

Straubing, 28 August 2004

TEST - REPORT**No. 51349-40442-2****for****IHF-1000****Bluetooth Wireless Handsfree Set**

Applicant: Motorola GmbH ACES

Purpose of testing: To show compliance with

FCC Code of Federal Regulations,
Part 15 Subpart C, Section 15.247RSS 210, Issue 5, November 2001,
Section 6.2.2. (o)

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.

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1. Administrative Data


Test item (EUT)	
Type designation	IHF-1000
Serial number(s):	001
Type of equipment:	RF Transceiver
Parts/accessories:	---
FCC-ID:	
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 antennae: - PCB antenna - Chip antenna
Power supply	12 V DC
Applicant: (full address)	Motorola GmbH ACES Schatzbogen 7 81829 München
Contract identification:	NP1349866
Contact person:	Patricia Seng, Josef Gräber
Manufacturer:	Applicant
Application details	
Receipt of EUT:	20 August 2004
Date of test:	23 August 2004
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 Fruhlingsstrasse 45 D-94315 Straubing Germany
LABORATORY ACCREDITATION:	DAR-Registration No. TTI-P-G 062/94-01
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.

Two versions of the EUT has been evaluated:

- with PCB antenna and
- with Chip antenna, see details below



PCB-Antenna Chip Antenna

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

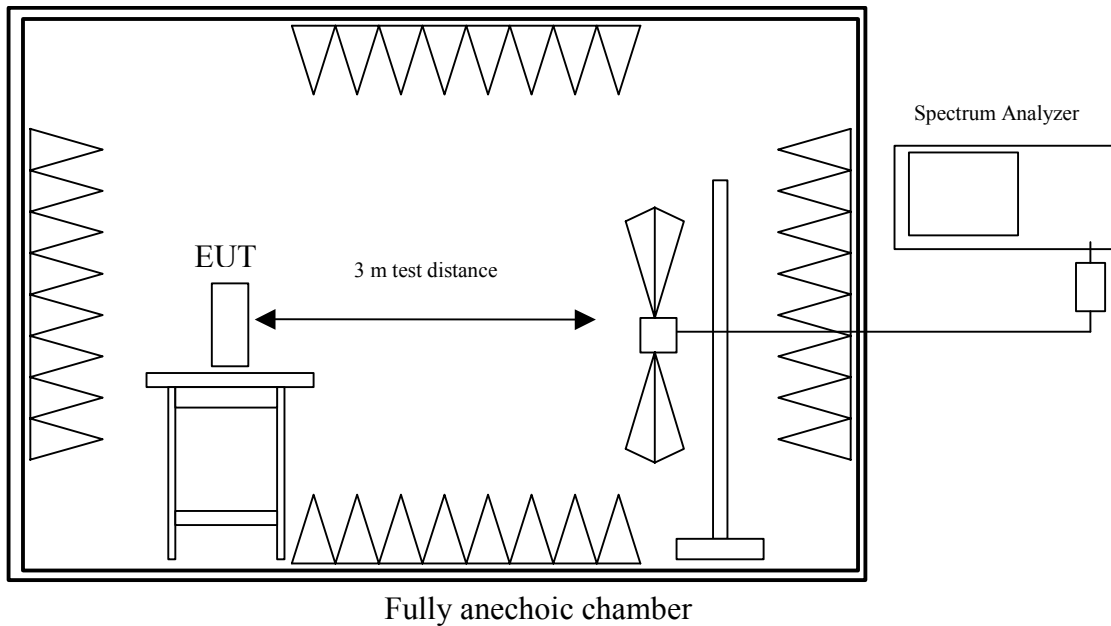
Not applicable

5. Measuring Methods

5.1. Mean power of emissions 30 MHz – 1 GHz

Rules and Specifications:	Section 15.247
Guide:	ANSI C63.4-1992

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.



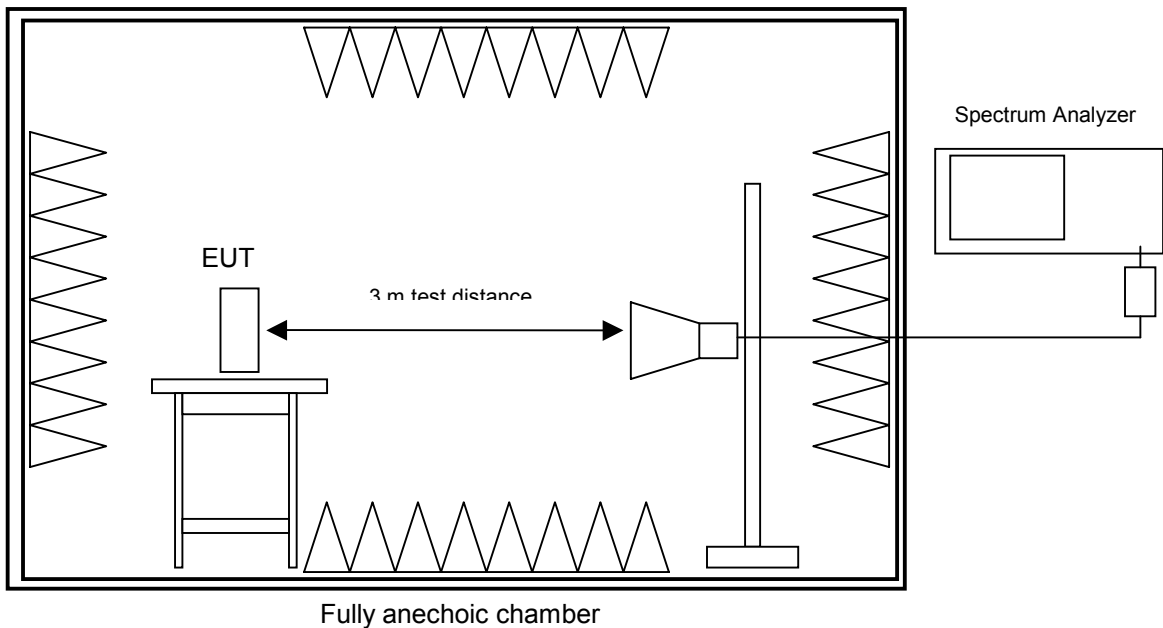
Test instruments used:

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:
<p>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.</p> <p>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.</p> <p>All tests are performed in a fully-anechoic chamber with a test-distance of 3 meters.</p> <p>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).</p>



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
	Transmitter:		
15.205	Restricted Bands Compliance	---	Pass
15.247 (a) (1)	Channel Bandwidth	13	Pass
15.247 (a) (1)	Hopping channel separation	15	Pass
15.247 (a) (1) (iii)	Number of Hopping Frequencies used	16	Pass
15.247 (a) (1) (iii)	Time occupancy on any channel	17	Pass
15.247 (b) (2)	Maximum Peak Output Power	19	Pass
15.247 (c)	Spurious emissions - conducted	---	N/A
15.247 (c) 15.209	Spurious emissions - radiated	26	Pass
15.203	Antenna Requirement	5	Pass
2.1093	RF Exposure Requirement	29	Pass
15.207	Conducted AC Powerline Emissions	---	N/A
	Receiver		
15.111	Spurious emissions on antenna port	---	N/A
15.109	Radiated Emissions	30	Pass

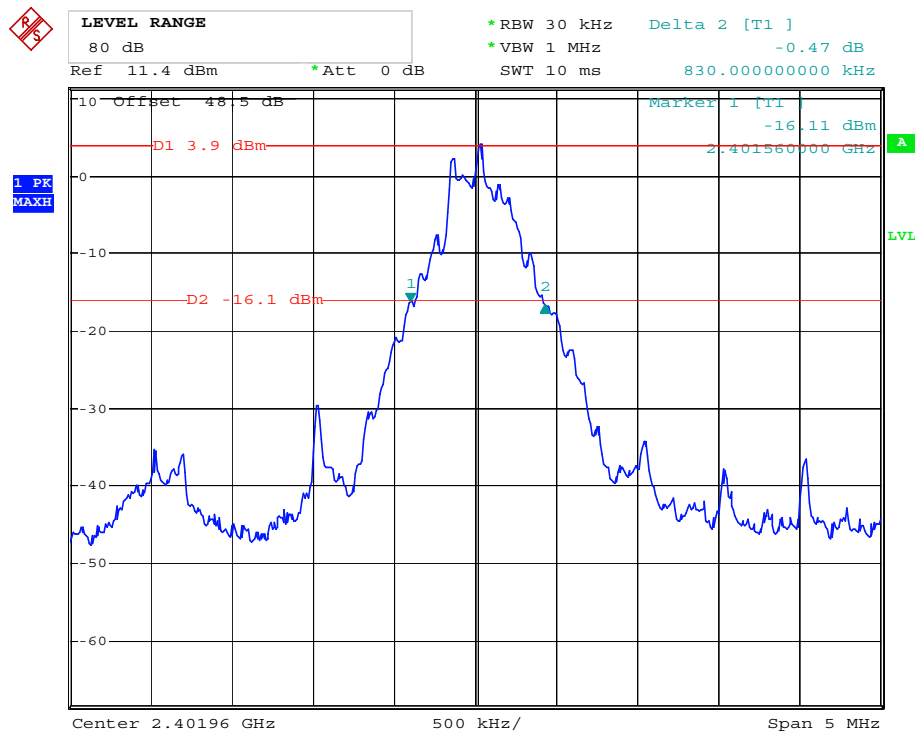
RSS 210, Issue 5			
Section(s):	Test	Page(s)	Result
6.2.2 (o) (e3) (a) (a2) (a2) (a2) (a2) (a2) (e1) (e1) (e2) 14 6.6 7.2 7.3	Transmitter:		
	Restricted Bands	---	Pass
	Channel Bandwidth	13	Pass
	Hopping channel separation	15	Pass
	Number of Hopping Frequencies used	16	Pass
	Time occupancy on any channel	17	Pass
	Maximum Peak Output Power	19	Pass
	Spurious emissions - conducted	---	N/A
	Spurious emissions - radiated	26	Pass
	Antenna Requirement	5	Pass
	RF Exposure Requirement	29	Pass
	Conducted AC Powerline Emissions	---	N/A
	Receiver		
	Spurious emissions on antenna port	---	N/A
	Radiated Emissions	30	Pass

Channel Bandwidth

Rules and Specifications:	15.247 (a) (1)
Guide:	ANSI C63.4-1992
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:	24 August 2004

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



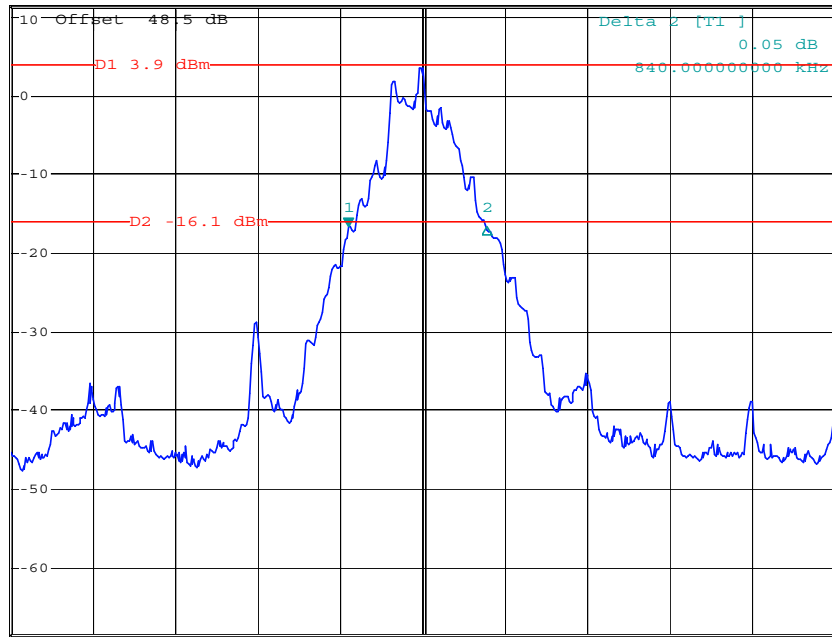
Comment A: TÜV 40522: Bandwidth of emission
Date: 24.AUG.2004 18:27:10



MARKER 1
 2.44055 GHz
 Ref 11.4 dBm *Att 0 dB

*RBW 30 kHz Marker 1 [T1]
 *VBW 1 MHz -16.71 dBm
 SWT 10 ms 2.440550000 GHz

1 PK
 MAXH



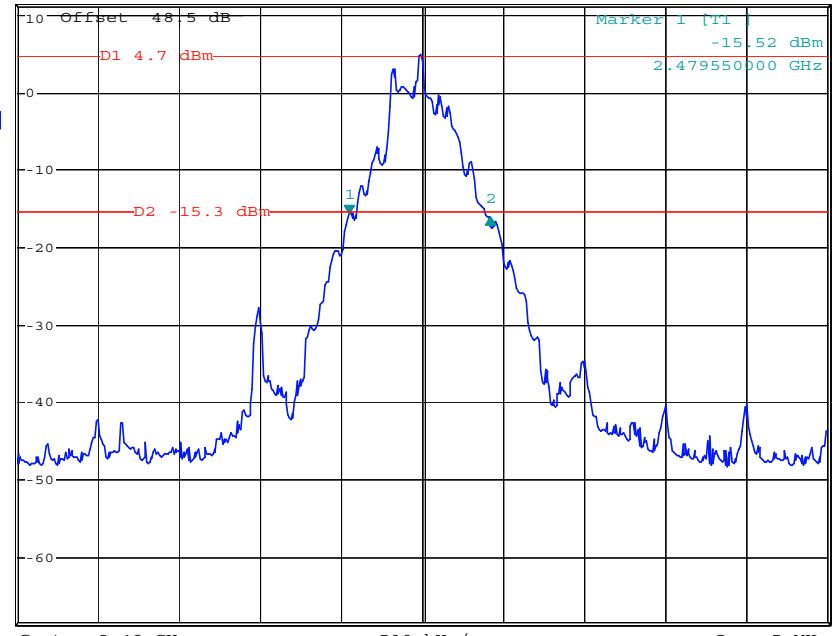
Center 2.441 GHz 500 kHz/ Span 5 MHz



DELTA MARKER 2
 870 kHz
 Ref 11.4 dBm *Att 0 dB

*RBW 30 kHz Delta 2 [T1]
 *VBW 1 MHz -0.45 dB
 SWT 10 ms 870.000000000 kHz

1 PK
 MAXH



Center 2.48 GHz 500 kHz/ Span 5 MHz

Comment A: TÜV 40522: Bandwidth of emission
 Date: 24.AUG.2004 18:37:24

Hopping Channel Separation

Rules and Specifications:	15.247 (a) (1)
Guide:	ANSI C63.4-1992
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:	24 August 2004

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



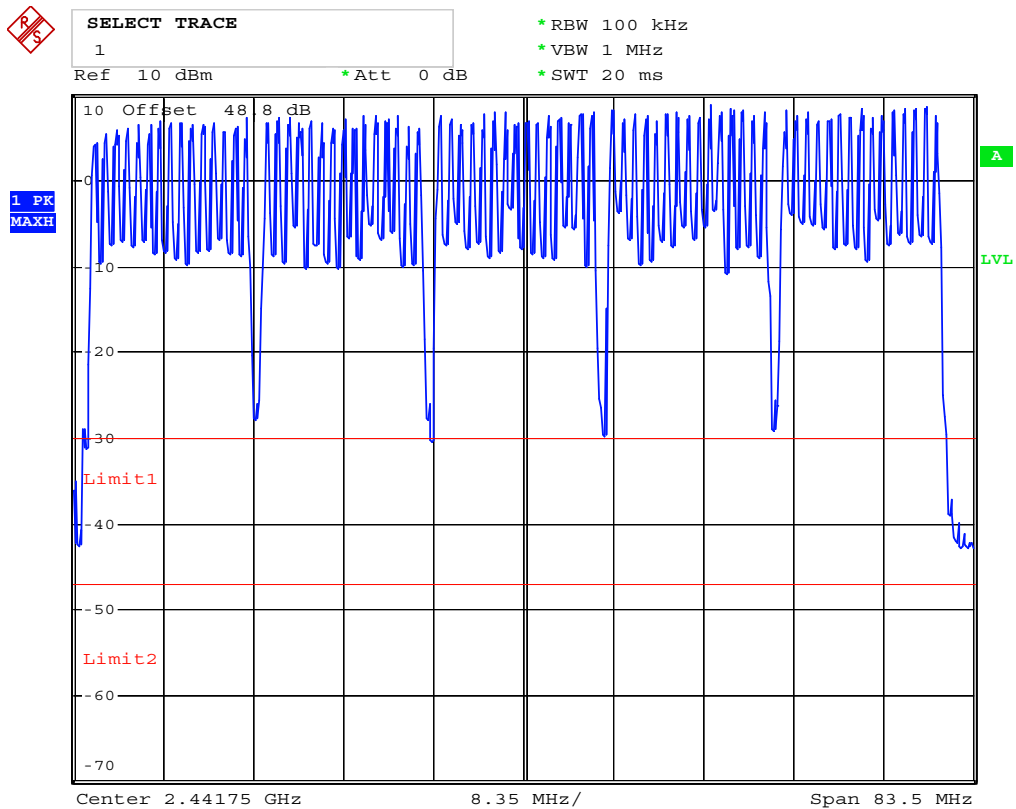
Comment A: TÜV 40522: Bandwidth of emission
Date: 21.AUG.2004 16:33:59

Number of Hopping Frequencies used

Rules and Specifications:	15.247 (a) (1) (iii)
Guide:	ANSI C63.4-1992
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:	24 August 2004

Number of Hopping Frequencies	Measured	Required	Result
	75	15	Pass



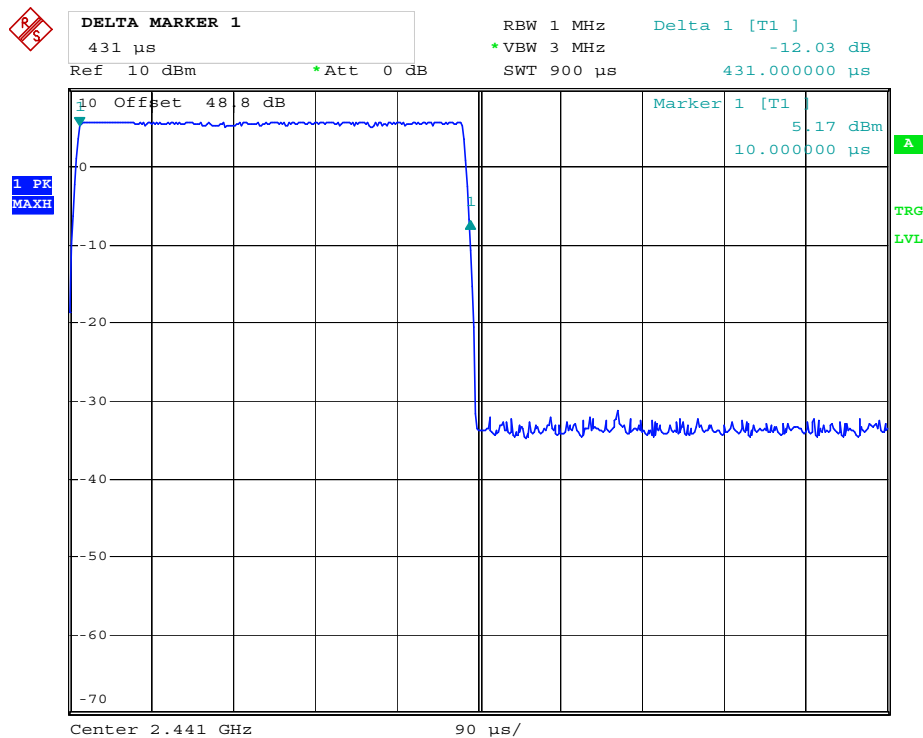
Comment A: TÜV 40522: Bandwidth of emission
Date: 21.AUG.2004 16:18:56

Time Occupancy on any Channel

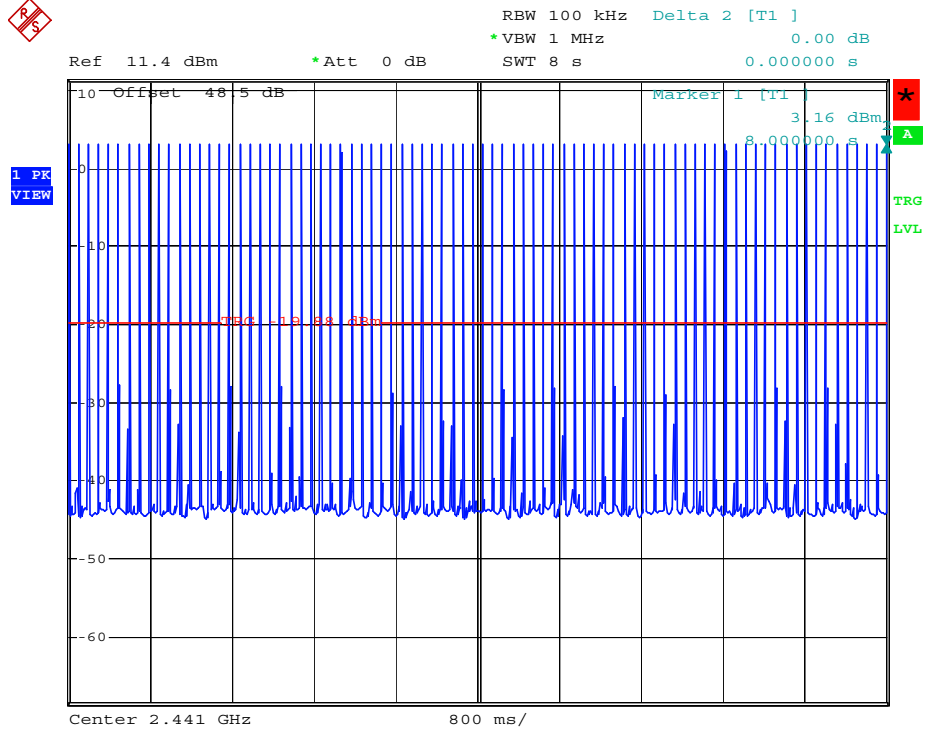
Rules and Specifications:	15.247 (a) (1) (iii)
Guide:	ANSI C63.4-1992
Limit:	The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

Test Site:	Fully Anechoic Chamber.
Distance:	Radiated Measurement
Date of Test:	21 August 2004

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



Comment A: TÜV 40522: Bandwidth of emission
Date: 21.AUG.2004 16:27:06



Comment A: TÜV 40522: Bandwidth of emission
Date: 24.AUG.2004 18:47:17

Maximum Peak Output Power

Rules and Specifications:	15.247 (b) (1)
Guide:	ANSI C63.4-1992
Limit:	For frequency hopping systems operating in the 2400 -2483.5 MHz band: 1 watt for systems employing at least 75 hopping channels

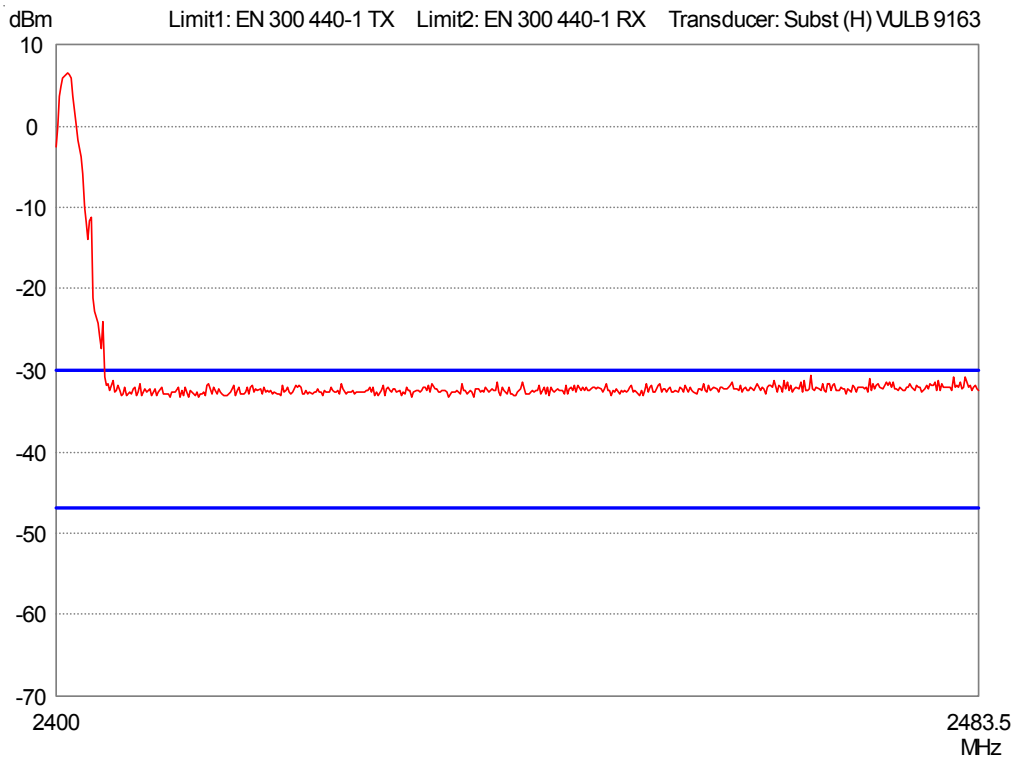
Test Site:	Fully Anechoic Chamber
Distance:	Radiated Measurement (EIRP)
Date of Test:	21 August 2004

PCB Antenna

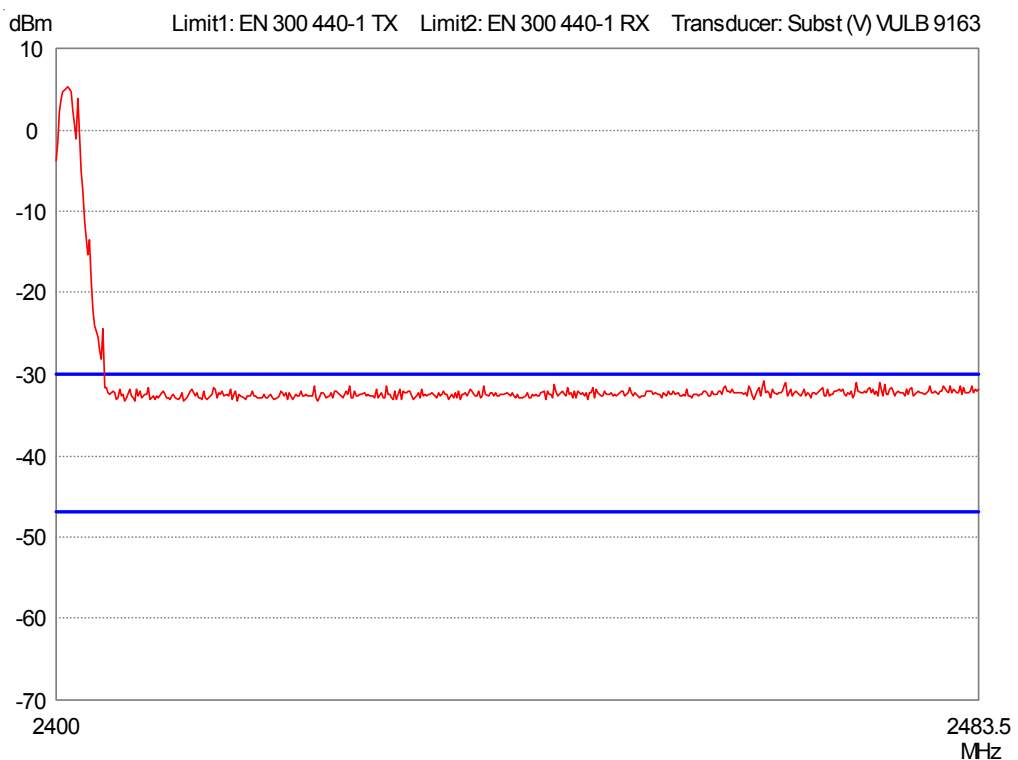
Frequency	Output Power in dBm	Output Power in W	Standard	Result
Low (2402 MHz)	6.44	0.004	≤1.0W	Pass
Middle 2441 MHz	7.95	0.006	≤1.0W	Pass
High 2480 MHz	8.40	0.007	≤1.0W	Pass

Chip Antenna

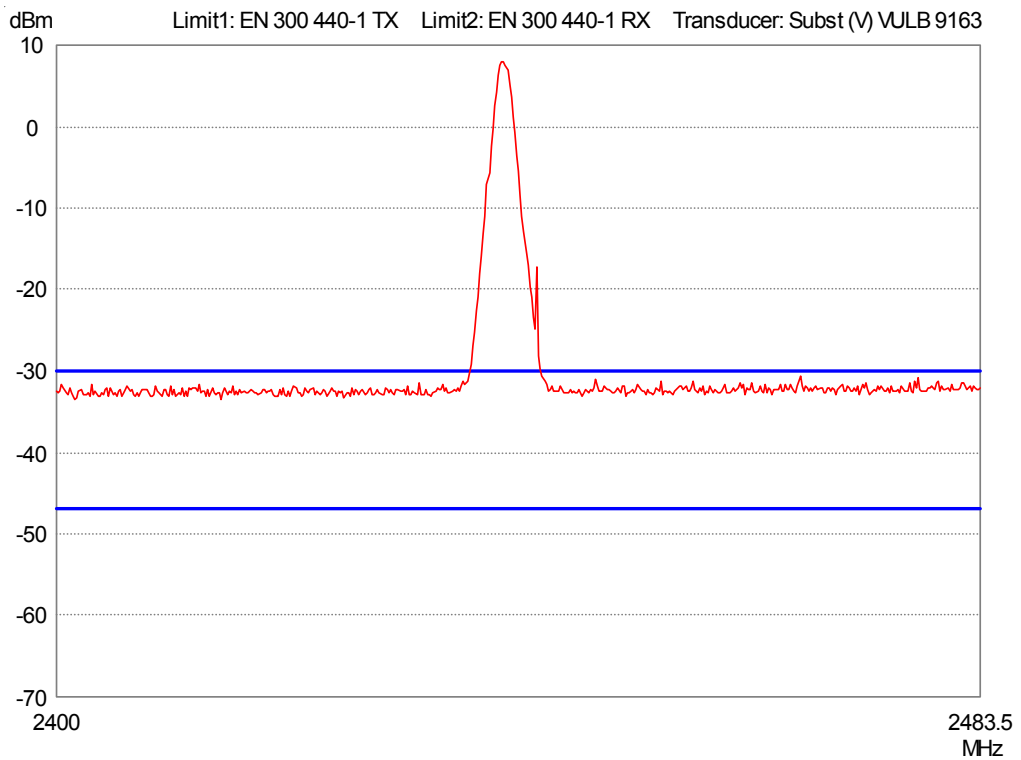
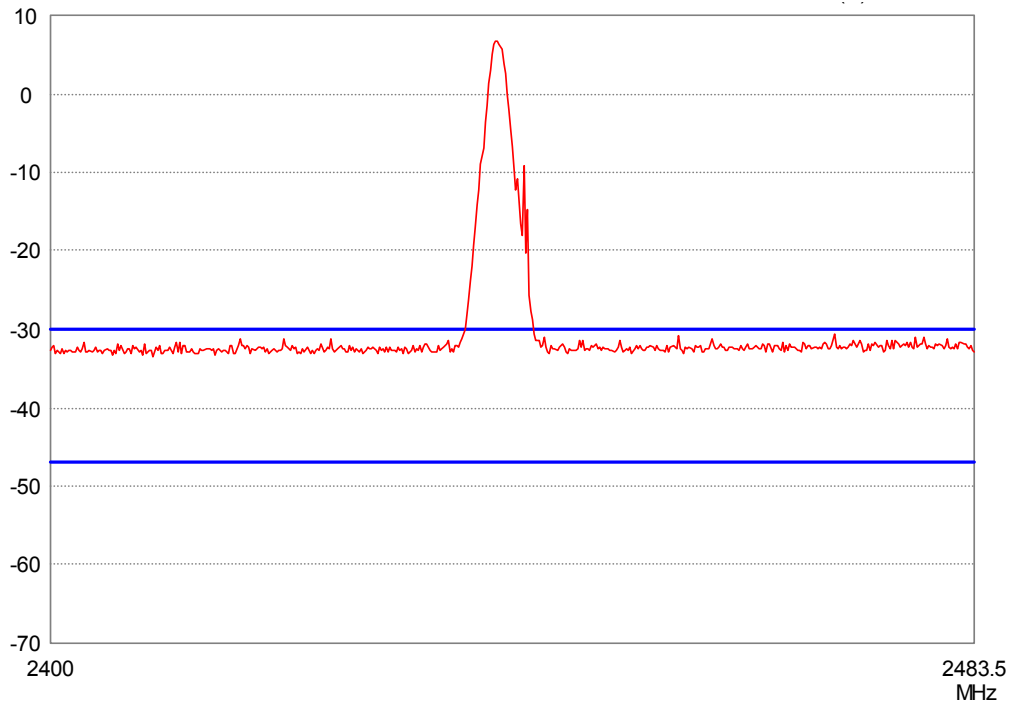
Frequency	Output Power in dBm	Output Power in W	Standard	Result
Low (2402 MHz)	-6.37	0.00023	≤1.0W	Pass
Middle 2441 MHz	-2.97	0.00050	≤1.0W	Pass
High 2480 MHz	-1.30	0.00074	≤1.0W	Pass

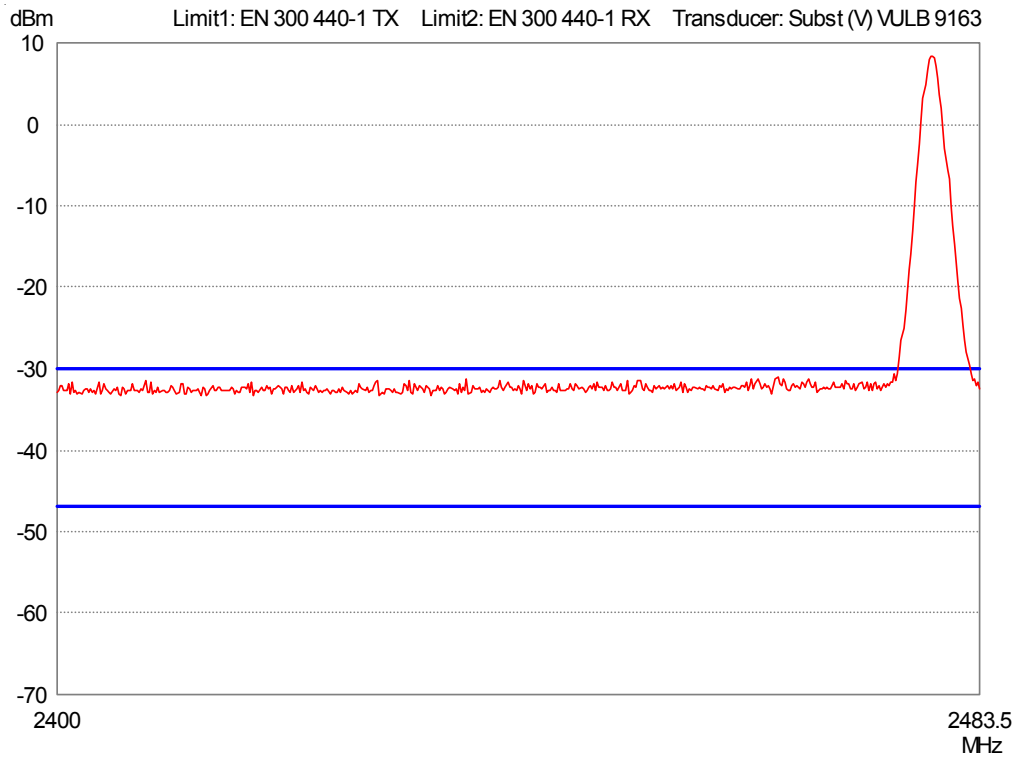


PCB Antenna, 2402 MHz, Horizontal Polarisation

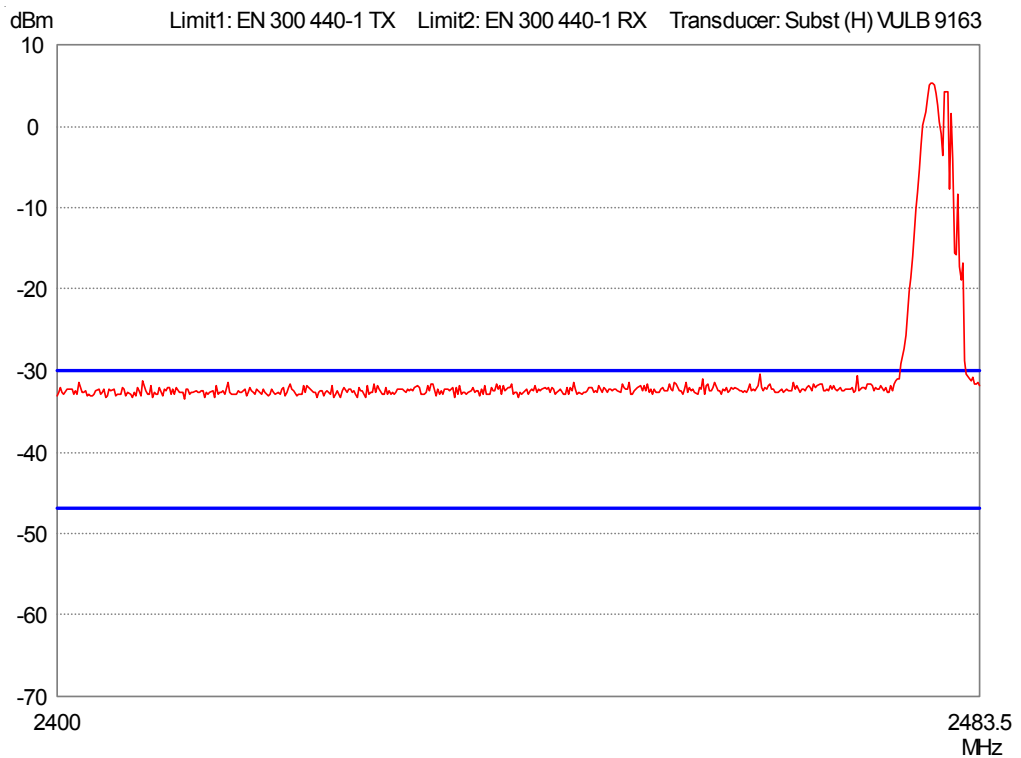


PCB Antenna, 2402 MHz, Vertical Polarisation

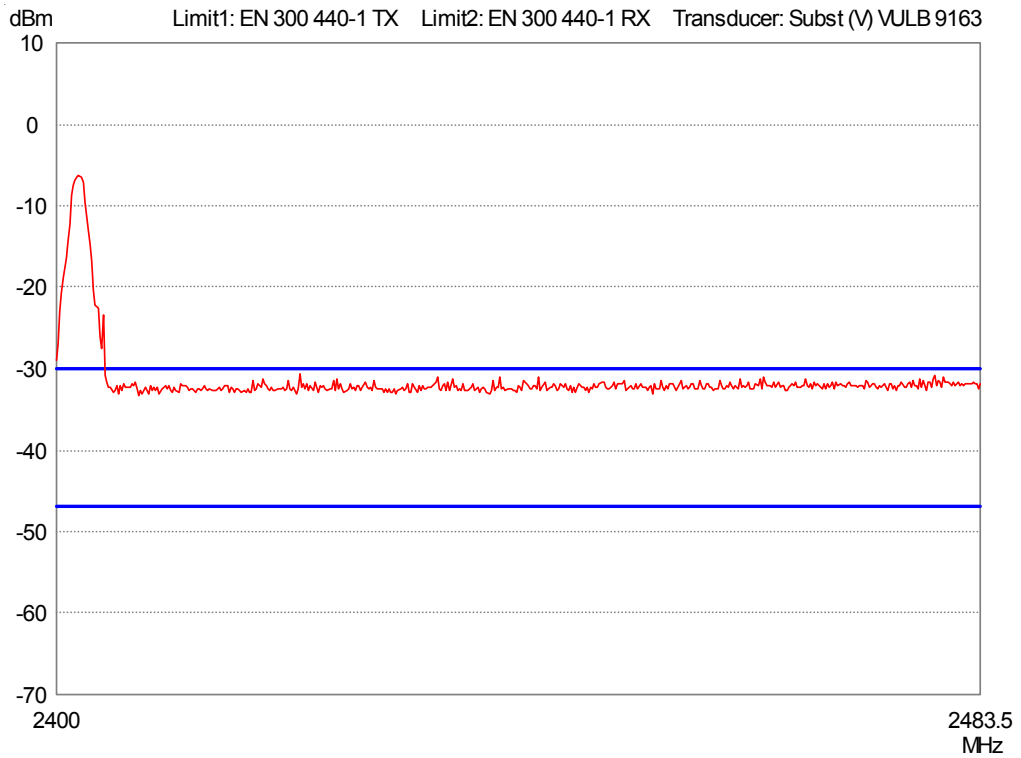




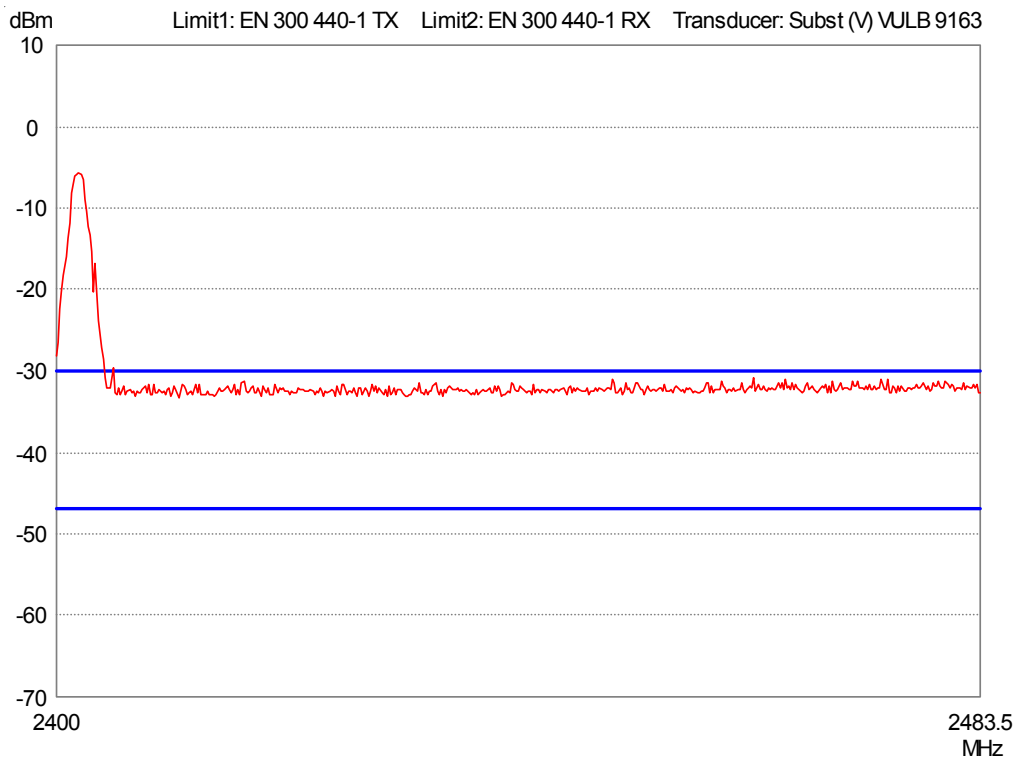
PCB Antenna, 2480 MHz, Vertical Polarisation



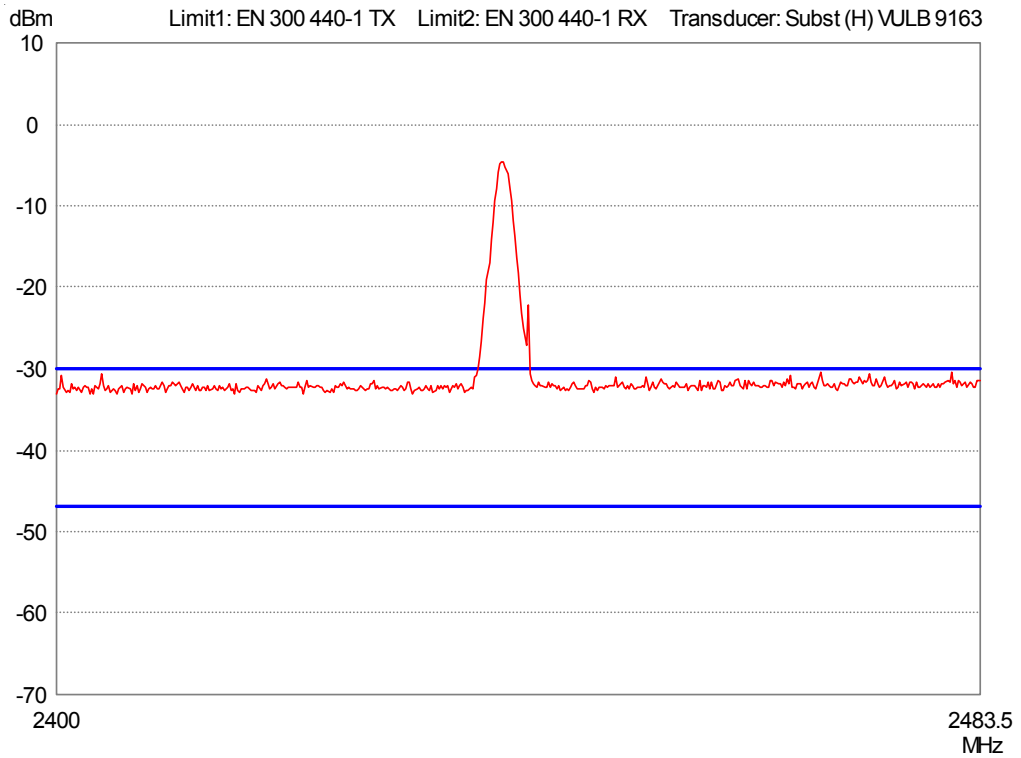
PCB Antenna, 2480 MHz, Horizontal Polarisation



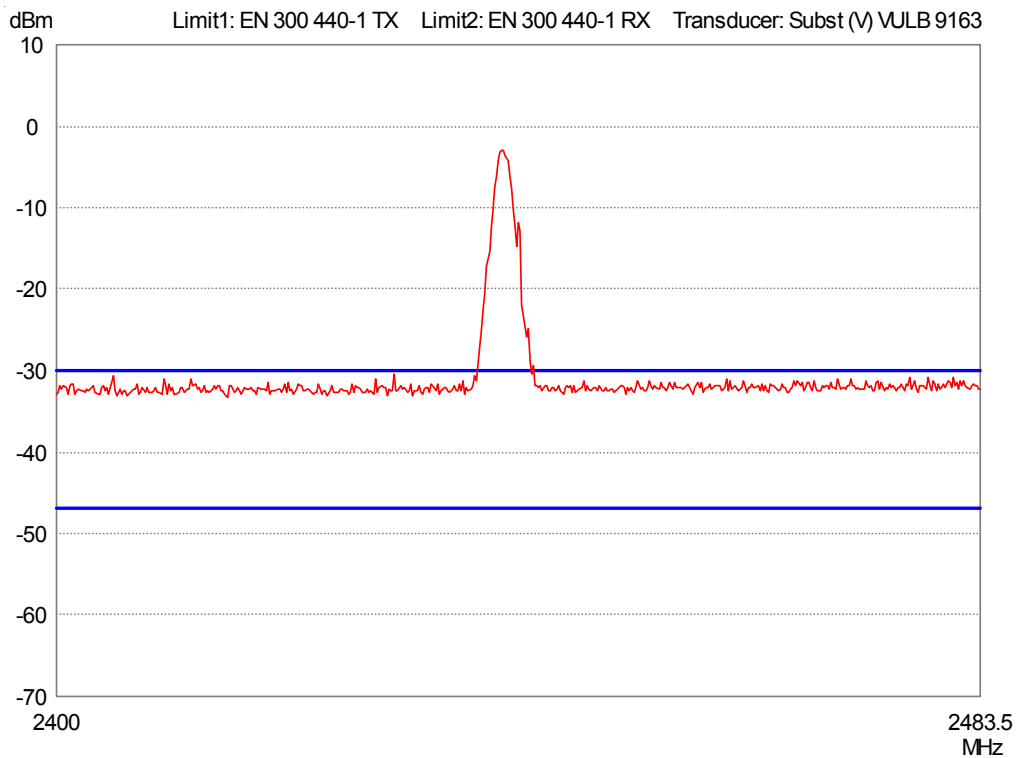
Chip Antenna, 2402 MHz, Horizontal Antenna



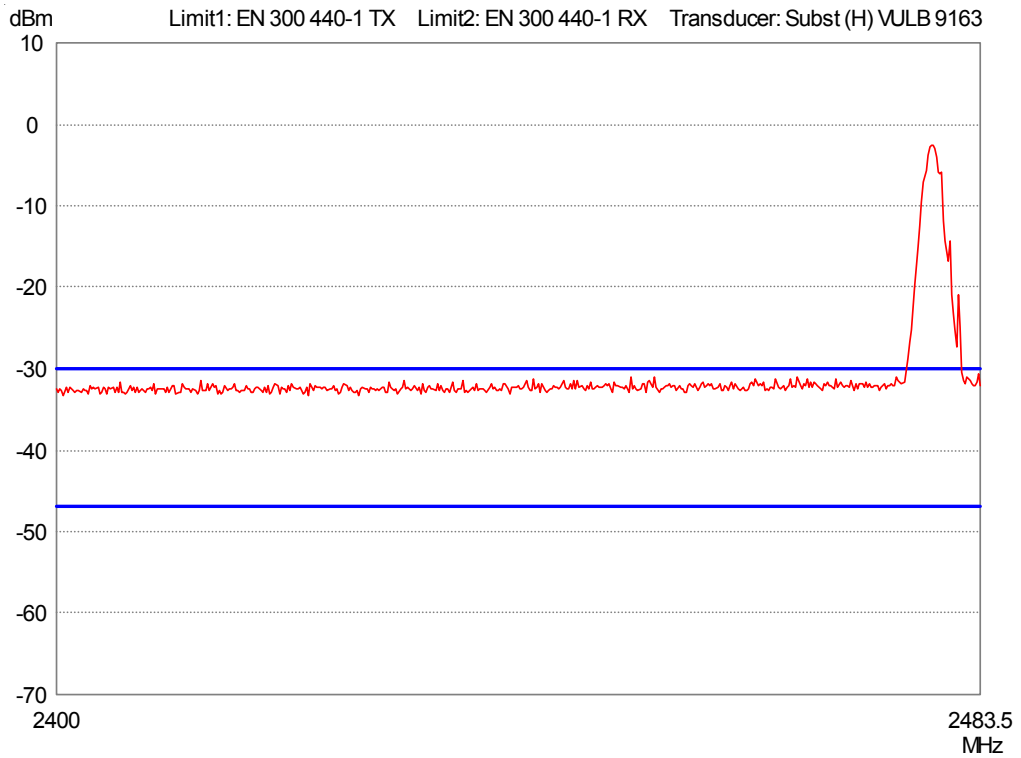
Chip Antenna, 2402 MHz, Vertical Antenna



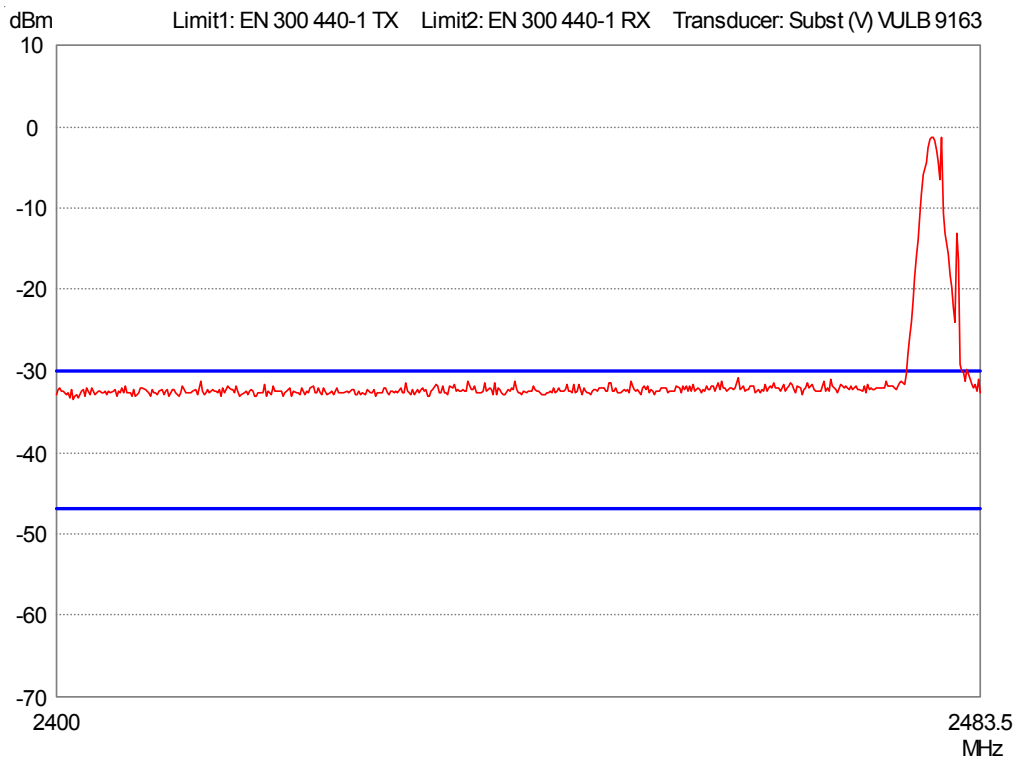
Chip Antenna, 2441 MHz, Horizontal Antenna



Chip Antenna, 2441 MHz, Vertical Polarisation



Chip Antenna, 2480 MHz, Horizontal Antenna



Chip Antenna, 2480 MHz, Vertical Antenna

Spurious Emissions

Rules and Specifications:	15.247 (c)
Guide:	ANSI C63.4-1992
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:	22 August 2004

PCB Antenna

Frequency (MHz)	Measured Value (dBm)	Limit (dBm)	Margin (dB)	Result
2402	6.44	30	-23.56	Pass
2441	7.95	30	-22.05	Pass
2480	8.40	30	-21.6	Pass
See Note				

Chip Antenna

Frequency (MHz)	Measured Value (dBm)	Limit (dBm)	Margin (dB)	Result
2402	-6.37	30	-36.97	Pass
2441	-2.97	30	-32.97	Pass
2480	-1.30	30	-31.30	Pass
See Note				

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

Spurious Emissions - Unit with PCB-Antenna

Rules and Specifications:	15.247 (c)
Guide:	ANSI C63.4-1992
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:	27 February 2004

Frequency (MHz)	Antenna Polarisation	Meter Reading (dBµV)	Antenna Correction (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
303.54	Hor	27.49	14.62	42.11	46.00	-3.89
456.153	Ver	21.22	17.27	38.49	46.00	-7.51
660.500	Ver	22.12	20.59	42.72	46.00	-3.28
4804.00	Hor	16.30	32.04	48.34	54.00	-5.66
4882.00	Hor	13.09	32.09	45.21	54.00	-8.79
4960,00	Hor	14.60	32.14	46.74	54.00	-7.26
9602.00	Ver	5.83	40.56	46.40	54.00	-7.60

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:

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

Spurious Emissions - Unit with Chip-Antenna

Rules and Specifications:	15.247 (c)
Guide:	ANSI C63.4-1992
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:	27 February 2004

Frequency (MHz)	Antenna Polarisation	Meter Reading (dBµV)	Antenna Correction (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
227.880	Ver	23.11	12.99	36.10	46.00	-9.90
303.540	Ver	30.87	14.62	45.49	46.00	-0.51
660.500	Ver	21.83	20.59	42.43	46.00	-3.57
780.780	Ver	19.60	21.88	41.49	46.00	-4.51
4804.00	Hor	10.74	38.70	49.44	54.00	-4.56
4882.00	Hor	13.52	38.98	52.50	54.00	-1.50
4960.00	Hor	10.99	39.25	50.25	54.00	-3.75

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:

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

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):

8.40 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 - Unit with Chip Antenna

Rules and Specifications:	15.109,										
Guide:	ANSI C63.4-1992										
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										
	<table border="1" style="width: 100%; border-collapse: collapse; margin: 0 auto;"> <thead> <tr> <th style="width: 60%;">Frequency of Emission (MHz)</th> <th style="width: 40%;">Field Strength (microvolts/meter)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">30 - 88</td> <td style="text-align: center;">100</td> </tr> <tr> <td style="text-align: center;">88 - 216</td> <td style="text-align: center;">150</td> </tr> <tr> <td style="text-align: center;">216 - 960</td> <td style="text-align: center;">200</td> </tr> <tr> <td style="text-align: center;">Above 960</td> <td style="text-align: center;">500</td> </tr> </tbody> </table>	Frequency of Emission (MHz)	Field Strength (microvolts/meter)	30 - 88	100	88 - 216	150	216 - 960	200	Above 960	500
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	22,5	11,12	33,62	43,50	-9,9
304,186	Q.P	Hor	28,6	14,63	43,23	46,00	-2,8
608,766	Q.P	Hor	18,41	20,34	38,75	46,00	-7,3
660,500	Q.P	Ver	22,82	20,59	43,41	46,00	-2,6
780,133	Q.P	Ver	18,95	21,87	40,82	46,0	-5,2

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

Sample calculation of field strength values:

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

8. Referenced Regulations

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

<input checked="" type="checkbox"/>	FCC Part 2	Code of Federal Regulations Part 2 Frequency allocation and radio treaty matters; General rules and regulations	October 01, 1999
<input checked="" type="checkbox"/>	FCC Part 15 Subpart A	Code of Regulations Part 15 (Radio Frequency Devices), Subpart A (General) of the Federal Communication Commission (FCC)	December 08, 2003
<input type="checkbox"/>	FCC Part 15 Subpart B	Code of Regulations Part 15 (Radio Frequency Devices), Subpart B (Unintentional Radiators) of the Federal Communication Commission (FCC)	December 08, 2003
<input checked="" type="checkbox"/>	FCC Part 15 Subpart C	Code of Regulations Part 15 (Radio Frequency Devices), Subpart C (Intentional Radiators) of the Federal Communication Commission (FCC)	December 08, 2003
<input type="checkbox"/>	FCC Part 74 Subpart H	Code of Regulations Part 15 (Radio Frequency Devices), Subpart H (Low Power Auxiliary Stations) of the Federal Communication Commission (FCC)	October 20, 1997
<input checked="" type="checkbox"/>	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 - 40 GHz	October, 1992
<input checked="" type="checkbox"/>	RSS-210	Radio Standards Specification RSS-210 Issue 5 for Low Power Licence-Exempt Radiocommunication Devices of Industry Canada	November 2001

Charts taken during testing

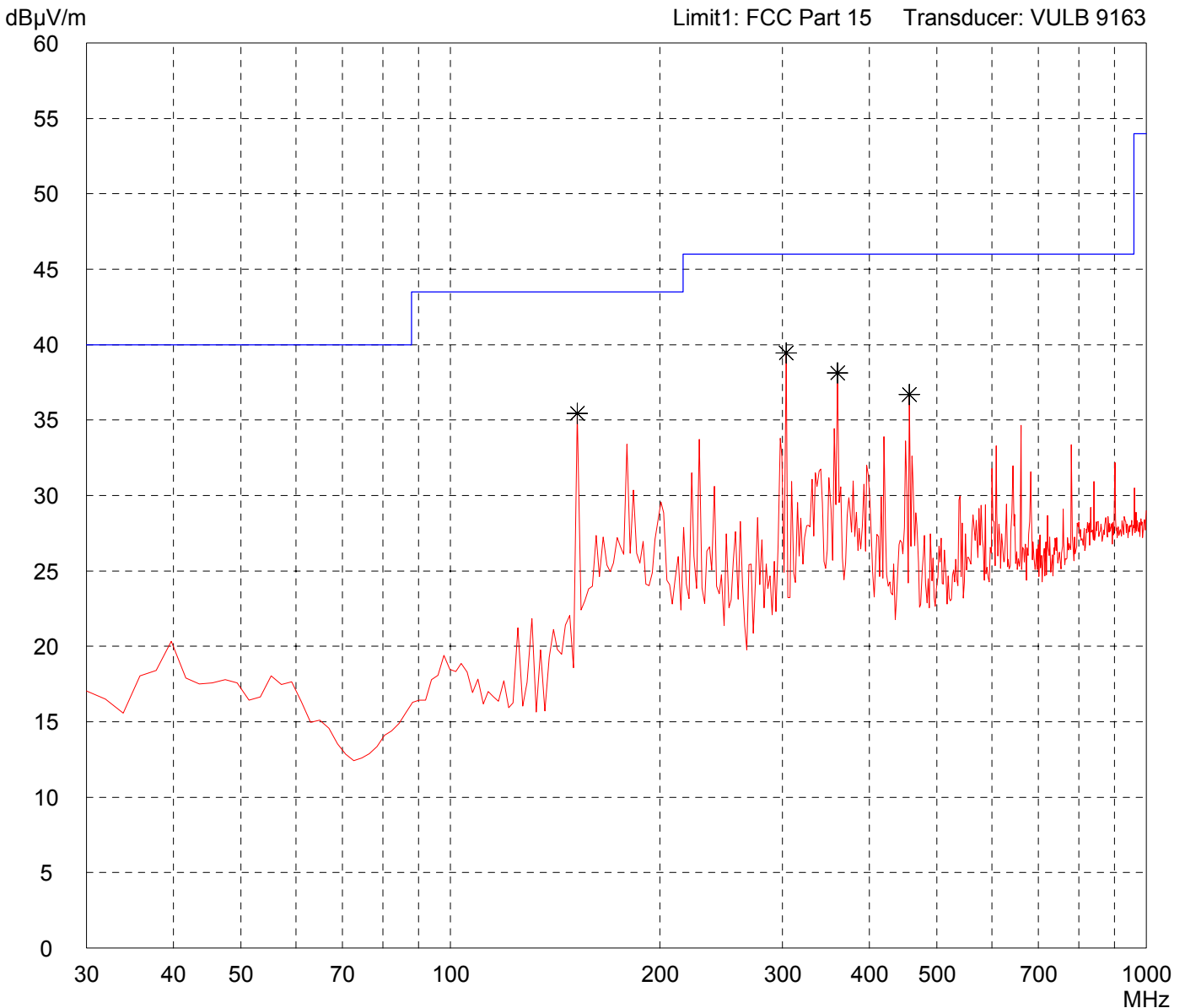
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402MHz - TX Power setting = 63 (maximum)	
--	--

Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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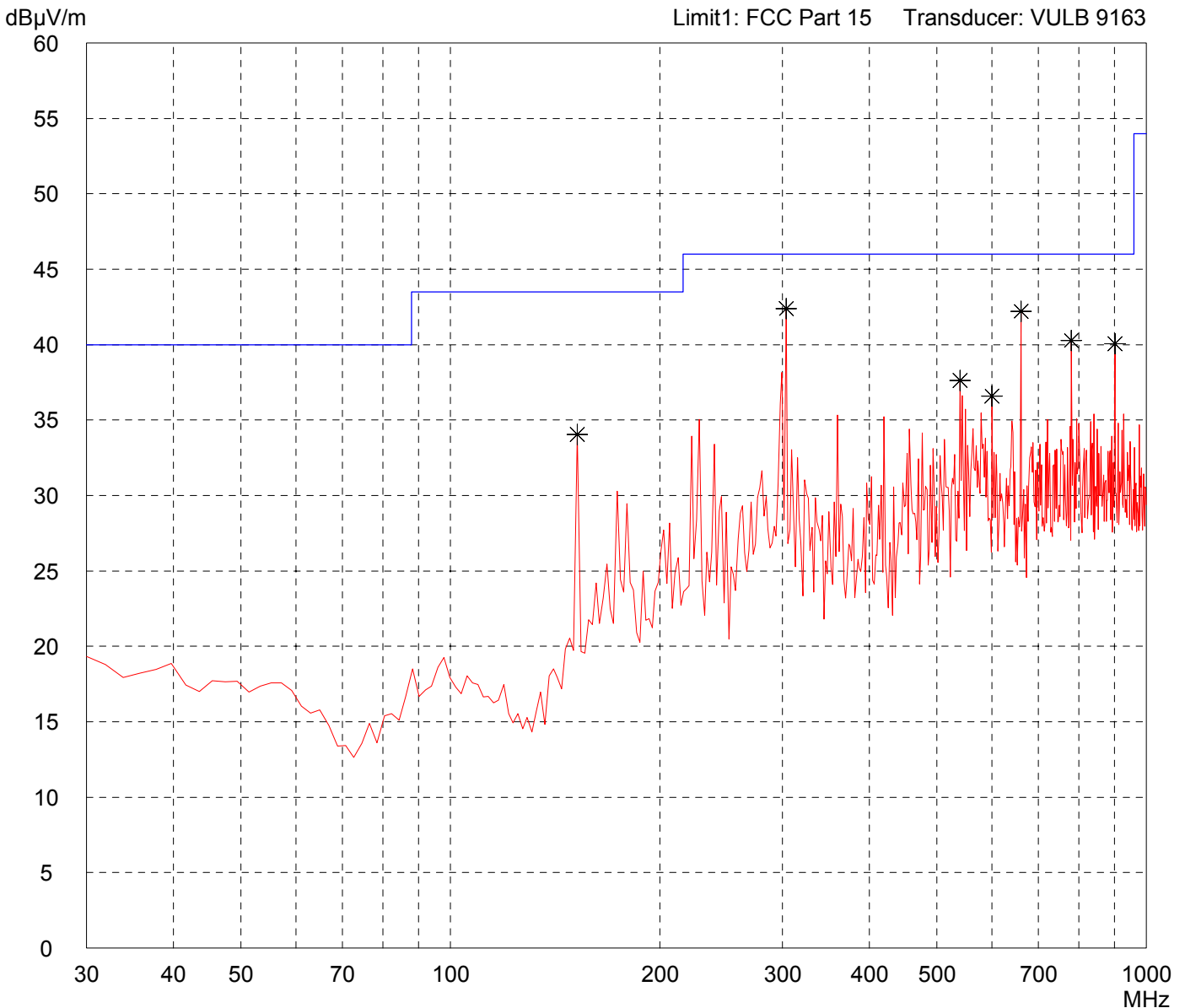
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402MHz - TX Power setting = 63 (maximum)	
--	--

Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

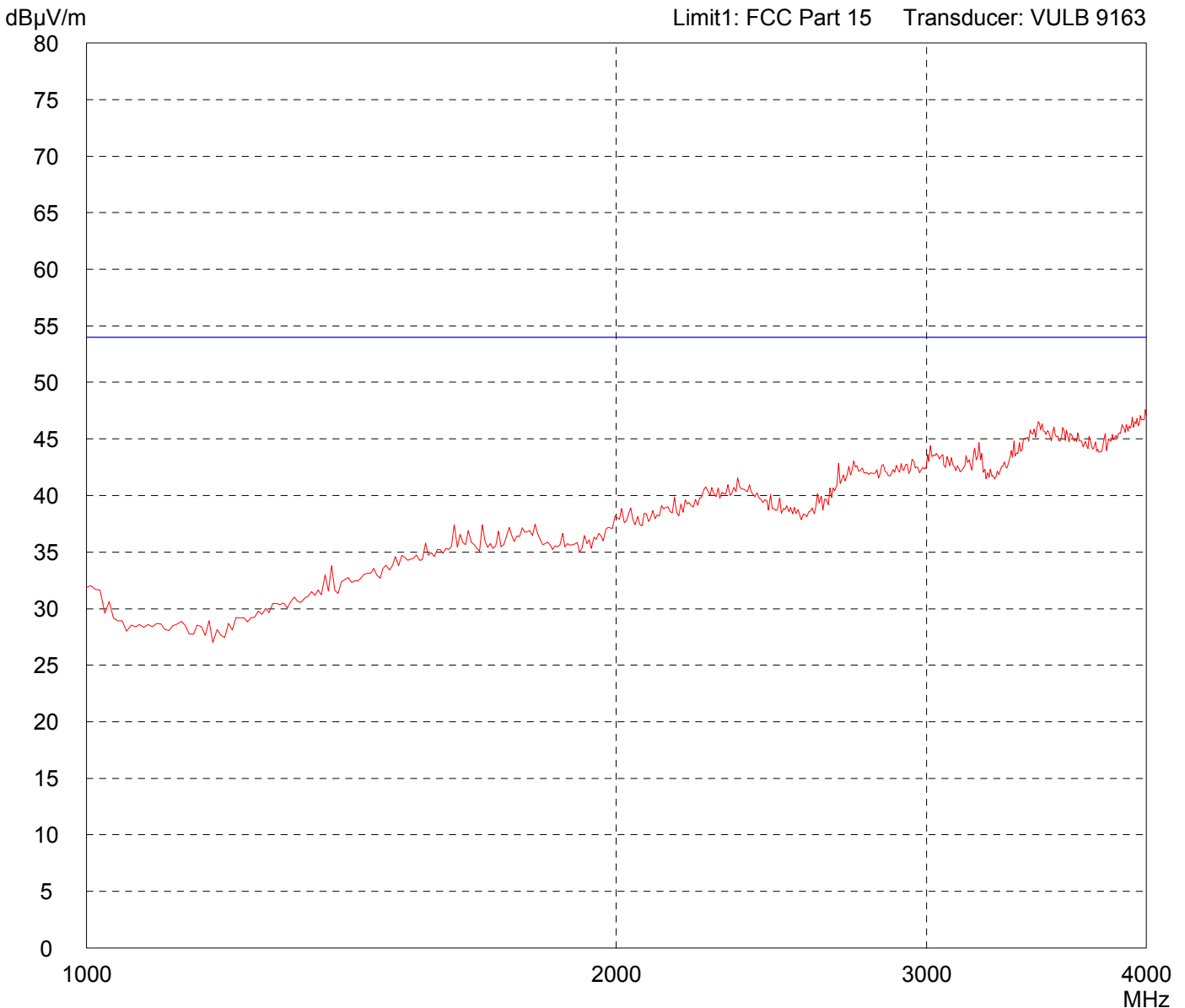
Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment:

- TX at 2402MHz
- TX Power setting = 63 (maximum)
- Notch Filter on Fundamental Frequency

Detector:
Peak

List of values:
Selected by hand



Result:
Limit kept

Project file:
51349-40442-2

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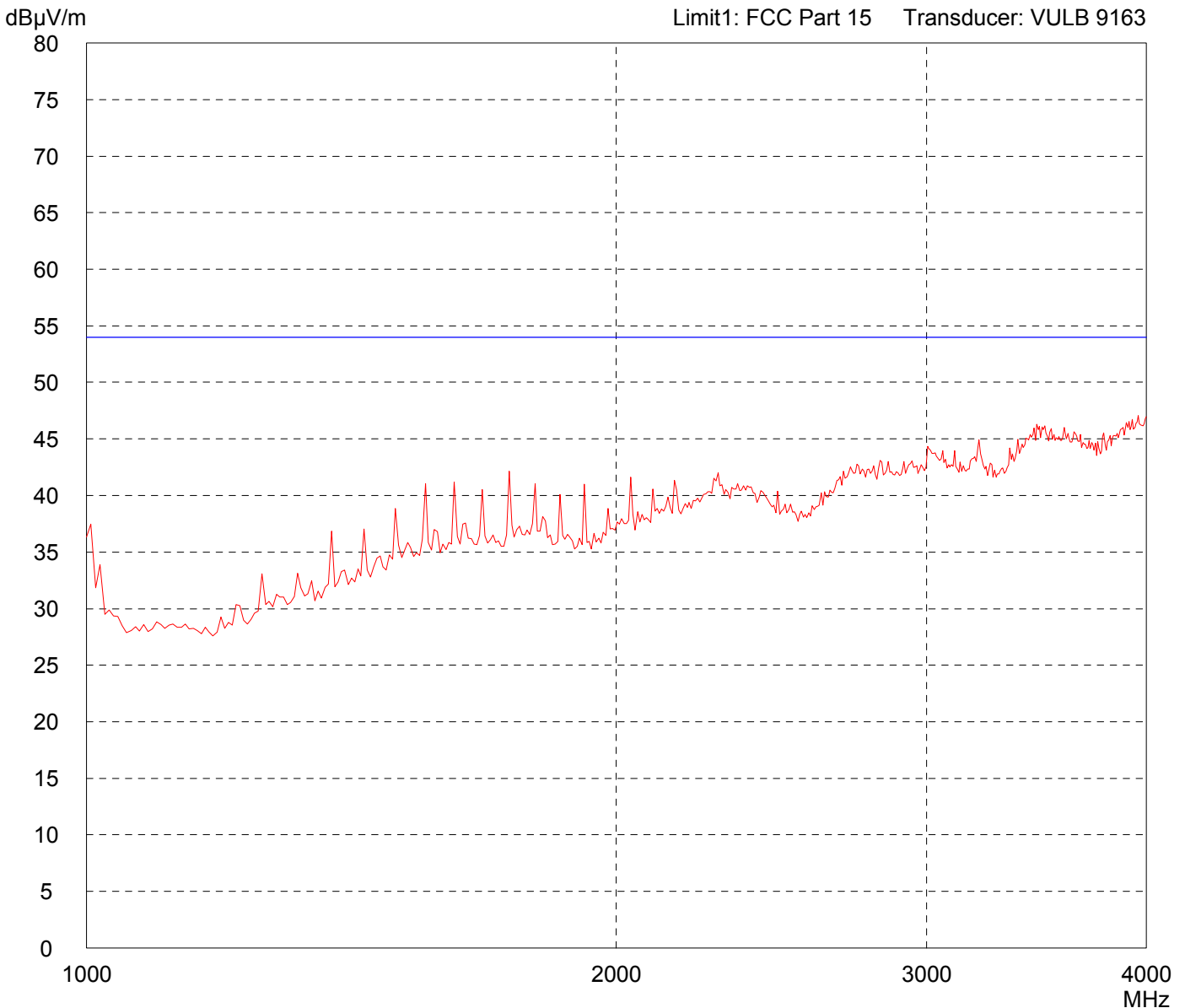
Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402MHz - TX Power setting = 63 (maximum) - Notch Filter on Fundamental Frequency

Detector: Peak

List of values: Selected by hand



Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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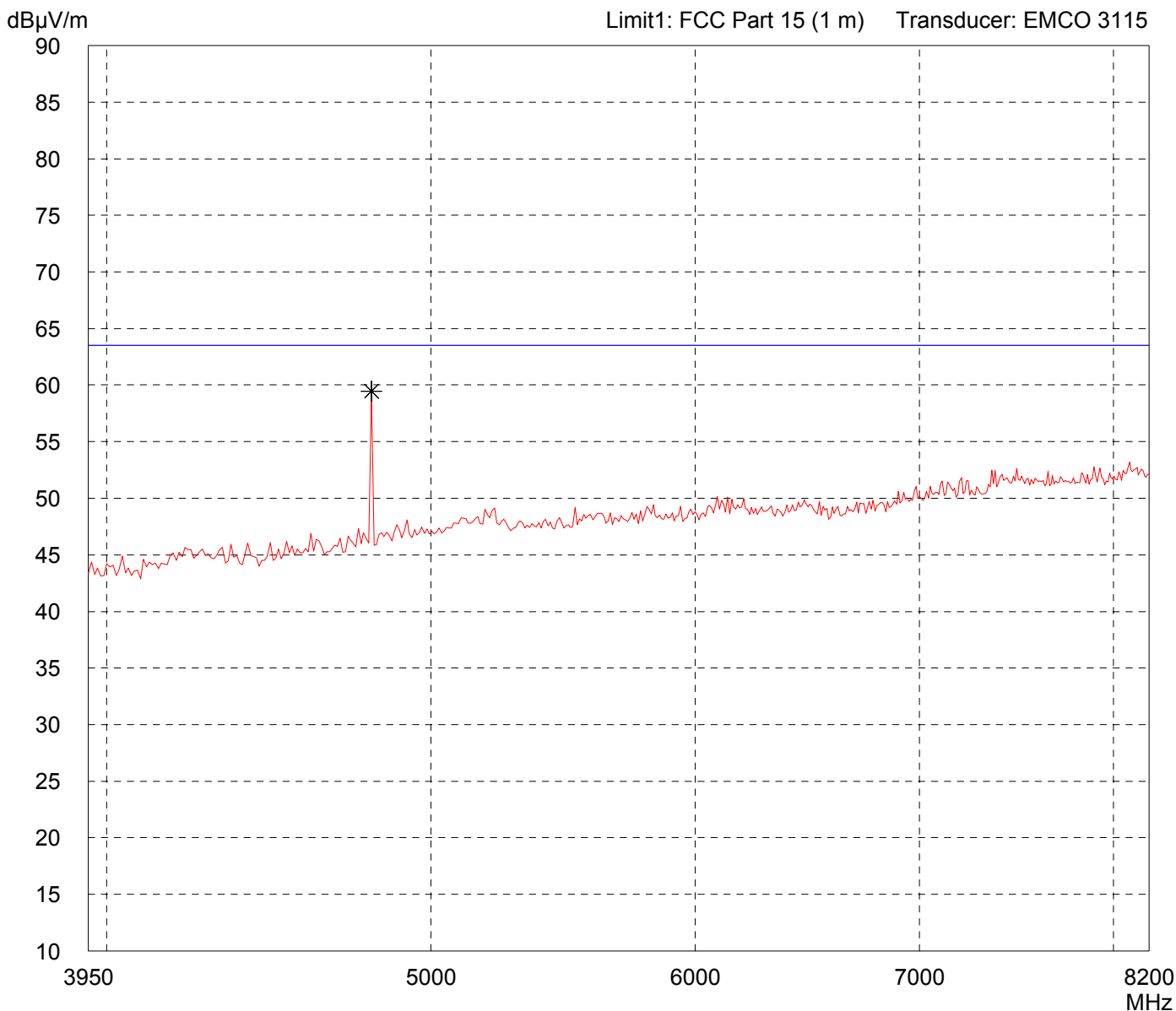
Radiated Emission Test 3.95 GHz - 8.2 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 metre Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402 MHz - TX Power setting = 63 (maximum)	
---	--

Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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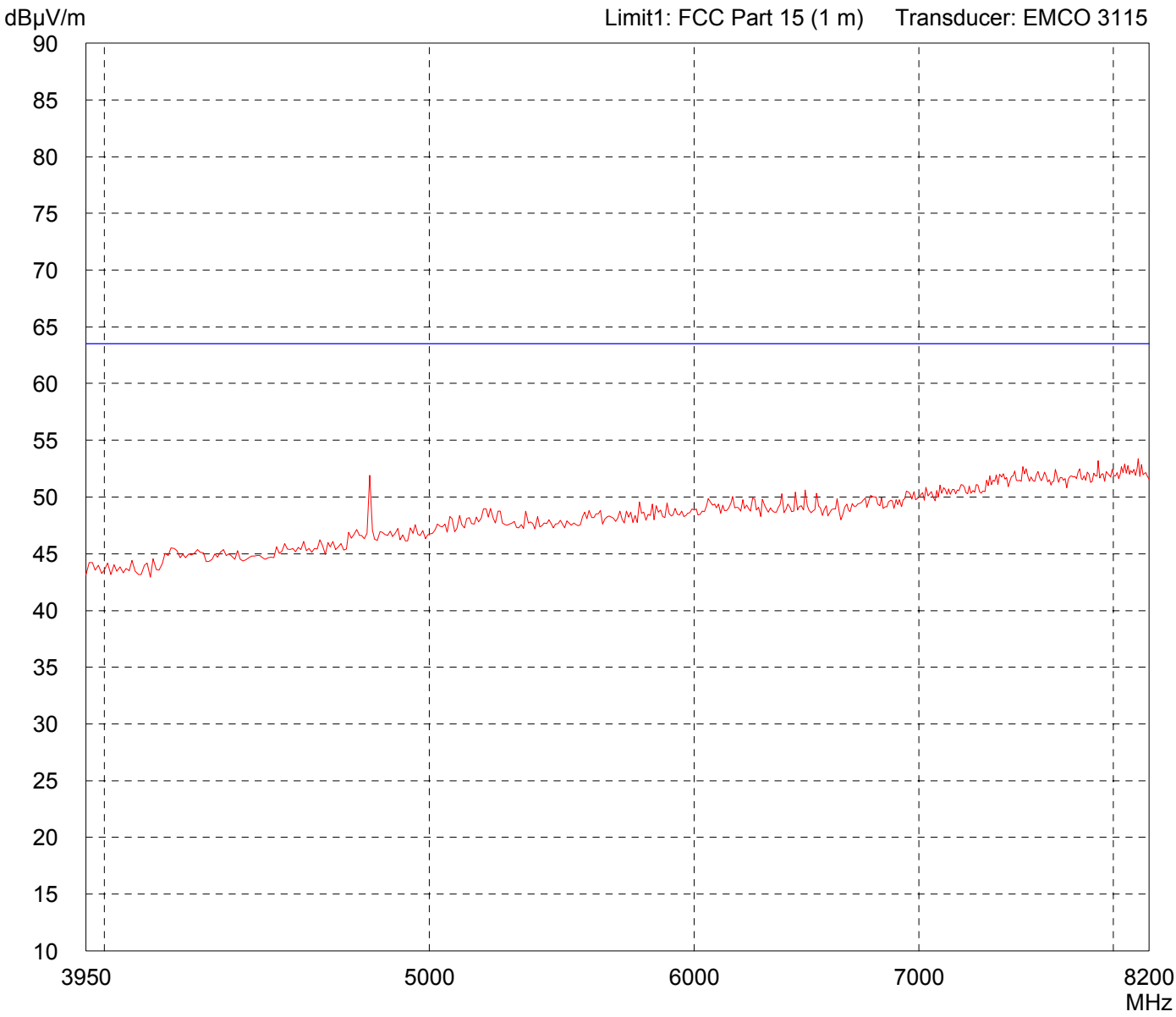
Radiated Emission Test 3.95 GHz - 8.2 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 metre Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402 MHz - TX Power setting = 63 (maximum)	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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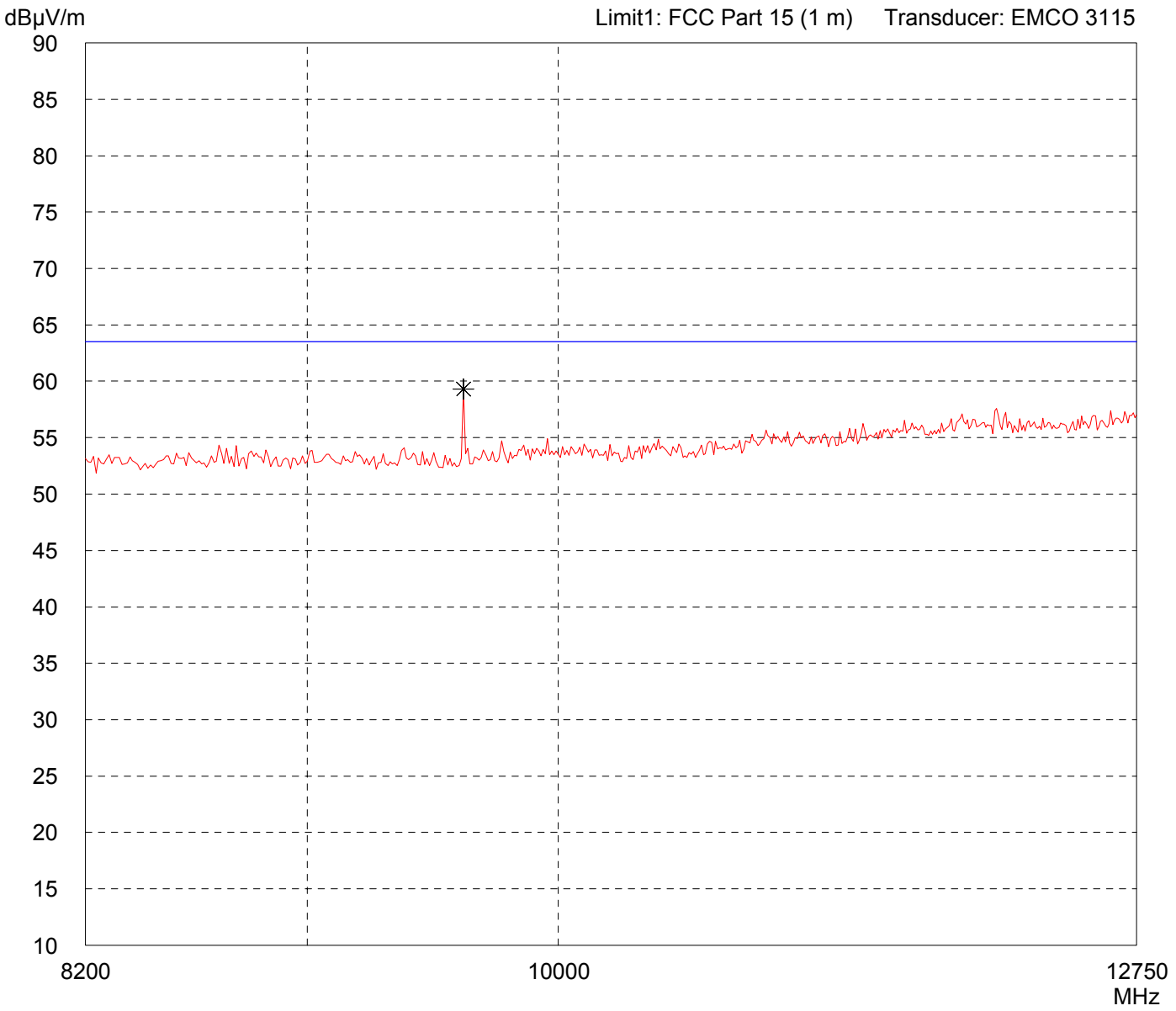
Radiated Emission Test 8.2 GHz - 12.75 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 metre Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402 MHz - TX Power setting = 63 (maximum)

Detector: Peak

List of values: Selected by hand



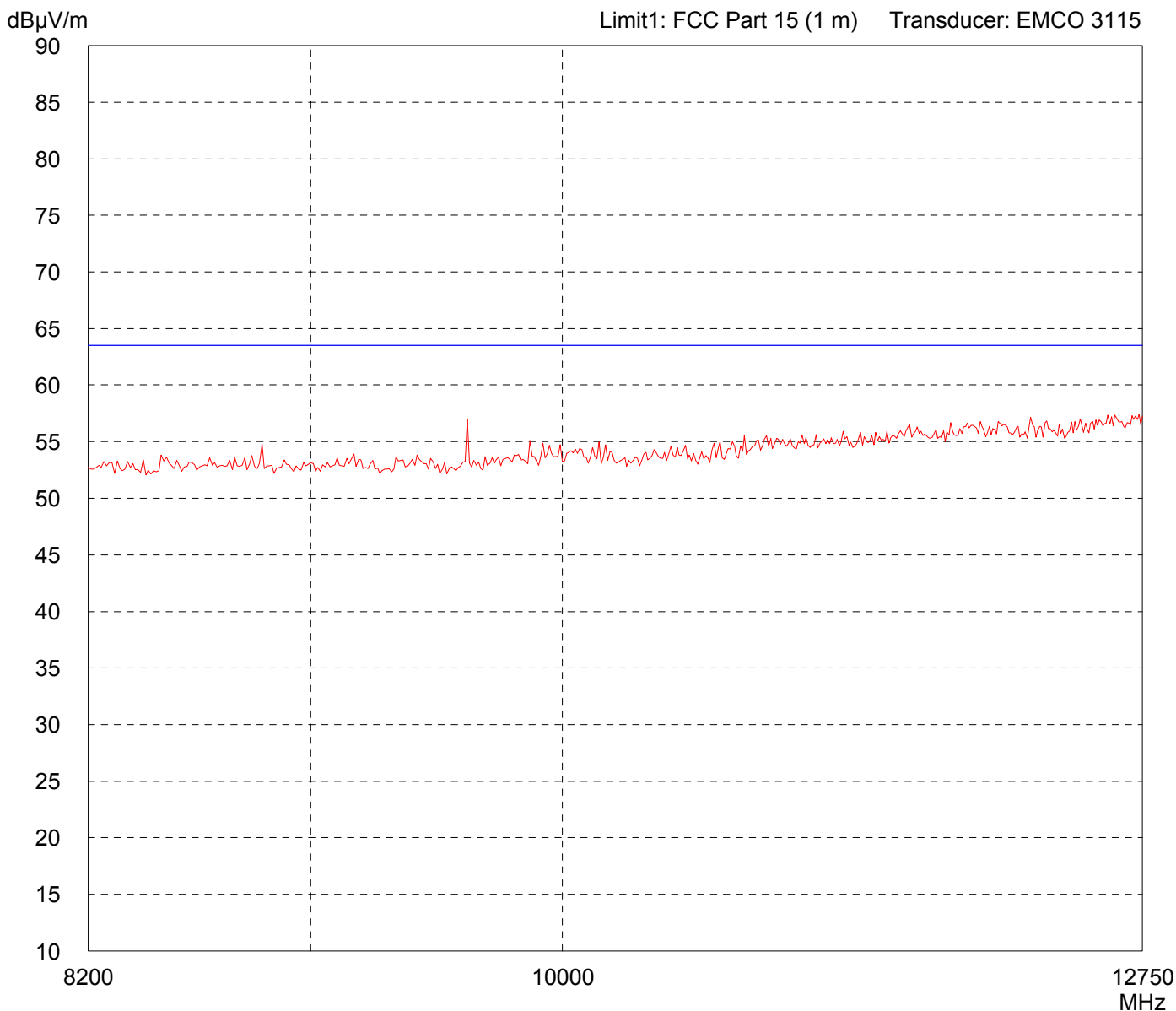
Result: Limit kept

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Radiated Emission Test 8.2 GHz - 12.75 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: IHF-1000</p> <p>Serial no.: Chip Antenna</p> <p>Applicant: Motorola GmbH - ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 metre Vertical Polarization</p> <p>Date of test: 08/27/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2402 MHz - TX Power setting = 63 (maximum)
--	---

<p>Detector: Peak</p>	<p>List of values: Selected by hand</p>
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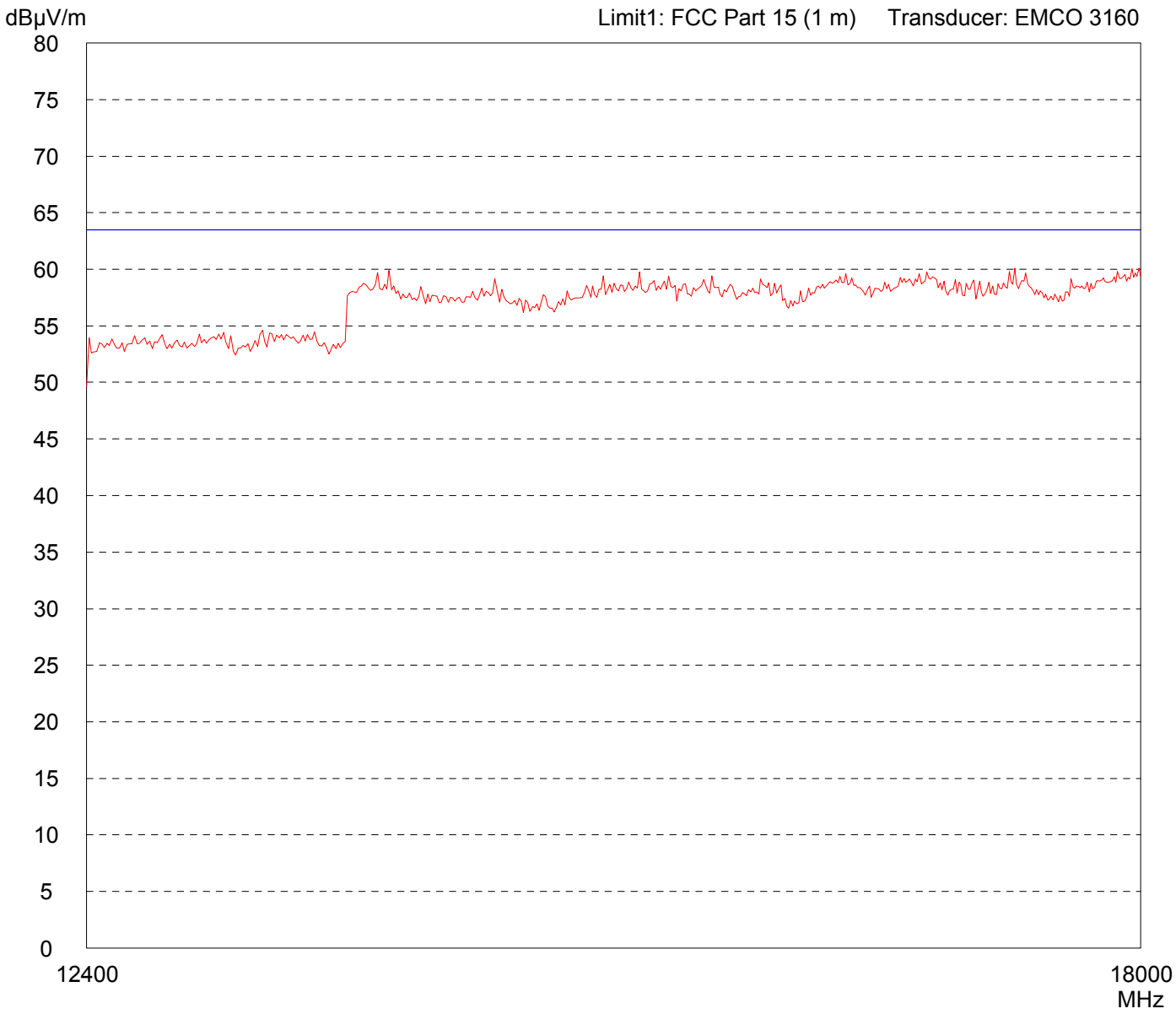


<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: IHF-1000</p> <p>Serial no.: Chip Antenna</p> <p>Applicant: Motorola GmbH - ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Vertical Polarization</p> <p>Date of test: 08/27/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2402 MHz - TX Power setting = 63 (maximum)
--	---

<p>Detector: Peak</p>	<p>List of values: Selected by hand</p>
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<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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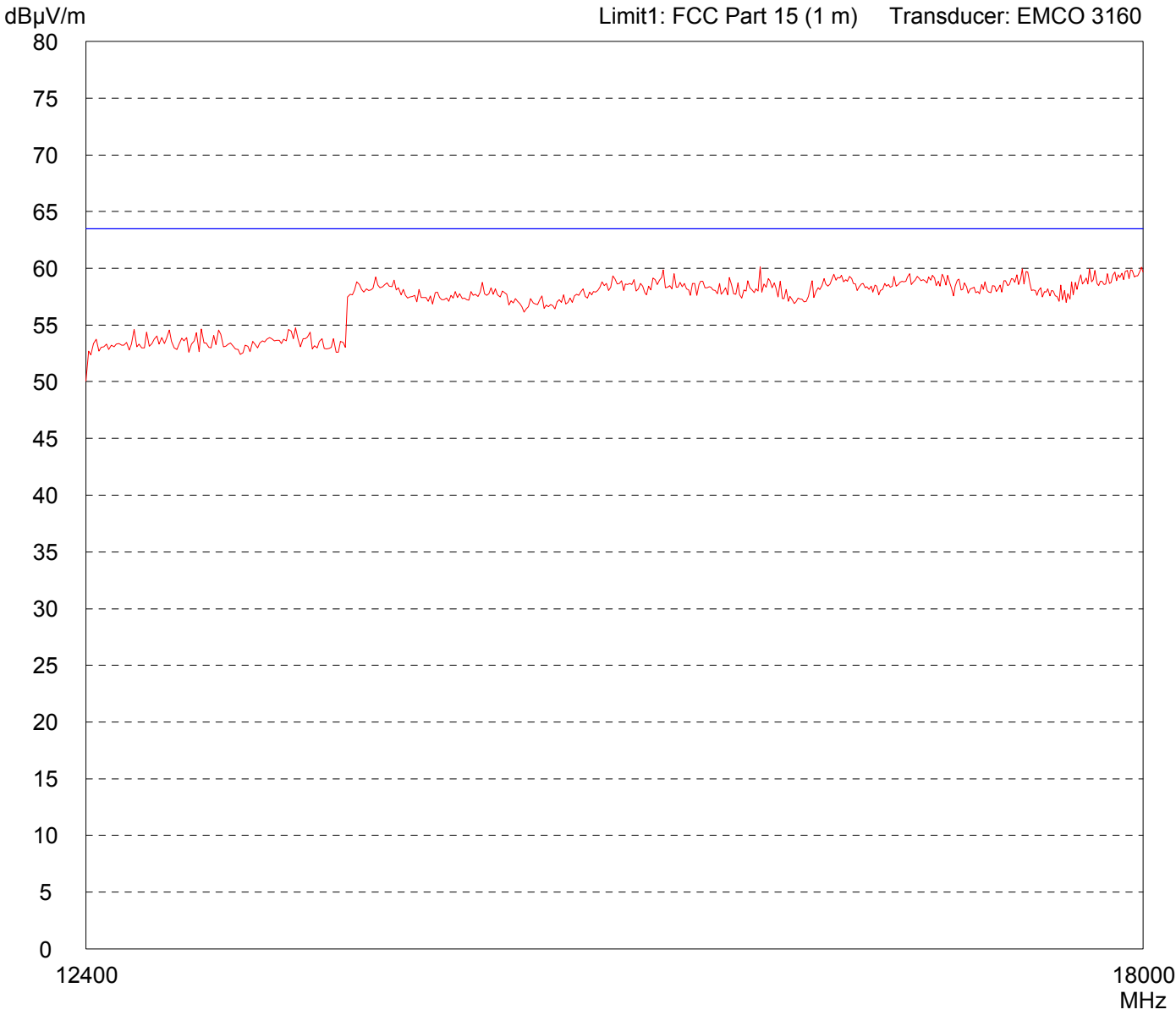
Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402 MHz - TX Power setting = 63 (maximum)

Detector: Peak

List of values: Selected by hand



Result: Limit kept

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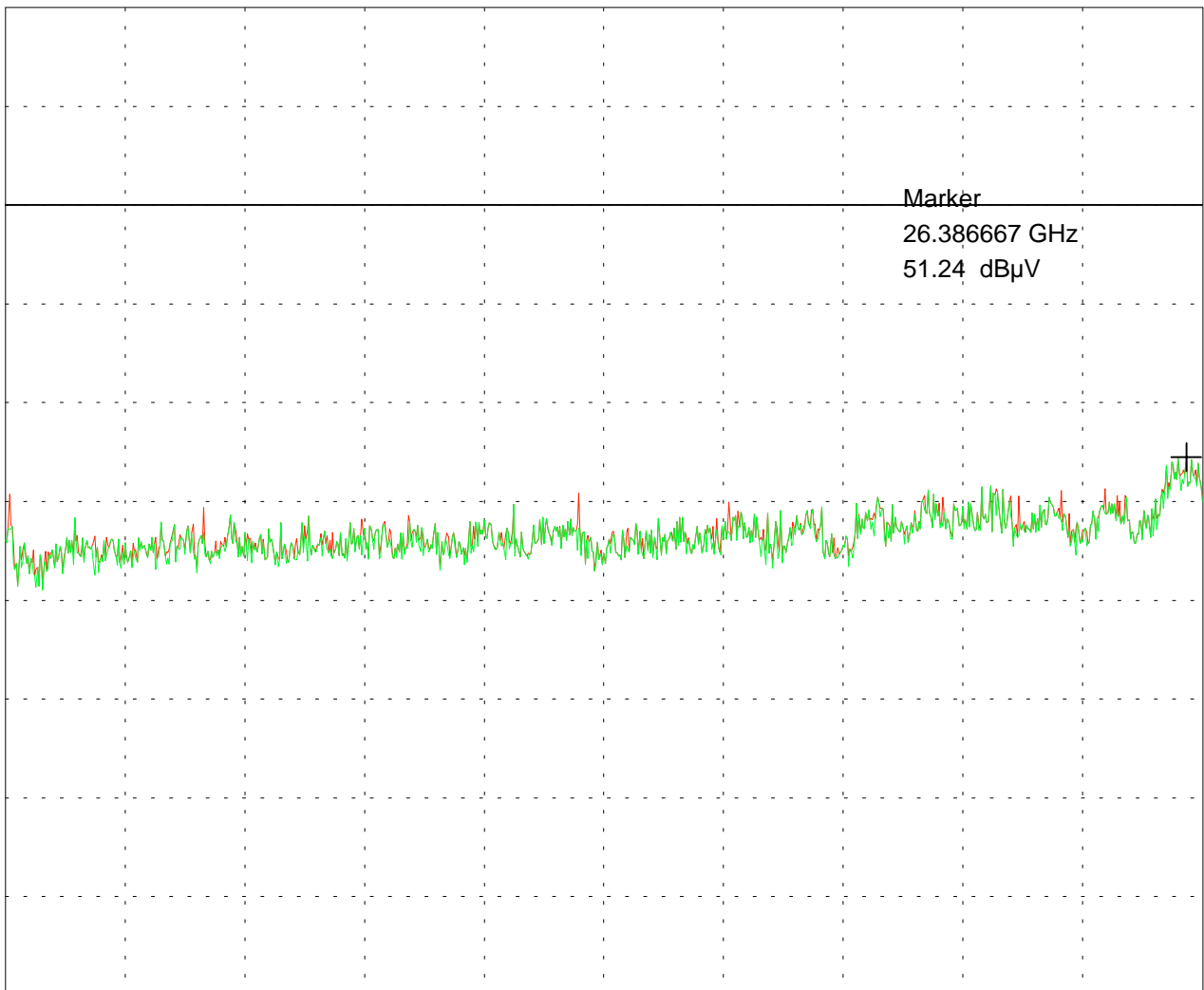
Spurious emissions according FCC Rules, Section 15.247

Model: IHF-1000	Mode: - TX at 2402 MHz - Power setting = 63 (maximum)
Serial No.: Chip-Antenna	- Radiated Measurement, 1 m test distance - Antenna correction included - Readings are field strength values - Limit adjusted for test distance
Applicant: Motorola GmbH - ACES	- Horizontal Polarisation (red trace) - Vertical Polarisation (green trace)

Ref.Level 74 dB μ V
5 dB/Div.

ATT 0 dB

Ref. Offset 40.5 dB



Start 18.000 GHz
RBW 100 kHz

VBW 100 kHz

Stop 26.500 GHz
SWP 2.60 s

Tested by: Johann Roidt	Project-No.: 51349-40442-2
Date: 24 August 2004	Page of pages

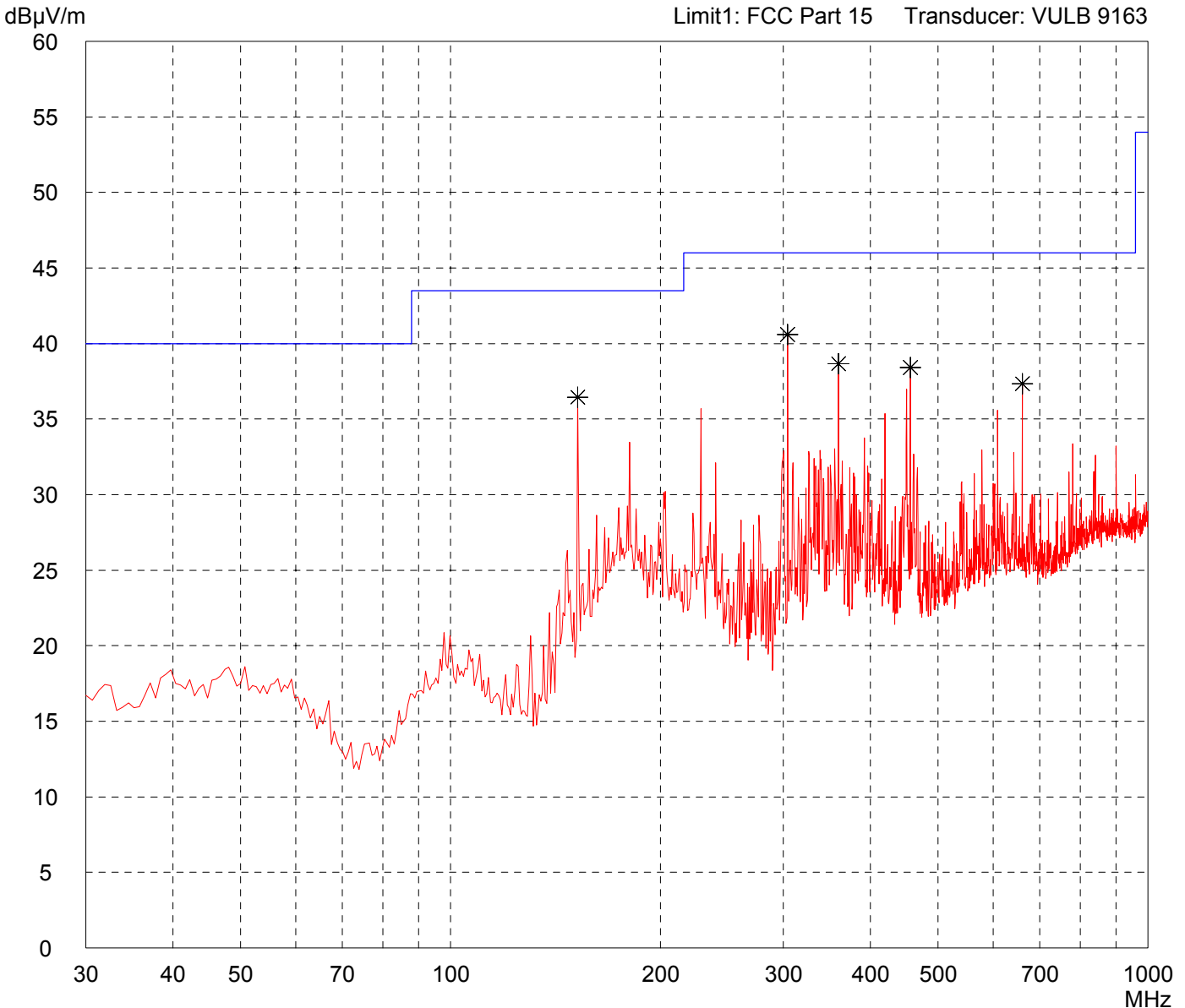
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441 MHz	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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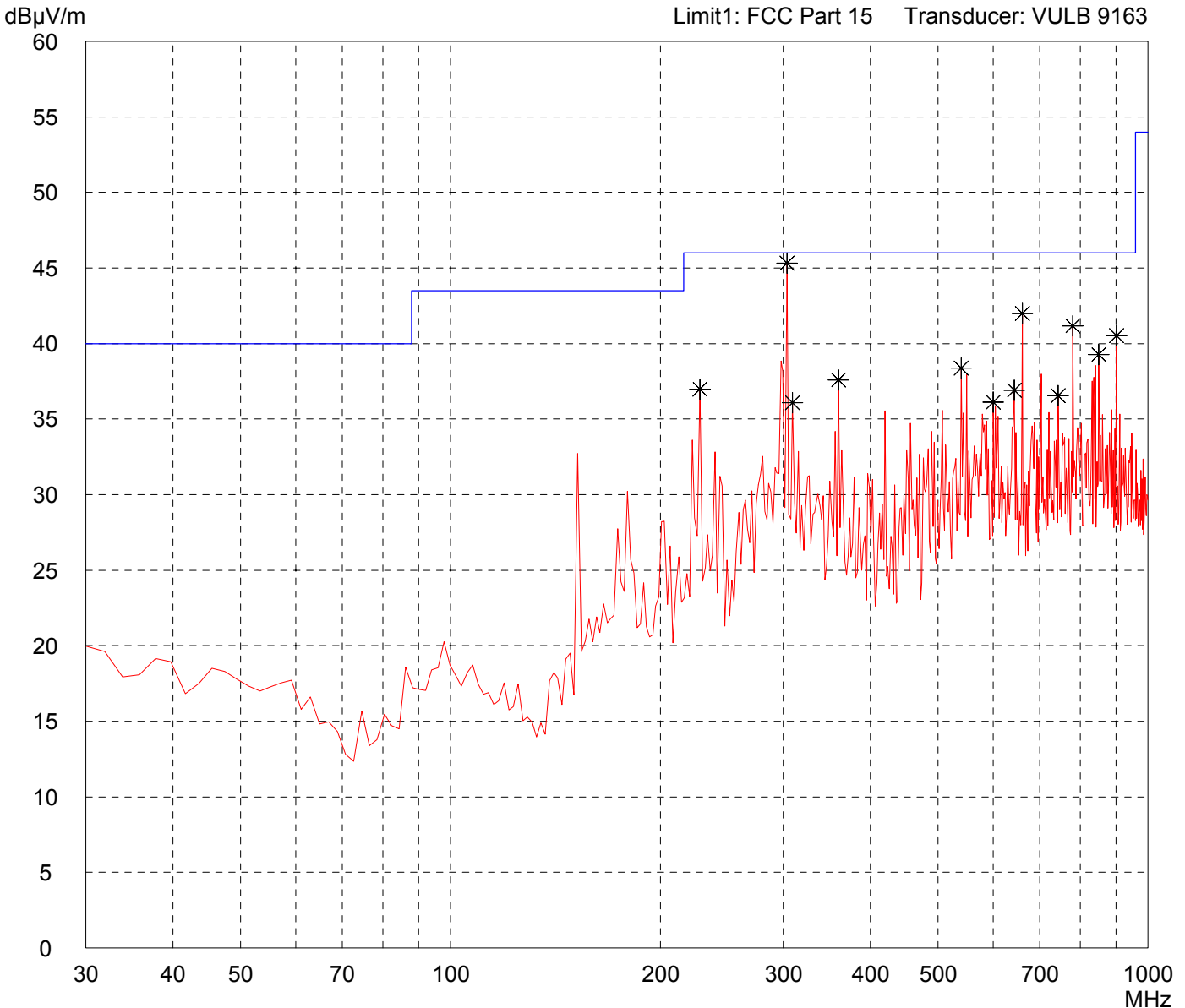
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441 MHz

Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

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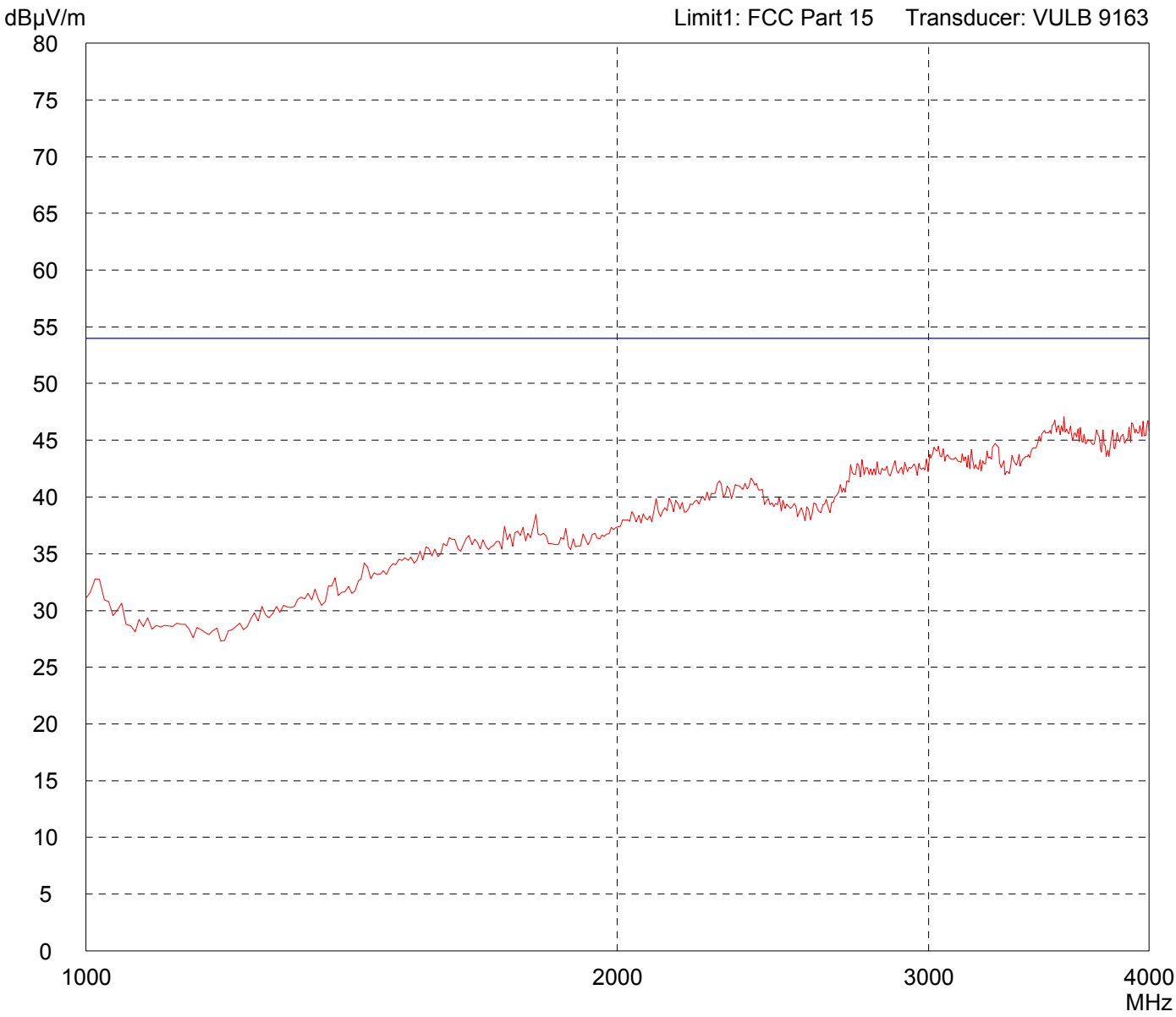
Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441MHz - TX Power setting = 63 (maximum)
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Detector: Peak

List of values: Selected by hand



Result: Limit kept

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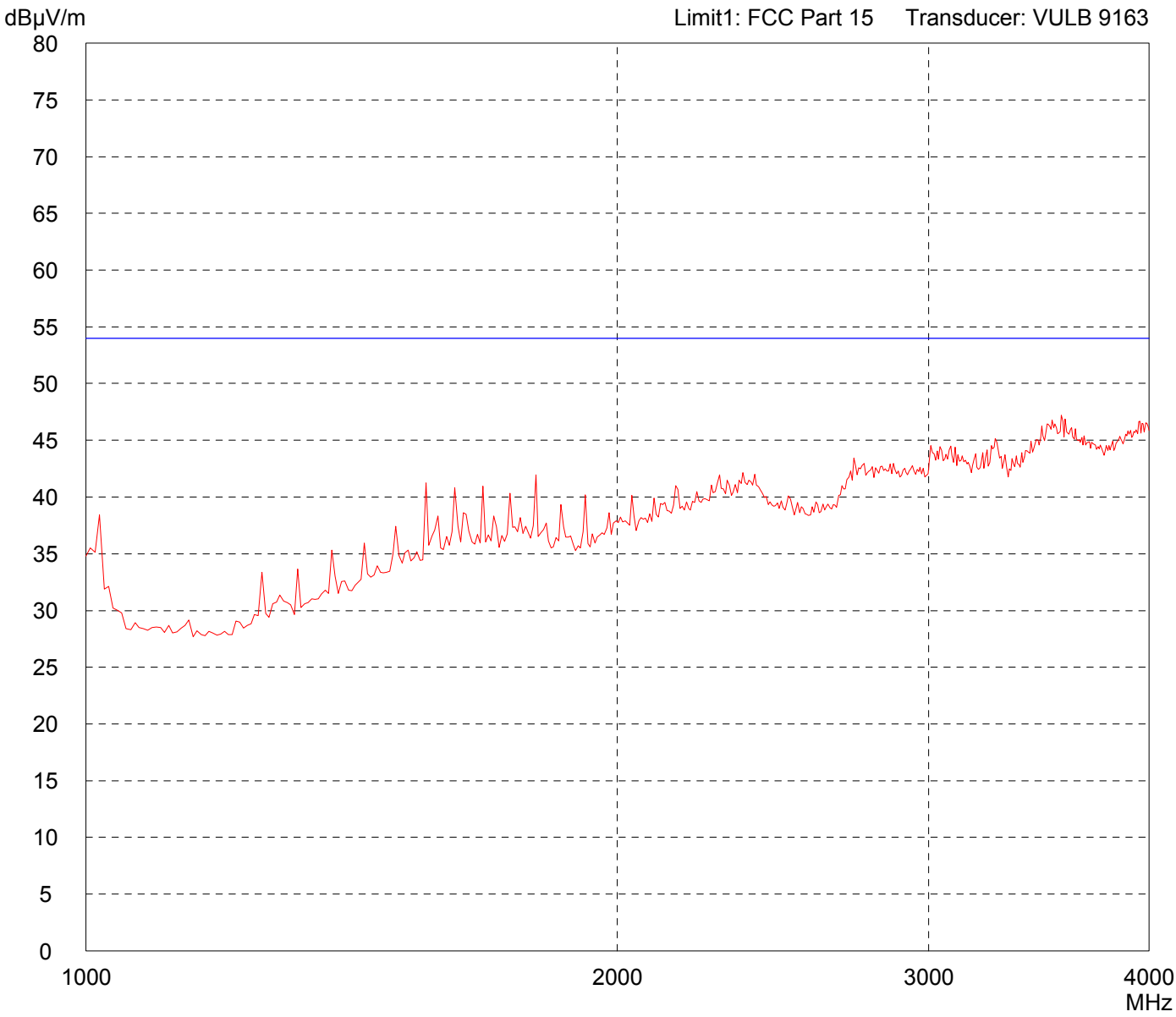
Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441MHz - TX Power setting = 63 (maximum) - Notch Filter on Fundamental Frequency

Detector: Peak

List of values: Selected by hand



Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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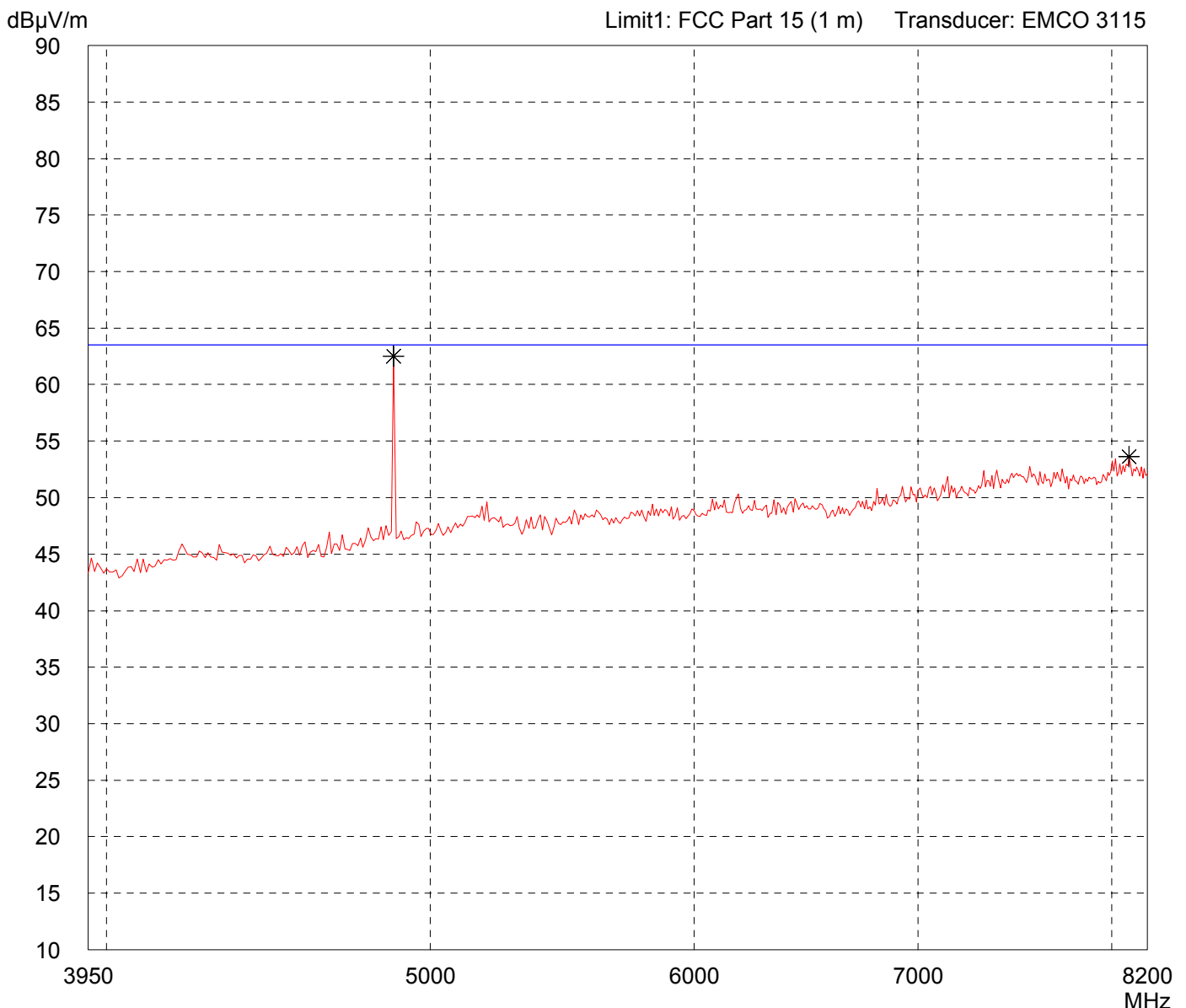
Radiated Emission Test 3.95 GHz - 8.2 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 metre Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441MHz - TX Power setting = 63 (maximum)	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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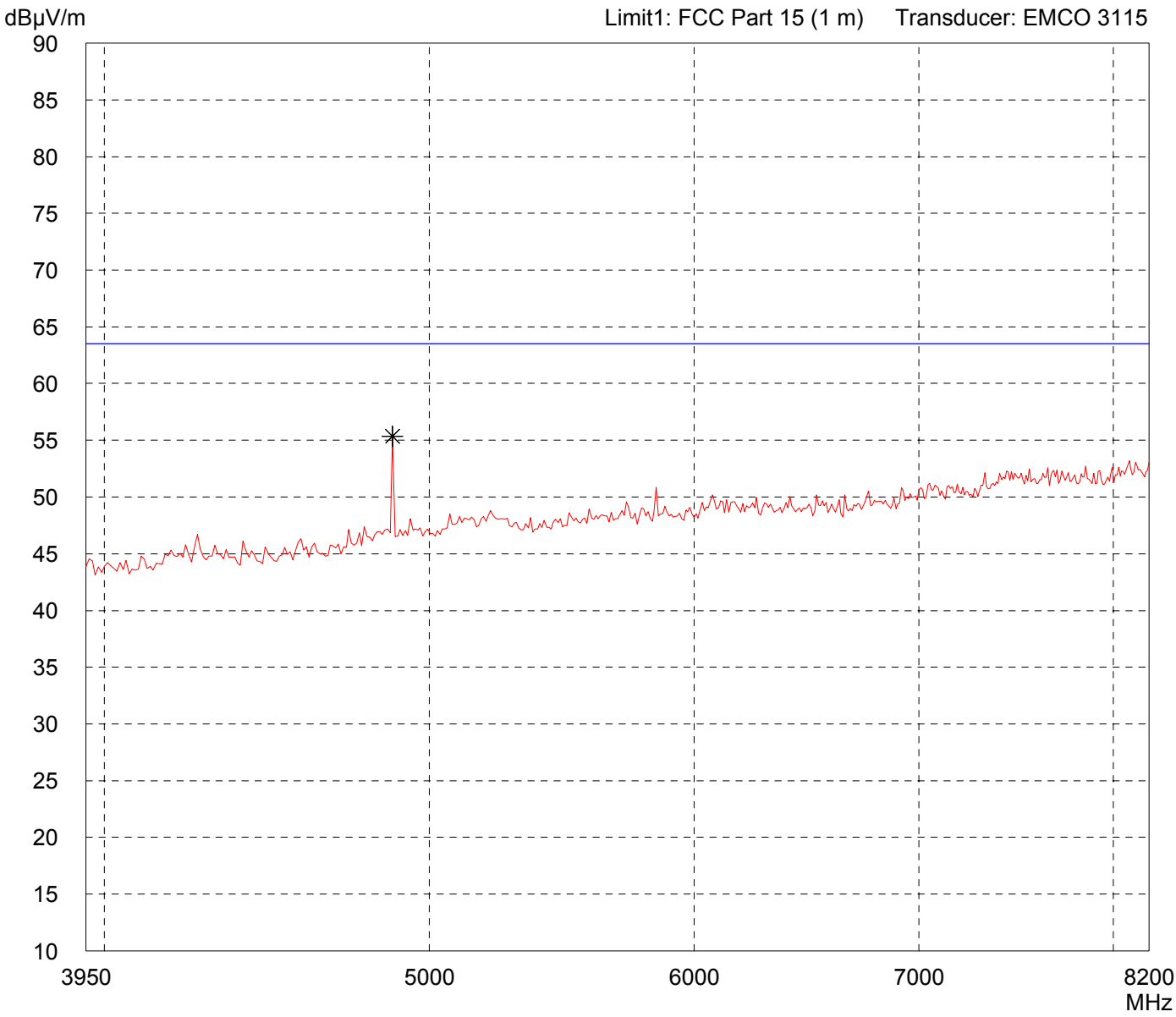
Radiated Emission Test 3.95 GHz - 8.2 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 metre Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441MHz - TX Power setting = 63 (maximum)	
--	--

Detector: Peak

List of values: 10 dB Margin	50 Subranges
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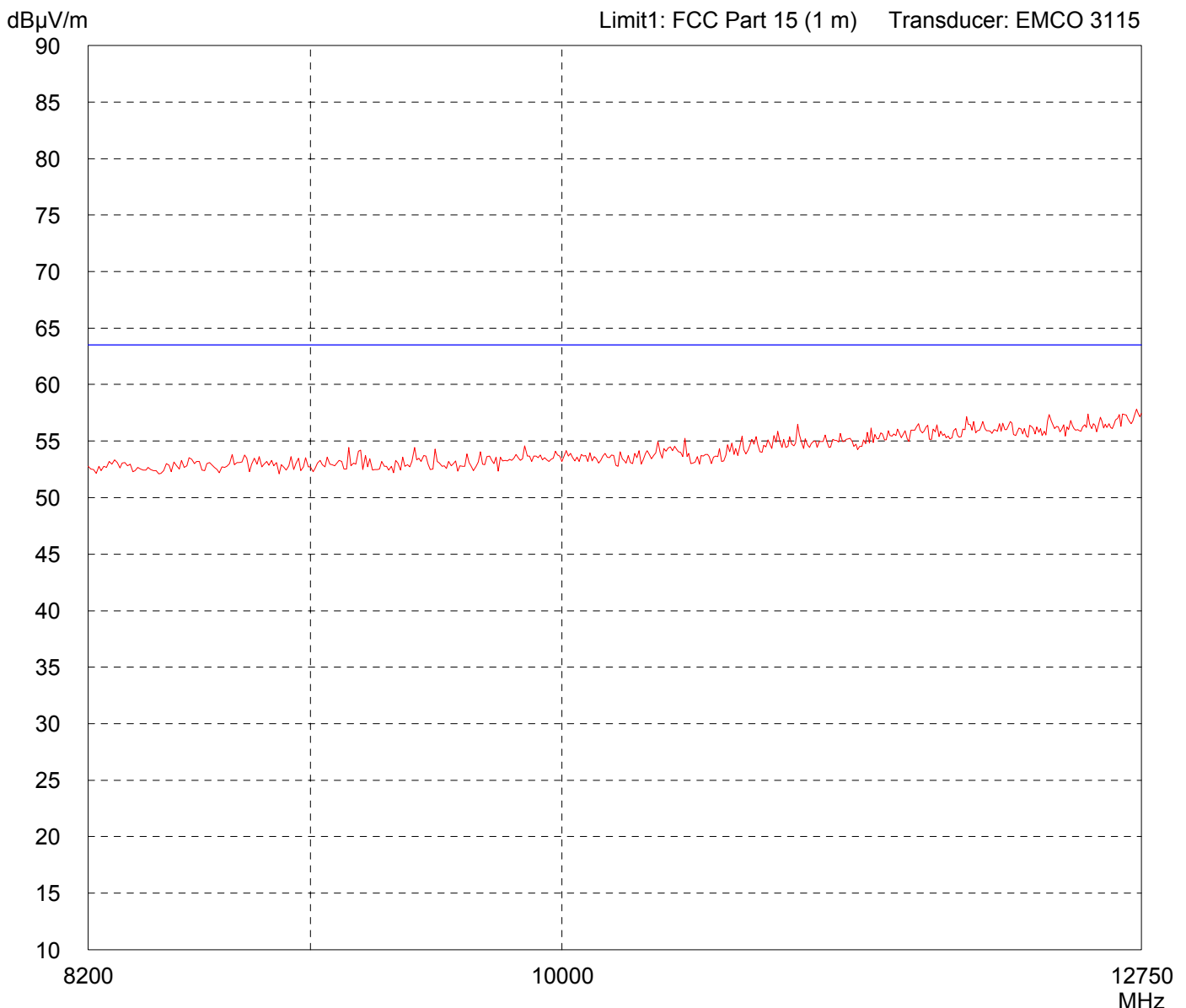
Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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Radiated Emission Test 8.2 GHz - 12.75 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: IHF-1000</p> <p>Serial no.: Chip Antenna</p> <p>Applicant: Motorola GmbH - ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 metre Horizontal Polarization</p> <p>Date of test: 08/27/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2441 MHz - TX Power setting = 63 (maximum)
--	---

<p>Detector: Peak</p>	<p>List of values: Selected by hand</p>
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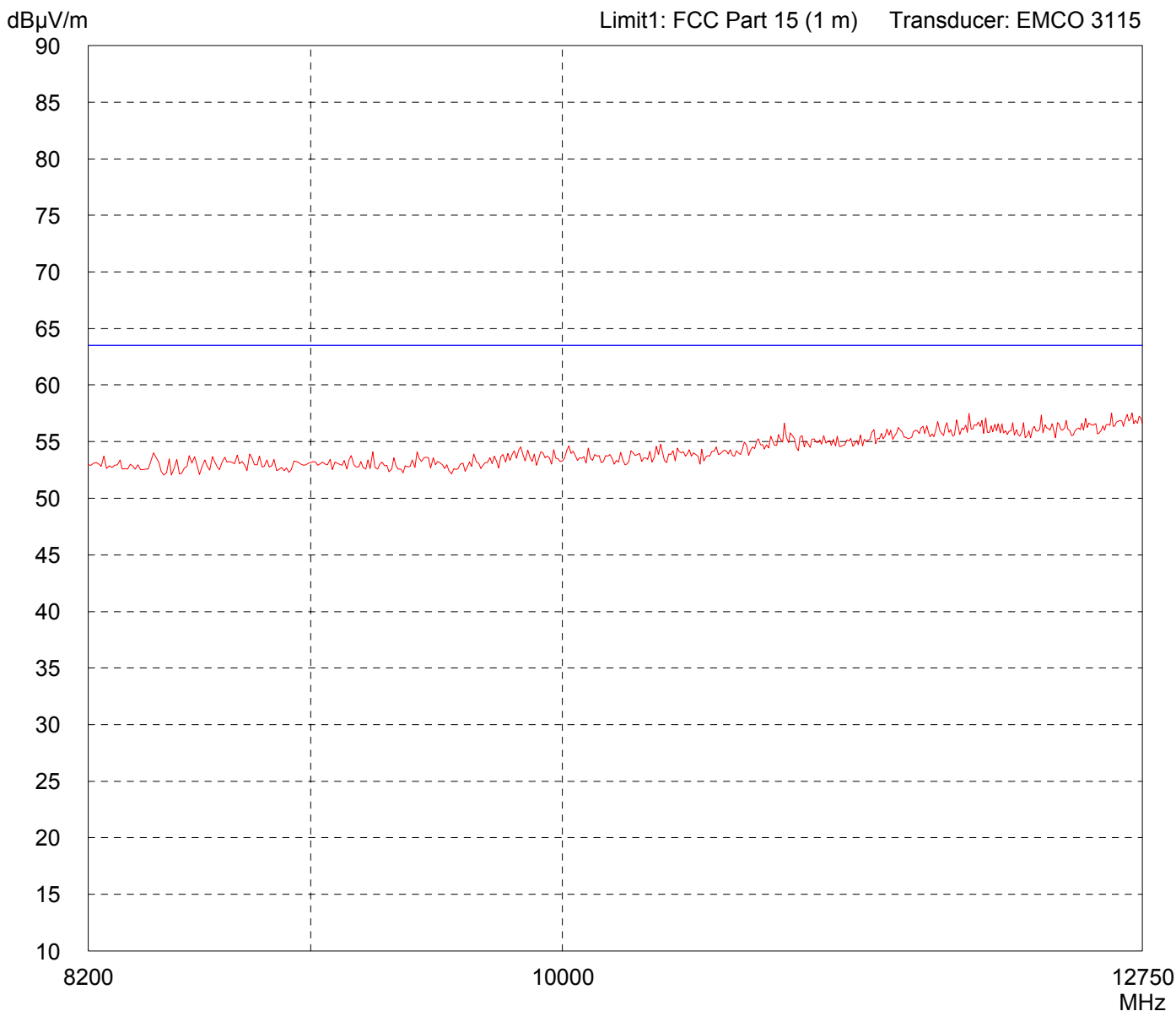


<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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Radiated Emission Test 8.2 GHz - 12.75 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: IHF-1000</p> <p>Serial no.: Chip Antenna</p> <p>Applicant: Motorola GmbH - ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 metre Vertical Polarization</p> <p>Date of test: 08/27/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2441 MHz - TX Power setting = 63 (maximum)
--	---

<p>Detector: Peak</p>	<p>List of values: Selected by hand</p>
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<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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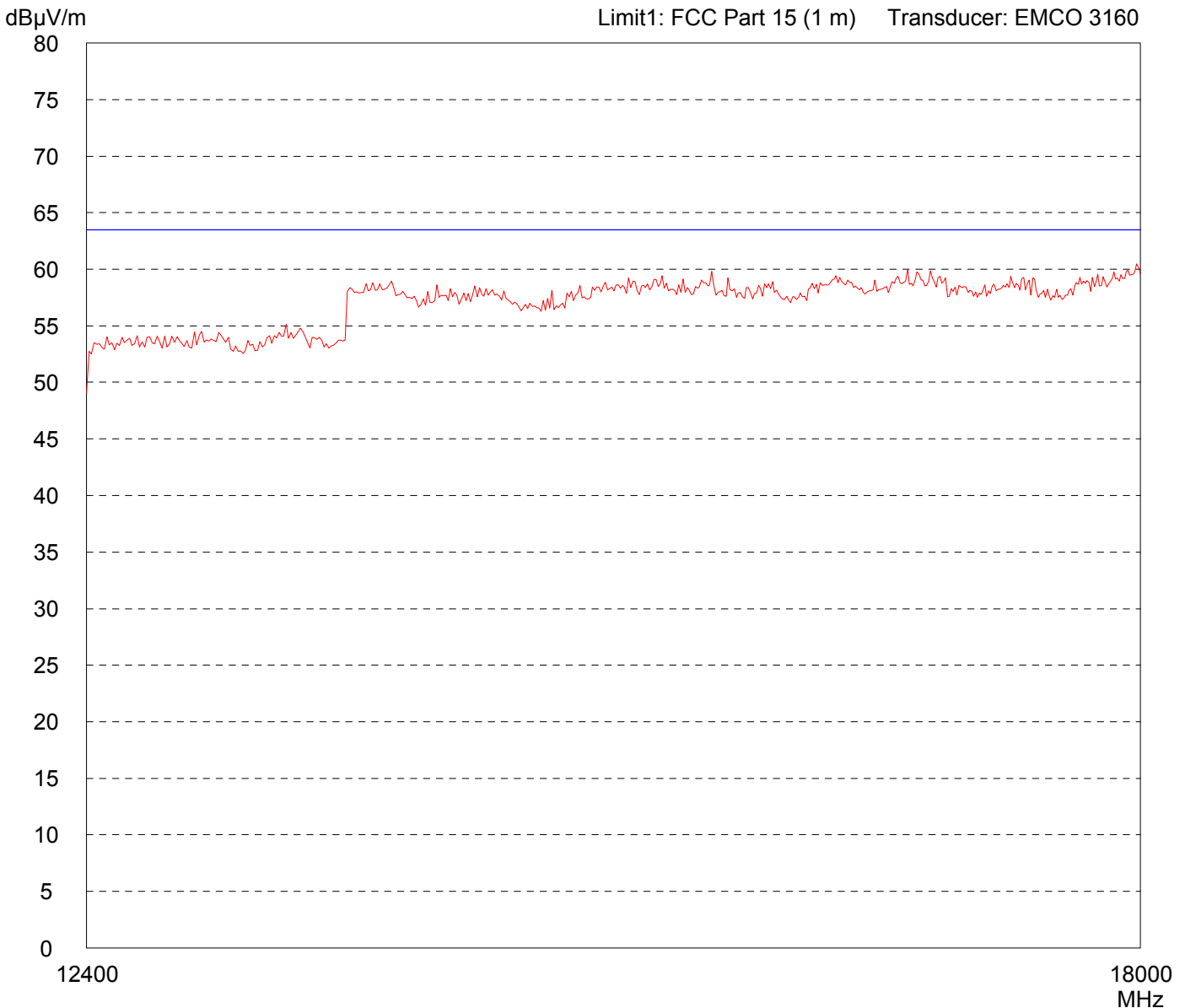
Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441 MHz - TX Power setting = 63 (maximum)

Detector: Peak

List of values: Selected by hand



Result: Limit kept

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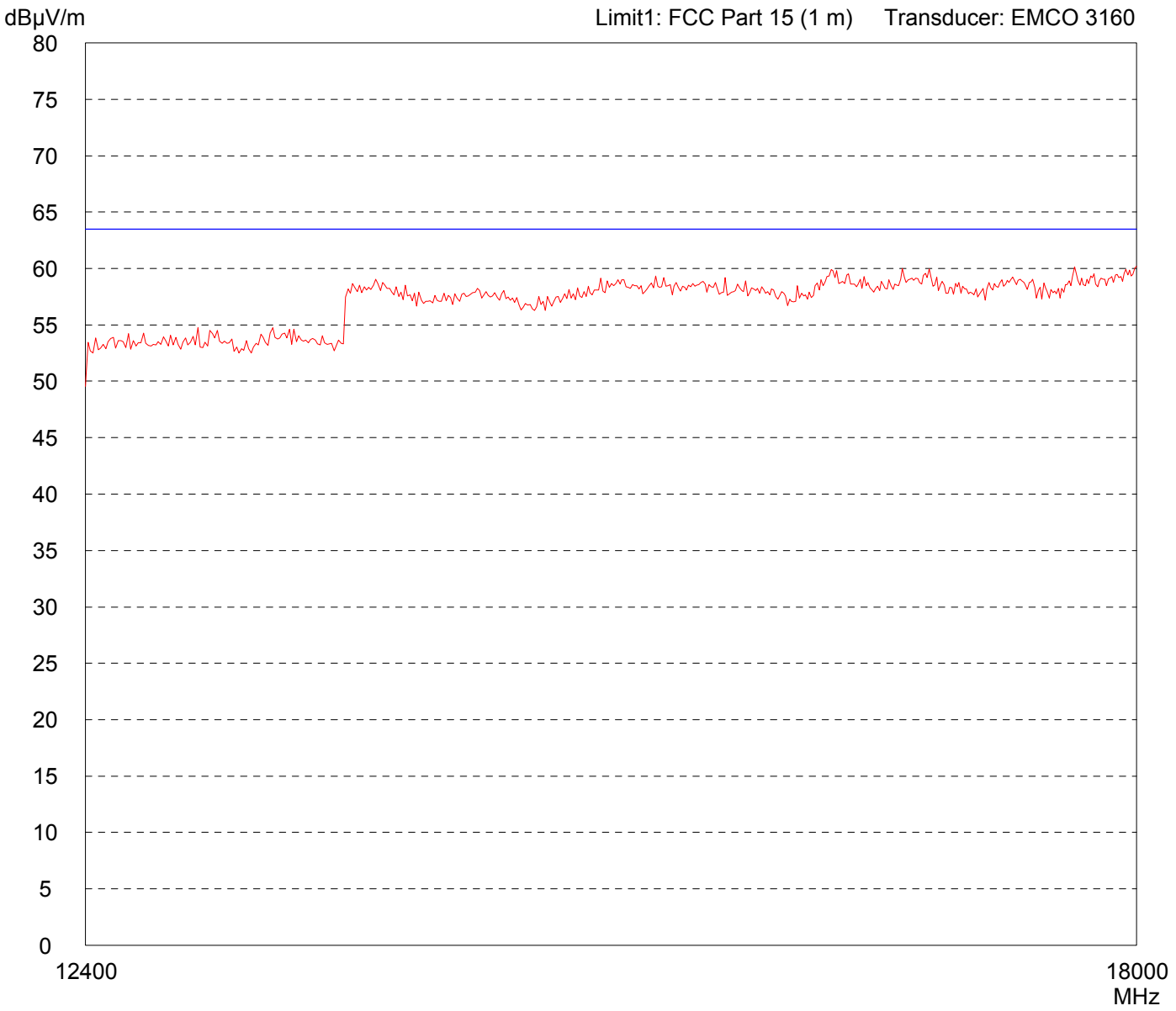
Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441 MHz - TX Power setting = 63 (maximum)

Detector: Peak

List of values: Selected by hand



Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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Spurious emissions according FCC Rules, Section 15.247

Model: IHF-1000	Mode: - TX at 2441 MHz - Power setting = 63 (maximum)
Serial No.: Chip-Antenna	- Radiated Measurement, 1 m test distance - Antenna correction included - Readings are field strength values - Limit adjusted for test distance
Applicant: Motorola GmbH - ACES	- Horizontal Polarisation (red trace) - Vertical Polarisation (green trace)

Ref.Level 74 dB μ V
5 dB/Div.

ATT 0 dB

Ref. Offset 40.5 dB



Start 18.000 GHz
RBW 100 kHz

VBW 100 kHz

Stop 26.500 GHz
SWP 2.60 s

Tested by: Johann Roidt	Project-No.: 51349-40442-2
Date: 24 August 2004	Page of pages

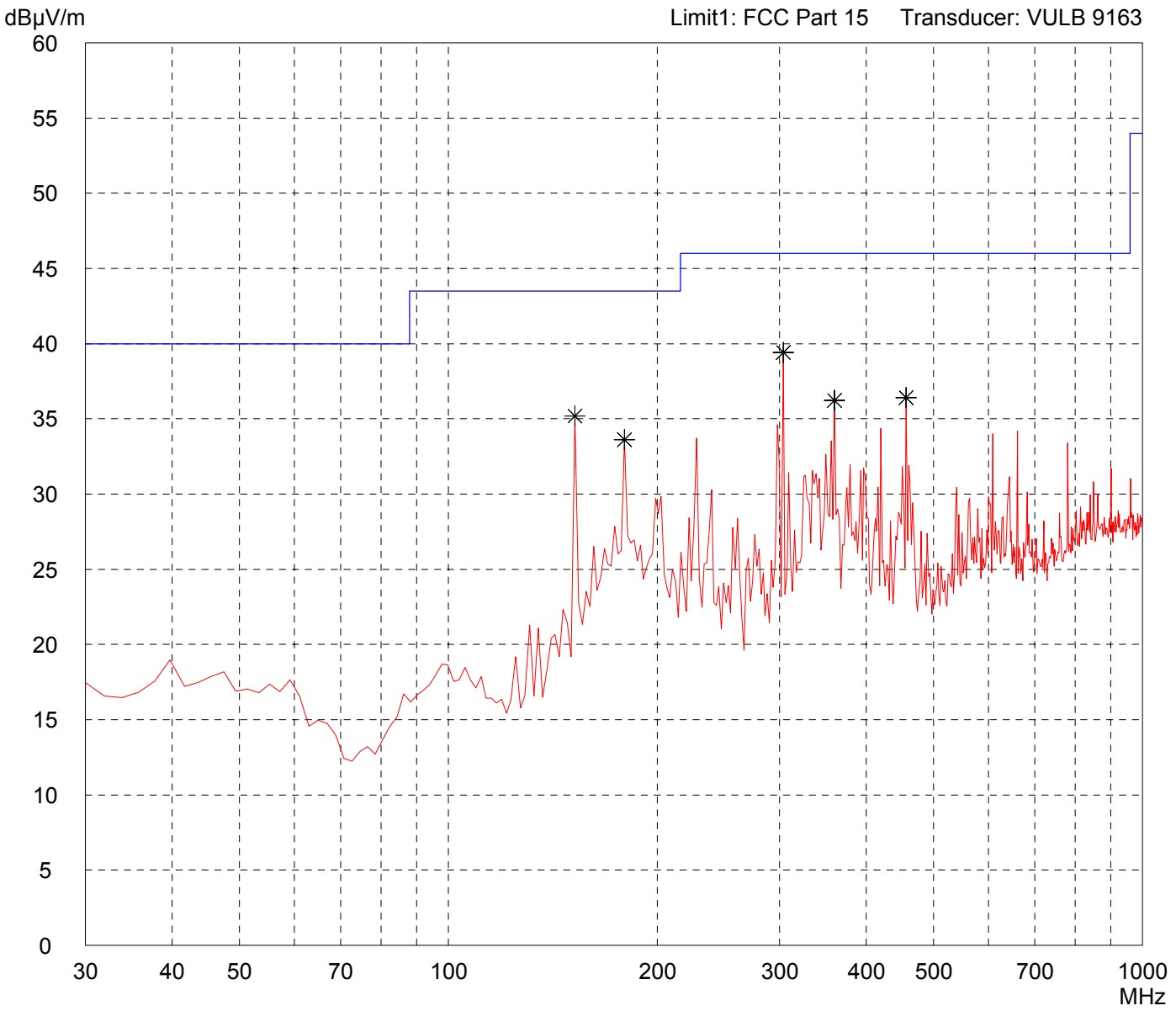
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2480 MHz - TX Power setting = 63 (maximum)	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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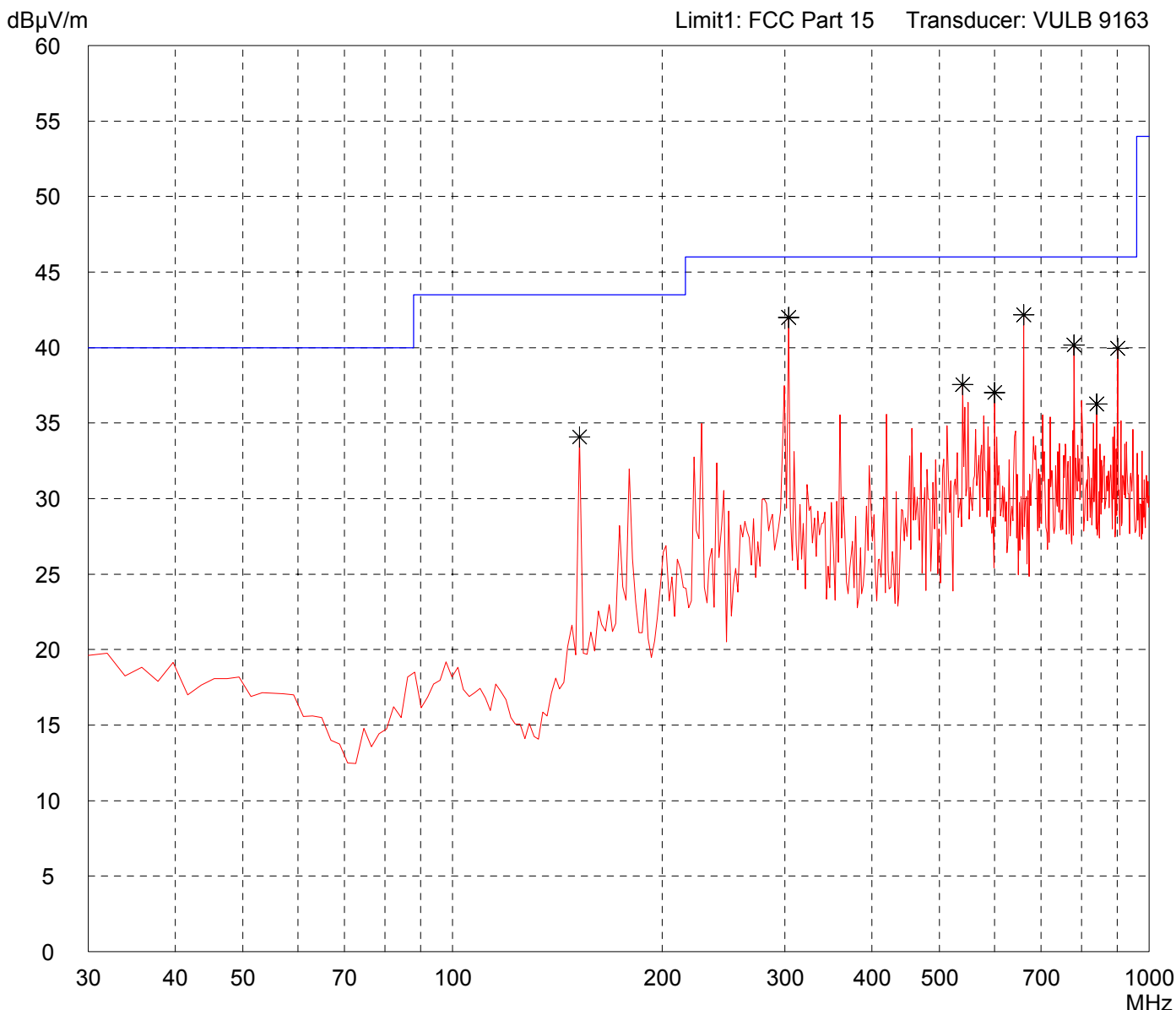
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2480 MHz - TX Power setting = 63 (maximum)	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

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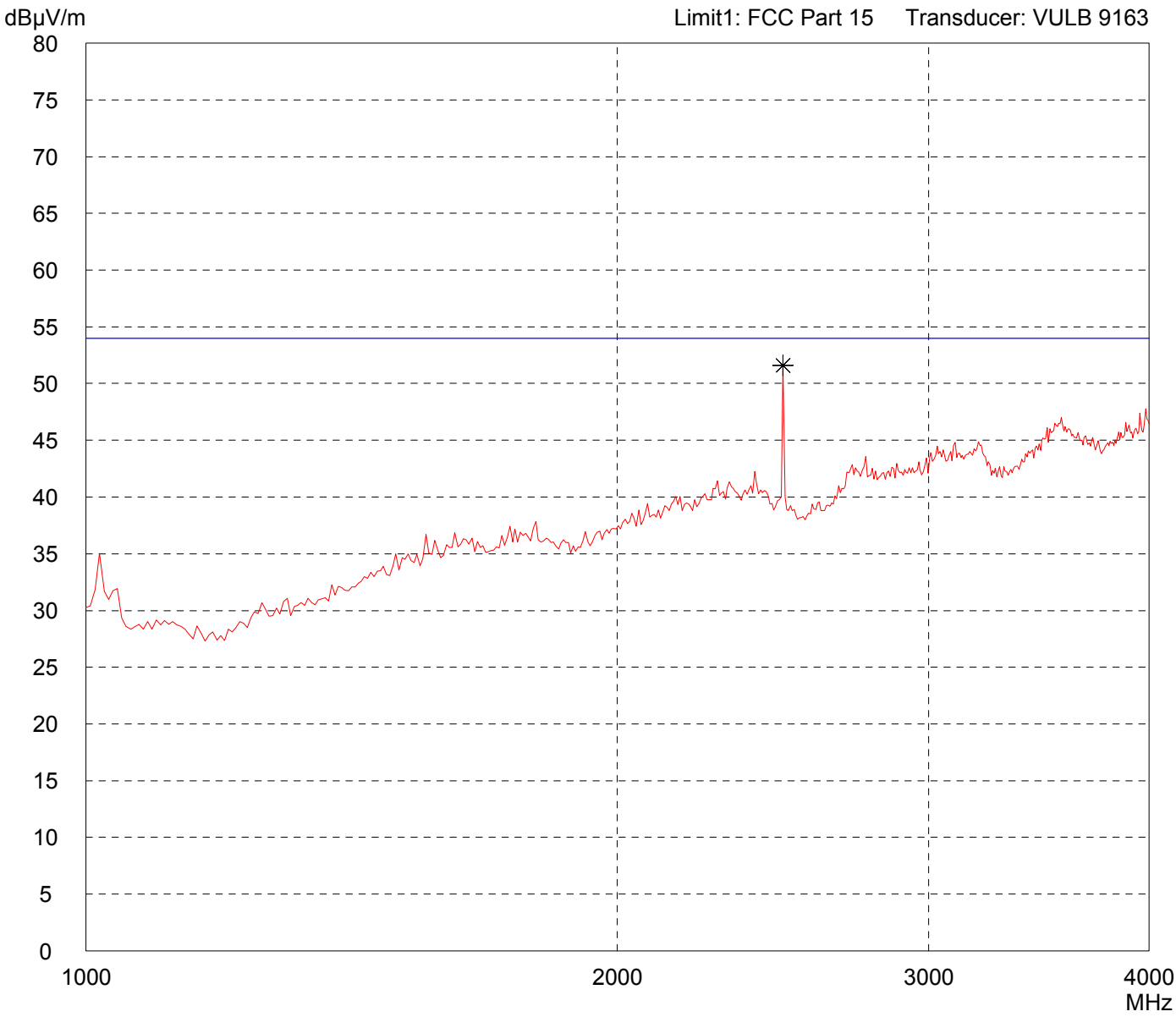
Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2480MHz - TX Power setting = 63 (maximum) - Notch Filter on Fundamental Frequency

Detector: Peak

List of values: Selected by hand



Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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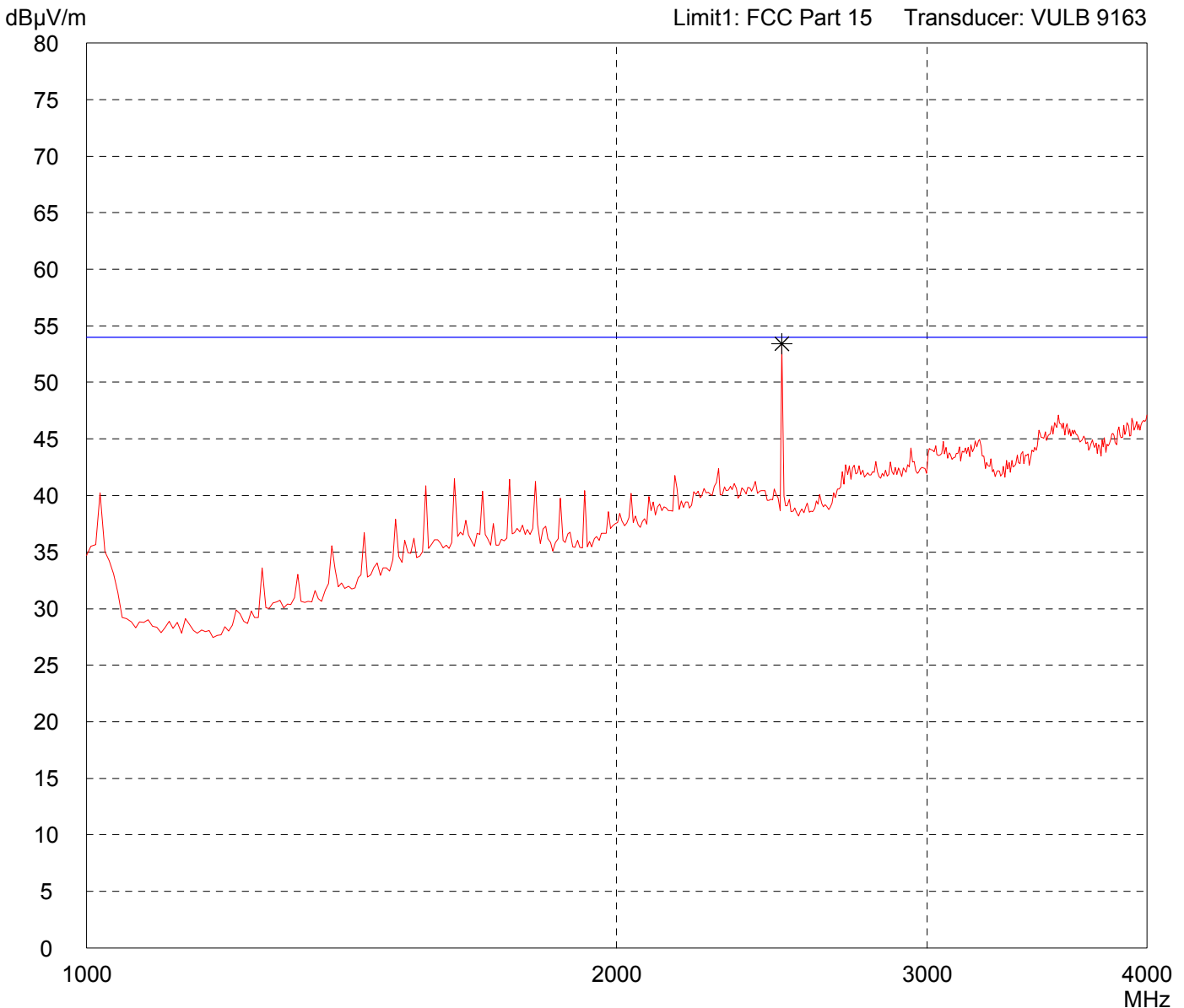
Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment:
 - TX at 2480MHz
 - TX Power setting = 63 (maximum)
 - Notch Filter on Fundamental Frequency

Detector: Peak

List of values:
 Selected by hand



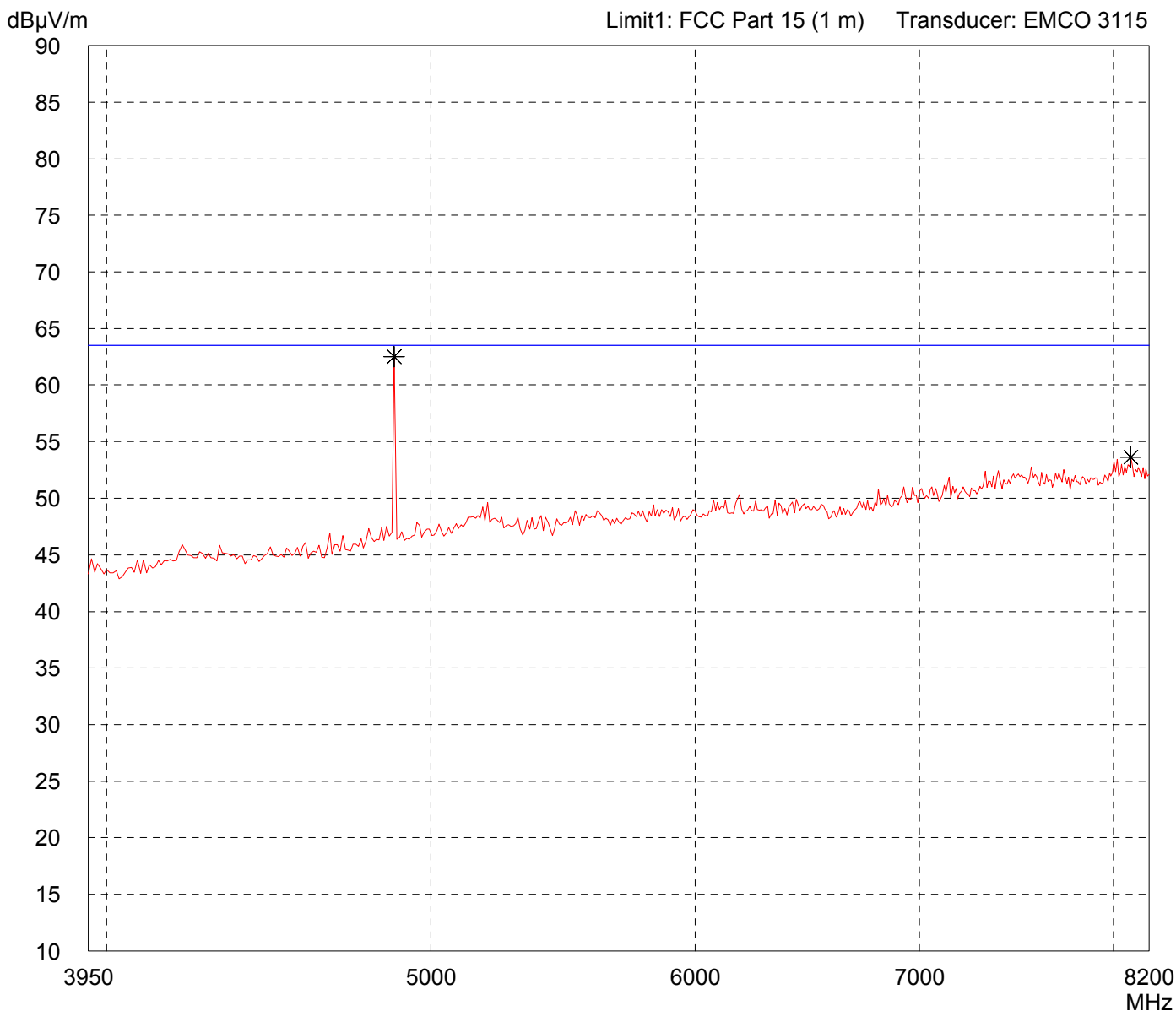
Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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Radiated Emission Test 3.95 GHz - 8.2 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: IHF-1000</p> <p>Serial no.: Chip Antenna</p> <p>Applicant: Motorola GmbH - ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 metre Horizontal Polarization</p> <p>Date of test: 08/27/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment: - TX at 2480MHz - TX Power setting = 63 (maximum)</p>
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<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
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<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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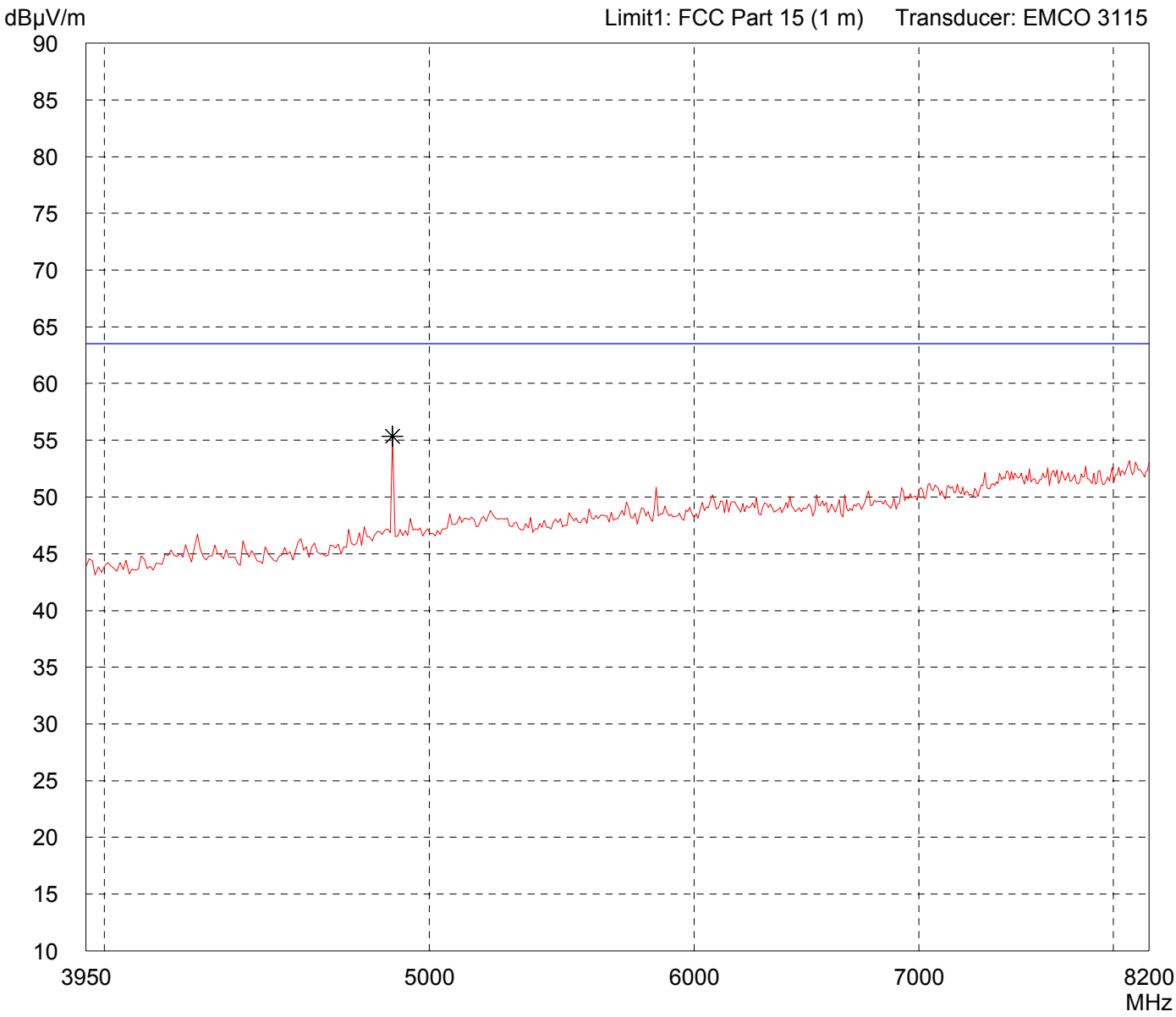
Radiated Emission Test 3.95 GHz - 8.2 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 metre Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2480MHz - TX Power setting = 63 (maximum)	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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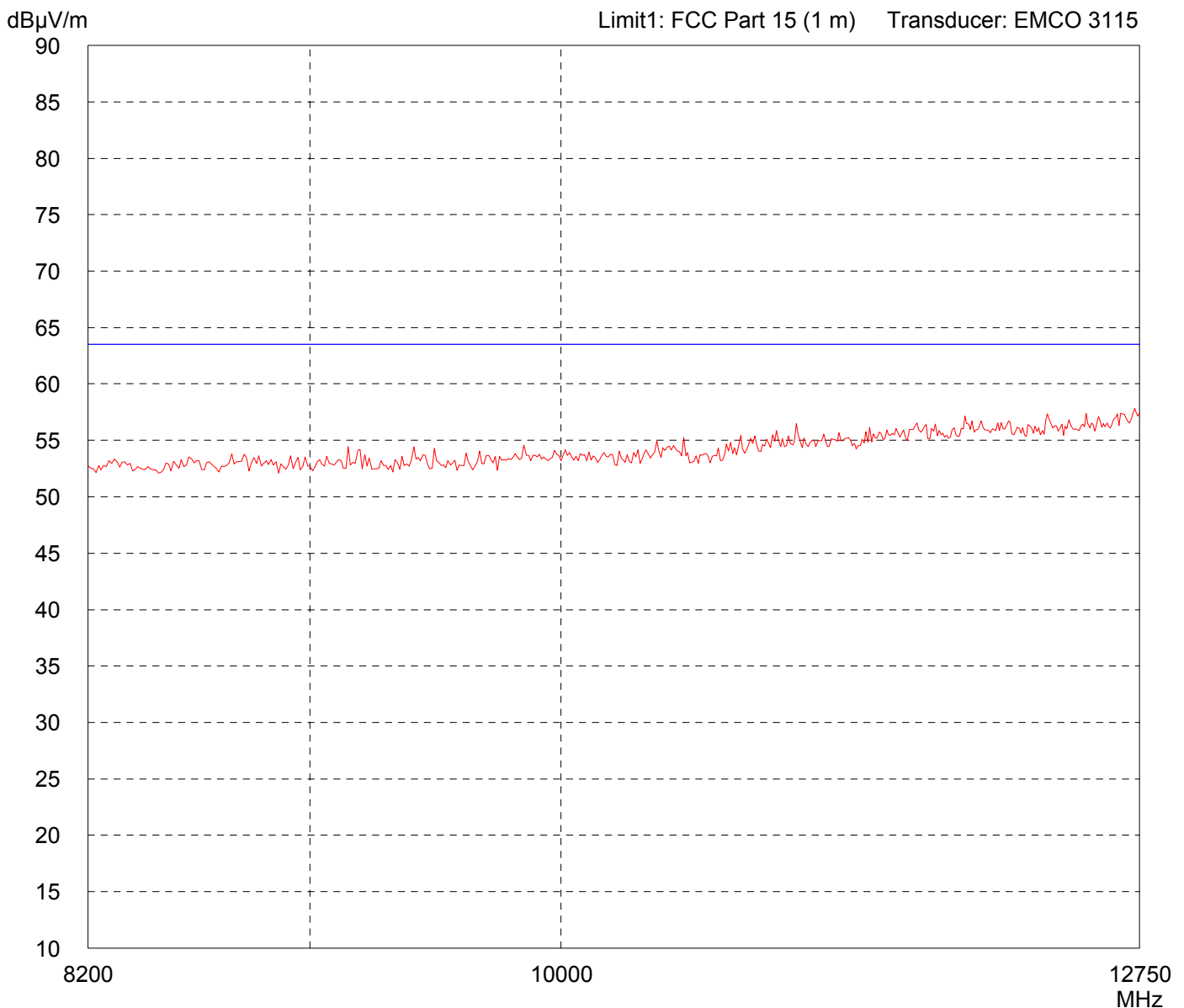
Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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Radiated Emission Test 8.2 GHz - 12.75 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: IHF-1000</p> <p>Serial no.: Chip Antenna</p> <p>Applicant: Motorola GmbH - ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 metre Horizontal Polarization</p> <p>Date of test: 08/27/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2480 MHz - TX Power setting = 63 (maximum)
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<p>Detector: Peak</p>	<p>List of values: Selected by hand</p>
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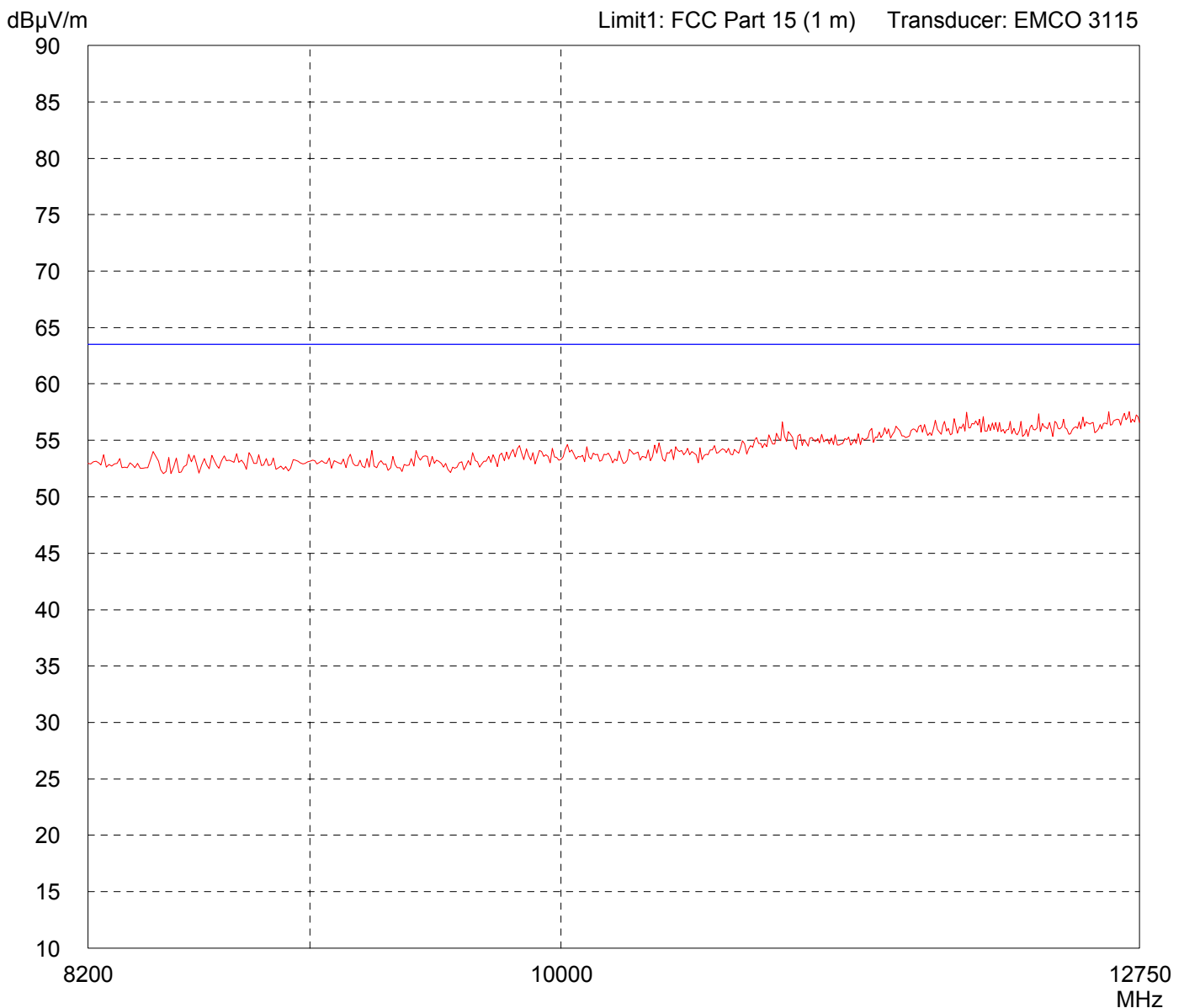


<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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Radiated Emission Test 8.2 GHz - 12.75 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: IHF-1000</p> <p>Serial no.: Chip Antenna</p> <p>Applicant: Motorola GmbH - ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 metre Vertical Polarization</p> <p>Date of test: 08/27/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2480 MHz - TX Power setting = 63 (maximum)
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<p>Detector: Peak</p>	<p>List of values: Selected by hand</p>
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<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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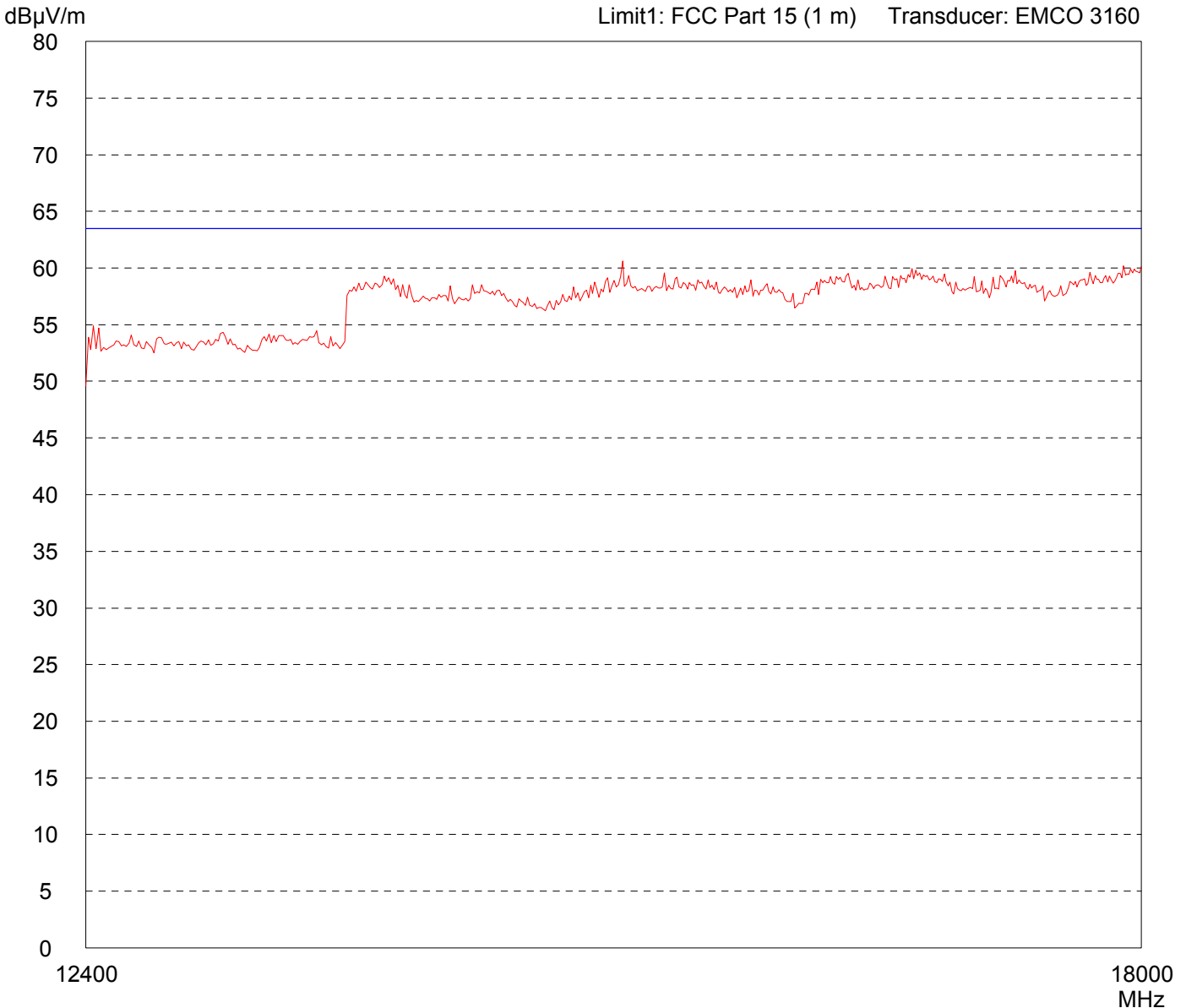
Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment:
 - TX at 2441 MHz
 - TX Power setting = 63 (maximum)

Detector:
Peak

List of values:
Selected by hand



Result:
Limit kept

Project file:
51349-40442-2

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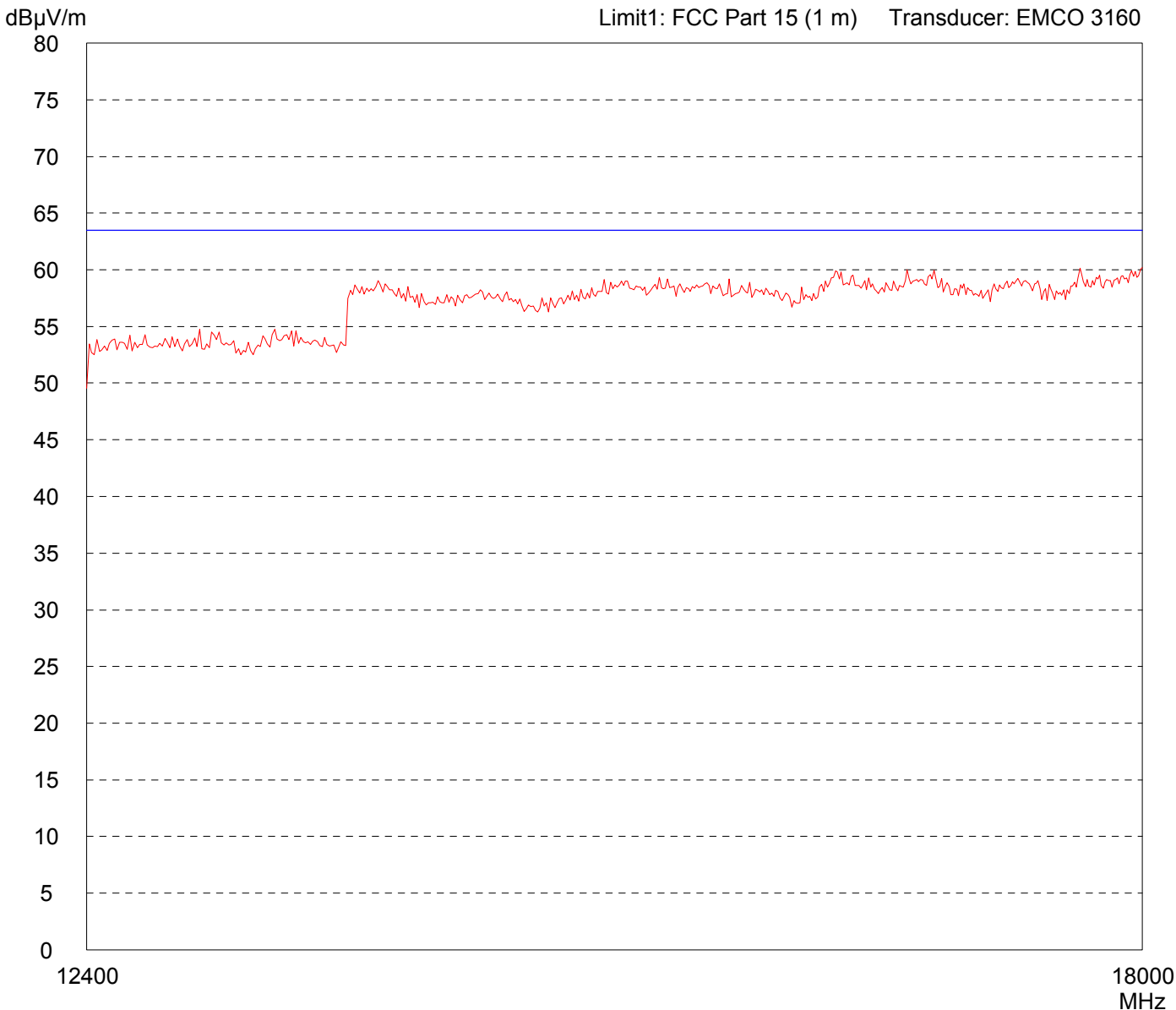
Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2480 MHz - TX Power setting = 63 (maximum)

Detector: Peak

List of values: Selected by hand



Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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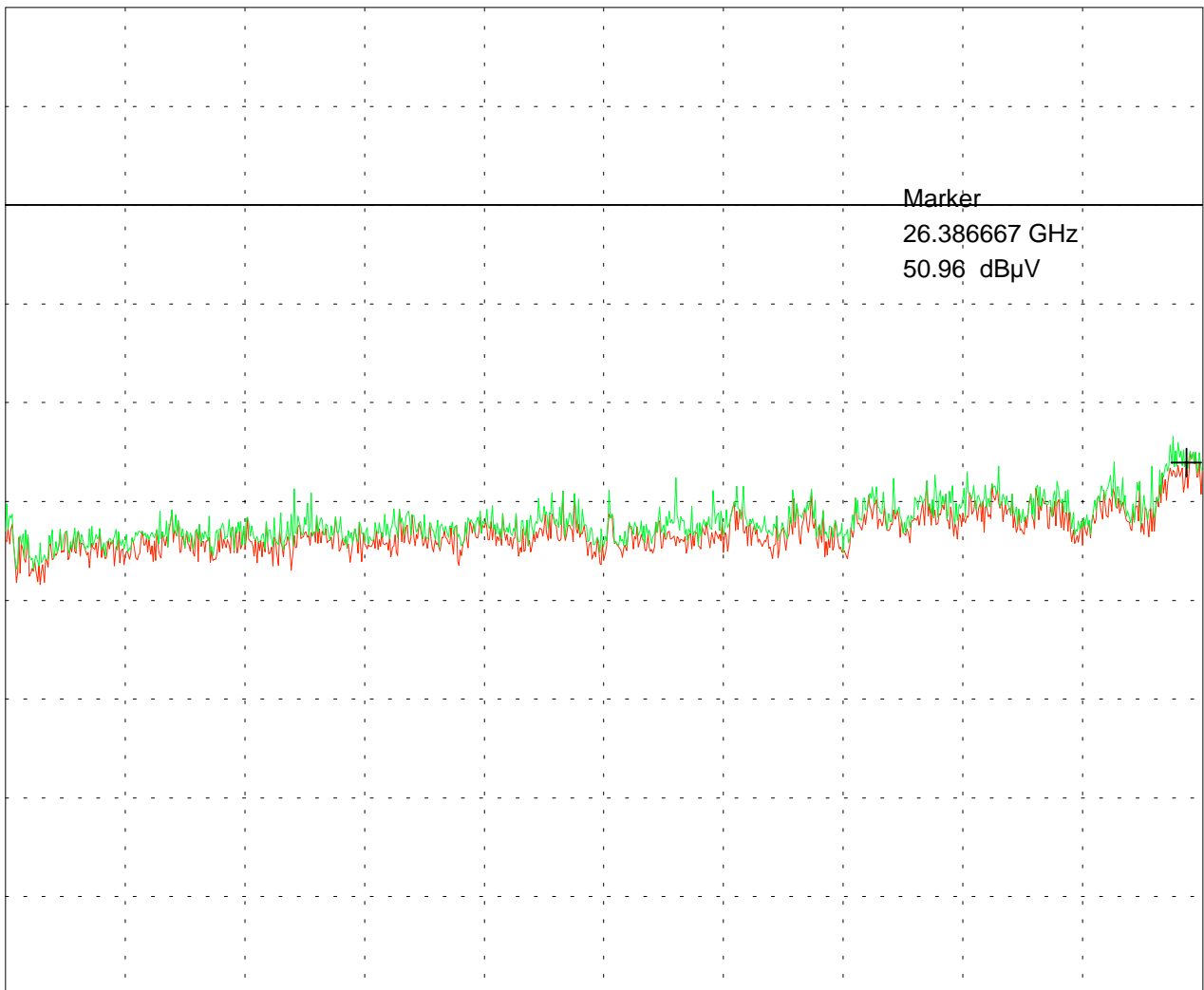
Spurious emissions according FCC Rules, Section 15.247

Model: IHF-1000	Mode: - TX at 2480 MHz - Power setting = 63 (maximum)
Serial No.: Chip-Antenna	- Radiated Measurement, 1 m test distance - Antenna correction included - Readings are field strength values - Limit adjusted for test distance
Applicant: Motorola GmbH - ACES	- Horizontal Polarisation (red trace) - Vertical Polarisation (green trace)

Ref.Level 74 dB μ V
5 dB/Div.

ATT 0 dB

Ref. Offset 40.5 dB



Start 18.000 GHz
RBW 100 kHz

VBW 100 kHz

Stop 26.500 GHz
SWP 2.60 s

Tested by: Johann Roidt	Project-No.: 51349-40442-2
Date: 24 August 2004	Page of pages

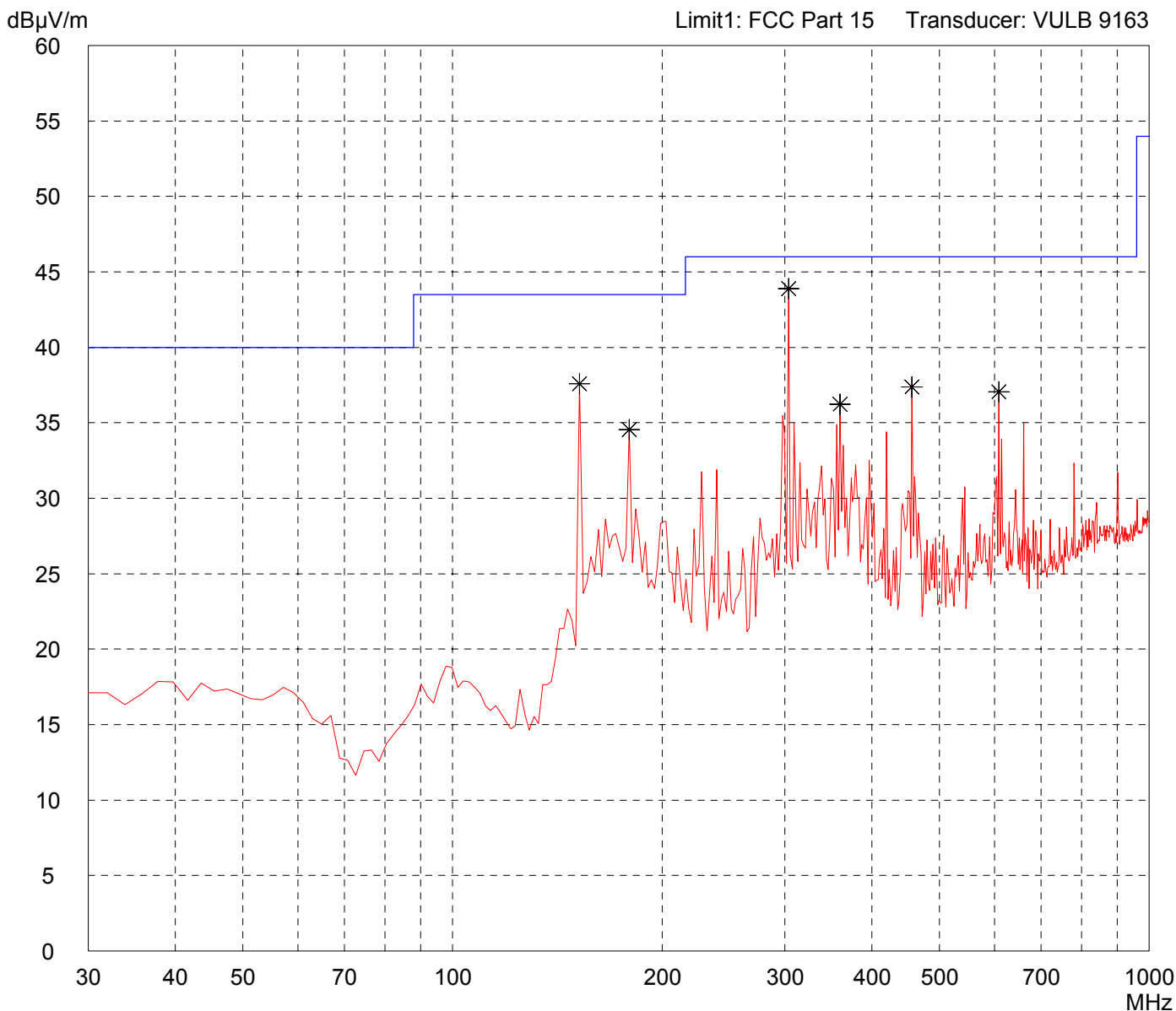
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402 MHz	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51359-40442-2	Page of Pages
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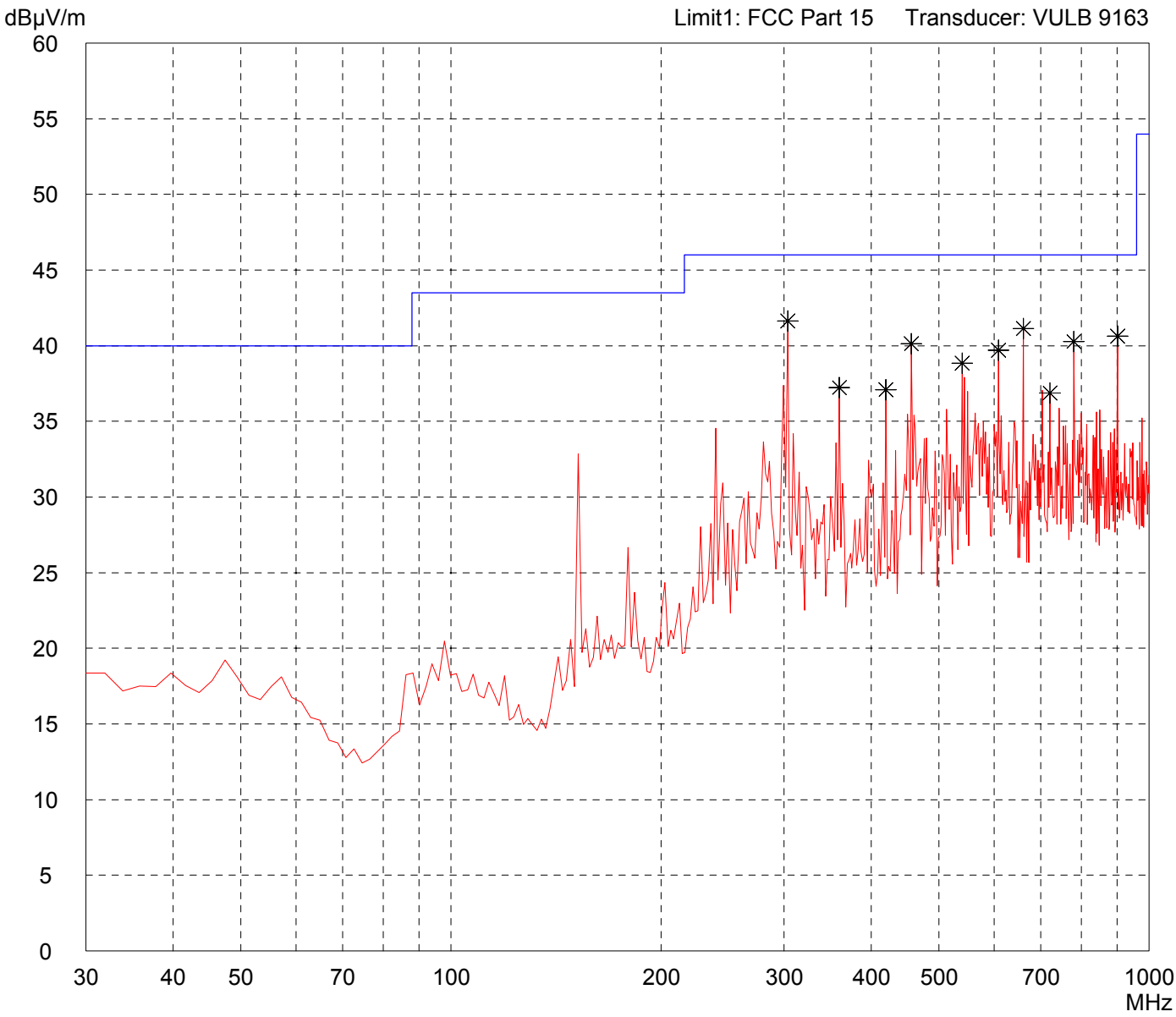
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402 MHz	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51359-40442-2	Page of Pages
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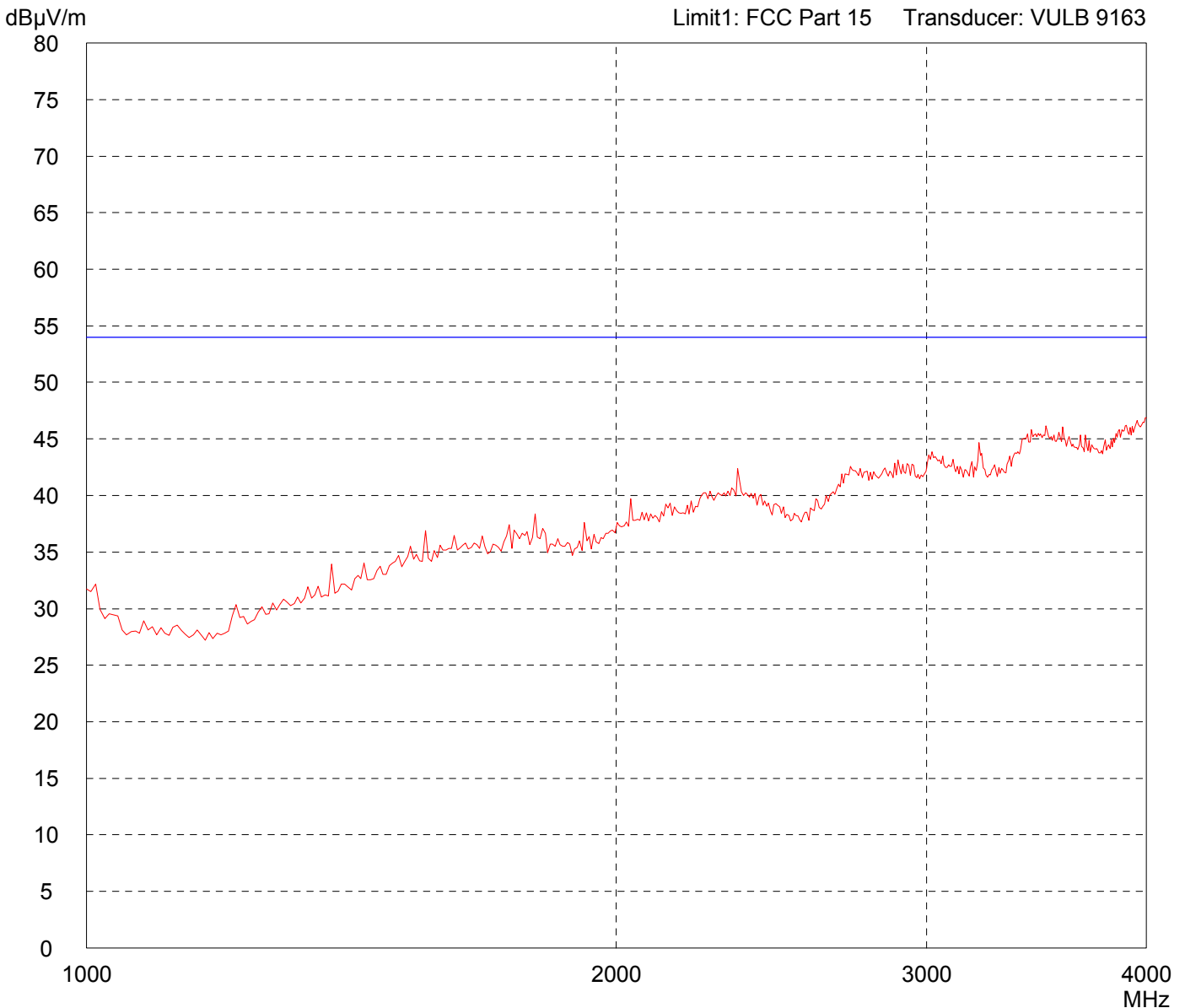
Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402 MHz - Notch Filter on Fundamental Frequency

Detector: Peak

List of values: Selected by hand



Result: Limit kept

Project file: 51359-40442-2	Page of Pages
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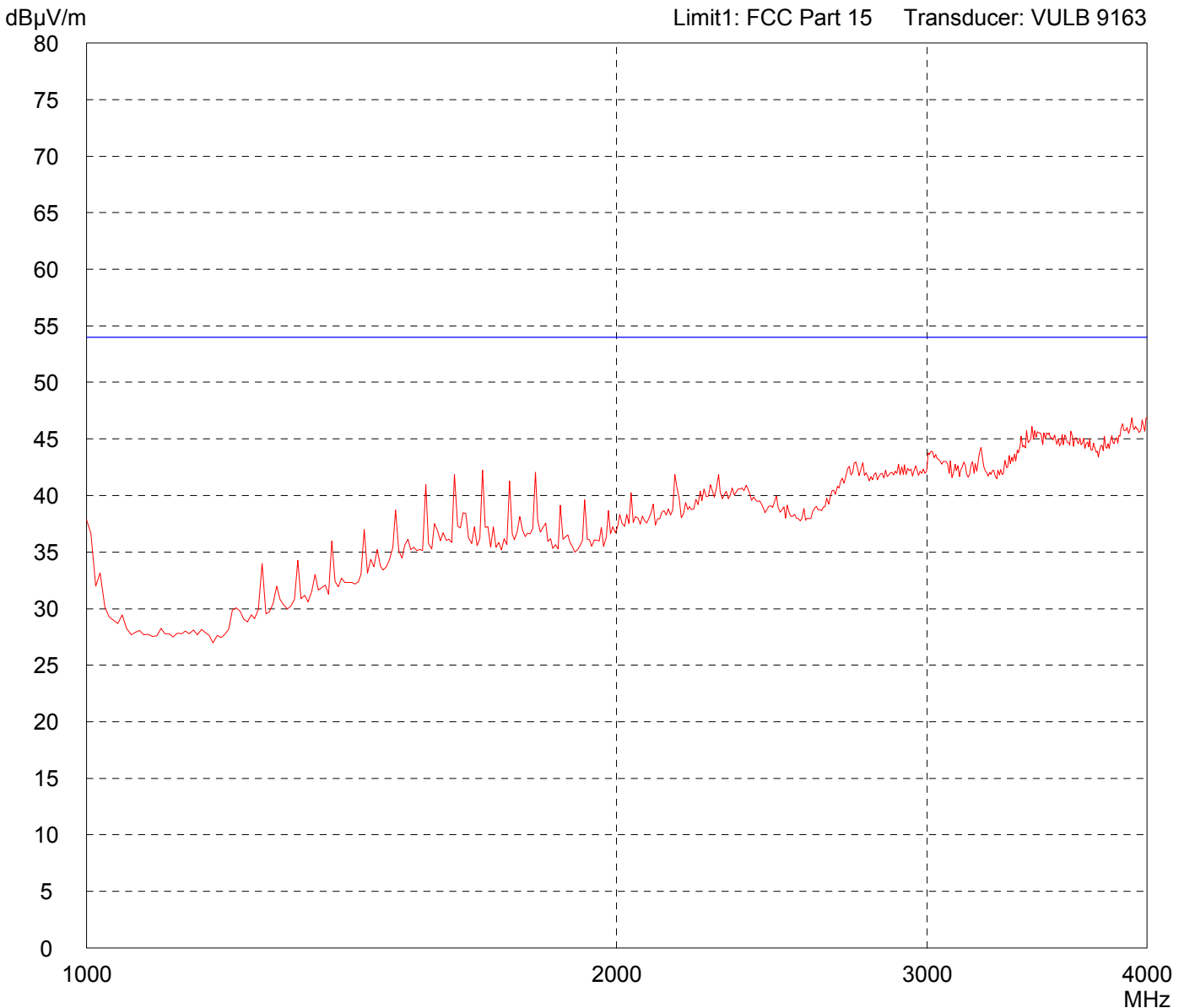
Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402 MHz - Notch Filter on Fundamental Frequency

Detector: Peak

List of values: Selected by hand



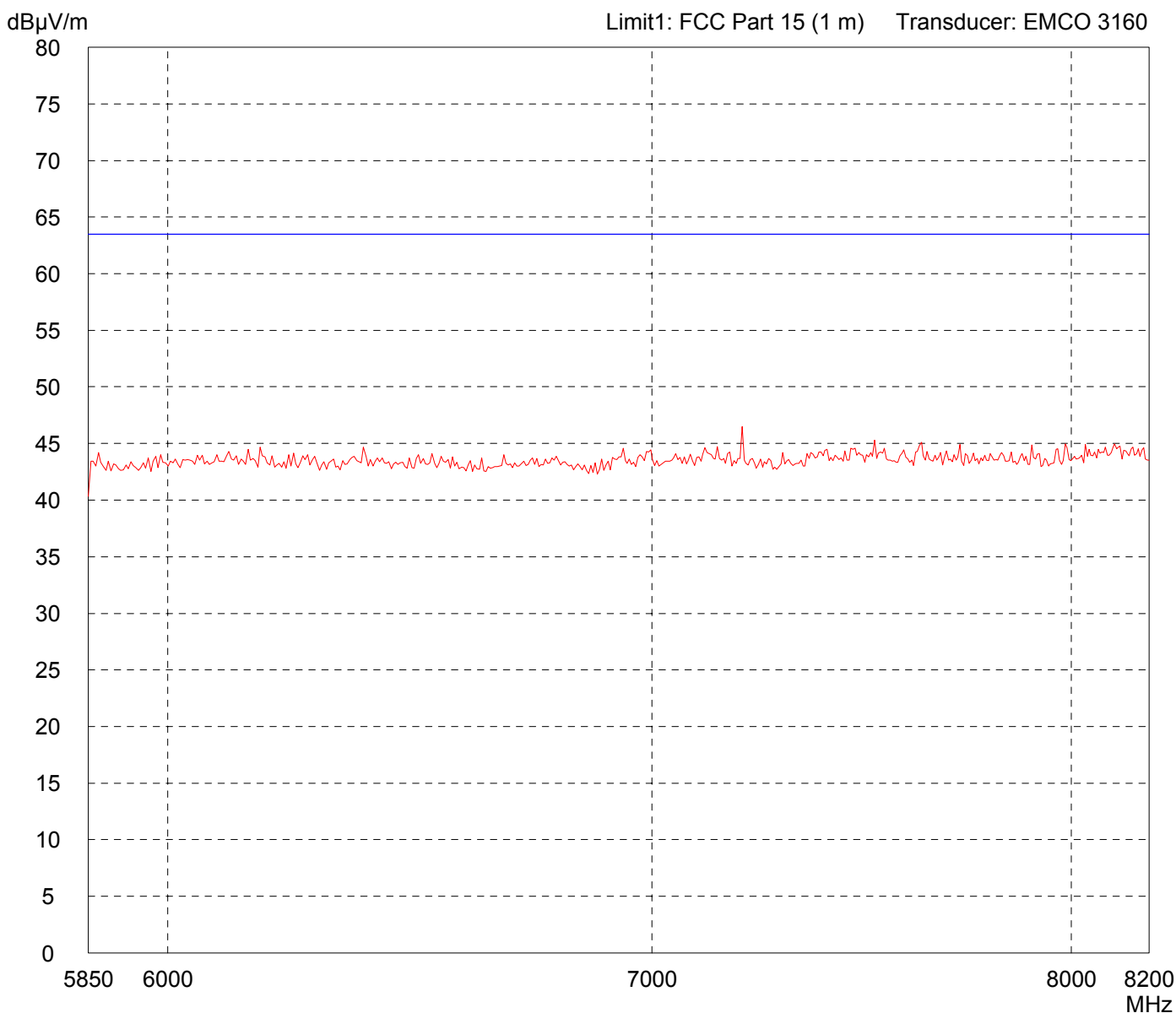
Result: Limit kept

Project file: 51359-40442-2	Page of Pages
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Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Horizontal Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2402MHz - TX power setting = 63 (maximum)
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<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
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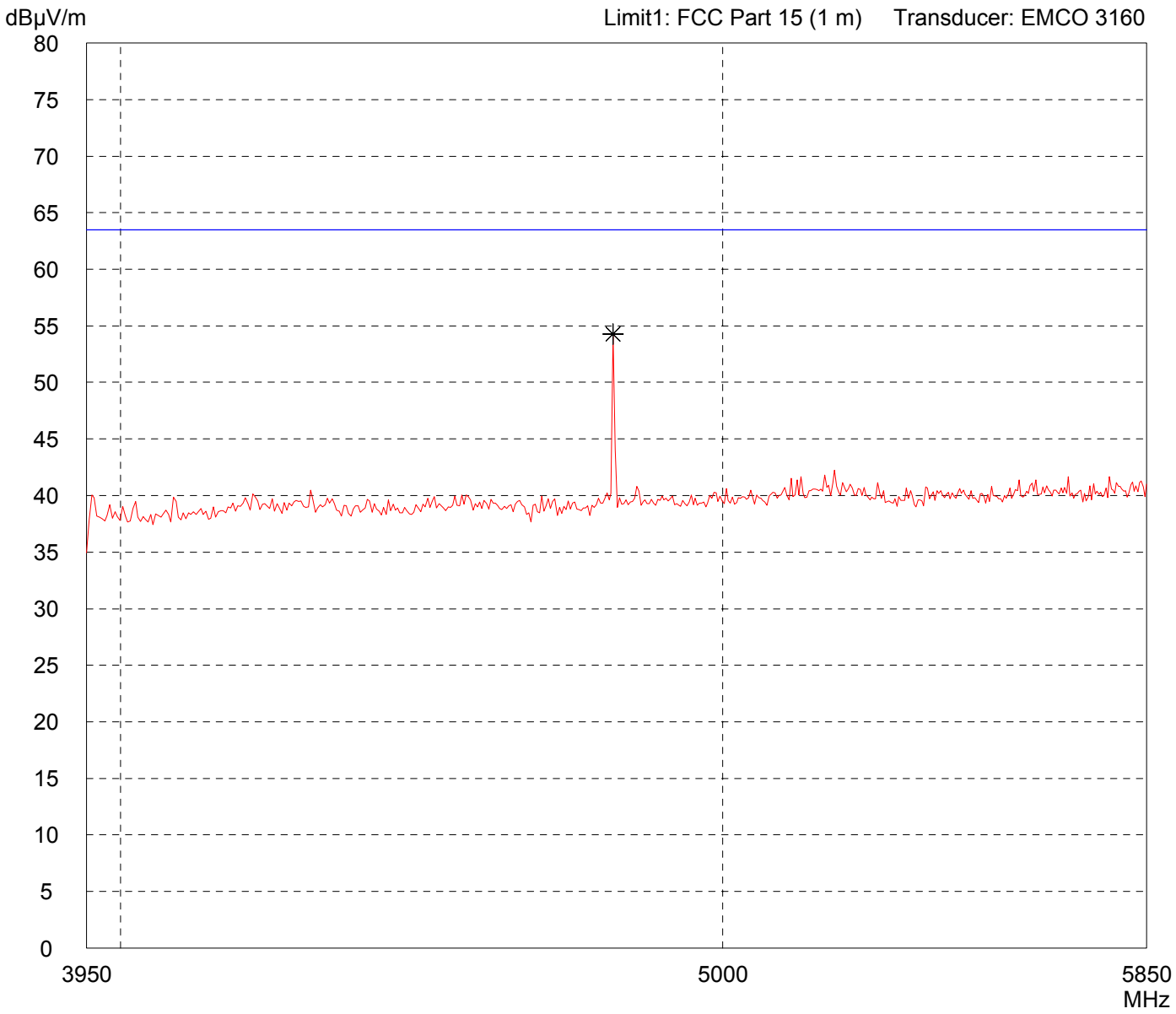


<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Vertical Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2402 MHz - TX power setting = 63 (maximum)
---	---

<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
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<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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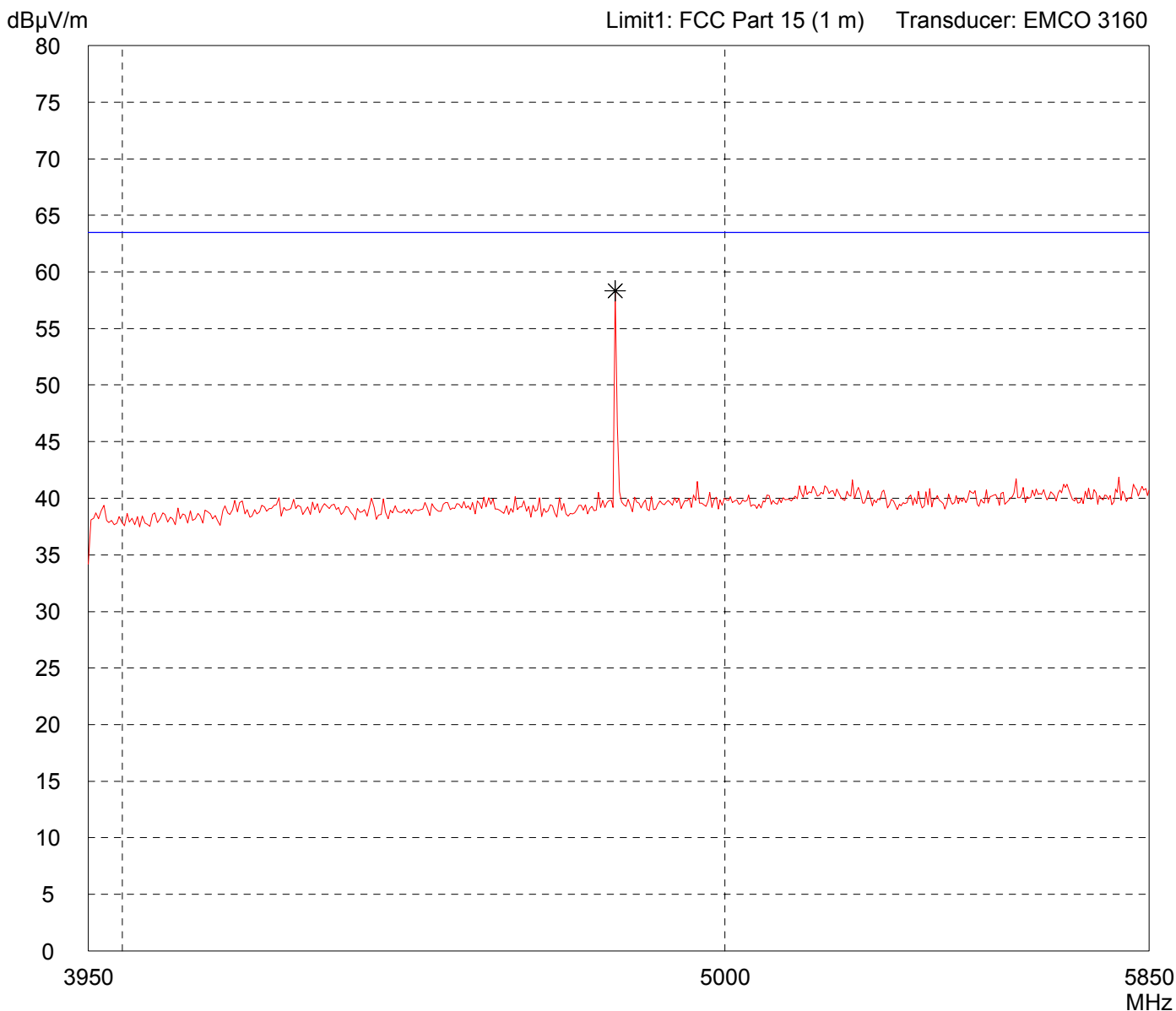
Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: PCB-Antenna	
Applicant: Motorola GmbH ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 08/25/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402 MHz - TX power setting = 63 (maximum)	
---	--

Detector: Peak

List of values: 10 dB Margin	50 Subranges
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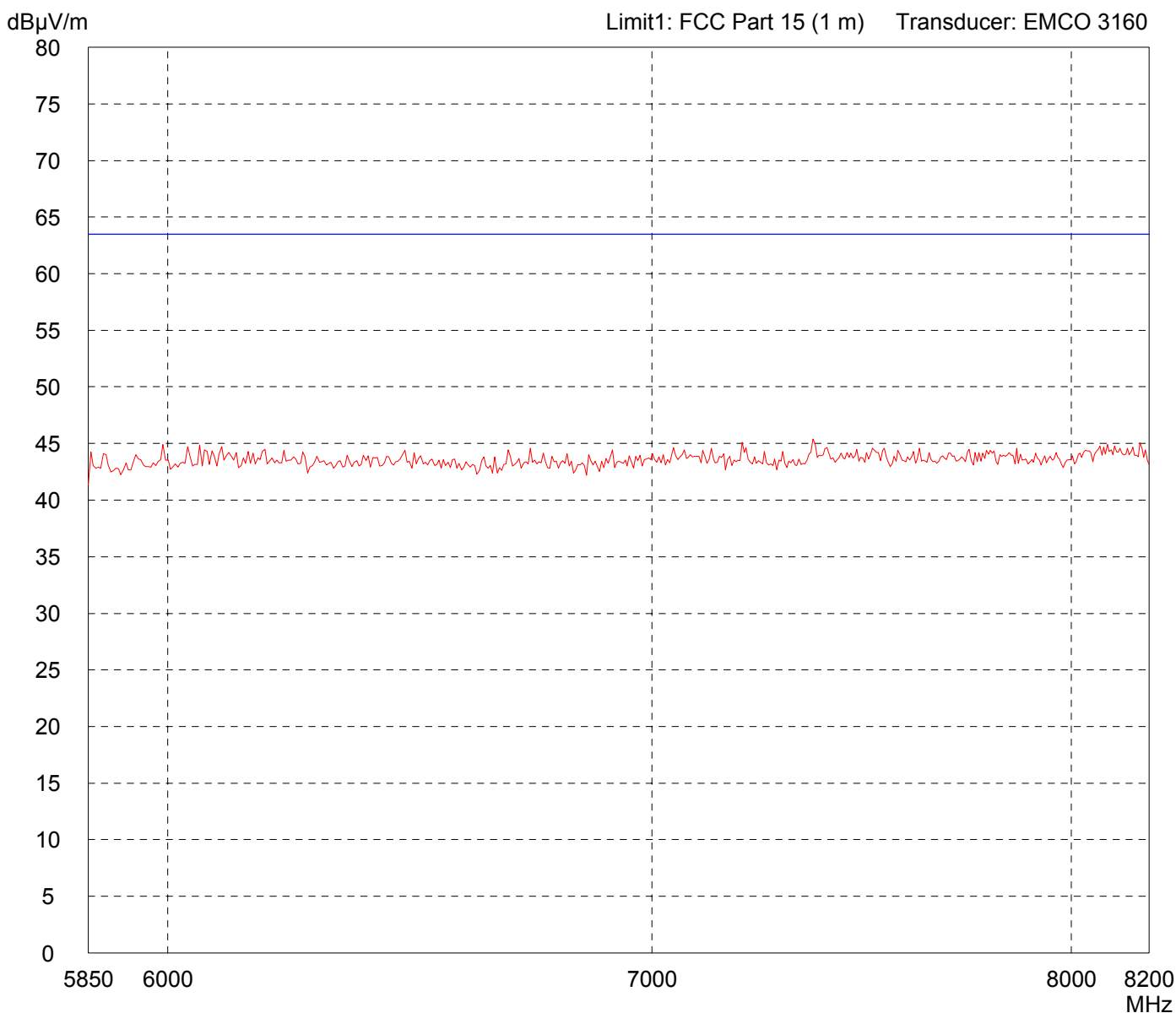
Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Vertical Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2441 MHz - TX power setting = 63 (maximum)
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<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
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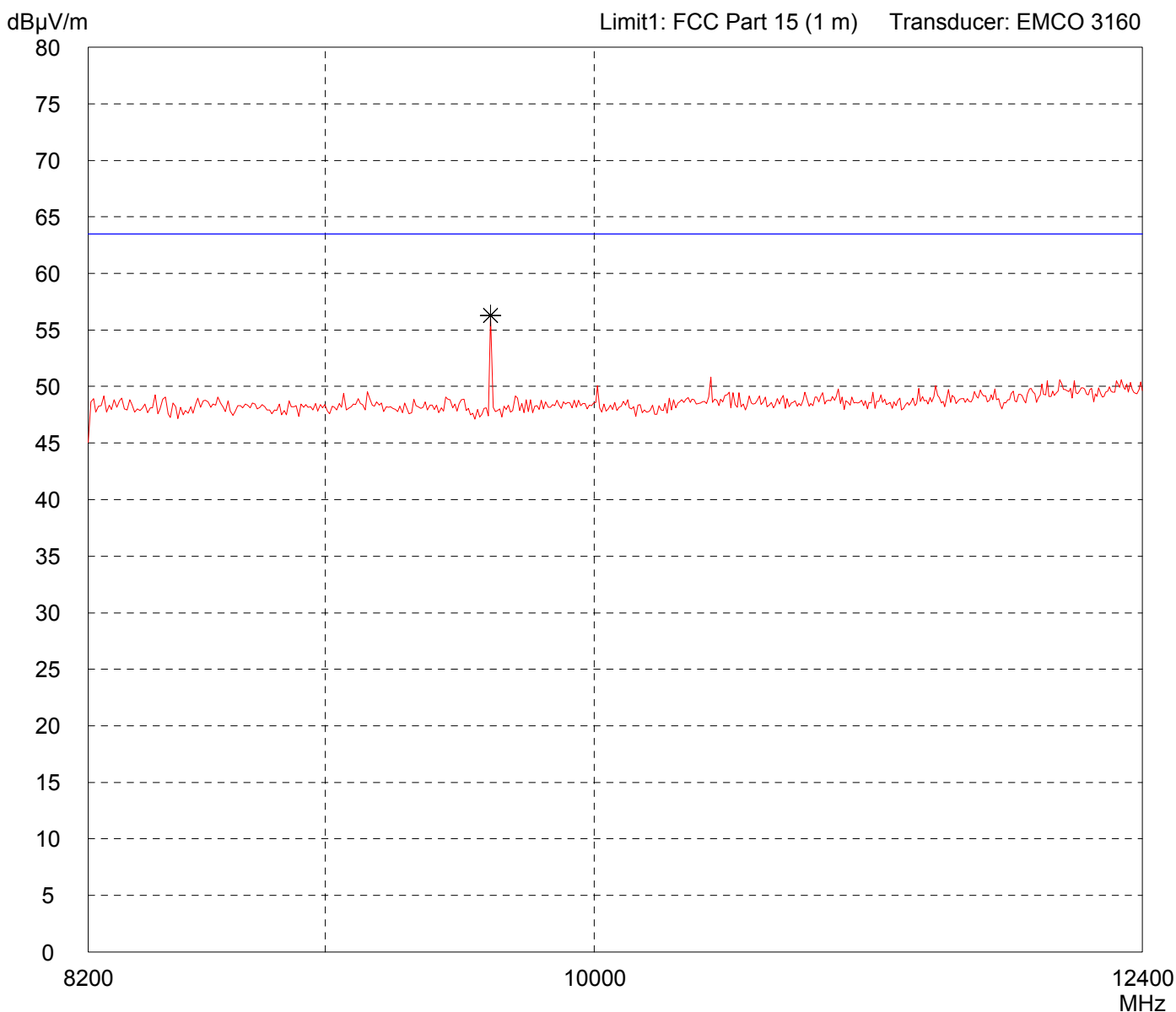


<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Horizontal Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2402MHz - TX power setting = 63 (maximum)
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<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
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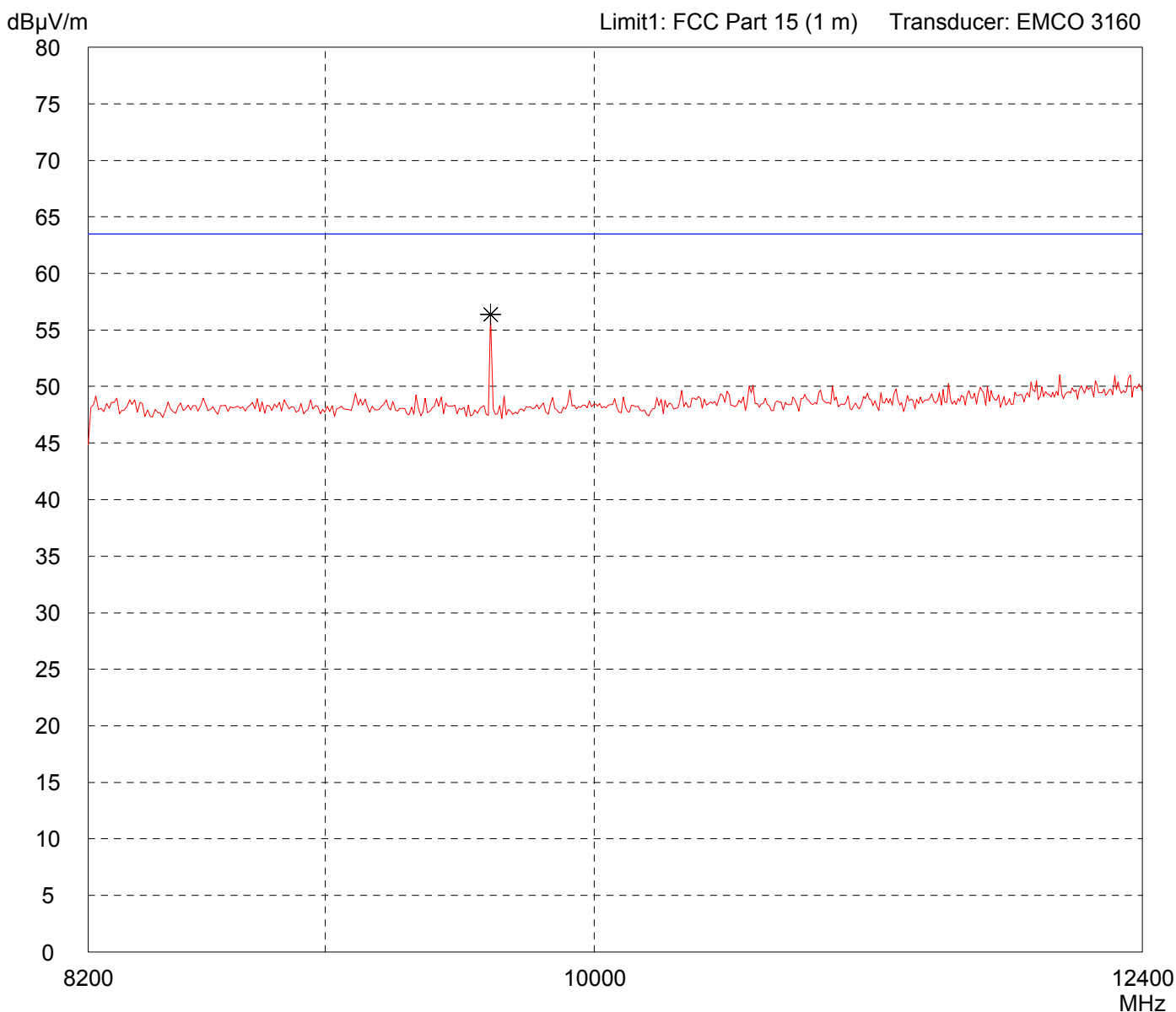


<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Vertical Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2402MHz - TX power setting = 63 (maximum)
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<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
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<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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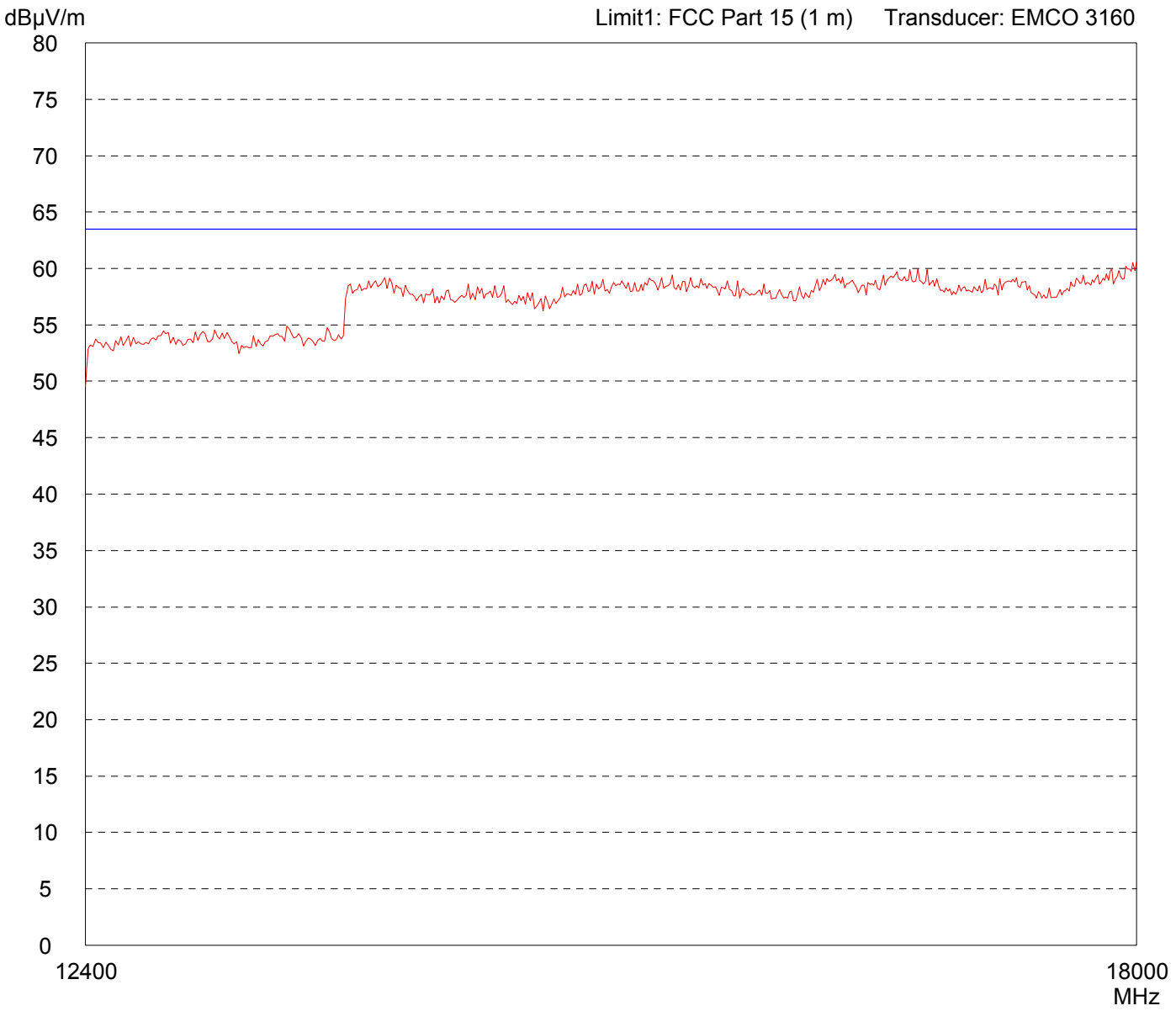
Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: PCB-Antenna	
Applicant: Motorola GmbH ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 08/25/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402 MHz - TX power setting = 63 (maximum)

Detector: Peak

List of values: Selected by hand



Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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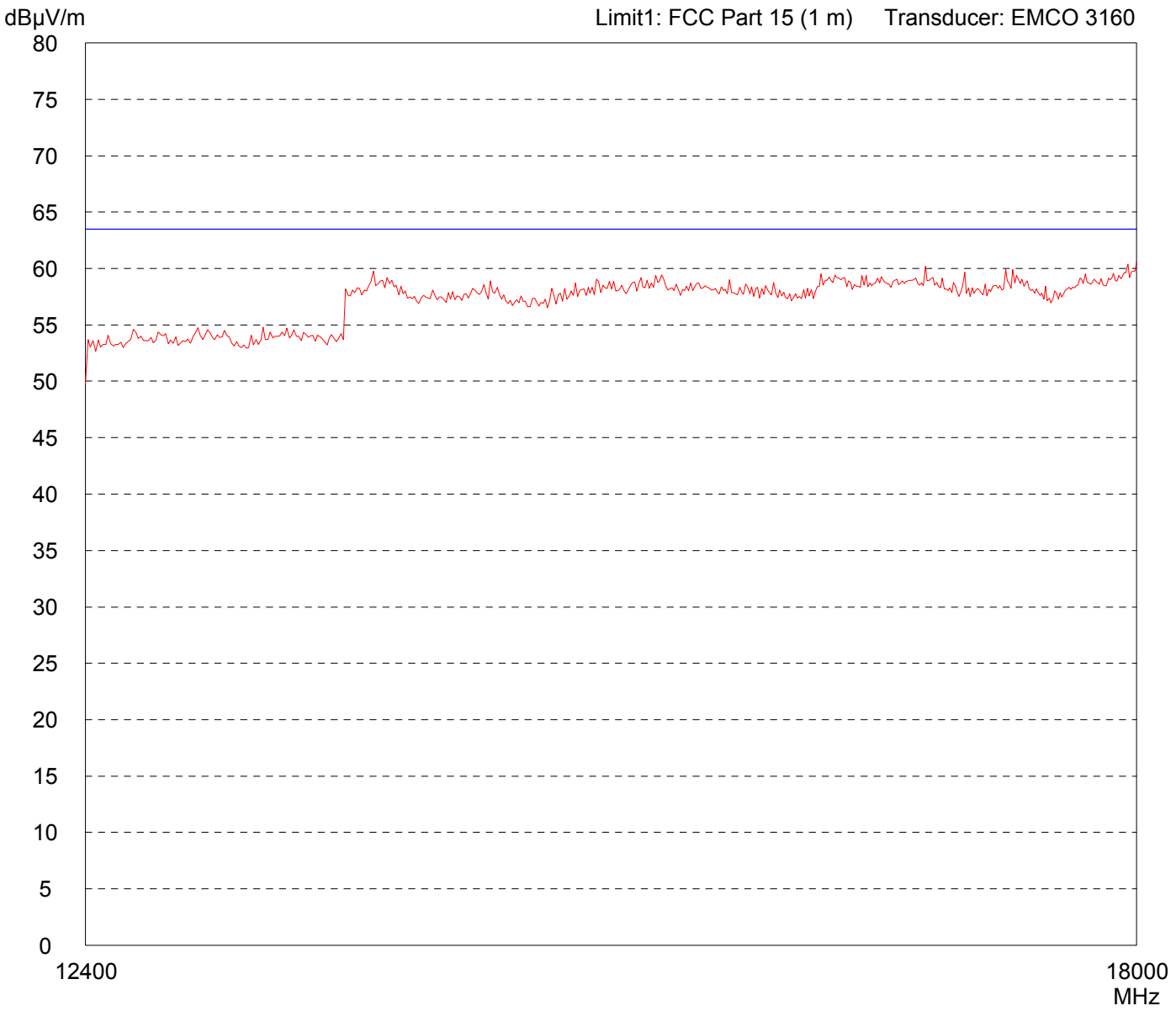
Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: PCB-Antenna	
Applicant: Motorola GmbH ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Vertical Polarization	
Date of test: 08/25/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2402 MHz - TX power setting = 63 (maximum)

Detector: Peak

List of values: Selected by hand



Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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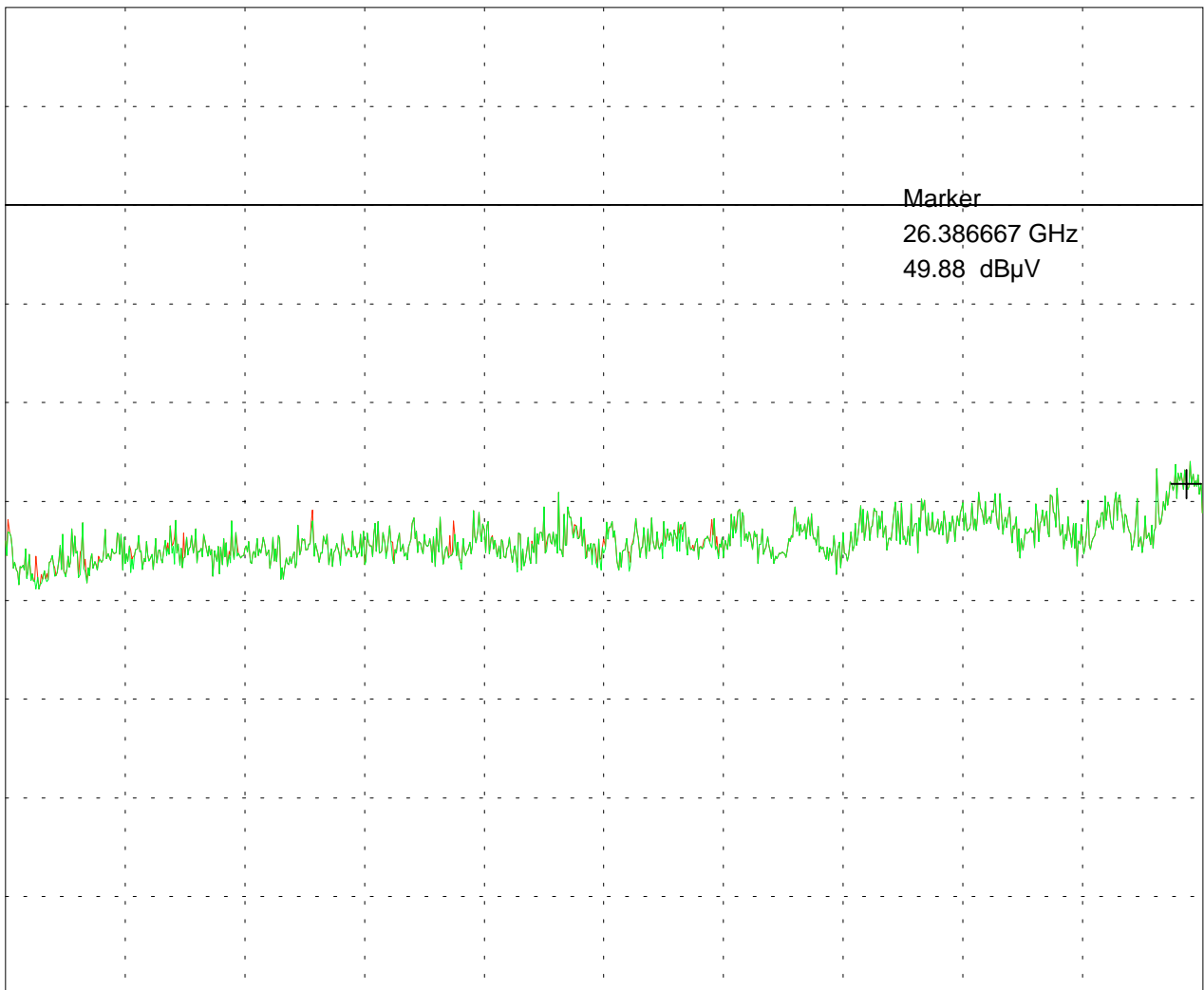
Spurious emissions according FCC Rules, Section 15.247

Model: IHF-1000	Mode: - TX at 2402 MHz - Power setting = 63 (maximum)
Serial No.: PCB-Antenna	- Radiated Measurement, 1 m test distance - Antenna correction included - Readings are field strength values - Limit adjusted for test distance
Applicant: Motorola GmbH - ACES	- Horizontal Polarisation (red trace) - Vertical Polarisation (green trace)

Ref.Level 74 dB μ V
5 dB/Div.

ATT 0 dB

Ref. Offset 40.5 dB



Start 18.000 GHz
RBW 100 kHz

VBW 100 kHz

Stop 26.500 GHz
SWP 2.60 s

Tested by: Johann Roidt	Project-No.: 51349-40442-2
Date: 24 August 2004	Page of pages

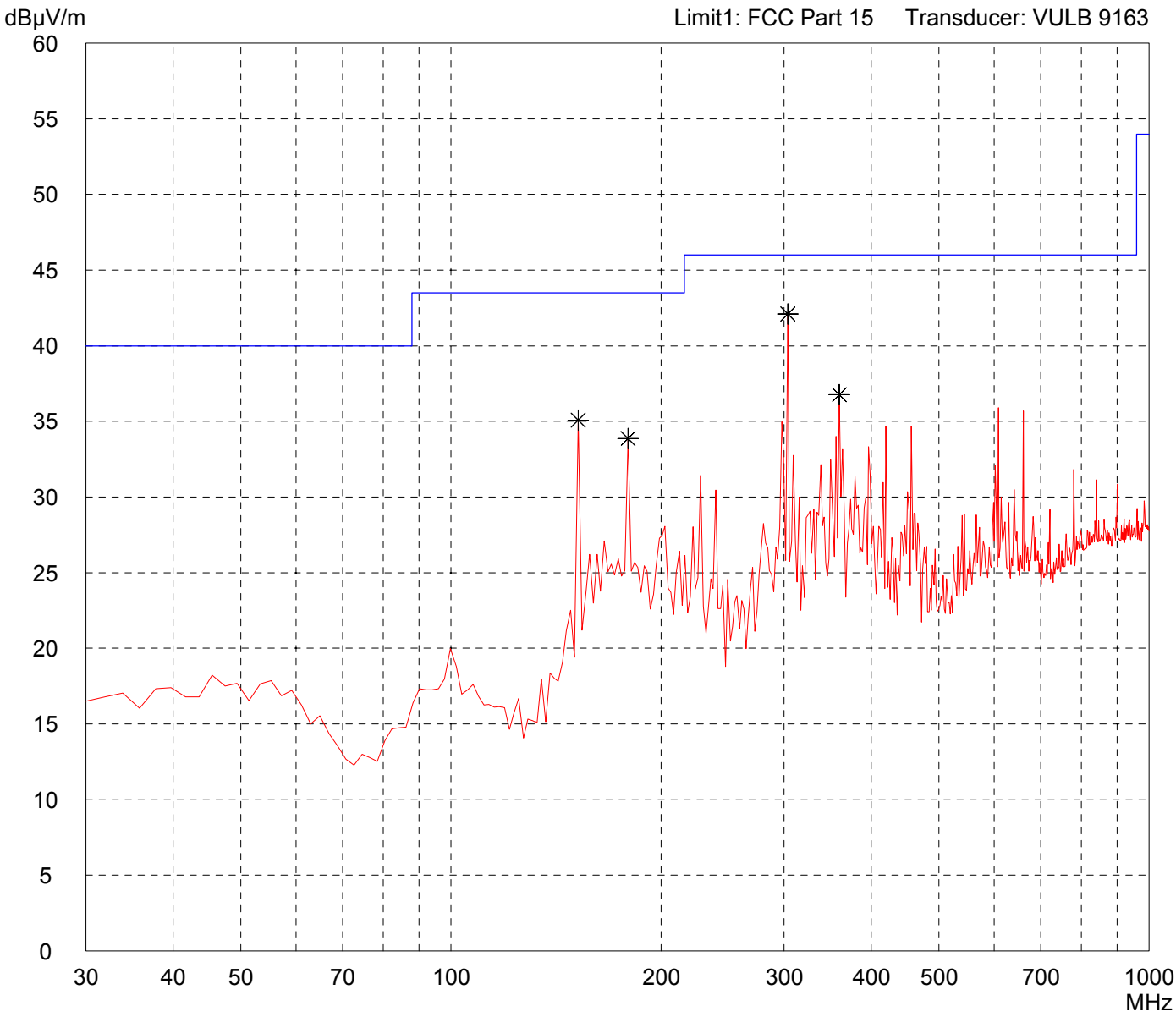
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441 MHz	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51359-40442-2	Page of Pages
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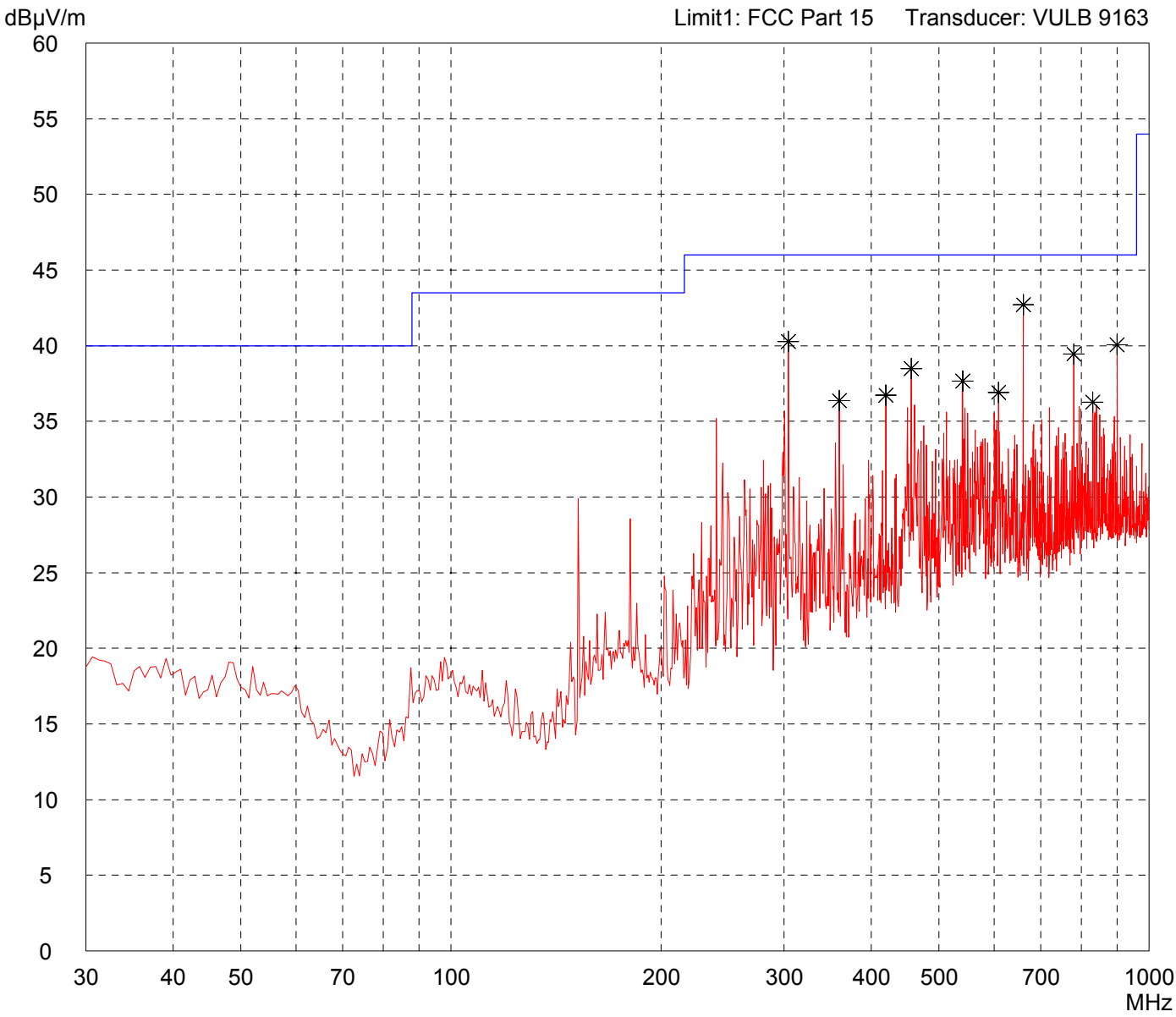
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441 MHz	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51359-40442-2	Page of Pages
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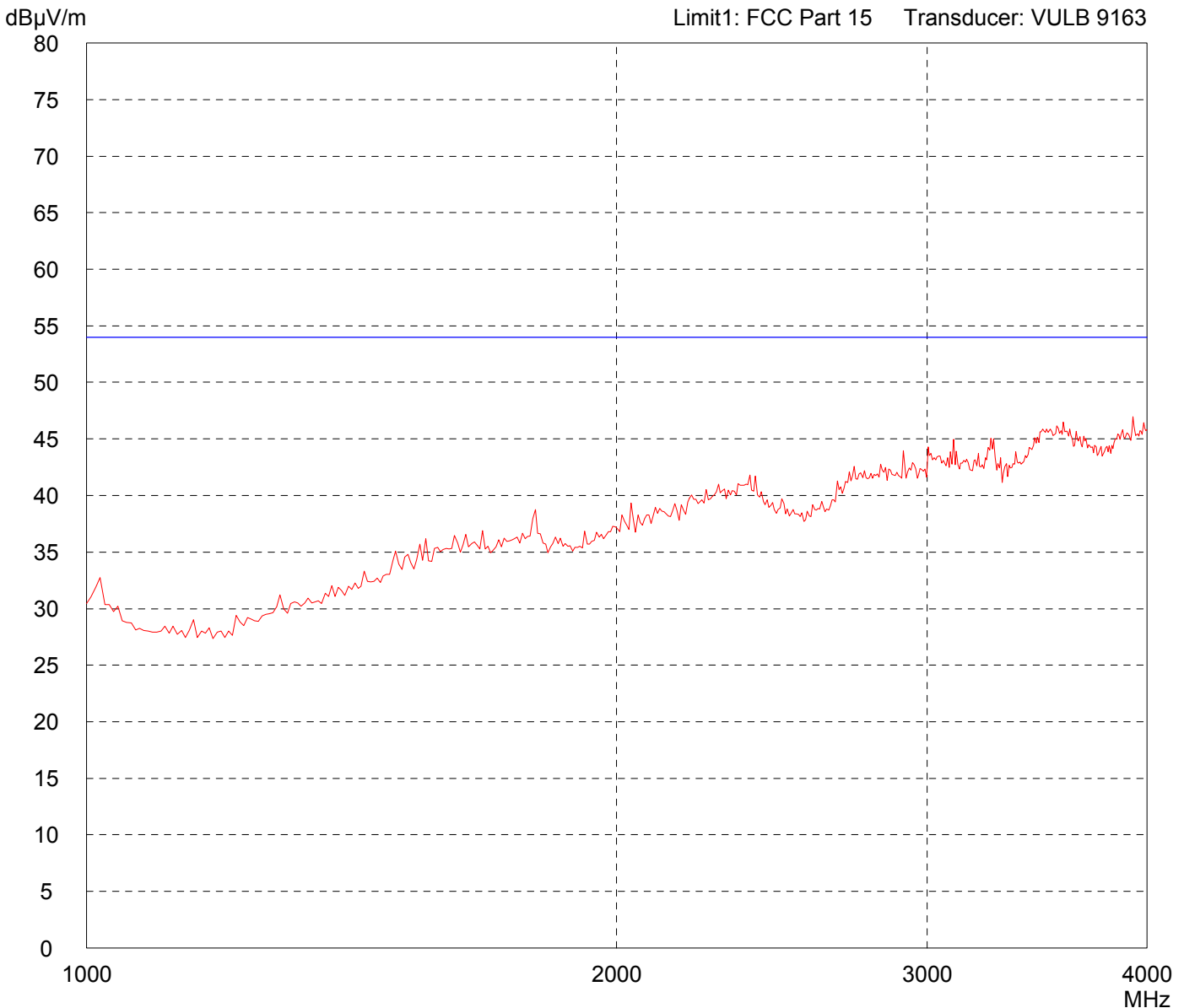
Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441 MHz - Notch Filter on Fundamental Frequency

Detector: Peak

List of values: Selected by hand



Result: Limit kept

Project file: 51359-40442-2	Page of Pages
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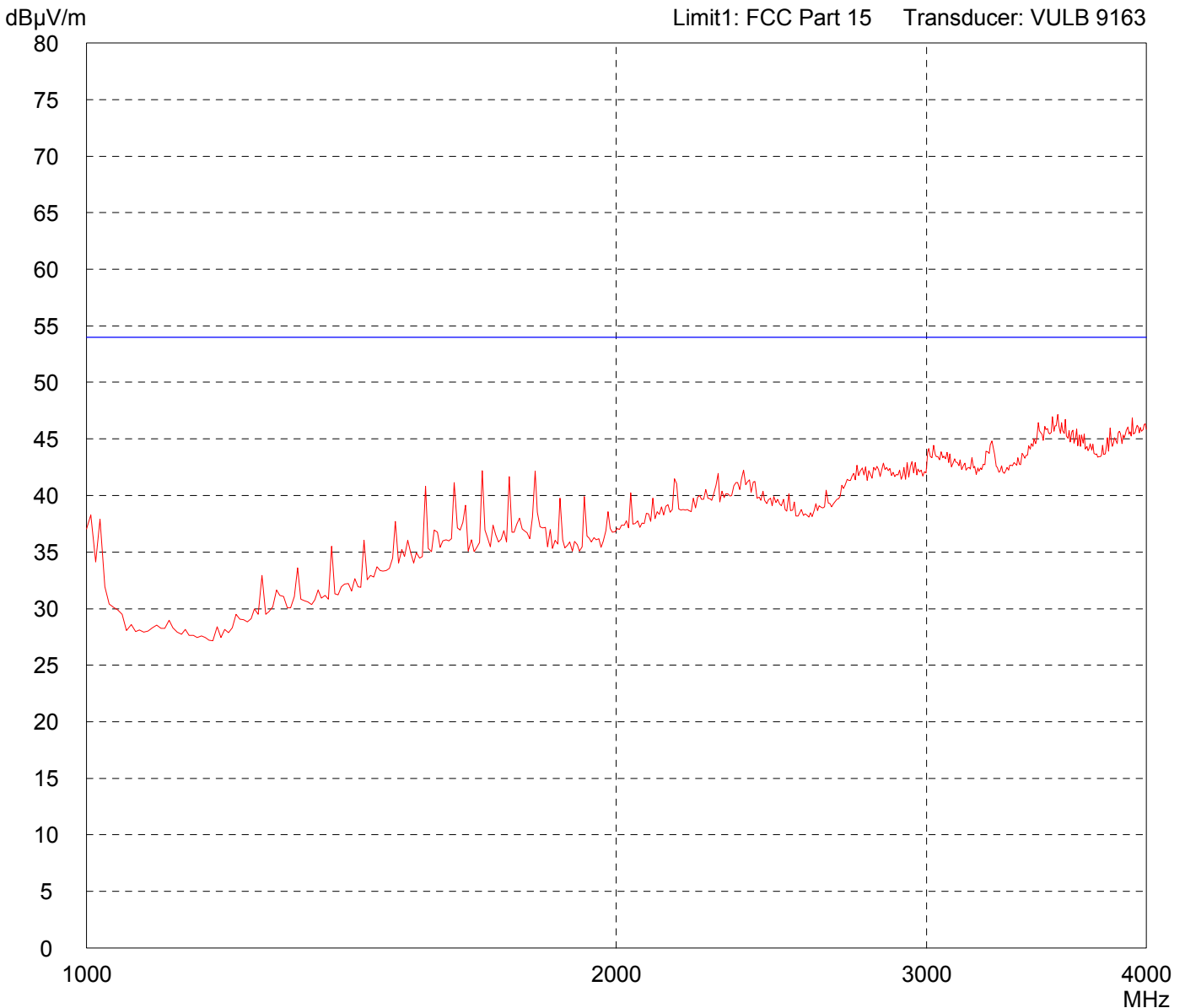
Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441 MHz - Notch Filter on Fundamental Frequency

Detector: Peak

List of values: Selected by hand



Result: Limit kept

Project file: 51359-40442-2	Page of Pages
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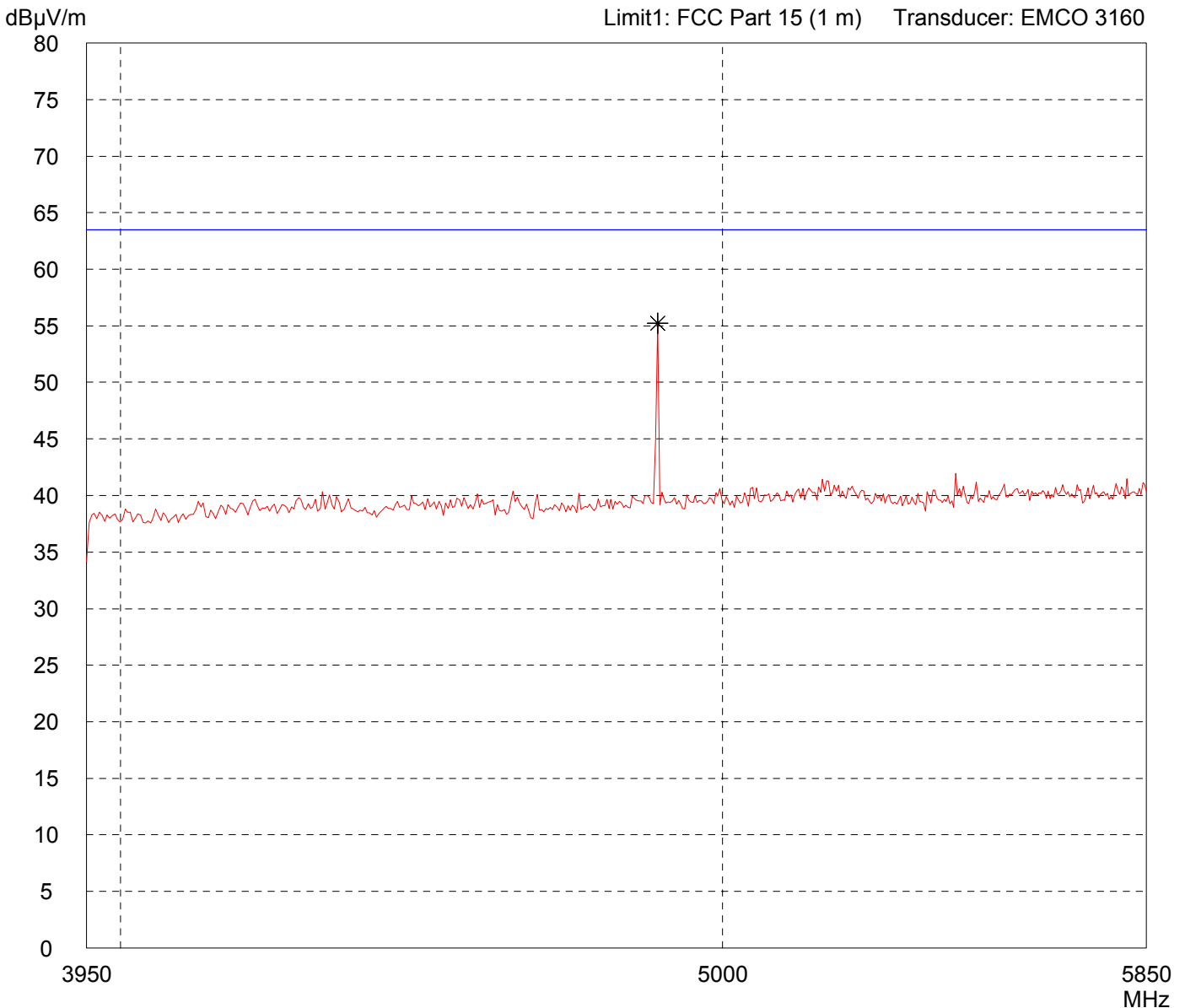
Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: PCB-Antenna	
Applicant: Motorola GmbH ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 08/25/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441 MHz - TX power setting = 63 (maximum)	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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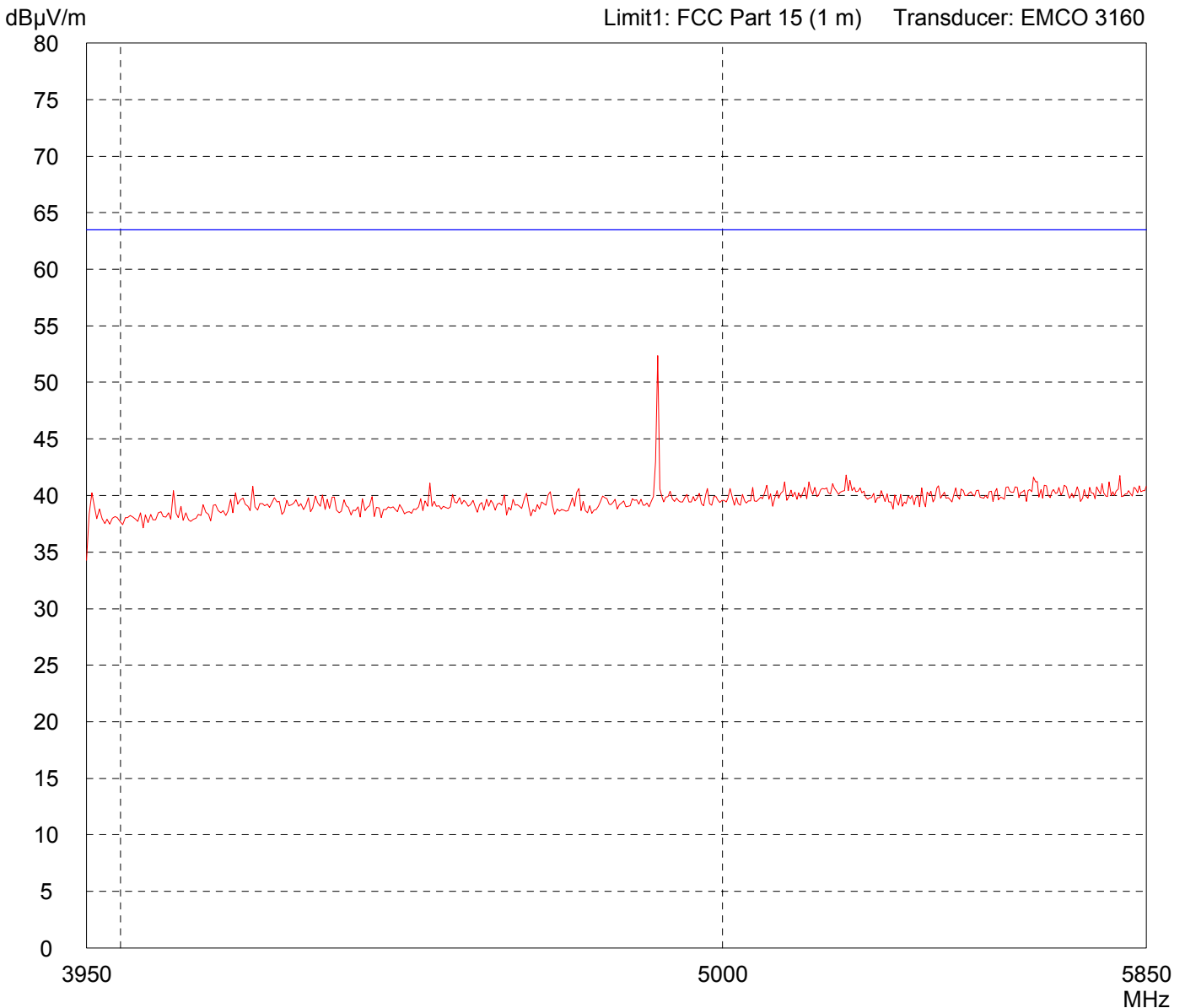
Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: PCB-Antenna	
Applicant: Motorola GmbH ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Vertical Polarization	
Date of test: 08/25/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2441 MHz - TX power setting = 63 (maximum)	
---	--

Detector: Peak

List of values: 10 dB Margin	50 Subranges
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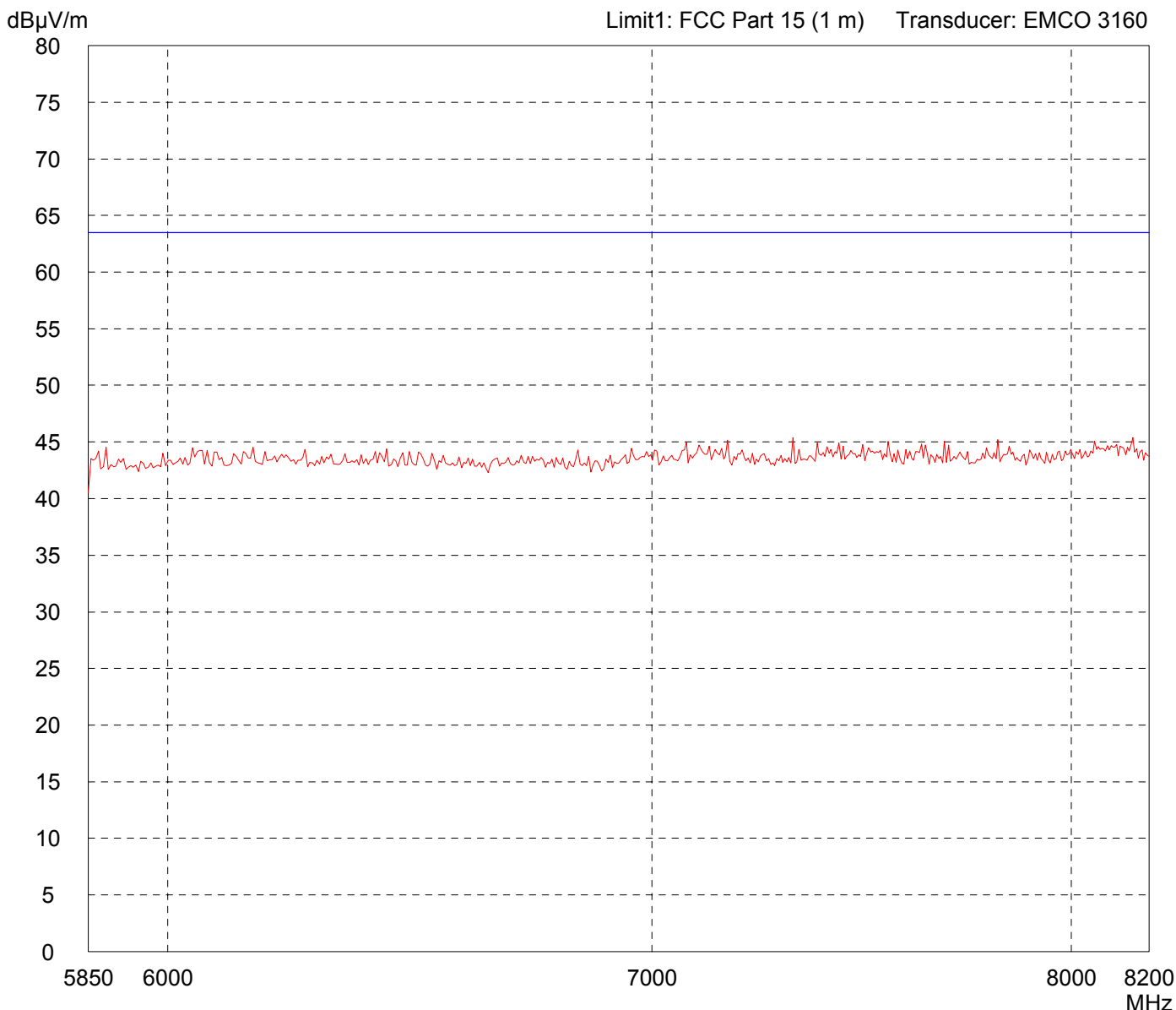
Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Horizontal Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2441 MHz - TX power setting = 63 (maximum)
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<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
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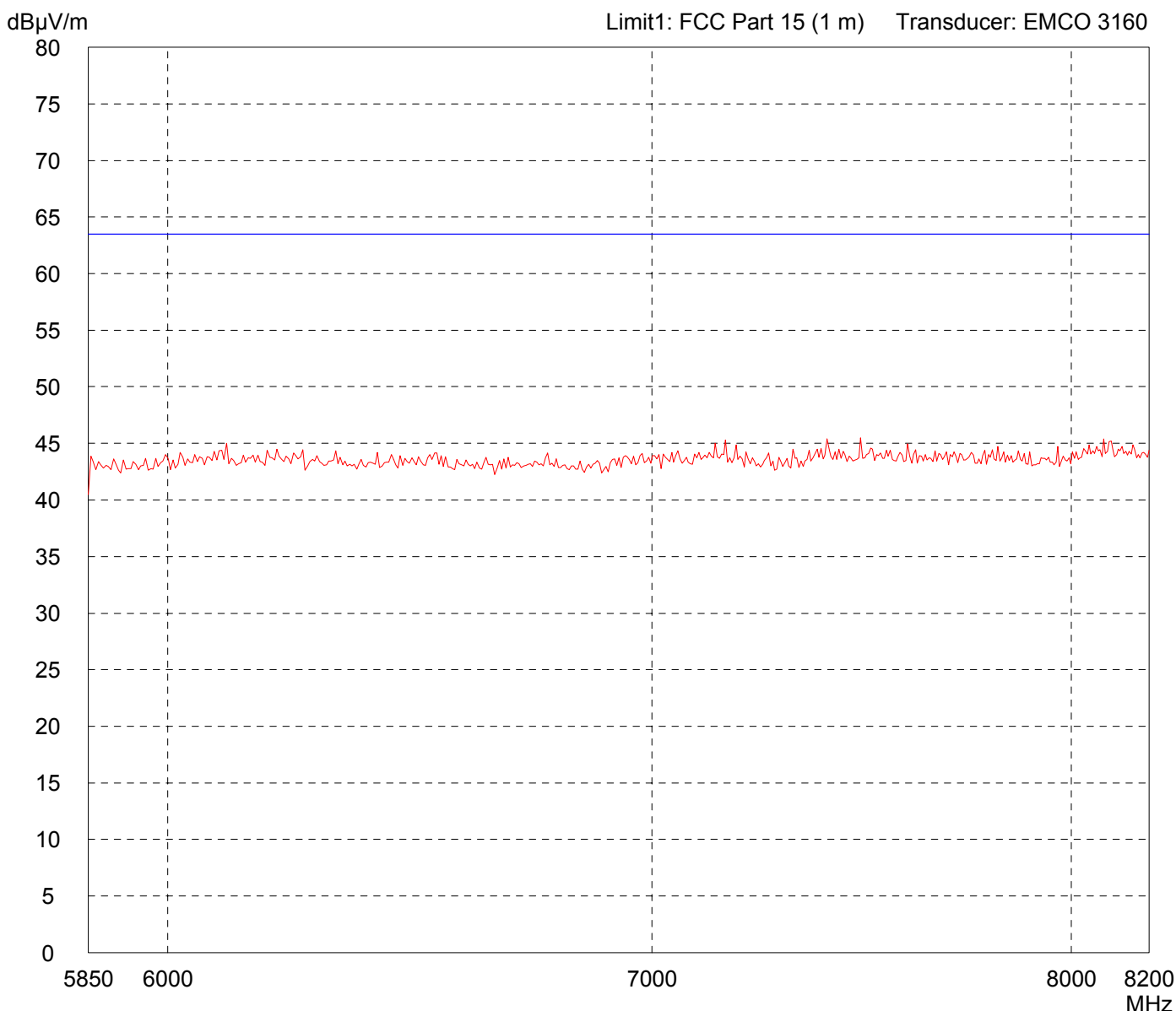


<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Vertical Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2441 MHz - TX power setting = 63 (maximum)
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<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
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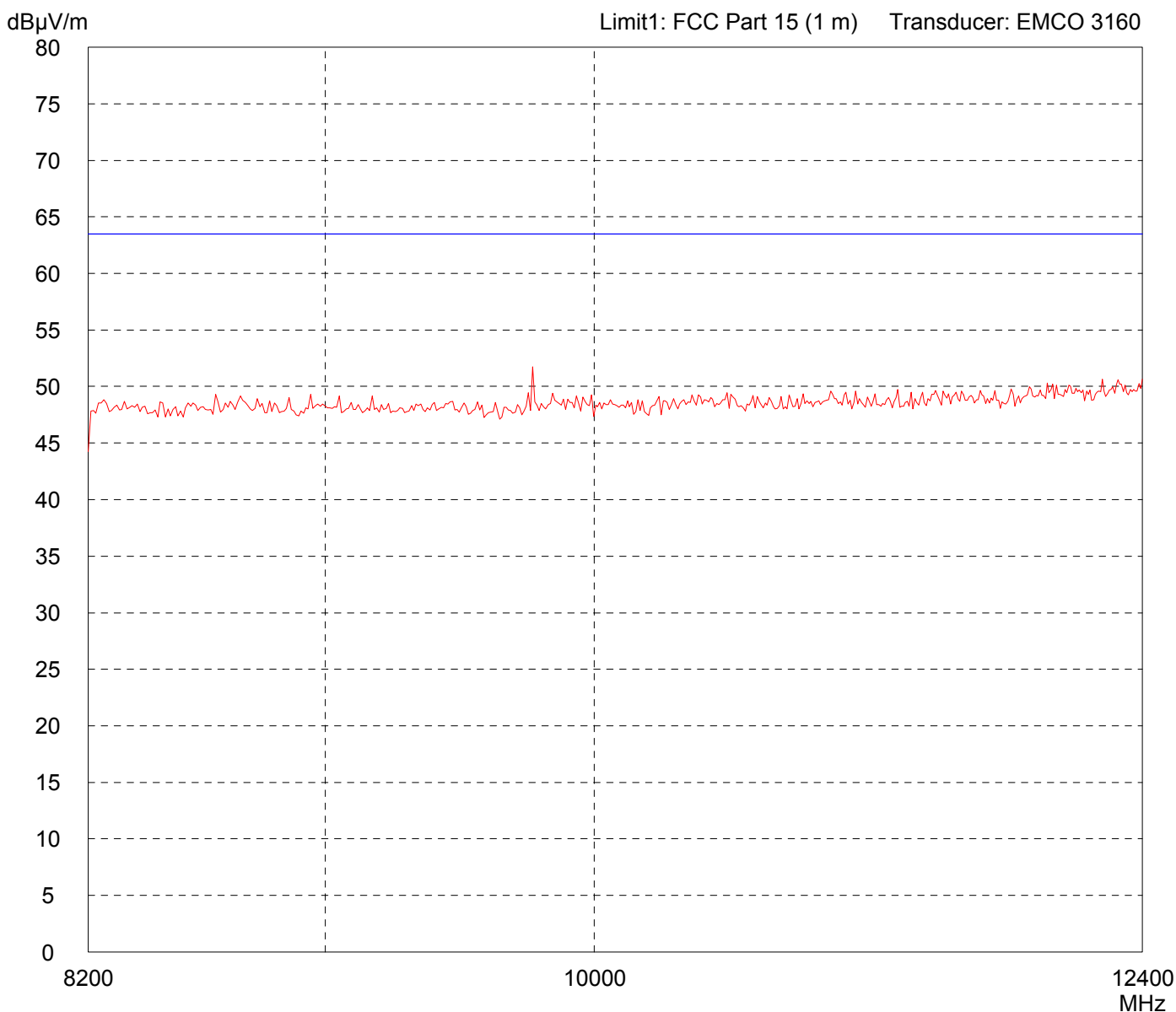


<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Horizontal Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2441 MHz - TX power setting = 63 (maximum)
---	---

<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
----------------------------------	--

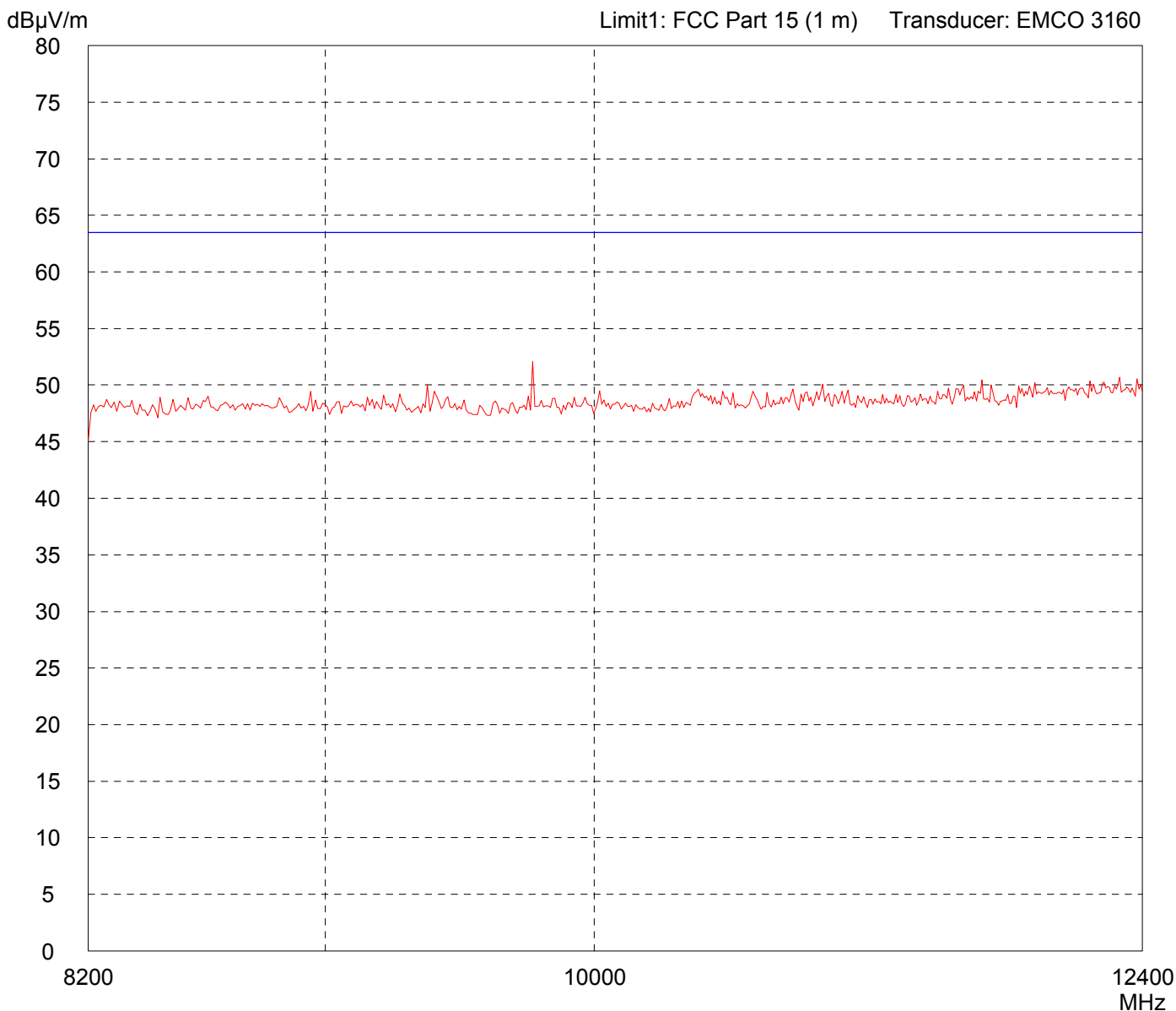


<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Vertical Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2441 MHz - TX power setting = 63 (maximum)
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<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
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<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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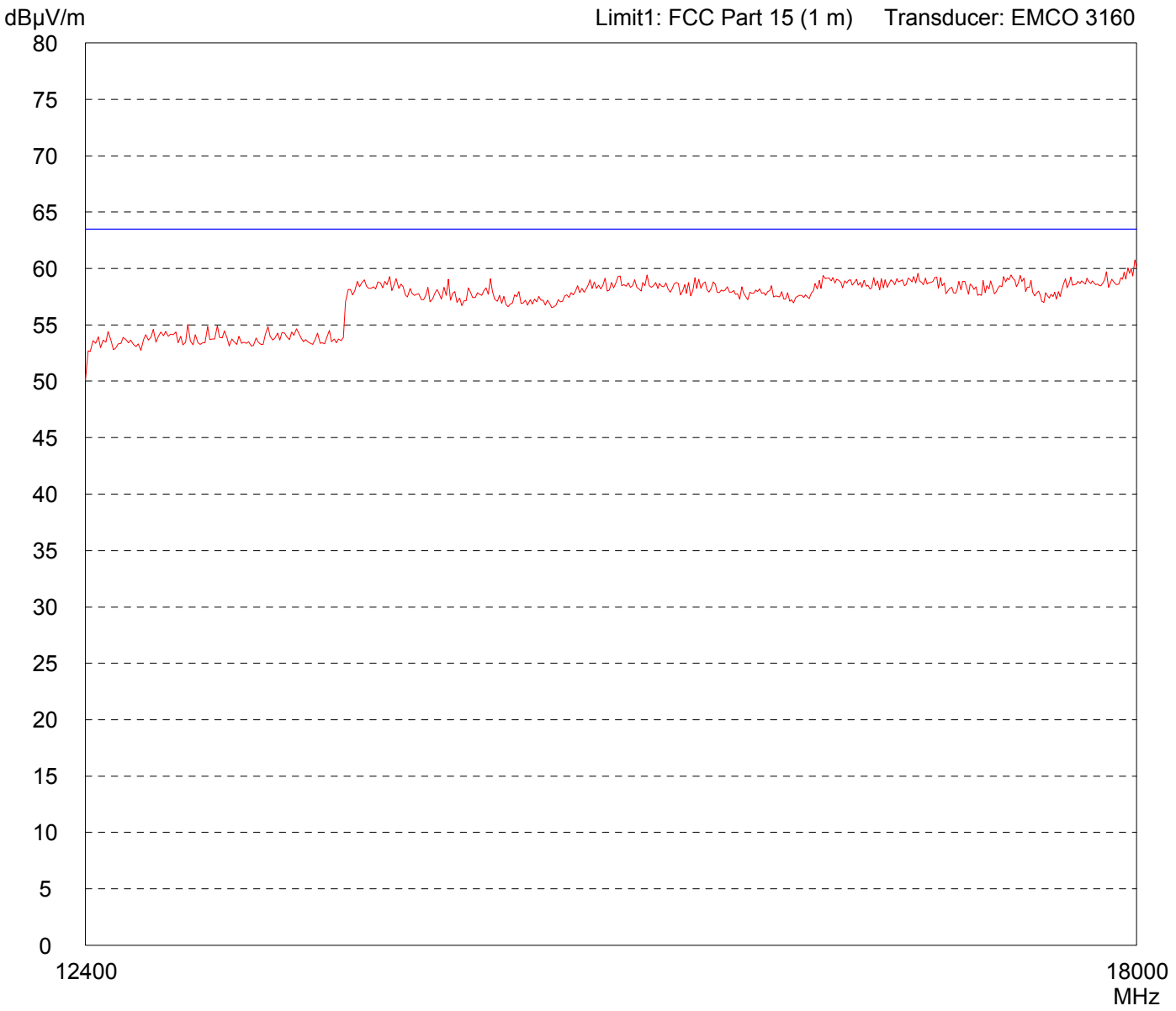
Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: PCB-Antenna	
Applicant: Motorola GmbH ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 08/25/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment:
 - TX at 2441 MHz
 - TX power setting = 63 (maximum)

Detector:
Peak

List of values:
Selected by hand



Result:
Limit kept

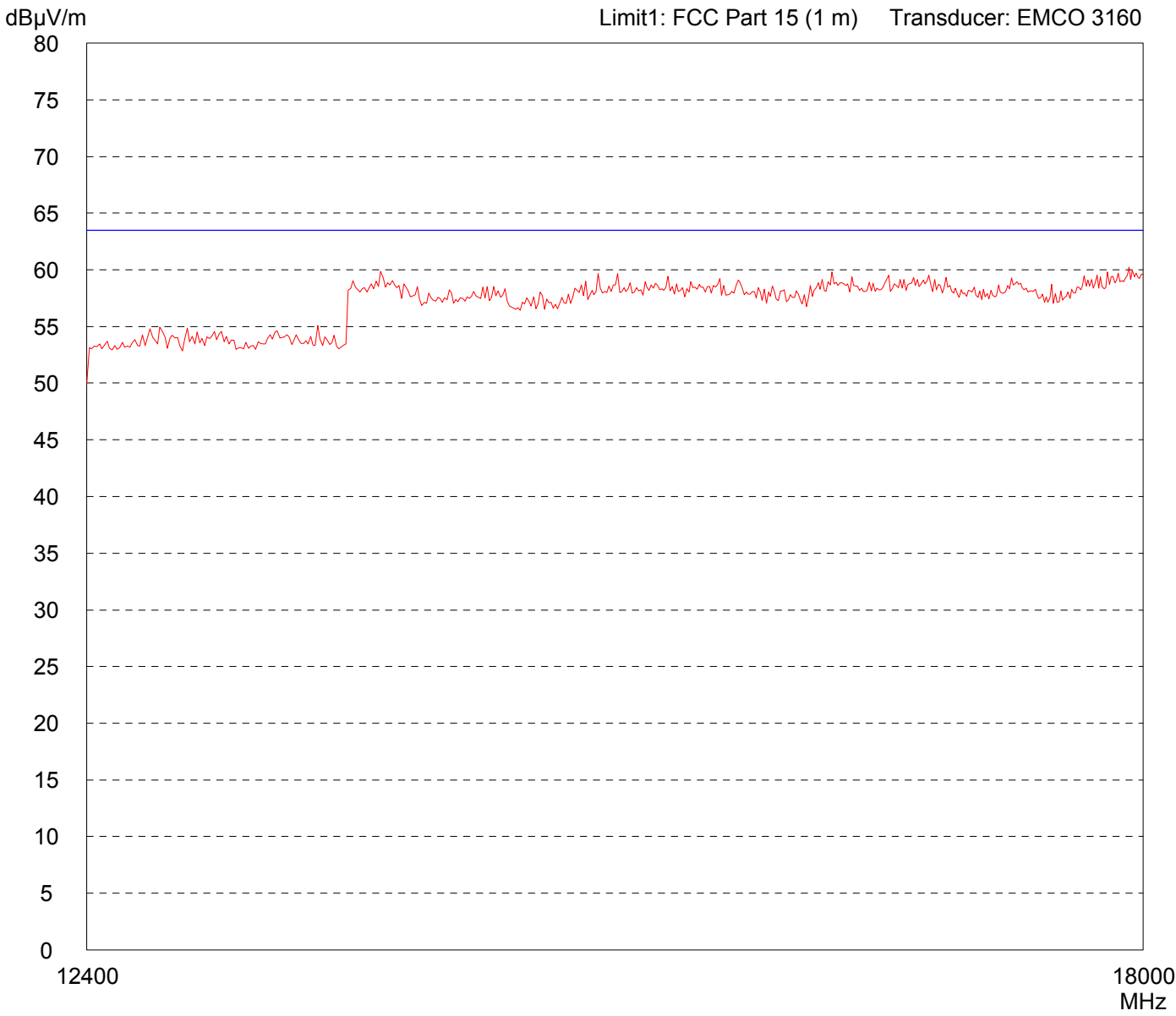
Project file:
51349-40442-2

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

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Vertical Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2441 MHz - TX power setting = 63 (maximum)
---	---

<p>Detector: Peak</p>	<p>List of values: Selected by hand</p>
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<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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Spurious emissions according FCC Rules, Section 15.247

Model: IHF-1000	Mode: - TX at 2441 MHz - Power setting = 63 (maximum)
Serial No.: PCB-Antenna	- Radiated Measurement, 1 m test distance - Antenna correction included - Readings are field strength values - Limit adjusted for test distance
Applicant: Motorola GmbH - ACES	- Horizontal Polarisation (red trace) - Vertical Polarisation (green trace)

Ref.Level 74 dB μ V
5 dB/Div.

ATT 0 dB

Ref. Offset 40.5 dB



Start 18.000 GHz
RBW 100 kHz

VBW 100 kHz

Stop 26.500 GHz
SWP 2.60 s

Tested by: Johann Roidt	Project-No.: 51349-40442-2
Date: 24 August 2004	Page of pages

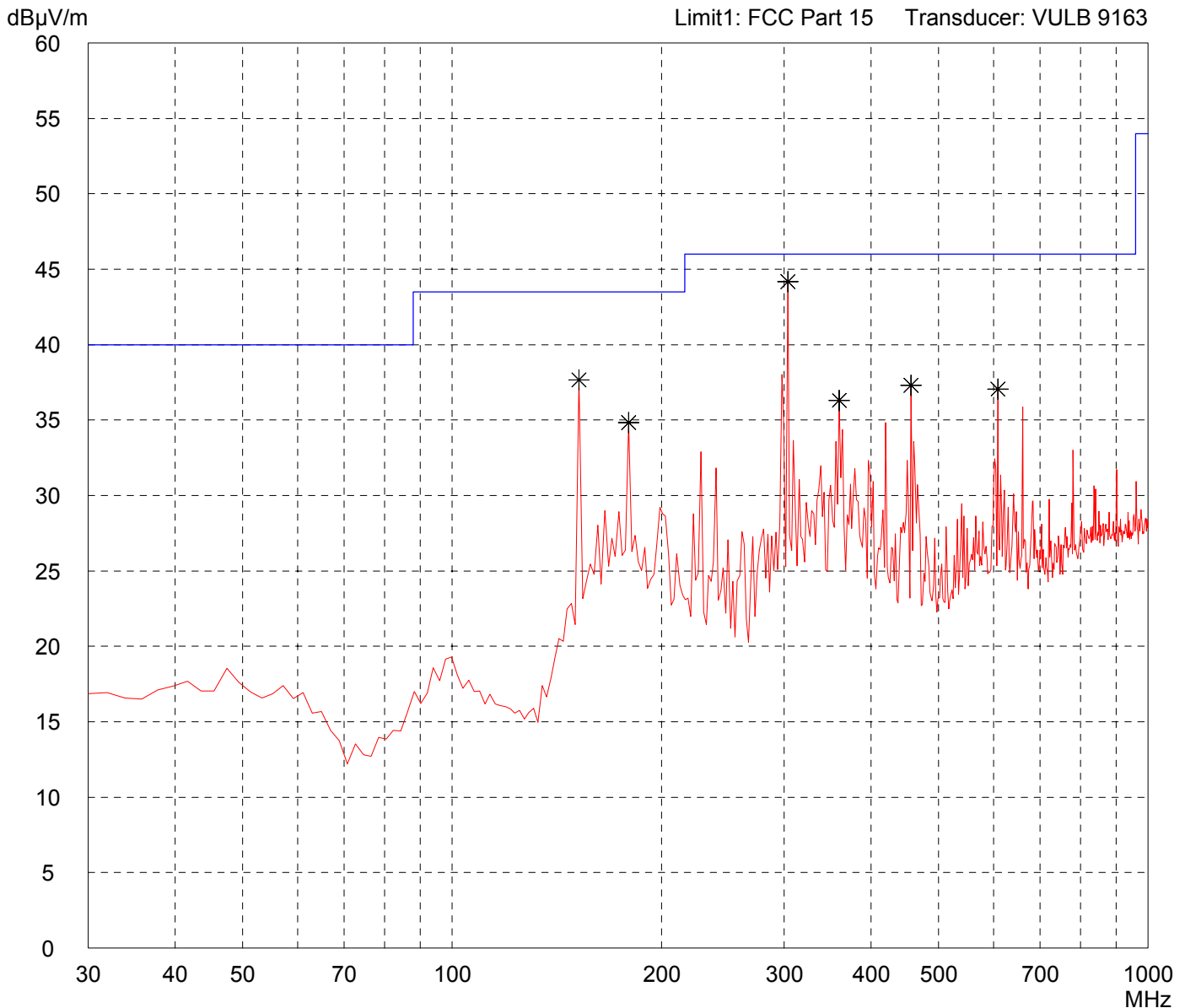
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2480 MHz	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Prescan

Project file: 51359-40442-2	Page of Pages
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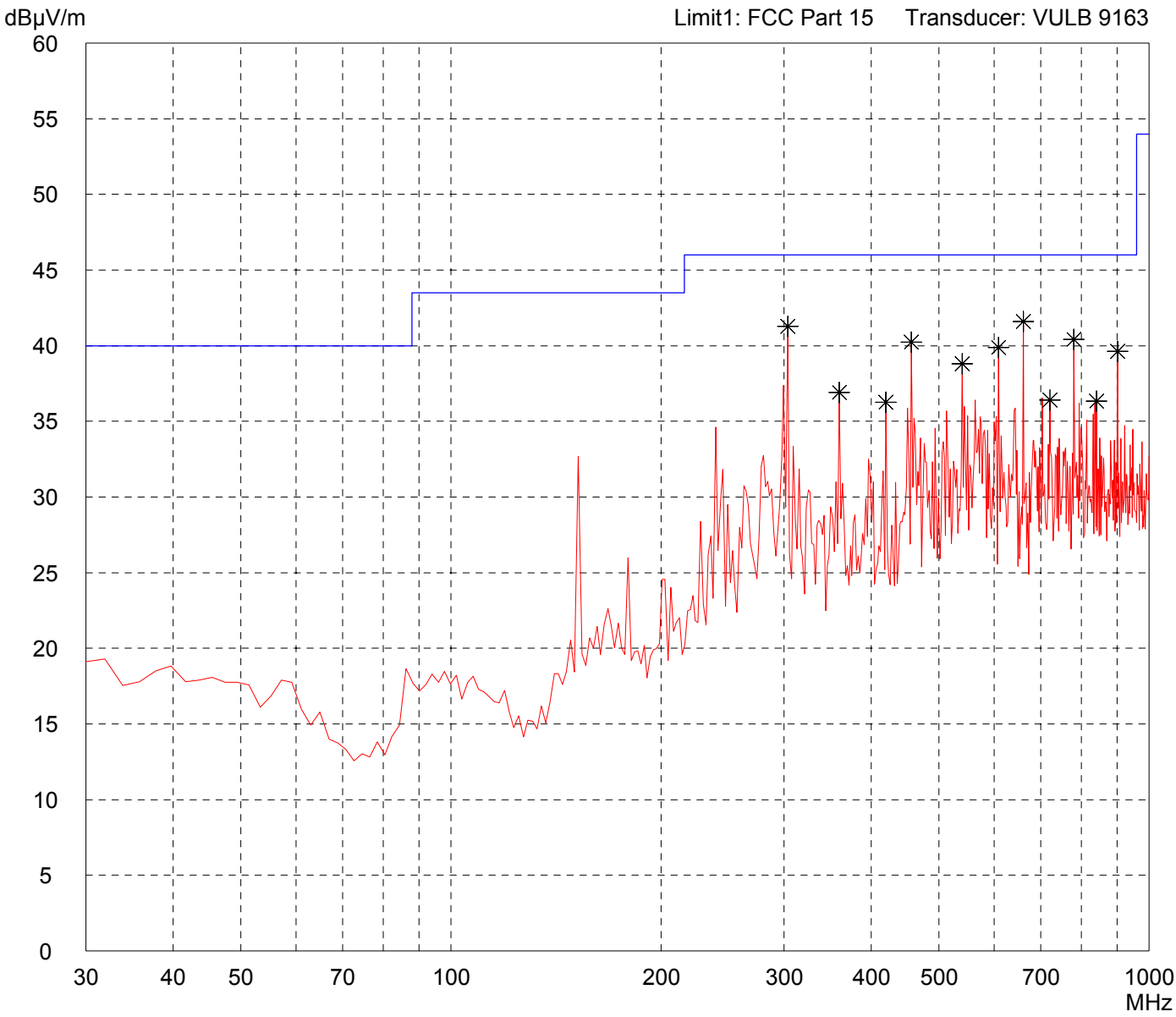
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2480 MHz	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Prescan

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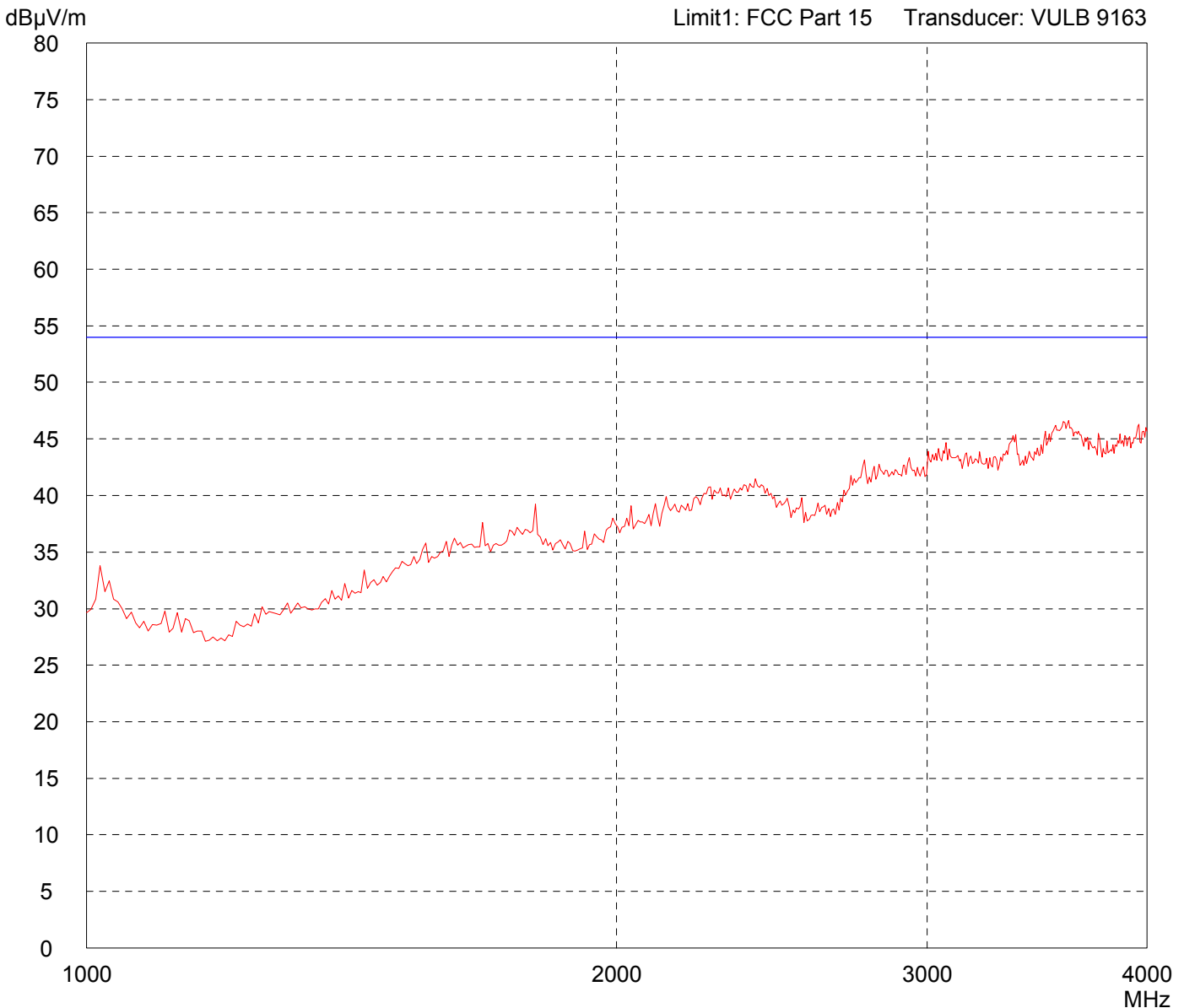
Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2480 MHz - Notch Filter on Fundamental Frequency

Detector: Peak

List of values: Selected by hand



Result: Limit kept

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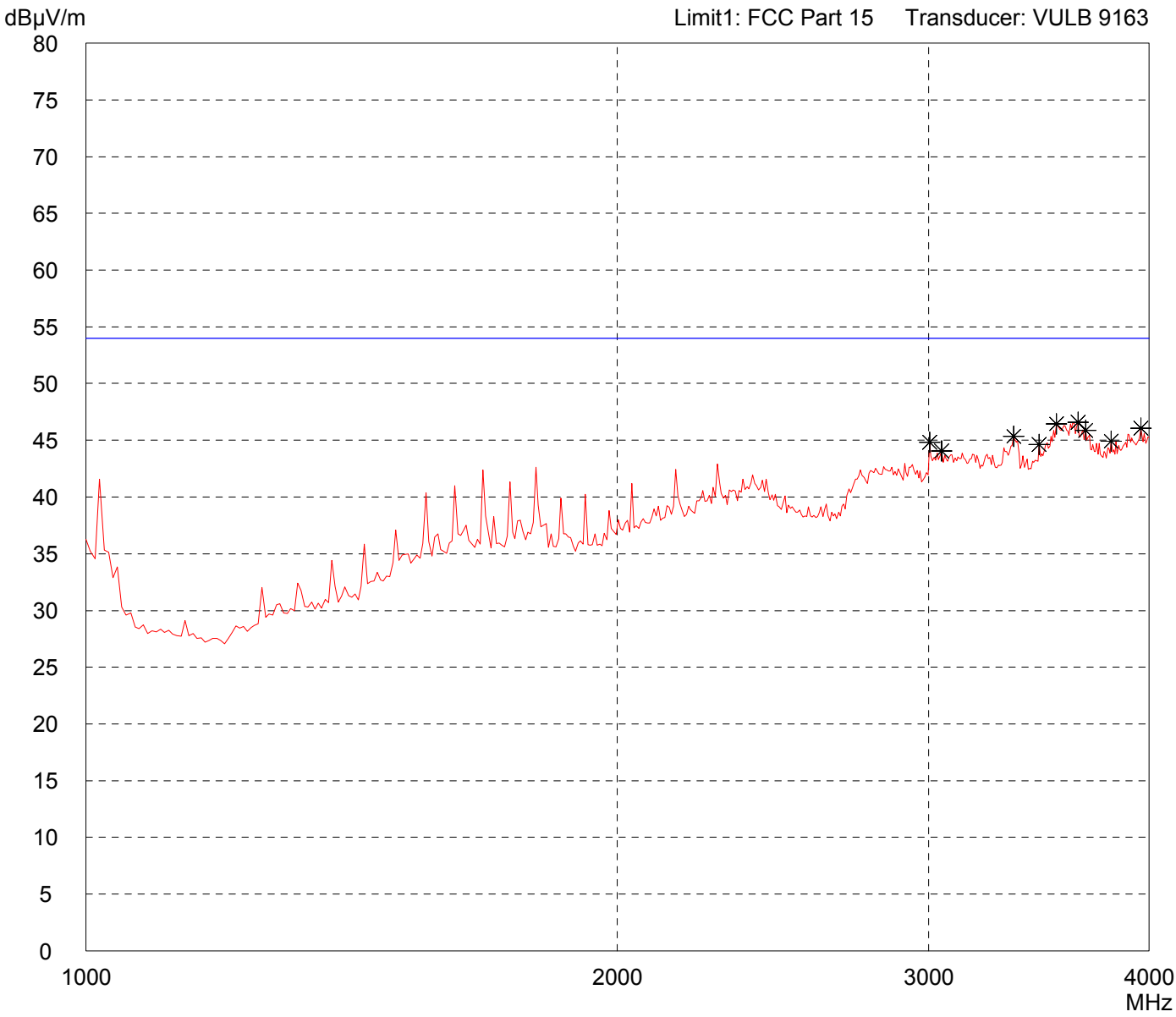
Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2480 MHz - Notch Filter on Fundamental Frequency	
---	--

Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51359-40442-2	Page of Pages
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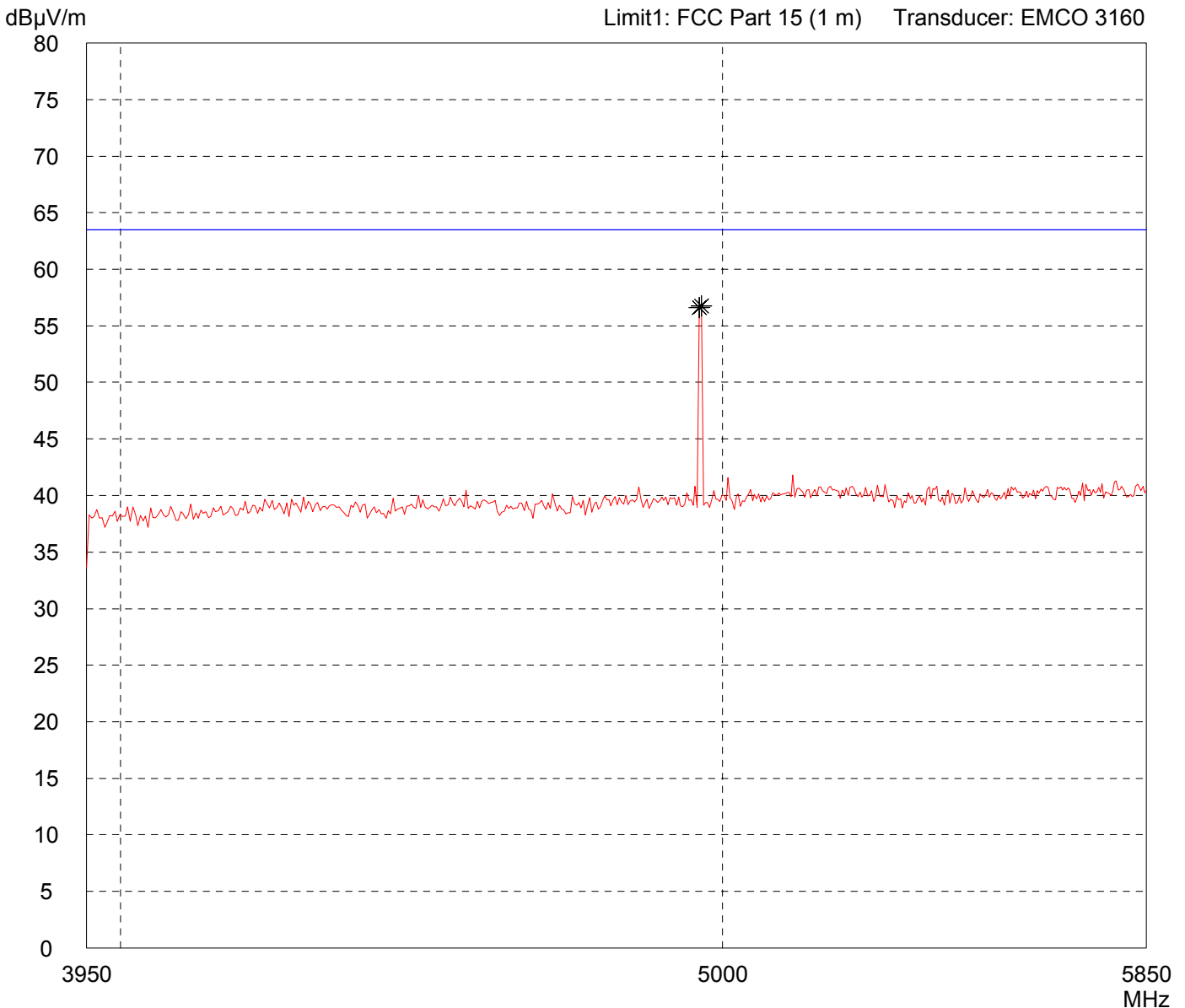
Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: PCB-Antenna	
Applicant: Motorola GmbH ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 08/25/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2480 MHz - TX power setting = 63 (maximum)	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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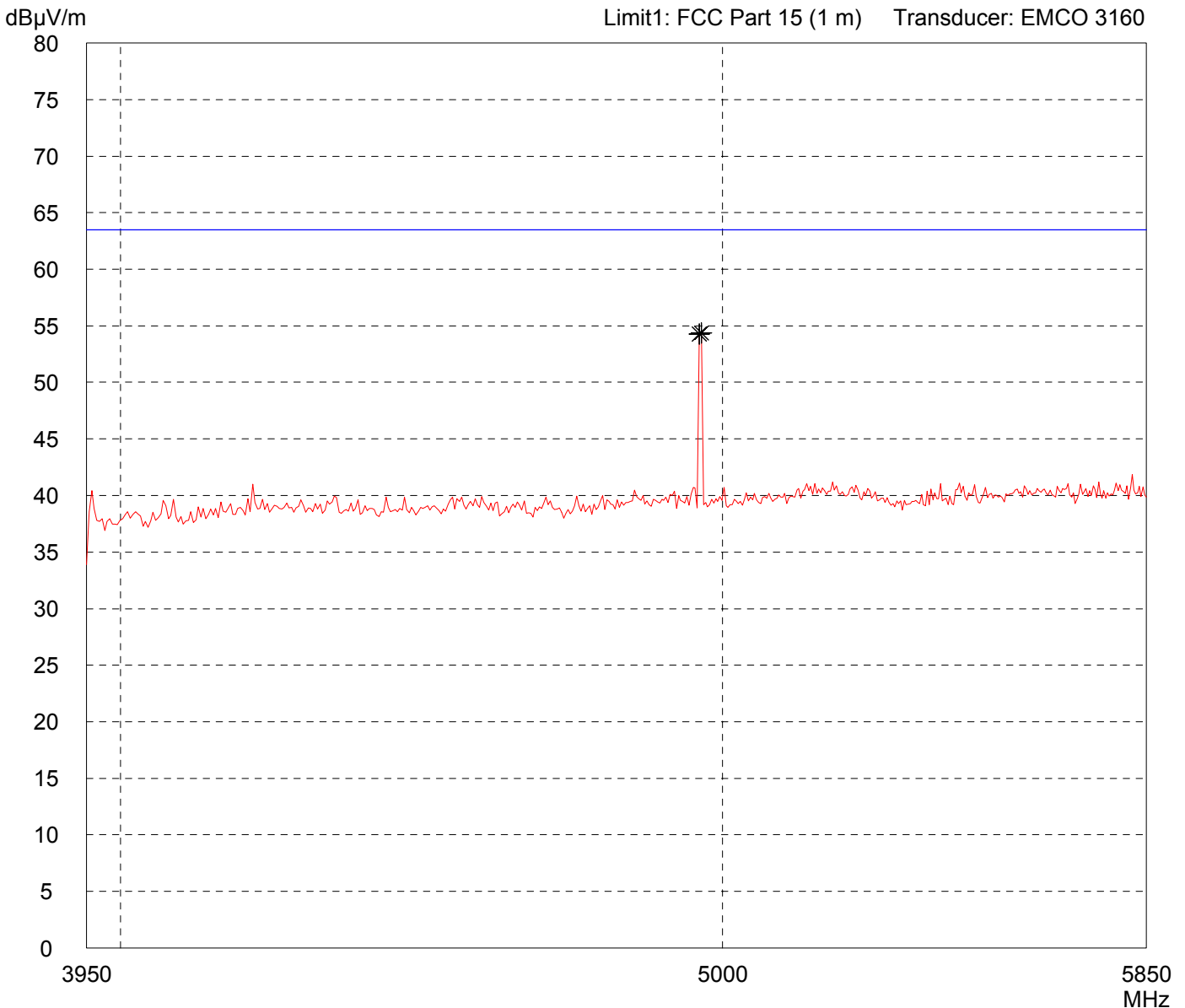
Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: PCB-Antenna	
Applicant: Motorola GmbH ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Vertical Polarization	
Date of test: 08/25/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2480 MHz - TX power setting = 63 (maximum)	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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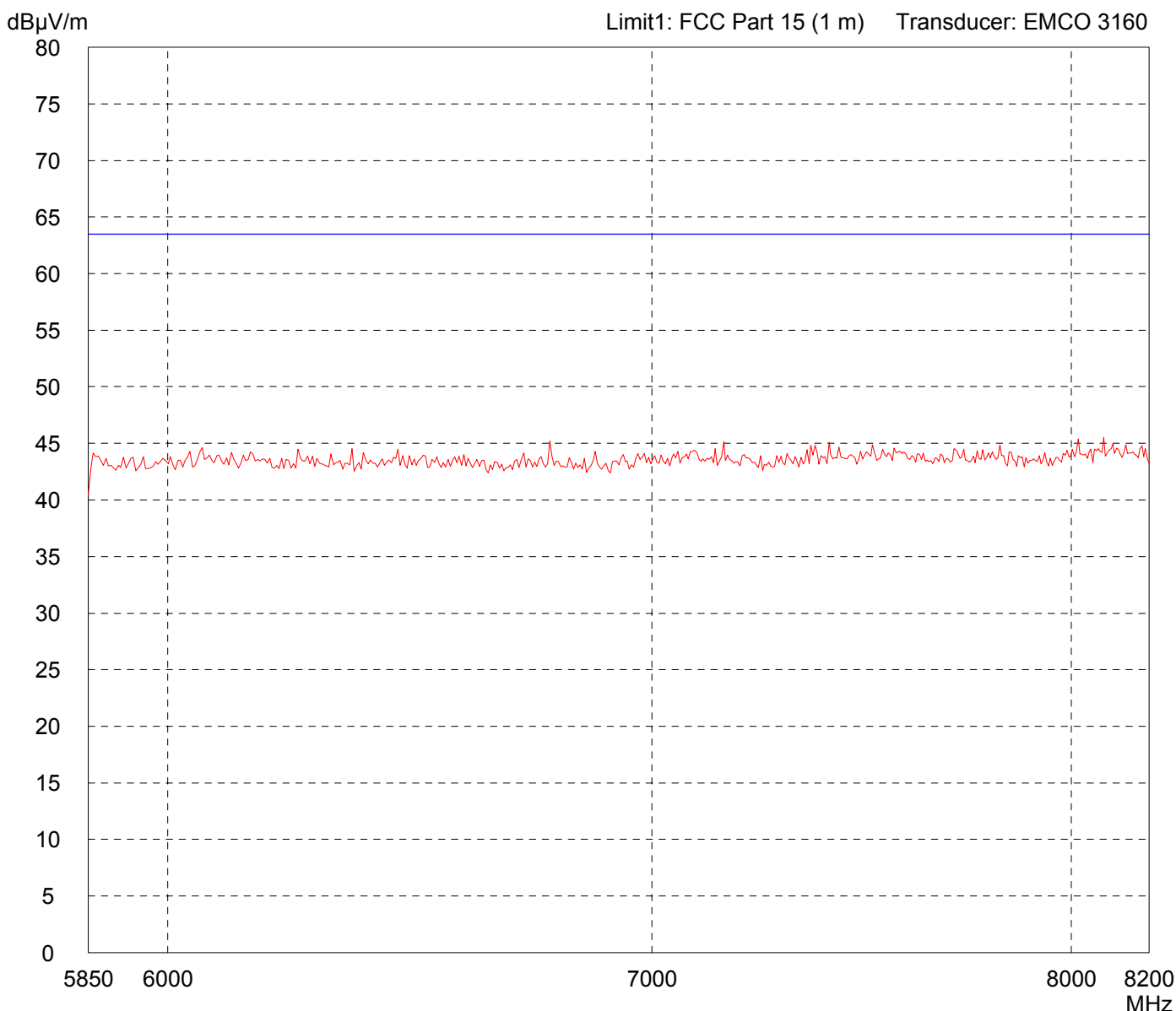
Result: Limit kept

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

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Horizontal Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2480 MHz - TX power setting = 63 (maximum)
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<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
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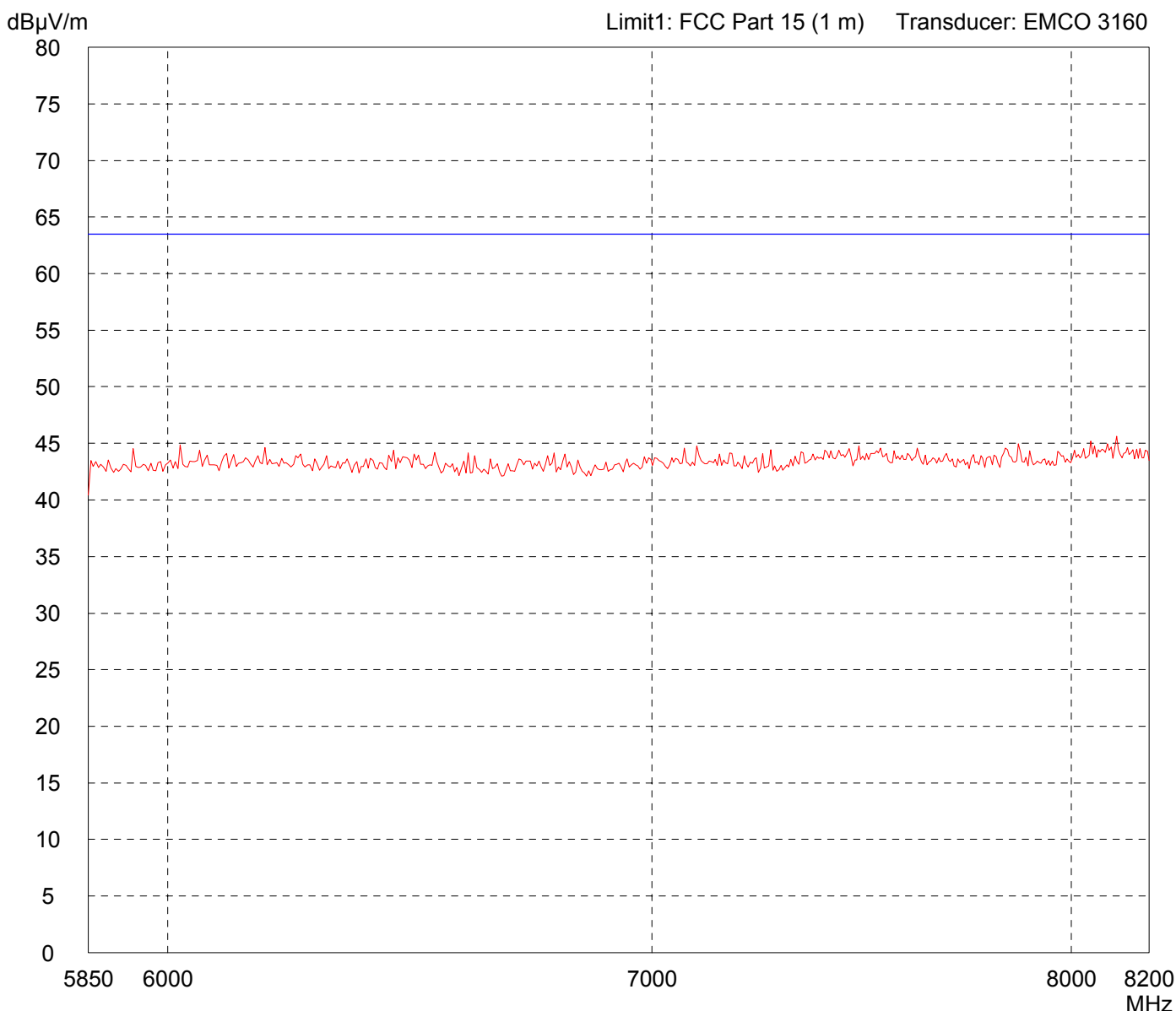


<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Vertical Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2480 MHz - TX power setting = 63 (maximum)
---	---

<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
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<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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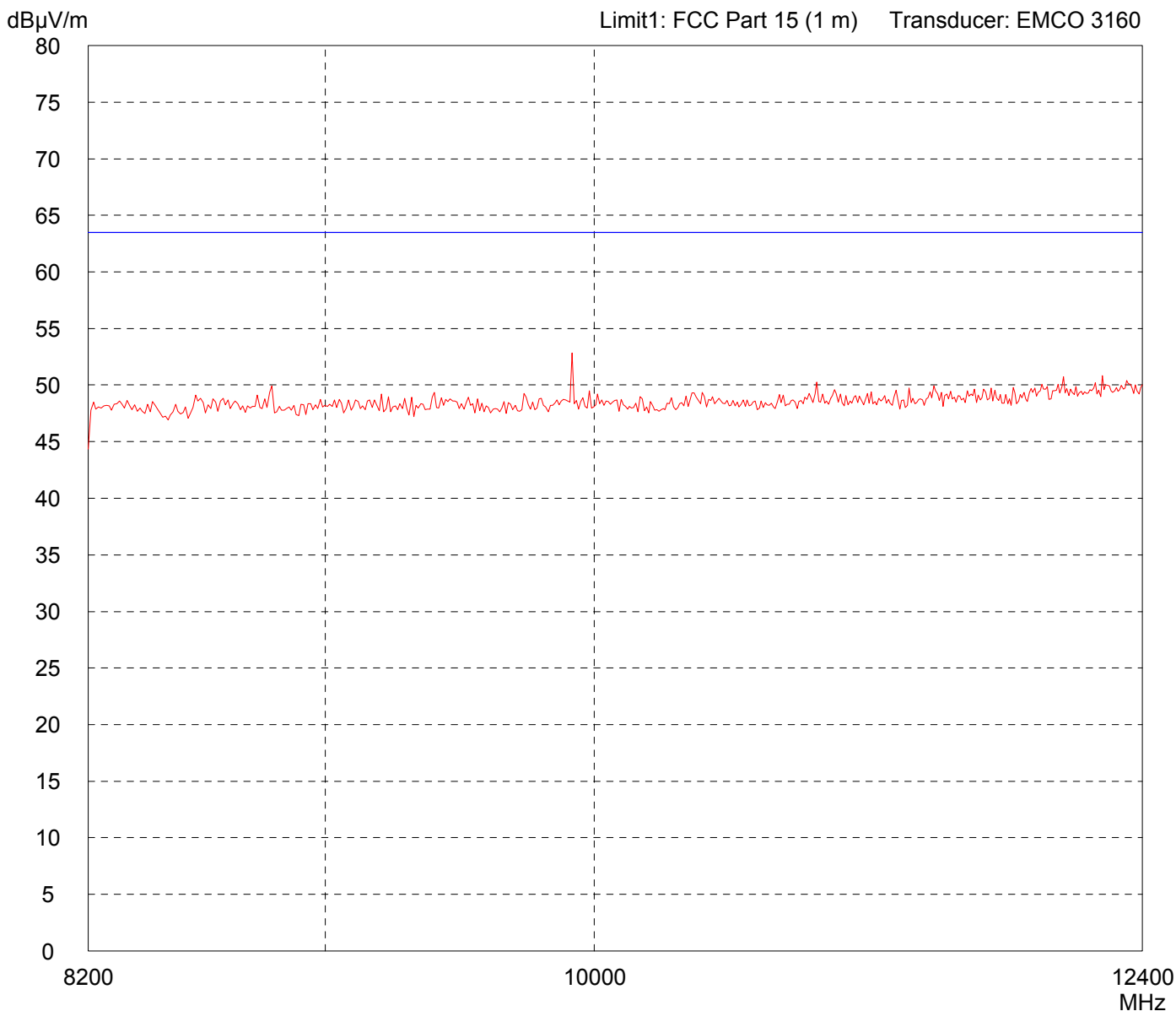
Radiated Emission Test 8.2 GHz - 12.4 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: PCB-Antenna	
Applicant: Motorola GmbH ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 08/25/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - TX at 2480 MHz - TX power setting = 63 (maximum)	
---	--

Detector: Peak

List of values: 10 dB Margin	50 Subranges
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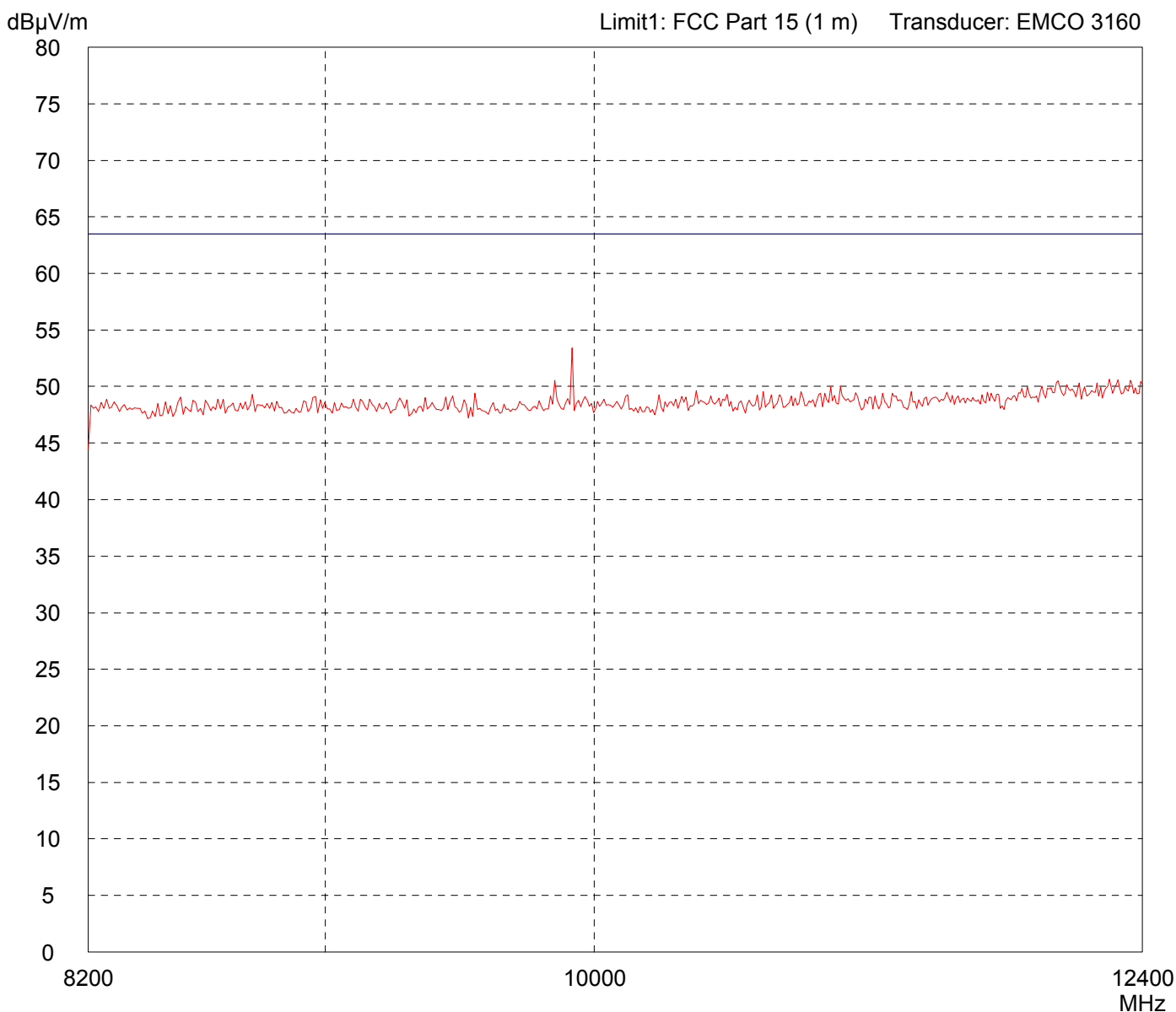
Result: Limit kept

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

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Vertical Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2480 MHz - TX power setting = 63 (maximum)
---	---

<p>Detector: Peak</p>	<p>List of values: 10 dB Margin 50 Subranges</p>
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<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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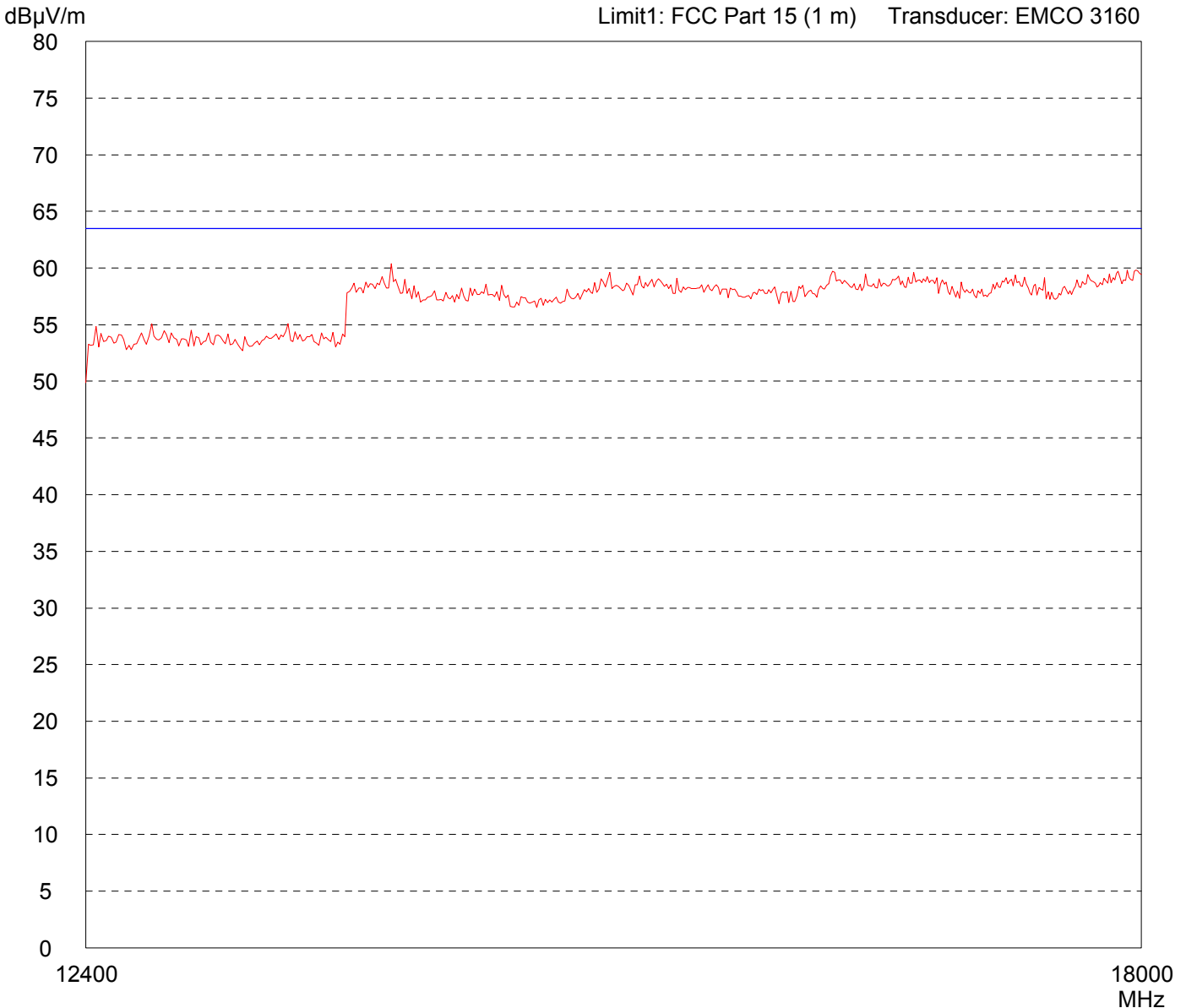
Radiated Emission Test 12.4 GHz - 18 GHz acc. to FCC Part 15 (EMCO 3160)

Model: IHF-1000	
Serial no.: PCB-Antenna	
Applicant: Motorola GmbH ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 meter Horizontal Polarization	
Date of test: 08/25/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment:
 - TX at 2480 MHz
 - TX power setting = 63 (maximum)

Detector:
Peak

List of values:
Selected by hand



Result:
Limit kept

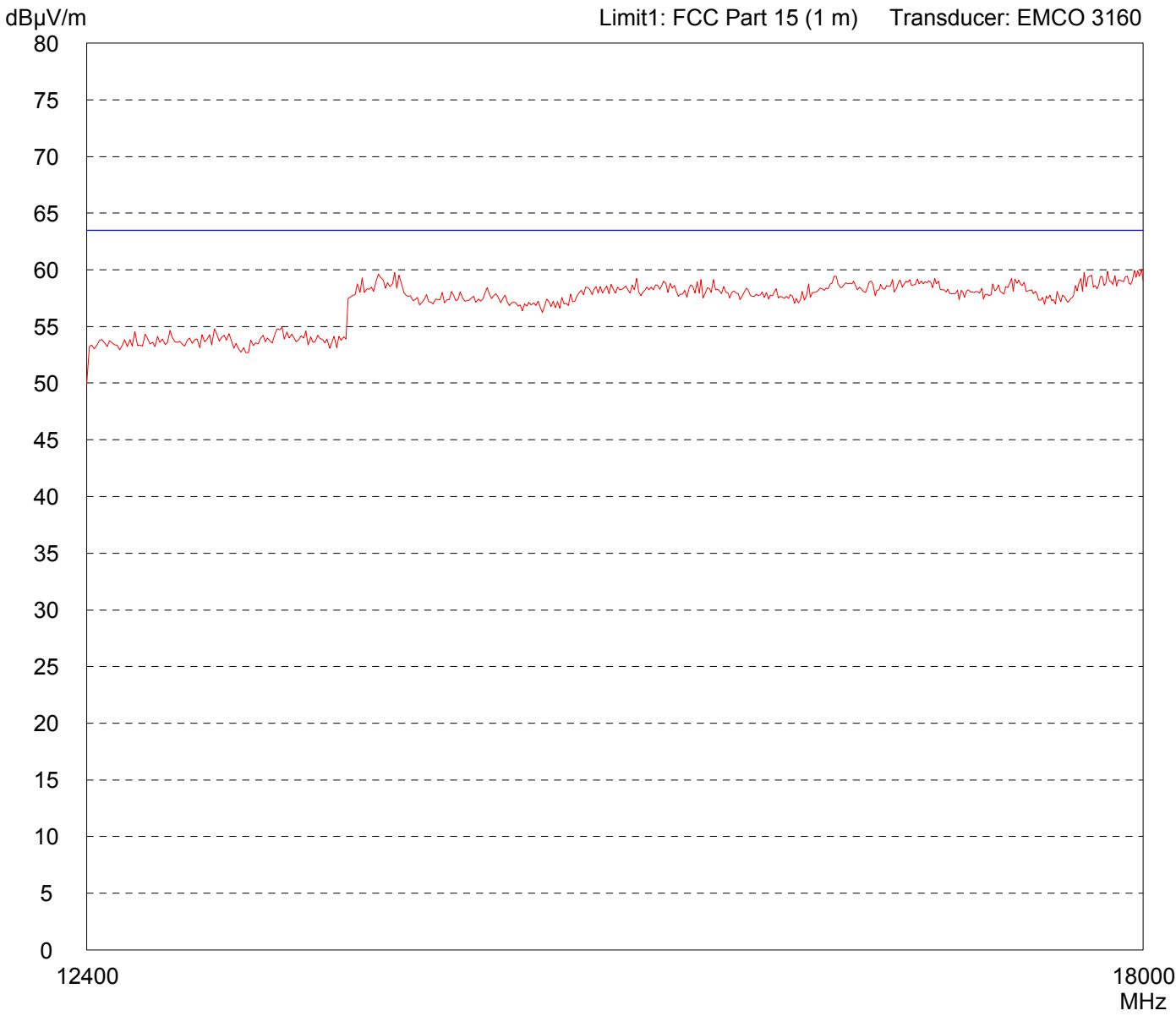
Project file:
51349-40442-2

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

<p>Model: IHF-1000</p> <p>Serial no.: PCB-Antenna</p> <p>Applicant: Motorola GmbH ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 meter Vertical Polarization</p> <p>Date of test: 08/25/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment:</p> <ul style="list-style-type: none"> - TX at 2480 MHz - TX power setting = 63 (maximum)
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<p>Detector: Peak</p>	<p>List of values: Selected by hand</p>
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<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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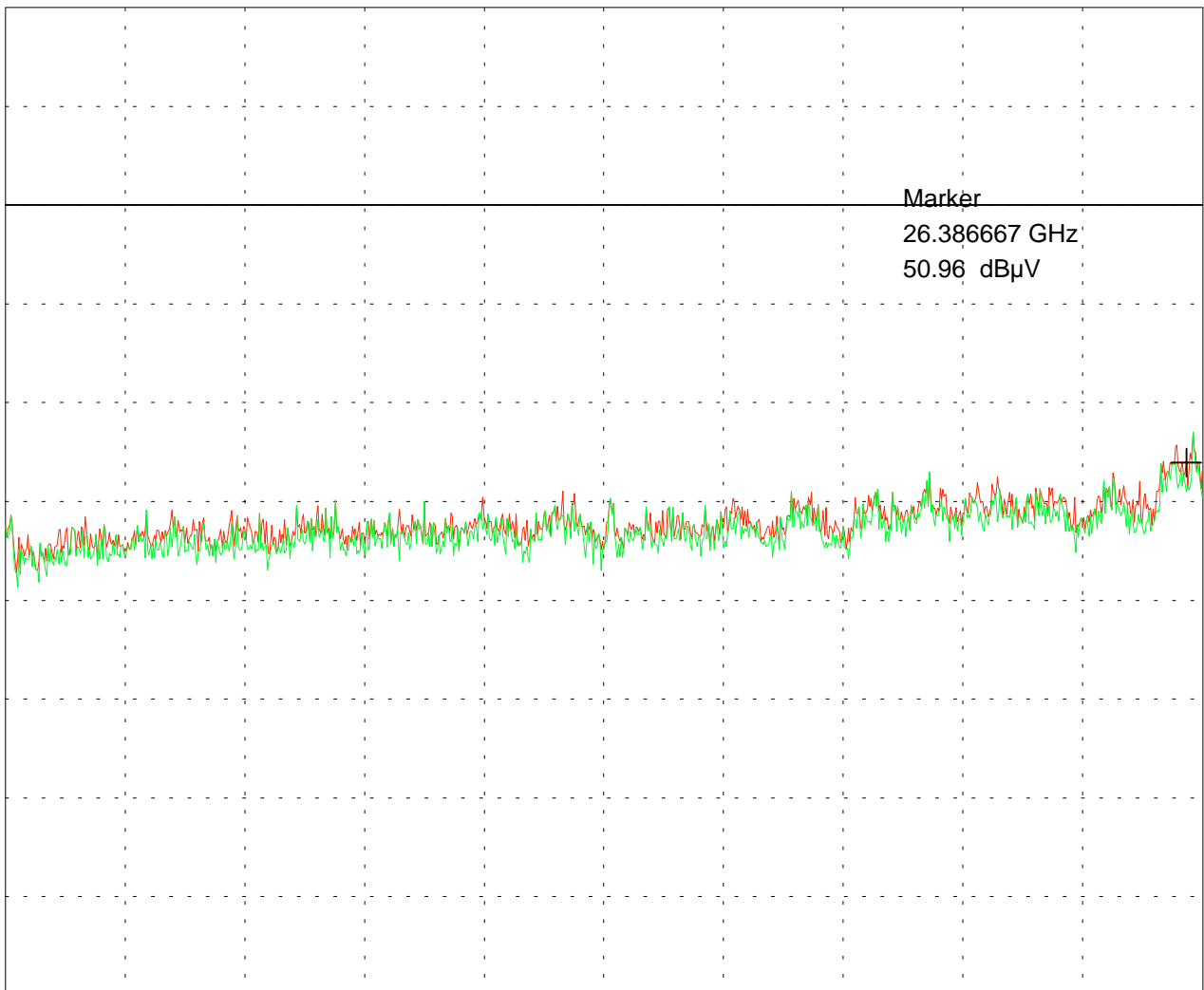
Spurious emissions according FCC Rules, Section 15.247

Model: IHF-1000	Mode: - TX at 2480 MHz - Power setting = 63 (maximum)
Serial No.: PCB-Antenna	- Radiated Measurement, 1 m test distance - Antenna correction included - Readings are field strength values - Limit adjusted for test distance
Applicant: Motorola GmbH - ACES	- Horizontal Polarisation (red trace) - Vertical Polarisation (green trace)

Ref.Level 74 dB μ V
5 dB/Div.

ATT 0 dB

Ref. Offset 40.5 dB



Start 18.000 GHz
RBW 100 kHz

VBW 100 kHz

Stop 26.500 GHz
SWP 2.60 s

Tested by: Johann Roidt	Project-No.: 51349-40442-2
Date: 24 August 2004	Page of pages

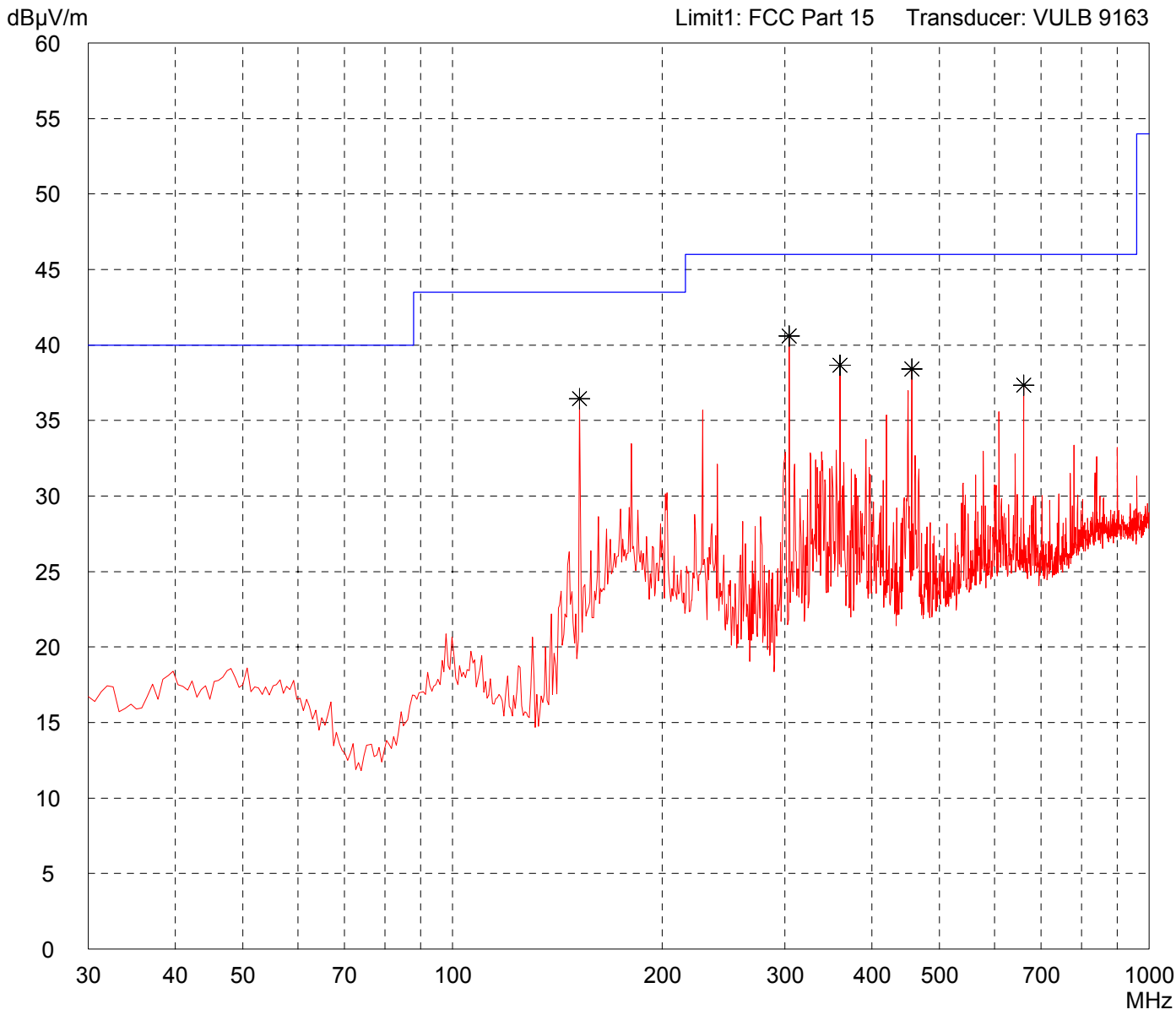
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - RX at 2441 MHz	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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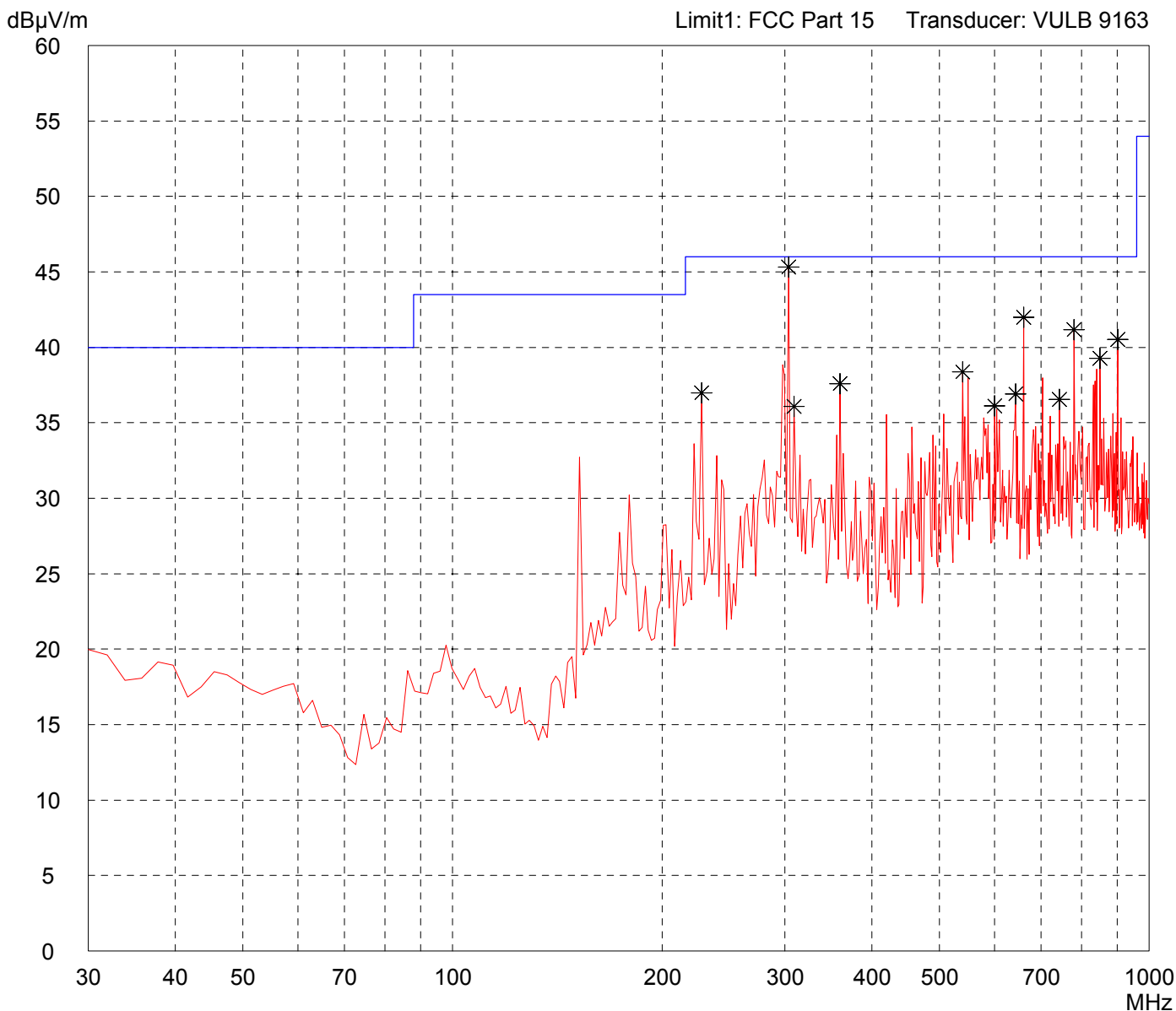
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - RX at 2441 MHz

Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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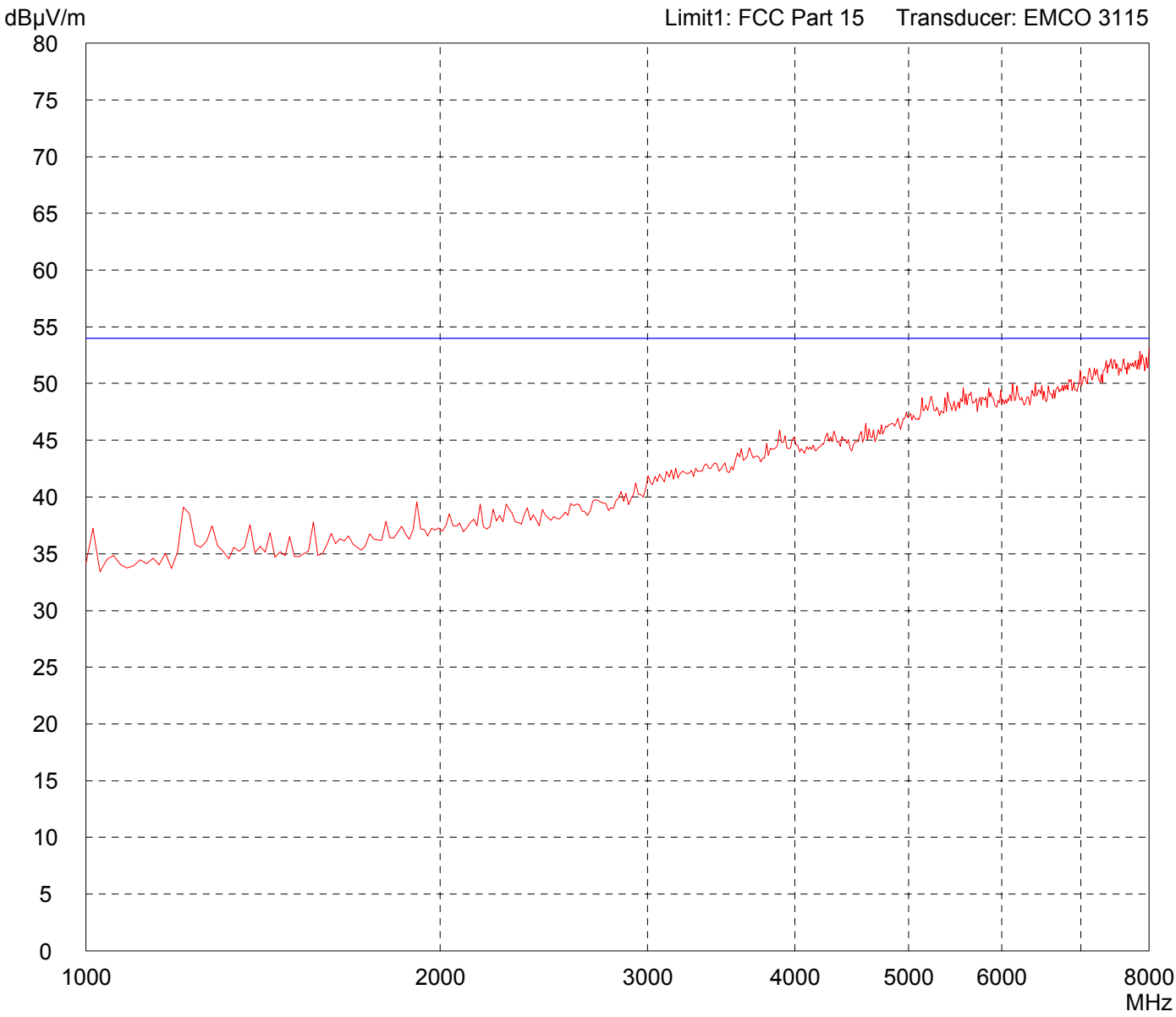
Radiated Emission Test 1 GHz - 8 GHz acc. to FCC Part 15 (EMCO 3115)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - RX at 2441MHz -

Detector: Peak

List of values: Selected by hand
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Result: Limit kept

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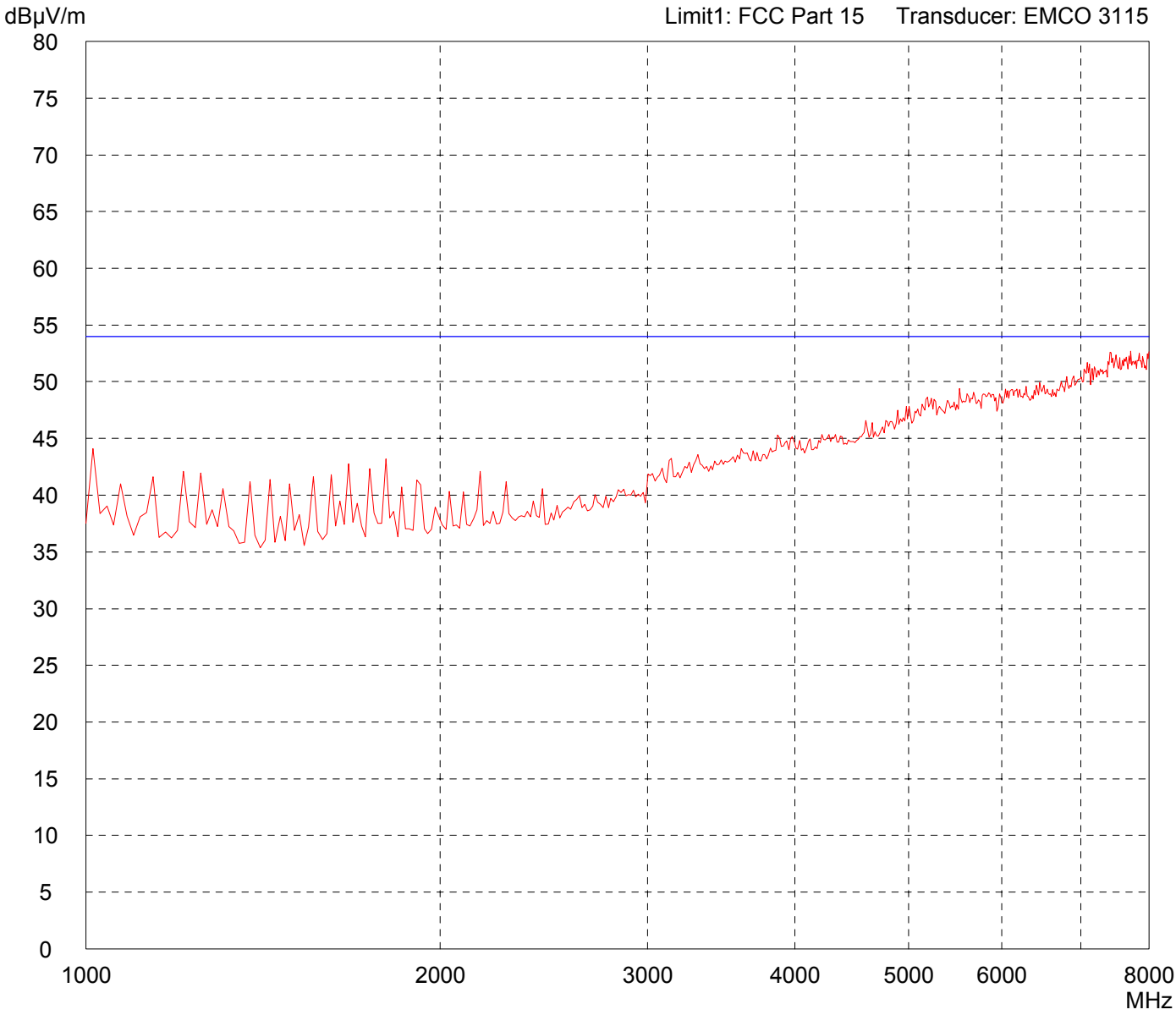
Radiated Emission Test 1 GHz - 8 GHz acc. to FCC Part 15 (EMCO 3115)

Model: IHF-1000	
Serial no.: Chip Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/27/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - RX at 2441MHz -

Detector: Peak

List of values: Selected by hand
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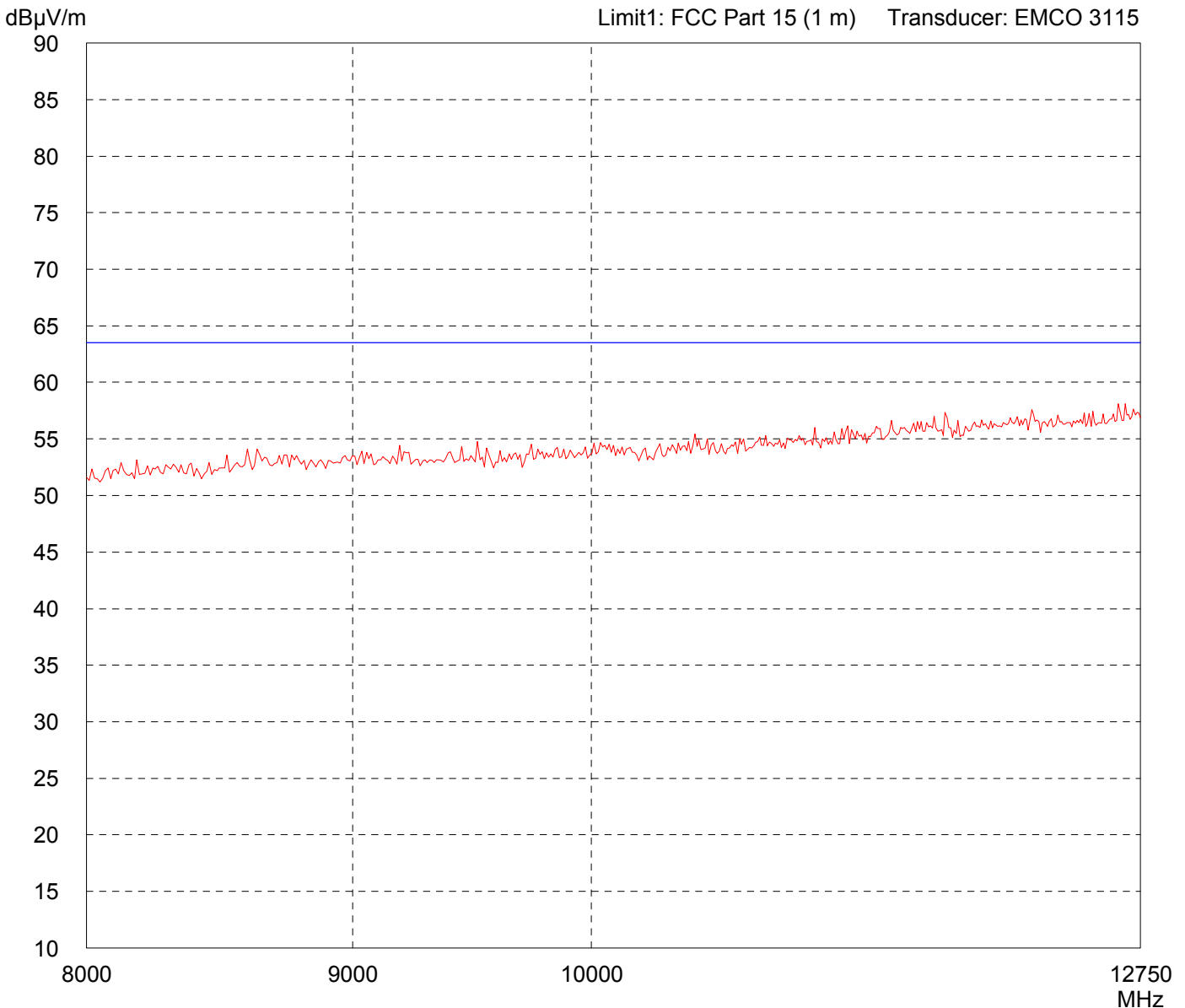
Result: Limit kept

Project file: 51349-40442-2	Page of Pages
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Radiated Emission Test 8 GHz - 12.75 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: IHF-1000</p> <p>Serial no.: Chip Antenna</p> <p>Applicant: Motorola GmbH - ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 metre Horizontal Polarization</p> <p>Date of test: 08/27/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment: - RX at 2441MHz -</p>
--	---

<p>Detector: Peak</p>	<p>List of values: Selected by hand</p>
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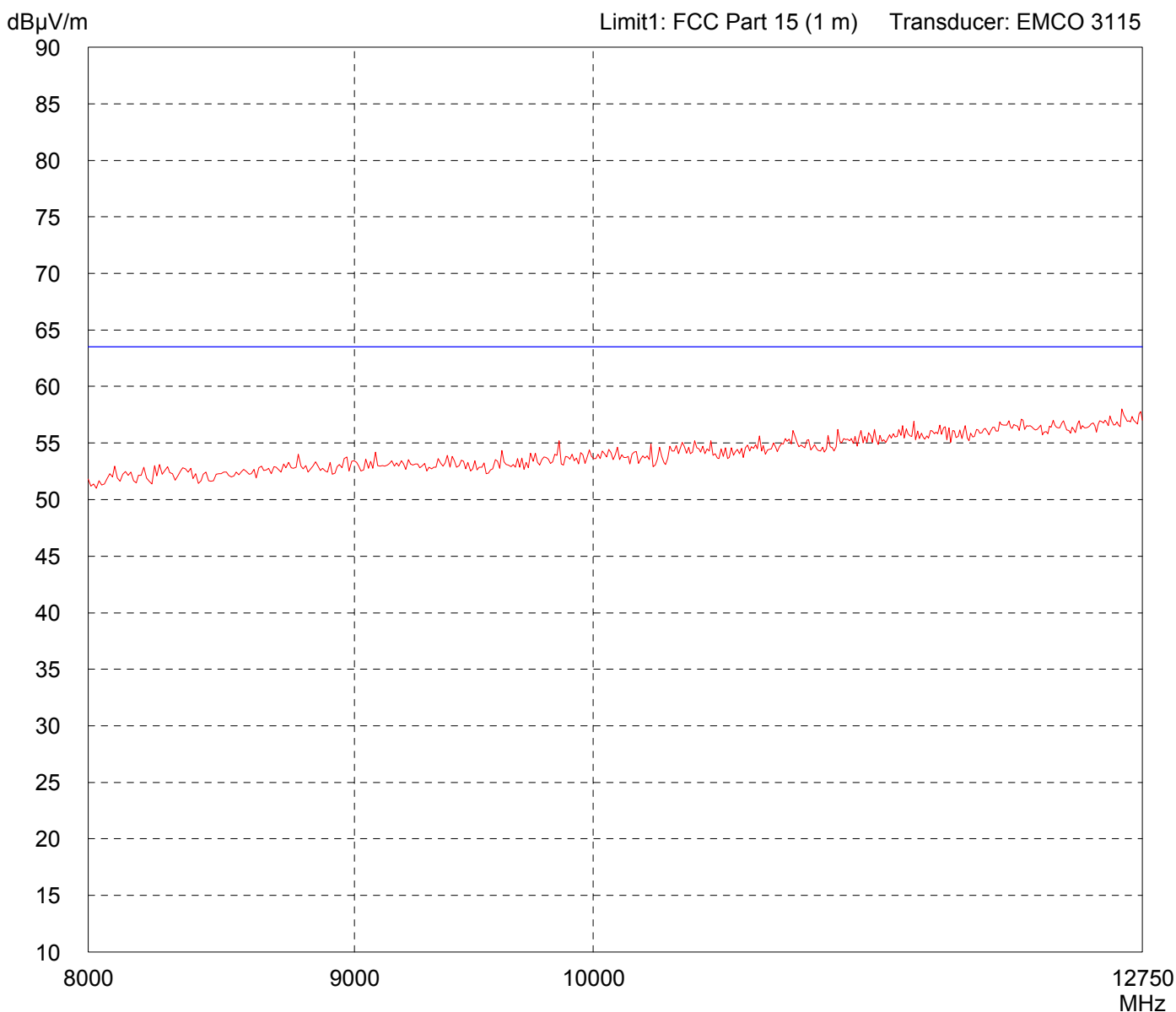


<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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Radiated Emission Test 8 GHz - 12.75 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: IHF-1000</p> <p>Serial no.: Chip Antenna</p> <p>Applicant: Motorola GmbH - ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 metre Vertical Polarization</p> <p>Date of test: 08/27/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment: - RX at 2441MHz -</p>
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<p>Detector: Peak</p>	<p>List of values: Selected by hand</p>
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<p>Result: Limit kept</p>	<p>Project file: 51349-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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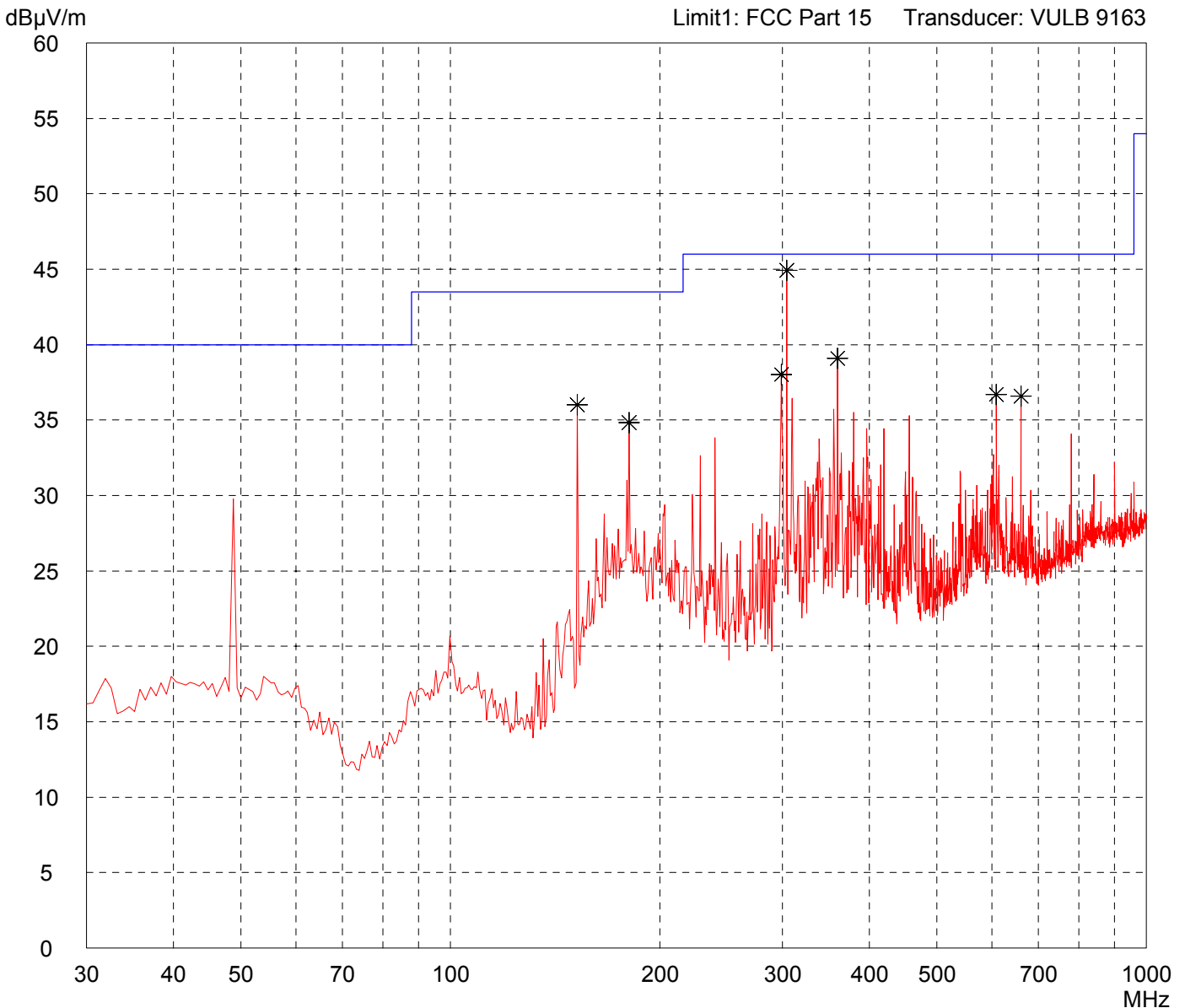
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - RX at 2441 MHz	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Prescan

Project file: 51359-40442-2	Page of Pages
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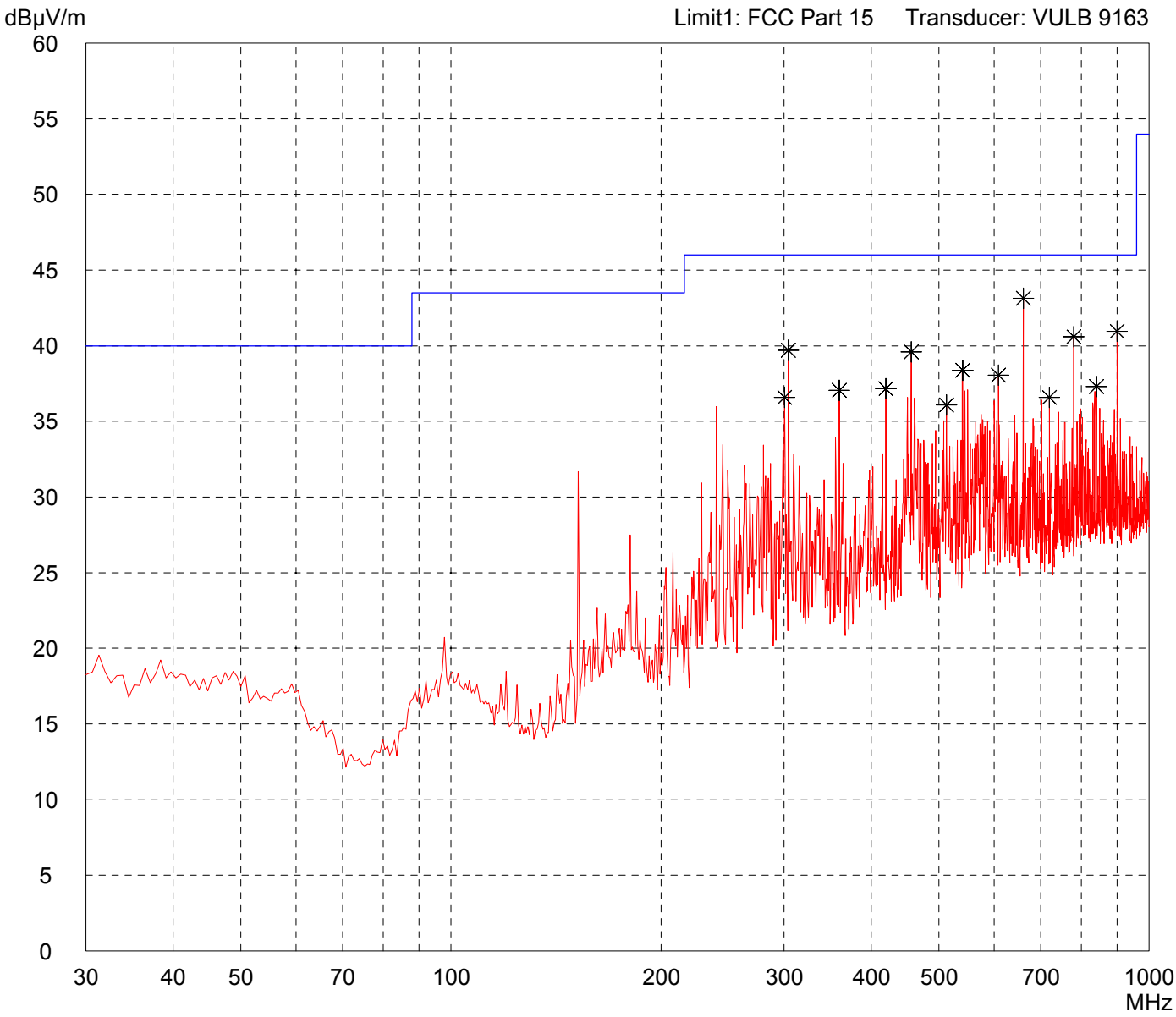
Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - RX at 2441 MHz

Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Prescan

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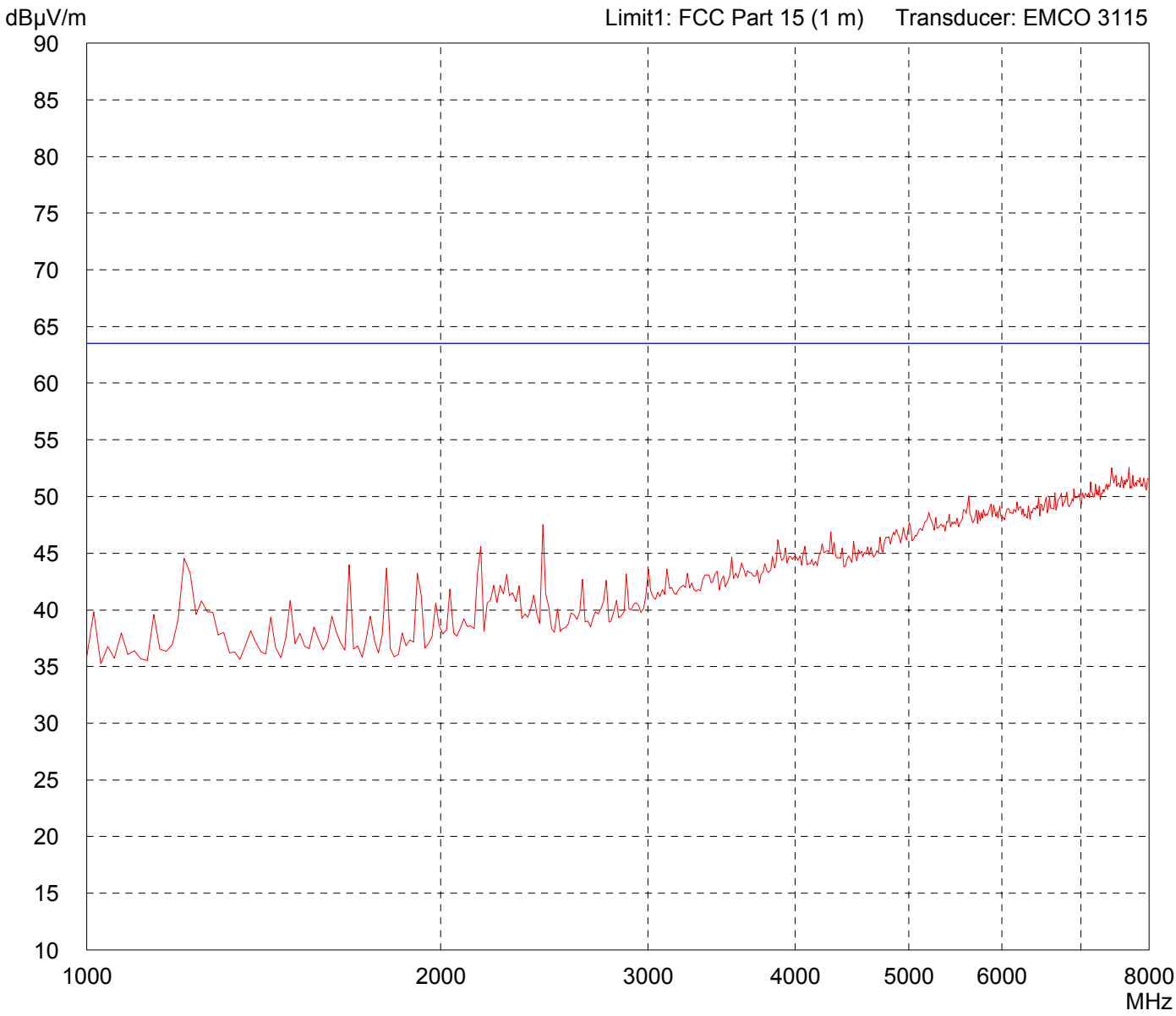
Radiated Emission Test 1 GHz - 8 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 metre Horizontal Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment: - RX at 2441 MHz	
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Detector: Peak

List of values: 10 dB Margin	50 Subranges
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Result: Limit kept

Project file: 51359-40442-2	Page of Pages
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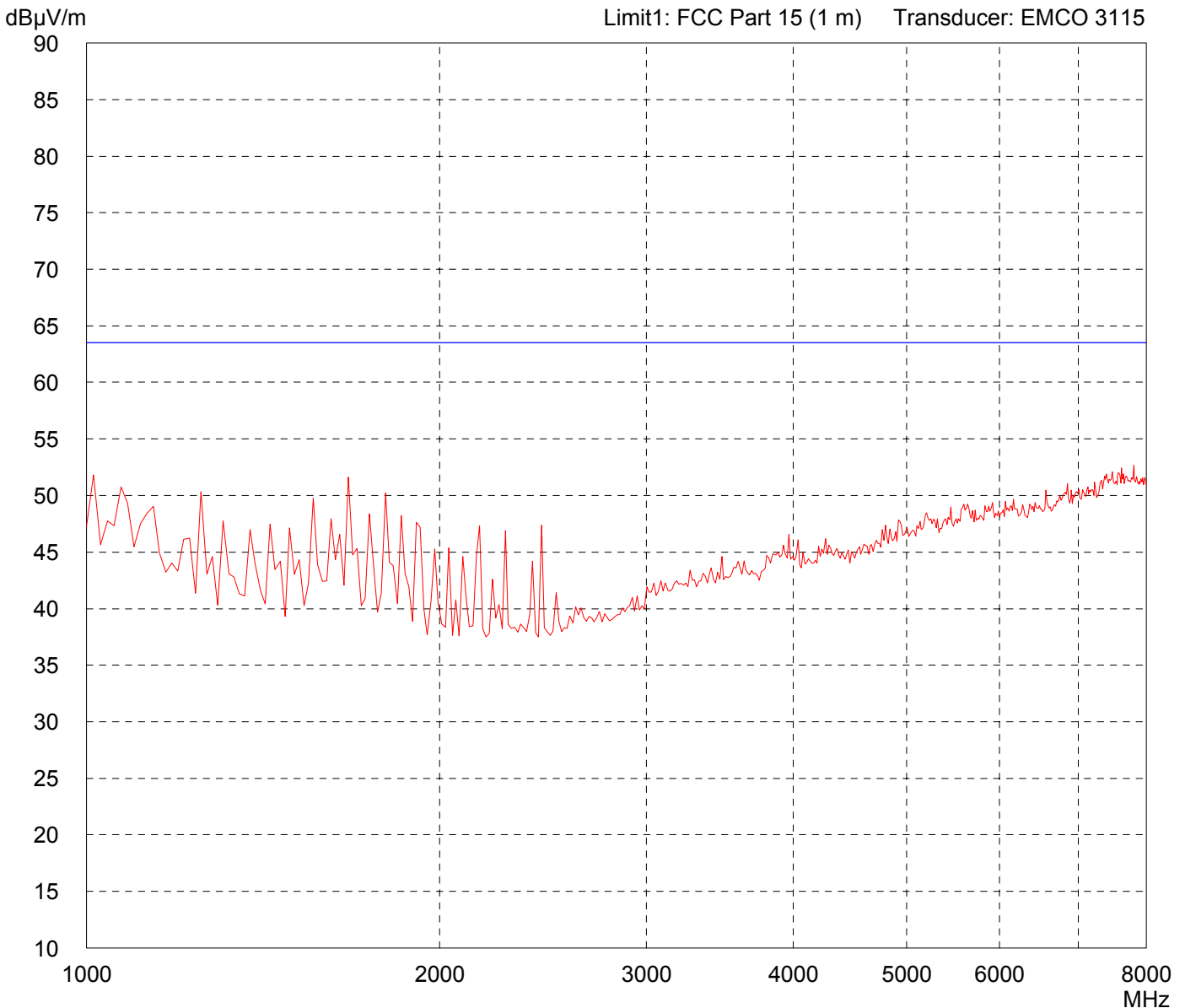
Radiated Emission Test 1 GHz - 8 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 metre Vertical Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment:
- RX at 2441 MHz

Detector: Peak

List of values:
10 dB Margin 50 Subranges



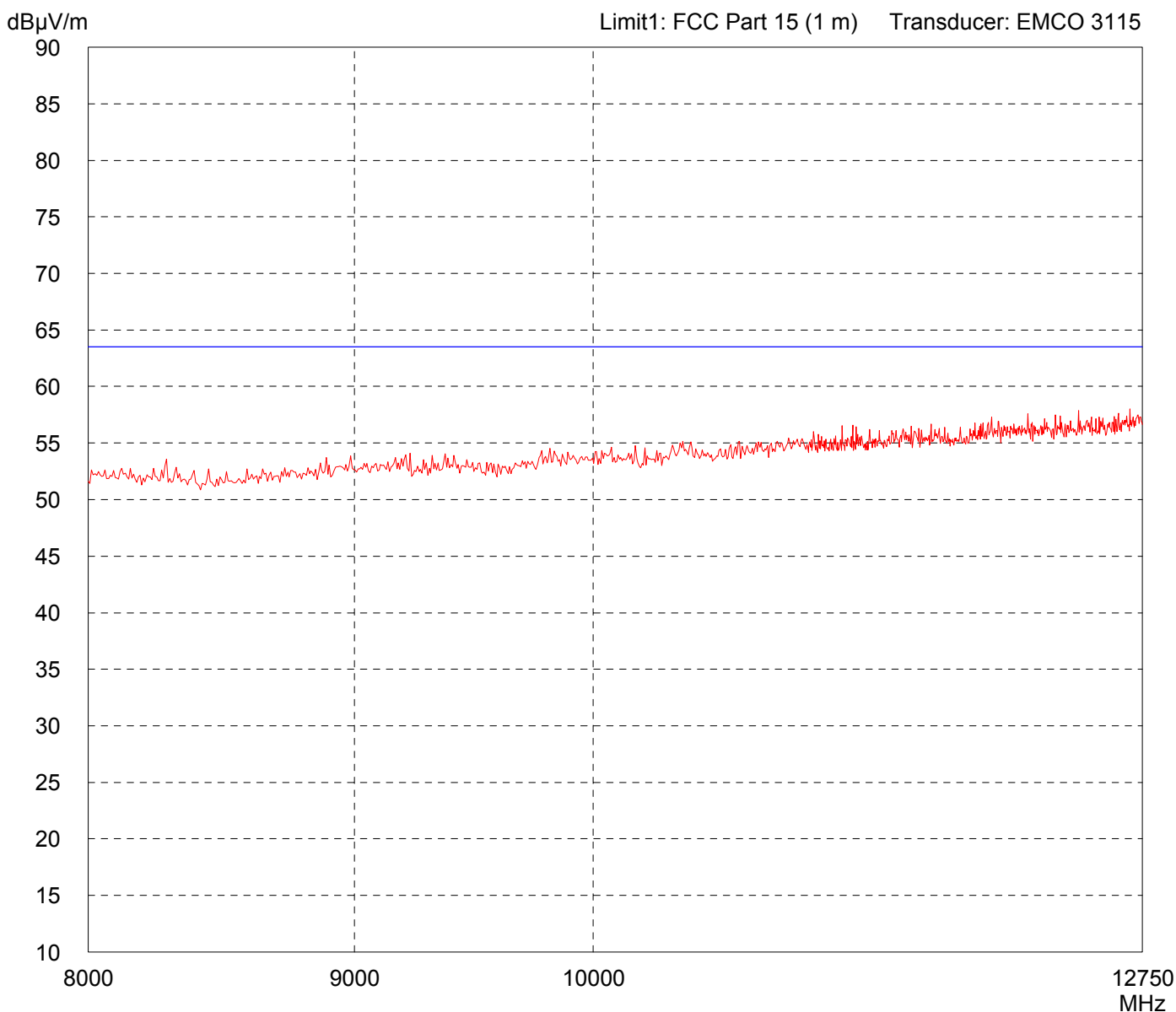
Result: Limit kept

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Radiated Emission Test 8 GHz - 12.75 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: IHF-1000</p> <p>Serial no.: PCB Antenna</p> <p>Applicant: Motorola GmbH - ACES</p> <p>Test site: Fully anechoic room, cabin no. 2</p> <p>Tested on: Test distance 1 metre Horizontal Polarization</p> <p>Date of test: 08/24/2004 Operator: J. Roidt</p> <p>Test performed: automatically File name: default.emi</p>	<p>Comment: - RX at 2441 MHz</p>
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<p>Detector: Peak</p>	<p>List of values: Selected by hand</p>
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<p>Result: Limit kept</p>	<p>Project file: 51359-40442-2</p> <p style="text-align: right;">Page of Pages</p>
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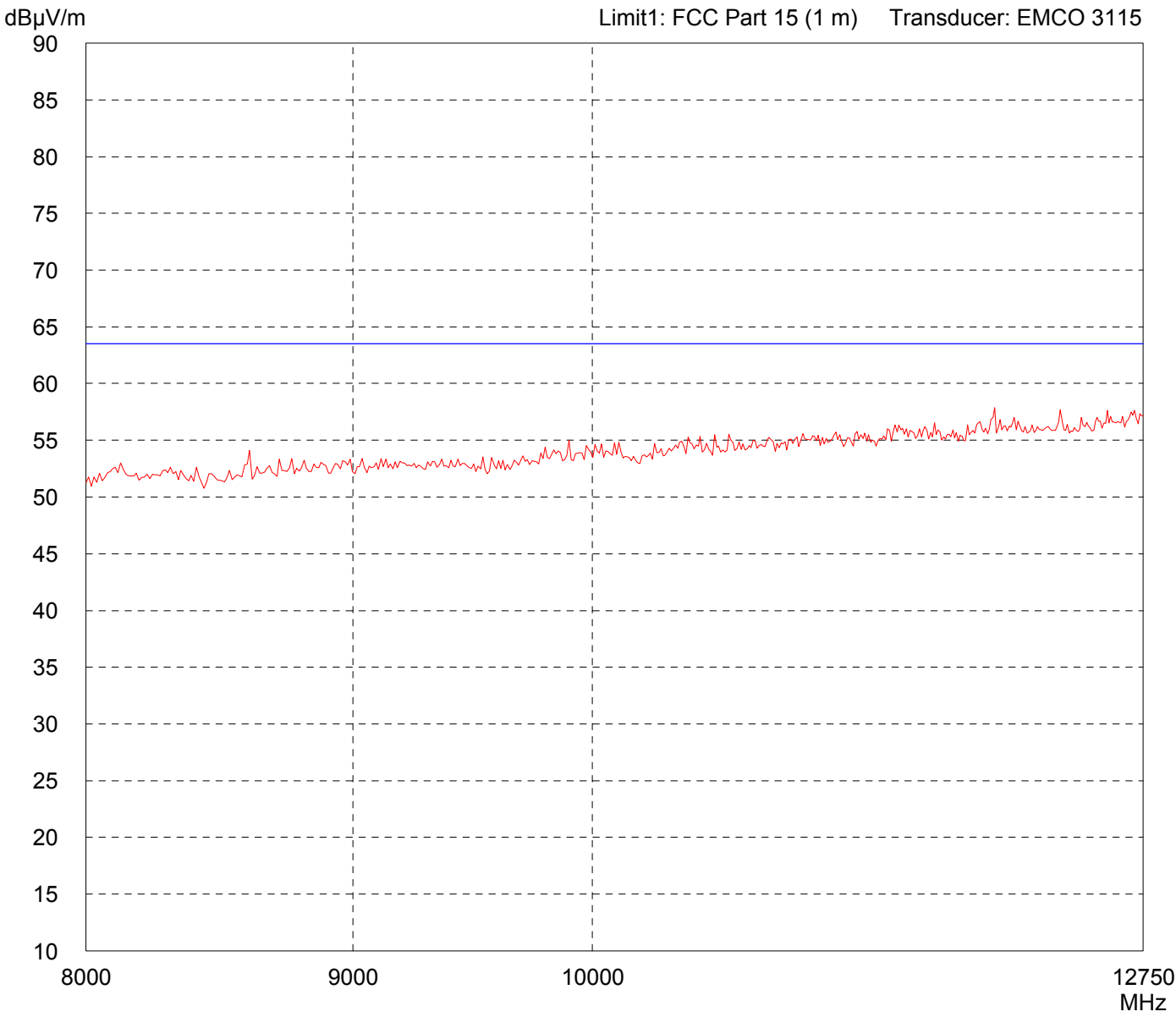
Radiated Emission Test 8 GHz - 12.75 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: IHF-1000	
Serial no.: PCB Antenna	
Applicant: Motorola GmbH - ACES	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 1 metre Vertical Polarization	
Date of test: 08/24/2004	Operator: J. Roidt
Test performed: automatically	File name: default.emi

Comment:
- RX at 2441 MHz

Detector:
Peak

List of values:
Selected by hand



Result:
Limit kept

Project file:
51359-40442-2

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