

FCC CERTIFICATION  
On Behalf of  
Verbatim

2.4GHz Wireless Optical Notebook Mouse  
Model No.: 96147

FCC ID: TL496147

Prepared for : Verbatim  
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Report Number : ATE20070638  
Date of Test : March 12, 2007  
Date of Report : March 20, 2007

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## Test Report Certification

Applicant : Verbatim  
 Manufacturer : Verbatim  
 EUT Description : 2.4GHz Wireless Optical Notebook Mouse  
 (A) MODEL NO.: 96147  
 (B) SERIAL NO.: N/A  
 (C) POWER SUPPLY: 2.4V DC ("AAA" battery Type × 2)

### Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.107, 15.109, 15.249:2006 & ANSI C63.4: 2003

The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.107, 15.109, 15.249 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

Date of Test : March 12, 2007

Prepared by :   
 (Engineer)

Reviewer :   
 (Quality Manager)

Approved & Authorized Signer :   
 (Manager)

# 1. GENERAL INFORMATION

## 1.1. Description of Device (EUT)

EUT : 2.4GHz Wireless Optical Notebook Mouse  
 Model Number : 96147  
 Power Supply : DC2.4V(“AAA” battery Type×2)  
 Operate Frequency : 2402MHz  
 Channel Number : 1  
 Applicant : Verbatim  
 Address : 1200 West W.T. Harris Blvd. Charlotte, North Carolina  
 28262, USA  
 Manufacturer : Verbatim  
 Address : 1200 West W.T. Harris Blvd. Charlotte, North Carolina  
 28262, USA  
 Date of sample received : March 09, 2007  
 Date of Test : March 12, 2007

## 1.2. Description of Test Facility

EMC Lab : Accredited by FCC  
 The Certificate Registration Number is 274801  
  
 Accredited by Industry Canada  
 The Certificate Registration Number is IC4174  
  
 Accredited by China National Accreditation Committee  
 for Laboratories  
 The Certificate Registration Number is L0579  
  
 Name of Firm : Shenzhen Academy of Metrology& Quality Inspection  
 Site Location : Bldg. Metrology& Quality Inspection, Longzhu Road,  
 Nanshan, Shenzhen, Guangdong, P.R. China

## 1.3. Measurement Uncertainty

Conducted emission expanded uncertainty = 3.5dB, k=2  
 Radiated emission expanded uncertainty = 4.5dB, k=2

## 2. MEASURING DEVICE AND TEST EQUIPMENT

**Table 1: List of Test and Measurement Equipment**

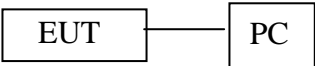
Kind of equipment	Manufacturer	Type	S/N	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	03.31.2008
EMI Test Receiver	Rohde&Schwarz	ESI26	838786/013	01.24.2008
Loop Antenna	Schwarzbeck	FMZB1516	113	01.24.2008
Bilog Antenna	Schwarzbeck	VULB9163	9163-194	03.31.2008
Bilog Antenna	Chase	CBL6112B	2591	01.24.2008
Horn Antenna	Rohde&Schwarz	HF906	100013	01.24.2008
Spectrum Analyzer	Anritsu	MS2651B	6200238856	03.31.2008
Pre-Amplifier	Agilent	8447D	2944A10619	03.31.2008
L.I.S.N.	Rohde&Schwarz	ESH3-Z5	100305	03.31.2008
L.I.S.N.	Rohde&Schwarz	ESH3-Z5	100310	03.31.2008

### 3. CONDUCTED EMISSION FOR FCC PART 15 SECTION

#### 15.107(A)

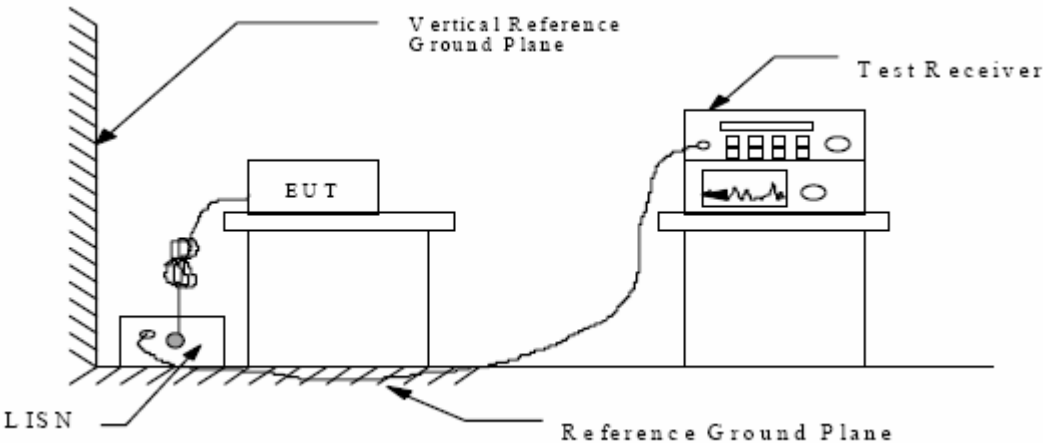
##### 3.1. Block Diagram of Test Setup

###### 3.1.1. Block diagram of connection between the EUT and simulators



(EUT: 2.4GHz Wireless Optical Notebook Mouse)

###### 3.1.2. Shielding Room Test Setup Diagram



(EUT: 2.4GHz Wireless Optical Notebook Mouse)

##### 3.2. The Emission Limit For Section 15.107(a)

###### 3.2.1 Radiation Emission Measurement Limits According to Section 15.107(a)

Frequency (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

\* Decreases with the logarithm of the frequency.

### 3.3.EUT Configuration on Measurement

The following equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

#### 3.3.1. 2.4GHz Wireless Optical Notebook Mouse (EUT)

Model Number : 96147  
Serial Number : N/A  
Manufacturer : Verbatim

### 3.4.Operating Condition of EUT

3.4.1. Setup the EUT and simulator as shown as Section 3.1.

3.4.2. Turn on the power of all equipment.

3.4.3. Let the EUT work in Charging modes (use USB cable connect to PC) measure it.

### 3.5.Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2003 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

All the scanning waveforms are attached in Appendix I.

### 3.6. Power Line Conducted Emission Measurement Results

**PASS.**

The frequency range from 150kHz to 30MHz is checked.

Date of Test:	<u>March 12, 2007</u>	Temperature:	<u>22°C</u>
EUT:	<u>2.4GHz Wireless Optical Notebook Mouse</u>	Humidity:	<u>50%</u>
Model No.:	<u>96147</u>	Power Supply:	<u>DC 5V power by PC usb port</u>
Test Mode:	<u>Connect to PC to Charging</u>	Test Engineer:	<u>PC power: AC120V/60Hz</u> <u>Andy</u>

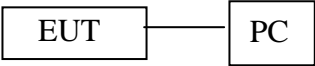
Test Line	Frequency MHz	Emission Level(dBμV)		Limits(dBμV)		Margin(dBμV)	
		QP	AV	QP	AV	QP	AV
Va	0.190	44.5	40.1	64.0	54.0	19.5	13.9
Va	0.515	35.0	28.5	56.0	46.0	21.0	17.5
Va	0.535	35.1	29.8	56.0	46.0	20.9	16.2
Va	0.935	36.8	28.6	56.0	46.0	19.2	17.4
Va	1.355	33.6	27.5	56.0	46.0	22.4	18.5
Va	2.520	34.7	31.0	56.0	46.0	21.3	15.0
Va	3.230	37.9	35.6	56.0	46.0	18.1	10.4
Va	27.100	30.4	29.3	60.0	50.0	29.6	20.7
Vb	0.190	43.4	38.0	64.0	54.0	20.6	16.0
Vb	0.515	34.8	28.2	56.0	46.0	21.2	17.8
Vb	0.630	34.7	26.7	56.0	46.0	21.3	19.3
Vb	0.935	35.2	29.1	56.0	46.0	20.8	16.9
Vb	1.030	34.1	28.1	56.0	46.0	21.9	17.9
Vb	1.395	33.9	28.3	56.0	46.0	22.1	17.7
Vb	1.775	33.4	26.6	56.0	46.0	22.6	19.4
Vb	2.680	33.6	31.5	56.0	46.0	22.4	14.5
Vb	4.760	31.0	28.1	56.0	46.0	25.0	17.9
Vb	26.600	30.6	29.7	60.0	50.0	29.4	20.3

The spectral diagrams in appendix 1 display the measurement of peak values.

# 4. RADIATED EMISSION FOR FCC PART 15 SECTION 15.109(A)

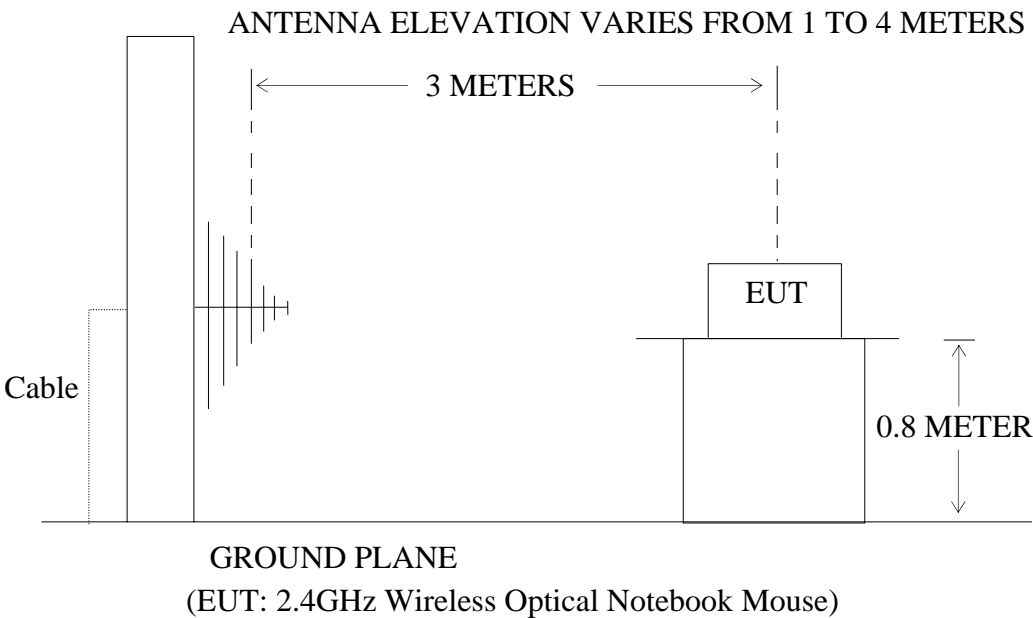
## 4.1. Block Diagram of Test Setup

### 4.1.1. Block diagram of connection between the EUT and simulators



(EUT: 2.4GHz Wireless Optical Notebook Mouse)

### 4.1.2. Anechoic Chamber Test Setup Diagram



## 4.2. The Field Strength of Radiation Emission Measurement Limits

### 4.2.1. Radiation Emission Measurement Limits According to Section 15.109(a)

Frequency (MHz)	Limit,		The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the
	Field Strength of Quasi-peak Value (microvolts/m)	Field Strength of Quasi-peak Value (dBμV/m)	
30 - 88	100	40	
88 - 216	150	43.5	
216 - 960	200	46	

Above 960	500	54	final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.
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#### 4.3. Configuration of EUT on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

##### 4.3.1. 2.4GHz Wireless Optical Notebook Mouse (EUT)

Model Number : 96147  
 Serial Number : N/A  
 Manufacturer : Verbatim

#### 4.4. Operating Condition of EUT

4.4.1. Setup the EUT and simulator as shown as Section 3.1.

4.4.2. Turn on the power of all equipment.

4.4.3. Let the EUT work in Charging modes (use USB cable connect to PC) measure it.

#### 4.5. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to FCC Part 15 Subpart C on radiated emission measurement.

The bandwidth of test receiver (R&S ESCS30) is set at 120KHz in 30-1000MHz. The frequency range from 30MHz to 1000MHz is checked.

#### 4.6. The Field Strength of Radiation Emission Measurement Results

##### **PASS.**

The frequency range 30MHz to 1000MHz is investigated.

Date of Test:	<u>March 12, 2007</u>	Temperature:	<u>24°C</u>
	<u>2.4GHz Wireless Optical Notebook</u>		
EUT:	<u>Mouse</u>	Humidity:	<u>54%</u>
			<u>5V DC power by PC usb port</u>
Model No.:	<u>96147</u>	Power Supply:	<u>PC power: AC120V/60Hz</u>
Test Mode:	<u>connect to PC to Charging</u>	Test Engineer:	<u>Andy</u>

Polarization	Frequency (MHz)	Reading(dBμV/m) QP	Factor Corr.( dB)	Result(dBμV/m) QP	Limits(dBμV/m) QP	Margin(dBμV/m) QP
Horizontal	263.267	58.2	-19.7	38.5	46	7.5
Horizontal	331.303	56.3	-18.4	37.9	46	8.1
Horizontal	352.685	55.2	-17.7	37.5	46	8.5
Vertical	467.375	48.2	-15.8	32.4	46	13.6
Vertical	519.859	50.2	-14.9	35.3	46	10.7
Vertical	566.513	47.8	-14.4	33.4	46	12.6
Vertical	585.952	47.7	-14.3	33.4	46	12.6

Note:

1. The spectral diagrams in appendix 1 display the measurement of peak values with corrected factors counted.

2. The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

## 5. FUNDAMENTAL AND HARMONICS RADIATED EMISSION MEASUREMENT

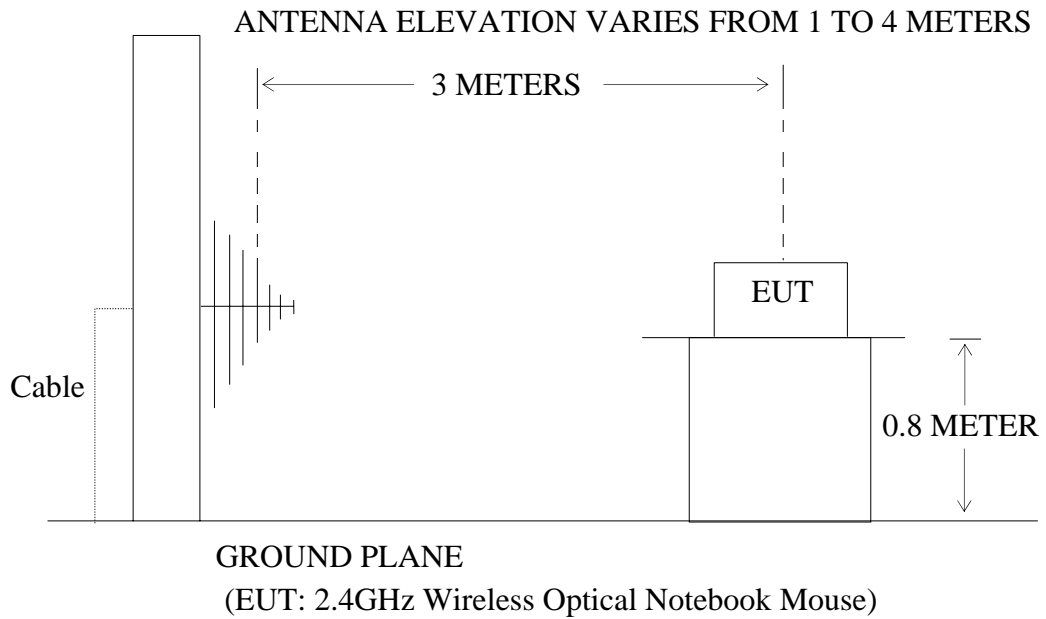
### 5.1. Block Diagram of Test Setup

#### 5.1.1. Block diagram of connection between the EUT and simulators



(EUT: 2.4GHz Wireless Optical Notebook Mouse)

#### 5.1.2. Anechoic Chamber Test Setup Diagram



### 5.2. The Emission Limit

- 3.2.1 For intentional radiators, According to section 15.249(a), Operation within the frequency band of 2.4 to 2.4835GHz, The fundamental field strength shall not exceed 94 dB $\mu$ V/m and the harmonics shall not exceed 54 dB $\mu$ V/m.

Fundamental Frequency	Field Strength of Fundamental (millivolts/meter)	Field Strength of harmonics (microvolts/meter)
902-928MHz	50	500
2400-2483.5MHz	50	500
5725-5875MHz	50	500
24.0-24.25GHz	250	2500

- 3.2.2 According to section 15.249(e), as shown in section 15.35(b), The peak field strength

of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

### 5.3. Configuration of EUT on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

#### 5.3.1. 2.4GHz Wireless Optical Notebook Mouse (EUT)

Model Number	:	96147
Serial Number	:	N/A
Manufacturer	:	Verbatim

### 5.4. Operating Condition of EUT

5.4.1. Setup the EUT and simulator as shown as Section 3.1.

5.4.2. Turn on the power of all equipment.

5.4.3. Let the EUT work in TX modes measure it.

### 5.5. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated emission measurement.

The bandwidth of test receiver (R&S ESI26) is set at 1MHz.

## 5.6. The Field Strength of Radiation Emission Measurement Results

### PASS.

Date of Test:	March 12, 2007	Temperature:	24°C
EUT:	2.4GHz Wireless Optical Notebook Mouse	Humidity:	54%
Model No.:	96147	Power Supply:	2.4V DC ("AAA" battery Type×2)
Test Mode:	TX	Test Engineer:	Andy

### Fundamental Radiated Emissions

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2402.563	85.4	88.5	-3.6	81.8	84.9	94	114	12.2	29.1	Vertical
2402.563	84.0	87.0	-3.6	80.4	83.4	94	114	13.6	30.6	Horizontal

### Harmonics Radiated Emissions

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
*4805.520	38.3	43.5	2.0	40.3	45.5	54	74	13.7	28.5	Vertical
7206.981	38.5	43.7	7.0	45.5	50.7	54	74	8.5	23.3	Vertical
*4805.270	36.5	41.6	2.0	38.5	43.6	54	74	15.5	30.4	Horizontal
7206.981	38.0	42.9	7.0	45.0	49.9	54	74	9.0	24.1	Horizontal

Note:

1. The spectral diagrams in appendix 1 display the measurement of peak values with corrected factors counted.

2. \*: Denotes restricted band of operation.

3. The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

## 6. RADIATED EMISSION FOR FCC PART 15 SECTION 15.249(D)

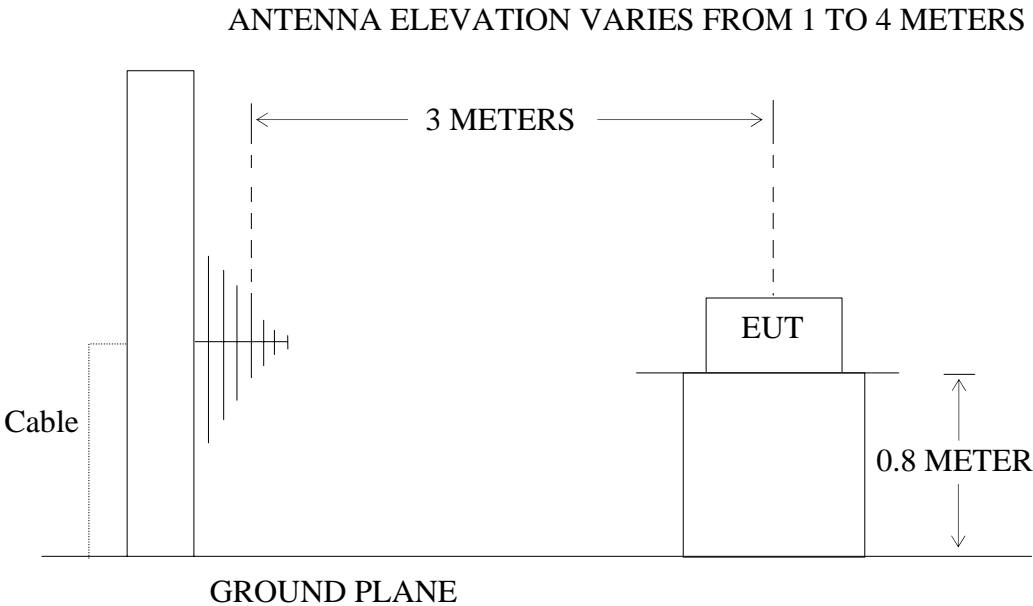
### 6.1. Block Diagram of Test Setup

#### 6.1.1. Block diagram of connection between the EUT and simulators



(EUT: 2.4GHz Wireless Optical Notebook Mouse)

#### 6.1.2. Anechoic Chamber Test Setup Diagram



(EUT: 2.4GHz Wireless Optical Notebook Mouse)

### 6.2. The Emission Limit For Section 15.249(d)

4.2.1 Emission radiated outside of the specified frequency bands, except for harmonics, shall be comply with the general radiated emission limits in Section 15.209.

Radiation Emission Measurement Limits According to Section 15.209

Frequency (MHz)	Limit,		
	Field Strength of Quasi-peak Value (microvolts/m)	Field Strength of Quasi-peak Value (dBμV/m)	The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector.
30 - 88	100	40	

88 - 216	150	43.5	Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.
216 - 960	200	46	
Above 960	500	54	

### 6.3.EUT Configuration on Measurement

The following equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

#### 6.3.1. 2.4GHz Wireless Optical Notebook Mouse (EUT)

Model Number : 96147  
Serial Number : N/A  
Manufacturer : Verbatim

### 6.4.Operating Condition of EUT

6.4.1. Setup the EUT and simulator as shown as Section 4.1.

6.4.2. Turn on the power of all equipment.

6.4.3. Let the EUT work in TX modes measure it.

### 6.5.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated emission measurement.

The bandwidth of test receiver (R&S ESI26) is set at 120KHz in 30-1000MHz. and set at 1MHz in above 1000MHz.

The frequency range from 30MHz to 25000MHz is checked.

The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

## 6.6.The Emission Measurement Result

**PASS.**

Date of Test:	March 12, 2007	Temperature:	24°C
	2.4GHz Wireless Optical Notebook		
EUT:	Mouse	Humidity:	54%
	DS-2135(2135-I		2.4V DC (“AAA” battery
Model No.:	2121-H+A5030+R5010)	Power Supply:	Type×2)
Test Mode:	TX	Test Engineer:	Andy

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
-	-	-	-	-	-	-	-	-	-	Vertical
-	-	-	-	-	-	-	-	-	-	Horizontal

Note:

1. The spectral diagrams in appendix 1 display the measurement of peak values with corrected factors counted.
2. Remark “-” means that the emission level is too low to be measured.
3. The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

## 7. BAND EDGES

### 7.1. The Requirement

- 5.1.1. Band Edge from 2400MHz to 2483.5MHz. Emission radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

### 7.2. EUT Configuration on Measurement

The following equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

#### 7.2.1. 2.4GHz Wireless Optical Notebook Mouse (EUT)

Model Number	:	96147
Serial Number	:	N/A
Manufacturer	:	Verbatim

### 7.3. Operating Condition of EUT

7.3.1. Setup the EUT and simulator as shown as Section 4.1.

7.3.2. Turn on the power of all equipment.

7.3.3. Let the EUT work in TX modes measure it.

### 7.4. Test Procedure

5.4.1. Measure the fundamental amplitude appearing on spectral display and set it as a reference level. measure the lower band edge amplitude. Get the delta amplitude and edge frequency.

5.4.2. Repeat above procedures , Measure the fundamental amplitude appearing on spectral display and set it as a reference level. measure the upper band edge amplitude. Get the delta amplitude and edge frequency.

## 7.5. The Measurement Result

### Pass

7.5.1 Lower band edge: Emission radiated outside of the lower band edge are 40.49 dB below the level of the fundamental.

The emission of carrier power strength (dBμV/m)	The maximum field strength in restrict band (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
84.9	44.41	74	29.59	Peak
81.8	41.31	54	12.69	Average

7.5.2 Upper band edge: Emission radiated outside of the upper band edge are 54.88 dB below the level of the fundamental.

The emission of carrier power strength (dBμV/m)	The maximum field strength in restrict band (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
84.9	30.02	74	43.98	Peak
81.8	26.92	54	27.08	Average

## **8. ANTENNA REQUIREMENT**

### **8.1.The Requirement**

- 7.1.1. According to Section 15.203, An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

### **8.2.Antenna Construction**

The antenna is PCB layout antenna, no consideration of replacement.

## APPENDIX I (Test Curves)

# CONDUCTION EMISSION STANDARD FCC PART15B

12. Mar 07 16:06

EUT: 2.4GHz Wireless Optical Notebook Mouse M/N: 96147  
 Manuf: Verbatim  
 Op Cond: Charge  
 Operator: Andy  
 Test Spec: Va 120V/60Hz  
 Comment: Tem22°C Humi50%  
 File name: 071035

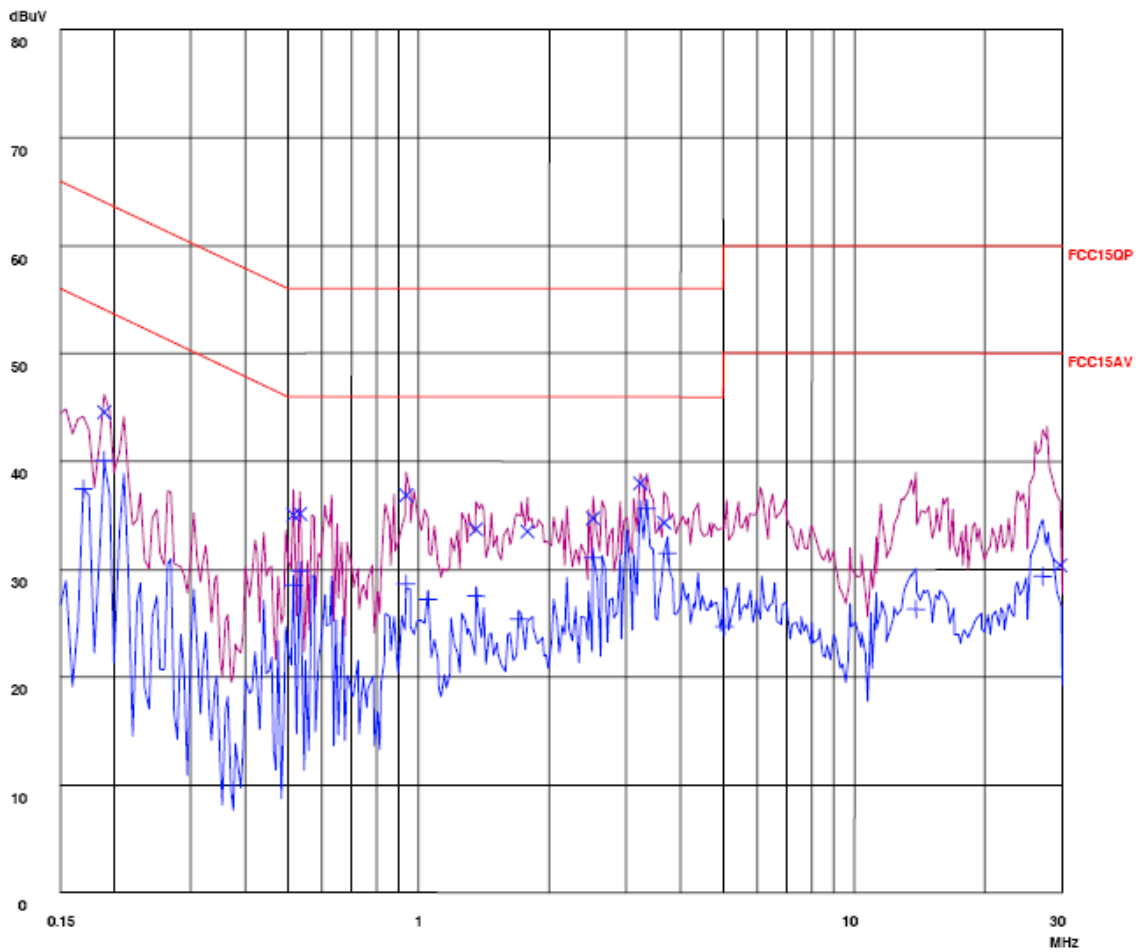
## Scan Settings (3 Ranges)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	2M	5k	9k	PK+AV	10ms	AUTO	LN OFF
2M	10M	10k	9k	PK+AV	1ms	AUTO	LN OFF
10M	30M	25k	9k	PK+AV	1ms	AUTO	LN OFF

Final Measurement: x QP / + AV

Meas Time: 1 s  
 Subranges: 25  
 Acc Margin: 20dB

Transducer No. Start Stop Name  
 1 9k 30M confac



CONDUCTION EMISSION STANDARD FCC PART15B 12. Mar 07 16:13

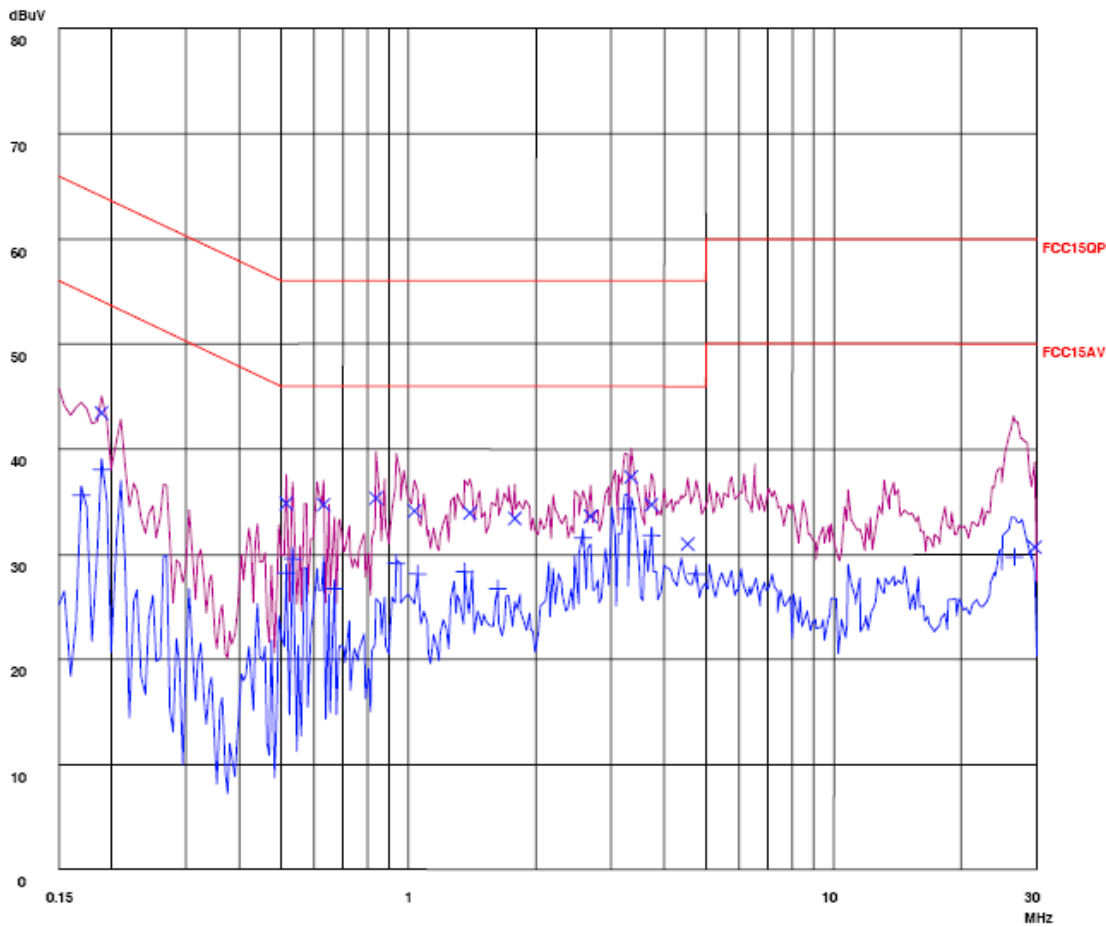
EUT: 2.4GHz Wireless Optical Notebook Mouse M/N: 96147  
Manuf: Verbatim  
Op Cond: Charge  
Operator: Andy  
Test Spec: Vb 120V/60Hz  
Comment: Tem22°C Humi50%  
File name: 071035

Scan Settings (3 Ranges)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	2M	5k	9k	PK+AV	10ms AUTO	LN	OFF
2M	10M	10k	9k	PK+AV	1ms AUTO	LN	OFF
10M	30M	25k	9k	PK+AV	1ms AUTO	LN	OFF

Final Measurement: x QP / + AV  
Meas Time: 1 s  
Subranges: 25  
Acc Margin: 20dB

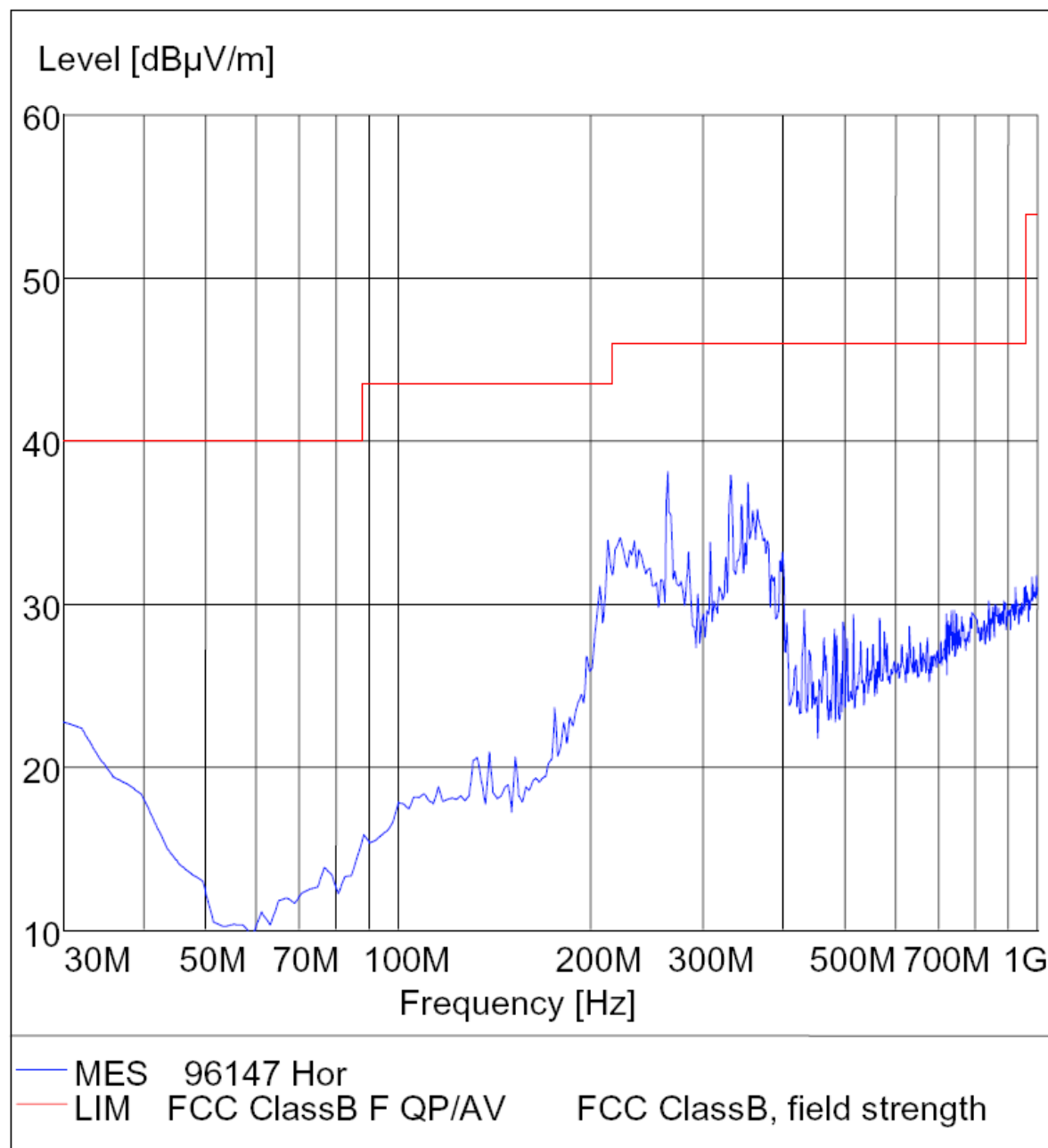
Transducer No. Start Stop Name  
1 9k 30M confac



*Radiated Disturbance**FCC Part 15*

EUT: 2.4GHz Wireless Optical Notebook Mouse  
 Manufacturer: Verbatim  
 Operating Condition: Connect to PC  
 Test Site: ATC EMC Lab.SAC  
 Operator: Andy  
 Test Specification: Horizontal  
 Comment : DC 5V Power by PC

M/N: 96147

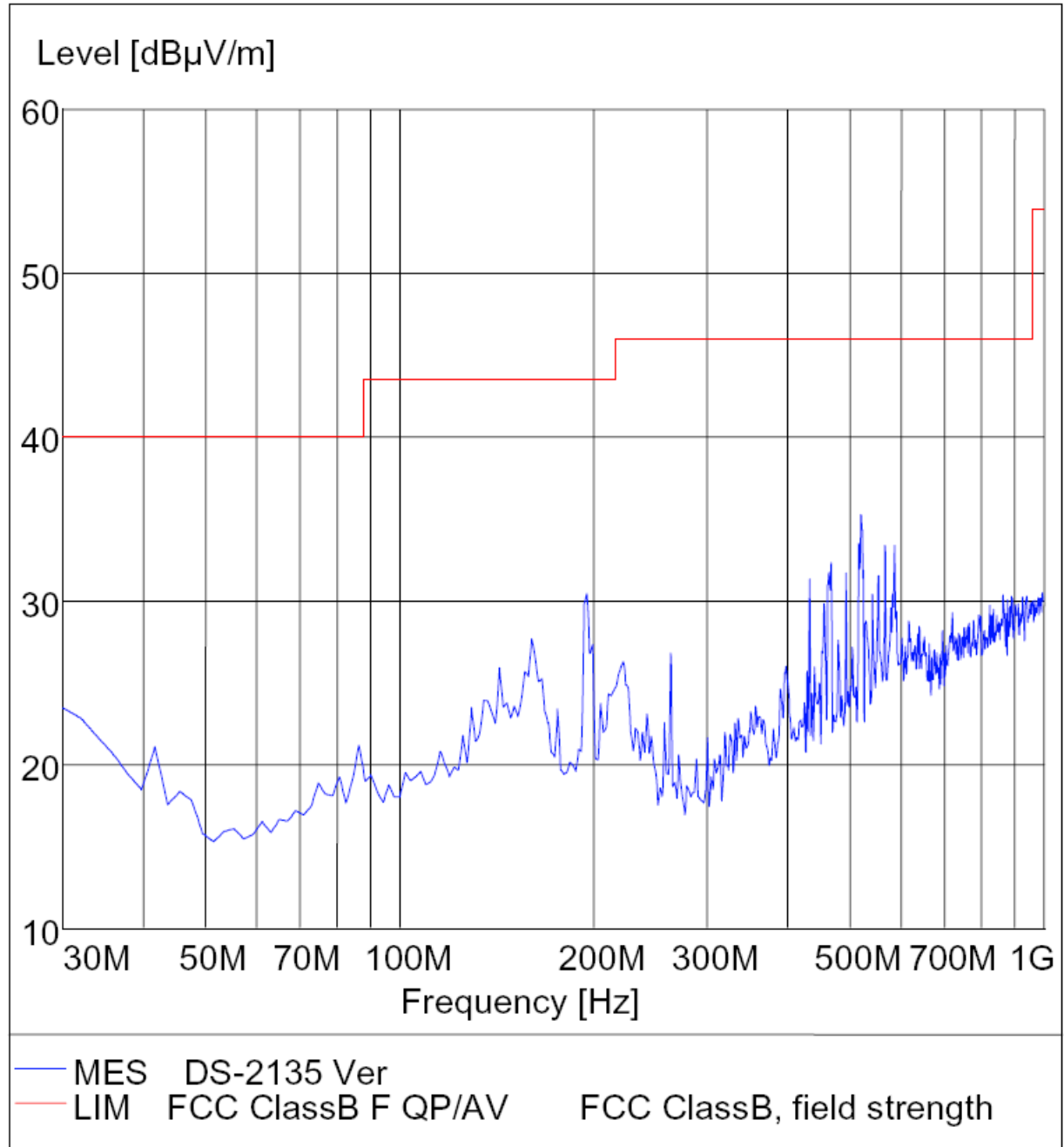


**Radiated Disturbance**

**FCC Part 15**

EUT: 2.4GHz Wireless Optical Notebook Mouse  
 Manufacturer: Verbatim  
 Operating Condition: Connect to PC  
 Test Site: ATC EMC Lab.SAC  
 Operator: Andy  
 Test Specification: Vertical  
 Comment : DC 5V power by PC

M/N: 96147

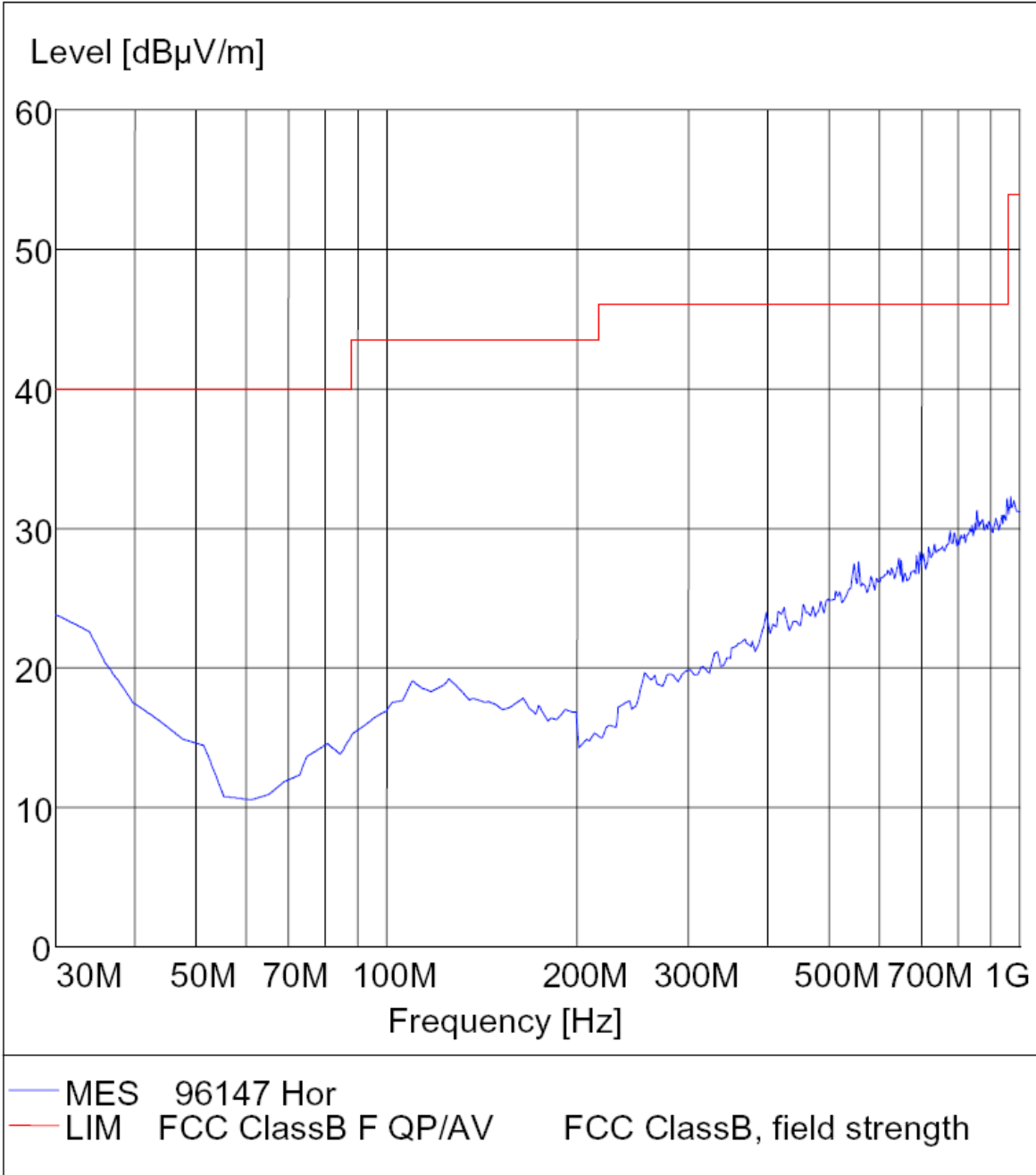


Radiated Disturbance

FCC Part 15

EUT: 2.4GHz Wireless Optical Notebook Mouse  
Manufacturer: Verbatim  
Operating Condition: TX  
Test Site: ATC EMC Lab. SAC  
Operator: Andy  
Test Specification: Horizontal  
Comment : DC 2.4V

M/N: 96147

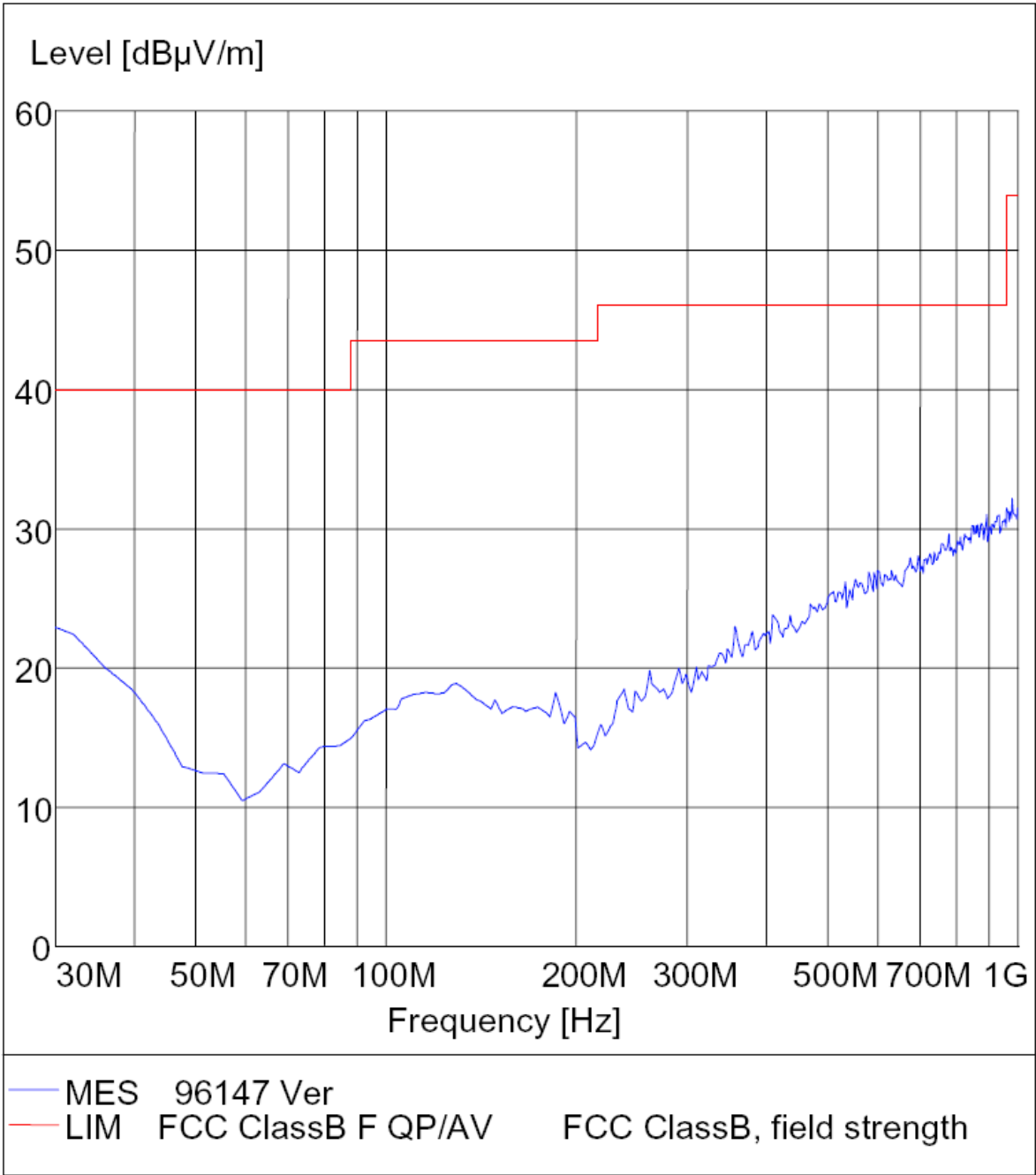


Radiated Disturbance

FCC Part 15

EUT: 2.4GHz Wireless Optical Notebook Mouse  
Manufacturer: Verbatim  
Operating Condition: TX  
Test Site: ATC EMC Lab. SAC  
Operator: Andy  
Test Specification: Vertical  
Comment : DC 2.4V

M/N: 96147

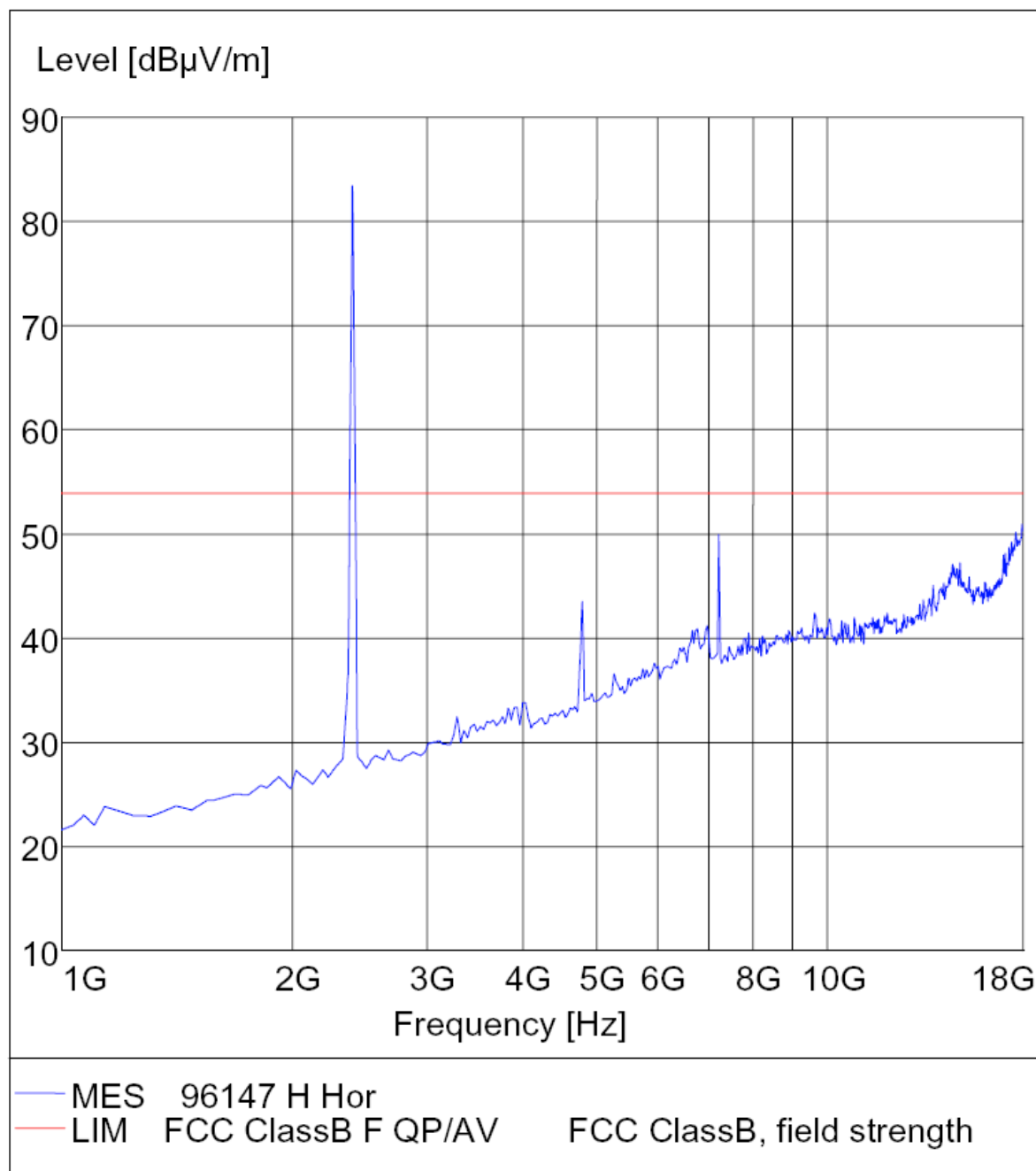


## Radiated Disturbance

## FCC Part 15

EUT: 2.4GHz Wireless Optical Notebook Mouse  
 Manufacturer: Verbatim  
 Operating Condition: TX  
 Test Site: ATC EMC Lab. SAC  
 Operator: Andy  
 Test Specification: Horizontal  
 Comment : DC 2.4V

M/N: 96147



## Radiated Disturbance

## FCC Part 15

EUT: 2.4GHz Wireless Optical Notebook Mouse

M/N: 96147

Manufacturer: Verbatim

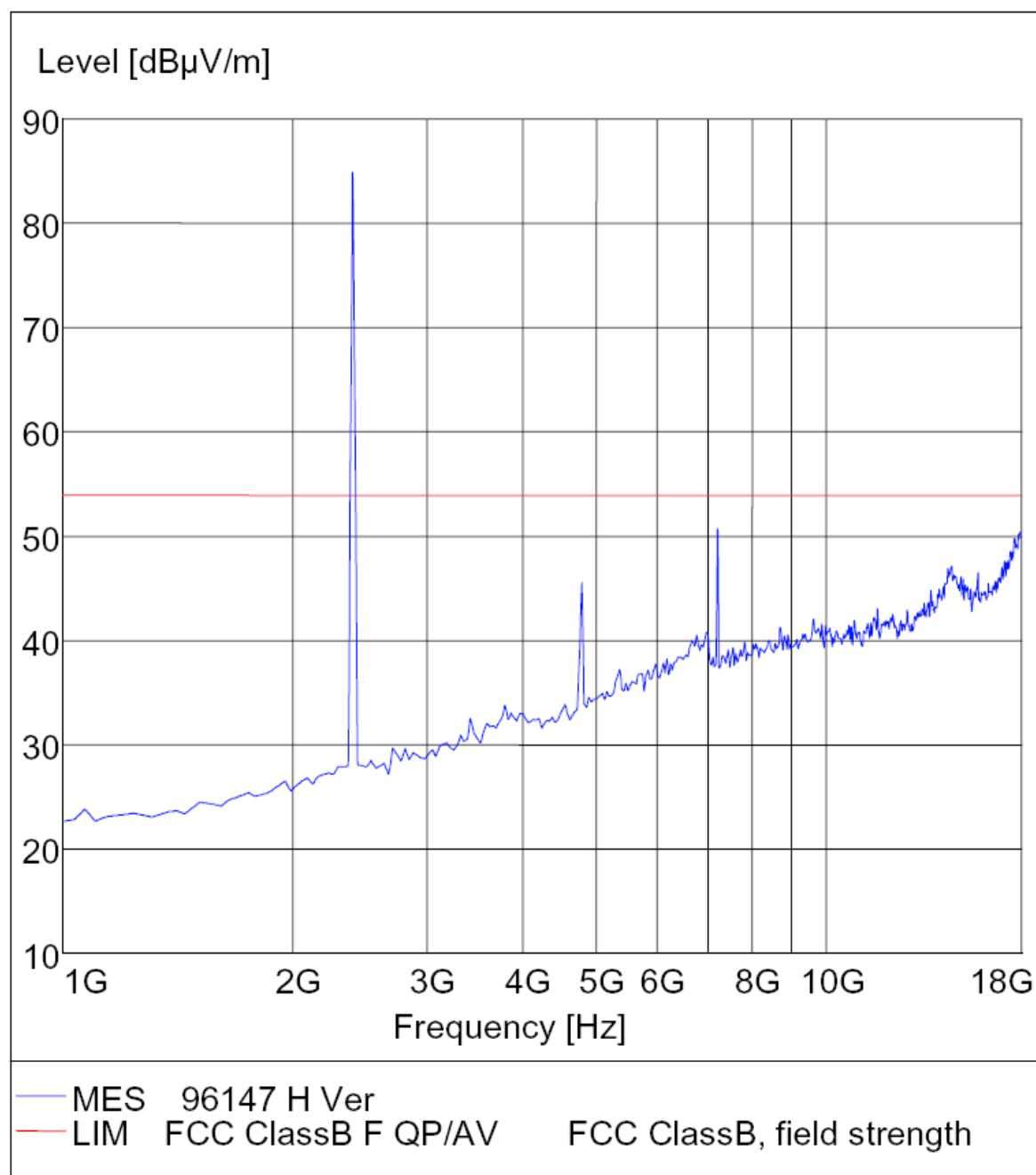
Operating Condition: TX

Test Site: ATC EMC Lab. SAC

Operator: Andy

Test Specification: Vertical

Comment: DC 2.4V

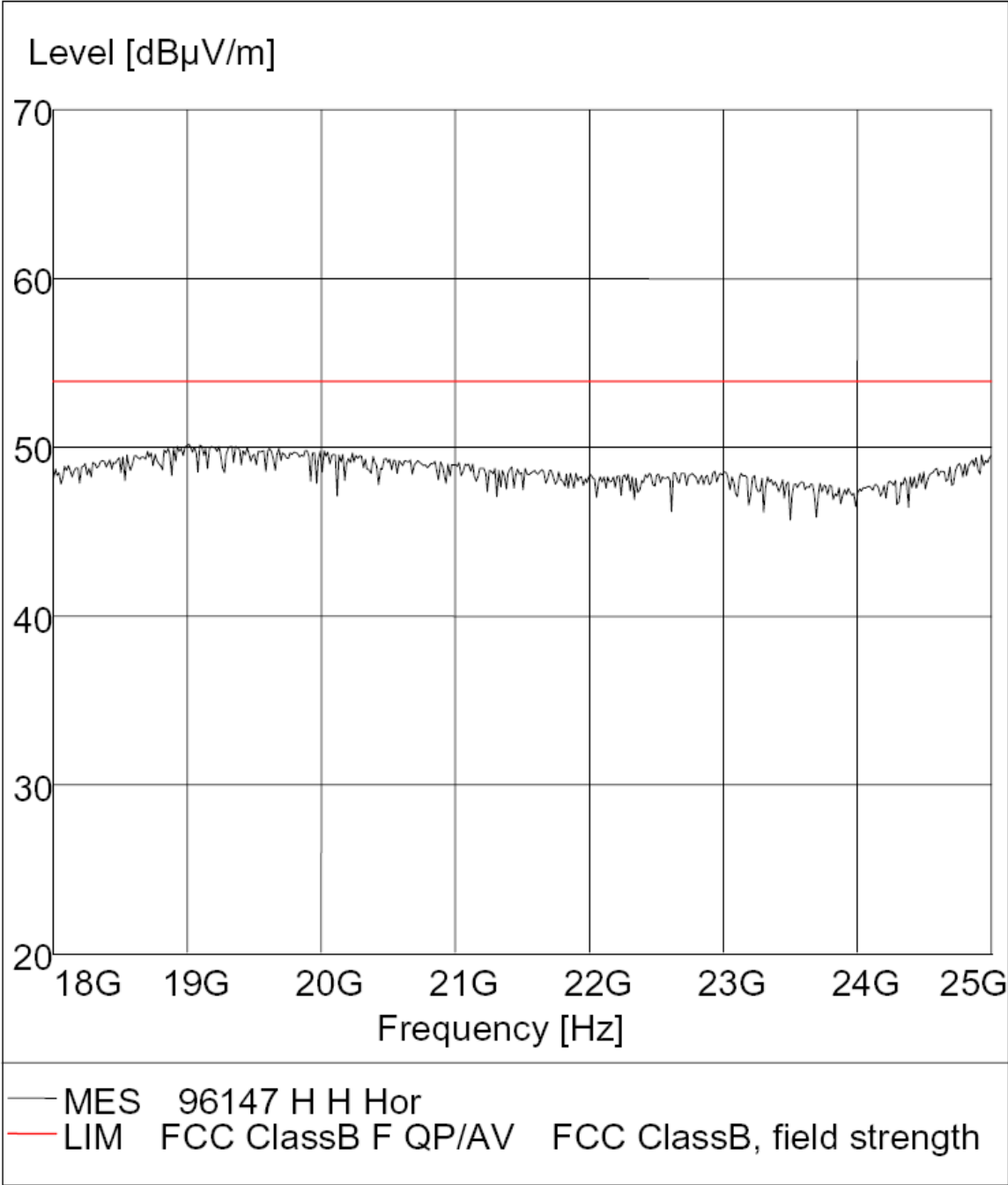


Radiated Disturbance

FCC Part 15

EUT: 2.4GHz Wireless Optical Notebook Mouse  
Manufacturer: Verbatim  
Operating Condition: TX  
Test Site: ATC EMC Lab. SAC  
Operator: Andy  
Test Specification: Horizontal  
Comment : DC 2.4V

M/N: 96147



Radiated Disturbance

FCC Part 15

EUT: 2.4GHz Wireless Optical Notebook MouseM/N: 96147

Manufacturer: Verbatim

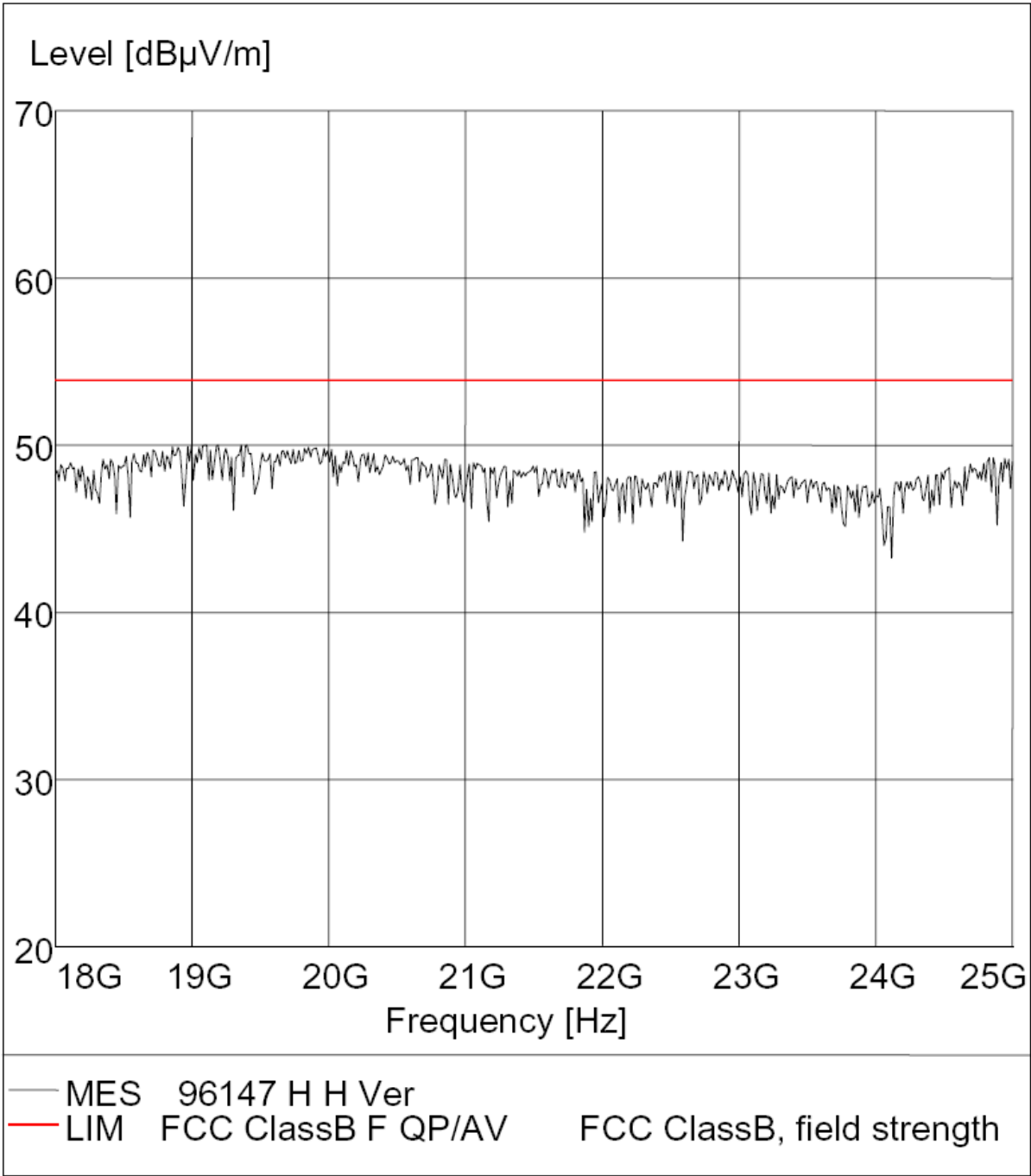
Operating Condition: TX

Test Site: ATC EMC Lab. SAC

Operator: Andy

Test Specification: Vertical

Comment : DC 2.4V





1 PK  
VIEW

Ref 87 dBuV Att 10 dB \*RBW 100 kHz Marker 1 [T1 ]  
\*VBW 100 kHz 78.93 dBuV  
\*SWT 50 ms 2.402596000 GHz

