

Straubing, 26 March 2007

**TEST - REPORT**

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**No. 55456-060996-2 (Edition 2)**

**for**

**i-Port M**

**Tag Reader for Active Tags**

**Applicant:** IDENTEC SOLUTIONS AG

**Test Specifications:** FCC Code of Federal Regulations,  
CFR 47, Part 15,  
Sections 15.107, 15.109, 15.111(a), 15.205, 15.207,  
15.215 and 15.249

Industry Canada Radio Standards Specifications  
RSS-Gen Issue 1, Sections 7.2.2, 7.2.3 and  
RSS-210 Issue 6, Sections 2.2, A2.9  
(Category I Equipment)

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## 1 Description of the Equipment Under Test (EUT)

General data of EUT	
Type designation <sup>1</sup> :	i-Port M
Parts <sup>2</sup> :	
Serial number(s):	096471M0043
Manufacturer:	IDENTEC SOLUTIONS AG
Type of equipment:	Tag Reader for Active Tags
Version:	As delivered (with conductive lacquer)
FCC ID:	
Additional parts/accessories:	

Technical data of EUT	
Application frequency range:	902 MHz - 928 MHz
Frequency range:	916 MHz
Operating frequency:	916 MHz
Type of modulation:	ASK
Pulse train:	
Pulse width:	
Number of RF-channels:	1
Channel spacing:	Not applicable
Designation of emissions <sup>3</sup> :	184kA1D
Type of antenna:	Rod antenna RADIAL/LARSEN, Model: SPDA24832 Dipole
Size/length of antenna:	20 cm
Connection of antenna:	<input checked="" type="checkbox"/> detachable <input type="checkbox"/> not detachable
Type of power supply:	DC supply
Specifications for power supply:	nominal voltage:      12.0 V

<sup>1</sup> Type designation of the system if EUT consists of more than one part.

<sup>2</sup> Type designations of the parts of the system, if applicable.

<sup>3</sup> Also known as "Class of Emission".

## 2 Administrative Data

Application details	
Applicant (full address):	IDENTEC SOLUTIONS AG Millenniumspark 2 A-6890 Lustenau
Contact person:	Mr. Josef Vogel
Contract identification:	Order no. 46600490
Receipt of EUT:	15 December 2006
Date(s) of test:	January 2007
Note(s):	

Report details	
Report number:	55456-060996-2
Edition:	2
Issue date:	26 March 2007

### 3 Identification of the Test Laboratory

Details of the Test Laboratory	
Company name:	Senton GmbH EMI/EMC Test Center
Address:	Aeussere Fruehlingstrasse 45 D-94315 Straubing Germany
Laboratory accreditation:	DAR-Registration No. DAT-P-171/94-02
FCC test site registration number	90926
Industry Canada test site registration:	IC 3050
Contact person:	Mr. Johann Roidt
	Phone: (+49) (0)9421 5522-0 Fax: (+49) (0)9421 5522-99

## 4 Summary

### Summary of test results

The tested sample complies with the requirements set forth in the

**Code of Federal Regulations CFR 47, Part 15, Sections 15.109, 15.111(a), 15.205, 15.207, 15.215 and 15.249**

of the Federal Communication Commission (FCC) and the

**Radio Standards Specifications  
RSS-Gen Issue 1, Sections 7.2.2, 7.2.3 and  
RSS-210 Issue 6, Sections 2.2, A2.9 (Category I Equipment)**

of Industry Canada (IC).

### Personnel involved in this report

Laboratory Manager:



Mr. Johann Roidt

Responsible for testing:



Mr. Martin Steindl

Responsible for test report:

Mr. Martin Steindl

## 5 Operation Mode and Configuration of EUT

### Operation Mode(s)

The testings were performed in two operation modes:

- Transmitting continuously with modulation with one antenna
- Receive mode

### Configuration(s) of EUT

The EUT was configured as external device on a RS 442 connection.

### List of ports and cables

<i>Port</i>	<i>Description</i>	<i>Classification<sup>4</sup></i>	<i>Cable type</i>	<i>Cable length</i>
1	Antenna 1	signal/control port	Shielded (coax)	Direct contact
2	Antenna 2	signal/control port	Shielded (coax)	Direct contact
3	RS 442 Master	signal/control port	Shielded	
4	RS 442 Slave	signal/control port	Shielded	

### List of devices connected to EUT

<i>Item</i>	<i>Description</i>	<i>Type Designation</i>	<i>Serial no. or ID</i>	<i>Manufacturer</i>
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### List of support devices

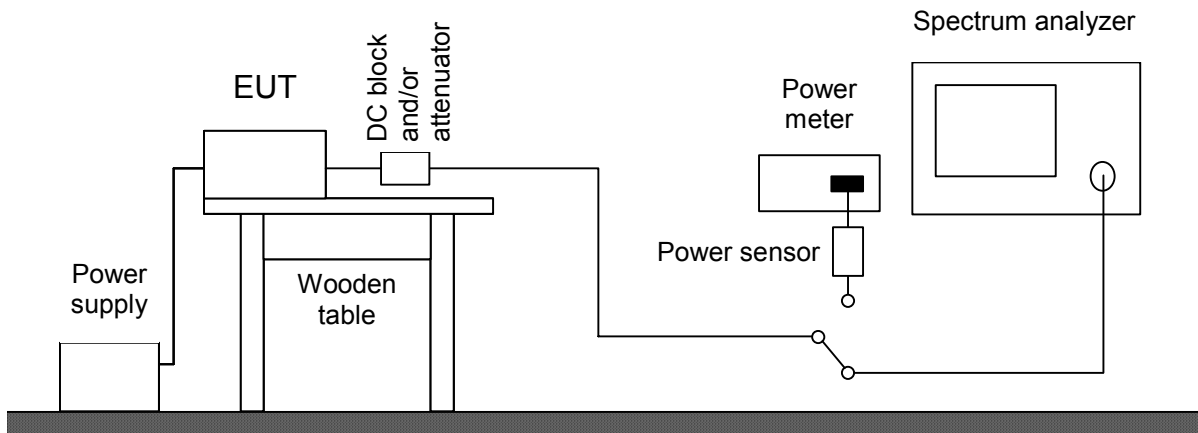
<i>Item</i>	<i>Description</i>	<i>Type Designation</i>	<i>Serial no. or ID</i>	<i>Manufacturer</i>
1	Laptop PC			DELL
2	USB to RS 442 convertor			Kontron

<sup>4</sup> Ports shall be classified as ac power, dc power or signal/control port

## 6 Measurement Procedures

### 6.1 Conducted Output Power

Measurement Procedure:	
Rules and specifications:	CFR 47 Part 2, section 2.1046(a) IC RSS-Gen Issue 1, section 4.6
Guide:	CFR 47 Part 2, section 2.1046 / IC RSS-Gen Issue 1
<p>Conducted output power is measured at the RF output terminals (e.g. antenna connector if antenna is detachable) when the transmitter is adjusted in accordance with the tune-up procedure, if applicable. The RF output terminals are connected to a spectrum analyzer and/or a power meter with appropriate sensor. If required, a resistive matching network equal to the impedance specified or employed for the antenna is used as well as dc block and appropriate attenuators (50 Ohms). The electrical characteristics of the radio frequency load attached to the output terminals shall be stated, if applicable.</p> <p>If a spectrum analyzer is used and no other settings are specified resolution bandwidth shall be selected according to the carrier frequency <math>f_c</math> and set to 10 kHz (<math>150 \text{ kHz} \leq f_c &lt; 30 \text{ MHz}</math>), 100 kHz (<math>30 \text{ MHz} \leq f_c &lt; 1 \text{ GHz}</math>) or 1 MHz (<math>f_c \geq 1 \text{ GHz}</math>). The video bandwidth shall be at least three times greater than the resolution bandwidth. The settings used have to be indicated within the appropriate test record(s).</p>	



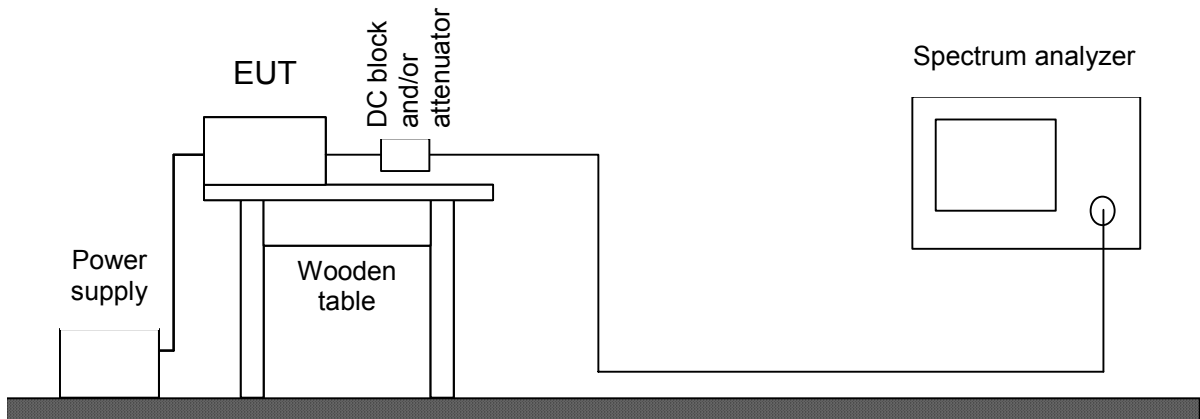
Test instruments used:



Used	Type	Model	Serial No. or ID	Manufacturer
<input type="checkbox"/>	Spectrum Analyzer	FSP 30	100063	Rohde & Schwarz
<input type="checkbox"/>	EMI test receiver	ESPI7	836914/0002	Rohde & Schwarz
<input type="checkbox"/>	EMI test receiver	ESMI	839379/013 839587/006	Rohde & Schwarz
<input checked="" type="checkbox"/>	Power meter	NRVS	836856/015	Rohde & Schwarz
<input checked="" type="checkbox"/>	Peak power sensor	NRV-Z31	8579604.03	Rohde & Schwarz
<input type="checkbox"/>	Power sensor	NRV-Z52	837901/030	Rohde & Schwarz
<input type="checkbox"/>	Power sensor	NRV-Z4	863828/015	Rohde & Schwarz
<input type="checkbox"/>	DC-block	7006	A2798	Weinschel
<input type="checkbox"/>	Attenuator	4776-10	9412	Narda
<input type="checkbox"/>	Attenuator	4776-20	9503	Narda

**6.2 Bandwidth Measurements**

<b>Measurement Procedure:</b>	
Rules and specifications:	CFR 47 Part 2, section 2.202(a) CFR 47 Part 15, section 15.215(c) IC RSS-Gen Issue 1, sections 4.4.1 and 4.4.2 IC RSS-210 Issue 6, section A1.1.3 ANSI C63.4, annex H.6
Guide:	ANSI C63.4 / IC RSS-Gen Issue 1, sections 4.4.1 and 4.4.2
Measurement setup:	<input checked="" type="checkbox"/> Conducted: See below <input type="checkbox"/> Radiated: Radiated Emission in Fully or Semi Anechoic Room (6.4)
<p>If antenna is detachable bandwidth measurements shall be performed at the antenna connector (conducted measurement) when the transmitter is adjusted in accordance with the tune-up procedure, if applicable. The RF output terminals are connected to a spectrum analyzer. If required, a resistive matching network equal to the impedance specified or employed for the antenna is used as well as dc block and appropriate attenuators (50 Ohms). The electrical characteristics of the radio frequency load attached to the output terminals shall be stated, if applicable.</p> <p>If radiated measurements are performed the same test setups and instruments are used as with radiated emission measurements for the appropriate frequency range.</p> <p>The analyzer settings are specified by the test description of the appropriate test record(s).</p>	

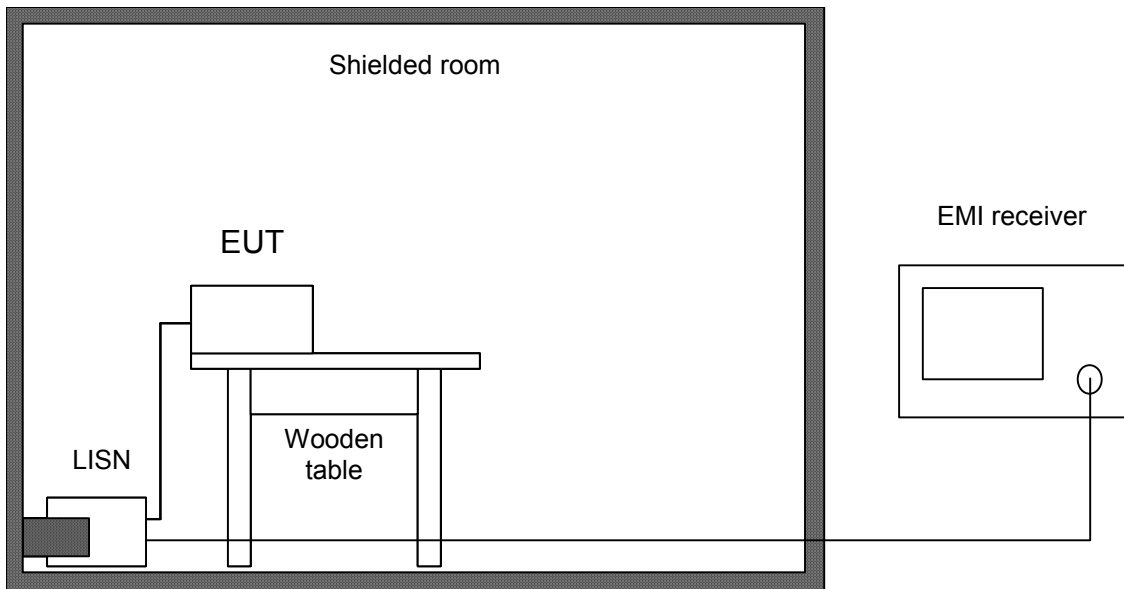


Test instruments used for conducted measurements:

Used	Type	Model	Serial No. or ID	Manufacturer
<input checked="" type="checkbox"/>	Spectrum Analyzer	FSP 30	100063	Rohde & Schwarz
<input type="checkbox"/>	EMI test receiver	ESPI7	836914/0002	Rohde & Schwarz
<input type="checkbox"/>	EMI test receiver	ESMI	839379/013 839587/006	Rohde & Schwarz
<input type="checkbox"/>	Power meter	NRVS	836856/015	Rohde & Schwarz
<input type="checkbox"/>	Peak power sensor	NRV-Z31	8579604.03	Rohde & Schwarz
<input type="checkbox"/>	Power sensor	NRV-Z52	837901/030	Rohde & Schwarz
<input type="checkbox"/>	Power sensor	NRV-Z4	863828/015	Rohde & Schwarz
<input checked="" type="checkbox"/>	DC-block	7006	A2798	Weinschel
<input type="checkbox"/>	Attenuator	4776-10	9412	Narda
<input type="checkbox"/>	Attenuator	4776-20	9503	Narda

### 6.3 Conducted AC Powerline Emission

Measurement Procedure:	
Rules and specifications:	CFR 47 Part 15, sections 15.107 and 15.207 IC RSS-Gen Issue 1, section 7.2.2
Guide:	ANSI C63.4 (CISPR 22)
<p>Conducted emission tests in the frequency range 150 kHz to 30 MHz are performed using Line Impedance Stabilization Networks (LISNs). To simplify testing with quasi-peak and average detector the following procedure is used:</p> <p>First the whole spectrum of emission caused by the equipment under test (EUT) is recorded with detector set to peak using CISPR bandwidth of 10 kHz. After that all emission levels having less margin than 10 dB to or exceeding the average limit are retested with detector set to quasi-peak.</p> <p>If average limit is kept with quasi-peak levels no additional scan with average detector is necessary. In cases of emission levels between quasi-peak and average limit an additional scan with detector set to average is performed.</p> <p>According to ANSI C63.4, section 13.1.3.1, testing of intentional radiators with detachable antenna shall be performed using a suitable dummy load connected to the antenna output terminals. Otherwise, the tests shall be made with the antenna connected and, if adjustable, fully extended.</p> <p>Testing with dummy load may be necessary to distinguish (unintentional) conducted emissions on the supply lines from (intentional) emissions radiated by the antenna and coupling directly to supply lines and/or LISN. Usage of dummy load has to be stated in the appropriate test record(s) and notes should be added to clarify the test setup.</p>	

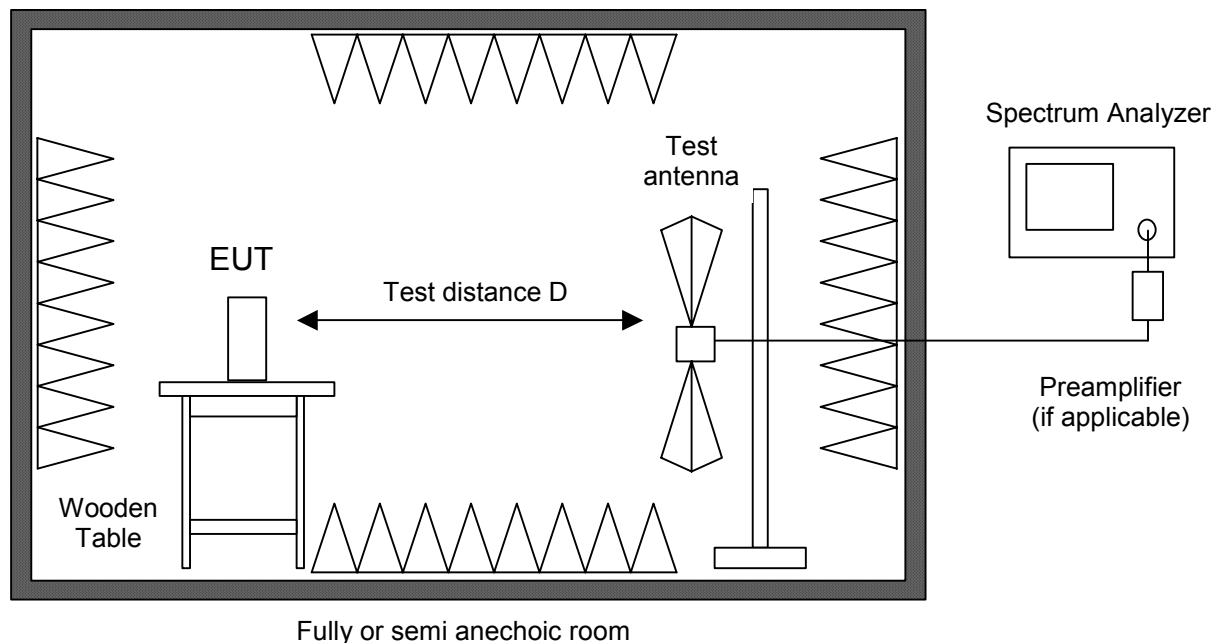


Test instruments used:

Used	Type	Model	Serial No. or ID	Manufacturer
<input checked="" type="checkbox"/>	EMI receiver	ESHS 10	860043/016	Rohde & Schwarz
<input checked="" type="checkbox"/>	LISN	ESH3-Z5	862770/021	Rohde & Schwarz
<input type="checkbox"/>	LISN	ESH3-Z5	830952/025	Rohde & Schwarz
<input type="checkbox"/>	Artificial mains network	ESH 2-Z5	842966/004	Rohde & Schwarz
<input type="checkbox"/>	Shielded room	No. 1	1451	Albatross Projects
<input checked="" type="checkbox"/>	Shielded room	No. 4	3FD-100 544	Euroshield

## 6.4 Radiated Emission in Fully or Semi Anechoic Room

<b>Measurement Procedure:</b>	
Rules and specifications:	CFR 47 Part 15, sections 15.109, 15.215(b) and 15.249 IC RSS-Gen Issue 1, sections 6(a), 7.2.3.2 IC RSS-210 Issue 6, section A2.9
Guide:	ANSI C63.4
<p>Radiated emission in fully or semi anechoic room is measured in the frequency range from 30 MHz to the maximum frequency as specified in CFR 47 Part 15 section 15.33.</p> <p>Measurements are 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 as well as video bandwidth set to 100 kHz (below 1 GHz) or 1 MHz (above 1 GHz).</p> <p>Testing up to 1 GHz is performed with a linear polarized logarithmic periodic antenna combined with a 4:1 broadband dipole ("Trilog broadband antenna"). For testing above 1 GHz horn antennas are used.</p> <p>All tests below 18 GHz are performed at a test distance D of 3 meters. For higher frequencies the test distance is reduced (e.g. to 1 meter) due to the sensitivity of the measuring instrument(s) and the test results are calculated according to CFR 47 Part 15 section 15.31(f)(1) using an extrapolation factor of 20 dB/decade. If required, preamplifiers are used for the whole frequency range. Special care is taken to avoid overload, using appropriate attenuators and filters, if necessary.</p> <p>If the radiated emission limits are expressed in terms of the average value of the emission there also is a peak limit corresponding to 20 dB above the maximum permitted average limit. Additionally, if pulsed operation is employed, the average field strength is determined by averaging over one complete pulse train, including blanking intervals, as specified in CFR 47 Part 15 section 15.35©. If the pulse train exceeds 0.1 second that 0.1 second interval during which the value of the emission is at its maximum is selected for calculation. The pulse train correction is added to the peak value of the emission to get the average value.</p> <p>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.</p> <p>During testing the EUT is rotated all around to find the maximum levels of emissions. Equipment and cables are placed and moved within the range of position likely to find their maximum emissions.</p> <p>For final testing below 1 GHz an open field test-site is used and the plots recorded in the fully or semi anechoic room are indicated as prescans.</p>	

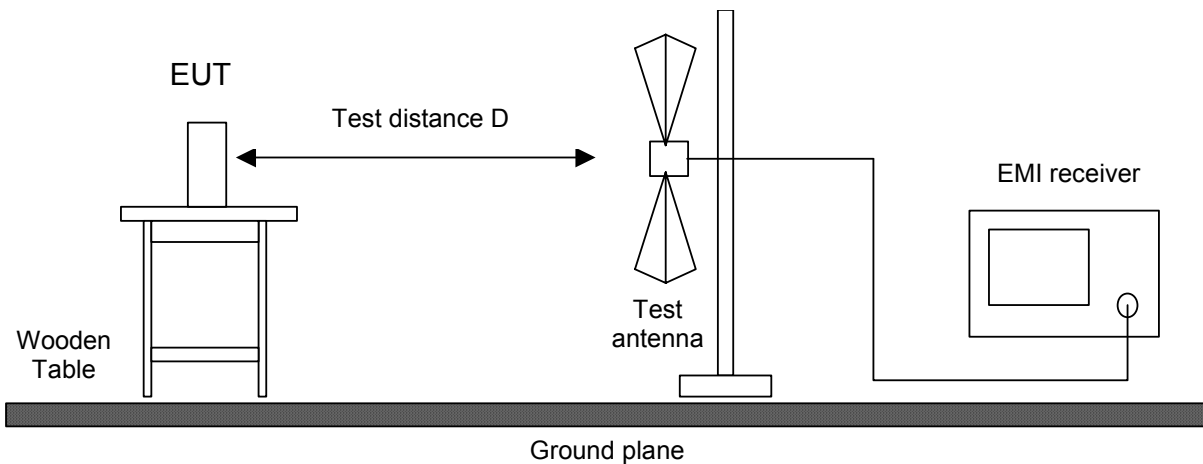


Test instruments used:

Used	Type	Model	Serial No. or ID	Manufacturer
<input checked="" type="checkbox"/>	Spectrum Analyzer	FSP 30	100063	Rohde & Schwarz
<input type="checkbox"/>	Spectrum analyzer	R 3271	05050023	Advantest
<input type="checkbox"/>	EMI test receiver	ESMI	839379/013 839587/006	Rohde & Schwarz
<input checked="" type="checkbox"/>	Preamplifier	CPA9231A	3393	Schaffner
<input type="checkbox"/>	Preamplifier	R14601		Advantest
<input checked="" type="checkbox"/>	Preamplifier 1-8 GHz	AFS3-00100800-32-LN	847743	Miteq
<input type="checkbox"/>	Preamplifier 0.5-8 GHz	AMF-4D-005080-25-13P	860149	Miteq
<input checked="" type="checkbox"/>	Preamplifier 8-18 GHz	ACO/180-3530	32641	CTT
<input type="checkbox"/>	External Mixer	WM782A	845881/005	Tektronix
<input type="checkbox"/>	Harmonic Mixer	FS-Z30	843389/007	Rohde & Schwarz
	Accessories			
<input checked="" type="checkbox"/>	Trilog broadband antenna	VULB 9163	9163-188	Schwarzbeck
<input checked="" type="checkbox"/>	Horn antenna	3115	9508-4553	EMCO
<input type="checkbox"/>	Horn antenna	3160-03	9112-1003	EMCO
<input checked="" type="checkbox"/>	Horn antenna	3160-04	9112-1001	EMCO
<input checked="" type="checkbox"/>	Horn antenna	3160-05	9112-1001	EMCO
<input checked="" type="checkbox"/>	Horn antenna	3160-06	9112-1001	EMCO
<input checked="" type="checkbox"/>	Horn antenna	3160-07	9112-1008	EMCO
<input type="checkbox"/>	Horn antenna	3160-08	9112-1002	EMCO
<input type="checkbox"/>	Horn antenna	3160-09	9403-1025	EMCO
<input type="checkbox"/>	Horn antenna	3160-10	399185	EMCO
<input checked="" type="checkbox"/>	Fully anechoic room	No. 2	1452	Albatross Projects
<input type="checkbox"/>	Semi-anechoic room	No. 3	1453	Siemens

**6.5 Radiated Emission at Open Field Test Site**

<b>Measurement Procedure:</b>	
Rules and specifications:	CFR 47 Part 15, sections 15.109, 15.215(b) and 15.249 IC RSS-Gen Issue 1, sections 6(a), 7.2.3.2 IC RSS-210 Issue 6, section A2.9
Guide:	ANSI C63.4
<p>Radiated emission at open field test site is measured in the frequency range 30 MHz to 1 GHz using a biconical antenna up to 300 MHz and a logarithmic periodic antenna above. The measurement bandwidth of the test receiver is set to 120 kHz with quasi-peak detector selected.</p> <p>If the radiated emission limits are expressed in terms of the average value of the emission there also is a peak limit corresponding to 20 dB above the maximum permitted average limit. Additionally, if pulsed operation is employed, the average field strength is determined by averaging over one complete pulse train, including blanking intervals, as specified in CFR 47 Part 15 section 15.35©. If the pulse train exceeds 0.1 second that 0.1 second interval during which the value of the emission is at its maximum is selected for calculation. The pulse train correction is added to the peak value of the emission to get the average value.</p> <p>Hand-held or body-worn devices are tested in the position producing the highest emission relative to the limit as verified by prescans in the fully anechoic room. EUT is rotated all around and receiving antenna is raised and lowered within 1 meter to 4 meters to find the maximum levels of emission. Equipment and cables are placed and moved within the range of position likely to find their maximum emissions.</p> <p>For measuring emissions of intentional radiators and receivers a test distance D of 3 meters is selected. Testing of unintentional radiators is performed at a distance of 10 meters. If limits specified for 3 meters shall be used for measurements performed at 10 meters distance the limits are calculated according to CFR 47 Part 15 section 15.31(d) and (f)(1) using an inverse linear-distance extrapolation factor of 20 dB/decade.</p>	



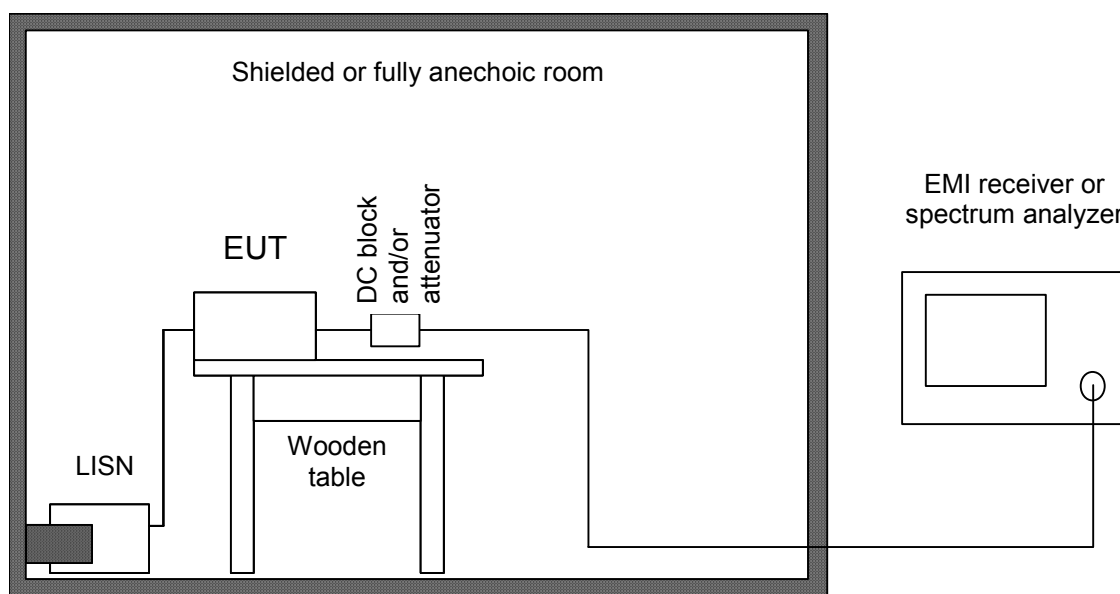
Test instruments used:



Used	Type		Model	Serial No. or ID	Manufacturer
<input checked="" type="checkbox"/>	EMI receiver		ESVP	881120/024	Rohde & Schwarz
<input checked="" type="checkbox"/>	Biconical antenna	EG 1	HK 116	842204/001	Rohde & Schwarz
<input checked="" type="checkbox"/>	Log. per. antenna	EG 1	HL 223	841516/023	Rohde & Schwarz
<input checked="" type="checkbox"/>	Open field test site		EG 1	1450	Senton

## 6.6 Antenna Power Conduction Emission of Receivers

Measurement Procedure:	
Rules and specifications:	CFR 47 Part 15, section 15.111(a) IC RSS-Gen Issue 1, sections 6(b) and 7.2.3.1
Guide:	ANSI C63.4
<p>The receiver antenna terminal is connected to the spectrum analyzer. If required, a resistive matching network equal to the impedance specified or employed for the antenna is used as well as dc block and appropriate attenuators (50 Ohms). The power at the antenna terminal is measured in the frequency range as specified in CFR 47 Part 15 section 15.33.</p> <p>The peak detector of the spectrum analyzer is selected and resolution as well as video bandwidth are set to 100 kHz (below 1 GHz) or 1 MHz (above 1 GHz).</p> <p>If required, preamplifiers are used. Special care is taken to avoid overload (using appropriate attenuators and filters if necessary).</p>	

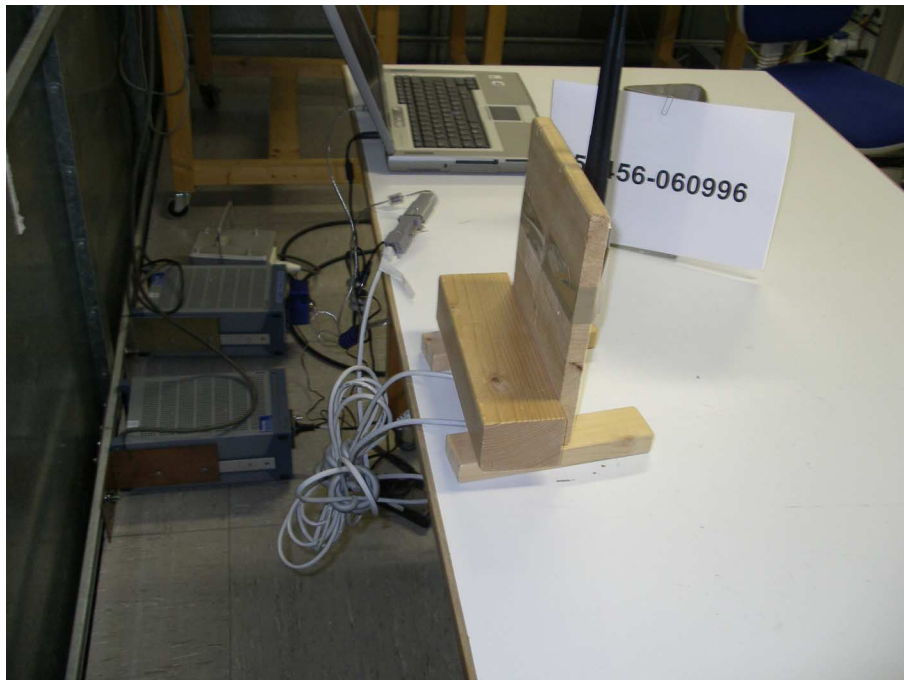
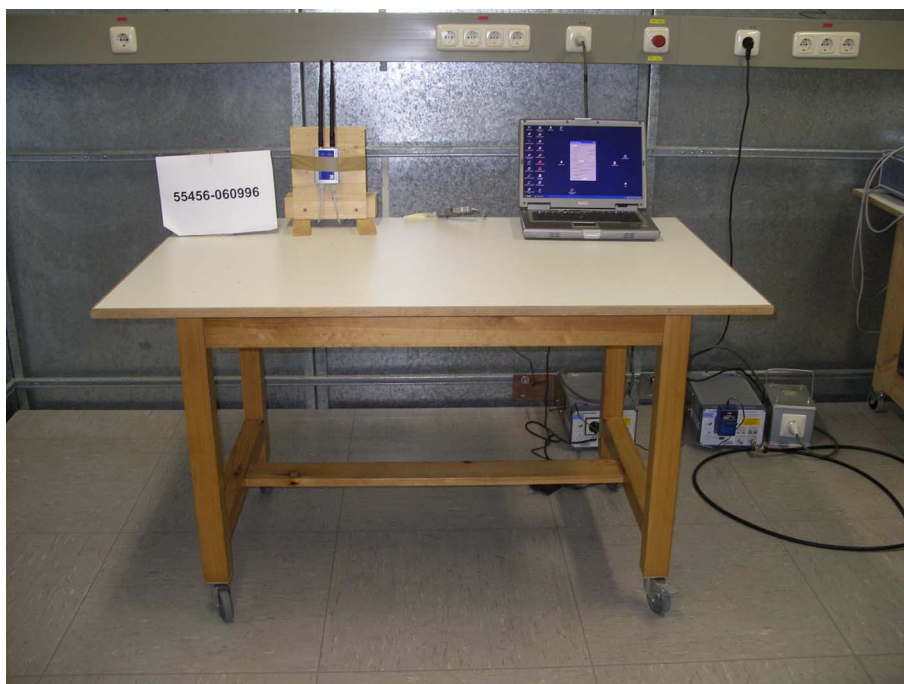


Test instruments used:

Used	Type	Model	Serial No. or ID	Manufacturer
<input checked="" type="checkbox"/>	Spectrum Analyzer	FSP 30	100063	Rohde & Schwarz
<input type="checkbox"/>	EMI test receiver	ESMI	839379/013 839587/006	Rohde & Schwarz
<input checked="" type="checkbox"/>	DC-block	7006	A2798	Weinschel
<input checked="" type="checkbox"/>	Attenuator	4776-10	9412	Narda
<input type="checkbox"/>	Attenuator	4776-20	9503	Narda
<input type="checkbox"/>	Preamplifier	CPA9231A	3393	Schaffner
<input type="checkbox"/>	Preamplifier 1-8 GHz	AFS3-00100800-32-LN	847743	Miteq
<input type="checkbox"/>	Preamplifier 0.5-8 GHz	AMF-4D-005080-25-13P	860149	Miteq
<input type="checkbox"/>	Preamplifier 8-18 GHz	ACO/180-3530	32641	CTT
<input checked="" type="checkbox"/>	Shielded room	No. 1	1451	Albatross Projects
<input type="checkbox"/>	Fully anechoic room	No. 2	1452	Albatross Projects
<input type="checkbox"/>	Shielded room	No. 4	3FD-100 544	Euroshield
<input type="checkbox"/>	Shielded room	No. 5	5468	Ray Proof Division

## 7 Photographs Taken During Testing

**Test setup for conducted AC powerline emission measurement**



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



**Test setup for radiated emission measurement  
(open field test site)**



**Test setup for radiated emission measurement  
(open field test site) - continued -**





## 8 Test Results for Transmitter

FCC CFR 47 Parts 2 and 15			
<i>Section(s)</i>	<i>Test</i>	<i>Page</i>	<i>Result</i>
2.1046(a)	Conducted output power	27	Recorded
2.202(a)	Occupied bandwidth	28	Recorded
15.215©	Bandwidth of the emission	32	Test passed
2.201, 2.202	Class of emission	34	Calculated
15.35©	Pulse train measurement for pulsed operation	---	Not applicable
15.205(a)	Restricted bands of operation	35	Test passed
15.207	Conducted AC powerline emission 150 kHz to 30 MHz	37	Test passed
15.205(b) 15.249	Radiated emission 9 kHz to 30 MHz	---	Not applicable according to CFR 47 Part 15, section 15.33(a)
15.205(b) 15.215(b) 15.249	Radiated emission 30 MHz to 10 GHz	39	Test passed

<b>IC RSS-Gen Issue 1</b>			
<i>Section(s)</i>	<i>Test</i>	<i>Page</i>	<i>Result</i>
4.6	Transmitter output power (conducted)	27	Recorded
4.4.1	Occupied Bandwidth	28	Recorded
3.2(h), 8	Designation of emissions	34	Calculated
4.3	Pulsed operation	---	Not applicable
7.2.2	Transmitter AC power lines conducted emissions 150 kHz to 30 MHz	37	Test passed
5.5	Exposure of Humans to RF Fields	41	Exempted from SAR and RF evaluation

<b>IC RSS-210 Issue 6</b>			
<i>Section(s)</i>	<i>Test</i>	<i>Page</i>	<i>Result</i>
2.2(a)	Restricted bands and unwanted emission frequencies	35	Test passed
2.2(b)(c), 2.6 A2.9	Unwanted emissions 9 kHz to 30 MHz	---	Not applicable according to IC RSS-Gen Issue 1, section 4.7
2.2(b)(c), 2.6 A2.9	Unwanted emissions 30 MHz to 10 GHz	39	Test passed

## 8.1 Conducted Output Power

Rules and specifications:	CFR 47 Part 2, section 2.1046(a) IC RSS-Gen Issue 1, section 4.6
Guide:	CFR 47 Part 2, section 2.1046 / IC RSS-Gen Issue 1
Description:	Conducted output power shall be measured at the RF output terminals (e.g. antenna connector if antenna is detachable) when the transmitter is adjusted in accordance with the tune-up procedure, if applicable. The electrical characteristics of the radio frequency load attached to the output terminals when this test is made shall be stated.
Measurement procedure:	Conducted Output Power (6.1)

Comment:	
Date of test:	31 January 2007
Test site:	Unshielded room

Antenna gain:	3 dBi						
Mode	Frequency (MHz)	Power Type	Reading (dBm)	Correction (dB)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Modulated	916.5	PEP	-0.2	0.0	-0.2		

*Note 1:* If applicable, PEP (peak envelope power) and RMS values are measured using a power meter with appropriate sensor.

*Note 2:* If applicable, peak or average values are measured using a spectrum analyzer with resolution and video bandwidth set to: RBW = ....., VBW = .....

*Note 3:* If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power limit is reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

## 8.2 Occupied Bandwidth

Rules and specifications:	CFR 47 Part 2, section 2.202(a) ANSI C63.4, annex H.6	
Guide:	ANSI C63.4	
Description:	<p>The occupied bandwidth according to CFR 47 Part 2, section 2.202(a), is measured as the 99% emission bandwidth, i.e. below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5% of the total mean power radiated by a given emission.</p> <p>The occupied bandwidth according to ANSI C63.4, annex H.6; is measured as the frequency range defined by the points that are 26 dB down relative to the maximum level of the modulated carrier.</p> <p>The resolution bandwidth of the spectrum analyzer shall be set to a value greater than 5.0% of the allowed bandwidth. If no bandwidth specifications are given, the following guidelines are used:</p>	
	Fundamental frequency	Minimum resolution bandwidth
	9 kHz to 30 MHz	1 kHz
	30 MHz to 1000 MHz	10 kHz
	1000 MHz to 40 GHz	100 kHz
	The video bandwidth shall be at least three times greater than the resolution bandwidth.	
Measurement procedure:	Bandwidth Measurements (6.2)	

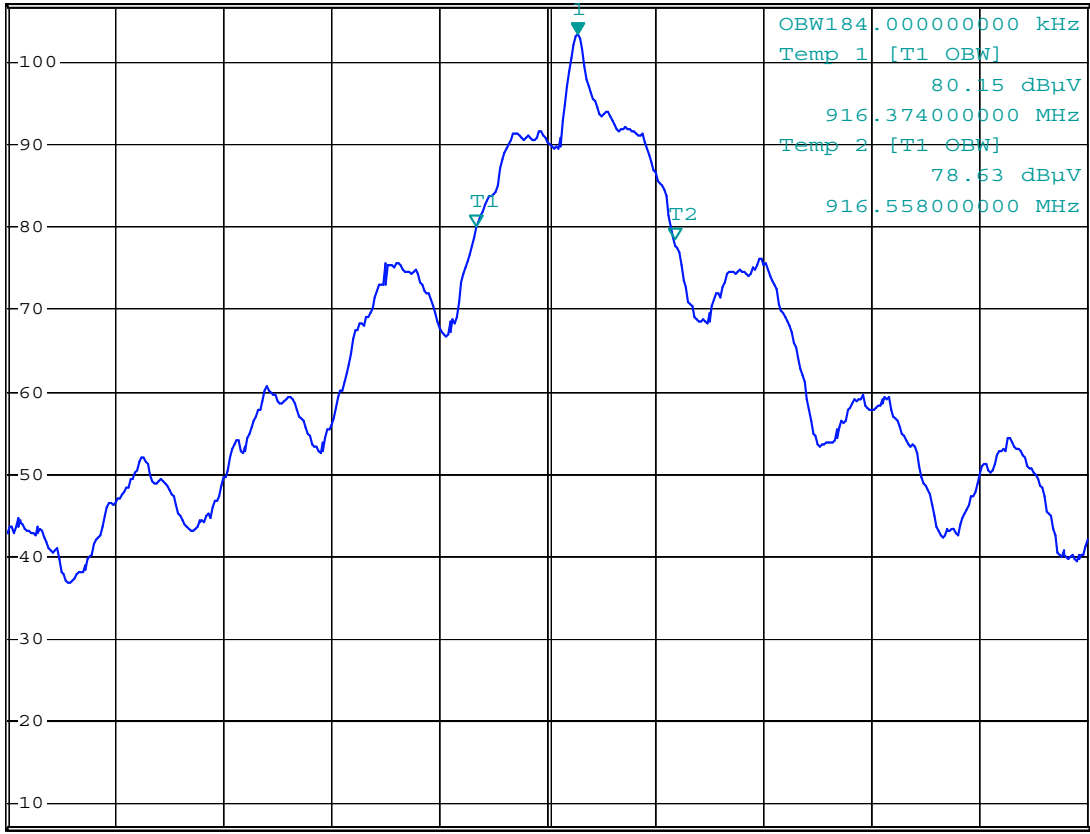
Comment:	
Date of test:	31 January 2007
Test site:	Fully anechoic room, cabin no. 2

8.2.1.1.1.1 Occupied Bandwidth (99 %):



\* RBW 10 kHz      Marker 1 [T1 ]  
 \* VBW 30 kHz      103.39 dBµV  
 Ref 107 dBµV      Att 20 dB      SWT 10 ms      916.468000000 MHz

1 PK  
 VIEW



OBW184.000000000 kHz \*  
 Temp 1 [T1 OBW] A  
 80.15 dBµV  
 916.374000000 MHz  
 Temp 2 [T2 OBW]  
 78.53 dBµV  
 916.558000000 MHz

Center 916.44 MHz      100 kHz/      Span 1 MHz

Date: 31.JAN.2007 17:07:51

Occupied Bandwidth (99 %):	<b>184.0 kHz</b>
----------------------------	------------------

## Occupied Bandwidth (continued)

Rules and specifications:	IC RSS-Gen Issue 1, section 4.4.1
Guide:	IC RSS-Gen Issue 1, section 4.4.1
Description:	<p>If not specified in the applicable RSS the occupied bandwidth is measured as the 99% emission bandwidth.</p> <p>The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth.</p> <p>The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is also recorded. The span between the two recorded frequencies is the occupied bandwidth.</p>
Measurement procedure:	Bandwidth Measurements (6.2)

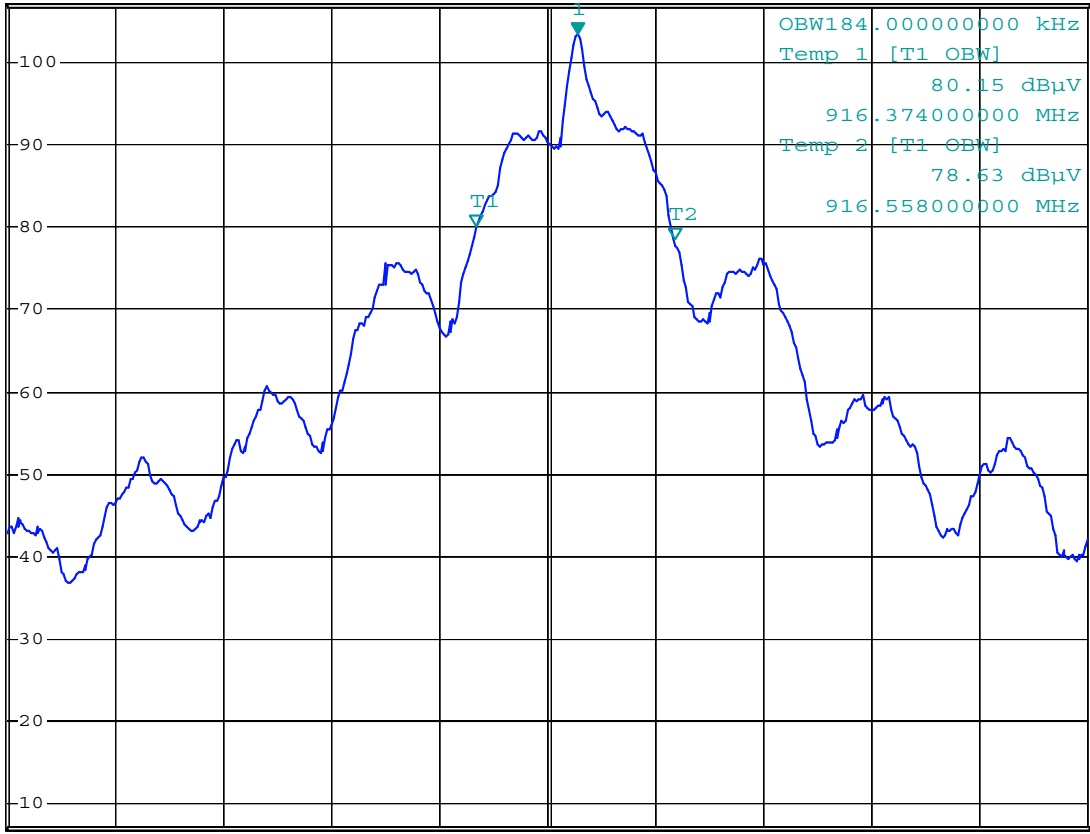
Comment:	
Date of test:	31 January 2007
Test site:	Fully anechoic room, cabin no. 2

8.2.1.1.1.2 Occupied Bandwidth (99 %):



\* RBW 10 kHz      Marker 1 [T1 ]  
 \* VBW 30 kHz      103.39 dBµV  
 Ref 107 dBµV      Att 20 dB      SWT 10 ms      916.468000000 MHz

1 PK  
 VIEW



PRN

Center 916.44 MHz      100 kHz/      Span 1 MHz

Date: 31.JAN.2007 17:07:51

Occupied Bandwidth (99 %):	<b>184.0 kHz</b>
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### 8.3 Bandwidth of the Emission

Rules and specifications:	CFR 47 Part 15, section 15.215©	
Guide:	ANSI C63.4	
Description:	<p>The 20 dB bandwidth of the emission is measured as the frequency range defined by the points that are 20 dB down relative to the maximum level of the modulated carrier.</p> <p>For intentional radiators operating under the alternative provisions to the general emission limits the requirement to contain the 20 dB bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.</p> <p>The resolution bandwidth of the spectrum analyzer shall be set to a value greater than 5.0% of the allowed bandwidth. If no bandwidth specifications are given, the following guidelines are used:</p>	
	Fundamental frequency	Minimum resolution bandwidth
	9 kHz to 30 MHz	1 kHz
	30 MHz to 1000 MHz	10 kHz
	1000 MHz to 40 GHz	100 kHz
	The video bandwidth shall be at least three times greater than the resolution bandwidth.	
Measurement procedure:	Bandwidth Measurements (6.2)	

Comment:	
Date of test:	31 January 2007
Test site:	Fully anechoic room, cabin no. 2

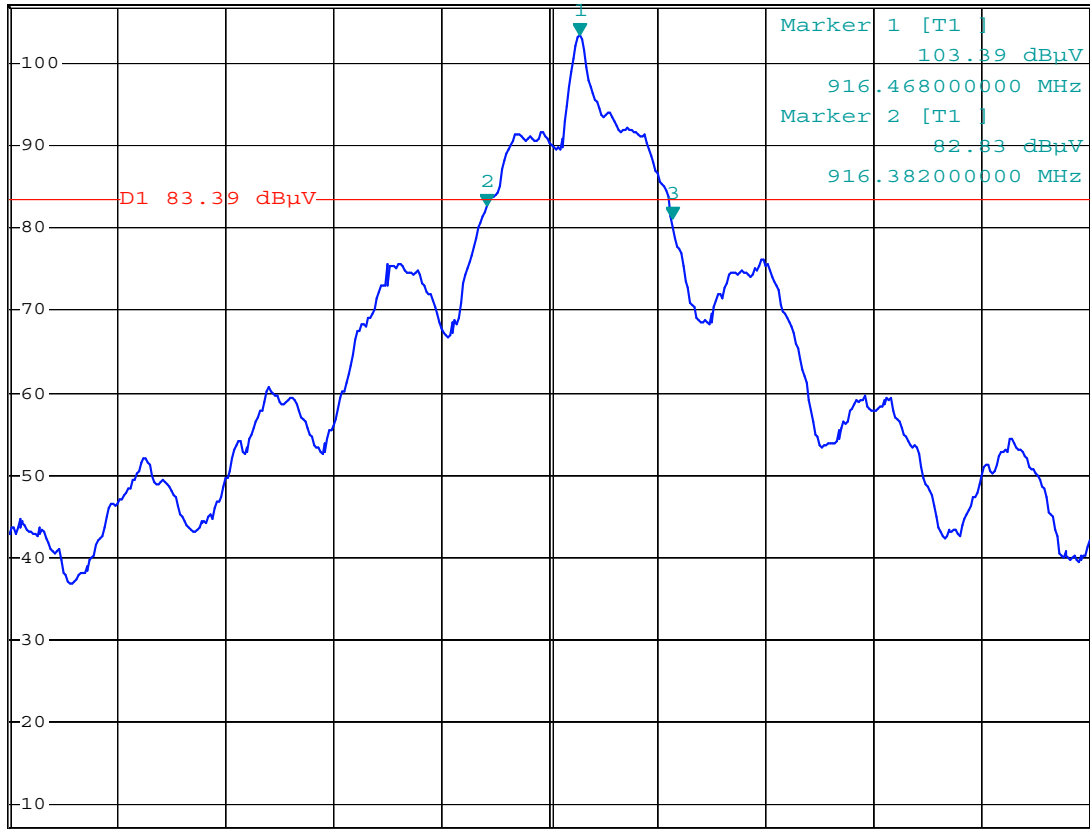




1 PK  
VIEW

\*RBW 10 kHz Marker 3 [T1 ]  
 \*VBW 30 kHz 81.25 dBμV

Ref 107 dBμV Att 30 dB SWT 10 ms 916.554000000 MHz



Center 916.44 MHz 100 kHz/ Span 1 MHz

Date: 31.JAN.2007 17:08:53

Permitted frequency band:	902 MHz - 928 MHz	
20 dB bandwidth:	172.0 kHz	
Carrier frequency stability:	<input type="checkbox"/> specified	<input checked="" type="checkbox"/> not specified
Maximum frequency tolerances:	+..... kHz - ..... kHz	
Bandwidth of the emission:	..... kHz	within permitted frequency band <sup>5</sup> : <input checked="" type="checkbox"/> yes <input type="checkbox"/> no

Test Result:	Test passed
--------------	-------------

<sup>5</sup> If a frequency stability is not specified, it is recommended that the fundamental emission is kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

## 8.4 Designation of Emissions

Rules and specifications:	CFR 47 Part 2, sections 2.201 and 2.202 IC RSS-Gen Issue 1, sections 3.2(h) and 8
Guide:	ANSI C63.4 / TRC-43

Type of modulation:	Amplitude Modulation
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$B_n$ = Necessary Bandwidth	$B_n = 2BK$
$B$ = Modulation rate	$B = 92 \text{ kHz}$
$K$ = Overall numerical factor	$K = 1$
Calculation:	$B_n = 2 \cdot (92 \text{ kHz}) \cdot 1 = 184 \text{ kHz}$

Designation of Emissions:	<b>184KA1D</b>
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## 8.5 Restricted Bands of Operation

Rules and specifications:	CFR 47 Part 15, section 15.205(a) IC RSS-210 Issue 6, section 2.2(a)
Guide:	ANSI C63.4
Limit:	Only spurious emissions are permitted in any of the frequency bands listed in CFR 47 Part 15, section 15.205(a) or IC RSS-210 Issue 6, section 2.2(a).
Measurement procedure:	Radiated Emission in Fully or Semi Anechoic Room (6.4)

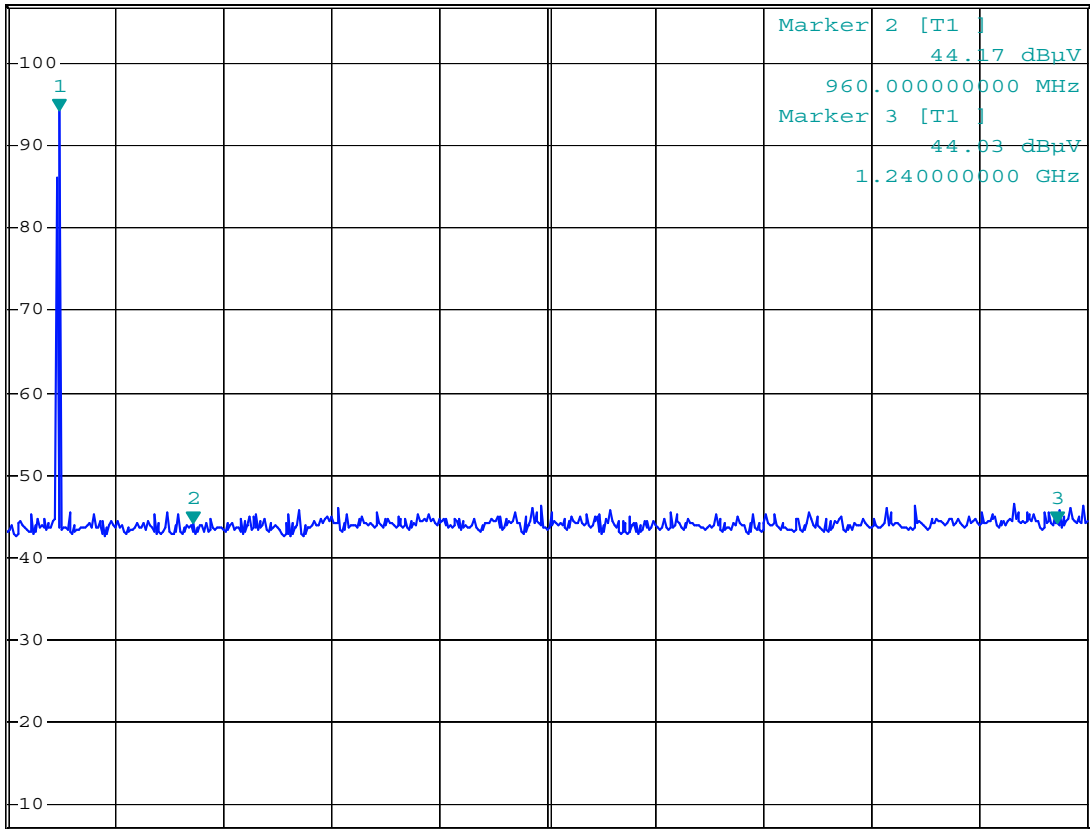
Comment:	
Date of test:	31 January 2007
Test site:	Fully anechoic room, cabin no. 2
Test distance:	3 meters



\*RBW 100 kHz Marker 1 [T1 ]  
 \*VBW 300 kHz 94.27 dBuV

Ref 107 dBuV Att 30 dB SWT 35 ms 916.800000000 MHz

1 PK  
 VIEW



Start 900 MHz 35 MHz/ Stop 1.25 GHz

Date: 31.JAN.2007 17:13:36

Test Result:	Test passed
--------------	-------------

## 8.6 Conducted Powerline Emission Measurement 150 kHz to 30 MHz

Rules and specifications:	CFR 47 Part 15, section 15.207 IC RSS-Gen Issue 1, section 7.2.2		
Guide:	ANSI C63.4 / CISPR 22		
Limit:	Frequency of Emission (MHz)	Conducted Limit (dB $\mu$ V)	
		Quasi-peak	Average
	0.15 - 0.5	66 to 56	56 to 46
	0.5 - 5	56	46
	5 - 30	60	50
Measurement procedure:	Conducted AC Powerline Emission (6.3)		

Comment:	
Date of test:	25 January 2007
Test site:	Shielded room, cabin no. 1

Test Result:	Test passed
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Tested on:	L1
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Frequency (MHz)	Detector	Reading Value (dB $\mu$ V)	Correction Factor (dB)	Final Value (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)
0.340	Quasi-Peak	49.8	0.0	49.8	59.2	9.4
0.340	Average	46.5	0.0	46.5	49.2	2.7
0.680	Average	38.8	0.0	38.8	46.0	7.2
0.685	Quasi-Peak	43.2	0.0	43.2	56.0	12.8
1.015	Average	32.7	0.0	32.7	46.0	13.3
1.025	Quasi-Peak	39.4	0.0	39.4	56.0	16.6
1.350	Average	23.2	0.0	23.2	46.0	22.8
1.365	Quasi-Peak	35.0	0.0	35.0	56.0	21.0
2.300	Quasi-Peak	30.4	0.0	30.4	56.0	25.6
2.370	Average	25.8	0.0	25.8	46.0	20.2
2.390	Quasi-Peak	38.8	0.0	38.8	56.0	17.2
3.230	Quasi-Peak	18.0	0.0	18.0	56.0	38.0
3.725	Average	19.9	0.0	19.9	46.0	26.1
3.780	Quasi-Peak	33.0	0.0	33.0	56.0	23.0
4.790	Quasi-Peak	34.4	0.0	34.4	56.0	21.6
8.660	Average	39.5	0.0	39.5	50.0	10.5
8.670	Quasi-Peak	41.6	0.0	41.6	60.0	18.4
24.000	Quasi-Peak	40.0	0.0	40.0	60.0	20.0
24.000	Average	37.0	0.0	37.0	50.0	13.0

Tested on:

N

Frequency (MHz)	Detector	Reading Value (dBµV)	Correction Factor (dB)	Final Value (dBµV)	Limit (dBµV)	Margin (dB)
0.345	Quasi-Peak	47.0	0.0	47.0	59.1	12.1
0.345	Average	42.9	0.0	42.9	49.1	6.2
0.685	Average	40.9	0.0	40.9	46.0	5.1
0.700	Quasi-Peak	45.6	0.0	45.6	56.0	10.4
1.035	Average	37.3	0.0	37.3	46.0	8.7
1.045	Quasi-Peak	44.0	0.0	44.0	56.0	12.0
1.369	Average	32.8	0.0	32.8	46.0	13.2
1.400	Quasi-Peak	41.1	0.0	41.1	56.0	14.9
1.710	Average	30.6	0.0	30.6	46.0	15.4
1.740	Quasi-Peak	39.8	0.0	39.8	56.0	16.2
2.060	Average	31.8	0.0	31.8	46.0	14.2
2.078	Quasi-Peak	42.1	0.0	42.1	56.0	13.9
2.405	Average	29.5	0.0	29.5	46.0	16.5
2.430	Quasi-Peak	41.3	0.0	41.3	56.0	14.7
3.420	Average	24.5	0.0	24.5	46.0	21.5
3.440	Quasi-Peak	38.0	0.0	38.0	56.0	18.0
3.765	Average	22.4	0.0	22.4	46.0	23.6
3.825	Quasi-Peak	36.0	0.0	36.0	56.0	20.0
4.735	Quasi-Peak	28.1	0.0	28.1	56.0	27.9
8.670	Quasi-Peak	41.9	0.0	41.9	60.0	18.1
8.670	Average	39.7	0.0	39.7	50.0	10.3
24.000	Quasi-Peak	40.0	0.0	40.0	60.0	20.0
24.000	Average	37.0	0.0	37.0	50.0	13.0
26.025	Average	30.7	0.0	30.7	50.0	19.3

#### 8.6.1.1.1.1 Sample calculation of final values:

$$\text{Final Value (dB}\mu\text{V)} = \text{Reading Value (dB}\mu\text{V)} + \text{Correction Factor (dB)}$$

## 8.7 Radiated Emission Measurement 30 MHz to 10 GHz

Rules and specifications:	CFR 47 Part 15, sections 15.215(b) and 15.249 IC RSS-210 Issue 6, section A2.9		
Guide:	ANSI C63.4		
Limit:	Frequency of Emission (MHz)	Field Strength ( $\mu\text{V}/\text{m}$ )	Field Strength ( $\text{dB}\mu\text{V}/\text{m}$ )
	30 - 88	100	40.0
	88 - 216	150	43.5
	216 - 960	200	46.0
	Above 960	500	54.0
	Additionally, the level of any unwanted emissions shall not exceed the level of the fundamental emission.		
Measurement procedures:	Radiated Emission in Fully or Semi Anechoic Room (6.4) Radiated Emission at Open Field Test Site (6.5)		

Comment:	
Port used	Antenna 1
Date of test:	11 January to 15 January 2007
Test site:	Frequencies $\leq 1$ GHz: Open field test site Frequencies $> 1$ GHz: Fully anechoic room, cabin no. 2
Test distance:	3 meters

Test Result:	Test passed
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Frequency (MHz)	Antenna Polarization	Detector	Receiver Reading ( $\text{dB}\mu\text{V}$ )	Correction Factor ( $\text{dB}/\text{m}$ )	Pulse Train Correction (dB)	Final Value ( $\text{dB}\mu\text{V}/\text{m}$ )	Limit ( $\text{dB}\mu\text{V}/\text{m}$ )	Margin (dB)
497.680	horizontal	Quasi-Peak	15.1	20.3		35.4	46.0	10.6
895.800	vertical	Quasi-Peak	7.5	26.5		34.0	46.0	12.0
916.450	vertical	Quasi-Peak	62.0	26.2		88.2	94.0	5.8
1096.000	horizontal	Peak	8.3	26.4		34.7	54.0	19.3
1292.000	vertical	Peak	12.8	28.2		41.0	54.0	13.0
1492.000	horizontal	Peak	10.3	29.2		39.5	54.0	14.5

### 8.7.1.1.1.1 Sample calculation of final values:

$$\text{Final Value (dB}\mu\text{V}/\text{m)} = \text{Reading Value (dB}\mu\text{V)} + \text{Correction Factor (dB}/\text{m)} + \text{Pulse Train Correction (dB)}$$

Comment:	
Port used:	Antenna 2
Date of test:	11 January to 15 January 2007
Test site:	Frequencies ≤ 1 GHz: Open field test site Frequencies > 1 GHz: Fully anechoic room, cabin no. 2
Test distance:	3 meters

Test Result:	Test passed
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Frequency (MHz)	Antenna Polarization	Detector	Receiver Reading (dBμV)	Correction Factor (dB/m)	Pulse Train Correction (dB)	Final Value (dBμV/m)	Limit (dBμV/m)	Margin (dB)
199.060	vertical	Quasi-Peak	6.1	16.6		22.7	43.5	20.8
497.680	horizontal	Quasi-Peak	15.8	20.3		36.1	46.0	9.9
916.600	vertical	Quasi-Peak	67.7	26.2		93.9	94.0	0.1
1096.000	horizontal	Peak	8.5	26.4		34.9	54.0	19.1
1292.000	vertical	Peak	13.1	28.2		41.3	54.0	12.7
1492.000	horizontal	Peak	10.0	29.2		39.2	54.0	14.8

**8.7.1.1.1.2 Sample calculation of final values:**

$$\text{Final Value (dB}\mu\text{V/m)} = \text{Reading Value (dB}\mu\text{V)} + \text{Correction Factor (dB/m)} + \text{Pulse Train Correction (dB)}$$



## 8.8 Exposure of Humans to RF Fields

Rules and specifications:	IC RSS-Gen Issue 1, section 5.5
Guide:	IC RSS-102 Issue 2, section 2.5

Exposure of Humans to RF Fields	Applicable	Declared by applicant	Measured	Exemption
<b>The antenna is</b>				
<input checked="" type="checkbox"/> detachable				
The conducted output power (CP in watts) is measured at the antenna connector: $CP = -0.16 \text{ dBm} = 0.96 \text{ mW}$			<input checked="" type="checkbox"/>	
The effective isotropic radiated power (EIRP in watts) is calculated using <input checked="" type="checkbox"/> the numerical antenna gain: $G = 3 \text{ dB} = 2$ $EIRP = G \cdot CP \Rightarrow EIRP = 1.92 \text{ mW}$		<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> the field strength <sup>6</sup> in V/m: $FS = 93.9 \text{ dB}\mu\text{V/m} = 49.5 \text{ mV/m}$ $EIRP = \frac{(FS \cdot D)^2}{30} \Rightarrow EIRP = 0.74 \text{ mW}$			<input checked="" type="checkbox"/>	
with: Distance between the antennas in m: $D = 3 \text{ m}$			<input checked="" type="checkbox"/>	
<input type="checkbox"/> not detachable				
A field strength measurement is used to determine the effective isotropic radiated power (EIRP in watts) given by <sup>6</sup> : $EIRP = \frac{(FS \cdot D)^2}{30} \Rightarrow EIRP = \dots\dots\dots \text{ W}$				
with: Field strength in V/m: $FS = \dots\dots\dots \text{ V/m}$ Distance between the two antennas in m: $D = \dots\dots\dots \text{ m}$			<input type="checkbox"/>	<input type="checkbox"/>
<b>Selection of output power</b>				
The output power TP is the higher of the conducted or effective isotropic radiated power (e.i.r.p.): $TP = 1.92 \text{ mW}$				

<sup>6</sup> The conversion formula is valid only for properly matched antennas. In other cases the transmitter output power may have to be measured by a terminated measurement when applying the exemption clauses. If an open area test site is used for field strength measurement, the effect due to the metal ground reflecting plane should be subtracted from the maximum field strength value in order to reference it to free space, before calculating TP.

Exposure of Humans to RF Fields (continued)	Applicable	Declared by applicant	Measured	Exemption
<b>Separation distance between the user and the transmitting device is</b>				
<input type="checkbox"/> less than or equal to 20 cm <input checked="" type="checkbox"/> greater than 20 cm		☒		
<b>Transmitting device is</b>				
<input type="checkbox"/> in the vicinity of the human head <input type="checkbox"/> body-worn		☒		
<b>SAR evaluation</b>				
SAR evaluation is required if the separation distance between the user and the device is less than or equal to 20 cm. <input type="checkbox"/> The device operates from 3 kHz up to 1 GHz inclusively and its source-based time-averaged output power is less than, or equal to 200 mW for General Public Use and 1000 mW for Controlled Use. <input type="checkbox"/> The device operates above 1 GHz up to 2.2 GHz inclusively and its source-based time-averaged output power is less than, or equal to 100 mW for General Public Use and 500 mW for Controlled Use. <input type="checkbox"/> The device operates above 2.2 GHz up to 3 GHz inclusively and its source-based time-averaged output power is less than, or equal to 20 mW for General Public Use and 100 mW for Controlled Use. <input type="checkbox"/> The device operates above 3 GHz up to 6 GHz inclusively and its source-based time-averaged output power) is less than, or equal to 10 mW for General Public Use and 50 mW for Controlled Use. <input type="checkbox"/> SAR evaluation is documented in test report no. ....				<input type="checkbox"/>       <input type="checkbox"/>       <input type="checkbox"/>       <input type="checkbox"/>       <input type="checkbox"/>       
<b>RF exposure evaluation</b>				
RF exposure evaluation is required if the separation distance between the user and the device is greater than 20 cm. <input checked="" type="checkbox"/> The device operates below 1.5 GHz and its e.i.r.p. is equal to or less than 2.5 W. <input type="checkbox"/> The device operates at or above 1.5 GHz and the e.i.r.p. of the device is equal to or less than 5 W. <input type="checkbox"/> RF exposure evaluation is documented in test report no. ....				<input checked="" type="checkbox"/>   <input type="checkbox"/>   

## 9 Test Results for Receiver

<b>FCC CFR 47 Part 15</b>			
<i>Section(s)</i>	<i>Test</i>	<i>Page</i>	<i>Result</i>
15.107	Conducted AC powerline emission 150 kHz to 30 MHz	---	Not applicable
15.109	Radiated emission 30 MHz to 5 GHz	44	Test passed
15.111(a)	Antenna power conduction emission of receivers 9 kHz to 5 GHz	45	Test passed

<b>IC RSS-Gen Issue 1</b>			
<i>Section(s)</i>	<i>Test</i>	<i>Page</i>	<i>Result</i>
7.2.2	Transmitter AC power lines conducted emissions 150 kHz to 30 MHz	---	Not applicable
6(a), 7.2.3.2	Receiver spurious emissions (radiated) 30 MHz to 5 GHz	44	Test passed
6(b), 7.2.3.1	Receiver spurious emissions (antenna conducted) 9 kHz to 5 GHz	45	Test passed

## 9.1 Radiated Emission Measurement 30 MHz to 5 GHz

Rules and specifications:	CFR 47 Part 15, section 15.109 (Class B) IC RSS-Gen Issue 1, sections 6(a) and 7.2.3.2		
Guide:	ANSI C63.4		
Limit:	Frequency of Emission (MHz)	Field Strength ( $\mu\text{V/m}$ )	Field Strength ( $\text{dB}\mu\text{V/m}$ )
	30 - 88	100	40.0
	88 - 216	150	43.5
	216 - 960	200	46.0
	Above 960	500	54.0
Measurement procedures:	Radiated Emission in Fully or Semi Anechoic Room (6.4) Radiated Emission at Open Field Test Site (6.5)		

Comment:	
Date of test:	29 January 2007
Test site:	Frequencies $\leq 1$ GHz: Open field test site Frequencies $> 1$ GHz: Fully anechoic room, cabin no. 2
Test distance:	3 meters

Test Result:	Test passed
--------------	-------------

Frequency (MHz)	Antenna Polarization	Detector	Receiver Reading ( $\text{dB}\mu\text{V}$ )	Correction Factor ( $\text{dB/m}$ )	Final Value ( $\text{dB}\mu\text{V/m}$ )	Limit ( $\text{dB}\mu\text{V/m}$ )	Margin (dB)
298.600	horizontal	Quasi-Peak	11.9	23.1	35.0	46.0	11.0
497.660	vertical	Quasi-Peak	15.3	20.3	35.6	46.0	10.4
696.700	vertical	Quasi-Peak	8.7	24.0	32.7	46.0	13.3
895.800	vertical	Quasi-Peak	13.1	26.5	39.6	46.0	<b>6.4</b>
1090.000	horizontal	Peak	12.6	28.1	40.7	54.0	13.3
1294.000	vertical	Peak	14.0	28.9	42.9	54.0	11.1
1492.000	horizontal	Peak	10.6	29.6	40.2	54.0	13.8

### 9.1.1.1.1 Sample calculation of field final values:

$$\text{Final Value (dB}\mu\text{V/m)} = \text{Reading Value (dB}\mu\text{V)} + \text{Correction Factor (dB/m)}$$

## 9.2 Antenna Power Conduction Emission of Receivers 9 kHz to 5 GHz

Rules and specifications:	CFR 47 Part 15, section 15.111(a) IC RSS-Gen Issue 1, sections 6(b) and 7.2.3.1		
Guide:	ANSI C63.4		
Limit:	Frequency of Emission (MHz)	Antenna power conduction limits for receivers	
		CFR 47 Part 15	IC RSS-Gen
	30 - 1000	2 nW (-57 dBm)	2 nW (-57 dBm)
	Above 1000	2 nW (-57 dBm)	5 nW (-53 dBm)
Measurement procedure:	Antenna Power Conduction Emission of Receivers (6.6)		

Comment:	
Date of test:	29 January 2007
Test site:	Shielded room, cabin no. 2
Tested on:	Antenna connector 1

Test Result:	Test passed
--------------	-------------

Frequency (MHz)	Detector	Reading Value (dBm)	Correction Factor (dB)	Final Value (dBm)	CFR 47 Part 15		RSS-210	
					Limit (dBm)	Margin (dB)	Limit (dBm)	Margin (dB)
497.300	Peak	-88.5	11.3	-77.2	-57.0	20.2	-57.0	20.2
697.500	Peak	-83.1	11.3	-71.8	-57.0	14.8	-57.0	14.8
896.600	Peak	-82.5	11.4	-71.1	-57.0	14.1	-57.0	14.1
1096.000	Peak	-77.0	11.5	-65.5	-57.0	8.5	-53.0	12.5
1288.000	Peak	-75.8	11.6	-64.3	-57.0	<b>7.3</b>	-53.0	<b>11.3</b>
1488.000	Peak	-76.6	11.7	-64.9	-57.0	7.9	-53.0	11.9

### 9.2.1.1.1.1 Sample calculation of final values:

$$\text{Final Value (dBm)} = \text{Reading Value (dBm)} + \text{Correction Factor (dB)}$$

Comment:	
Date of test:	29 January 2007
Test site:	Shielded room, cabin no. 2
Tested on:	Antenna conector 2

Test Result:	Test passed
--------------	-------------

Frequency (MHz)	Detector	Reading Value (dBm)	Correction Factor (dB)	Final Value (dBm)	CFR 47 Part 15		RSS-210	
					Limit (dBm)	Margin (dB)	Limit (dBm)	Margin (dB)
99.520	Peak	-86.9	11.0	-75.9	-57.0	18.9	-57.0	18.9
298.800	Peak	-82.8	11.2	-71.6	-57.0	14.6	-57.0	14.6
497.300	Peak	-84.9	11.3	-73.6	-57.0	16.6	-57.0	16.6
697.500	Peak	-85.6	11.3	-74.3	-57.0	17.3	-57.0	17.3
896.600	Peak	-79.6	11.4	-68.3	-57.0	11.3	-57.0	11.3
1096.000	Peak	-77.6	11.5	-66.1	-57.0	9.1	-53.0	13.1
1288.000	Peak	-76.9	11.6	-65.3	-57.0	8.3	-53.0	12.3
1488.000	Peak	-75.8	11.7	-64.1	-57.0	<b>7.1</b>	-53.0	<b>11.1</b>
1696.000	Peak	-78.7	11.8	-66.9	-57.0	9.9	-53.0	13.9
2288.000	Peak	-77.6	12.1	-65.5	-57.0	8.5	-53.0	12.5

#### 9.2.1.1.1.2 Sample calculation of final values:

$$\text{Final Value (dBm)} = \text{Reading Value (dBm)} + \text{Correction Factor (dB)}$$

## 10 Referenced Regulations

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

<input checked="" type="checkbox"/>	CFR 47 Part 2	Code of Federal Regulations Part 2 (Frequency allocation and radio treaty matters; General rules and regulations) of the Federal Communication Commission (FCC)	October 10, 2004
<input checked="" type="checkbox"/>	CFR 47 Part 15	Code of Federal Regulations Part 15 (Radio Frequency Devices) of the Federal Communication Commission (FCC)	September 19, 2005
<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 to 40 GHz	December 11, 2003 (published on January 30, 2004)
<input checked="" type="checkbox"/>	RSS-Gen	Radio Standards Specification RSS-Gen Issue 1 containing General Requirements and Information for the Certification of Radiocommunication Equipments, published by Industry Canada	September 2005
<input checked="" type="checkbox"/>	RSS-210	Radio Standards Specification RSS-210 Issue 6 for Low Power Licence-Exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment, published by Industry Canada	September 2005
<input type="checkbox"/>	RSS-310	Radio Standards Specification RSS-310 Issue 1 for Low Power Licence-Exempt Radiocommunication Devices (All Frequency Bands): Category II Equipment, published by Industry Canada	September 2005
<input checked="" type="checkbox"/>	RSS-102	Radio Standards Specification RSS-102 Issue 2: Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)	November 2005
<input checked="" type="checkbox"/>	CISPR 22	Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22, "Information Technology Equipment – Radio Disturbance Characteristics – Limits and Methods of Measurement"	1997
<input type="checkbox"/>	CAN/CSA-CEI/IEC CISPR 22	Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment	2002
<input checked="" type="checkbox"/>	TRC-43	Notes Regarding Designation of Emission (Including Necessary Bandwidth and Classification), Class of Station and Nature of Service, published by Industry Canada	October 9, 1982

## 11 Revision History

<i>Revision</i>	<i>Date</i>	<i>Issued by</i>	<i>Note</i>
000	31 January 2007	M. Steindl (cj)	First edition
001	23 March 2007	M. Steindl	Edition 2 issued for Industry Canada request Emission Designator revised
001	26 March 2007	C. Jäger	Edition 2: name of antenna additionally (page 3)
Aktuelle Revision:		001	

<i>Dokumentnummer der Vorlage:</i>	BV000001-FC15-001-003
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## 12 Charts taken during testing

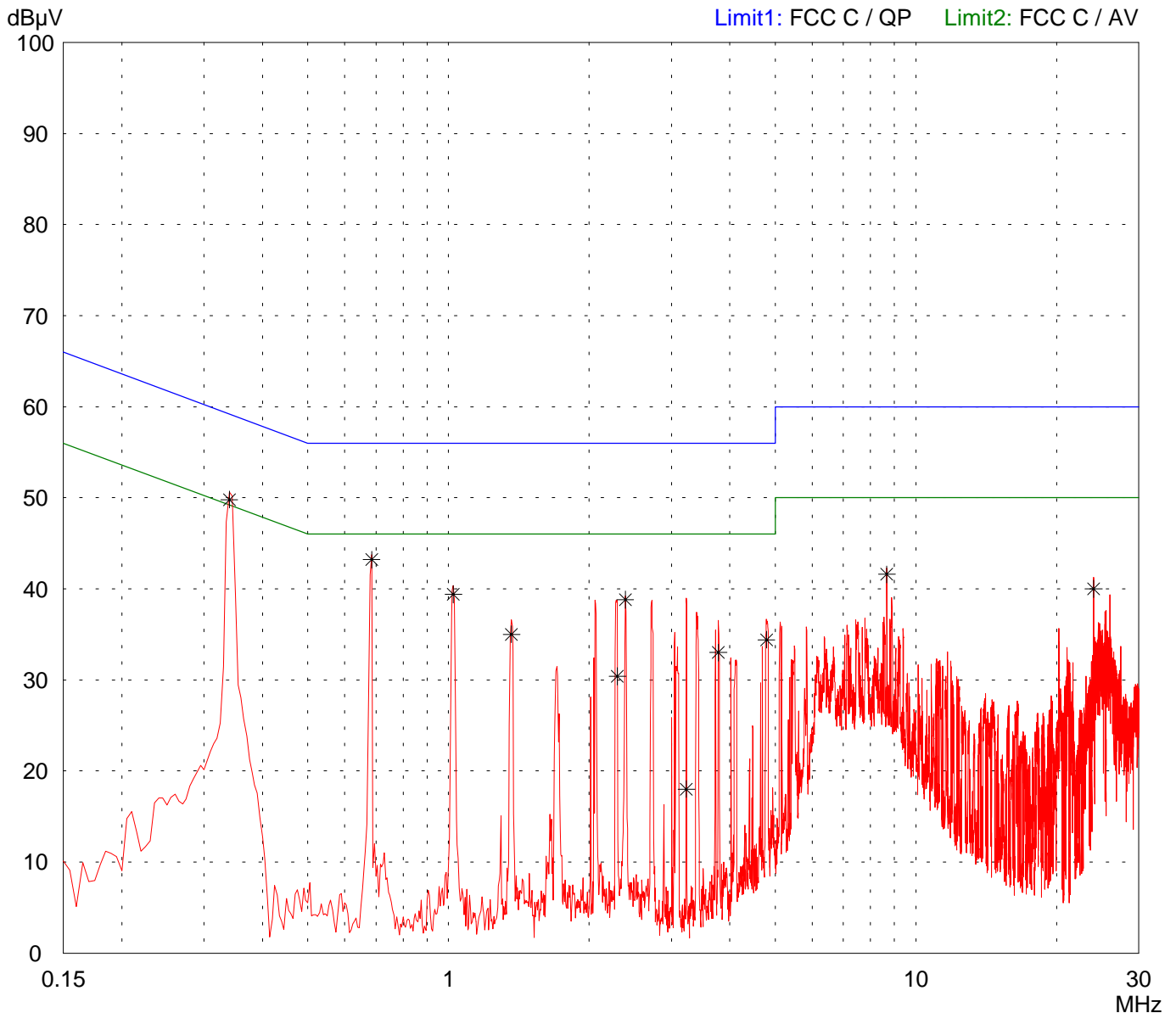
# Conducted Emission Test 150 kHz - 30 MHz according to FCC Part 15 Subpart C

Model: <b>i-Port M</b>	
Serial no.: <b>NA</b>	
Applicant: <b>IDENTEC SOLUTIONS AG</b>	
Test site: <b>Shielded room, cabin no. 4</b>	
Tested on: <b>Linecord AC 110 V (AC/DC adapter) Phase L1</b>	
Date of test: <b>01/25/2007</b>	Operator: <b>M. Steindl</b>
Test performed: <b>semi automatically</b>	File name:

Mode:
- DC supply over RS 422
- EUT in upright position
- all cables connected
- with rod antennas
- Scanning for tag

Detector: <b>Peak / Final Results: QP</b>
--

Final results:	<b>25 Subranges</b>
<b>20 dB Margin</b>	



Result: <b>Limit kept</b>
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Project file: <b>55456-060996</b>
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# Conducted Emission Test 150 kHz - 30 MHz according to FCC Part 15 Subpart C

Model:  
i-Port M

Serial no.:  
NA

Applicant:  
IDENTEC SOLUTIONS AG

Test site:  
Shielded room, cabin no. 4

Tested on:  
Linecord AC 110 V (AC/DC adapter)  
Phase L1

Date of test:  
01/25/2007

Operator:  
M. Steindl

Test performed:  
automatically

File name:

Mode:

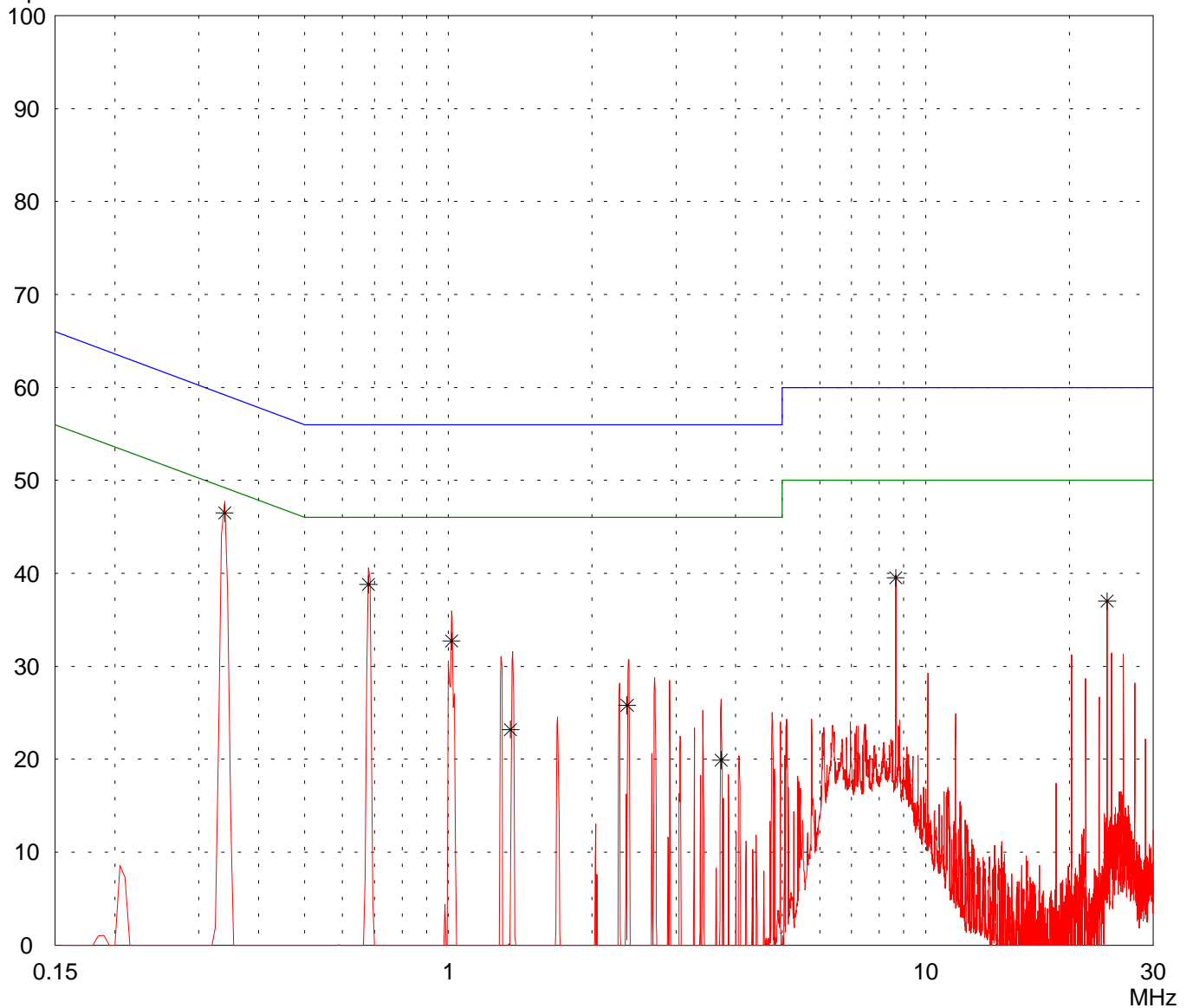
- DC supply over RS 422
- EUT in upright position
- all cables connected
- with rod antennas
- Scanning for tag

Detector:  
Average / Final Results: AV

Final results:  
Selected by hand

dB $\mu$ V

Limit1: FCC C / QP    Limit2: FCC C / AV



Result:  
Limit kept

Project file:  
55456-060996

# Conducted Emission Test 150 kHz - 30 MHz according to FCC Part 15 Subpart C

Model:  
i-Port M

Serial no.:  
NA

Applicant:  
IDENTEC SOLUTIONS AG

Test site:  
Shielded room, cabin no. 4

Tested on:  
Linecord AC 110 V (AC/DC adapter)  
Phase N

Date of test:  
01/25/2007

Operator:  
M. Steindl

Test performed:  
semi automatically

File name:

Mode:

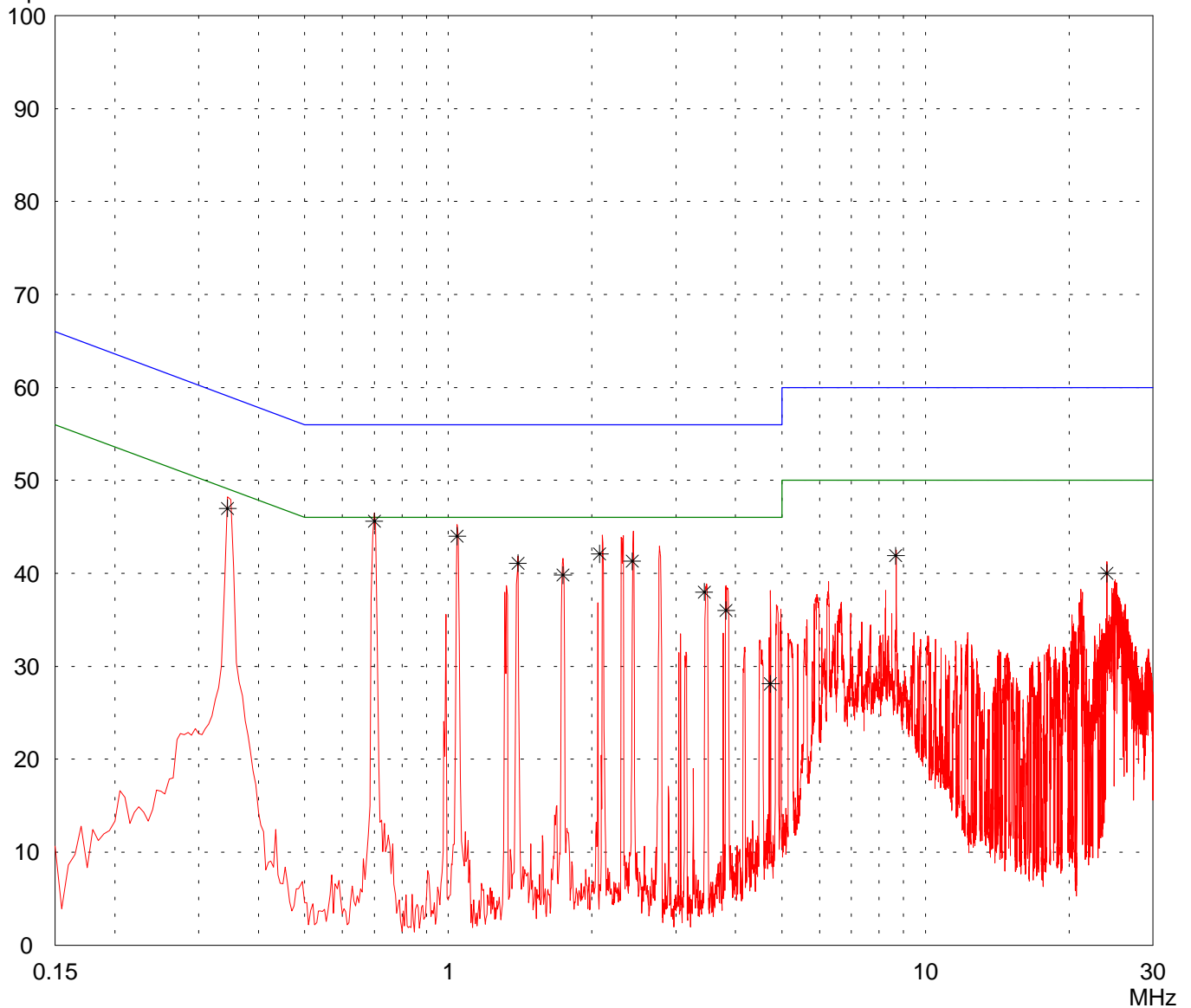
- DC supply over RS 422
- EUT in upright position
- all cables connected
- with rod antennas
- Scanning for tag

Detector:  
Peak / Final Results: QP

Final results:  
Selected by hand

dB $\mu$ V

Limit1: FCC C / QP    Limit2: FCC C / AV



Result:  
Limit kept

Project file:  
55456-060996

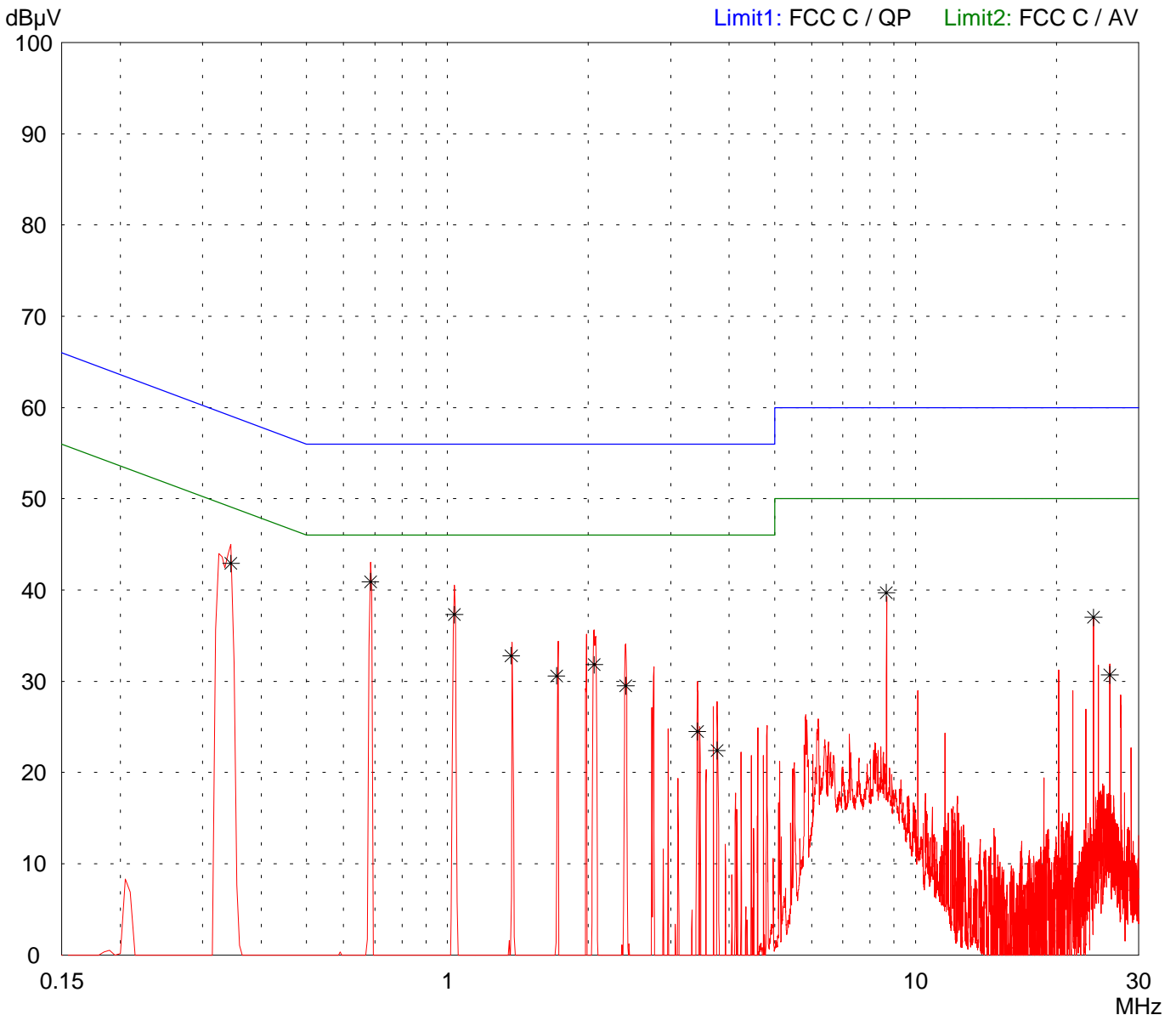
# Conducted Emission Test 150 kHz - 30 MHz according to FCC Part 15 Subpart C

Model: <b>i-Port M</b>	
Serial no.: <b>NA</b>	
Applicant: <b>IDENTEC SOLUTIONS AG</b>	
Test site: <b>Shielded room, cabin no. 4</b>	
Tested on: <b>Linecord AC 110 V (AC/DC adapter) Phase N</b>	
Date of test: <b>01/25/2007</b>	Operator: <b>M. Steindl</b>
Test performed: <b>automatically</b>	File name:

Mode:	
- DC supply over RS 422	
- EUT in upright position	
- all cables connected	
- with rod antennas	
- Scanning for tag	

Detector: <b>Average / Final Results: AV</b>	
---	--

Final results:	
<b>20 dB Margin</b>	<b>25 Subranges</b>

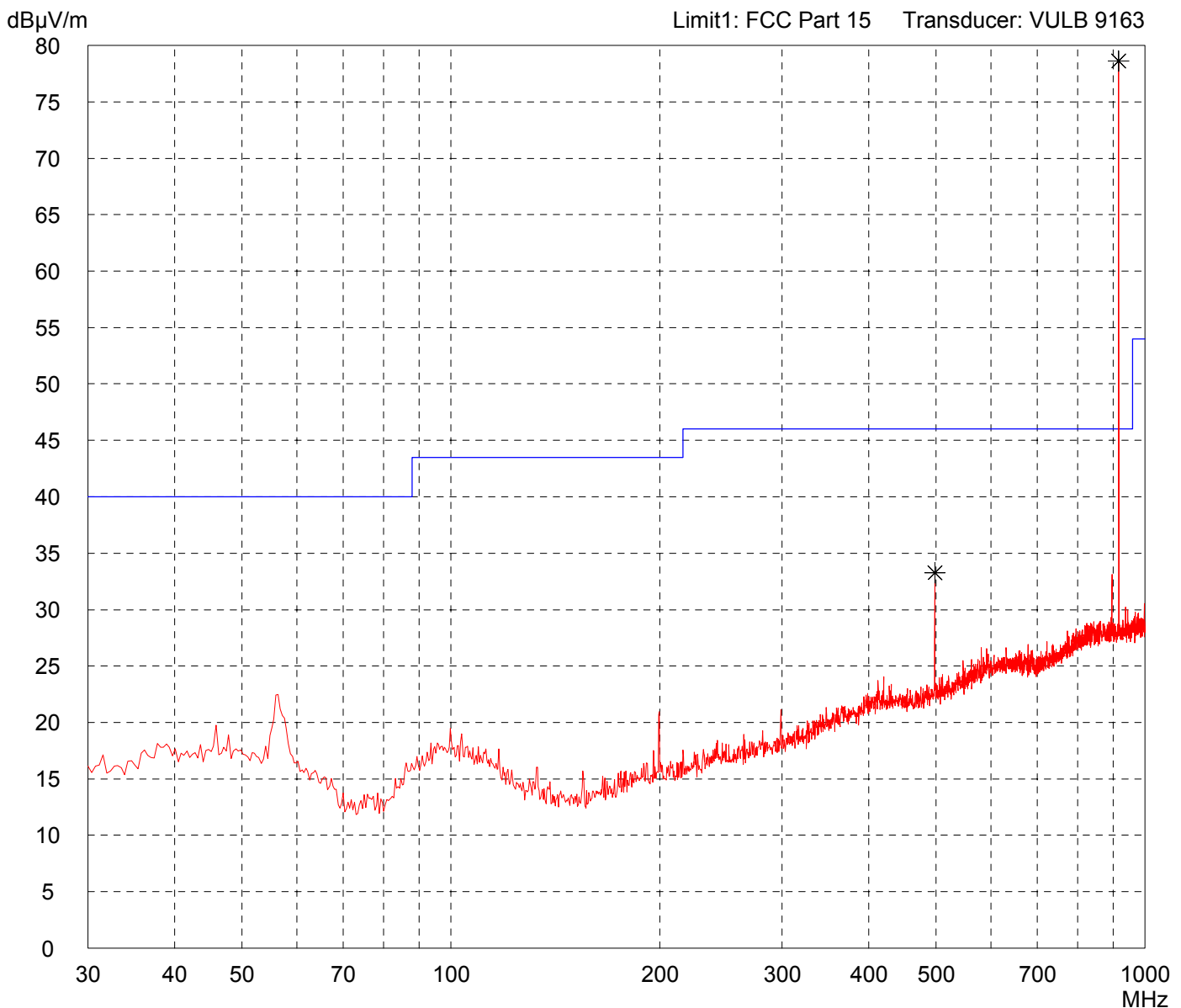


Result: <b>Limit kept</b>
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Project file: <b>55456-060996</b>
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# Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

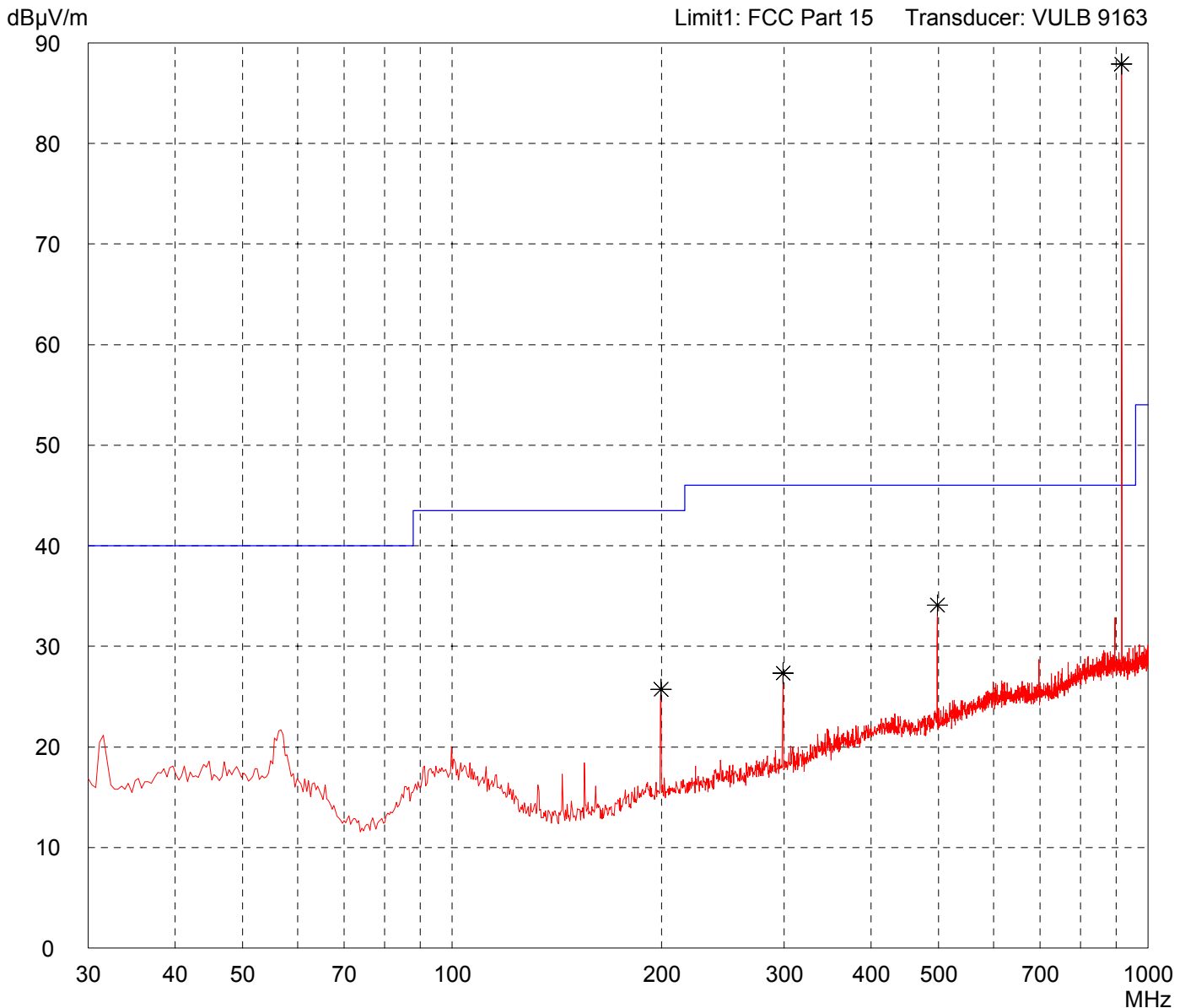
Model: i-Port M	Comment: - DC supply over RS 422  - EUT in upright position - all cables connected - with Rod-Antennas  - Port: Antenna 1 - Transmitting continuously with modulation
Serial no.: EU	
Applicant: IDENTEC SOLUTIONS AG	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 01/11/2007	Operator: M. Steindl
Test performed: automatically	File name: default.emi
Detector: Peak	List of values: Selected by hand



Result: Prescan	Project file: 55456-60996
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# Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

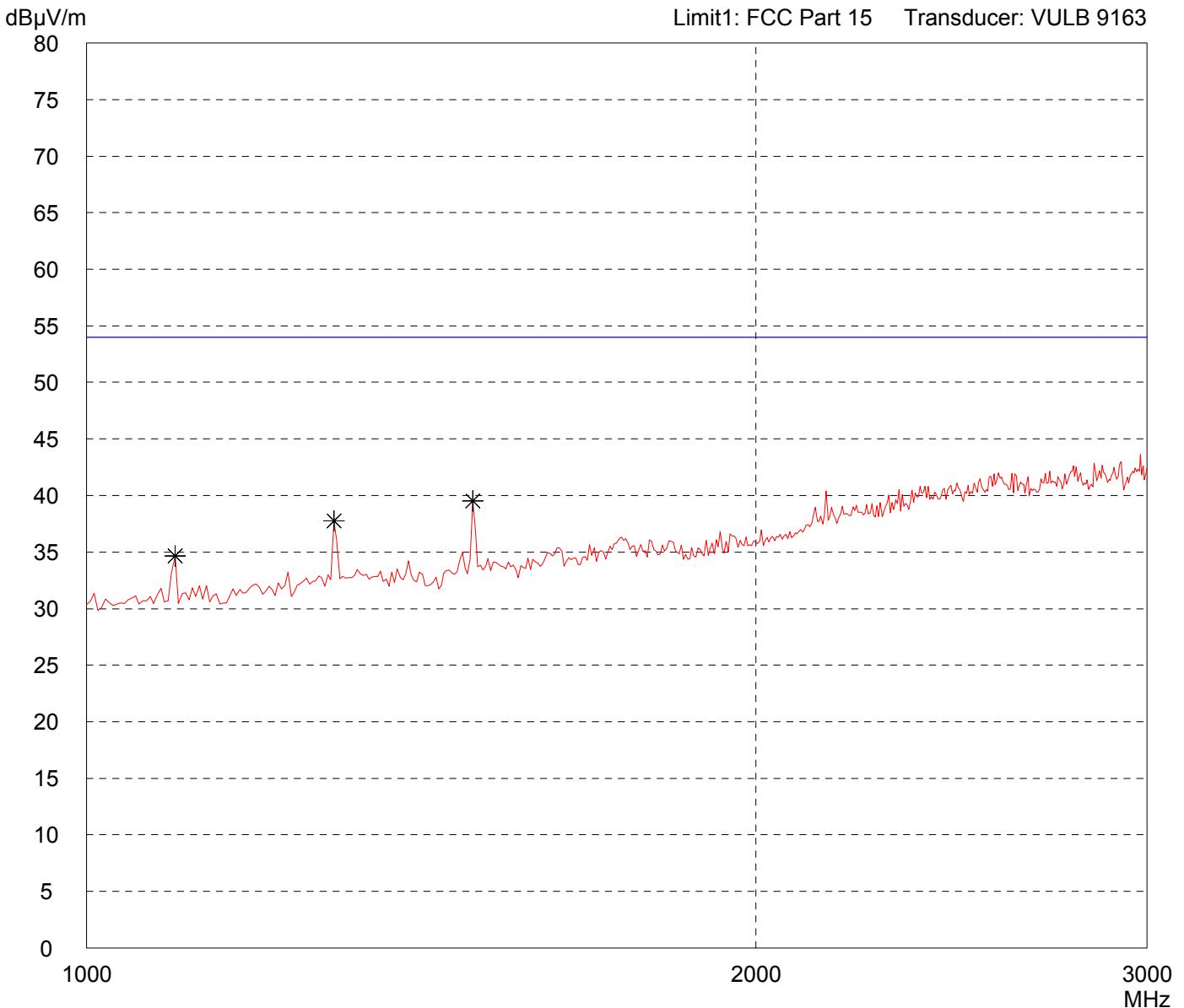
Model: i-Port M	Comment: - DC supply over RS 422  - EUT in upright position - all cables connected - with Rod-Antennas  - Port: Antenna 1 - Transmitting continuously with modulation
Serial no.: EU	
Applicant: IDENTEC SOLUTIONS AG	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 01/11/2007	
Test performed: automatically	File name: default.emi
Detector: Peak	List of values: Selected by hand



Result: Prescan	Project file: 55456-60996
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# Radiated Emission Test 1 GHz - 3 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

<p>Model: <b>i-Port M</b></p> <p>Serial no.: <b>EU</b></p> <p>Applicant: <b>IDENTEC SOLUTIONS AG</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>01/11/2007</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 supply over RS 422</li> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li> <li> </li> <li>- Port: Antenna 1</li> <li>- Transmitting continuously with modulation</li> </ul>
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>



<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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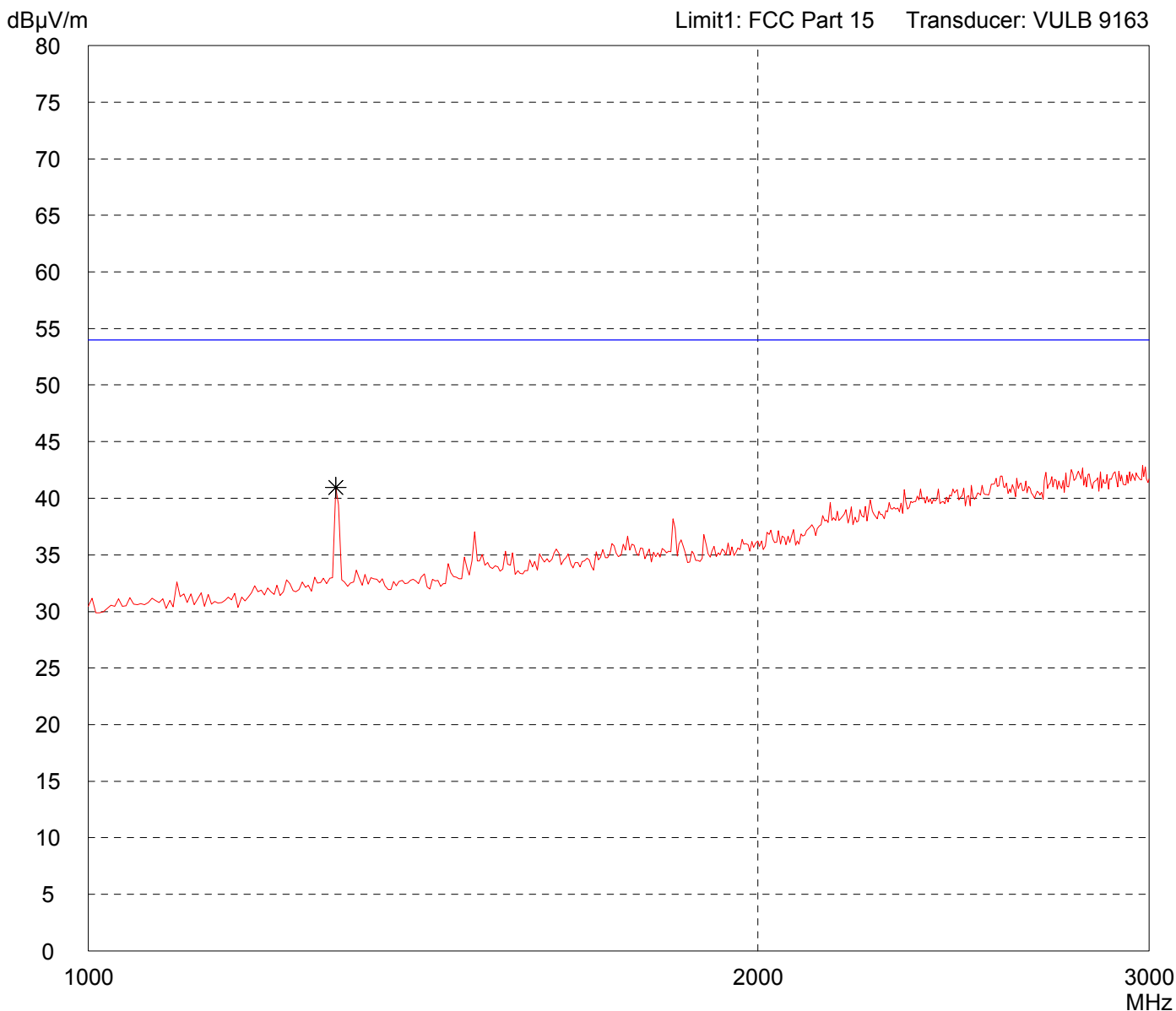
# Radiated Emission Test 1 GHz - 3 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: i-Port M	
Serial no.: EU	
Applicant: IDENTEC SOLUTIONS AG	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 01/11/2007	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Comment: - DC supply over RS 422  - EUT in upright position - all cables connected - with Rod-Antennas  - Port: Antenna 1 - Transmitting continuously with modulation
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Detector: Peak
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List of values: Selected by hand
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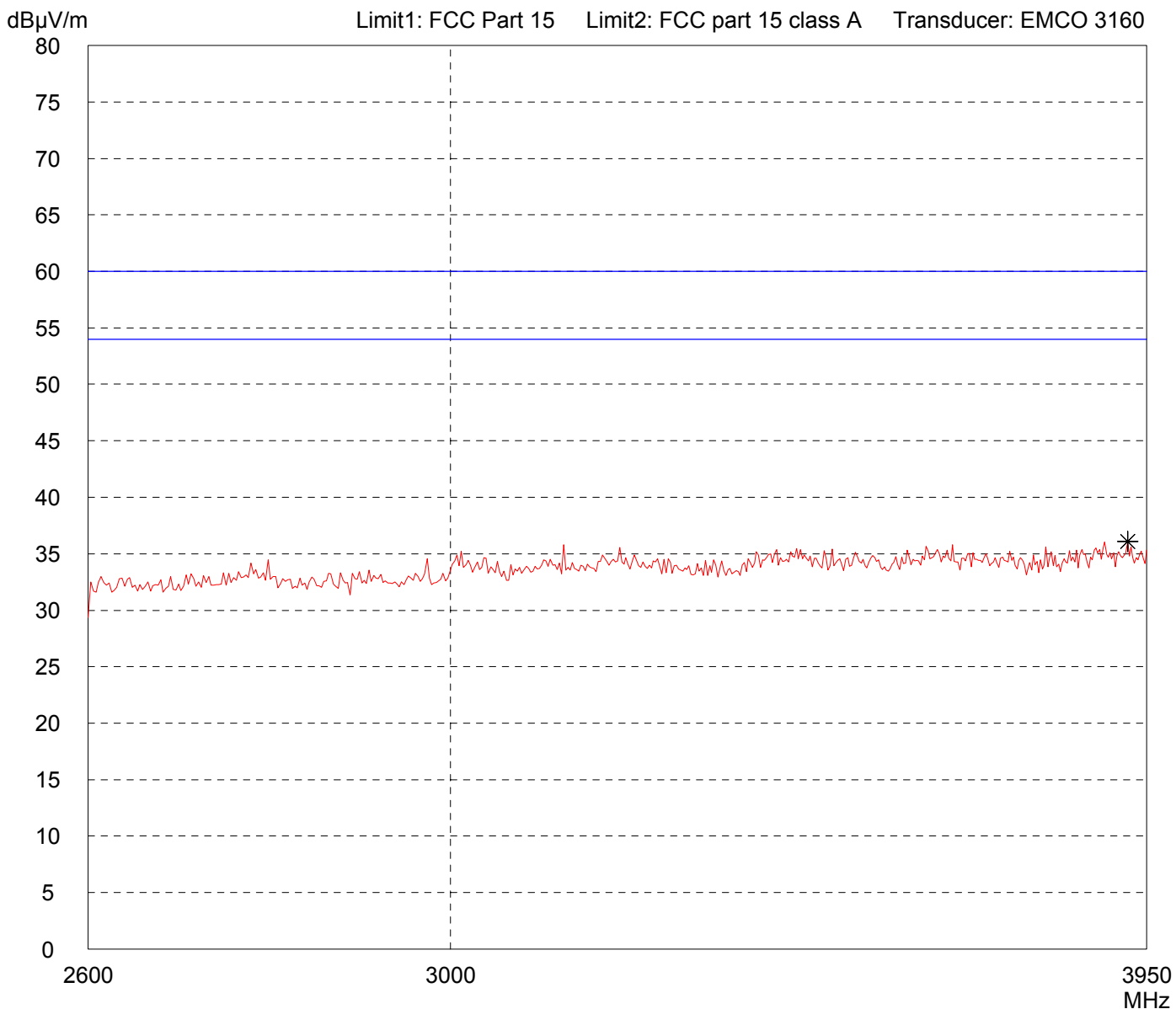
Result: Prescan
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Project file: 55456-60996
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# Radiated Emission Test 2.6 GHz - 3.95 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p>	<p>Comment: DC supply over RS 422</p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 1</li> <li>- transmitting continuously with modulation</li> </ul>
Serial no.: <b>N/A</b>	
Applicant: <b>IDENTEC SOLUTIONS AG</b>	
Test site: <b>Fully anechoic room, cabin no. 2</b>	
Tested on: <b>Test distance 3 meters Horizontal Polarization</b>	
Date of test: <b>01/15/2007</b> Operator: <b>M. Steindl</b>	
Test performed: <b>automatically</b> File name: <b>default.emi</b>	

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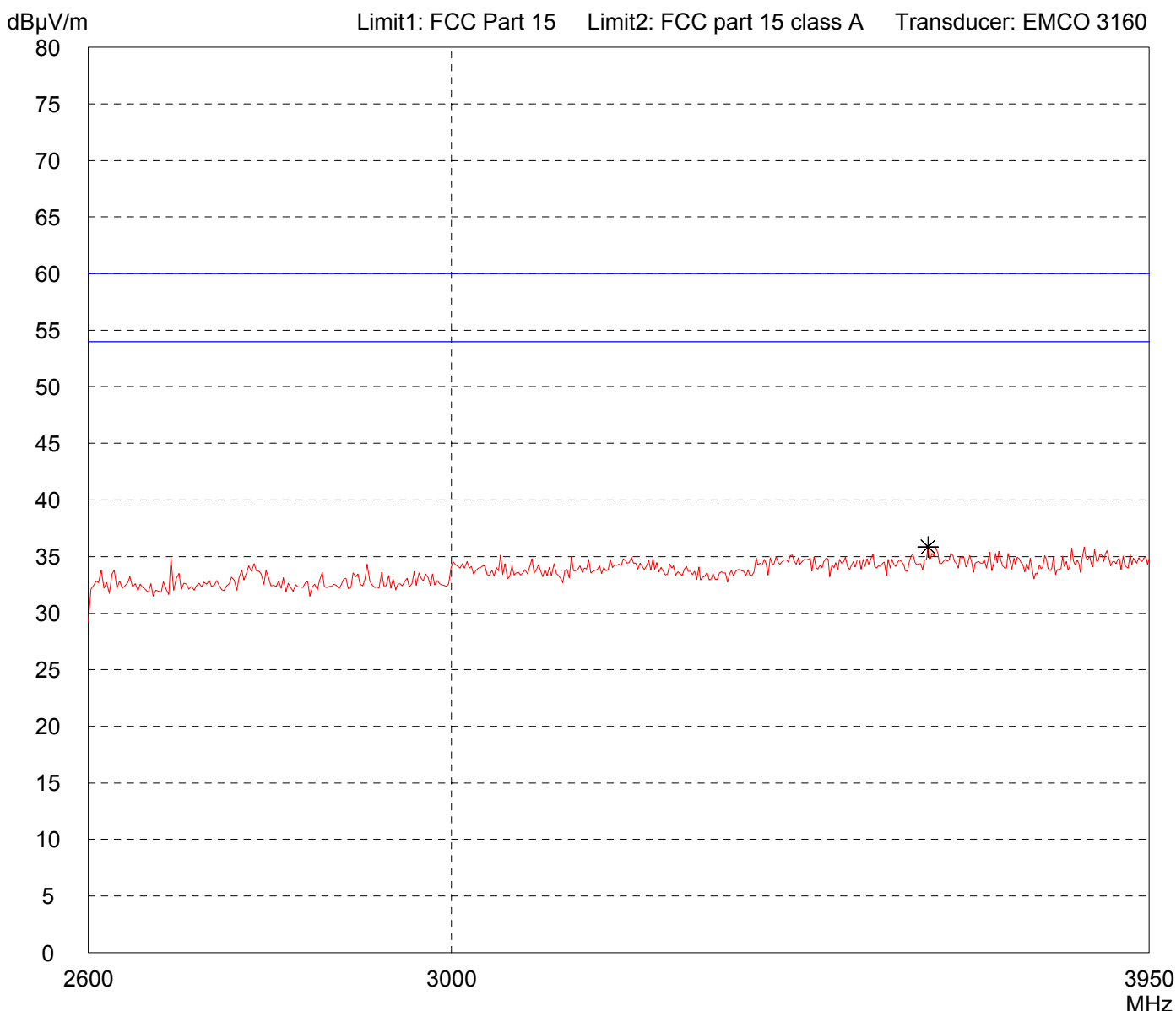


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 2.6 GHz - 3.95 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p>	<p>Comment: DC supply over RS 422</p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li> </ul> <ul style="list-style-type: none"> <li>- Port: Antenna 1</li> <li>- transmitting continuously with modulation</li> </ul>
Serial no.: <b>N/A</b>	
Applicant: <b>IDENTEC SOLUTIONS AG</b>	
Test site: <b>Fully anechoic room, cabin no. 2</b>	
Tested on: <b>Test distance 3 meters Vertical Polarization</b>	
Date of test: <b>01/15/2007</b>	Operator: <b>M. Steindl</b>
Test performed: <b>automatically</b>	File name: <b>default.emi</b>

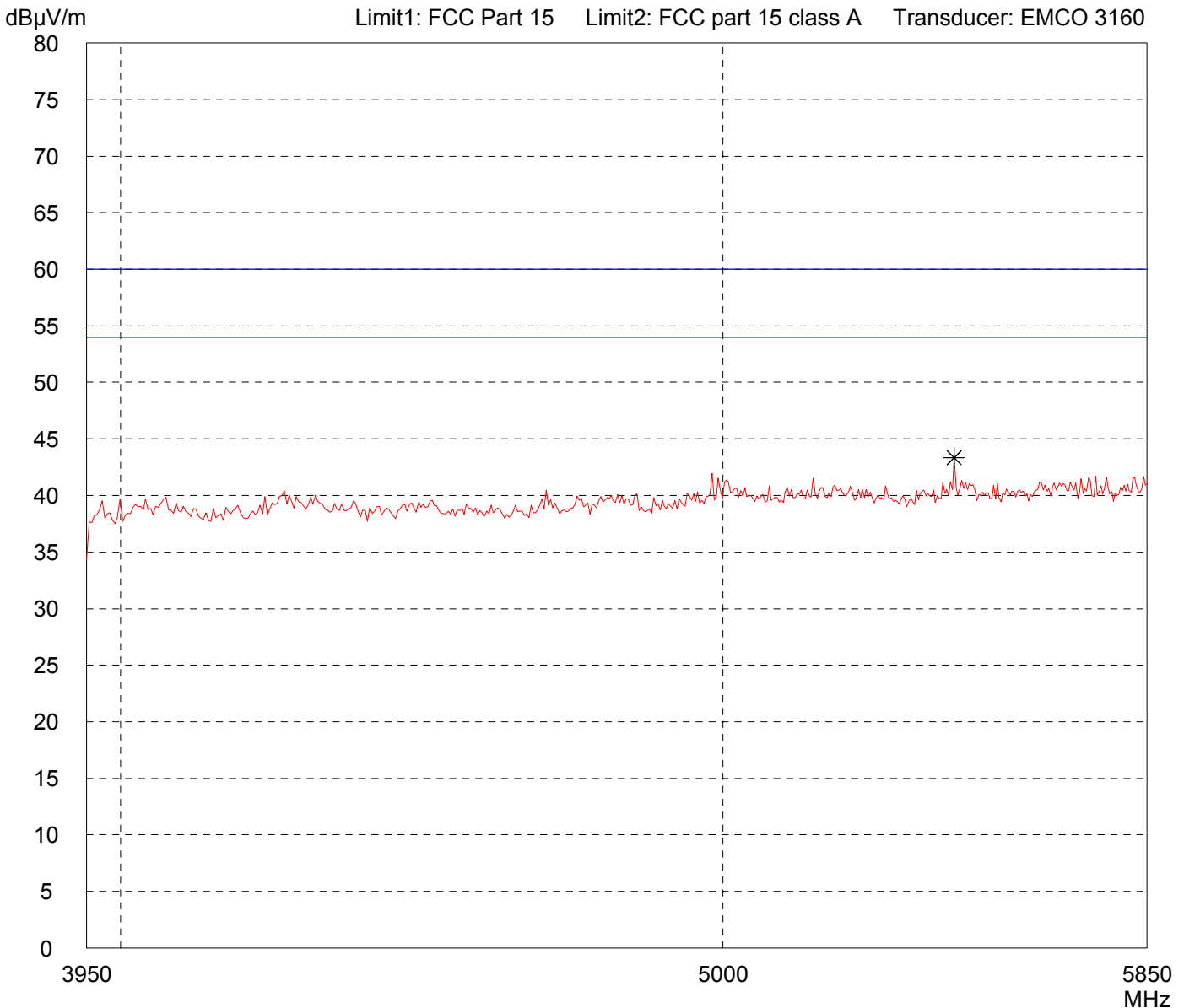
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p> <p>Serial no.: <b>N/A</b></p> <p>Applicant: <b>IDENTEC SOLUTIONS AG</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>01/15/2007</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment: <b>DC supply over RS 422</b></p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 1</li> <li>- transmitting continuously with modulation</li> </ul>
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>

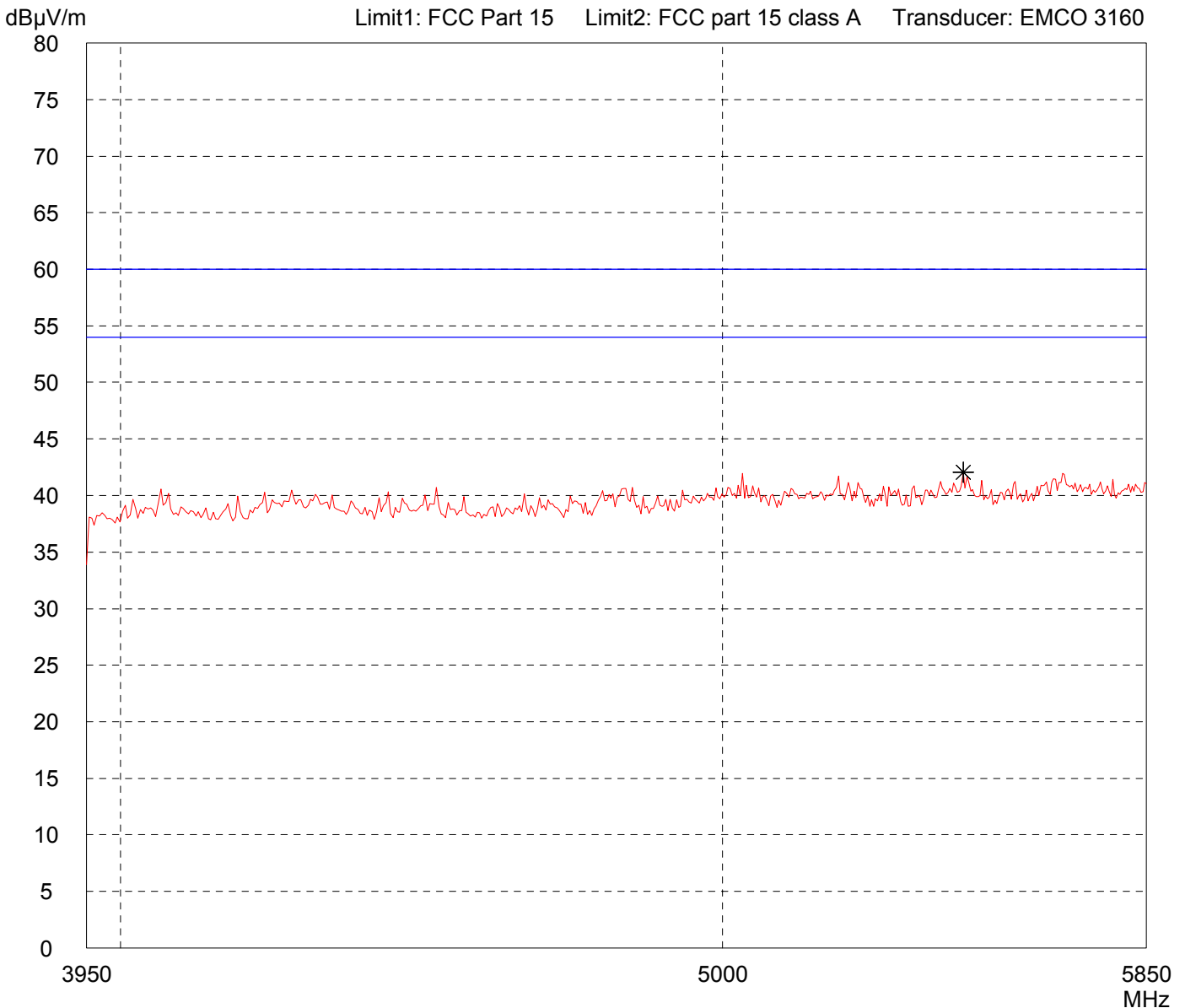


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p>	<p>Comment: DC supply over RS 422</p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 1</li> <li>- transmitting continuously with modulation</li> </ul>
Serial no.: <b>N/A</b>	
Applicant: <b>IDENTEC SOLUTIONS AG</b>	
Test site: <b>Fully anechoic room, cabin no. 2</b>	
Tested on: <b>Test distance 3 metres Vertical Polarization</b>	
Date of test: <b>01/15/2007</b>	Operator: <b>M. Steindl</b>
Test performed: <b>automatically</b>	File name: <b>default.emi</b>

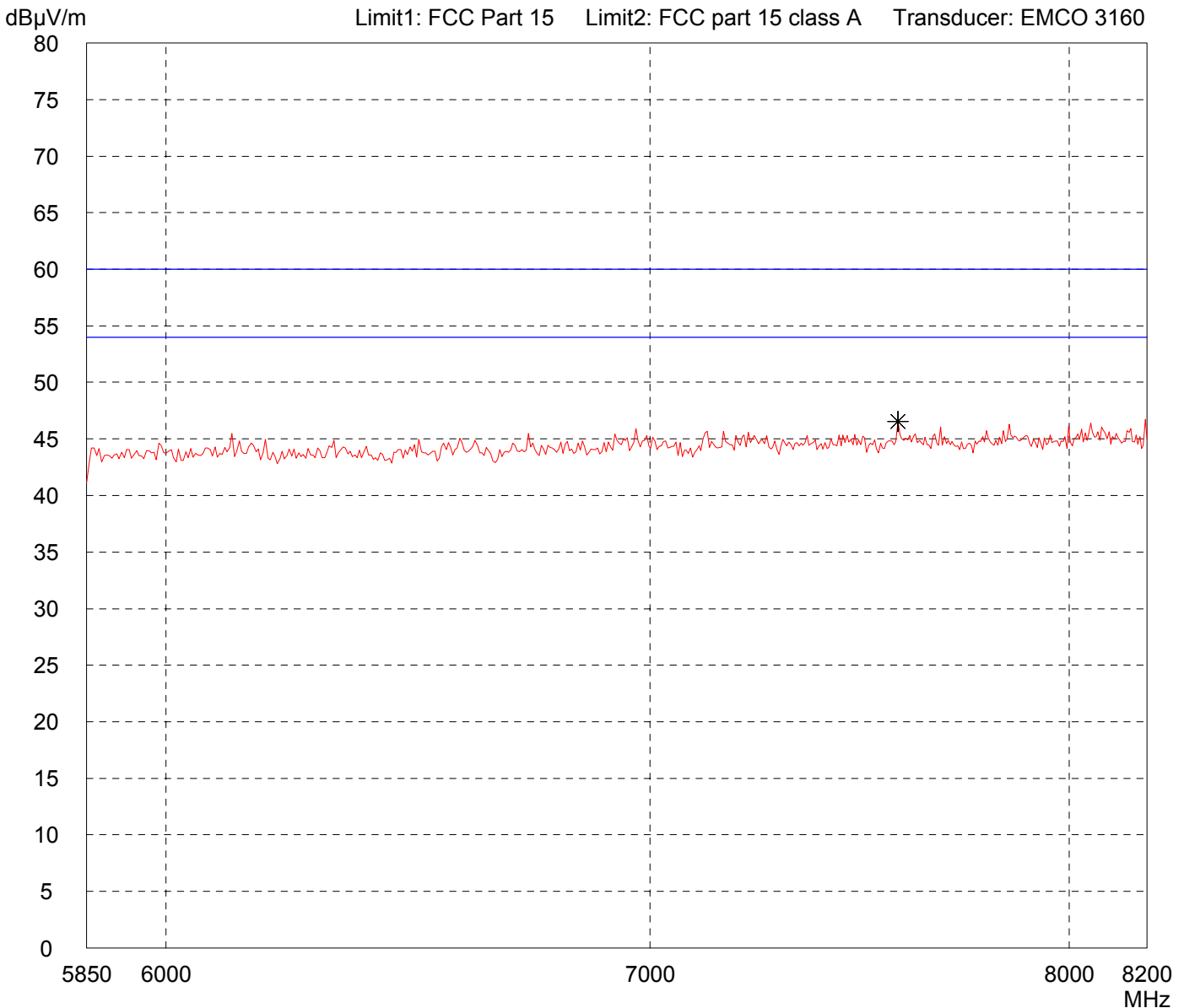
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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## Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

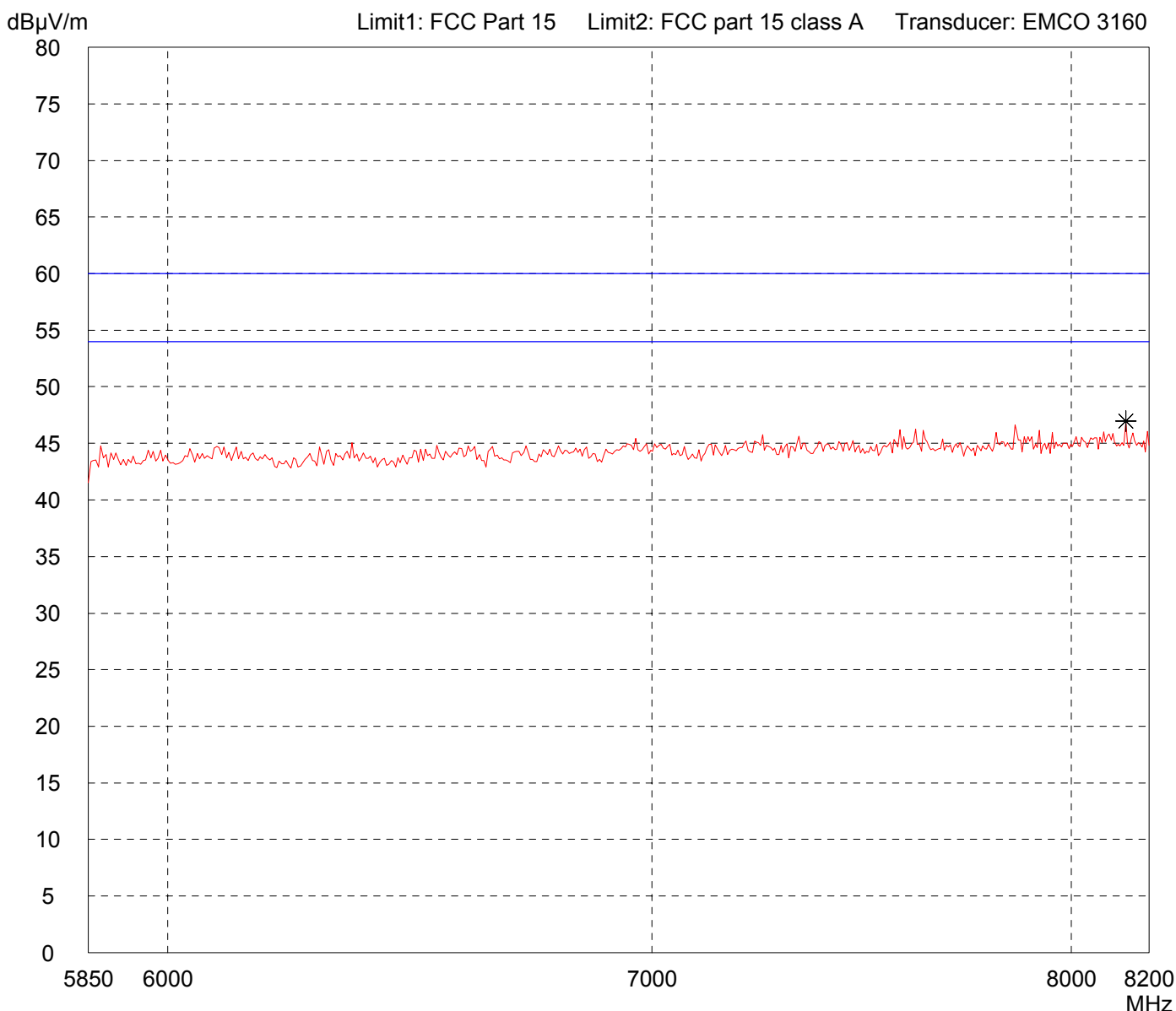
<p>Model: <b>i-Port M</b></p> <p>Serial no.: <b>N/A</b></p> <p>Applicant: <b>IDENTEC SOLUTIONS AG</b></p> <p>Test site: <b>Fully anechoic room, cabin no. 2</b></p> <p>Tested on: <b>Test distance 3 metres Horizontal Polarization</b></p> <p>Date of test: <b>01/15/2007</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment: <b>DC supply over RS 422</b></p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 1</li> <li>- transmitting continuously with modulation</li> </ul>
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>



<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p> <p>Serial no.: <b>N/A</b></p> <p>Applicant: <b>IDENTEC SOLUTIONS AG</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>01/15/2007</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment: <b>DC supply over RS 422</b></p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 1</li> <li>- transmitting continuously with modulation</li> </ul>
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>

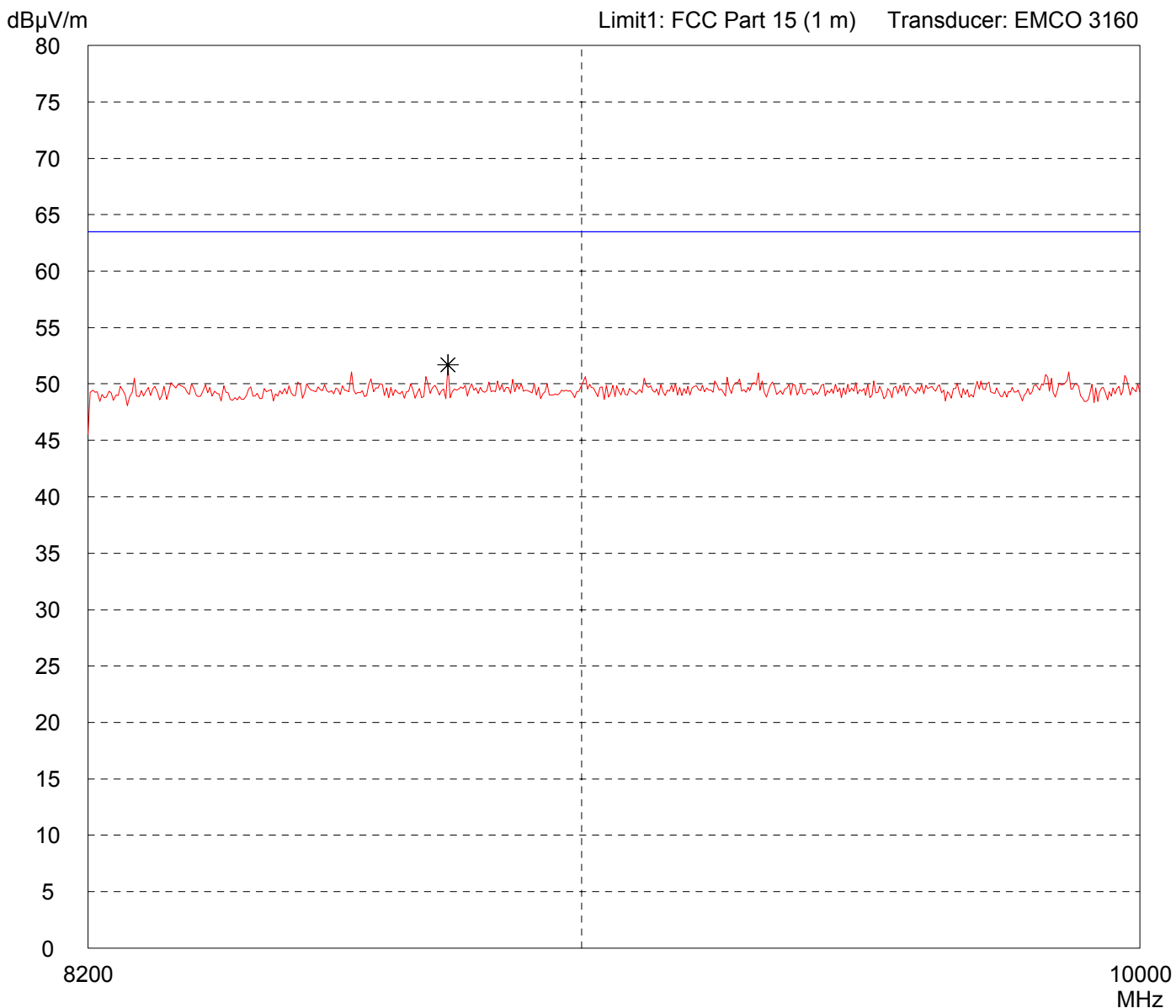


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 8.2 GHz - 10 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p>	<p>Comment: DC supply over RS 422</p>
<p>Serial no.: <b>N/A</b></p>	<ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 1</li> <li>- transmitting continuously with modulation</li> </ul>
<p>Applicant: <b>IDENTEC SOLUTIONS AG</b></p>	
<p>Test site: <b>Fully anechoic room, cabin no. 2</b></p>	
<p>Tested on: <b>Test distance 1 meter Horizontal Polarization</b></p>	
<p>Date of test: <b>01/15/2007</b>      Operator: <b>M. Steindl</b></p>	
<p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	

<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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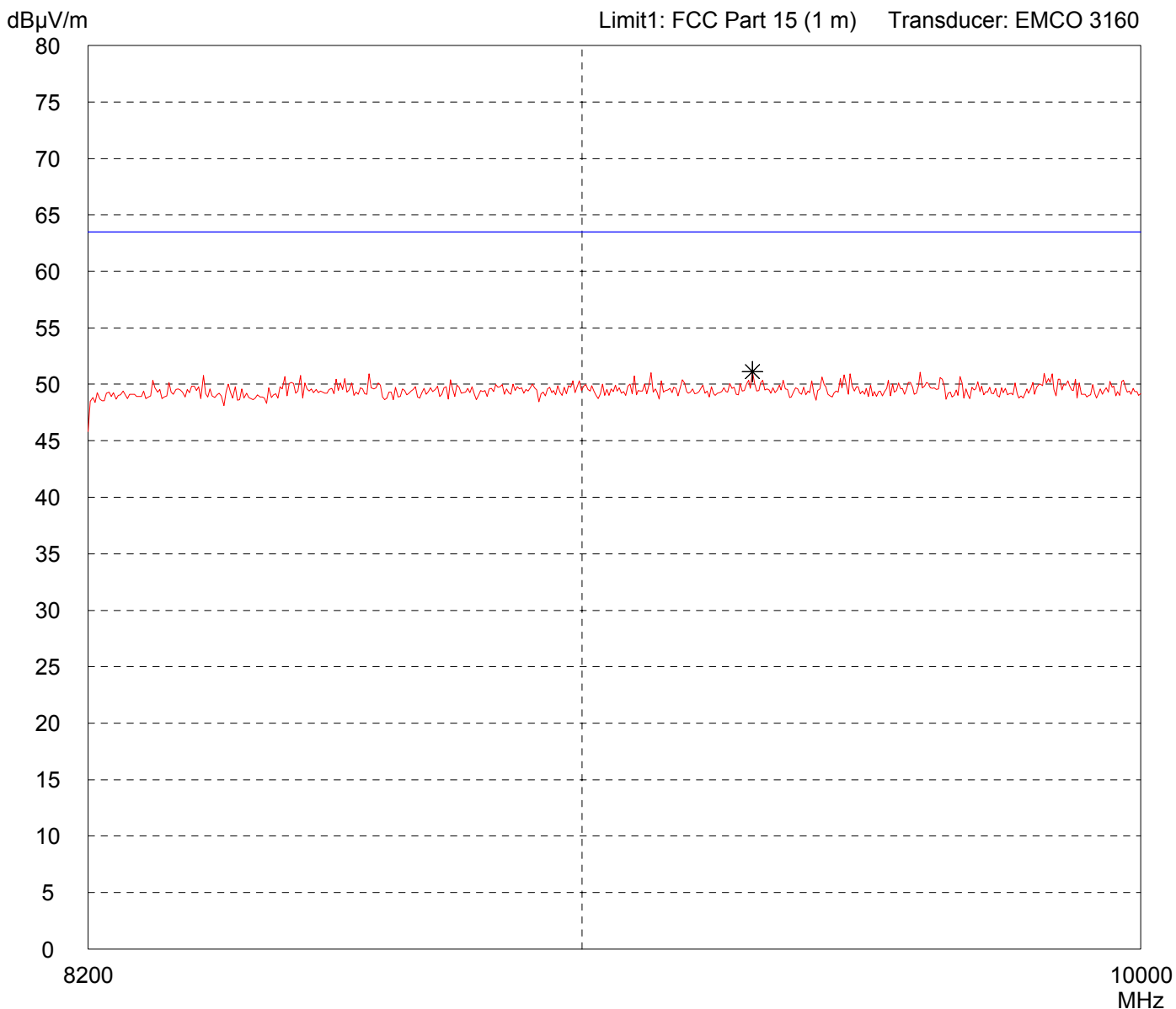
<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 8.2 GHz - 10 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p>	<p>Comment: DC supply over RS 422</p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 1</li> <li>- transmitting continuously with modulation</li> </ul>
Serial no.: <b>N/A</b>	
Applicant: <b>IDENTEC SOLUTIONS AG</b>	
Test site: <b>Fully anechoic room, cabin no. 2</b>	
Tested on: <b>Test distance 1 meter Vertical Polarization</b>	
Date of test: <b>01/15/2007</b> Operator: <b>M. Steindl</b>	
Test performed: <b>automatically</b> File name: <b>default.emi</b>	

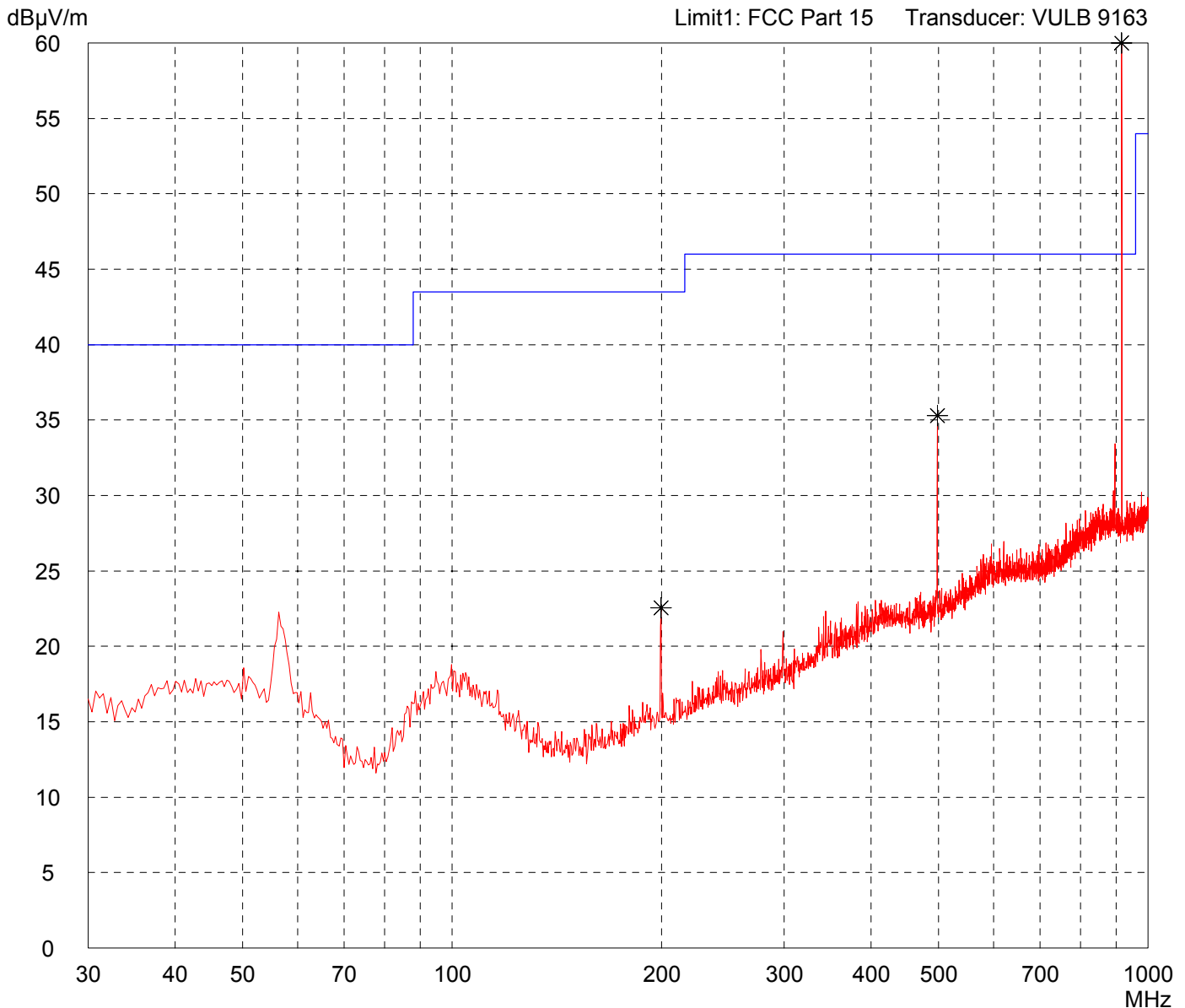
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

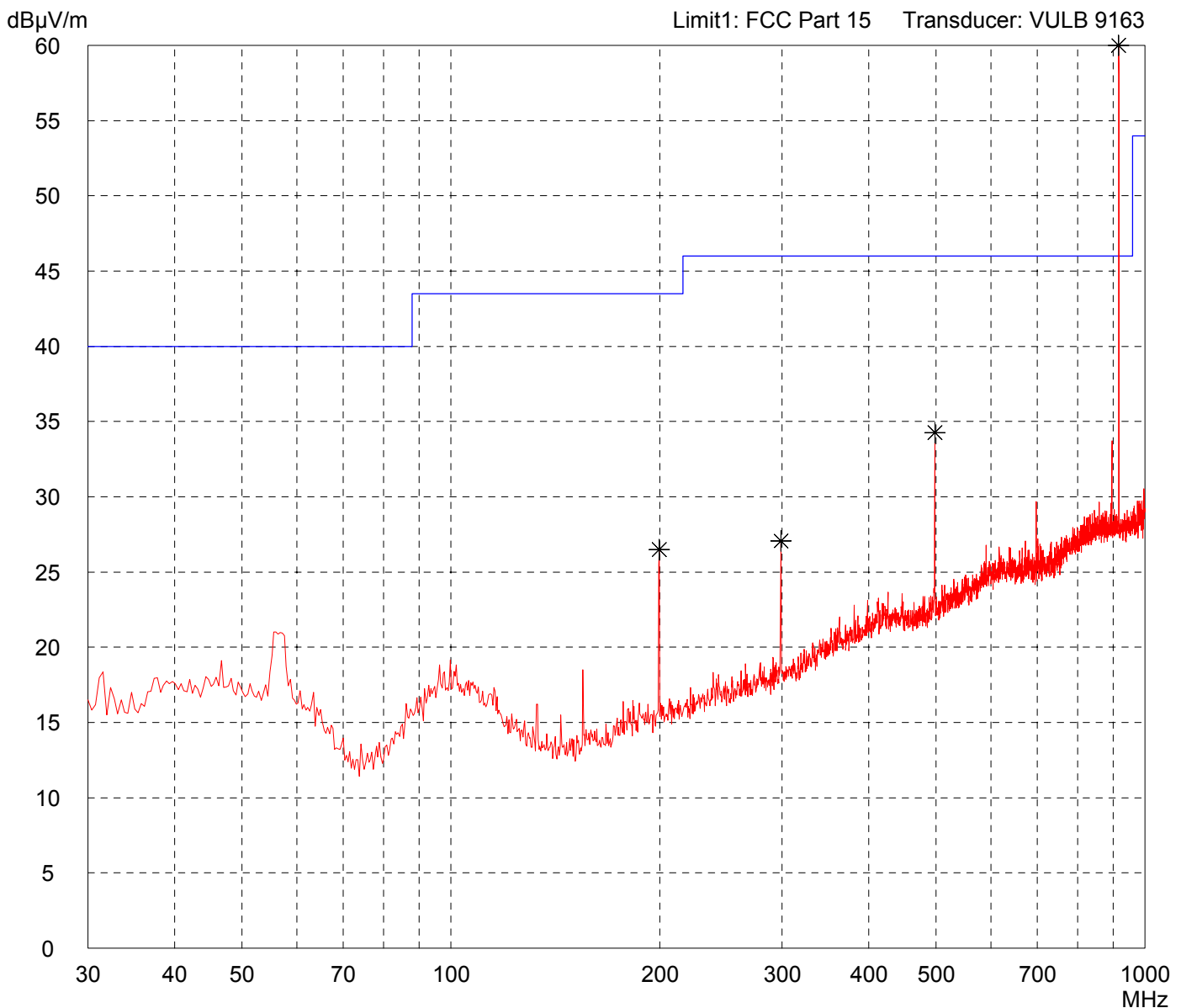
Model: i-Port M	Comment: - DC supply over RS 422  - EUT in upright position - all cables connected - with Rod-Antennas  - Port: Antenna 2 - Transmitting continuously with modulation
Serial no.: EU	
Applicant: IDENTEC SOLUTIONS AG	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 01/11/2007	
Test performed: automatically	File name: default.emi
Detector: Peak	List of values: Selected by hand



Result: Prescan	Project file: 55456-60996
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# Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: i-Port M	Comment: - DC supply over RS 422  - EUT in upright position - all cables connected - with Rod-Antennas  - Port: Antenna 2 - Transmitting continuously with modulation
Serial no.: EU	
Applicant: IDENTEC SOLUTIONS AG	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 01/11/2007	
Test performed: automatically	File name: default.emi
Detector: Peak	List of values: Selected by hand



Result: Prescan	Project file: 55456-60996
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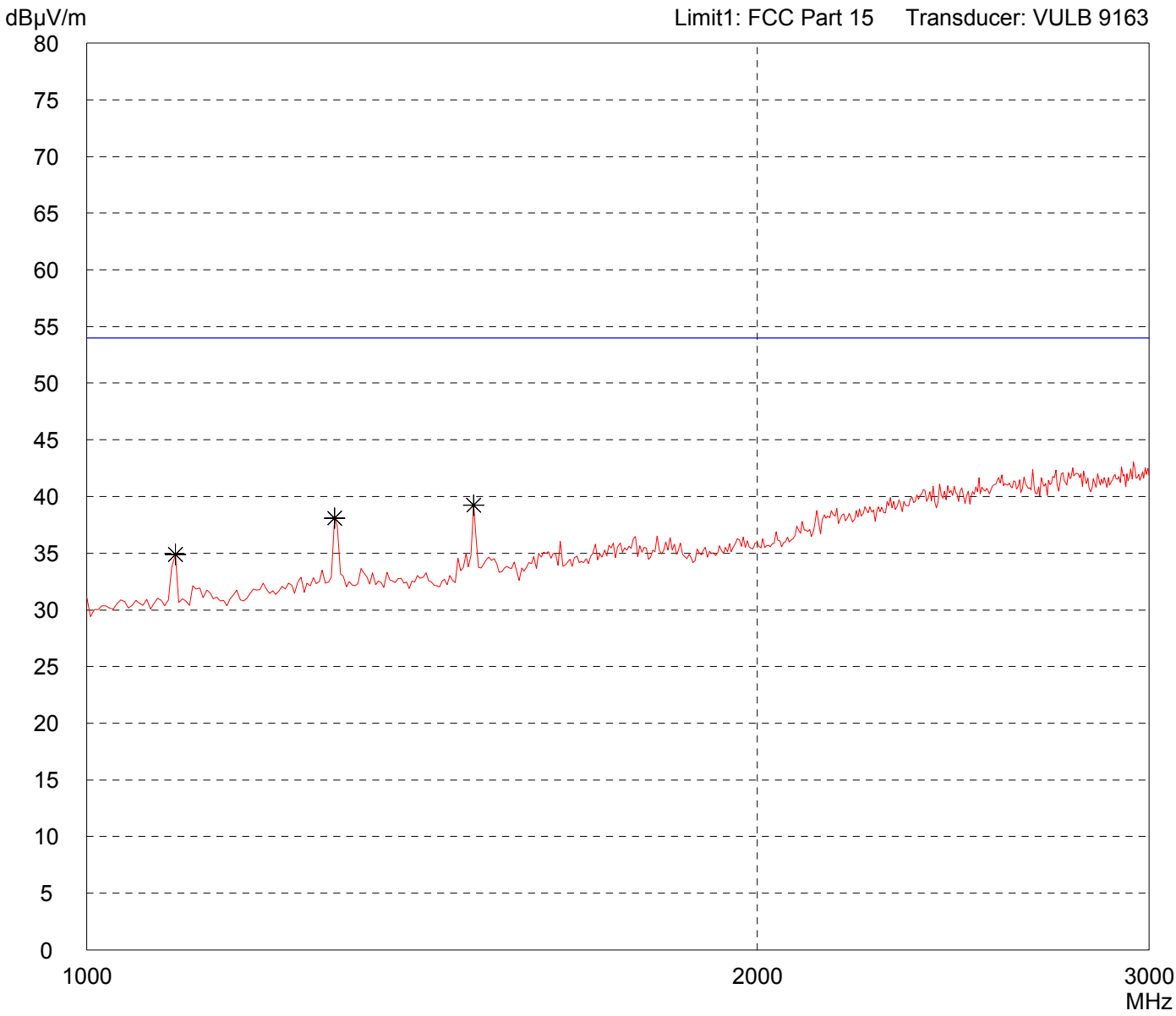
# Radiated Emission Test 1 GHz - 3 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: i-Port M	
Serial no.: EU	
Applicant: IDENTEC SOLUTIONS AG	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 01/11/2007	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Comment: - DC supply over RS 422  - EUT in upright position - all cables connected - with Rod-Antennas  - Port: Antenna 2 - Transmitting continuously with modulation
---

Detector: Peak
-------------------

List of values: Selected by hand
-------------------------------------



Result: Prescan
--------------------

Project file: 55456-60996
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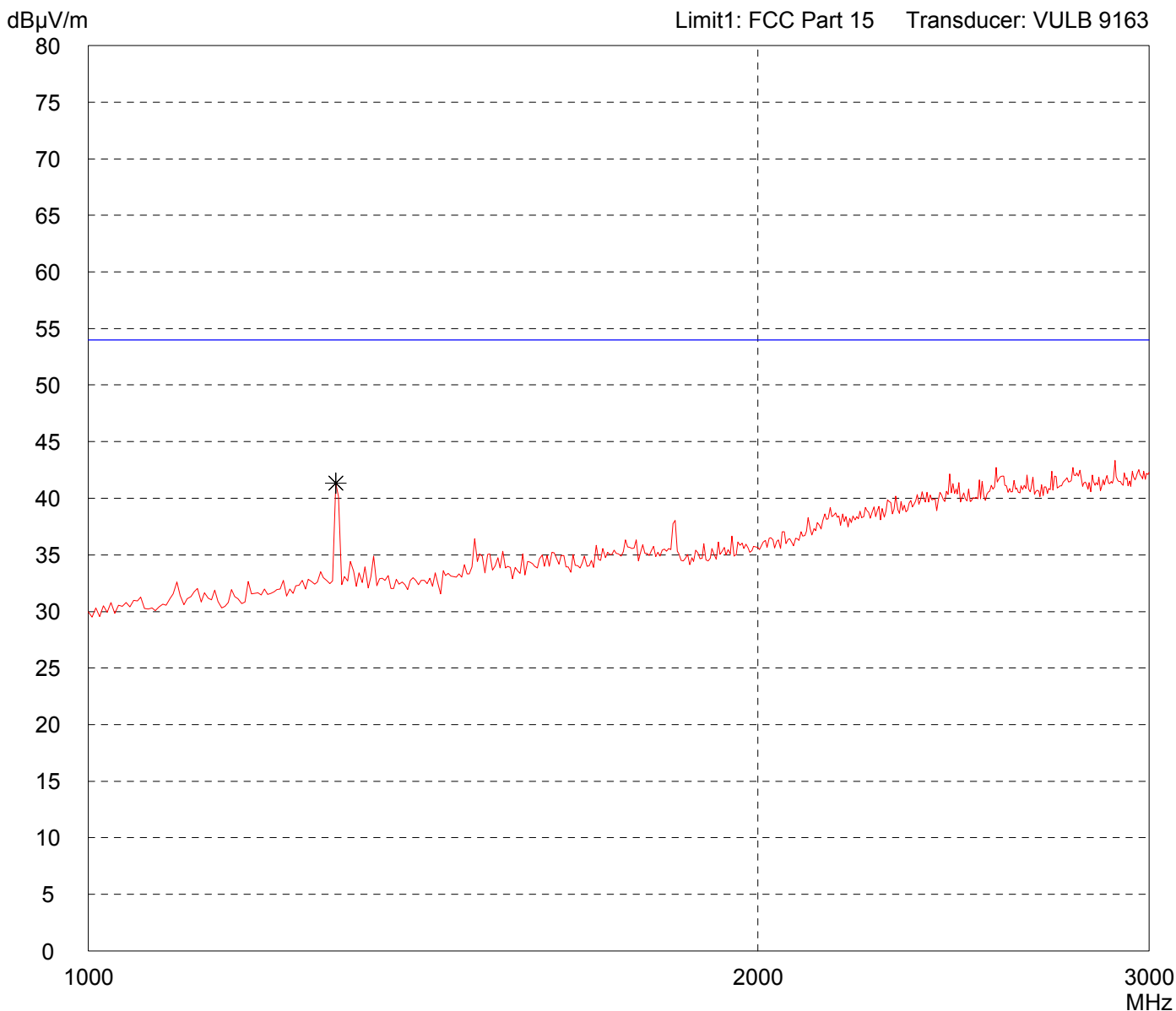
# Radiated Emission Test 1 GHz - 3 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: i-Port M	
Serial no.: EU	
Applicant: IDENTEC SOLUTIONS AG	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 01/11/2007	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Comment: - DC supply over RS 422  - EUT in upright position - all cables connected - with Rod-Antennas  - Port: Antenna 2 - Transmitting continuously with modulation
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Detector: Peak
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List of values: Selected by hand
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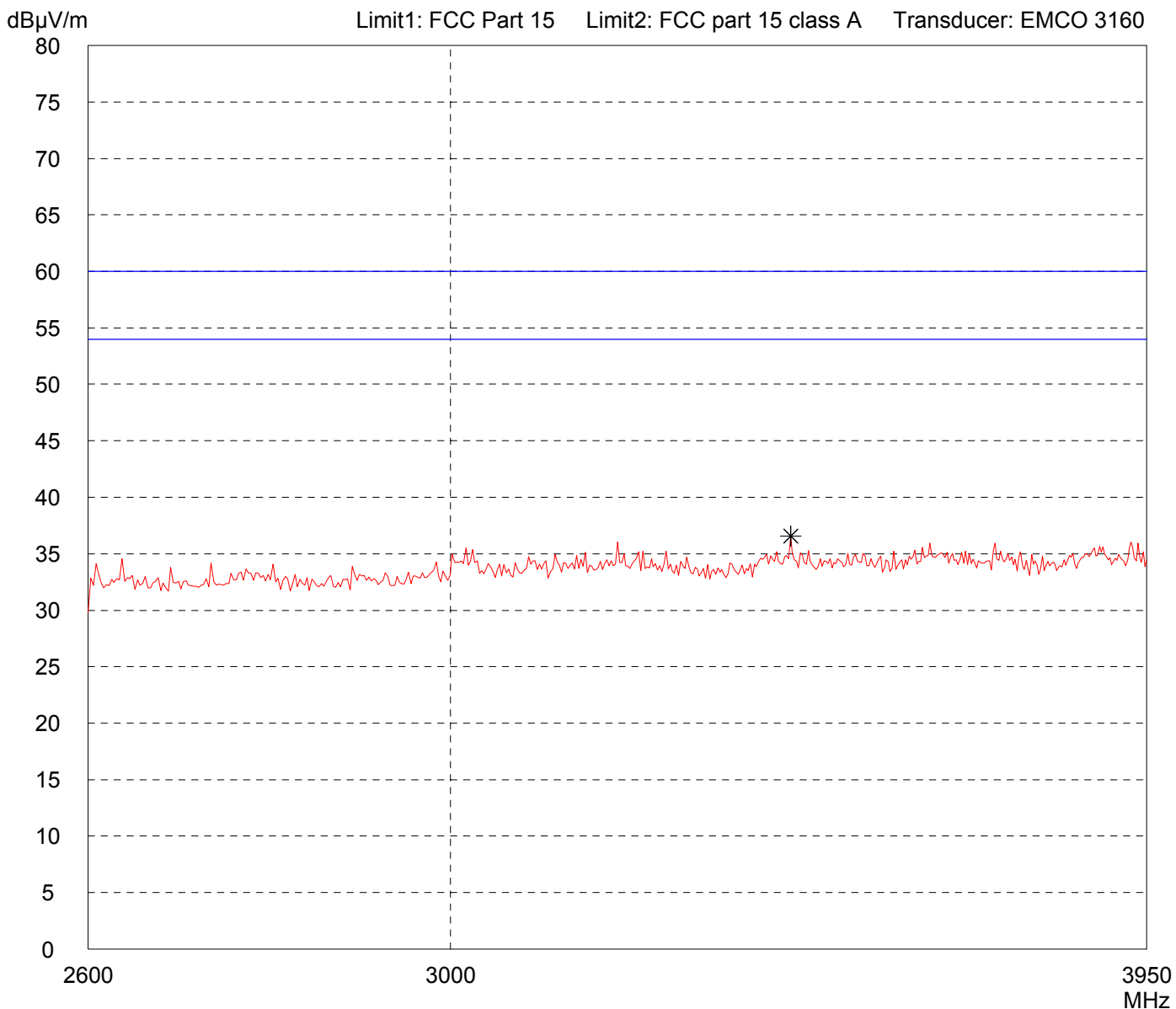
Result: Prescan
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Project file: 55456-60996
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# Radiated Emission Test 2.6 GHz - 3.95 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p>	<p>Comment: DC supply over RS 422</p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 2</li> <li>- transmitting continuously with modulation</li> </ul>
Serial no.: <b>N/A</b>	
Applicant: <b>IDENTEC SOLUTIONS AG</b>	
Test site: <b>Fully anechoic room, cabin no. 2</b>	
Tested on: <b>Test distance 3 meters Horizontal Polarization</b>	
Date of test: <b>01/15/2007</b> Operator: <b>M. Steindl</b>	
Test performed: <b>automatically</b> File name: <b>default.emi</b>	

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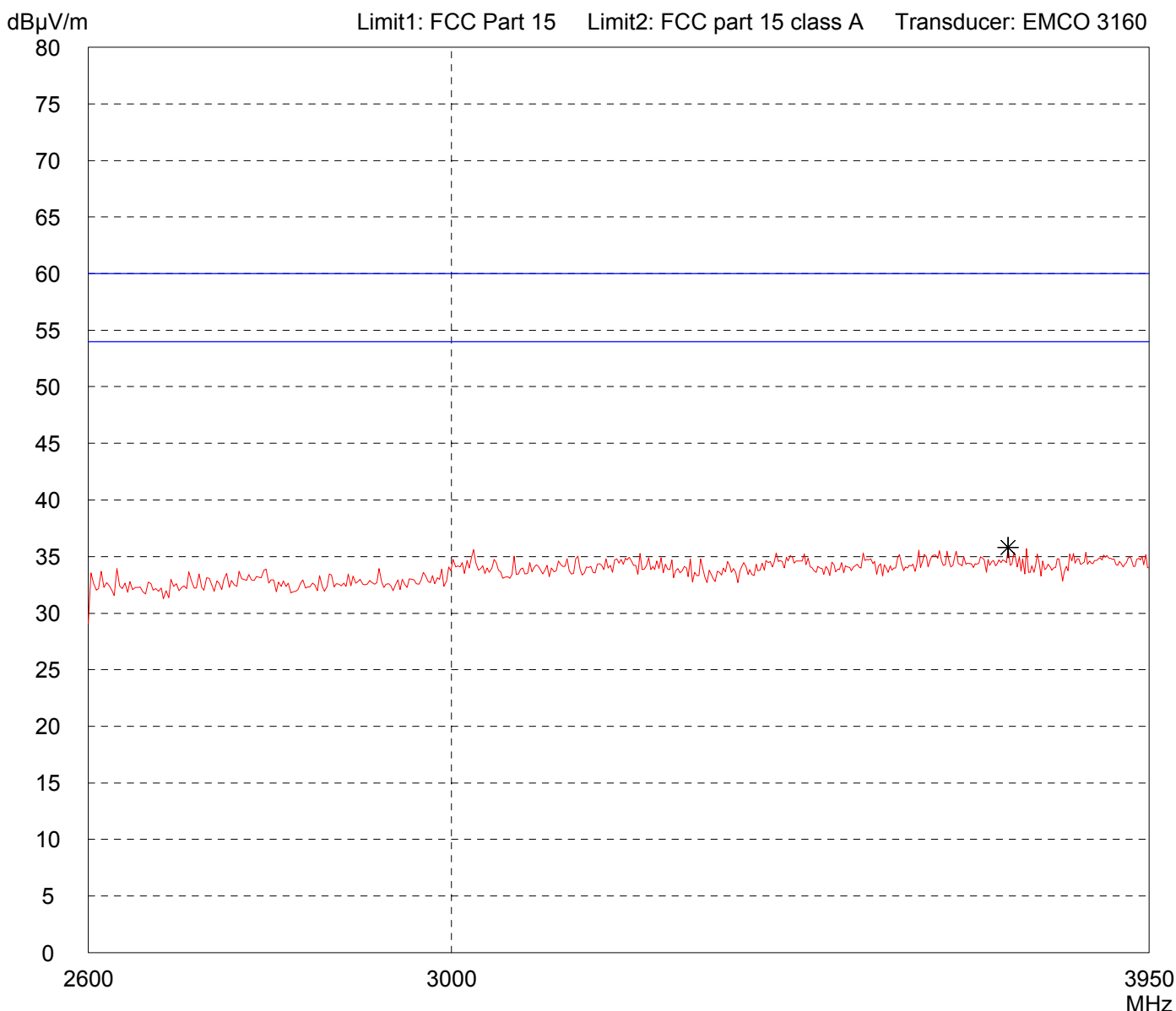


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 2.6 GHz - 3.95 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p>	<p>Comment: DC supply over RS 422</p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 2</li> <li>- transmitting continuously with modulation</li> </ul>
Serial no.: <b>N/A</b>	
Applicant: <b>IDENTEC SOLUTIONS AG</b>	
Test site: <b>Fully anechoic room, cabin no. 2</b>	
Tested on: <b>Test distance 3 meters Vertical Polarization</b>	
Date of test: <b>01/15/2007</b> Operator: <b>M. Steindl</b>	
Test performed: <b>automatically</b> File name: <b>default.emi</b>	

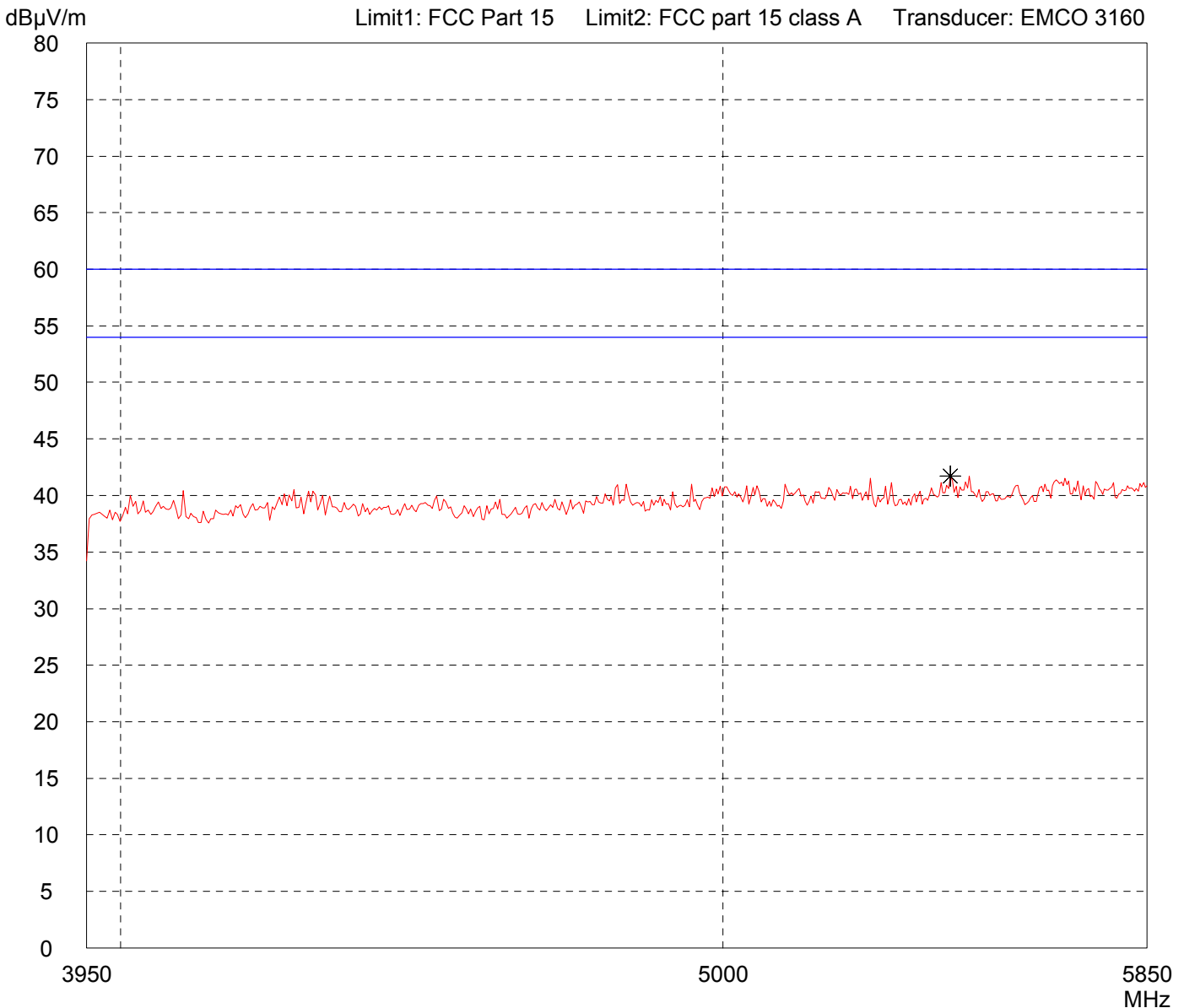
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>
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<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p> <p>Serial no.: <b>N/A</b></p> <p>Applicant: <b>IDENTEC SOLUTIONS AG</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>01/15/2007</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment: <b>DC supply over RS 422</b></p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 2</li> <li>- transmitting continuously with modulation</li> </ul>
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>

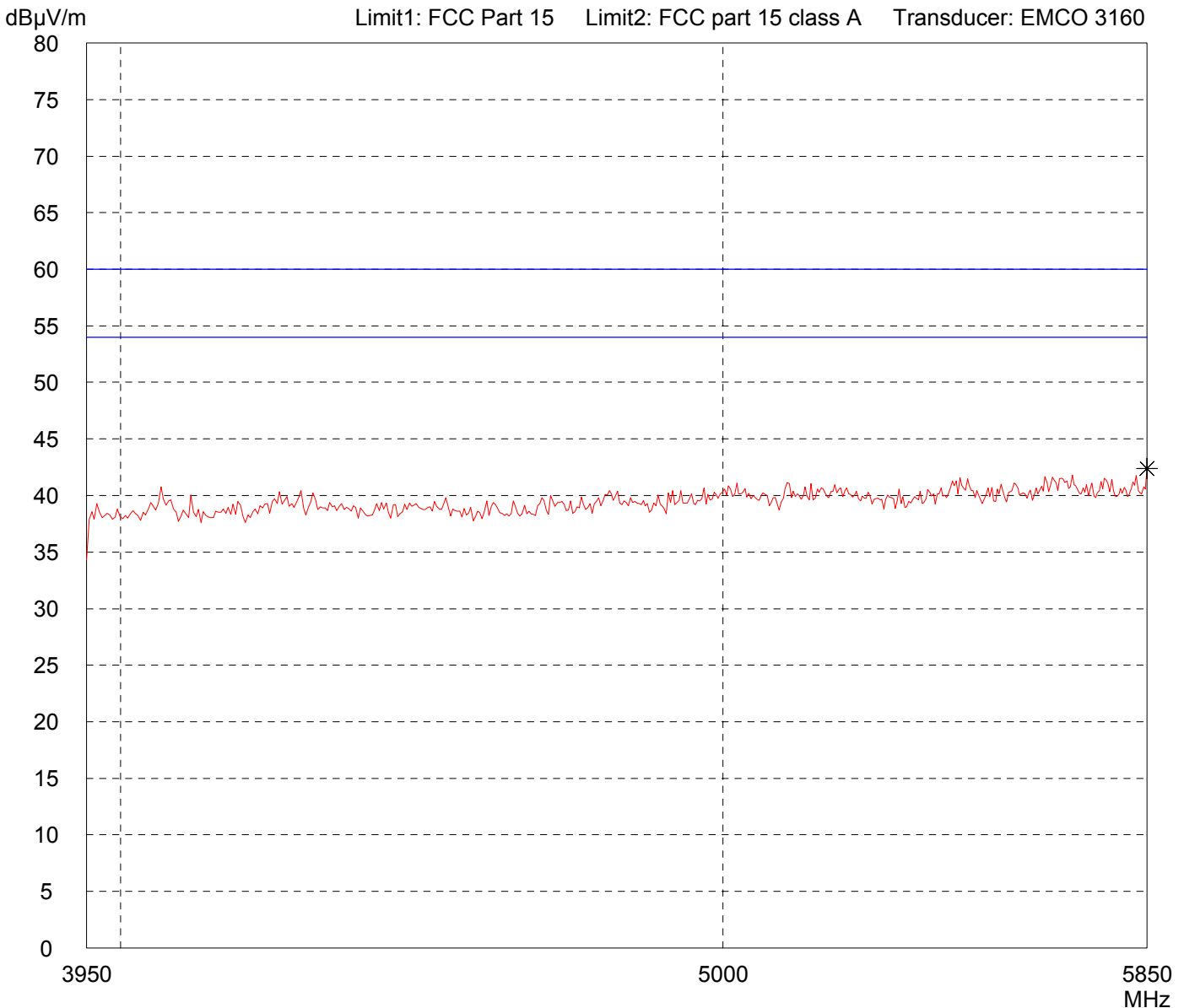


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 3.95 GHz - 5.85 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p> <p>Serial no.: <b>N/A</b></p> <p>Applicant: <b>IDENTEC SOLUTIONS AG</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>01/15/2007</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment: <b>DC supply over RS 422</b></p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 2</li> <li>- transmitting continuously with modulation</li> </ul>
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>



<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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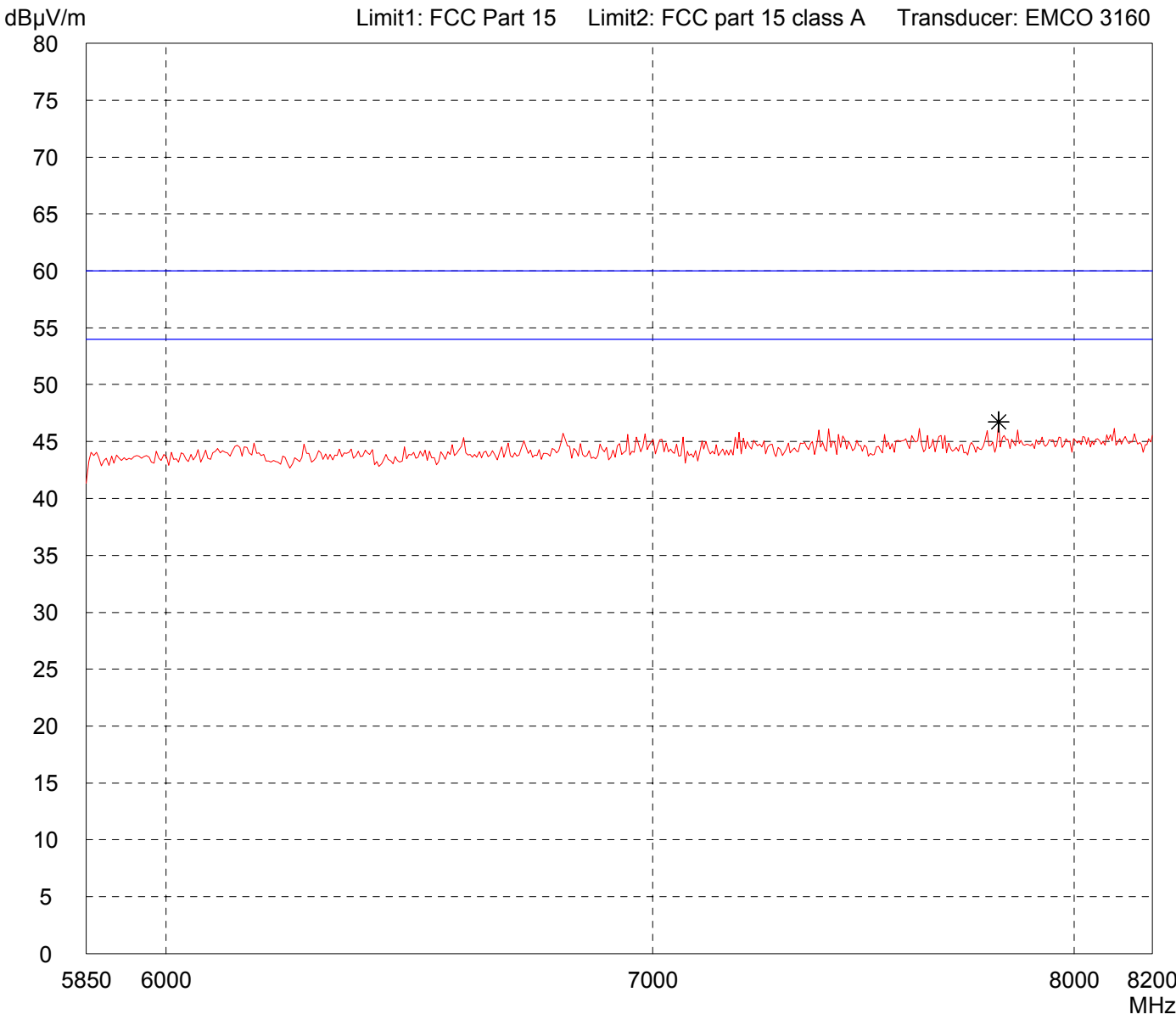
# Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

Model: i-Port M	
Serial no.: N/A	
Applicant: IDENTEC SOLUTIONS AG	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 01/15/2007	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Comment: DC supply over RS 422
- EUT in upright position - all cables connected - with Rod-Antennas
- Port: Antenna 2 - transmitting continuously with modulation

Detector: Peak
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List of values: Selected by hand
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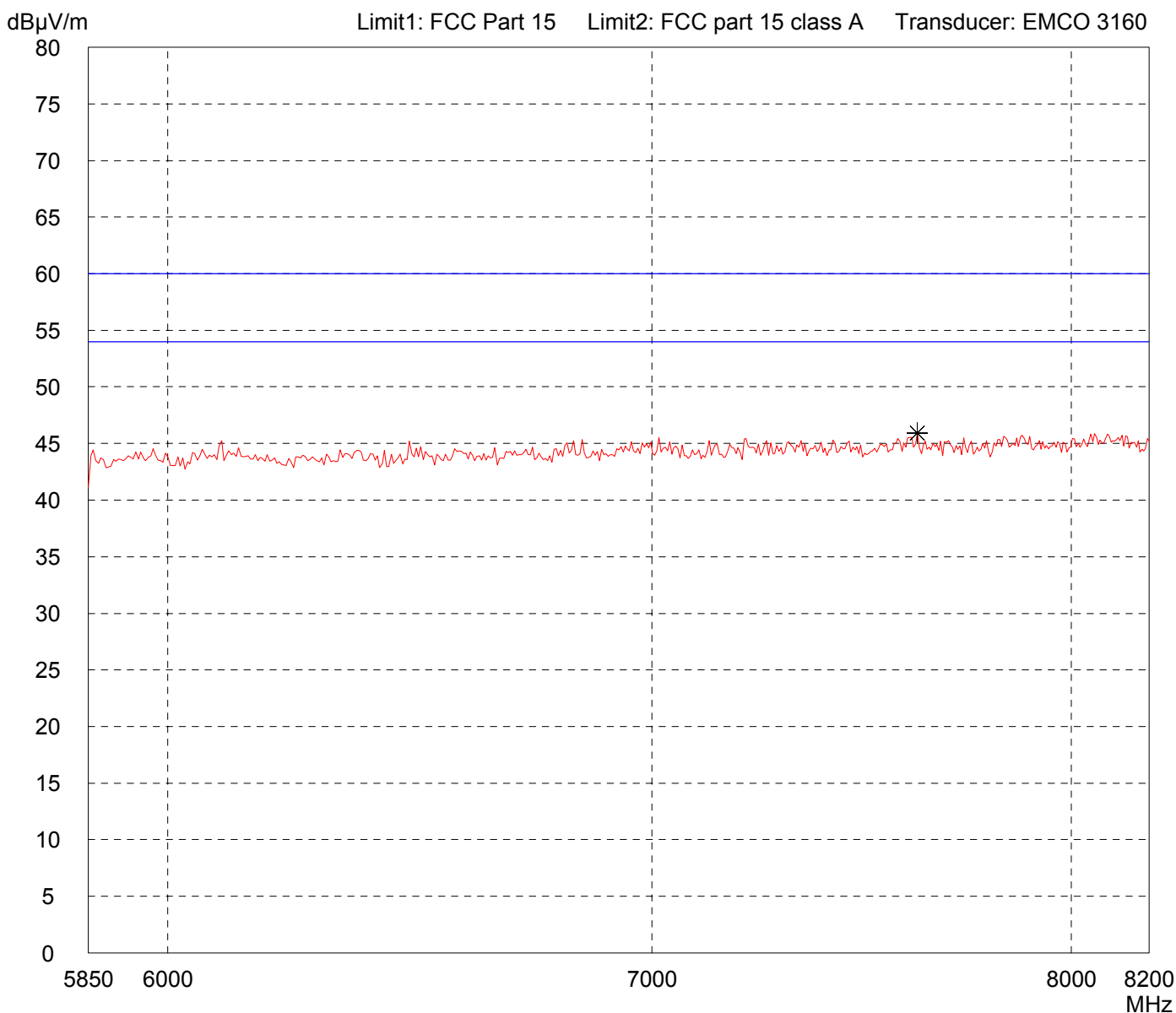


Result: Prescan
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Project file: 55456-60996
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# Radiated Emission Test 5.85 GHz - 8.2 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p> <p>Serial no.: <b>N/A</b></p> <p>Applicant: <b>IDENTEC SOLUTIONS AG</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>01/15/2007</b>      Operator: <b>M. Steindl</b></p> <p>Test performed: <b>automatically</b>      File name: <b>default.emi</b></p>	<p>Comment: <b>DC supply over RS 422</b></p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 2</li> <li>- transmitting continuously with modulation</li> </ul>
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>

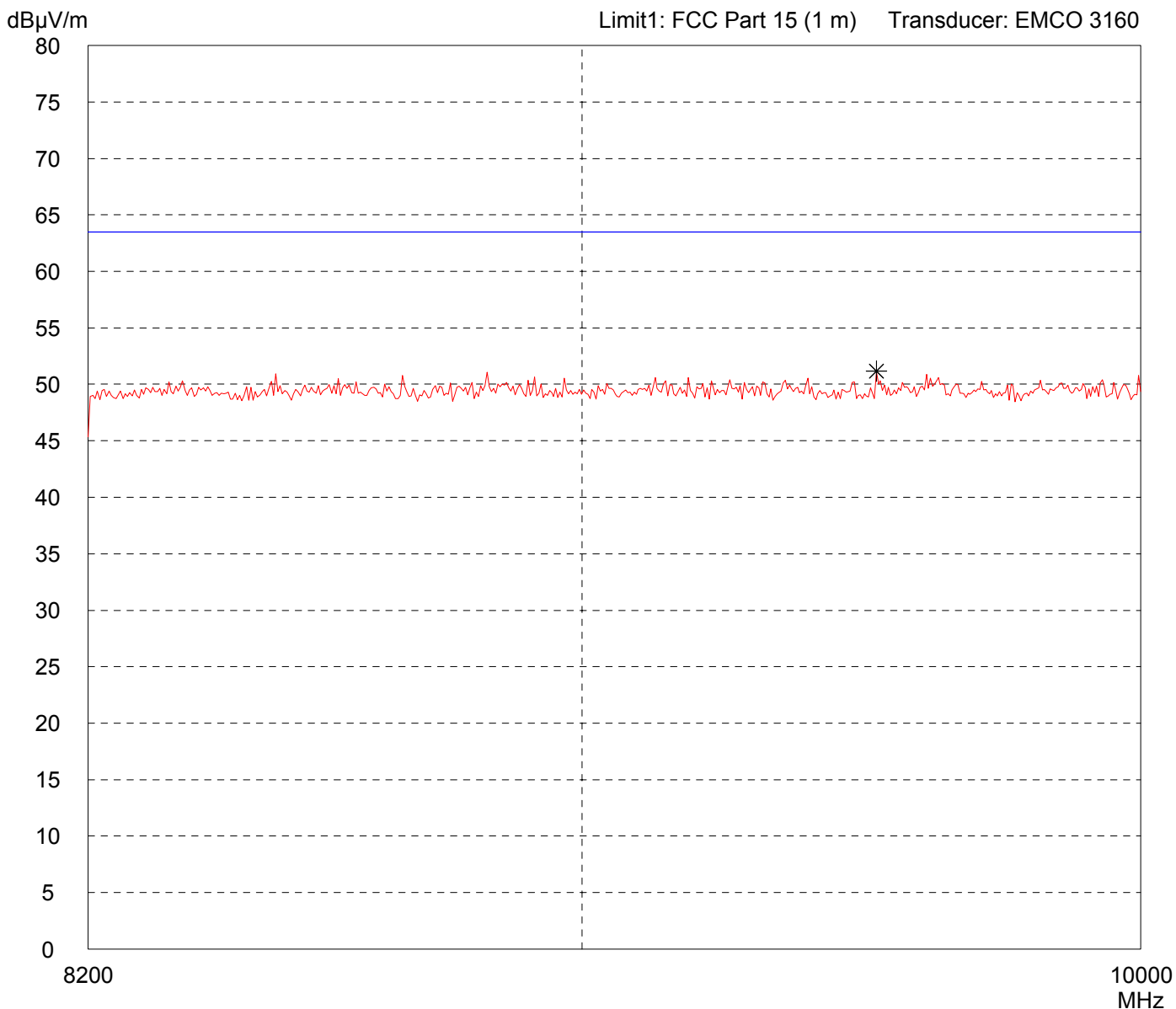


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 8.2 GHz - 10 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p>	<p>Comment: DC supply over RS 422</p> <ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 2</li> <li>- transmitting continuously with modulation</li> </ul>
Serial no.: <b>N/A</b>	
Applicant: <b>IDENTEC SOLUTIONS AG</b>	
Test site: <b>Fully anechoic room, cabin no. 2</b>	
Tested on: <b>Test distance 1 meter Horizontal Polarization</b>	
Date of test: <b>01/15/2007</b> Operator: <b>M. Steindl</b>	
Test performed: <b>automatically</b> File name: <b>default.emi</b>	

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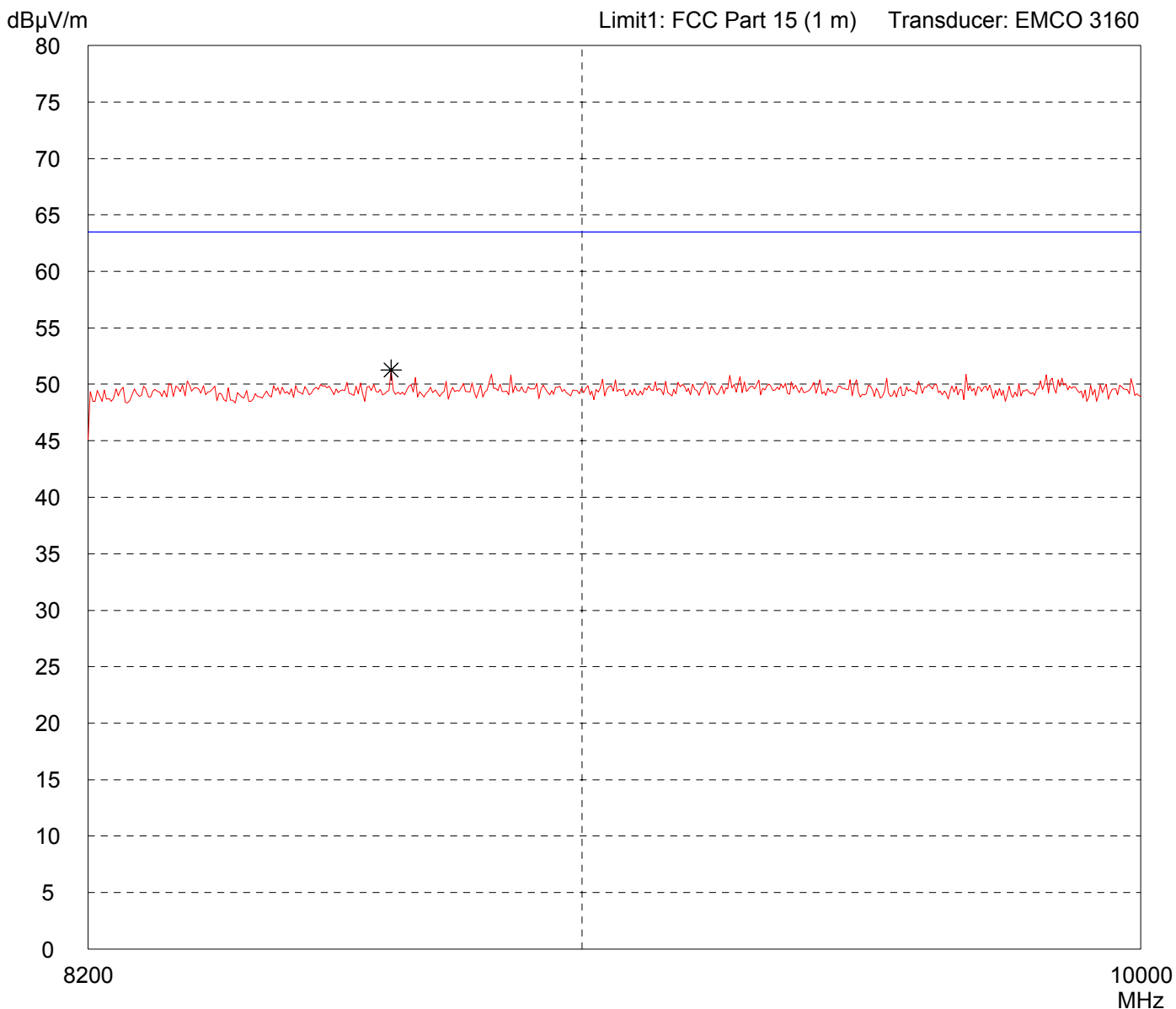


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 8.2 GHz - 10 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p>	<p>Comment: DC supply over RS 422</p>
<p>Serial no.: <b>N/A</b></p>	<ul style="list-style-type: none"> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with Rod-Antennas</li>   <li>- Port: Antenna 2</li> <li>- transmitting continuously with modulation</li> </ul>
<p>Applicant: <b>IDENTEC SOLUTIONS AG</b></p>	
<p>Test site: <b>Fully anechoic room, cabin no. 2</b></p>	
<p>Tested on: <b>Test distance 1 meter Vertical Polarization</b></p>	
<p>Date of test:                      Operator: <b>01/15/2007                      M. Steindl</b></p>	
<p>Test performed:                  File name: <b>automatically                  default.emi</b></p>	

<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>55456-60996</b></p>
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# Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: i-Port M	
Serial no.: NA	
Applicant: IDENTEC SOLUTIONS AG	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 01/29/2007	Operator: M. Steindl
Test performed: automatically	File name: default.emi

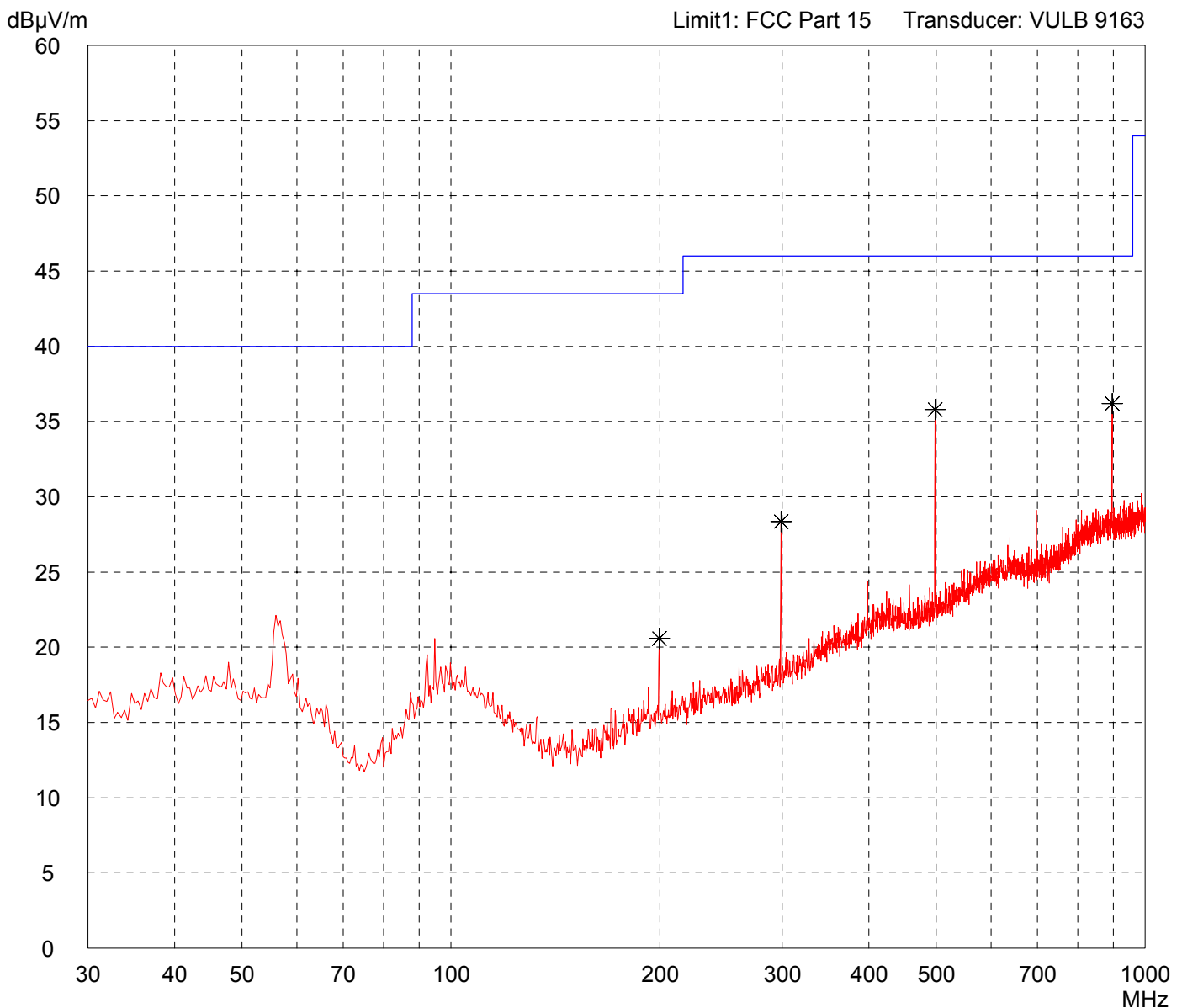
## Comment:

- DC supply over RS 422
- EUT in upright position
- all cables connected
- with rod antennas
- RX mode

Detector: Peak
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## List of values:

Selected by hand



Result: Prescan
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Project file:  
55456-60996

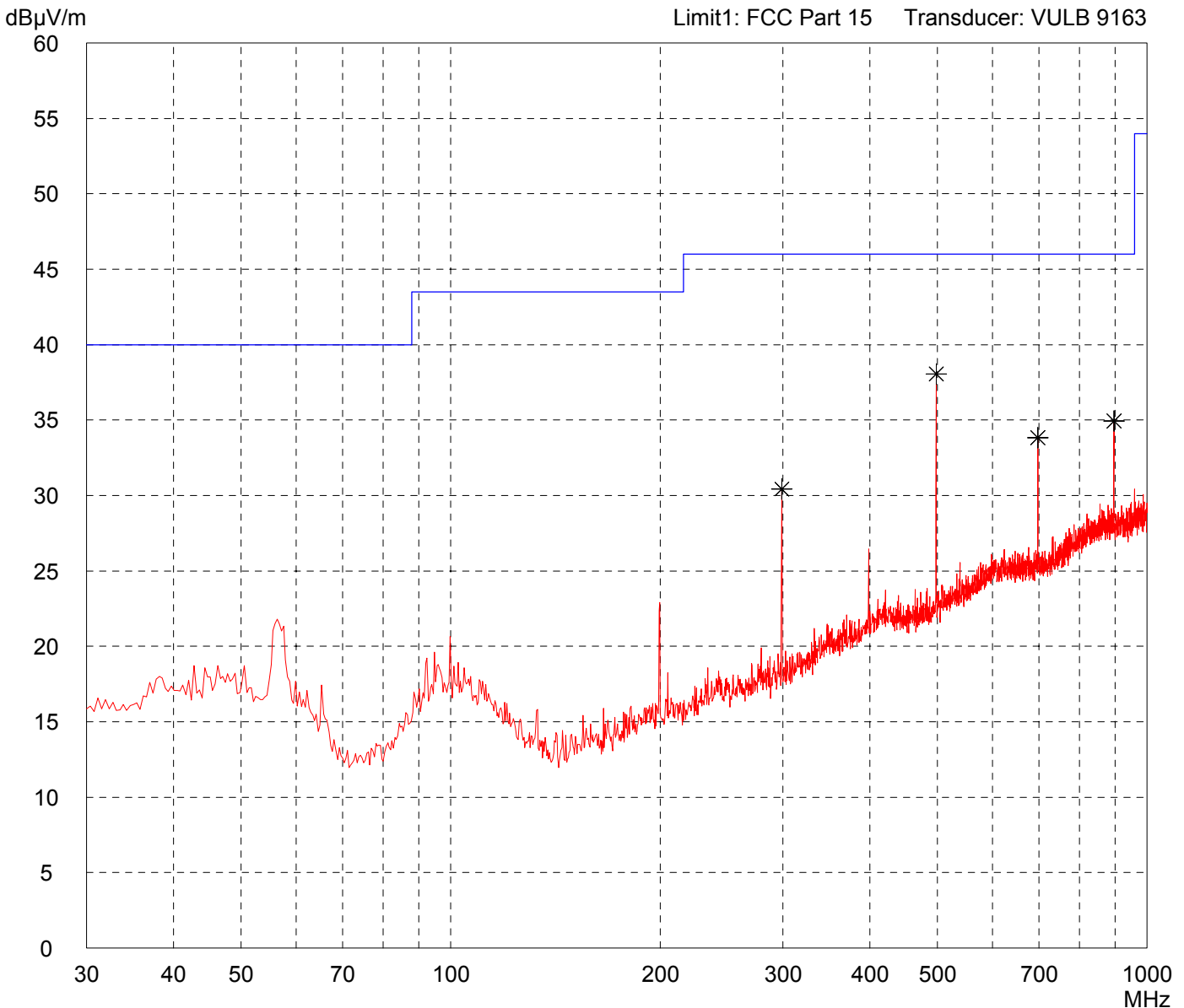
# Radiated Emission Test 30 MHz - 1 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: i-Port M	
Serial no.: NA	
Applicant: IDENTEC SOLUTIONS AG	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Vertical Polarization	
Date of test: 01/29/2007	Operator: M. Steindl
Test performed: automatically	File name: default.emi

Comment:  - DC supply over RS 422  - EUT in upright position - all cables connected  - with rod antennas  - RX mode
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Detector: Peak
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List of values: Selected by hand
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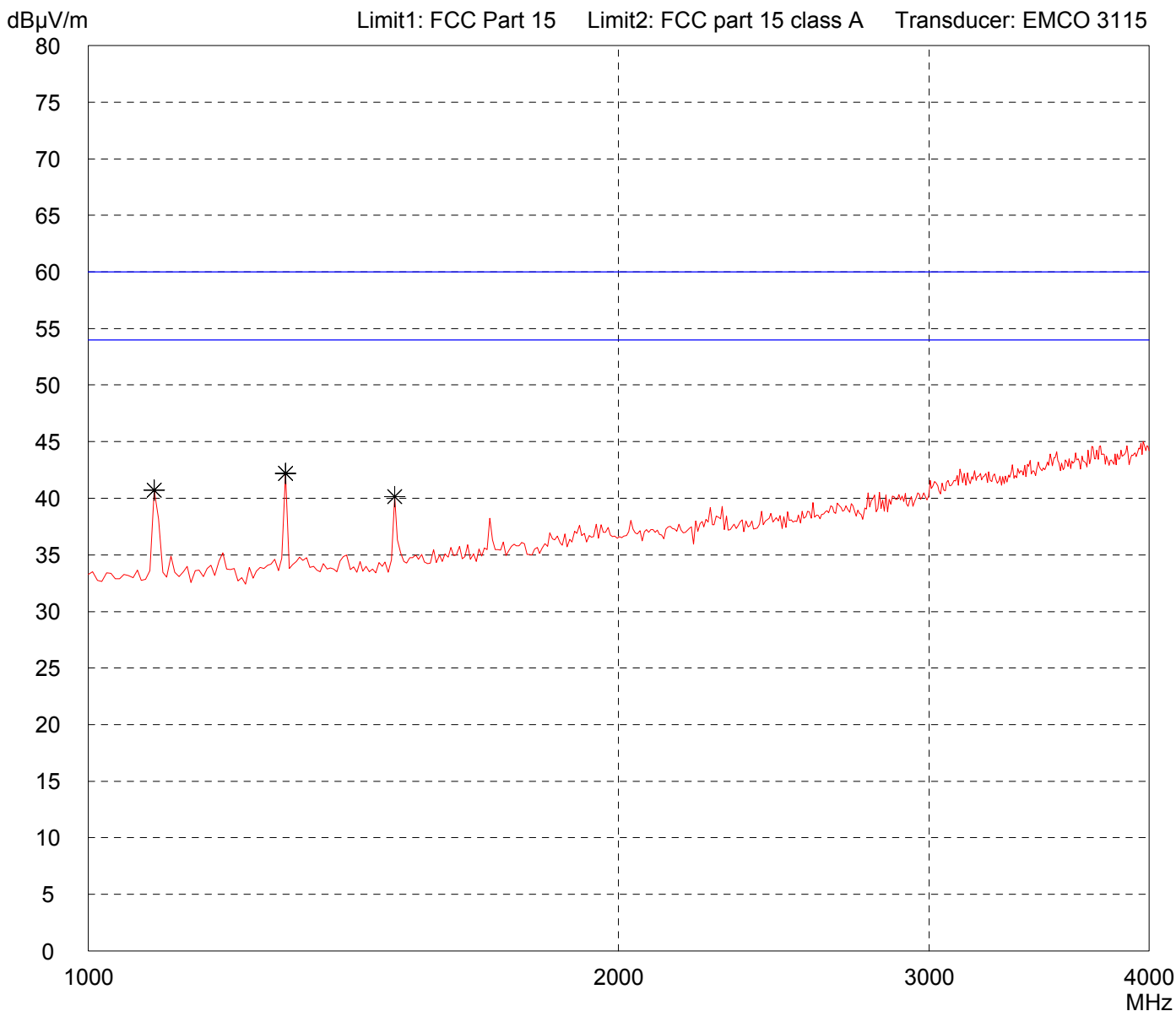


Result: Prescan
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Project file: 55456-60996
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# Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (EMCO 3115)

<p>Model: <b>i-Port M</b></p> <p>Serial no.: <b>NA</b></p> <p>Applicant: <b>IDENTEC SOLUTIONS AG</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>01/29/2007</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 supply over RS 422</li> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with rod antennas</li> <li>- RX mode</li> </ul>
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>

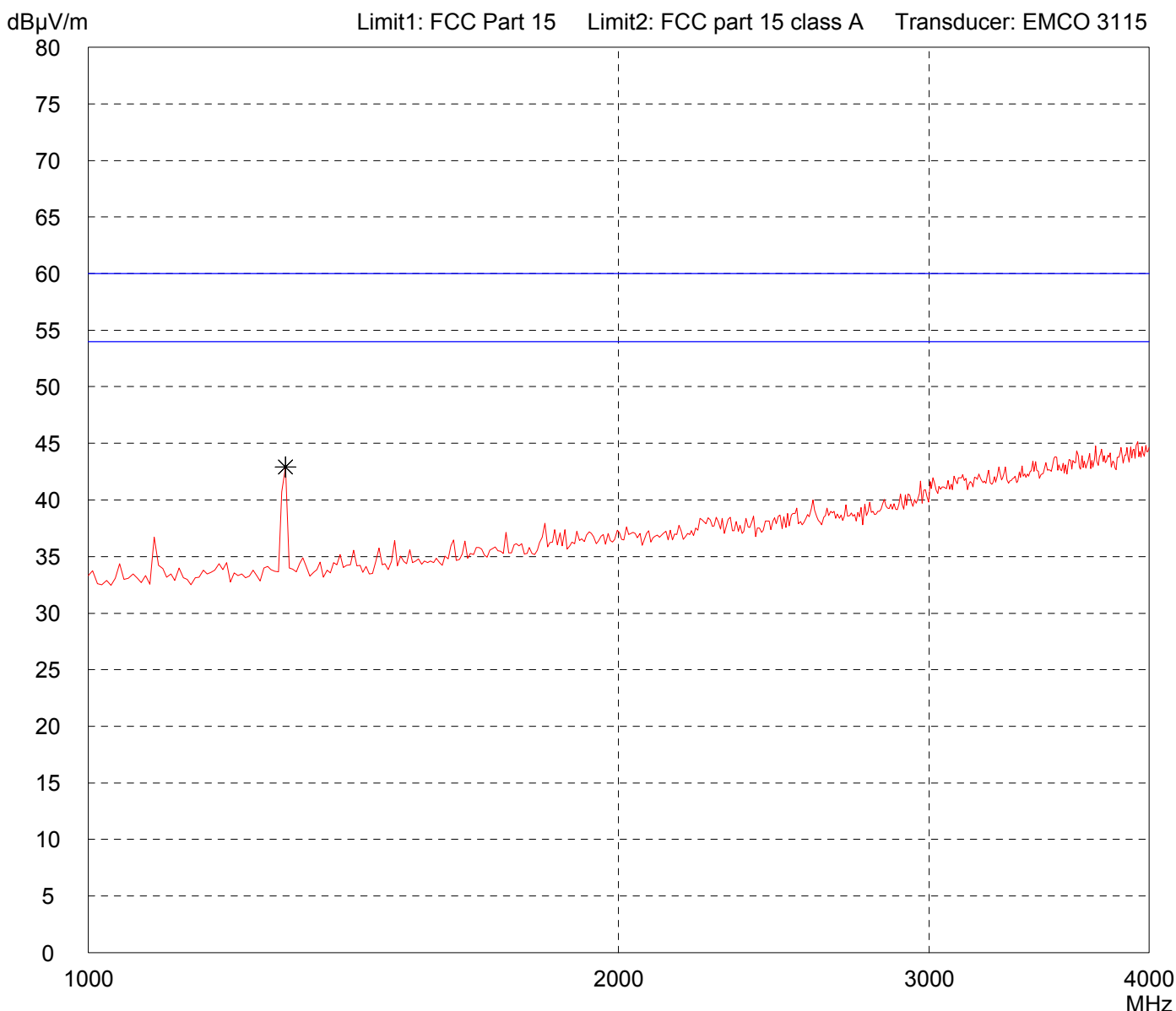


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 1 GHz - 4 GHz acc. to FCC Part 15 (EMCO 3115)

<p>Model: <b>i-Port M</b></p> <p>Serial no.: <b>NA</b></p> <p>Applicant: <b>IDENTEC SOLUTIONS AG</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>01/29/2007</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 supply over RS 422</li> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with rod antennas</li> <li>- RX mode</li> </ul>
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>

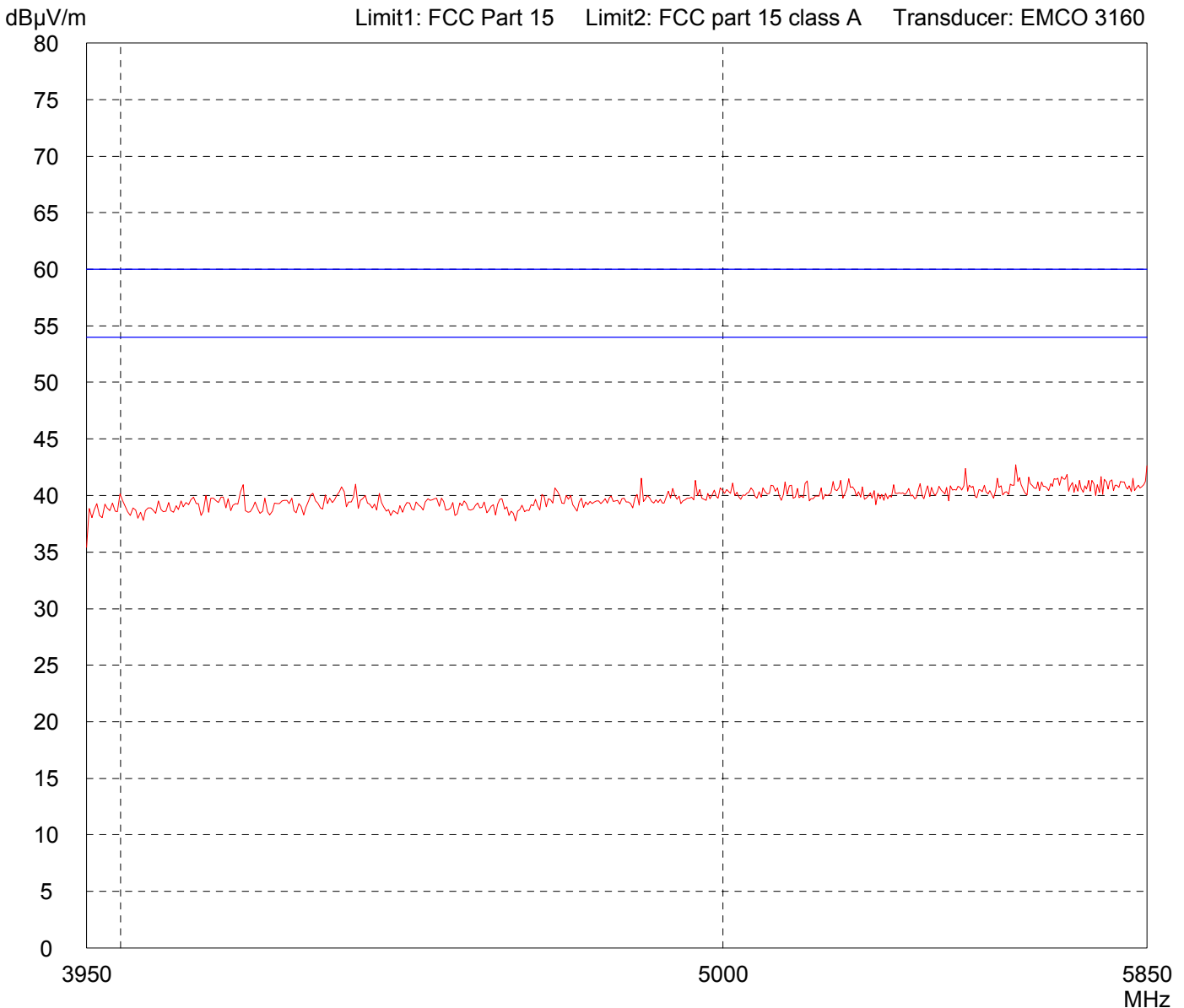


<p>Result: <b>Prescan</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Radiated Emission Test 3,95 GHz - 5,85 GHz acc. to FCC Part 15 (EMCO 3160)

Model: i-Port M	Comment:  - DC supply over RS 422  - EUT in upright position - all cables connected  - with rod antennas  - RX mode
Serial no.: NA	
Applicant: IDENTEC SOLUTIONS AG	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Test distance 3 metres Horizontal Polarization	
Date of test: 01/29/2007      Operator: M. Steindl Test performed: automatically      File name: default.emi	

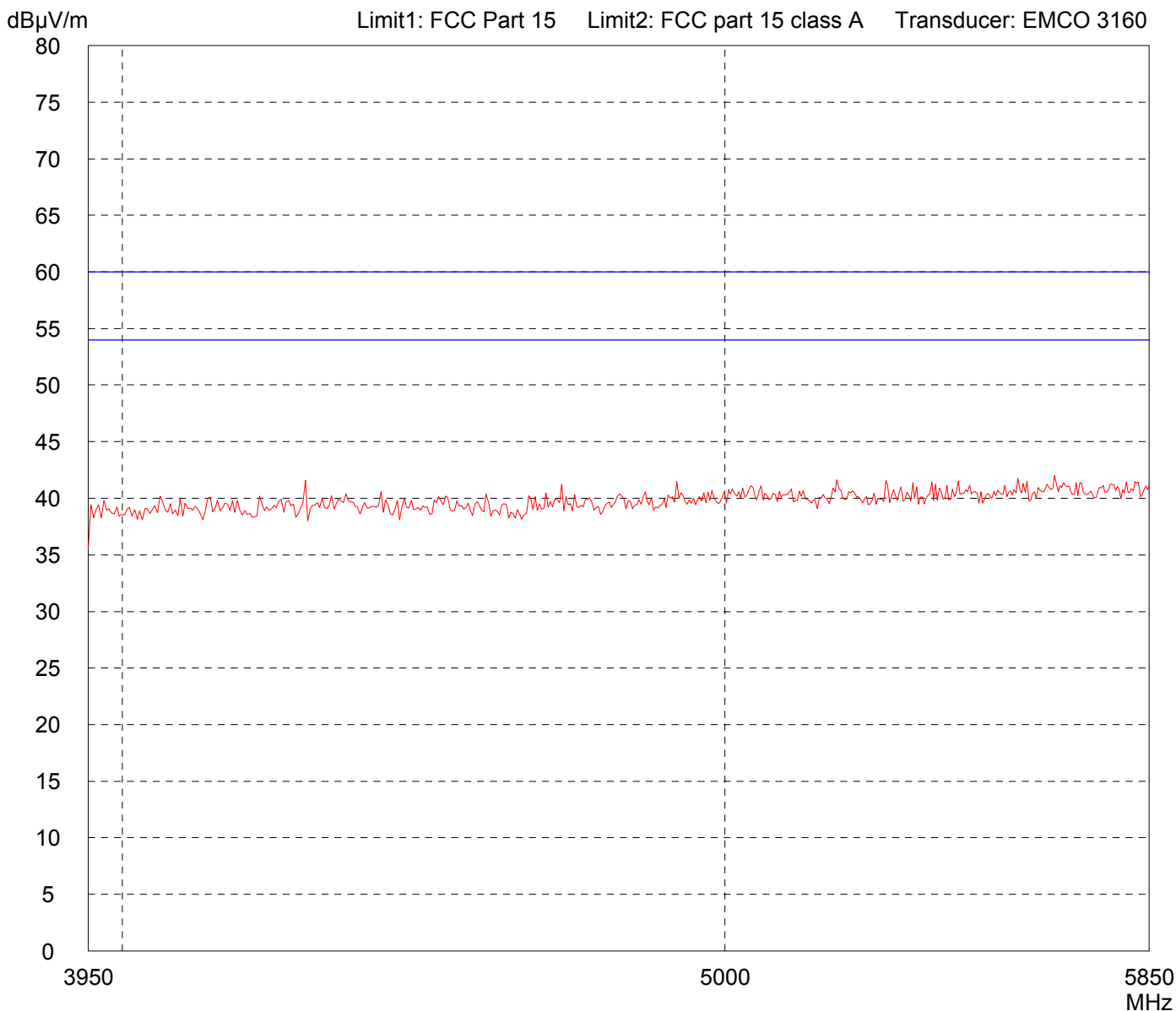
Detector: Peak	List of values: Selected by hand
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Result: Prescan	Project file: 55456-60996
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## Radiated Emission Test 3,95 GHz - 5,85 GHz acc. to FCC Part 15 (EMCO 3160)

<p>Model: <b>i-Port M</b></p> <p>Serial no.: <b>NA</b></p> <p>Applicant: <b>IDENTEC SOLUTIONS AG</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>01/29/2007</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 supply over RS 422</li> <li>- EUT in upright position</li> <li>- all cables connected</li> <li>- with rod antennas</li> <li>- RX mode</li> </ul>
<p>Detector: <b>Peak</b></p>	<p>List of values: <b>Selected by hand</b></p>



<p>Result: <b>Limit kept</b></p>	<p>Project file: <b>55456-60996</b></p>
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# Conducted Emission Test 30 MHz - 5,85 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

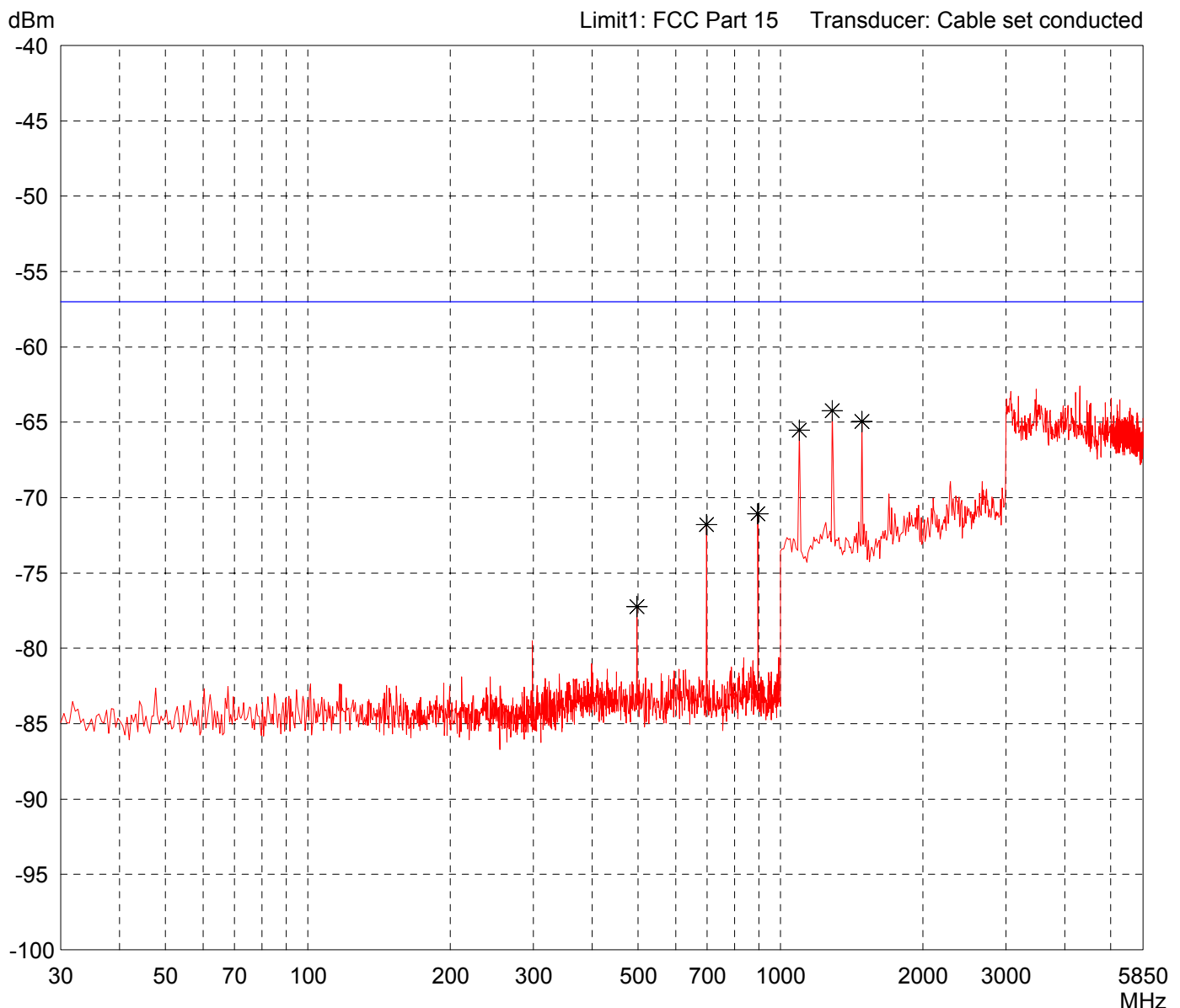
Model: i-Port M	
Serial no.: NA	
Applicant: IDENTEC SOLUTIONS AG	
Test site: Fully anechoic room, cabin no. 2	
Tested on: Antenna connector ANT 1	
Date of test: 01/29/2007	Operator: M. Steindl
Test performed: by hand	File name: default.emi

Comment:

- DC supply over RS 422
- EUT in upright position
- all cables connected
  
- RX mode

Detector: Peak
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List of values:  
Selected by hand

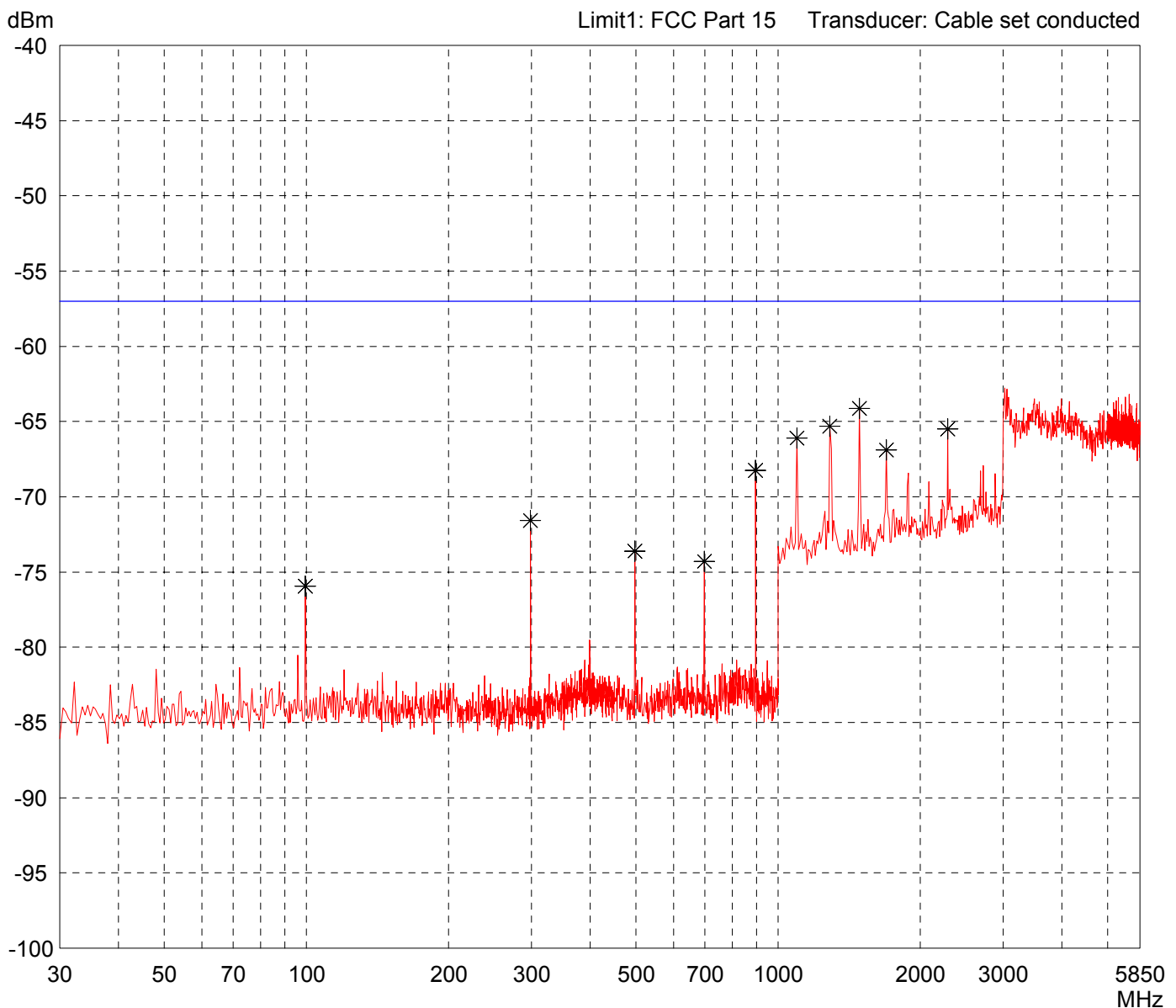


Result: Limit kept
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Project file:  
55456-60996

# Conducted Emission Test 30 MHz - 5,85 GHz acc. to FCC Part 15 (Fully Anechoic Chamber)

Model: i-Port M		Comment:  - DC supply over RS 422  - EUT in upright position - all cables connected  - RX mode
Serial no.: NA		
Applicant: IDENTEC SOLUTIONS AG		
Test site: Fully anechoic room, cabin no. 2		
Tested on: Antenna connector ANT 2		
Date of test: 01/29/2007	Operator: M. Steindl	List of values: Selected by hand
Test performed: by hand	File name: default.emi	
Detector: Peak		



Result: Limit kept	Project file: 55456-60996
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