

CERTIFICATION  
On Behalf of  
Audiovox Corporation

Wireless Transmitter  
Model No.: ACA300T

FCC ID: BGA-ACA300T

Prepared for : Audiovox Corporation  
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Prepared by : ACCURATE TECHNOLOGY CO. LTD  
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Report Number : ATE20072696  
Date of Test : November 09, 2007  
Date of Report : November 12, 2007

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## Test Report Certification

Applicant : Audiovox Corporation  
Manufacturer : Meihua Mediaview Technologies Corporation  
EUT Description : Wireless Transmitter  
(A) MODEL NO.: ACA300T  
(B) SERIAL NO.: N/A  
(C) POWER SUPPLY: DC 12V

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.249: 2007 & 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 15.249 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 : November 09, 2007

Prepared by :   
(Engineer)

Reviewer :   
(Quality Manager)

Approved & Authorized Signer :   
(Manager)

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

EUT : Wireless Transmitter  
 Model Number : ACA300T  
 Power Supply : DC12V  
 Operate Frequency : 2468MHz  
 Channel Number : 1  
 Accessorily Equipment : CMOS Camera  
 Model Number: CMOS2  
 Applicant : Audiovox Corporation  
 Address : 150 Marcus Blvd., Hauppauge, NY 11788  
 Manufacturer : Meihua Mediaview Technologies Corporation  
 Address : 13 C2 Tianxiang Building, Tianan Cyber Park, Futian  
 District, Shenzhen, China  
 Date of sample received : November 01, 2007  
 Date of Test : November 09, 2007

### 1.2. Description of Test Facility

EMC Lab : Listed by FCC  
 The Registration Number is 274801  
  
 Listed by Industry Canada  
 The 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

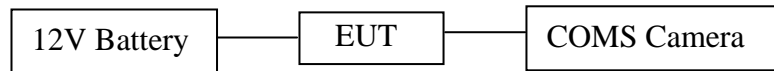
**Table 1: List of Test and Measurement Equipment**

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
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. FUNDAMENTAL AND HARMONICS RADIATED EMISSION MEASUREMENT

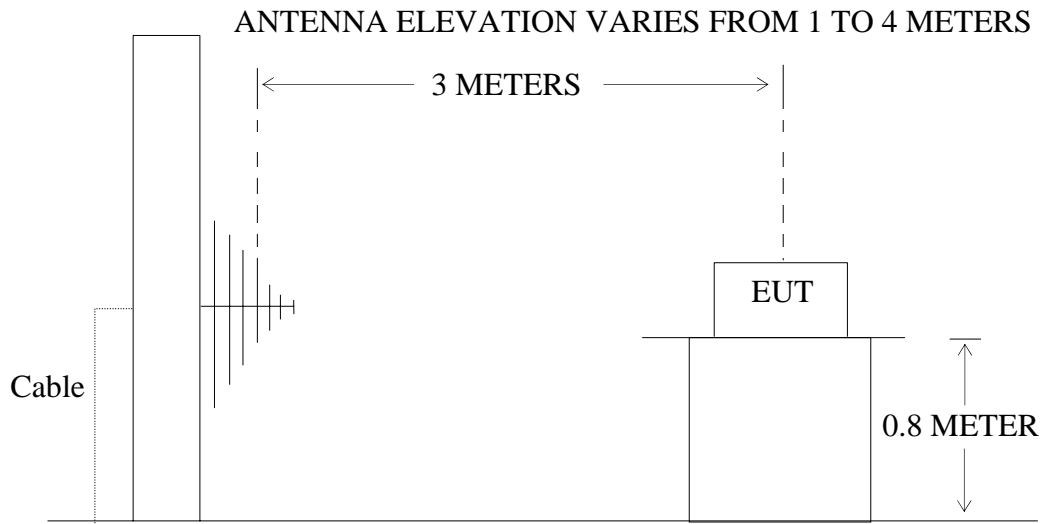
#### 3.1. Block Diagram of Test Setup

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



(EUT: Wireless Transmitter)

##### 3.1.2. Anechoic Chamber Test Setup Diagram



(EUT: Wireless Transmitter)

#### 3.2. The Emission Limit

3.2.1 FCC Part 15 Subpart C Section 15.249(a): Operation within the frequency band of 2.4 to 2.4835GHz, The fundamental field strength shall not exceed 94 dBμV/m and the harmonics shall not exceed 54 dBμV/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

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.

### 3.2.2 Restricted Band Radiation Emission Measurement Limits According to FCC part 15 Section 15.205 and Section 15.209.

### 3.3. 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.

#### 3.3.1. Wireless Transmitter (EUT)

Model Number : ACA300T  
Serial Number : N/A  
Manufacturer : Meihua Mediaview Technologies Corporation

### 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 TX modes measure it.

### 3.5. 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.

### 3.6. The Field Strength of Radiation Emission Measurement Results PASS.

Date of Test:	November 09, 2007	Temperature:	23°C
EUT:	Wireless Transmitter	Humidity:	57%
Model No.:	ACA300T	Power Supply:	DC 12V
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	
2467.994	74.4	84.6	-3.4	71.0	81.2	94	114	23.0	32.8	Vertical
2467.994	78.9	89.2	-3.4	75.5	85.8	94	114	18.5	28.2	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	
*4936.018	40.6	50.1	2.2	42.8	52.3	54	74	11.2	21.7	Vertical
*4936.018	41.6	51.3	2.2	43.8	53.5	54	74	10.2	20.5	Horizontal

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

Note:

1. The emission emitted by the EUT is too low to be measured except the emission listed above.
2. \*: Denotes restricted band of operation.
3. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

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

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



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

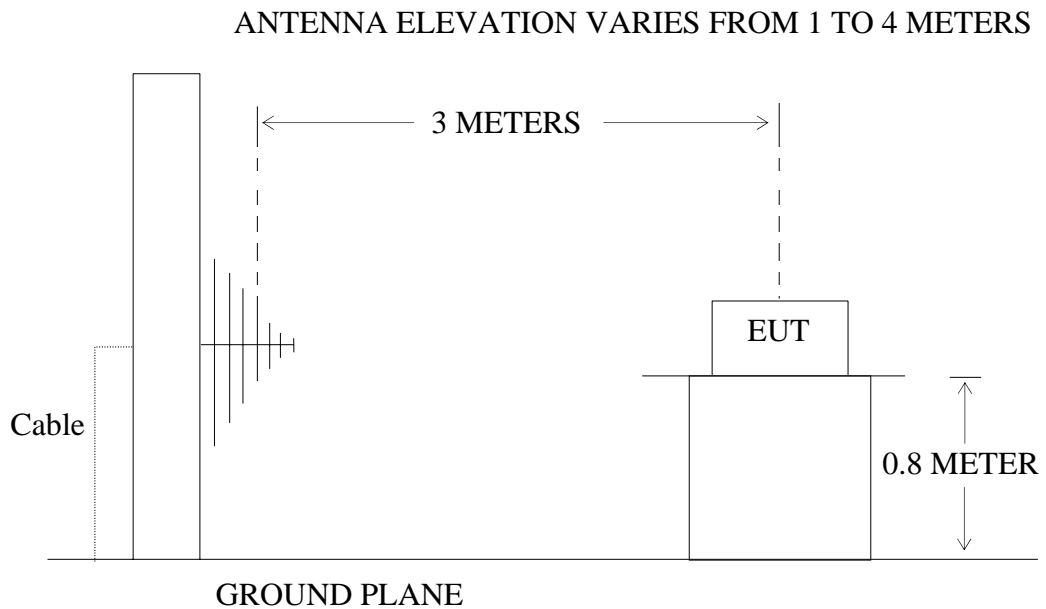
### 4.1. Block Diagram of Test Setup

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



(EUT: Wireless Transmitter)

#### 4.1.2. Anechoic Chamber Test Setup Diagram



(EUT: Wireless Transmitter)

### 4.2. The Emission Limit

4.2.1 FCC Part 15 Subpart C Section 15.249(d): Emission radiated outside of the specified frequency bands, except for harmonics, shall be comply with the general radiated emission limits in Section 15.209.

Frequency (MHz)	Limit,		The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector.
	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	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	

### 4.3. 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.

#### 4.3.1. Wireless Transmitter (EUT)

Model Number : ACA300T  
Serial Number : N/A  
Manufacturer : Meihua Mediaview Technologies Corporation

### 4.4. Operating Condition of EUT

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

4.4.2. Turn on the power of all equipment.

4.4.3. Let the EUT work in TX modes 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 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.

## 4.6. The Emission Measurement Result

**PASS.**

Date of Test:	November 09, 2007	Temperature:	23°C
EUT:	Wireless Transmitter	Humidity:	57%
Model No.:	ACA300T	Power Supply:	DC 12V
Test Mode:	TX	Test Engineer:	Andy

Below 1GHz:

Frequency (MHz)	Reading (dBμV/m)		Factor (dB) Corr.	Result (dBμV/m)		Limit (dBμV/m)		Margin (dBμV/m)		Polarization
	QP			QP		QP		QP		
99.980	53.3		-21.5	31.8		43.5		11.7		Vertical
168.016	56.3		-22.7	33.6		43.5		9.9		Vertical
226.332	60.6		-22.3	38.3		46.0		7.7		Vertical
30.001	46.3		-13.8	32.5		40.0		7.5		Horizontal
177.735	60.5		-23.1	37.4		43.5		6.1		Horizontal

Above 1GHz:

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

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

Note:

1. -: Denotes the output Field Strength of all the spurious frequency is at least 15dB down to the limit.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

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

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

## 5. BAND EDGES

### 5.1. 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 FCC part 15 Section 15.209 limit, whichever is the lesser attenuation.

### 5.2. 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.

#### 5.2.1. Wireless Transmitter (EUT)

Model Number : ACA300T  
Serial Number : N/A  
Manufacturer : Meihua Mediaview Technologies Corporation

### 5.3. Operating Condition of EUT

5.3.1. Setup the EUT and simulator as shown as Section 5.1.

5.3.2. Turn on the power of all equipment.

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

### 5.4. Test Procedure

4.4.1. 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.

4.4.2. 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.

## 5.5. The Measurement Result

### Pass

5.5.1 Lower band edge: Emission radiated outside of the lower band edge are 57.1 dB below the level of the fundamental.

The emission of carrier power strength (dB $\mu$ V/m)	The maximum field strength in restrict band (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
85.8	28.7	74	45.3	Peak
75.5	18.4	54	35.6	Average

5.5.2 Upper band edge: Emission radiated outside of the upper band edge are 46.1 dB below the level of the fundamental.

The emission of carrier power strength (dB $\mu$ V/m)	The maximum field strength in restrict band (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Result
85.8	39.7	74	34.3	Peak
75.5	29.4	54	24.6	Average

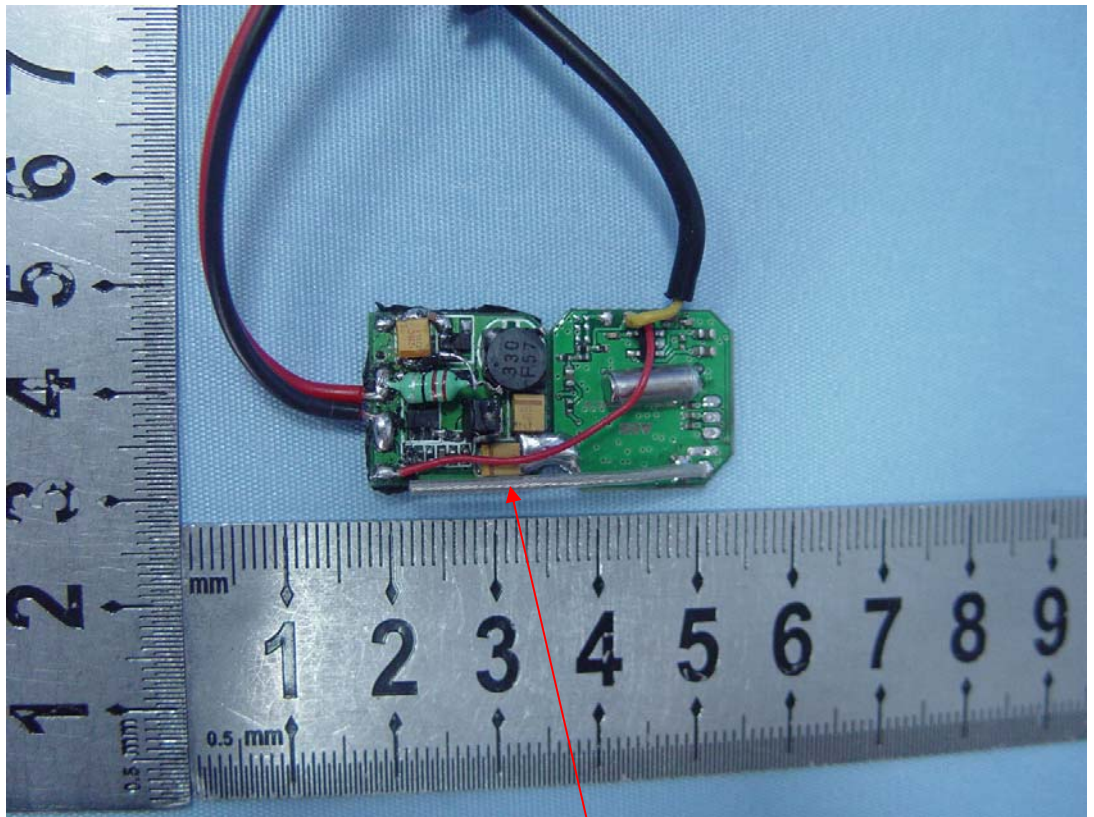
## 6. ANTENNA REQUIREMENT

### 6.1. 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.

### 6.2. Antenna Construction

The transmitter utilizes dipole antenna. The antenna was solder to PCB. It is not considered to be user replaceable.



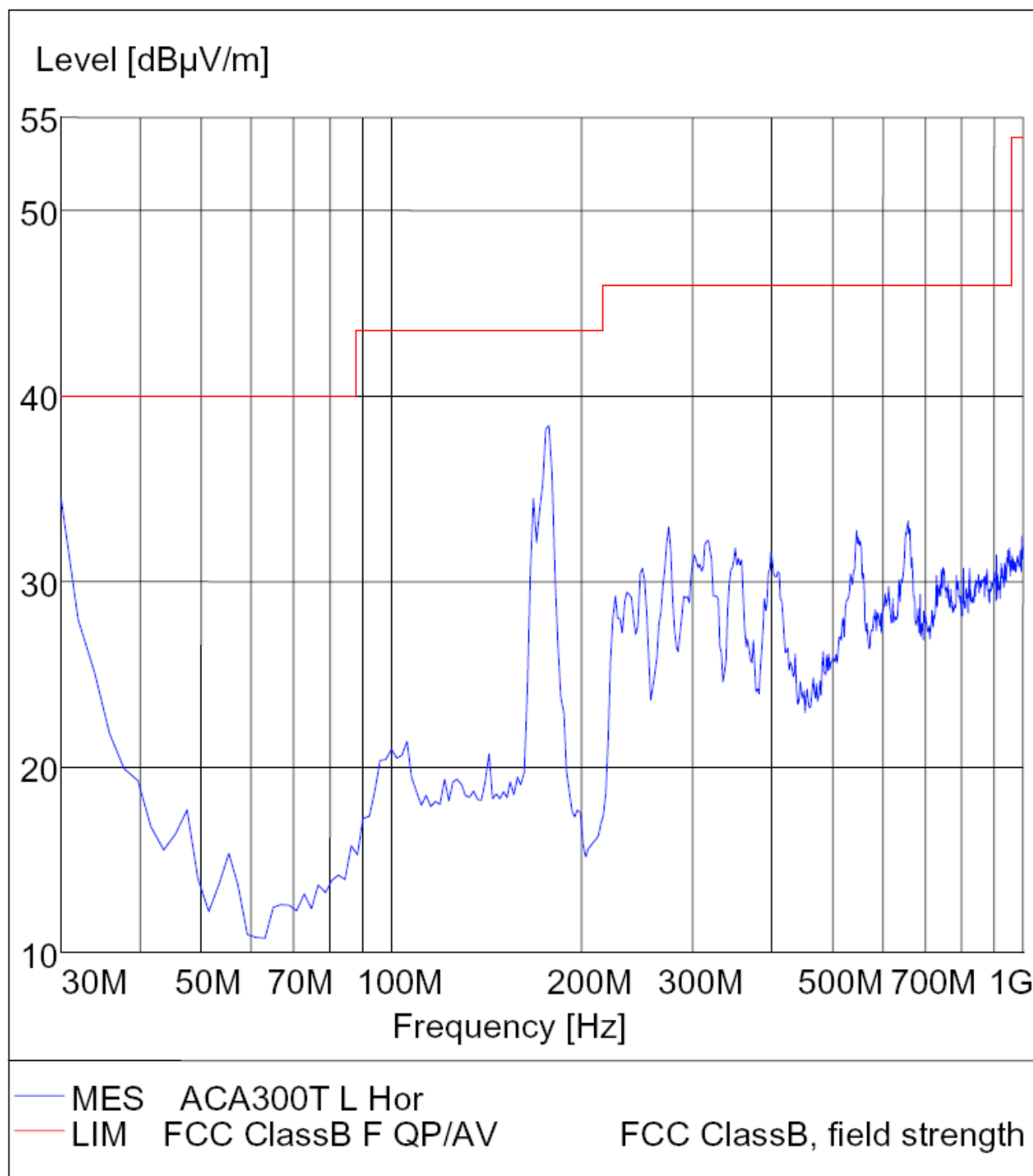
Antenna

# APPENDIX I (Test Curves)



**Radiated Disturbance****FCC Part 15**

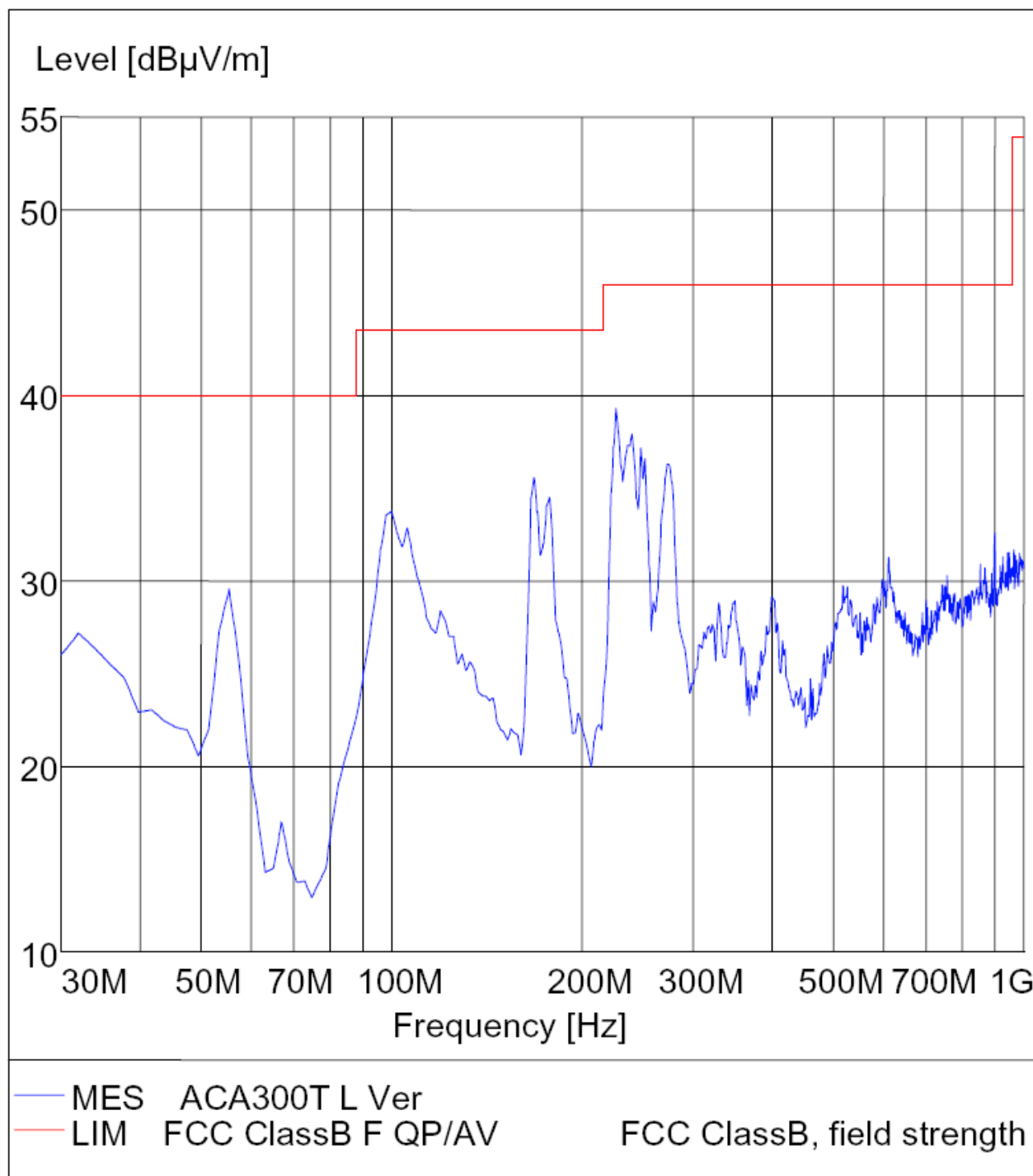
EUT: Wireless Transmitter M/N:ACA300T  
 Manufacturer: Meihua Mediaview Technologies Corporation  
 Operating Condition: TX  
 Test Site: ATC EMC Lab.SAC  
 Operator: Andy  
 Test Specification: Horizontal  
 Comment : DC 12V



**Radiated Disturbance**

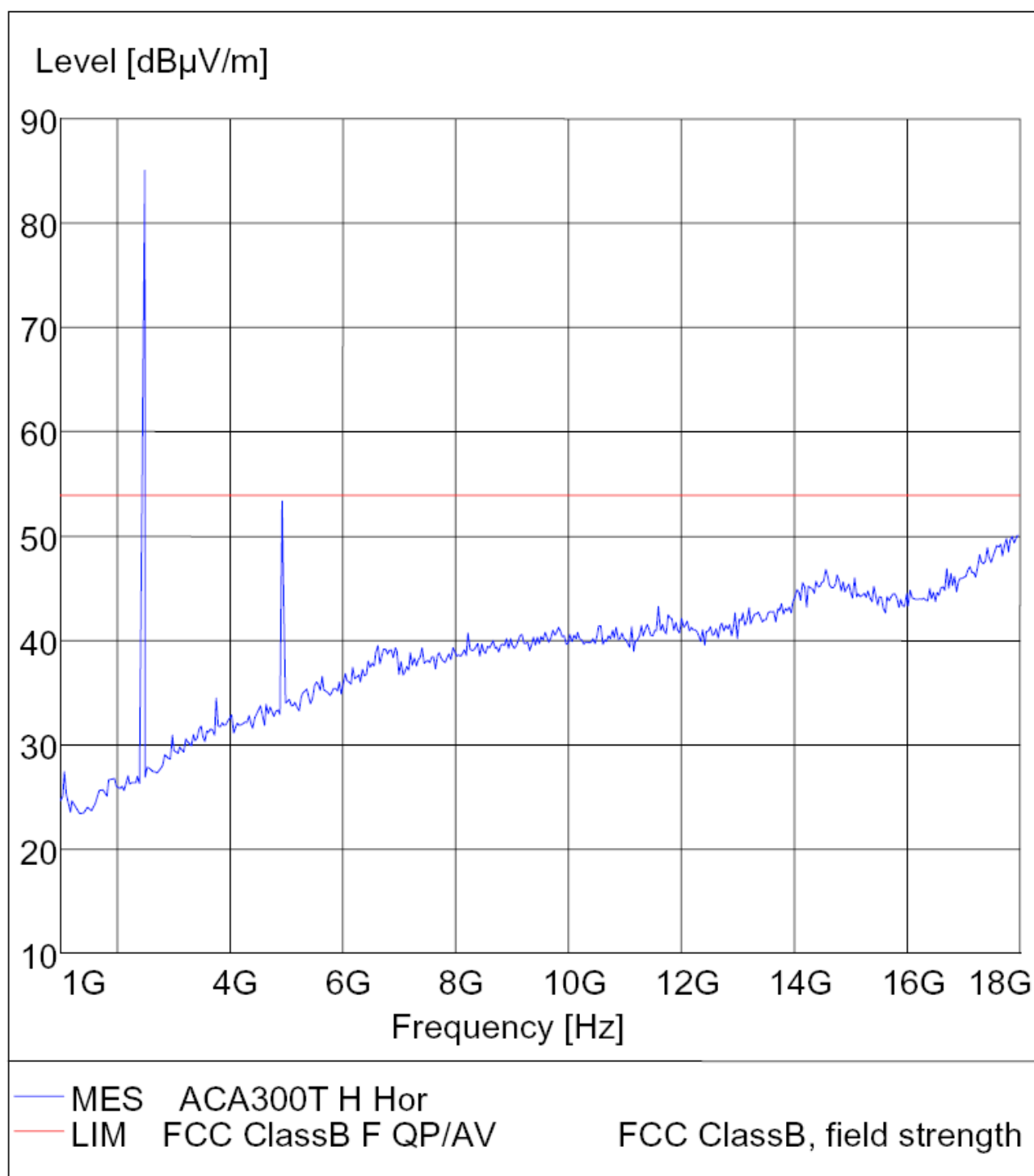
**FCC Part 15**

EUT: Wireless Transmitter M/N:ACA300T  
 Manufacturer: Meihua Mediaview Technologies Corporation  
 Operating Condition: TX  
 Test Site: ATC EMC Lab.SAC  
 Operator: Andy  
 Test Specification: Vertical  
 Comment : DC 12V



**Radiated Disturbance****FCC Part 15**

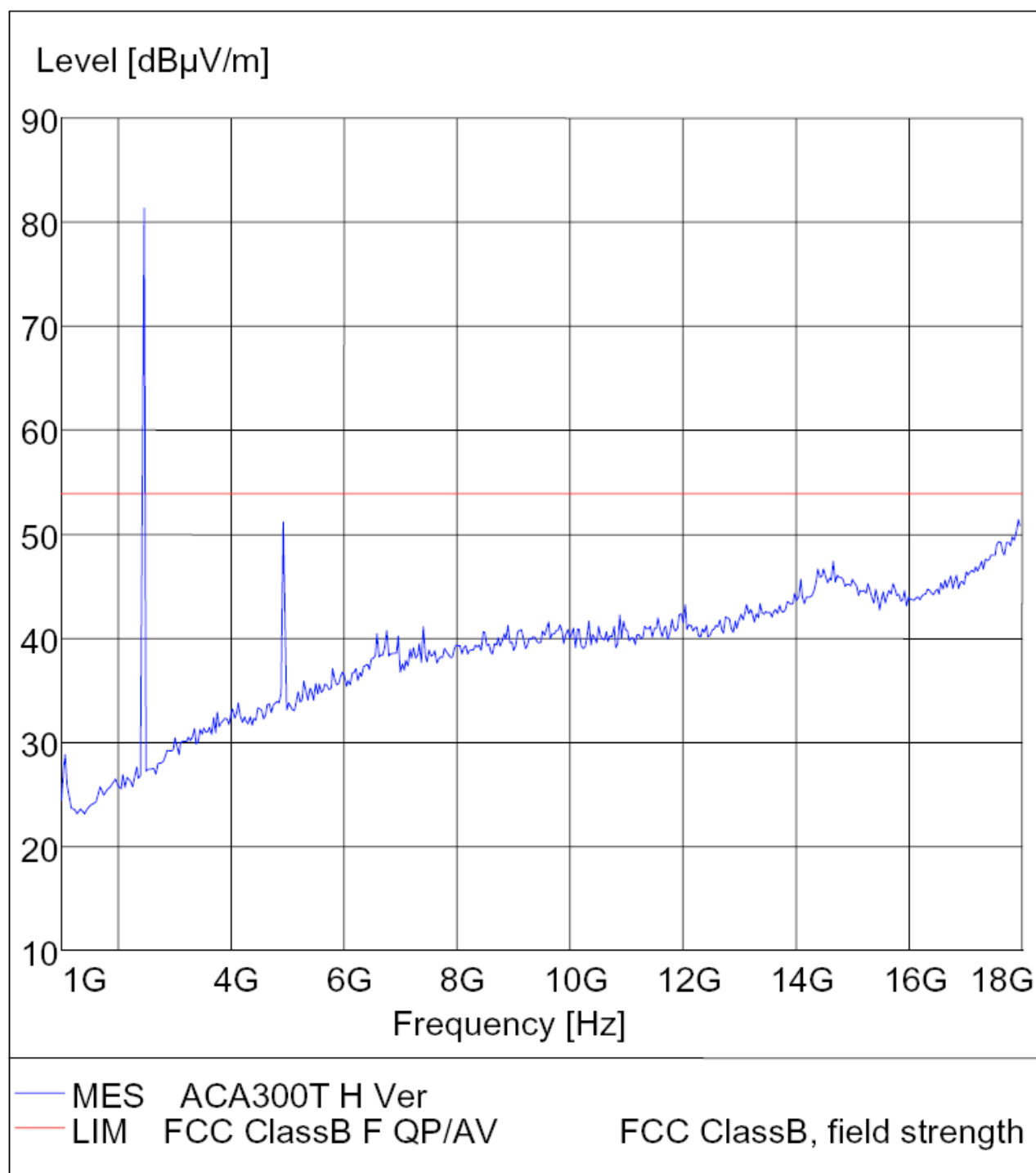
EUT: Wireless Transmitter M/N:ACA300T  
 Manufacturer: Meihua Mediaview Technologies Corporation  
 Operating Condition: TX  
 Test Site: ATC EMC Lab.SAC  
 Operator: Andy  
 Test Specification: Horizontal  
 Comment: DC 12V



## Radiated Disturbance

## FCC Part 15

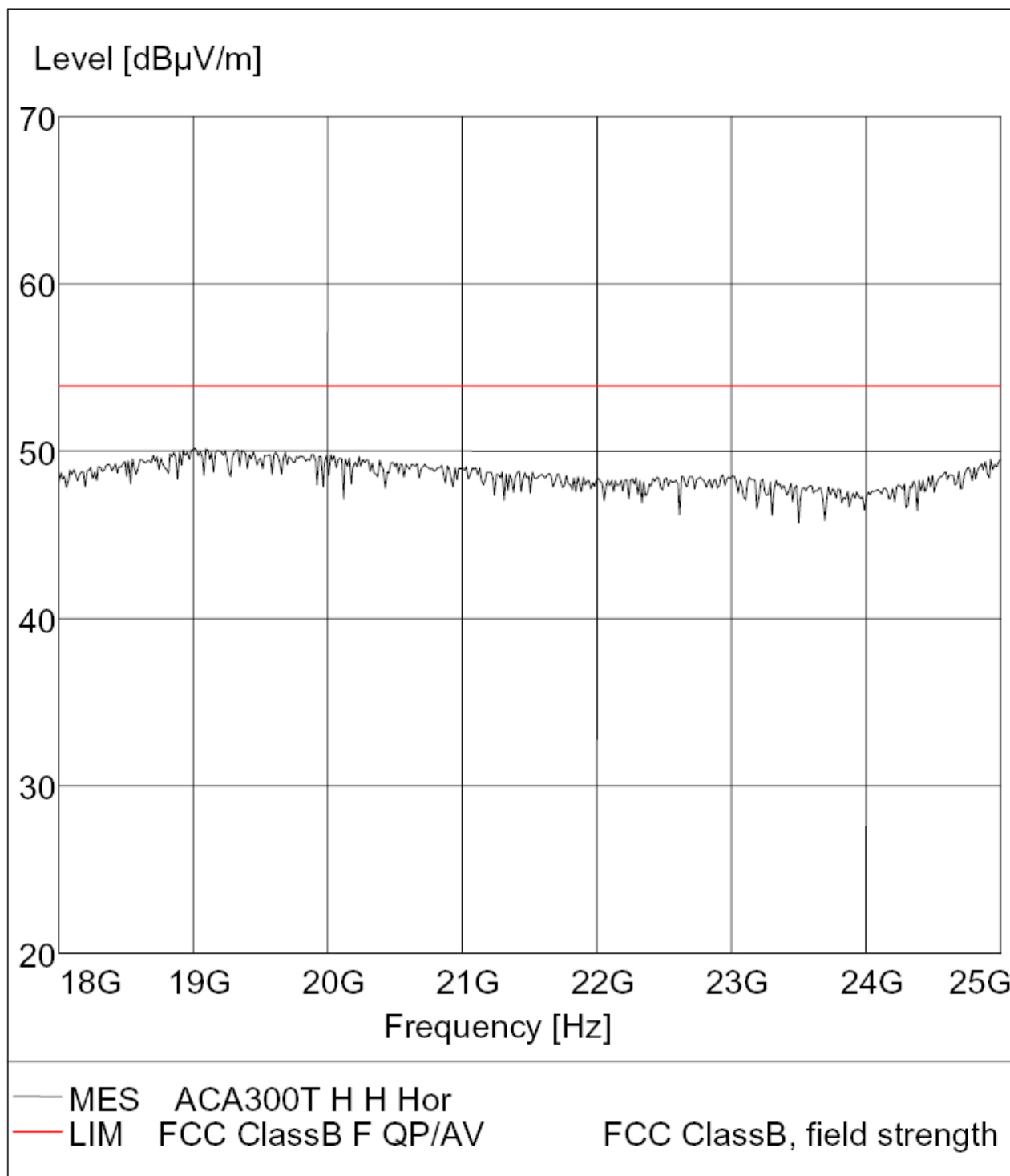
EUT: Wireless Transmitter M/N:ACA300T  
 Manufacturer: Meihua Mediaview Technologies Corporation  
 Operating Condition: TX  
 Test Site: ATC EMC Lab.SAC  
 Operator: Andy  
 Test Specification: Vertical  
 Comment: DC 12V



Radiated Disturbance

FCC Part 15

EUT: Wireless Transmitter M/N:ACA300T  
 Manufacturer: Meihua Mediaview Technologies Corporation  
 Operating Condition: TX  
 Test Site: ATC EMC Lab.SAC  
 Operator: Andy  
 Test Specification: Horizontal  
 Comment: DC 12V



Radiated Disturbance

FCC Part 15

EUT: Wireless Transmitter M/N:ACA300T  
 Manufacturer: Meihua Mediaview Technologies Corporation  
 Operating Condition: TX  
 Test Site: ATC EMC Lab.SAC  
 Operator: Andy  
 Test Specification: Vertical  
 Comment: DC 12V

