FCC CERTIFICATION
On Behalf of
Shenzhen Jiameikang Science Co., Ltd.

Wireless Camera
Model No.: WS-212AS

FCC ID: THW212AS

Prepared for	:	Shenzhen Jiameikang Science Co., Ltd.
Address	:	Rm.628, Hualianfa Building, Huaqiang North Road, Futian Shenzhen, Guangdong, P.R.China
Prepared by	:	ACCURATE TECHNOLOGY CO. LTD
Address	:	F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China Tel: (0755) 26503290 Fax: (0755) 26503396

Report Number	:	ATE20051036
Date of Test	:	June 29, 2005
Date of Report	:	July 4, 2005

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Test Report Certification

Applicant	:	Shenzhen Jiameikang Science Co., Ltd.
Manufacturer	:	Shenzhen Jiameikang Science Co., Ltd.
EUT Description	:	Wireless Camera
		(A) MODEL NO.: WS-212AS
		(B) SERIAL NO.: N/A
		(C) POWER SUPPLY: 12Vd.c. with adapter

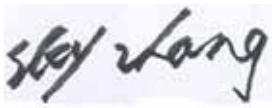
Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.249, Section 15.207:2004
& 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 Section15.249, Section 15.207 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 : June 29, 2005

Prepared by : 

(Engineer)

Reviewer : 

(Quality Manager)

Approved & Authorized Signer : 

(Manager)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	Wireless Camera
Model Number	:	WS-212AS
Power Supply	:	12Vd.c. with adapter The AC/DC Adapter used for test: Model No.: 41-12-500A; Input: 120Va.c. 60Hz ; Output: 12Vd.c. 500mA
Applicant	:	Shenzhen Jiameikang Science Co., Ltd.
Address	:	Rm.628, Hualianfa Building, Huaqiang North Road, Futian Shenzhen, Guangdong, P.R.China
Manufacturer	:	Shenzhen Jiameikang Science Co., Ltd.
Address	:	Rm.628, Hualianfa Building, Huaqiang North Road, Futian Shenzhen, Guangdong, P.R.China
Date of sample received	:	June 25, 2005
Date of Test	:	June 29, 2005

1.2.Description of Test Facility

EMC Lab	:	Accredited by TUV Rheinland Shenzhen, May 10, 2004 Accredited by FCC, May 10, 2004 The Certificate Registration Number is 253065 Accredited by Industry Canada, May 18, 2004 The Certificate Registration Number is IC 5077
Name of Firm	:	ACCURATE TECHNOLOGY CO. LTD
Site Location	:	F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China

1.3.Measurement Uncertainty

Conducted Emission Uncertainty = ±2.66dB

Radiated Emission Uncertainty = ±4.26dB

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	ESI26	838786/013	01.02.2006
Bilog Antenna	Schwarzbeck	VULB9163	9163-194	01.02.2006
Bilog Antenna	Chase	CBL6112B	2591	01.02.2006
Horn Antenna	Rohde&Schwarz	HF906	100013	01.02.2006
Spectrum Analyzer	Anritsu	MS2651B	6200238856	01.02.2006
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	01.02.2006
L.I.S.N.	Rohde&Schwarz	ESH3-Z5	100305	01.02.2006
L.I.S.N.	Rohde&Schwarz	ESH3-Z5	100310	01.02.2006
Signal Generator	GW	GAG-810	0913317	01.02.2006

3. FUNDAMENTAL AND HARMONICS RADIATED EMISSION MEASURMENT

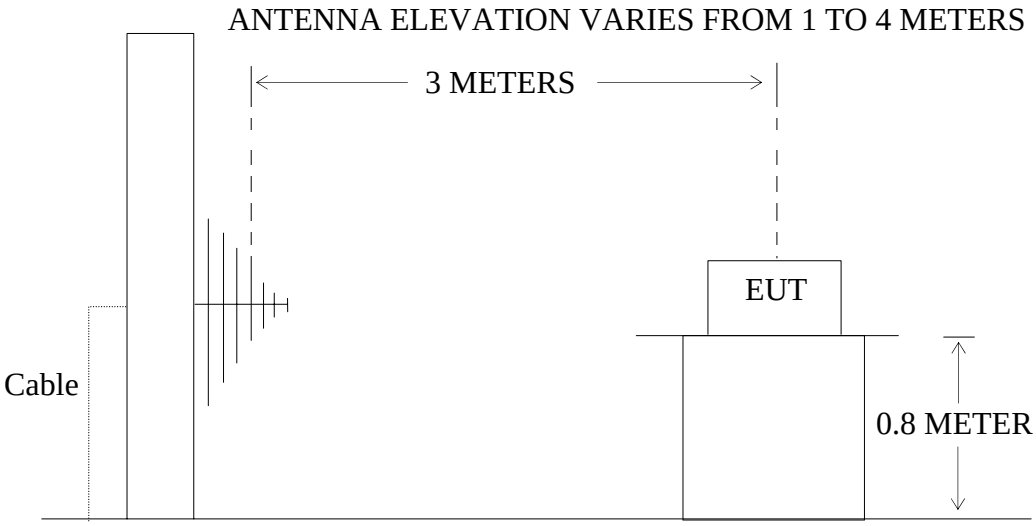
3.1.Block Diagram of Test Setup

3.1.1.Block diagram of connection between the EUT and simulators

EUT

(EUT: Wireless Camera)

3.1.2.Anechoic Chamber Test Setup Diagram



(EUT: Wireless Camera)

3.2.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 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

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.

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 Camera (EUT)

Model Number	:	WS-212AS
Serial Number	:	N/A
Manufacturer	:	Shenzhen Jiameikang Science Co., Ltd.

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:	June 29, 2005	Temperature:	22°C
EUT:	Wireless Camera	Humidity:	50%
Model No.:	WS-212AS	Power Supply:	120V a.c./60Hz
Test Mode:	TX	Test Engineer:	Andy

Fundamental and Harmonics Radiated Emissions

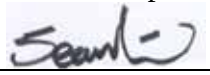
Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2411.022	58.0	59.9	27.5	85.5	87.4	94	114	8.5	26.6	Vertical
2411.022	58.0	59.9	27.5	85.5	87.4	94	114	8.5	26.6	Horizontal
4822.044	47.9	49.5	2.8	50.7	52.3	54	74	3.3	21.7	Vertical
4822.044	47.6	49.2	2.8	50.4	52.0	54	74	3.6	22.0	Horizontal
7233.066	44.4	46.0	5.9	50.3	51.9	54	74	3.7	22.1	Vertical
7233.066	42.5	44.1	5.9	48.4	50.0	54	74	5.6	24.0	Horizontal
9644.088	39.9	42.5	7.2	47.1	49.7	54	74	6.9	24.3	Vertical
9644.088	39.7	42.3	7.2	46.9	49.5	54	74	7.1	24.5	Horizontal
12055.110	33.6	35.2	9.3	42.9	44.5	54	74	11.1	29.5	Vertical
12055.110	34.2	35.8	9.3	43.5	45.1	54	74	10.5	28.9	Horizontal
14466.132	-	-	11.8	-	-	-	-	-	-	-
16877.154	-	-	12.3	-	-	-	-	-	-	-
19288.176	-	-	9.1	-	-	-	-	-	-	-
21699.198	-	-	10.2	-	-	-	-	-	-	-
24110.220	-	-	11.4	-	-	-	-	-	-	-

Note:

1. Remark "- " means that the emission level is too low to be measured.
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:

Result = Reading + Corrected Factor

Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss – Amplifier Gain

Reviewer **:** 

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

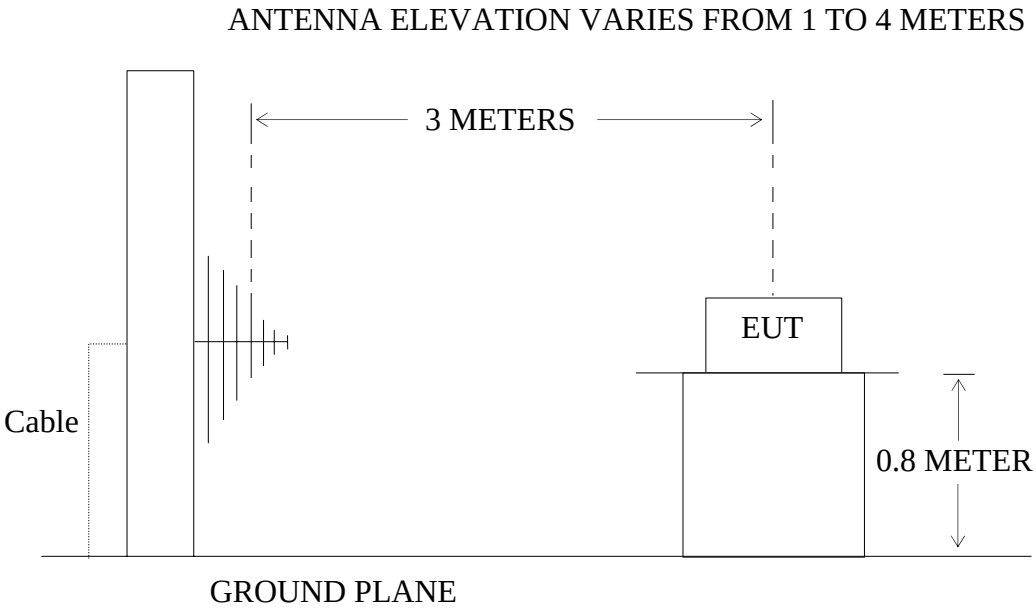
4.1.Block Diagram of Test Setup

4.1.1.Block diagram of connection between the EUT and simulators

EUT

(EUT: Wireless Camera)

4.1.2.Anechoic Chamber Test Setup Diagram



(EUT: Wireless Camera)

4.2.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	

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 Camera (EUT)

Model Number	:	WS-212AS
Serial Number	:	N/A
Manufacturer	:	Shenzhen Jiameikang Science Co., Ltd.

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 1000MHz 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:	June 29, 2005	Temperature:	22°C
EUT:	Wireless Camera	Humidity:	50%
Model No.:	WS-212AS	Power Supply:	120V a.c./60Hz
Test Mode:	TX	Test Engineer:	Andy

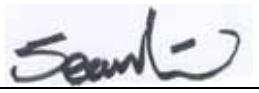
Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	QP		AV	QP	AV	QP	AV	QP	
-	-	-	-	-	-	-	-	-	-	Vertical
-	-	-	-	-	-	-	-	-	-	Horizontal

Note:

1. Remark "- " means that the emission level is too low to be measured.
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:

   Result = Reading + Corrected Factor

   Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss – Amplifier Gain
3. All the scanning waveforms are attached in Appendix I.

Reviewer **:** 

5. BAND EDGES FOR FCC PART 15 SECTION 15.249(D)

5.1.The Requirement For Section 15.249(d)

5.1.1. According to Section 15.249(d), out band emission except for harmonics shall be at least attenuated by 50 dB below the level of the fundamental.

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 Camera (EUT)

Model Number	:	WS-212AS
Serial Number	:	N/A
Manufacturer	:	Shenzhen Jiameikang Science Co., Ltd.

5.3.Operating Condition of EUT

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

5.3.2.Turn on the power of all equipment.

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

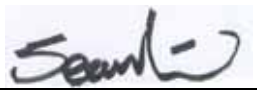
5.4.Test Procedure

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.

5.5.The Measurement Result

Pass

5.5.1 Lower band edge: Emission radiated outside of the lower band edge are 65.25 dB below the level of the fundamental.
5.5.2 Upper band edge: Emission radiated outside of the upper band edge are 60.90 dB below the level of the fundamental.
5.5.3 All the spectral waveforms are attached in Appendix I.

Reviewer **:** 

6. CONDUCTED EMISSION FOR FCC PART 15 SECTION 15.207(A)

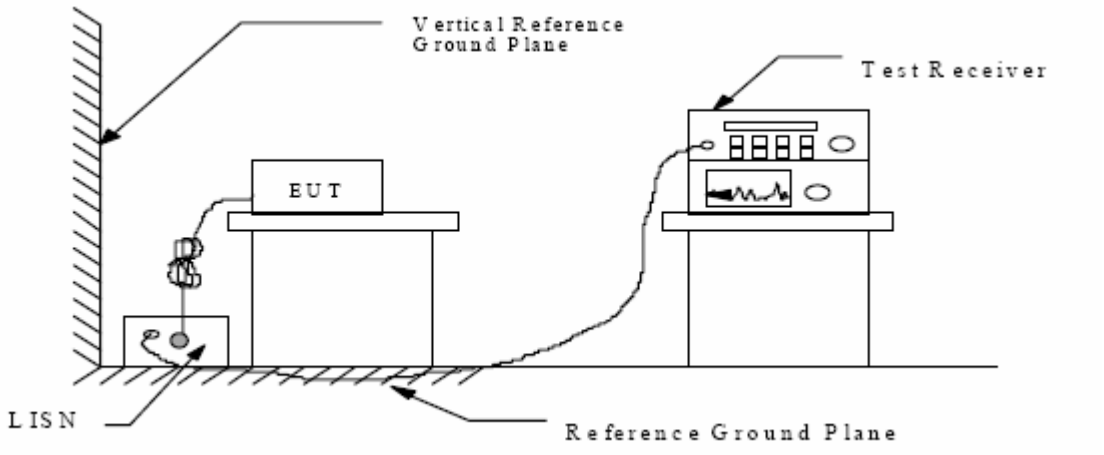
6.1.Block Diagram of Test Setup

6.1.1.Block diagram of connection between the EUT and simulators

EUT

(EUT: Wireless Camera)

6.1.2. Shielding Room Test Setup Diagram



(EUT: Wireless Camera)

6.2.The Emission Limit For Section 15.207(a)

6.2.1 Radiation Emission Measurement Limits According to Section 15.207(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.

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. Wireless Camera(EUT)

Model Number	:	WS-212AS
Serial Number	:	N/A
Manufacturer	:	Shenzhen Jiameikang Science Co., Ltd.

6.4.Operating Condition of EUT

6.4.1.Setup the EUT and simulator as shown as Section 6.1.

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 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.

6.6.Power Line Conducted Emission Measurement Results

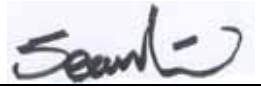
PASS.

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

Date of Test:	June 29, 2005	Temperature:	22°C
EUT:	Wireless Camera	Humidity:	50%
Model No.:	WS-212AS	Power Supply:	120V a.c./60Hz
Test Mode:	TX	Test Engineer:	Andy

Test Line	Frequency MHz	Emission Level(dBμV) QP	AV	Limits(dBμV) QP	AV	Margin(dBμV) QP	AV
Va	0.150	48.2	41.7	66.0	56.0	17.8	14.3
Va	0.510	31.7	19.5	56.0	46.0	24.3	26.5
Va	0.548	29.5	19.2	56.0	46.0	26.5	26.8
Vb	0.150	48.3	43.0	66.0	56.0	17.7	13
Vb	0.510	31.8	19.4	56.0	46.0	24.2	26.6
Vb	0.548	29.3	19.2	56.0	46.0	26.7	26.8

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

Reviewer **:** 

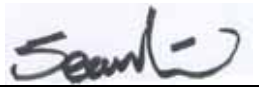
7. ANTENNA REQUIREMENT

7.1.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.

7.2.Antenna Construction

The antenna is mount on PCB , no consideration of replacement.

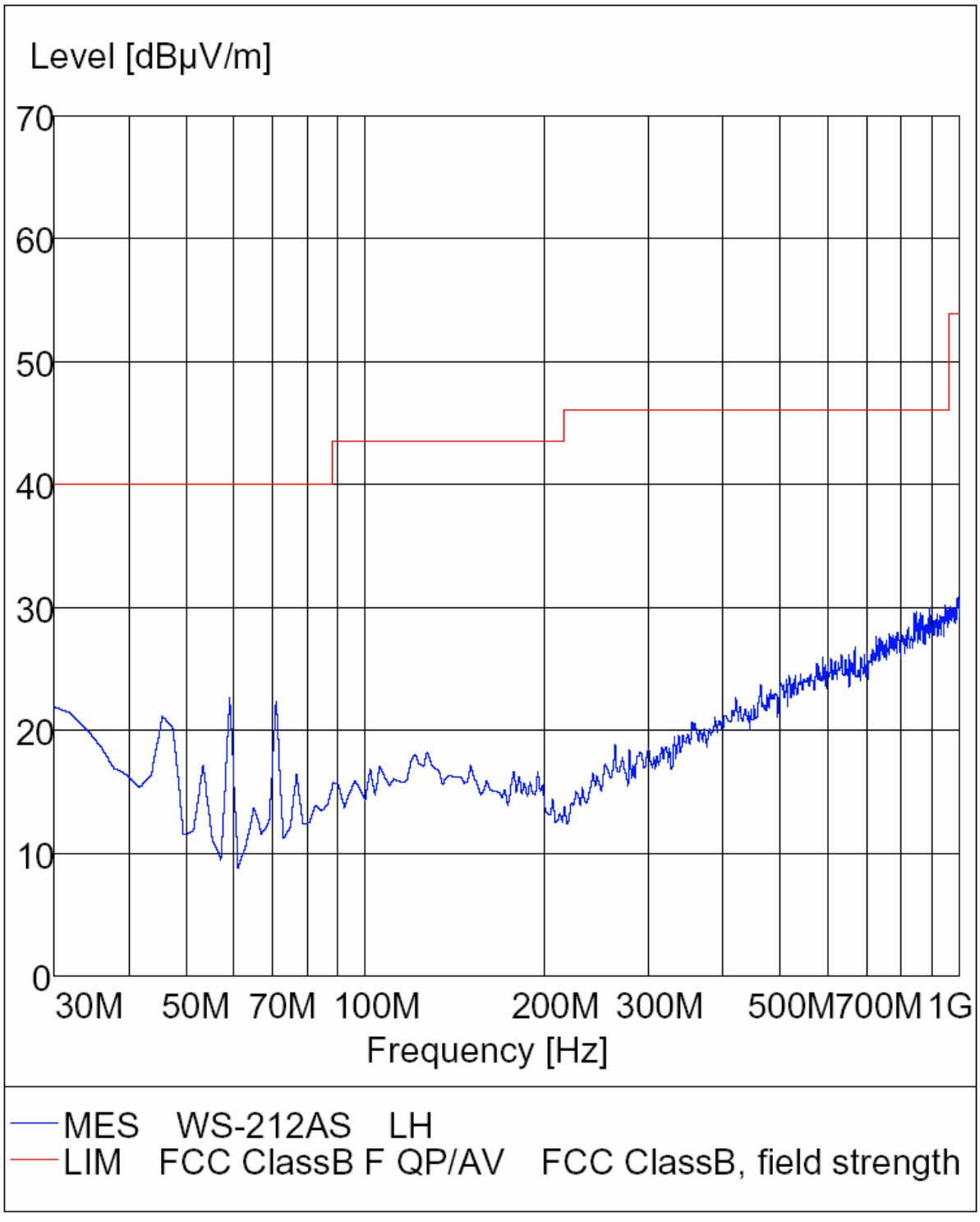
Reviewer **:** 

APPENDIX I
(Test Curves)

Radiated Disturbance

FCC part15B

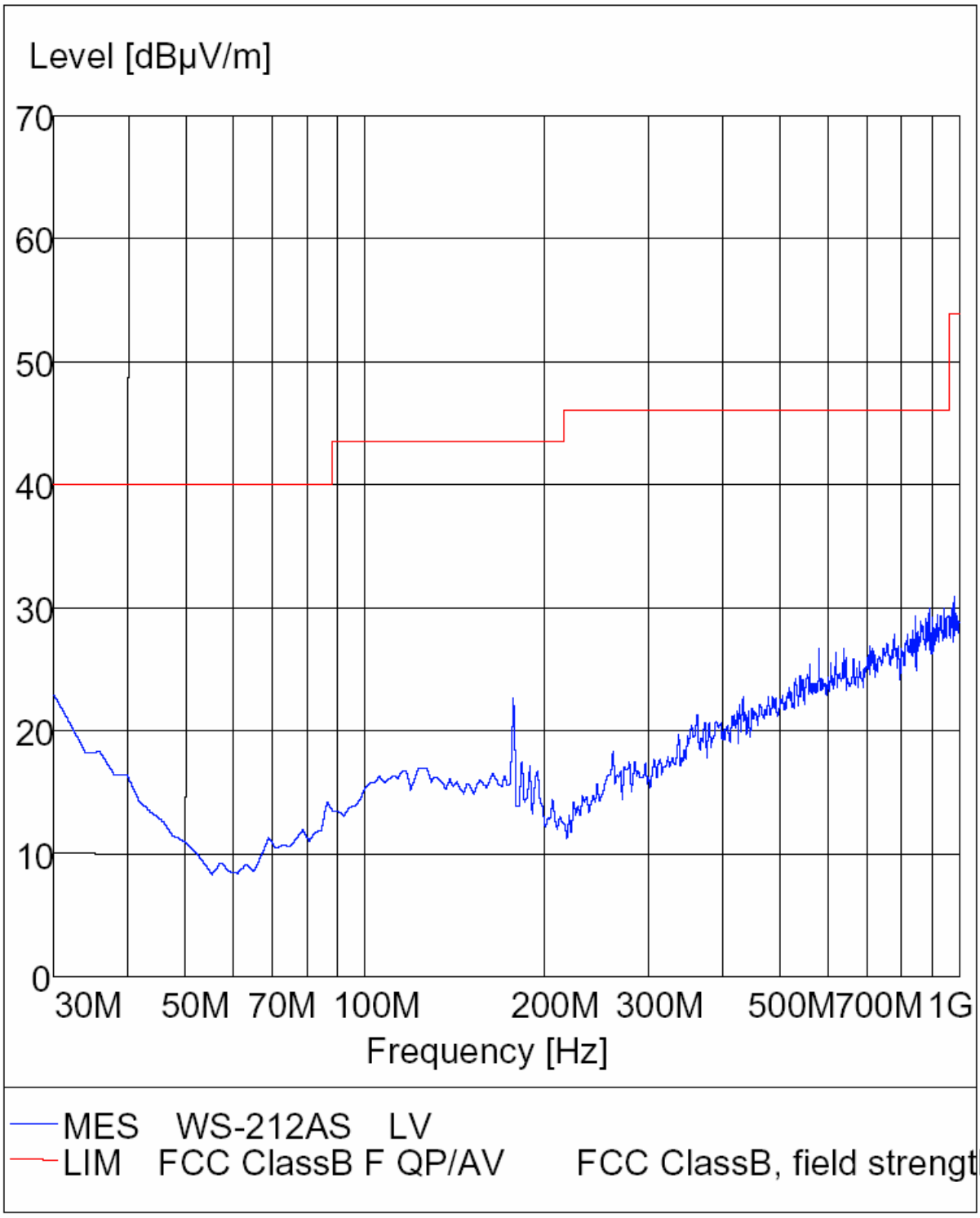
EUT: Wireless Camera M/N:WS-212AS
Manufacturer: Shenzhen Jiameikang Science Co., Ltd.
Operating Condition: TX
Test Site: ATC EMC Lab.SAC
Operator: Andy
Test Specification: Horizontal
Comment: AC 120V/60Hz



Radiated Disturbance

FCC part15B

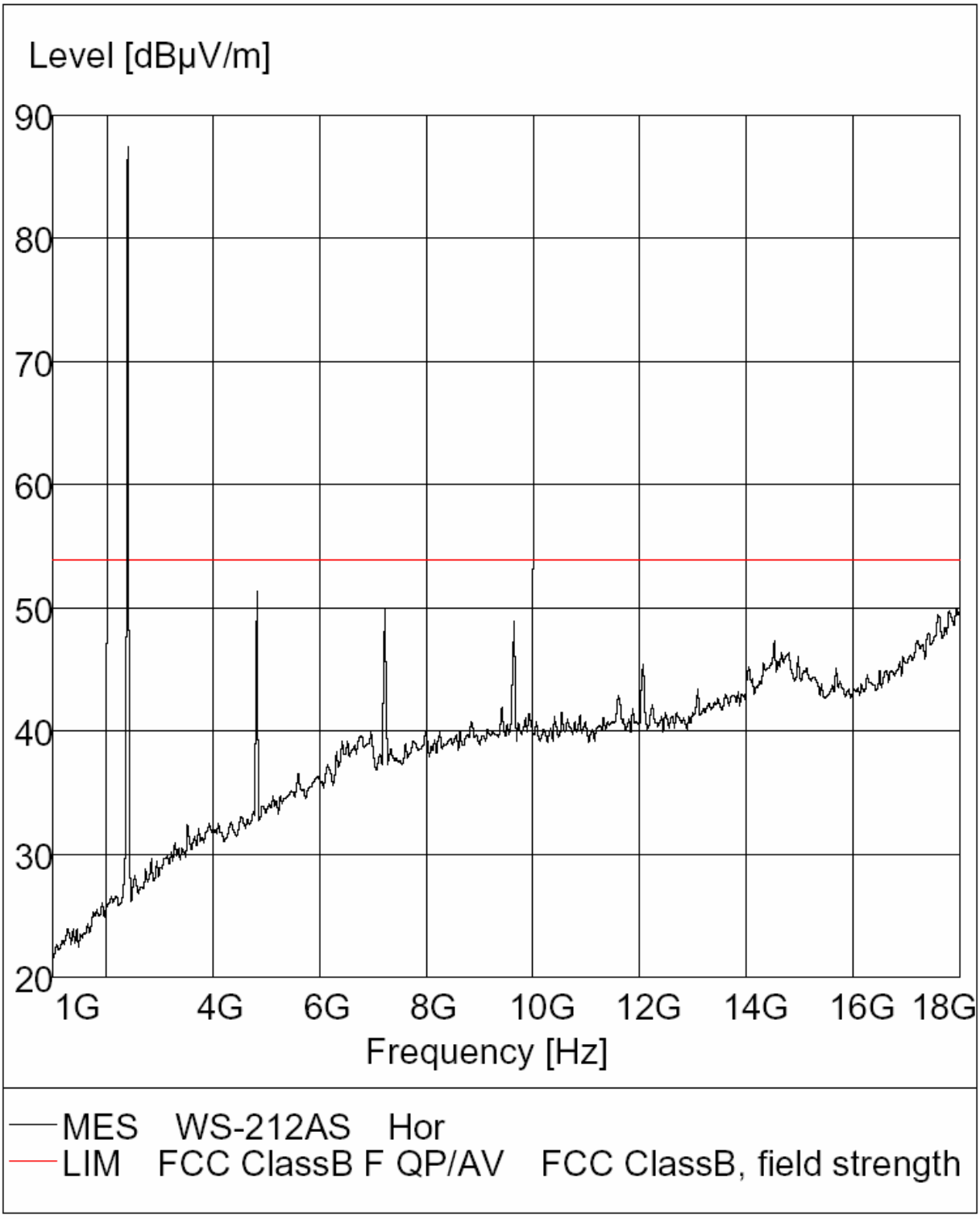
EUT: Wireless Camera M/N:WS-212AS
Manufacturer: Shenzhen Jiameikang Science Co., Ltd.
Operating Condition: TX
Test Site: ATC EMC Lab.SAC
Operator: Andy
Test Specification: Vertical
Comment: AC 120V/60Hz



Radiated Disturbance

FCC Part15B

EUT: Wireless Camera M/N:WS-212AS
Manufacturer: Shenzhen Jiameikang Science Co., Ltd.
Operating Condition: TX
Test Site: ATC EMC Lab.SAC
Operator: Andy
Test Specification: Horizontal
Comment: AC 120V/60Hz
:

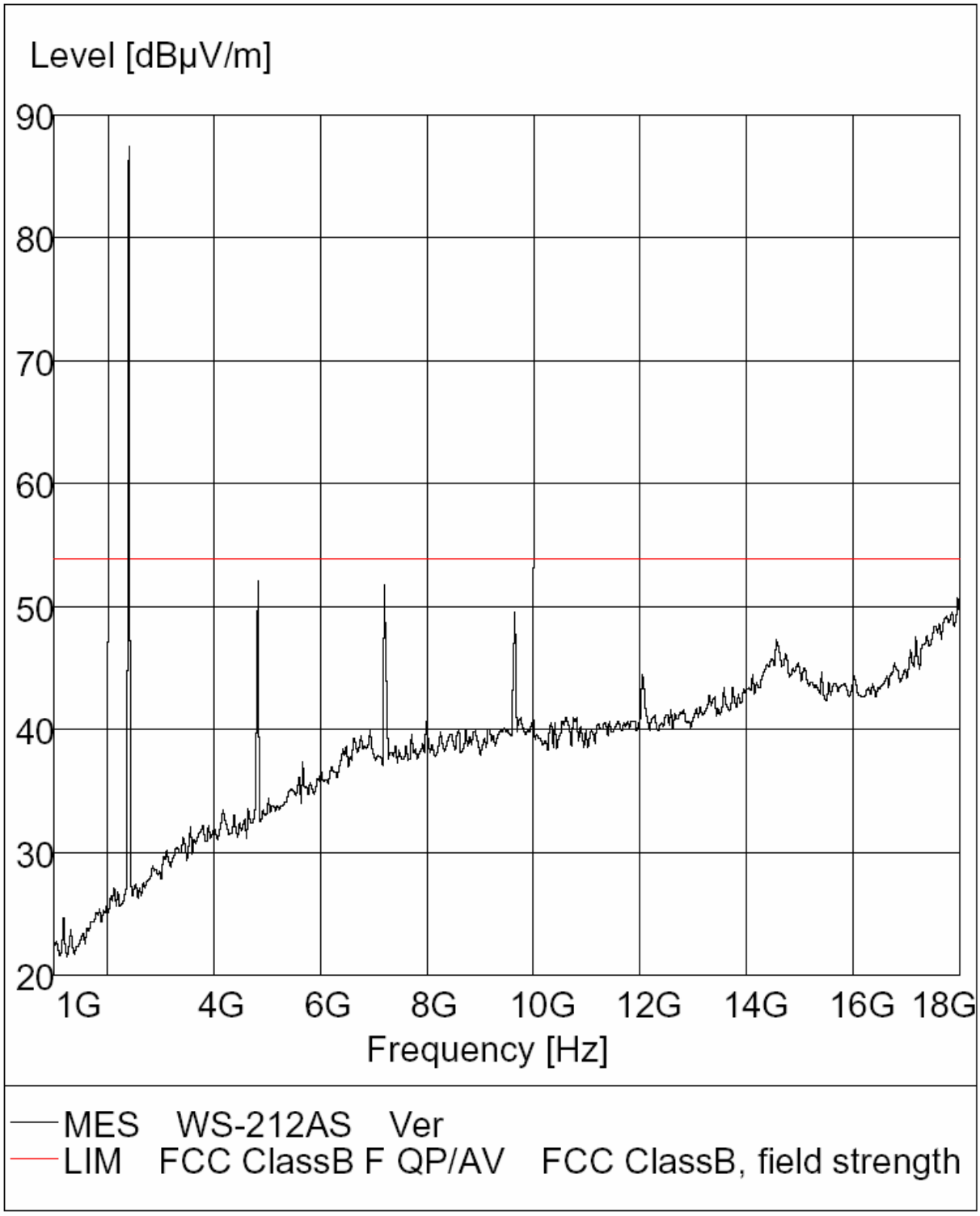


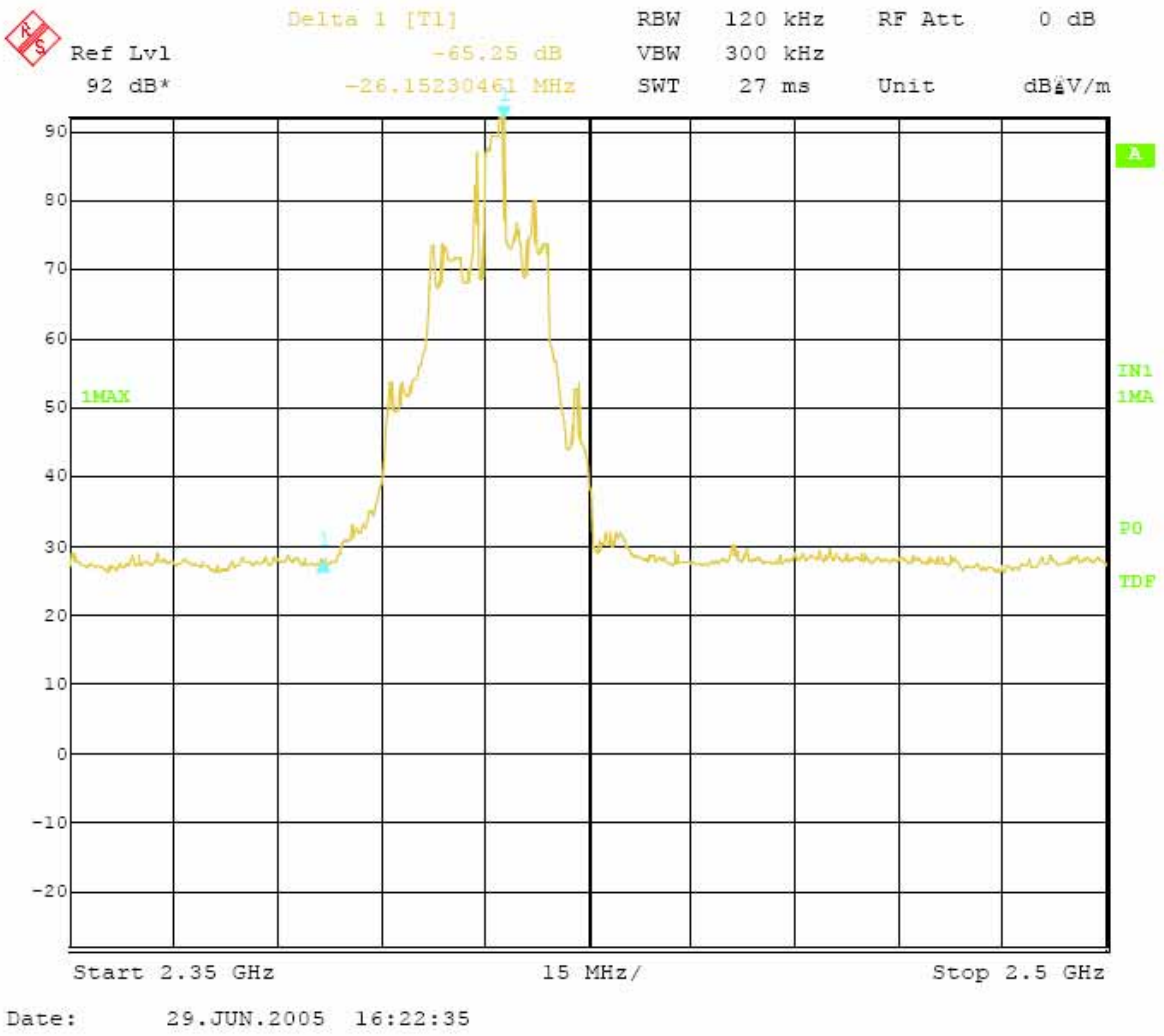
1

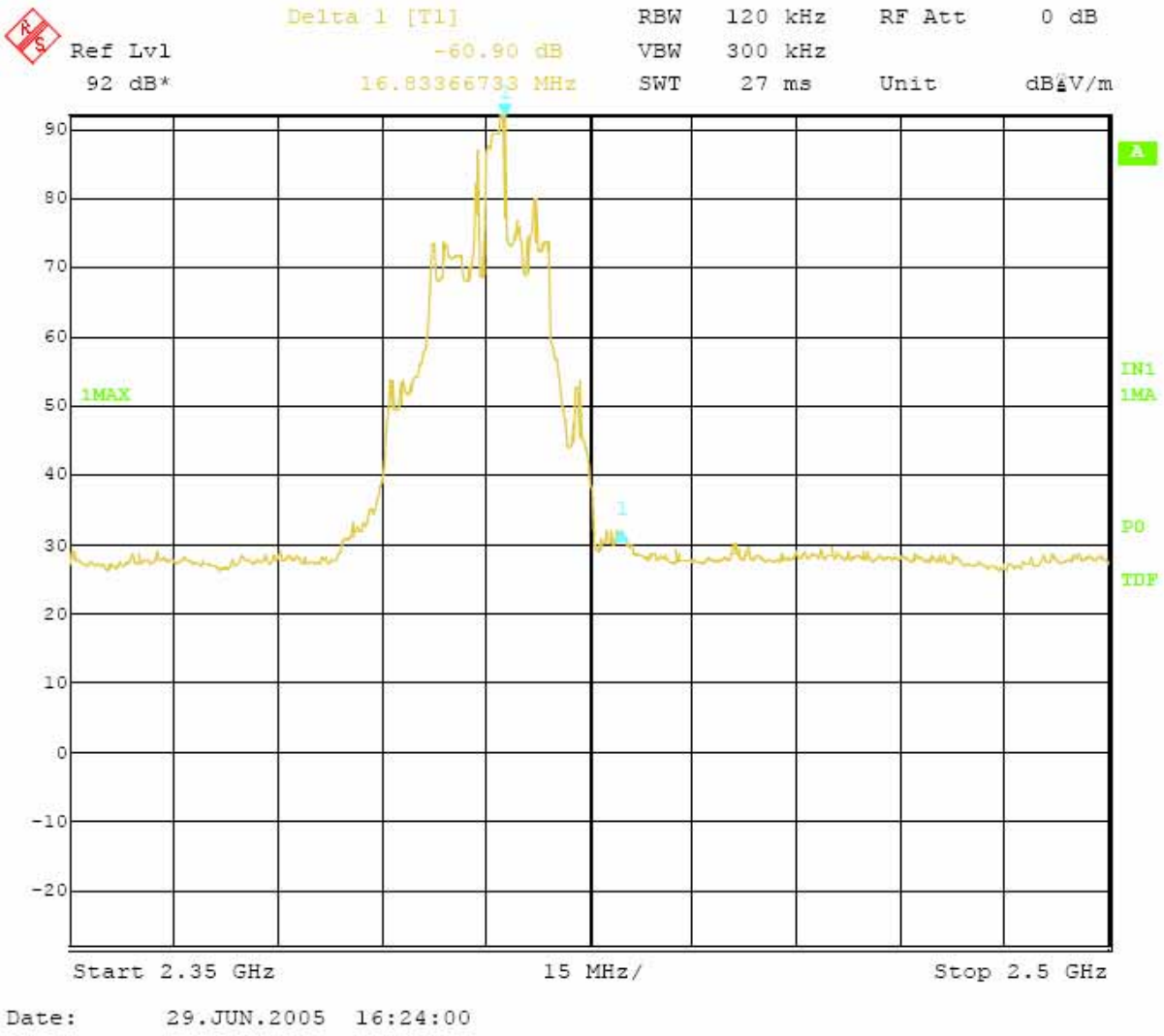
Radiated Disturbance

FCC Part15B

EUT: Wireless Camera M/N:WS-212AS
Manufacturer: Shenzhen Jiameikang Science Co., Ltd.
Operating Condition: TX
Test Site: ATC EMC Lab.SAC
Operator: Andy
Test Specification: Vertical
Comment: AC 120V/60Hz
:

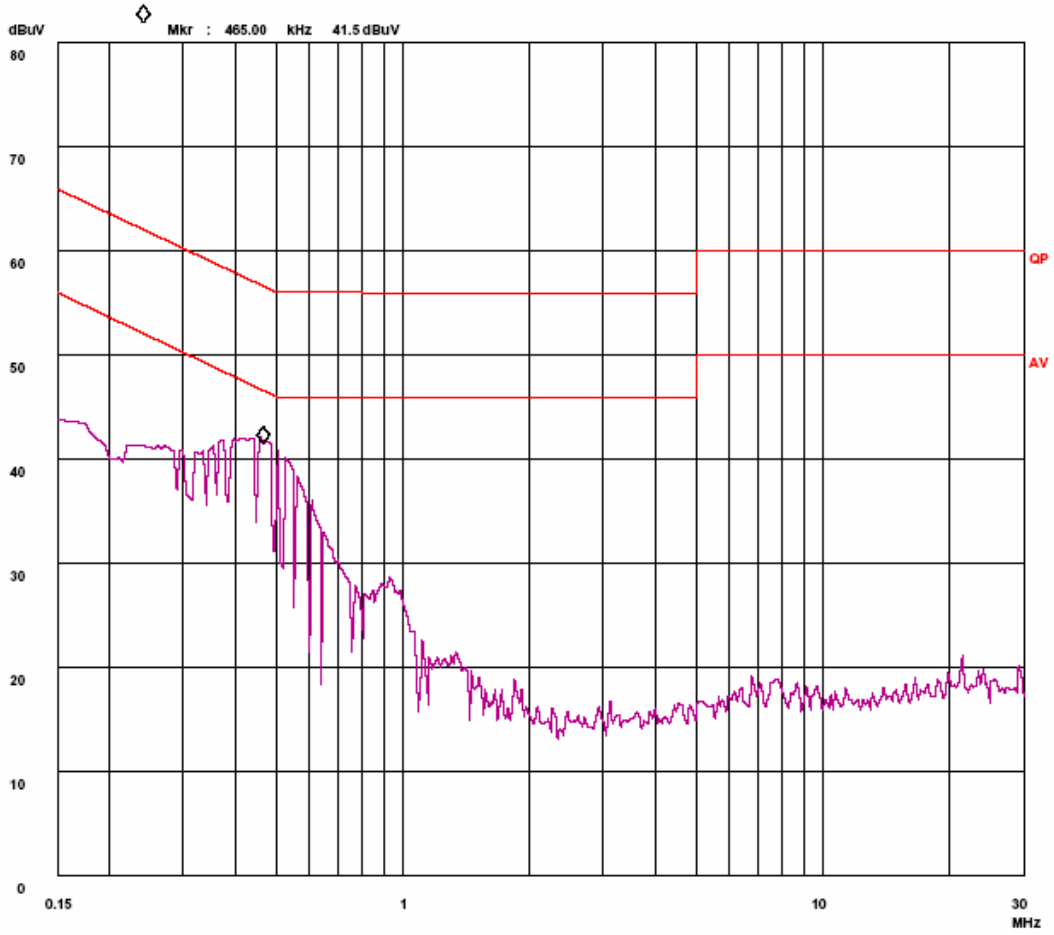



Delta 1 [T1]
-65.25 dB
-26.15230461 MHz
RBW 120 kHz
VBW 300 kHz
SWT 27 ms
RF Att 0 dB
Unit dBµV/m
Ref Lvl
92 dB*
90
80
70
60
50
40
30
20
10
0
-10
-20
1MAX
A
IN1
1MA
PO
TDF
Start 2.35 GHz
15 MHz/
Stop 2.5 GHz
Date: 29.JUN.2005 16:22:35


Delta 1 [T1]
-60.90 dB
16.83366733 MHz
RBW 120 kHz
VBW 300 kHz
SWT 27 ms
RF Att 0 dB
Unit dBµV/m
Ref Lvl
92 dB*
90
80
70
60
50
40
30
20
10
0
-10
-20
1MAX
A
IN1
1MA
PO
TDF
Start 2.35 GHz
15 MHz/
Stop 2.5 GHz
Date: 29.JUN.2005 16:24:00

CONDUCTION EMISSION STANDARD FCC PART15B

EUT:	Wireless Camera m/n:WS-212AS
Manuf:	Jiamelkang
Op Cond:	On
Operator:	Andy.tan
Test Spec:	Va 120V/60Hz
Comment:	Tem22'C Huml50%



CONDUCTION EMISSION STANDARD FCC PART15B

EUT:	Wireless Camera m/n:WS-212AS
Manuf:	Jiamelkang
Op Cond:	On
Operator:	Andy.tan
Test Spec:	Vb 120V/60Hz
Comment:	Tem22'C Huml50%