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Amended Test Report

Includes Report R101810-01-01A and Amendment

Client: **Stanley Security Solutions, Inc.**
6161 E 75th Street
Indianapolis, IN 46250

EUT: **Model UVCICLASS 13.56MHz RF ID Lockset**
FCC ID: **WEF-UVCICLASS**
IC: **7713A-UVCICLASS**

Test Report No.: **R101810-01-01B**

Approved By:

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Date: **18 June 2012**

Total Pages: **12**

ACCREDITED
Test Laboratory Certificate 1953.01

Revision Page

Rev. No.	Date	Description
Original	11 January 2012	Original - NJohnson
A	11 June 2012	Repeated measurement of occupied bandwidth and included new plot for test report -NJohnson
B	18 June 2012	Repeated quasi-peak measurement at 205kHz with a preamplifier to demonstrate that it is below the field strength at the fundamental frequency. -NJohnson

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1 Summary of Test Results

1.1 Emissions Test Results

The EUT was tested for compliance to FCC Part 15.209 and RSS-210 issue 8 using ANSI C63.4:2003. Below is a summary of the test results. Complete results of testing can be found in Section 3.

2 EUT Description

The Equipment Under Test (EUT) was an RF ID activated lockset that runs at 13.56 MHz

2.1 Equipment under Test (EUT)

Table 1 – Equipment under Test (EUT)

Model	UVCICLASS
Manufacturer	Stanley Security Solutions, Inc.
Serial Number	NCEE Test 1
EUT Received Date	2 December 2011
EUT Tested Date	10 January 2012 11 June 2012 (occupied bandwidth) 18 June 2012 (repeated measurement at 202kHz with a preamplifier)

2.2 Testing Location

All testing was performed at the NCEE Lincoln facility, which is an A2LA accredited EMC test laboratory accredited per scope 1953.01.

2.3 EUT Setup

The EUT was tested while powered by 4 AA batteries with an RF ID card attached to the reader to create continuous activity. It was tested upright while affixed to a wooden test fixture at an 80cm height.

2.4 EUT Antenna

The EUT features an antenna which is integral to the device. The device is not meant to be, and is difficult to disassemble.

3 Test Results

3.1 Radiated Emissions

Test: CFR Title 47 FCC Part 15.209

Test Method: ANSI C63.4:2003

Test Result: Complies Date: 1/10/2012
6/19/2012

3.1.1 Test Description

Radiated emissions measurements were made from 100kHz to 1GHz at a distance of 3m inside a semi-anechoic chamber. The EUT was rotated 360°, the antenna height varied from 1 – 4 meters and both the vertical and horizontal antenna polarizations examined. The results were compared against the limits. Measurements were made by first using a spectrum analyzer to acquire the signal spectrum; individual frequencies were then measured using a CISPR 16.1 compliant receiver with the following bandwidth setting:

100kHz – 30MHz: 10kHz IF Bandwidth, 5kHz steps*
30MHz – 1GHz: 120kHz IF bandwidth, 60kHz steps

*For measurements from 100kHz to 30MHz, the antenna used was a passive loop antenna with a 1m height.

3.1.2 Test Results

No radiated emissions measurements were found in excess of the limits. Test result data can be seen below.

3.1.3 Test Environment

Testing was performed at the NCEE Labs Lincoln facility in the 10m semi-anechoic chamber. Laboratory environmental conditions varied slightly throughout the test:

Relative humidity of 45 ± 5%
Temperature of 20 ±2° C

3.1.4 Test Setup

See Section 2.3 for details.

3.1.5 Test Equipment Used

Serial No.	Manufacturer	Model	Description	Last Cal.
1647	EMCO	3142B	Bicon Antenna	6/13/2011
00024936	EMCO	6512	Loop antenna	1/5/2012
100007	Rhode & Schwarz	ESIB7	EMI Test Receiver	9/27/2011
920203	EMCO	7405-907B	100kHz to 3GHz PA	6/18/2012**
2575	Rohde & Schwarz	ES-K1	Software v.1.60	CNR*

*Calibration not required
**Internal characterization

3.1.6 Test Pictures and/or Figures

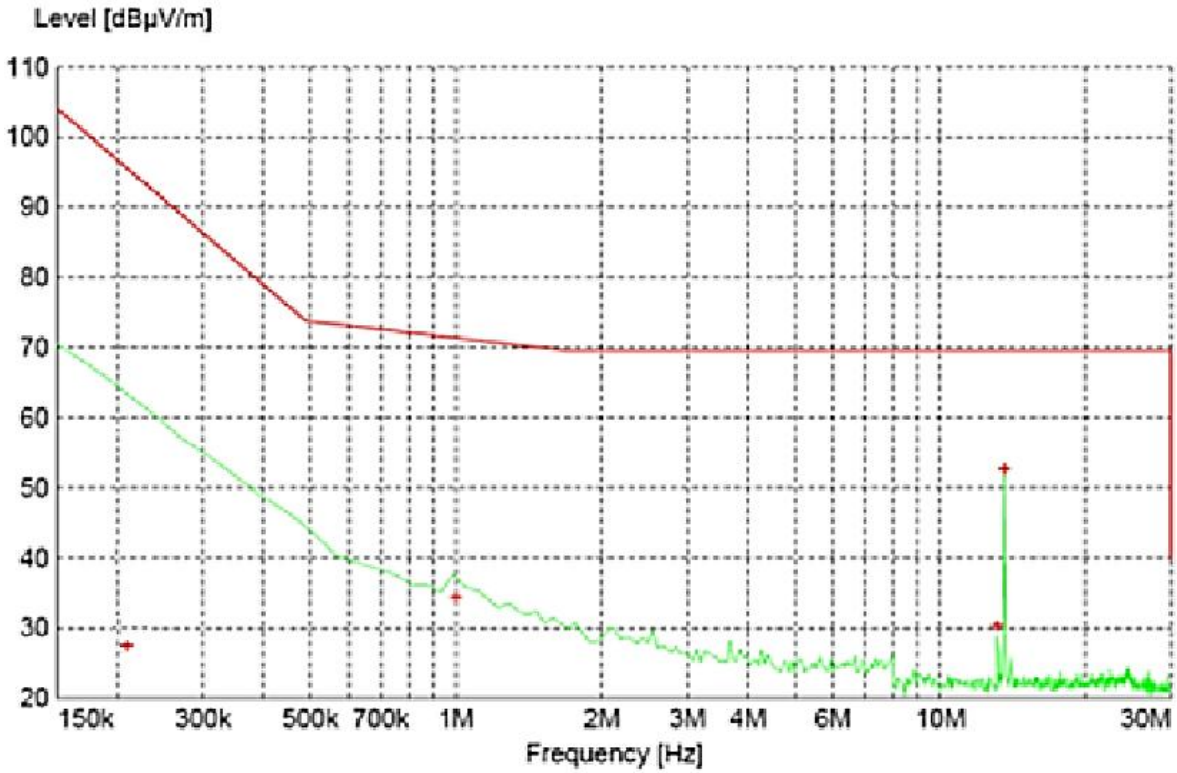

Figure 1 - Radiated Emissions Plot, 150kHz - 30MHz
Green Line: Peak Preview Measurements Red Line: Quasi-peak Limit
Red Crosses: Quasi-peak Measurements

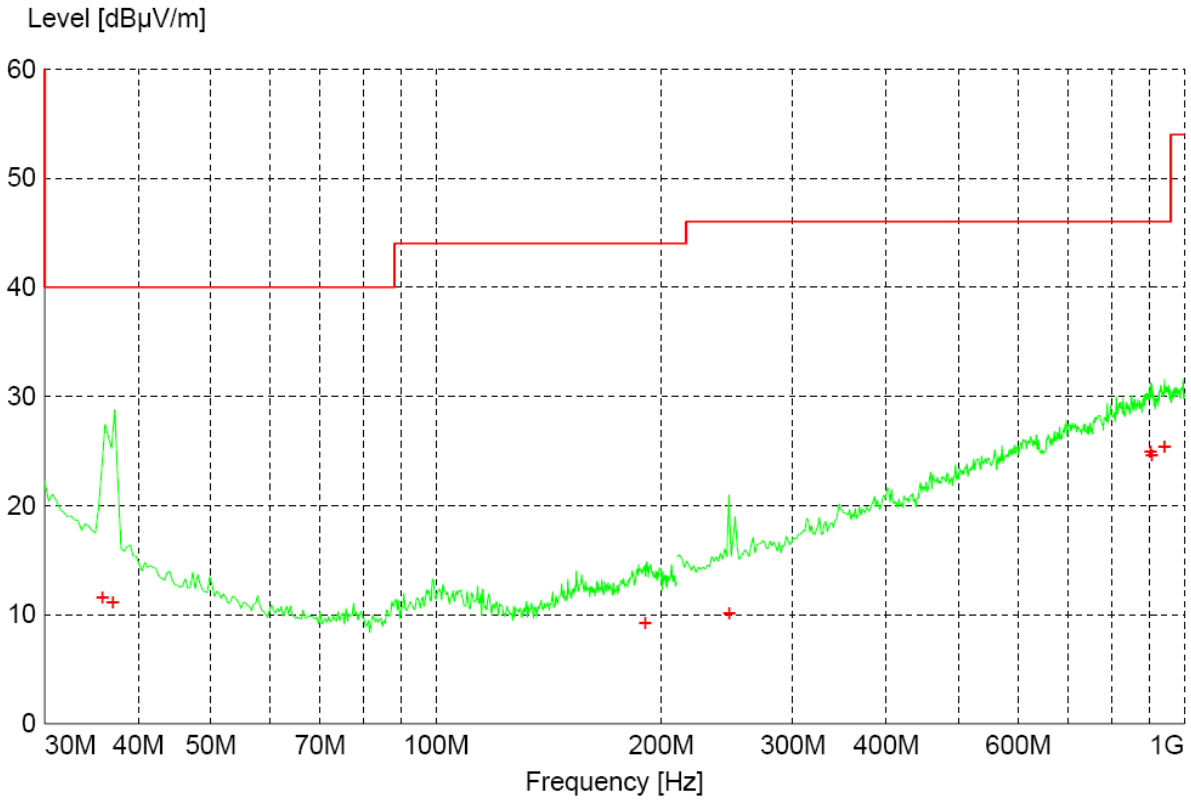

Figure 2 - Radiated Emissions Plot, 30MHz – 1GHz
Green Line: Peak Preview Measurements Red Line: Quasi-peak Limit
Red Crosses: Quasi-peak Measurements

Table 2 - Radiated Emissions Quasi-peak Measurements, 150kHz - 1GHz

Frequency	Level	Limit	Margin	Height	Angle	Pol.
MHz	dBµV/m	dBµV/m	dB	cm	deg	
0.2050	27.12	52.68*	25.56	100	336	---
1.0000	34.17	52.68*	18.51	100	0	---
13.1350	30.28	52.68*	22.40	100	181	---
13.5600	52.68	69.50	16.90	100	177	---
35.8200	11.53	40.00	28.50	100	70	VERT
36.9600	11.03	40.00	29.00	166	77	VERT
190.3800	9.14	44.00	34.90	377	21	HORI
246.6000	10.02	46.00	36.00	194	337	VERT
901.5000	24.91	46.00	21.10	120	142	HORI
905.4000	24.58	46.00	21.40	400	247	VERT
940.7400	25.29	46.00	20.70	311	28	HORI

*According to FCC Part 15.215, all emissions must be below the field strength at the fundamental frequency.

3.2 Occupied Bandwidth

Test: Occupied Bandwidth

Test Method: RSS 210 Date: 6/12/2012

3.2.1 Test Description

Radiated emissions measurements were made at 13.56MHz at a distance of 3m inside a semi-anechoic chamber with a passive loop antenna. The bandwidth was measured 20dB down from the highest peak.

3.2.2 Test Results

No radiated emissions measurements were found in excess of the limits. Test result data can be seen below.

3.2.3 Test Environment

Testing was performed at the NCEE Labs Lincoln facility in the 10m semi-anechoic chamber. Laboratory environmental conditions varied slightly throughout the test:

Relative humidity of 45 ± 5%
Temperature of 20 ±2^{o} C

3.2.4 Test Setup

See Section 2.3 for details.

3.2.5 Test Equipment Used

Serial No.	Manufacturer	Model	Description	Last Cal.
00024936	EMCO	6512	Loop antenna	1/5/2012
100007	Rhode & Schwarz	ESIB7	EMI Test Receiver	9/27/2011

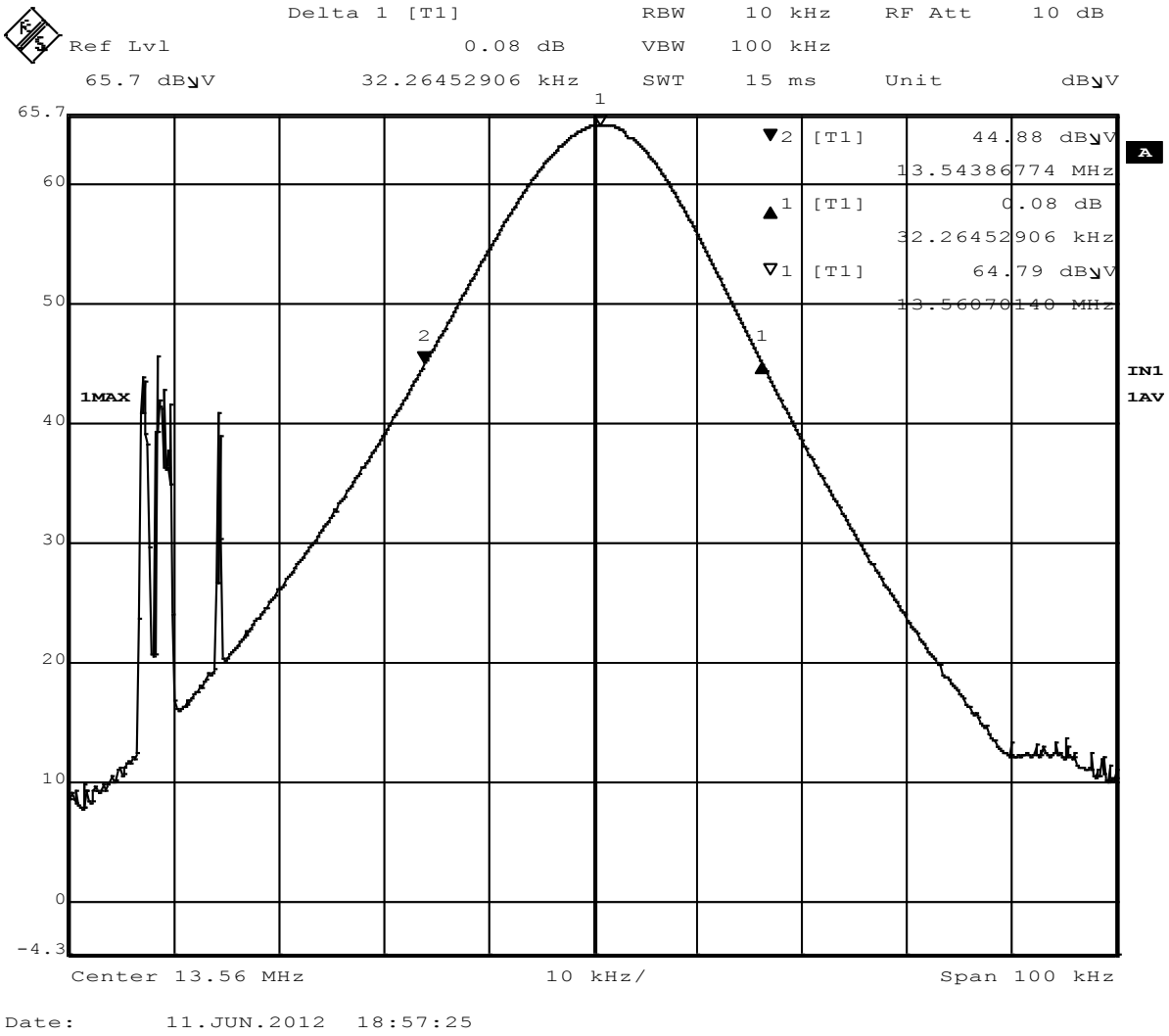

Figure 3 - Occupied Bandwidth, 32.26kHz

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:
FS = RA + AF – (-CF + AG) + AV

where FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Attenuation Factor

AG = Amplifier Gain

AV = Averaging Factor (if applicable)

Assume a receiver reading of 55 dBμV is obtained. The Antenna Factor of 12 and a Cable Factor of 1.1 is added. The Amplifier Gain of 20 dB is subtracted, giving a field strength of 48.1 dBμV/m.

FS = 55 + 12 – (-1.1 + 20) + 0 = 48.1 dBμV/m

The 48.1 dBμV/m value can be mathematically converted to its corresponding level in μV/m.

Level in μV/m = Common Antilogarithm [(48.1 dBμV/m)/20]= 254.1 μV/m

AV is calculated by the taking the 20*log(T_{on}/100) where T_{on} is the maximum transmission time in any 100ms window.