

Straubing, 10 February 2006

TEST - REPORT

No. 51357-050837-3

for

IHF-1500

including the variants:

T15MT02011 Aftermarket (based on IHF1500D4)

T15VL02011 Volvo (based on IHF1500D4)

T15YR02011 Toyota SWC current generation (based on IHF1500TD3)

T15YR03011 Toyota SWC next generation (based on IHF1500TD4)

T15TY02011 Toyota UIM (based on IHF1500D4)

T15LX02011 Lexus (based on IHF1500D4)

Bluetooth Wireless Handsfree Set

Applicant: Motorola GmbH

Purpose of testing: To show compliance with

FCC Code of Federal Regulations,
Part 15 Subpart C, Section 15.247

Note:

The test data of this report relate only to the individual item which has been tested. This report shall not be reproduced except in full extent without the written approval of the testing laboratory.

Table of Contents

1.	Administrative Data.....	3
2.	Identification of Test Laboratory	4
3.	Operation Mode of EUT.....	5
4.	Configuration	6
5.	Measuring Methods	7
5.1.	Mean power of emissions 30 MHz – 1 GHz	7
5.2.	Radiated Emission > 1 GHz	8
6.	Photographs Taken During Testing.....	9
7.	List of Measurements	11
	Referenced Regulations.....	26
	Charts taken during testing	27

1. Administrative Data

Test item (EUT)	
Type designation	IHF-1500 including the variants: T15MT02011 Aftermarket (based on IHF15000D4) T15VL02011 Volvo (based on IHF15000D4) T15YR02011 Toyota SWC current generation (based on IHF1500TD3) T15YR03011 Toyota SWC next generation (based on IHF1500TD4) T15TY02011 Toyota UIM (based on IHF15000D4) T15LX02011 Lexus (based on IHF15000D4)
Serial number(s):	N/A
Type of equipment:	RF Transceiver
Technical data	
Frequency range	2400 - 2483.5 MHz
Operational frequencies	79 Channels at 1 MHz spacing
Type of modulation	FHSS
Pulse frequency	N/A
Pulse width	N/A
Antenna	Integrated antenna:
Power supply	12 V DC
Applicant: (full address)	
Motorola GmbH Lilienthalstraße 15 85579 Neubiberg	
Contract identification:	
Contact person:	Mark Harris
Manufacturer:	Applicant
Application details	
Receipt of EUT:	09 January 2006
Date of test:	January/February 2006
Note:	---
Responsible for testing:	Johann Roidt
Responsible for test report:	Johann Roidt

2. Identification of Test Laboratory**DETAILS OF THE TEST LABORATORY**

COMPANY NAME:	Senton GmbH EMI/EMC Test Center
ADDRESS:	Aeussere Fruehlingsstrasse 45 D-94315 Straubing Germany
LABORATORY ACCREDITATION:	DAR-Registration No. DAT-P-171/94-02
FCC TEST SITE LISTING	90926
INDUSTRY CANADA TEST SITE REGISTRATION	IC 3050
NAME FOR CONTACT PURPOSES:	Mr. Johann Roidt
TELEPHONE: (+49) (0)9421 5522-0	FAX: (+49) (0)9421 5522-99

PERSONNEL INVOLVED IN THIS TEST REPORT

LABORATORY MANAGER:	 Mr. Johann Roidt
RESPONSIBLE FOR TESTING:	Mr. Johann Roidt
RESPONSIBLE FOR TEST REPORT:	Mr. Johann Roidt

SUMMARY OF TEST RESULTS

The tested sample complies with the requirements set forth in the
Code of Regulations Part 15 Subpart C, Section 15.247
of the Federal Communication Commission (FCC).

3. Operation Mode of EUT

Transmitter operating continuously,
full tests were performed on lowest, middle and highest RF channel, but only channel 0
test charts were attached to this report

4. Configuration

Configuration of the EUT
A full test setup was supplied by the applicant

Cables connected to the EUT
Not applicable

Peripheral devices connected to the EUT
Not applicable

5. Measuring Methods

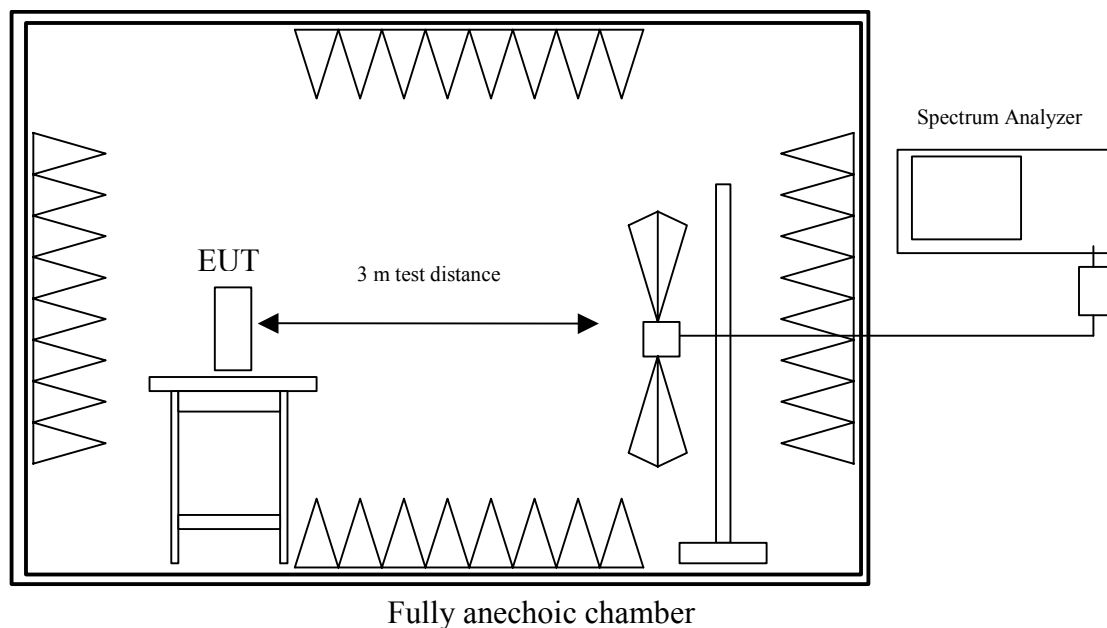
5.1. Mean power of emissions 30 MHz – 1 GHz

Rules and Specifications:	Section 15.247
Guide:	ANSI C63.4

Measurement Procedure:

Radiated emissions are measured over the frequency range from 30 MHz to 1 GHz.

Measurements were made in both the horizontal and vertical planes of polarization in a fully anechoic room using a spectrum analyzer with the detector function set to peak and resolution bandwidth set to 100 kHz. All tests were performed at a test-distance of 3 meters. Hand-held or body-worn devices are rotated through three orthogonal axes to determine which attitude and configuration produces the highest emission relative to the limit and therefore shall be used for final testing.



Test instruments used:

No.	Type	Model	Serial Number	Manufacturer
01	Spectrum Analyzer	FSP 30	100063	Rohde & Schwarz
113	Preamplifier	CPA9231A	3393	Schaffner
141	Trilog broadband antenna	VULB 9163	9163-188	Schwarzbeck
003	Fully anechoic room	No. 2	1452	Albatross Projects

5.2. Radiated Emission > 1 GHz

Rules and Specifications:	Section 15.247
Guide:	ANSI C63.4

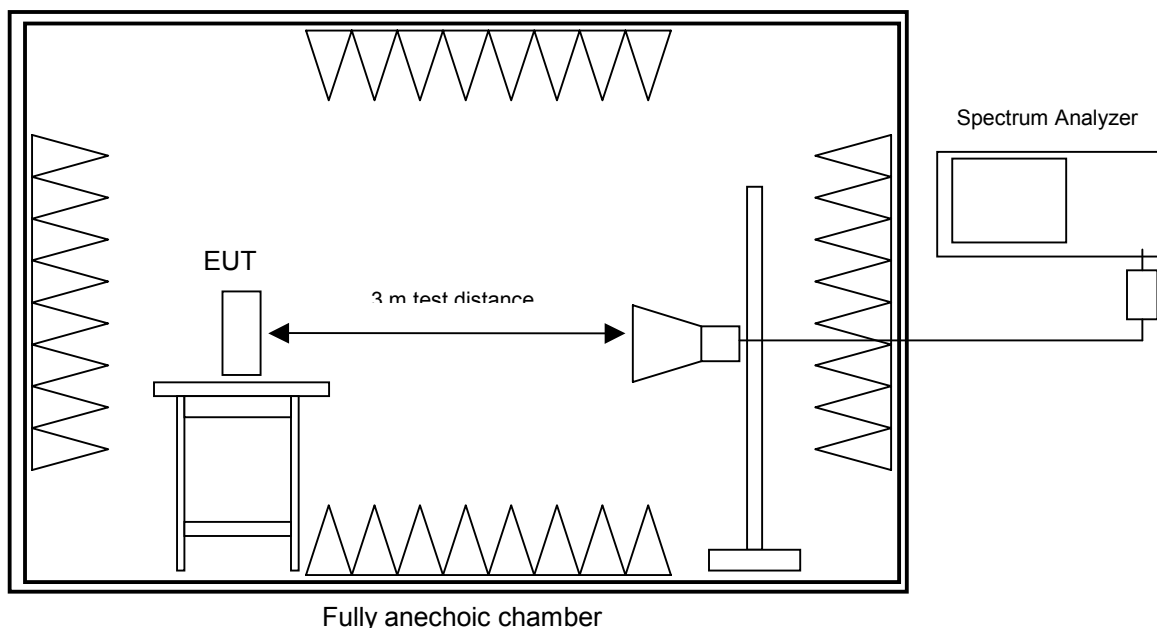
Measurement Procedure:

Radiated emissions are measured in the frequency range 1 GHz to 25 GHz. Resolution and video bandwidth of the spectrum analyzer are set to 1 MHz. Hand-held or body-worn devices are rotated through three orthogonal axes to determine which attitude and configuration produces the highest emission relative to the limit and therefore shall be used for final testing. Additional measurements are performed at critical frequencies with reduced span.

EUT is rotated all around and receiving antenna is raised and lowered to find the maximum levels of emission. The cables and equipment are placed and moved within the range of position likely to find their maximum emissions.

All tests are performed in a fully-anechoic chamber with a test-distance of 3 meters.

If required preamplifiers are used for the whole frequency range. Special care is taken to avoid overload in transmit mode (using appropriate attenuators and filters if necessary).



Test instruments used:

No.	Type	Model	Serial Number	Manufacturer
01	Spectrum Analyzer	FSP 30	100063	Rohde & Schwarz
143	Log. periodic antenna	3147	9112-1054	EMCO
145	Horn antenna	3115	9508-4553	EMCO
146	Horn antenna set	3160-03/-09	9112-1003	EMCO
114	Preamplifier 1-8 GHz	AFS3-00100800-32-LN	847743	Miteq
115	Preamplifier 8-18 GHz	ACO/180-3530	32641	CTT
003	Fully anechoic room	No. 2	1452	Albatross Projects

6. Photographs Taken During Testing

Test setup for radiated emission measurement 30 MHz – 25 GHz (fully anechoic room)



7. List of Measurements

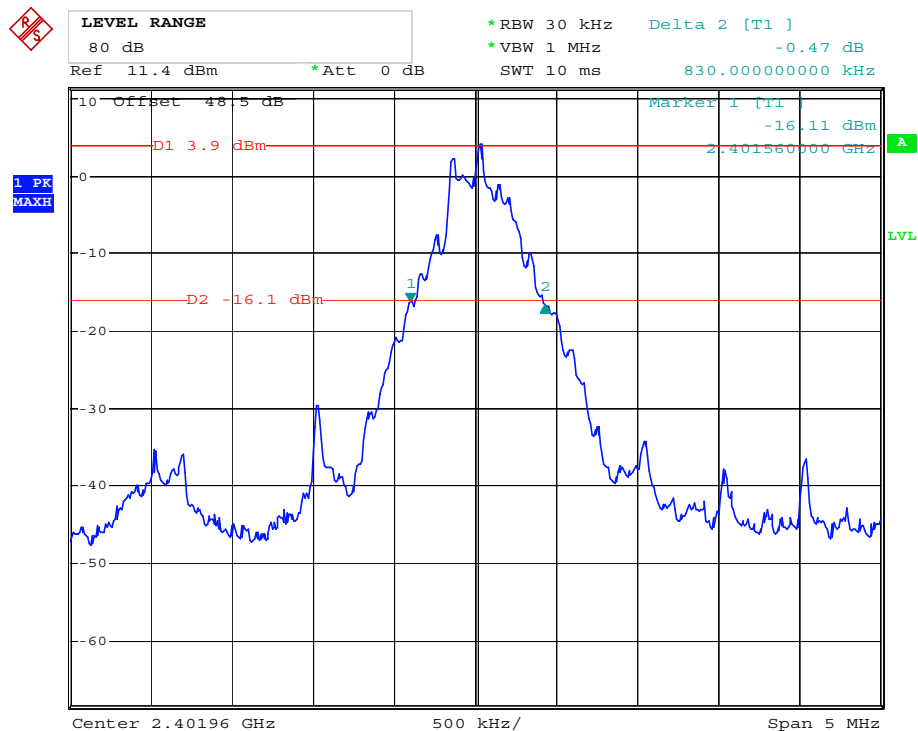
FCC Part 15 Subpart C			
Section(s):	Test	Page(s)	Result
15.205 15.247 (a) (1) 15.247 (a) (1) 15.247 (a) (1) (iii) 15.247 (a) (1) (iii) 15.247 (b) (2) 15.247 (d) 15.247 (d) 15.209 15.203 2.1093 15.207 15.111 15.109	Transmitter:		
	Restricted Bands Compliance	---	Pass
	Channel Bandwidth	12	Pass
	Hopping channel separation	14	Pass
	Number of Hopping Frequencies used	15	Pass
	Time occupancy on any channel	16	Pass
	Maximum Peak Output Power	18	Pass
	Spurious emissions - conducted	---	N/A
	Spurious emissions - radiated	22	Pass
	Antenna Requirement	5	Pass
	RF Exposure Requirement	24	Pass
	Conducted AC Powerline Emissions	---	N/A
	Receiver		
	Spurious emissions on antenna port	---	N/A
	Radiated Emissions	25	Pass

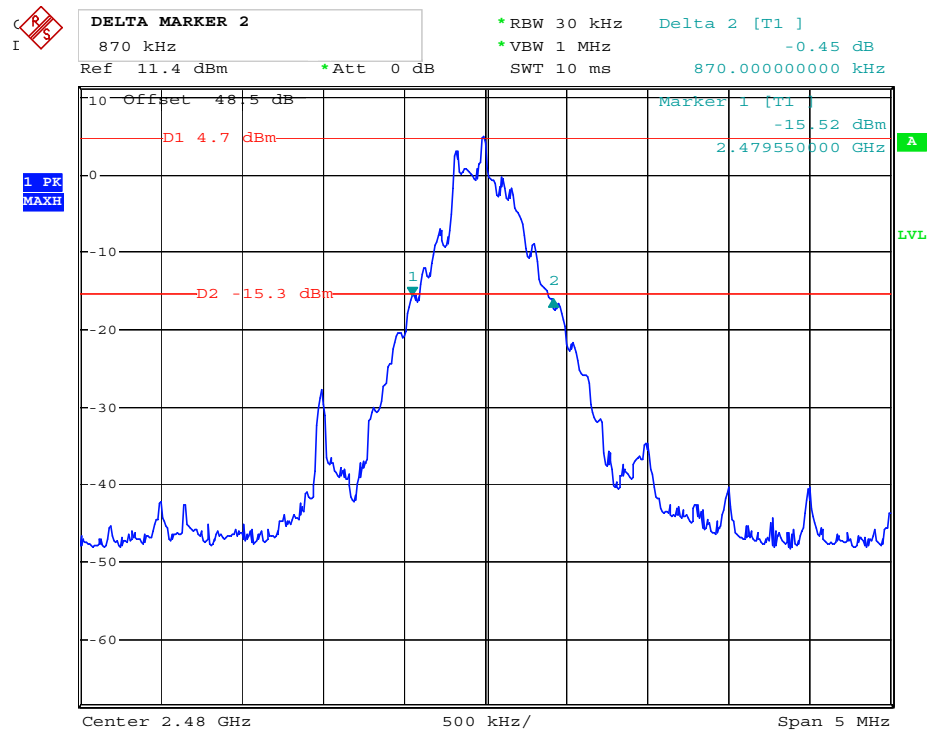
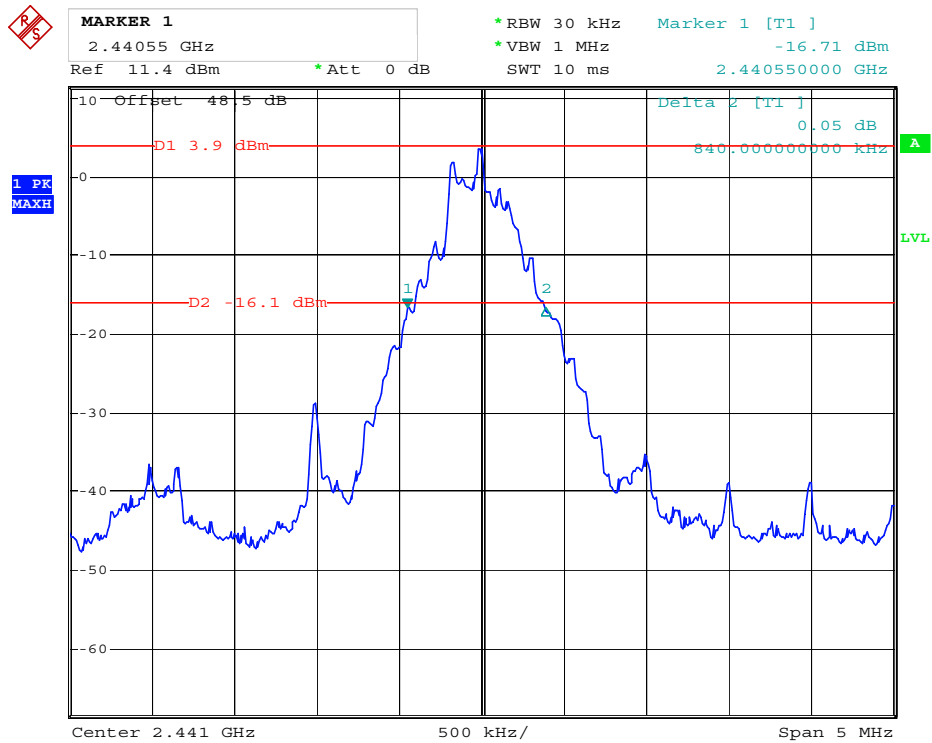
Channel Bandwidth

Rules and Specifications:	15.247 (a) (1)
Guide:	ANSI C63.4
Limit:	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth, whichever is greater.

Test Site:	Fully Anechoic Chamber.
Distance:	Radiated Measurement
Date of Test:	11 January 2006

Frequency	Channel Bandwidth in kHz	Standard	Result
Low (2402 MHz)	830	< 1 MHz	pass
Middle 2441 MHz	840	< 1 MHz	pass
High 2480 MHz	870	< 1 MHz	pass





Hopping Channel Separation

Rules and Specifications:	15.247 (a) (1)
Guide:	ANSI C63.4
Limit:	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth, whichever is greater.

Test Site:	Fully Anechoic Chamber
Distance:	Radiated Measurement
Date of Test:	11 January 2006

Channel Frequency	Measured	Required	Result
2402 MHz		> 830 kHz	Pass
2441 MHz	1.044 MHz	> 840 kHz	Pass
2480 MHz		> 870 kHz	Pass

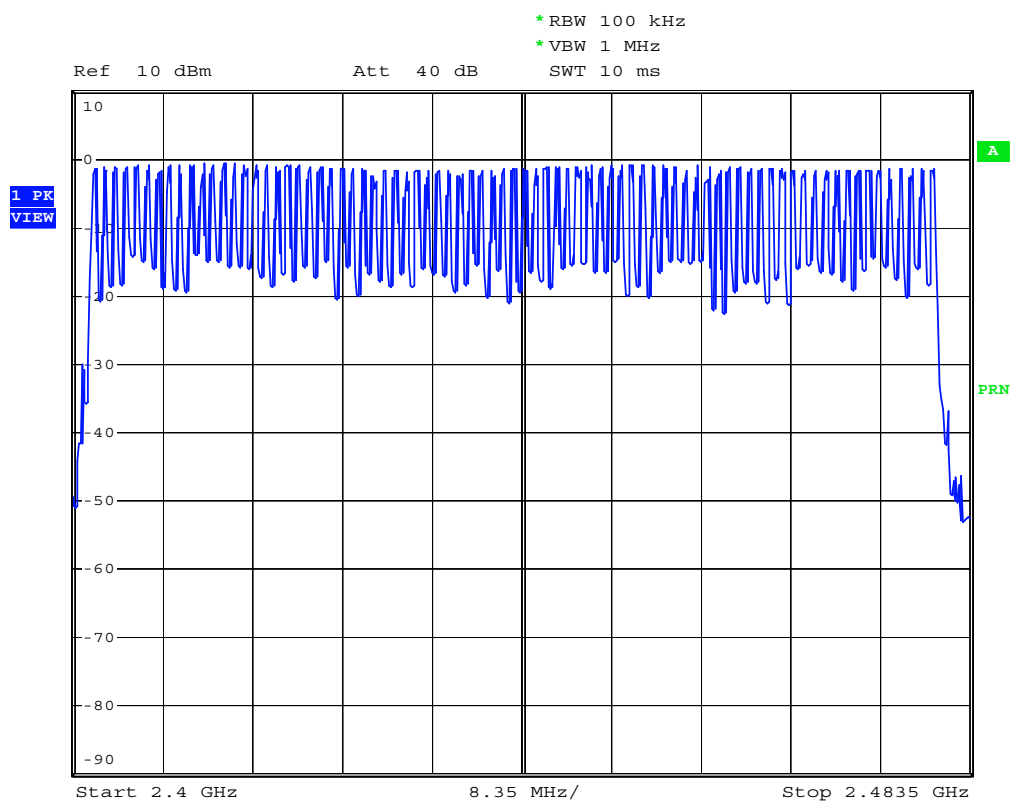


Number of Hopping Frequencies used

Rules and Specifications:	15.247 (a) (1) (iii)
Guide:	ANSI C63.4
Limit:	Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 non-overlapping channels.

Test Site:	Fully Anechoic Chamber
Distance:	Radiated Measurement
Date of Test:	11 January 2006

Number of Hopping Frequencies	Measured	Required	Result
	79	15	Pass

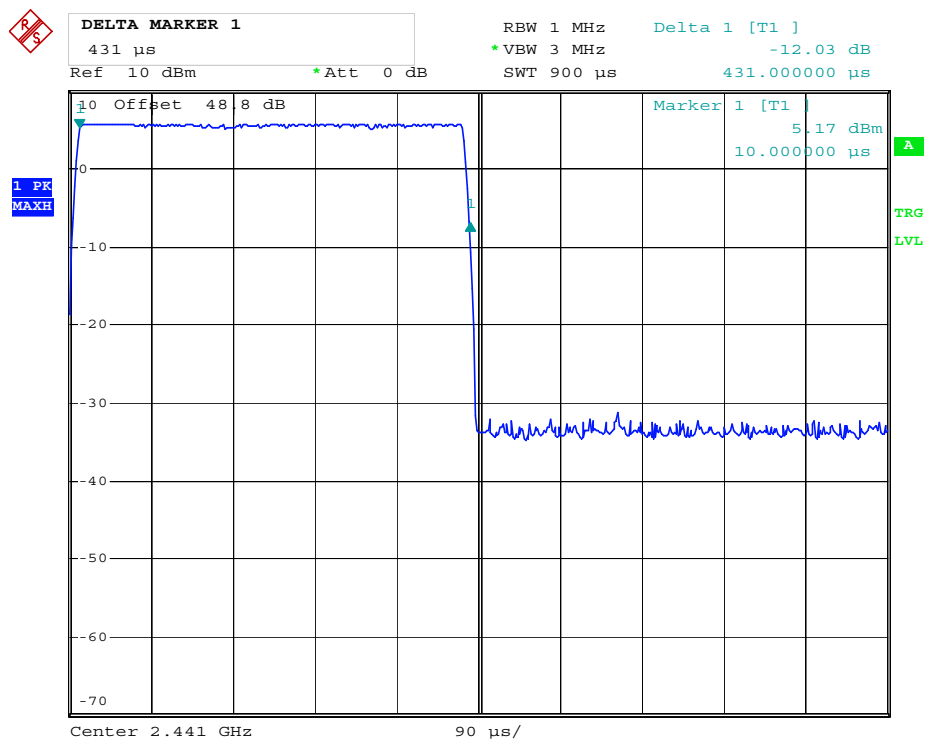


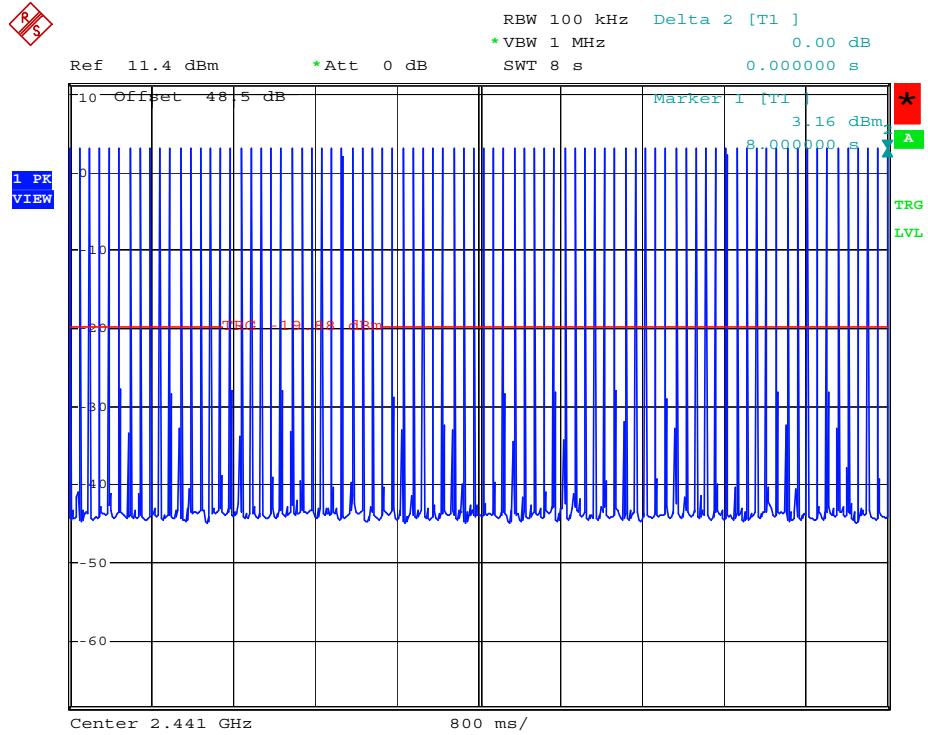
Time Occupancy on any Channel

Rules and Specifications:	15.247 (a) (1) (iii)
Guide:	ANSI C63.4
Limit:	The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

Test Site:	Fully Anechoic Chamber.
Distance:	Radiated Measurement
Date of Test:	11 January 2006

Time occupancy	Measured	Required	Result
	300 x 0.431 ms = 129.3 ms within a 30 seconds period	< 0.4 seconds within a 30 second period	Pass





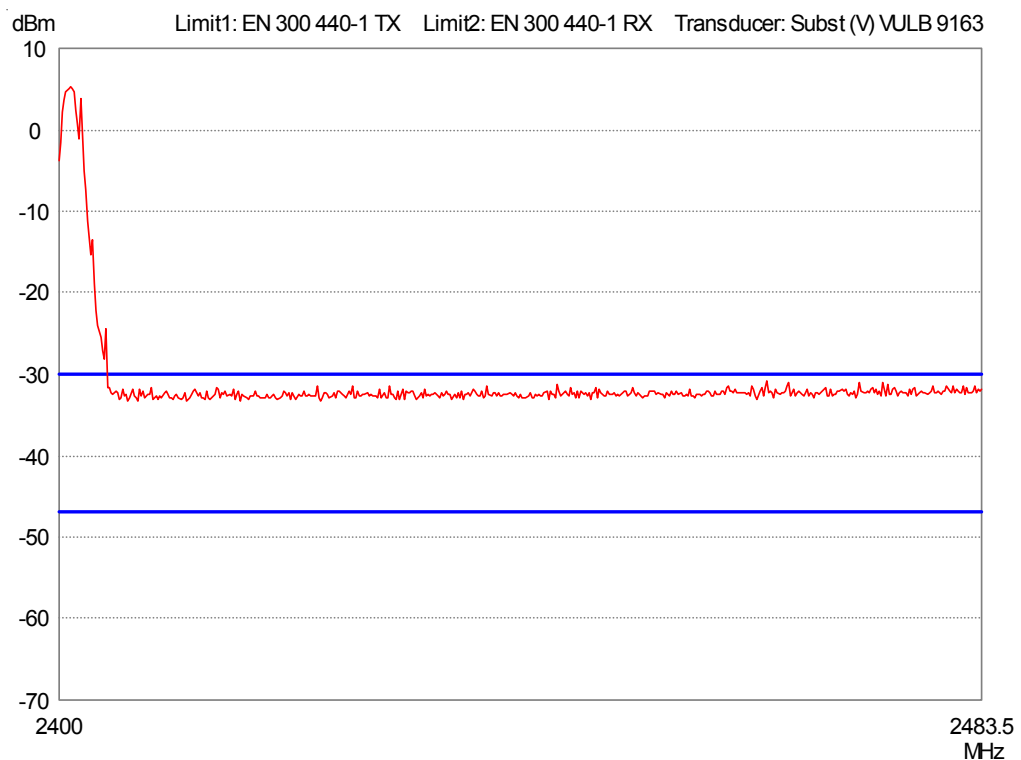
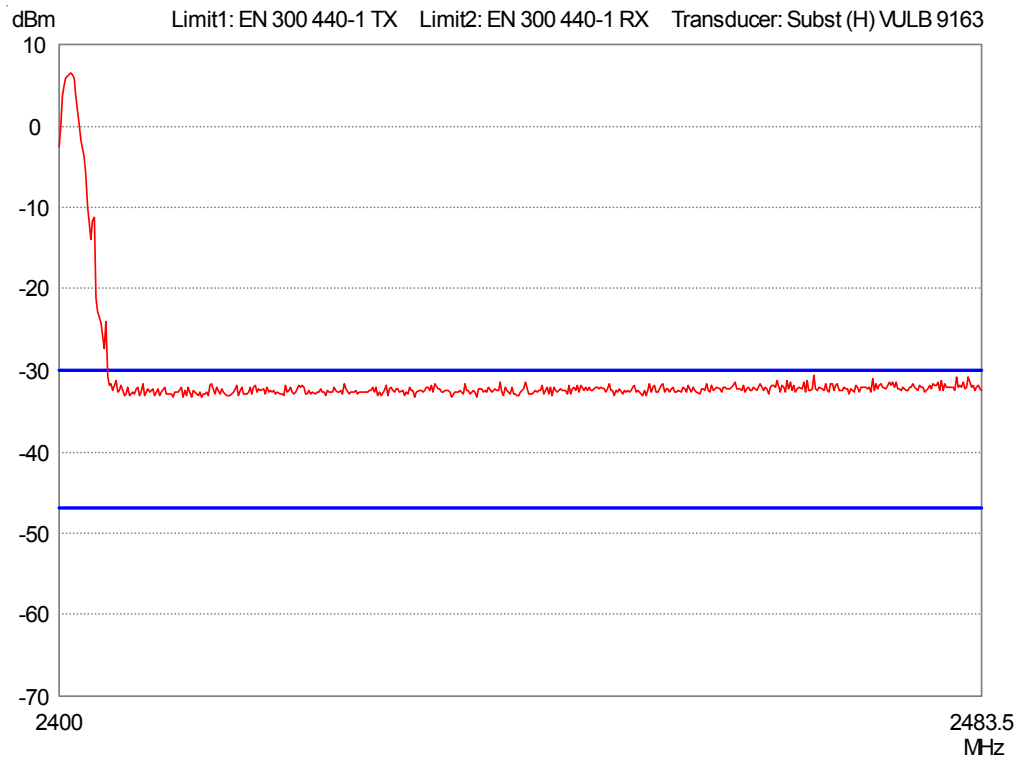
Maximum Peak Output Power

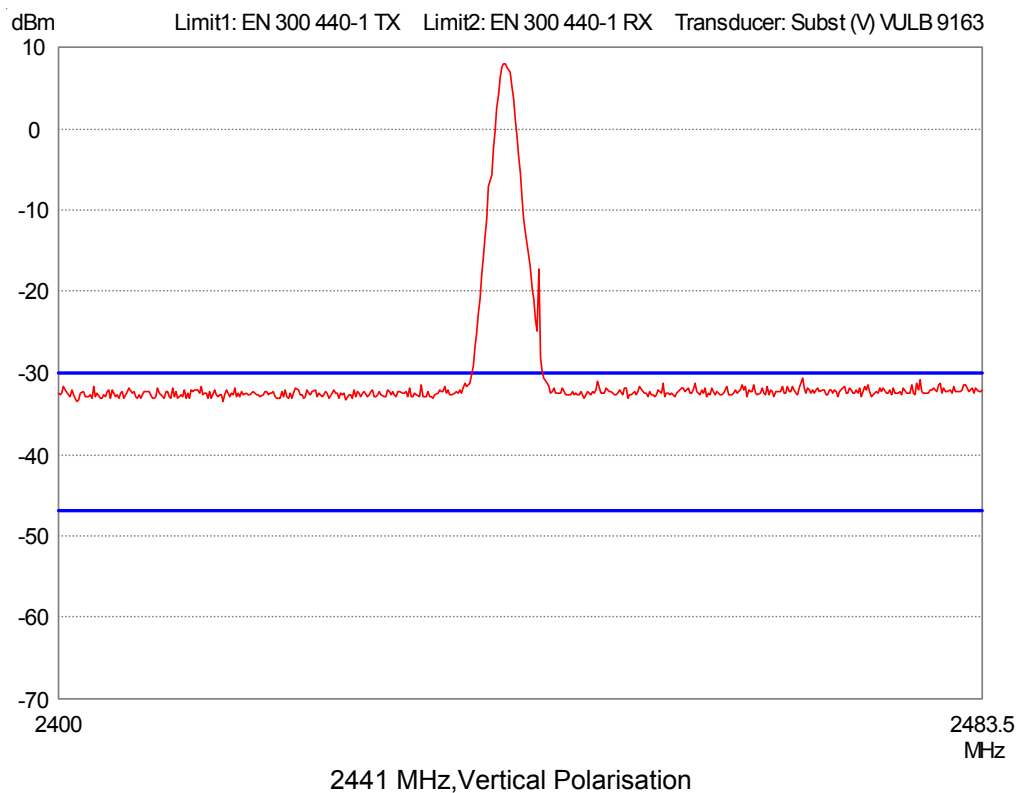
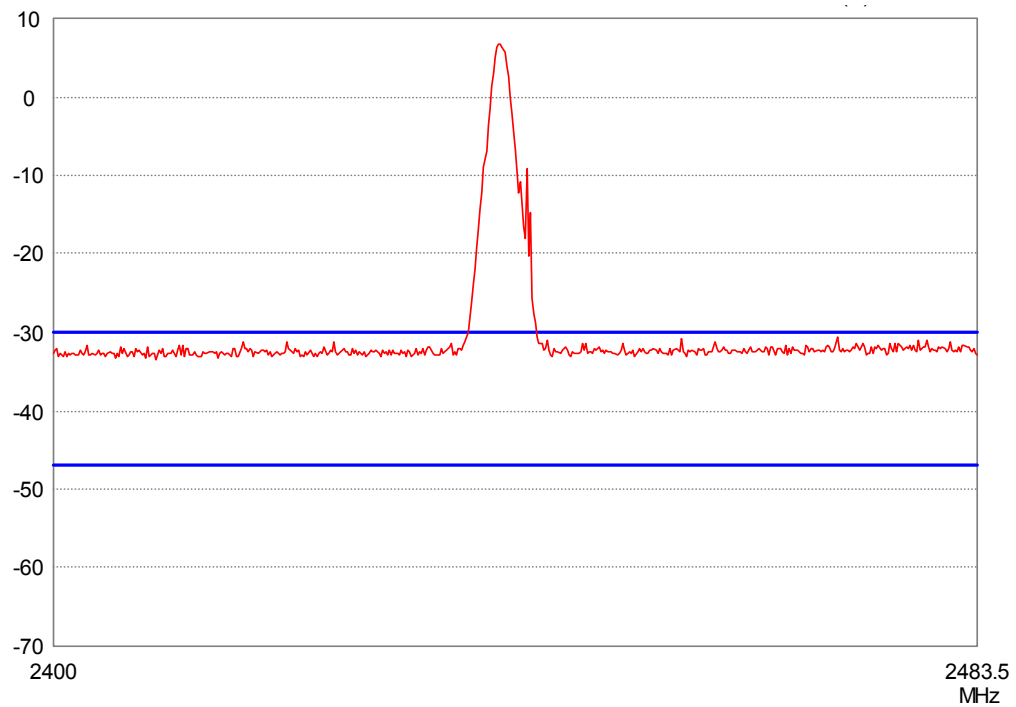
Rules and Specifications:	15.247 (b) (1)
Guide:	ANSI C63.4
Limit:	For frequency hopping systems operating in the 2400 -2483.5 MHz band: 1 watt for systems employing at least 75 hopping channels

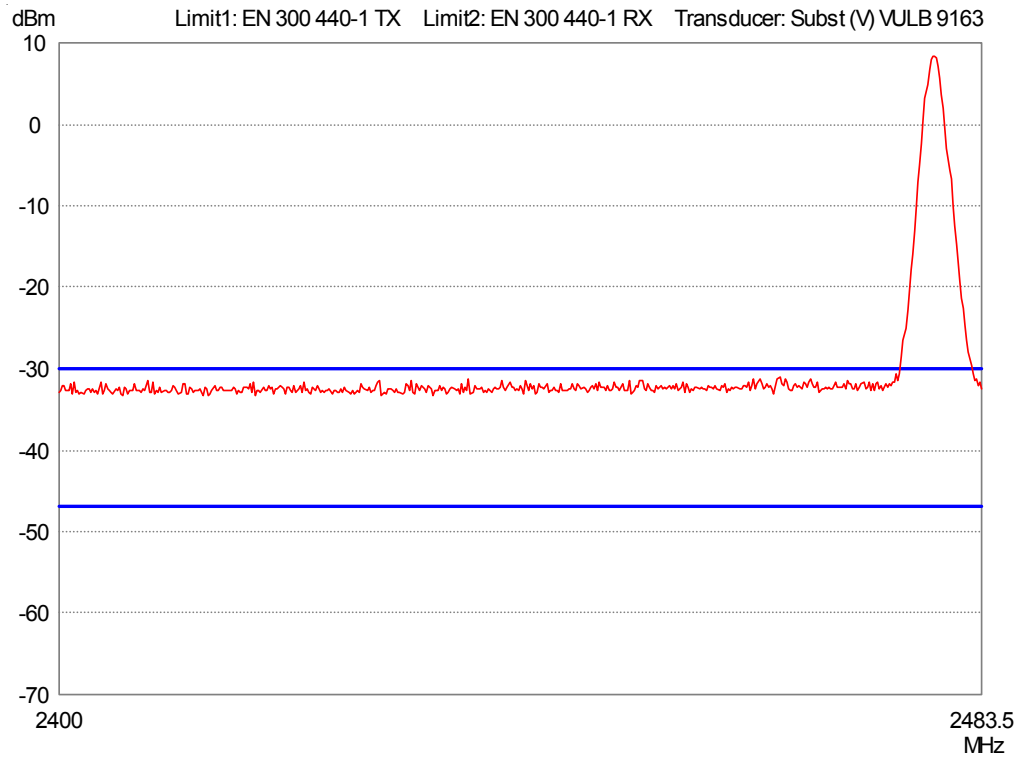
Test Site:	Fully Anechoic Chamber
Distance:	Radiated Measurement (EIRP)
Date of Test:	11 January 2006

Radiated Measurement

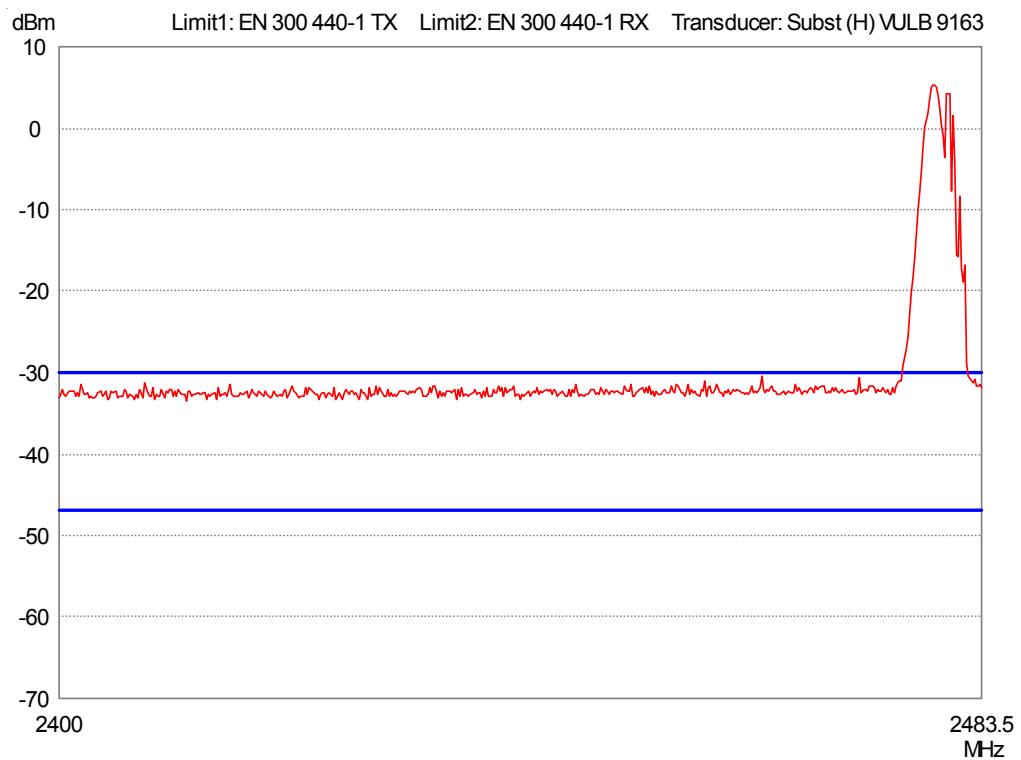
Frequency	Output Power in dBm	Output Power in W	Standard	Result
Low (2402 MHz)	7.70	0.0059	$\leq 1.0W$	Pass
Middle 2441 MHz	7.80	0.0060	$\leq 1.0W$	Pass
High 2480 MHz	6.70	0.0046	$\leq 1.0W$	Pass







2480 MHz, Vertical Polarisation



2480 MHz, Horizontal Polarisation

Spurious Emissions

Rules and Specifications:	15.247 (d)
Guide:	ANSI C63.4
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or radiated measurement.

Test Site:	Fully Anechoic Chamber
Distance:	Radiated Measurement (EIRP)
Date of Test:	11 January 2006

Test Results

Frequency (MHz)	Measured Value (dBm)	Limit (dBm)	Margin (dB)	Result
2402	7.70	30	-22.3	Pass
2441	7.80	30	-22.2	Pass
2480	6.70	30	-23.3	Pass
See Note				

Note: Emission of harmonics in restricted bands are covered by the field strength measurement overleaf

Spurious Emissions – Radiated Measurement

Rules and Specifications:	15.247 (d)
Guide:	ANSI C63.4
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

Test Site:	Open Area Test Site (< 1GHz), Fully anechoic room (>1 GHz)
Distance:	Radiated Measurement
Date of Test:	11 January 2006

Frequency (MHz)	Antenna Polarisation	Meter Reading (dBμV)	Antenna Correction (dB)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
					46.00	
					46.00	
					46.00	
1738.00	Horizontal	21.79	30.95	52.74	54.00	-1.26
4805.0	Horizontal	16.57	34.26	50.84	54.00	-3.16
4881.0	Horizontal	16.98	34.33	51.31	54.00	-2.69
4960.0	Horizontal	17.66	34.41	52.08	54.00	-1.92

Frequencies < 1 GHz were measured with a quasi-peak detector

Frequencies > 1 GHz were measured with a peak detector

Sample calculation of field strength values:

$$\text{Field Strength (dB}\mu\text{V/m)} = \text{Analyzer Reading (dB}\mu\text{V)} + \text{Correction Factor (dB/m)}$$

RF Exposure

Rules and Specifications:	15.247 (b) (4)
Guide:	OET Bulletin 65, Edition 97-01
Limit:	According to §15.247(b)(4) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
1500-15000	---	---	1.0	30

f = frequency in MHz

MPE Prediction of MPE according to equation from page 19 of OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

Where: S = power density

P = power input to antenna

G = power gain of the antenna relativ to an isotropic radiator

R = Distance to the center of radiation of the antenna

Maximum radiated output power (EIRP):

7.80 dBm = 6.9 mW

Prediction distance:

20 cm

Antenna gain: **N/A**

Power density at 20 cm:

0.0013 mW/cm²

Test Result:	Pass	
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Spurious Radiation Measurement

Rules and Specifications:	15.109,	
Guide:	ANSI C63.4	
Limit:	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated at least 50 dB below the level of the fundamental or to the general radiated emission limits below, whichever is the lesser attenuation	
	Frequency of Emission (MHz)	Field Strength (microvolts/meter)
	30 - 88	100
	88 - 216	150
	216 - 960	200
	Above 960	500

Tested Frequency:	RX Mode, middle RF Channel
Test Site:	Open Area Test Site (< 1 GHz), Fully anechoic chamber (> 1 GHz)
Distance:	3 Meter

Frequency (MHz)	Detector	Antenna Polarization	Analyzer Reading (dBμV)	Correction Factor (dB/m)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
180.673	Q.P	Hor	23.71	11.12	34.83	43.50	-8.7
304.186	Q.P	Hor	30.28	14.63	44.91	46.00	-1.1
608.766	Q.P	Hor	16.36	20.34	36.70	46.00	-9.3
660.500	Q.P	Ver	22.56	20.59	43.15	46.00	-2.9
780.133	Q.P	Ver	18.71	21.87	40.58	46.0	-5.4

*** = All emissions showed more than 20 dB margin to the limit

Sample calculation of field strength values:

$$\text{Field Strength (dB}\mu\text{V/m)} = \text{Analyzer Reading (dB}\mu\text{V)} + \text{Correction Factor (dB/m)}$$

8. Referenced Regulations

All tests were performed with reference to the following regulations and standards:

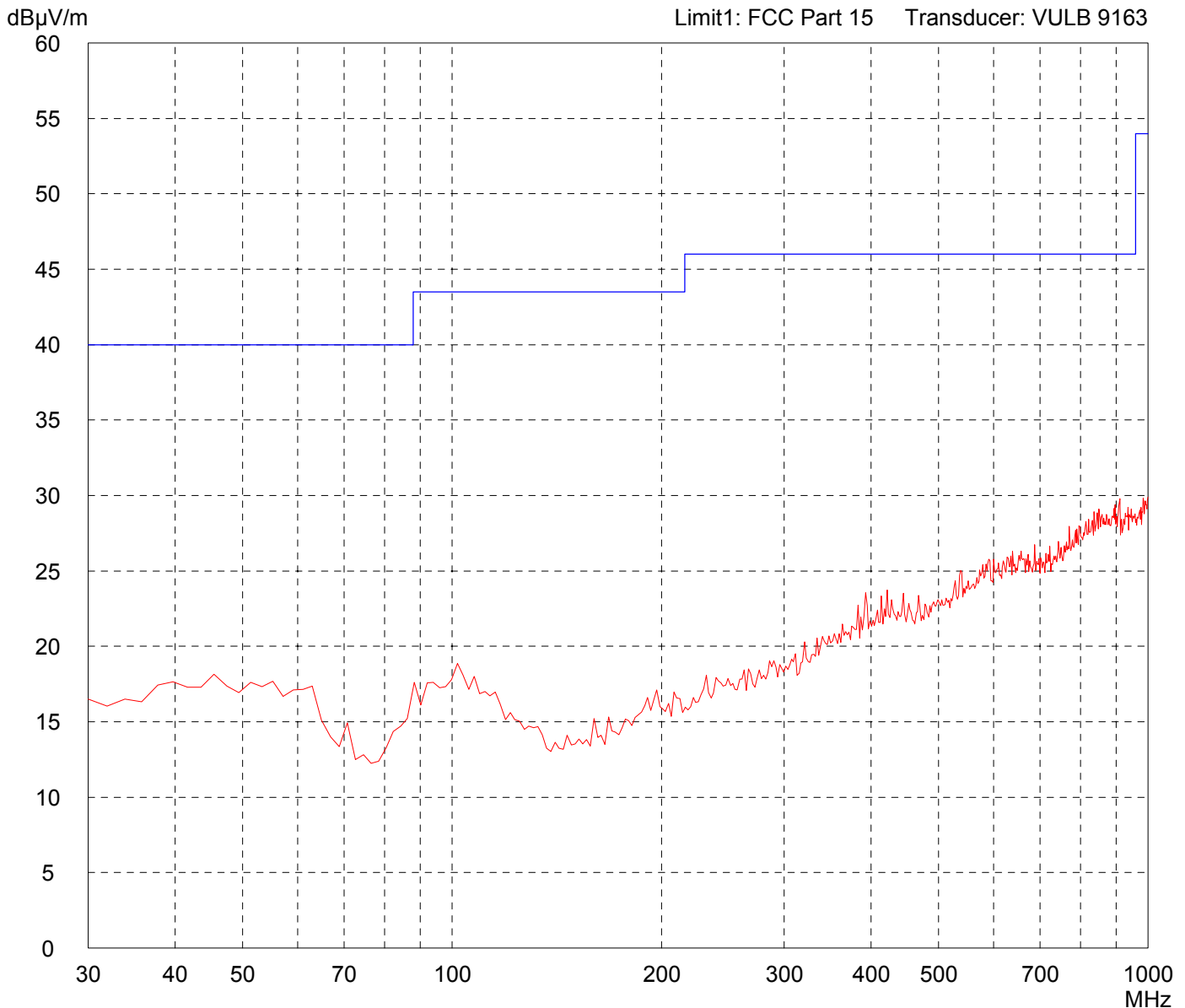
☒	CFR 47 Part 2	Code of Federal Regulations Part 2 (Frequency allocation and radio treaty matters; General rules and regulations) of the Federal Communication Commission (FCC)	October 10, 2004
☒	CFR 47 Part 15	Code of Federal Regulations Part 15 (Radio Frequency Devices) of the Federal Communication Commission (FCC)	September 19, 2005
☒	ANSI C63.4	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	December 11, 2003 (published on January 30, 2004)
☒	RSS-Gen	Radio Standards Specification RSS-Gen Issue 1 containing General Requirements and Information for the Certification of Radiocommunication Equipment, published by Industry Canada	September 2005
☒	RSS-210	Radio Standards Specification RSS-210 Issue 6 for Low Power Licence-Exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment, published by Industry Canada	September 2005
☐	RSS-310	Radio Standards Specification RSS-310 Issue 1 for Low Power Licence-Exempt Radiocommunication Devices (All Frequency Bands): Category II Equipment, published by Industry Canada	September 2005
☒	RSS-102	Radio Standards Specification RSS-102 Issue 1: Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields, published by Industry Canada	September 25, 1999
☐	ICES-003	Interference-Causing Equipment Standard ICES-003 Issue 4 for Digital Apparatus, published by Industry Canada	February 7, 2004
☒	CISPR 22	Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22, "Information Technology Equipment – Radio Disturbance Characteristics – Limits and Methods of Measurement"	1997
☐	CAN/CSA-CEI/IEC CISPR 22	Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment	2002
☒	TRC-43	Notes Regarding Designation of Emission (Including Necessary Bandwidth and Classification), Class of Station and Nature of Service, published by Industry Canada	October 9, 1982

9. Charts taken during testing

Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF1500	Comment: - DC 12 V power supply - transmitting continuously without modulation - EUT on long side
Serial no.: IHFT000111	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 02/16/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: 10 dB Margin 50 Subranges
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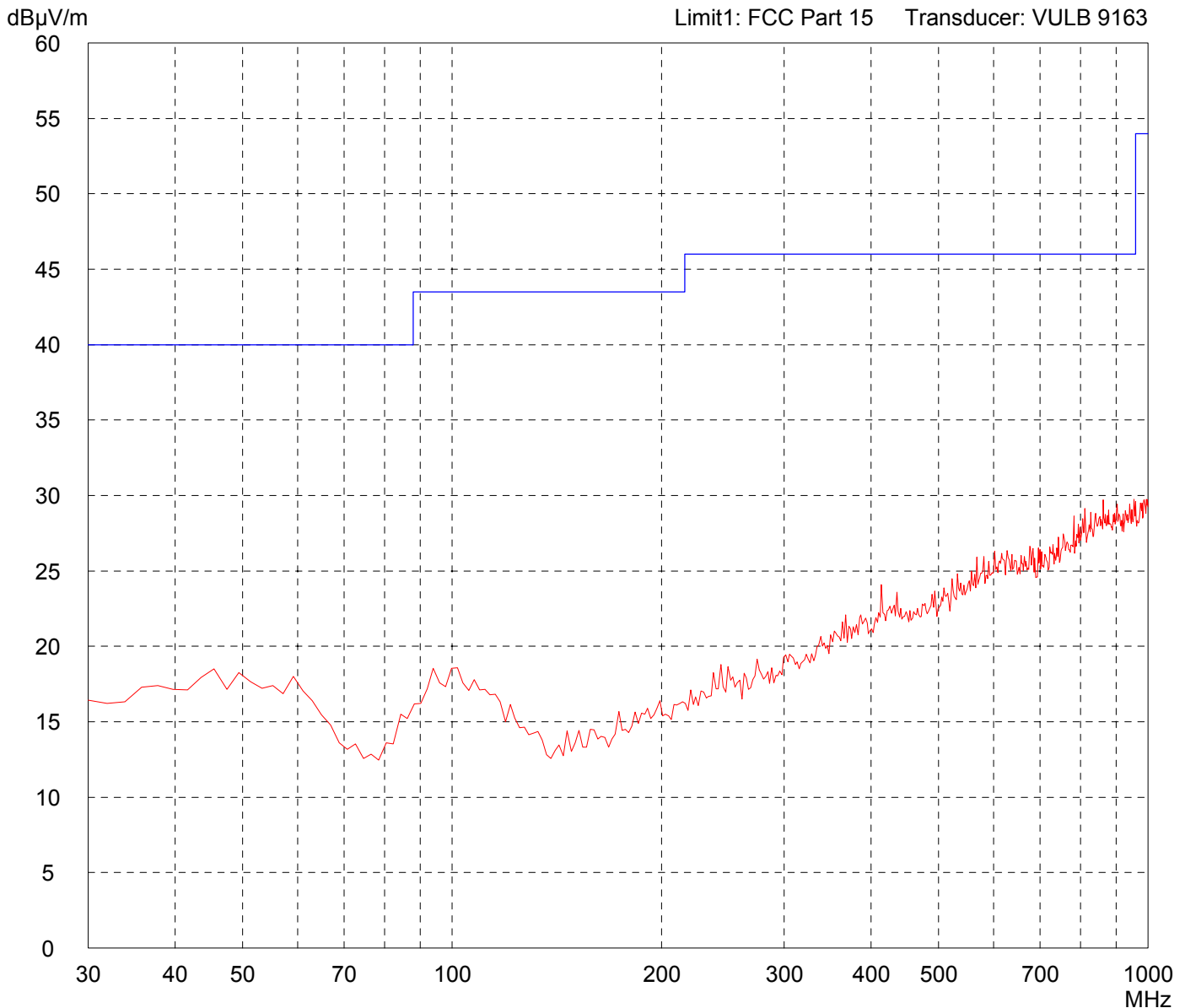


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	Page of Pages

Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF1500	Comment: - DC 12 V power supply - transmitting continuously without modulation Channel 00 (2402 MHz) - EUT on long side
Serial no.: IHFT000111	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 02/16/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: 10 dB Margin 50 Subranges
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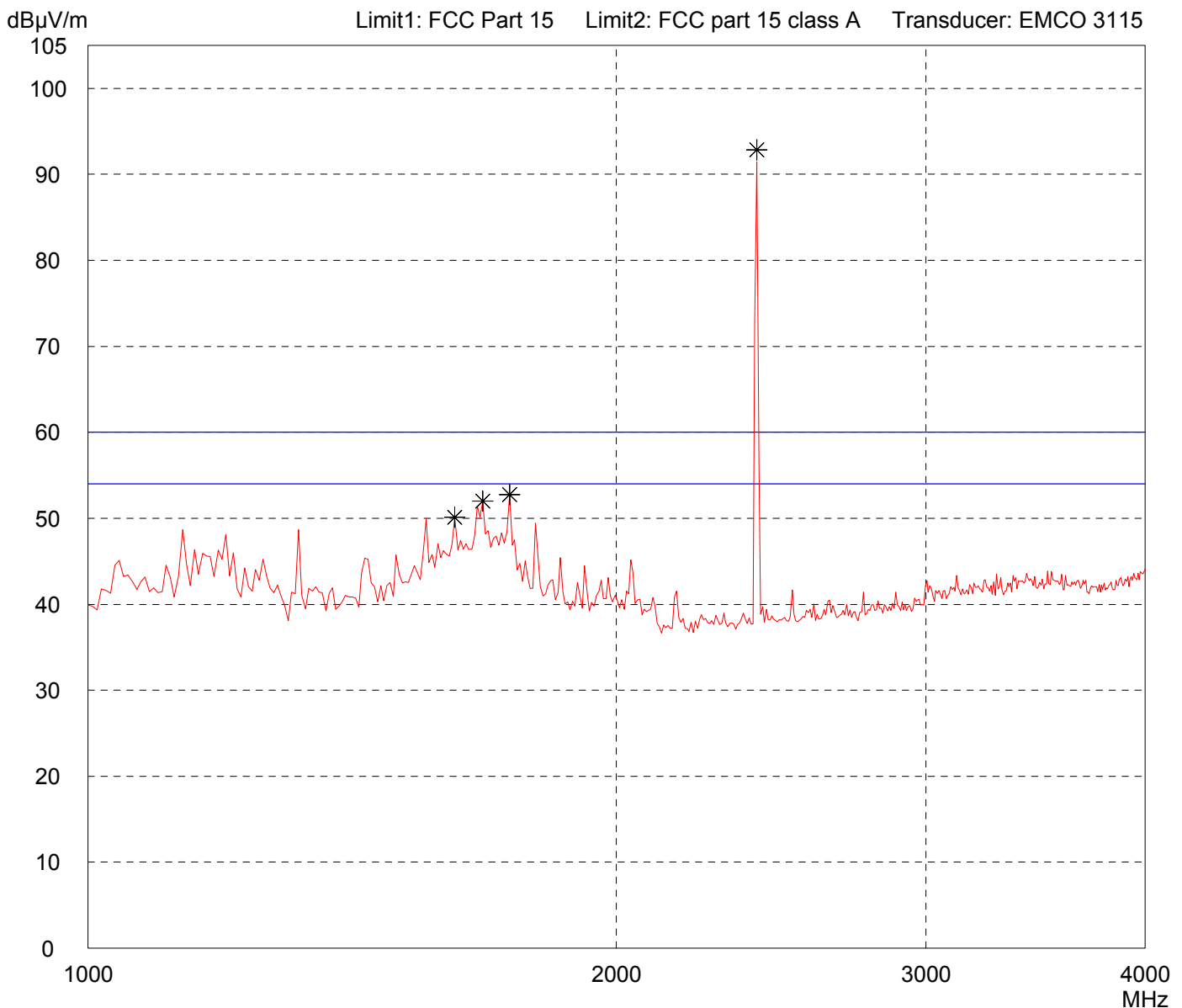


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Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (EMCO 3115)

Model: IHF1500	Comment: - DC 12 V power supply - with TIN CAN adapter Box - transmitting continuously without modulation Channel 00 (2402 MHz) - EUT on long side
Serial no.: IHFT000131	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 01/11/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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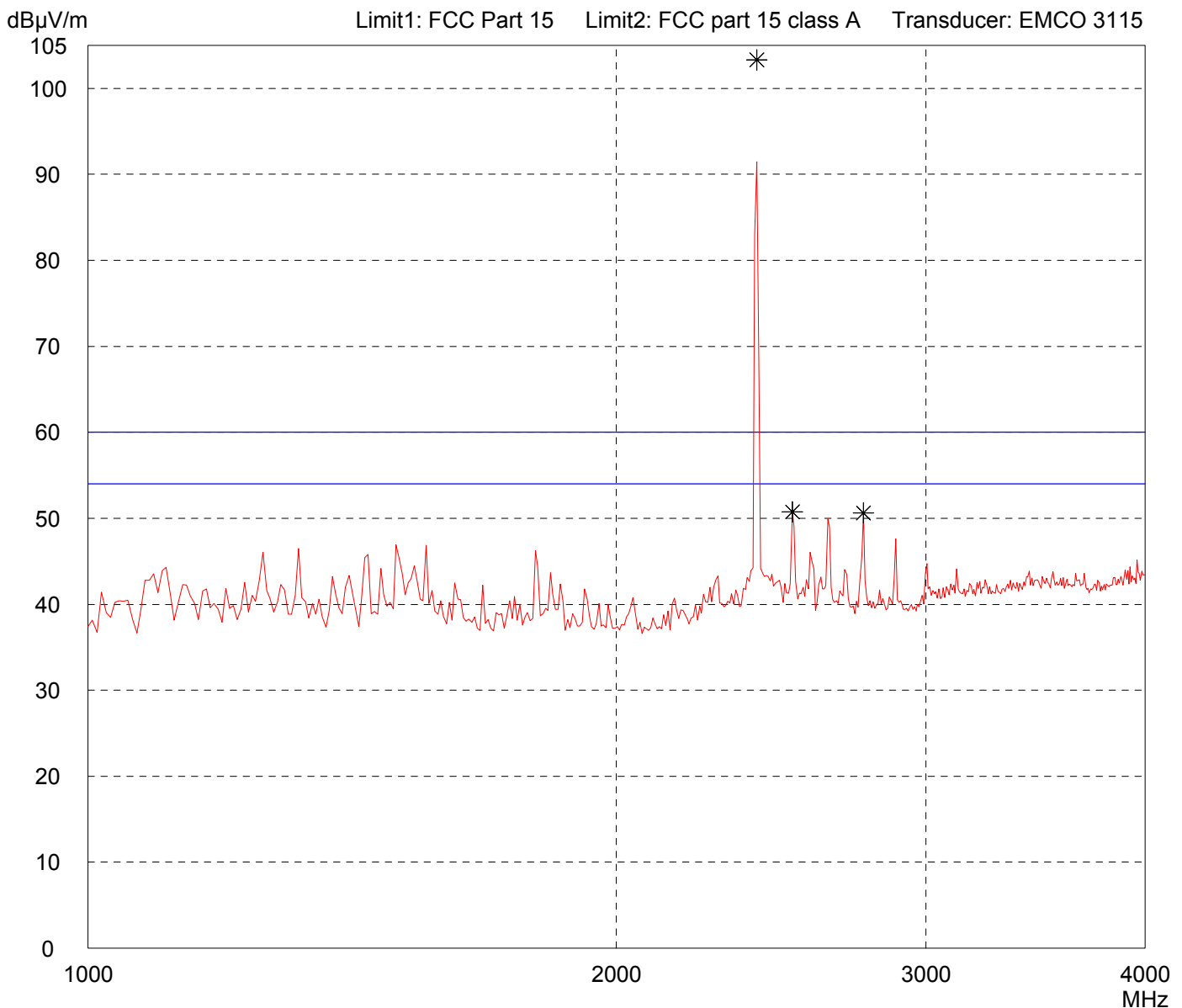


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Page of Pages	

Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (EMCO 3115)

Model: IHF1500	Comment: - DC 12 V power supply - with TIN CAN adapter Box - transmitting continuously without modulation Channel 00 (2402 MHz) - EUT on long side
Serial no.: IHFT000131	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 01/11/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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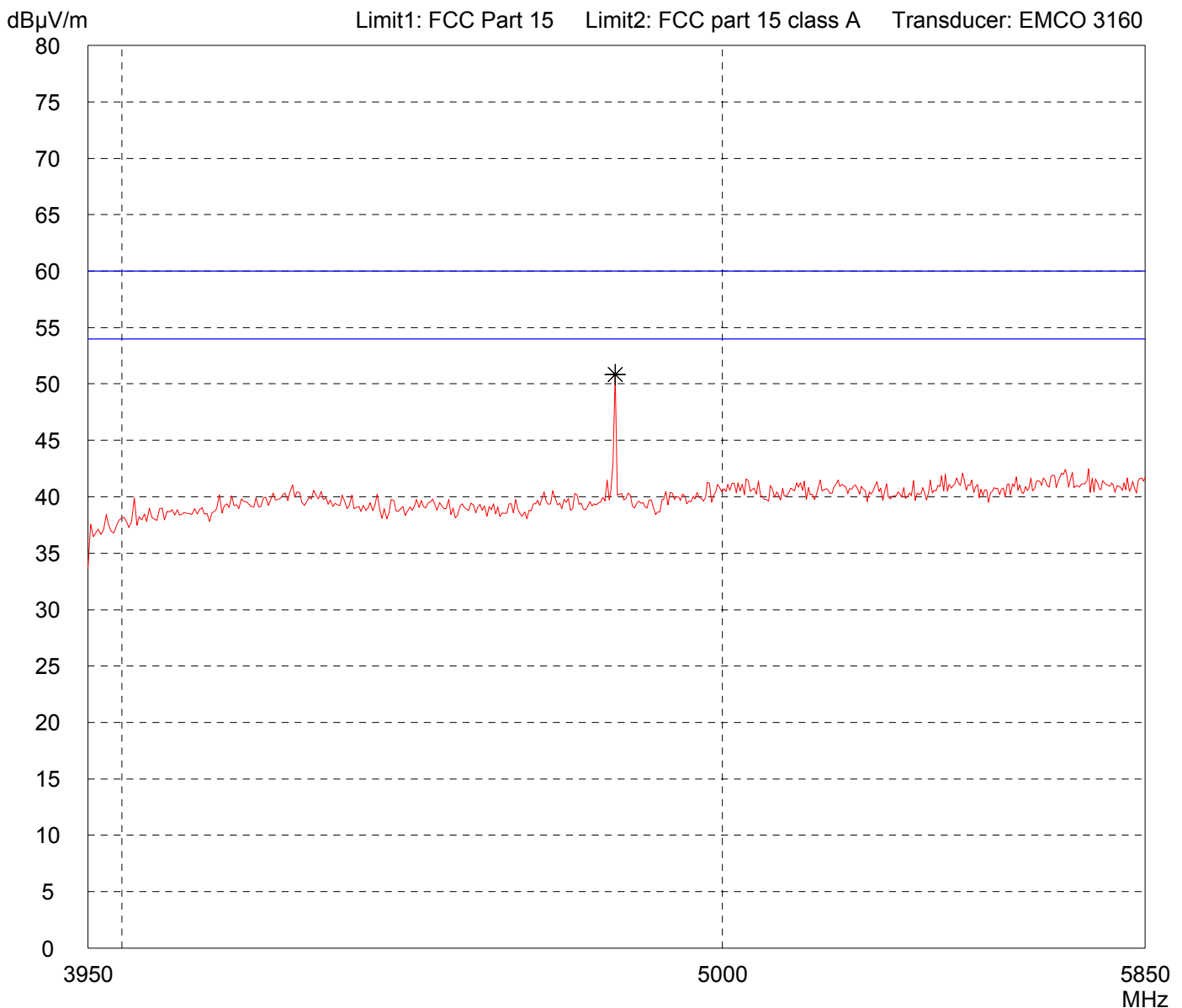


Result: Prescan	Project file: 51357-50837
	Page of Pages

Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - with TIN CAN adapter Box - transmitting continuously without modulation Channel 00 (2402 MHz) - EUT on long side
Serial no.: IHFT000131	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 01/11/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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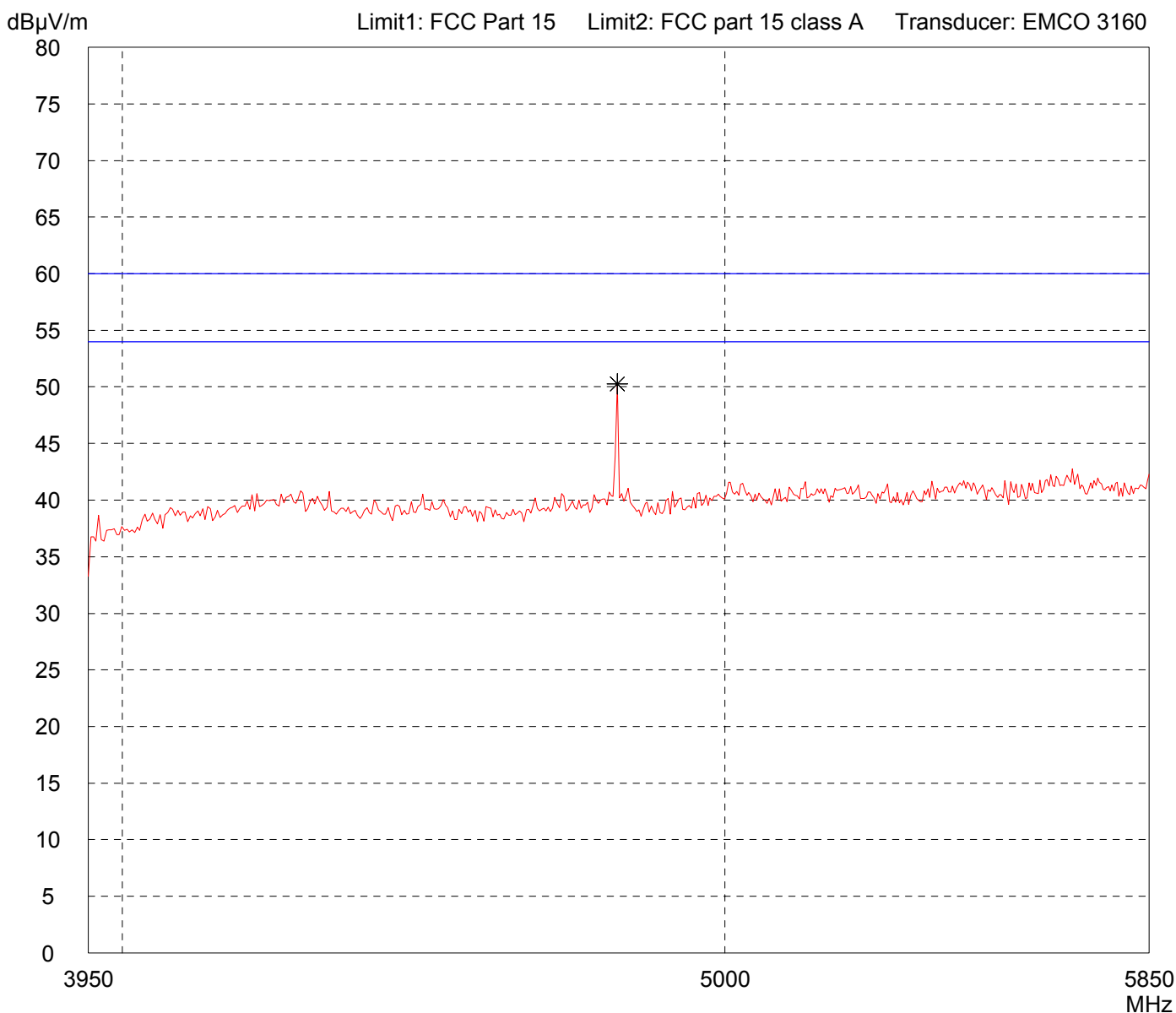


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Page of Pages	

Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - with TIN CAN adapter Box - transmitting continuously without modulation Channel 00 (2402 MHz) - EUT on long side
Serial no.: IHFT000131	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 01/11/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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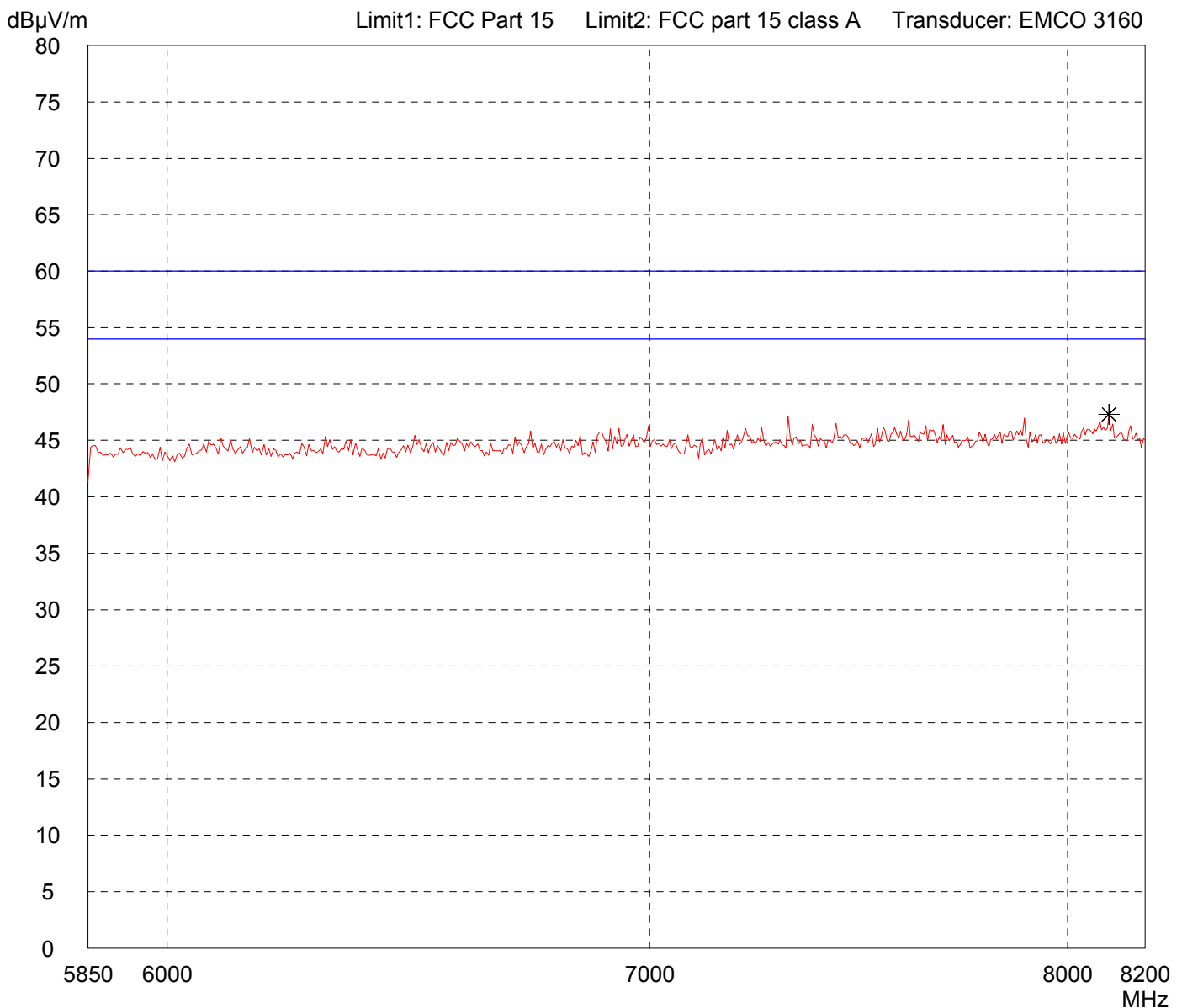


Result: Prescan	Project file: 51357-50837
Page of Pages	

Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - with TIN CAN adapter Box - transmitting continuously without modulation Channel 00 (2402 MHz) - EUT on long side
Serial no.: IHFT000131	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 01/11/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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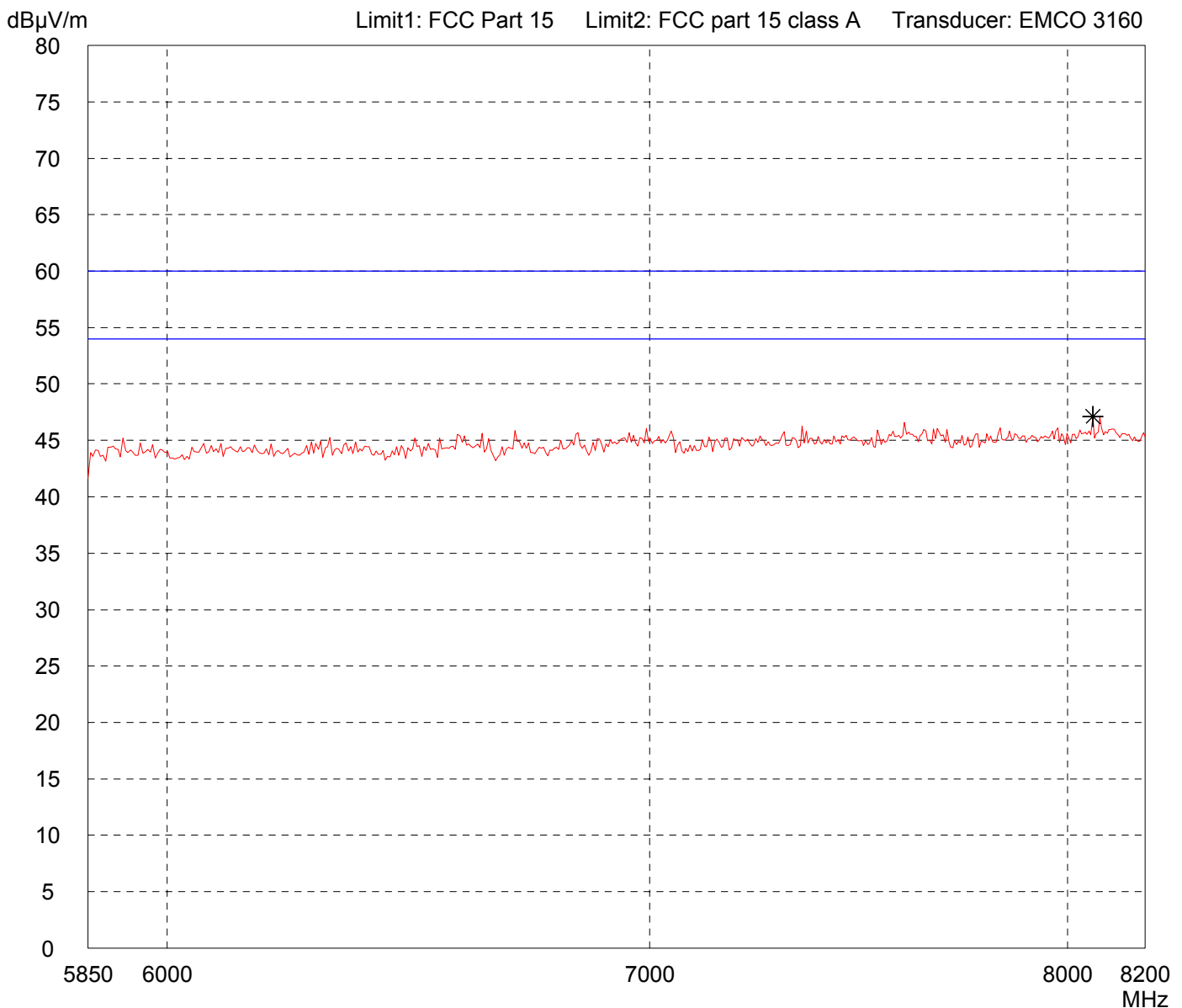


Result: Prescan	Project file: 51357-50837
Page of Pages	

Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - with TIN CAN adapter Box - transmitting continuously without modulation Channel 00 (2402 MHz) - EUT on long side
Serial no.: IHFT000131	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 01/11/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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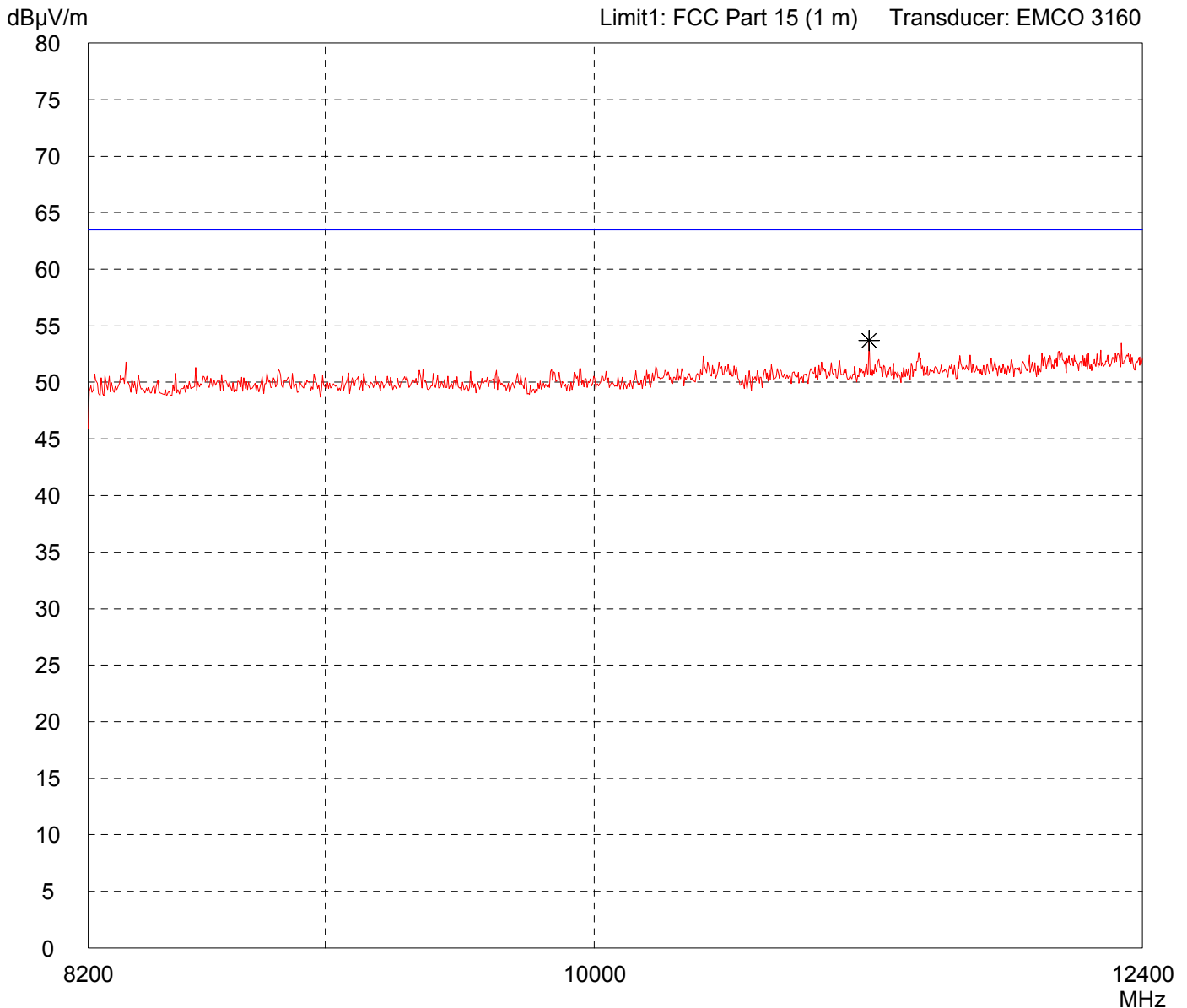


Result: Prescan	Project file: 51357-50837
	Page of Pages

Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - with TIN CAN adapter Box - transmitting continuously without modulation Channel 00 (2402 MHz) - EUT on long side
Serial no.: IHFT000131	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 01/11/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: 10 dB Margin 50 Subranges
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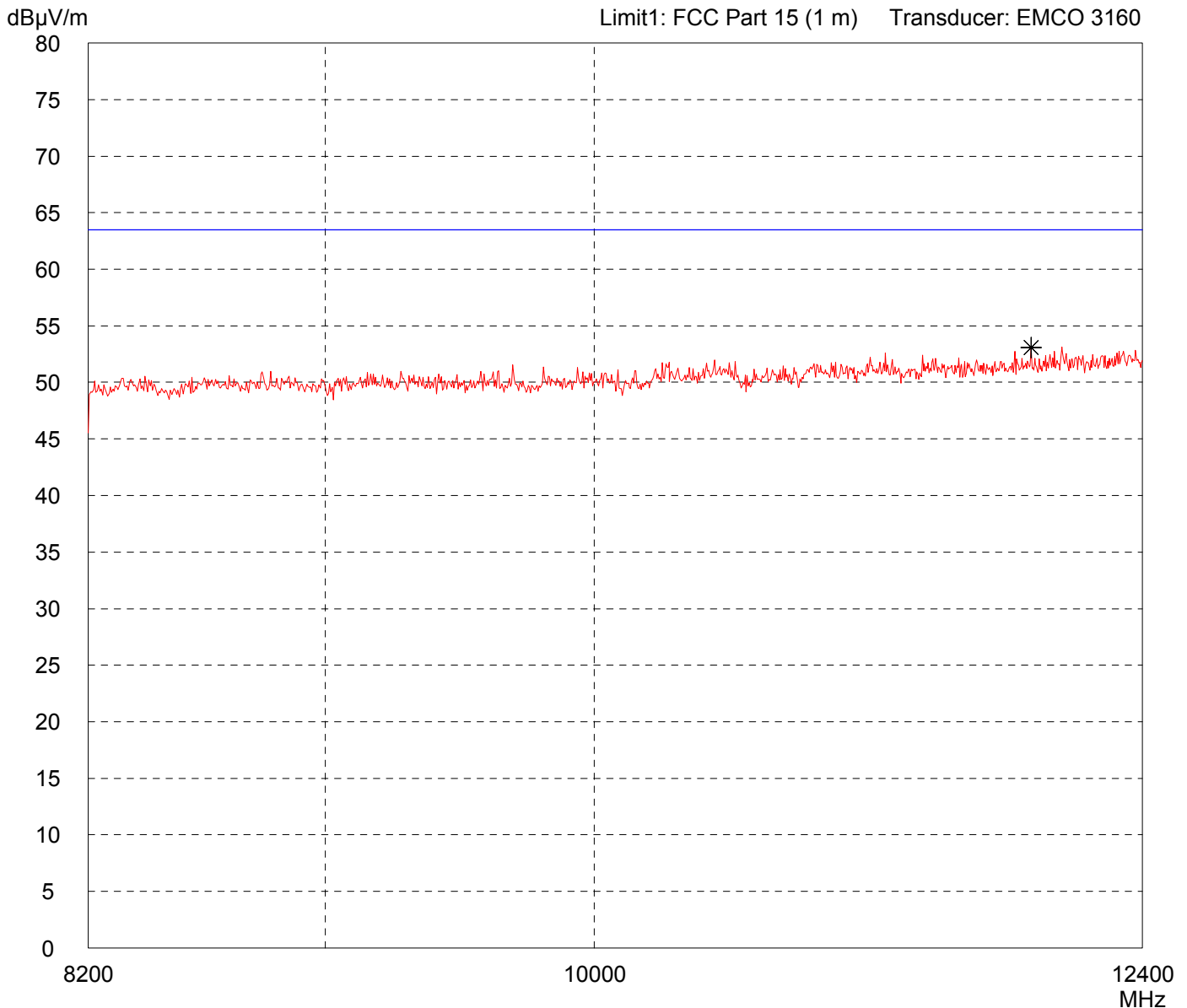


Result: Prescan	Project file: 51357-50837
	Page of Pages

Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - with TIN CAN adapter Box - transmitting continuously without modulation Channel 00 (2402 MHz) - EUT on long side
Serial no.: IHFT000131	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Vertical Polarization	
Date of test: 01/11/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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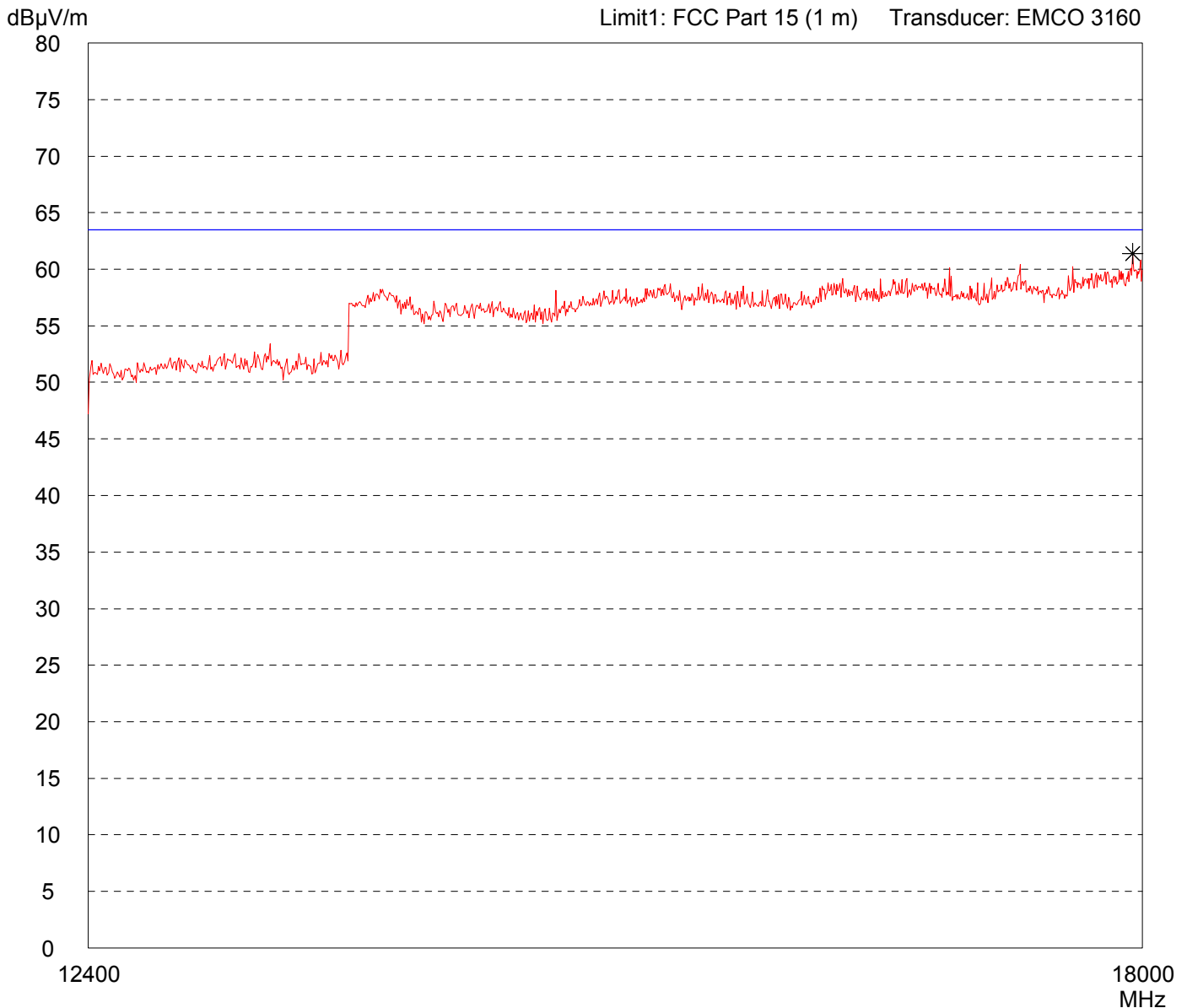


Result: Prescan	Project file: 51357-50837
Page of Pages	

Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - with TIN CAN adapter Box - transmitting continuously without modulation Channel 00 (2402 MHz) - EUT on long side - RBW = 300 kHz
Serial no.: IHFT000131	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 01/11/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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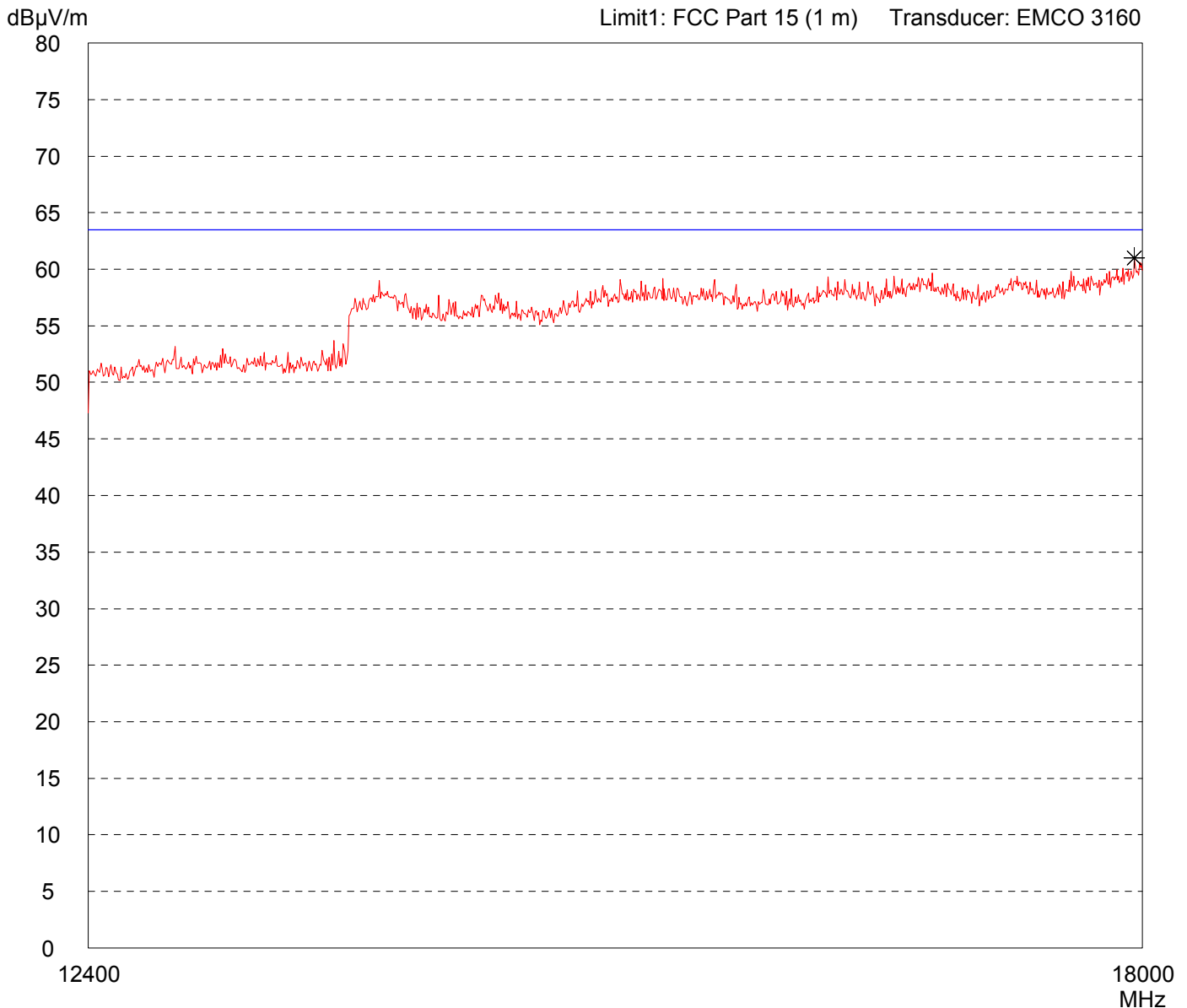


Result: Prescan	Project file: 51357-50837
	Page of Pages

Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - with TIN CAN adapter Box - transmitting continuously without modulation Channel 00 (2402 MHz) - EUT on long side - RBW = 300 kHz
Serial no.: IHFT000131	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Vertical Polarization	
Date of test: 01/11/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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Result: Prescan	Project file: 51357-50837
Page of Pages	

Radiated Emission Test acc. to FCC Part 15

Model:
IHF1500

Serial No.:
IHFT000131

Applicant:
Motorola GmbH

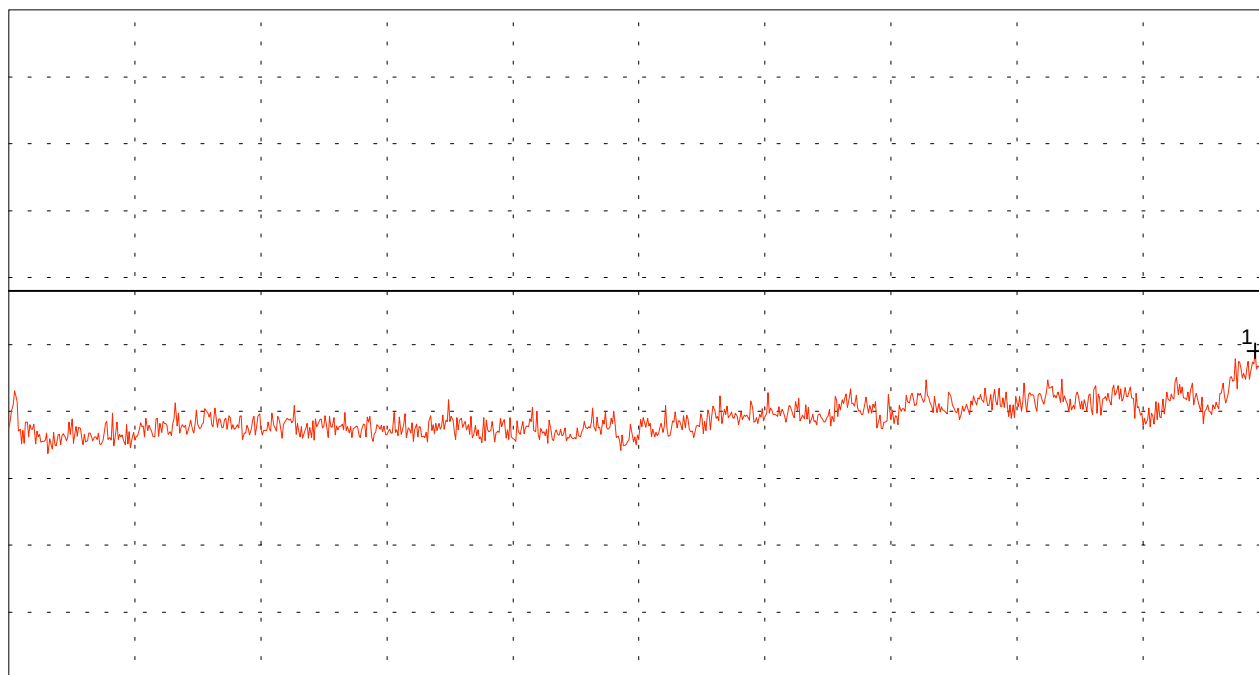
Mode:

- DC 12 V power supply
- with TIN CAN adapter box
- transmitting continuously without modulation
Channel 00 (2402 MHz)
- EUT on long side
- Distance: 0.5 m
Polarisation: horizontal

Ref.Level 90 dB μ V
5 dB/Div.

ATT 0 dB

Ref. Offset 43 dB



Start 18.000 GHz
RBW 1 MHz

VBW 1 MHz

Stop 26.500 GHz
SWP 40 ms

Multi Marker List

No.	Frequency	Amplitude
1	26.405556 GHz	64.51 dB μ V

Tested by:
J. Roidt

Date:
2006/02/16

Project-No.:
051357-050837

Page of pages

Radiated Emission Test acc. to FCC Part 15

Model:
IHF1500

Serial No.:
IHFT000131

Applicant:
Motorola GmbH

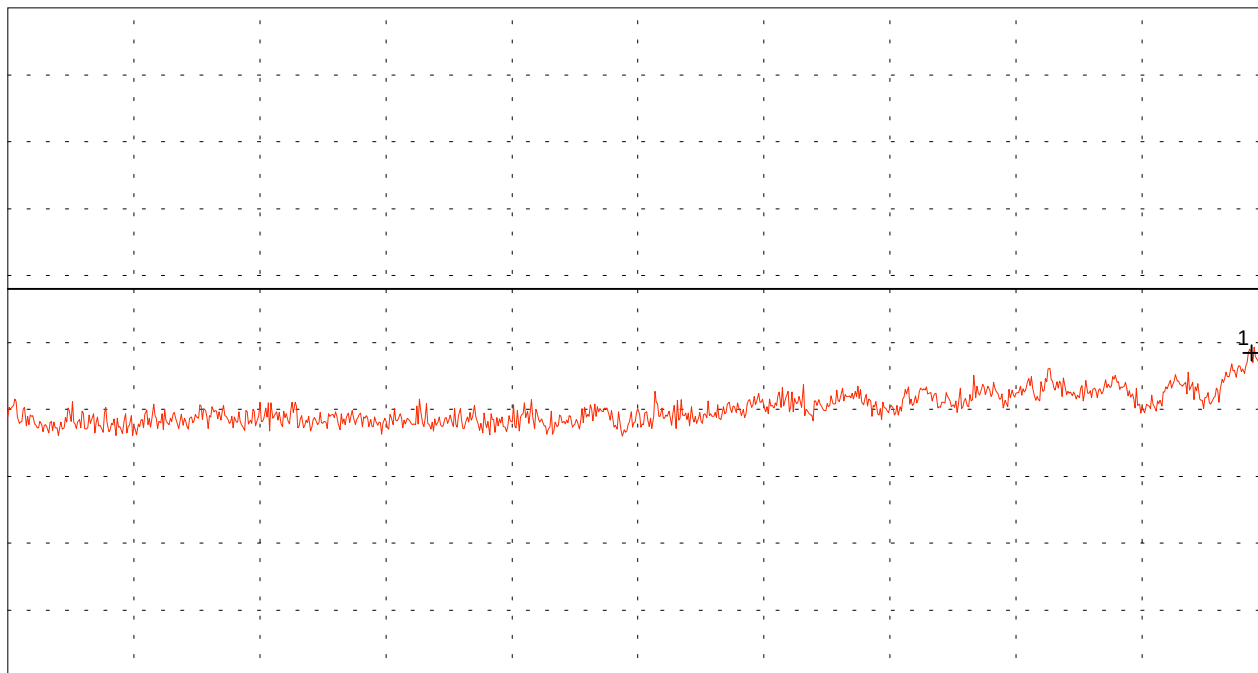
Mode:

- DC 12 V power supply
- with TIN CAN adapter box
- transmitting continuously without modulation
Channel 00 (2402 MHz)
- EUT on long side
- Distance: 0.5 m
Polarisation: vertical

Ref.Level 90 dB μ V
5 dB/Div.

ATT 0 dB

Ref. Offset 43 dB



Start 18.000 GHz
RBW 1 MHz

VBW 1 MHz

Stop 26.500 GHz
SWP 40 ms

Multi Marker List

No.	Frequency	Amplitude
1	26.386667 GHz	64.22 dB μ V

Tested by:
J. Roidt

Date:
2006/02/16

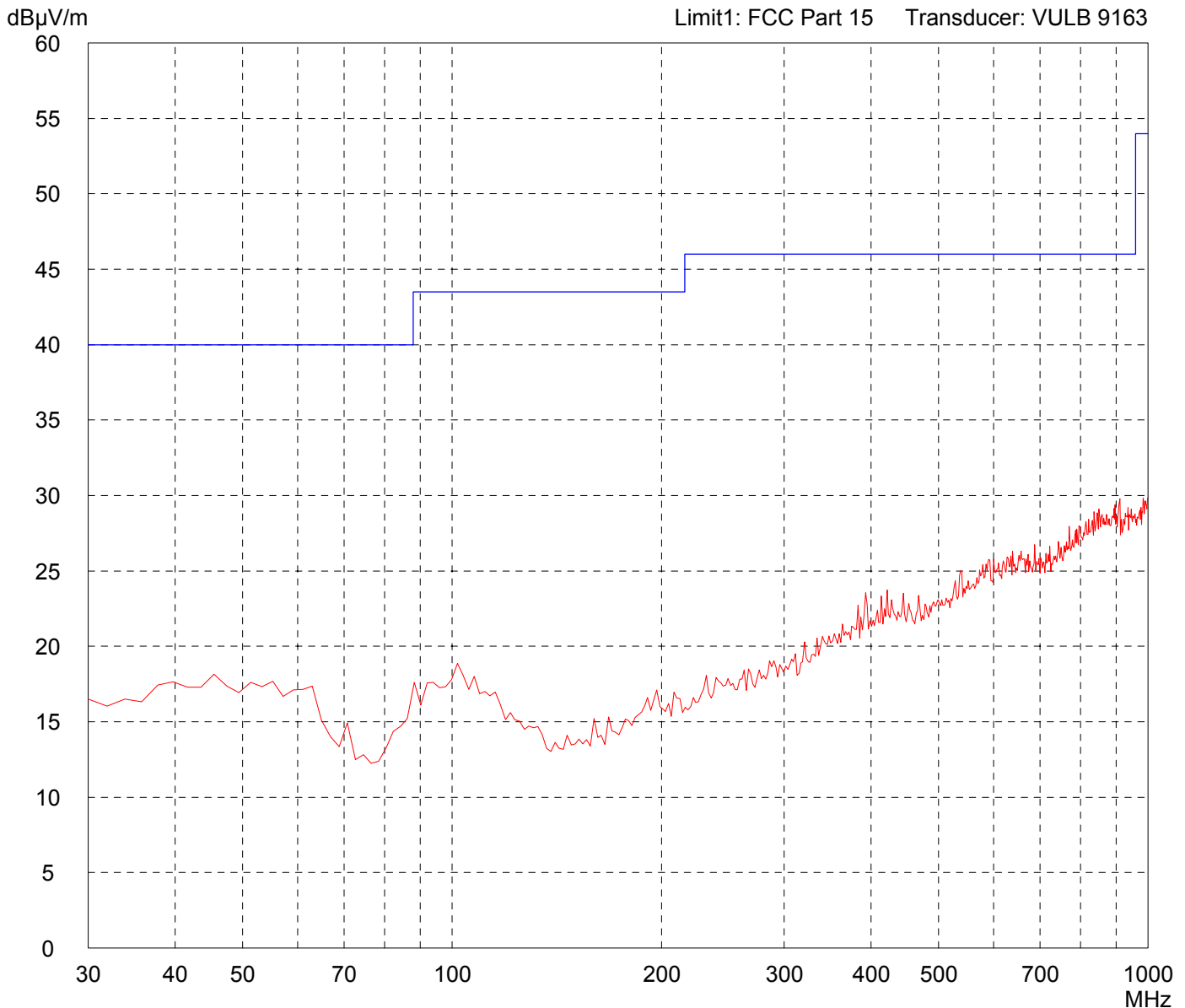
Project-No.:
051357-050837

Page of pages

Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF1500	Comment: - DC 12 V power supply - receive only mode - EUT on long side
Serial no.: IHFT000111	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 02/16/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: 10 dB Margin 50 Subranges
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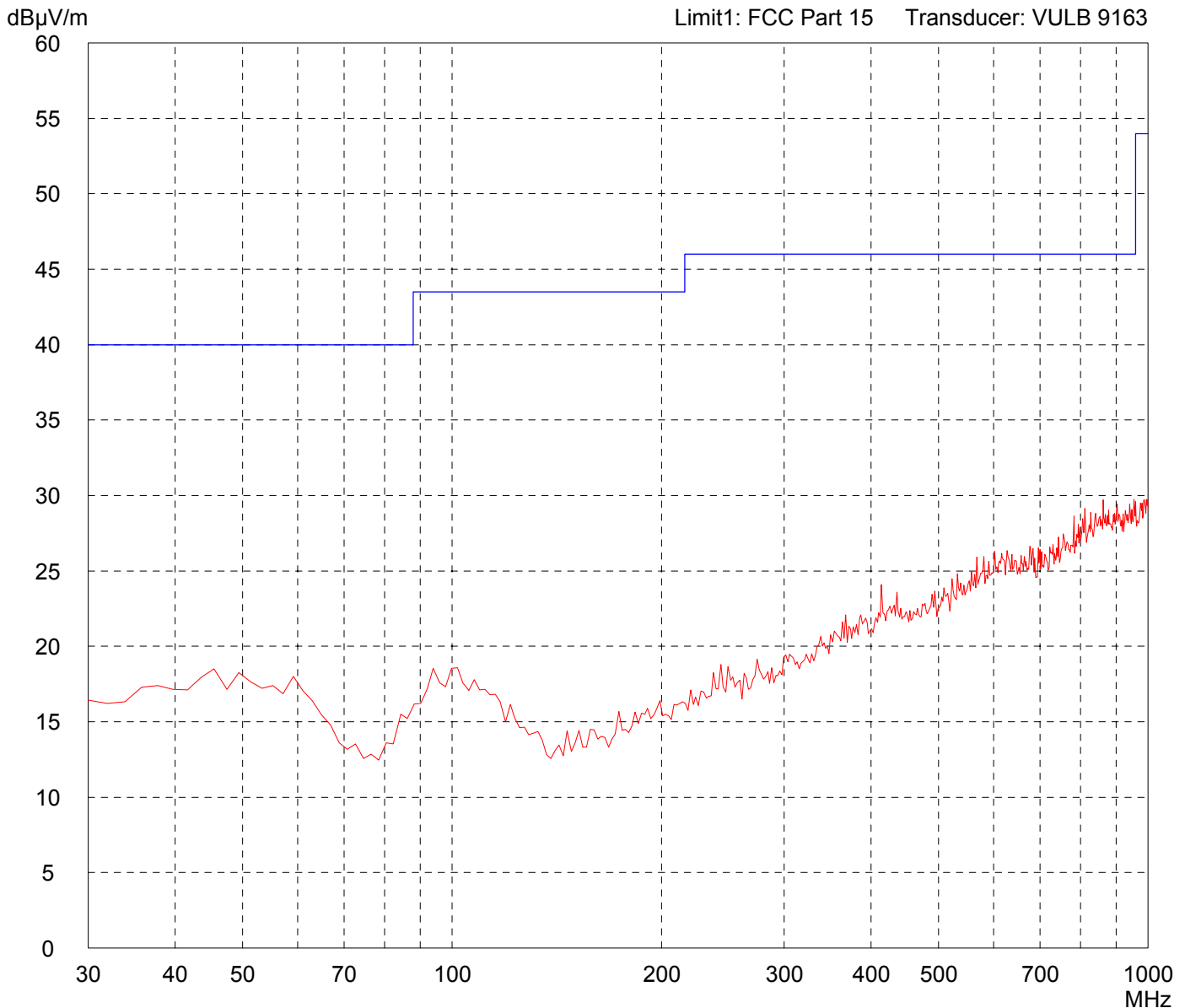


Result: Prescan	Project file: 51357-50837 Page of Pages
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Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF1500	Comment: - DC 12 V power supply - receive only mode - EUT on long side
Serial no.: IHFT000111	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 02/16/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: 10 dB Margin 50 Subranges
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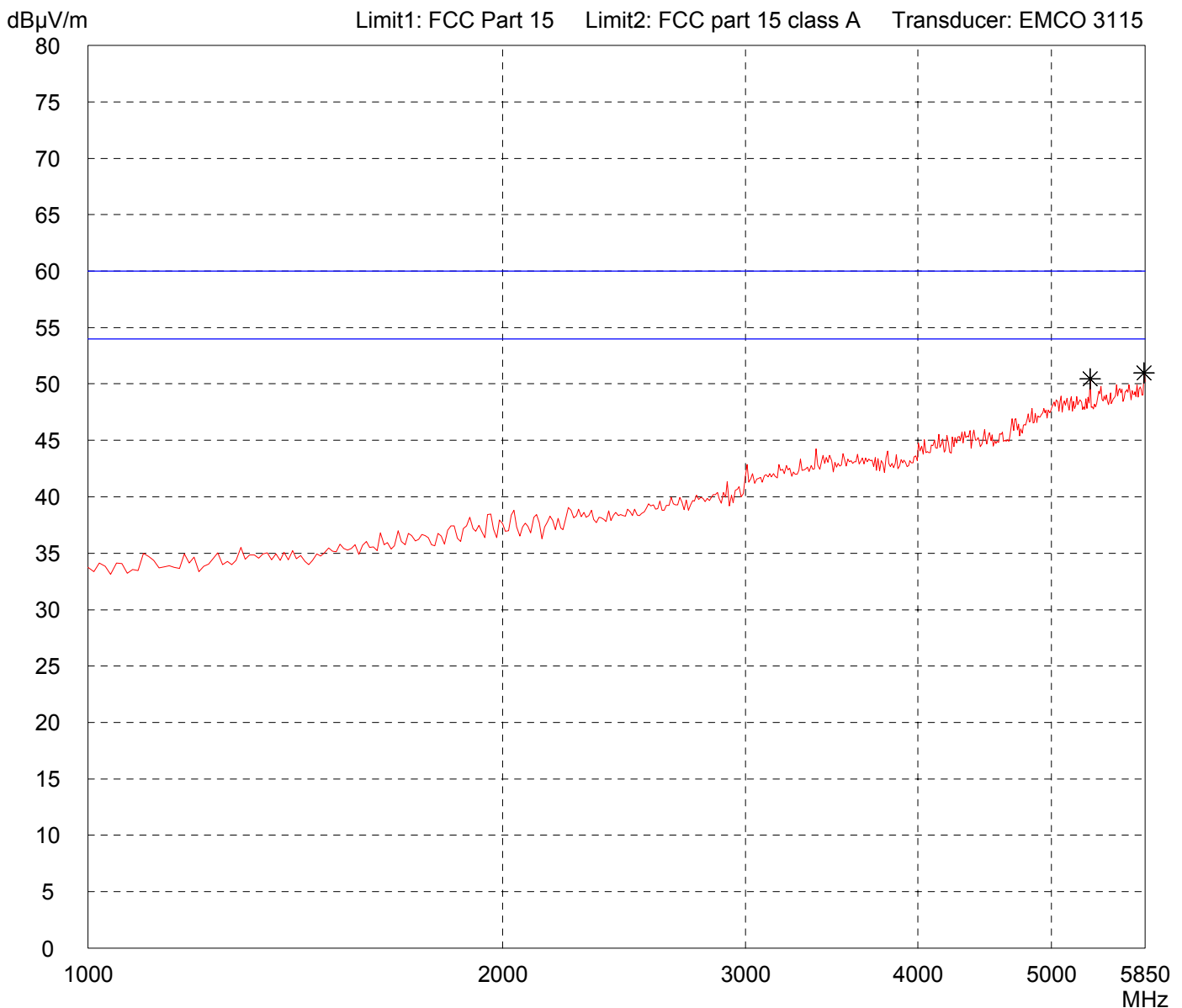
Result: Prescan	Project file: 51357-50837
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Page of Pages

Radiated Emission Test 1 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3115)

Model: IHF1500	Comment: - DC 12 V power supply - receive only mode - EUT on long side
Serial no.: IHFT000111	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 02/16/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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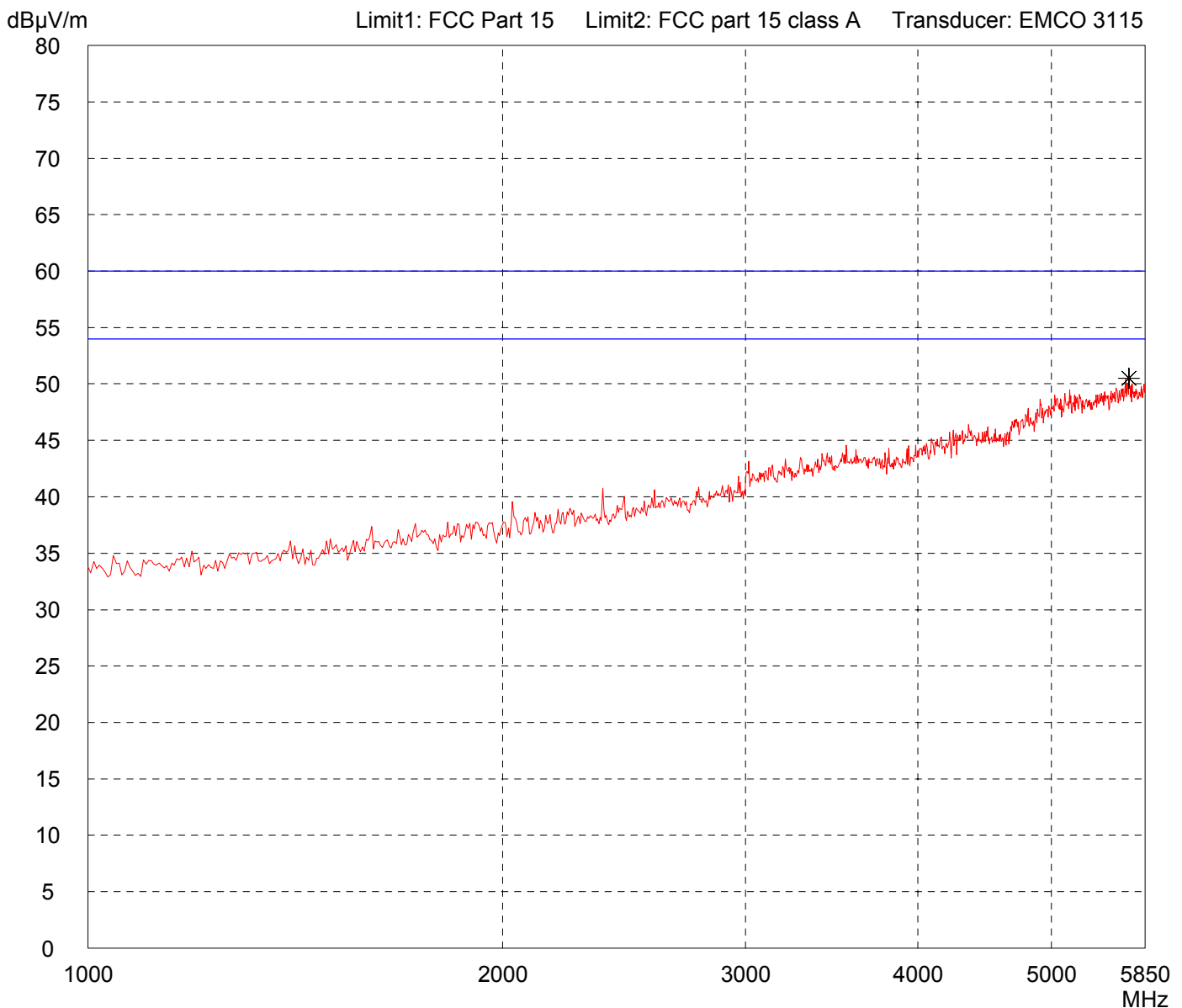
Result: Prescan	Project file: 51357-50837
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Page of Pages

Radiated Emission Test 1 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3115)

Model: IHF1500	Comment: - DC 12 V power supply - receive only mode - EUT on long side
Serial no.: IHFT000111	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 02/16/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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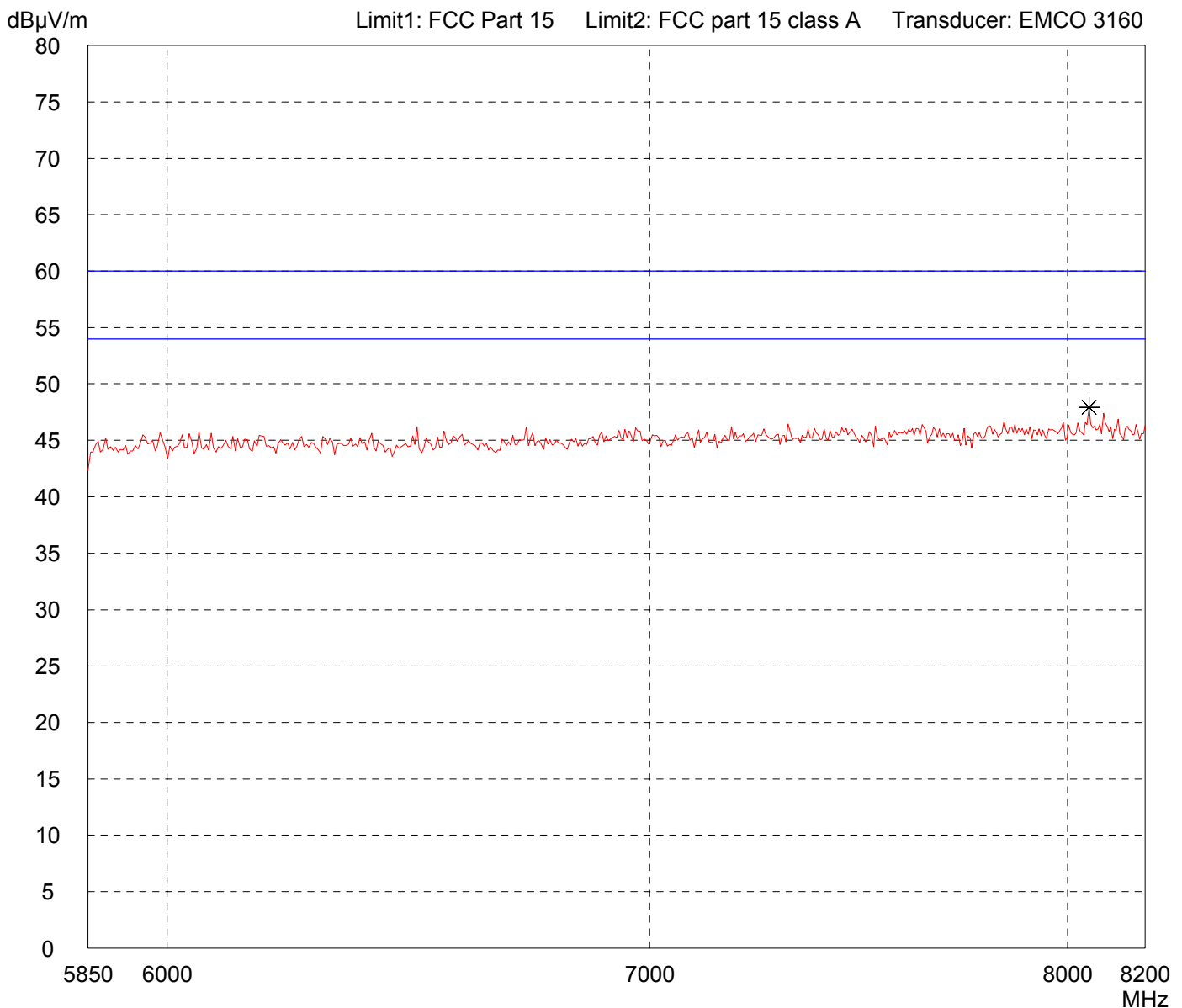
Result: Prescan	Project file: 51357-50837
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Page of Pages

Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - receive only mode - EUT on long side
Serial no.: IHFT000111	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 02/16/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

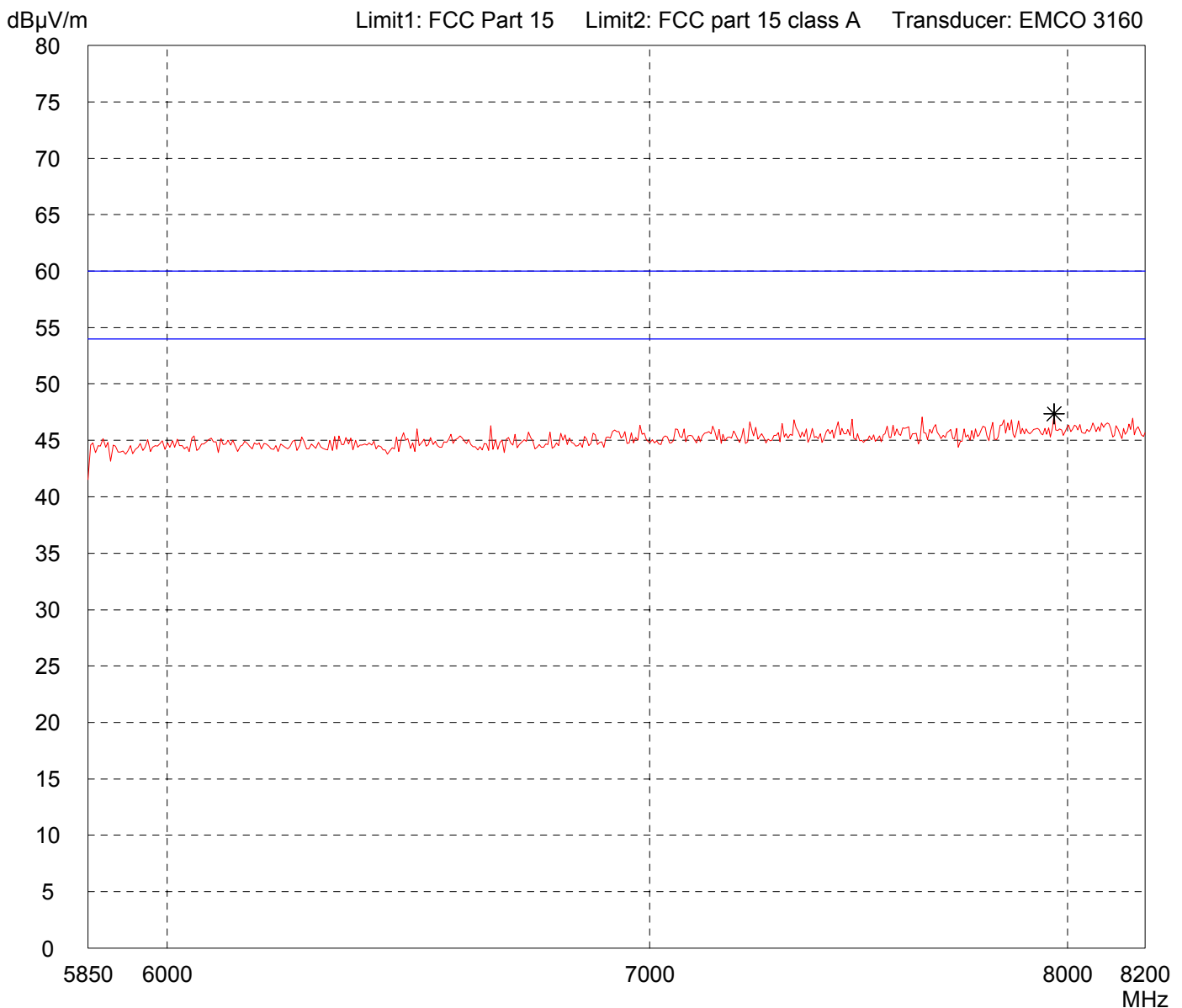
Detector: Peak	List of values: Selected by hand
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Result: Prescan	Project file: 51357-50837
Page of Pages	

Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500		Comment: - DC 12 V power supply - receive only mode - EUT on long side
Serial no.: IHFT000111		
Applicant: Motorola GmbH		
Test site: Fully anechoic room, cabin no. 2		
Tested on: Test distance 3 metres Vertical Polarization		
Date of test: 02/16/2006	Operator: M. Steindl	
Test performed: automatically	File name: default.emi	
Detector: Peak		List of values: Selected by hand

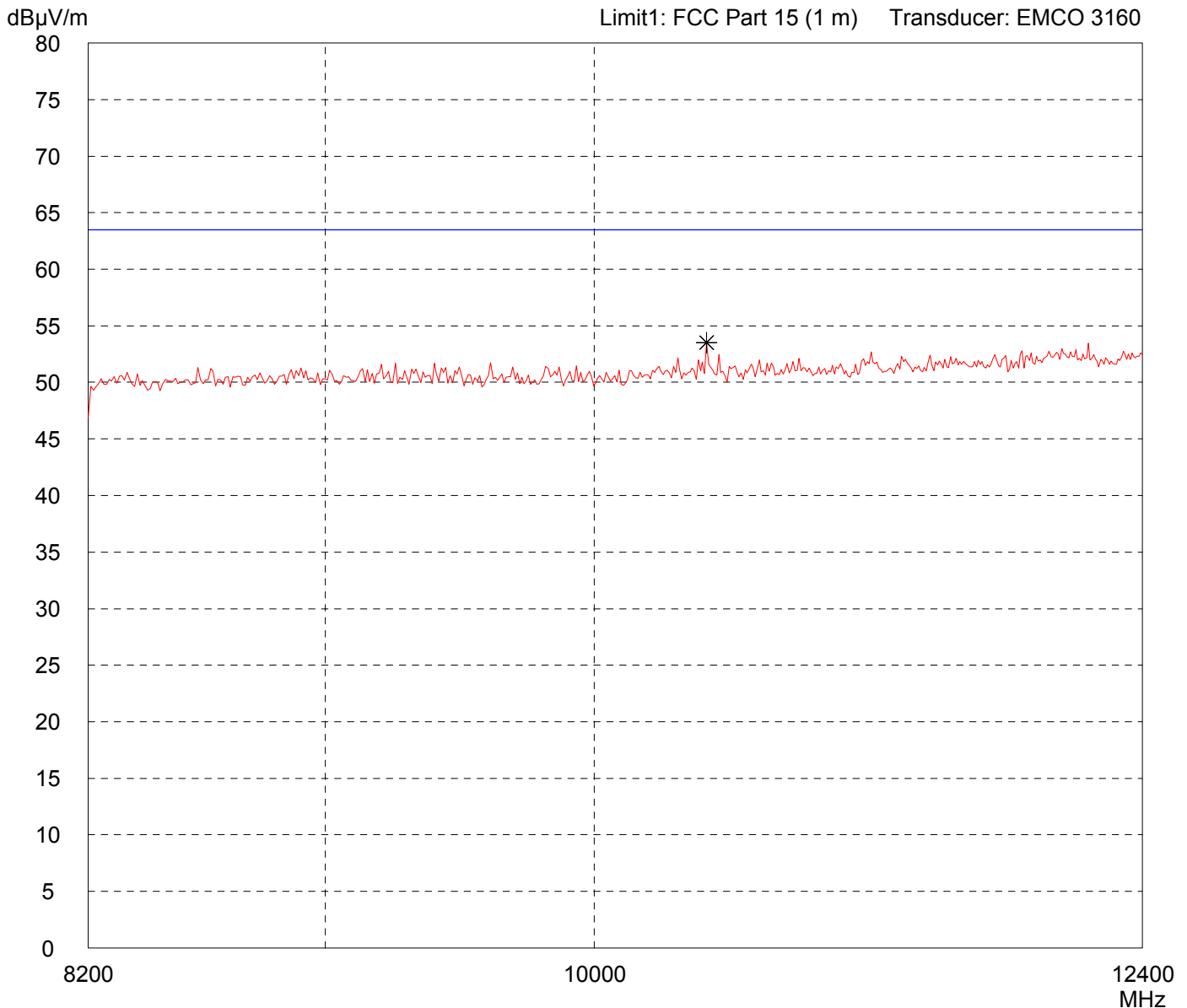


Result: Prescan	Project file: 51357-50837	Page of Pages
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Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - receive only mode - EUT on long side
Serial no.: IHFT000111	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 02/16/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: 10 dB Margin 50 Subranges
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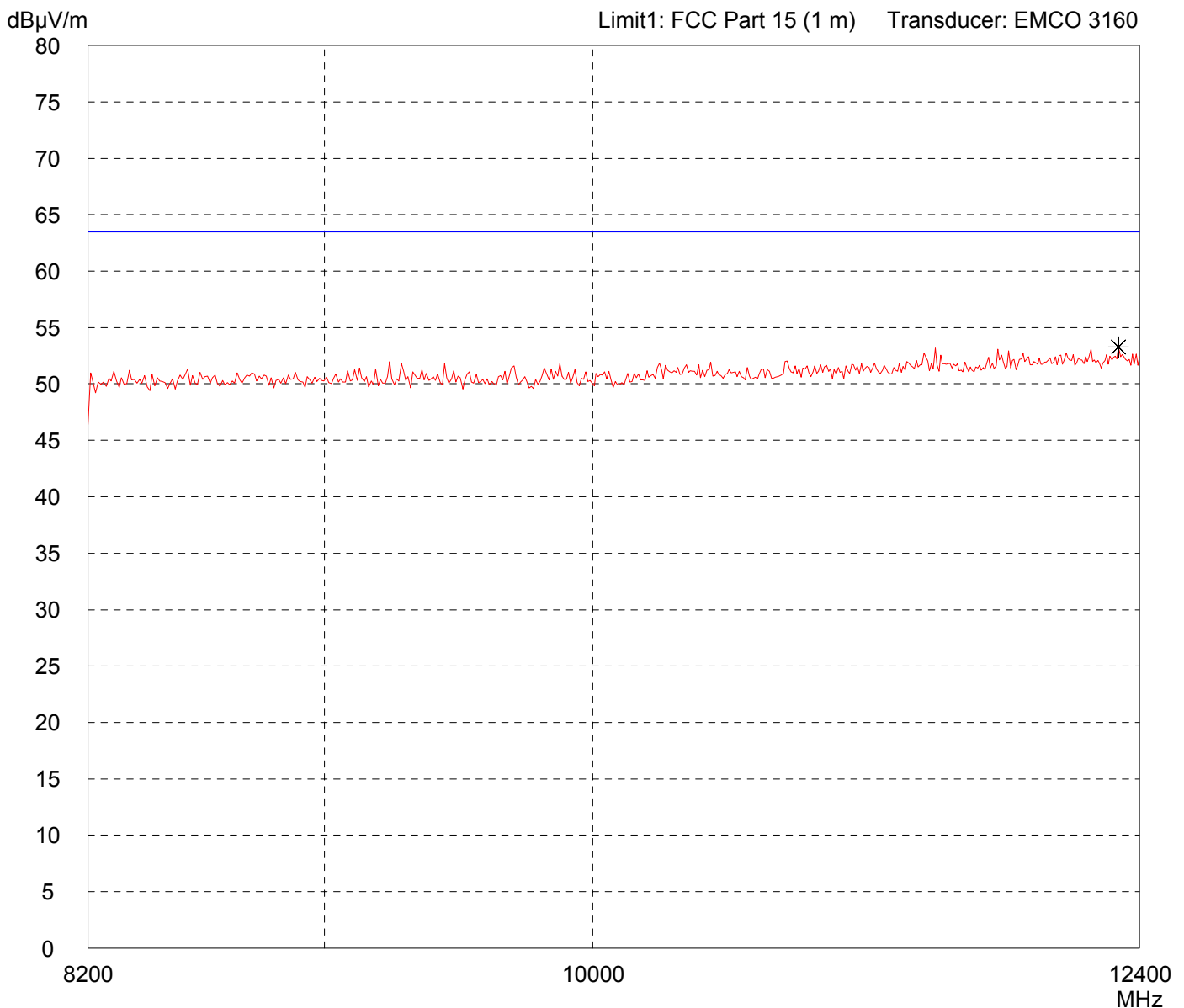


Result: Prescan	Project file: 51357-50837
	Page of Pages

Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - receive only mode - EUT on long side
Serial no.: IHFT000111	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Vertical Polarization	
Date of test: 02/16/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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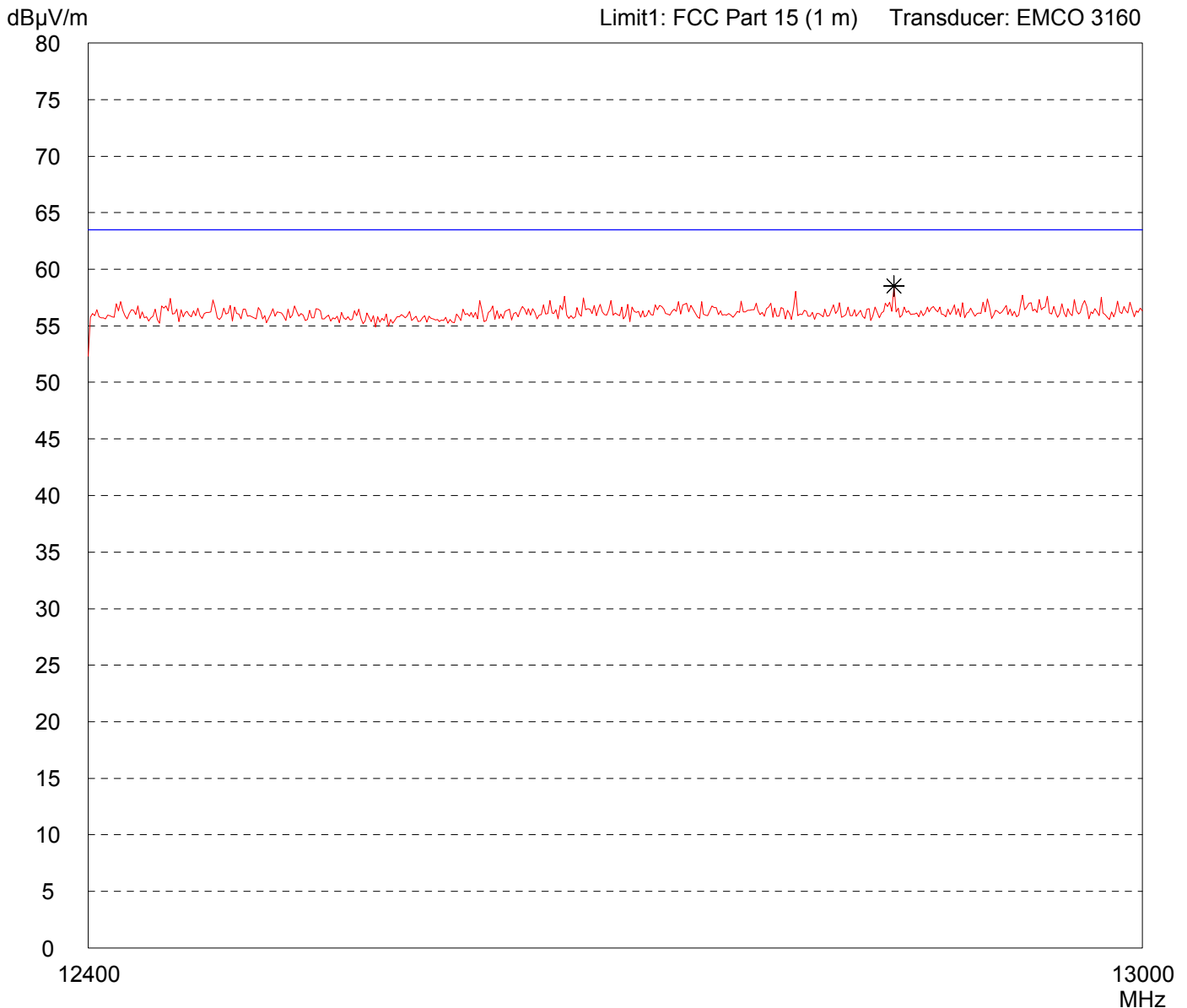


Result: Prescan	Project file: 51357-50837
	Page of Pages

Radiated Emission Test 12.4 GHz - 13 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - receive only mode - EUT on long side
Serial no.: IHFT000111	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 02/16/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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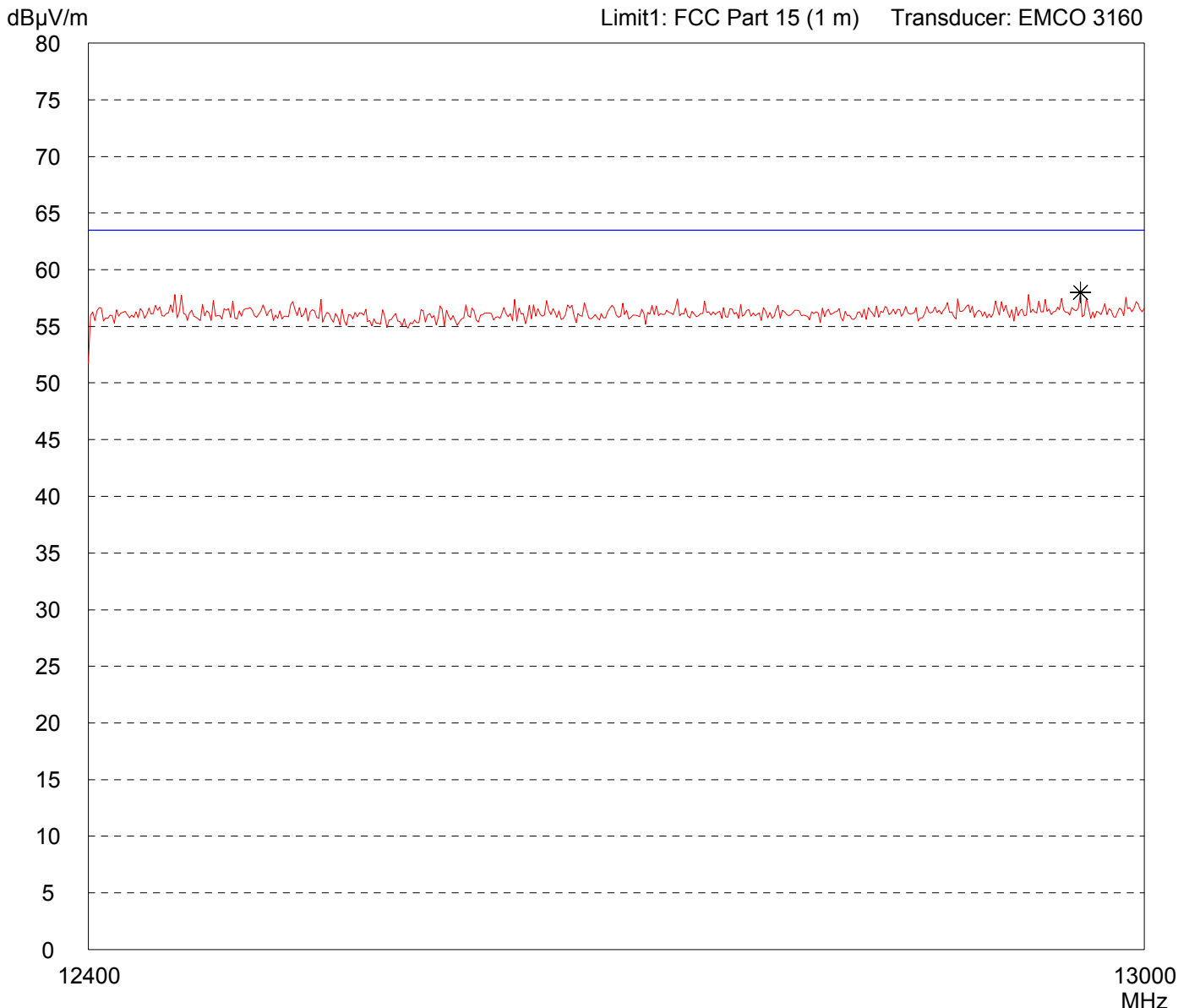


Result: Prescan	Project file: 51357-50837
	Page of Pages

Radiated Emission Test 12.4 GHz - 13 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF1500	Comment: - DC 12 V power supply - receive only mode - EUT on long side
Serial no.: IHFT000111	
Applicant: Motorola GmbH	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Vertical Polarization	
Date of test: 02/16/2006	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Detector: Peak	List of values: Selected by hand
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Result: Prescan	Project file: 51357-50837
Page of Pages	