Testing Tomorrow's Technology

Application for
PERMISSIVE CHANGE

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

Scientific Games

Lottery Ticket Scanner, FA69 series
Model: Ticket Checker

Manufactured by

Scientific Games

UST Project: 12-0358
Test Date(s): January 9-28, 2013
Issue Date: January 28, 2013

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

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: Consulting Engineer - President

Date: January 28, 2013

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

MEASUREMENT/TECHNICAL REPORT

COMPANY NAME: Scientific Games

MODEL(S): Lottery Ticket Scanner FA69 Series, Ticket Checker
FCC ID: WRH-TC01

DATE: January 28, 2013

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

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

SUMMARY OF TEST REQUIREMENTS

FCC Requirement	Title	Disposition
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.

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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 permitted for unlicensed dissemination to the general public according to the FCC Rules and Regulations for RF Devices Intentional Radiators as a PERMISSIVE CHANGE to a currently certified product.

1.2 Product Description

The Equipment Under Test (EUT) is the Scientific Games Lottery Ticket Scanner, FA69 Series Ticket Checker. The EUT is an ISM band transceiver operating in the 902-928 MHz frequency band. Per 47 CFR Part 15.31(m) the EUT was evaluated at the low, middle and high channels for operation in this band. Test data for these channels is provided herein.

The EUT is a device connected either wired or wirelessly to a lottery point of sale terminal. The EUT scans the barcodes on online or instant lottery tickets. This data is then transmitted to the lottery point of sale terminal which will inform the clerk if the ticket is a winner or not.

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

The EUT employs digital modulation, but is not being certified under CFR 15.247 because the field strength of the fundamental and its harmonics are within the limits specified in 47 CFR 15.249. Therefore the EUT is instead being presented under the requirements of CFR 15.249. The EUT will operate within the frequency band of 902 MHz to 928 MHz.

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 EUT is included herein.

2 Tests and Measurements

2.1 Configuration of Tested System

The sample was set up 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 measurements are in the attached appendices.

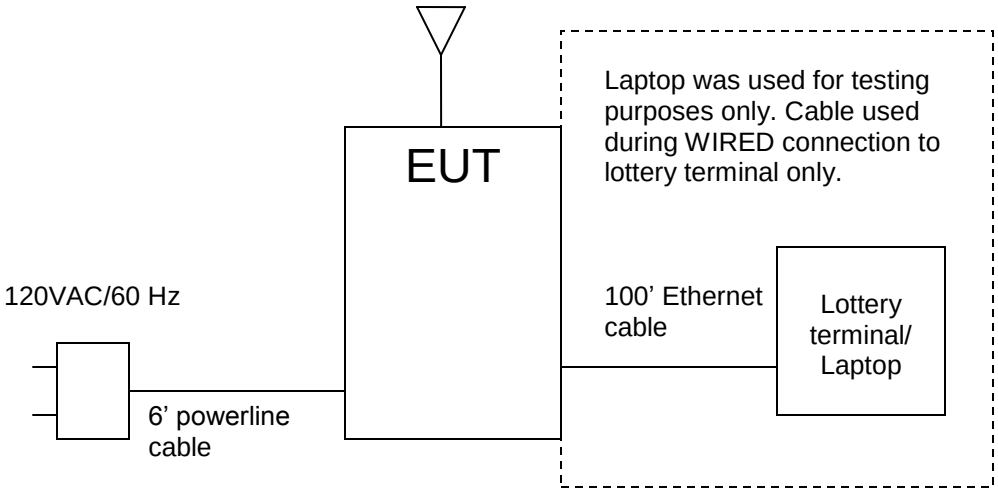

Figure 1. Test Configuration

Table 1 - EUT and Peripherals

PERIPHERAL MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID:	CABLES P/D
Ticket Checker	FA69-XXXX-XX	None	WRH-TC01	NA

(EUT) Scientific Games				
AC Adapter CableQuest	ZDA050200US	None	None	6' U P
Laptop Lenovo (Used in place of Lottery terminal for testing ONLY)	Various	Various	Various	6' U P

2.2 EUT Characterization

The sample used for testing was received by US Tech on January 8, 2013 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.

Table 2 - Test Instruments used for Evaluation.

TEST INSTRUMENT	MODEL NUMBER	MANUFACTURER	SERIAL NUMBER	DATE OF LAST CALIBRATION
SPECTRUM ANALYZER	8566B	HEWLETT-PACKARD	2648A13875	11/21/2012
SPECTRUM ANALYZER	E4407B	Agilent	US41442935	10/29/2012
RF PREAMP	8447D	HEWLETT-PACKARD	2944A06291	11/29/2012
LOOP ANTENNA	SAS-200/562	AH Systems	142	08/08/11 2 yrs
BICONICAL ANTENNA	3110B	EMCO	9307-1708	07/02/2012
LOG PERIODIC	3146	EMCO	3110-3236	06/05/2012
LISN (x 2) 9247-50-TS-50-N	9247	Solar Electronics	955824 & 955826	02/09/2012
HORN ANTENNA	3115	EMCO	9107-3723	08/10/2011 2 yrs
PREAMP	8449B	HEWLETT-PACKARD	3008A00480	04/12/2012
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 if 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.

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).

2.7.3 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.

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 2 for duty cycle measurement data.

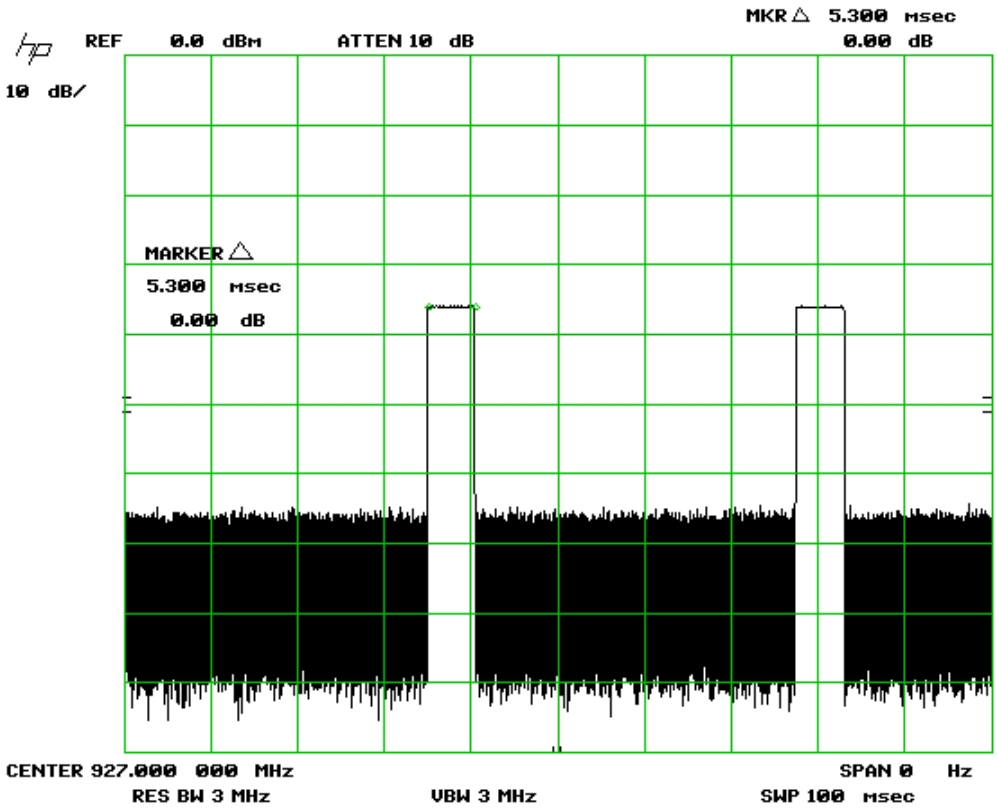

Figure 2. Transmitter Pulse Width

(5.3mS x 2)/100mS = 0.106 = 10.6% percent

Duty Cycle = 20 Log (0.106) = -19.5 dB

2.8 Antenna Requirement (CFR 15.203)

The EUT has an internal radiator; there are no external antenna ports.

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

The EUT is powered by an AC adapter that connects to the AC mains. The EUT operates on 5VDC at 2000mA via the AC adapter. Conducted emissions were measured and the data is presented herein.

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

The EUT 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 and to obtain the worse case result the EUT tested in all X, Y and Z axis. Radiated measurements below 30 MHz were tested with a RBW = 9 kHz; emissions below 1 GHz were tested with a RBW = 120 kHz and radiated measurements above 1 GHz were measured using a RBW =1 MHz VBW = 3 MHz.

Test data is found in Tables 4 and 5.

2.11 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 2.7 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.

Table 3 - Peak Fundamental and Harmonics, (CFR15.249 (a))

Radiated Fundamental and Harmonics Emissions								
Test By: JW	**Test:** Fundamental and Harmonics CFR 15.249 (a)				**Client:** Scientific Games			
	Project: 12-0358		**Class: N/A**		**Model: Ticket Checker**			
Frequency (MHz)	**Test Data (dBuV)**	**DF+FL***	**AF+CL-PA (dB/m)**	**Corrected Results (dBuV/m)**	**Peak Limits (dBuV/m)**	**Distance / Polarity (Meters)**	**Margin (dB)**	**Det PK / QP**
902.46	63.00	0.0	28.96	91.96	94.0	3.0m./	2.0	**PK**
1804.89	76.49	1.50	-6.05	71.94	74.0	3.0m./	2.1	**PK**
2707.33	74.11	1.50	-3.26	72.35	74.0	3.0m./	1.6	**PK**
3609.75	58.89	1.50	0.44	60.83	74.0	3.0m./	13.2	**PK**
4512.07	61.65	1.50	1.83	64.98	74.0	3.0m./	9.0	**PK**
914.95	59.60	0.0	28.86	88.46	94.0	3.0m./	5.5	**PK**
1829.87	69.90	1.50	-5.29	66.11	74.0	1.0m./	7.9	**PK**
2744.74	68.10	1.50	-2.48	67.12	74.0	1.0m./	6.9	**PK**
3659.63	56.60	1.50	1.61	59.71	74.0	1.0m./	14.3	**PK**
4574.65	65.40	1.50	2.63	69.53	74.0	1.0m./	4.5	**PK**
927.43	64.00	0.0	28.97	92.97	94.0	3.0m./	1.0	**PK**
1854.96	73.94	1.50	-5.82	69.62	74.0	3.0m./	4.4	**PK**
2782.35	73.25	1.50	-3.37	71.38	74.0	3.0m./	2.6	**PK**
3709.88	59.19	1.50	1.08	61.77	74.0	3.0m./	12.2	**PK**
4637.30	63.74	1.50	2.03	67.27	74.0	3.0m./	6.7	**PK**

All other emissions were at least 20 dB below the applicable limit.
*Data corrected by 1.5 dB for loss of high pass filter (FL), except for fundamental

SAMPLE CALCULATION: at 1804.89 MHz, = 76.49 dBuV + (1.50) + (-6.05) dB/m = 71.94 dBuV/m @ 3m

Test Date: January 16, 2013
Tested by
Signature: John C Wynn **Name: John C. Wynn**

Table 4 - Fund and Harmonics Average limits, (CFR 15.35(b), 15.249(a))

Radiated Fundamental and Harmonics Emissions								
Test By: JW	**Test:** Fundamental and Harmonics CFR 15.249 (a)				**Client:** Scientific Games			
	Project: 12-0358		**Class: N/A**		**Model: Ticket Checker**			
Frequency (MHz)	**Test Data (dBuV)**	**DF+FL**	**AF+CL-PA+DC (dB/m)**	**Corrected Results (dBuV/m)**	**Limits (dBuV/m)**	**Distance / Polarity (Meters)**	**Margin (dB)**	**Det PK / QP**
902.46	63.00	0.0	28.96	91.96	94.0	3.0m./	2.0	**PK**
1804.89	76.41	-18.00	-6.05	52.36	54.0	3.0m./	1.6	**AVG**
2707.33	73.84	-18.00	-3.26	52.58	54.0	3.0m./	1.4	**AVG**
3609.75	56.65	-18.00	0.44	39.09	54.0	3.0m./	14.9	**AVG**
4512.07	60.03	-18.00	1.83	43.86	54.0	3.0m./	10.1	**AVG**
914.95	59.60	0.0	28.86	88.46	94.0	3.0m./	5.5	**PK**
1829.87	69.40	-18.00	-5.29	46.11	54.0	1.0m./	7.9	**AVG**
2744.74	68.20	-18.00	-2.48	47.72	54.0	1.0m./	6.3	**AVG**
3659.63	53.20	-18.00	1.61	36.81	54.0	1.0m./	17.2	**AVG**
4574.65	65.20	-18.00	2.63	49.83	54.0	1.0m./	4.2	**AVG**
927.43	64.00	0.0	28.97	92.97	94.0	3.0m./	1.0	**PK**
1854.96	72.34	-18.00	-5.82	48.52	54.0	3.0m./	5.5	**AVG**
2782.35	72.60	-18.00	-3.37	51.23	54.0	3.0m./	2.8	**AVG**
3709.88	56.93	-18.00	1.08	40.01	54.0	3.0m./	14.0	**AVG**
4637.30	63.50	-18.00	2.03	47.53	54.0	3.0m./	6.5	**AVG**

All other emissions were at least 20 dB below the applicable limit.
*data corrected by 1.5 dB for loss of high pass filter (FL), except for fundamental
*duty cycle factor = 19.5 dB

SAMPLE CALCULATION: at 1804.89 MHz, = 76.41 dBuV + (-18.00) + (-6.05) dB/m = 52.36 dBuV/m @ 3m

Test Date: January 16, 2013
Tested by
Signature: _____ **Name: John C. Wynn**

2.12 Band Edge Measurements (CFR15.249(d))

Band Edge measurements were made at a Low Channel and High Channel peak at highest EUT related emission outside the upper and lower occupied bandwidth. A measurement was made of the fundamental and the emission was measured using a quasi peak setting. A Resolution Bandwidth of > 1% of the emission bandwidth was used. This procedure was repeated for the high channel. The limits were derived as described in the following sections.

2.12.1 High Band Edge

Above 928 MHz the limit per section 15.249(d) is 20 dB below the fundamental or the value expressed by CFR 15.209 (46 dBuV/m) whichever is the lesser attenuation.

The High Channel fundamental recorded in Table 4 is 92.97 dBuV/m:
92.97 – 52.12 = 40.85; Passing Margin= 46 – 40.85 = 5.15 dB

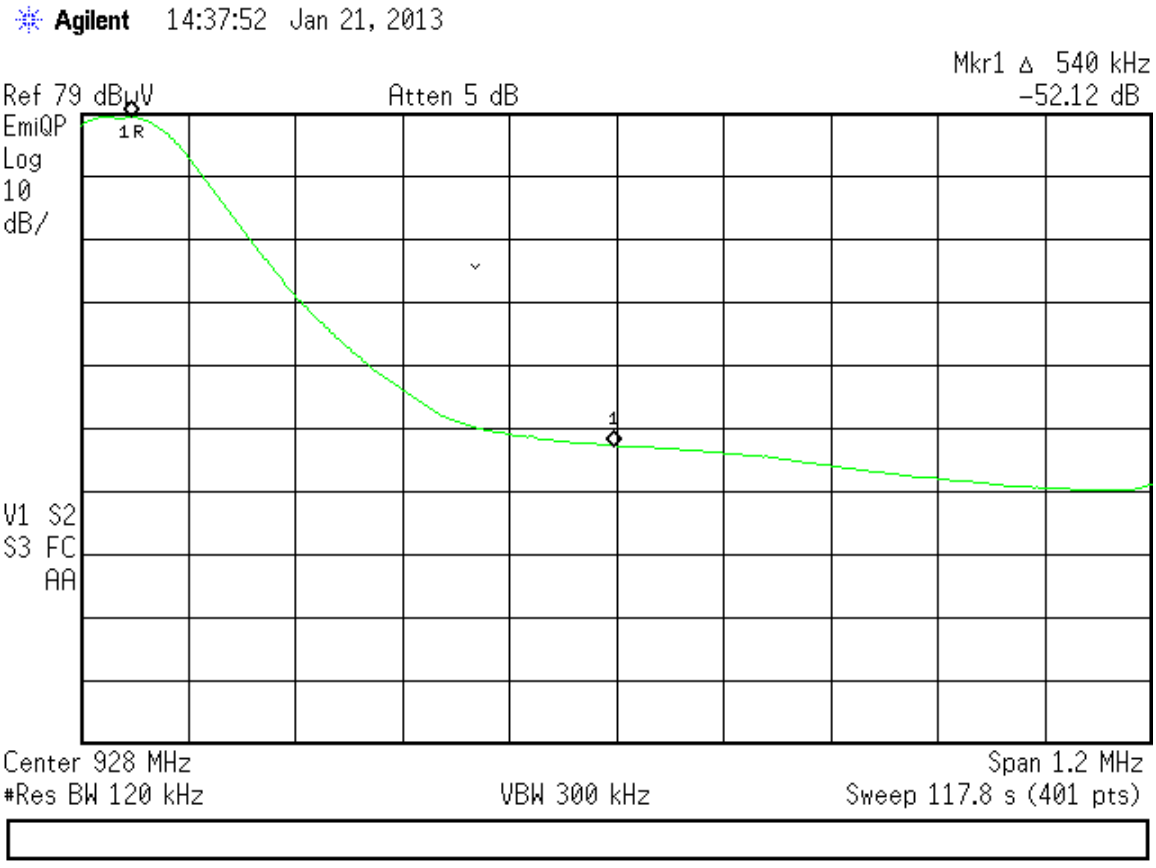

Figure 3. Radiated Band Edge – High Channel Delta

2.12.2 Low Band Edge

The low channel fundamental recorded in Table 4 is 91.96 dBuV/m
91.96 – 47.81 = 44.15 dB; Passing Margin= 46 – 44.15 = 1.85 dB

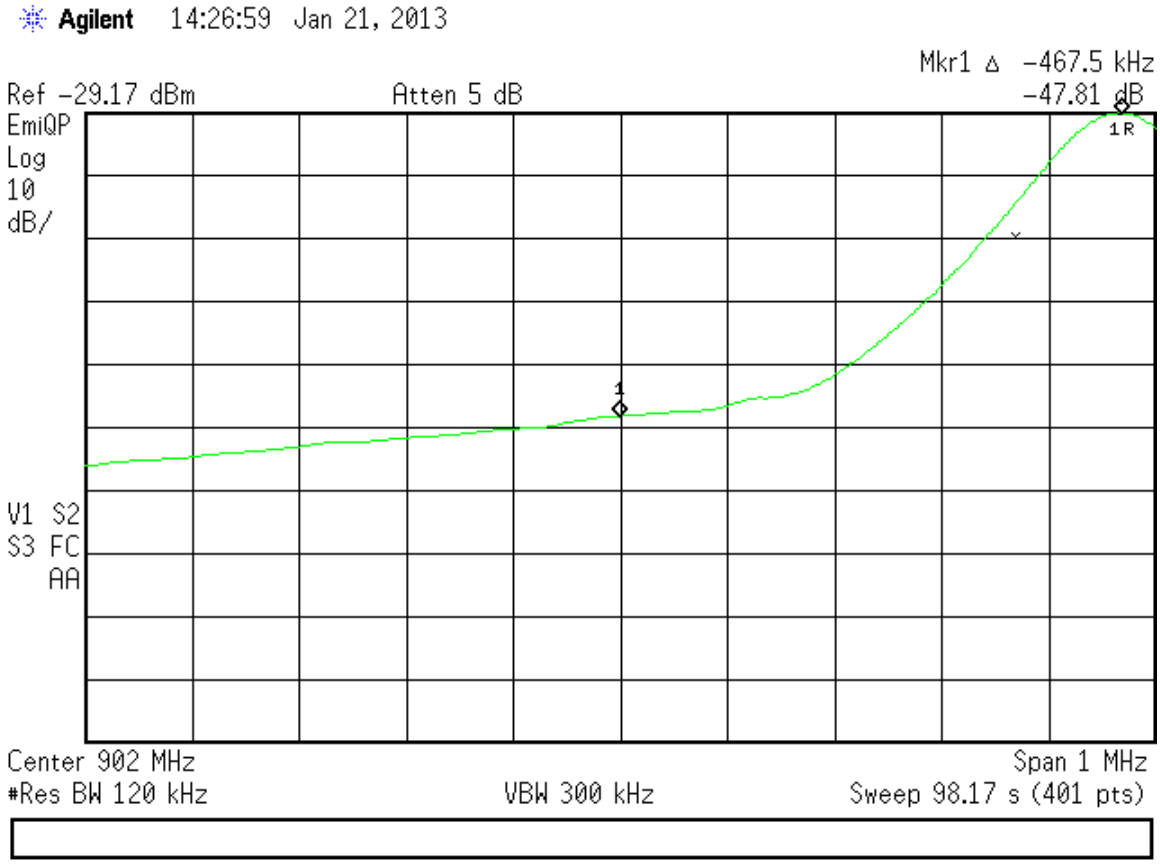

Figure 4. Radiated Band Edge – Low Channel Delta

2.13 Unintentional Radiator, Power 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 EUT is connected to the power lines through the ac adapator. This configuration is used to test and show compliance to CFR 15.207/CFR15.107 for powerline conducted emissions.

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 Table 8 for the unit.

Table 5 - Power line Conducted Emissions Data, Class A

Power Line Conducted Emissions			
Test By: JW	**Test:** FCC Power Line Conducted Emissions 150 KHz – 30 MHz , Hot Phase		**Client:** Scientific Games
	Project: 12-0358	Sect. 15.107/15.207 Class: A	**Model:** FA69 Series, Ticket Checker

Frequency (MHz)	Test Data (dBuV)	IL+CL -PA (dB)	Results (dBuV)	AVG Limits (dBuV)	Phase /Neutral	Margin (dB)	PK / QP
Hot Line							
0.1632	44.00	1.28	45.28	66.0	Phase	20.7	**PK**
0.5742	47.40	0.48	47.88	60.0	Phase	12.1	**PK**
1.1000	40.90	0.47	41.37	60.0	Phase	18.6	**PK**
5.2500	39.20	0.66	39.86	60.0	Phase	20.1	**PK**
16.0200	34.70	1.02	35.72	60.0	Phase	24.3	**PK**
25.0300	37.70	1.18	38.88	60.0	Phase	21.1	**PK**
Neutral Line							
0.1541	39.10	1.45	40.55	66.0	Neutral	25.4	**PK**
0.5559	43.30	0.48	43.78	60.0	Neutral	16.2	**PK**
4.0000	37.70	0.61	38.31	60.0	Neutral	21.7	**PK**
5.2550	38.20	0.66	38.86	60.0	Neutral	21.1	**PK**
15.7500	33.70	1.02	34.72	60.0	Neutral	25.3	**PK**
25.4600	37.80	1.22	39.02	60.0	Neutral	21.0	**PK**

Tested from 150 kHz to 30 MHz.
SAMPLE CALCULATIONS: at 0.1632 MHz, 44.00 dBuV + (1.28) = 45.28 dBuV

Test Date: January 9, 2013
Tested by
Signature: _____ **Name: John C. Wynn**

2.14 Unintentional Radiator, Radiated Emissions (CFR 15.109)

Radiated emissions within the band 9 KHz to 30 MHz and 30 MHz to 12.5 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 ≥ 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 maximum radiated power when placed in each of the three mutually exclusive orthogonal planes.

Radiated emissions within the band of 9 kHz to 30 MHz were investigated using a calibrated Loop Antenna and per the requirements of ANSI C63.4:2003. The resolution bandwidth was set to 9 kHz, the video bandwidth was set to three times the resolution bandwidth.

For measurements above 30 MHz the measurements were made with the analyzer's resolution bandwidth set to 120 kHz for measurements made below 1 GHz and 1 MHz for measurements made above 1 GHz. The video bandwidth was set to three times the resolution bandwidth.

All measured signals were at least 6 db below the specification limit. The results of the measurements are reported in the tables below.

Table 6 - Unintentional Radiator, Peak Radiated Emissions (CFR 15.109)

Peak Radiated Emissions, Digital Device and Receiver							
Test By: J.W.	**Test:** Radiated Emissions- 150 kHz to 10 GHz			**Client:** Scientific Games			
	Project: 12-0358	**Requirement** 15.109/15.209, Class: A		**Model:** FA69 Series, Ticket Checker (Wireless Mode)			
Frequency (MHz)	**Test Data (dBuV)**	**AF+CL-PA (dB)**	**Results (dBuV/m)**	**Peak Limits (dBuV/m)**	**Distance / Polarity (meters)**	**Margin (dB)**	**Detector PK / QP**
115.4070	40.60	-13.92	26.68	43.5	1BI10mV	16.8	**PK**
118.0570	30.80	-14.12	16.68	43.5	1BI10mV	26.8	**PK**
178.2190	36.60	-10.39	26.21	43.5	1BI10mV	17.3	**PK**
115.3830	39.80	-14.32	25.48	43.5	1BI10mH	18.0	**PK**
118.6660	42.60	-14.12	28.48	43.5	1BI10mH	15.0	**PK**
200.0000	44.10	-12.99	31.11	43.5	1LP10mH	12.4	**PK**
224.5540	37.30	-13.39	23.91	46.4	1LP10mH	22.5	**PK**
365.4330	43.60	-8.83	34.77	46.4	1LP10mH	11.6	**PK**
200.0000	43.30	-12.89	30.41	43.5	1LP10mV	13.1	**PK**
365.5980	39.70	-8.73	30.97	46.4	1LP10mV	15.4	**PK**
1280.3900	50.77	-18.40	32.37	49.5	1HN3mV	17.1	**PK**
1730.8500	55.68	-17.16	38.52	49.5	1HN3mV	11.0	**PK**
5775.4600	49.78	-6.19	43.59	49.5	1HN3mV	5.9	**PK**
2735.0000	54.96	-13.44	41.52	49.5	1HN3mV	8.0	**PK**
7295.0000	49.68	-2.61	47.07	49.5	1HN3mV	2.4	**PK**

Tested from 150 kHz to 10 GHz.
No other emissions found more than 20 dB from the limit.

SAMPLE CALCULATION:
RESULTS at 115.407 MHz, = 40.60 dBuV + (-13.92) dB = 26.68 dBuV/m

Test Date: January 9, 28, 2013
Tested by
Signature: _____ **Name: John C. Wynn**

Table 7 - Unintentional Radiator, Peak Radiated Emissions (CFR 15.109)

Peak Radiated Emissions, Digital Device and Receiver							
Test By: G.Y.	**Test:** Radiated Emissions- 150 kHz to 10 GHz			**Client:** Scientific Games			
	Project: 12-0358	**Requirement** 15.109/15.209, Class: B		**Model:** FA69 Series, Ticket Checker (Wired Mode)			
Frequency (MHz)	**Test Data (dBuV)**	**AF+CL-PA (dB)**	**Results (dBuV/m)**	**Peak Limits (dBuV/m)**	**Distance / Polarity (meters)**	**Margin (dB)**	**Detector PK / QP**
211.3700	42.00	-13.39	28.61	43.5	2LP10mH	14.9	**PK**
204.6200	38.60	-12.69	25.91	43.5	2LP10mV	17.6	**PK**
210.8980	39.70	-13.09	26.61	43.5	2LP10mV	16.9	**PK**
45.6100	48.00	-15.74	32.27	39.0	1BI10mV	6.7	**PK**
56.4800	48.10	-16.21	31.89	39.0	1BI10mV	7.1	**PK**
60.0500	46.60	-16.73	29.87	39.0	1BI10mV	9.1	**PK**
72.6000	48.10	-16.85	31.26	39.0	1BI10mV	7.7	**PK**
178.8300	37.60	-10.39	27.21	43.5	1BI10mV	16.3	**PK**

Tested from 150 kHz to 10 GHz.
No other emissions found more than 20 dB from the limit.

SAMPLE CALCULATION:
RESULTS at 211.370 MHz, = 42.00 dBuV + (-13.39) dB = 28.61 dBuV/m

Test Date: January 17, 2013
Tested by
Signature: _____ **Name: George Yang**

2.15 Measurement Uncertainty

The measurement uncertainties given were calculated using the method detailed in CISPR 16-4. A coverage factor of k=2 was used to give a level of confidence of approximately 95%.

2.15.1 Conducted Emissions Measurement Uncertainty

Measurement Uncertainty (within a 95% confidence level) for this test is ±2.8 dB.

The data listed in this test report does have sufficient margin to negate the effects of uncertainty. The EUT unconditionally passes this requirement.

2.15.2 Radiated Emissions Measurement Uncertainty

For a measurement distance of 3 m the measurement uncertainty (with a 95% confidence level) for this test using a Biconical Antenna (30 MHz to 200 MHz) is ±5.3 dB. This value includes all elements of measurement.

The measurement uncertainty (with a 95% confidence level) for this test using a Log Periodic Antenna (200 MHz to 1000 MHz) is ±5.1 dB.

The measurement uncertainty (with a 95% confidence level) for this test using a Horn Antenna is ±5.1 dB.

The data listed in this test report does not have sufficient margin to negate the effects of uncertainty. Therefore, the EUT conditionally meets this requirement.