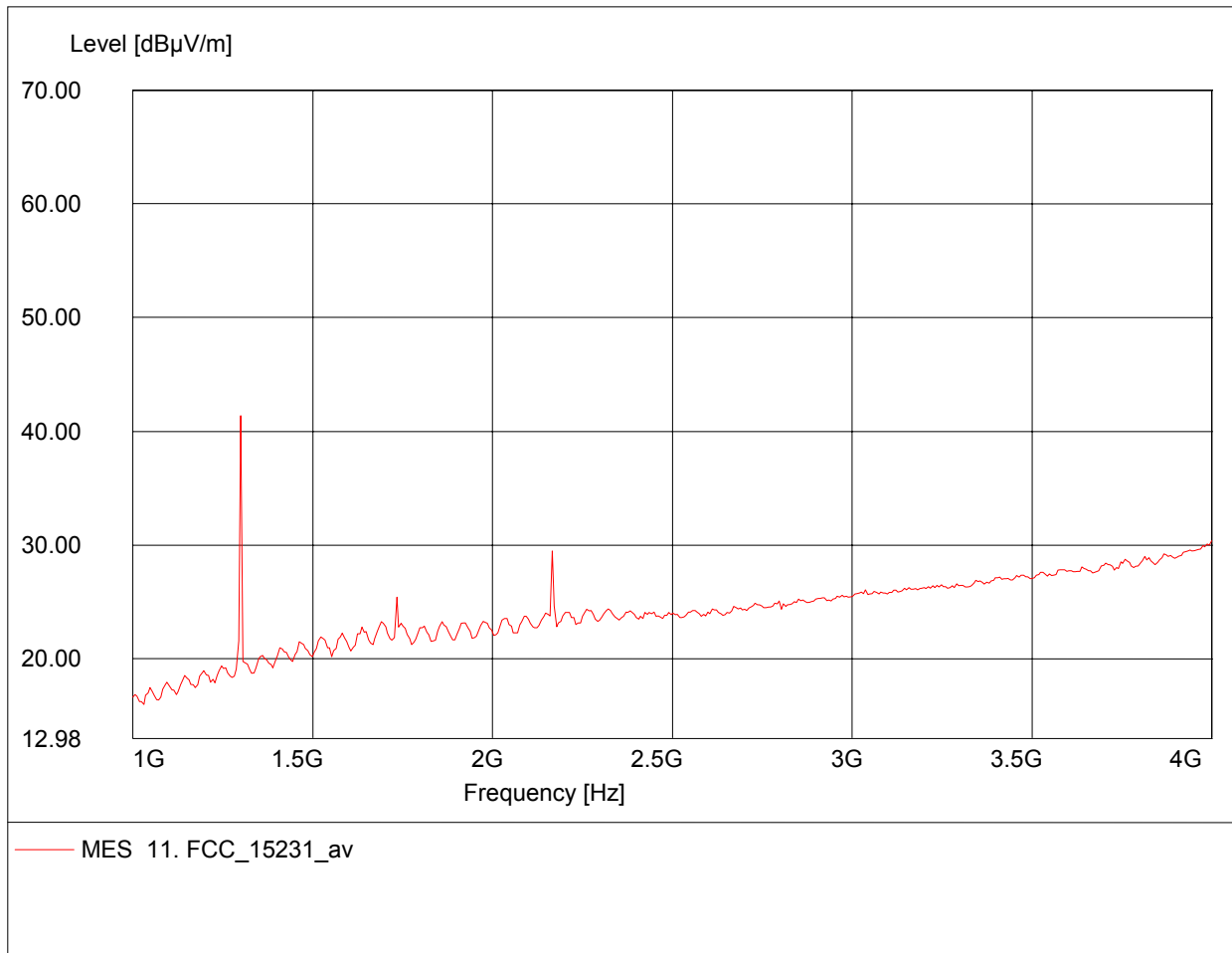


Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

Project number: H1M20805-6883

Temperature/Voltage: Temp.: 23°C/ Unom.:120VAC(9V AC/DC adaptor)
Test Specification: according to Section 15.231, average detector
Comment 1: Dist.: 3m, Ant.: HL025, ampl.+HP.
Freq: 1.301GHz, Pmax: 41.39dBμV/m, RBW: 1MHz

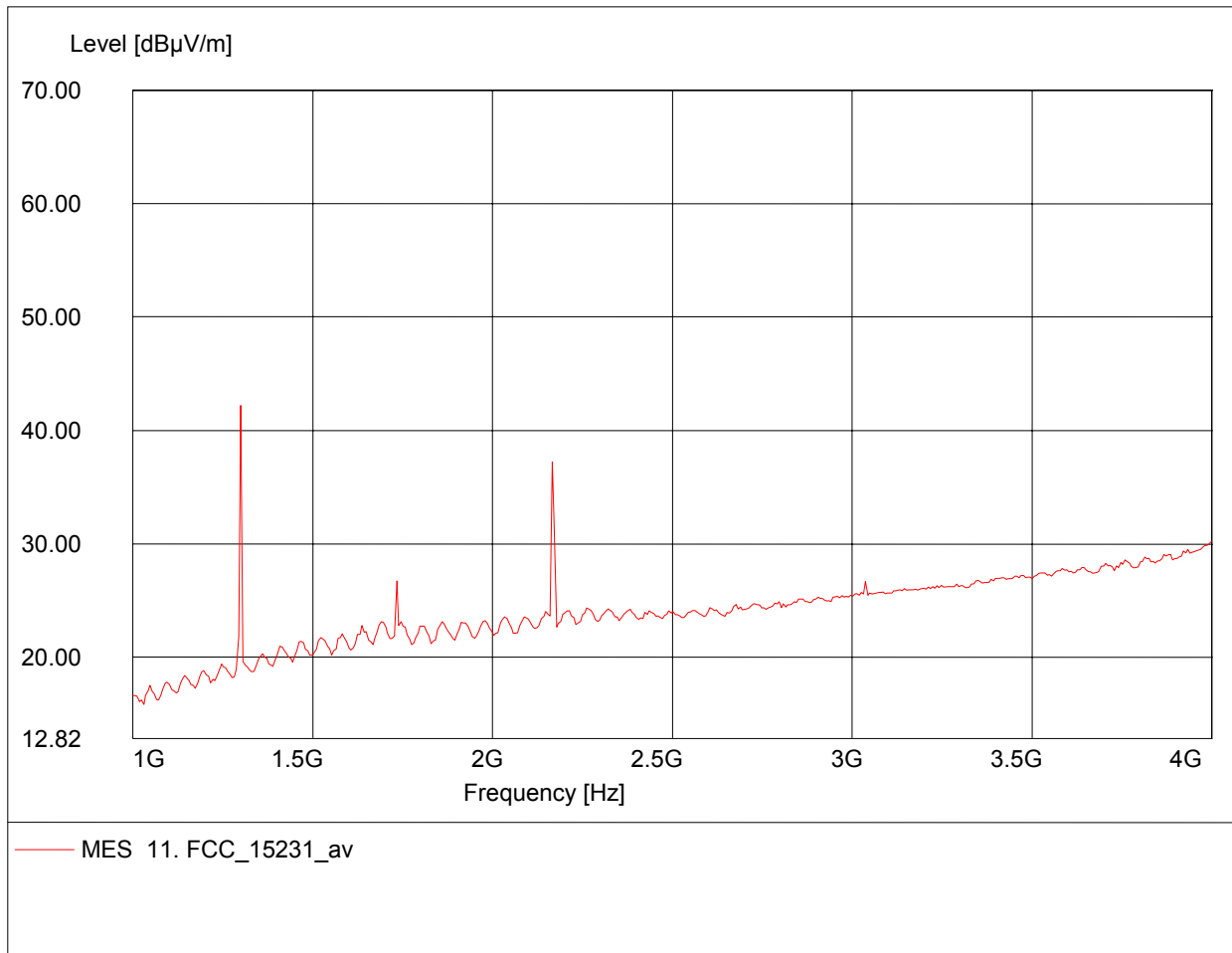


Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

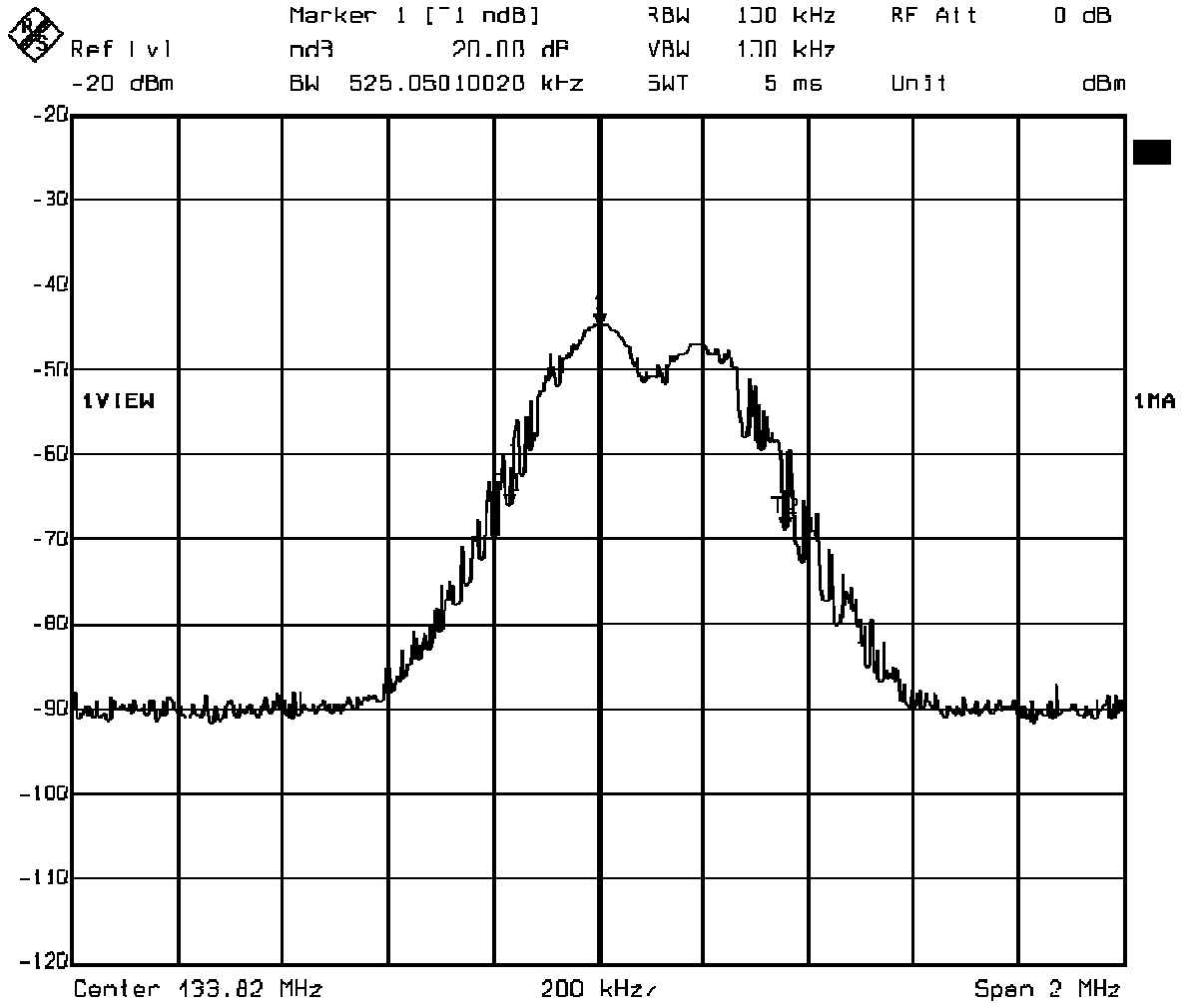
Project number: H1M20805-6883

Temperature/Voltage: Temp.: 23°C/ Unom.:120VAC(9V AC/DC adaptor)
Test Specification: according to Section 15.231, average detector
Comment 1: Dist.: 3m, Ant.: HL025, ampl.+HP.
Freq: 1.301GHz, Pmax: 42.22dBμV/m, RBW: 1MHz



Appendix D

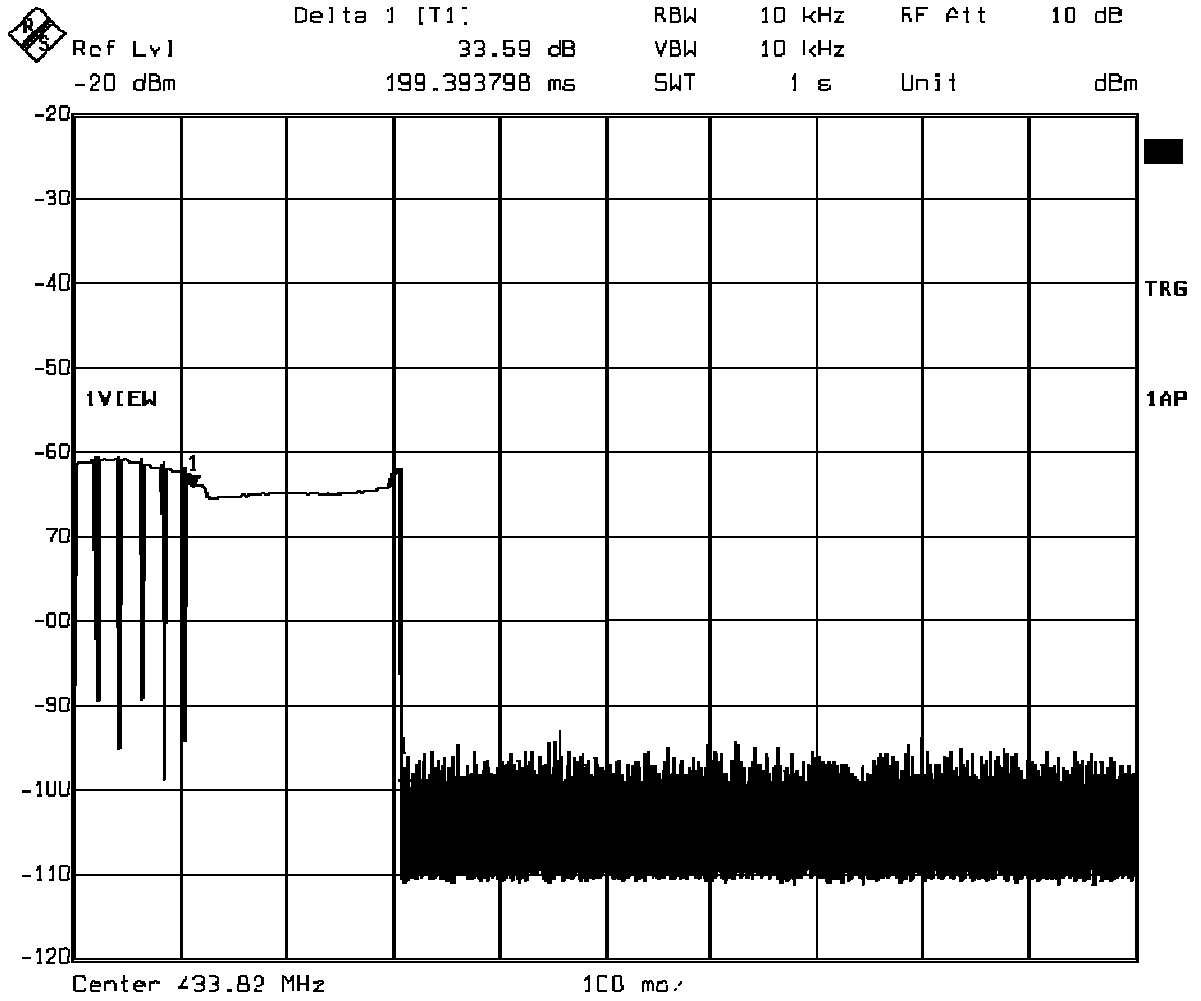
Emission Bandwidth



Test Report No.: H1M20805-6883-P-15

Appendix E

Automatically Deactivation



Test Report No.: H1M20805-6883-P-15

Appendix F

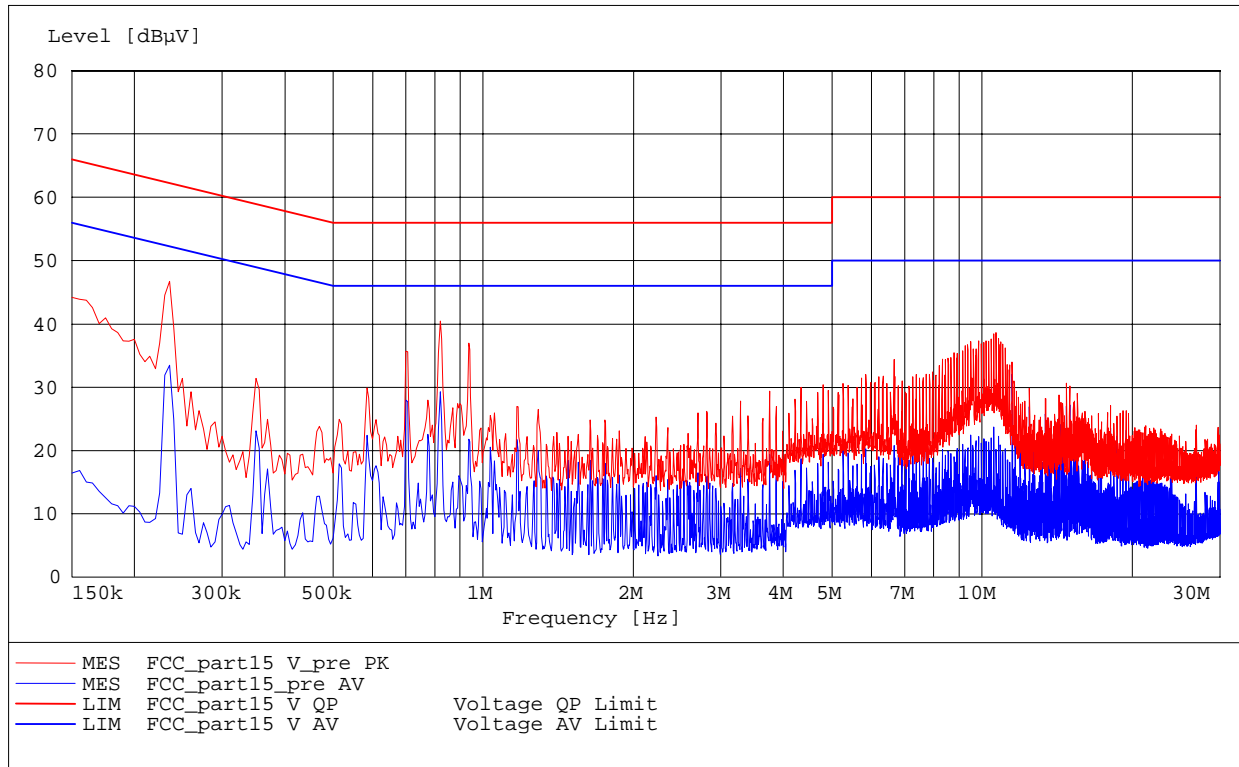
Conducted Emissions

Test Report No.: H1M20805-6883-P-15

Voltage mains

according to FCC Part 15C

Project number: H1M20805-6883
Operating Condition: 22°C / 120VAC(9VDC AC/DC Adaptor)
Test Site: EUROFINS ETSPS
Operator: Mr. Scott
Test Specification: FCC part 15C
Comment: ESHS 10 / ESH3-Z5 (L)
Mode: Normal operating



Voltage mains

according to FCC Part 15C

Project number: H1M20805-6883
Operating Condition: 22°C / 120VAC(9VDC AC/DC Adaptor)
Test Site: EUROFINS ETSPS
Operator: Mr. Scott
Test Specification: FCC part 15C
Comment: ESHS 10 / ESH3-Z5 (N)
Mode: Normal operating

