

FCC TEST REPORT
for
DongGuan Sinoway Hardware Manufacture Co., Ltd.

Mist fountain with metal stand
Model No: HY-ACF-503B
FCC ID: PKM-503B

Prepared for : DongGuan Sinoway Hardware Manufacture Co., Ltd.
Address : Jingshan Industrial Zone, Chashan Town, Dong Guan City,
Guangdong Province, China

Prepared by : Accurate Technology Co., Ltd.
Address : F1, Bldg. A&D, Changyuan New Material Port, Keyuan
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Report Number : ATE20121710
Date of Test : July 26-27, 2012
Date of Report : August 14, 2012

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TEST REPORT

Applicant : DongGuan Sinoway Hardware Manufacture Co., Ltd.
Manufacturer : DongGuan Sinoway Hardware Manufacture Co., Ltd.
Product : Mist fountain with metal stand
Model No. : HY-ACF-503B

Measurement Procedure Used:

FCC Rules and Regulations Part 18
ANSI C63.4: 2009

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 18 ultrasonic equipment limits both radiated and conducted emissions. 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 official limits.

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 :

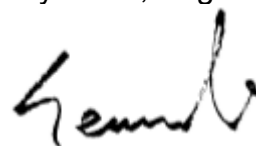
July 26-27, 2012

Prepared by :



(Kitty Chen, Engineer)

Approved & Authorized Signer :



(Sean Liu, Manager)

1. TEST RESULTS SUMMARY

Test Items	Test Standard	Test Results
Power Line Conducted Emission	FCC Part 18	Pass
Radiated Emission	FCC Part 18	Pass

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product	:	Mist fountain with metal stand
Model No.	:	HY-ACF-503B
Rating	:	AC 24V (Adaptor input)
Adaptor	:	Model: GPU412400420WAOO Input: AC 120V/60Hz Output: AC 24V 420mA 10VA
The Highest Operation Frequency of EUT	:	1.75MHz
Applicant	:	DongGuan Sinoway Hardware Manufacture Co., Ltd.
Address	:	Jingshan Industrial Zone, Chashan Town, Dong Guan City, Guangdong Province, China
Manufacturer	:	DongGuan Sinoway Hardware Manufacture Co., Ltd.
Address	:	Jingshan Industrial Zone, Chashan Town, Dong Guan City, Guangdong Province, China
Date of sample received	:	July 25, 2012
Date of Test	:	July 26-27, 2012

2.2. Accessory and Auxiliary Equipment

n.a.

2.3. Test Facility

EMC Lab

Accredited by TUV Rheinland Shenzhen

: Listed by FCC
The Registration Number is 253065
The Registration Number is 752051

Listed by Industry Canada
The Registration Number is 5077A-1
The Registration Number is 5077A-2

Accredited by China National Accreditation Committee for Laboratories
The Certificate Registration Number is L3193

Name of Firm

: Accurate Technology Co., Ltd.

Site Location

: F1, Bldg. A&D, Changyuan New Material Port, Keyuan Rd., Science & Industry Park, Nanshan District, Shenzhen 518057, P.R. China

2.4. Measurement Uncertainty

Conducted Emission Expanded Uncertainty = 2.23dB, k=2

Power Disturbance Expanded Uncertainty = 2.92 dB, k=2

Radiated emission expanded uncertainty (9kHz-30MHz) = 3.08dB, k=2

Radiated emission expanded uncertainty (30MHz-1000MHz) = 4.42dB, k=2

Radiated emission expanded uncertainty (Above 1GHz) = 4.06dB, k=2

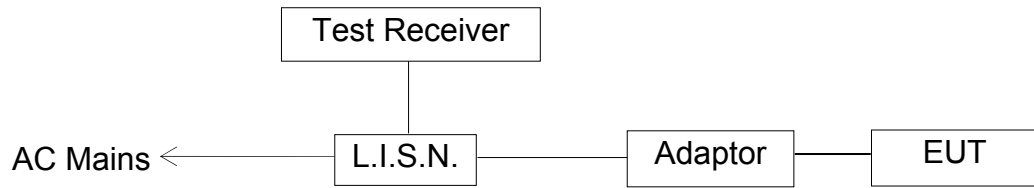
3. POWER LINE CONDUCTED MEASUREMENT

3.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCS30	100307	Jan. 7, 2012	1 Year
2.	L.I.S.N.	Schwarzbeck	NLSK8126	8126431	Jan. 7, 2012	1 Year
3.	L.I.S.N.	Rohde & Schwarz	ESH3-Z5	100310	Jan. 7, 2012	1 Year
4.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100815	Jan. 7, 2012	1 Year
5.	50Ω Coaxial Switch	Anritsu Corp	MP59B	6200283933	Jan. 7, 2012	1 Year
6.	RF Coaxial Cable	SUHNER	N-2m	No.3	Jan. 7, 2012	1 Year

3.2. Block Diagram of Test Setup



(EUT: Mist fountain with metal stand)

3.3. Power Line Conducted Emission Measurement Limits

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.009—0.05	110	-
0.05—0.15	90-80*	-
0.15—0.5	66 to 56*	56 to 46*
0.5—5	56	46
5—30	60	50

3.4. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

3.4.1. Mist fountain with metal stand (EUT)

Model Number : HY-ACF-503B

Manufacturer : DongGuan Sinoway Hardware Manufacture Co., Ltd.

3.5. Operating Condition of EUT

3.5.1. Setup the EUT and simulator as shown as Section 3.2.

3.5.2. Turn on the power of all equipment.

3.5.3. Let the EUT work in test mode (On) and measure it.

3.6.Test Procedure

The EUT system 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 line 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 FCC MP-5 during conducted emission test.

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

The frequency range from 9 kHz to 30MHz is checked.

3.7.Power Line Conducted Emission Measurement Results

PASS.

Test Mode: On								
L								
MEASUREMENT RESULT: "T-0728-1_fin"								
7/27/2012 4:20PM								
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE	
0.151200	42.30	11.0	66	23.6	QP	L1	GND	
1.731708	44.80	11.7	56	11.2	QP	L1	GND	
29.540922	36.40	11.0	60	23.6	QP	L1	GND	
MEASUREMENT RESULT: "T-0728-1_fin2"								
7/27/2012 4:20PM								
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE	
1.731708	36.70	11.7	46	9.3	AV	L1	GND	
19.058766	22.70	11.1	50	27.3	AV	L1	GND	
29.540922	25.10	11.0	50	24.9	AV	L1	GND	
N								
MEASUREMENT RESULT: "T-0728-2_fin"								
7/27/2012 4:23PM								
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE	
0.151200	41.30	11.0	66	24.6	QP	N	GND	
1.731708	47.20	11.7	56	8.8	QP	N	GND	
29.306470	30.70	11.0	60	29.3	QP	N	GND	
MEASUREMENT RESULT: "T-0728-2_fin2"								
7/27/2012 4:23PM								
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE	
1.731708	38.20	11.7	46	7.8	AV	N	GND	
19.058766	23.20	11.1	50	26.8	AV	N	GND	
29.540922	26.60	11.0	50	23.4	AV	N	GND	

Note: Emissions attenuated more than 20 dB below the permissible value are not reported.

The spectral diagrams are attached as below.

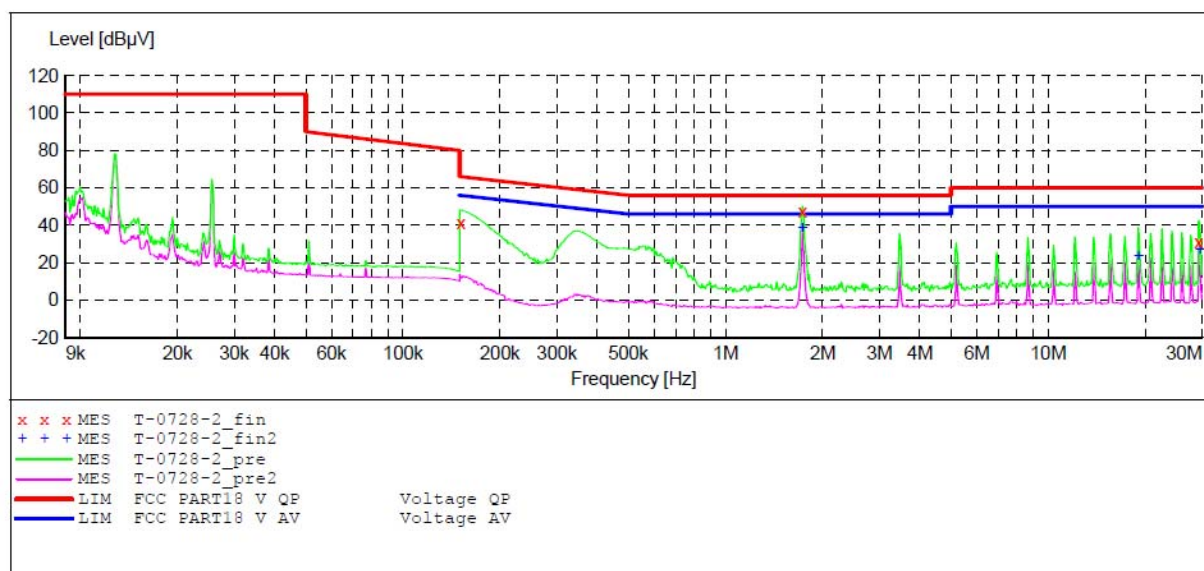
ACCURATE TECHNOLOGY CO.,LTD**CONDUCTED EMISSION STANDARD FCC PART18**

EUT: Mist fountain with metal stand M/N:HY-ACF-503B
 Manufacturer: Sinoway Hardware
 Operating Condition: ON
 Test Site: 1#Shielding Room
 Operator: Bob
 Test Specification: N 120V/60Hz
 Comment: Report NO.:ATE20121710
 Start of Test: 7/27/2012 / 4:20:38PM

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	4.5 kHz	Average	1.0 s	9 kHz	NSLK8126 2008

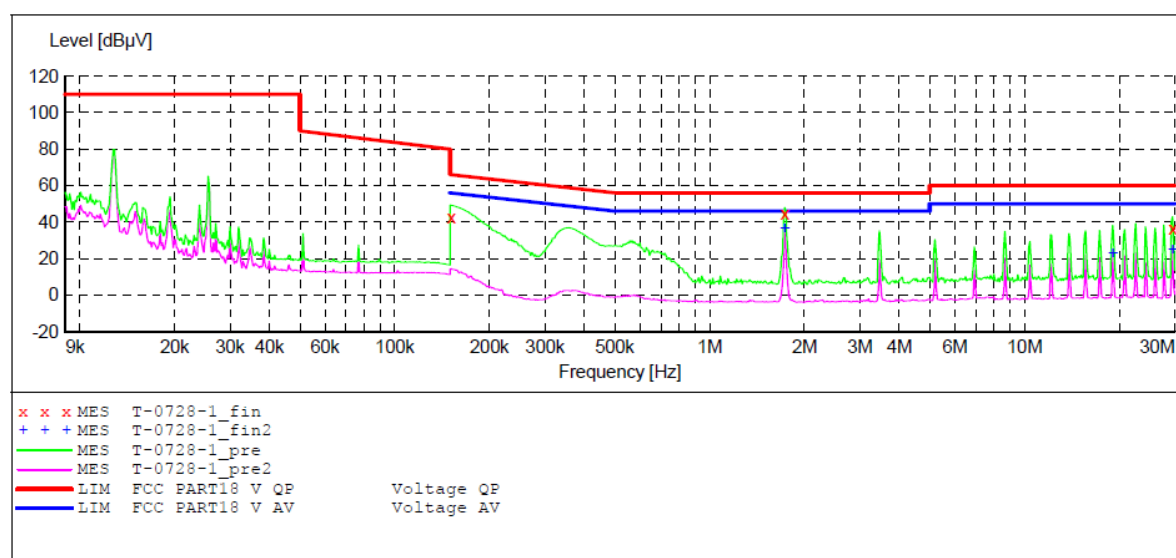


ACCURATE TECHNOLOGY CO.,LTD**CONDUCTED EMISSION STANDARD FCC PART18**

EUT: Mist fountain with metal stand M/N:HY-ACF-503B
 Manufacturer: Sinoway Hardware
 Operating Condition: ON
 Test Site: 1#Shielding Room
 Operator: Bob
 Test Specification: L 120V/60Hz
 Comment: Report NO.:ATE20121710
 Start of Test: 7/27/2012 / 4:13:19PM

SCAN TABLE: "V 9K-30MHz fin"

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	NSLK8126 2008
			Average			
150.0 kHz	30.0 MHz	4.5 kHz	QuasiPeak	1.0 s	9 kHz	NSLK8126 2008
			Average			



4. RADIATED EMISSION MEASUREMENT

4.1. Test Equipment

The following test equipments are used during the radiated emission measurement:

4.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 7, 2012	1 Year
2.	Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 7, 2012	1 Year
3.	Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 7, 2012	1 Year
4.	Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 7, 2012	1 Year
5.	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 7, 2012	1 Year
6.	Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 7, 2012	1 Year
7.	50 Coaxial Switch	Anritsu Corp	MP59B	6200506474	Jan. 7, 2012	1 Year
8.	RF Coaxial Cable	SUHNER	N-3m	No.8	Jan. 7, 2012	1 Year
9.	RF Coaxial Cable	RESENBERGER	N-3.5m	No.9	Jan. 7, 2012	1 Year
10.	RF Coaxial Cable	SUHNER	N-6m	No.10	Jan. 7, 2012	1 Year
11.	RF Coaxial Cable	RESENBERGER	N-12m	No.11	Jan. 7, 2012	1 Year
12.	RF Coaxial Cable	RESENBERGER	N-0.5m	No.12	Jan. 7, 2012	1 Year
13.	Pre-Amplifier	Rohde&Schwarz	CBLU11835 40-01	3791	Jan. 7, 2012	1 Year

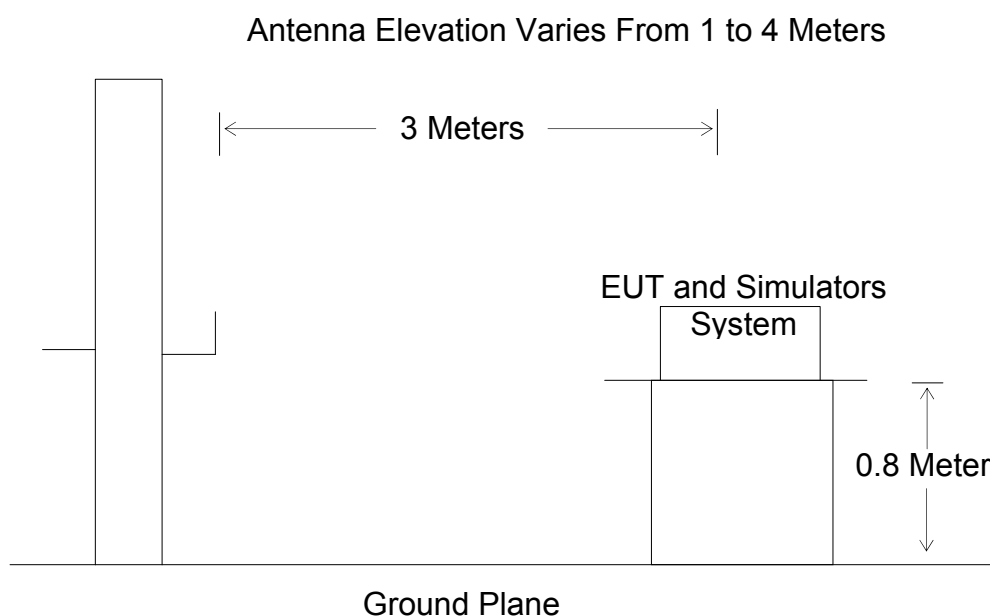
4.2. Block Diagram of Test Setup

4.2.1. Block diagram of connection between the EUT and simulators



(EUT: Mist fountain with metal stand)

4.2.2. Anechoic Chamber Test Setup Diagram



(EUT: Mist fountain with metal stand)

4.3. Radiated Emission Limit

Equipment	Operating Frequency	RF Power generated by equipment (watts)	Field strength limit (uV/m)	Distance (meters)
Ultrasonic	Below 490 kHz	Below 500 500 or more	2,400/F(kHz) 2,400/F(kHz)× SQRT(power/500).	300
	490 to 1,600 kHz	Any	24,000/F(kHz)	30
	Above 1,600 kHz	Any	15	30

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

4.4.EUT Configuration on Measurement

The following equipments 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.

4.4.1.Mist fountain with metal stand (EUT)

Model Number : HY-ACF-503B
Manufacture : DongGuan Sinoway Hardware Manufacture Co., Ltd.

4.5.Operating Condition of EUT

4.5.1.Setup the EUT and simulator as shown as Section 4.2.

4.5.2.Turn on the power of all equipment.

4.5.3.Let the EUT work in test mode (On) and measure it.

4.6.Test Procedure

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 FCC MP-5 on radiated emission measurement.

The bandwidth of the EMI test receiver (R&S ESCS30) is set at 120 kHz.

The frequency range from 9kHz to 400MHz is checked.

4.7.Radiated Emission Noise Measurement Result

Results of ON mode (<30MHz): PASS

Radiated Emissions					
Quasi-Peak					
Emission Frequency MHz	E-Field Polarity	Level @3m dBμV/m	Limit @3m dBμV/m	Level @30m μV/m	Limit @30m μV/m
0.016	Horizontal	51.4	63.5	3.7	15.0
0.031	Horizontal	52.2	63.5	4.1	15.0
1.736	Horizontal	45.7	63.5	1.9	15.0
0.016	Vertical	52.2	63.5	4.1	15.0
0.031	Vertical	53.0	63.5	4.5	15.0
1.734	Vertical	45.6	63.5	1.9	15.0

Results of ON (Low) mode (≥30MHz): PASS

Radiated Emissions					
Quasi-Peak					
Emission Frequency MHz	E-Field Polarity	Level @3m dBμV/m	Limit @3m dBμV/m	Level @30m μV/m	Limit @30m μV/m
35.729	Vertical	37.8	43.5	7.8	15.0
99.336	Vertical	35.2	43.5	5.7	15.0
149.223	Vertical	36.7	43.5	6.8	15.0
208.918	Vertical	36.7	43.5	6.8	15.0
119.860	Horizontal	35.1	43.5	5.7	15.0
151.182	Horizontal	39.5	43.5	9.4	15.0
166.501	Horizontal	38.0	43.5	7.9	15.0
247.521	Horizontal	35.5	43.5	6.0	15.0

Note: Emissions attenuated more than 20 dB below the permissible value are not reported.

The spectral diagrams are attached as below.



STANDARD:FCC PART18

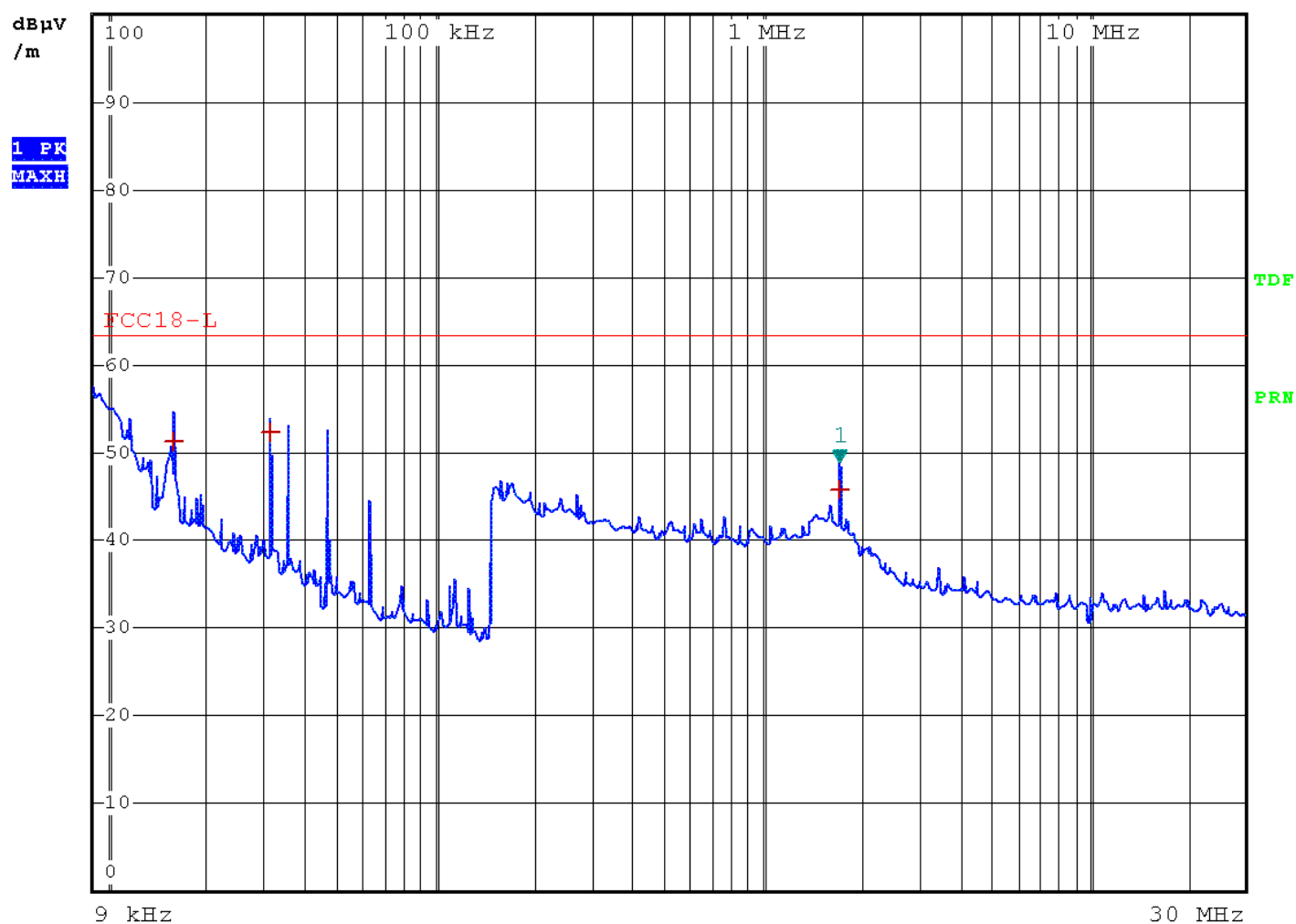
RBW 9 kHz Marker 1 [T1]

MT 1 s

49.01 dBμV/m

Att 10 dB AUTO PREAMP OFF

1.736000000 MHz



Comment B: Manuf:Sinoway Hardware M/N:HY-ACF-503B POWER:120V/60Hz

Horizontal

Date: 26.JUL.2012 20:31:07

ACCURATE TECHNOLOGY CO., LTD Report No.:ATE20121710



STANDARD:FCC PART18

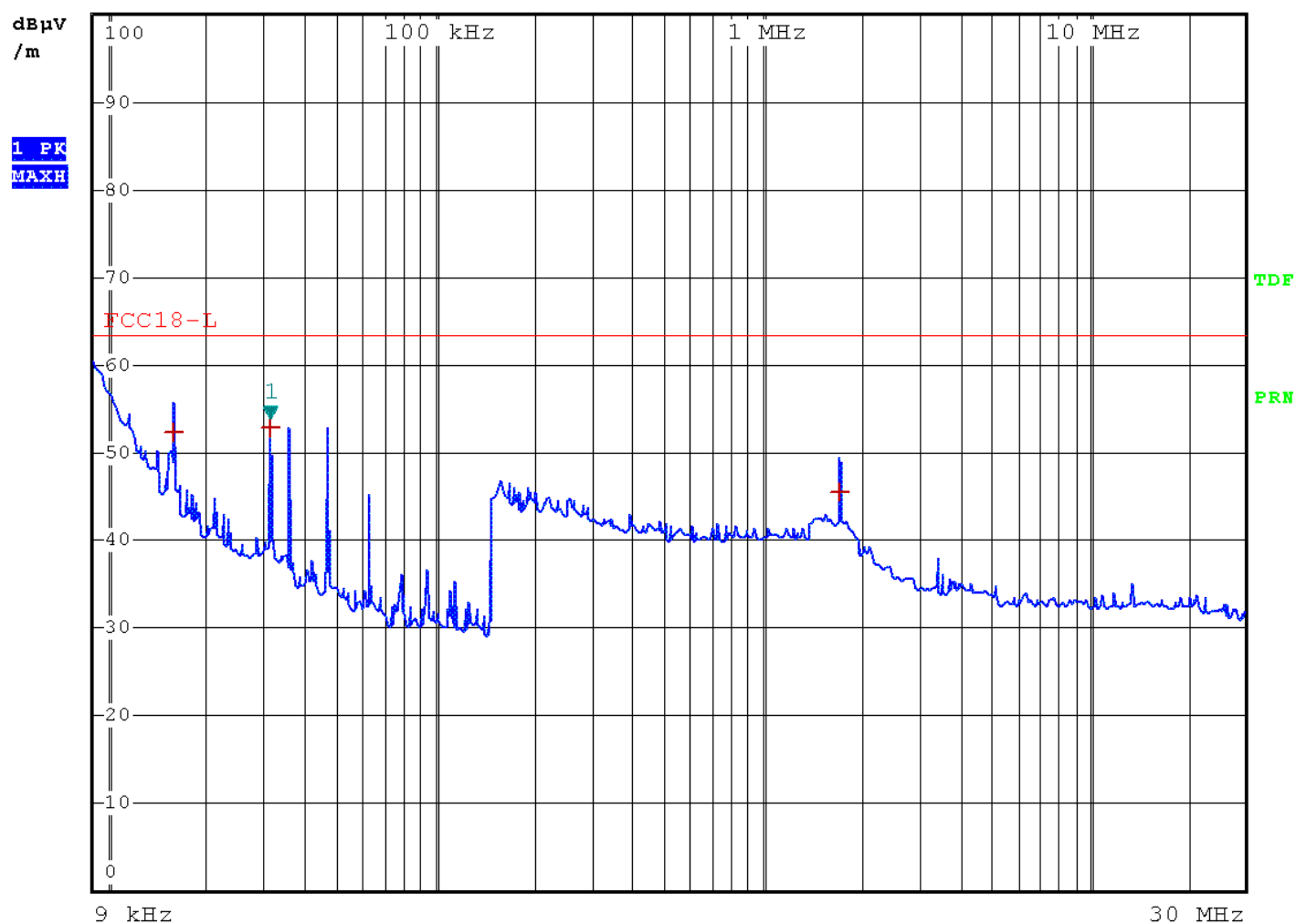
RBW 9 kHz Marker 1 [T1]

MT 1 s

53.92 dBμV/m

Att 10 dB AUTO PREAMP OFF

31.400000000 kHz



Comment B: Manuf:Sinoway Hardware M/N:HY-ACF-503B POWER:120V/60Hz
Vertical

Date: 26.JUL.2012 22:58:02

[illegible]

Comment B: Manuf:Sinoway Hardware M/N:HY-ACF-503B POWER:120V/60Hz
Vertical
Date: 26.JUL.2012 22:58:36


ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 966 chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: Bob #2882

Standard: FCC PART18

Test item: Radiation Test

Temp.(C)/Hum.(%) 24 C / 48 %

EUT: Mist fountain with metal stand

Mode: ON

Model: HY-ACF-503B

Manufacturer: Sinoway Hardware

Polarization: Horizontal

Power Source: AC 120V/60Hz

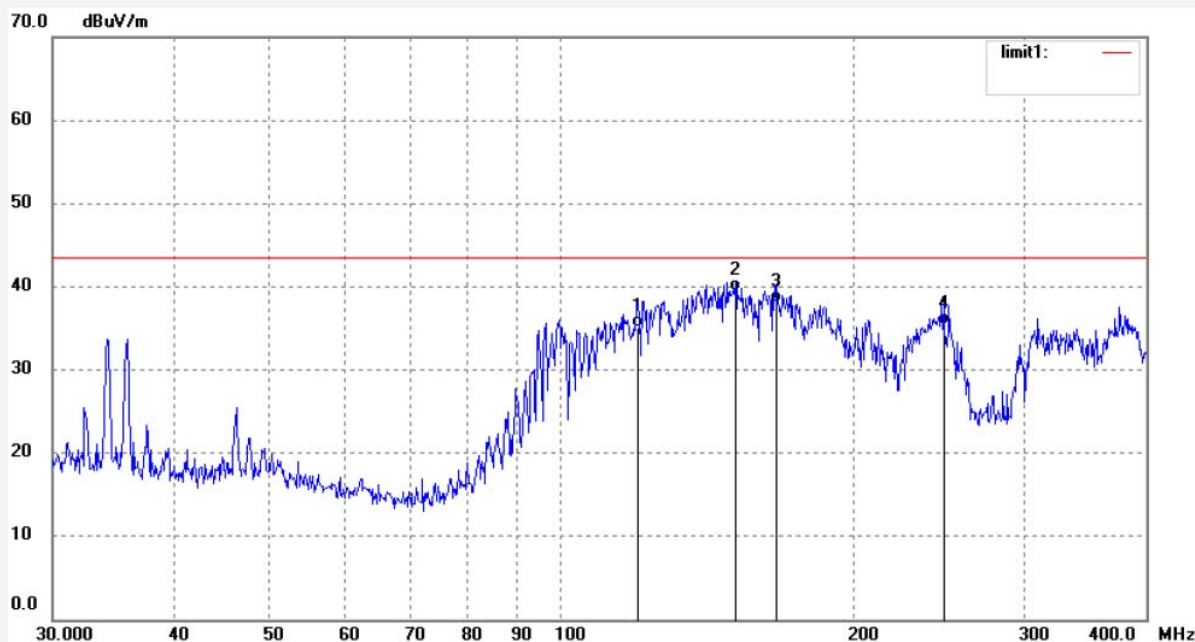
Date: 2012/07/27

Time: 20:55:18

Engineer Signature:

Distance: 3m

Note: Reprot NO.:ATE20121710 Sample NO.:1202527



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	119.8601	21.39	13.67	35.06	43.50	-8.44	QP			
2	151.1819	27.96	11.54	39.50	43.50	-4.00	QP			
3	166.5007	25.59	12.39	37.98	43.50	-5.52	QP			
4	247.5210	18.21	17.31	35.52	43.50	-7.98	QP			


ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 966 chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: Bob #2881

Standard: FCC PART18

Test item: Radiation Test

Temp.(C)/Hum.(%) 24 C / 48 %

EUT: Mist fountain with metal stand

Mode: ON

Model: HY-ACF-503B

Manufacturer: Sinoway Hardware

Polarization: Vertical

Power Source: AC 120V/60Hz

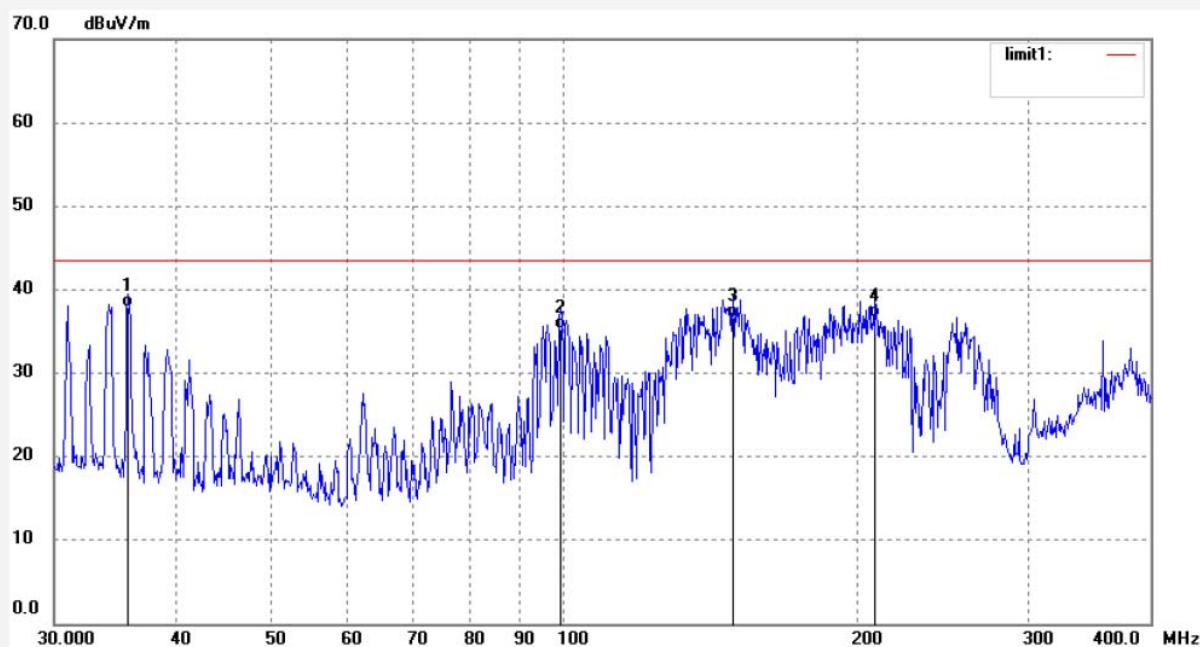
Date: 2012/07/27

Time: 20:51:49

Engineer Signature:

Distance: 3m

Note: Reprot NO.:ATE20121710 Sample NO.:1202527



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	35.7292	22.29	15.52	37.81	43.50	-5.69	QP			
2	99.3363	21.19	13.99	35.18	43.50	-8.32	QP			
3	149.2229	25.17	11.52	36.69	43.50	-6.81	QP			
4	208.9178	22.39	14.31	36.70	43.50	-6.80	QP			