FCC PART 15B TEST REPORT
On Behalf of
Atlas Chiropractic System Inc

ATLAS RFID READER
Model No.: DESKTOP ATLAS_7.22

Prepared for	:	Atlas Chiropractic System Inc
Address	:	30 Brock St. East, Tillsonburg, Ontario, Canada, N4G 1Z5

Prepared By	:	Anbotek Compliance Laboratory Limited
Address	:	1/F, 1/Build, SEC Industrial Park, No. 4 Qianhai Road, Nanshan District, Shenzhen, 518054, China Tel: (86) 755-26066544 Fax: (86) 755-26014772

Report Number	:	201212769F
Date of Test	:	Dec.20~25, 2012
Date of Report	:	Dec.26, 2012

TABLE OF CHONTENTS

Description

Page

Test Report Verification

1. GENERAL INFORMATION 4
1.1. Description of Device (EUT) 4
1.2. Auxiliary Equipment Used during Test 5
1.3. Description of Test Facility 6
1.4. Measurement Uncertainty 6
1.5. Test Summary 6
2. POWER LINE CONDUCTED MEASUREMENT 7
2.1. Test Equipment 7
2.2. Block Diagram of Test Setup 7
2.3. Power Line Conducted Emission Measurement Limits (FCC Part 15 Subpart B Class B) 7
2.4. Configuration of EUT on Measurement 8
2.5. Operating Condition of EUT 8
2.6. Test Procedure 8
2.7. Power Line Conducted Emission Measurement Results 8
3.RADIATED EMISSION MEASUREMENT 11
3.1. Test Equipment 11
3.2. Block Diagram of Test Setup 11
3.3. Radiated Emission Limit (Subpart B Class B) 12
3.4. EUT Configuration on Measurement 12
3.5. Operating Condition of EUT 12
3.6. Test Procedure 12
3.7. Radiated Emission Measurement Results 12
4. PHOTOGRAPH 15
4.1. Photo of Power Line Conducted Emission Test 15
4.2. Photo of Radiated Emission Test 15

APPENDIX I (Photos of EUT) (4 Pages)

TEST REPORT VERIFICATION

Applicant	:	Atlas Chiropractic System Inc
Manufacturer	:	Chronocom Electronique
EUT	:	ATLAS RFID READER
Model No.	:	DESKTOP ATLAS_7.22
Rating	:	DC 5V
Trade Mark	:	N.A.

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B 2010 & FCC / ANSI C63.4-2009

The device described above is tested by Anbotek Compliance Laboratory Limited To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and Anbotek Compliance Laboratory Limited 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 Anbotek Compliance Laboratory Limited

Date of Test : Dec.20~25, 2012

Prepared by : Well Wang

(Engineer/ Well Wang)

Reviewer : Jerry Du

(Project Manager/ Jerry Du)

Approved & Authorized Signer : Tom. Chen

(Manager/ Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	ATLAS RFID READER
Model Number	:	DESKTOP ATLAS_7.22
Test Power Supply	:	DC 5V
Applicant	:	Atlas Chiropractic System Inc
Address	:	30 Brock St. East, Tillsonburg, Ontario, Canada, N4G 1Z5
Manufacturer	:	Chronocom Electronique
Address	:	754 rue, Disraeli, Quebec, Canada, G0N 1E0
Date of Sample received	:	Dec.20, 2012
Date of Test	:	Dec.20~25, 2012

1.2. Auxiliary Equipment Used during Test

PC	:	Manufacturer: DELL M/N: OPTIPLEX 380 S/N: 1J63X2X CE , FCC: DOC
KEYBOARD	:	Manufacturer: DELL M/N: SK-8115 S/N: CN-0DJ313-71616-06C-02XN CE , FCC: DOC Cable: 1m, unshielded
MOUSE	:	Manufacturer: DELL M/N: M-UARDEL7 S/N: N/A CE , FCC: DOC Cable: 1m, unshielded
Power Line	:	1.5m, unshielded
gigabit-network Cable	:	10m, unshielded

1.3. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS - LAB Code: L3503
Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

FCC-Registration No.: 752021
Anbotek Compliance Laboratory Limited, EMC Laboratory has been registed and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, August 20, 2010

IC-Registration No.: 8058A-1
Anbotek Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A-1, August 30, 2010

Test Location
All Emissions tests were performed
Anbotek Compliance Laboratory Limited. at 1/F, 1/Build, SEC Industrial Park, No. 4 Qianhai Road, Nanshan District, Shenzhen, 518054, China

1.4. Measurement Uncertainty

Radiation Uncertainty	**:**	Ur = 4.3dB
Conduction Uncertainty	**:**	Uc = 3.4dB

1.5. Test Summary

For the EUT described above. The standards used were FCC Part 15 Subpart B for Emissions.
Table 1 : Tests Carried Out Under FCC Part 15 Subpart B

Standard	Test Items	Status
FCC Part 15 Subpart B	Power Line Conducted Emission Test (150KHz To 30MHz)	√
FCC Part 15 Subpart B	Radiated Emission Test	√

√ Indicates that the test is applicable
x Indicates that the test is not applicable

2. POWER LINE CONDUCTED MEASUREMENT

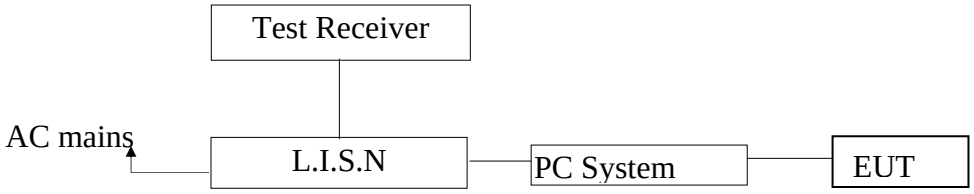
2.1. Test Equipment

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

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Apr. 25, 2012	1 Year
2.	Two-Line V-network	Rohde & Schwarz	ENV216	10055	Apr. 25, 2012	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr. 25, 2012	1 Year
4.	EMI Test Software	ES-K1	N/A	N/A	N/A	N/A

2.2. Block Diagram of Test Setup

2.2.1. Block diagram of connection between the EUT and simulators



(EUT: ATLAS RFID READER)

2.3. Power Line Conducted Emission Measurement Limits (FCC Part 15 Subpart B Class B)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	79	66
0.50 ~ 5.00	73	60
5.00 ~ 30.00	73	60

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

2.4. 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.

EUT	:	ATLAS RFID READER
Model Number	:	DESKTOP ATLAS_7.22
Applicant	**:**	Atlas Chiropractic System Inc

2.5. Operating Condition of EUT

2.5.1. Setup the EUT and simulator as shown as Section 2.2.
2.5.2. Turn on the power of all equipment and running the software: asterisk.
2.5.3. Let the EUT work in test mode (On) and measure it.

2.6. 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 ANSI C63.4-2009 on Conducted Emission Measurement.
The bandwidth of test receiver (ESCI) set at 9KHz.
The frequency range from 150KHz to 30MHz is checked.
The test result are reported on Section 2.7.

2.7. Power Line Conducted Emission Measurement Results

PASS.

The frequency range from 150KHz to 30 MHz is investigated.

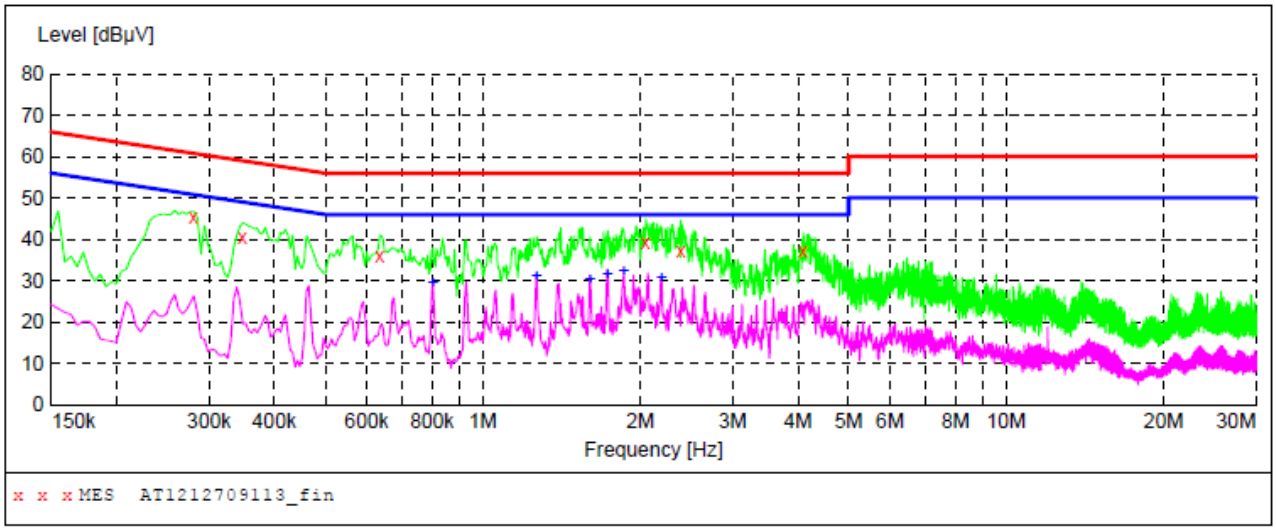
The test curves are shown in the following pages.

CONDUCTED EMISSION TEST DATA

EUT:	ATLAS RFID READER M/N: DESKTOP ATLAS_7.22
Operating Condition:	On
Test Site:	1# Shielded Room
Operator:	WELL WANG
Test Specification:	DC 5V
Comment:	L
	Tem:25℃ Hum:50%

SCAN TABLE: "Voltage(150K~30M)FIN"

Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1212709113_fin"

12/25/2012 11:02AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.280500	45.30	20.1	61	15.5	QP	L1	GND
0.348000	40.40	20.1	59	18.6	QP	L1	GND
0.636000	36.10	20.1	56	19.9	QP	L1	GND
2.048500	39.40	20.3	56	16.6	QP	L1	GND
2.390500	37.40	20.3	56	18.6	QP	L1	GND
4.096000	37.10	20.5	56	18.9	QP	L1	GND

MEASUREMENT RESULT: "AT1212709113_fin2"

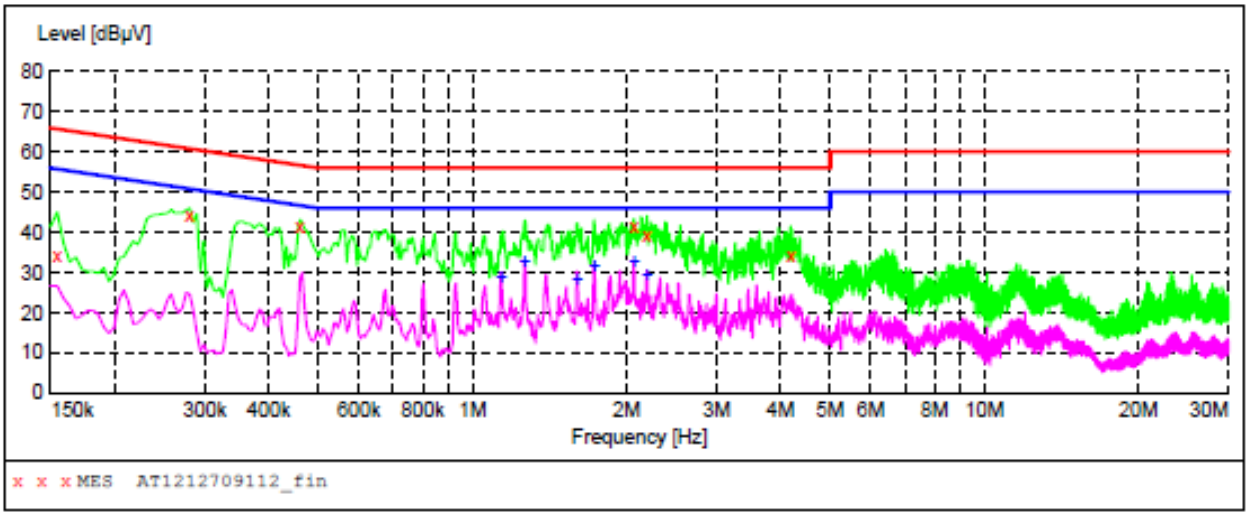
12/25/2012 11:02AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.802500	29.40	20.1	46	16.6	AV	L1	GND
1.265500	31.20	20.2	46	14.8	AV	L1	GND
1.603000	30.40	20.3	46	15.6	AV	L1	GND
1.729000	31.70	20.3	46	14.3	AV	L1	GND
1.859500	32.50	20.3	46	13.5	AV	L1	GND
2.192500	30.60	20.3	46	15.4	AV	L1	GND

CONDUCTED EMISSION TEST DATA

EUT:	ATLAS RFID READER M/N:DESKTOP ATLAS_7.22
Operating Condition:	On
Test Site:	1# Shielded Room
Operator:	WELL WANG
Test Specification:	DC 5V
Comment:	N
	Tem:25℃ Hum:50%

SCAN TABLE: "Voltage(150K~30M)FIN"
Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1212709112_fin"

12/25/2012 10:58AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154500	34.50	20.1	66	31.3	QP	N	GND
0.280500	44.10	20.1	61	16.7	QP	N	GND
0.460500	41.50	20.1	57	15.2	QP	N	GND
2.066500	41.40	20.3	56	14.6	QP	N	GND
2.192500	39.10	20.3	56	16.9	QP	N	GND
4.190500	34.40	20.5	56	21.6	QP	N	GND

MEASUREMENT RESULT: "AT1212709112_fin2"

12/25/2012 10:58AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
1.139500	29.40	20.2	46	16.6	AV	N	GND
1.265500	33.30	20.2	46	12.7	AV	N	GND
1.598500	28.90	20.3	46	17.1	AV	N	GND
1.729000	31.90	20.3	46	14.1	AV	N	GND
2.066500	33.30	20.3	46	12.7	AV	N	GND
2.192500	29.80	20.3	46	16.2	AV	N	GND

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

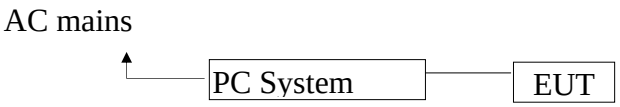
The following test equipments are used during the radiated emission measurement:

3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Apr. 25, 2012	1 Year
2	Bilog Broadband Antenna	Schwarzbeck	VULB9163	100015	Apr. 25, 2012	1 Year
3	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr. 25, 2012	1 Year
4	EMI Test Software	ES-K1	N/A	N/A	N/A	N/A

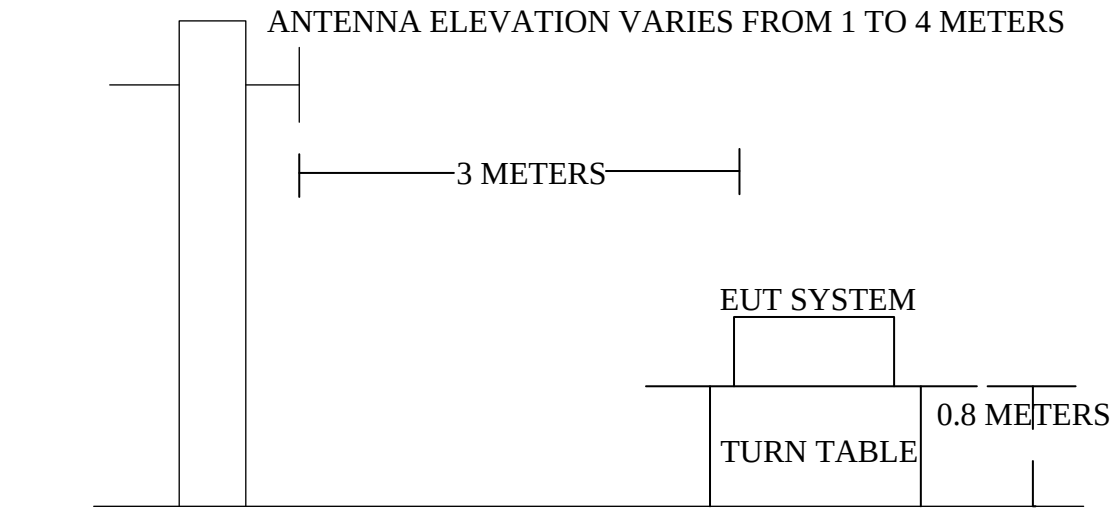
3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators



(EUT: ATLAS RFID READER)

3.2.2. Anechoic Chamber Test Setup Diagram



(EUT: ATLAS RFID READER)

3.3. Radiated Emission Limit (Subpart B Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT dB(μV)/m
30~88	3	49.5
88~216	3	54
216~960	3	56.9
Above 960	3	60

Remark： (1) Emission level (dB)μV = 20 log Emission level μV/m

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.4. 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.

EUT	**:**	ATLAS RFID READER
Model Number	**:**	DESKTOP ATLAS_7.22
Applicant	**:**	Atlas Chiropractic System Inc

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 and running the software: asterisk.

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

3.6. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table 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 a 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 (Trilog Broadband 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 C63.4-2009 on radiated emission measurement.

The bandwidth of the EMI test receiver (ESCI) is set at 120kHz.
The frequency range from 30MHz to 6000MHz is checked.

The test mode is tested in chamber and all the test results are listed in Section 3.7.

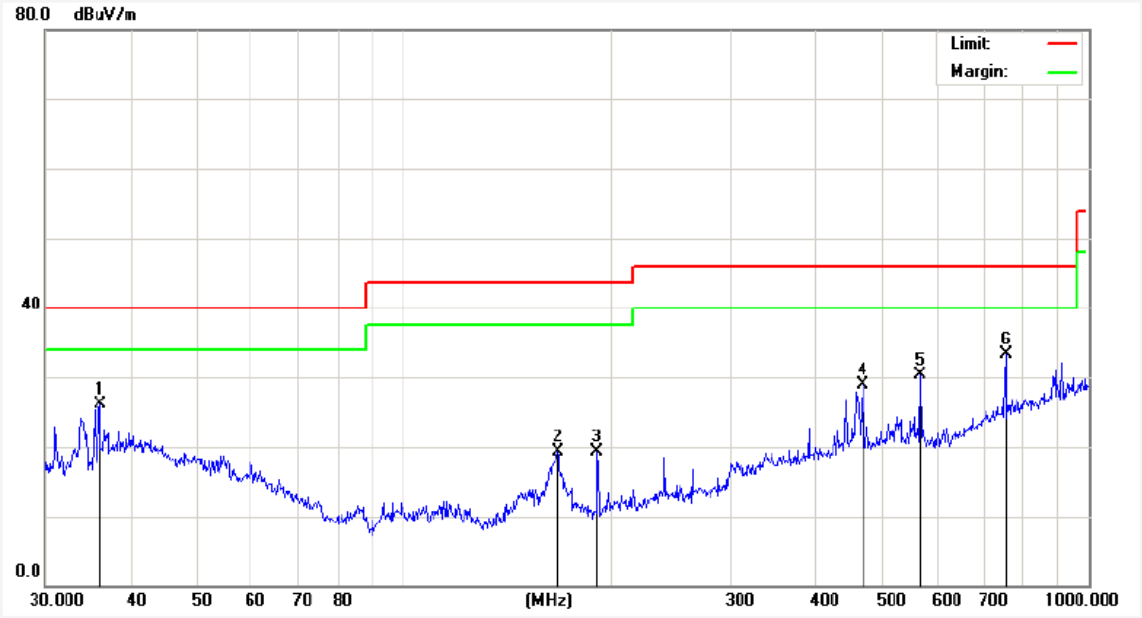
3.7. Radiated Emission Measurement Results

PASS.

Anbotek Compliance Laboratory Limited
1/F, 1 /Building, SEC Industrial Park, No.4 Qianhai Road,
Nanshan District, Shenzhen, 518054, China

Tel: (86)755-26014771
Fax: (86)755-26014772
Http://www.anbotek.com

Job No.:	**AT1212709F**	**Polarziation:**	**Horizontal**
Standard:	**(RE)FCC PART15 B _3m**	**Power Source:**	**DC 5V**
Test item:	**Radiation Test**	**Date:**	**2012/12/24**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**9:20:24**
EUT:	**ATLAS RFID READER**	**Test By:**	**Well Wang**
Model:	DESKTOP ATLAS_7.22	**Distance:**	**3m**
Mode:	**On**		
Note:			

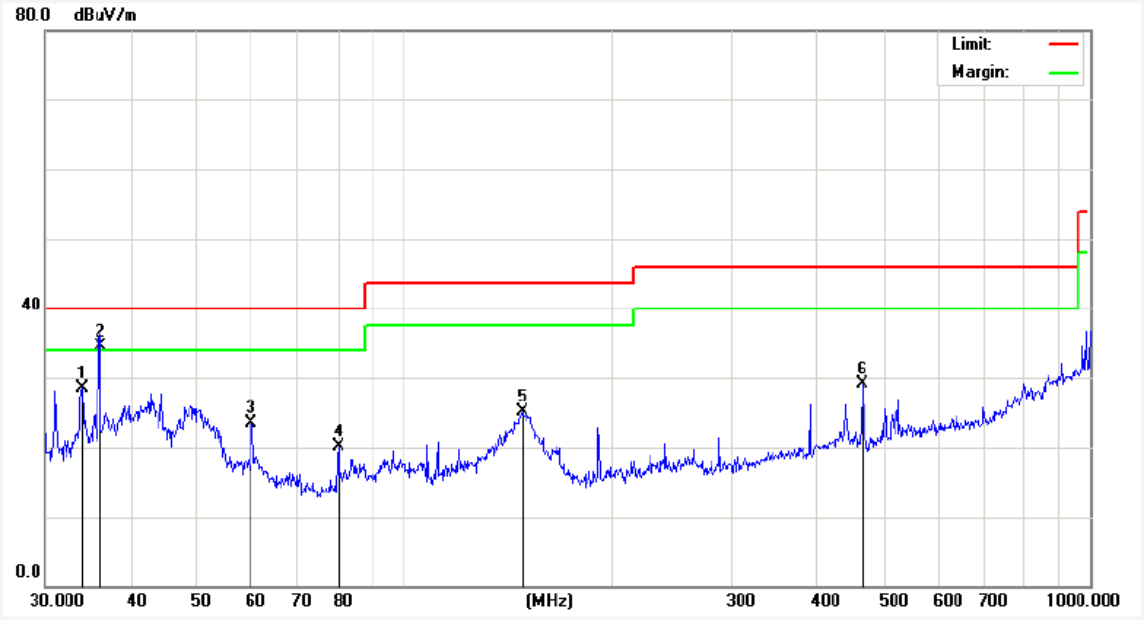


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	36.0007	39.63	-13.50	26.13	40.00	-13.87	peak			
2	167.8243	41.93	-22.63	19.30	43.50	-24.20	peak			
3	191.7450	40.14	-20.92	19.22	43.50	-24.28	peak			
4	467.2349	40.79	-11.90	28.89	46.00	-17.11	peak			
5	566.6223	41.51	-11.15	30.36	46.00	-15.64	peak			
6	755.3873	40.66	-7.37	33.29	46.00	-12.71	peak			

Anbotek Compliance Laboratory Limited
1/F, 1 /Building, SEC Industrial Park, No.4 Qianhai Road,
Nanshan District, Shenzhen, 518054, China

Tel: (86)755-26014771
Fax: (86)755-26014772
Http://www.anbotek.com

Job No.:	**AT1212709F**	**Polarziation:**	**Vertical**
Standard:	**(RE)FCC PART15 B _3m**	**Power Source:**	**DC 5V**
Test item:	**Radiation Test**	**Date:**	**2012/12/24**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**9:22:39**
EUT:	**ATLAS RFID READER**	**Test By:**	**Well Wang**
Model:	DESKTOP ATLAS_7.22	**Distance:**	**3m**
Mode:	**On Red**		
Note:			



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	33.9174	43.29	-14.86	28.43	40.00	-11.57	peak			
2	36.0007	48.05	-13.50	34.55	40.00	-5.45	QP	100	360	
3	59.8588	38.85	-15.38	23.47	40.00	-16.53	peak			
4	80.0806	40.04	-19.95	20.09	40.00	-19.91	peak			
5	148.4410	43.41	-18.36	25.05	43.50	-18.45	peak			
6	465.5994	41.11	-11.94	29.17	46.00	-16.83	peak			