FCC TEST REPORT
for
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-1
Date of Test	:	Dec.20~25, 2012
Date of Report	:	Dec.26, 2012

TABLE OF CHONTENTS

Description

Page

Test Report Verification

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 C 15.207&15.209-2010 & 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 C 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 : Wen 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
Frequency	:	125KHz
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. 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

1.3. Measurement Uncertainty

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

. 1.4. 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

2. Test Procedure

GENERAL: This report shall NOT be reproduced except in full without the written approval of Anbotek Compliance Laboratory Limited. The EUT was transmitting a test signal during the testing.

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD C63.4-2009 using a spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was 100KHz and the video bandwidth was 300KHz up to 1.0GHz and 1.0MHz with a video BW of 3.0MHz above 1.0GHz. The ambient temperature of the EUT was 74.3oF with a humidity of 69%.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB. The gain of the Preselector was accounted for in the Spectrum Analyzer Meter Reading.

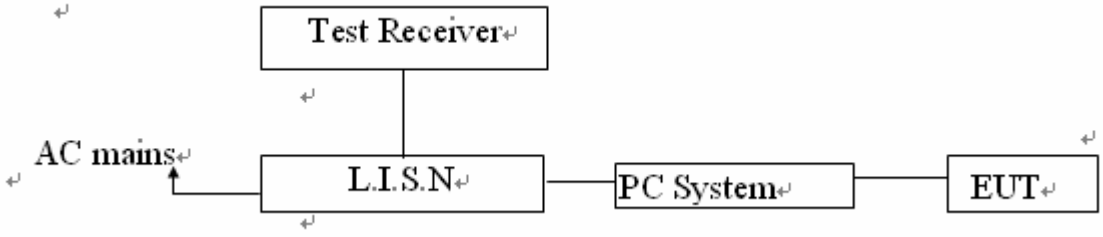
Example:
Freq (MHz) METER READING + ACF = FS
33 20 dBuV + 10.36 dB = 30.36 dBuV/m @ 3m

ANSI STANDARD C63.4-2009 10.1.7 MEASUREMENT PROCEDURES: The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The EUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation.
When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

3.POWER LINE CONDUCTED MEASUREMENT

3.1. Block Diagram of Test Setup

3.1.1 Block diagram of connection between the EUT and simulators



(EUT: ATLAS RFID READER)

3.2. Power Line Conducted Emission Measurement Limits (FCC Part 15 15.207)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

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

3.3. 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

3.4. Operating Condition of EUT

3.4.1. Setup the EUT and simulator as shown as Section 4.1.
3.4.2. Turn on the power of all equipment.
3.4.3. Let the EUT work in test mode (ON) and measure it.

3.5. 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 4.6.

Test Equipment

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

3.6. Power Line Conducted Emission Measurement Results

PASS.

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

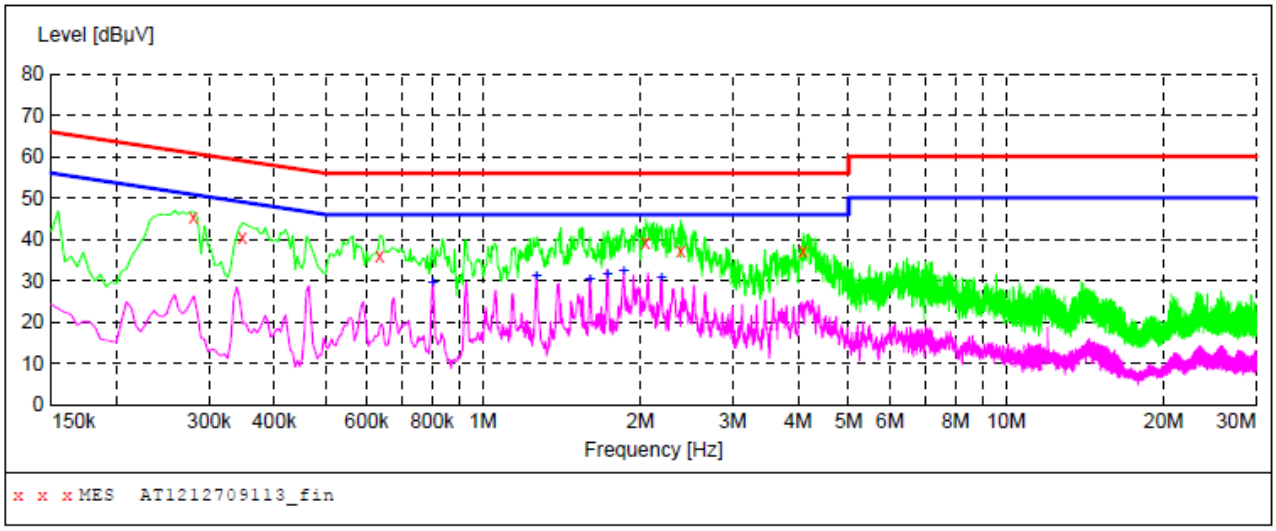
The test curves are shown in the following pages.

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"

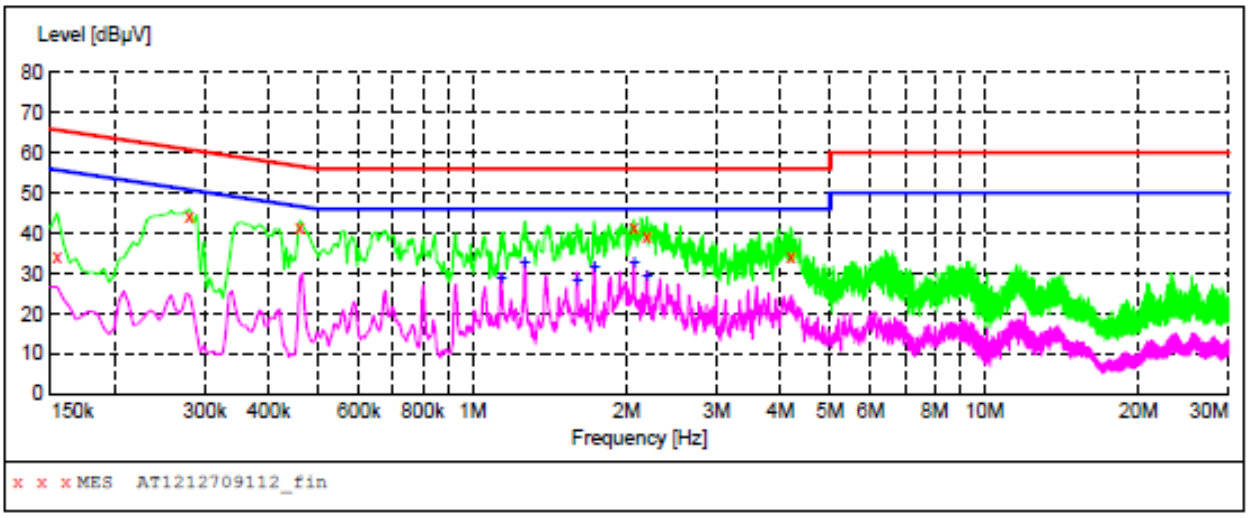
12/25/2012 11:02AM

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

4. RADIATED EMISSION MEASUREMENT

4.1. Radiated Emission Limits

Frequency (MHz)	Field Strength Limitation		Field Strength Limitation at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
0.009 – 0.490	2400 / F(KHz)	300m	10000 * 2400/F(KHz)	20log 2400/F(KHz) + 80
0.490 – 1.705	24000 / F(KHz)	30m	100 * 24000/F(KHz)	20log 24000/F(KHz) + 40
1.705 – 30.00	30	30m	100* 30	20log 30 + 40
30.0 – 88.0	100	3m	100	20log 100
88.0 – 216.0	150	3m	150	20log 150
216.0 – 960.0	200	3m	200	20log 200
Above 960.0	500	3m	500	20log 500

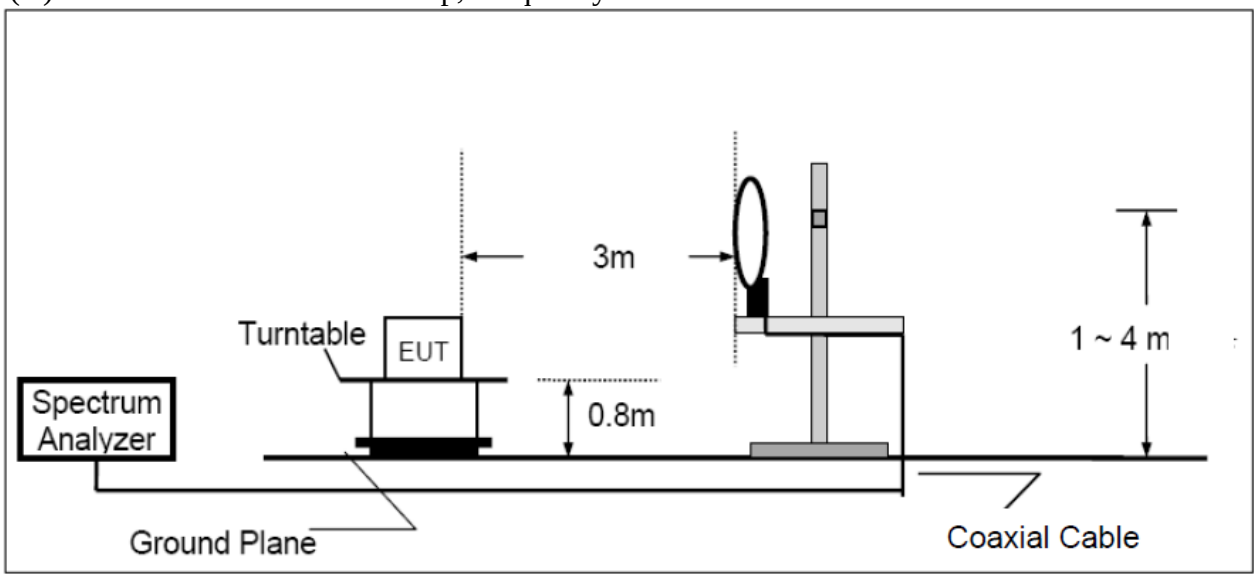
Note:
(1) The tighter limit shall apply at the boundary between two frequency range.
(2) Limitation expressed in dBuV/m is calculated by 20log Emission Level (uV/m).
(3) If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula of $Ld1 = Ld2 * (d2/d1)^2$.
Example:
F.S Limit at 30m distance is 30uV/m , then F.S Limitation at 3m distance is adjusted as
$Ld1 = L1 = 30uV/m * (10)^2 = 100 * 30$ uV/m

4.2. Test Procedure

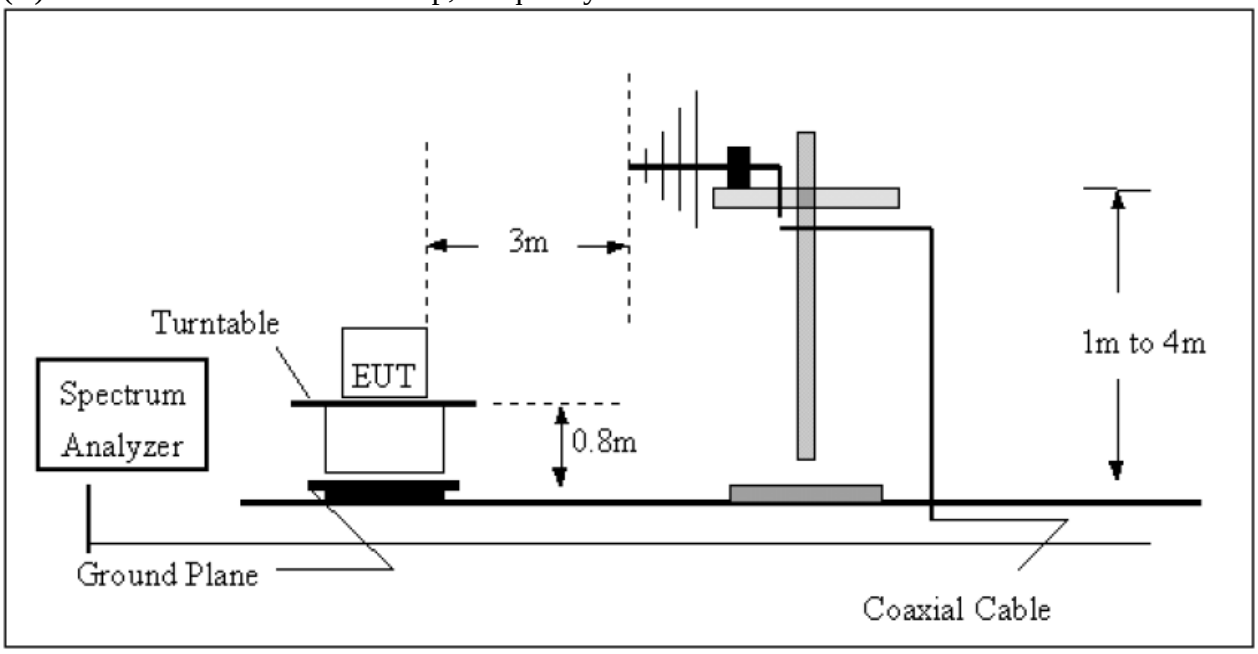
a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.3. Test Setup

(A)Radiated Emission Test Set-Up, Frequency below 30MHz



(B)Radiated Emission Test Set-Up, Frequency 30-1000MHz



Test Report

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

4.4. Test Results (Below 30MHz)

Freq.(KHz)	Reading at 3m (dBuV/m)	Factor (dB) Cable loss	Result at 3m (dBuV/m)	Field Strength Limit (uV/m)	Required Measurement Distance (m)	Limitation Converted 3m dist. (dBuV/m)	Over Limit (dB)	Detector (PK/AV)
125.00	80.56	16.00	96.56	19.20	300.00	105.67	-9.11	PK
250.00	49.17	15.60	64.77	9.6	300.00	99.66	-34.89	PK
375.00	47.50	15.30	62.80	6.4	300.00	96.12	-33.32	PK
500.00	43.35	14.80	58.15	48	30.00	73.62	-15.17	PK
625.00	42.65	14.50	57.15	38.4	30.00	71.69	-14.54	PK
800.00	38.57	13.95	54.52	30	30.00	69.54	-15.02	PK
925.00	--	--	--	--	--	--	--	--
1050.00	--	--	--	--	--	--	--	--
1250.00	--	--	--	--	--	--	--	--
1500.00	--	--	--	--	--	--	--	--

Remark：

(1) Spectrum Setting:
9 KHz – 150 KHz, RBW= 1 KHz, VBW=1 KHz, Sweep time = 200 ms.
150 K Hz – 30 MHz, RBW= 9 KHz, VBW=9 KHz, Sweep time = 200 ms.

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measure-ment didn‘t perform。

(3) The Log-Bicon Antenna will use to test frequency range from 30MHz to 1000MHz and the Loop Antenna will use to test frequency below 30MHz.

(4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table

5.5. Test Results (Between 30-1000MHz)

Pass

The test curves are shown in the following pages.

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1/F, 1 /Building, SEC Industrial Park, No.4 Qianhai Road,
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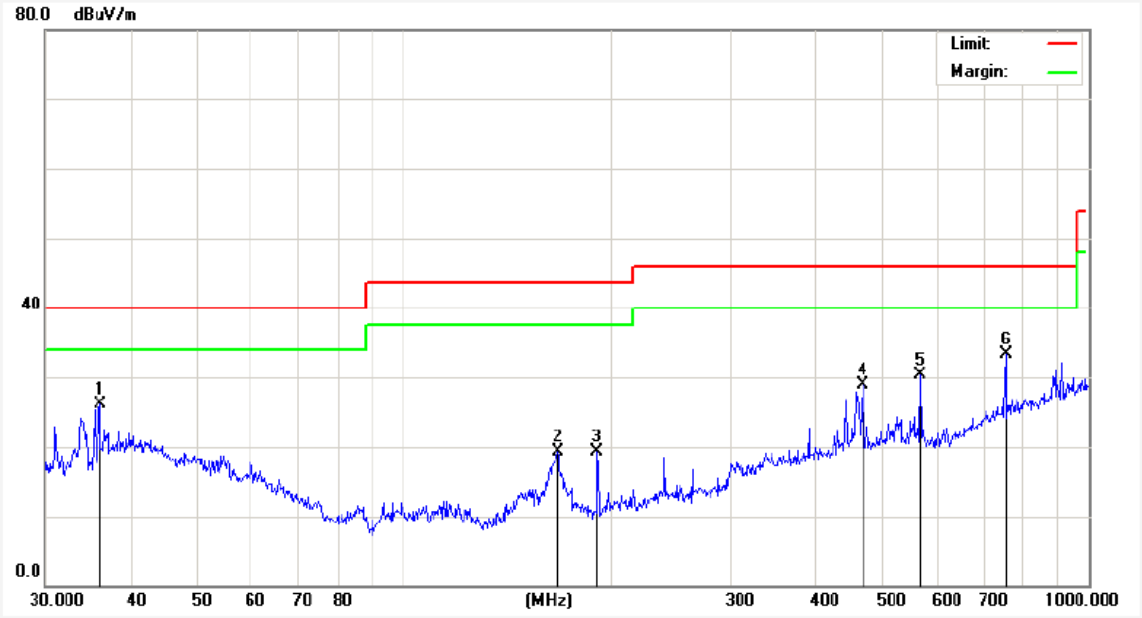
Job No.:	**AT1212709F**	**Polarziation:**	**Horizontal**
Standard:	**(RE)FCC PART15 B _3m**	**Power Source:**	**DC 5V**
Test item:	**Radiation Test**	**Date:**	**2012/12/24**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**9:20:24**
EUT:	**ATLAS RFID READER**	**Test By:**	**Well Wang**
Model:	DESKTOP 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			

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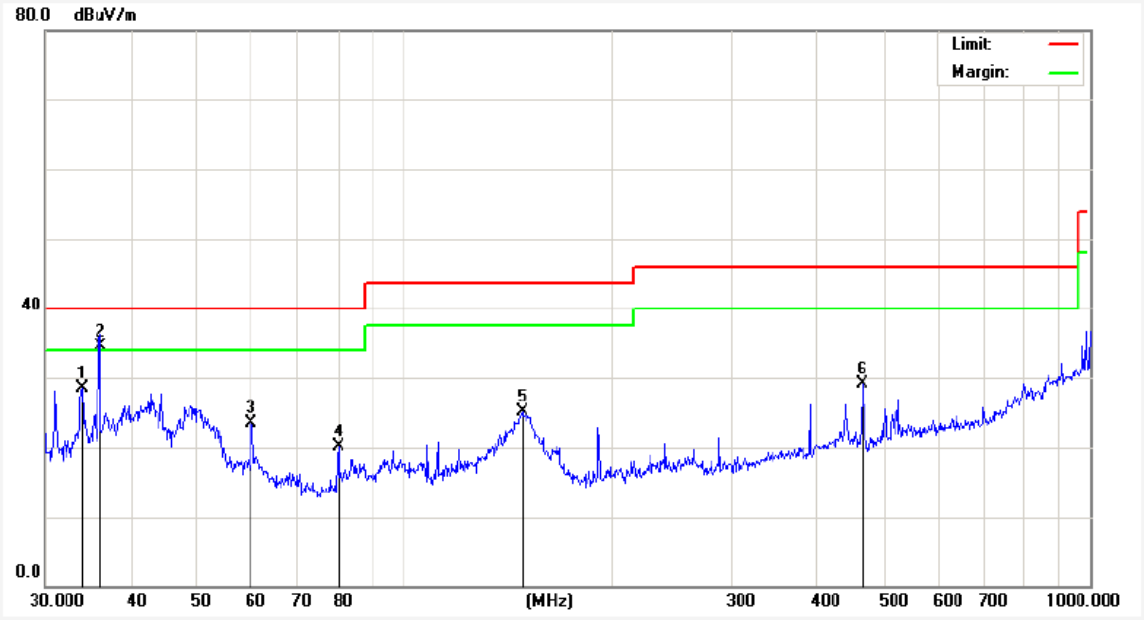
Http://www.anbotek.com

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			