

Straubing, July 02, 2003

**TEST - REPORT**

**No. 50530-30274**

**for**

**FHS20/21 Typ2 345 MHz ASK**

**Remote Control Transmitter**

**Applicant:** ELDAT Gesellschaft für Elektronik und  
Datentechnik mbH

**Test Specification:** FCC Code of Federal Regulations,  
Part 15 Subpart C, Section 15.231

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**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**


<b>Test item (EUT)</b>	
Type designation	FHS 20/21 Typ 2 ASK 315 MHz
Serial number(s):	001
Type of equipment:	Remote Control Transmitter
Parts/accessories:	---
FCC-ID:	
<b>Technical data</b>	
Frequency range	N/A
Operational frequency	345 MHz
Type of modulation	10K0A1D
Pulse frequency	N/A
Pulse width	N/A
Antenna	Integrated
Power supply	3 V Lithium Battery (CR2032)
<b>Applicant:</b> (full address)	ELDAT Gesellschaft für Elektronik und Datentechnik mbH Im Gewerbepark 14 D-15711 Zeesen
Contract identification:	P.O. 16847 OF
Contact person:	Mr. Andreas Eidam
Manufacturer:	Applicant
<b>Application details</b>	
Receipt of EUT:	25 March 2003
Date of test:	12 May 2003
Note:	---
Responsible for testing:	J. Roidt
Responsible for test report:	J. 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
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. Martin Steindl
RESPONSIBLE FOR TEST REPORT:	Mr. Martin Steindl

### SUMMARY OF TEST RESULTS

The tested sample complies with the requirements set forth in the  
**FCC Code of Federal Regulations**  
**Part 15, Subpart C, Section 15.231**

### 3. Operation Mode of EUT

While one button is pressed, the transmitter continuously sends the corresponding datagram. When the button is released, the transmitter stops working instantly.

**4. Configuration**

<b>Configuration of the EUT</b>
Not applicable

<b>Cables connected to the EUT</b>
Not applicable

<b>Peripheral devices connected to the EUT</b>
Not applicable

## 5. Measuring Methods

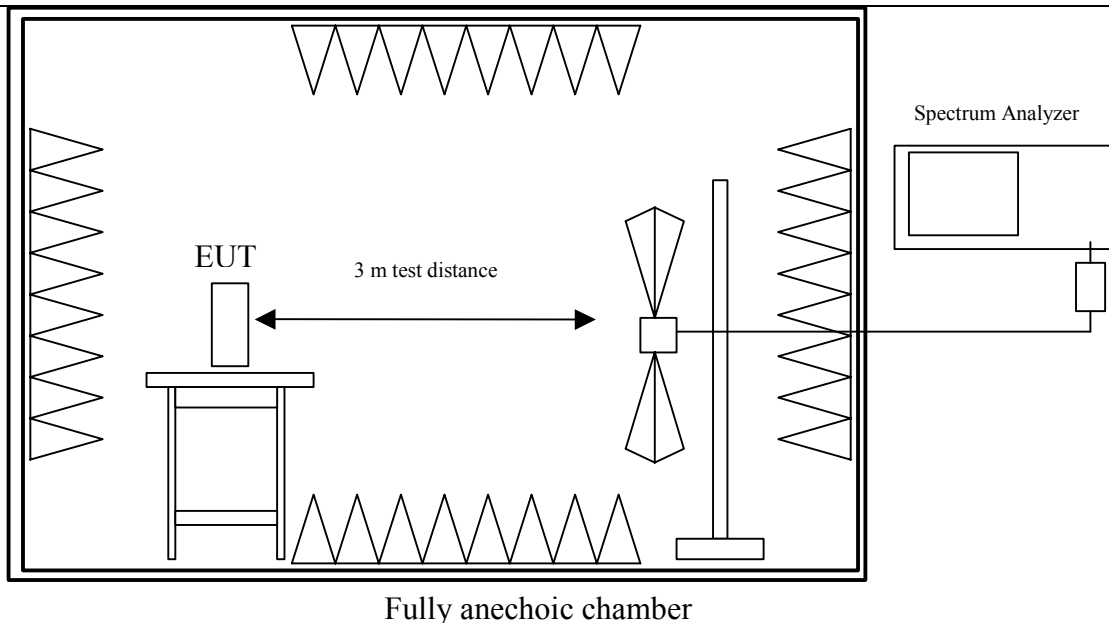
## 5.1. Field Strength of Emissions, Prescans in a fully-anechoic room (30 MHz – 1 GHz)

Rules and Specifications:	Sections 15.109 & 15.231
Guide:	ANSI C63.4 1997

### 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:

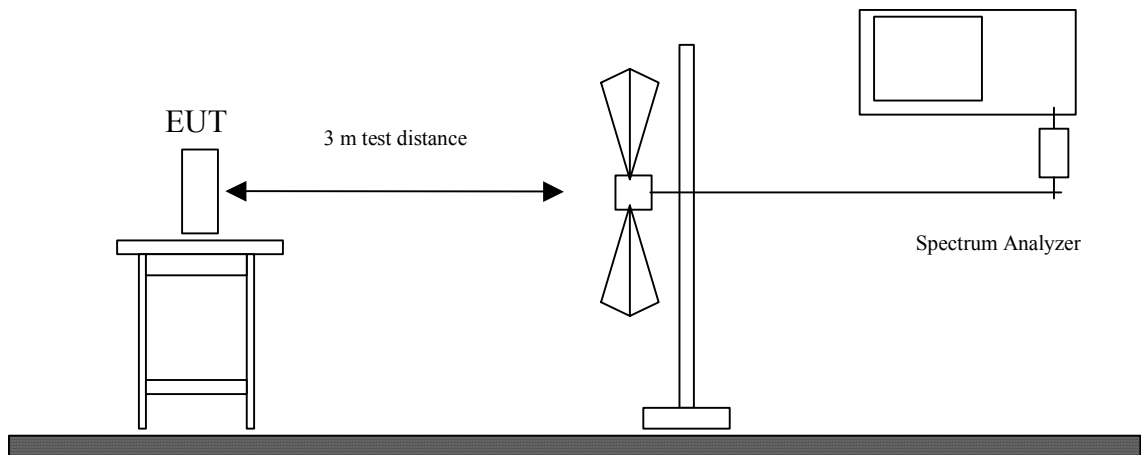
No.	Type	Model	Serial Number	Manufacturer
01	Spectrum Analyzer	FSP 30	100063	Rohde & Schwarz
113	Preamplifier	CPA9231A	3393	Schaffner
141	Biconical antenna	HK 116	829708/006	Rohde & Schwarz
143	Log. periodic antenna	3147	9112-1054	EMCO
003	Fully anechoic room	No. 2	1452	Albatross Projects



## 5.2. Field Strength of Emissions, Measurement at Open Area Test Site (30 MHz – 1 GHz)

Rules and Specifications:	Sections 15.109 & 15.231
Guide:	ANSI C63.4 1997

<b>Measurement Procedure:</b>
<p>Measurement Procedure:</p> <p>For final testing an open-area test-site was used. Radiated emissions are measured over the frequency range from 30 MHz to 1 GHz.</p> <p>Measurements were made in both the horizontal and vertical planes of polarisation at a open area test site using a spectrum analyser with the detector function set to CISPR. All test were performed at a test distance of 3 meters. During the tests the EUT is rotated all around, and the receiving-antenna is rased and lowered from 1m to 4m to find the maximum levels of emissions. The cables and equipment were placed and moved within the range of position likely to find their maximum emissions.</p>



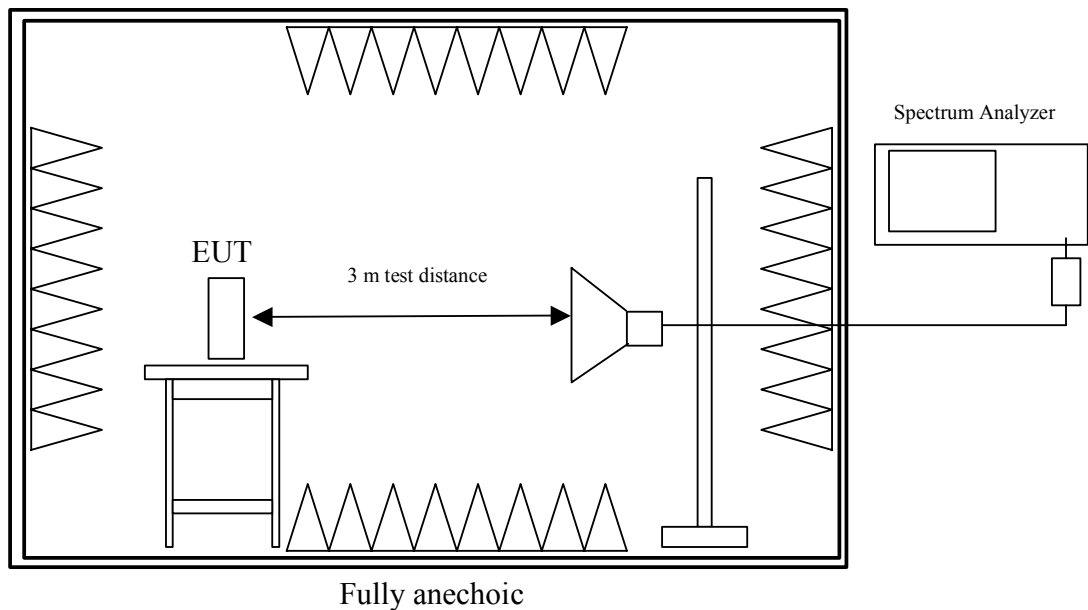
**Test instruments used:**

No.	Type	Model	Serial Number	Manufacturer
01	EMI Receiver	ESVP	881414/009	Rohde & Schwarz
141	Biconical antenna	HK 116	829708/006	Rohde & Schwarz
143	Log. periodic antenna	3147	9112-1054	EMCO
003	Open Field Test Site	No. 1	N/A	Senton

### 5.3. Field Strength of Emissions above 1 GHz

Rules and Specifications:	Sections 15.109 & 15.209
Guide:	ANSI C63.4 1997

Measurement Procedure:
<p>Radiated emissions are measured in the frequency range 1 GHz to the 10<sup>th</sup> harmonic of the maximum frequency of the EUT.</p> <p>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

FCC-ID:

Test Report No.: 50530-30274

## 6. Photographs Taken During Testing

## Test setup for radiated emission measurement (fully anechoic room)



## Test setup for radiated emission measurement (open-area test-side)



**7. List of Measurements**

<b>FCC Part 15</b>			
<b>Section(s):</b>	<b>Test</b>	<b>Page(s)</b>	<b>Result</b>
<b>15.205</b>	Restricted Bands	---	Pass
<b>15.207</b>	AC powerline emissions	---	Not applicable
<b>15.231 (a) (1)</b>	Periodic operation	---	Pass
<b>15.231 (b)</b>	Field strength of emissions	16	Pass
<b>15.231 (b)</b>	Duty Cycle Correction	17	---
<b>15.231 (c)</b>	Bandwidth of emissions	18	Pass

## Field strength of emissions

Rules and Specifications:	15.231 (b) Radiated Emission Limits		
Guide:	ANSI C63.4		
Limit:	In addition to the provisions of Section 15.205, the field strength of emissions from intentional radiators operated under Section 15.231 shall not exceed the following:		
	Fundamental Frequency (MHz)	Field Strength of Fundamental (microvolts/meter)	Field Strength of Spurious Emissions (microvolts/meter)
	40.66 – 40.70 70 – 130 130 - 174 174 - 260 260 – 470 above 470	2.250 1.250 1.250 to 3.750** 3.750 3750 to 12.500** 12.500	225 125 125 to 375 ** 375 375 to 1250 ** 1250

\*\* linear interpolations

Test Site:	Open Area Test Site (< 1 GHz), Fully anechoic chamber (> 1 GHz)
Distance:	3 Meter

Frequency (MHz)	Detector	Antenna Polarization	Analyzer Reading (dBµV)	Antenna Correction (dB/m)	Duty Cycle Correction (dB/m)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
345.00	Peak	Vertical	65.7	16.90	-12.75	69.85	77.25	<b>-7.4</b>
690.00	Peak	Vertical	24.50	24.40	-12.75	36.15	57.25	<b>-21.1</b>
1378.00	Peak	Vertical	17.91	29.18	-12.75	34.34	57.25	<b>-22.9</b>
1726.00	Peak	Vertical	16.96	31.9	-12.75	36.11	57.25	<b>-21.1</b>
3106.00	Peak	Vertical	15.23	38.05	-12.75	40.53	57.25	<b>-16.7</b>
3796.00	Peak	Vertical	17.43	41.67	-12.75	46.35	57.25	<b>-10.9</b>

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

A negative value for Margin indicates, that the limit is kept.

**Sample calculation of erp values:**

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

<b>Test Results:</b>	Pass
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## Duty Cycle Correction

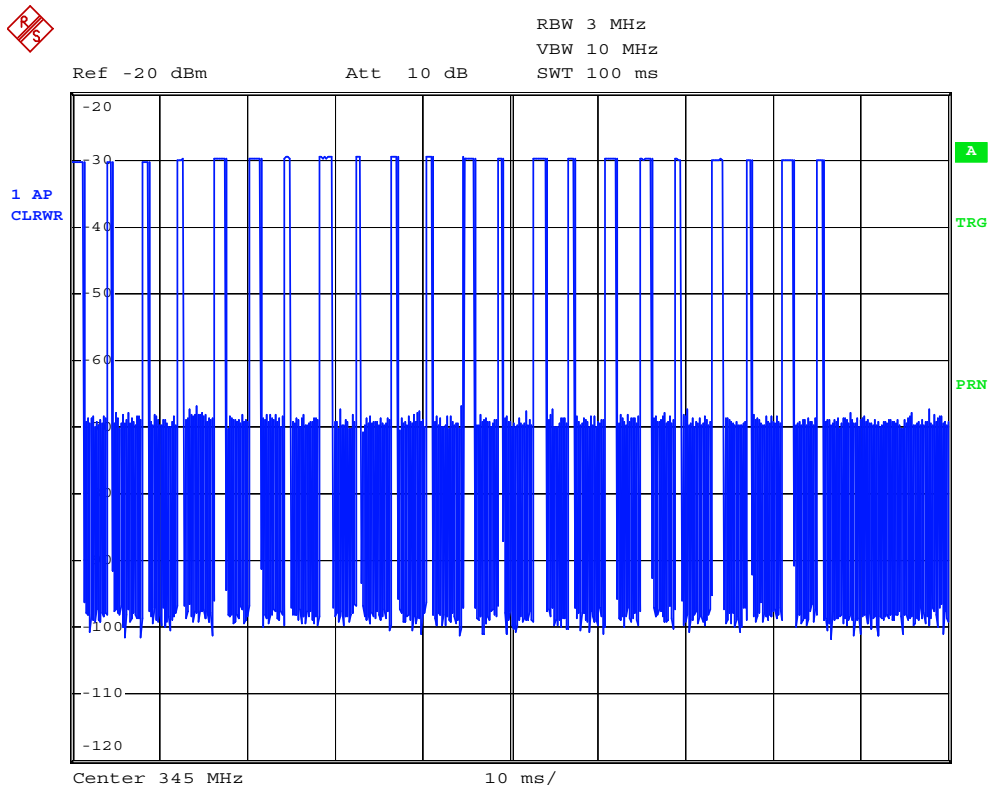
Rules and Specifications:	15.231 (b) (2) Limits on the Field Strength of Emissions
Guide:	ANSI C63.4
ANSI C63.4	When average detector function limits are specified for a pulse modulated transmitter, the average level of emissions may be found by measuring the peak levels of the emissions and correcting them with the duty cycle according to ANSI C64.4, section I4 (10)

$$Duty\ Cycle\ Correction\ [dB] = 20 \cdot \log\left(\frac{Sum\ of\ the\ Pulse\ Widths}{100ms}\right) = -dB$$

T<sub>ges</sub> = 100 ms

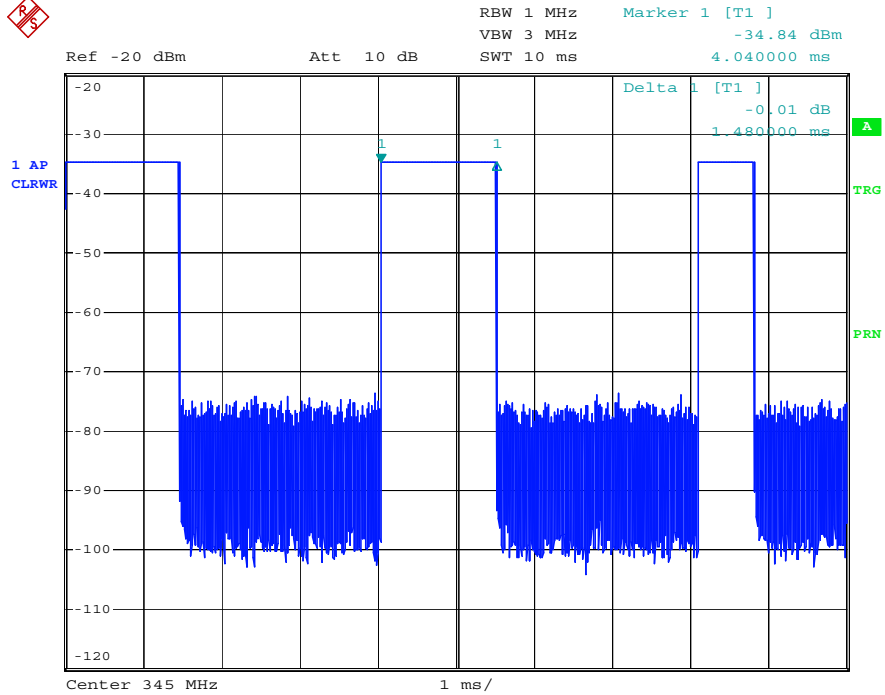
T<sub>on</sub> = 12 \* 0.72 ms + 10 \* 1.44 ms = 23.04 ms

Duty Cycle Correction = 20 \* lg ( 23.04 / 100 ) = **-12.75 dB**

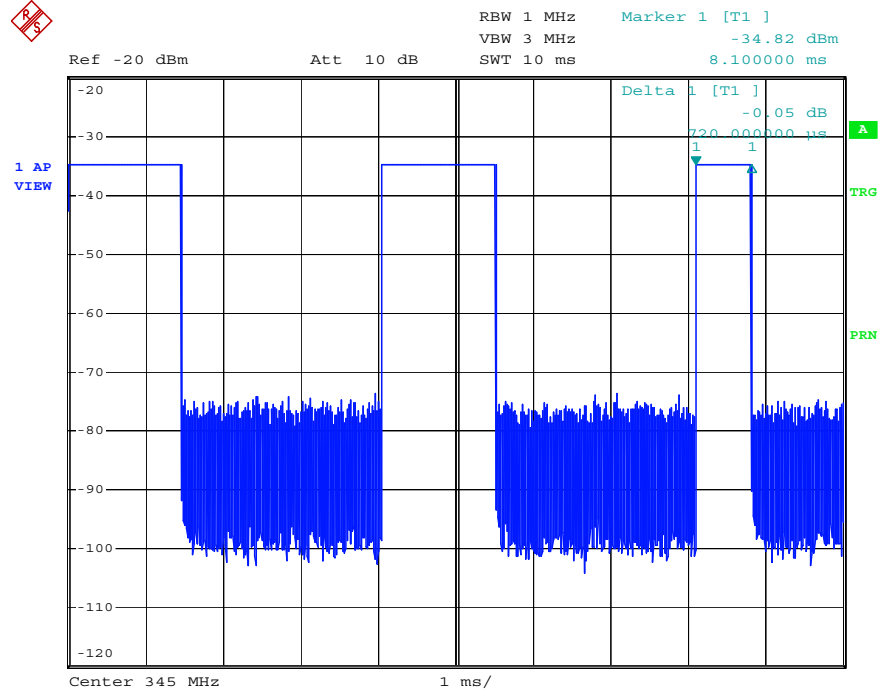


Comment A: ELD30274 - Duty cycle  
 Date: 12.MAY.2003 08:54:30





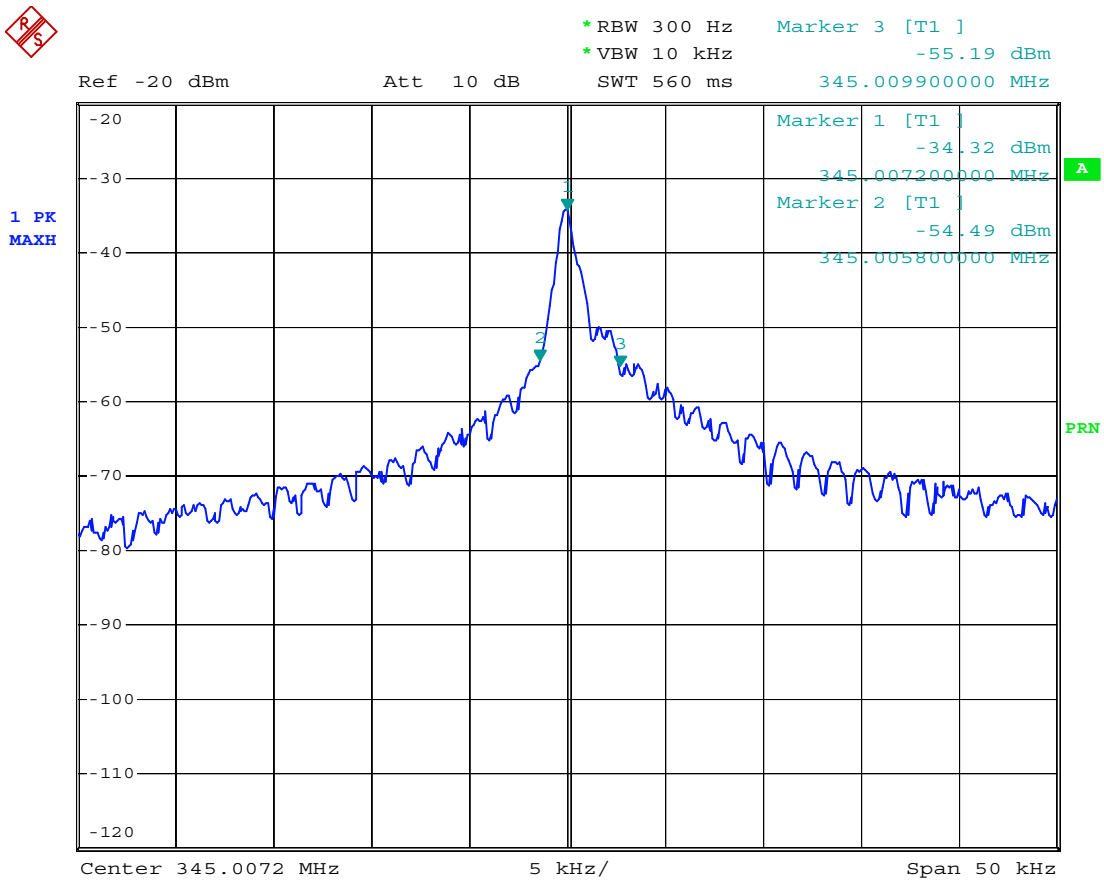
Comment A: ELD30274 - Bandwidth of Emissions  
Date: 12.MAY.2003 09:11:50



Comment A: ELD30274 - Bandwidth of Emissions  
Date: 12.MAY.2003 09:12:33

## Bandwidth of Emission

Rules and Specifications:	15.231 c
Guide:	ANSI C63.4
Limit:	The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB from the modulated carrier



Comment A: ELD30274 - Bandwidth of Emissions  
 Date: 12.MAY.2003 09:01:38

Bandwidth of Emission at -20 dB = 4.9 kHz = 1.42 %

<b>Test Results:</b>	Pass
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## 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 type="checkbox"/>	FCC Part 15 Subpart A	Code of Regulations Part 15 (Radio Frequency Devices), Subpart A (General) of the Federal Communication Commission (FCC)	May 30, 2002
<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)	May 30, 2002
<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)	May 30, 2002
<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 type="checkbox"/>	RSS-210	Radio Standards Specification RSS-210 Issue 2 for Low Power Licence-Exempt Radiocommunication Devices of Industry Canada	February 24, 1996

## Charts taken during testing

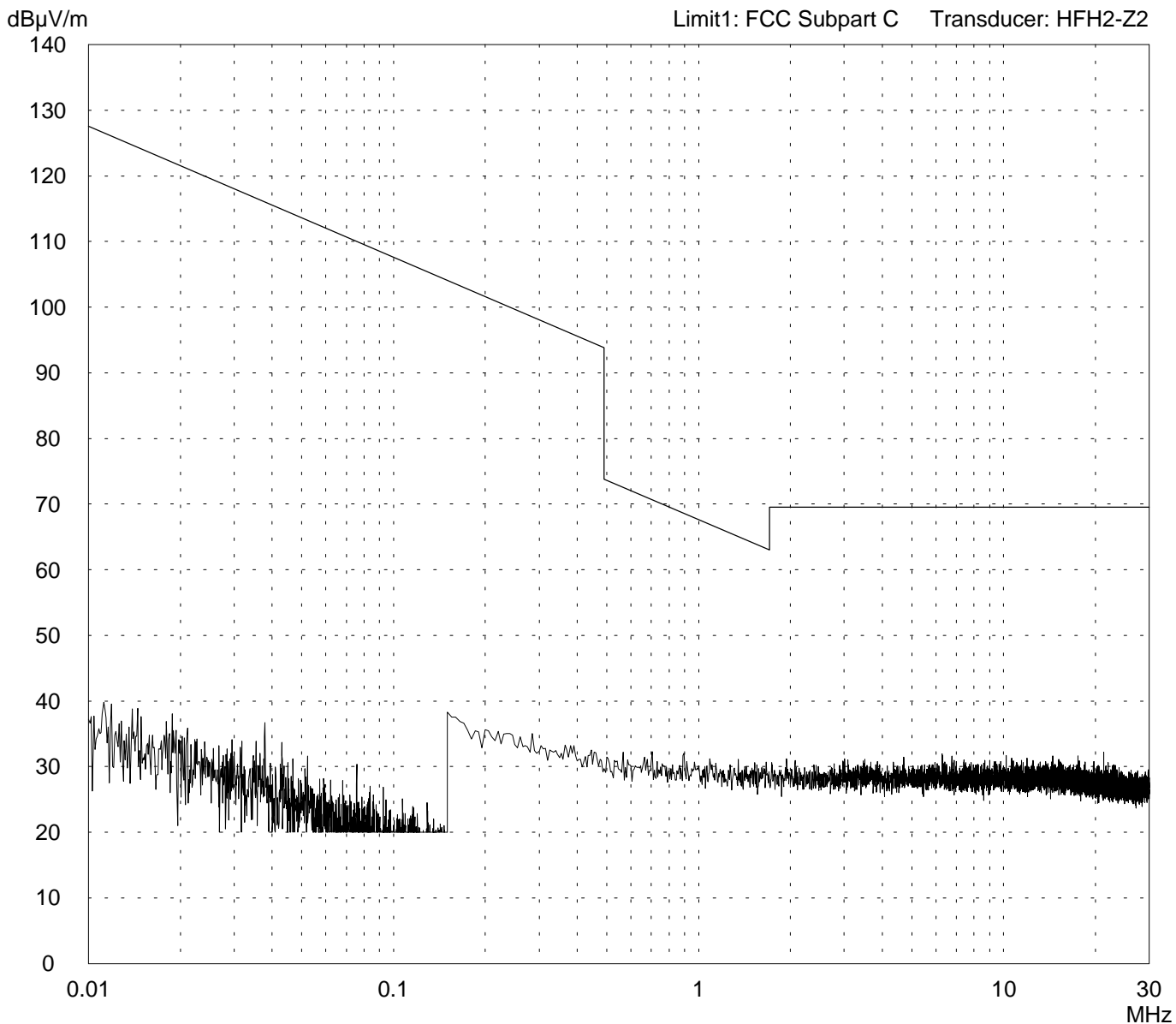
# Radiated Emission Test 10 kHz - 30 MHz according to FCC Part 15 Subpart C

Model: USA Sender 345 MHz	
Serial no.: test sample	
Applicant: Eldat GmbH	
Test site: Shielded room, cabin no. 2	
Tested on: Test distance 3 metres	
Date of test: 12/10/2003	Operator:
Test performed: automatically	File name:

Mode: - DC 3 V lithium battery supply  - EUT mounted in pneumatic system - transmitting pulsed  - EUT flat on table	
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Detector: Peak / Final Results: QP	
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Final results: 20 dB Margin	25 Subranges
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Result: Limit kept
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Project file: 50530-30274	Page    of    Pages
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## Radiated Emission Test 10 kHz - 30 MHz according to FCC Part 15 Subpart C

Model: USA Sender 345 MHz	Mode: - DC 3 V lithium battery supply  - EUT mounted in pneumatic system - transmitting pulsed  - EUT flat on table
Serial no.: test sample	
Applicant: Eldat GmbH	
Test site: Shielded room, cabin no. 2	
Tested on: Test distance 3 metres	
Date of test: 12/10/2003	Operator:
Test performed: automatically	File name:

Detector: Peak / Final Results: QP	Final results: 20 dB Margin <span style="float: right;">25 Subranges</span>
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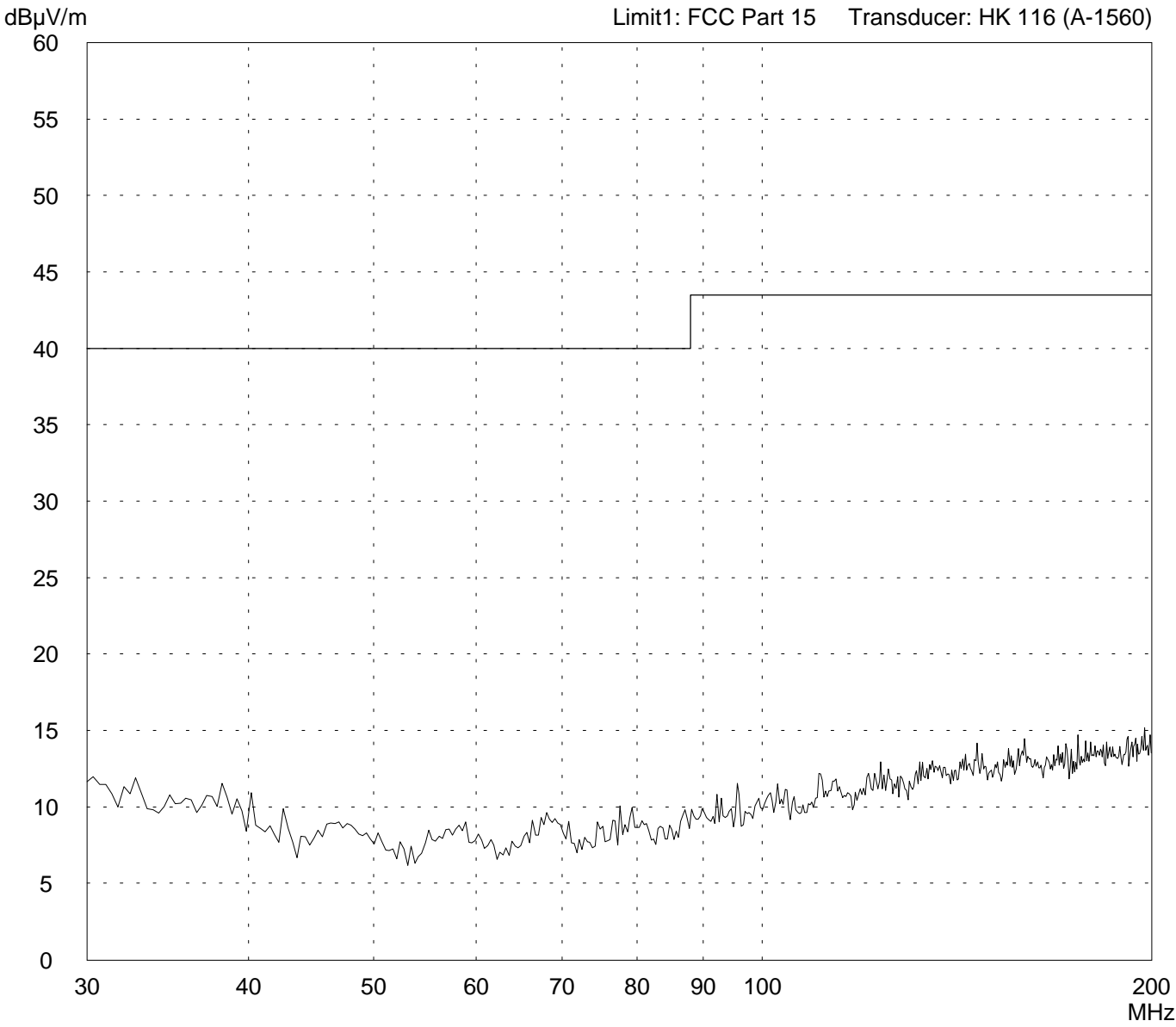
<i>Frequency MHz</i>	<i>Reading dB<math>\mu</math>V</i>	<i>Correction factor dB</i>	<i>Value dB<math>\mu</math>V/m</i>	<i>Limit dB<math>\mu</math>V/m</i>	<i>Limit exceeded</i>
no results					

Result: Limit kept	Project file: 50530-30274 <span style="float: right;">Page    of    Pages</span>
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# Radiated Emission Test 30 MHz - 200 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Horizontal Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating y-axis</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>10 dB Margin                      50 Subranges</b></p>
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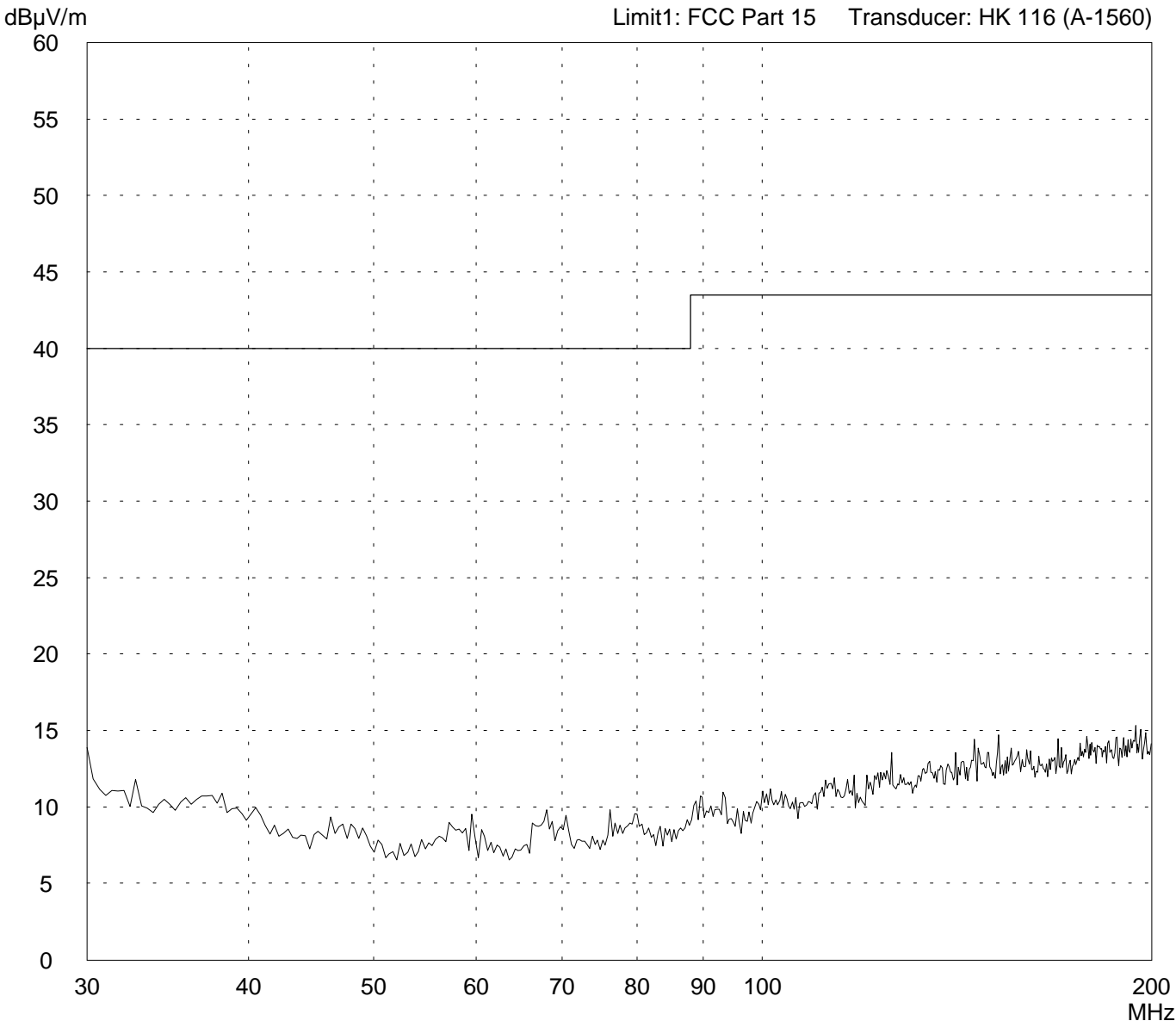


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 21 of 38 Pages</p>
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# Radiated Emission Test 30 MHz - 200 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Vertical Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating x-axis</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>10 dB Margin                      50 Subranges</b></p>
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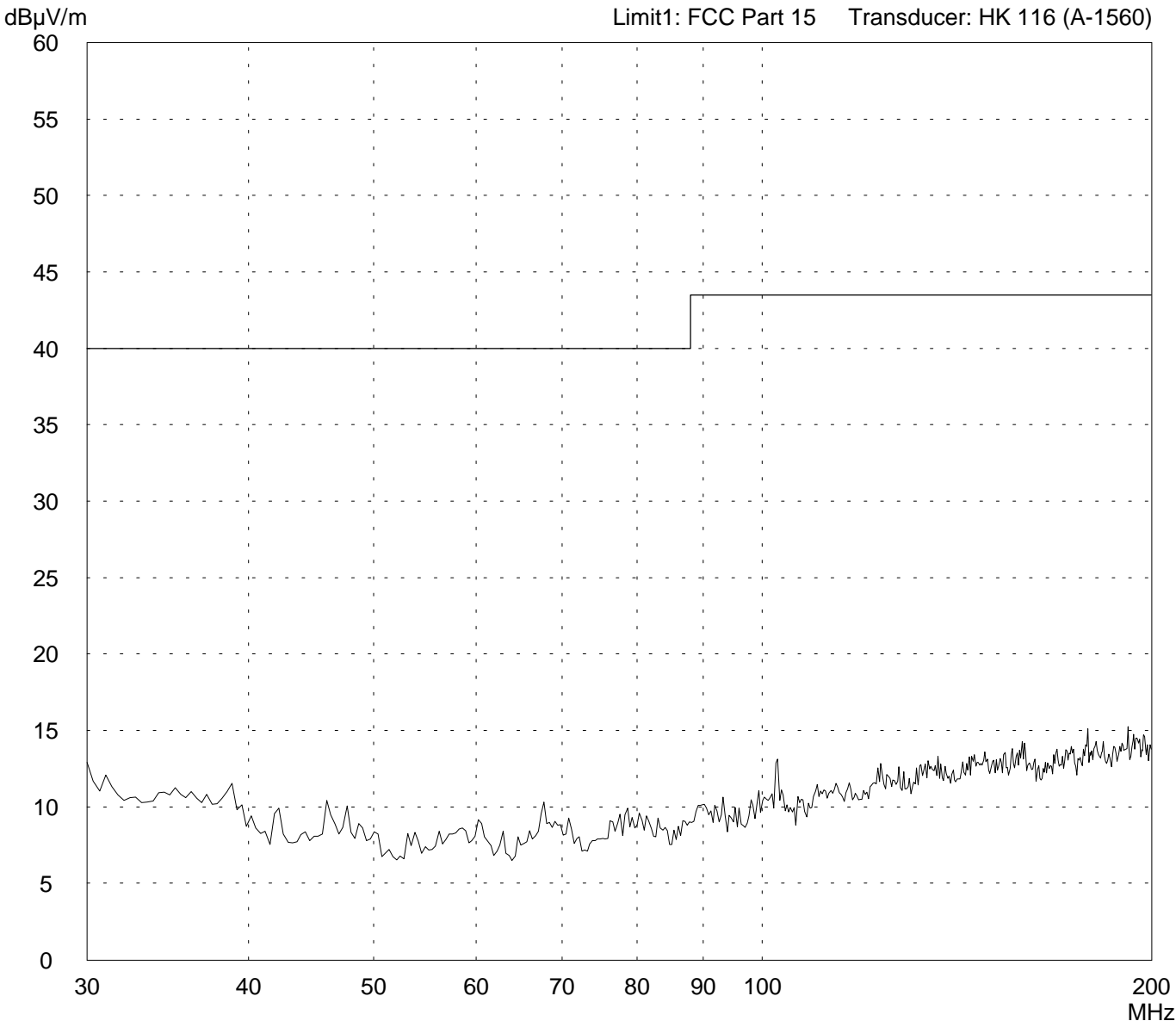
<p>Result: <b>Prescan</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 22 of 38 Pages</p>
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# Radiated Emission Test 30 MHz - 200 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Horizontal Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating x-axis</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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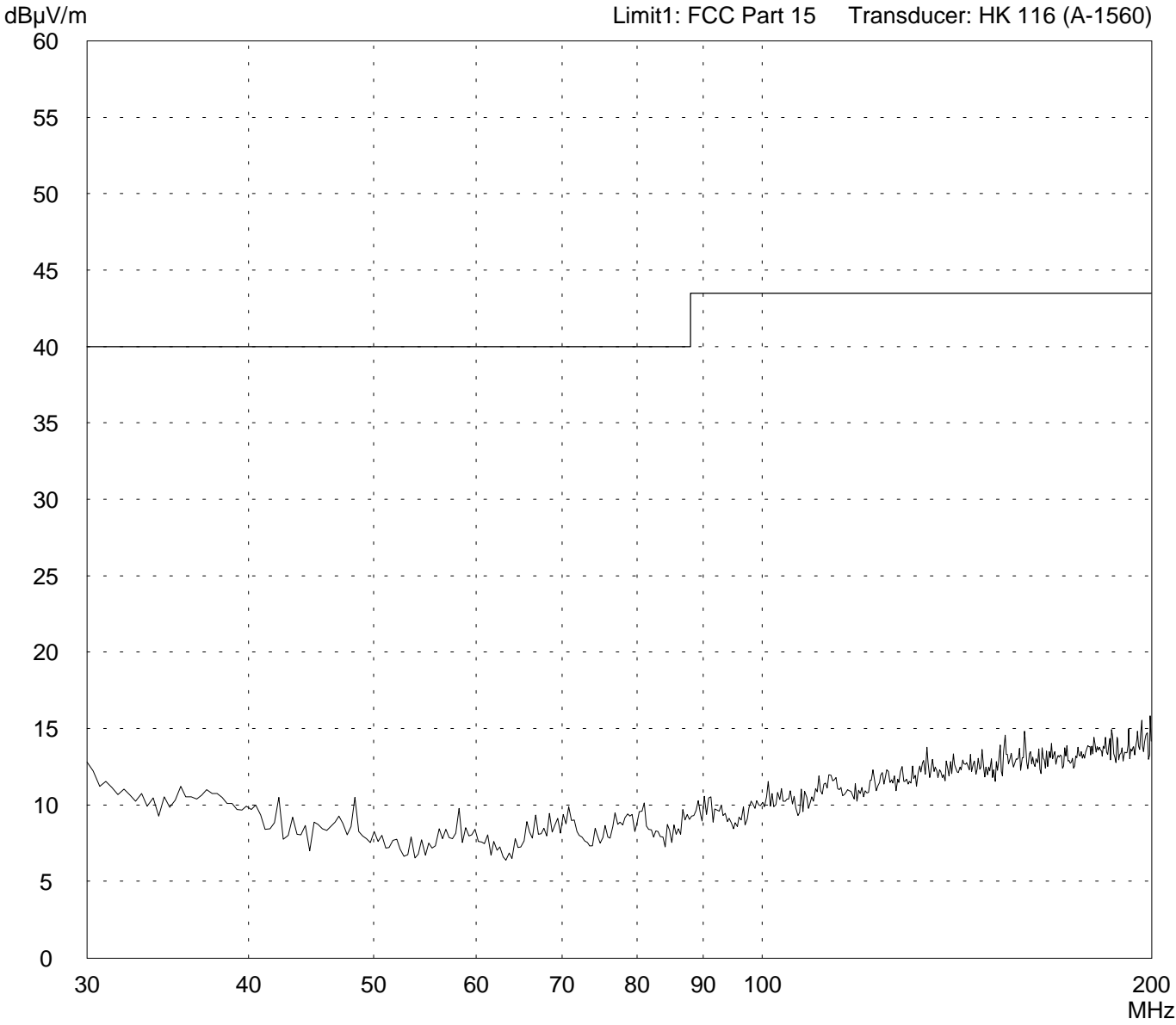


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 23 of 38 Pages</p>
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# Radiated Emission Test 30 MHz - 200 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Vertical Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating y-axis</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>10 dB Margin                      50 Subranges</b></p>
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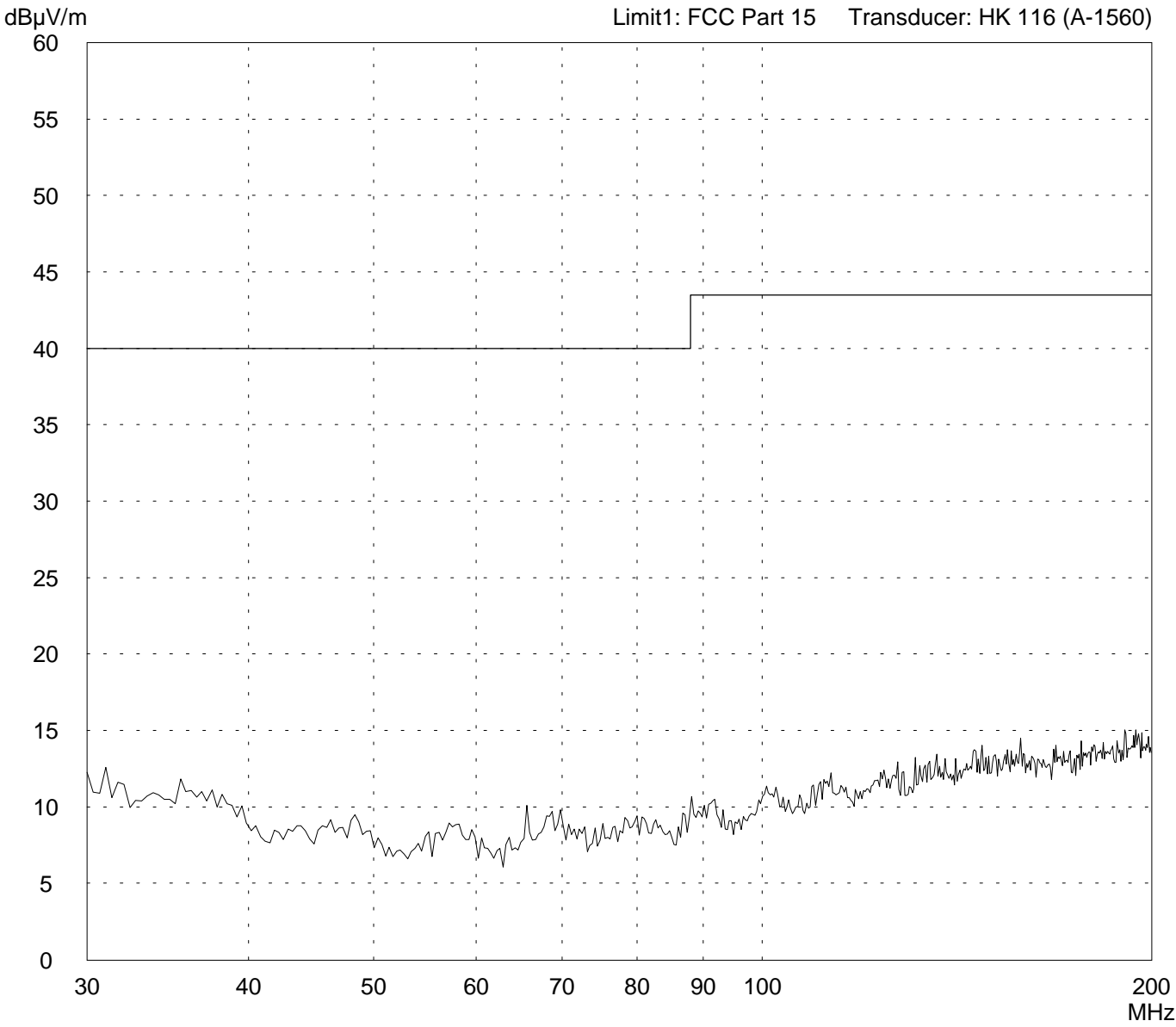


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 24 of 38 Pages</p>
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# Radiated Emission Test 30 MHz - 200 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Horizontal Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating z-axis</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>10 dB Margin                      50 Subranges</b></p>
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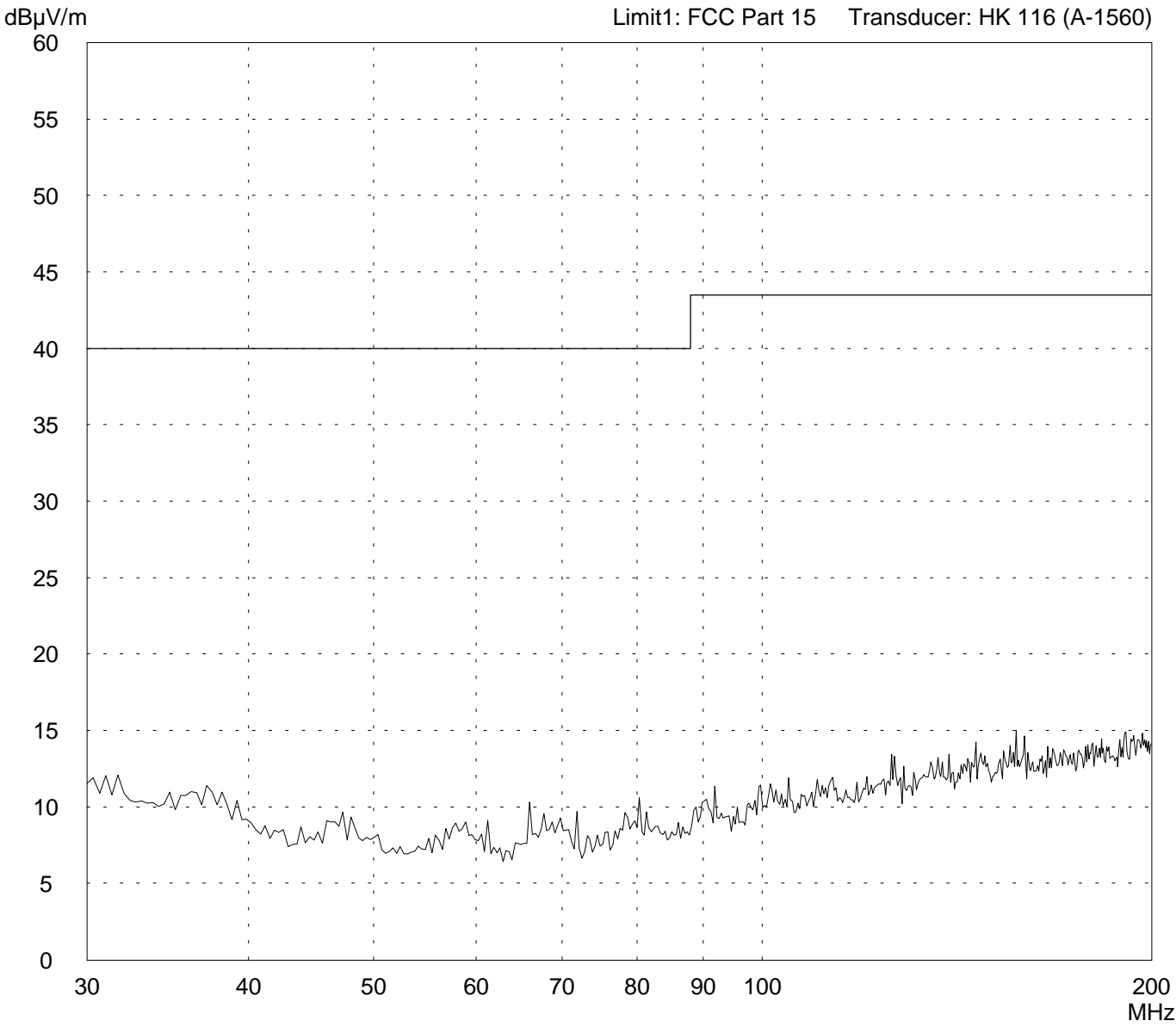


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 25 of 38 Pages</p>
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# Radiated Emission Test 30 MHz - 200 MHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Vertical Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating z-axis</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>10 dB Margin                      50 Subranges</b></p>
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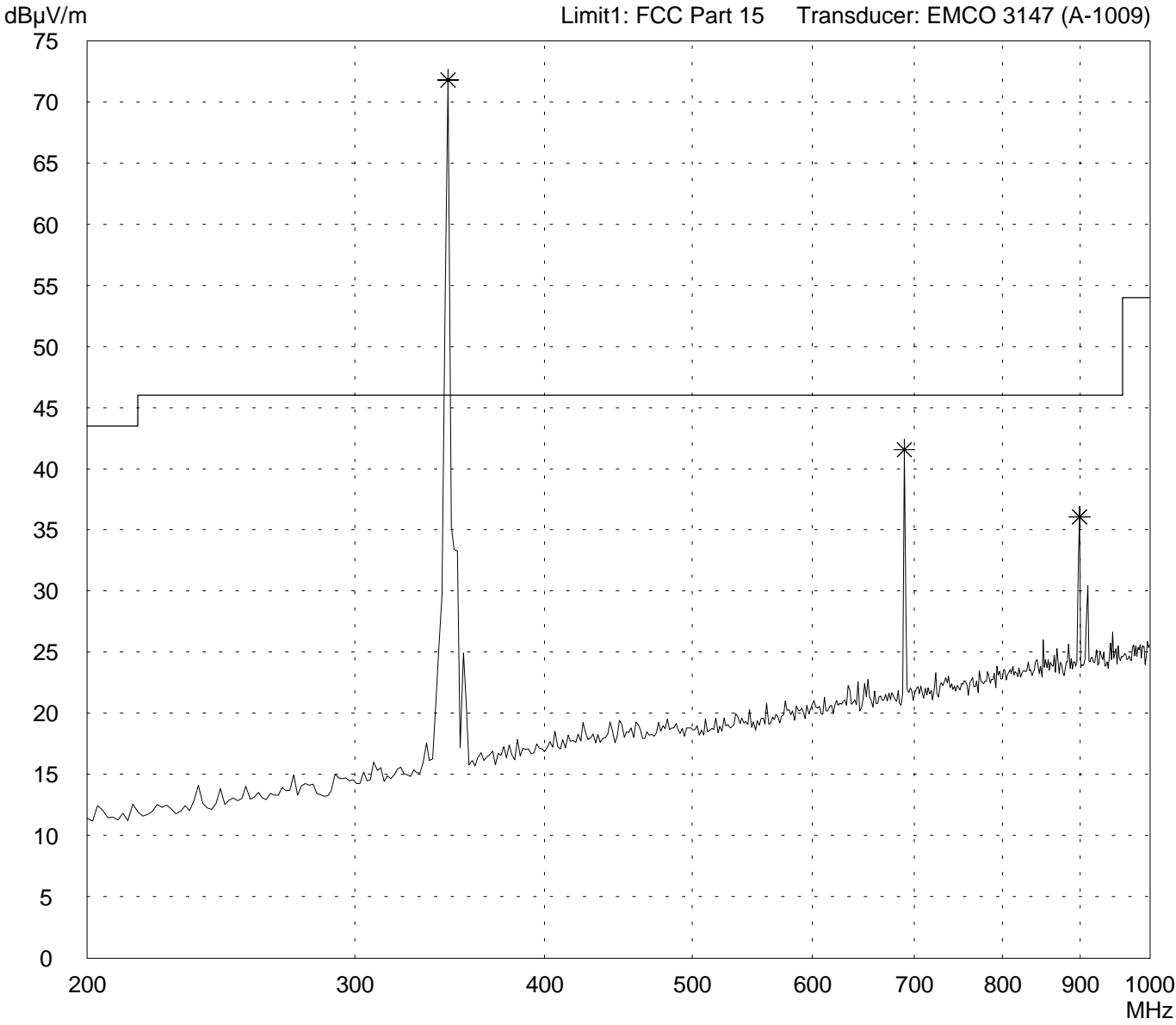


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 26 of 38 Pages</p>
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# Radiated Emission Test 200 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Horizontal Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating y-axis</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>10 dB Margin                      50 Subranges</b></p>
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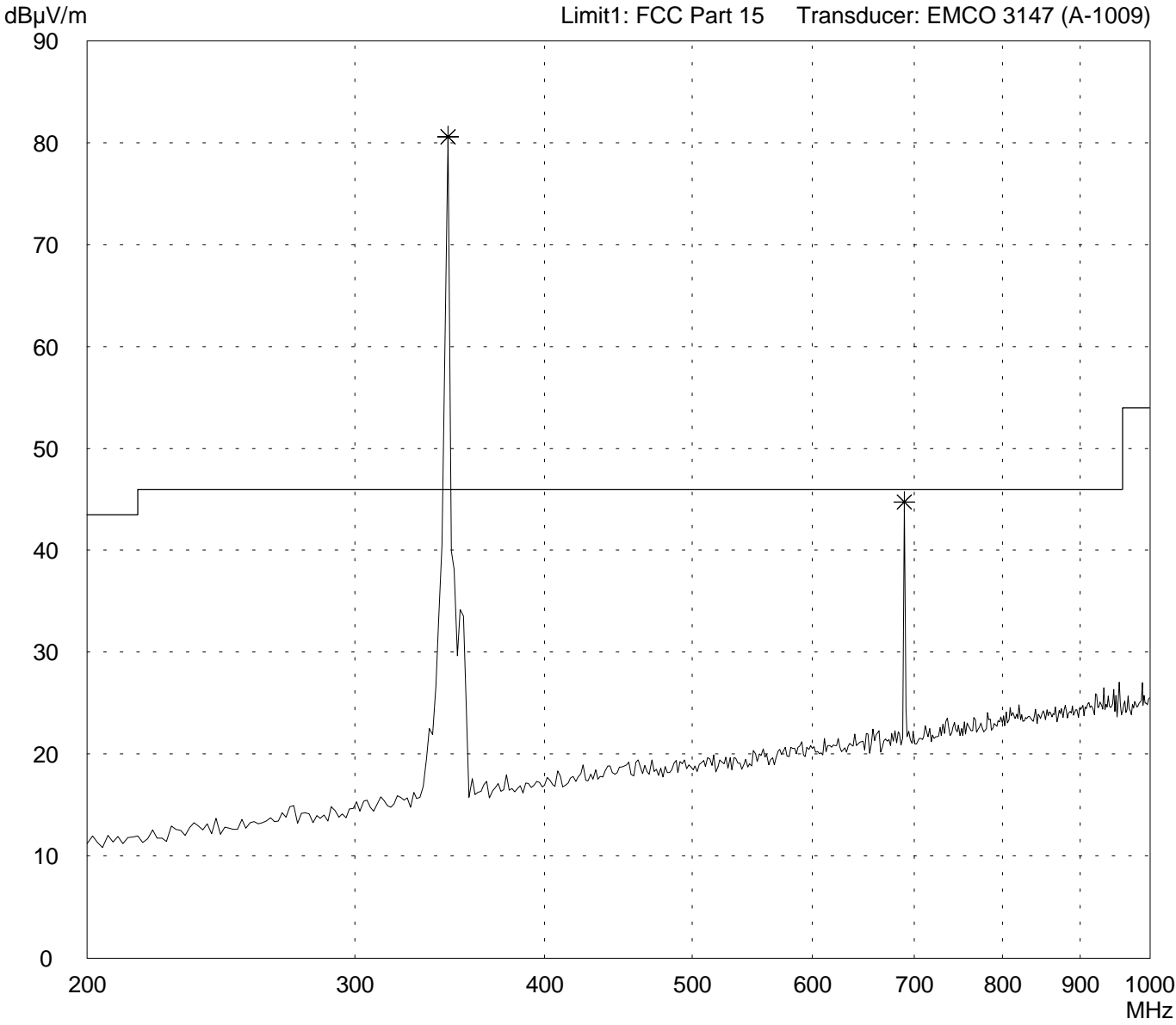


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 27 of 38 Pages</p>
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# Radiated Emission Test 200 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Vertical Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating x-axis</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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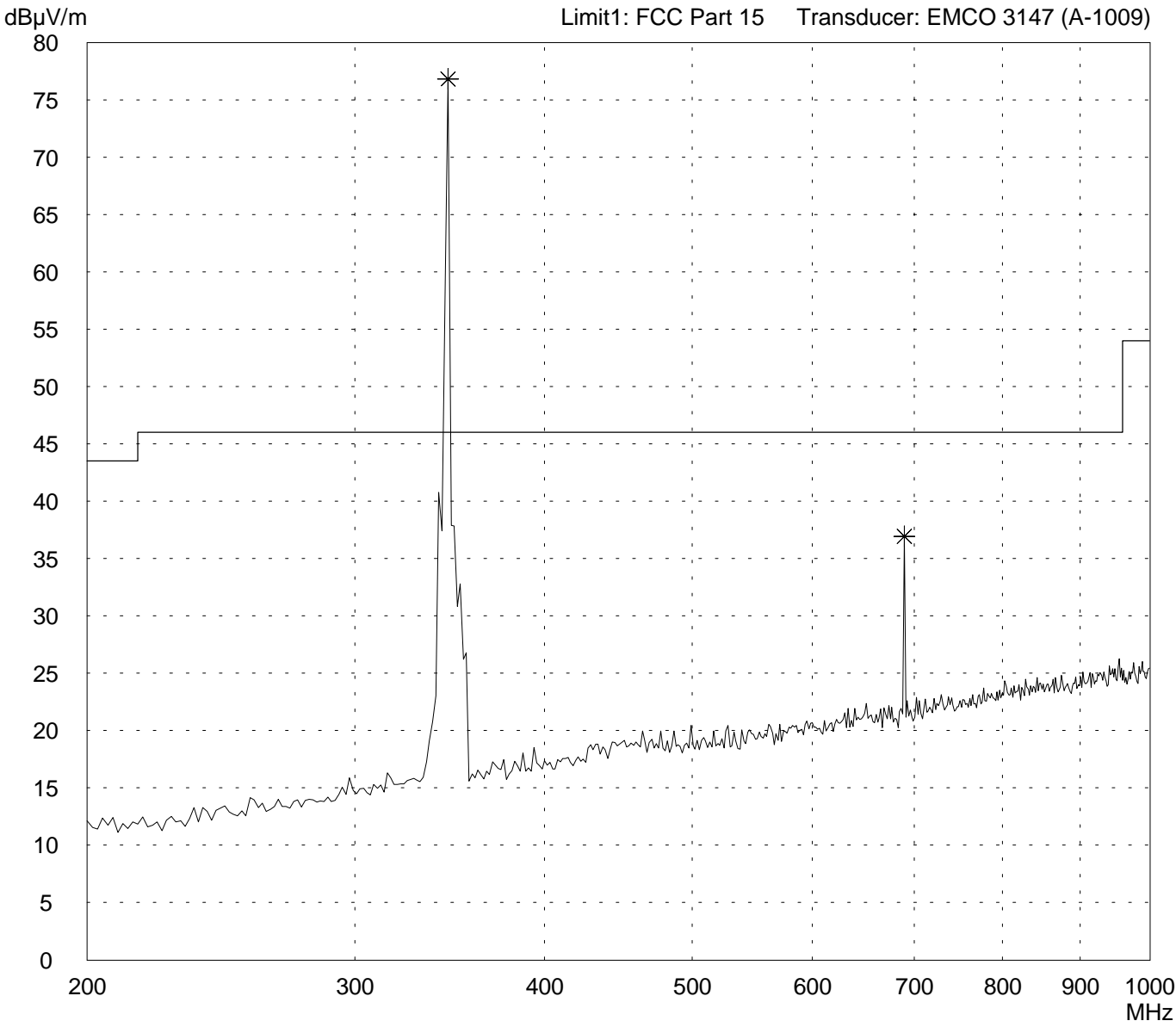


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>50530-30274</b></p>
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# Radiated Emission Test 200 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Horizontal Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating x-axis</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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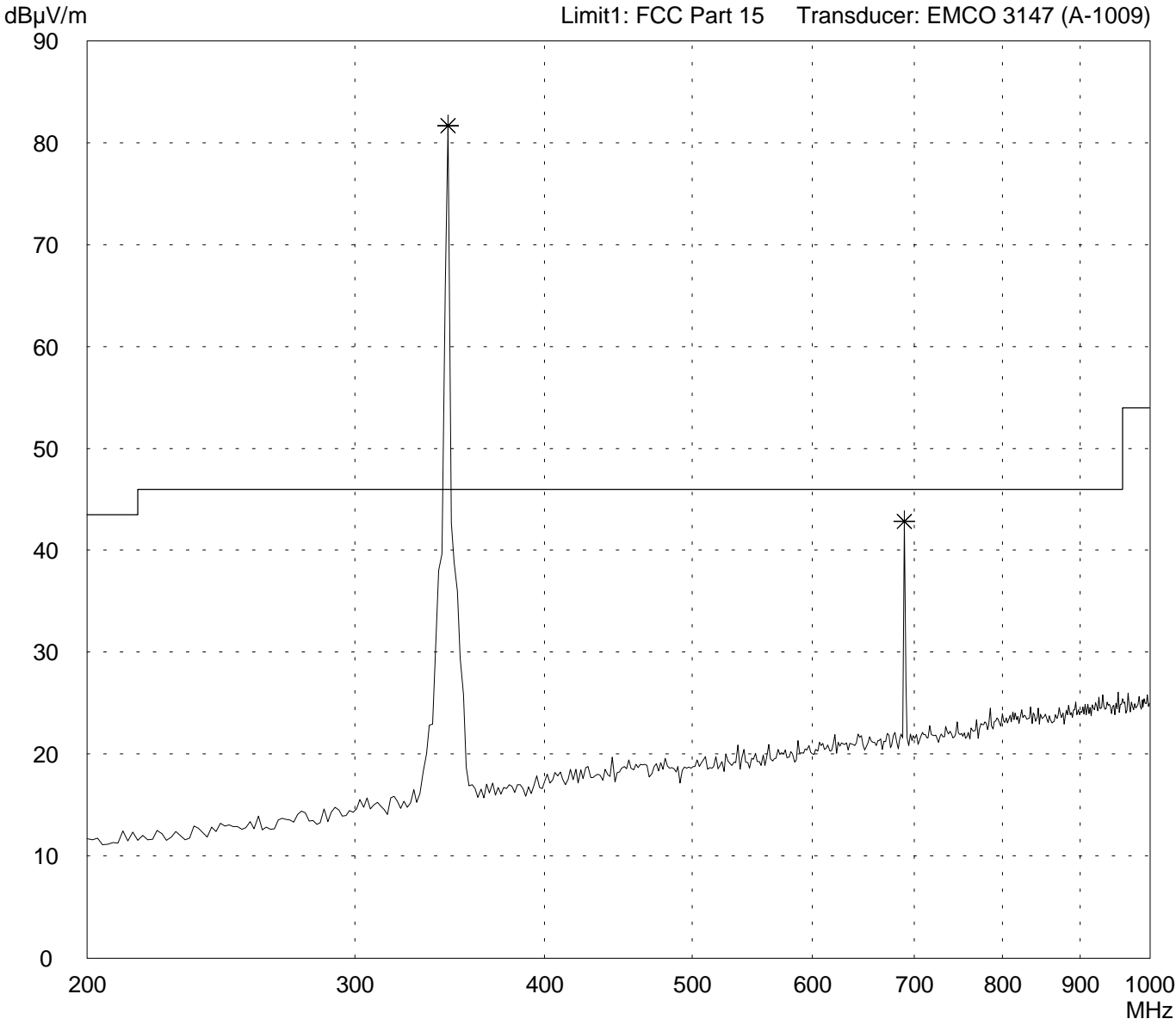


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>50530-30274</b></p>
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# Radiated Emission Test 200 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Vertical Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating y-axis</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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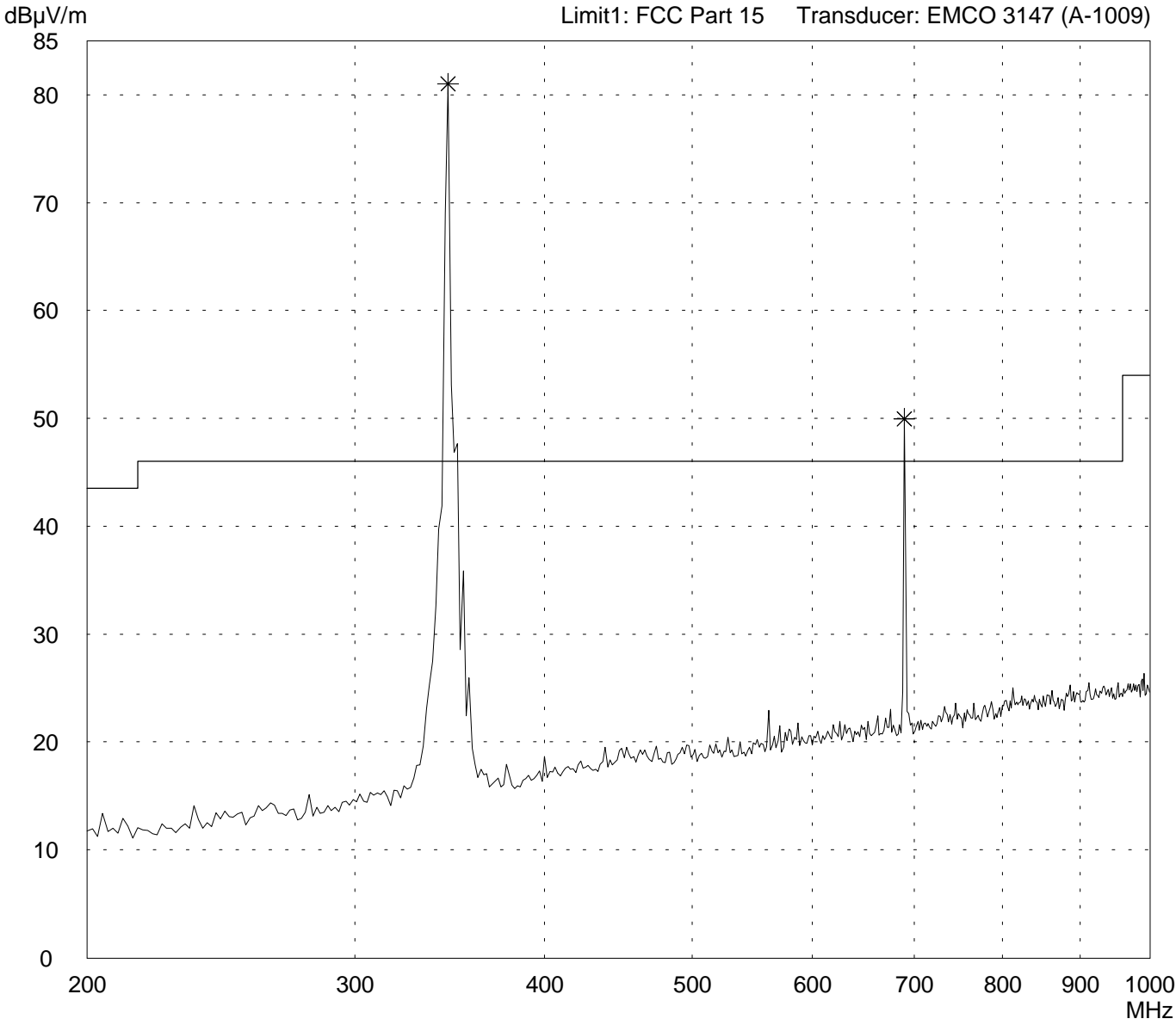
<p>Result: <b>Prescan</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 30 of 38 Pages</p>
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# Radiated Emission Test 200 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Horizontal Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating z-axis</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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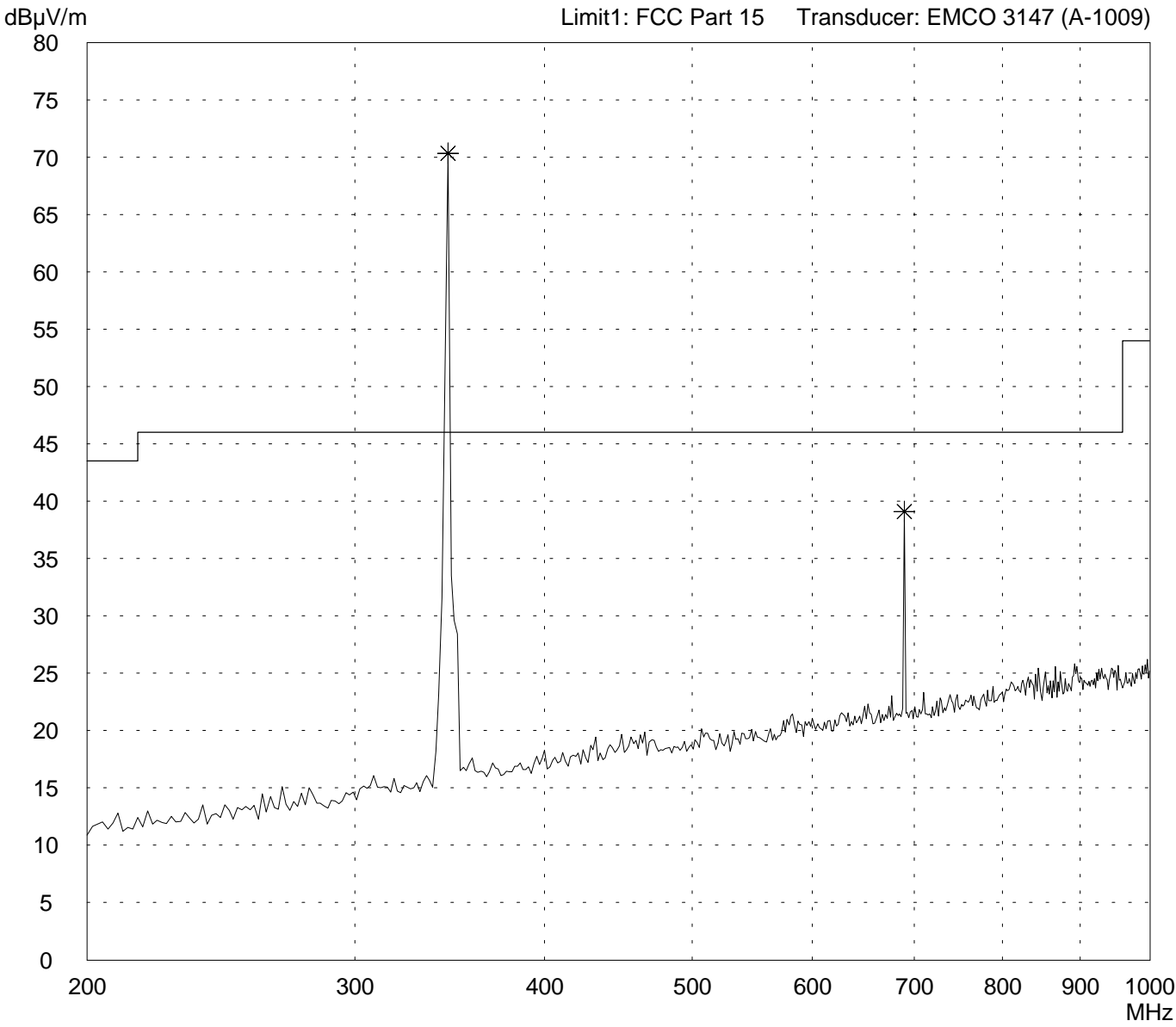


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 31 of 38 Pages</p>
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# Radiated Emission Test 200 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Vertical Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating z-axis</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>10 dB Margin                      50 Subranges</b></p>
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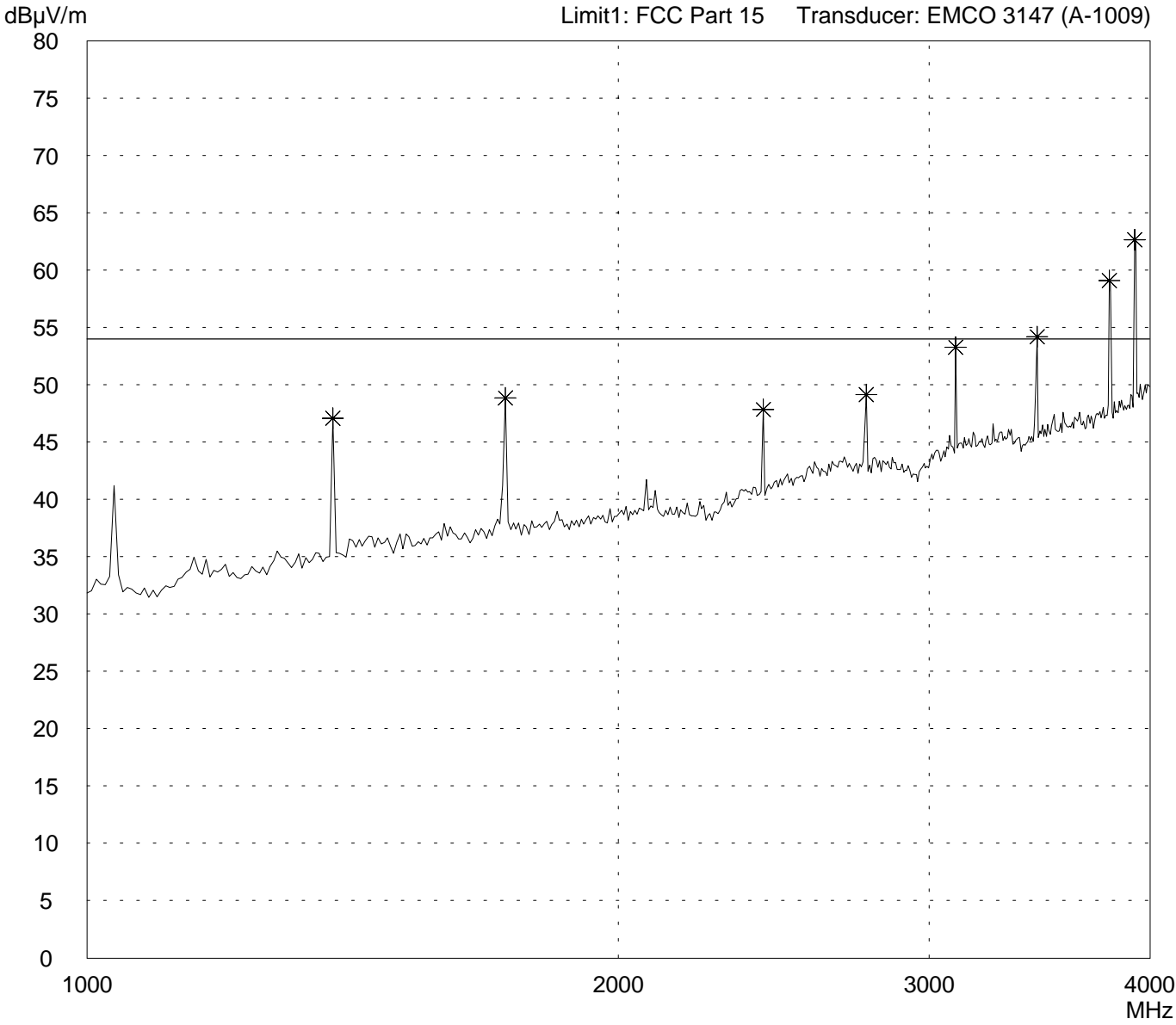


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 32 of 38 Pages</p>
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# Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Vertical Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating y-axis</li> <li>- with WHKS1000-10SS high pass filter</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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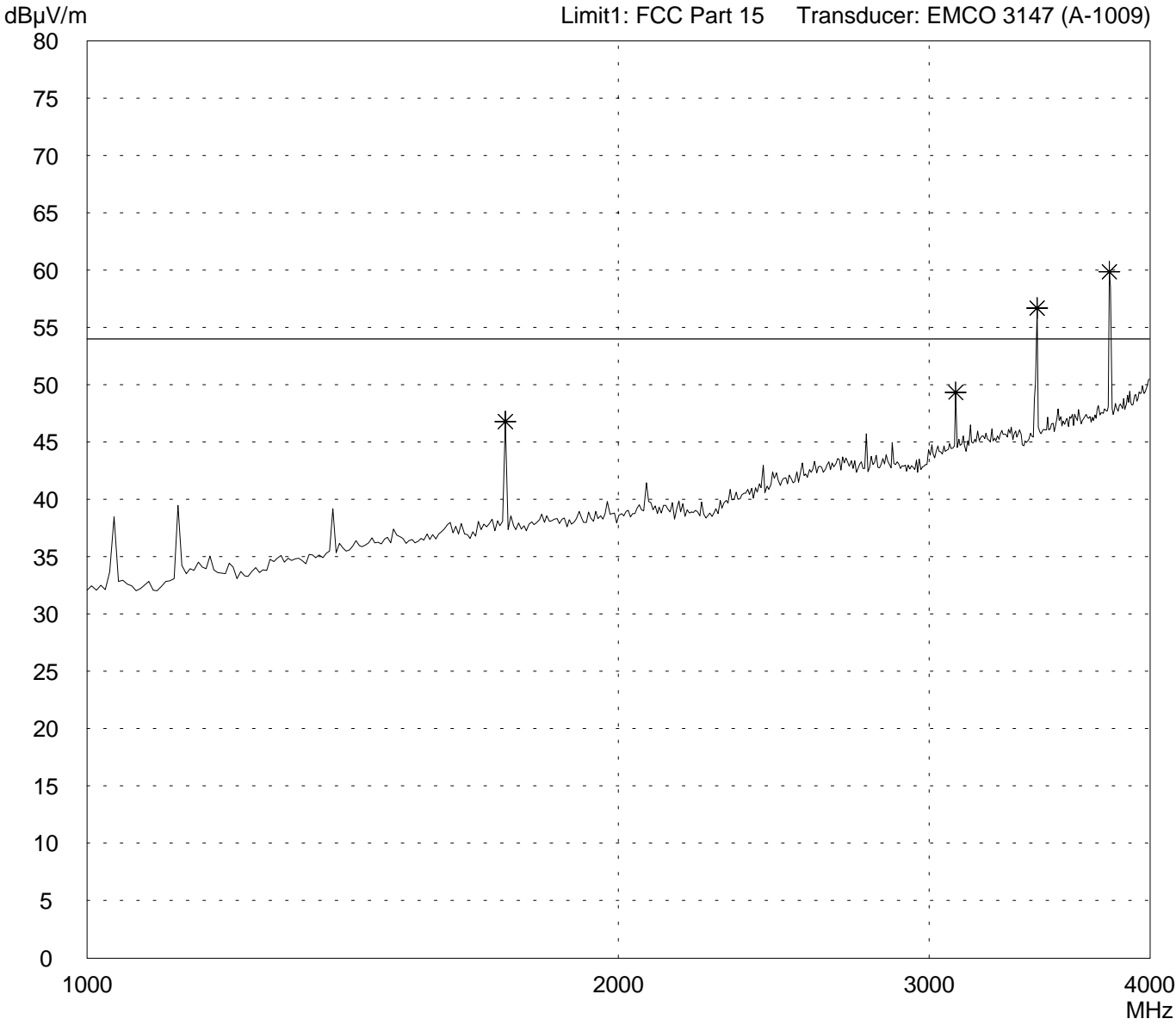


<p>Result: <b>Limit not kept</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 33 of 38 Pages</p>
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# Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Vertical Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating x-axis</li> <li>- with WHKS1000-10SS high pass filter</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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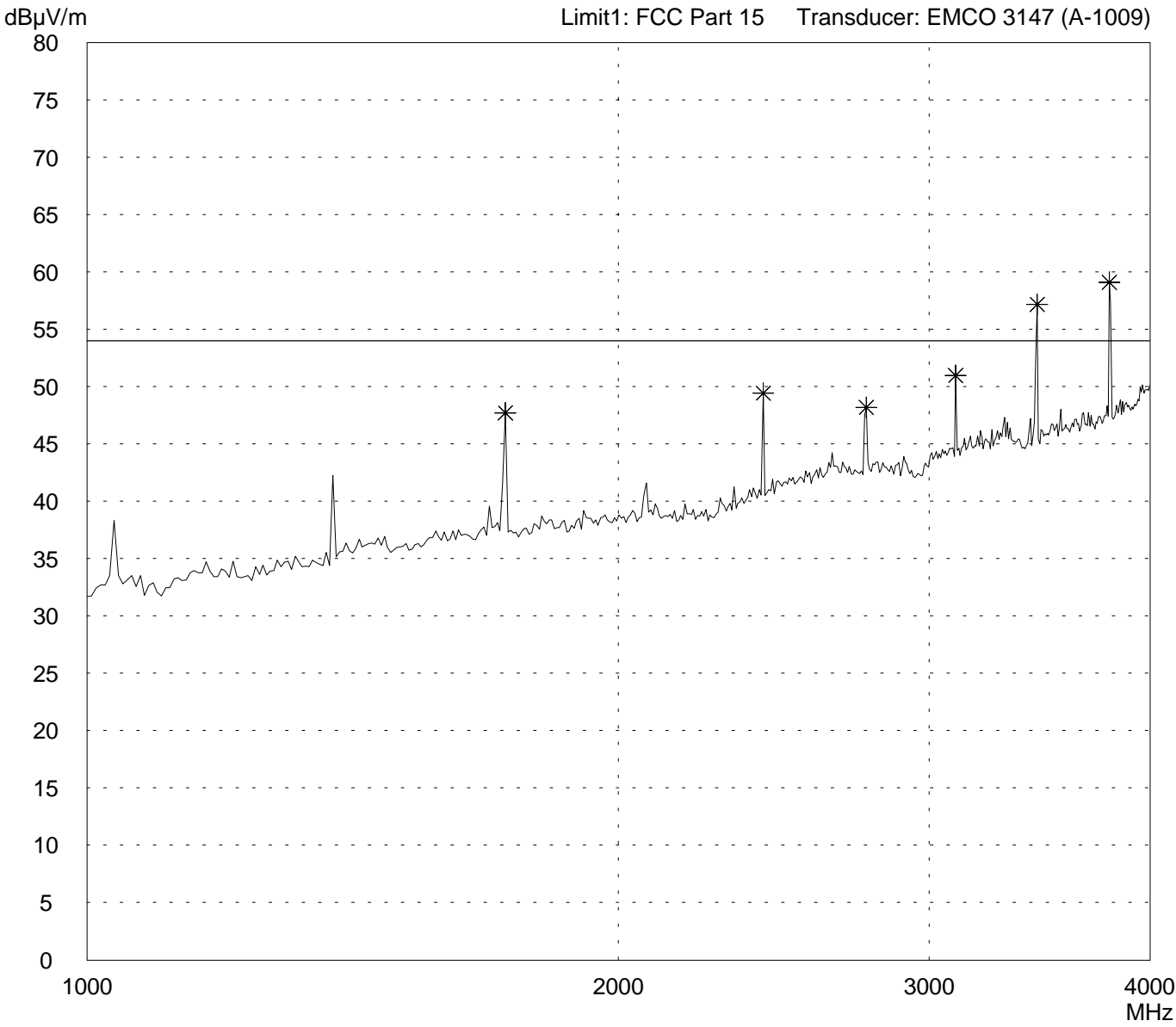


<p>Result: <b>Limit not kept</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 34 of 38 Pages</p>
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# Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Horizontal Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating y-axis</li> <li>- with WHKS1000-10SS high pass filter</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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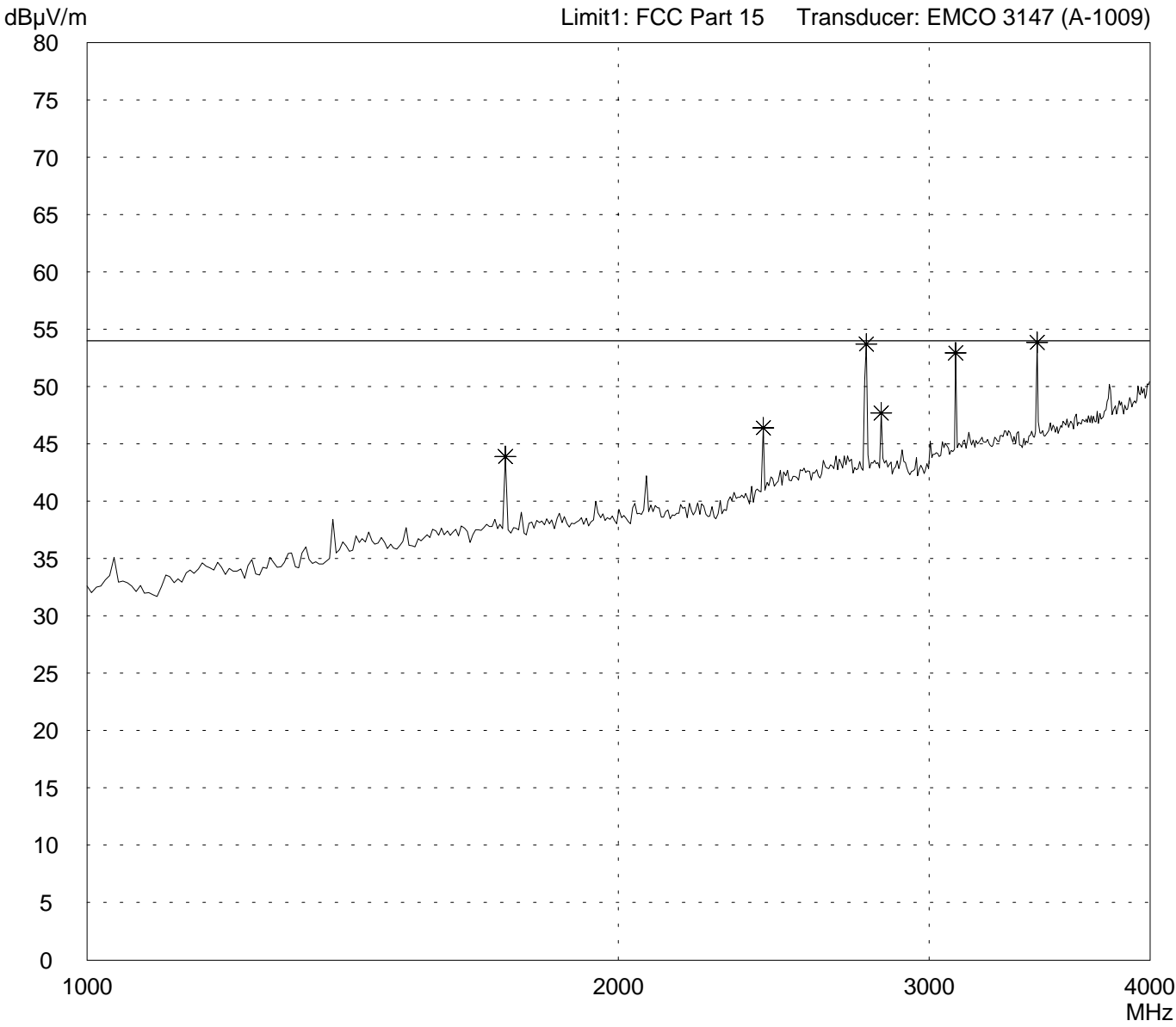


<p>Result: <b>Limit not kept</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 35 of 38 Pages</p>
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# Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Horizontal Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating x-axis</li> <li>- with WHKS1000-10SS high pass filter</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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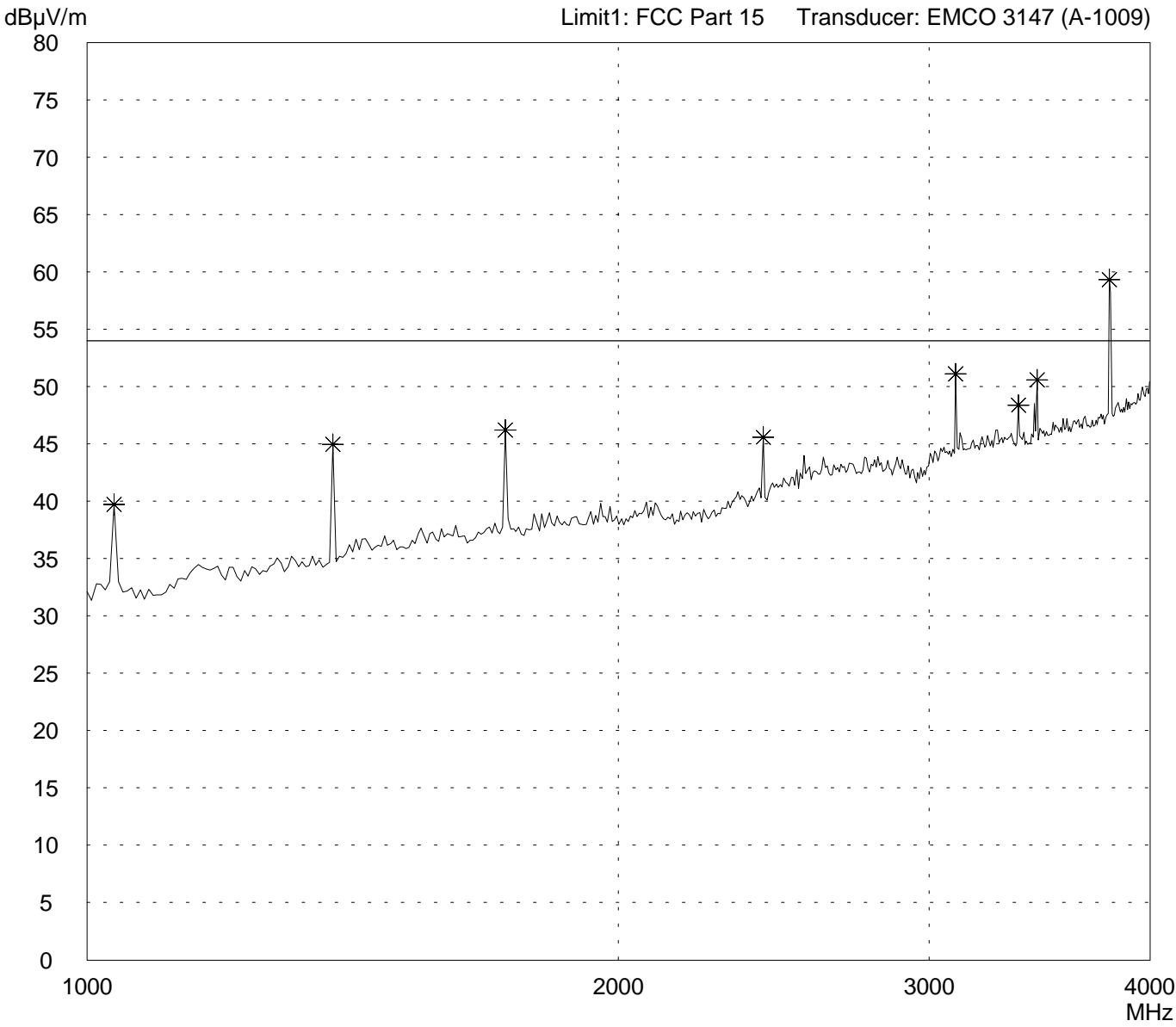


<p>Result: <b>Limit kept</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 36 of 38 Pages</p>
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# Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Horizontal Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating z-axis</li> <li>- with WHKS1000-10SS high pass filter</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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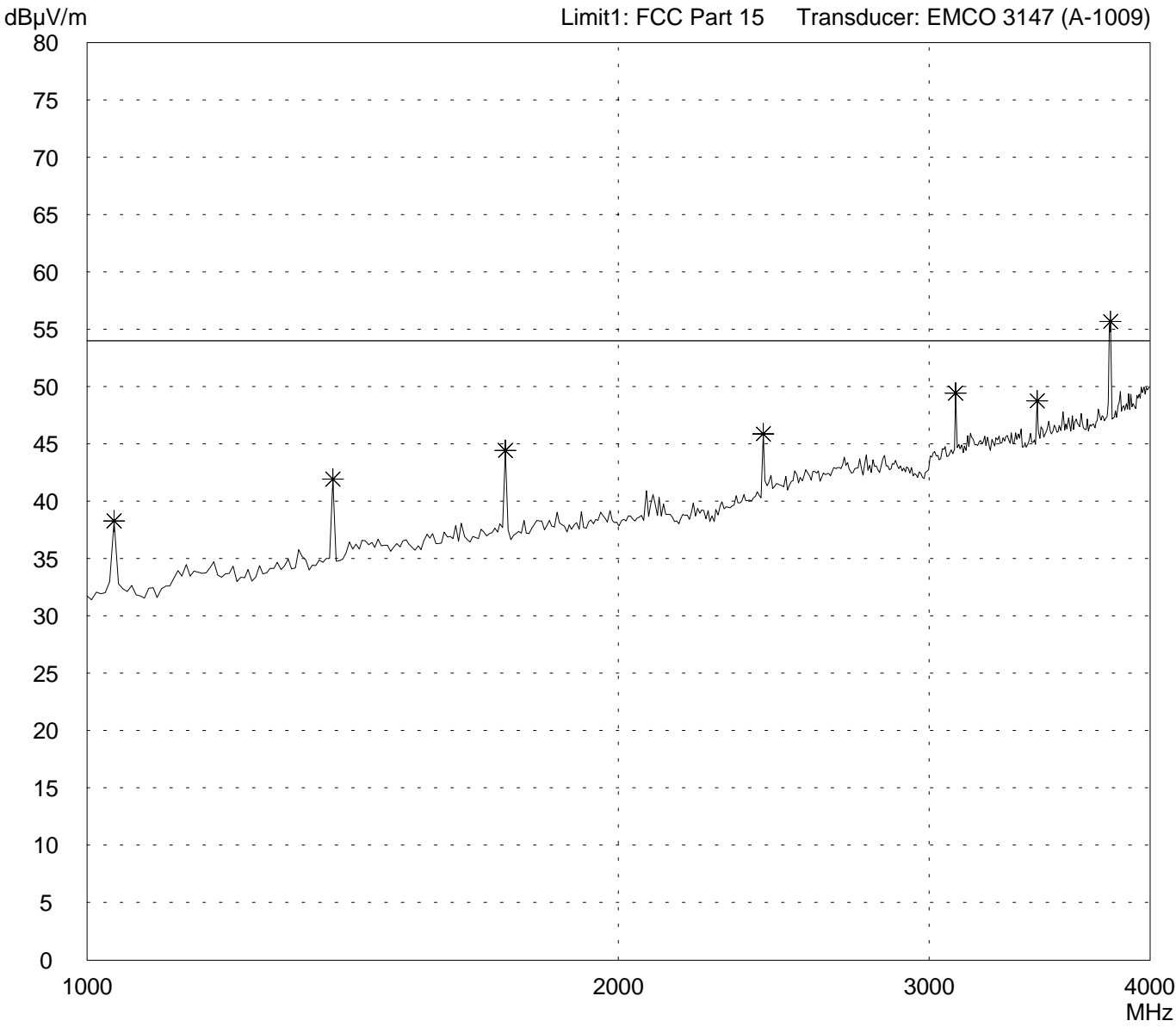


<p>Result: <b>Limit not kept</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 37 of 38 Pages</p>
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# Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>USA Sender 345 MHz</b></p> <p>Serial no.: <b>test sample</b></p> <p>Applicant: <b>Eldat GmbH</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Vertical Polarization</b></p> <p>Date of test: <b>05/05/2003</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment:</p> <ul style="list-style-type: none"> <li>- DC 3 V lithium battery supply</li> <li>- EUT mounted in pneumatic system</li> <li>- sending pulsed</li> <li>- rotating z-axis</li> <li>- with WHKS1000-10SS high pass filter</li> </ul>
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<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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<p>Result: <b>Limit not kept</b></p>	<p>Project file: <b>50530-30274</b></p> <p style="text-align: right;">Page 38 of 38 Pages</p>
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