



Application for

**US Code Title 47, Part 2, Subpart J, Section 2.947, Certification
Per
Part 15, Subpart C, for Intentional Radiators, Section 15.249, Intentional Radiator
Operating within the Band 902 MHz to 928 MHz.**

And

**US Code Title 47, Part 2, Subpart J, Section 2.902, Verification
Per
Part 15, Subpart B, for Unintentional Radiators, section 15.101, 15.107 and 15.109**

For the

Ticket Checker FA83-0015

Manufactured by

Scientific Games International

**UST Project: 08-0198
Issue Date: July 27, 2009**

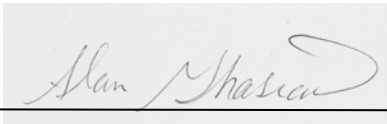
**3505 Francis Circle Alpharetta, GA 30004
PH: 770-740-0717 Fax: 770-740-1508
www.ustech-lab.com**



Testing Tomorrow's Technology

I certify that I am authorized to sign for the test facility and that all of the statements in this report and in the Exhibits attached hereto are true and correct to the best of my knowledge and belief:

US TECH (Agent Responsible For Test):

By: 

Name: Alan Ghasiani

Title: President, Consulting Engineer

Date: July 27, 2009

This report shall not be reproduced except in full. This report may be copied in part only with the prior written approval of U.S. Technologies. The results contained in this report are subject to the adequacy and representative character of the sample provided.

3505 Francis Circle Alpharetta, GA 30004

PH: 770-740-0717 Fax: 770-740-1508

www.ustech-lab.com

US Tech
Test Report:
Date:
Model:
Customer:

FCC ID: WRH – TC01
08-0198
27 July 2009
Ticket Checker FA83-0015
Scientific Games International

MEASUREMENT/TECHNICAL REPORT

COMPANY NAME: Scientific Games International

MODEL: Wireless Ticket Checker

FCC ID: WRH – TC01

DATE: July 27, 2009

This report concerns (check one): Original grant X
Class II change _____

Equipment type: **Intentional Radiator Operating within the bands 902-928 MHz**

Deferred grant requested per 47 CFR 0.457(d) (1) (ii)? yes _____ No X

If yes, defer until: _____
date

N.A. agrees to notify the Commission by N.A.
date

of the intended date of announcement of the product so that the grant can be issued on that date.

Report prepared by:

US Tech
3505 Francis Circle
Alpharetta, GA 30004

Phone Number: (770) 740-0717
Fax Number: (770) 740-1508

US Tech
Test Report:
Date:
Model:
Customer:

FCC ID: WRH – TC01
08-0198
27 July 2009
Ticket Checker FA83-0015
Scientific Games International

SUMMARY OF TEST REQUIREMENTS

<u>FCC Requirement</u>	<u>Title</u>	<u>Disposition</u>
15.205	Restricted Bands	Pass
15.207	Intentional Radiator Power Line Conducted Emissions	Pass
15.209	Intentional Radiator Radiated Emissions	Pass
15.249(a)	Fundamental Field Strength	Pass
15.107	Unintentional Radiator Power Line Conducted Emissions	Pass
15.109	Unintentional Radiator Radiated Emissions	Pass

N/A = Not applicable for this unit.

Table Of Contents

<u>Paragraph</u>	<u>Title</u>	<u>Page</u>
1	General Information	7
1.1	Purpose of Report	
1.2	Product Description	7
1.3	Related Submittal(s)	7
2	Tests and Measurements	8
2.1	Configuration of Tested EUT	8
2.2	EUT Characterization	8
2.3	Test Facility	8
2.4	Test Equipment	8
2.5	Modifications to EUT	9
2.6	Measurement Standards (CFR 15.31)	10
2.7	Frequency Range of Radiated Measurements (CFR 15.33)	10
2.8	Measurement Detector Function and Bandwidth (CFR 15.35)	10
2.9	Antenna requirement (CFR 15.203)	13
2.10	Intentional Radiator, Power Line Conducted Emissions	13
2.11	Intentional Radiator, Radiated Emissions (CFR15.249 (a))	14
2.12	Restricted Bands of Operation (CFR 15.205)	14
2.13	Unintentional Radiator, Power Line Conducted Emissions (CFR 15.107)	17
2.14	Unintentional Radiator, Radiated Emissions (CFR15.109)	19

List of Figures

<u>Figure</u>	<u>Title</u>	<u>Page</u>
1	Transmitter Pulse Width	11
2	Pulses in a 100 mSec period	12
3	Test Configuration	13

Table Of Contents (cont'd.)

<u>List of Tables</u>		
<u>Table</u>	<u>Title</u>	<u>Page</u>
1.	EUT and Peripherals	8
2.	Test Instruments used for Evaluation	9
3.	Antenna Information	13
4.	Peak Radiated Fundamental and Harmonics, (CFR15.249 (a))	15
5.	Average Radiated Fundamental and Harmonics Emissions, (CFR 15.35(b), 15.249(a))	16
6.	Power Line (Hot Line) Average Conducted Emissions Data, Class B	17
7.	Average Power Line (Neutral) Conducted Emissions Data, Class B	18
8.	Unintentional Radiator, Peak Radiated Emissions (CFR 15.109)	19

Appendices

1. Agency Agreement
2. Confidentiality Letter
3. Labeling Information
4. Theory of Operation
5. Block Diagram(S)/ Schematic(S)
6. Test Setup Photographs
7. Internal Photographs
8. External Photographs
9. User's Manual

1 General Information

1.1 Purpose of this Report

This report is prepared as a means of presenting test data to be used by a Telecom Certification Body in determination of whether this product is worthy of unlicensed dissemination to the general public according to the FCC Rules and Regulations for RF Devices Intentional Radiators.

1.2 Product Description

The Instant Ticket Checker is a composite device consisting of three user-addressable devices. The devices are LCD display, barcode scanner and keypad. The Ticket Checker interfaces to the Wave Terminal providing ticket processing in a timely, secure and efficient manner

1.3 Related Submittal(s)/Grant(s)

1.3.1 The EUT is subject to the following FCC authorizations:

- a) Certification under section 15.249 as a transmitter.
- b) Verification under 15.101 as a digital device and receiver.

1.3.2 Certification of the Transmitter

Though the Wireless Ticket Checker is a Frequency Hopping Spread Spectrum transceiver, it is not being certified under CFR 15.247 because its pseudorandom hopping routines do not fit the FCC definition of pseudorandom. It is instead being presented under the requirements of CFR 15.249.

1.3.3 Verification of the Digital apparatus

The Verification requirement shares many common report elements with the Certification report. Therefore, though this report is mostly intended to provide data for the Certification process, the Verification authorization report (part 15.107 and 109) for the Wireless Ticket Checker is included herewith.

2 Tests and Measurements

2.1 Configuration of Tested System

The sample was setup and tested per ANSI C63.4, *Methods of Measurement from Low-Voltage Electrical and Electronic Equipment in the Frequency Range of 9 kHz to 40 GHz (2003)*. Conducted and radiated emissions data were taken with the EMC test receiver (or spectrum analyzer's) resolution bandwidth adjusted to 9 kHz and 120 kHz, respectively. All measurements are peak unless stated otherwise. The video filter associated with the spectrum analyzer was off throughout the evaluation process. A Block diagram of the tested system is shown in Figure 1. A listing of the EUT and its test peripherals is found in Table 1 below. Test configuration photographs for spurious and fundamental emissions are shown in Figures 6 - 9.

Table 1 - EUT and Peripherals

PERIPHERAL MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID:	CABLES P/D
Scientific Games International Wireless Ticker Checker	FA83-0015	None	None	6' U Power Cord
AC Power Supply Motorola	SYS1193-1005-W2	None	None	120 VAC, 60 Hz Direct Plug-in

2.2 EUT Characterization

The sample used for testing was received by US Tech on September 25, 2008 in good operating condition.

2.3 Test Facility

Testing was performed at US Tech's measurement facility at 3505 Francis Circle, Alpharetta, GA. This site has been fully described and registered with the FCC under designation number US5117. Additionally this site has also been fully described and submitted to Industry Canada (IC), and has been approved under file number 2982A-1.

2.4 Test Equipment

Table 2 describes test equipment used to evaluate this product.

US Tech
Test Report:
Date:
Model:
Customer:

FCC ID: WRH – TC01
08-0198
27 July 2009
Ticket Checker FA83-0015
Scientific Games International

Table 2 - Test Instruments used for Evaluation.

EQUIPMENT	MODEL NUMBER	MANUFACTURER	SERIAL NUMBER	DATE OF LAST CALIBRATION
SPECTRUM ANALYZER	8593E	HEWLETT-PACKARD	3205A00124	9/9/08
RF PREAMP	8447D	HEWLETT-PACKARD	2944A06291	9/12/08
BICONICAL ANTENNA	3110B	EMCO	9307-1431	11/15/07
LOG PERIODIC	3146	EMCO	9110-3236	11/21/07 2 Yr.
LISN (x 2) 9247-50-TS-50-N	9247	SOLAR ELE.	955824 & 955825	4/2/08
HORN ANTENNA	3115	EMCO	9107-3723	10/16/06 2 Yr.
MICROWAVE PREAMP	8449B	HEWLETT PACKARD	3008A00480	9/2/08
CALCULATION PROGRAM	N/A	N/A	Ver. 6.0	N/A

Note: The calibration interval of the above test instruments is 12 months unless stated otherwise, and all calibrations are traceable to NIST/USA.

2.5 Modifications to EUT

No modifications were made by US Tech to bring the EUT into compliance with FCC Part 15, Subpart B, Class B Limits for the receiver and digital portion of the EUT or the Subpart C, Transmitter requirements.

2.6 Measurement Standards (CFR 15.31)

Intentional and unintentional radiators are to use the methods of ANSI C63.4 – 2003. Measurements were made on an Open Area Test Site (OATS) wherever possible. For battery powered equipment, new (or fully charged) batteries are used.

Section 15.31(m) indicates that because the EUT System operates over the 902 MHz to 928 MHz ISM band, measurements must be made near the bottom of the band (around 902 MHz for example) and in the middle of the band (915 MHz) as well as near the top of the band (928 MHz).

2.7 Frequency Range of Radiated Measurements (CFR 15.33)

The frequency range is detailed below for intentional and unintentional radiators.

2.7.1 Frequency Range for Intentional Radiators

The spectrum was investigated from the lowest RF signal generated without going below 9 kHz to the 10th harmonic of the highest fundamental transmitter frequency (9280 MHz maximum).

2.7.2 Frequency Range for Unintentional Radiators

The spectrum was investigated from the lowest RF signal generated without going below the lowest frequency for which an emissions limit is specified (30 MHz) to the 5th harmonic of the highest fundamental frequency of the digital device (5 GHz maximum).

2.8 Measurement Detector Function and Bandwidth (CFR 15.35)

On any frequency below 1000 MHz, the limits shown are based upon measuring equipment employing a CISPR quasi-peak detector function and related measurement bandwidths. On frequencies above 1000 MHz, the radiation limits are based upon the use of measuring instrumentation employing an average detector function.

When average detector measurements are specified for use, including emission measurements below 1000 MHz, there is also a corresponding limit for Peak detector measurements having a limit of 20 dB above the corresponding average limit unless a different peak emission limit is specified. Measurements above 1000 MHz utilize a minimum resolution bandwidth of 1 MHz.

2.8 Measurement Detector Function and Bandwidth (CFR 15.35) (Cont'd)

When radiated emissions limits are expressed in terms of the average value of the emission and pulsed operation is employed, the measurement field strength is determined by averaging over one complete pulse train (Duty Cycle) including blanking intervals for pulse trains up to 0.1 second in duration. The exact method of calculating the average field strength is included in paragraph 2.11 of this report. Refer to Figures 1 and 2 for duty cycle measurement data.

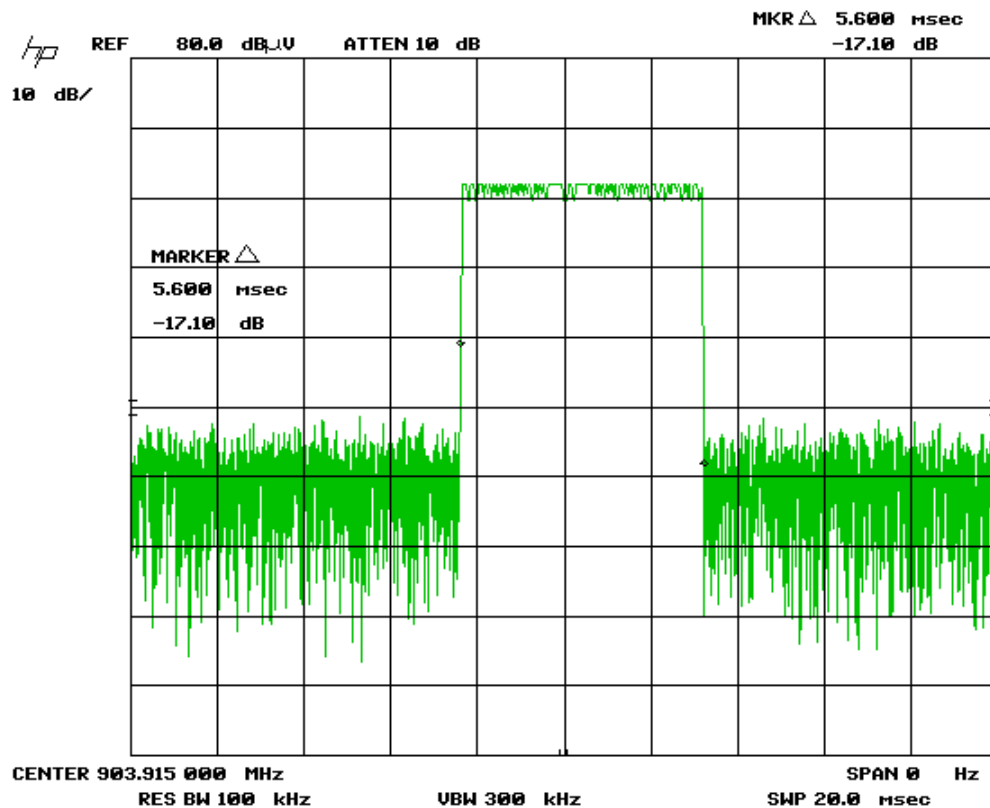
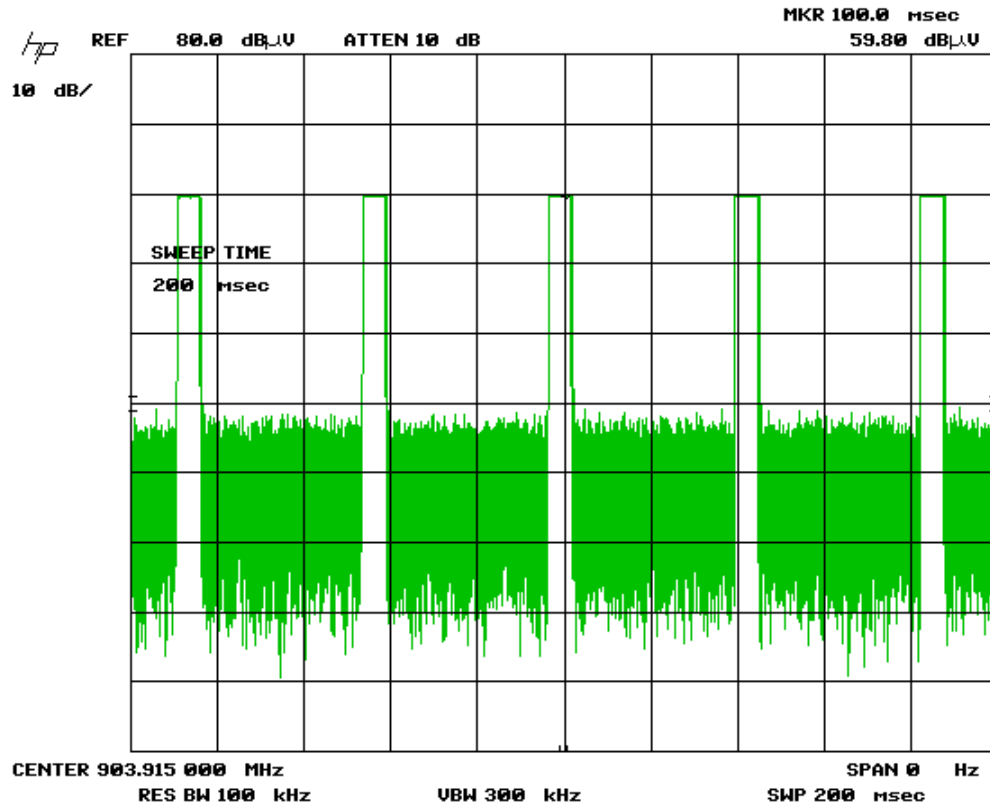


Figure 1 - Transmitter Pulse Width.



$$\frac{5.6\text{mS} \times 5}{200\text{mS}} = 0.14 = 14 \text{ percent}$$

$$\text{DC} = 20 \text{ Log } 0.14 = \boxed{-17 \text{ dB}}$$

Figure 2 – Pulses in a 100 mSec Period.

2.9 Antenna Requirement (CFR 15.203)

The intentional radiator is designed to assure that no antenna other than that furnished by the manufacturer is used with the device. The use of a permanently attached antenna is considered sufficient to comply with this requirement. Below is a table of the permanently attached antenna used with this system and its characteristics. If, in the future, additional antennas are contemplated for use, they must be formally evaluated and approved for suitability to these requirements.

Table 3. Antenna Information.

Manufacturer	Model Number	Antenna Type	Frequency Range	Peak Gain dBi	Impedance Ohms
Analog Devices	ADF7020	Compact Chip	910 MHz	6dB (max)	50 Unbalanced

2.10 Intentional Radiator, Power Line Conducted Emissions (CFR 15.207)

When the EUT is connected to the power lines through its battery charger, it is inhibited from transmitting or receiving. It can only charge the battery. Therefore, this test data is not available.

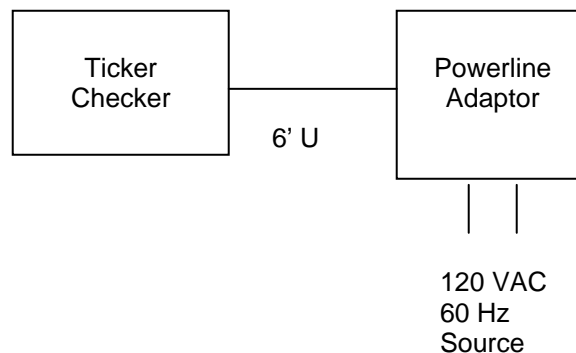


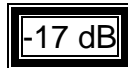
Figure 3 - Test Configuration

2.11 Intentional Radiator, Radiated Emissions (CFR 15.249 (a), (e))

The EUT frequency hopping was stopped and it was placed into a continuous transmit mode of operation. A preliminary scan was performed on the EUT to find signal frequencies that were caused by the transmitter part of the product. Radiated measurements below 1 GHz were tested with a RBW = 120 kHz. Radiated measurements above 1 GHz were measured using a RBW = VBW = 1 MHz. Test data are found in Tables 4 and 5.

The average values are determined by adding a duty Cycle correction factor onto the peak values. The duty cycle correction factor is found by adding all the transmitter ON times in a 100 msec period and then dividing that sum by 100 mSec and multiplying the resultant by 100%.

$$\text{Duty Cycle Correction Factor, DC} = \frac{\text{ON time}}{100 \text{ mSec}} \times 100\% = 14\%$$



2.12 Restricted Bands of Operation (CFR 15.205)

Only radiated harmonics and other spurious signals can be permitted to fall into the restricted bands of 15.205. All signals found in paragraph 2.11 above shall be examined for this requirement. Limits are based upon the limits of paragraph 15.209. Above 1 GHz, the limits are for Average value. See Tables 4 and 5 below for peak and Average measurements. According to CFR 15.35, the peak limits can exceed the average limits by 20 dB.

US Tech
Test Report:
Date:
Model:
Customer:

FCC ID: WRH – TC01
08-0198
27 July 2009
Ticket Checker FA83-0015
Scientific Games International

Table 4. Peak Radiated Fundamental and Harmonics, (CFR15.249 (a))

Peak Radiated Fundamental and Harmonics Emissions							
Test By: KM	Test: Fundamental and Harmonics- above 1 GHz CFR 15.249 (a)			Client: Scientific Games International			
	Project: 08-0198	Class: N/A		Model: Wireless Ticket Checker PAT FA84-0009			
Frequency (MHz)	Test Data (dBuV)	AF+CL-PA (dB/m)	Corrected Results (dBuV/m)	Peak Limits (dBuV/m)	Distance / Polarity (Meters)	Margin (dB)	Det PK / QP
LOW BAND							
904.0	56.92	28.68	85.60	94.0	3m./VERT	8.4	PK
1808.0	61.62	-8.31	53.31	74.0	3m./VERT	20.7	PK
2712.0	66.41	-5.32	61.09	74.0	3m./VERT	12.9	PK
3616.0	49.50	-1.41	48.09	74.0	3m./HORZ	25.9	PK
4520.0	63.42	1.10	64.52	74.0	3m./VERT	9.5	PK
7232.0	40.57	6.00	46.57	74.0	3m./HORZ	27.4	PK
8136.0	46.81	8.33	55.14	74.0	3m./HORZ	18.9	PK
9040	40.68	9.17	49.85	74.0	3m./VERT	24.1	PK
MID BAND							
912.0	56.9	28.8	85.7	94.0	3m./VERT	8.3	PK
1824.0	62.7	-8.2	54.5	74.0	3m./VERT	19.5	PK
2736.0	69.6	-5.2	64.4	74.0	3m./VERT	9.6	PK
3648.0	50.3	-1.4	48.9	74.0	3m./VERT	25.1	PK
4560.0	65.0	1.2	66.2	74.0	3m./VERT	7.8	PK
6384.0	*48.5	5.0	53.5	74.0	1m./VERT	20.5	PK
7296.0	*39.5	7.1	46.6	74.0	1m./HORZ	27.4	PK
8208.0	*47.1	9.0	56.1	74.0	1m./HORZ	17.9	PK
HIGH BAND							
920.0	56.92	28.75	85.67	94.0	3m./VERT	8.3	PK
2760.0	63.20	-5.10	58.10	74.0	3m./VERT	15.9	PK
3680.0	62.94	-1.28	61.66	74.0	3m./VERT	12.3	PK
4600.0	59.63	1.38	61.01	74.0	3m./VERT	13.0	PK
7360.0	41.87	6.56	48.43	74.0	3m./HORZ	25.6	PK
8280.0	46.00	8.44	54.44	74.0	3m./HORZ	19.6	PK
9200.0	42.01	9.51	51.52	74.0	3m./VERT	22.5	PK

All other emissions were at least 20 db below the limit. Tested from 1 GHz to 18 GHz.

Data corrected by 1.0 dB for loss of high pass filter, except for fundamental

* Conversion from 1 meter distance to 3 meters = - 9.5 dB

SAMPLE CALCULATION:

RESULTS: At 904.0 MHz, = 56.92 dBuV+28.68 dB/m = 85.60 dBuV/m @ 3m

Test Date: October 6, 2008

Tester

Signature: 

Name: Keyvan Muvahhed

US Tech
Test Report:
Date:
Model:
Customer:

FCC ID: WRH – TC01
08-0198
27 July 2009
Ticket Checker FA83-0015
Scientific Games International

Table 5. Average Radiated Fundamental and Harmonics Emissions, (CFR 15.35(b), 15.249(a))

Average Radiated Fundamental and Harmonics Emissions							
Test By: K.M.	Test: Fundamental and Harmonics- Above 1 GHz to 25 GHz			Client: Scientific Games International			
Project: 08-0198		Average		Model: Wireless Ticket Checker			
Frequency MHz	Test Data dBuV	AF+CL-PA+DC dB/m	Corrected Results dBuV/m	AVG Limits dBuV/m	Distance/ Polarization	Margin dB	PK / QP /AVG
LOW BAND							
904.0	56.92		68.6	-	3m./VERT	-	PK
1808.0	44.68	-25.31	19.37	54.0	3m./VERT	34.6	AVG
*2712.0	45.54	-22.32	23.19	54.0	3m./VERT	30.8	AVG
3616.0	36.95	-18.41	18.54	54.0	3m./HORZ	35.5	AVG
*4520.00	43.50	-15.90	27.6	54.0	3m./VERT	26.4	AVG
7232.0	29.98	-12.89	18.98	54.0	3m./HORZ	35.0	AVG
8136.0	33.76	-11.00	25.09	54.0	3m./HORZ	28.9	AVG
9040.0	31.52	-8.67	23.69	54.0	3m./VERT	30.3	AVG
MID BAND							
912.00	56.9		68.7	-	3m./VERT	-	PK
1824	44.5	-25.2	19.3	54.0	3m./VERT	34.7	AVG
2736	46.5	-22.2	24.3	54.0	3m./VERT	29.7	AVG
3648	37.5	-18.4	19.1	54.0	3m./VERT	34.9	AVG
4560	44.0	-15.8	28.2	54.0	3m./VERT	25.8	AVG
5472	40.0	-12.8	27.2	54.0	1m./VERT	26.8	PK
6384	*26.1	-12	14.1	54.0	1m./VERT	39.9	AVG
7296	*39.5	-9.9	29.6	54.0	1m./HORZ	24.4	PK
8208	*31.5	-8	23.5	54.0	1m./HORZ	30.5	AVG
HIGH BAND							
920.00	56.92		68.67	-	3m./VERT	-	PK
2760.0	44.95	-22.1	22.85	54.0	3m./VERT	31.15	AVG
3680.0	43.41	-18.28	25.13	54.0	3m./VERT	28.87	AVG
4600.0	42.29	-15.62	26.67	54.0	3m./VERT	27.33	AVG
7360.0	29.25	-10.44	18.81	54.0	3m./HORZ	35.19	AVG
8280.0	31.61	-8.56	23.05	54.0	3m./HORZ	30.95	AVG
9200.0	29.99	-7.49	22.5	54.0	3m./VERT	31.5	AVG

All other emissions were at least 20 db below the limit.

17 dB duty cycle added to the data correction column

. * Correction factor for distance = -9.5 dB.

Data corrected by 1.0 dB for loss of high pass filter, except for fundamental

SAMPLE CALCULATION: at 904.00 MHz, = 56.92 dBuV+ 28.68 dB/m – 17 dB =
68.6 dBuV/m @ 3m

Test Date: October 6, 2008

Tester

Signature: 

Name: Keyvan Muvahhed

US Tech
Test Report:
Date:
Model:
Customer:

FCC ID: WRH – TC01
08-0198
27 July 2009
Ticket Checker FA83-0015
Scientific Games International

2.13 Unintentional Radiator, Power Line Conducted Emissions (CFR 15.107)

The unit was set-up and measured for conducted power line emissions. The measurement setup and test procedures were in accordance with ANSI C63.4, paragraph 7. The unit was connected to its power adapter (Motorola model FMP5202A AC power Supply) for measurement. By design, the EUT operating state is such that it is restricted to the battery charge mode only and does not transmit (or receive) while connected to AC power.

Measurements were made over the 150 kHz to 30 MHz frequency range for the unit. The measurement receiver was connected to the RF (receiver) Port on the LISN and each power lead was individually measured. Test results are shown on Tables 6 and 7 for the unit.

Table 6 - Power Line (Hot Line) Average Conducted Emissions Data, Class B.

Power Line Average Power Line Conducted Emissions							
Test By: KM	Test: FCC Power Line Conducted Emissions 150 KHz – 30 MHz , Hot Phase			Client: Scientific Games International			
	Project: 08-0198	Sect. 15.107 Class: B		Model: Wireless Ticket Checker			
Frequency (MHz)	Test Data (dBuV)	IL+CL -PA (dB)	Results (dBuV)	AVG Limits (dBuV)	Phase /Neutral	Margin (dB)	PK / QP
0.1510	47.20	-0.34	46.86	56.0	Phase	9.1	PK
0.5080	35.00	-0.06	34.94	46.0	Phase	11.1	PK
1.0400	32.10	0.06	32.16	46.0	Phase	13.8	PK
5.1400	28.50	0.14	28.64	50.0	Phase	21.4	PK
13.9700	25.80	0.20	26.00	50.0	Phase	24.0	PK
21.6000	25.60	0.43	26.03	50.0	Phase	24.0	PK

Tested from 150 kHz to 30 MHz.

SAMPLE CALCULATIONS: at 0.1510 MHz, 47.20 dBuV + (- 0.34) = 46.86 dBuV

Test Date: October 6, 2008

Tester

Signature: 

Name: Keyvan Muvahhed

US Tech
 Test Report:
 Date:
 Model:
 Customer:

FCC ID: WRH – TC01
 08-0198
 27 July 2009
 Ticket Checker FA83-0015
 Scientific Games International


Table 7. Average Power Line (Neutral) Conducted Emissions Data, Class B

Average Power Line Conducted Emissions							
Test By: KM	Test: FCC Conducted Emissions 150 KHz – 30 MHz, Neutral			Client: Scientific Games International			
	Project: 08-0198	Sect. 15.107 Class: B		Model: Wireless Ticket Checker			
Frequency (MHz)	Test Data (dBuV)	IL+CL -AMP (dB)	Corrected Results (dBuV)	Avg Limits (dBuV)	Phase	Margin (dB)	PK / QP/ Avg DET
0.1500	45.90	-0.34	45.56	56.0	Neutral	10.4	PK
0.6590	30.20	-0.10	30.10	46.0	Neutral	15.9	PK
2.4100	33.70	0.05	33.75	46.0	Neutral	12.2	PK
6.0300	28.20	0.22	28.42	50.0	Neutral	21.6	PK
13.9400	26.10	0.17	26.27	50.0	Neutral	23.7	PK
21.2600	25.40	0.45	25.85	50.0	Neutral	24.1	PK

Tested from 150 kHz to 30 MHz.

SAMPLE CALCULATIONS: at 0.15 MHz, 45.90 dBuV + (-0.34) dB = 45.56 dBuV

Test Date: October 6, 2008

**Tester
 Signature:** 

Name: Keyvan Muvahhed

US Tech
Test Report:
Date:
Model:
Customer:

FCC ID: WRH – TC01
08-0198
27 July 2009
Ticket Checker FA83-0015
Scientific Games International

2.14 Unintentional Radiator, Radiated Emissions (CFR 15.109)

Radiated emissions within the band 30 MHz to 25 GHz were measured with a spectrum analyzer via a pre-amplifier by connecting the spectrum analyzer to a receiving antenna spaced three (3) meters from the EUT. The spectrum analyzer was set for a 50 Ω input impedance with the VBW set to \geq the RBW bandwidth. The antenna was raised and lowered over a span of 4 meters in order to maximize the signal coming from the EUT. Similarly, the turntable was rotated through 360 degrees in the same maximizing effort. Also the EUT was scanned for a maxima when placed in each of the three mutually exclusive orthogonal planes. The results of the measurements are given in Table 8.

Table 8 - Unintentional Radiator, Peak Radiated Emissions (CFR 15.109).

Peak Radiated Emissions, Digital Device and Receiver							
Test By: KM	Test: Radiated Emissions- 30 MHz to 25 GHz			Client: Scientific Games International			
	Project: 08-0198	Requirement 15.109, Class: B		Model: Wireless Ticket Checker			
Frequency (MHz)	Test Data (dBuV)	AF+CL-PA (dB)	Results (dBuV/m)	Peak Limits (dBuV/m)	Distance / Polarity (meters)	Margin (dB)	Detector PK / QP
45.9200	27.40	11.50	38.90	40.0	3m./VERT	1.1	QP
118.4000	12.60	13.33	25.93	43.5	3m./HORZ	17.6	QP
232.7800	16.60	14.88	31.48	46.0	3m./HORZ	14.5	PK
287.4300	22.70	17.42	40.12	46.0	3m./HORZ	5.9	PK
300.0000	15.50	18.67	34.17	46.0	3m./HORZ	11.8	PK
319.9800	11.60	17.91	29.51	46.0	3m./VERT	16.5	QP
383.8200	22.90	18.86	41.76	46.0	3m./VERT	4.2	PK
575.9800	16.00	22.86	38.86	46.0	3m./VERT	7.1	QP
600.0000	16.50	23.46	39.96	46.0	3m./VERT	6.0	QP
600.0000	15.90	23.96	39.86	46.0	3m./HORZ	6.1	QP
2331.0000	48.25	-6.32	41.93	54.0	3m./HORZ	12.1	PK

Tested from 30 MHz to 10 GHz.

Data corrected by 1.0 dB for loss of high pass filter.

SAMPLE CALCULATION:

RESULTS at 45.92 MHz, = 27.40 dBuV + (11.50) dB/m = 38.90 dBuV/m

Test Date: **October 6, 2008**

Tester

Signature: _____



Name: **Keyvan Muvahhed**